

TECHNICAL SPECIFICATION

10-Port,X-Pol,Sector Antenna,
1×690-960MHz&4×1695-2690MHz,65deg,16&17dBi,Integrated RET



A.0	Jul 12, 2025	David	Michael	Klaus
Version	Date	Prepared	Reviewed	Approved

Electrical Specifications					
Description	10-Port,X-Pol,Sector Antenna, 1×690-960MHz&4×1695-2690MHz,65deg,16&17dBi,Integrated RET				
Product Code	HBZ28P651617				
Frequency Range	MHz	1×690-960(R1)			
Frequency Band	MHz	690-896		880-960	
Gain Over All Tilts	dBi	16.4±0.5		16.5±0.5	
Gain by Tilt Average Mid		16.5		16.6	
Horizontal 3dB Beam Width	Deg	69±8		64±8	
Vertical 3dB Beam Width	Deg	11.8±0.8		10.2±0.5	
1 st Upper Side Lobe Suppression Above Main Beam	dB	≥17		≥17	
Front to Back Ratio at 180Deg ±30Deg	dB	≥25		≥25	
Cross-Polar Ratio 0Deg	dB	≥19		≥20	
Electrical Downtilt	Deg	2-10,Continuously adjustable			
VSWR	/	≤1.4			
Isolation between Ports	dB	≥28			
Intermodulation IM3	dBc	≤-153(2×43 dBm carrier)			
Max. Power Per Port	Watt	250(at 50℃ ambient temperature)			
Frequency Range	MHz	2×1695-2690(Y1/Y2)			
Frequency Band	MHz	1695-1880	1900-2200	2300-2400	2500-2690
Gain Over All Tilts	dBi	17.6±0.4	17.7±0.5	17.8±0.5	17.9±0.5
Gain by Tilt Average Mid		17.6	17.7	17.8	17.9
Horizontal 3dB Beam Width	Deg	65±8	67±8	62±8	60±8
Vertical 3dB Beam Width	Deg	10.5±0.5	9.1±0.5	8.0±0.4	7.6±0.4
1 st Upper Side Lobe Suppression Above Main Beam	dB	≥17	≥17	≥17	≥17
Front to Back Ratio at 180Deg ±30Deg	dB	≥25	≥25	≥25	≥25
Cross-Polar Ratio 0Deg	dB	≥20	≥20	≥18	≥18
Electrical Downtilt	Deg	2-10,Continuously adjustable			

VSWR	/	≤1.5			
Isolation between Ports	dB	≥28			
Intermodulation IM3	dBc	≤-153(2×43 dBm carrier)			
Max. Power Per Port	Watt	200(at 50℃ ambient temperature)			
Frequency Range	MHz	2×1695-2690(Y3/Y4)			
Frequency Band	MHz	1695-1880	1900-2200	2300-2400	2500-2690
Gain Over All Tilts	dBi	17.6±0.4	17.7±0.5	17.8±0.5	17.9±0.5
Gain by Tilt Average Mid		17.6	17.7	17.8	17.9
Horizontal 3dB Beam Width	Deg	65±8	67±8	62±8	60±8
Vertical 3dB Beam Width	Deg	10.5±0.5	9.1±0.5	8.0±0.4	7.6±0.4
1 st Upper Side Lobe Suppression Above Main Beam	dB	≥17	≥17	≥17	≥17
Front to Back Ratio at 180Deg ±30Deg	dB	≥25	≥25	≥25	≥25
Cross-Polar Ratio 0Deg	dB	≥20	≥20	≥18	≥18
Electrical Downtilt	Deg	2-10,Continuously adjustable			
VSWR	/	≤1.5			
Isolation between Ports	dB	≥25			
Intermodulation IM3	dBc	≤-153(2×43 dBm carrier)			
Max. Power Per Port	Watt	200(at 50℃ ambient temperature)			
Impedance	Ohm	50			
Polarization	Deg	±45			
Mechanical Specifications					
Antenna Dimensions	mm	2000×380×177			
Antenna Net Weight	kg	30.0			
Packing Dimensions	mm	2260×485×275			
Antenna Gross Weight	kg	40.0			
Connector Type	/	10×4.3-10 Female			
Connector Position	/	Bottom			
Radome Material / Color	/	Fiberglass / Light Grey RAL7035			
Reflector Material	/	Aluminum			
Storage Temperature	℃	-50 to +65			
Operating Temperature	℃	-50 to +65			

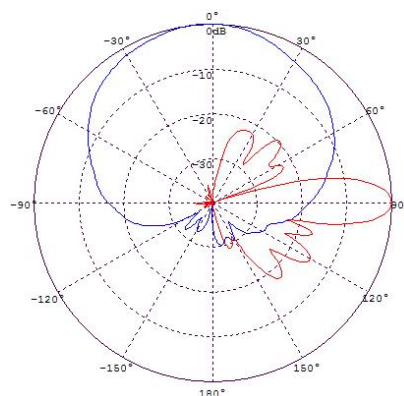
Humidity	/	5% to 95%
Max. operational Wind Speed	km/h	200
Wind Load @Rated Wind Front	N	957
Wind Load @Rated Wind Side	N	184
Wind Load @Rated Wind Rear	N	1072
Lightning Protection	/	DC ground
Accessories		
Downtilt Kit (mechanical)	Deg	0-10
Mounting Accessories (clamp)	/	Included with antenna
Mounting Pipe Diameter	mm	50-115
Internal RET Specifications		
RCU (remote control unit)	/	Replaceable RET (can be exchangable without exchanging antenna)
		AISG2.0 /3GPP
Input Voltage Range	V	10-30 DC
Power Consumption	W	< 10 (motor activated , single RET) < 2 (stand by, single RET)
Adjustment Time (full range)	s	< 120 (typically, depending on antenna type)
RET Connector	/	1 pair of AISG 5 pin male & female
Pin Assignment According AISG	/	5-pin circular connector conforming to IEC 60130-9 - Ed. 3.0
Lightning Protection	kA	5 (8/20 μ s differential mode), 8 (8/20 μ s common mode)

Reference Pattern

690-960MHz

Horizontal Pattern

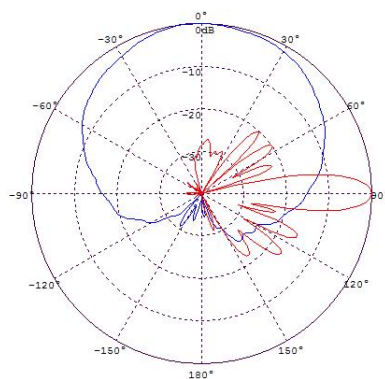
Vertical Pattern



1695-2690MHz

Horizontal Pattern

Vertical Pattern



Layout of Array

Array	Connector	Frequency(MHz)	RET Serial
R1	1-2	690-960	XXR1...01
Y1	3-4	1695-2690	XXY1...02
Y2	5-6	1695-2690	XXY2...03
Y3	7-8	1695-2690	XXY3...04
Y4	9-10	1695-2690	XXY4...05



All data are based on NGMN recommendations on Base Station Antenna Standards (BASTA V12.0).