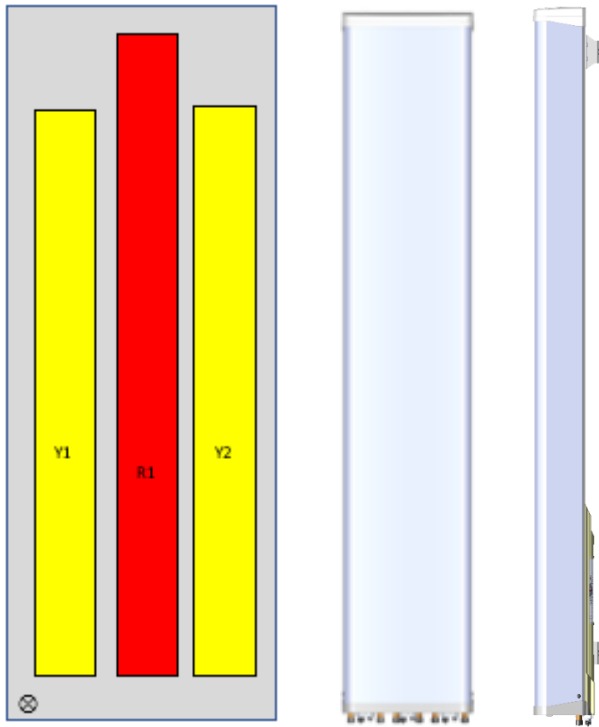


# 12033x

CMA-UBTLBHH/6517/21/21

6-port antenna	Unit	R1	Y1	Y2
Frequency range	MHz	698 – 960	1695 - 2690	1695 - 2690
Polarization		x	x	x
Horizontal 3dB Beam Width	°	68.2 ± 2.9	62.7 ± 7.5	63.3 ± 7.3
Vertical 3dB Beam Width	°	9.2 ± 1.2	4.3 ± 0.9	4.3 ± 0.9
Gain	dBi	16.8 ± 0.3	19.9 ± 0.9	19.8 ± 0.9
EDT range	°	2 - 10	1 - 10	1 - 10
EDT deviation	°	<° 0.05	<° 0.02	<° 0.03
Max power	W	1000	1000	1000
Intra-cluster Isolation	dB	>28	>28	>28
Inter-cluster Isolation	dB	>28	>28	>28
Front to Back Ratio (total power)	dB	°> 29	°> N/A*	°> N/A*
1st Upper Side Lobe Suppression	dB	°> N/A*	°> N/A*	°> N/A*
Upper Side lobe peak to 20° Suppression	dB	°> N/A*	°> 18	°> N/A*
Nullfill	dB	<° N/A*	<° N/A*	<° N/A*
Azimuth Beam Squint	dB	0.3 ± 4.7	2.3 ± 4.8	1.9 ± 4.7
Azimuth Tracking	dB	<° 0.9	<° 1	<° 1
Sector Cross-Polar Discrimination	dB	°> N/A*	°> N/A*	°> N/A*
Elevation 3dB Beam Width Cross-Polar Discrimination	dB	°> 12.5	°> 11.1	°> 10.3



This data sheet follows the NGMN N-P-BASTA whitepaper v10.0 "Recommendation on Base Station Antenna Standards" with one exception:

The signs °> and °< are used to state the 16<sup>th</sup> and 84<sup>th</sup> percentiles where statistical (distribution based) parameter value calculation is applied to define a limit. The signs > and < are used exclusively to show greater than or small than in an absolute sense.

For details on the definition and calculation of statistical parameters, please see the above white paper.

\* If the BASTA calculated value differ from the worst value by 3 dB or more, N/A shall be stated.

## CMA-UBTLBHH/6517/21/21

Electrical Parameters R1: (NGMN N-P-BASTA whitepaper v10.0 "Recommendation on Base Station Antenna Standards")

Parameter (Radiation)						
Frequency band	MHz	698 - 798	703 - 803	791 - 862	824 - 894	880 - 960
Gain @ 2° EDT	dBi	16.7 ± 0.3	16.8 ± 0.3	17 ± 0.1	17 ± 0.1	17 ± 0.3
Gain @ 6° EDT	dBi	16.6 ± 0.2	16.7 ± 0.2	16.9 ± 0.1	16.9 ± 0.1	16.9 ± 0.2
Gain @ 10° EDT	dBi	16.6 ± 0.2	16.6 ± 0.2	16.8 ± 0.1	16.8 ± 0.1	16.7 ± 0.1
Gain all tilts	dBi	16.7 ± 0.3	16.7 ± 0.3	16.9 ± 0.1	16.9 ± 0.1	16.9 ± 0.2
Azimuth Parameters						
Azimuth (3dB) Beam Width	°	66.7 ± 0.7	66.8 ± 0.7	67.8 ± 0.8	68.6 ± 1.3	71.2 ± 2.2
Azimuth Beam Squint	°	0.3 ± 3.2	0.3 ± 3.3	0.2 ± 3.7	0.3 ± 4.9	0.3 ± 6.6
Front to Back Ratio (total power)	dB	> 28.8	> 28.9	> 29.1	> 29.1	> 29.2
Sector Cross-Polar Discrimination	dB	> 20.6	> 20.5	> 15.9	> 14.4	> 14
Sector Azimuth Tracking	dB	< 0.9	< 1	< 1	< 0.8	< 1.1
Elevation Parameters						
Elevation (3 dB) Beam Width	°	9.9 ± 0.6	9.9 ± 0.7	9 ± 0.4	8.6 ± 0.3	8.1 ± 0.4
Electrical Downtilt Range	°	2 - 10	2 - 10	2 - 10	2 - 10	2 - 10
Electrical Downtilt Deviation	°	< 0.07	< 0.07	< 0.06	< 0.04	< 0.04
First Upper Side Lobe Suppression	dB	> N/A*	> N/A*	> 25	> N/A	> 30.9
Upper Side Lobe Suppression Peak to 20°	dB	> N/A*	> N/A*	> 21.9	> 21.8	> 20
First Nullfill Below Horizon	dB	< N/A*	< N/A*	< N/A*	< N/A*	< N/A*
Elevation 3dB Beam Width Cross-Polar Discrimination	dB	> 10.8	> 10.5	> 9.8	> 15	> 13.2

Parameter (ports)						
Frequency band	MHz	698 - 798	703 - 803	791 - 862	824 - 894	880 - 960
Impedance	Ω	50				
VSWR/Return Loss	_/dB	<1.5 / >14				
Intra Cluster Isolation	dB	>28	>28	>28	>28	> 28
Inter Cluster Isolation	dB	> 28	> 28	> 28	> 28	> 28
Passive Intermodulation @ 2x43 dBm CW	dBc	<-155				
Maximum Input Power per port	W	500				
Antenna Insertion Loss (mean)	dB	0.38	0.37	0.48	0.51	0.47

## CMA-UBTLBHH/6517/21/21

Electrical Parameters Y1: (NGMN N-P-BASTA whitepaper v10.0 "Recommendation on Base Station Antenna Standards")

Parameter (Radiation)						
Frequency band	MHz	1710 - 1880	1850 - 1990	1920 - 2170	2300 - 2400	2490 - 2690
Gain @ 1° EDT	dBi	19.1 ± 0.3	19.2 ± 0.1	19.4 ± 0.4	20.5 ± 0.1	20.8 ± 0.4
Gain @ 6° EDT	dBi	19.3 ± 0.3	19.4 ± 0.2	19.6 ± 0.3	20.6 ± 0.2	20.9 ± 0.1
Gain @ 10° EDT	dBi	19.2 ± 0.2	19.3 ± 0.2	19.4 ± 0.3	20.2 ± 0.3	20.2 ± 0.1
Gain all tilts	dBi	19.2 ± 0.3	19.4 ± 0.2	19.6 ± 0.3	20.5 ± 0.3	20.7 ± 0.5
Azimuth Parameters						
Azimuth (3dB) Beam Width	°	66.3 ± 4.2	67 ± 1.5	65.8 ± 4.1	57.5 ± 2.8	55.8 ± 3
Azimuth Beam Squint	°	1.8 ± 3	3.7 ± 1.6	5.2 ± 4	0.2 ± 2.9	0.1 ± 2.6
Front to Back Ratio (total power)	dB	> 30.3	> 31.2	> N/A*	> 34.7	> 35.2
Sector Cross-Polar Discrimination	dB	> 13.4	> 11.4	> 11.4	> 12.3	> N/A*
Sector Azimuth Tracking	dB	< 0.8	< 1.5	< 1.6	< 0.6	< 1.2
Elevation Parameters						
Elevation (3 dB) Beam Width	°	5 ± 0.2	4.7 ± 0.1	4.4 ± 0.3	3.8 ± 0.1	3.4 ± 0.2
Electrical Downtilt Range	°	1 - 10	1 - 10	1 - 10	1 - 10	1 - 10
Electrical Downtilt Deviation	°	< 0.02	< 0.02	< 0.03	< 0.03	< 0.02
First Upper Side Lobe Suppression	dB	> 22.1	> 21.7	> 22.7	> 24.4	> 21.2
Upper Side Lobe Suppression Peak to 20°	dB	> 17.9	> 19.2	> 19	> 16.8	> 16.1
First Nullfill Below Horizon	dB	< 18.3	< 17.5	< 16.2	< N/A*	< N/A*
Elevation 3dB Beam Width Cross-Polar Discrimination	dB	> 9.1	> N/A*	> 9	> 13.6	> N/A*

Parameter (ports)						
Frequency band	MHz	1710 - 1880	1850 - 1990	1920 - 2170	2300 - 2400	2490 - 2690
Impedance	Ω	50				
VSWR/Return Loss	/dB	< 1.5 / > 14				
Intra Cluster Isolation	dB	> 28	> 28	> 28	> 28	> 28
Inter Cluster Isolation	dB	> 28	> 28	> 28	> 28	> 28
Passive Intermodulation @ 2x43 dBm CW	dBc	< -155				
Maximum Input Power per port	W	500				
Antenna Insertion Loss (mean)	dB	0.61	0.63	0.58	0.63	0.74

## CMA-UBTLBHH/6517/21/21

Electrical Parameters Y2: (NGMN N-P-BASTA whitepaper v10.0 "Recommendation on Base Station Antenna Standards")

Parameter (Radiation)						
Frequency band	MHz	1710 - 1880	1850 - 1990	1920 - 2170	2300 - 2400	2490 - 2690
Gain @ 1° EDT	dBi	19.1 ± 0.2	19.2 ± 0.1	19.4 ± 0.3	20.4 ± 0.1	20.8 ± 0.4
Gain @ 6° EDT	dBi	19.3 ± 0.3	19.4 ± 0.1	19.6 ± 0.2	20.5 ± 0.2	20.8 ± 0.2
Gain @ 10° EDT	dBi	19.2 ± 0.2	19.3 ± 0.1	19.4 ± 0.2	20.1 ± 0.3	20.2 ± 0.2
Gain all tilts	dBi	19.2 ± 0.3	19.4 ± 0.2	19.6 ± 0.3	20.4 ± 0.3	20.7 ± 0.5
Azimuth Parameters						
Azimuth (3dB) Beam Width	°	66.5 ± 3.6	67.5 ± 1.4	66.8 ± 3.6	58.8 ± 3.4	55.6 ± 2
Azimuth Beam Squint	°	1.6 ± 2.9	3.8 ± 1.4	5 ± 3.4	0.8 ± 2.7	0.9 ± 1.8
Front to Back Ratio (total power)	dB	°> 29.4	°> 31.9	°> N/A*	°> 34.4	°> N/A*
Sector Cross-Polar Discrimination	dB	°> 13.7	°> 11.6	°> 11.1	°> 9.8	°> 12.3
Sector Azimuth Tracking	dB	<° 1	<° 2.1	<° 2	<° 0.4	<° 1.1
Elevation Parameters						
Elevation (3 dB) Beam Width	°	5 ± 0.2	4.7 ± 0.1	4.4 ± 0.3	3.8 ± 0.1	3.5 ± 0.2
Electrical Downtilt Range	°	1 - 10	1 - 10	1 - 10	1 - 10	1 - 10
Electrical Downtilt Deviation	°	<° 0.04	<° 0.04	<° 0.03	<° 0.05	<° 0.03
First Upper Side Lobe Suppression	dB	°> 21	°> 20.7	°> 21.3	°> N/A*	°> 21.4
Upper Side Lobe Suppression Peak to 20°	dB	°> 18.2	°> 19.1	°> N/A*	°> 17.1	°> 16.7
First Nullfill Below Horizon	dB	<° 18.6	<° 17.6	<° N/A*	<° N/A*	<° 12.3
Elevation 3dB Beam Width Cross-Polar Discrimination	dB	°> 7	°> 7.2	°> 10.3	°> 11.5	°> 11.1

Parameter (ports)						
Frequency band	MHz	1710 - 1880	1850 - 1990	1920 - 2170	2300 - 2400	2490 - 2690
Impedance	Ω	50				
VSWR/Return Loss	_/dB	< 1.5 / > 14				
Intra Cluster Isolation	dB	> 28	> 28	> 28	> 28	> 28
Inter Cluster Isolation	dB	> 28	> 28	> 28	> 28	> 28
Passive Intermodulation @ 2x43 dBm CW	dBc	< -155				
Maximum Input Power per port	W	500				
Antenna Insertion Loss (mean)	dB	0.61	0.6	0.55	0.62	0.75

## CMA-UBTLBHH/6517/21/21

(NGMN N-P-BASTA whitepaper v10.0 "Recommendation on Base Station Antenna Standards")

Mechanical parameters:	
Connectors	6 x 4.3 -10 female
Connector position	Bottom
Lightning protection	Protected
Height (mm)	2197
Width (mm)	420
Depth (mm)	192
RET installation reference plane	Height, Bottom
Visual indicator on tilt change	True
Antenna only weight (kg)	33
Antenna mounting point Distance (mm)	1600
Wind load at 150 km/h	
Frontal (N)	1022
Lateral (N)	258
Survival wind speed (km/h)	240
Colour radome	Light Grey, RAL 7035
Radome material	ASA
Mounting hardware:	
Mounting bracket count	2
Bracket weight (complete) (kg)	5
Pole diameter (mm)	45 - 120
Mechanical tilt range (°)	0 - 5
Pole mounting point distance (mm)	

Remote Electrical Tilt System	
Stand-alone dimensions (mm)	57 x 70 x 101
Installed dimensions (mm)	57 x 70 x 25.5
Working temperature range (°C)	-40 to +60
Power consumption (W)	
Operation	< 7
Stand-by	< 1
Loss of position on power failure	False
Compatible standards	3GPP-IUANT AISG 2
Configuration management	Pre-configured
Configuration file availability	True
Configuration file upgradeability	Yes, by BS only
Software upgradeability	Yes, by BS only
Replaceability in the field	Yes, without removing antenna
Daisy chain capability	True

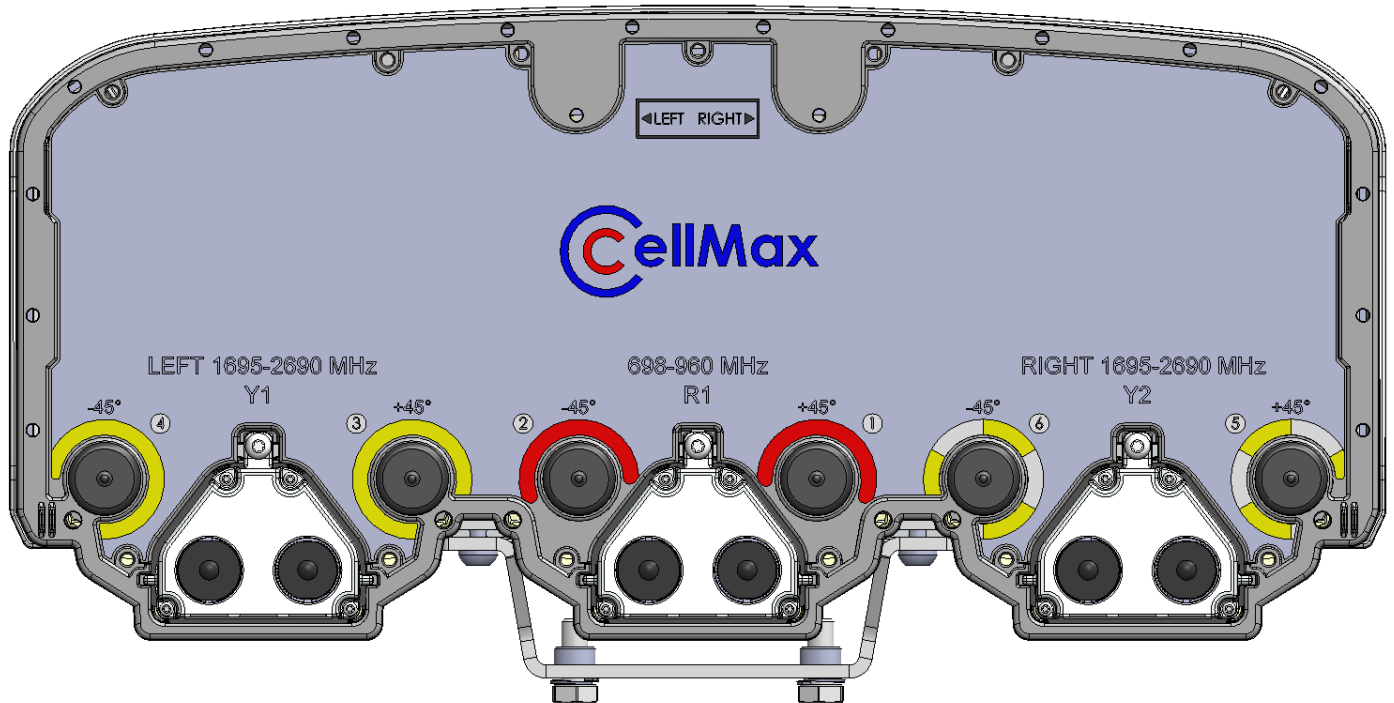
Packing data**	
Box height (mm)	2480
Box width (mm)	435
Box depth (mm)	253
Box weight (kg)	42
Pallet type	1050 x 2700
Maximum number of boxes per pallet	10

Product Environmental Compliance	RoHS, ETSI 300 019-2-4: Class T4-1E, ETSI 300 019-2-1: Class T1.2 and ETSI 300 019-2-2: Class T2.2.
----------------------------------	---

## Ordering information:

Product number	Product description
120330	UBTLBHH/6517/21/21/MET and standard tilt mount
120335	UBTLBHH/6517/21/21/RET and standard tilt mount

\*\*The packing box is designed for pallet transportation only.



Bottom View

Connector	Column	Notes
1 - 2	<b>R1</b>	
3 - 4	<b>Y1</b>	
5 - 6	<b>Y2</b>	