

LOW BAND

694-960MHz



Overview

- 2 Ports / One horizontal lobe
- Average gain: 20 dBi
- 694MHz-960MHz
- Passive



RI 0102251-13



RF Parameters

All clusters

Parameter Name	Unit	Value
Frequency Range	MHz	694-960
Polarization	°	+45 / -45
Electrical Downtilt	°	1,2
Impedance	Ω	50
Voltage Standing Wave Ratio		< 1,5:1
Passive Intermodulation	dBc	< -153
Return loss	dB	> 14
Inter-cluster Isolation	dB	> 25
Maximum Effective Power Per Port	W	500
Maximum Effective Power Per Cluster	W	2000

Parameter Name	Unit	Value
Cluster Name		1
Nominal Direction	°	0
Nominal Horizontal Half-Power Beamwidth	°	47
Port Number		1 / 2
Intra-cluster Isolation	dB	> 18
Frequency Sub Range	MHz	694-960
Gain	dBi	20 → 21
Azimuth Beamwidth	°	47
Elevation Beamwidth	°	7,1
Elevation Downtilt Deviation	dB	< 0,2
First Upper Sidelobe Suppression	dB	> 13
Upper Sidelobe Suppression Peak To 20°	dB	> 13
Upper Sidelobe Suppression Horizon To 20°	dB	> 13
Maximum Upper Sidelobe Suppression	dB	> 13
Null Fill	dB	> 25
Front To Back Ratio Total Power +/-30°	dB	> 30
Efficiency	dB	-0,09
Cross Polar Discrimination at Mechanical Boresight	dB	> 20

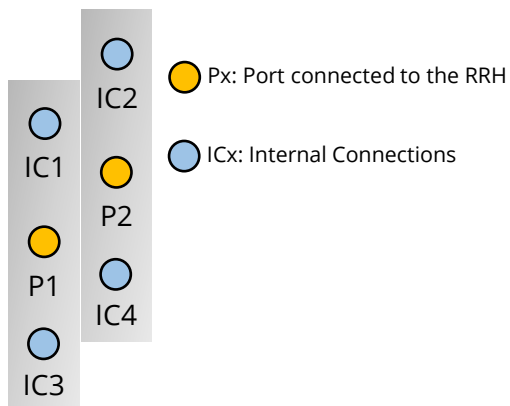
Mechanical Parameters:

Parameter Name	Unit	Value
Connector Type		4.3-10 Female
Location		Back
Mechanical Boresight	°	0
Antenna dimensions H xW x D	mm	2494 x 359 x 270
Packing size H xW x D	mm	2 boxes: 2600 x 390 x 290
Weight without accessories	kg	34,5
Survival Wind Speed	km/h	250
Windload	N	Frontal: 945 Lateral: 572 Maximum 360: 1198
Software simulated results at 150km/h		
Radome Material		PC
Radome Color		RAL7038
Product environmental compliance (general)		ROHS
Product environmental compliance (conditions)		ETSI EN 300019-2-4, Class 4, 1E
Mechanical distance between antenna mounting points	mm	2500
Number of mounting points		2
Lighting protection		Yes

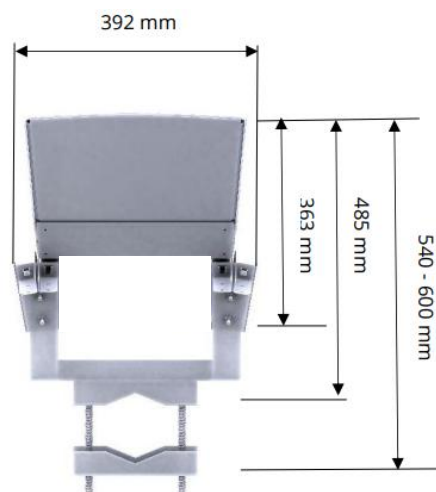
Values based on NGMN-P-BASTA (version 12) requirements

(considering the presence of a surge arrester lightning protection on RRH)

Port external interface

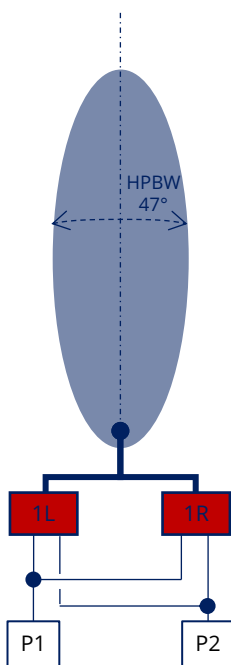


Mounting

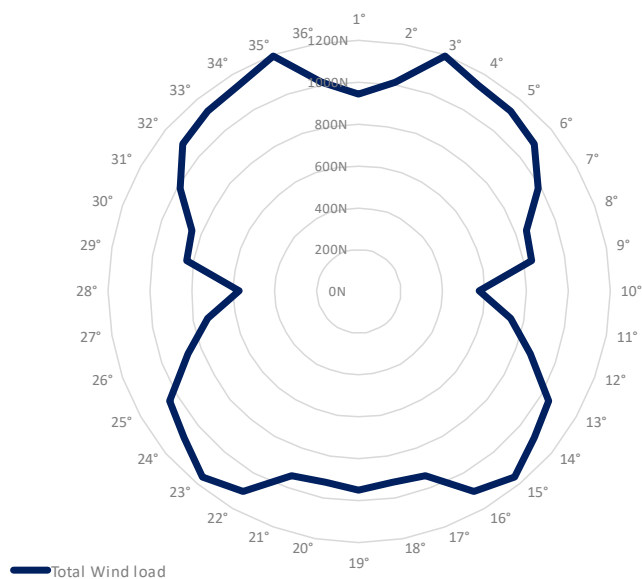


Bracket for tube Ø40-120mm
Can be adapted upon request

Beam configuration



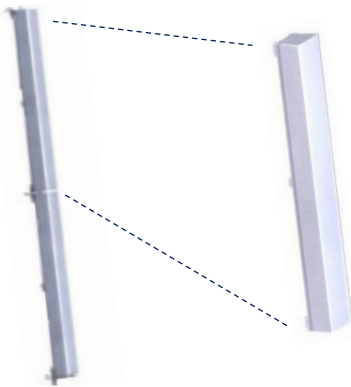
Windload



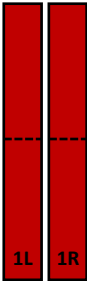
Overview

- 2 Ports / One horizontal lobe
- Average gain: 23 dBi
- 694MHz-960MHz
- Passive

RI 0101252-15
RURAL ANTENNA 1 beam x 47° x 23dBi LB



RI 0102251-13
X2



RF Parameters

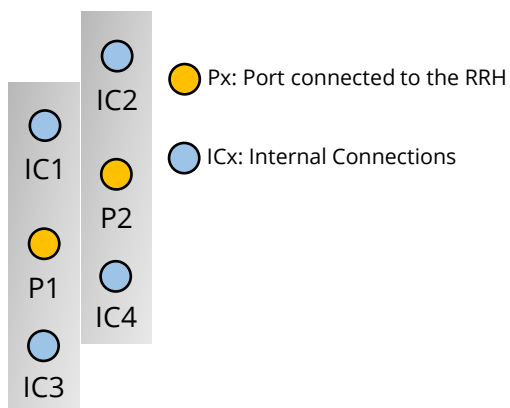
Parameter Name	Unit	Value
Frequency Range	MHz	694-960
Polarization	°	+45 / -45
Electrical Downtilt	°	1,5
Impedance	Ω	50
Voltage Standing Wave Ratio		< 1,5:1
Passive Intermodulation	dBc	< -153
Return loss	dB	> 14
Inter-cluster Isolation	dB	> 25
Maximum Effective Power Per Port	W	500
Maximum Effective Power Per Cluster	W	2000

Parameter Name	Unit	Value
Cluster Name		1
Nominal Direction	°	0
Nominal Horizontal Half-Power Beamwidth	°	47
Port Number		1 / 2
Intra-cluster Isolation	dB	> 18
Frequency Sub Range	MHz	694-960
Gain	dBi	22 → 24
Azimuth Beamwidth	°	47
Elevation Beamwidth	°	3,6
Elevation Downtilt Deviation	dB	< 0,2
First Upper Sidelobe Suppression	dB	> 8
Upper Sidelobe Suppression Peak To 20°	dB	> 8
Upper Sidelobe Suppression Horizon To 20°	dB	> 8
Maximum Upper Sidelobe Suppression	dB	> 8
Null Fill	dB	> -16
Front To Back Ratio Total Power +/-30°	dB	> 23
Efficiency	dB	-0,09
Cross Polar Discrimination at Mechanical Boresight	dB	> 20

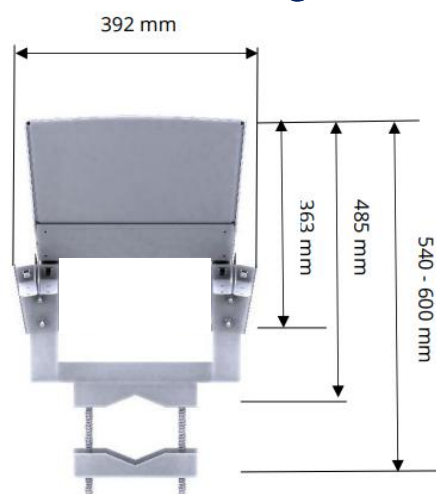
Mechanical Parameters:

Parameter Name	Unit	Value
Connector Type		4.3-10 Female
Location		Back
Mechanical Boresight	°	0
Antenna dimensions H xW x D	mm	4988 x 359 x 270
Packing size H xW x D	mm	3 boxes: 2600 x 390 x 290
Weight without accessories	kg	88
Survival Wind Speed	km/h	250
Windload	N	Frontal: 1906 Lateral: 1550 Maximum 360: 2541
Software simulated results at 150km/h		
Radome Material		PC
Radome Color		RAL7038
Product environmental compliance (general)		ROHS
Product environmental compliance (conditions)		ETSI EN 300019-2-4, Class 4, 1E
Mechanical distance between antenna mounting points	mm	2500
Number of mounting points		3
Lighting protection		Yes

Port external interface

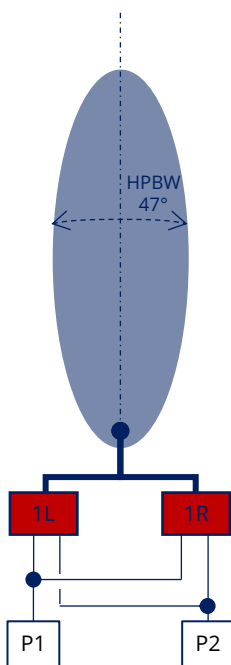


Mounting

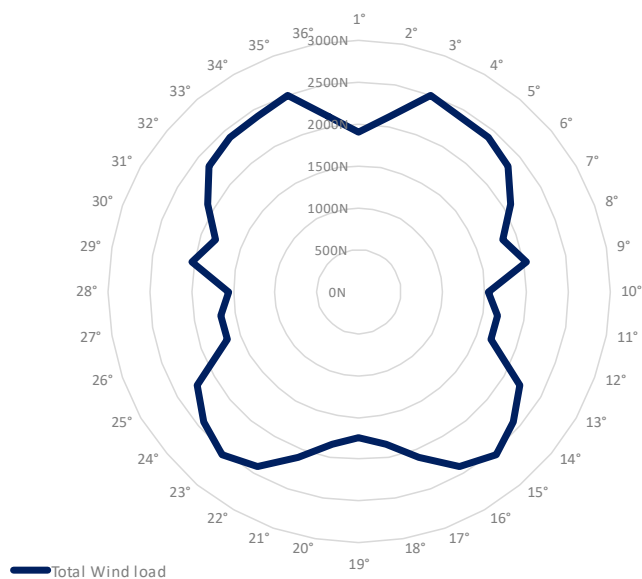


Bracket for tube Ø40-120mm
Can be adapted upon request

Beam configuration

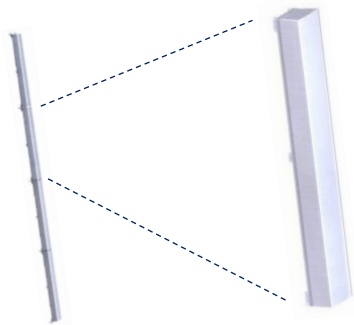


Windload

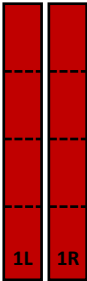


Overview

- 2 Ports / One horizontal lobe
- Average gain: 25 dBi
- 694MHz-960MHz
- Passive



RI 0102251-13
X4



RF Parameters

All clusters

Parameter Name	Unit	Value
Frequency Range	MHz	694-960
Polarization	°	+45 / -45
Electrical Downtilt	°	0,9
Impedance	Ω	50
Voltage Standing Wave Ratio		< 1,5:1
Passive Intermodulation	dBc	< -153
Return loss	dB	> 14
Inter-cluster Isolation	dB	> 25
Maximum Effective Power Per Port	W	500
Maximum Effective Power Per Cluster	W	2000

Parameter Name	Unit	Value
Cluster Name		1
Nominal Direction	°	0
Nominal Horizontal Half-Power Beamwidth	°	47
Port Number		1 / 2
Intra-cluster Isolation	dB	> 18
Frequency Sub Range	MHz	694-960
Gain	dBi	24 → 26
Azimuth Beamwidth	°	47
Elevation Beamwidth	°	1,8
Elevation Downtilt Deviation	dB	< 0,2
First Upper Sidelobe Suppression	dB	> 13
Upper Sidelobe Suppression Peak To 20°	dB	> 13
Upper Sidelobe Suppression Horizon To 20°	dB	> 13
Maximum Upper Sidelobe Suppression	dB	> 13
Null Fill	dB	> -30
Front To Back Ratio Total Power +/-30°	dB	> 23
Efficiency	dB	-0,09
Cross Polar Discrimination at Mechanical Boresight	dB	> 20

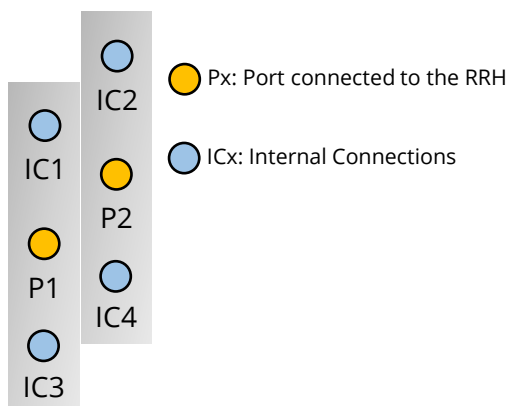
Mechanical Parameters:

Parameter Name	Unit	Value
Connector Type		4.3-10 Female
Location		Back
Mechanical Boresight	°	0
Antenna dimensions H xW x D	mm	9976 x 359 x 270
Packing size H xW x D	mm	5 boxes: 2600 x 390 x 290
Weight without accessories	kg	171
Survival Wind Speed	km/h	250
Windload	N	Frontal: 4034 Lateral: 3545 Maximum 360: 4989
Software simulated results at 150km/h		
Radome Material		PC
Radome Color		RAL7038
Product environmental compliance (general)		ROHS
Product environmental compliance (conditions)		ETSI EN 300019-2-4, Class 4, 1E
Mechanical distance between antenna mounting points	mm	2500
Number of mounting points		5
Lighting protection		Yes

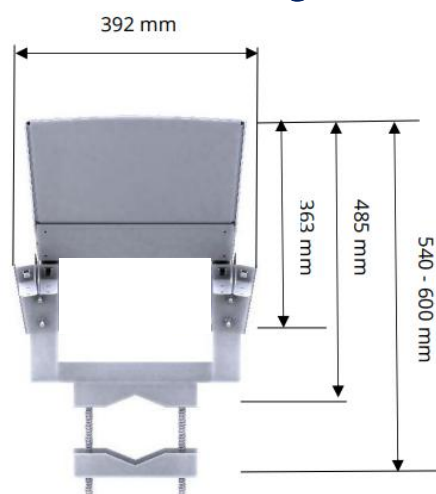
Values based on NGMN-P-BASTA (version 12) requirements

(considering the presence of a surge arrester lightning protection on RRH)

Port external interface

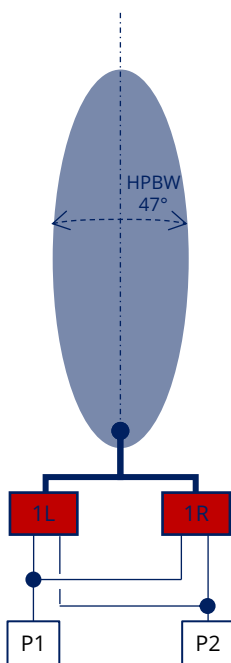


Mounting

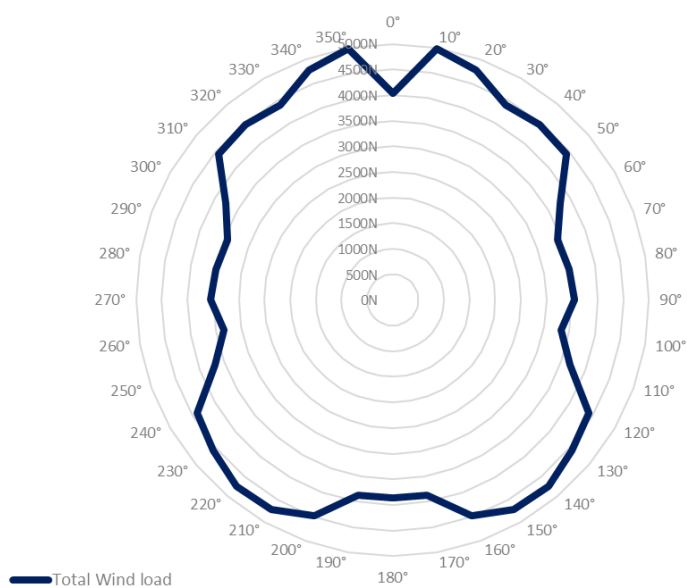


Bracket for tube Ø40-120mm
Can be adapted upon request

Beam configuration



Windload



Overview

- 4 Ports / 2 horizontal lobes
- Average gain: 19 dBi
- 694MHz-960MHz
- Passive



RF Parameters

All clusters

Parameter Name	Unit	Value
Frequency Range	MHz	694-960
Polarization	°	+45 / -45
Electrical Downtilt	°	1,3
Combined Horizontal Half-Power Beamwidth	°	87
Impedance	Ω	50
Voltage Standing Wave Ratio		< 1,5:1
Passive Intermodulation	dBc	< -153
Return loss	dB	> 14
Inter-cluster Isolation	dB	> 25
Maximum Effective Power Per Port	W	500
Maximum Effective Power Per Cluster	W	2000

Clusters 1L & 1R

Parameter Name	Unit	Value
Cluster Name		1L 1R
Nominal Direction	°	-20 +20
Nominal Horizontal Half-Power Beamwidth	°	47 47
Port Number		1 / 3 2 / 4
Intra-cluster Isolation	dB	> 18 > 18
Frequency Sub Range	MHz	694-960 694-960
Gain	dBi	18 → 20 19 → 20
Azimuth Beamwidth	°	49 46
Elevation Beamwidth	°	7,1 7,1
Elevation Downtilt Deviation	dB	< 0,3 < 0,3
First Upper Sidelobe Suppression	dB	> 13 > 13
Upper Sidelobe Suppression Peak To 20°	dB	> 13 > 13
Upper Sidelobe Suppression Horizon To 20°	dB	> 13 > 13
Maximum Upper Sidelobe Suppression	dB	> 13 > 13
Null Fill	dB	> -19 > -26
Front To Back Ratio Total Power +/-30°	dB	> 23 > 24
Efficiency	dB	-0,09 -0,09
Cross Polar Discrimination at Mechanical Boresight	dB	> 20 > 23

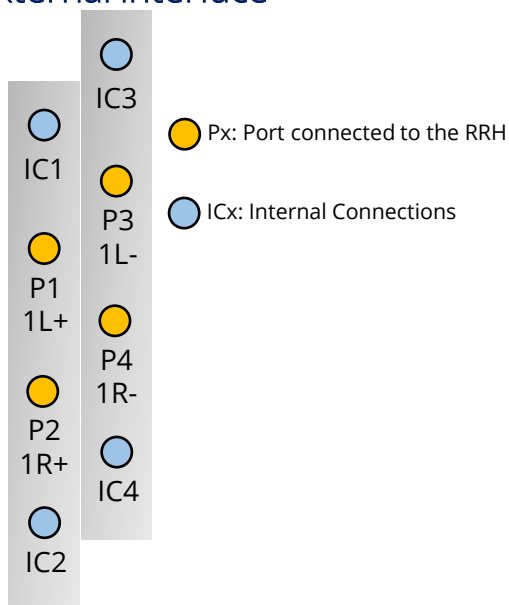
Mechanical Parameters:

Parameter Name	Unit	Value
Connector Type		4.3-10 Female
Location		Back
Mechanical Boresight	°	0
Antenna dimensions H xW x D	mm	2494 x 359 x 270
Packing size H xW x D	mm	2 boxes: 2600 x 390 x 290
Weight without accessories	kg	34,5
Survival Wind Speed	km/h	250
Windload	N	Frontal: 945 Lateral: 572 Maximum 360: 1198
Software simulated results at 150km/h		
Radome Material		PC
Radome Color		RAL7038
Product environmental compliance (general)		ROHS
Product environmental compliance (conditions)		ETSI EN 300019-2-4, Class 4, 1E
Mechanical distance between antenna mounting points	mm	2500
Number of mounting points		2
Lighting protection		Yes

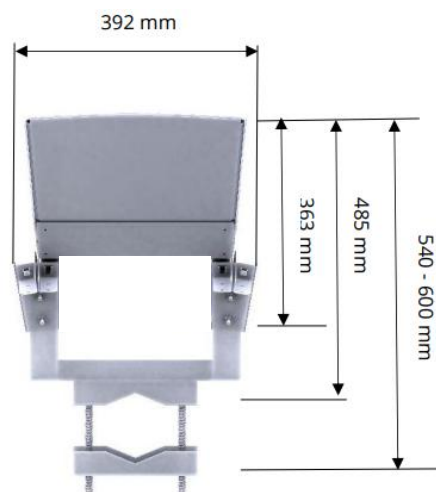
(considering the presence of a surge arrester lightning protection on RRH)

Values based on NGMN-P-BASTA (version 12) requirements

Port external interface

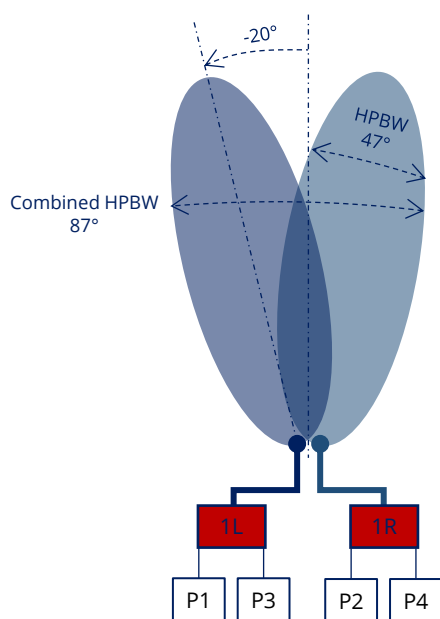


Mounting

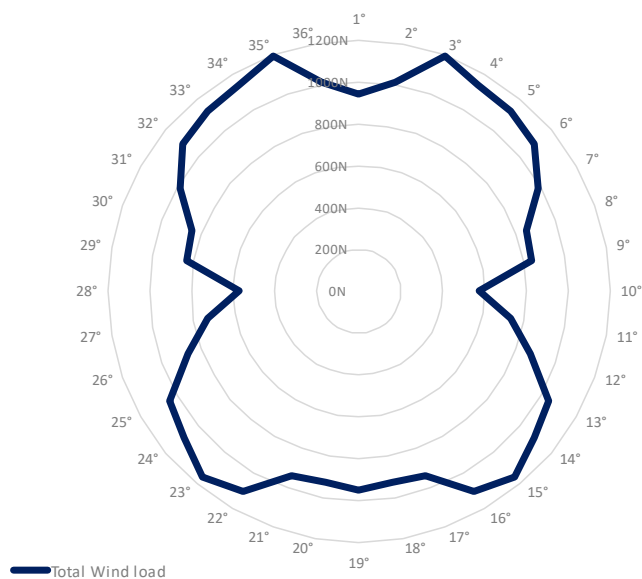


Bracket for tube Ø40-120mm
Can be adapted upon request

Beam configuration



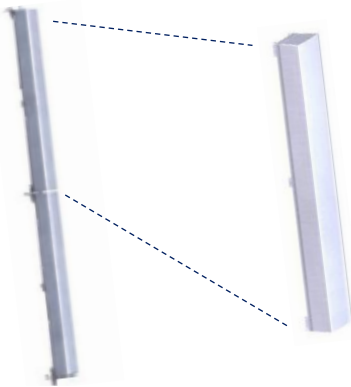
Windload



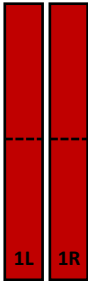
Overview

- 4 Ports / 2 horizontal lobes
- Average gain: 22 dBi
- 694MHz-960MHz
- Passive

RI 0102252-16
RURAL ANTENNA 2 beams x 47° x 22dBi LB



RI 0102251-13
X2



RF Parameters

All clusters

Parameter Name	Unit	Value
Frequency Range	MHz	694-960
Polarization	°	+45 / -45
Electrical Downtilt	°	1,6
Combined Horizontal Half-Power Beamwidth	°	87
Impedance	Ω	50
Voltage Standing Wave Ratio		< 1,5:1
Passive Intermodulation	dBc	< -153
Return loss	dB	> 14
Inter-cluster Isolation	dB	> 25
Maximum Effective Power Per Port	W	500
Maximum Effective Power Per Cluster	W	2000

Clusters 1L & 1R

Parameter Name	Unit	Value
Cluster Name		1L 1R
Nominal Direction	°	-20 +20
Nominal Horizontal Half-Power Beamwidth	°	47 47
Port Number		1 / 2 3 / 4
Intra-cluster Isolation	dB	> 18 > 18
Frequency Sub Range	MHz	694-960 694-960
Gain	dBi	21 → 23 21 → 23
Azimuth Beamwidth	°	49 46
Elevation Beamwidth	°	3,6 3,6
Elevation Downtilt Deviation	dB	< 0,2 < 0,2
First Upper Sidelobe Suppression	dB	> 11 > 8
Upper Sidelobe Suppression Peak To 20°	dB	> 11 > 8
Upper Sidelobe Suppression Horizon To 20°	dB	> 11 > 8
Maximum Upper Sidelobe Suppression	dB	> 11 > 8
Null Fill	dB	> -16 > -16
Front To Back Ratio Total Power +/-30°	dB	> 23 > 24
Efficiency	dB	-0,09 -0,09
Cross Polar Discrimination at Mechanical Boresight	dB	> 20 > 23

Mechanical Parameters:

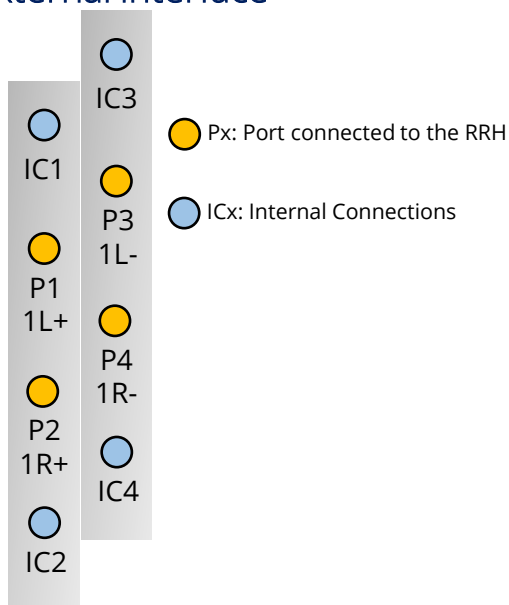
Parameter Name	Unit	Value
Connector Type		4.3-10 Female
Location		Back
Mechanical Boresight	°	0
Antenna dimensions H xW x D	mm	4988 x 359 x 270
Packing size H xW x D	mm	3 boxes: 2600 x 390 x 290
Weight without accessories	kg	88
Survival Wind Speed	km/h	250
Windload	N	Frontal: 1906 Lateral: 1550 Maximum 360: 2541
Software simulated results at 150km/h		
Radome Material		PC
Radome Color		RAL7038
Product environmental compliance (general)		ROHS
Product environmental compliance (conditions)		ETSI EN 300019-2-4, Class 4, 1E
Mechanical distance between antenna mounting points	mm	2500
Number of mounting points		3

Lighting protection

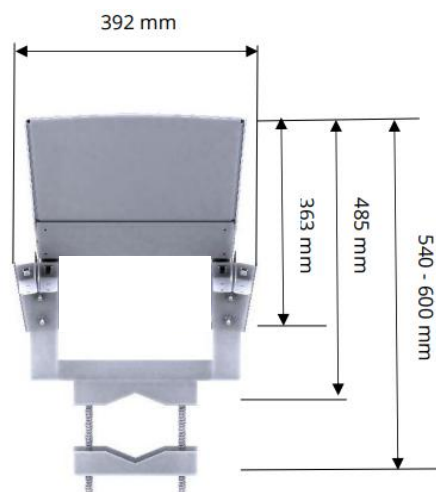
Values based on NGMN-P-BASTA (version 12) requirements

(considering the presence of a surge arrester lightning protection on RRH)

Port external interface

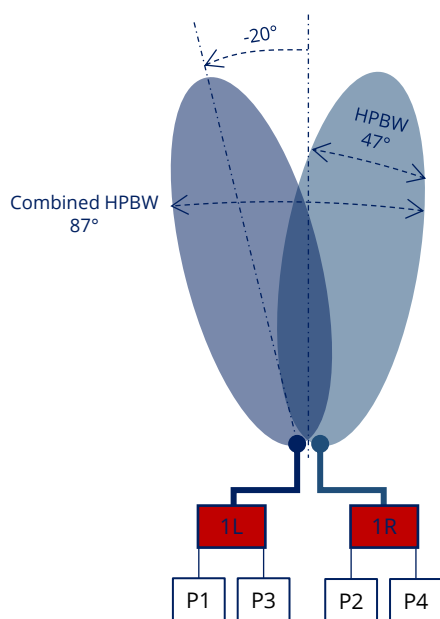


Mounting

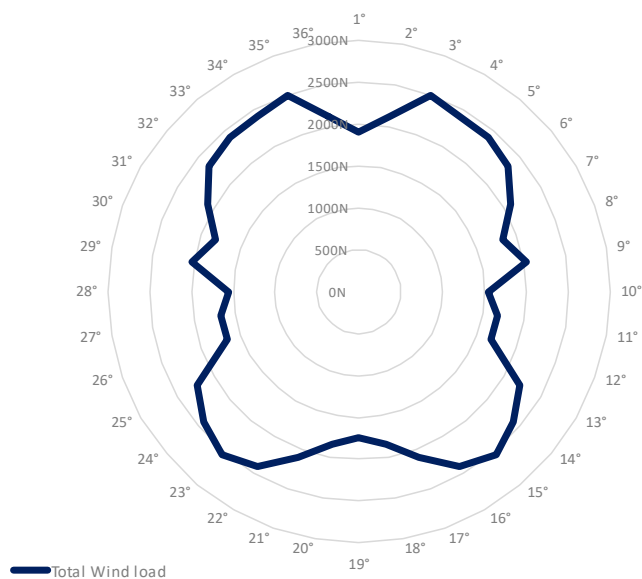


Bracket for tube Ø40-120mm
Can be adapted upon request

Beam configuration

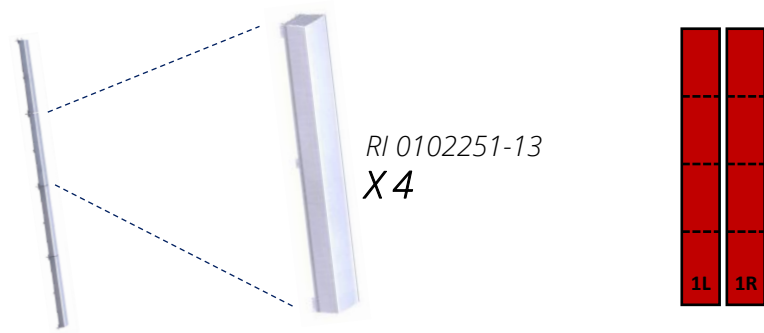


Windload



Overview

- 4 Ports / 2 horizontal lobes
- Average gain: 25 dBi
- 694MHz-960MHz
- Passive



RF Parameters

All clusters

Parameter Name	Unit	Value
Frequency Range	MHz	694-960
Polarization	°	+45 / -45
Electrical Downtilt	°	0,9
Combined Horizontal Half-Power Beamwidth	°	87
Impedance	Ω	50
Voltage Standing Wave Ratio		< 1,5:1
Passive Intermodulation	dBc	< -153
Return loss	dB	> 14
Inter-cluster Isolation	dB	> 25
Maximum Effective Power Per Port	W	500
Maximum Effective Power Per Cluster	W	2000

Clusters 1L & 1R

Parameter Name	Unit	Value
Cluster Name		1L 1R
Nominal Direction	°	-20 +20
Nominal Horizontal Half-Power Beamwidth	°	47 47
Port Number		1 / 2 3 / 4
Intra-cluster Isolation	dB	> 18 > 18
Frequency Sub Range	MHz	694-960 694-960
Gain	dBi	23 → 25 23 → 25
Azimuth Beamwidth	°	49 46
Elevation Beamwidth	°	1,8 1,8
Elevation Downtilt Deviation	dB	< 0,2 < 0,2
First Upper Sidelobe Suppression	dB	> 13 > 13
Upper Sidelobe Suppression Peak To 20°	dB	> 13 > 13
Upper Sidelobe Suppression Horizon To 20°	dB	> 13 > 13
Maximum Upper Sidelobe Suppression	dB	> 13 > 13
Null Fill	dB	> -20 > -20
Front To Back Ratio Total Power +/-30°	dB	> 23 > 24
Efficiency	dB	-0,09 -0,09
Cross Polar Discrimination at Mechanical Boresight	dB	> 20 > 23

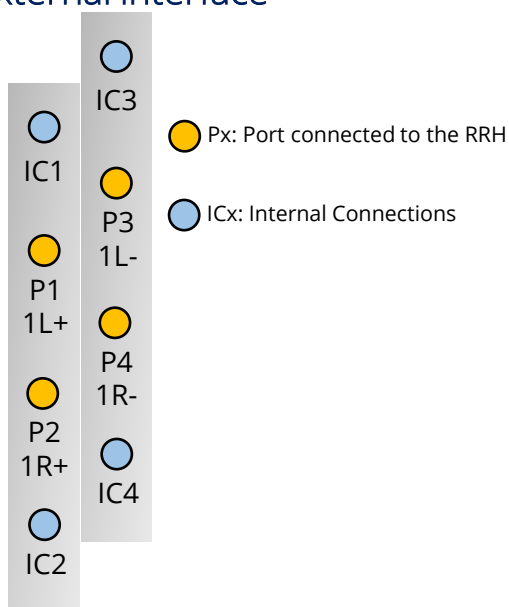
Mechanical Parameters:

Parameter Name	Unit	Value
Connector Type		4.3-10 Female
Location		Back
Mechanical Boresight	°	0
Antenna dimensions H x W x D	mm	9976 x 359 x 270
Packing size H x W x D	mm	5 boxes: 2600 x 390 x 290
Weight without accessories	kg	171
Survival Wind Speed	km/h	250
Windload	N	Frontal: 4034 Lateral: 3545 Maximum 360: 4989
Software simulated results at 150km/h		
Radome Material		PC
Radome Color		RAL7038
Product environmental compliance (general)		ROHS
Product environmental compliance (conditions)		ETSI EN 300019-2-4, Class 4, 1E
Mechanical distance between antenna mounting points	mm	2500
Number of mounting points		5
Lighting protection		Yes

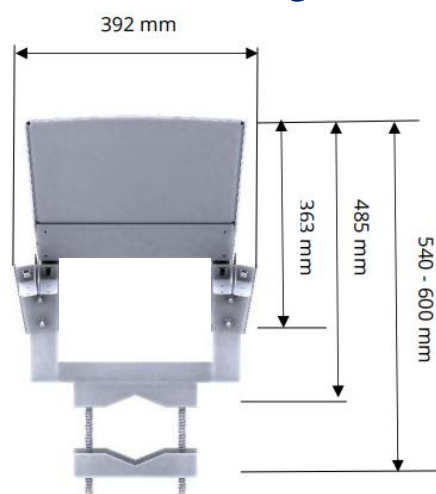
Values based on NGMN-P-BASTA (version 12) requirements

(considering the presence of a surge arrester lightning protection on RRH)

Port external interface

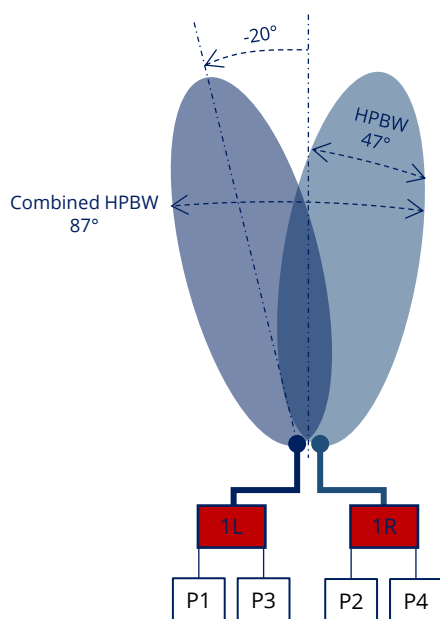


Mounting



Bracket for tube Ø40-120mm
 Can be adapted upon request

Beam configuration



Windload

