

AOC4518R8v06

D8X-2x(690-960)/1427-2690/2x(1695-2200)/2x(2490-2690)/2300-3800-8x65-

15.5i/15.5i/17.5i/17i/17i/17i/17i/17i/17i-8xM-R

EasyRET 2L5H FDD/2.3-3.8GHz 8T8R TDD Antenna with 8 Integrated RCUs - 2.0m



Antenna Specifications

Electrical Properties

Frequency range (MHz)		2 x (690 - 960) (Lr1 / Rr2)			
		690 - 803	790 - 862	824 - 894	880 - 960
Polarization		+45° , -45°			
Electrical downtilt (°)		0 - 10 , continuously adjustable, each band separately			
Gain (dBi)	at mid Tilt	14.8	15.1	15.3	15.6
	over all Tilts	14.7 ±0.5	15.0 ±0.5	15.2 ±0.5	15.5 ±0.5
Side lobe suppression for first side lobe above main beam (dB)		> 16	> 16	> 16	> 16
Horizontal 3dB beam width (°)		65 ±5	62 ±5	60 ±5	60 ±5
Vertical 3dB beam width (°)		10.9 ±0.7	9.8 ±0.6	9.4 ±0.5	8.9 ±0.5
VSWR		< 1.5			
Cross polar isolation (dB)		≥ 28			
Interband isolation (dB)		≥ 28			
Front to back ratio , ±30° (dB)		> 21	> 22	> 23	> 23
Cross polar ratio (dB)	0°	> 18	> 18	> 18	> 18
Max. power per input (W)		400 (at 50°C ambient temperature)*			
Intermodulation IM3 (dBc)		≤ -150 (2 x 43 dBm carrier)			
Impedance (Ω)		50			
Grounding		DC Ground			

Electrical Properties

Frequency range (MHz)		1427 - 2690 (Ry3)				
		1427 - 1518	1695 - 1990	1920 - 2200	2200 - 2490	2490 - 2690
Polarization		+45° , -45°				
Electrical downtilt (°)		2 - 12 , continuously adjustable				
Gain (dBi)	at mid Tilt	16.0	17.2	17.4	17.5	17.6
	over all Tilts	15.9 ±0.5	17.1 ±0.5	17.3 ±0.5	17.4 ±0.5	17.5 ±0.5
Side lobe suppression for first side lobe above main beam (dB)		> 16	> 16	> 16	> 16	> 16
Horizontal 3dB beam width (°)		70 ±6	68 ±5	67 ±5	65 ±5	58 ±5
Vertical 3dB beam width (°)		8.7 ±0.5	7.1 ±0.5	6.3 ±0.5	5.6 ±0.5	5.1 ±0.5
VSWR		< 1.5				
Cross polar isolation (dB)		≥ 28				
Interband isolation (dB)		≥ 28				
Front to back ratio , ±30° (dB)		> 25	> 26	> 26	> 26	> 25
Cross polar ratio (dB)	0°	> 18	> 18	> 18	> 18	> 18
Max. power per input (W)		250 (at 50°C ambient temperature)*				
Intermodulation IM3 (dBc)		≤ -150 (2 x 43 dBm carrier)				
Impedance (Ω)		50				
Grounding		DC Ground				

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EasyRET 2L5H FDD/2.3-3.8GHz 8T8R TDD Antenna with 8 Integrated RCUs - 2.0m



Electrical Properties

		1695 - 2200 (Lb1)	2490 - 2690 (Ly1)		
Frequency range (MHz)		1695 - 1990	1920 - 2200	2490 - 2690	
Polarization		+45° , -45°			
Electrical downtilt (°)		2 - 12 , continuously adjustable, each band separately			
Gain (dBi)	at mid Tilt	16.7	16.8	17.0	
	over all Tilts	16.6 ±0.5	16.7 ±0.5	16.9 ±0.5	
Side lobe suppression for first side lobe above main beam (dB)		> 16	> 16	> 17	
Horizontal 3dB beam width (°)		67 ±5	66 ±5	58 ±5	
Vertical 3dB beam width (°)		7.5 ±0.5	6.8 ±0.5	5.3 ±0.5	
VSWR		< 1.5			
Cross polar isolation (dB)		≥ 28			
Interband isolation (dB)		≥ 28			
Front to back ratio , ±30° (dB)		> 25	> 26	> 25	
Cross polar ratio (dB)	0°	> 18	> 18	> 18	
Max. power per input (W)		250 (at 50°C ambient temperature)*			
Intermodulation IM3 (dBc)		≤ -150 (2 x 43 dBm carrier)			
Impedance (Ω)		50			
Grounding		DC Ground			

Electrical Properties

		1695 - 2200 (Rb2)	2490 - 2690 (Cy2)		
Frequency range (MHz)		1695 - 1990	1920 - 2200	2490 - 2690	
Polarization		+45° , -45°			
Electrical downtilt (°)		2 - 12 , continuously adjustable, each band separately			
Gain (dBi)	at mid Tilt	16.8	16.9	17.2	
	over all Tilts	16.7 ±0.5	16.8 ±0.5	17.1 ±0.5	
Side lobe suppression for first side lobe above main beam (dB)		> 16	> 16	> 17	
Horizontal 3dB beam width (°)		62 ±5	61 ±5	58 ±5	
Vertical 3dB beam width (°)		7.6 ±0.5	6.8 ±0.5	5.3 ±0.5	
VSWR		< 1.5			
Cross polar isolation (dB)		≥ 28			
Interband isolation (dB)		≥ 28			
Front to back ratio , ±30° (dB)		> 27	> 27	> 26	
Cross polar ratio (dB)	0°	> 18	> 18	> 18	
Max. power per input (W)		250 (at 50°C ambient temperature)*			
Intermodulation IM3 (dBc)		≤ -150 (2 x 43 dBm carrier)			
Impedance (Ω)		50			
Grounding		DC Ground			

1. Values based on NGMN recommendations on Base Station Antenna Standards (BASTA).

2. Electrical datasheet in XML format is available.



General Electrical Properties

General parameters	Frequency range (MHz)	2300 - 3800 (p1)	
		2300 - 2690	3300 - 3800
	Polarization	+45° , -45°	
	Electrical downtilt (°)	2 - 12, continuously adjustable	
	Electrical downtilt tolerance (°)	±1	
	Avg. power capacity (W)*	40	
	Impedance (Ω)	50	
Calibration and electrical parameters	Grounding	DC Ground	
	Coupling factor between calibration port and each antenna port (dB)	-26 ±2	-26 ±2
	Max. amplitude tolerance from calibration port to input ports (dB)	0.7	0.9
	Max. phase tolerance from calibration port to input ports (°)	5	7
	Ports VSWR	1.5	1.5
	Co-polarization isolation between ports (dB)	≥ 20	≥ 20
	Cross-polarization isolation between ports (dB)	≥ 23	≥ 23

* Total power : 1000 W (at 50°C ambient temperature)

TDD LTE Electrical Properties

Radiation parameters	Frequency range (MHz)	2300 - 3800 (p1)	
		2300 - 2690	3300 - 3800
	Single column beam	Gain (dBi)	15.0
		Horizontal 3dB beam width (°)	90
		Front to back ratio (dB)	≥ 25
		Cross polar ratio (0°) (dB)	16
		Vertical 3dB beam width (°)	8.0
		Side lobe suppression for first side lobe above main beam (dB)	≥ 15
	65° Broadcast beam	Gain (dBi)	16.0
		Horizontal 3dB beam width (°)	65
		Front to back ratio (dB)	≥ 26
		Cross polar ratio (0°) (dB)	17
		Vertical 3dB beam width (°)	8.0
		Side lobe suppression for first side lobe above main beam (dB)	≥ 15
	Service beam	0°direct beam gain (dBi)	20.0
		0°direction beam horizontal 3dB beam width (°)	26
		0°direction beam front to back ratio (dB)	30
		0°direction beam cross polar ratio (dB)	19
	Soft split multi-beam	Gain (dBi)	19
		Horizontal 3dB beam width (°)	32
		Front to back ratio (dB)	≥ 30
		Cross polar ratio (0°) (dB)	19

Notes:

65° broadcast beams and multi-beams are applicable in different scenarios. Select one of them for network coverage based on site requirements and auxiliary equipment conditions.

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EasyRET 2L5H FDD/2.3-3.8GHz 8T8R TDD Antenna with 8 Integrated RCUs - 2.0m



5G NR Electrical Properties

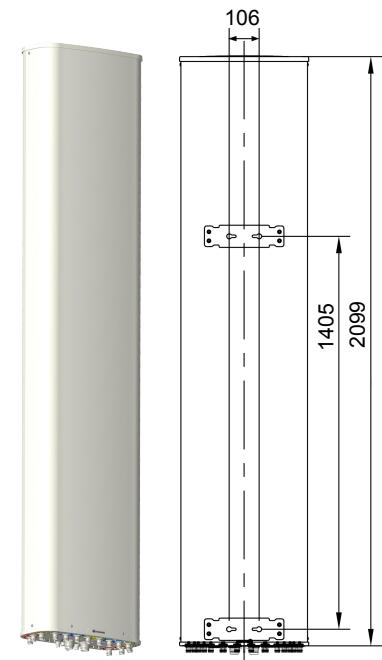
Radiation parameters	Frequency range (MHz)	2300 - 3800 (p1)	
		2300 - 2690	3300 - 3800
Single column beam	Gain (dBi)	/	15.7
	Horizontal 3dB beam width (°)	/	70
	Front to back ratio (dB)	/	≥ 25
	Cross polar ratio (0°) (dB)	/	15
	Vertical 3dB beam width (°)	/	5.5
	Side lobe suppression for first side lobe above main beam (dB)	/	≥ 15
NR Broadcast beam (PBCH/PSCH/SSCH with HUAWEI gNodeB)	Gain (dBi)	/	20.8
	Horizontal 3dB beam width (°)	/	65
	Front to back ratio (dB)	/	25
	Vertical 3dB beam width (°)	/	5.5
	Side lobe suppression for first side lobe above main beam (dB)	/	≥ 15
NR Service beam	0°direct beam gain (dBi)	/	21.1
	0°direction beam horizontal 3dB beam width (°)	/	20
	0°direction beam front to back ratio (dB)	/	30
	0°direction beam cross polar ratio (0°) (dB)	/	19

Notes:

- The 5G NR broadcast beam is the envelope of SSB(synchronization signal block) sweeping beams and the gain is the maximum gain of SSB sweeping beams.
- Downlink broadcast beam gain values and pattern files can only be used for broadcast channel coverage prediction.
- Downlink and uplink budgets need to be calculated based on the gain of single column beam and the correct Tx/Rx number.

Mechanical Properties

Distance between TDD columns (mm)	59
Antenna dimensions (H x W x D) (mm)	2099 x 449 x 196
Packing dimensions (H x W x D) (mm)	2360 x 535 x 240
Antenna weight (kg)	43.0
Clamps weight (kg)	5.8 (2 units)
Antenna packing weight (kg)	54.9 (Included clamps)
Mast diameter supported (mm)	50 - 115
Radome material	GFRPP
Radome colour	Light grey
Operational temperature (°C)	-40 .. +65
Wind load (N)*	Frontal: 615 (at 150 km/h) Lateral: 375 (at 150 km/h) Maximum: 810 (at 150 km/h)
Max. operational wind speed (km/h)	200
Survival wind speed (km/h)	250
Connector	14 x 4.3-10 Female 1 x MQ4 Male + 1 x MQ5 Male
Connector position	Bottom



*Parameters and values based on BASTA Passive Antenna Whitepaper V10.1 Rev1.8 (24 May 2018), and may be changed following the final version.

Accessories

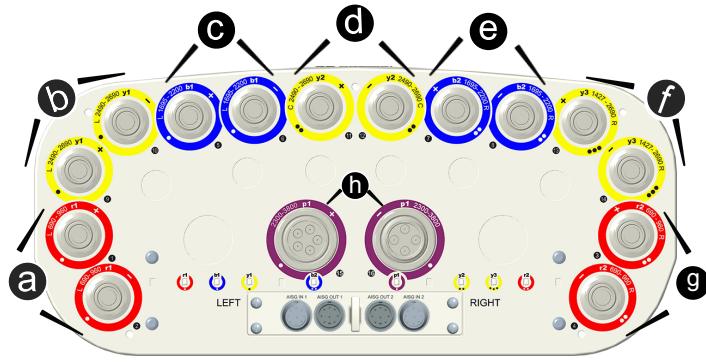
Item	Model	Description	Weight	Units per antenna
Downtilt kit	ASMDT0F01	Mechanical downtilt: 0 - 12 °	3.1 kg	1 (Separate packing)

Antenna Information Management Module (AIMM) Specifications

RET Properties							
RET type	Integrated RET						
RET protocols	AISG 2.0 / 3GPP						
Input voltage range (V)	10 - 30 DC						
Power consumption (W)	< 1.5 (when the motor does not work, 12 V) < 6 (when the motor is working, 12 V) < 10 (when the motor is starting up or shutting down, 12 V)						
Adjustment time (full range) (s)	Typ. 40						
Connectors	4 x 8 pin connector according to IEC 60130-9 Daisy chain in: Male / Daisy chain out: Female						
Pin assignment according AISG	1 DC	2 n/c	3 RS-485B	4 n/c	5 RS-485A	6 DC	7 DC return
Lightning protection (kA)	10 (8/20 µs)						
RAE Properties							
RAE type	Integrated RAE						
RAE protocols	AISG-ES-RAE V2.1.0						
TDD LTE EasyBeam Properties							
Frequency range (MHz)	2300 - 2690			3300 - 3800			
Electrical downtilt (°)	2 - 12			2 - 12			
Broadcast beam	Horizontal 3dB beam width (°)	30	65	90	30	65	90
	Electrical azimuth (°)	-15..+15		0	-15..+15		0
	Electrical azimuth step(°)	1		/	1		/

Standards: EN/IEC 60950-1(Safety), EN/IEC 60950-22(Safety – Equipment installed outdoor),EN 55032 (Emission),
EN 55024 (Immunity), ETSI EN 301 489, FCC Part15, ICES-003

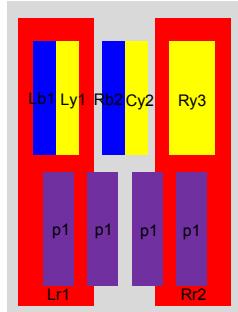
Certification: CE, FCC, IC, RCM, RoHS, REACH, WEEE



r - Red y - Yellow b - Blue p - Purple
L - Left array R - Right array C - Center array

Integrated RET S/N:

- a HWMxxx.....Lr1
- b HWMxxx.....Ly1
- c HWMxxx.....Lb1
- d HWMxxx.....Cy2
- e HWMxxx.....Rb2
- f HWMxxx.....Ry3
- g HWMxxx.....Rr2
- h HWMxxx.....p1



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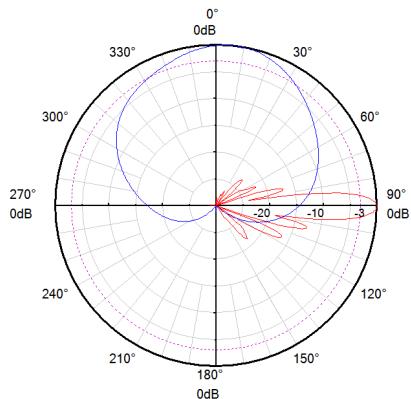
D8X-2x(690-960)/1427-2690/2x(1695-2200)/2x(2490-2690)/2300-3800-8x65-

15.5i/15.5i/17.5i/17i/17i/17i/17i/17i-8xM-R

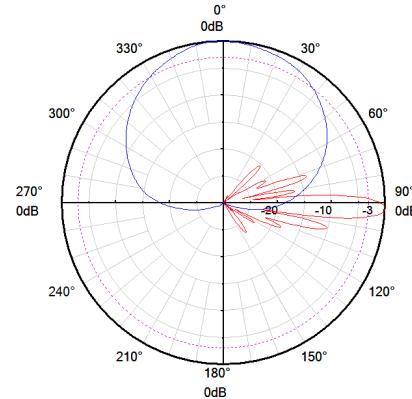
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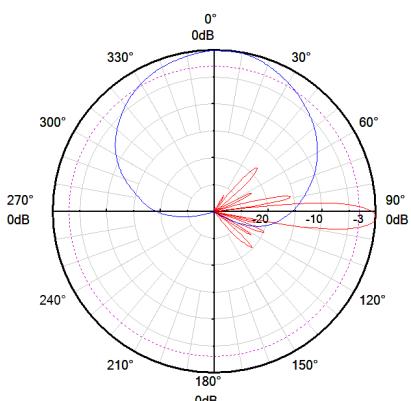
Pattern sample for reference



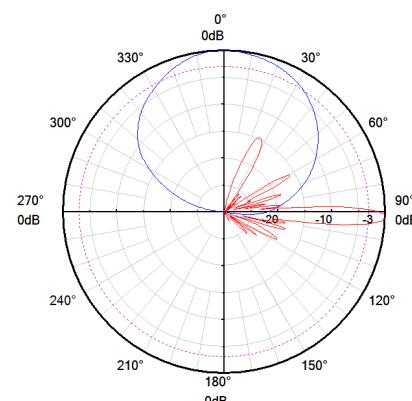
690 - 960 MHz
(Lr1 / Rr2)



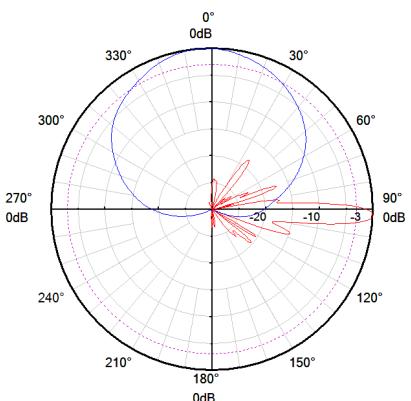
1427 - 2690 MHz
(Ry3)



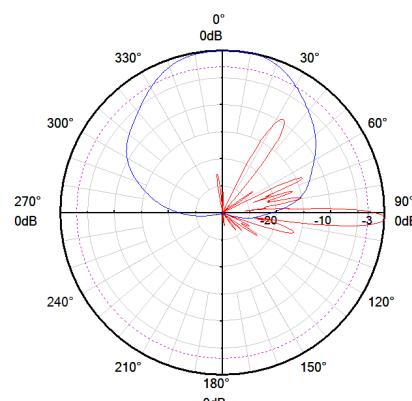
1695 - 2200 MHz
(Lb1)



2490 - 2690 MHz
(Ly1)



1695 - 2200 MHz
(Rb2)



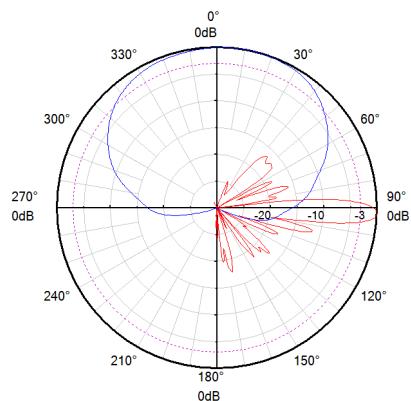
2490 - 2690 MHz
(Cy2)

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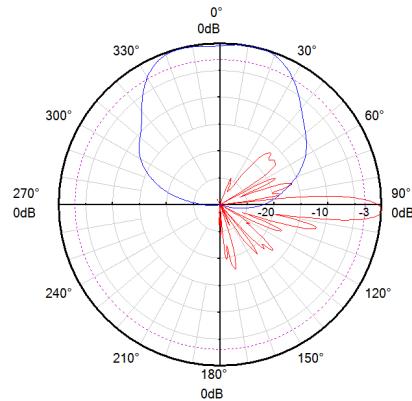
D8X-2x(690-960)/1427-2690/2x(1695-2200)/2x(2490-2690)/2300-3800-8x65-

15.5i/15.5i/17.5i/17i/17i/17i/17i/17i-8xM-R

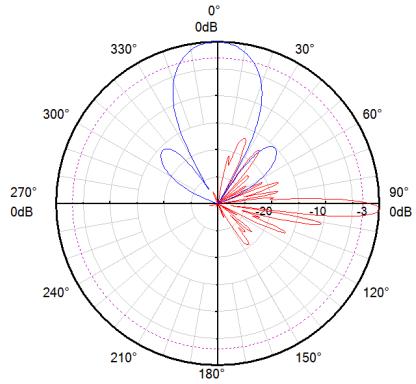
EasyRET 2L5H FDD/2.3-3.8GHz 8T8R TDD Antenna with 8 Integrated RCUs - 2.0m



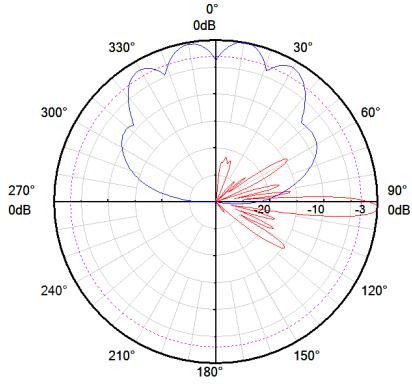
Single column
(2300 - 3800 MHz)



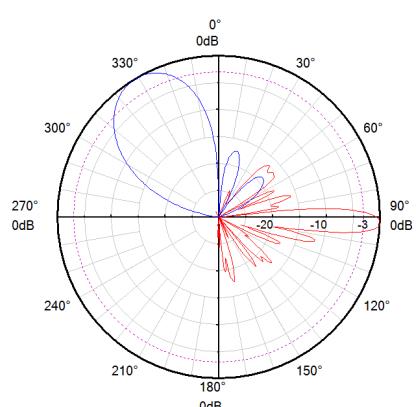
65° Broadcast
(2300 - 3800 MHz)



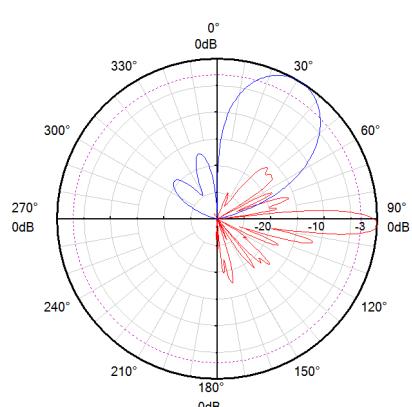
Service 0°
(2300 - 3800 MHz)



5G NR Broadcast
(3300 - 3800 MHz)



Multi-Beam-30°
(2300 - 2690 MHz)



Multi-Beam+30°
(2300 - 2690 MHz)

NOTE

1. Facilities, such as towers and poles, must bear the weight and wind load of antennas.
2. HUAWEI's standard brackets and accessories must be used for any installation.
3. The antenna working environment must meet the requirements specified in the datasheet.
4. Only qualified personnel are allowed to perform installation. Installation tools and procedures must conform to requirements described in the antenna installation guide.