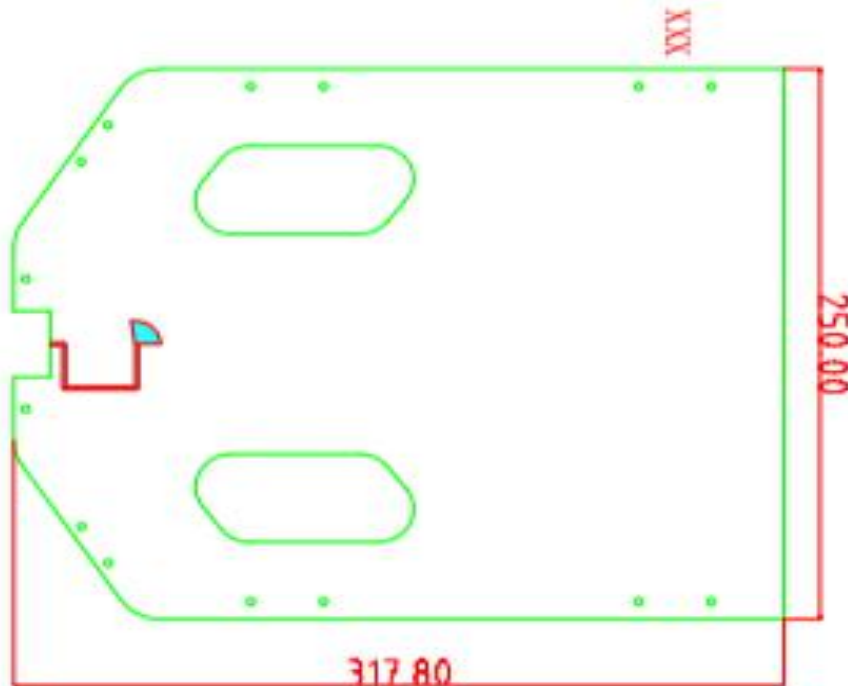


# Maswell 5G Ultra Wideband Plate Antenna Directional Metaverse 1.0

AN.UWB.int4.433.10000.SMA



## Mechanical design



## Maswell 5G Ultra Wideband Plate Antenna Directional Metaverse 1.0

AN. UWB. int4. 433. 10000. SMA

### Applications

- Cellular Communications bands: 5G ,4G , 3G and GSM around the globe All Supported
- WiFi/Bluetooth/Zigbee applications: WiFi Harlow, WiFi 2.4GHz, WiFi 5GHz, WiFi 6, WiFi 6E All Supported
- UWB Communicaitons 3.1-10.6GHz All Supported
- CB Radios at 477MHz band: All Supported
- M2M communication, IOT, Helium communication All Supported
- LORA Communication All Supported

### Specifications

Item	Specifications	
Antenna	Frequency Range	433MHz-10.6GHz
	Gain	9dBi
	Efficiency	> 50%
	Polarization	Linear
	Weight	134.5g
Mechanical	Connector	SMA female
	Dimension	250mm *317.8mm
Environmental	Operating Temperature	-40°C~ +85°C
	Relative Humidity	Up to 95%
	Vibration	10 to 55Hz with 1.5mm amplitude 2hours
	Environmentally Friendly	ROHS Compliant
Package	Weight	150g
	Dimension	281mm*382mm

## Maswell 5G Ultra Wideband Plate Antenna Directional Metaverse 1.0

AN.UWB.int4.433.10000.SMA

### Packaging

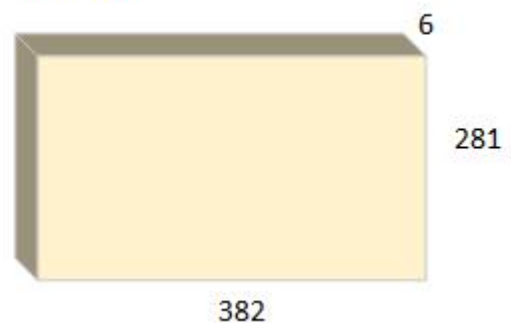


Unit: mm

Package Dimension: 382\*281\*6mm

Antenna Gross Weight: 150g

Antenna Net Weight: 134.5g



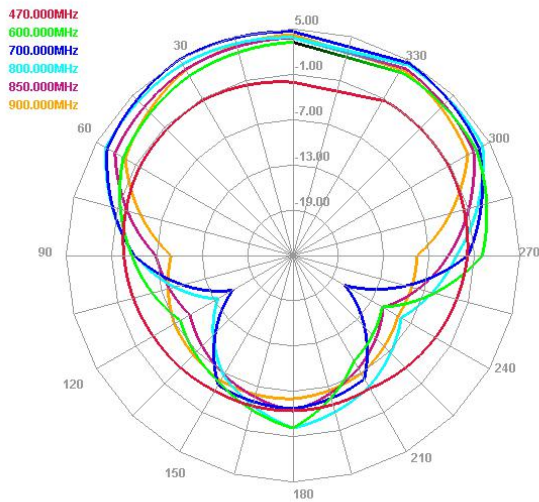
# Maswell 5G Ultra Wideband Plate Antenna Directional Metaverse 1.0

AN. UWB. int4. 433. 10000. SMA

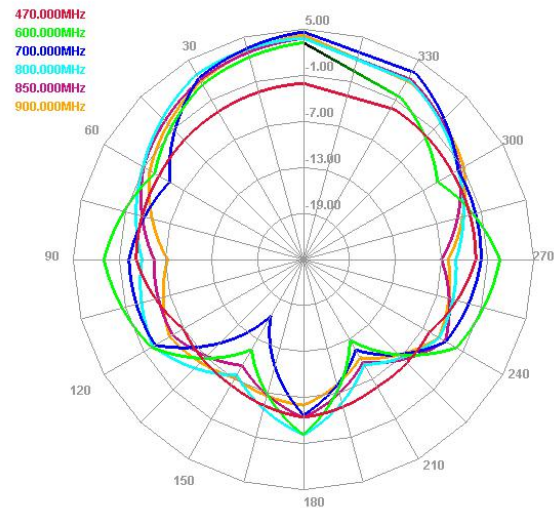
## Measured Radiation Pattern

### Low Frequency Band

E Plane

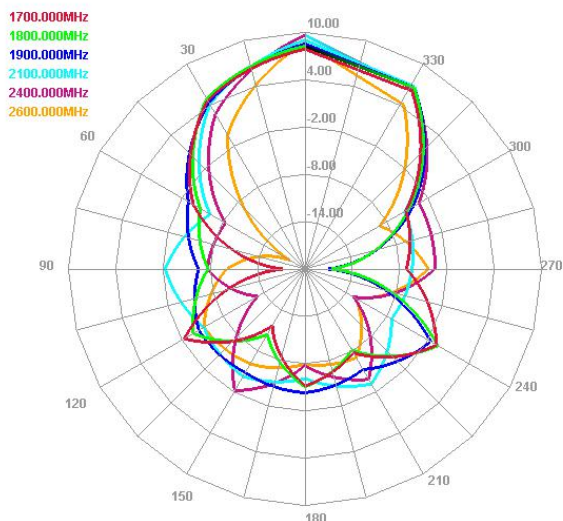


H Plane

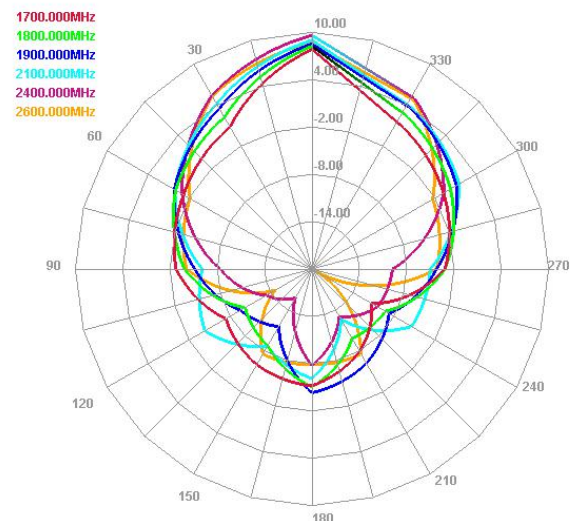


### Medium Frequency Band

E Plane



H Plane



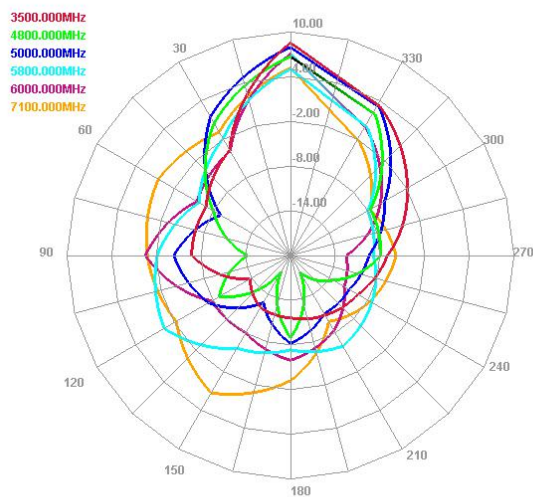
# Maswell 5G Ultra Wideband Plate Antenna Directional Metaverse 1.0

AN. UWB. int4. 433. 10000. SMA

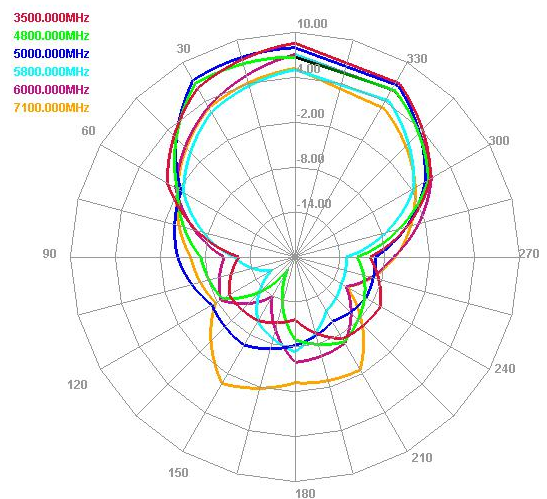
## Measured Radiation Pattern

### High Frequency Band

E Plane



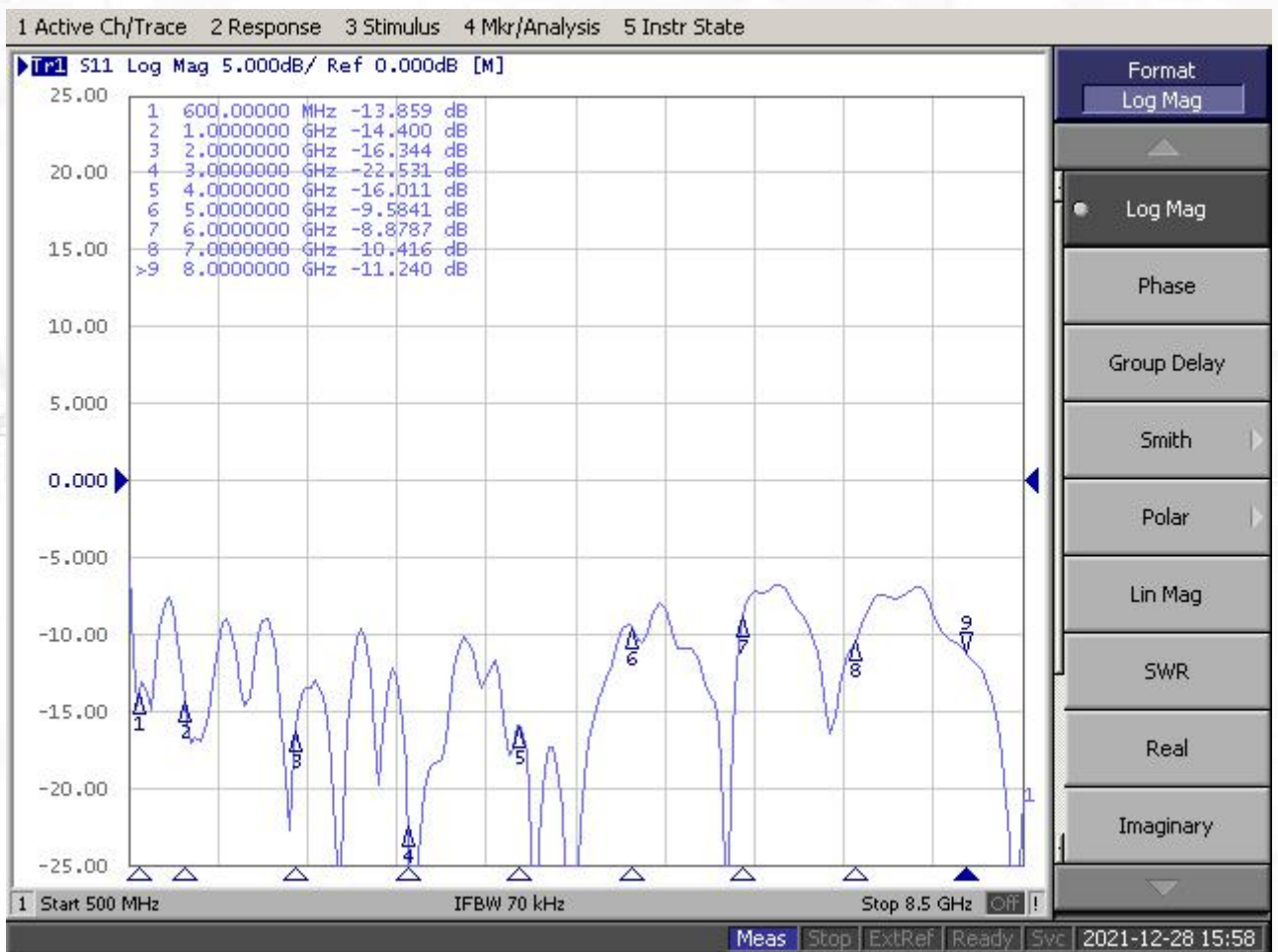
H Plane



# Maswell 5G Ultra Wideband Plate Antenna Directional Metaverse 1.0

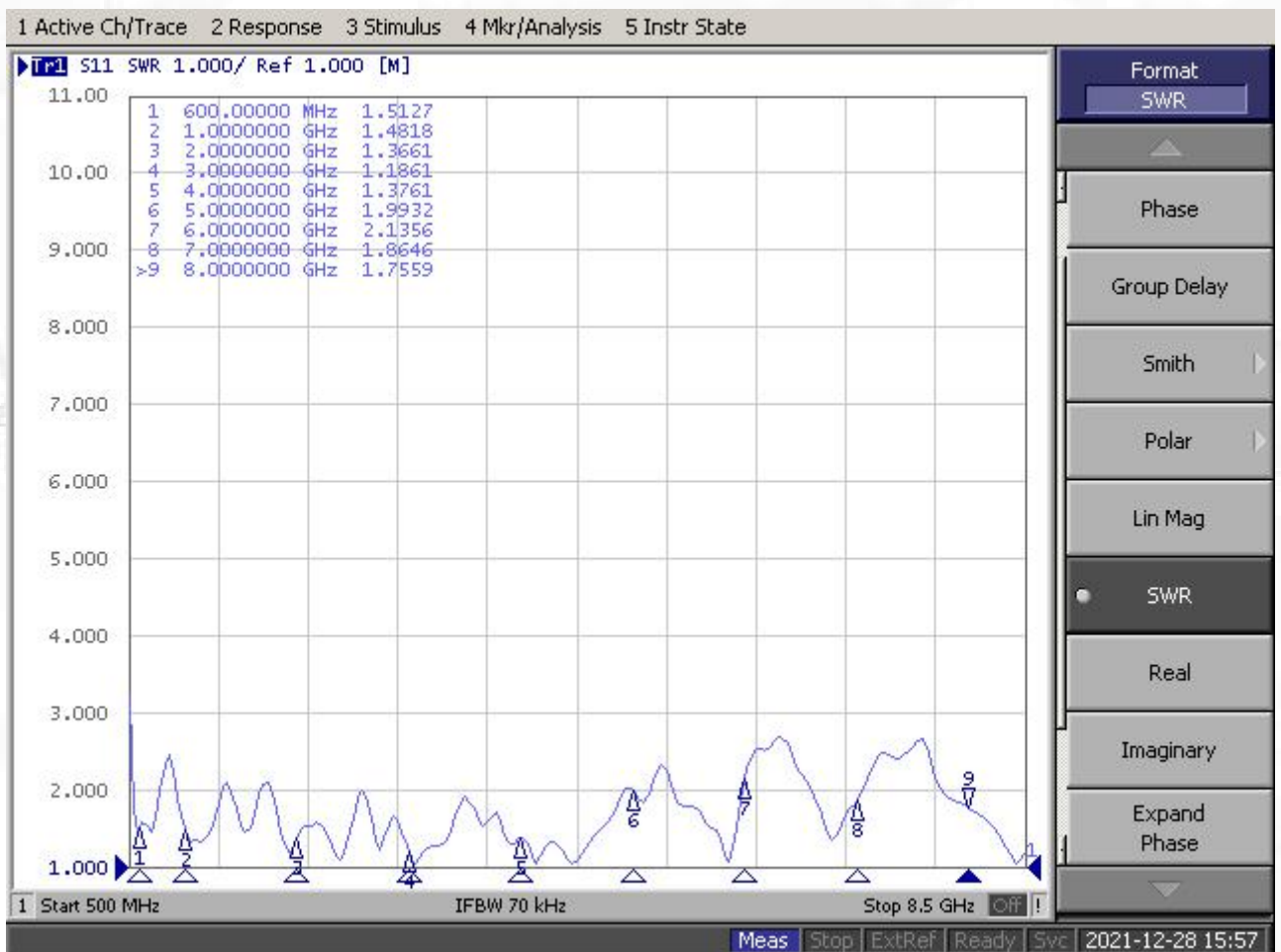
## Simulation Results

### S11



# Maswell 5G Ultra Wideband Plate Antenna Directional Metaverse 1.0 Simulation Results

## VSWR



# Maswell 5G Ultra Wideband Plate Antenna Directional Metaverse 1.0

## AN. UWB. int4. 433. 10000. SMA

### Measured Results

Freq (MHz)	Effi (%)	Gain (dBi)
400	29.39	-3.09
410	28.14	-2.88
420	27.98	-3.04
430	36.47	-1.67
440	40.45	-1.63
450	46.69	-1.09
460	43.23	-1.75
470	48.6	-0.86
480	53.79	-0.47
490	65.31	0.56
500	73.1	1.59
510	75.74	1.46
520	78.34	2.04
530	83.31	2.4
540	88.35	2.76
550	83.33	2.58
560	81.15	2.4
570	86.8	3.36
580	91.78	3.68
590	88.34	3.49
600	83.03	3.25
610	90.08	3.77
620	90.12	4.05
630	82.16	3.98
640	80.55	4.37
650	88.61	4.96
660	92.27	5.09
670	83.31	5.01
680	80.22	4.75
690	80.51	5.17
700	84.84	5

Freq (MHz)	Effi (%)	Gain (dBi)
710	78.52	4.66
720	78.97	4.61
730	82.88	4.86
740	89.87	5.1
750	85.01	4.82
760	81.91	4.6
770	81.4	4.34
780	82.59	4.31
790	83.96	4.4
800	84.72	4.47
810	85.42	4.59
820	74.34	3.95
830	76.49	4.19
840	76.39	4.37
850	68.78	3.93
860	64.12	3.79
870	61.09	3.7
880	63.12	4.08
890	60.9	4.15
900	60.9	4.26
910	63.18	4.48
920	72.39	5.24
930	71.86	5.37
940	73.68	5.69
950	74.44	5.84
960	77.8	6.02
970	78.68	6.09
980	85.23	6.54
990	80.82	6.38
1000	95.6	7.1

Freq (MHz)	Effi (%)	Gain (dBi)
1050	113.1	7.88
1100	98.51	7.61
1150	96.81	7.72
1200	101.65	8.4
1250	99.16	8.79
1300	92.36	8.89
1350	82.89	8.38
1400	84.52	8.39
1450	94.2	9.04
1500	87.2	8.75
1550	83.3	8.48
1600	81.56	8.84
1650	72.06	8.79
1700	58.86	7.87
1750	65.34	8.2
1800	65.76	8.26
1850	65.77	8.34
1900	73.19	8.53
1950	71.29	8.71
2000	67.49	8.64
2050	67.06	8.71
2100	75.47	9.01
2150	62.03	8.31
2200	63.78	8.57
2250	68.33	8.96
2300	71.71	9.18
2350	80.92	9.77
2400	76.93	9.63
2450	65.29	8.94
2500	65.54	8.76
2550	61.17	8.41
2600	66.25	8.66
2650	69.59	8.9
2700	71.15	8.86
2750	70.88	8.56
2800	93.13	9.7



# Maswell 5G Ultra Wideband Plate Antenna Directional Metaverse 1.0

## AN. UWB. int4. 433. 10000. SMA

### Measured Results

Freq (MHz)	Effi (%)	Gain (dBi)
2850	96.37	9.47
2900	92.92	9.01
2950	94.88	9.2
3000	95.64	9.27
3050	96.31	9.3
3100	95.57	9.3
3150	89.64	9.21
3200	92.08	9.55
3250	94.05	9.54
3300	93.72	9.43
3350	90.24	9.34
3400	87.98	9.26
3450	84.4	8.88
3500	77.84	8.55
3550	75.8	8.55
3600	77.52	8.91
3650	72.93	8.79
3700	65.5	8.23
3750	62.1	7.88
3800	59.44	7.39
3850	59.99	7.32
3900	65.5	7.75
3950	70.03	8.11
4000	69.7	8.44
4050	69.14	8.65
4100	67.79	8.56
4150	66.26	8.63
4200	62.7	8.19
4250	61.28	7.95
4300	58.42	7.75
4350	57.4	7.75
4400	60.15	8.06
4450	60.35	8.13
4500	62.78	8.26
4550	60.61	8.05
4600	53.12	7.37

Freq (MHz)	Effi (%)	Gain (dBi)
4650	50.04	6.89
4700	50.74	6.79
4750	46.8	6.35
4800	50.75	6.71
4850	47.56	6.41
4900	50.99	6.7
4950	55.28	7.31
5000	61.22	7.95
5050	59.87	7.95
5100	57.68	7.81
5150	54.33	7.71
5200	45.35	6.98
5250	47.66	7.11
5300	46.1	6.99
5350	48.9	7.23
5400	51.15	7.51
5450	48.17	7.33
5500	48.27	7.41
5550	48.3	7.25
5600	48.46	7.22
5650	48.66	6.99
5700	47.36	6.5
5750	46.52	5.92
5800	39.8	5.02
5850	37.77	4.8
5900	33.24	4.95
5950	42.9	6.32
6000	43.26	7.06
6050	48.16	7.34
6100	47.68	7.08
6150	47.59	7.01
6200	46.21	6.97
6250	43.91	6.64
6300	44.55	6.72
6350	46.33	7.14
6400	46.73	7.53

Freq (MHz)	Effi (%)	Gain (dBi)
6450	47.06	7.76
6500	47.29	7.86
6550	50.42	8.15
6600	49.27	8.14
6650	48.11	7.8
6700	51.07	7.97
6750	50.03	7.71
6800	50.49	7.47
6850	55.64	7.46
6900	55.99	7.26
6950	54.68	6.78
7000	53.41	6.41
7050	52.11	5.77
7100	50.71	5.17
7150	46	4.86
7200	47.95	5.1
7250	53.06	5.18
7300	55.43	4.95
7350	57.42	4.36
7400	60.67	3.67
7450	53.43	3.37
7500	48.64	2.54
7550	49.52	2.13
7600	42.92	1.72
7650	38.45	1.33
7700	47.86	2.22
7750	63.3	3.05
7800	74.43	4.2
7850	73.39	4.41
7900	81.16	4.99
7950	86.79	5.29
8000	82.15	4.87