

Microwave Antennas

Product Specification





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1 Introduction

1.1 Portfolio Overview

The microwave antenna portfolio ranges from 0.1 m to 3.7 m and from 4 GHz to 80 GHz.

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.1											X	X	X	X	X	X
0.2																X
0.3						X	X	X	X	X	X	X	X	X		X
0.6				X	X	X	X	X	X	X	X	X	X	X		X
0.9			X	X	X	X	X	X	X	X	X	X	X			
1.2			X	X	X	X	X	X	X	X						
1.8	X	X	X	X	X	X	X	X	X							
2.4	X	X	X	X	X	X	X									
3.0	X	X	X	X	X	X										
3.7	X	X	X	X												

Depending on frequency and antenna size different versions are available:

- Reflector antennas and flat panel antennas
- High performance and super high-performance antennas
- Single polarized and dual polarized antennas
- Dual band antennas, combining two frequency bands in one antenna
- Integrated antennas and antennas for separate installation

The antennas are used for both short haul (SH) and long haul (LH) systems.

Please see section 2 for a complete list of all different antennas available for the different systems.

1.2 Polarization

Single polarized antennas radiate in one polarization, vertical or horizontal polarization. The polarization is adjustable and is set at site during the installation.

Dual polarized antennas radiate in two polarizations simultaneously, vertical and horizontal polarization. The antenna has two ports, one for each polarization.



1.3 Performance

1.3.1 Radiation Pattern Envelope (RPE)

High performance antennas fulfil ETSI RPE class 3 (0.1 m 60 GHz class 2).

Super high-performance antennas fulfil ETSI RPE class 4, with only a few exceptions fulfilling class 3. The antennas have got an integrated radome, which protects the antenna from its physical environment (rain, snow, dirt, wind etc). The antennas are suitable for networks with a very high interference potential.

1.3.2 Return Loss

The system requirement on antenna return loss is:

Short haul	5-80 GHz	14 dB
Long haul	4-8 GHz	18 dB
Long haul	10-13 GHz	14 dB

1.4 Integration

The integrated antennas are installed with the radio unit without using any flexible waveguides, i.e. the radio is fitted directly to the rear of the antenna. The radio unit can easily be dismounted without affecting the antenna alignment.

All antennas (including the integrated antennas), except 80 GHz, can be installed separately from the radio unit using a flexible and/or elliptical waveguide. The antennas are equipped with a standardised waveguide interface (see section 4.3.2). The 2.4-3.7 m antennas are always installed separately from the radio unit.

The 0.1 m 60 GHz antenna is integrated in MINI-LINK 6351 and cannot be separated from the radio.

1.5 Kit Form

To reduce transportation and storage volume and cost the antennas are delivered as a kit, which must be assembled at site before the installation. The 3.0-3.7 m antennas are delivered with the reflector split in two pieces.



1.6 Modular antennas

Part of the antenna portfolio has got fixed radio interfaces (traditional way) and part of the portfolio has got a modular approach. Antennas with fixed interfaces have product numbers UKY 2** **/**** and modular antennas have product numbers BFZ 622 **/****. Modular antennas are available for sizes 0.3-1.8 m.

Modular antennas are upgradeable from single to dual polarization and from one radio type to another by replacing the Interface module.

It is not possible to change the frequency band of the antenna by replacing the interface, since also other parts in the antenna are frequency dependent.

For detailed information regarding the Interface module, see 1301-URS 199 01+.

The Interface module must be from the same supplier as the antenna. Interface module A can only be used with an ANT A antenna and the Interface module B can only be used with an ANT B antenna etc.

1.7 Dual band antennas

Dual band antennas combine two frequency bands in the same antenna, a traditional band (e.g. 15, 18, 23 GHz) and E-band (80 GHz).

Single polarized (HP/HP) dual band antennas radiate in one polarization both for the traditional band and for the E-band. The polarization for the traditional band and the polarization for the E-band can be set in vertical or horizontal polarization independent of each other.

Dual polarized (HPX/HP) dual band antennas radiate in two polarizations (vertical and horizontal) simultaneously for the traditional band and in one polarization for the E-band. The polarization for the E-band can be set in vertical or horizontal.



Figure 1 ANT2/2 B 0.6 HP/HP equipped with MINI-LINK 6352 and RAU2.

1.8 MINI-LINK 6366 Compatibility

The outdoor modem unit MINI-LINK 6366/4 can be installed integrated with the ANT3 HP and ANT3 HPX antennas or installed close to the antenna on a pole or a wall.

The MINI-LINK 6366/4 can be installed according to Table 1, this for ANT A, ANT B and ANT C.



Figure 2 ANT3 A HPX equipped with MINI-LINK 6363 and MINI-LINK 6366/4.

Table 1 MINI-LINK 6366/4 compatibility

Size & Type	Integrated installation on antenna	Integrated installation on antenna	Separate installation on Pole/Wall
ANT3 A ANT3 B ANT3 C	Configuration	Configuration	Configuration
[m]	1+0, 1+1, 2+0	4+0	1+0, 1+1, 2+0, 4+0
0.1-0.2	No	No	Yes
0.3-0.9	Yes	No	Yes
1.2-1.8	Yes ¹	No	Yes
2.4-3.7	No	No	Yes

¹ Limited Antenna side strut angle.



1.9 4+0 and 2+2 compatibility using MINI-LINK 6363

The ANT3 dual polarized antennas (HPX/SHPX) can be used in integrated installation for the configuration 4+0 and 2+2 using MINI-LINK 6363, this adding two IPS3 to the installation (same frequency as the antenna).

It is also possible for all dual polarized antennas (except 80 GHz) to install 4+0 and 2+2 separated from the antenna, using two IPS3 and two SepKit3 when using MINI-LINK 6363.

IPS3 Sym is used for the configuration 4+0 and 2+2 working standby.
IPS3 Asym is used for the configuration 2+2 hot standby

The antennas that can be used in integrated installation for 4+0 and 2+2 are presented in Table 2.

NOTE: ANT3 B and ANT3 C HPX antennas cannot be used in 4+0 or 2+2 in integrated installation during a limited period, this due to the release of new design that must be implemented and phased in. In Q1 2020 these will be available to be used in 4+0 and 2+2 again. For 2+0 it is no problem to use these products!



Figure 3 Dual polarized antenna equipped with two IPS3 and four MINI-LINK 6363

Table 2 ANT A HPX/SHPX, ANT B HPX and ANT C HPX compatibility for 4+0 and 2+2

Size [m]	Integrated installation ANT3 A HPX ANT3 A SHPX Configuration 4+0, 2+2	Integrated installation ANT3 B HPX Configuration 4+0, 2+2	Integrated installation ANT3 C HPX Configuration 4+0, 2+2	Separate installation ANT A HPX ANT A SHPX ANT B HPX ANT C HPX Configuration 4+0, 2+2
0.3-0.9 HPX	Yes	No	No	Yes ²
0.3-0.6 SHPX	Yes			Yes
0.9 SHPX	No			Yes
1.2-1.8 HPX	No	No	No	Yes
2.4-3.7 HPX	No	No		Yes

² Except 80 GHz



2 Product Name and Number

2.1 Product Name

The antenna product name is structured in the following way:

X a b c d e

<i>X</i> =	ANT FPA	Reflector Antenna Flat Panel Antenna
<i>a</i> =	0 2 3 2/2	Antenna for separate installation Integrated antenna for RAU2, PT 2020, PT 6020, MINI-LINK 6352 and Fronthaul 6392 Integrated antenna for MINI-LINK 6363 and MINI-LINK 6365 Integrated antenna for RAU2, PT 2020 in the traditional bands and MINI-LINK 6352 for the E-band.
<i>b</i> =	A B C	Supplier A; CommScope Supplier B; RFS Supplier C; Ericsson
<i>c</i> =		Antenna size (in meters)
<i>d</i> =		Frequency band (in GHz)
<i>e</i> =	HP HPX SHP SHPX HP/HP HPX/HP	High performance, single polarized High performance, dual polarized Super high performance, single polarized Super high performance, dual polarized High performance in both the traditional frequency and the E-band High performance, dual polarized in the traditional frequency bands and high performance, single polarized in the E-band



2.2 Product Numbers

2.2.1 HP and HPX

Orderable product		System	
Product Name	Product Number		
ANT0 A 1.8 4 HPX	UKY 220 75/DC12	-	LH
ANT0 A 2.4 4 HPX	UKY 220 76/DC12	-	LH
ANT0 A 3.0 4 HPX	UKY 220 77/DC12	-	LH
ANT0 A 3.7 4 HPX	UKY 220 78/DC12	-	LH
ANT0 B 1.8 4 HPX	UKY 230 60/DC12	-	LH
ANT0 B 2.4 4 HPX	UKY 230 61/DC12	-	LH
ANT0 B 3.0 4 HPX	UKY 230 62/DC12	-	LH
ANT0 B 3.7 4 HPX	UKY 230 63/DC12	-	LH
ANT0 A 1.8 5 HPX	UKY 220 79/DC12	SH	LH
ANT0 A 2.4 5 HPX	UKY 220 80/DC12	SH	LH
ANT0 A 3.0 5 HPX	UKY 220 81/DC12	SH	LH
ANT0 A 3.7 5 HPX	UKY 220 82/DC12	SH	LH
ANT0 B 1.8 5 HPX	UKY 230 64/DC12	SH	LH
ANT0 B 2.4 5 HPX	UKY 230 65/DC12	SH	LH
ANT0 B 3.0 5 HPX	UKY 230 66/DC12	SH	LH
ANT0 B 3.7 5 HPX	UKY 230 67/DC12	SH	LH
ANT0 A 1.2 6 HPX	BFZ 622 34/0D01H	(SH)	LH
ANT0 A 1.8 6 HPX	BFZ 622 35/0D01H	(SH)	LH
ANT0 A 2.4 6 HPX	UKY 220 13/DC12	SH	LH
ANT0 A 3.0 6 HPX	UKY 220 14/DC12	SH	LH
ANT0 A 3.7 6 HPX	UKY 220 15/DC12	SH	LH
ANT3 A 0.9 6 HP	BFZ 622 33/3S01H	SH	-
ANT3 A 0.9 6 HPX	BFZ 622 33/3D01H	SH	-
ANT3 A 1.2 6 HP	BFZ 622 34/3S01H	SH	LH
ANT3 A 1.2 6 HPX	BFZ 622 34/3D01H	SH	(LH)
ANT3 A 1.8 6 HP	BFZ 622 35/3S01H	SH	LH
ANT3 A 1.8 6 HPX	BFZ 622 35/3D01H	SH	(LH)
ANT0 B 1.2 6 HPX	BFZ 622 54/0D01H	(SH)	LH
ANT0 B 1.8 6 HPX	BFZ 622 55/0D01H	(SH)	LH
ANT0 B 2.4 6L HPX	UKY 230 68/DC12	SH	LH
ANT0 B 2.4 6U HPX	UKY 230 69/DC12	SH	LH
ANT0 B 3.0 6L HPX	UKY 230 70/DC12	SH	LH
ANT0 B 3.0 6U HPX	UKY 230 71/DC12	SH	LH
ANT0 B 3.7 6L HPX	UKY 230 72/DC12	SH	LH
ANT0 B 3.7 6U HPX	UKY 230 73/DC12	SH	LH
ANT3 B 0.9 6 HP	BFZ 622 53/3S01H	SH	-
ANT3 B 0.9 6 HPX	BFZ 622 53/3D01H	SH	-
ANT3 B 1.2 6 HP	BFZ 622 54/3S01H	SH	LH
ANT3 B 1.2 6 HPX	BFZ 622 54/3D01H	SH	(LH)
ANT3 B 1.8 6 HP	BFZ 622 55/3S01H	SH	LH
ANT3 B 1.8 6 HPX	BFZ 622 55/3D01H	SH	(LH)
ANT3 C 0.9 6 HP	BFZ 622 73/3S01H	SH	-
ANT3 C 0.9 6 HPX	BFZ 622 73/3D01H	SH	-
ANT3 C 1.2 6 HP	BFZ 622 74/3S01H	SH	LH



ANT3 C 1.2 6 HPX	BFZ 622 74/3D01H	SH	(LH)
ANT3 C 1.8 6 HP	BFZ 622 75/3S01H	SH	LH
ANT3 C 1.8 6 HPX	BFZ 622 75/3D01H	SH	(LH)
ANT0 A 1.2 7/8 HPX	BFZ 622 34/0D02H	(SH)	LH
ANT0 A 1.8 7/8 HPX	BFZ 622 35/0D02H	(SH)	LH
ANT0 A 2.4 7/8 HP	UKY 220 01/SC12	SH	LH
ANT0 A 2.4 7/8 HPX	UKY 220 01/DC12	SH	LH
ANT0 A 3.0 7/8 HP	UKY 220 04/SC12	SH	LH
ANT0 A 3.0 7/8 HPX	UKY 220 04/DC12	SH	LH
ANT0 A 3.7 7/8 HPX	UKY 220 06/DC12	SH	LH
ANT3 A 0.6 7/8 HP	BFZ 622 32/3S02H	SH	-
ANT3 A 0.6 7/8 HPX	BFZ 622 32/3D02H	SH	-
ANT3 A 0.9 7/8 HP	BFZ 622 33/3S02H	SH	-
ANT3 A 0.9 7/8 HPX	BFZ 622 33/3D02H	SH	-
ANT3 A 1.2 7/8 HP	BFZ 622 34/3S02H	SH	LH
ANT3 A 1.2 7/8 HPX	BFZ 622 34/3D02H	SH	(LH)
ANT3 A 1.8 7/8 HP	BFZ 622 35/3S02H	SH	LH
ANT3 A 1.8 7/8 HPX	BFZ 622 35/3D02H	SH	(LH)
ANT0 B 1.2 7/8 HPX	BFZ 622 54/0D02H	(SH)	LH
ANT0 B 1.8 7/8 HPX	BFZ 622 55/0D02H	(SH)	LH
ANT0 B 2.4 7/8 HPX	UKY 230 74/DC12	SH	LH
ANT0 B 3.0 7/8 HPX	UKY 230 75/DC12	SH	LH
ANT0 B 3.7 7/8 HPX	UKY 230 76/DC12	SH	LH
ANT3 B 0.6 7/8 HP	BFZ 622 52/3S02H	SH	-
ANT3 B 0.6 7/8 HPX	BFZ 622 52/3D02H	SH	-
ANT3 B 0.9 7/8 HP	BFZ 622 53/3S02H	SH	-
ANT3 B 0.9 7/8 HPX	BFZ 622 53/3D02H	SH	-
ANT3 B 1.2 7/8 HP	BFZ 622 54/3S02H	SH	LH
ANT3 B 1.2 7/8 HPX	BFZ 622 54/3D02H	SH	(LH)
ANT3 B 1.8 7/8 HP	BFZ 622 55/3S02H	SH	LH
ANT3 B 1.8 7/8 HPX	BFZ 622 55/3D02H	SH	(LH)
ANT3 C 0.6 7/8 HP	BFZ 622 72/3S02H	SH	-
ANT3 C 0.6 7/8 HPX	BFZ 622 72/3D02H	SH	-
ANT3 C 0.9 7/8 HP	BFZ 622 73/3S02H	SH	-
ANT3 C 0.9 7/8 HPX	BFZ 622 73/3D02H	SH	-
ANT3 C 1.2 7/8 HP	BFZ 622 74/3S02H	SH	LH
ANT3 C 1.2 7/8 HPX	BFZ 622 74/3D02H	SH	(LH)
ANT3 C 1.8 7/8 HP	BFZ 622 75/3S02H	SH	LH
ANT3 C 1.8 7/8 HPX	BFZ 622 75/3D02H	SH	(LH)
ANT0 A 1.2 10/11 HPX	BFZ 622 34/0D03H	(SH)	LH
ANT0 A 1.8 10/11 HPX	BFZ 622 35/0D03H	(SH)	LH
ANT0 A 2.4 10/11 HPX	UKY 220 19/DC12	SH	LH
ANT0 A 3.0 10/11 HPX	UKY 220 20/DC12	SH	LH
ANT3 A 0.6 10/11 HP	BFZ 622 32/3S03H	SH	LH
ANT3 A 0.6 10/11 HPX	BFZ 622 32/3D03H	SH	LH
ANT3 A 0.9 10/11 HP	BFZ 622 33/3S03H	SH	LH
ANT3 A 0.9 10/11 HPX	BFZ 622 33/3D03H	SH	LH
ANT3 A 1.2 10/11 HP	BFZ 622 34/3S03H	SH	LH
ANT3 A 1.2 10/11 HPX	BFZ 622 34/3D03H	SH	(LH)
ANT3 A 1.8 10/11 HP	BFZ 622 35/3S03H	SH	LH
ANT3 A 1.8 10/11 HPX	BFZ 622 35/3D03H	SH	(LH)
ANT0 B 1.2 10/11 HPX	BFZ 622 54/0D03H	(SH)	LH
ANT0 B 1.8 10/11 HPX	BFZ 622 55/0D03H	(SH)	LH



ANT0 B 2.4 10 HPX	UKY 230 77/DC12	SH	LH
ANT0 B 2.4 11 HPX	UKY 230 78/DC12	SH	LH
ANT0 B 3.0 10 HPX	UKY 230 79/DC12	SH	LH
ANT0 B 3.0 11 HPX	UKY 230 80/DC12	SH	LH
ANT3 B 0.6 10/11 HP	BFZ 622 52/3S03H	SH	LH
ANT3 B 0.6 10/11 HPX	BFZ 622 52/3D03H	SH	LH
ANT3 B 0.9 10/11 HP	BFZ 622 53/3S03H	SH	LH
ANT3 B 0.9 10/11 HPX	BFZ 622 53/3D03H	SH	LH
ANT3 B 1.2 10/11 HP	BFZ 622 54/3S03H	SH	LH
ANT3 B 1.2 10/11 HPX	BFZ 622 54/3D03H	SH	(LH)
ANT3 B 1.8 10/11 HP	BFZ 622 55/3S03H	SH	LH
ANT3 B 1.8 10/11 HPX	BFZ 622 55/3D03H	SH	(LH)
ANT3 C 0.6 10/11 HP	BFZ 622 72/3S03H	SH	LH
ANT3 C 0.6 10/11 HPX	BFZ 622 72/3D03H	SH	LH
ANT3 C 0.9 10/11 HP	BFZ 622 73/3S03H	SH	LH
ANT3 C 0.9 10/11 HPX	BFZ 622 73/3D03H	SH	LH
ANT3 C 1.2 10/11 HP	BFZ 622 74/3S03H	SH	LH
ANT3 C 1.2 10/11 HPX	BFZ 622 74/3D03H	SH	(LH)
ANT3 C 1.8 10/11 HP	BFZ 622 75/3S03H	SH	LH
ANT3 C 1.8 10/11 HPX	BFZ 622 75/3D03H	SH	(LH)
ANT0 A 1.2 13 HPX	BFZ 622 34/0D04H	(SH)	LH
ANT0 A 1.8 13 HPX	BFZ 622 35/0D04H	(SH)	LH
ANT0 A 2.4 13 HPX	UKY 220 02/DC12	SH	LH
ANT0 A 3.0 13 HPX	UKY 220 05/DC12	SH	LH
ANT3 A 0.3 13 HP	BFZ 622 31/3S04H	SH	LH
ANT3 A 0.3 13 HPX	BFZ 622 31/3D04H	SH	LH
ANT3 A 0.6 13 HP	BFZ 622 32/3S04H	SH	LH
ANT3 A 0.6 13 HPX	BFZ 622 32/3D04H	SH	LH
ANT3 A 0.9 13 HP	BFZ 622 33/3S04H	SH	LH
ANT3 A 0.9 13 HPX	BFZ 622 33/3D04H	SH	LH
ANT3 A 1.2 13 HP	BFZ 622 34/3S04H	SH	LH
ANT3 A 1.2 13 HPX	BFZ 622 34/3D04H	SH	(LH)
ANT3 A 1.8 13 HP	BFZ 622 35/3S04H	SH	LH
ANT3 A 1.8 13 HPX	BFZ 622 35/3D04H	SH	(LH)
ANT0 B 1.2 13 HPX	BFZ 622 54/0D04H	(SH)	LH
ANT0 B 1.8 13 HPX	BFZ 622 55/0D04H	(SH)	LH
ANT0 B 2.4 13 HPX	UKY 230 81/DC12	SH	LH
ANT0 B 3.0 13 HPX	UKY 230 82/DC12	SH	LH
ANT3 B 0.3 13 HP	BFZ 622 51/3S04H	SH	LH
ANT3 B 0.3 13 HPX	BFZ 622 51/3D04H	SH	LH
ANT3 B 0.6 13 HP	BFZ 622 52/3S04H	SH	LH
ANT3 B 0.6 13 HPX	BFZ 622 52/3D04H	SH	LH
ANT3 B 0.9 13 HP	BFZ 622 53/3S04H	SH	LH
ANT3 B 0.9 13 HPX	BFZ 622 53/3D04H	SH	LH
ANT3 B 1.2 13 HP	BFZ 622 54/3S04H	SH	LH
ANT3 B 1.2 13 HPX	BFZ 622 54/3D04H	SH	(LH)
ANT3 B 1.8 13 HP	BFZ 622 55/3S04H	SH	LH
ANT3 B 1.8 13 HPX	BFZ 622 55/3D04H	SH	(LH)
ANT3 C 0.3 13 HP	BFZ 622 71/3S04H	SH	LH
ANT3 C 0.3 13 HPX	BFZ 622 71/3D04H	SH	LH
ANT3 C 0.6 13 HP	BFZ 622 72/3S04H	SH	LH
ANT3 C 0.6 13 HPX	BFZ 622 72/3D04H	SH	LH
ANT3 C 0.9 13 HP	BFZ 622 73/3S04H	SH	LH



ANT3 C 0.9 13 HPX	BFZ 622 73/3D04H	SH	LH
ANT3 C 1.2 13 HP	BFZ 622 74/3S04H	SH	LH
ANT3 C 1.2 13 HPX	BFZ 622 74/3D04H	SH	(LH)
ANT3 C 1.8 13 HP	BFZ 622 75/3S04H	SH	LH
ANT3 C 1.8 13 HPX	BFZ 622 75/3D04H	SH	(LH)
ANT0 A 2.4 15 HPX	UKY 220 03/DC12	SH	-
ANT3 A 0.3 15 HP	BFZ 622 31/3S05H	SH	-
ANT3 A 0.3 15 HPX	BFZ 622 31/3D05H	SH	-
ANT3 A 0.6 15 HP	BFZ 622 32/3S05H	SH	-
ANT3 A 0.6 15 HPX	BFZ 622 32/3D05H	SH	-
ANT3 A 0.9 15 HP	BFZ 622 33/3S05H	SH	-
ANT3 A 0.9 15 HPX	BFZ 622 33/3D05H	SH	-
ANT3 A 1.2 15 HP	BFZ 622 34/3S05H	SH	-
ANT3 A 1.2 15 HPX	BFZ 622 34/3D05H	SH	-
ANT3 A 1.8 15 HP	BFZ 622 35/3S05H	SH	-
ANT3 A 1.8 15 HPX	BFZ 622 35/3D05H	SH	-
ANT0 B 2.4 15 HPX	UKY 230 83/DC12	SH	-
ANT3 B 0.3 15 HP	BFZ 622 51/3S05H	SH	-
ANT3 B 0.3 15 HPX	BFZ 622 51/3D05H	SH	-
ANT3 B 0.6 15 HP	BFZ 622 52/3S05H	SH	-
ANT3 B 0.6 15 HPX	BFZ 622 52/3D05H	SH	-
ANT3 B 0.9 15 HP	BFZ 622 53/3S05H	SH	-
ANT3 B 0.9 15 HPX	BFZ 622 53/3D05H	SH	-
ANT3 B 1.2 15 HP	BFZ 622 54/3S05H	SH	-
ANT3 B 1.2 15 HPX	BFZ 622 54/3D05H	SH	-
ANT3 B 1.8 15 HP	BFZ 622 55/3S05H	SH	-
ANT3 B 1.8 15 HPX	BFZ 622 55/3D05H	SH	-
ANT3 C 0.3 15 HP	BFZ 622 71/3S05H	SH	-
ANT3 C 0.3 15 HPX	BFZ 622 71/3D05H	SH	-
ANT3 C 0.6 15 HP	BFZ 622 72/3S05H	SH	-
ANT3 C 0.6 15 HPX	BFZ 622 72/3D05H	SH	-
ANT3 C 0.9 15 HP	BFZ 622 73/3S05H	SH	-
ANT3 C 0.9 15 HPX	BFZ 622 73/3D05H	SH	-
ANT3 C 1.2 15 HP	BFZ 622 74/3S05H	SH	-
ANT3 C 1.2 15 HPX	BFZ 622 74/3D05H	SH	-
ANT3 C 1.8 15 HP	BFZ 622 75/3S05H	SH	-
ANT3 C 1.8 15 HPX	BFZ 622 75/3D05H	SH	-
ANT3 A 0.3 18 HP	BFZ 622 31/3S06H	SH	-
ANT3 A 0.3 18 HPX	BFZ 622 31/3D06H	SH	-
ANT3 A 0.6 18 HP	BFZ 622 32/3S06H	SH	-
ANT3 A 0.6 18 HPX	BFZ 622 32/3D06H	SH	-
ANT3 A 0.9 18 HP	BFZ 622 33/3S06H	SH	-
ANT3 A 0.9 18 HPX	BFZ 622 33/3D06H	SH	-
ANT3 A 1.2 18 HP	BFZ 622 34/3S06H	SH	-
ANT3 A 1.2 18 HPX	BFZ 622 34/3D06H	SH	-
ANT3 A 1.8 18 HP	BFZ 622 35/3S06H	SH	-
ANT3 A 1.8 18 HPX	BFZ 622 35/3D06H	SH	-
ANT3 B 0.3 18 HP	BFZ 622 51/3S06H	SH	-
ANT3 B 0.3 18 HPX	BFZ 622 51/3D06H	SH	-
ANT3 B 0.6 18 HP	BFZ 622 52/3S06H	SH	-
ANT3 B 0.6 18 HPX	BFZ 622 52/3D06H	SH	-
ANT3 B 0.9 18 HP	BFZ 622 53/3S06H	SH	-
ANT3 B 0.9 18 HPX	BFZ 622 53/3D06H	SH	-



ANT3 B 1.2 18 HP	BFZ 622 54/3S06H	SH	-
ANT3 B 1.2 18 HPX	BFZ 622 54/3D06H	SH	-
ANT3 B 1.8 18 HP	BFZ 622 55/3S06H	SH	-
ANT3 B 1.8 18 HPX	BFZ 622 55/3D06H	SH	-
ANT3 C 0.3 18 HP	BFZ 622 71/3S06H	SH	-
ANT3 C 0.3 18 HPX	BFZ 622 71/3D06H	SH	-
ANT3 C 0.6 18 HP	BFZ 622 72/3S06H	SH	-
ANT3 C 0.6 18 HPX	BFZ 622 72/3D06H	SH	-
ANT3 C 0.9 18 HP	BFZ 622 73/3S06H	SH	-
ANT3 C 0.9 18 HPX	BFZ 622 73/3D06H	SH	-
ANT3 C 1.2 18 HP	BFZ 622 74/3S06H	SH	-
ANT3 C 1.2 18 HPX	BFZ 622 74/3D06H	SH	-
ANT3 C 1.8 18 HP	BFZ 622 75/3S06H	SH	-
ANT3 C 1.8 18 HPX	BFZ 622 75/3D06H	SH	-
ANT3 A 0.3 23 HP	BFZ 622 31/3S07H	SH	-
ANT3 A 0.3 23 HPX	BFZ 622 31/3D07H	SH	-
ANT3 A 0.6 23 HP	BFZ 622 32/3S07H	SH	-
ANT3 A 0.6 23 HPX	BFZ 622 32/3D07H	SH	-
ANT3 A 0.9 23 HP	BFZ 622 33/3S07H	SH	-
ANT3 A 0.9 23 HPX	BFZ 622 33/3D07H	SH	-
ANT3 A 1.2 23 HP	BFZ 622 34/3S07H	SH	-
ANT3 A 1.2 23 HPX	BFZ 622 34/3D07H	SH	-
ANT3 A 1.8 23 HP	BFZ 622 35/3S07H	SH	-
ANT3 A 1.8 23 HPX	BFZ 622 35/3D07H	SH	-
ANT3 B 0.3 23 HP	BFZ 622 51/3S07H	SH	-
ANT3 B 0.3 23 HPX	BFZ 622 51/3D07H	SH	-
ANT3 B 0.6 23 HP	BFZ 622 52/3S07H	SH	-
ANT3 B 0.6 23 HPX	BFZ 622 52/3D07H	SH	-
ANT3 B 0.9 23 HP	BFZ 622 53/3S07H	SH	-
ANT3 B 0.9 23 HPX	BFZ 622 53/3D07H	SH	-
ANT3 B 1.2 23 HP	BFZ 622 54/3S07H	SH	-
ANT3 B 1.2 23 HPX	BFZ 622 54/3D07H	SH	-
ANT3 B 1.8 23 HP	BFZ 622 55/3S07H	SH	-
ANT3 B 1.8 23 HPX	BFZ 622 55/3D07H	SH	-
ANT3 C 0.3 23 HP	BFZ 622 71/3S07H	SH	-
ANT3 C 0.3 23 HPX	BFZ 622 71/3D07H	SH	-
ANT3 C 0.6 23 HP	BFZ 622 72/3S07H	SH	-
ANT3 C 0.6 23 HPX	BFZ 622 72/3D07H	SH	-
ANT3 C 0.9 23 HP	BFZ 622 73/3S07H	SH	-
ANT3 C 0.9 23 HPX	BFZ 622 73/3D07H	SH	-
ANT3 C 1.2 23 HP	BFZ 622 74/3S07H	SH	-
ANT3 C 1.2 23 HPX	BFZ 622 74/3D07H	SH	-
ANT3 C 1.8 23 HP	BFZ 622 75/3S07H	SH	-
ANT3 C 1.8 23 HPX	BFZ 622 75/3D07H	SH	-
ANT3 A 0.3 24/26 HP	BFZ 622 31/3S08H	SH	-
ANT3 A 0.3 24/26 HPX	BFZ 622 31/3D08H	SH	-
ANT3 A 0.6 24/26 HP	BFZ 622 32/3S08H	SH	-
ANT3 A 0.6 24/26 HPX	BFZ 622 32/3D08H	SH	-
ANT3 A 0.9 24/26 HP	BFZ 622 33/3S08H	SH	-
ANT3 A 0.9 24/26 HPX	BFZ 622 33/3D08H	SH	-
ANT3 A 1.2 24/26 HP	BFZ 622 34/3S08H	SH	-
ANT3 A 1.2 24/26 HPX	BFZ 622 34/3D08H	SH	-
ANT3 B 0.3 24/26 HP	BFZ 622 51/3S08H	SH	-



ANT3 B 0.3 24/26 HPX	BFZ 622 51/3D08H	SH	-
ANT3 B 0.6 24/26 HP	BFZ 622 52/3S08H	SH	-
ANT3 B 0.6 24/26 HPX	BFZ 622 52/3D08H	SH	-
ANT3 B 0.9 24/26 HP	BFZ 622 53/3S08H	SH	-
ANT3 B 0.9 24/26 HPX	BFZ 622 53/3D08H	SH	-
ANT3 B 1.2 24/26 HP	BFZ 622 54/3S08H	SH	-
ANT3 B 1.2 24/26 HPX	BFZ 622 54/3D08H	SH	-
ANT3 C 0.3 24/26 HP	BFZ 622 71/3S08H	SH	-
ANT3 C 0.3 24/26 HPX	BFZ 622 71/3D08H	SH	-
ANT3 C 0.6 24/26 HP	BFZ 622 72/3S08H	SH	-
ANT3 C 0.6 24/26 HPX	BFZ 622 72/3D08H	SH	-
ANT3 C 0.9 24/26 HP	BFZ 622 73/3S08H	SH	-
ANT3 C 0.9 24/26 HPX	BFZ 622 73/3D08H	SH	-
ANT3 C 1.2 24/26 HP	BFZ 622 74/3S08H	SH	-
ANT3 C 1.2 24/26 HPX	BFZ 622 74/3D08H	SH	-
ANT3 A 0.3 28 HP	BFZ 622 31/3S09H	SH	-
ANT3 A 0.3 28 HPX	BFZ 622 31/3D09H	SH	-
ANT3 A 0.6 28 HP	BFZ 622 32/3S09H	SH	-
ANT3 A 0.6 28 HPX	BFZ 622 32/3D09H	SH	-
ANT3 A 0.9 28 HP	BFZ 622 33/3S09H	SH	-
ANT3 A 0.9 28 HPX	BFZ 622 33/3D09H	SH	-
ANT3 B 0.3 28 HP	BFZ 622 51/3S09H	SH	-
ANT3 B 0.3 28 HPX	BFZ 622 51/3D09H	SH	-
ANT3 B 0.6 28 HP	BFZ 622 52/3S09H	SH	-
ANT3 B 0.6 28 HPX	BFZ 622 52/3D09H	SH	-
ANT3 B 0.9 28 HP	BFZ 622 53/3S09H	SH	-
ANT3 B 0.9 28 HPX	BFZ 622 53/3D09H	SH	-
ANT3 C 0.3 28 HP	BFZ 622 71/3S09H	SH	-
ANT3 C 0.3 28 HPX	BFZ 622 71/3D09H	SH	-
ANT3 C 0.6 28 HP	BFZ 622 72/3S09H	SH	-
ANT3 C 0.6 28 HPX	BFZ 622 72/3D09H	SH	-
ANT3 C 0.9 28 HP	BFZ 622 73/3S09H	SH	-
ANT3 C 0.9 28 HPX	BFZ 622 73/3D09H	SH	-
ANT3 A 0.3 32 HP	BFZ 622 31/3S10H	SH	-
ANT3 A 0.3 32 HPX	BFZ 622 31/3D10H	SH	-
ANT3 A 0.6 32 HP	BFZ 622 32/3S10H	SH	-
ANT3 A 0.6 32 HPX	BFZ 622 32/3D10H	SH	-
ANT3 A 0.9 32 HP	BFZ 622 33/3S10H	SH	-
ANT3 A 0.9 32 HPX	BFZ 622 33/3D10H	SH	-
ANT3 B 0.3 32 HP	BFZ 622 51/3S10H	SH	-
ANT3 B 0.3 32 HPX	BFZ 622 51/3D10H	SH	-
ANT3 B 0.6 32 HP	BFZ 622 52/3S10H	SH	-
ANT3 B 0.6 32 HPX	BFZ 622 52/3D10H	SH	-
ANT3 B 0.9 32 HP	BFZ 622 53/3S10H	SH	-
ANT3 B 0.9 32 HPX	BFZ 622 53/3D10H	SH	-
ANT3 C 0.3 32 HP	BFZ 622 71/3S10H	SH	-
ANT3 C 0.3 32 HPX	BFZ 622 71/3D10H	SH	-
ANT3 C 0.6 32 HP	BFZ 622 72/3S10H	SH	-
ANT3 C 0.6 32 HPX	BFZ 622 72/3D10H	SH	-
ANT3 C 0.9 32 HP	BFZ 622 73/3S10H	SH	-
ANT3 C 0.9 32 HPX	BFZ 622 73/3D10H	SH	-
ANT3 A 0.3 38 HP	BFZ 622 31/3S11H	SH	-



ANT3 A 0.3 38 HPX	BFZ 622 31/3D11H	SH	-
ANT3 A 0.6 38 HP	BFZ 622 32/3S11H	SH	-
ANT3 A 0.6 38 HPX	BFZ 622 32/3D11H	SH	-
ANT3 A 0.9 38 HP	BFZ 622 33/3S11H	SH	-
ANT3 A 0.9 38 HPX	BFZ 622 33/3D11H	SH	-
ANT3 B 0.3 38 HP	BFZ 622 51/3S11H	SH	-
ANT3 B 0.3 38 HPX	BFZ 622 51/3D11H	SH	-
ANT3 B 0.6 38 HP	BFZ 622 52/3S11H	SH	-
ANT3 B 0.6 38 HPX	BFZ 622 52/3D11H	SH	-
ANT3 B 0.9 38 HP	BFZ 622 53/3S11H	SH	-
ANT3 B 0.9 38 HPX	BFZ 622 53/3D11H	SH	-
ANT3 C 0.3 38 HP	BFZ 622 71/3S11H	SH	-
ANT3 C 0.3 38 HPX	BFZ 622 71/3D11H	SH	-
ANT3 C 0.6 38 HP	BFZ 622 72/3S11H	SH	-
ANT3 C 0.6 38 HPX	BFZ 622 72/3D11H	SH	-
ANT3 C 0.9 38 HP	BFZ 622 73/3S11H	SH	-
ANT3 C 0.9 38 HPX	BFZ 622 73/3D11H	SH	-
ANT3 A 0.3 42 HP	BFZ 622 31/3S12H	SH	-
ANT3 A 0.3 42 HPX	BFZ 622 31/3D12H	SH	-
ANT3 A 0.6 42 HP	BFZ 622 32/3S12H	SH	-
ANT3 A 0.6 42 HPX	BFZ 622 32/3D12H	SH	-
ANT3 B 0.3 42 HP	BFZ 622 51/3S12H	SH	-
ANT3 B 0.3 42 HPX	BFZ 622 51/3D12H	SH	-
ANT3 B 0.6 42 HP	BFZ 622 52/3S12H	SH	-
ANT3 B 0.6 42 HPX	BFZ 622 52/3D12H	SH	-
ANT3 C 0.3 42 HP	BFZ 622 71/3S12H	SH	-
ANT3 C 0.3 42 HPX	BFZ 622 71/3D12H	SH	-
ANT3 C 0.6 42 HP	BFZ 622 72/3S12H	SH	-
ANT3 C 0.6 42 HPX	BFZ 622 72/3D12H	SH	-
ANT 0.1 60 HP	UKY 230 31/SC10	SH	-
ANT2 A 0.1 80 HP	UKY 230 39/2S14H	SH	-
ANT2 A 0.2 80 HP	UKY 220 96/SC15	SH	-
ANT2 A 0.3 80 HP	BFZ 622 31/2S14H	SH	-
ANT2 A 0.3 80 HPX	BFZ 622 31/2D14H	SH	-
ANT2 A 0.6 80 HP	BFZ 622 32/2S14H	SH	-
ANT2 A 0.6 80 HPX	BFZ 622 32/2D14H	SH	-
ANT3 A 0.3 80 HP	BFZ 622 31/3S14H	SH	-
ANT3 A 0.3 80 HPX	BFZ 622 31/3D14H	SH	-
ANT3 A 0.6 80 HP	BFZ 622 32/3S14H	SH	-
ANT3 A 0.6 80 HPX	BFZ 622 32/3D14H	SH	-
ANT2 B 0.3 80 HP	BFZ 622 51/2S14H	SH	-
ANT2 B 0.3 80 HPX	BFZ 622 51/2D14H	SH	-
ANT2 B 0.6 80 HP	BFZ 622 52/2S14H	SH	-
ANT2 B 0.6 80 HPX	BFZ 622 52/2D14H	SH	-
ANT3 B 0.3 80 HP	BFZ 622 51/3S14H	SH	-
ANT3 B 0.3 80 HPX	BFZ 622 51/3D14H	SH	-
ANT3 B 0.6 80 HP	BFZ 622 52/3S14H	SH	-
ANT3 B 0.6 80 HPX	BFZ 622 52/3D14H	SH	-
ANT2 C 0.3 80 HP	BFZ 622 71/2S14H	SH	-
ANT2 C 0.3 80 HPX	BFZ 622 71/2D14H	SH	-
ANT3 C 0.3 80 HP	BFZ 622 71/3S14H	SH	-
ANT3 C 0.3 80 HPX	BFZ 622 71/3D14H	SH	-



ANT2 C 0.6 80 HP	BFZ 622 72/2S14H	SH	-
ANT2 C 0.6 80 HPX	BFZ 622 72/2D14H	SH	-
ANT3 C 0.6 80 HP	BFZ 622 72/3S14H	SH	-
ANT3 C 0.6 80 HPX	BFZ 622 72/3D14H	SH	-

2.2.2

SHP and SHPX

Orderable product		System	
Product Name	Product Number		
ANT3 A 0.9 6 SHP	BFZ 622 33/3S01S	SH	-
ANT3 A 0.9 6 SHPX	BFZ 622 33/3D01S	SH	-
ANT3 A 1.2 6 SHPX	BFZ 622 34/3D01S	SH	LH
ANT3 A 0.9 10/11 SHP	BFZ 622 33/3S03S	SH	LH
ANT3 A 0.9 10/11 SHPX	BFZ 622 33/3D03S	SH	LH
ANT3 A 1.2 10/11 SHPX	BFZ 622 34/3D03S	SH	LH
ANT3 A 0.6 13 SHP	BFZ 622 32/3S04S	SH	LH
ANT3 A 0.6 13 SHPX	BFZ 622 32/3D04S	SH	LH
ANT3 A 0.9 13 SHP	BFZ 622 33/3S04S	SH	LH
ANT3 A 0.9 13 SHPX	BFZ 622 33/3D04S	SH	LH
ANT3 A 1.2 13 SHPX	BFZ 622 34/3D04S	SH	LH
ANT3 A 0.6 15 SHP	BFZ 622 32/3S05S	SH	-
ANT3 A 0.6 15 SHPX	BFZ 622 32/3D05S	SH	-
ANT3 A 0.9 15 SHP	BFZ 622 33/3S05S	SH	-
ANT3 A 0.9 15 SHPX	BFZ 622 33/3D05S	SH	-
ANT3 A 1.2 15 SHPX	BFZ 622 34/3D05S	SH	-
ANT3 A 0.6 18 SHP	BFZ 622 32/3S06S	SH	-
ANT3 A 0.6 18 SHPX	BFZ 622 32/3D06S	SH	-
ANT3 A 0.9 18 SHP	BFZ 622 33/3S06S	SH	-
ANT3 A 0.9 18 SHPX	BFZ 622 33/3D06S	SH	-
ANT3 A 0.3 23 SHP	BFZ 622 31/3S07S	SH	-
ANT3 A 0.3 23 SHPX	BFZ 622 31/3D07S	SH	-
ANT3 A 0.6 23 SHP	BFZ 622 32/3S07S	SH	-
ANT3 A 0.6 23 SHPX	BFZ 622 32/3D07S	SH	-
ANT3 A 0.9 23 SHP	BFZ 622 33/3S07S	SH	-
ANT3 A 0.9 23 SHPX	BFZ 622 33/3D07S	SH	-
ANT3 A 0.3 24/26 SHP	BFZ 622 31/3S08S	SH	-
ANT3 A 0.3 24/26 SHPX	BFZ 622 31/3D08S	SH	-
ANT3 A 0.6 24/26 SHP	BFZ 622 32/3S08S	SH	-
ANT3 A 0.6 24/26 SHPX	BFZ 622 32/3D08S	SH	-
ANT3 A 0.9 24/26 SHP	BFZ 622 33/3S08S	SH	-
ANT3 A 0.9 24/26 SHPX	BFZ 622 33/3D08S	SH	-
FPA3 A 0.1 28 SHP	UKY 230 50/3S09S	SH	-
ANT3 A 0.3 28 SHP	BFZ 622 31/3S09S	SH	-
ANT3 A 0.3 28 SHPX	BFZ 622 31/3D09S	SH	-
ANT3 A 0.6 28 SHP	BFZ 622 32/3S09S	SH	-
ANT3 A 0.6 28 SHPX	BFZ 622 32/3D09S	SH	-
FPA3 A 0.1 32 SHP	UKY 230 50/3S10S	SH	-



ANT3 A 0.3 32 SHP	BFZ 622 31/3S10S	SH	-
ANT3 A 0.3 32 SHPX	BFZ 622 31/3D10S	SH	-
ANT3 A 0.6 32 SHP	BFZ 622 32/3S10S	SH	-
ANT3 A 0.6 32 SHPX	BFZ 622 32/3D10S	SH	-
FPA3 A 0.1 38 SHP	UKY 230 50/3S11S	SH	-
ANT3 A 0.3 38 SHP	BFZ 622 31/3S11S	SH	-
ANT3 A 0.3 38 SHPX	BFZ 622 31/3D11S	SH	-
ANT3 A 0.6 38 SHP	BFZ 622 32/3S11S	SH	-
ANT3 A 0.6 38 SHPX	BFZ 622 32/3D11S	SH	-
FPA3 A 0.1 42 SHP	UKY 230 50/3S12S	SH	-
ANT3 A 0.3 42 SHP	BFZ 622 31/3S12S	SH	-
ANT3 A 0.3 42 SHPX	BFZ 622 31/3D12S	SH	-
ANT3 A 0.6 42 SHP	BFZ 622 32/3S12S	SH	-
ANT3 A 0.6 42 SHPX	BFZ 622 32/3D12S	SH	-

2.2.3

Dual-band antenna, HP/HP and HPX/HP

Orderable product		System	
Product Name	Product Number		
ANT2/2 B 0.6 18/80 HP/HP	BFZ 622 52/AS26H	SH	-
ANT2/2 B 0.6 18/80 HPX/HP	BFZ 622 52/AT26H	SH	-
ANT2/2 B 0.6 23/80 HP/HP	BFZ 622 52/AS27H	SH	-
ANT2/2 B 0.6 23/80 HPX/HP	BFZ 622 52/AT27H	SH	-



3 Electrical Data

3.1 Frequency Band

4 GHz	3.6-4.2 GHz
5 GHz	4.4-5 GHz
6 GHz	5.925-7.125 GHz (6L: 5.925-6.425 GHz, 6U: 6.425-7.125 GHz)
7/8 GHz	7.1-8.5 GHz
10/11 GHz	10-11.7 GHz (10: 10-10.7 GHz, 11: 10.7-11.7 GHz)
13 GHz	12.75-13.25 GHz
15 GHz	14.4-15.35 GHz
18 GHz	17.7-19.7 GHz
23 GHz	21.2-23.6 GHz
24/26 GHz	24.25-26.5 GHz
28 GHz	27.5-29.5 GHz
32 GHz	31-33.4 GHz
38 GHz	37-40 GHz
42 GHz	40.5-43.5 GHz
60 GHz	57-64 GHz
80 GHz	71-76 + 81-86 GHz



3.2 Gain

3.2.1 ANT A, HP

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.1																38.0 38.7 39.5
0.2																42.0 43.5 44.0
0.3						30.8 30.9 31.0	32.5 32.7 32.9	34.0 34.6 35.2	35.0 35.6 36.2	36.3 36.9 37.5	37.6 38.1 38.6	38.7 38.9 39.1	39.7 40.3 40.9	40.4 40.8 41.1		46.0 46.5 47.0
0.6				29.6 31.1 32.2	33.7 34.5 35.2	35.8 36.0 36.2	36.8 37.1 37.5	38.6 39.0 39.4	40.2 40.7 41.2	41.5 42.0 42.5	42.5 42.8 43.2	43.3 43.6 44.0	44.6 45.2 45.8	45.7 46.0 46.3		50.0 50.5 51.0
0.9			32.3 33.3 34.3	34.8 35.5 35.8	37.2 38.4 39.0	39.9 40.0 40.1	40.8 41.1 41.4	42.4 43.2 43.4	44.5 44.8 45.0	45.6 45.8 46.2	46.6 47.0 47.2	47.5 48.0 48.2	49.0 49.4 49.6			
1.2			34.0 35.0 36.0	36.8 37.3 37.7	40.2 40.7 41.0	41.9 42.0 42.1	42.8 43.0 43.1	44.2 44.7 45.1	46.0 46.7 47.0	47.0 47.4 47.8						
1.8			38.5 39.3 40.1	40.1 40.8 41.5	43.2 44.0 44.8	45.1 45.3 45.5	46.4 46.7 47.0	47.5 48.0 48.5	48.7 49.2 49.7							

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module. Tolerance: ± 1 dB.



3.2.2 ANT A, HPX

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.3						30.6	32.3	33.7	34.7	35.9	37.2	38.3	39.3	40.0		45.2
						30.7	32.5	34.3	35.3	36.5	37.7	38.5	39.9	40.4		45.7
						30.8	32.7	34.9	35.9	37.1	38.2	38.7	40.5	40.7		46.2
0.6				29.4	33.5	35.6	36.6	38.3	39.9	41.1	42.1	42.9	44.2	45.3		49.2
				30.9	34.3	35.8	36.9	38.7	40.4	41.6	42.4	43.2	44.8	45.6		49.7
				32.0	35.0	36.0	37.3	39.1	40.9	42.1	42.8	43.6	45.4	45.9		50.2
0.9			32.1	34.6	37.0	39.7	40.6	42.1	44.2	45.2	46.2	47.1	48.6			
			33.1	35.3	38.2	39.8	40.9	42.9	44.5	45.4	46.6	47.6	49.0			
			34.1	35.6	38.8	39.9	41.2	43.1	44.7	45.8	46.8	47.8	49.2			
1.2			33.8	36.6	40.0	41.7	42.6	43.9	45.7	46.6						
			34.8	37.1	40.5	41.8	42.8	44.4	46.4	47.0						
			35.8	37.5	40.8	41.9	42.9	44.8	46.7	47.4						
1.8	33.8	35.7	38.3	39.9	43.0	44.9	46.2	47.2	48.4							
	34.8	36.3	39.1	40.6	43.8	45.1	46.5	47.7	48.9							
	35.3	36.8	39.9	41.3	44.6	45.3	46.8	48.2	49.4							
2.4	36.1	38.0	40.8	42.5	45.4	47.4	48.5									
	37.3	38.8	41.6	42.9	46.0	47.6	48.8									
	38.0	39.3	42.4	43.3	46.6	47.7	49.1									
3.0	38.3	40.0	42.5	43.7	47.2	48.5										
	38.9	40.6	43.2	44.4	47.9	48.8										
	39.5	41.1	43.9	45.0	48.5	49.9										
3.7	40.1	41.6	43.8	46.0												
	40.9	42.2	45.0	46.8												
	41.4	42.7	45.8	47.6												

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module (OMT). Tolerance: ± 1 dB.



3.2.3 ANT B, HP

Size [m]	Frequency [GHz]														
	4	5	6 6L/6U	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80
0.3						30.8	32.1	34.0	35.5	36.7	38.2	39.2	40.2	40.8	43.1
						30.9	32.3	34.7	36.0	37.3	38.4	39.5	40.5	41.2	44.6
						31.1	32.4	34.9	36.2	37.5	38.8	39.7	40.9	41.5	45.7
0.6				30.5	33.8	35.8	36.8	38.7	40.8	41.7	42.8	43.8	44.8	45.5	50.0
				31.7	34.5	36.0	37.2	39.2	41.1	42.3	43.0	44.2	45.4	45.8	50.9
				32.3	35.2	36.2	37.5	39.7	41.5	42.5	43.2	44.4	45.8	46.1	51.9
0.9			32.0	34.7	37.6	39.9	40.6	42.8	44.1	45.6	46.6	47.0	48.9		
			33.2	35.6	38.3	40.0	41.0	43.3	44.8	46.1	47.0	47.4	49.2		
			33.9	35.8	39.0	40.1	41.3	43.8	45.0	46.5	47.2	47.8	49.7		
1.2			35.2	36.2	39.4	41.7	42.7	44.2	45.5	46.8					
			35.7	36.9	39.9	41.9	42.9	44.7	46.1	47.2					
			36.6	37.6	40.3	42.1	43.1	45.2	46.6	47.6					
1.8			38.4	40.1	42.7	45.1	45.9	47.2	49.0						
			39.4	40.6	43.4	45.4	46.2	47.8	49.5						
			40.2	41.1	43.9	45.7	46.5	48.4	50.0						

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module. Tolerance: ± 1 dB.



3.2.4 ANT B, HPX

Size [m]	Frequency [GHz]														
	4	5	6 6L/6U	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80
0.3						30.6	31.9	33.6	35.1	35.9	37.4	38.4	39.4	39.8	41.1
						30.7	32.1	34.3	35.6	36.5	37.6	38.7	39.7	40.2	42.6
						30.9	32.2	34.5	35.8	36.7	38.0	38.9	40.1	40.5	43.7
0.6				30.3	33.6	35.6	36.6	38.3	40.4	40.9	42.0	43.0	44.0	44.5	48.0
				31.5	34.3	35.8	37.0	38.8	40.7	41.4	42.2	43.4	44.6	44.8	48.9
				32.1	35.0	36.0	37.3	39.3	41.1	41.7	42.4	43.6	45.0	45.1	49.9
0.9			31.8	34.5	37.4	39.7	40.4	42.4	43.7	44.8	45.8	46.2	48.1		
			33.0	35.4	38.1	39.8	40.8	42.9	44.4	45.3	46.2	46.6	48.4		
			33.7	35.6	38.8	39.9	41.1	43.4	44.6	45.7	46.4	47.0	48.9		
1.2			35.0	36.0	39.2	41.5	42.5	43.8	45.1	46.0					
			35.5	36.7	39.7	41.7	42.7	44.3	45.7	46.4					
			36.4	37.4	40.1	41.9	42.9	44.8	46.2	46.8					
1.8			38.2	39.9	42.5	44.9	45.7	46.8	48.6						
			39.2	40.4	43.2	45.2	46.0	47.4	49.1						
			40.0	40.9	43.7	45.5	46.3	48.0	49.6						
2.4	36.5	38.2	40.9/41.8	42.4	45.4/45.9	47.4	48.3								
	37.2	38.8	41.3/42.2	43.1	45.8/46.2	47.5	48.5								
	37.8	39.6	41.7/42.7	43.9	45.9/46.7	47.7	48.8								
3.0	38.4	40.1	42.9/43.5	44.4	47.3/47.8	49.2									
	39.1	40.7	43.2/43.9	45.1	47.7/48.2	49.3									
	39.7	41.2	43.5/44.4	45.9	47.8/48.4	49.5									
3.7	40.0	41.7	44.6/45.1	46.0											
	40.7	42.3	44.8/45.6	46.7											
	41.3	42.8	45.2/46.0	47.5											

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module (OMT). Tolerance: ± 1 dB.



3.2.5 ANT C, HP

Size [m]	Frequency [GHz]														
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80
0.3						30.8	31.6	33.6	34.7	36.2	37.6	38.4	39.6	40.4	45.0
						30.9	32.1	34.2	35.3	36.6	38.1	38.8	40.1	40.8	46.0
						31.0	32.6	34.5	35.9	37.1	38.3	39.1	40.5	41.1	47.0
0.6				29.6	33.8	35.8	36.5	38.4	40.0	41.1	42.3	43.0	44.6	45.0	50.0
				31.1	34.5	36.0	36.8	38.9	40.5	41.6	42.6	43.4	45.2	45.3	50.5
				32.2	35.2	36.2	37.2	39.1	41.0	42.1	43.0	43.8	45.8	45.6	51.0
0.9			31.6	34.0	36.9	39.0	40.1	41.8	43.4	44.6	45.6	46.6	48.2		
			32.5	34.8	37.6	39.2	40.3	42.3	43.9	45.0	45.9	46.9	48.5		
			33.2	35.5	38.2	39.3	40.6	42.8	44.3	45.3	46.2	47.2	48.8		
1.2			35.0	36.8	40.0	41.9	42.7	44.2	46.0	47.0					
			35.6	37.3	40.5	42.0	42.9	44.7	46.7	47.4					
			36.2	37.7	41.0	42.1	43.1	45.1	47.0	47.8					
1.8			38.5	40.1	42.7	44.8	45.9	47.0	48.9						
			39.4	40.8	43.5	45.2	46.2	47.8	49.4						
			39.8	41.1	44.4	45.5	46.5	48.4	49.9						

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module. Tolerance: ± 1 dB.



3.2.6 ANT C, HPX

Size [m]	Frequency [GHz]														
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80
0.3						30.4	31.2	33.0	34.1	35.4	36.8	36.6	38.6	39.2	43.2
						30.5	31.7	33.6	34.7	35.8	37.3	37.8	39.1	39.6	44.2
						30.6	32.2	33.9	35.3	36.3	37.5	38.1	39.5	39.9	45.2
0.6				29.2	33.4	35.4	36.1	37.8	39.4	40.3	41.5	42.0	43.6	43.8	48.2
				30.7	34.1	35.6	36.4	38.3	39.9	40.8	41.8	42.4	44.2	44.1	48.7
				31.8	34.8	35.8	36.8	38.5	40.4	41.3	42.2	42.8	44.8	44.4	49.2
0.9			31.2	33.6	36.5	38.6	39.7	41.2	42.8	43.8	44.8	45.6	47.2		
			32.1	34.4	37.2	38.8	39.9	41.7	43.3	44.2	45.1	45.9	47.5		
			32.8	35.1	37.8	38.9	40.2	42.2	43.7	44.5	45.4	46.2	47.8		
1.2			34.6	36.4	39.6	41.5	42.3	43.6	45.4	46.2					
			35.2	36.9	40.1	41.6	42.5	44.1	46.1	46.6					
			35.8	37.3	40.6	41.7	42.7	44.5	46.4	47.0					
1.8			38.1	39.7	42.3	44.4	45.5	46.4	48.3						
			39.0	40.4	43.1	44.8	45.8	47.2	48.8						
			39.4	40.7	44.0	45.1	46.1	47.8	49.3						

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module (OMT). Tolerance: ± 1 dB.

3.2.7 ANT, HP

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.1															31.5	
															32.5	
															32.7	

Nominal gain (in dBi) at low-, mid- and high-band. Tolerance: ± 1 dB.



3.2.8 ANT A, SHP

Size [m]	Frequency [GHz]														
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80
0.1											30.5	31.8	33.0	33.4	
											30.8	32.1	33.3	33.8	
											31.1	32.4	33.6	34.1	
0.3									35.2	36.4	37.7	38.5	39.9	40.8	
									35.6	36.8	38.0	38.7	40.1	41.1	
									36.0	37.3	38.3	38.9	40.3	41.4	
0.6						35.8	36.5	38.4	40.0	41.1	42.3	43.2	44.6	45.7	
						36.0	36.8	38.9	40.5	41.6	42.6	43.5	45.2	46.0	
						36.2	37.2	39.1	41.0	42.1	43.0	43.8	45.8	46.3	
0.9			32.3		37.2	39.9	41.3	42.7	44.5	45.6					
			33.6		38.4	40.0	41.7	43.5	44.8	45.8					
			34.5		39.0	40.1	42.1	43.7	45.0	46.2					

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module. Tolerance: ± 1 dB.

3.2.9 ANT A, SHPX

Size [m]	Frequency [GHz]														
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80
0.3									34.9	36.0	37.3	38.1	39.5	40.4	
									35.3	36.4	37.6	38.3	39.7	40.7	
									35.7	36.9	37.9	38.5	39.9	41.0	
0.6						35.6	36.3	38.1	39.7	40.7	41.9	42.8	44.2	45.3	
						35.8	36.6	38.6	40.2	41.2	42.2	43.1	44.8	45.6	
						36.0	37.0	38.8	40.7	41.7	42.6	43.4	45.4	45.9	
0.9			32.1		37.0	39.7	41.1	42.4	44.2	45.2					
			33.4		38.2	39.8	41.5	43.1	44.5	45.4					
			34.3		38.8	39.9	41.9	43.4	44.7	45.8					
1.2			34.6	36.5	39.5	41.4	42.7								
			35.3	37.2	40.6	41.7	43.0								
			36.0	37.9	41.1	42.0	43.1								

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module (OMT). Tolerance: ± 1 dB.



3.2.10 Dual-band antenna, HP/HP

Size [m]	Type	Frequency [GHz]												
							15/80	18/80	23/80					
0.6	ANT B HP/HP							38.0/47.7	38.8/48.3					
								38.2/49.3	39.6/49.3					
								38.7/49.8	39.9/49.8					

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module. Tolerance: ± 1 dB.

3.2.11 Dual-band antenna, HPX/HP

Size [m]	Type	Frequency [GHz]												
							15/80	18/80	23/80					
0.6	ANT B HPX/HP							37.8/47.7	38.6/48.3					
								38.0/49.3	39.4/49.3					
								38.5/49.8	39.7/49.8					

Nominal gain (in dBi) at low-, mid- and high-band, including losses in the antenna interface module (OMT). Tolerance: ± 1 dB.



3.3 Half Power Beamwidth (HPBW)

3.3.1 ANT A, HP and HPX

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.1																1.8
0.2																1.1
0.3						4.7	4.1	3.2	3.0	2.5	2.2	1.8	1.6	1.5		0.8
0.6				4.7	3.3	2.7	2.5	2.1	1.7	1.5	1.3	1.1	0.9	0.8		0.5
0.9			3.7	3.0	2.0	1.7	1.5	1.1	1.0	0.9	0.8	0.7	0.6			
1.2			2.9	2.2	1.6	1.3	1.2	0.9	0.8	0.6						
1.8	3.1	2.6	1.8	1.3	1.0	0.9	0.8	0.7	0.5							
2.4	2.4	2.0	1.3	1.1	0.8	0.7	0.6									
3.0	1.9	1.5	1.1	0.9	0.7	0.6										
3.7	1.6	1.2	1.0	0.8												

Nominal HPBW (in degrees) in the azimuthal plane at mid-band.

3.3.2 ANT B, HP and HPX

Size [m]	Frequency [GHz]															
	4	5	6 6L/6U	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.3						4.5	4.1	3.2	2.7	2.3	2.2	1.9	1.5	1.3		0.8
0.6				4.3	3.2	2.7	2.3	1.8	1.5	1.4	1.2	1.0	0.8	0.7		0.5
0.9			3.0	2.6	2.0	1.6	1.5	1.1	1.0	0.8	0.8	0.7	0.6			
1.2			2.6	2.3	1.5	1.3	1.1	1.0	0.8	0.7						
1.8			1.7	1.5	1.0	0.9	0.8	0.7	0.5							
2.4	2.4	1.8	1.5/1.3	1.1	0.8/0.8	0.7	0.6									
3.0	1.8	1.5	1.2/1.0	0.9	0.7/0.7	0.6										
3.7	1.5	1.2	0.9/0.8	0.7												

Nominal HPBW (in degrees) in the azimuthal plane at mid-band.

3.3.3 ANT C, HP and HPX

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.3						4.7	4.1	3.3	2.7	2.3	2.2	1.8	1.6	1.5		0.7
0.6				4.3	3.3	2.7	2.3	1.8	1.5	1.3	1.2	1.0	0.9	0.8		0.4
0.9			3.4	3.0	2.1	1.8	1.6	1.2	1.0	0.9	0.8	0.7	0.6			
1.2			2.5	2.2	1.5	1.3	1.2	0.9	0.8	0.6						
1.8			1.7	1.5	1.1	0.9	0.8	0.7	0.5							

Nominal HPBW (in degrees) in the azimuthal plane at mid-band.



3.3.4 ANT, HP and HPX

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.1															3.9	

Nominal HPBW (in degrees) in the azimuthal plane at mid-band.

3.3.5 ANT A and FPA A, SHP and SHPX

Size [m]	Frequency [GHz]														
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80
0.1											4.7	4.1	3.4	3.5	
0.3									2.9	2.4	2.2	1.9	1.7	1.5	
0.6						2.7	2.2	2.1	1.7	1.5	1.2	1.0	0.9	0.8	
0.9			3.3		2.0	1.6	1.5	1.1	1.0	0.8					
1.2			2.6	2.2	1.6	1.4	1.2								

Nominal HPBW (in degrees) in the azimuthal plane at mid-band.

3.3.6 Dual band antenna

Size [m]	Frequency [GHz]														
						15/80	18/80	23/80							
0.6							1.9/0.5	1.5/0.5							

Nominal HPBW (in degrees) in the azimuthal plane at mid-band.



3.4 Cross-Polar Discrimination (XPD)

3.4.1 ANT and FPA, HP/HPX and SHP/SHPX

Angular region	Type [GHz]			
	ANT A 4-13 ANT B 4-13 ANT C 6-13 FPA3 A 28-42	ANT A 15-42 ANT B 15-42 ANT C 15-42 ANT A 0.1 80 ANT A 0.3 80	ANT 0.1 60 ANT A 0.2 80 ANT A 0.6 80 ANT B 0.3 80 HP ANT B 0.6 80 HP ANT C 80	ANT B 0.3 80 HPX ANT B 0.6 80 HPX
In azimuth over an angle twice the half power beamwidth of the co-polarized main beam	30	30	27	25
Within the 1 dB co-polarized contour	30	27	27	25

Minimum XPD (in dB).

3.4.2 Dual-band antenna, HP/HP and HPX/HP

Angular region	Type [GHz]		
	ANT2/2 B 0.6 18/23 GHz	ANT2/2 B 0.6 80 GHz	
In azimuth over an angle twice the half power beamwidth of the co-polarized main beam	30	27	
Within the 1 dB co-polarized contour	30	27	

Minimum XPD (in dB).

3.5 Return Loss and VSWR

Size / Type [m]	Integrated installation ANT2/2, ANT3	Integrated installation ANT2, ANT2/2, ANT3, FPA3	Separate installation ANT0, ANT2/2, ANT3, FPA3	
	Frequency [GHz] 6-8	Frequency [GHz] 10-80	Frequency [GHz] 4-8	Frequency [GHz] 10-42
0.1-0.9	14 / 1.50	14 / 1.50	14 / 1.50	14 / 1.50
1.2-1.8	18 / 1.29	14 / 1.50	18 / 1.29	14 / 1.50
2.4-3.7			18 / 1.29	14 / 1.50

Minimum return loss (in dB) / maximum VSWR.



3.6 Front to Back Ratio (F/B)

3.6.1 ANT A, HP and HPX

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.1																56
0.2																62
0.3						58	60	63	62	63	64	61	61	60		64
0.6				57	61	61	65	67	66	68	69	63	66	67		68
0.9			60	61	64	66	69	71	71	72	74	72	76			
1.2			61	63	66	68	71	73	74	75						
1.8	61	63	66	67	70	74	76	78	80							
2.4	70	66	70	71	72	72	80									
3.0	69	68	75	72	76	76										
3.7	68	68	75	75												

Minimum F/B (in dB).

3.6.2 ANT B, HP and HPX

Size [m]	Frequency [GHz]															
	4	5	6 6L/6U	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.3						57	60	62	61	63	64	63	65	64		63
0.6				58	61	62	65	68	66	68	70	70	70	65		68
0.9			60	62	64	66	69	71	71	73	74	70	74			
1.2			62	63	66	68	72	72	74	73						
1.8			65	67	70	72	74	76	75							
2.4	66	66	71/71	71	76/75	75	76									
3.0	67	68	74/74	73	78/77	76										
3.7	70	69	76/76	75												

Minimum F/B (in dB).

3.6.3 ANT C, HP and HPX

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80



0.3						57	60	60	62	63	63	58	61	60		62
0.6			57	61	62	65	67	65	68	68	61	64	65			67
0.9		59	60	63	64	67	70	67	70	71	64	67				
1.2		62	63	67	68	71	73	74	75							
1.8		65	67	70	72	74	76	79								

Minimum F/B (in dB).

3.6.4 ANT, HP and HPX

Size [m]	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80
0.1															51	

Minimum F/B (in dB).

3.6.5 ANT A and FPA A, SHP and SHPX

Size [m]	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80
0.1											57	51	51	51	
0.3									66	69	70	67	68	70	
0.6						67	68	70	71	74	76	71	72	71	
0.9			65		69	71	73	74	75	77					
1.2			62	70	75	76	75								

Minimum F/B (in dB).

3.6.6 Dual-band antenna, HP/HP and HPX/HP

Size [m]	Frequency [GHz]															
						15/80	18/80	23/80								
0.6							66/68	64/68								

Minimum F/B (in dB).

3.7 Inter Port Isolation (IPI)

Minimum 35 dB IPI (dual polarized antennas only).



3.8 Radiation Pattern Envelope (RPE)

3.8.1 General

The radiation pattern envelopes (RPEs) are typical and should be used for network planning. Guaranteed RPEs will not have any peaks exceeding the typical RPEs by more than 3 dB. In all cases peaks will not exceed the international standards listed in section 3.9.

The radiation pattern envelopes (RPEs) corresponding to the antenna versions in this document are specified in:

Microwave Antennas, Radiation Pattern Envelope: 2/1301-UKY 210 40+ Rev J

3.9 Compliance with International Standards

3.9.1 Europe, ETSI EN 302 217-4 V2.1.1 (2017-05)

3.9.1.1 General

<u>Ericsson</u>		<u>ETSI</u>
4-13 GHz	covered by	Range 1
15-18 GHz	covered by	Range 2
23 GHz	covered by	Range 3
24-28 GHz	covered by	Range 4
32-42 GHz	covered by	Range 5
60 GHz	covered by	Range 6
80 GHz	covered by	Range 7

3.9.1.2 ANT A, ANT B, ANT C and Dual band antenna, HP/HPX

Size [m]	Frequency [GHz]																			
	4	5	6	7/ 8	10/1 1	1 3	15	1 8	2 3	24/2 6	2 8	32	38	42	6 0	8 0	15/8 0	18/8 0	23/8 0	
0.1															2	3				
0.2																3				
0.3						3	3	3	3	3	3	3 B	3 B	3 B		3				
0.6				3	3	3	3	3	3	3	3	3 B	3 B	3 B		3	3/3	3/3	3/3	
0.9			3	3	3	3	3	3	3	3	3	3 B	3 B							
1.2			3	3	3	3	3	3	3	3										
1.8	3	3	3	3	3	3	3	3	3											
2.4	3	3	3	3	3	3	3													



3.0	3	3	3	3	3	3													
3.7	3	3	3	3															

Compliance with RPE classes.

Antennas are compliant with XPD category 1 and 2 (defined for 4-42 GHz)

3.9.1.3 ANT A, SHP/SHPX

Size [m]	Frequency [GHz]														
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80
0.1											3 ³	3 ³	3 ³	3 ³	
0.3									4	4	4	4	4	4	
0.6						3 ³	4	4	4	4	4	4	4	4	
0.9			3 ³		3 ³	4	4	4	4	4					
1.2			3 ³	4	3 ³	4	4								

Compliance with RPE classes.

Antennas are compliant with XPD category 1 and 2 (defined for 4-42 GHz)

3.9.2 USA, FCC 47 CFR Ch. I (10-1-17 Edition) § 101.115 and § 30.406

3.9.2.1 General

<u>Ericsson</u>		<u>FCC</u>
4 GHz	covers	3.7-4.2 GHz
6 GHz	covers	5.925-6.425 + 6.525-6.875 + 6.875-7.125 GHz
10/11 GHz	covers	10.55-10.68 + 10.7-11.7 GHz
18 GHz	covers	17.7-18.82 + 18.92-19.7 GHz
23 GHz	covers	21.2-23.6 GHz
24/26 GHz	covers	24.25-25.25 GHz
38 GHz	covers	38.6-40 GHz
80 GHz	covers	71-76 + 81-86 GHz

3.9.2.2 ANT A, HP/HPX

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11 ⁴	13	15	18	23	24/26	28	32	38	42	60	80 ⁵
0.1																–
0.2																–
0.3							B2	A	B				A			OK
0.6					A/B		A	A	A				A			OK
0.9			B2		A/A		A	A	A				A			
1.2			B2		A/A		A	A	A							
1.8	–		A		A/A		A	A								

³ Significantly better than class 3.

⁴ Category in FCC 10.55-10.68 GHz band / Category in FCC 10.7-11.7 GHz band.

⁵ Only one category, without any name, is defined in FCC 71-76 + 81-86 GHz band.



2.4	B		A		A/A														
3.0	B		A		A/A														
3.7	A		A																

Compliance with antenna performance categories.

3.9.2.3 ANT B, ANT C and Dual-band antenna, HP/HPX

Size [m]	Frequency [GHz]																
	4	5	6	7/8	10/11 ⁴	13	15	18	23	24/26	28	32	38	42	60	80 ⁵	15&18&23/80 ⁵
0.3							B2	A	B				A			OK	
0.6					A/B			A	A	A			A			OK	A/OK
0.9			B2		A/A			A	A	A			A				
1.2			B2		A/A			A	A	A							
1.8	–		A		A/A			A	A								
2.4	A		A		A/A												
3.0	A		A		A/A												
3.7	A		A														

Compliance with antenna performance categories

3.9.2.4 ANT A, SHP/SHPX

Size [m]	Frequency [GHz]														
	4	5	6	7/8	10/11 ⁴	13	15	18	23	24/26	28	32	38	42	80 ⁵
0.1															A
0.3									A	–					A
0.6								A	A	A					A
0.9			B2		A/A			A	A	A					
1.2			B2		B										

Compliance with antenna performance categories.

3.9.3 Brazil, Anatel, Resolution No 609 (April 18, 2013)

3.9.3.1 General

<u>Ericsson</u>		<u>Anatel</u>
4-13 GHz	covered by	3-14 GHz
15-18 GHz	covered by	14-20 GHz
23 GHz	covered by	20-24 GHz
24-28 GHz	covered by	24-30 GHz
32-42 GHz	covered by	30-47 GHz
80 GHz	covered by	71-86 GHz

3.9.3.2 ANT A, ANT B, ANT C and Dual band antenna, HP/HPX

Size [m]	Frequency [GHz]																
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	60	80	15&18&23/80



0.1																		3		
0.2																			3	
0.3						3	3	3	3	3	3	2	2	2					3	
0.6				3	3	3	3	3	3	3	3	2	2	2					3	3/3
0.9			3	3	3	3	3	3	3	3	3	2	2							
1.2			3	3	3	3	3	3	3	3										
1.8	3	3	3	3	3	3	3	3	3											
2.4	3	3	3	3	3	3	3													
3.0	3	3	3	3	3	3														
3.7	3	3	3	3																

Compliance with RPE classes.

All antennas are compliant with XPD class 2 (and 1).

3.9.3.3 ANT A, SHP/SHPX

Size [m]	Frequency [GHz]															
	4	5	6	7/8	10/11	13	15	18	23	24/26	28	32	38	42	80	
0.1											3	3	3	3		
0.3									3	3	3	3	3	3		
0.6						3	3	3	3	3	3	3	3	3		
0.9			3		3	3	3	3	3	3						
1.2			3		3	3	3									

Compliance with RPE classes.

All antennas are compliant with XPD class 2 (and 1).

3.9.4 Australia, ACMA RALI FX 3 Appendix 11 (June 2016)

3.9.4.1 General

<u>Ericsson</u>		<u>ACMA</u>
4 GHz	covers	3.8 GHz
6 GHz	covers	6 + 6.7 GHz
7/8 GHz	covers	7.5 + 8 GHz
10/11 GHz	covers	10 + 11 GHz
13 GHz	covers	13 GHz
15 GHz	covers	15 GHz
18 GHz	covers	18 GHz
23 GHz	covers	22 GHz
38 GHz	covers	38 GHz



3.9.4.2 ANT A, HP/HPX

Size [m]	Frequency [GHz]															
	4	5	6 ⁶	7/8 ⁷	10/11 ⁸	13	15	18	23	24/26	28	32	38	42	60	80
0.1																
0.2																
0.3						B	B	B	B				B			
0.6				B/-	B/B	B	A	A	A				A			
0.9			B/-	B/B	B/B	B	A	A	A				A			
1.2			B/-	B/B	A/B	B	A	A	A							
1.8	A		B/B	B/B	A/B	A	A	A	A							
2.4	A		B/B	A/B	A/B	A	A									
3.0	A		B/B	A/B	A/B	A										
3.7	A		B/B	A/A												

Compliance with antenna grades.

3.9.4.3 ANT B and Dual-band antenna, HP/HPX

Size [m]	Frequency [GHz]																
	4	5	6 ⁹	7/8 ¹⁰	10/11 ¹¹	13	15	18	23	24/26	28	32	38	42	60	80	15&18&23/80
0.3						B	C	B	B				B			A	
0.6				B/-	B/B	B	A	A	A				A			A	A/A
0.9			B/-	B/B	B/B	B	A	A	A				A				
1.2			B/-	B/B	A/B	B	A	A	A								
1.8	B		B/B	B/B	A/B	A	A	A	A								
2.4	A	-	B/B	A/B	A	A	A										
3.0	A	-	B/B	A/B	A	A											
3.7	A	-	A/A	A/A													

Compliance with antenna grades.

3.9.4.4 ANT C, HP/HPX

Size [m]	Frequency [GHz]															
	4	5	6 ¹²	7/8 ¹³	10/11 ¹⁴	13	15	18	23	24/26	28	32	38	42	60	80
0.3						B	B	B	B				B			A
0.6				B/-	B/B	B	A	A	A				B			A
0.9			B/-	B/B	B/B	B	A	A	A				A			
1.2			B/-	B/B	B/B	B	A	A	A							
1.8	B		B/B	B/B	B/B	A	A	A	A							

⁶ Grade in ACMA 6 GHz band / Grade in ACMA 6.7 GHz band.

⁷ Grade in ACMA 7.5 GHz band / Grade in ACMA 8 GHz band.

⁸ Grade in ACMA 10 GHz band / Grade in ACMA 11 GHz band.

⁹ Grade in ACMA 6 GHz band / Grade in ACMA 6.7 GHz band.

¹⁰ Grade in ACMA 7.5 GHz band / Grade in ACMA 8 GHz band.

¹¹ Grade in ACMA 10 GHz band / Grade in ACMA 11 GHz band.

¹² Grade in ACMA 6 GHz band / Grade in ACMA 6.7 GHz band.

¹³ Grade in ACMA 7.5 GHz band / Grade in ACMA 8 GHz band.

¹⁴ Grade in ACMA 10 GHz band / Grade in ACMA 11 GHz band.



Compliance with antenna grades.

3.9.4.5 ANT A, SHP/SHPX

Size [m]	Frequency [GHz]														
	4	5	6 ⁶	7/8 ⁷	10/11 ⁸	13	15	18	23	24/26	28	32	38	42	80
0.1													A		
0.3									A				A		
0.6						B	A	A	A				A		
0.9			B/B		A/B	A	A	A	A						
1.2			B/B		A/A	A	A								

Compliance with antenna grades.

3.9.5 Canada, ISED

3.9.5.1 General

<u>Ericsson</u>		<u>ISED</u>
4 GHz	covers	3.7-4.2 GHz SRSP-303.7, Issue 3, December 2006
6 GHz	covers	5.925-6.425 GHz SRSP-305.9, Issue 5, December 2006
7/8 GHz	covers	6.425-6.930 GHz SRSP-306.4, Issue 6, December 2006
10/11 GHz	covers	7.125-7.725 GHz SRSP-307.1, Issue 5, May 2006
15 GHz	covers	7.725-8.275 GHz SRSP-307.7, Issue 6, December 2006
18 GHz	covers	10.55-10.68 GHz SRSP-310.5, Issue 3, May 2012
23 GHz	covers	10.7-11.7 GHz SRSP-310.7, Issue 4, March 2018
24/26 GHz	covers	14.5-15.35 GHz SRSP-314.5, Issue 3, December 2010
		17.8-18.3 + 19.3-19.7 GHz SRSP-317.8, Issue 2, December 2006
		21.8-22.4 + 23.0-23.6 GHz SRSP-321.8, Issue 1, July 19, 1997
		24.25-24.45 + 25.05-25.25 GHz SRSP-324.25, Issue 1, January 1, 2000
		25.25-26.5 GHz



28 GHz	covers	SRSP-325.25, Issue 1, September 2013 27.5-28.35 GHz
38 GHz	covers	SRSP-325.25, Issue 1, September 2013 38.6-40.0 GHz
80 GHz	covers	SRSP-338.6, Issue 3, April 2008 71-76 + 81-86 GHz SRSP-371.0, Issue 1, May 2017



3.9.5.2 ANT A, HP/HPX

Size [m]	Frequency [GHz]																
	4	5	6	7/8 ^{15 16}	10/11 ^{15 17}	13	15	18	23	24/26 ^{15 18 19}	28 ¹⁵	32	38 ¹⁵	42	60	80	
0.1																	A
0.2																	A
0.3						B	–	–	B	OK/OK	OK		OK			A	
0.6				–/–	–/B	B	C	A	A	OK/OK	OK		OK			A	
0.9			–	–/–	OK/B	B	C	A	A	OK/OK	OK		OK				
1.2			–	–/–	OK/B	B	C	A	A	OK/OK							
1.8	–		A	OK/B	OK/A	B	C	A	A								
2.4	B		A	OK/A	OK/A		C										
3.0	B		A	OK/A	OK/A												
3.7	A		A	OK/A													

Compliance with antenna RPE.

3.9.5.3 ANT B and Dual-band antenna, HP/HPX

Size [m]	Frequency [GHz]																	
	4	5	6	7/8 ^{15 16}	10/11 ^{15 17}	13	15	18	23	24/26 ^{15 18 19}	28 ¹⁵	32	38 ¹⁵	42	60	80	15/80 18/80 23/80	
0.3						–	–	–	B	OK/OK	OK		OK				A	
0.6				–/–	–/B	–	C	A	A	OK/OK	OK		OK				A	A/A
0.9			–	–/–	OK/B	A	C	A	A	OK/OK	OK		OK					
1.2			–	–/–	OK/B	A	C	A	A	OK/OK								
1.8	–		A	OK/A	OK/A	A	C	A	A									
2.4	A	–	A	A	A	A	C											
3.0	A	–	A	A	A	A												
3.7	A	–	A	A														

Compliance with antenna RPE.

¹⁵ Only one RPE, without any name, is defined in SRSP-307.1, SRSP-310.5, SRSP-325.25 and SRSP-338.6.

¹⁶ RPE in SRSP-307.1 / RPE in SRSP-307.7.

¹⁷ RPE in SRSP-310.5 / RPE in SRSP-310.7.

¹⁸ No traditional antenna requirements are defined in SRSP-324.25.

¹⁹ RPE in SRSP-324.25 / RPE in SRSP-325.25.



3.9.5.4 ANT C, HP/HPX

Size [m]	Frequency [GHz]															
	4	5	6	7/8 ^{15 16}	10/11 ^{15 17}	13	15	18	23	24/26 ^{15 18 19}	28 ¹⁵	32	38 ¹⁵	42	60	80
0.3						-	-	-	B	OK/OK	OK		OK			A
0.6				-/-	-/-	-	C	A	A	OK/OK	OK		OK			A
0.9			-	-/-	OK/-	B	C	A	A	OK/OK	OK		OK			
1.2			-	-/-	OK/B	B	C	A	A	OK/OK						
1.8			A	OK/B	OK/A	A	C	A	A							

Compliance with antenna RPE.

3.9.5.5 ANT A, SHP/SHPX

Size [m]	Frequency [GHz]														
	4	5	6	7/8	10/11 ^{15 17}	13	15	18	23	24/26 ^{15 18 19}	28 ¹⁵	32	38 ¹⁵	42	80
0.1											OK		OK		
0.3									B	OK/OK	OK		OK		
0.6							C	A	B ²⁰	OK/OK	OK		OK		
0.9			-		OK/-		C	A	A	OK/OK					
1.2			-	-	OK/B	B	C								

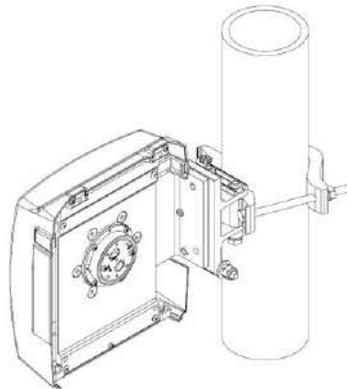
²⁰ Violates the "A" RPE at 2-5 degrees. Significantly better than "A" for all other angles.

4 Mechanical Data

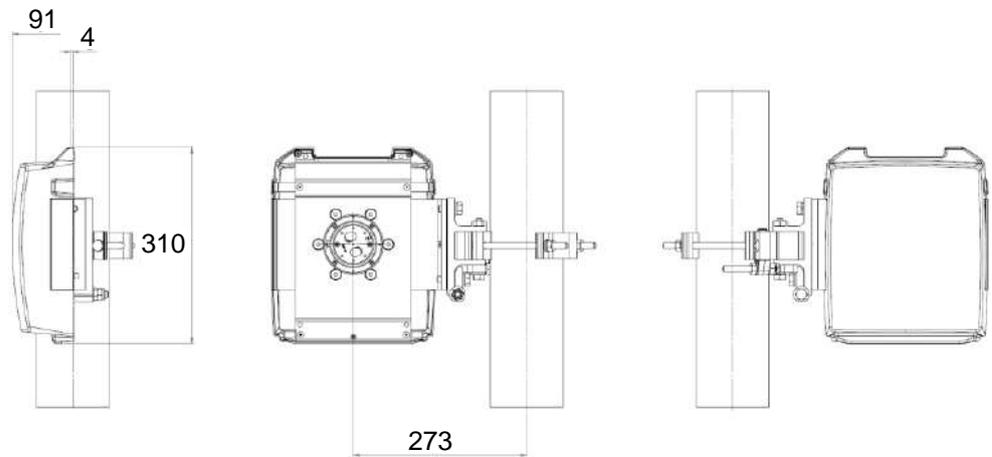
4.1 Dimensions

4.1.1 ANT A, HP and HPX

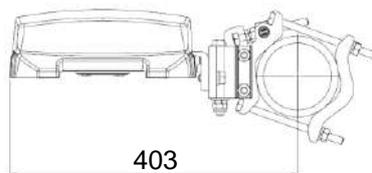
4.1.1.1 ANT2 A 0.1 80 HP



Antenna.



Antenna, side, rear and front view.

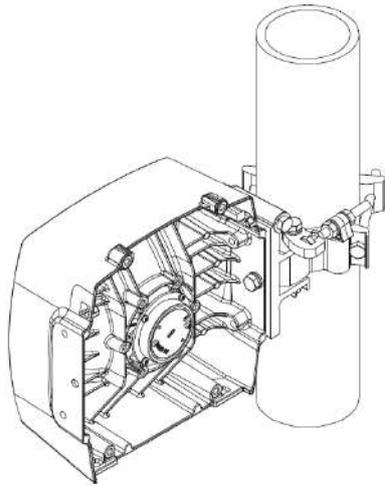


Antenna, top view.

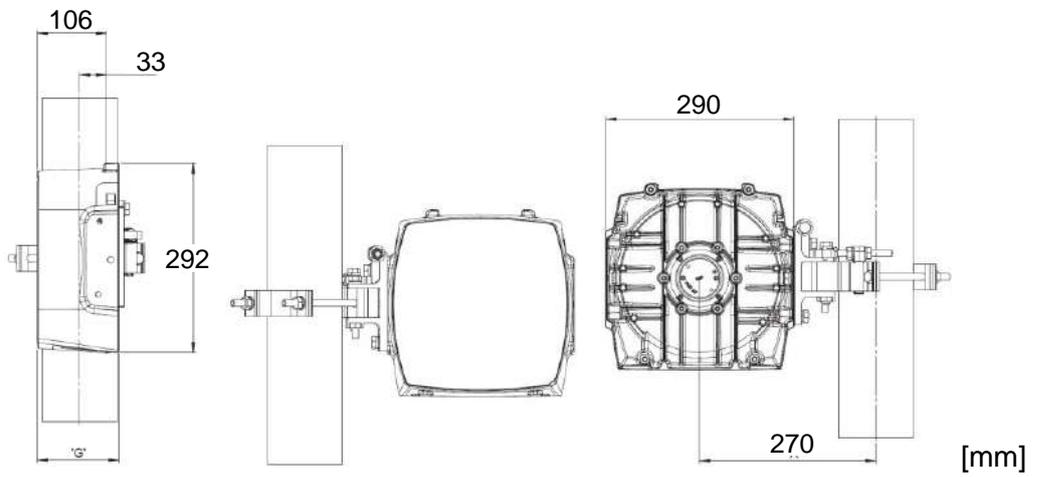
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[mm]

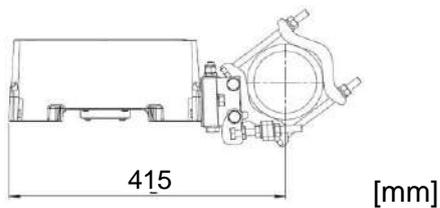
4.1.1.2 **ANT2 A 0.2 80 HP**



Antenna.

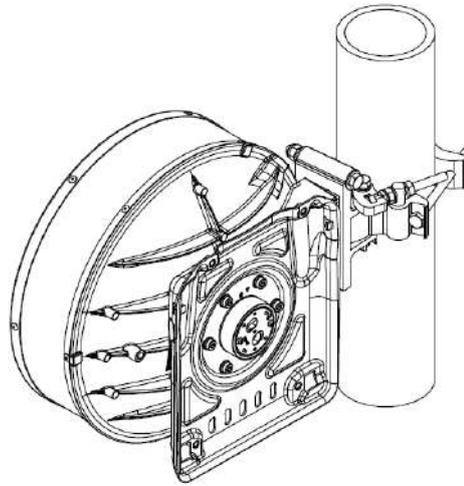


Antenna, side, front and rear view.

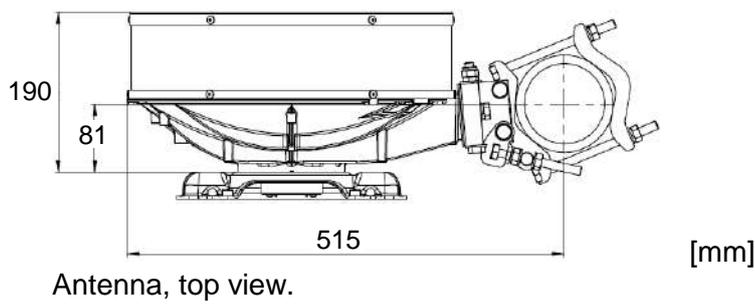
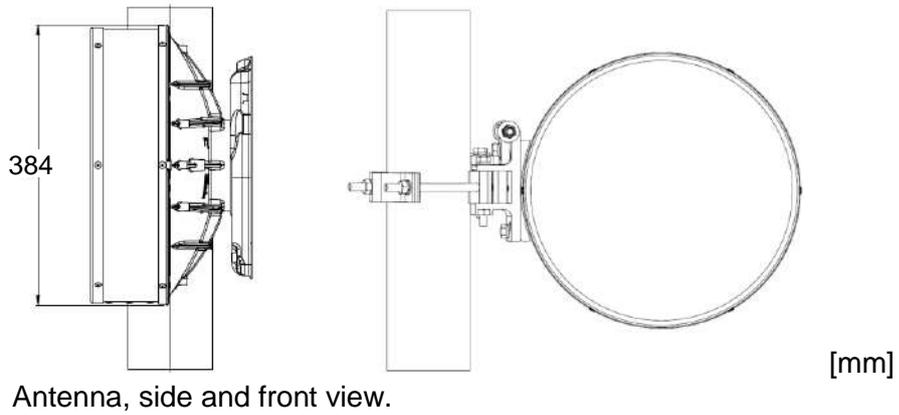


Antenna, top view.

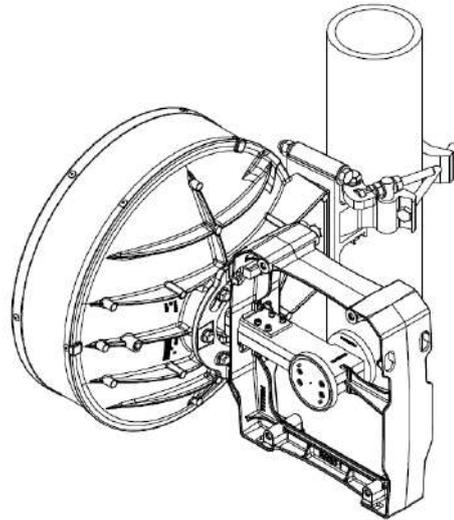
4.1.1.3 ANT2 A 0.3 80 HP



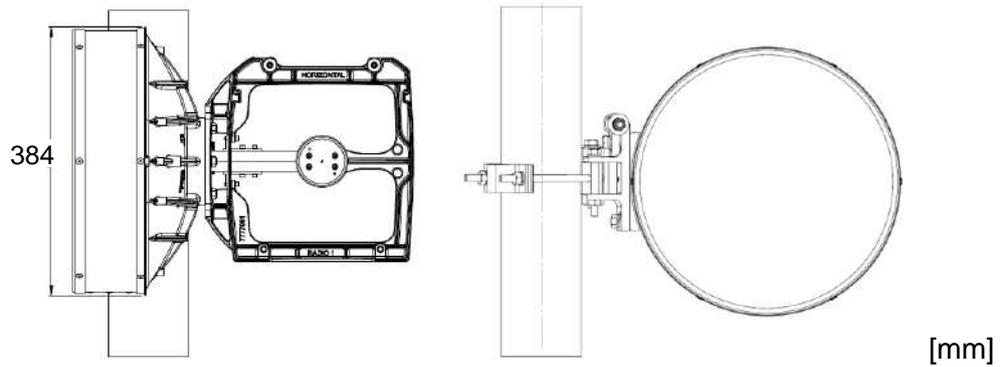
Antenna



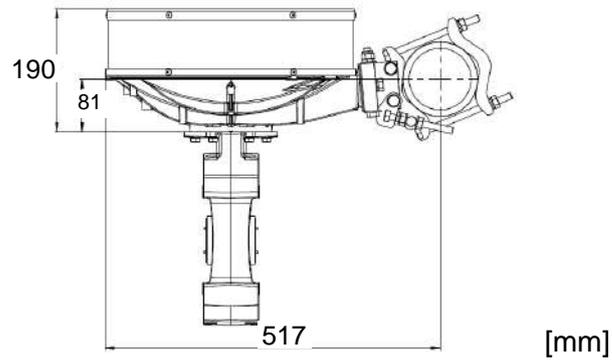
4.1.1.4 **ANT2 A 0.3 80 HPX**



Antenna.

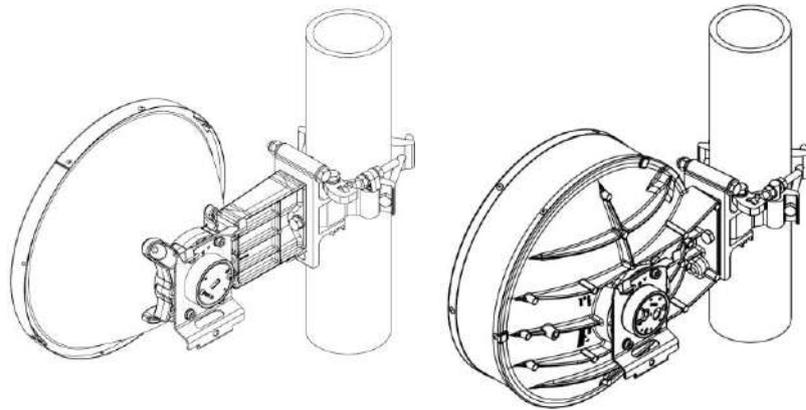


Antenna, side and front view.

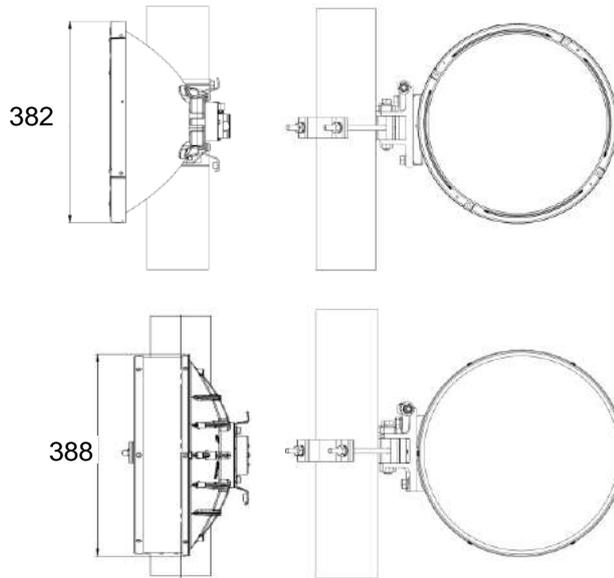


Antenna, top view.

4.1.1.5 **ANT3 A 0.3 HP**

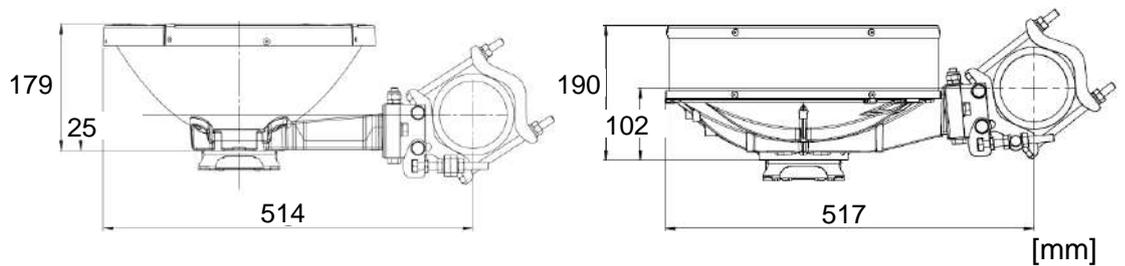


Antenna 13–42 GHz and 80 GHz.



[mm]

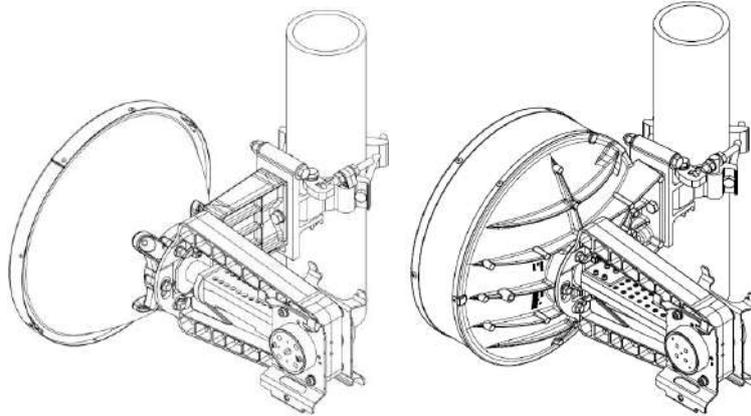
Antenna 13-42 GHz and 80 GHz, side and front view.



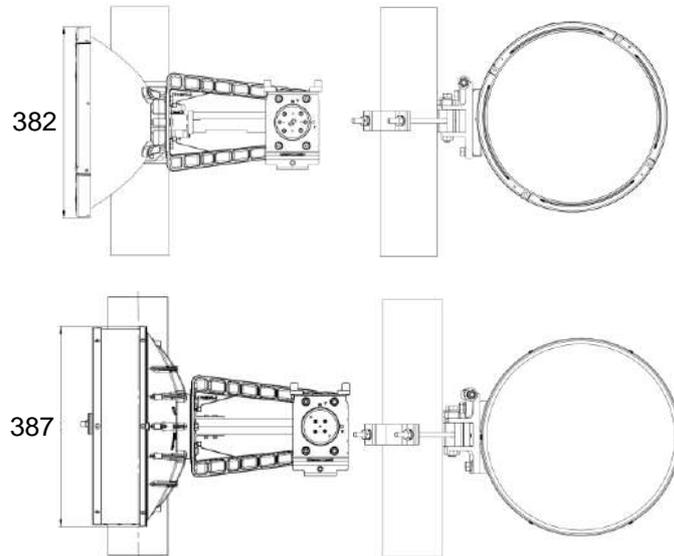
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Antenna 13-42 GHz and 80 GHz, top view.

4.1.1.6 **ANT3 A 0.3 HPX**

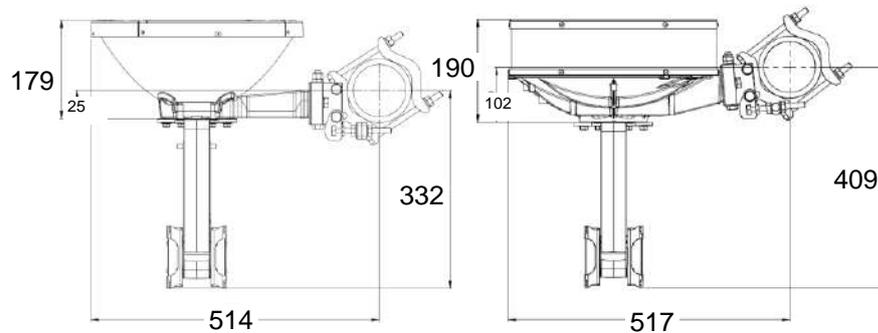


Antenna 13-42 GHz and 80 GHz.



[mm]

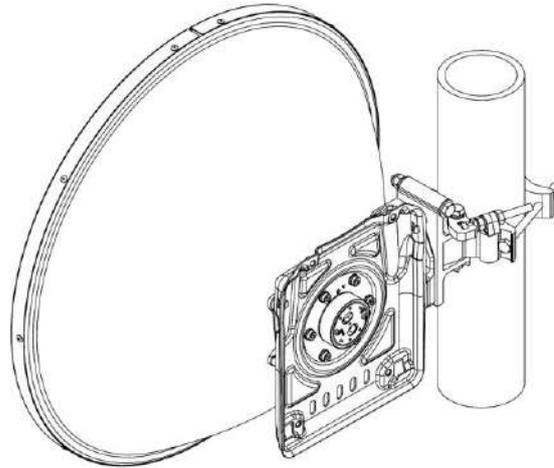
Antenna 13-42 GHz and 80 GHz, side and front view.



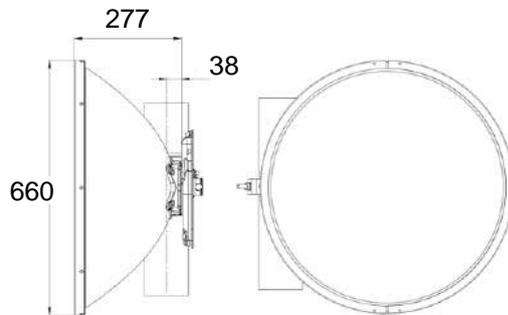
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Antenna 13-42 GHz and 80 GHz, top view.

4.1.1.7 ANT2 A 0.6 80 HP

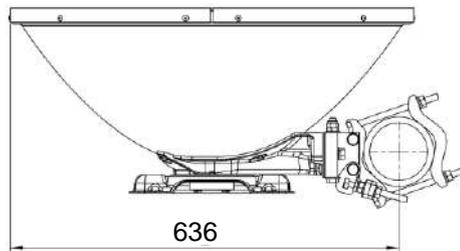


Antenna.



Antenna, side and front view.

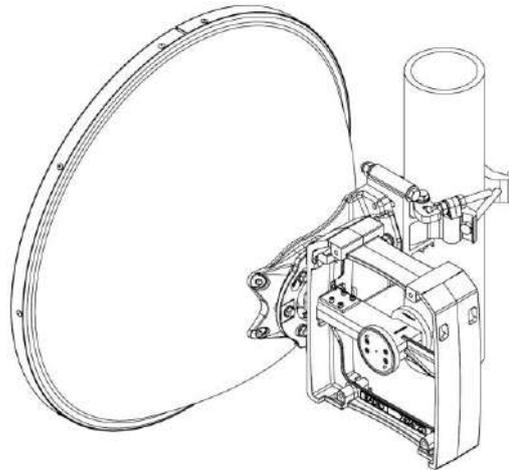
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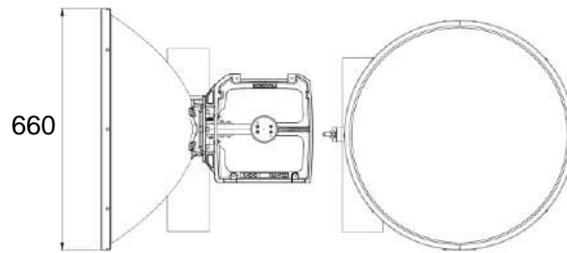
Antenna, top view.

[mm]

4.1.1.8 **ANT2 A 0.6 80 HPX**

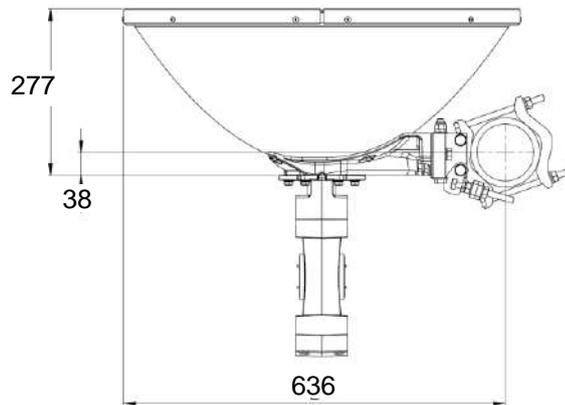


Antenna.



Antenna, side and front view.

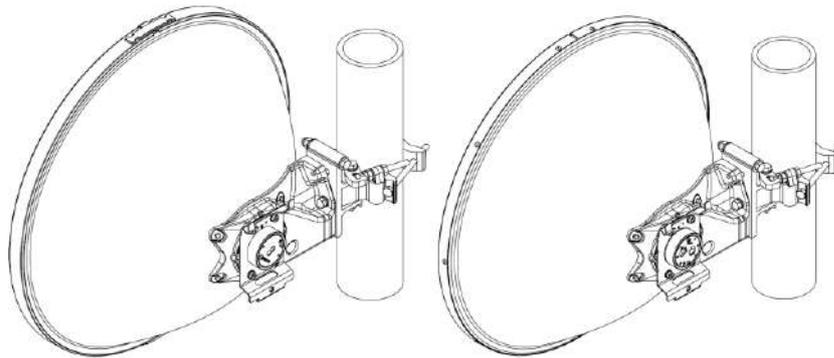
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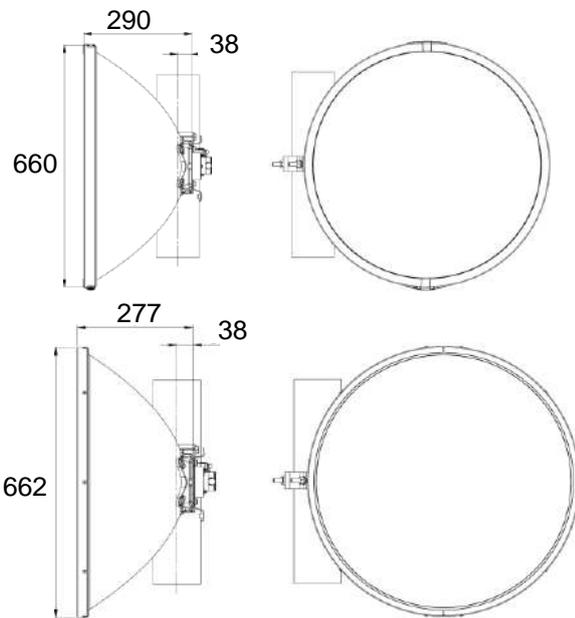
Antenna, top view.

[mm]

4.1.1.9 ANT3 A 0.6 HP

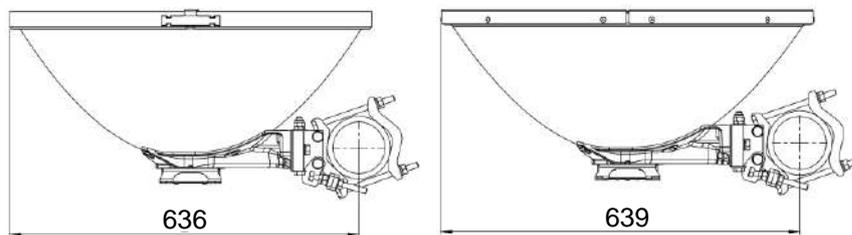


Antenna 7-42 GHz and 80 GHz.



[mm]

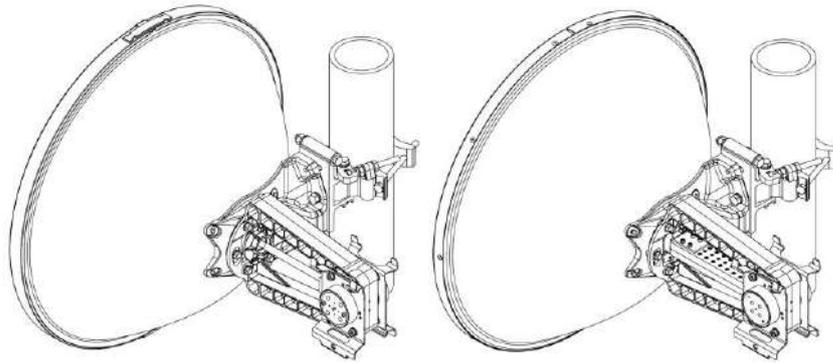
Antenna 7-42 GHz and 80 GHz, side and front view.



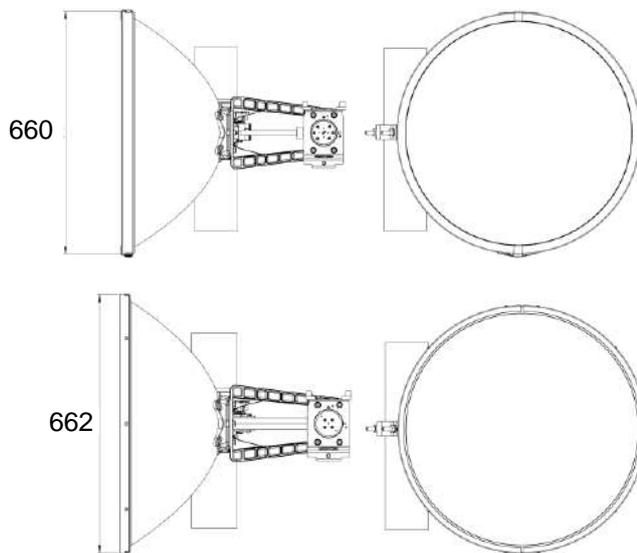
[mm]

Antenna 7-42 GHz and 80 GHz, top view.

4.1.1.10 ANT3 A 0.6 HPX

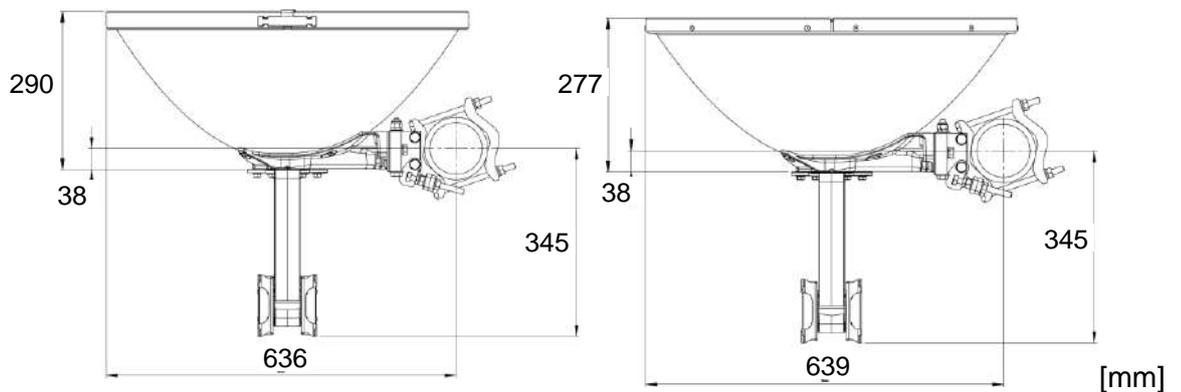


Antenna 7-42 GHz and 80 GHz.



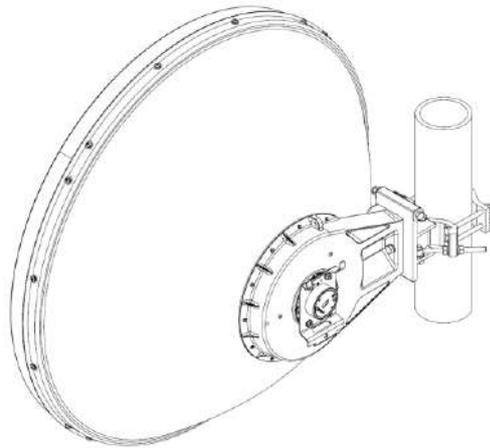
[mm]

Antenna 7-42 GHz and 80 GHz, side and front view.

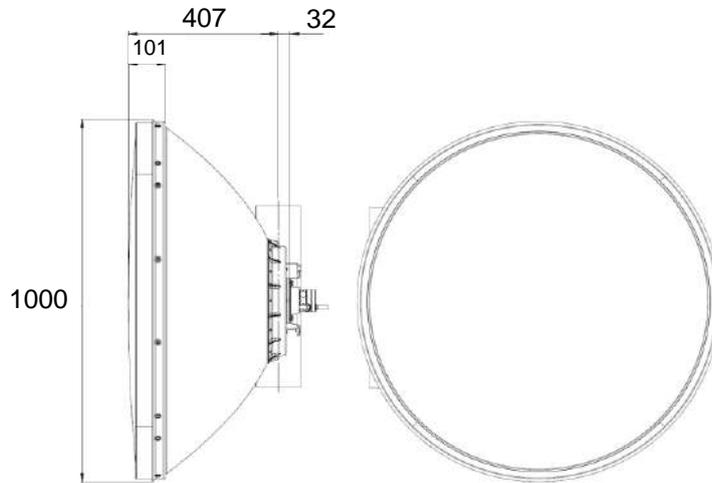


Antenna 7-42 GHz and 80 GHz, top view.

4.1.1.11 **ANT3 A 0.9 HP**

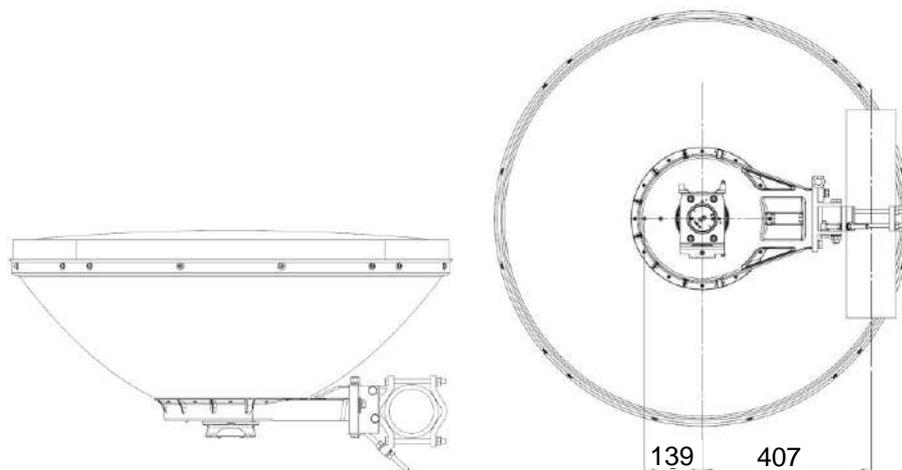


Antenna



Antenna, side and front view.

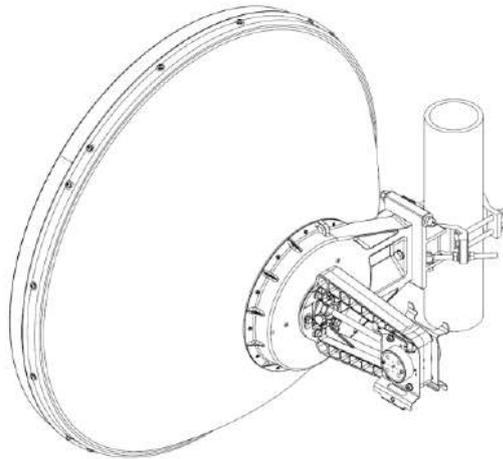
[mm]



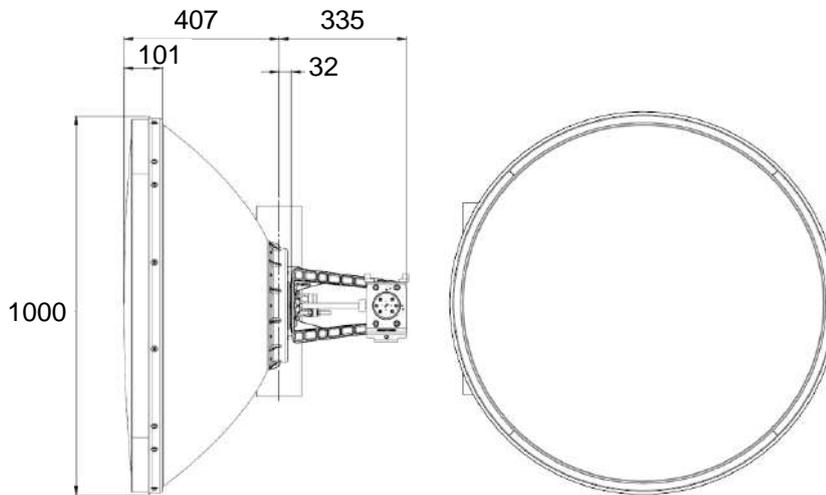
Antenna, top and rear view.

[mm]

4.1.1.12 **ANT3 A 0.9 HPX**

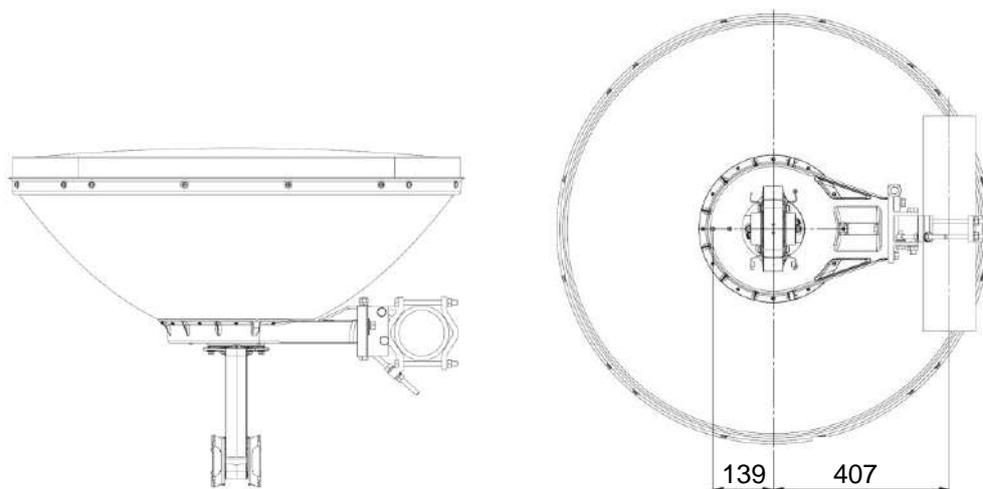


Antenna.



Antenna, side and front view.

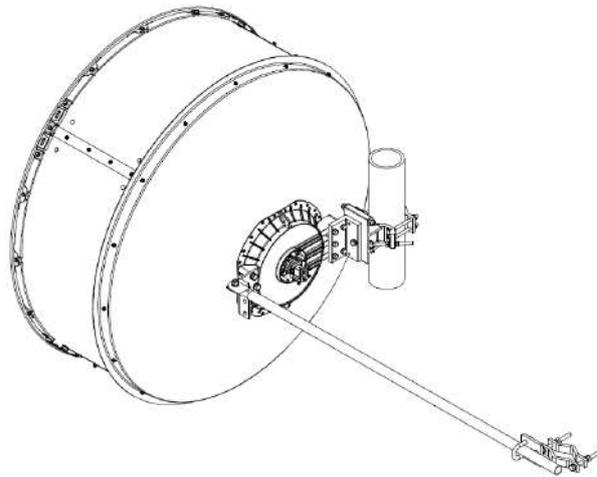
[mm]



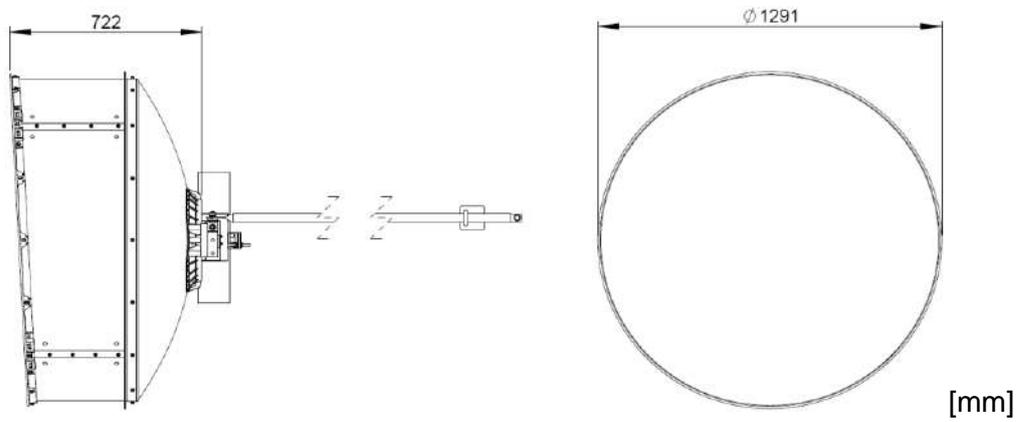
Antenna, top and rear view.

[mm]

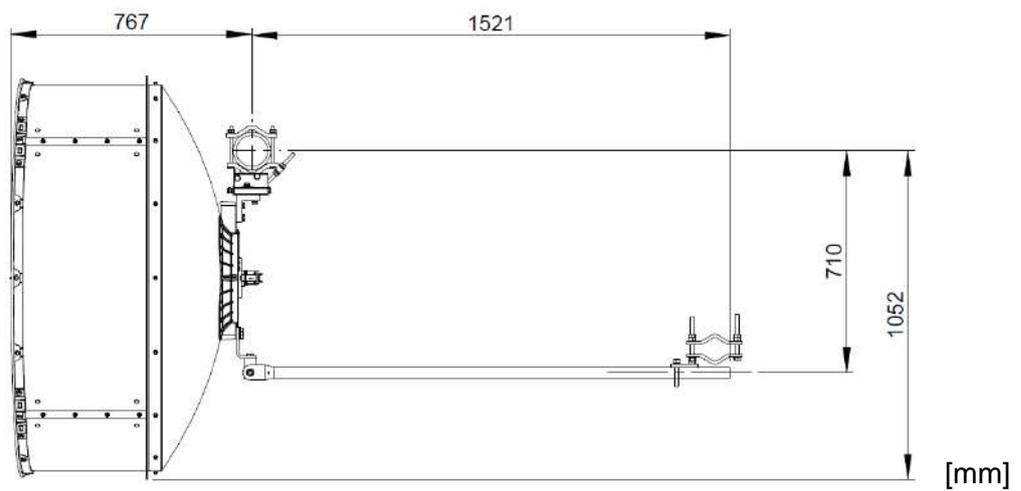
4.1.1.13 **ANT0 A 1.2 HPX**



Antenna.

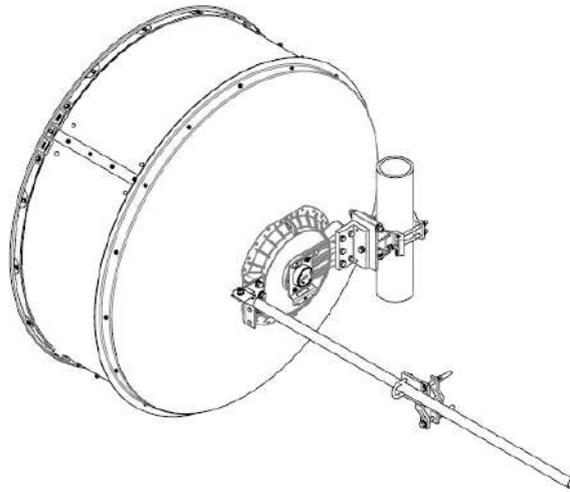


Antenna, side and front view.

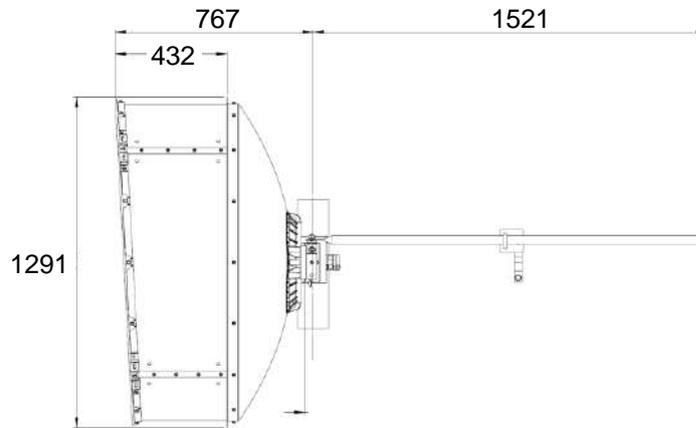


Antenna, top view.

4.1.1.14 ANT3 A 1.2 HP

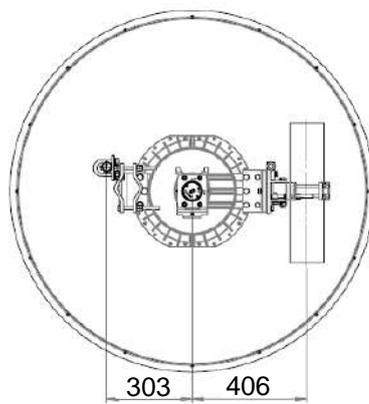


Antenna.

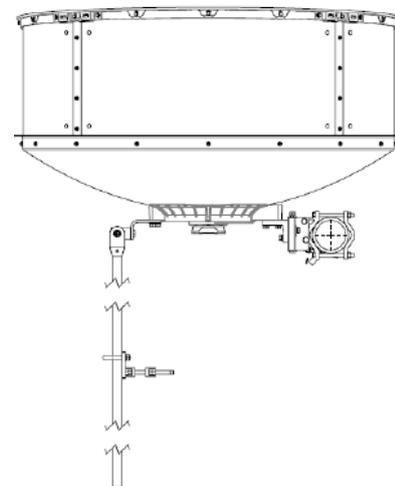


Antenna, side view.

[mm]

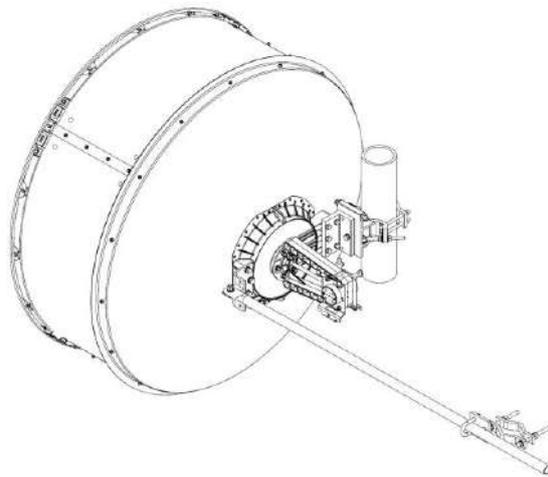


Antenna, rear and top view.

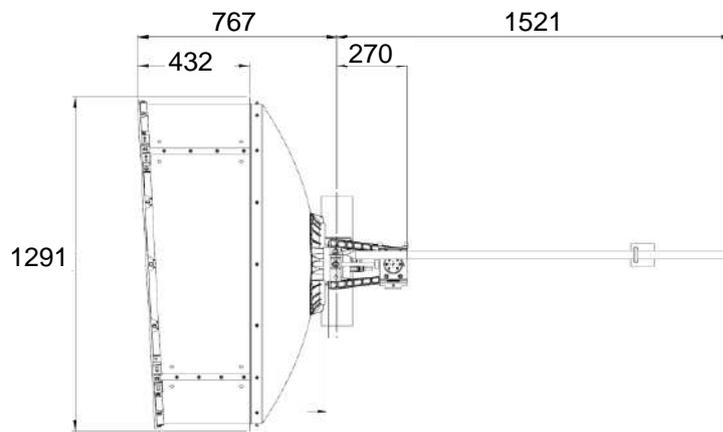


[mm]

4.1.1.15 **ANT3 A 1.2 HPX**

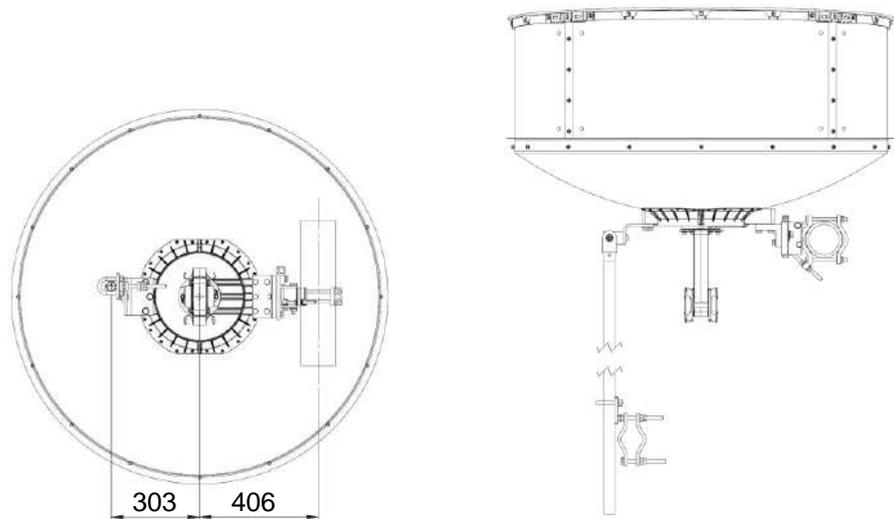


Antenna.



Antenna, side view.

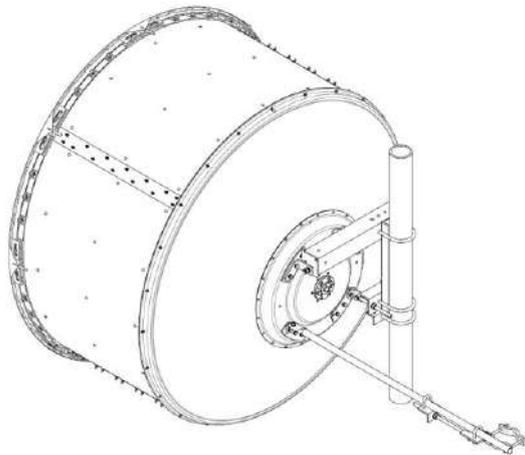
[mm]



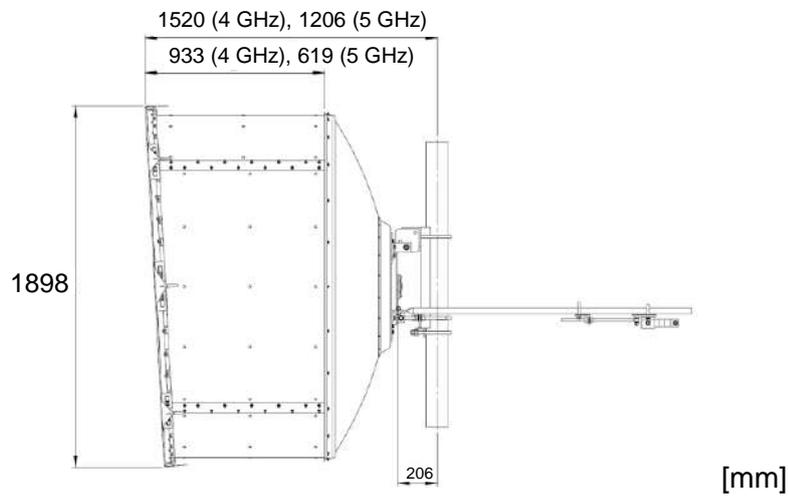
Antenna, rear and top view.

[mm]

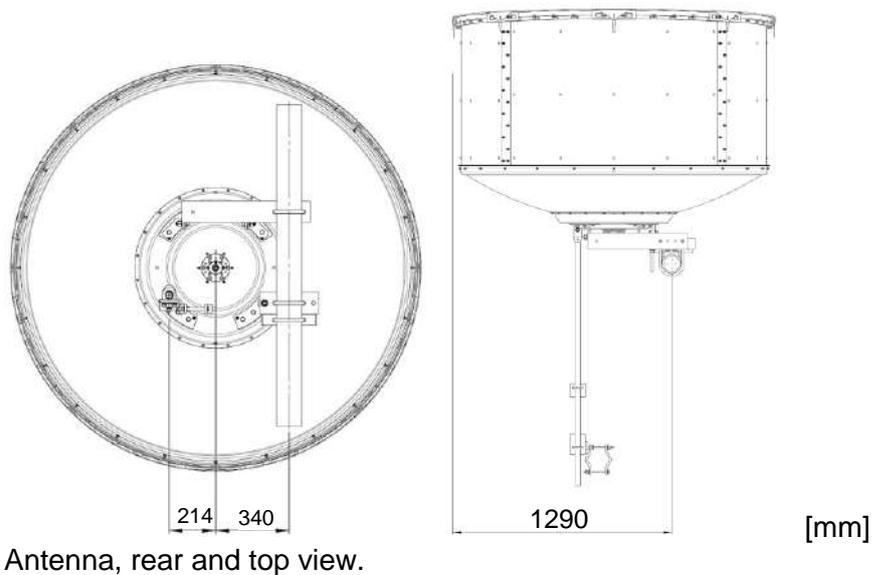
4.1.1.16 **ANT0 A 1.8 HPX (4-5 GHz)**



Antenna.

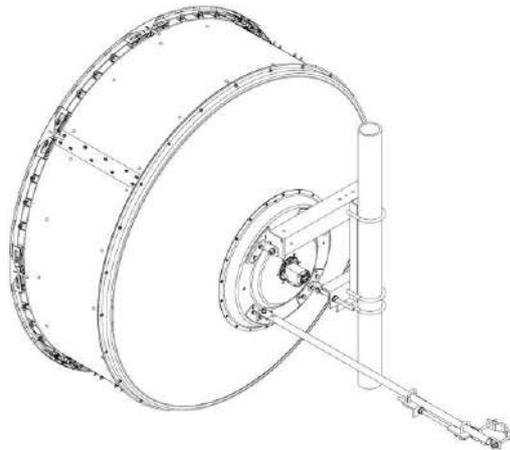


Antenna, side view.

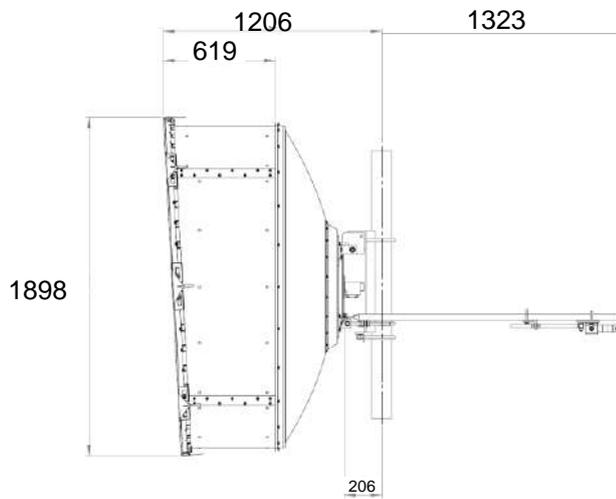


Antenna, rear and top view.

4.1.1.17 **ANT0 A 1.8 HPX (6-13 GHz)**

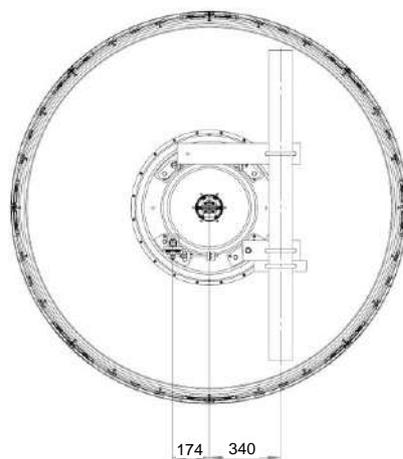


Antenna.

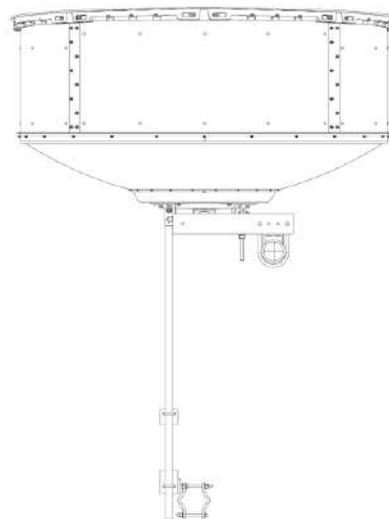


Antenna, side view.

[mm]

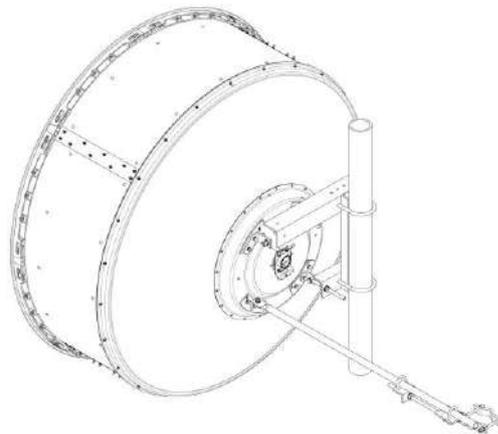


Antenna, rear and top view.

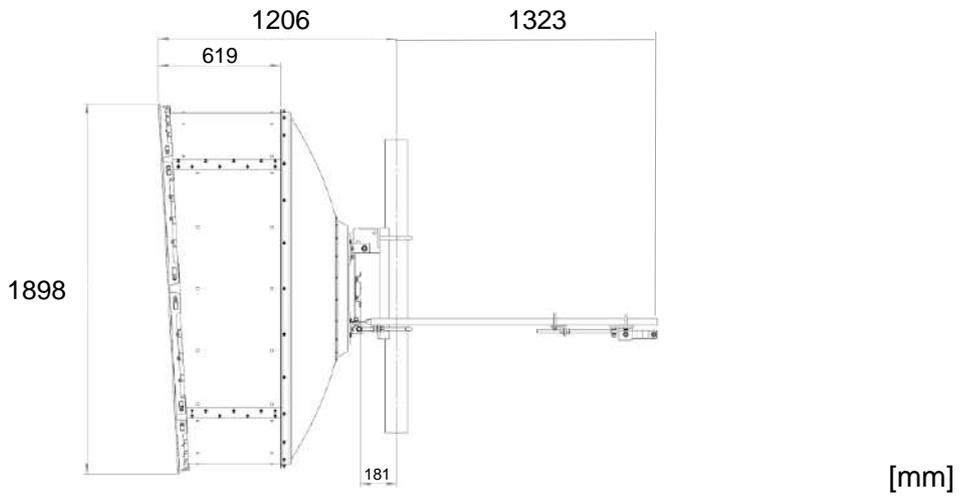


[mm]

4.1.1.18 ANT3 A 1.8 HP

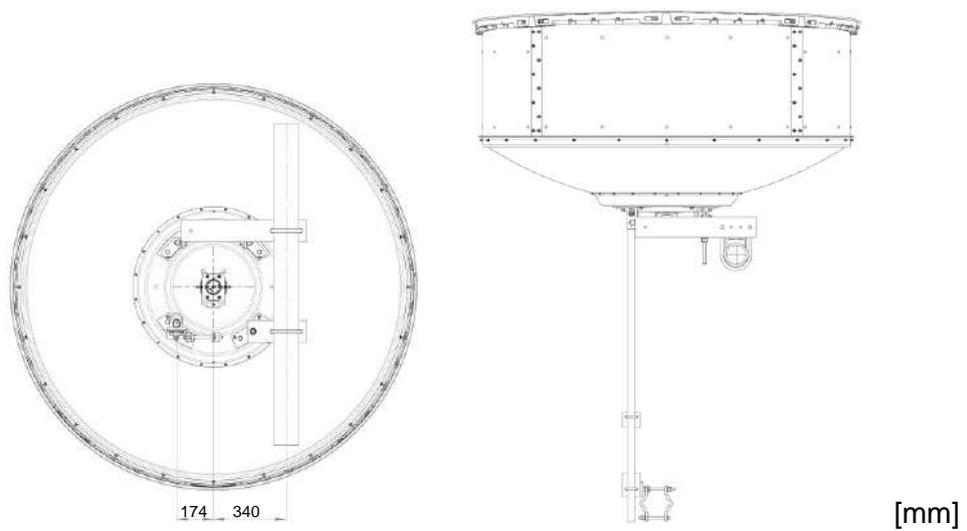


Antenna.



Antenna, side view.

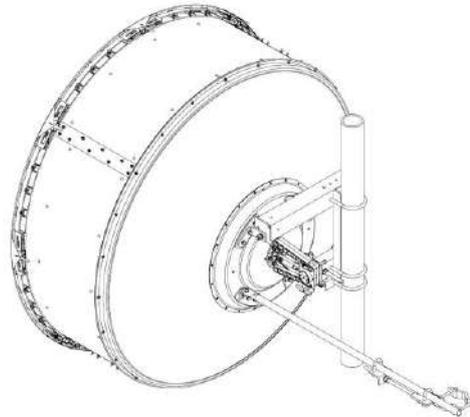
[mm]



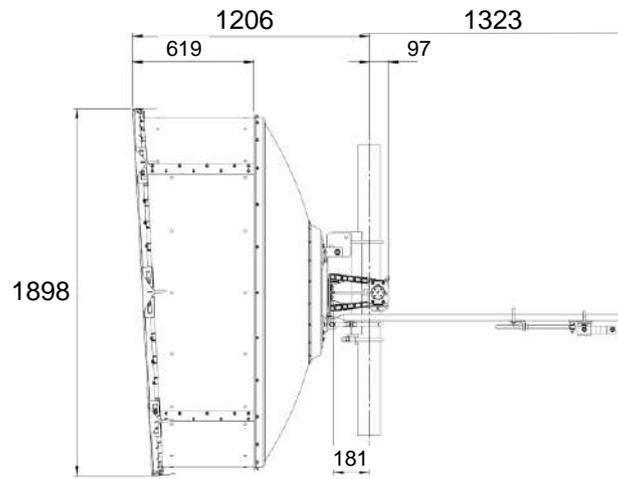
Antenna, rear and top view.

[mm]

4.1.1.19 ANT3 A 1.8 HPX

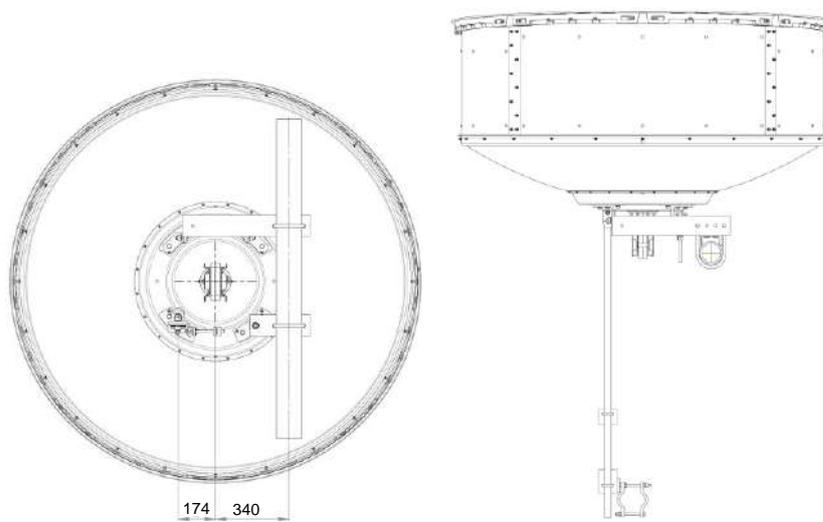


Antenna.



Antenna, side view.

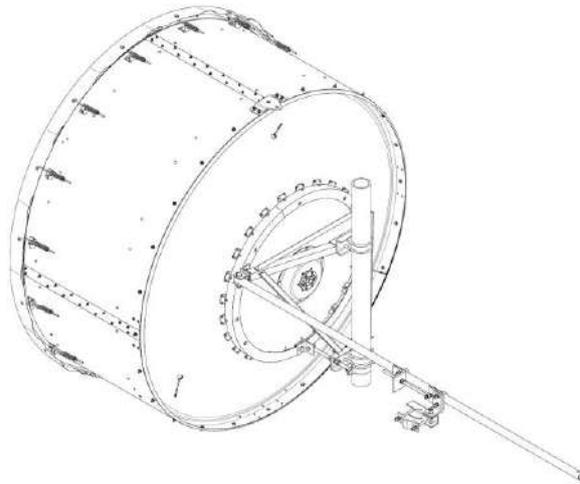
[mm]



Antenna, rear and top view.

[mm]

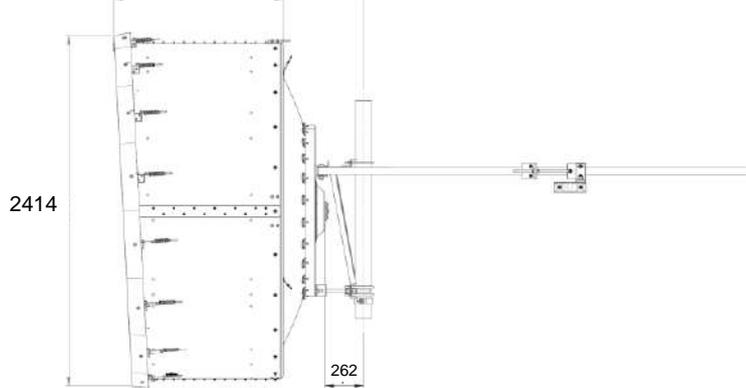
4.1.1.20 **ANT0 A 2.4 HP and ANT0 A 2.4 HPX**



Antenna.

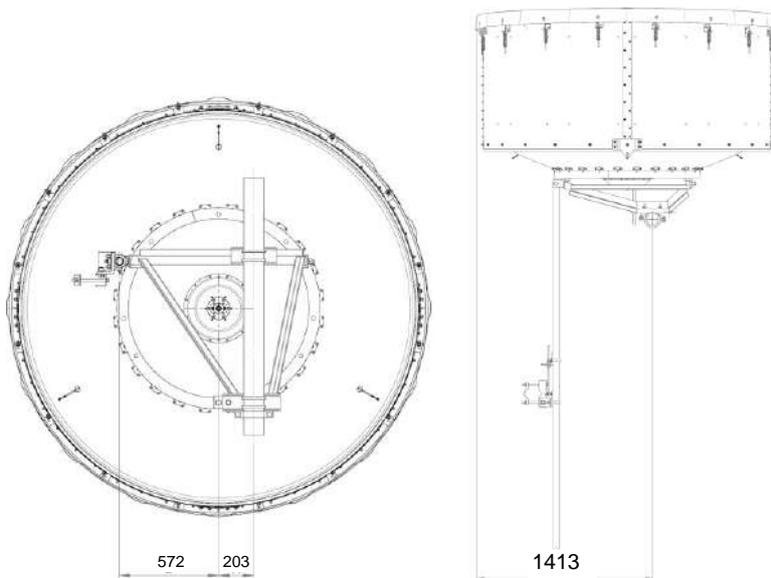
1710, 1941 (4 & 15 GHz)

1162, 1392 (4 & 15 GHz)



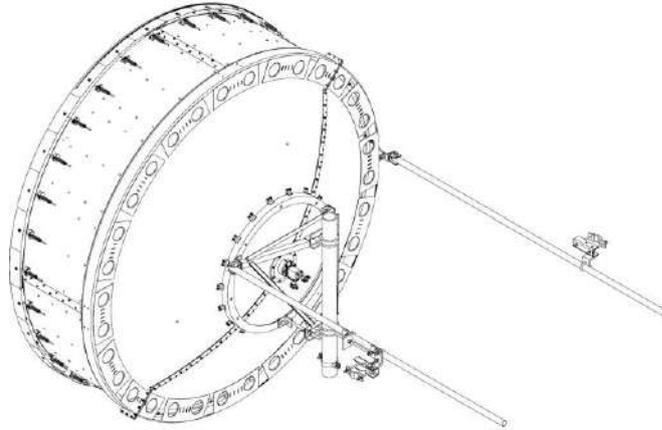
Antenna, side view.

[mm]

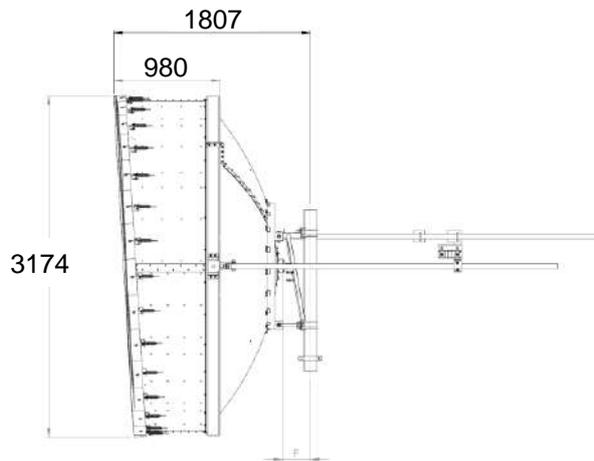


Antenna, rear and top view.

4.1.1.21 **ANT0 A 3.0 HP and ANT0 A 3.0 HPX**

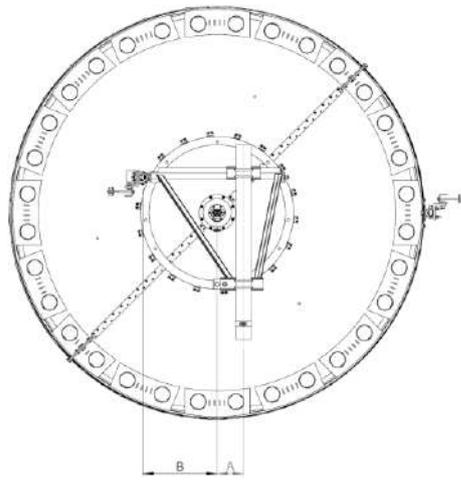


Antenna.

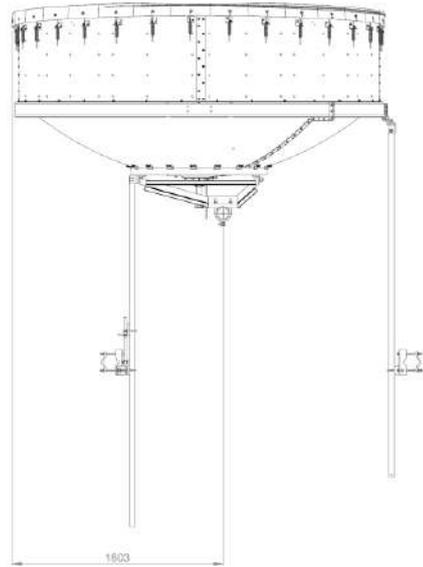


Antenna, side view.

[mm]

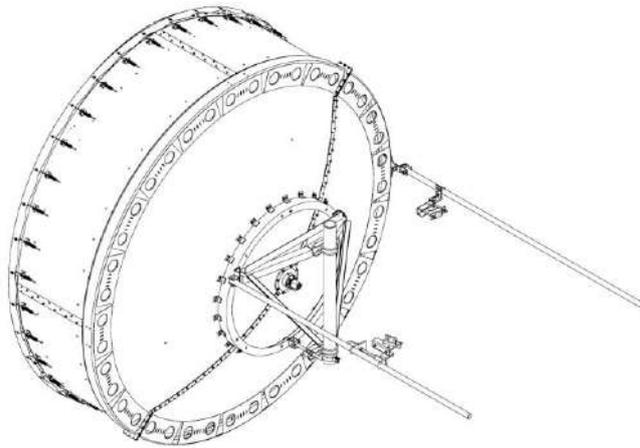


Antenna, ref. 572 n. 203 p view.

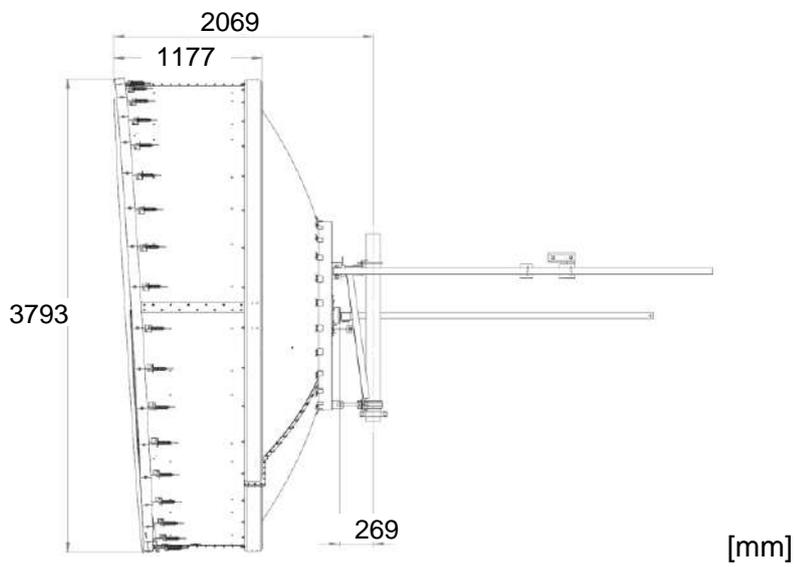


1803

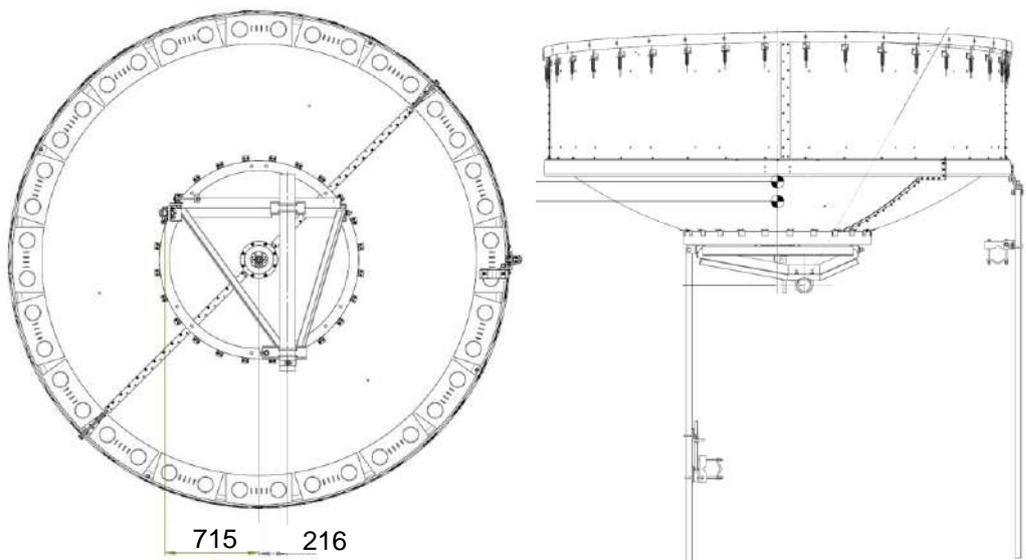
4.1.1.22 **ANT0 A 3.7 HPX**



Antenna.



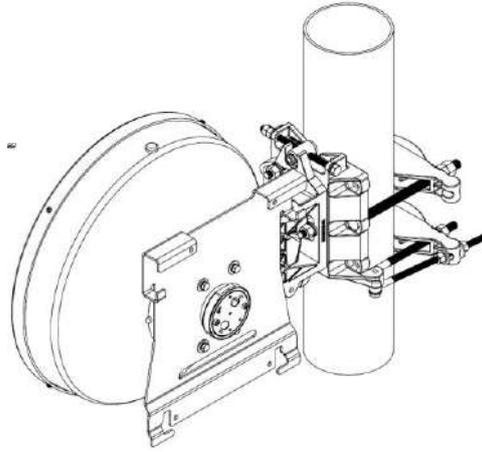
Antenna, side view.



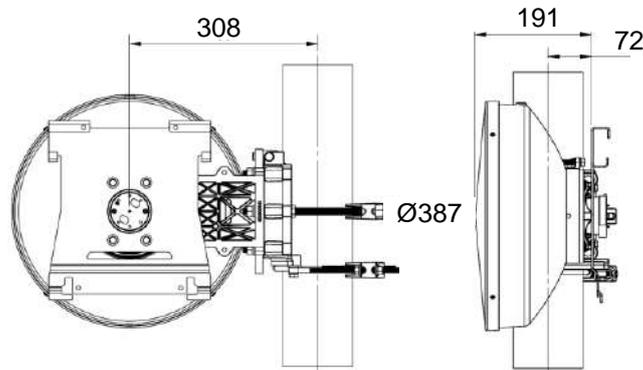
Antenna, rear and top view.

4.1.2 ANT B, HP and HPX

4.1.2.1 ANT2 B 0.3 80 HP

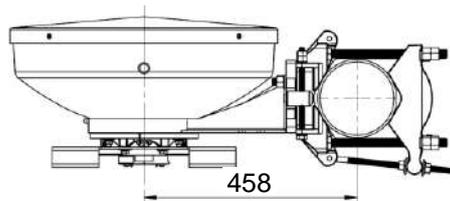


Antenna 80 GHz.



Antenna 80 Hz, rear and side view.

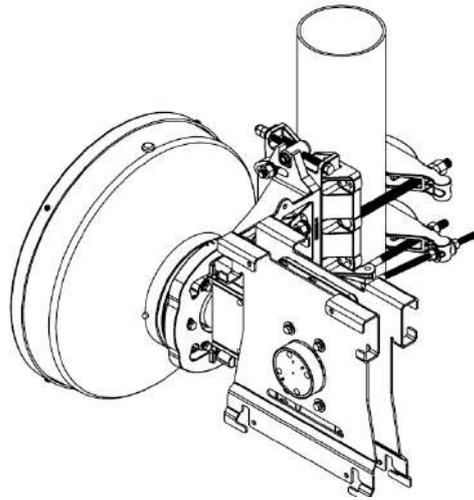
[mm]



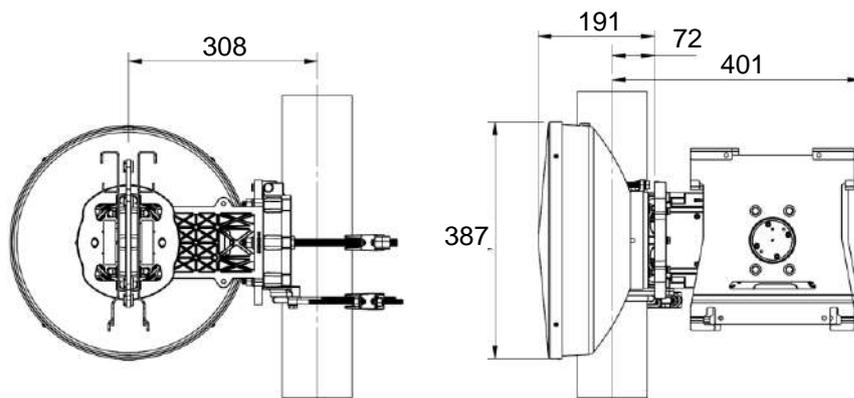
Antenna, top view.

[mm]

4.1.2.2 **ANT2 B 0.3 80 HPX**

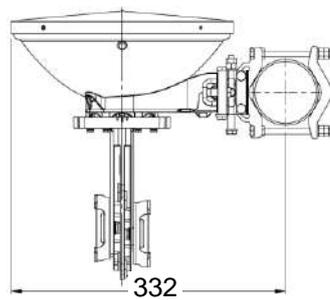


Antenna 80 GHz.



Antenna 80 GHz, rear and side view.

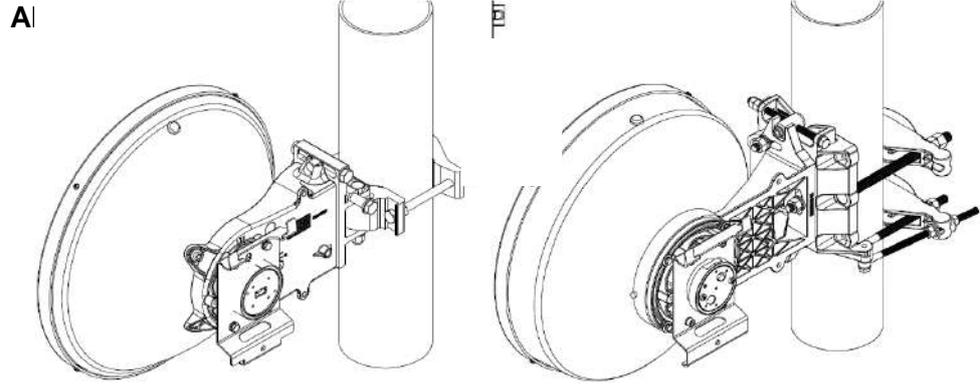
[mm]



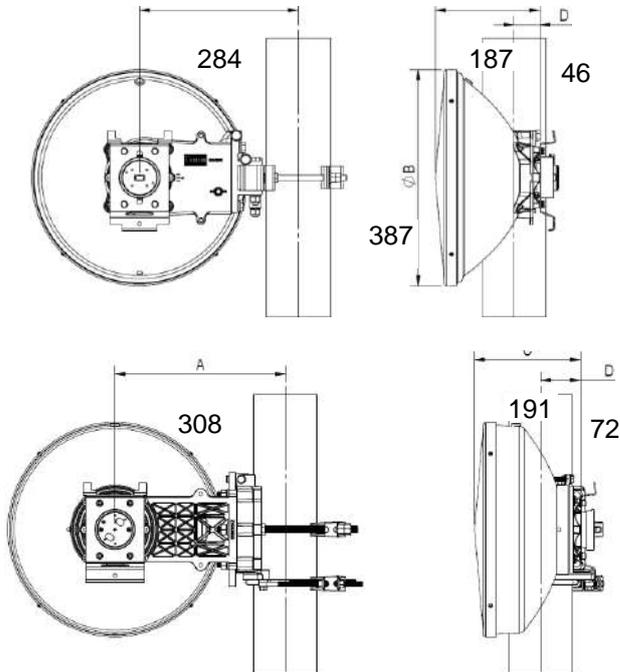
Antenna, top view.

[mm]

4.1.2.3

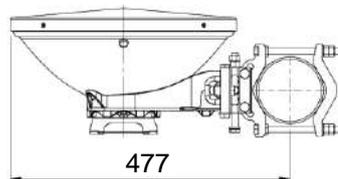


Antenna 13-42 GHz and 80 GHz.



Antenna 13-42 GHz and 80 Hz, rear and side view.

[mm]



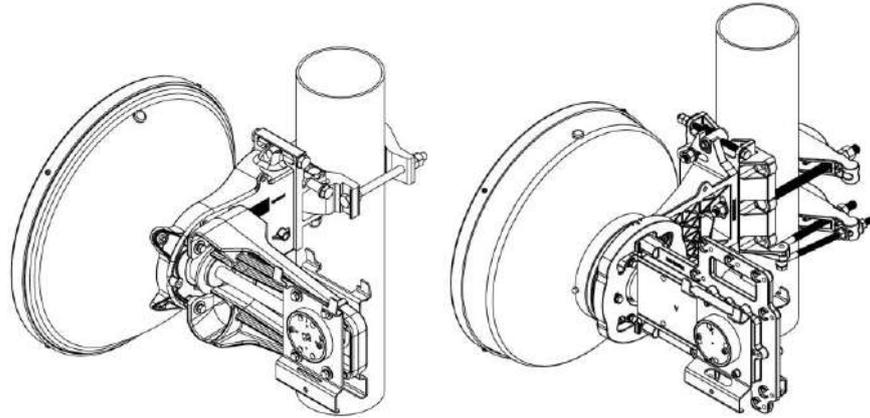
Antenna, top view.

[mm]

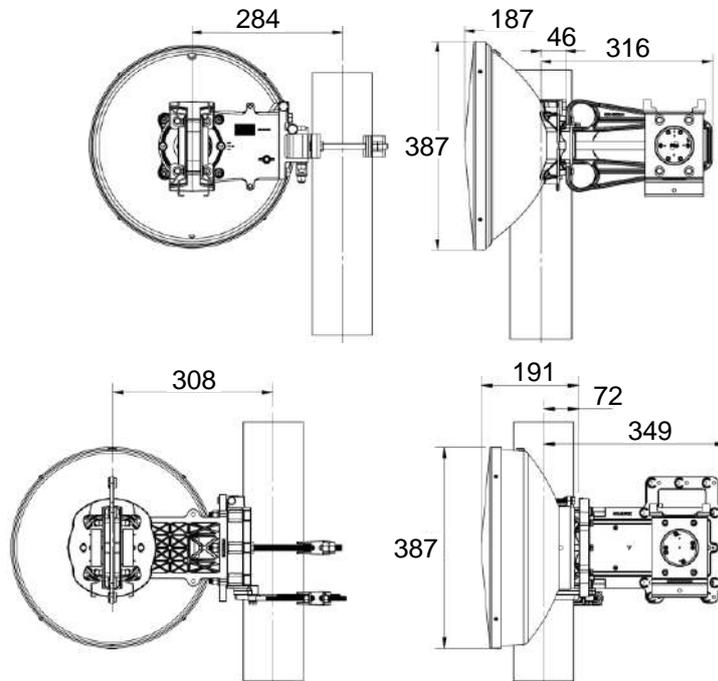


4.1.2.4

ANT3 B 0.3 HPX

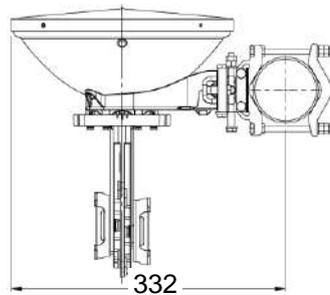


Antenna 13-42 GHz and 80 GHz.



[mm]

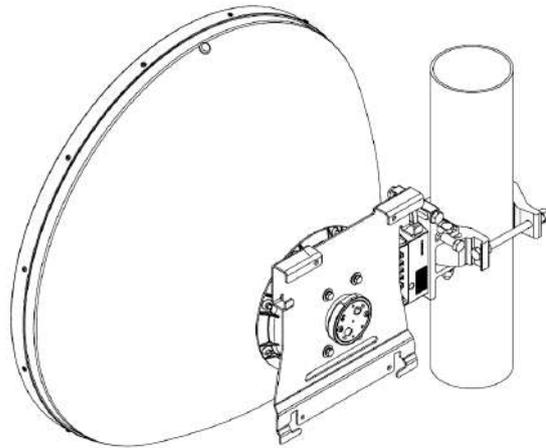
Antenna 13-42 GHz and 80 GHz, rear and side view.



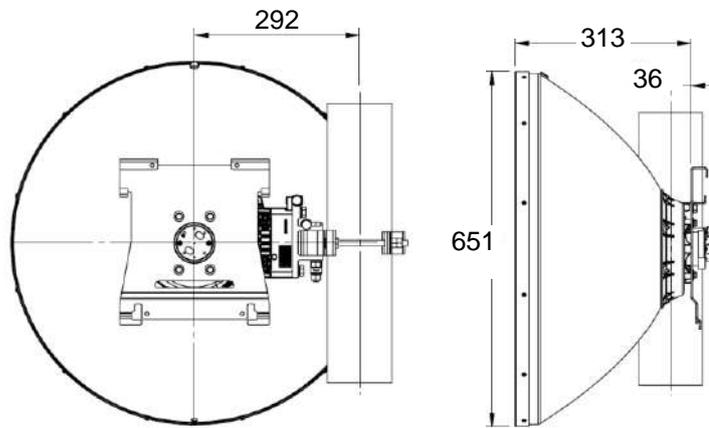
[mm]

Antenna, top view.

4.1.2.5 **ANT2 B 0.6 80 HP**

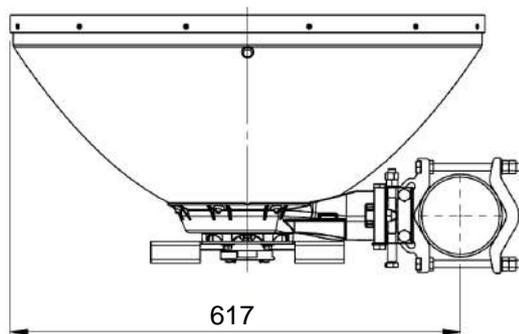


Antenna 80 GHz.



Antenna 80 GHz, rear and side view.

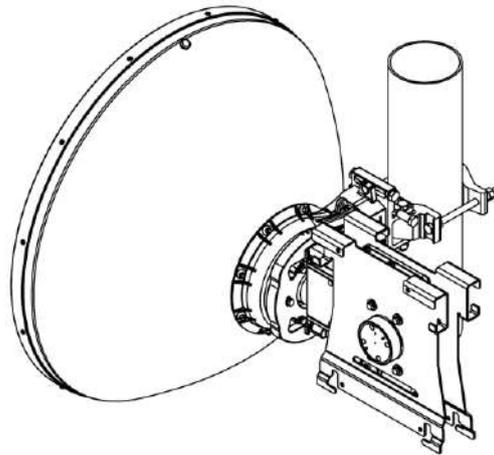
[mm]



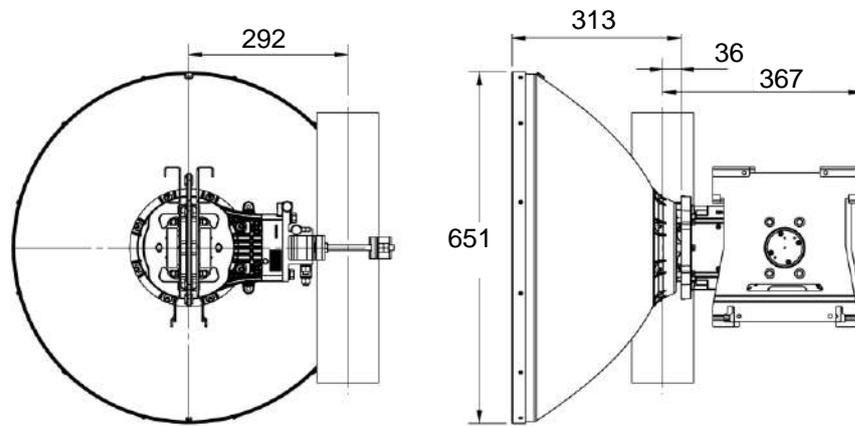
Antenna, top view.

[mm]

4.1.2.6 **ANT2 B 0.6 80 HPX**

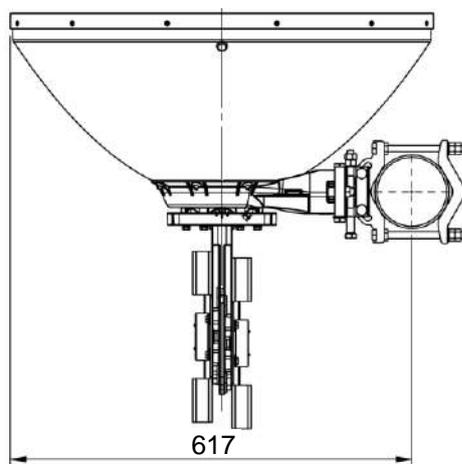


Antenna 80 GHz.



[mm]

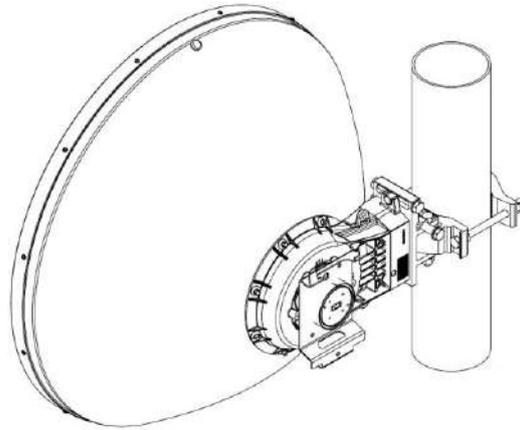
Antenna 80 GHz, rear and side view.



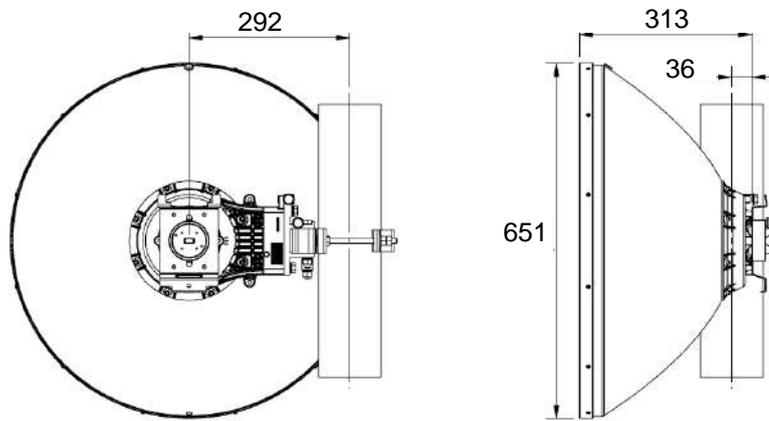
[mm]

Antenna, top view.

4.1.2.7 **ANT3 B 0.6 HP**

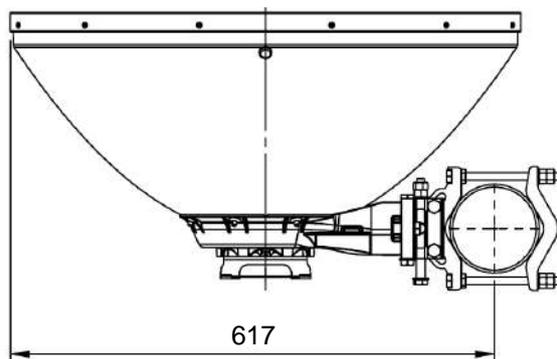


Antenna.



Antenna, rear and side view.

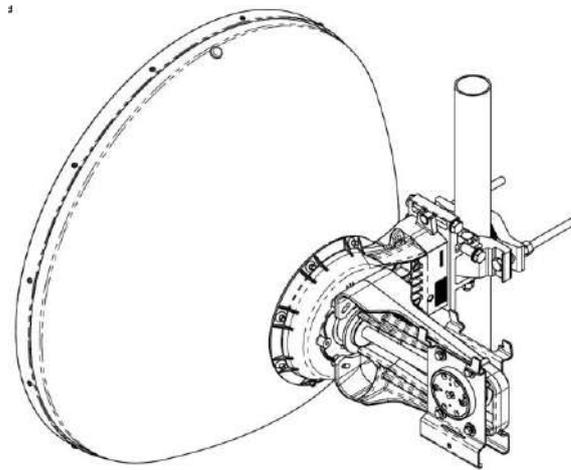
[mm]



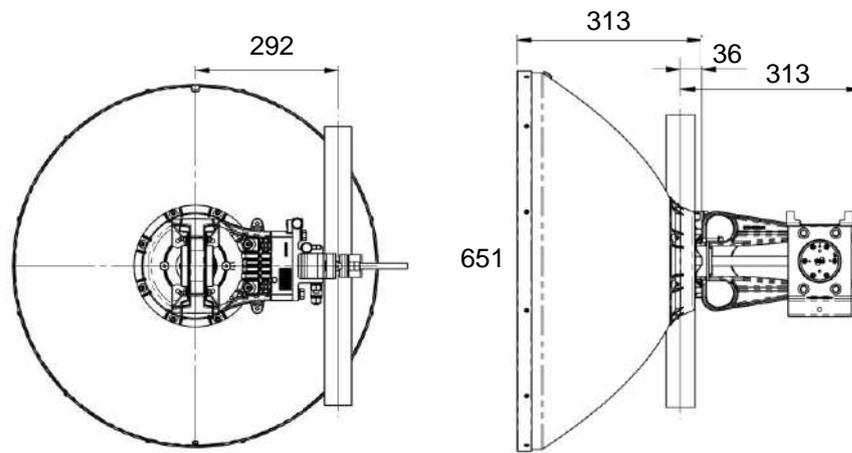
Antenna, top view.

[mm]

4.1.2.8 **ANT3 B 0.6 HPX**

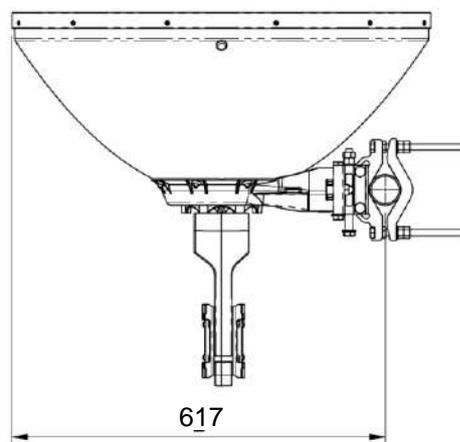


Antenna.



[mm]

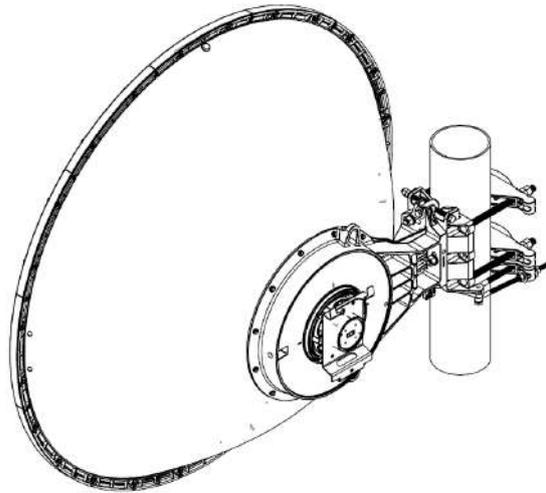
Antenna, rear and side view.



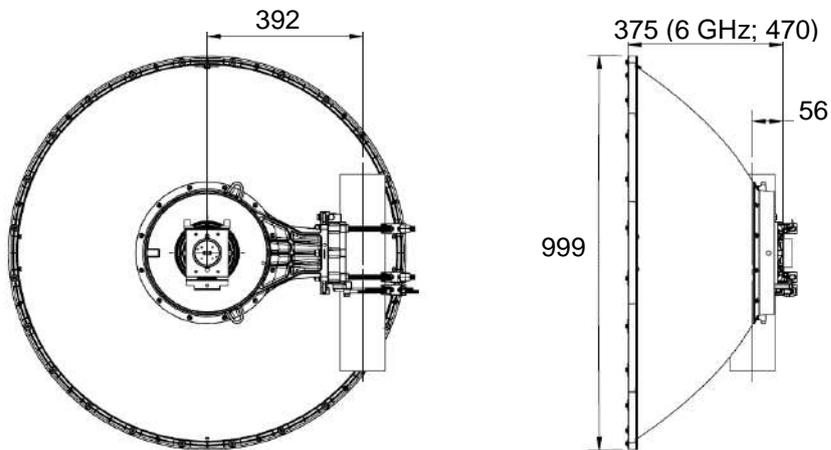
[mm]

Antenna, top view.

4.1.2.9 **ANT3 B 0.9 HP**

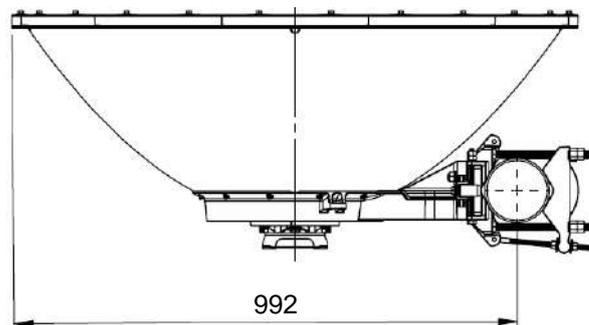


Antenna



Antenna, rear and side view.

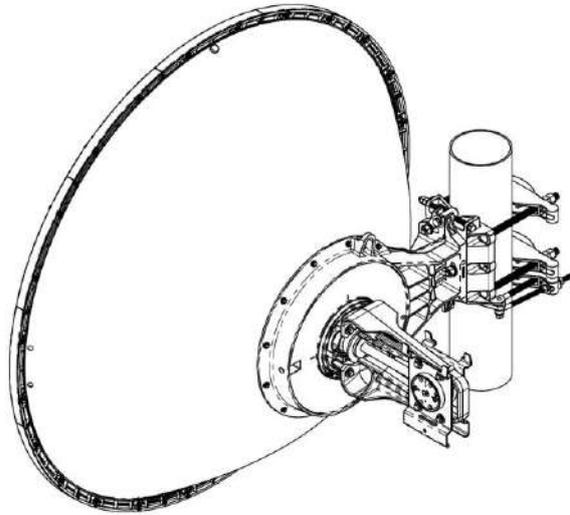
[mm]



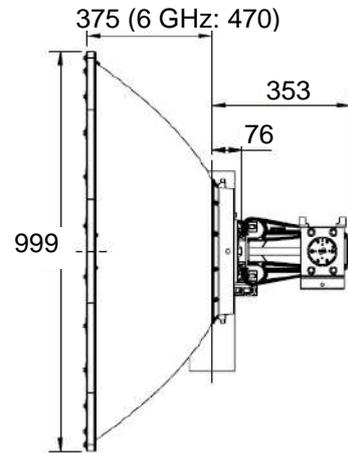
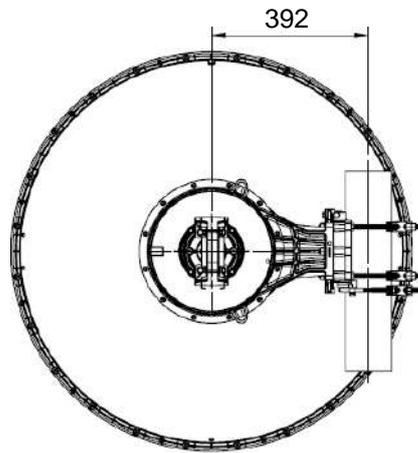
Antenna, top view.

[mm]

4.1.2.10 ANT3 B 0.9 HPX

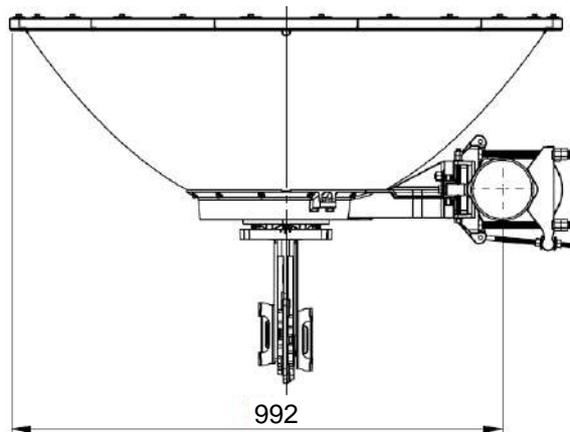


Antenna



[mm]

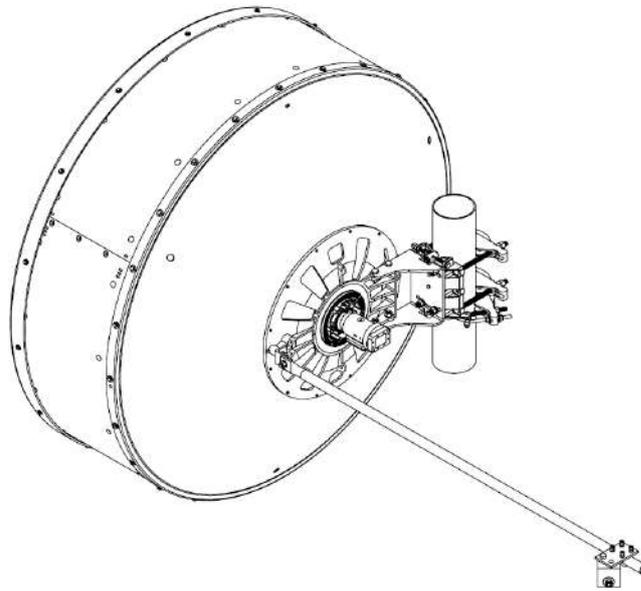
Antenna, rear and side view.



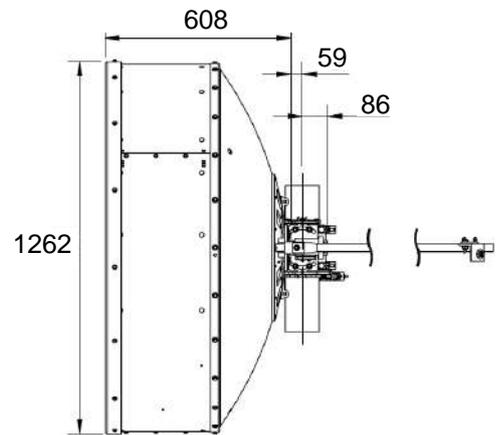
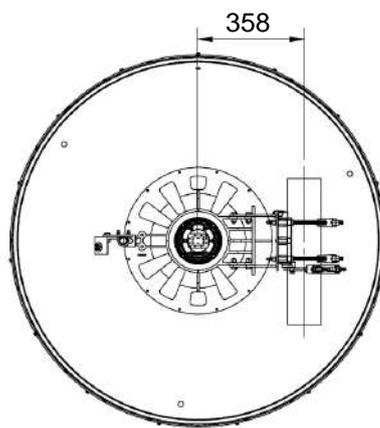
[mm]

Antenna, top view.

4.1.2.11 **ANT0 B 1.2 HPX**

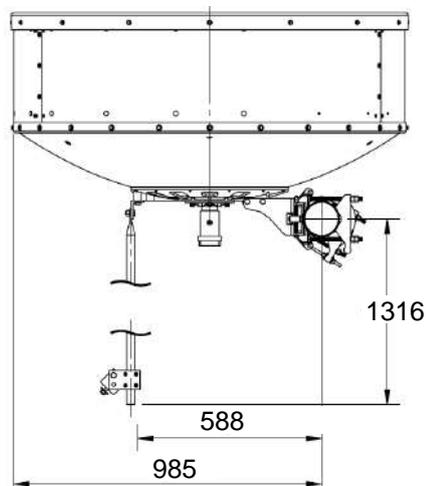


Antenna.



[mm]

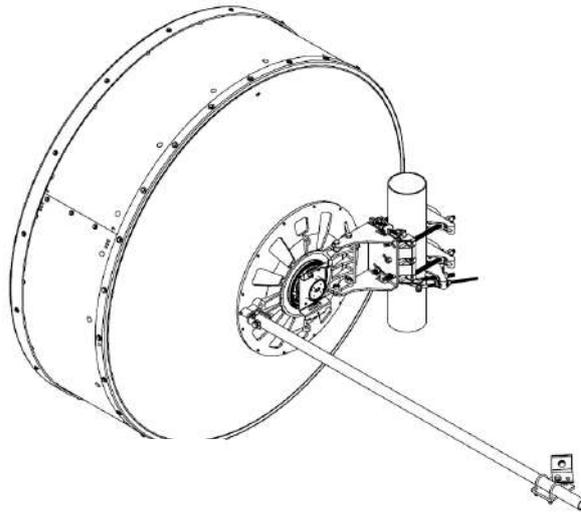
Antenna, rear and side view.



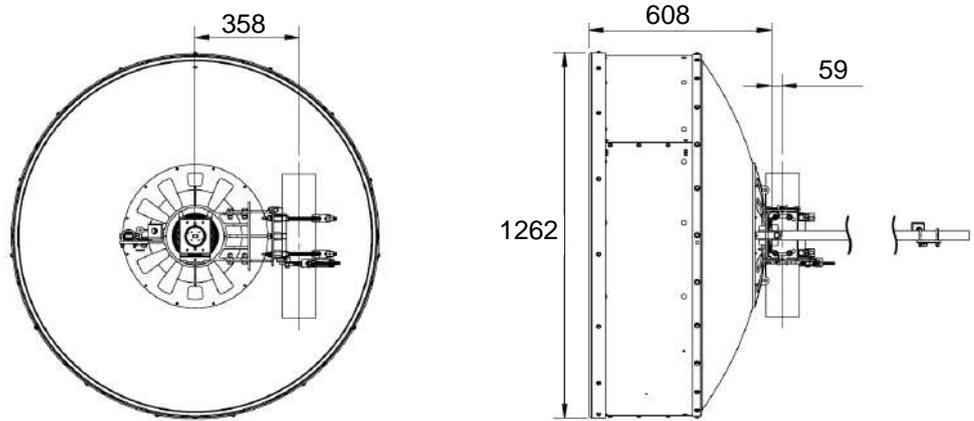
Antenna, top view.

[mm]

4.1.2.12 ANT3 B 1.2 HP

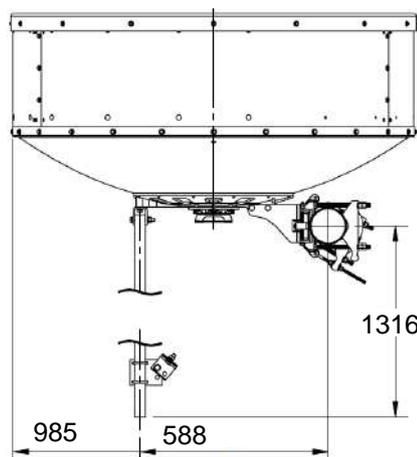


Antenna.



[mm]

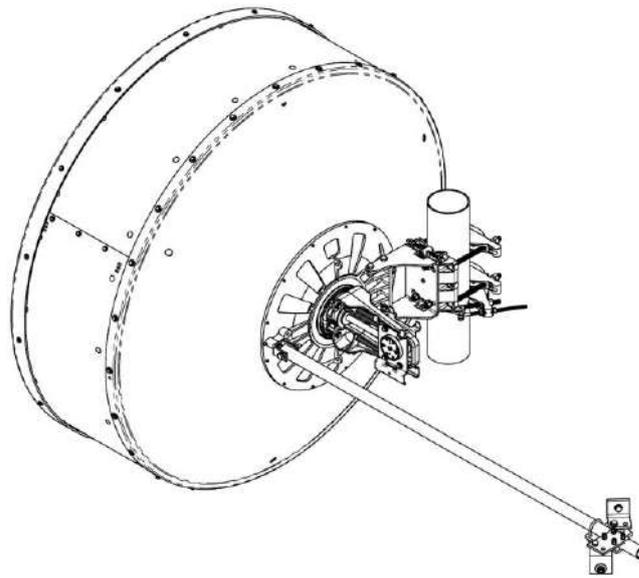
Antenna, rear and side view.



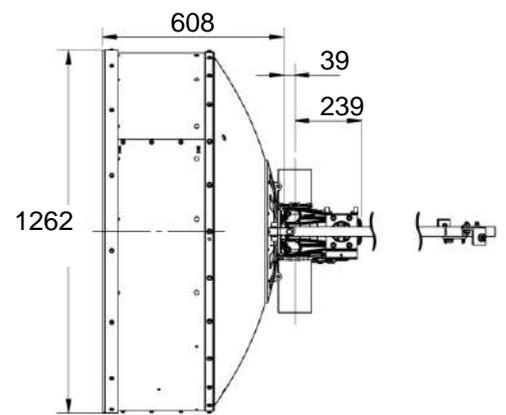
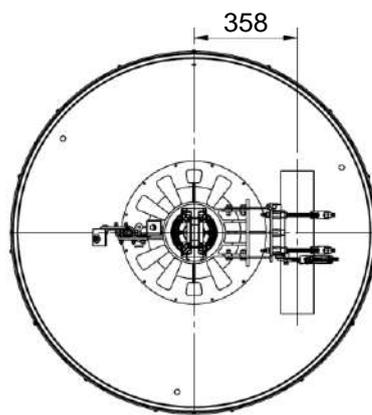
[mm]

Antenna, top view.

4.1.2.13 ANT3 B 1.2 HPX

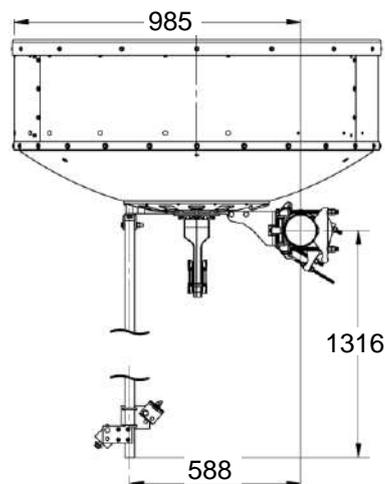


Antenna.



[mm]

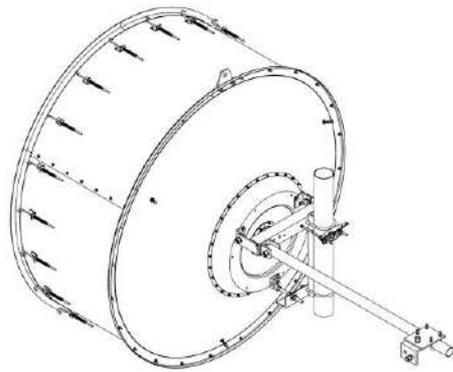
Antenna, rear and side view.



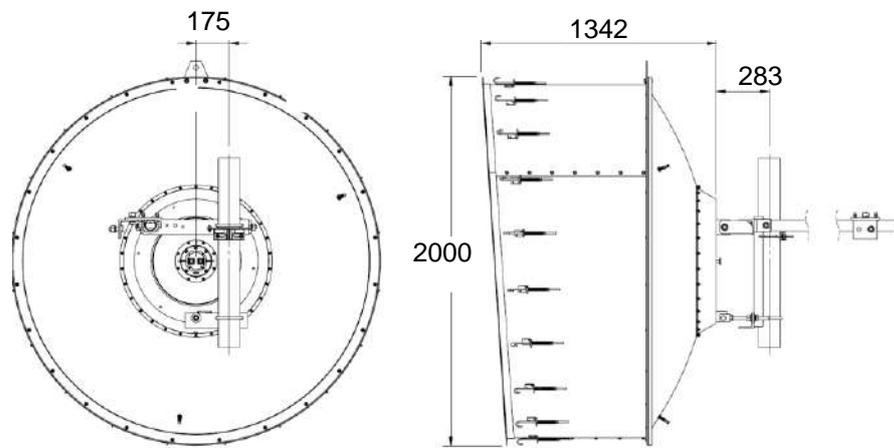
[mm]

Antenna, top view.

4.1.2.14 **ANT0 B 1.8 HP (4-5 GHz)**

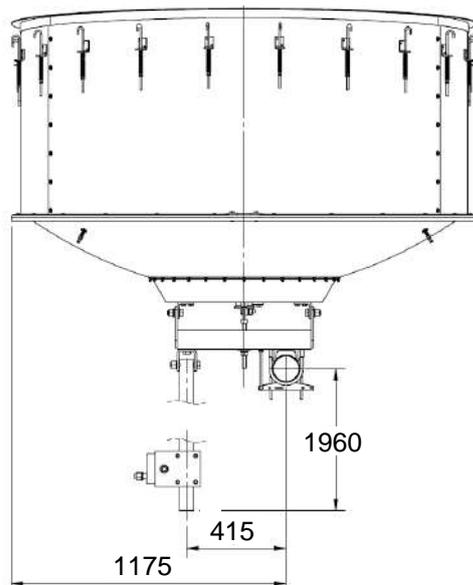


Antenna.



Antenna, rear and side view.

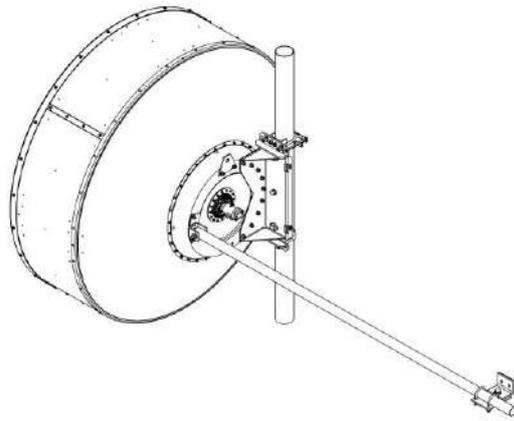
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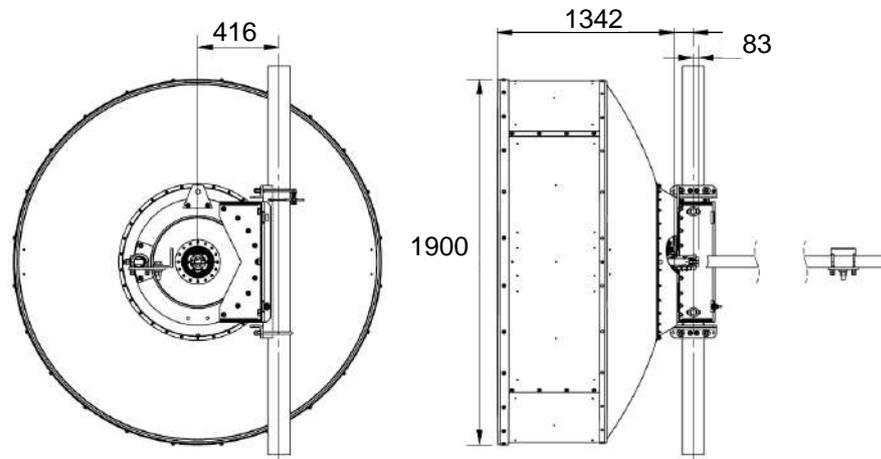
Antenna, top view.

[mm]

4.1.2.15 **ANT0 B 1.8 HPX (6-13 GHz)**

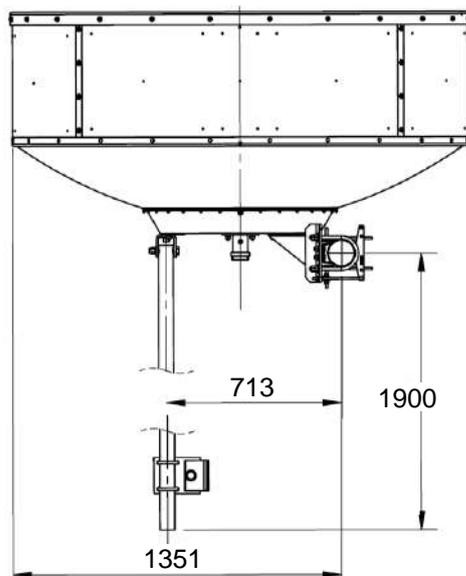


Antenna.



Antenna, rear and side view.

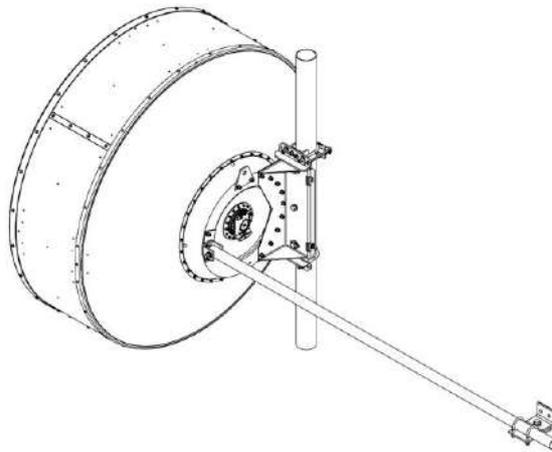
[mm]



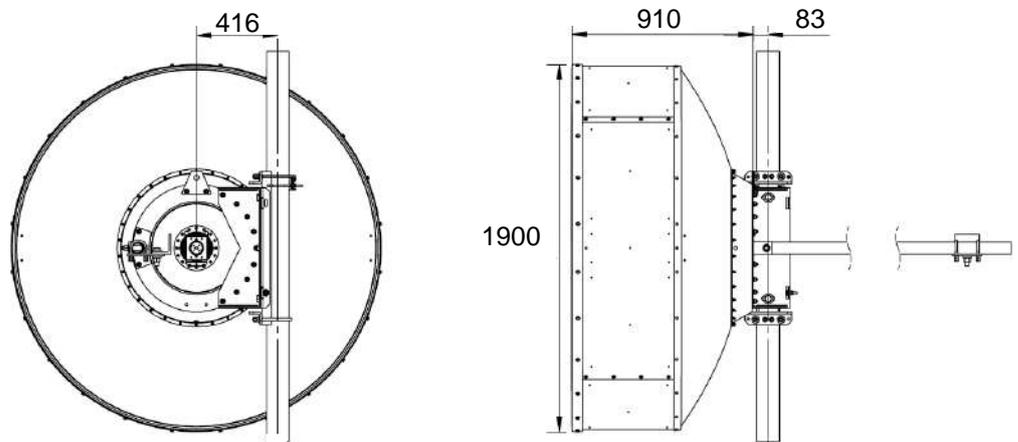
Antenna, top view.

[mm]

4.1.2.16 ANT3 B 1.8 HP

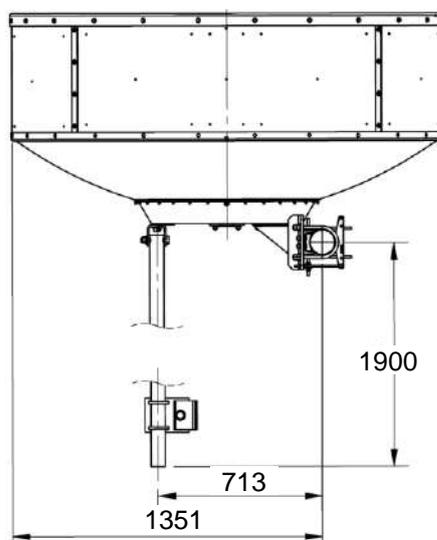


Antenna.



Antenna, rear and side view.

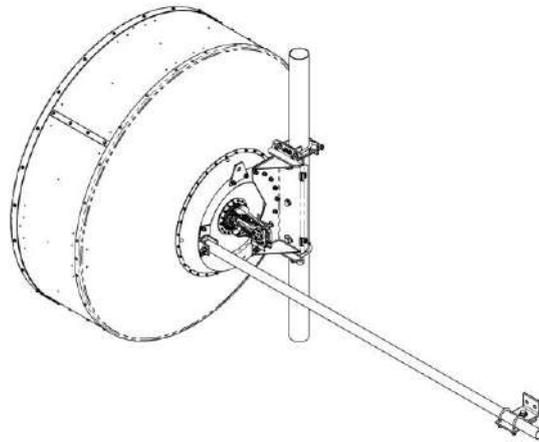
[mm]



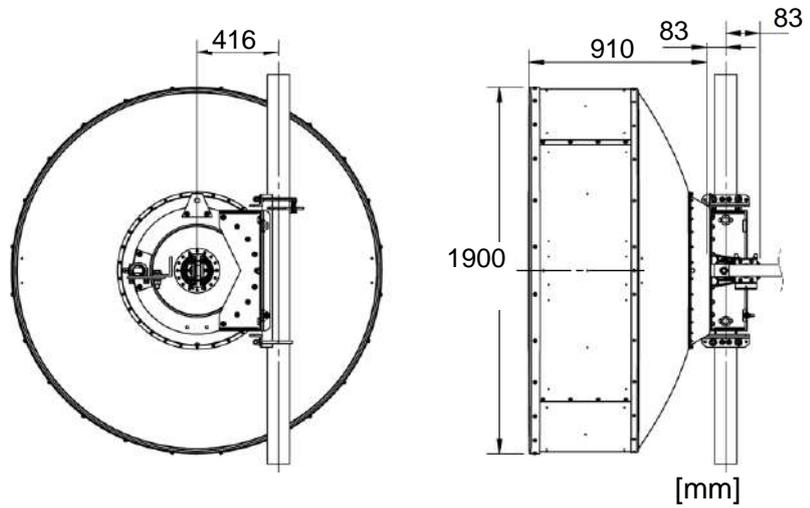
Antenna, top view.

[mm]

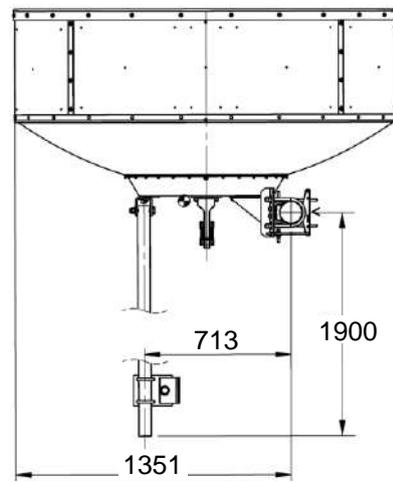
4.1.2.17 ANT3 B 1.8 HPX



Antenna.



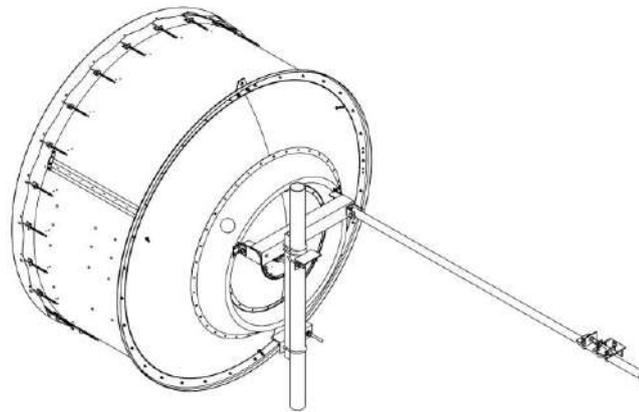
Antenna, rear and side view.



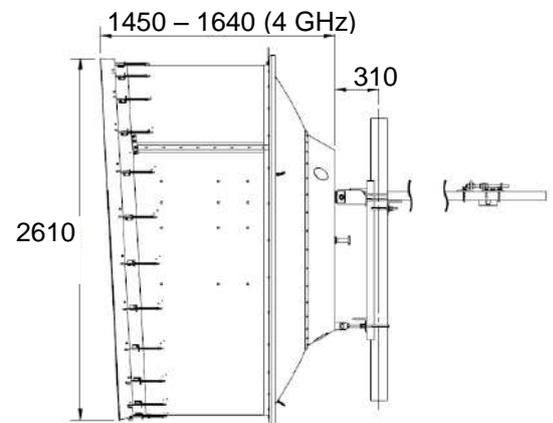
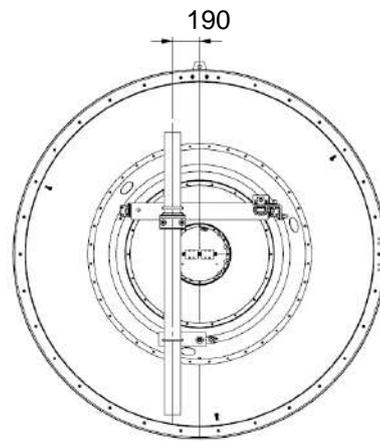
Antenna, top view.

[mm]

4.1.2.18 **ANT0 B 2.4 HPX**

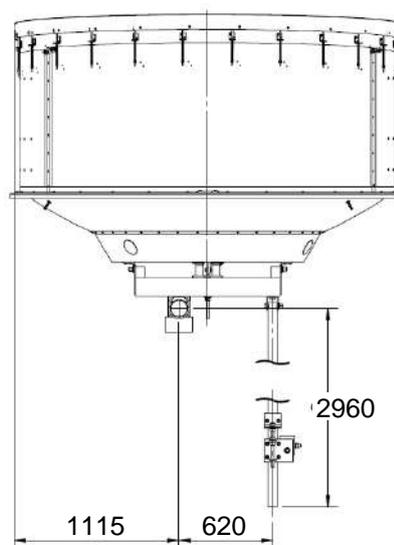


Antenna.



[mm]

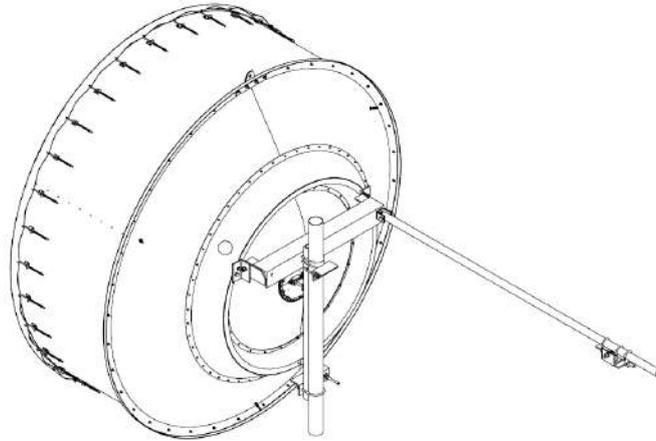
Antenna, rear and side view.



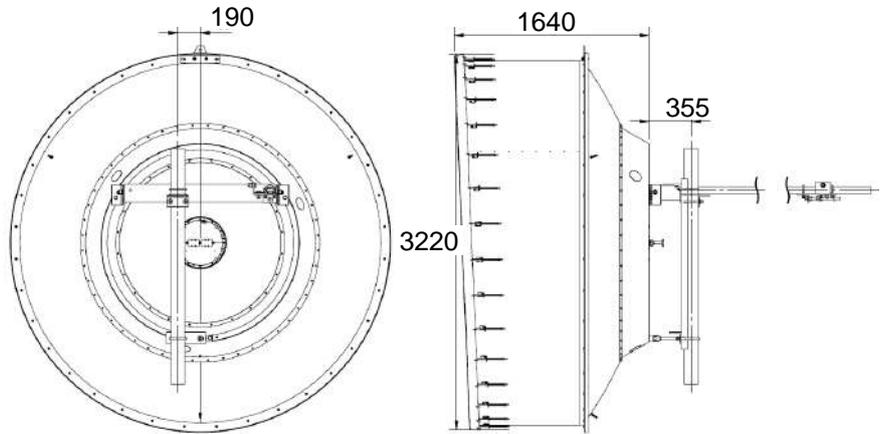
[mm]

Antenna, top view.

4.1.2.19 **ANT0 B 3.0 HPX**

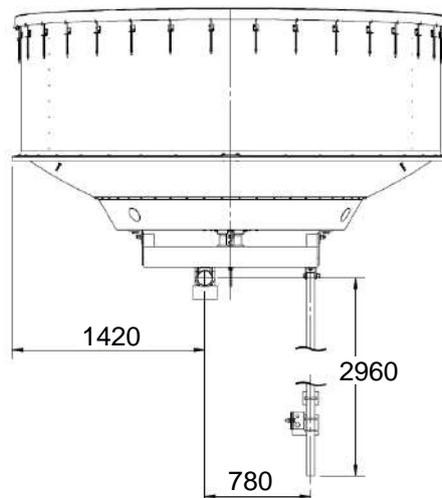


Antenna.



Antenna, rear and side view.

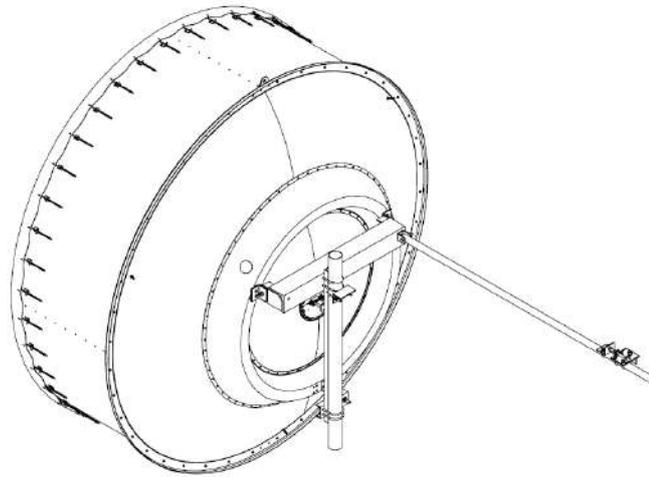
[mm]



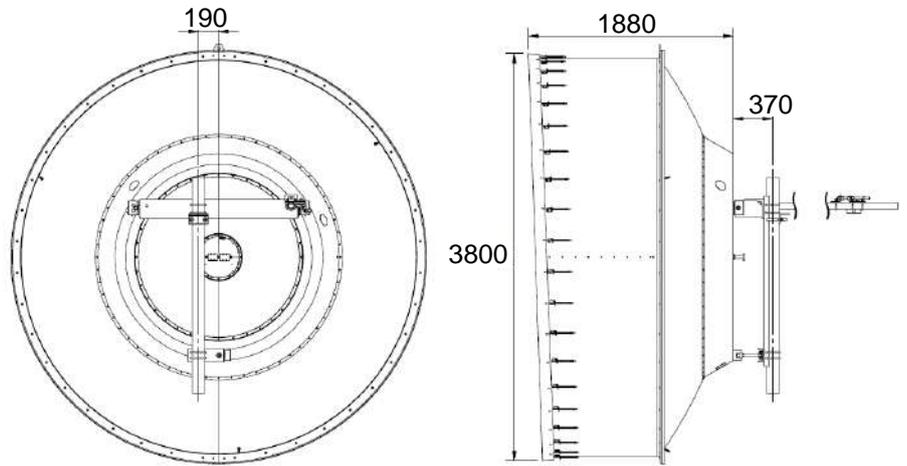
Antenna, top view.

[mm]

4.1.2.20 ANT0 B 3.7 HPX

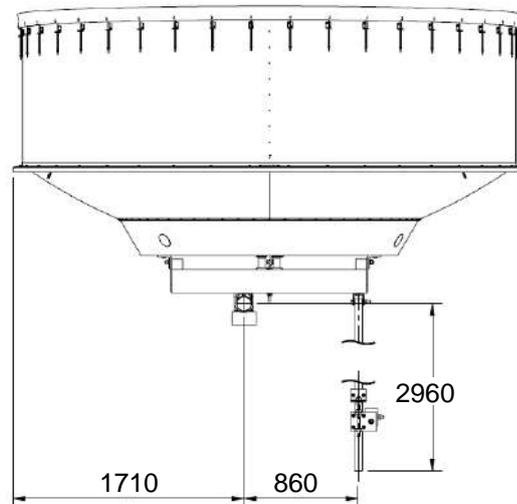


Antenna.



Antenna, rear and side view.

[mm]

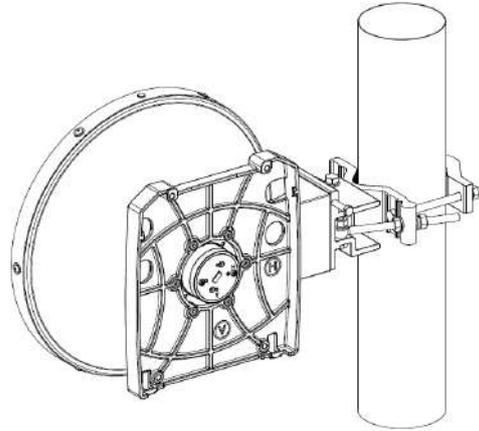


Antenna, top view.

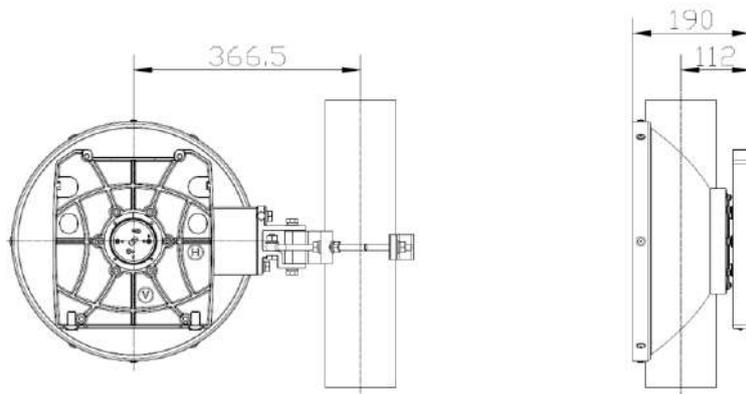
[mm]

4.1.3 ANT C, HP and HPX

4.1.3.1 ANT2 C 0.3 80 HP

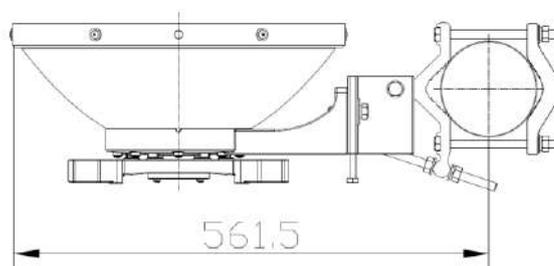


Antenna.



Antenna, rear and side view.

[mm]

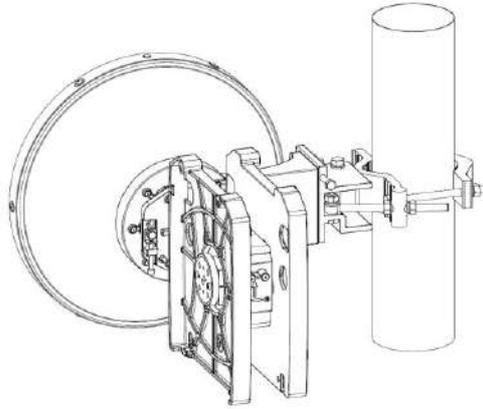


Antenna, top view.

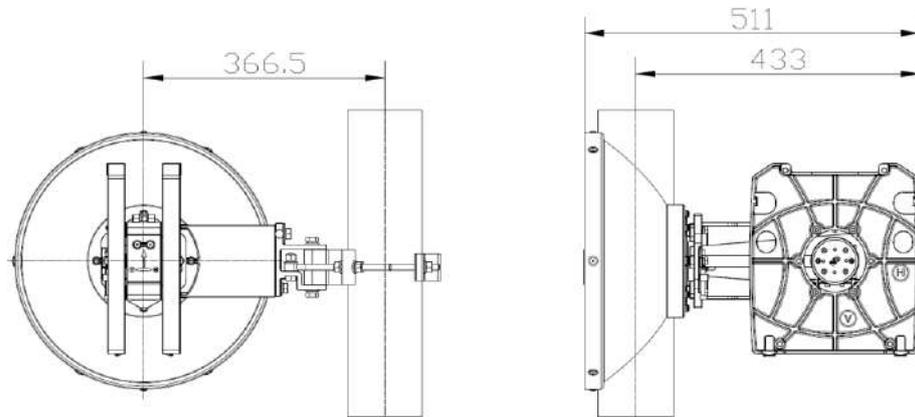
[mm]



4.1.3.2 ANT2 C 0.3 80 HPX

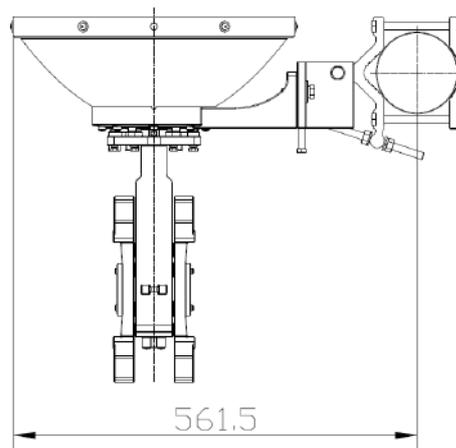


Antenna



Antenna, rear and side view.

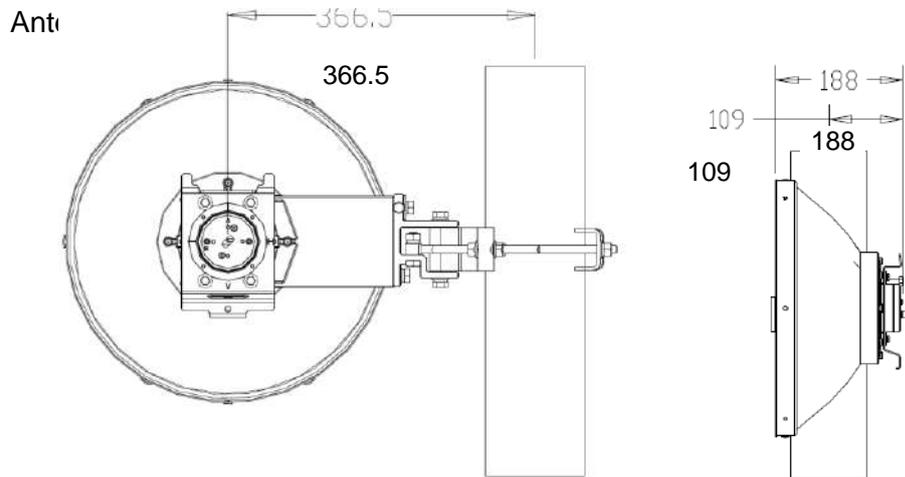
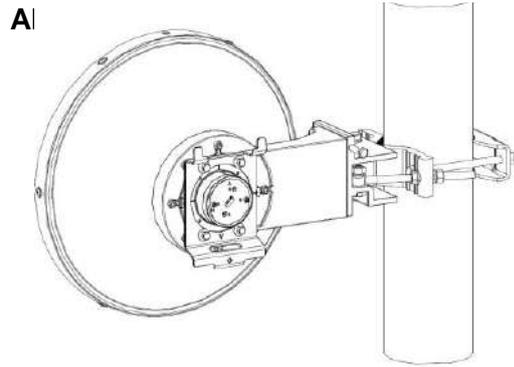
[mm]



Antenna, top view.

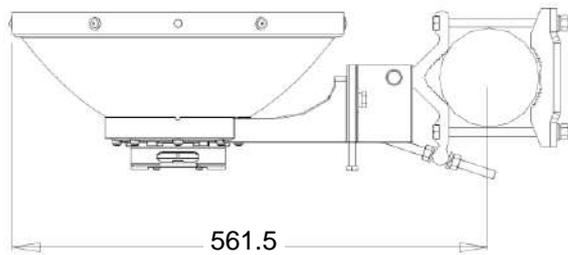
[mm]

4.1.3.3



Antenna, rear and side view.

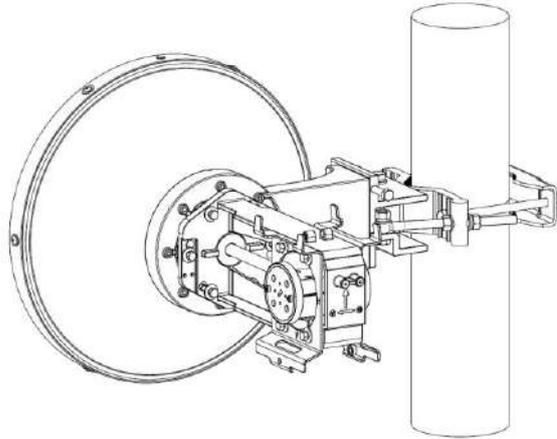
[mm]



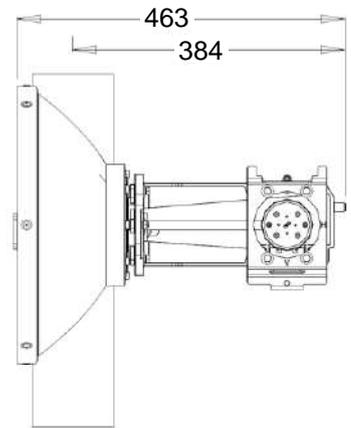
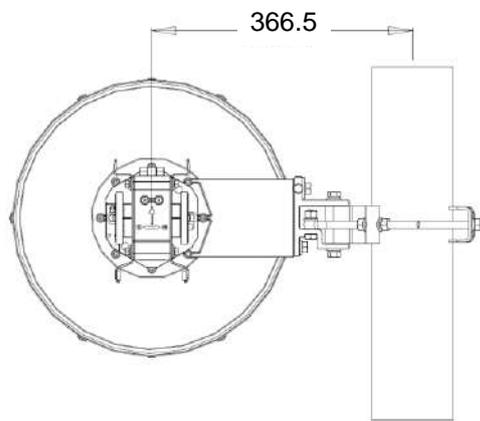
Antenna, top view.

[mm]

4.1.3.4 **ANT3 C 0.3 HPX**

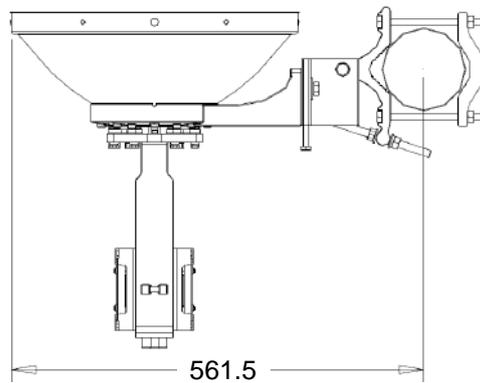


Antenna 13-42 GHz and 80 GHz.



[mm]

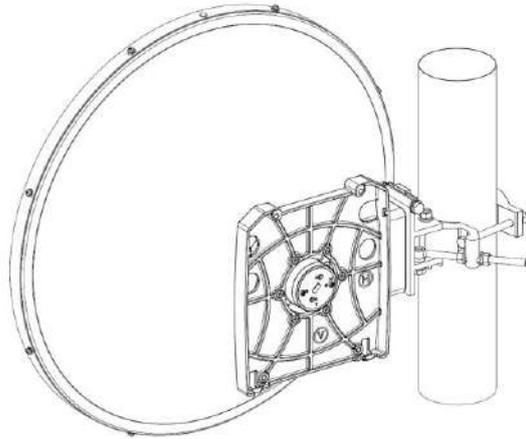
Antenna, rear and side view.



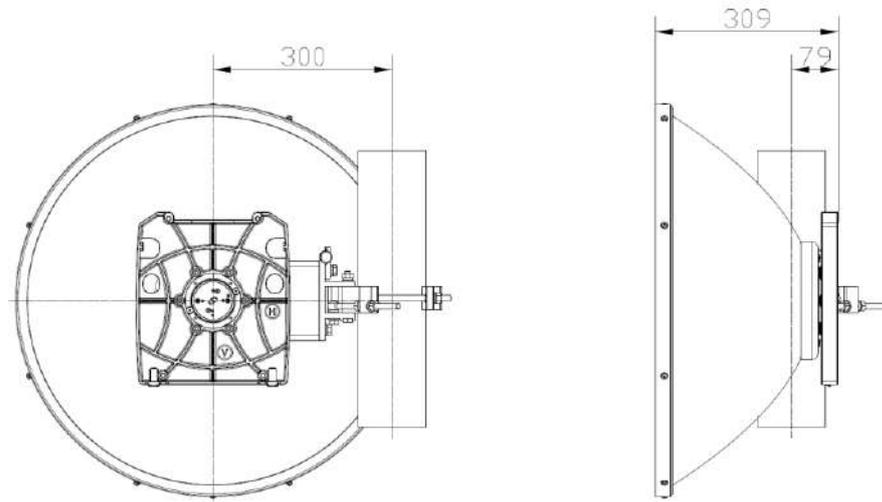
[mm]

Antenna, top view.

4.1.3.5 **ANT2 C 0.6 80 HP**

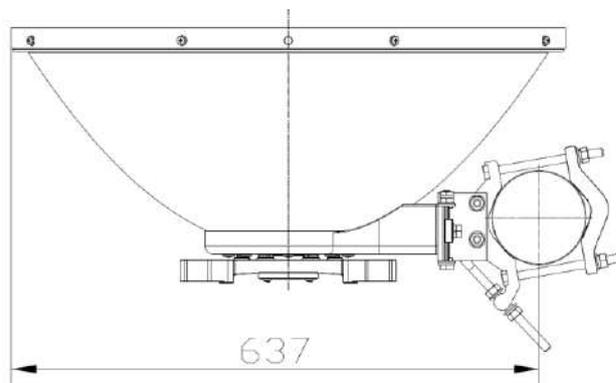


Antenna.



Antenna, rear and side view.

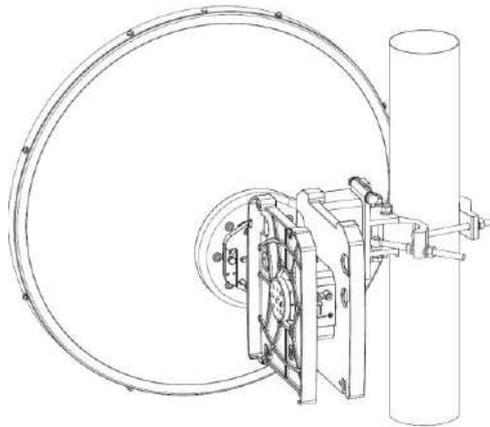
[mm]



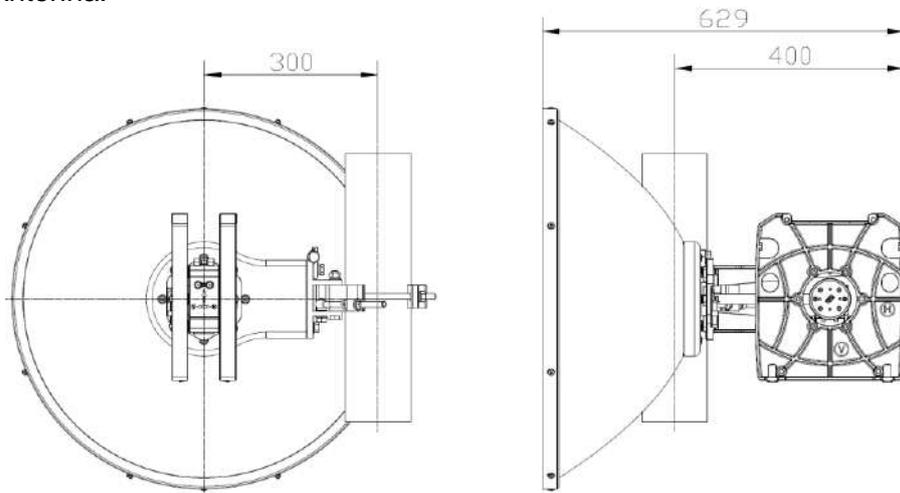
Antenna, top view.

[mm]

4.1.3.6 **ANT2 C 0.6 80 HPX**

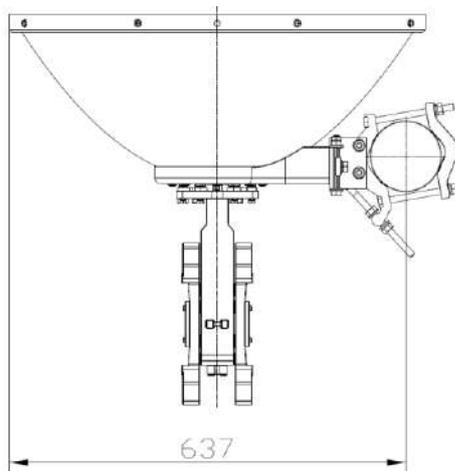


Antenna.



[mm]

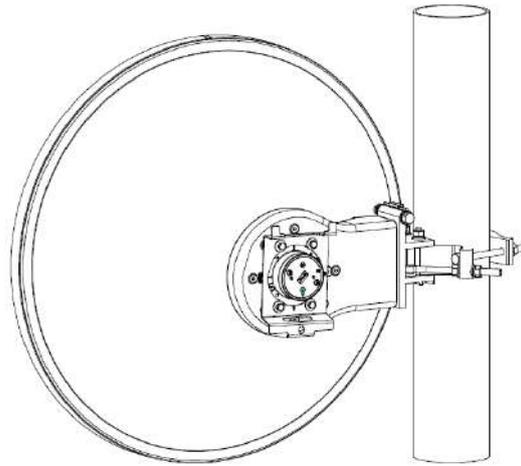
Antenna, rear and side view.



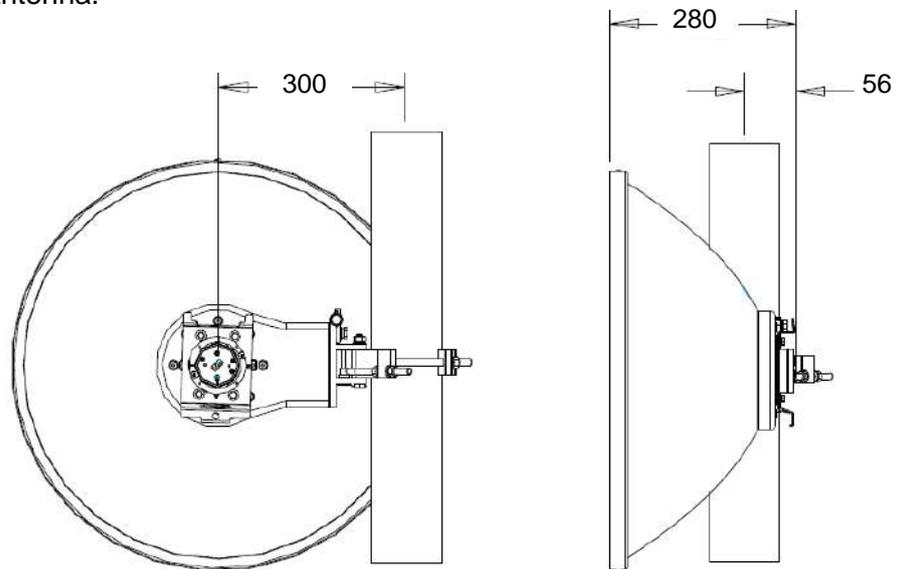
[mm]

Antenna, top view.

4.1.3.7 **ANT3 C 0.6 HP**

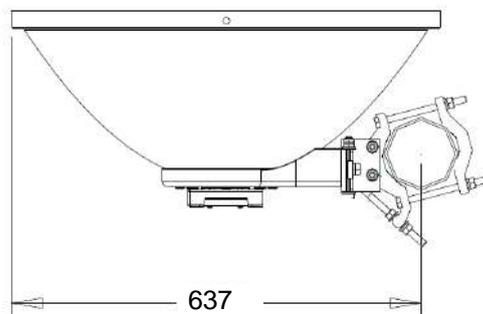


Antenna.



Antenna, rear and side view.

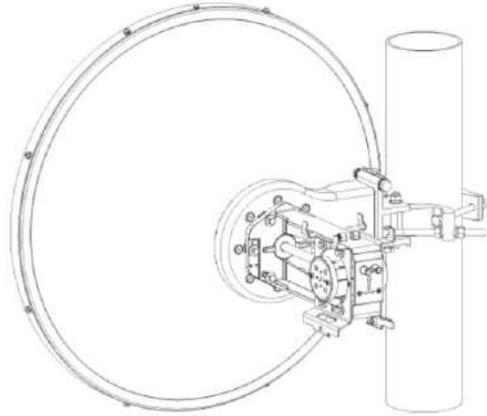
[mm]



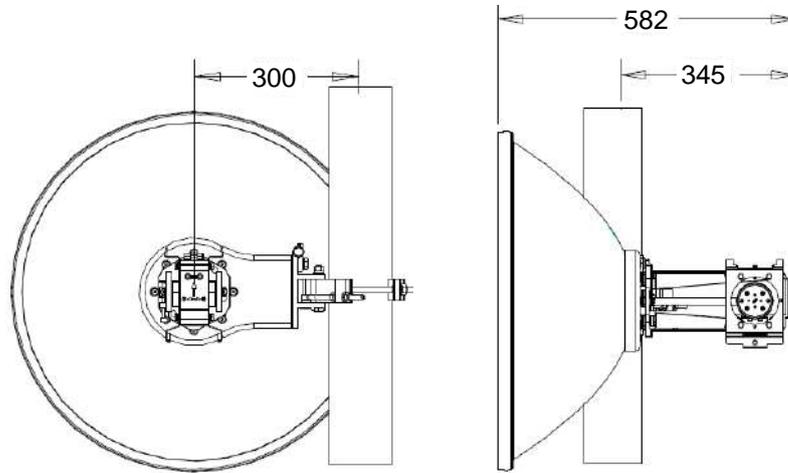
Antenna, top view.

[mm]

4.1.3.8 **ANT3 C 0.6 HPX**

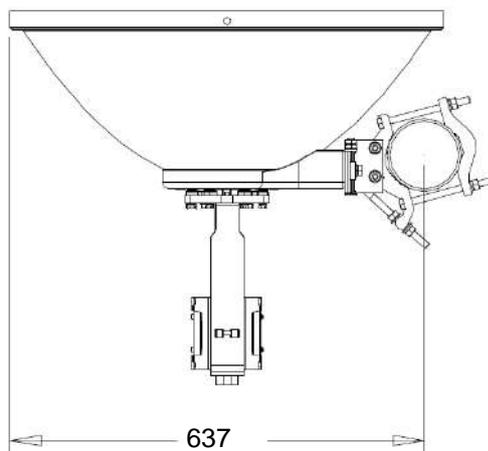


Antenna.



[mm]

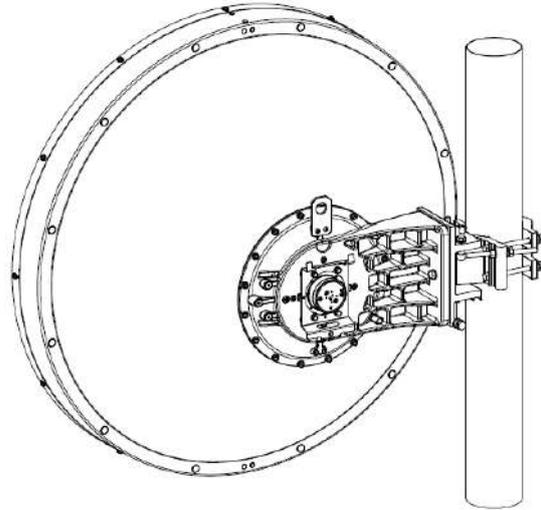
Antenna, rear and side view.



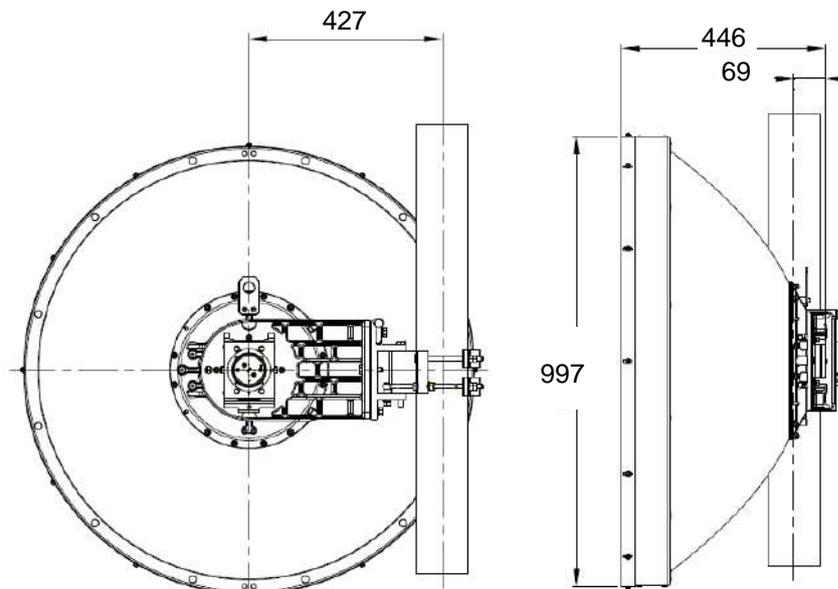
[mm]

Antenna, top view.

4.1.3.9 ANT3 C 0.9 HP

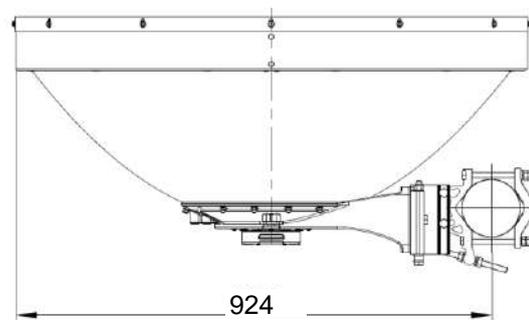


Antenna



Antenna, rear and side view.

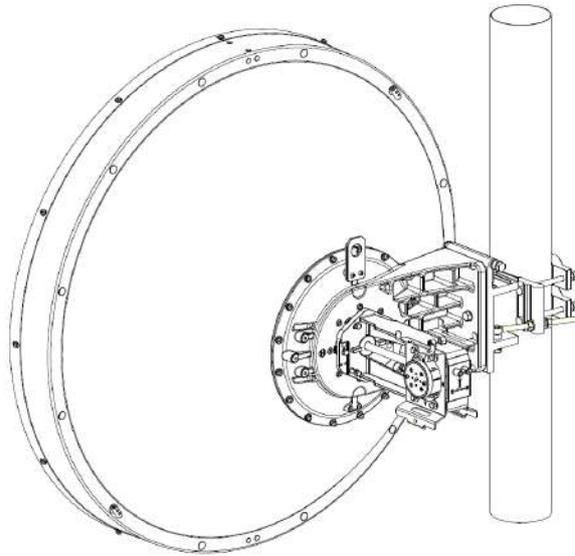
[mm]



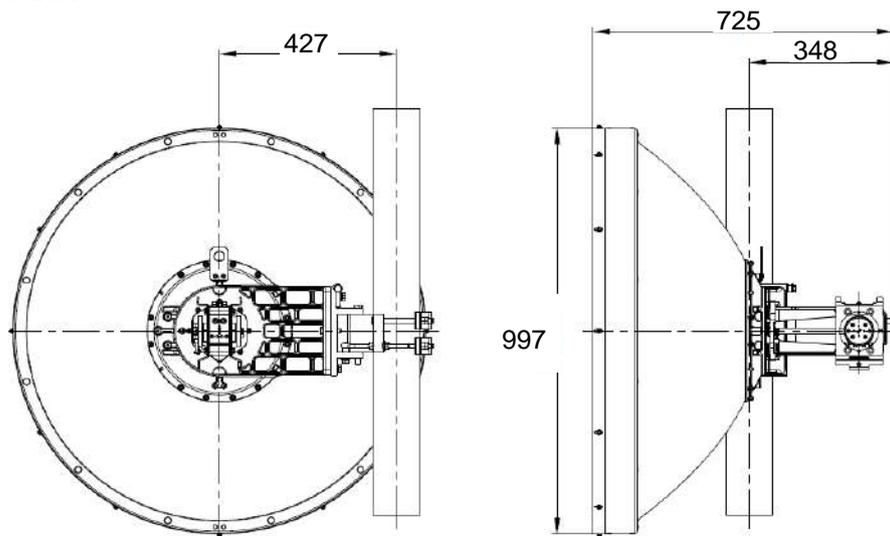
Antenna, top view.

[mm]

4.1.3.10 ANT3 C 0.9 HPX

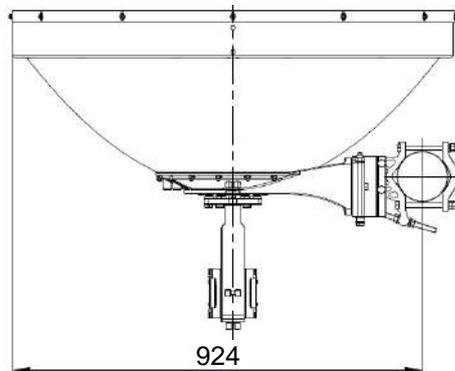


Antenna.



Antenna, rear and side view.

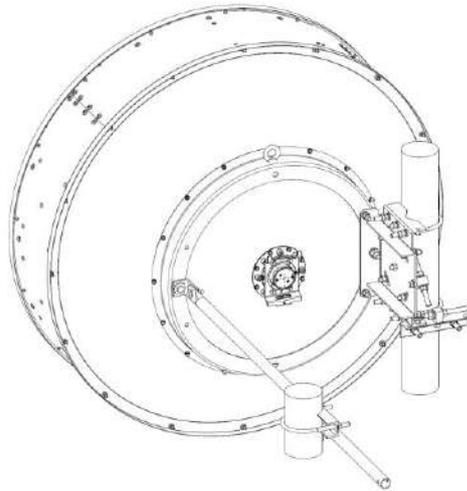
[mm]



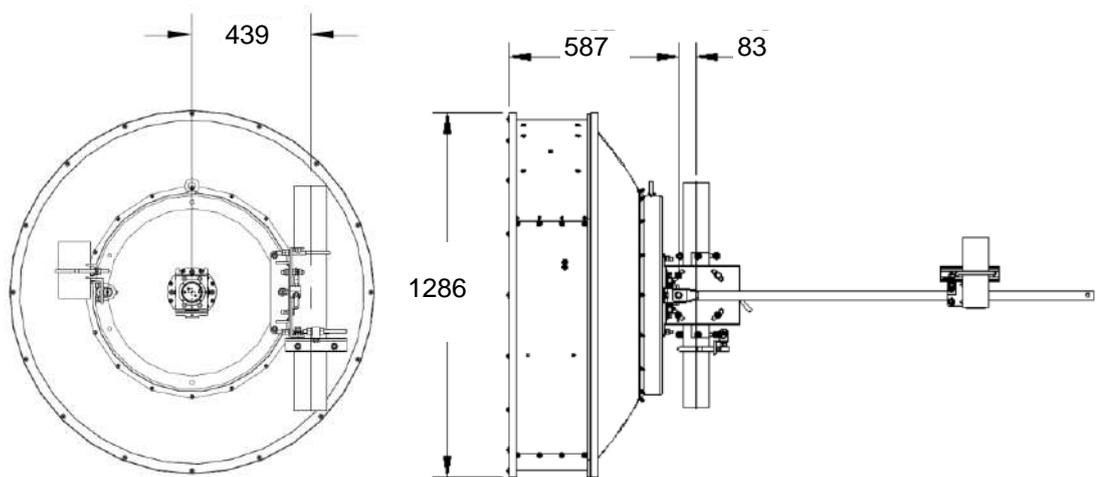
Antenna, top view.

[mm]

4.1.3.11 ANT3 C 1.2 HP

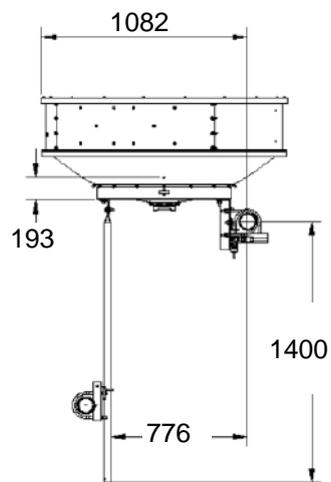


Antenna.



[mm]

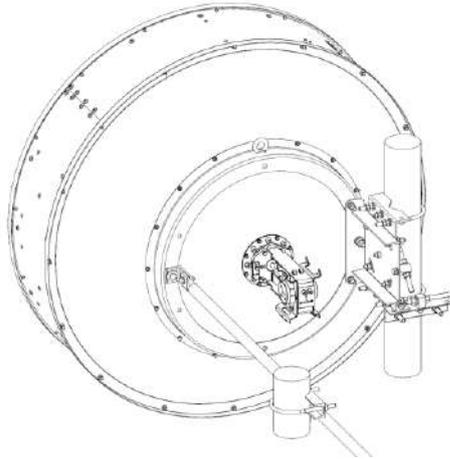
Antenna, rear and side view.



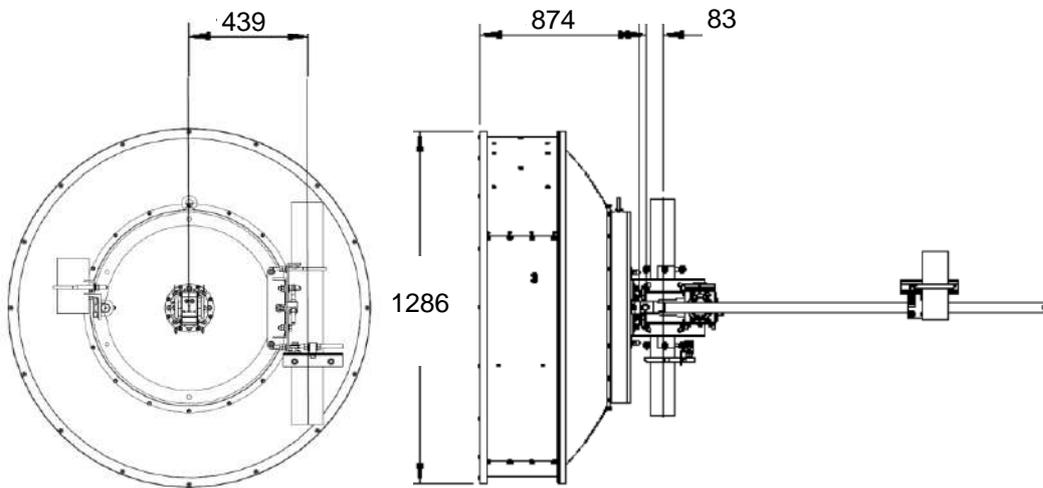
[mm]

Antenna, top view.

4.1.3.12 ANT3 C 1.2 HPX

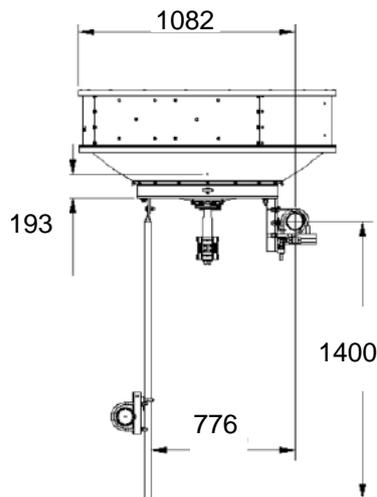


Antenna.



Antenna, rear and side view.

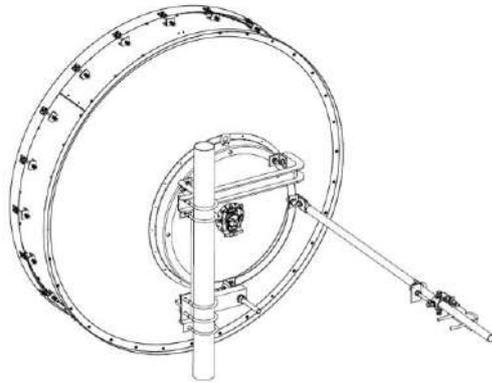
[mm]



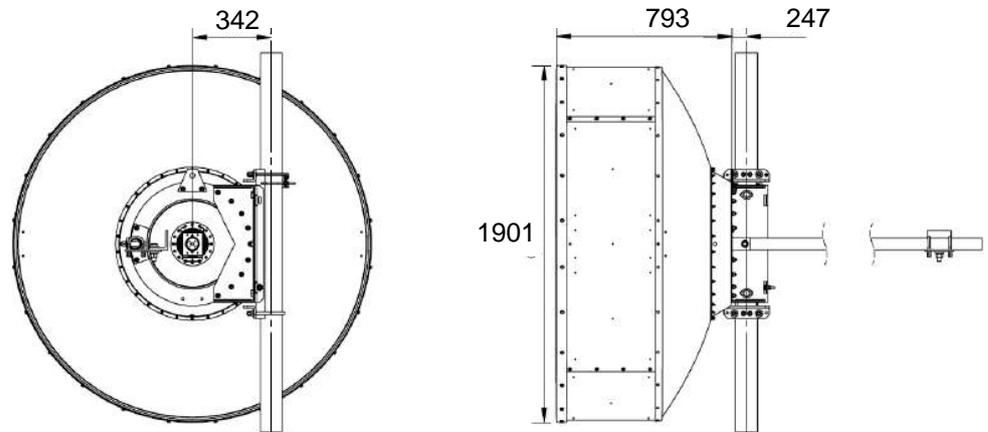
Antenna, top view.

[mm]

4.1.3.13 ANT3 C 1.8 HP

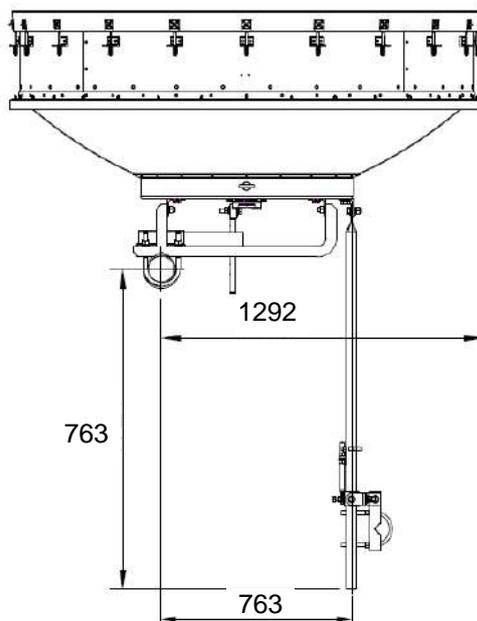


Antenna.



Antenna, rear and side view.

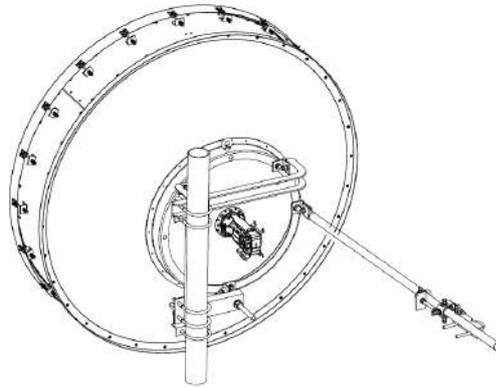
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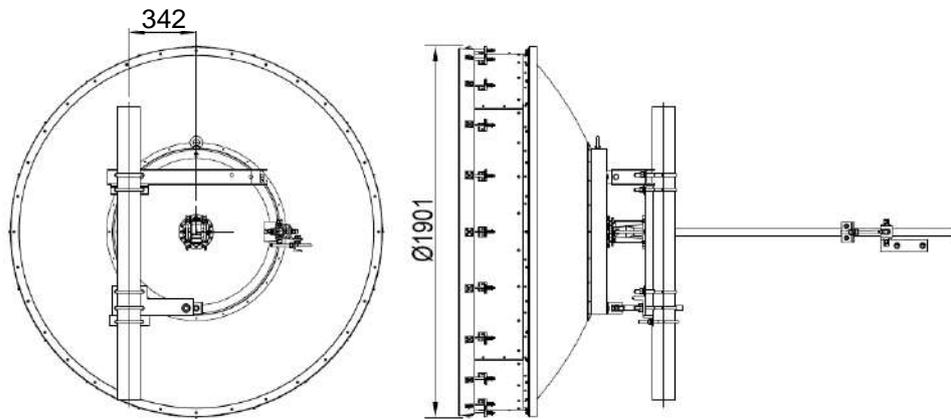
Antenna, top view.

[mm]

4.1.3.14 ANT3 C 1.8 HPX

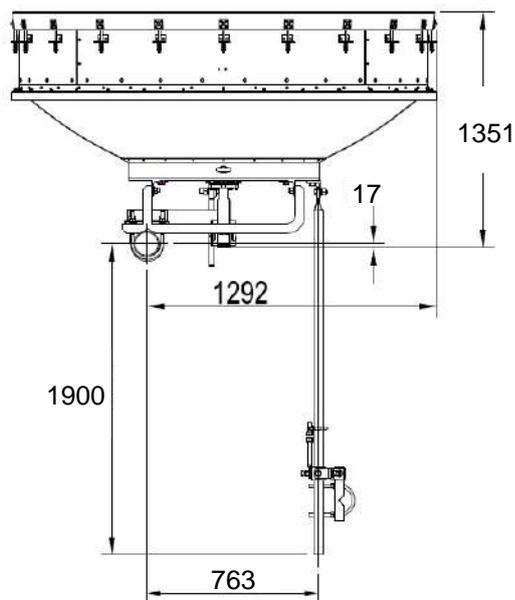


Antenna.



Antenna, rear and side view.

[mm]

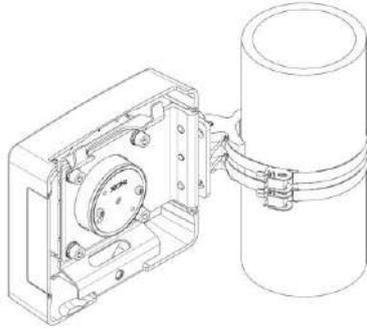


Antenna, top view.

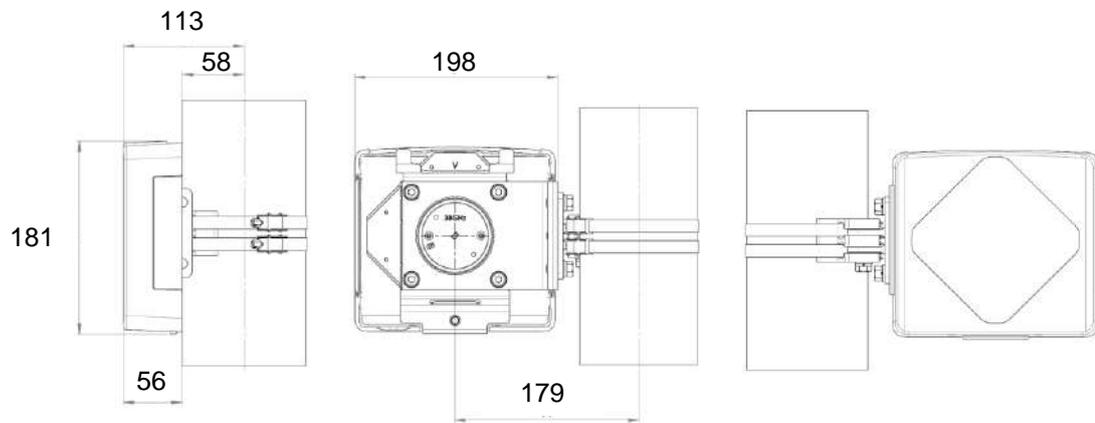
[mm]

4.1.4 ANT A, SHP and SHPX

4.1.4.1 FPA3 A 0.1 SHP

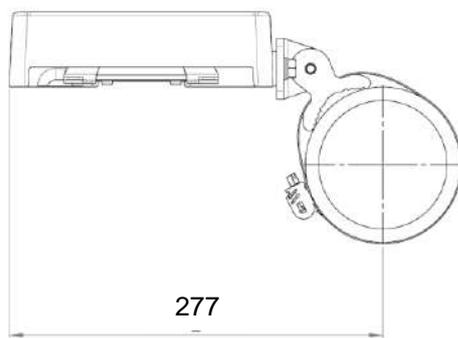


Antenna.



Antenna, side, rear and front view.

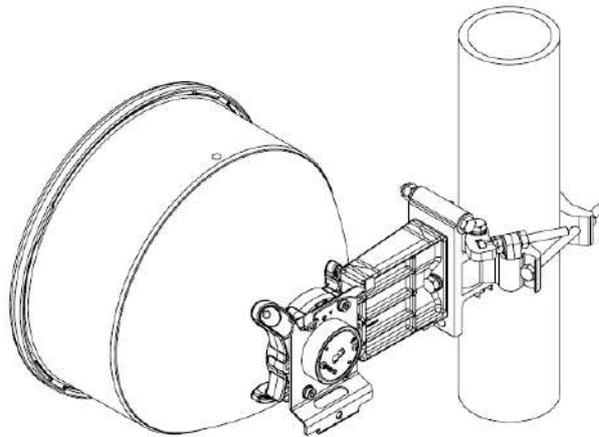
[mm]



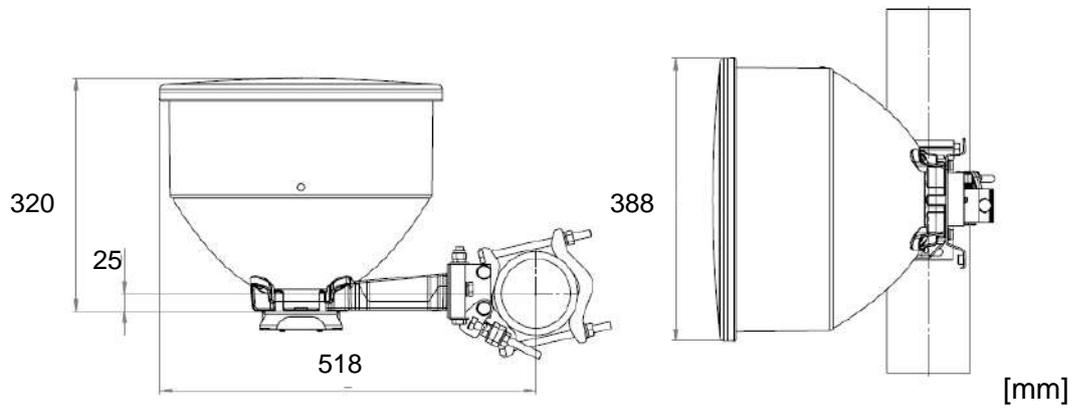
Antenna, top view.

[mm]

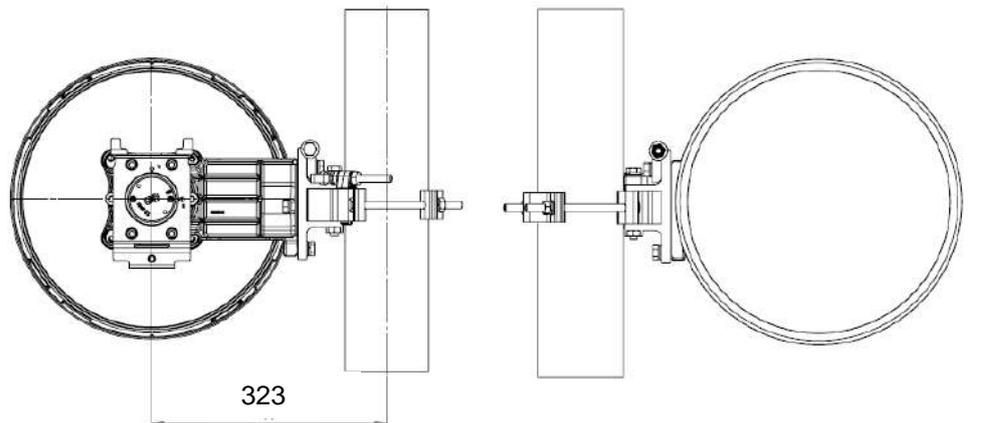
4.1.4.2 **ANT3 A 0.3 SHP**



Antenna.

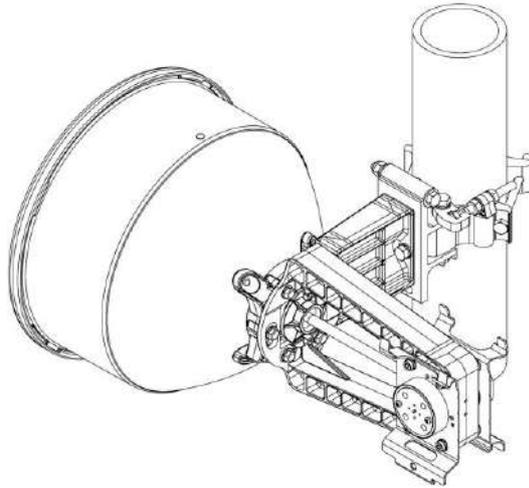


Antenna, top and side view.

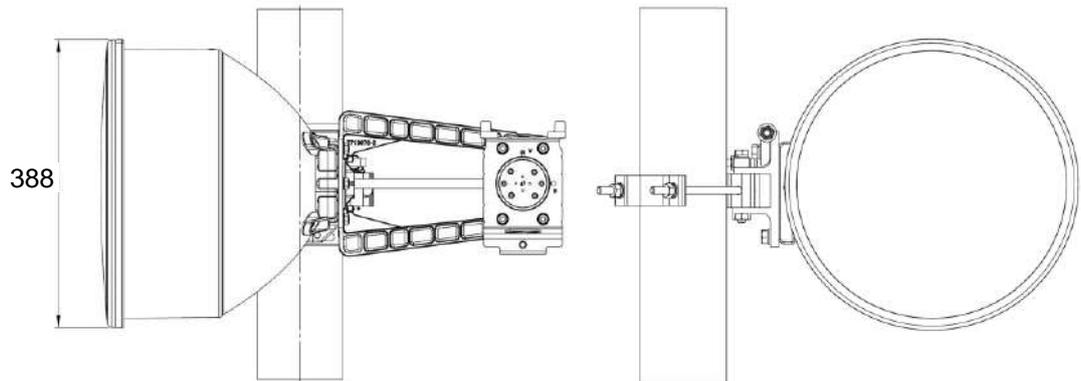


Antenna, rear and front view.

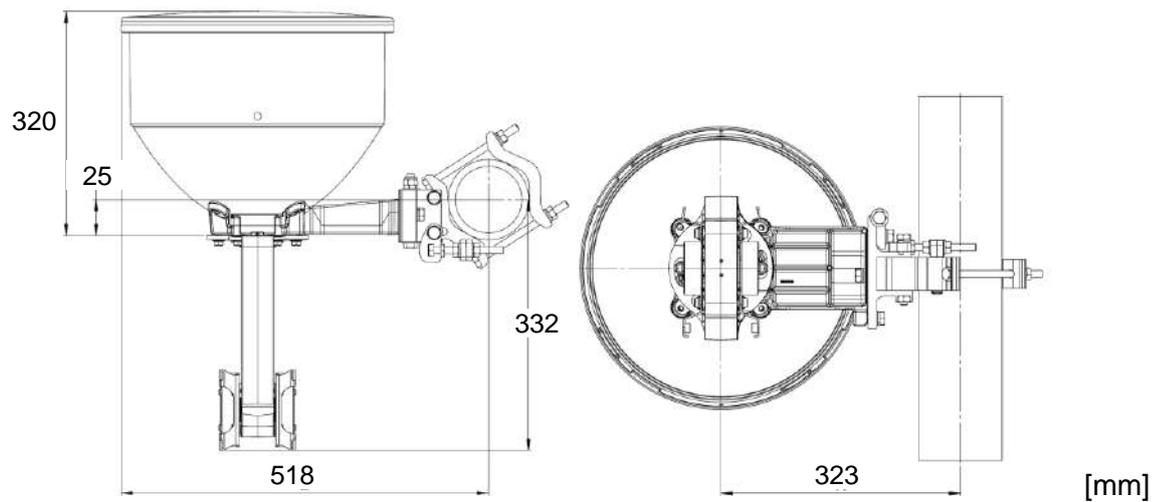
4.1.4.3 ANT3 A 0.3 SHPX



Antenna.

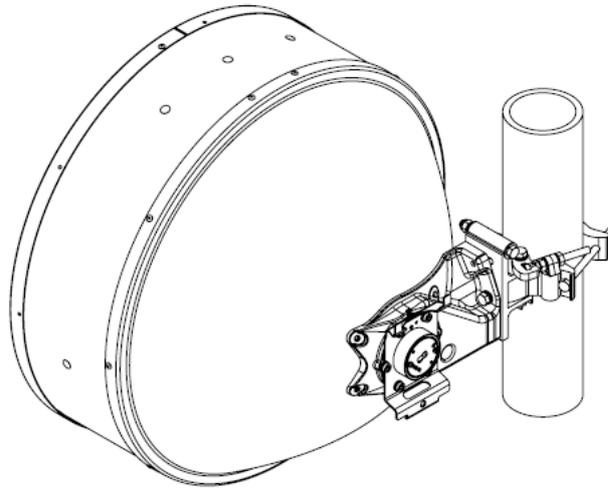


Antenna, side and front view.

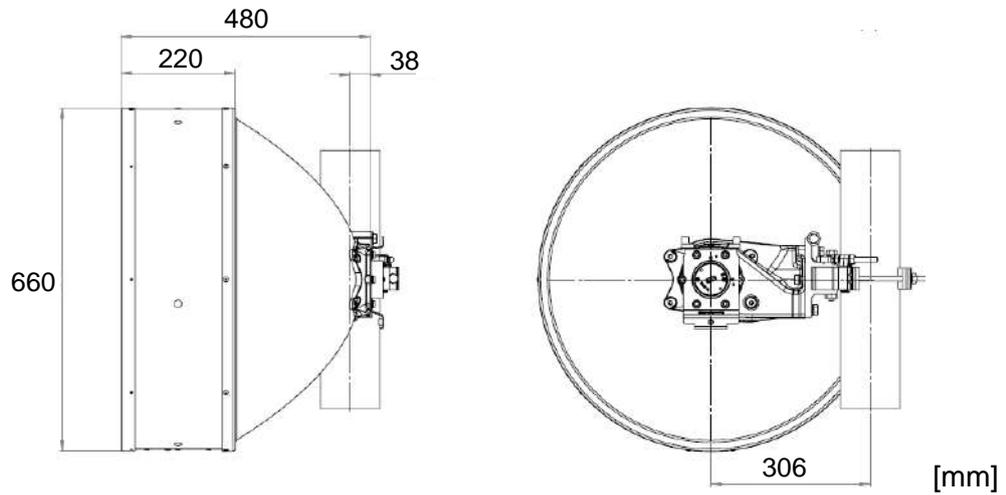


Antenna, top and rear view.

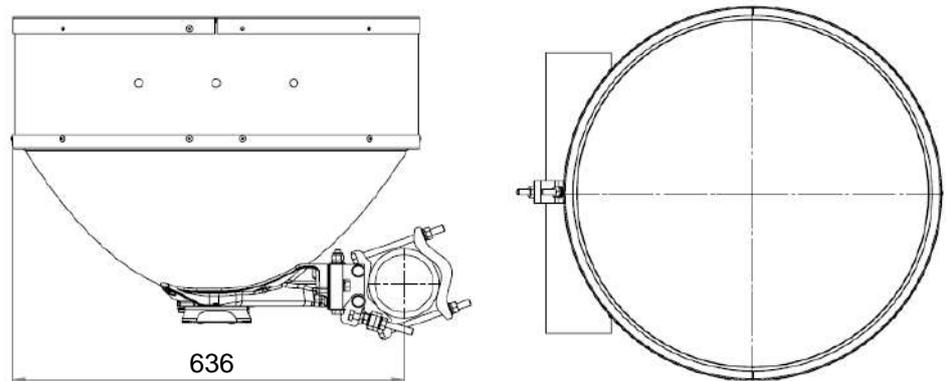
4.1.4.4 **ANT3 A 0.6 SHP**



Antenna



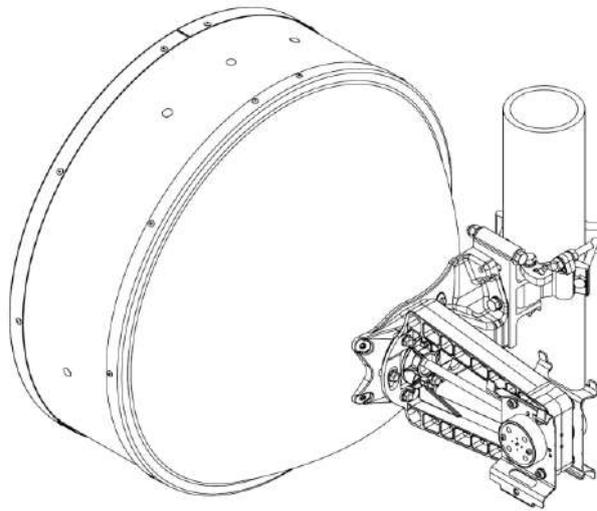
Antenna, side and rear view.



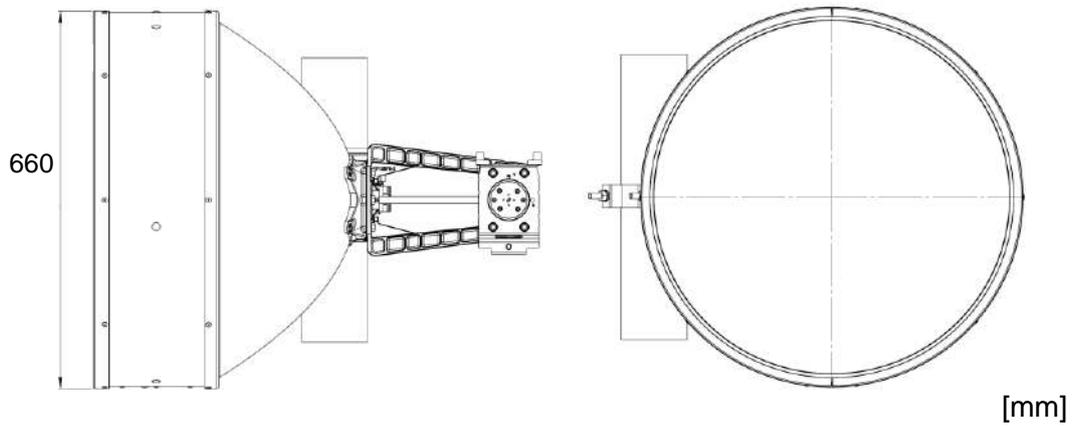
Antenna, top and front view.



4.1.4.5 ANT3 A 0.6 SHPX

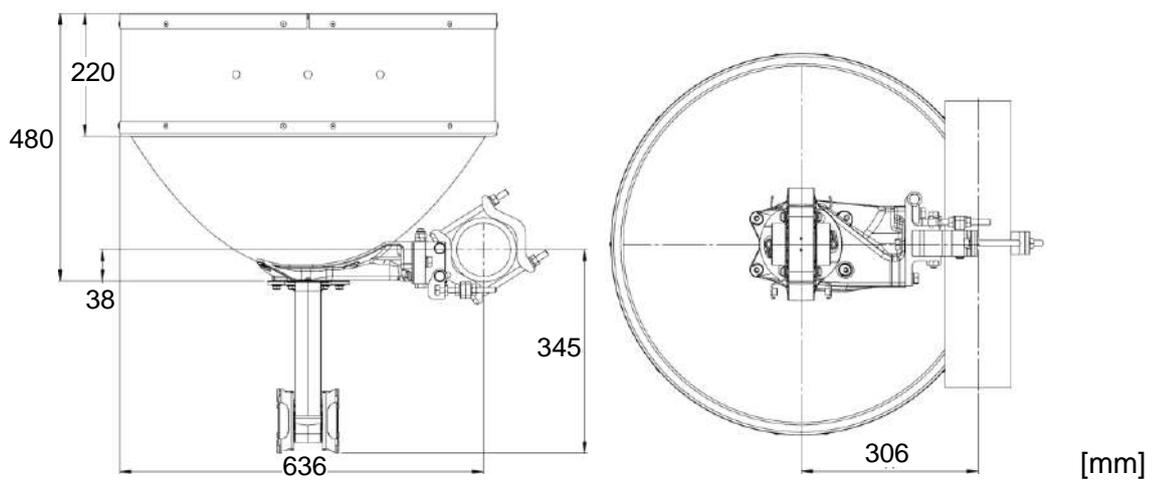


Antenna



Antenna, side and front view.

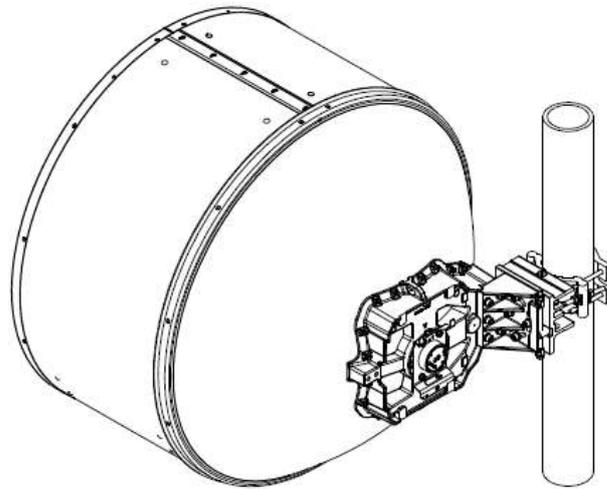
[mm]



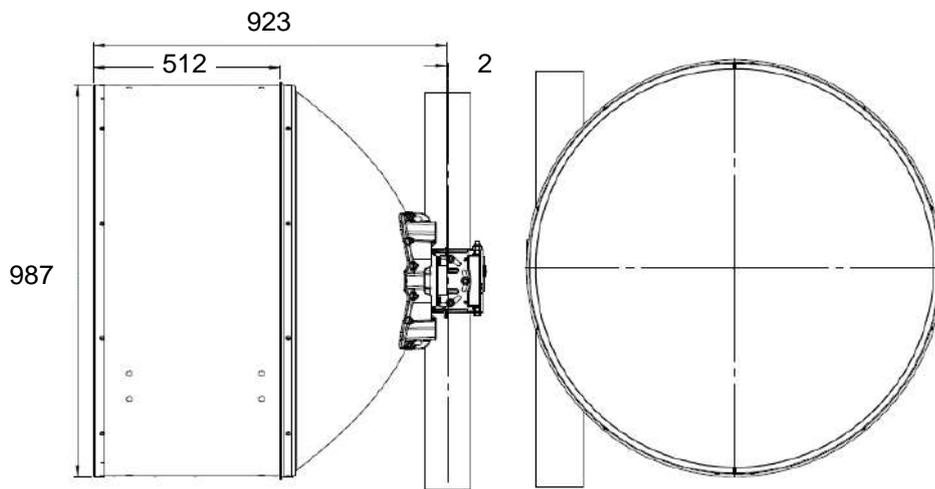
Antenna, top and rear view.

[mm]

4.1.4.6 ANT3 A 0.9 SHP

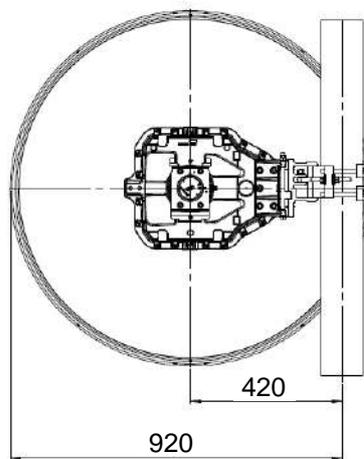


Antenna



Antenna, side and front view.

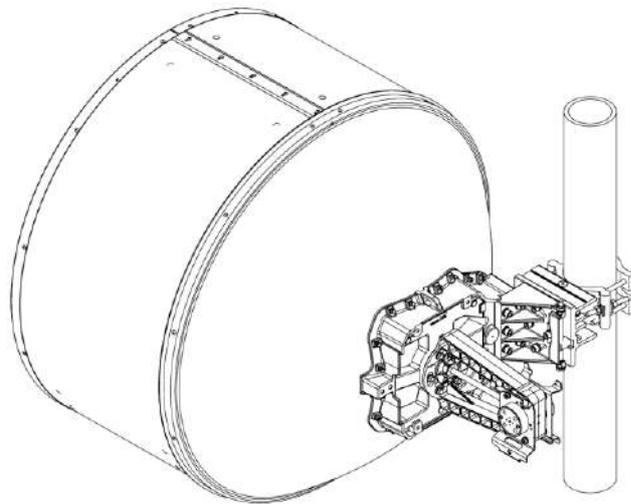
[mm]



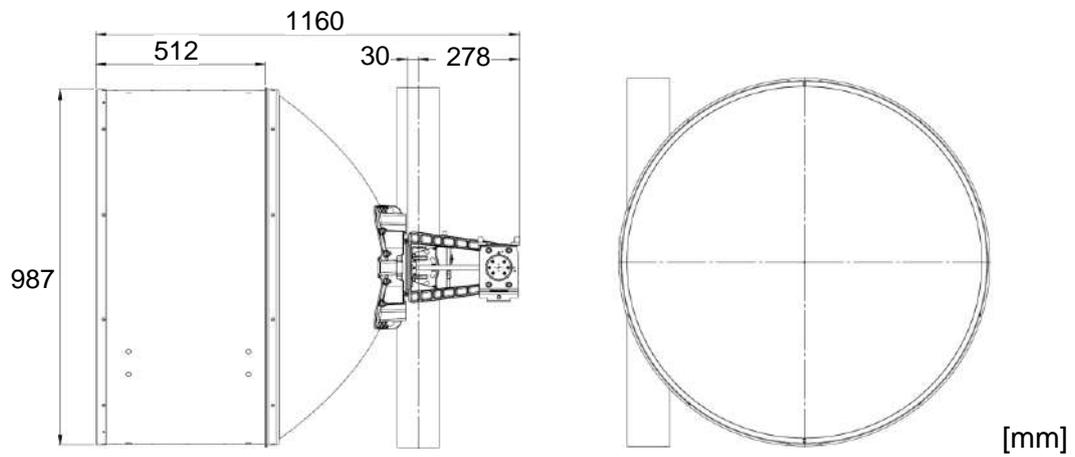
Antenna, rear view.

[mm]

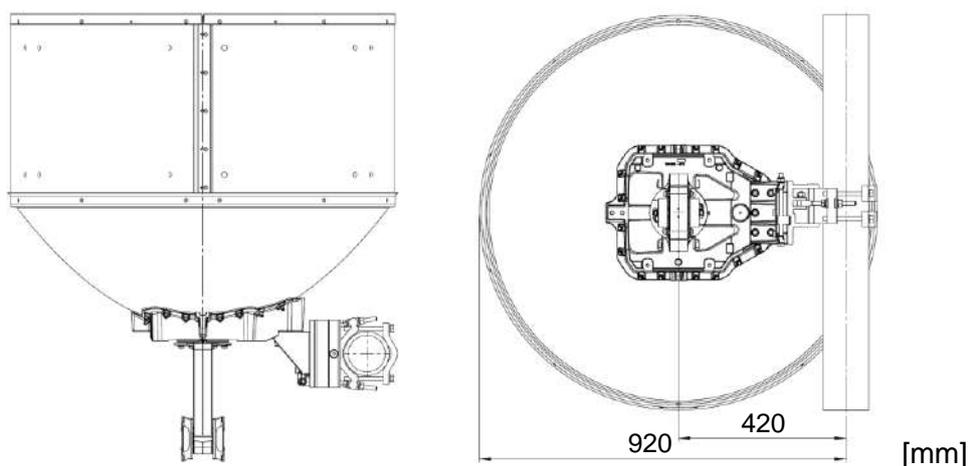
4.1.4.7 **ANT3 A 0.9 SHPX**



Antenna

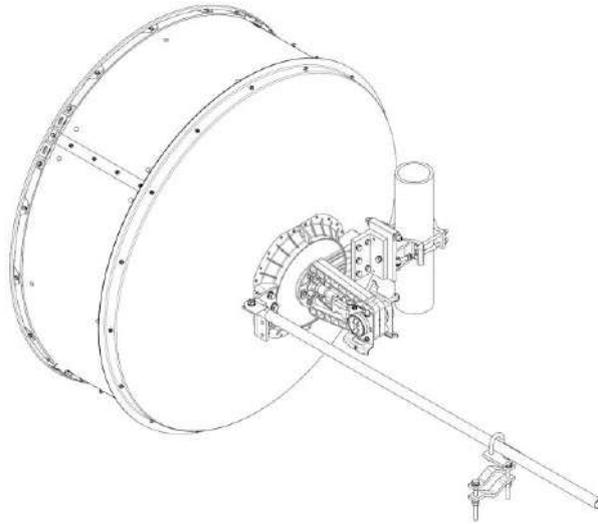


Antenna, side and front view.

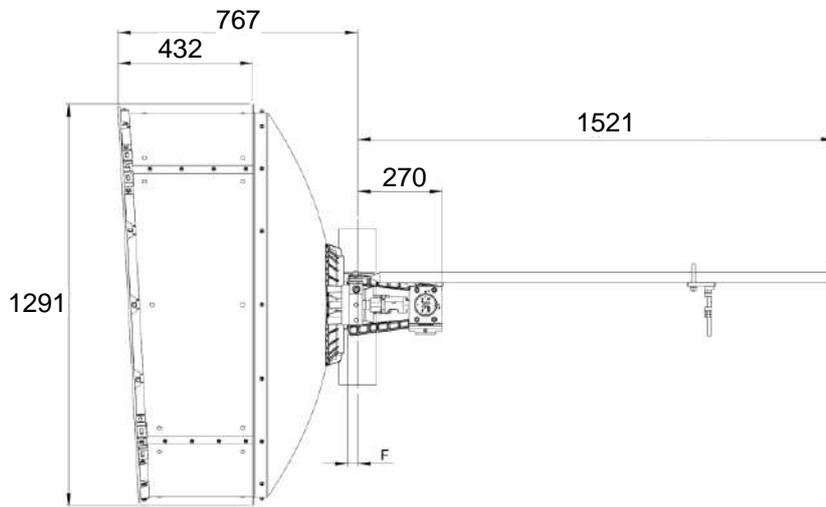


Antenna, top and rear view.

4.1.4.8 **ANT3 A 1.2 SHPX**

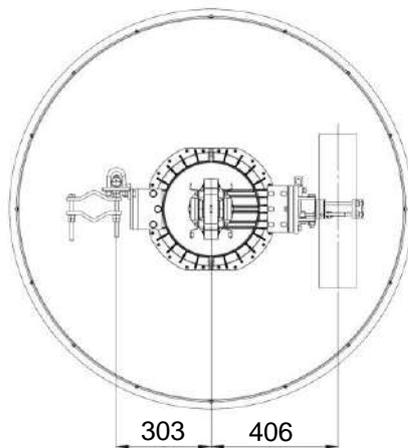


Antenna

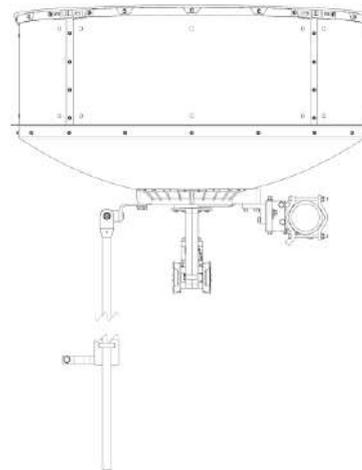


Antenna, side view.

[mm]



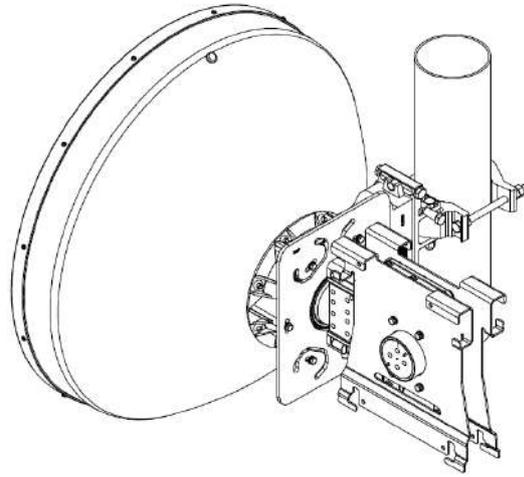
Antenna, rear and top view.



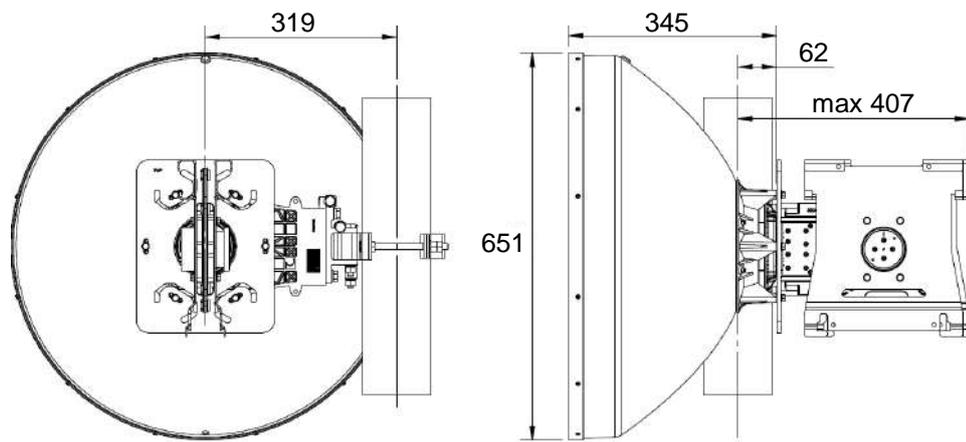
[mm]

4.1.5 Dual band antenna

4.1.5.1 ANT2/2 B 0.6 HP/HP

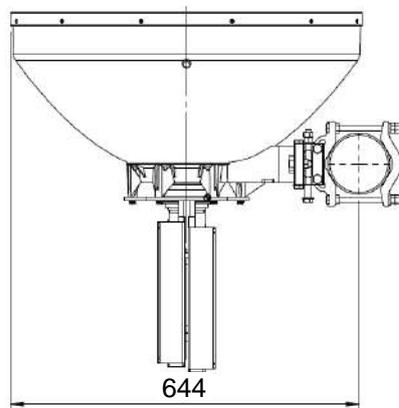


Antenna.



[mm]

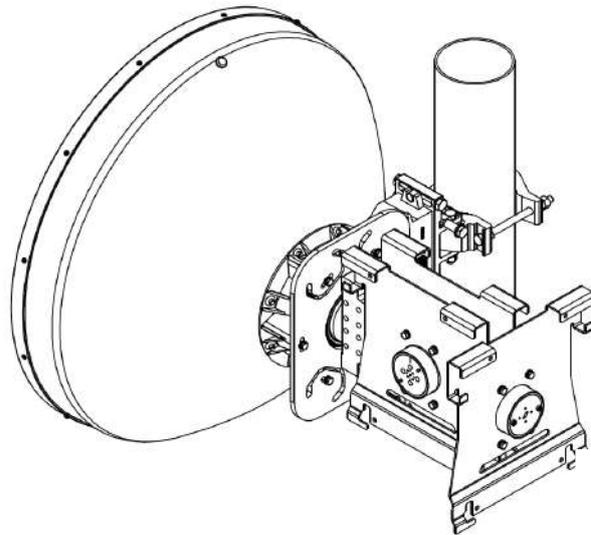
Antenna, rear and side view.



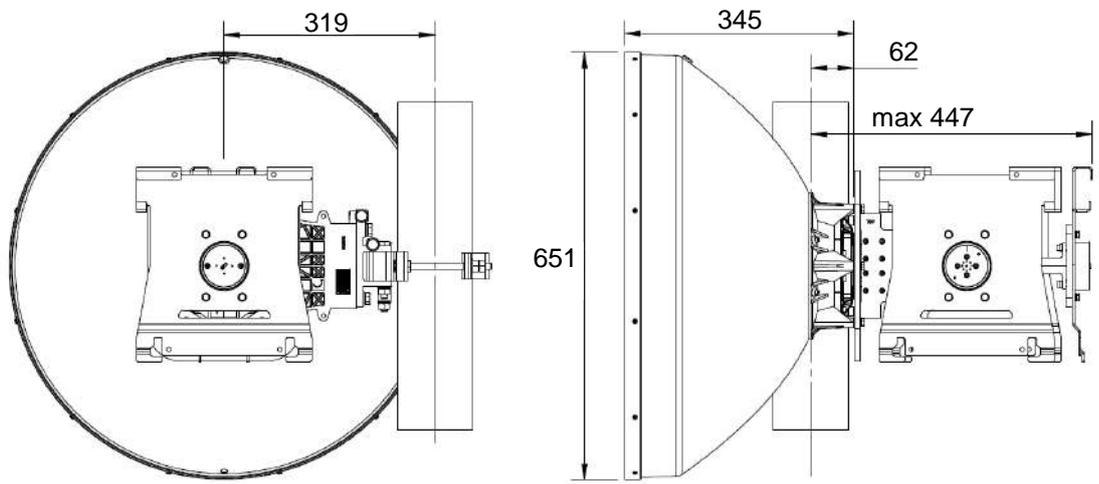
[mm]

Antenna, top view.

4.1.5.2 ANT2/2 B 0.6 HPX/HP

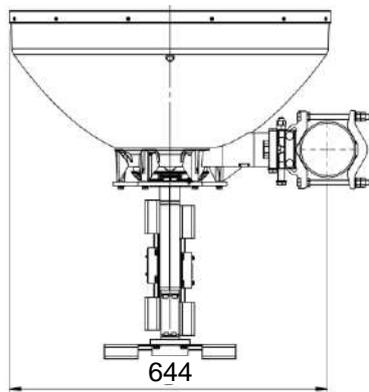


Antenna.



[mm]

Antenna, rear and side view.



[mm]

Antenna, top view.



4.2 Weight

4.2.1 ANT A

Size [m]	ANT A								
	ANT0 HP/HPX	ANT2 HP	ANT2 HPX	ANT3 HP	ANT3 HPX	ANT2 SHP	ANT2 SHPX	ANT3/FPA3 SHP	ANT3 SHPX
0.1		4.5						2.4	
0.2		5.7							
0.3	13-42			5.0	8.3	7.3	9.4	6.4	9
0.3	80	6.8	7.8	5.5	8.6				
0.6		9.6	11	7.6	10	13.4	14.8	11.6	13.9
0.9				17	19	32	33	30	33
1.2	34			31	34				39
1.8 4 GHz	90								
1.8 5 GHz	75								
1.8 6-23 GHz	94			90	94				
2.4 4&15 GHz	196								
2.4 5-13 GHz	187								
3.0	263								
3.7 4 GHz	361								
3.7 5-7/8 GHz	348								

Total antenna weight (kg).

4.2.2 ANT B

Size [m]	Freq. [GHz]	ANT B				
		ANT0 HPX	ANT2 HP	ANT2 HPX	ANT3 HP	ANT3 HPX
0.3	13-42				5	8
0.3	80		6.3	9	6.3	9
0.6			7	10	7	10
0.9					16	20
1.2		37			35	38
1.8	4-5	110				
1.8	6-23	92			90	94
2.4		180				
3.0		290				
3.7		420				

Total antenna weight (kg).



4.2.3

ANT C

Size [m]	Freq. [GHz]	ANT C	
		ANT3 HP	ANT3 HPX
0.3		4.6	7.6
0.6		7.5	10.5
0.9	6-24/26	17.5	20.5
0.9	28-38	18.5	21.5
1.2		37	39
1.8		88	91

Total antenna weight (kg).

4.2.4

Dual-band antenna

Size [m]	Dual band antenna	
	ANT2/2 B HP/HP	ANT2/2 B HPX/HP
0.6	16.4	18.8

Total antenna weight (kg).



4.3 RF Interfaces

4.3.1 Integrated Installation

The integrated single polarized antennas have a polarization plate (waveguide matching section) matching the antenna waveguide port with the radio waveguide port.

4.3.2 Separate Installation

All antennas (including the integrated antennas) are equipped with a standardised waveguide interface:

Frequency [GHz]	Flange type [IEC]
4	154 IEC-PDR 40
5	154 IEC-PDR 48
6	154 IEC-UDR 70
7/8	154 IEC-UBR 84
10-13	154 IEC-UBR 120
15	154 IEC-UBR 140
18-23	154 IEC-UBR 220
24-28	154 IEC-UBR 260
32-38	154 IEC-UBR 320
42	Ericsson proprietary flange (waveguide R500)
80	Integrated installation only (waveguide R740)

4.4 Pressurization

Maximum 40 kPa antenna feed over pressure (continuous operation).



4.5 Material and Treatment

4.5.1 ANT A, HP and HPX

Type	Reflector & Shield	Radio Interface	Radome	Absorber	Mount	Feed	Screws & nuts
ANT2 A 0.1 80 HP	Aluminium	Aluminium	UV-resistant polycarbonate (PC) White, NCS S 1002-B	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2
ANT2 A 0.2 80 HP	Die-cast aluminium Polyester powder paint White, RAL 9016	Die-cast aluminium Polyester powder paint. White, RAL 9016	UV-resistant polycarbonate (PC) Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2
ANT2 A 0.3 80 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant acrylonitrile styrene acrylate (ASA). Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2
ANT3 A 0.3 13-32 & 42 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant polycarbonate (PC) and polystyrene (PS). Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2
ANT3 A 0.3 38 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant polycarbonate (PC) Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2
ANT3 A 0.3 80 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant acrylonitrile styrene acrylate (ASA). Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2
ANT2 A 0.6 80 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant acrylonitrile styrene acrylate (ASA). Light grey		Aluminium extrusion	Surface treated aluminium	Stainless steel A2
ANT3 A 0.6 7-42 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant polycarbonate (PC) and polystyrene (PS). Light grey		Aluminium extrusion	Surface treated aluminium	Stainless steel A2
ANT3 A 0.6 80 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant acrylonitrile styrene acrylate (ASA). Light grey		Aluminium extrusion	Surface treated aluminium	Stainless steel A2
ANT3 A 0.9 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant polycarbonate (PC) and polystyrene (PS). Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2 & galvanized steel
ANT0 A 1.2 HPX	Aluminium Polyester powder paint White, RAL 9016	N/A	UV-resistant polyvinyl chloride (PVC) fabric and polycarbonate (PC) rim. Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2, galvanized steel
ANT3 A 1.2 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant polyvinyl chloride (PVC) fabric and polycarbonate (PC) rim. Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2, galvanized steel
ANT0 A 1.8 4-5 HPX	Aluminium Polyester powder paint Colour grey, US Fed. Std. 595-26152	N/A	UV-resistant polyvinyl chloride (PVC) fabric and polycarbonate (PC) rim. Light grey	Carbon impregnated polyurethane foam	Galvanized steel	Surface treated aluminium	Stainless steel A2, galvanized steel
ANT0 A 1.8 6-13 HPX	Aluminium Polyester powder paint White, RAL 9016	N/A	UV-resistant polyvinyl chloride (PVC) fabric and polycarbonate (PC) rim. Light grey	Carbon impregnated polyurethane foam	Galvanized steel	Surface treated aluminium	Stainless steel A2, galvanized steel
ANT3 A 1.8 HP/HPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant polyvinyl chloride (PVC) fabric and polycarbonate (PC) rim. Light grey	Carbon impregnated polyurethane foam	Galvanized steel	Surface treated aluminium	Stainless steel A2, galvanized steel



ANT0 A 2.4 HP/HPX	Aluminium Polyester powder paint Colour grey, US Fed. Std. 595-26152	N/A	Hydrophobic coated fabric. Colour Light grey. Light grey	Carbon impregnated polyurethane foam	Galvanized steel	Nickel plated brass ports	Stainless steel A2, galvanized steel
ANT0 A 3.0-3.7 4-5 HPX	Aluminium with integral rim section and reinforced back structure. Colour Grey	Nickel plated brass	Hydrophobic coated fabric. Colour Light grey	Carbon impregnated polyurethane foam	Galvanized steel	Nickel plated brass ports	Stainless steel A2, galvanized steel
ANT0 A 3.0-3.7 6-8 HPX	Aluminium with integral rim section and reinforced back structure. Colour Grey	Nickel plated brass	Hydrophobic coated fabric. Colour Light grey	Carbon impregnated polyurethane foam	Galvanized steel	Nickel plated brass ports	Stainless steel A2, galvanized steel
ANT0 A 3.0-3.7 10-13 HPX	Aluminium with integral rim section and reinforced back structure. Colour Grey	Nickel plated brass	Hydrophobic coated fabric. Colour Light grey	Carbon impregnated polyurethane foam	Galvanized steel	Nickel plated brass ports	Stainless steel A2, galvanized steel

4.5.2 ANT B, HP/HPX and Dual-band antenna

Type	Reflector & Shield	Radio Interface	Radome	Absorber	Mount	Feed	Screws & nuts
ANT3 B 0.3 HP/HPX	Aluminium Painted White, RAL 9010	HP: Galvanized plated steel. HPX: Die casted aluminium Polyester powder paint. White, RAL 9010	UV-resistant ABS White, RAL 9010		Aluminium extrusion	Aluminium	Stainless steel A2
ANT3 B 0.6 7-26 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9010	HP: Galvanized plated steel. HPX: Die casted aluminium Polyester powder paint. White, RAL 9010	UV-resistant HIPS White, RAL 9010		Aluminium extrusion	Aluminium	Stainless steel A2
ANT3 B 0.6 28-80 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9010	HP: Galvanized plated steel. HPX: Die casted aluminium Polyester powder paint. White, RAL 9010	UV-resistant polypropylene (PP) White, RAL 9010		Aluminium extrusion	Aluminium	Stainless steel A2
ANT3 B 0.9 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9010	HP: Galvanized plated steel. HPX: Die casted aluminium Polyester powder paint. White, RAL 9010	UV-resistant polypropylene (PP) White, RAL 9010		Aluminium extrusion	Aluminium	Stainless steel A2
ANT3 B 1.2 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9010	HP: Galvanized plated steel. HPX: Die casted aluminium Polyester powder paint. White, RAL 9010	UV-resistant expanded polyvinyl chloride (PVC) White, RAL 9010	Carbon impregnated polyurethane foam	Die casted aluminium	Aluminium	Stainless steel A2
ANT3 B 1.8 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9010	HP: Galvanized plated steel. HPX: Die casted aluminium Polyester powder paint. White, RAL 9010	UV-resistant expanded polyvinyl chloride (PVC) White, RAL 9010	Carbon impregnated polyurethane foam	Die casted aluminium	Aluminium	Stainless steel A2, galvanized steel
ANT0 B 2.4-3.7 HPX	Aluminium Polyester powder paint Painted White, RAL 9010	Aluminium, Polyester powder paint	UV-resistant polyvinyl chloride (PVC) fabric White, RAL 9010	Carbon impregnated polyurethane foam	Galvanized steel	Brass	Stainless steel A2, galvanized steel
ANT2/2 B 0.6	Aluminium Polyester powder paint Painted White, RAL 9010	Zinc coated Polyester powder paint. White, RAL 9010	Expanded polyvinyl chloride (PVC) White, RAL 9010	Carbon impregnated polyurethane foam	Aluminium extrusion	Aluminium	Stainless steel A2

4.5.3 ANT C, HP and HPX

Type	Reflector & Shield	Radio Interface	Radome	Absorber	Mount	Feed	Screws & nuts
ANT3 C 0.3 13-28 HP/HPX	Aluminium Painted White, RAL 9016	HP: Stainless steel HPX: Die casted aluminium Polyester powder paint. White, RAL 9016	UV-resistant polycarbonate (PC) and polystyrene (PS). White, RAL 9016		Aluminium & galvanized steel	Aluminium	Stainless steel A2, galvanized steel



ANT3 C 0.3 32-80 HP/HPX	Aluminium Painted White, RAL 9016	HP: Stainless steel HPX: Die casted aluminium Polyester powder paint. White, RAL 9016	UV-resistant acrylonitrile styrene acrylate (ASA) and acrylonitrile butadiene styrene (ABS) White, RAL 9016		Aluminium & galvanized steel	Aluminium	Stainless steel A2, galvanized steel
ANT3 C 0.6 7-28 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9016	HP: Stainless steel HPX: Die casted aluminium Polyester powder paint. White, RAL 9016	UV-resistant polycarbonate (PC) and polystyrene (PS). White, RAL 9016		Aluminium	Aluminium	Stainless steel A2, galvanized steel
ANT3 C 0.6 32-80 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9016	HP: Stainless steel HPX: Die casted aluminium Polyester powder paint. White, RAL 9016	UV-resistant acrylonitrile styrene acrylate (ASA) and acrylonitrile butadiene styrene (ABS) White, RAL 9016		Aluminium	Aluminium	Stainless steel A2, galvanized steel
ANT3 C 0.9 6-24/26 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9016	HP: Stainless steel HPX: Die casted aluminium Polyester powder paint. White, RAL 9016	UV-resistant polyvinyl chloride (PVC) fabric White, RAL 9003	Carbon impregnated polyurethane foam	Aluminium	Aluminium	Stainless steel A2, galvanized steel
ANT3 C 0.9 28-38 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9016	HP: Stainless steel HPX: Die casted aluminium Polyester powder paint. White, RAL 9016	UV-resistant ABS and ASA. White, RAL 9016	Carbon impregnated polyurethane foam	Aluminium	Aluminium	Stainless steel A2, galvanized steel
ANT3 C 1.2 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9016	HP: Stainless steel HPX: Die casted aluminium Polyester powder paint. White, RAL 9016	UV-resistant polyvinyl chloride (PVC) fabric White, RAL 9003	Carbon impregnated polyurethane foam	Aluminium & galvanized steel	Aluminium	Stainless steel A2, galvanized steel
ANT3 C 1.8 HP/HPX	Aluminium Polyester powder paint Painted White, RAL 9016	HP: Stainless steel HPX: Die casted aluminium Polyester powder paint. White, RAL 9016	UV-resistant polyvinyl chloride (PVC) fabric White, RAL 9003	Carbon impregnated polyurethane foam	Aluminium & galvanized steel	Aluminium	Stainless steel A2, galvanized steel

4.5.4 ANT A, SHP and SHPX

Type	Reflector & Shield	Radio Interface	Radome	Absorber	Mount	Feed / Array	Screws & nuts
FPA3 A 0.1 SHP	N/A	Zinc/Nickel plated steel. Polyester powder paint. White, RAL 9016	UV-resistant polycarbonate (PC) White, NCS S 1002-B	Carbon impregnated polyurethane foam	Aluminium extrusion, Anodized	Surface treated aluminium	Stainless steel A2
ANT3 A 0.3 SHP/SHPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant polycarbonate (PC) Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2, galvanized steel
ANT3 A 0.6 SHP/SHPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	UV-resistant acrylonitrile styrene acrylate (ASA). Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2 or galvanized steel
ANT3 A 0.9 SHP/SHPX	Aluminium Polyester powder paint White, RAL 9016	HP: Zinc/Nickel plated steel. HPX: Die casted aluminium	High impact polystyrene (HIPS) Light grey and polystyrene (PS). Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2 or galvanized steel
ANT3 A 1.2 SHPX	Aluminium Polyester powder paint White, RAL 9016	HPX: Die casted aluminium	UV-resistant polyvinyl chloride (PVC) fabric and polycarbonate (PC) rim. Light grey	Carbon impregnated polyurethane foam	Aluminium extrusion	Surface treated aluminium	Stainless steel A2, galvanized steel



5 Environmental Data

5.1 Compliance with International Standards

Storage

ETSI EN 300 019-2-1 v2.1.2 (class 1.2)

Transportation

ETSI EN 300 019-2-2 v2.1.2 (class 2.3)

Stationary use at non-weather protected locations

ETSI EN 300 019-2-4 v2.2.2 (class 4.1E, IEC class 4M5)

5.2 Wind Velocity

5.2.1 ANT A, HP/HPX and SHP/SHPX

Size [m]	Type	Frequency [GHz]	Operational [m/s]	Survival [m/s]
0.1			50	70
0.2-0.3			50	70
0.6		7-42	50	70
0.6		80	40	70
0.9		6-26	50	70
0.9		28-38	40	70
1.2-1.8			50	70
2.4-3.7			50	56

Operational: Maximum deflection 0.3*HPBW

Survival: No damage to the antenna. Realignment might be needed.

5.2.2 ANT B, HP/HPX

Size [m]	Frequency [GHz]	Operational [m/s]	Survival [m/s]
0.3-0.6		50	70
0.9	6-15	50	70
0.9	18-23	45	70
0.9	24-32	40	70
0.9	38	35	70
1.2		50	70



1.8	4-5	50	56
1.8	6-23	50	70
2.4-3.7		50	56

Operational: Maximum deflection $0.3 \cdot \text{HPBW}$

Survival: No damage to the antenna. Realignment might be needed.



5.2.3 ANT C, HP/HPX

Size [m]	Frequency [GHz]	Installed on tube diameter	Operational [m/s]	Survival [m/s]
0.3			50	70
0.6	7-32		50	70
0.6	38-42		40	70
0.6	80	40-60	30	60
0.6	80	60-120	50	70
0.9	6-18		50	70
0.9	23-38		40	70
1.2			50	70
1.8			50	70

Operational: Maximum deflection 0.3*HPBW

Survival: No damage to the antenna. Realignment might be needed.

5.2.4 Dual-band antenna

Size [m]	Frequency [GHz]	Operational [m/s]	Survival [m/s]
0.6		50	70

Operational: Maximum deflection 0.3*HPBW

Survival: No damage to the antenna. Realignment might be needed.

5.3 Wind Loading, Force and Torque

5.3.1 ANT A, HP and HPX



Size [m]	Frequency [GHz]	Operational 40 m/s		Operational 50 m/s		Survival 56 m/s		Survival 70 m/s	
		F [N]	M [Nm]	F [N]	M [Nm]	F [N]	M [Nm]	F [N]	M [Nm]
0.1				129	35			253	70
0.2				160	44			313	85
0.3				227	73			446	144
0.6	7-42			660	205			1290	395
0.6	80	421	117					1290	357
0.9	6-26			1481	601			2903	1179
0.9	28-38	948	385					2903	1179
1.2				2519	1022			4937	2004
1.8	4			5378	3852			10655	7561
1.8	5			5378	3138			10655	7561
1.8	6-23			5444	2425			10655	6004
2.4	4-5			9059	4700	10600	7650		
2.4	6-13			9059	3935	10600	6520		
3.0				14770	8710	18494	10725		
3.7				20904	13434	26265	17136		

Maximum force and torque due to wind from the most critical direction.

5.3.2 ANT B, HP and HPX

Size [m]	Frequency [GHz]	Operational 50 m/s		Operational 70 m/s		Survival 70 m/s		Survival 89 m/s	
		F [N]	M [Nm]	F [N]	M [Nm]	F [N]	M [Nm]	F [N]	M [Nm]
0.3		222	72			365	118		
0.6		642	218			1238	420		

Size [m]	Freq [GHz]	Operational 35 m/s		Operational 40 m/s		Operational 45 m/s		Operational 50 m/s		Survival 56 m/s		Survival 70 m/s	
		F [N]	M [Nm]	F [N]	M [Nm]	F [N]	M [Nm]						
0.9	6-15							1519	629	2930	1213	2930	1213
0.9	18-23					1292	535			2930	1213	2930	1213
0.9	24-32			972	402					2930	1213	2930	1213
0.9	38	775	321							2930	1213	2930	1213
1.2								2419	797	4666	1538	4666	1538
1.8	4-5							6769	2419	7500	2970		
1.8	6-23							5379	2453			10377	4732
2.4								11580	4855	12831	5961		
3.0								17480	8337	19368	10236		
3.7								24978	13559	27676	16647		

Maximum force and torque due to wind from the most critical direction.

5.3.3 ANT C, HP and HPX

Size [m]	Frequency [GHz]	Operational 40 m/s		Operational 50 m/s		Survival 56 m/s		Survival 70 m/s	
		F [N]	M [Nm]	F [N]	M [Nm]	F [N]	M [Nm]	F [N]	M [Nm]



0.3				305	113			477	176
0.6				830	249			1298	389
0.9	6-18			1510	645			2959	1264
0.9	23-38	966	413					2959	1264
1.2				3039	1335			4923	2163
1.8				5368	1836			10522	3599

Maximum force and torque due to wind from the most critical direction.

5.3.4 ANT A, SHP and SHPX

Size [m]	Operational 50 m/s		Survival 70 m/s	
	F [N]	M [Nm]	F [N]	M [Nm]
0.1	64	11	126	23
0.3	227	73	446	144
0.6	660	205	1290	395
0.9	1508	614	2956	1203
1.2	3159	1282	4937	2004

Maximum force and torque due to wind from the most critical direction.

5.3.5 Dual-band antenna

Size [m]	Operational 50 m/s		Survival 70 m/s	
	F [N]	M [Nm]	F [N]	M [Nm]
0.6	642	246	1238	474

Maximum force and torque due to wind from the most critical direction.

5.4 Endurance

The antennas are designed to withstand years of exposure to coastal and/or industrial atmosphere without noticeable performance degeneration or significant deterioration in finish, such as corrosion etc.



6 Mounting Data

6.1 Mounting Kit

6.1.1 ANT A, HP and HPX

The mounting kit (including side struts for stabilisation) must be fitted to the following tube diameters.

Size [m]	Mounting kit, tube diameter [mm]	Side strut, tube diameter [mm]	Number of side struts [qty]
0.1-0.6	50-120		
0.9	90-120		
1.2	90-115	48-120	1
1.8	115-120	48-120	1
2.4	115	100-115	1
3.0-3.7	115	100-115	2

6.1.2 ANT B, HP/HPX

The mounting kit (including side struts for stabilisation) must be fitted to the following tube diameters.

Size [m]	Mounting kit, tube diameter [mm]	Side strut, tube diameter [mm]	Number of side struts [qty]
0.3-0.6	48-120		
0.9	89-114		
1.2-1.8	114	60-114	1
2.4-3.7	114	60-114	1

6.1.3 ANT C, HP/HPX

The mounting kit (including side struts for stabilisation) must be fitted to the following tube diameters.

Size [m]	Frequency [GHz]	Mounting kit, tube diameter [mm]	Side strut, tube diameter [mm]	Number of side struts [qty]
0.3-0.6	7-42	50-120		
0.3-0.6	80	40-120		
0.9		90-114		
1.2		90-114	60-114	1
1.8		114	60-114	1



6.1.4 ANT A, SHP and SHPX

The mounting kit must be fitted to the following tube diameters.

Size [m]	Mounting kit, tube diameter [mm]	Side strut, tube diameter [mm]	Number of side struts [qty]
0.1-0.6	50-120		
0.9	90-120		
1.2	115	48-120	1

6.1.5 Dual-band antenna

The mounting kit must be fitted to the following tube diameters.

Size [m]	Mounting kit, tube diameter [mm]
0.6	48-120



6.2 Alignment

6.2.1 ANT A, HP/HPX and SHP/SHPX

Size [m]	Azimuth [±°]	Elevation [±°]	Polarization ²¹ [±°]
0.1	15	25	
0.2-1.2	15	15	5
1.8	15	5	5
2.4-3.7	5	5	6

Minimum alignment interval.

6.2.2 ANT B and Dual-band antenna, HP/HPX

Size [m]	Azimuth [±°]	Elevation [±°]	Polarization ²² [±°]
0.3-1.2	15	15	5
1.8	5	5	5
2.4-3.7	5	5	5

Minimum alignment interval.

6.2.3 ANT C, HP/HPX

Size [m]	Azimuth [±°]	Elevation [±°]	Polarization ²³ [±°]
0.3	15	25	5
0.6-0.9	15	15	5
1.2	15	10	5
1.8	5	5	5

Minimum alignment interval.

6.3 Installation Instruction

A quick guide is enclosed with every antenna. A full version of the installation instruction is stored in CPI Store.

²¹ Polarization alignment is valid for all sizes of HPX+SHPX.

²² Polarization alignment is valid for all sizes of HPX.

²³ Polarization alignment is valid for all sizes of HPX.



7 Packing Data

7.1 Dimensions

7.1.1 ANT A, HP and HPX

Product Name	Freq. [GHz]	Length [mm]	Width [mm]	Height [mm]	Volume [m ³]
ANT0 A 1.2 HPX		1360	378	1515	0.779
ANT0 A 1.8 HPX	4	1995	600	2107	2.522
ANT0 A 1.8 HPX	5-23	1895	450	2107	1.797
ANT0 A 2.4 HP/HPX		2375	1130	2250	6.038
ANT0 A 3.0 HP/HPX		3404	1930	1168	7.677
ANT0 A 3.7 HPX		3988	2134	1524	12.970
ANT2 A 0.1 HP	80	330	390	140	0.018
ANT2 A 0.2 HP	80	420	320	190	0.026
ANT2 A 0.3 HP	80	400	400	350	0.056
ANT2 A 0.3 HPX	80	400	400	400	0.064
ANT2 A 0.6 HP	80	729	695	354	0.179
ANT2 A 0.6 HPX	80	800	800	400	0.256
ANT3 A 0.3 HP		400	400	350	0.056
ANT3 A 0.3 HPX		600	400	460	0.110
ANT3 A 0.6 HP		729	695	354	0.179
ANT3 A 0.6 HPX		800	800	400	0.256
ANT3 A 0.9 HP & HPX		1200	400	1107	0.531
ANT3 A 1.2 HP & HPX		1360	378	1515	0.779
ANT3 A 1.8 HP & HPX		1895	450	2107	1.797

7.1.2 ANT B, HP and HPX

Product Name	Freq. [GHz]	Length [mm]	Width [mm]	Height [mm]	Volume [m ³]
ANT0 B 1.2 HPX		1370	370	1430	0.72
ANT0 B 1.8 HPX	4-5	2050	2050	1050	4.41
ANT0 B 1.8 HPX	6-23	1980	520	2050	2.11
ANT0 B 2.4 HPX	4	3550	1800	1500	9.05
ANT0 B 2.4 HPX	5-15	2670	1040	1630	4.53
ANT0 B 3.0 HPX	4	3570	2250	1870	15.0
ANT0 B 3.0 HPX	5-13	3270	1150	2070	7.78
ANT0 B 3.7 HPX	4	4600	2250	1800	18.6
ANT0 B 3.7 HPX	5-7/8	3980	1800	2190	15.7
ANT3 B 0.3 HP	13-42	400	400	240	0.04
ANT3 B 0.3 HP	80	400	400	250	0.04
ANT3 B 0.3 HPX		400	400	280	0.04
ANT3 B 0.6 HP & HPX		680	790	340	0.18
ANT3 B 0.9 HP & HPX		1050	1030	400	0.43
ANT3 B 1.2 HP & HPX		1370	370	1430	0.72
ANT3 B 1.8 HP & HPX		1980	520	2050	2.11



7.1.3 ANT C, HP and HPX

Product Name	Freq. [GHz]	Length [mm]	Width [mm]	Height [mm]	Volume [m ³]
ANT2 C 0.3 HP	80	500	450	320	0.07
ANT2 C 0.3 HPX	80	435	460	395	0.08
ANT2 C 0.6 HP	80	750	700	345	0.15
ANT2 C 0.6 HPX	80	702	702	520	0.22
ANT3 C 0.3 HP		435	460	235	0.05
ANT3 C 0.3 HPX		435	460	395	0.08
ANT3 C 0.6 HP & HPX		750	700	345	0.15
ANT3 C 0.9 HP & HPX		1120	1090	640	0.78
ANT3 C 1.2 HP & HPX		1380	410	1560	0.88
ANT3 C 1.8 HP & HPX		2100	570	2220	2.66

7.1.4 ANT A, SHP and SHPX

Product Name	Freq. [GHz]	Length [mm]	Width [mm]	Height [mm]	Volume [m ³]
FPA3 A 0.1 SHP		274	200	112	0.006
ANT3 A 0.3 SHP		400	400	550	0.088
ANT3 A 0.3 SHPX		600	400	460	0.110
ANT3 A 0.6 SHP		730	730	575	0.306
ANT3 A 0.6 SHPX		925	755	595	0.399
ANT3 A 0.9 SHP/SHPX		1120	489	1221	0.670
ANT3 A 1.2 SHPX		1360	378	1515	0.779

7.1.5 Dual-band antenna

Product Name	Length [mm]	Width [mm]	Height [mm]	Volume [m ³]
ANT2/2 B 0.6 HP/HP & HPX/HP	730	680	500	0.248



7.2 Weight

7.2.1 ANT A, HP/HPX and SHP/SHPX

Size [m]	Freq. [GHz]	Type								
		ANT0 HP/HPX	ANT2 HP	ANT2 HPX	ANT3 HP	ANT3 HPX	ANT2 SHP	ANT2 SHPX	ANT3/FPA3 SHP	ANT3 SHPX
0.1			5.1						2.6	
0.2			6.7							
0.3	13-42				7.2	11	9	12.4	9	12
0.3	80		8.6	9.3	8.6	12.5				
0.6			13	17	13	17	18	23	16	22
0.9					30	33	44	48	44	48
1.2		62			60	62				80
1.8	4	151								
1.8	5	126								
1.8	6-23	133			131	133				
2.4	4&15	329								
2.4	5-13	318								
3.0		513								
3.7	4	661								
3.7	5-7/8	648								

Gross packing weight (in kg).

7.2.2 ANT B and Dual-band antenna, HP/HPX

Size [m]	Freq. [GHz]	ANT0 HPX	ANT3 HP	ANT3 HPX	Type ANT2/2 HP/HP	ANT2/2 HPX/HP
0.3	13-42		7	10.5		
0.3	80		8	12		
0.6			9	12.5	18.5	23.3
0.9			22	26		
1.2		59	57	61		
1.8	4-5	270				
1.8	6-23	142	140	144		
2.4	4	590				
2.4	5-15	320				
3.0	4	860				
3.0	5-13	450				
3.7	4	1010				
3.7	5-7/8	770				

Gross packing weight (in kg).



7.2.3 ANT C, HP/HPX

Size [m]	Type	
	ANT2/ANT3 HP	ANT2/ANT3 HPX
0.3	6	9
0.6	11	14
0.9	39	42
1.2	63	65
1.8	150	153

Gross packing weight (in kg).

7.3 Compliance with International Standards

7.3.1 HP and HPX

ANT A and ANT B 1.2-3.7 m antennas are packed in wooden crates. The wood is bark free (DB), heat treated (HT) and marked in accordance with: International standards for phytosanitary measures Guidelines for regulating wood packaging material in international trade ISPM publication No. 15, March 2002.

ANT A and ANT B 0.1-0.9 m antennas are packed in cardboard boxes and hence the material is considered sufficiently processed to be excluded from the requirements above.

ANT C 0.9-1.8 m are packed in crates made of plywood and hence the material is considered sufficiently processed to be excluded from the requirements above.

7.3.2 SHP and SHPX

0.1-0.9 m antennas are packed in cardboard boxes and hence the material is considered sufficiently processed to be excluded from the requirements above.

1.2 m antennas are packed in wooden crates. The wood is bark free (DB), heat treated (HT) and marked in accordance with: International standards for phytosanitary measures Guidelines for regulating wood packaging material in international trade ISPM publication No. 15, March 2002.



8 Document Revision Records

A-FC	See earlier revisions.
FD	0.3 m 80 GHz updated (new design).
FE	ANT3 18-23 GHz and 0.1 m 60 GHz added and editorial changes.
FF	ANT3 13, 15 and 38 GHz added.
FG	ANT2 0.3 HP, 0.6 HP/HPX, 0.9 HP, 1.2 HP/HPX updated
FH	ANT3 7/8 added.
FJ	Modular ANT0 and ANT2 antennas added.
FK	Modular ANT2 0.3 80, ANT2 0.6 80 added and ANT3 10/11 added.
FL	1.8 m HP+HPX 6-23 updated (new electrical & mechanical design). ANT3 6, 24/26, 80 GHz added
FM	FPA3 0.1 38 SHP and ANT2 0.1 80 HP added
FN	0.3 m new radome design (13-32 & 42 GHz),
FS	FPA3 A 28, 32, 42 GHz added, ANT3 A I/F HPX/SHPX new mechanical design
FT	Antenna name changed, antenna type B added
FU	ANT B delivered in one box instead of two
FV	ANT A delivered in one box, ANT0 B & ANT2/2 0.6 HP/HP added. RPE's moved to 2/1301-UKY 210 40+
FX	ANT C added
FY	ANT2 B 80 & ANT2/2 0.6 18/80 HP/HP added, ANT0 A 1.8 m 4-5 GHz & ANT0 A 2.4 m new design
FZ	Editorial changes
GA	ANT2 C 80 added
GB	ANT B & ANT C removed from antenna types that can be used in 4+0 ANT2 HP & HPX 6-42 GHz removed due to LTB. ANT0 A 3.0/3.7 HPX, ANT3 A 0.9 SHP/SHPX, ANT3 B HPX & ANT3 C updated. ANT2/2 B 0.6 18/80 HPX/HP & ANT2/2 B 0.6 23/80 HPX/HP added
GC	ANT3 A 1.2 SHPX added