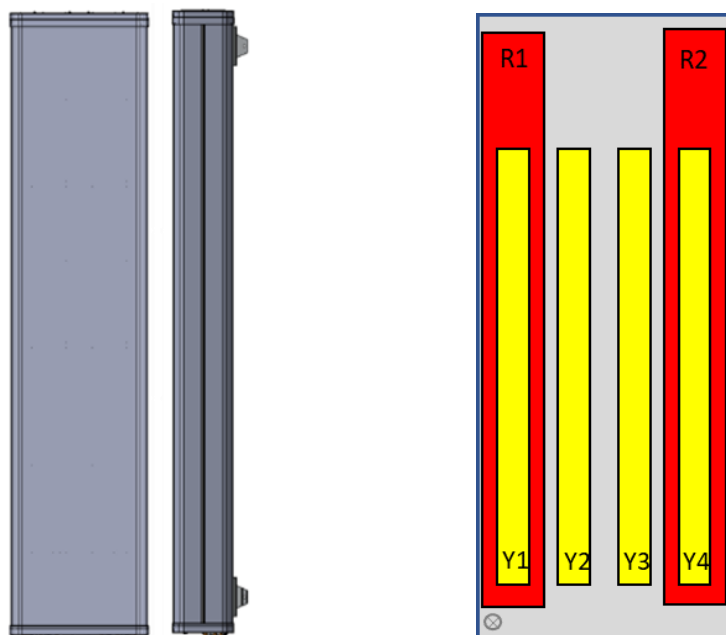


12-port antenna	Unit	R1	R2	Y1	Y2	Y3	Y4
Frequency range	MHz	698- 960	698- 960	1695 - 2690	1695 - 2690	1695 - 2690	1695 - 2690
Polarization		x	x	x	x	x	x
HBW	°	65	65	65	65	65	65
Gain	dBi	18	18	22	22	22	22
EDT range	°	2 - 8	2 - 8	2 - 10	2 - 10	2 - 10	2 - 10



Product architecture

The CellMax new form factor multiband antennas extend the line of the ultra-wide band antennas, combining wide band frequency range in the mid band with wide band in the low band, still featuring exceptionally low insertion loss in a compact package.

The design aims at low differences between the ports in terms of gain (per band), azimuth and elevation patterns, and a very good electrical tilt precision, allowing the network to generate highest possible cell throughput, capacity, and coverage.

Electrical Parameters R1 and R2:

Parameter (Radiation)	Unit		
Frequency band	MHz	698 - 798	824 - 960
Gain	dBi	17.1	18.2
Azimuth Parameters			
Azimuth (3dB) Beam Width	°	68	69
Azimuth Beam Squint	°	4	5
Front to Back Ratio (total power)	dB	>21	>23
Cross-Polar Discrimination (0°)	dB	>16	>19
Sector Power Ratio	%	5	5
Elevation Parameters			
Elevation (3 dB) Beam Width	°	8.9	7.4
Electrical Downtilt Range	°	2 - 8	2 - 8
First upper Sidelobe suppression	dB	>16	>16
First Nullfill Below Horizon	dB	-	-

Parameter (ports)	Unit		
Frequency band	MHz	698 - 960	
Impedance	Ω	50	
VSWR/Return Loss	_/dB	1.5 / 14	
Intra Array Isolation	dB	25	
Inter Array Isolation	dB	25	
Passive Intermodulation @ 2x43 dBm CW	dBc	-155	
Maximum input Power per port	W	500	
Antenna Insertion Loss	dB	0.5	

Electrical Parameters Y1, Y2, Y3 & Y4:

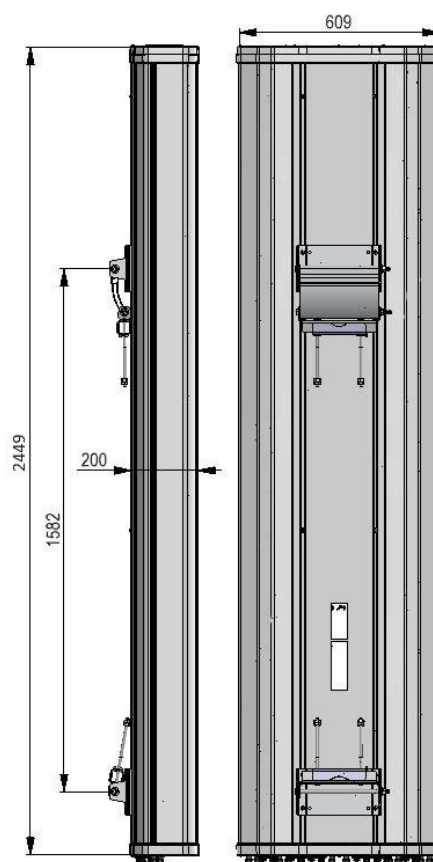
Parameter (Radiation)	Unit				
Frequency band	MHz	1695 - 1880	1850 - 1990	1920 - 2170	2490 - 2690
Gain	dBi	20.1	20.2	20.4	21.5
Azimuth Parameters					
Azimuth (3dB) Beam Width	°	63	61	56	53
Azimuth Beam Squint	°	3	3	3	2
Front to Back Ratio (total power)	dB	>25	>23	>23	>24
Cross-Polar Discrimination (0°)	dB	14	18	18	16
Sector Power Ratio	%	3	3	3	2
Elevation Parameters					
Elevation (3 dB) Beam Width	°	4.5	4.2	4.0	3.0
Electrical Downtilt Range	°	2 - 10	2 - 10	2 - 10	2 - 10
First upper Sidelobe suppression	dB	>14	>15	>15	>15
First Nullfill Below Horizon	dB	-22	-20	-20	-16

VERA Parameters					
Radio Unit Frequency Support	MHz	1710-2690	1710-2170	2100-2600	1695-2200
3dB Pattern Discrepancy Y1/Y4	dB	3.8	2.5	3.8	2.5
3dB Pattern Discrepancy Y2/Y3	dB	3.6	2.3	3.2	2.3

Parameter (ports)	Unit				
Frequency band	MHz	1695 - 1880	1850 - 1990	1920 - 2170	2490 - 2690
Impedance	Ω	50			
VSWR/Return Loss	_/dB	1.5 / 14			
Intra Array Isolation	dB	25			
Inter Array Isolation	dB	25			
Passive Intermodulation @ 2x43 dBm CW	dBc	-155			
Maximum Input Power per port	W	500			
Antenna Insertion Loss	dB	0.5	0.5	0.5	0.5

Mechanical parameters:

Mechanical specification:	
Connectors	12 x 4.3 -10 female
Connector position	Bottom
Lightning protection	DC grounded
Height mm (inch)	2445 (96)
Width mm (inch)	609 (24)
Depth mm (inch)	200 (8)
Antenna weight kg (lb)	76 (167)
Wind load at 42 m/s (94 mph)	
Frontal N (lbf)	1421 (320)
Lateral N (lbf)	294 (66)
Survival wind speed m/s (mph)	67 (151)
EPA m ² (inch ²)	1.29 (1998)
Colour radome	Light Grey, RAL 7035
Radome material	ASA
Mounting hardware:	
Mounting bracket	2
Bracket weight (complete) kg (lb)	4 (9)
Pole diameter mm (inch)	45 (1.8) - 120 (4.7)
Mechanical tilt range °	0 - 5



Packing data	
Box size mm (inch)	2675x634x291 (105x25x12)
Box weight kg (lb)	89 (196)
Maximum number of boxes per pallet	7

Ordering information

Product number	Product description
220725	CMA-UBTLBLBHHHH/6518/18/22/22/22/22/VERA/H/RET including standard tilt mount



Bottom view

RET info

The RET actuator is AISG compatible and signals Single-Antenna RET Device type 0x01 (hex) in AISG protocol layer 2 as described in 3GPP TS25.462 (a.k.a. TYPE 1).

One RET actuator per antenna array, with individual AISG connectors in and out.

Type CMA-RET-02

RET spare part order number: 110086.

Vector Efficient Resource Allocation - VERA

The 3dB Pattern Discrepancy Metric measures pattern consistency across all ports and frequencies within the 1695-2690 MHz range. It evaluates pattern variation at the cell edge and the expected MIMO performance.

The value across frequency, tilt, and ports remains below 3dB.

Cellmax Antenna quipped with VERA

