

# TECHNICAL SPECIFICATION

**4-Port,X-Pol,Dual-Band Green Antenna  
2×1710-2170MHz, 18dBi, Integrated RET**



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A.0	Nov 06,2024	David	Michael	Mr.Wang
<b>Version</b>	<b>Date</b>	<b>Prepared</b>	<b>Reviewed</b>	<b>Approved</b>

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Address: No. 88 Qixin Road, NETDA, Nantong, Jiangsu, P.R. China, 226009

Tel:+86 513 8010 0986 | E-mail: sales@zttgroup.com | Website: www.zttgroup.com

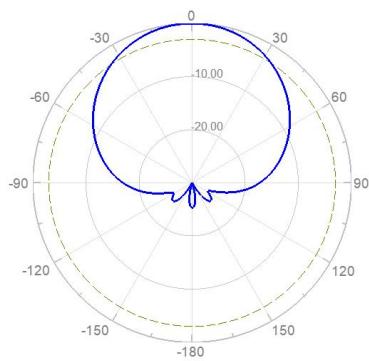
<b>Electrical Specifications</b>			
Description	4-Port,X-Pol,Dual-Band Green Antenna 2×1710-2170MHz, 18dBi, Integrated RET		
ZTT Product Code	<b>HBD4D6518</b>		
Frequency Range	MHz	FDD:2×1710-2170( <b>B1/B2</b> )	
Frequency Band	MHz	1710-1920	1920-2170
Gain Over All Tilts	dBi	18.0±0.5	18.5±0.5
Gain by Tilt Average Mid	dBi	17.8	18.2
Antenna Radiation Efficiency	%	≥80	
Horizontal 3dB Beamwidth	Deg	68±3	
Vertical 3dB Beamwidth	Deg	7.5±0.5	
Electrical Tilt	Deg	<b>0-10,Continuously adjustable</b>	
VSWR	/	≤1.5	
Impedance	Ω	50	
Maximun Effective Power per port	Watt	250(at 50°C ambient temperature)	
Max. Effective Power Whole Antenna	Watt	≥500	
Intermodulation IM3	dBc	≤-150(2×43 dBm carrier)	
1 <sup>st</sup> Upper Side Lobe Suppression Above Main Beam	dB	≥16	
Front to Back Ratio at 180Deg ±30Deg	dB	≥25	
Cross-Polar Ratio at 0Deg	dB	≥15	
Cross Polar Isolation	dB	≥28	
Interband Isolation	dB	≥28	
<b>Mechanical Specifications</b>			
Antenna Dimensions	mm	1168×320×130	
Antenna Net Weight	kg	12.2	
Packing Dimensions	mm	1490×460×250	
Antenna Gross Weight	kg	24.0	
Connector Type	/	4×4.3-10 female	
Connector Position	/	Bottom	
Radiator Material	/	Aluminum	
Radome Material	/	MRPP	

<b>Reflector Material</b>	/	Aluminum
<b>Storage Temperature</b>	°C	-55 to +65
<b>Operating Temperature</b>	°C	-40 to +65
<b>Humidity</b>	/	0% to 95%
<b>Survival Wind Speed</b>	km/h	240
<b>Wind Load @Rated Wind Front</b>	N	471
<b>Wind Load @Rated Wind Side</b>	N	79
<b>Wind Load @Rated Wind Rear</b>	N	527
<b>Lightning Protection</b>	/	DC ground
<b>Accessories</b>		
<b>Mechanical Tilts</b>	Deg	0-12
<b>Mounting Accessories (clamp)</b>	/	Included with antenna
<b>Mounting Pipe Diameter</b>	mm	50-125
<b>Internal RET Specifications</b>		
<b>RET Compatible Standards</b>	/	Software Upgradability + Replaceability in Field
		AISG2.0 /3GPP
<b>Input Voltage Range</b>	V	10-30 DC
<b>Power Consumption</b>	W	< 10 (motor activated , single RET) < 2 (stand by, single RET)
<b>Adjustment Time (full range)</b>	s	< 120 (typically, depending on antenna type)
<b>RET Connector</b>	/	1 pair of AISG 5 pin male & female
<b>Pin Assignment According AISG</b>	/	5-pin circular connector conforming to IEC 60130-9 - Ed. 3.0
<b>Lightning Protection</b>	kA	5 (8/20 μs differential mode), 8 (8/20 μs common mode)

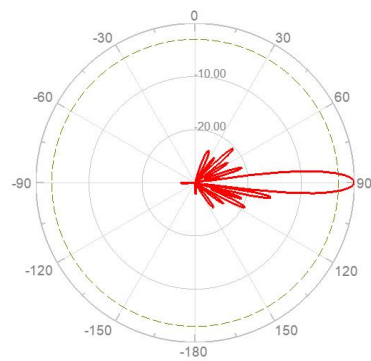
### Reference Pattern

FDD:1710-2170MHz

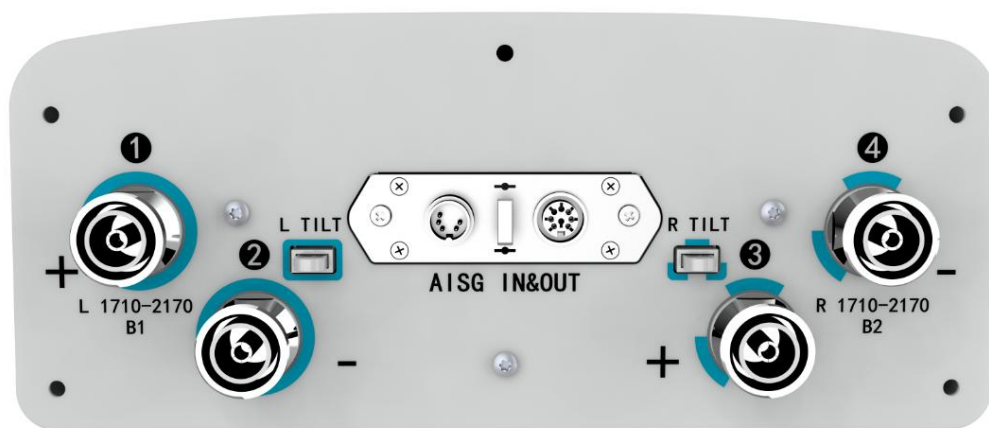
Horizontal Pattern



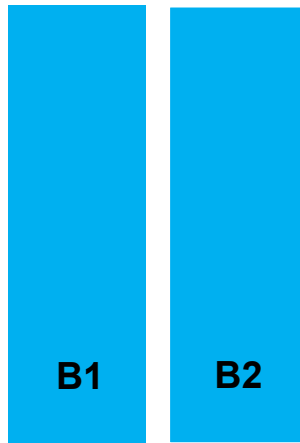
Vertical Pattern



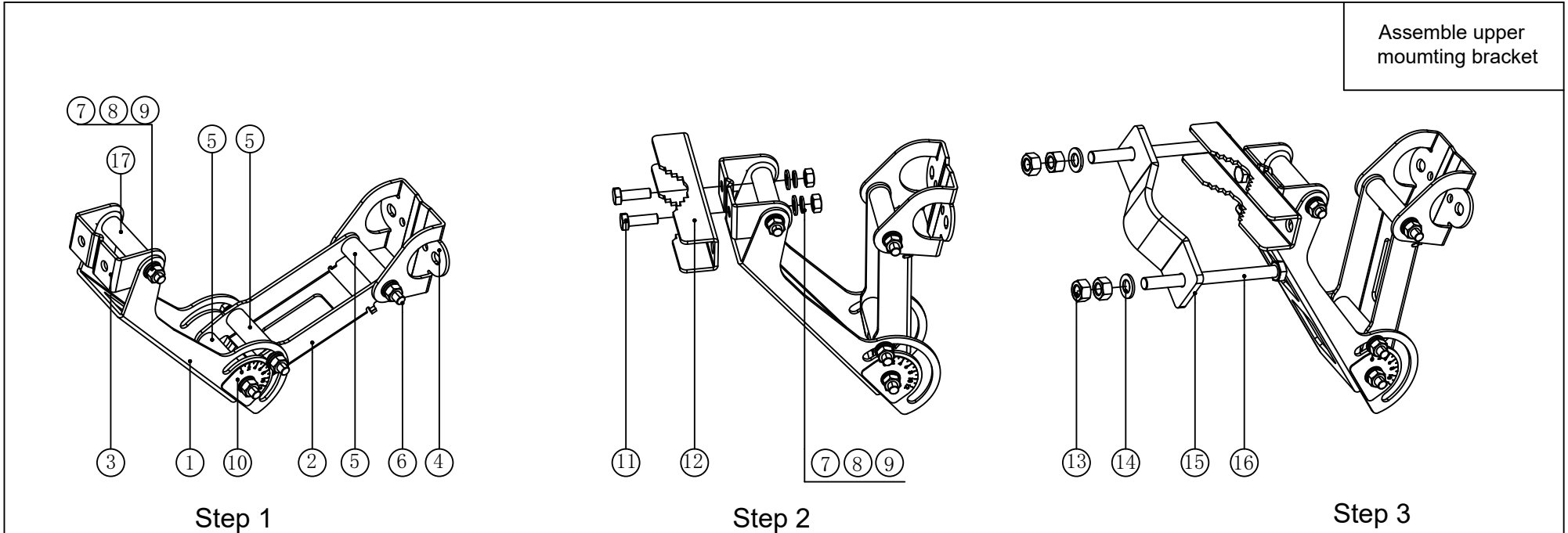
### Layout of Interface



### Layout of Array

Array	Frequency(MHz)	RET Serial		
B1	1710-2170	ZTB1...01		
B2	1710-2170	ZTB2...02		

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



Step 1

Step 2

Step 3

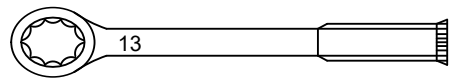
Step 1: Identify downtilt kit, assemble mounting base A③ on long arm① side and fastening it with M8 hex bolts(18N · m) ;

Step 2: Assemble U-clamp⑫ on mounting base A③ and fastening it with M8 hex bolts(18N · m) ;

Step 3: Attach pipe clamp⑮ to the U-clamp⑫ in step 2 with M10 bolts;

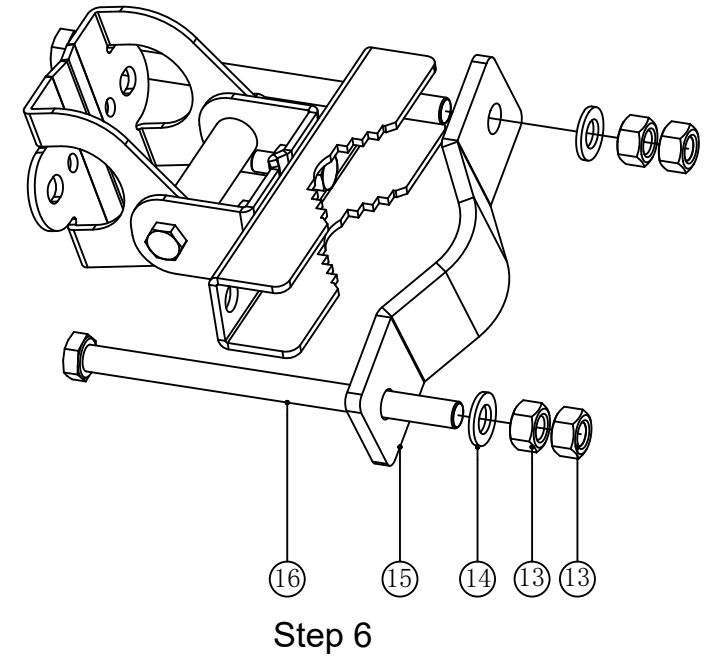
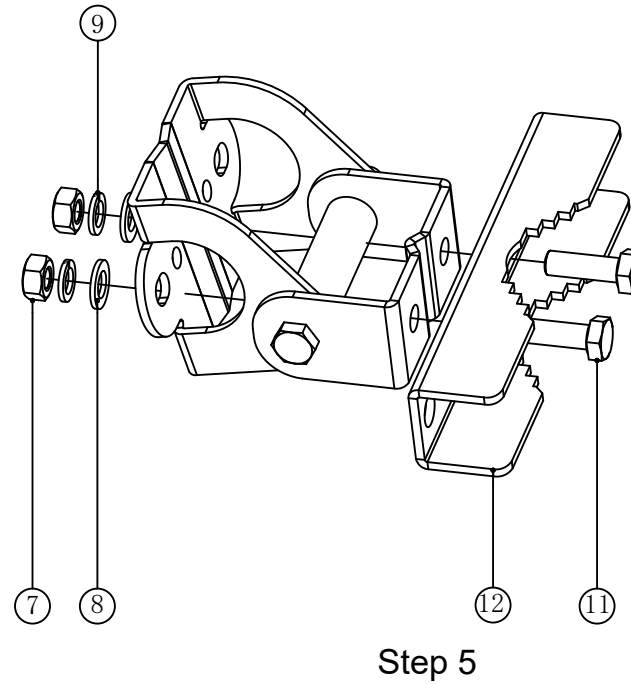
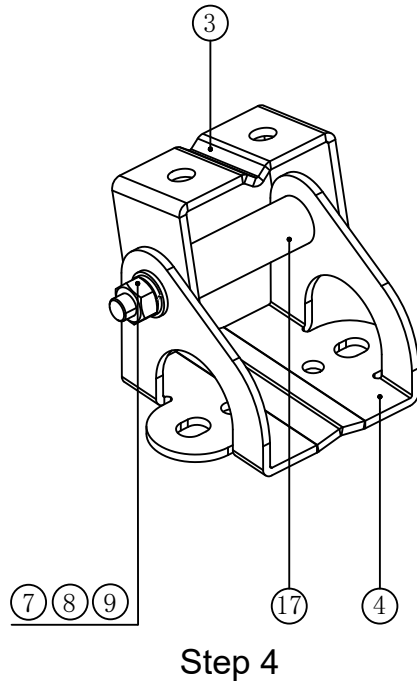
Installation tools:

Torque wrench(13#)\*2



Packing list			
Assembly	QTY	NO.	Part
Downtilt kit	1	1	Long arm*1
		2	Short arm*1
		3	Mounting base A*1
		4	Mounting base B*1
		5	Short supporting tube*3
		6	Hex bolt (M8x85) *4
		7	Nut(M8) *4
		8	Plain washer (D8) *4
		9	Spring washer (D8) *4
		10	Angle label*1
Mounting base assembly	1	3	Mounting base A*1
		4	Mounting base B*1
		7	Nut(M8) *1
		8	Plain washer (D8) *1
		9	Spring washer (D8) *1
Clamp	2	17	Long supporting tube*1
		12	U-clamp*1
		15	Pipe clamp*1

Assemble lower mounting bracket



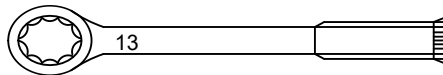
Step 4: Identify mounting base assembly, assemble mounting base A ③ to B ④ and fastening it with M8 hex bolts(18N · m) ;

Step 5: Assemble U-clamp ⑫ on mounting base A ③ and fastening it with M8 hex bolts(18N · m) ;

Step 6: Attach pipe clamp ⑮ to the U-clamp ⑫ in step 5 with M10 bolts;

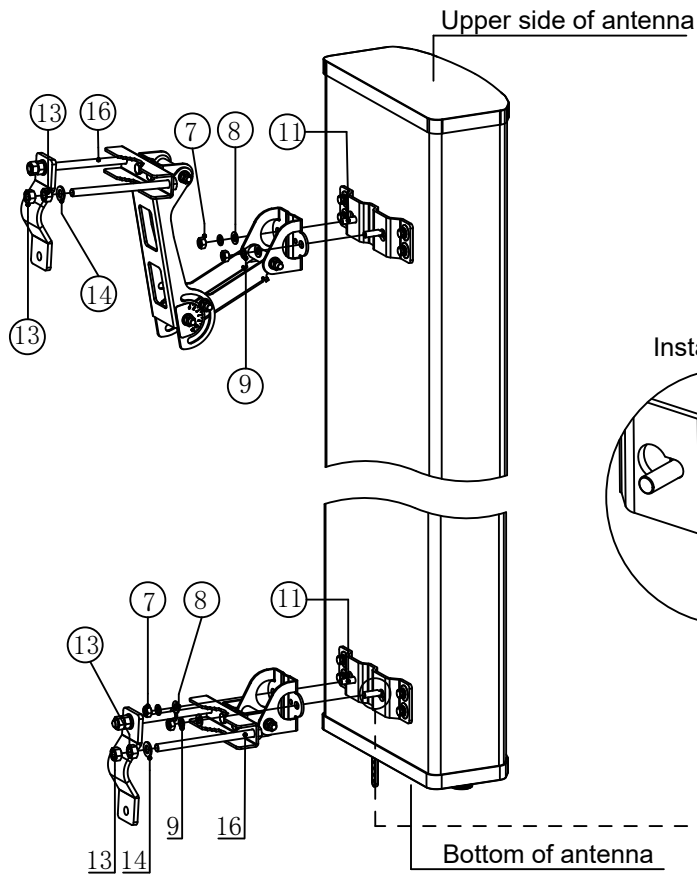
Installation tools:

Torque wrench(13#)\*2



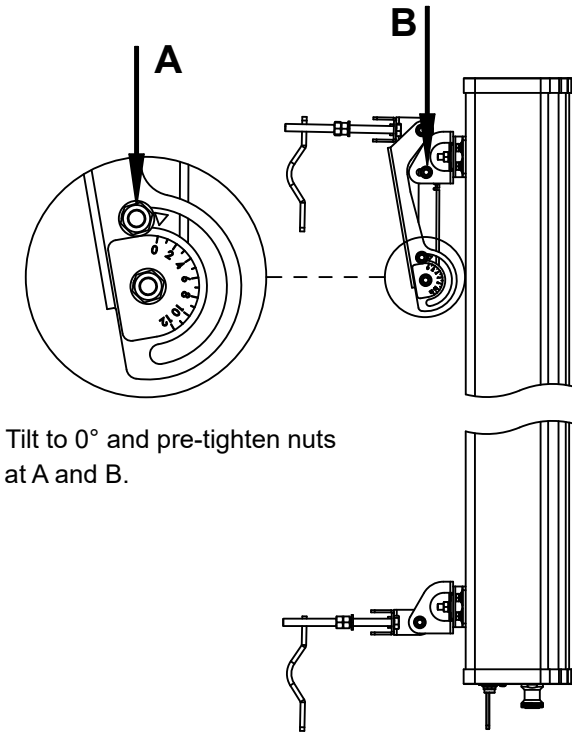
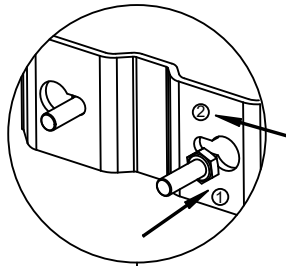
Assembly	QTY	Packing list	
		NO.	Part
Hex bolt(M10x150) assembly	4	16	Hex bolt(M10x150)*1
		14	Plain washer (D10) *1
		13	Nut(M10) *2
Hex bolt(M8x25) assembly	4	7	Nut(M8) *1
		8	Plain washer (D8) *1
		9	Spring washer (D8) *1
		11	Hex bolt(M8x25)*1

Assemble mounting brackets to antenna



Step 7

Install the bolts

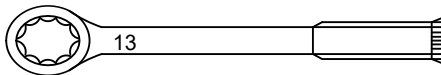


Tilt to 0° and pre-tighten nuts at A and B.

Step 8

Installation tools:

Torque wrench(13#)\*2



Step 7: Attach upper mounting bracket and lower mounting bracket to antenna, fastening them with M8 hex bolts(18N·m);

Step 8: Tilt to 0° and pre-tighten nuts(M8) at A and B;

Attach pipe clamps to pole and screw it with 4 bolts.

Method 1: Using a scal plate.  
(method 1 is used to roughly adjust the mechanical tilt.)

Method 2: Using an inclinometer to precisely adjust the mechanical tilt.

Install antenna to the pole

**Step 9**

**Step 10**

**Step 11**

Installation tools:

- Torque wrench(13#/16#)\*2
- Slope measuring instrument\*1

**Step 9:** Attach mounting brackets to pole vertically and tighten M10 nuts(47N·m);

**Step 10:** Loosen M8 nuts at A and B,adjust downtilt to required angle;

**Step 11:** Tighten all M8 nuts at A 、 B、 C(18N·m).

Installation notes:  
Check each package against packing list;  
Observe safe working at heights;  
Ensure lightning protection is applied;  
Annual maintenance is recommended to antenna system.

Mechanical Downtilt Range		
Mounting bracket	L(mm)	Downtilt range
00-ZJ23(12)	1450	0~12°
00-ZJ23(16)	1088	0~16°
00-ZJ23(20)	900	0~20°

ZTT Installation instruction  
ZTTX-P-TY-70083 00-ZJ23