



5G / WI-FI 6E TERMINAL

CALLISTO1

IP65 Wideband Outdoor 5G NR / LTE Antenna

SZW-N-5L40

FREQUENCY
698 to 6000 MHz

PEAK GAIN
Up to 5.09 dBi

CONNECTOR
SMA Male, hinged

RATING
IP65

LOW BAND	698 to 960 MHz	Covers B5, B8, B12, B13, B14, B17, B18, B20, B26, B27, B28, B29, B71
L BAND	1427 to 1525 MHz	Covers B24
MID BAND	1710 to 2690 MHz	Covers B1, B2, B3, B4, B7, B9, B23, B35, B38, B39, B40, B41, B66
HIGH BAND	3300 to 4200 MHz	Covers B22, B42, B43, B48, B77, B78
4.4 TO 5 GHZ	4400 to 5000 MHz	Covers B40
5 GHZ	5150 to 6000 MHz	Covers B47, LTE5200, Wi-Fi 5800

1 Introduction

CALLISTO1 is a high efficiency ultra-wideband external antenna engineered to deliver reliable sub 6 GHz wireless connectivity across 617 to 6000 MHz. The antenna supports modern 5G NR, 4G LTE, LTE M, NB IoT, RedCap, and Wi-Fi 6E platforms within a single compact solution, enabling global multi band operation without the need for multiple antenna variants. The rugged IP65 rated enclosure and integrated SMA male connector ensure dependable performance in outdoor and industrial environments where mechanical durability and stable RF characteristics are required. Its broadband design provides consistent gain and radiation behavior across low band and mid band cellular frequencies, making CALLISTO1 suitable for professional wireless and IoT systems that demand robust and predictable performance.

— Features

- ◆ Ultra-wideband frequency coverage from 617 to 6000 MHz
- ◆ Supports 5G NR, 4G LTE, LTE M, NB IoT, RedCap, and Wi-Fi 6E bands
- ◆ Single antenna solution for global cellular deployments
- ◆ High radiation efficiency and stable gain across low and mid bands
- ◆ External paddle style form factor for improved radiation performance
- ◆ IP65 rated waterproof and dust resistant enclosure for outdoor use
- ◆ Slim and low profile mechanical design
- ◆ RoHS compliant materials and construction

— Applications

- | | |
|--|--|
| ◆ 5G and LTE routers and gateways | ◆ Outdoor CPE and fixed wireless terminals |
| ◆ Industrial IoT devices and controllers | ◆ Security cameras and surveillance infrastructure |
| ◆ Smart metering and remote monitoring equipment | ◆ Smart kiosks, vending machines, and connected infrastructure |
| ◆ Asset tracking and telematics systems | ◆ Agricultural, energy, and utility telemetry systems |

2 Mechanical Specifications

Part Number	SZW-N-5L40
Name	CALLISTO1
Dimensions (mm)	197.8 × 32.1
Dimensions at 90° (mm)	174.7 × 32.1
Connector	SMA Male
Antenna Type	Terminal, Hinged

3 Electrical / RF Specifications

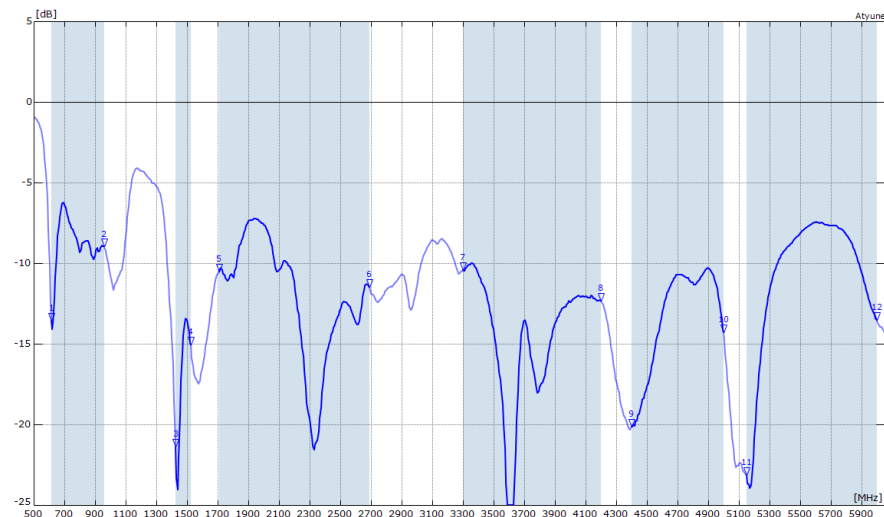
Band	Frequency Range (MHz)	Average Efficiency (%)	Peak Gain (dBi)	VSWR (worst case)	Impedance
5G NR/4G LTE B5, 8, 12, 13, 14, 17, 18, 20, 26, 27, 28, 29, 71	698 to 960	54.3	3.98	2.89:1	50 Ω
5G NR/4G LTE B24	1427 to 1525	61.7	1.14	1.57:1	
5G NR/4G LTE B1, 2, 3, 4, 9, 23, 35, 39, 66, 40, 7, 38, 41	1710 to 2690	55.0	2.99	2.55:1	
5G NR/4G LTE B22, 42, 43, 48, 77, 78	3300 to 4200	71.0	4.55	1.93:1	
5G NR/4G LTE B40	4400 to 5000	61.0	4.15	1.85:1	
5G NR/4G LTE B47, LTE5200, Wi-Fi 5800	5150 to 6000	50.2	5.09	2.47:1	

4 Environmental

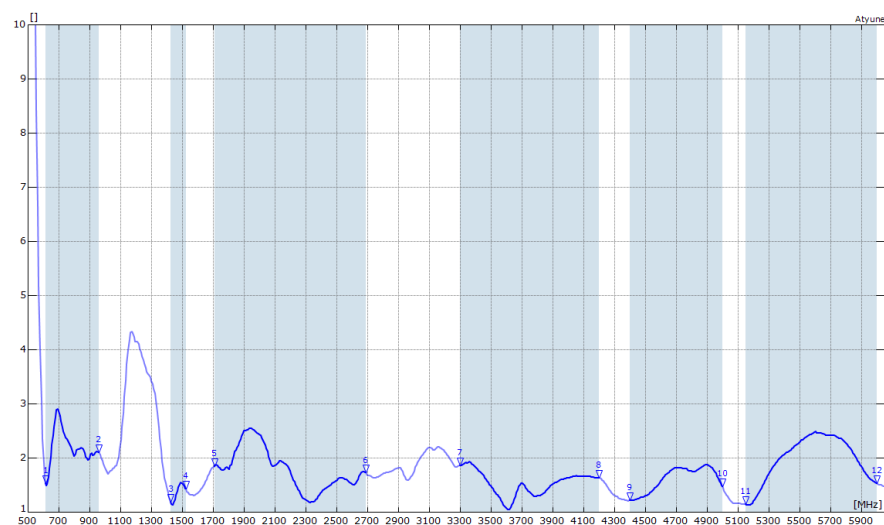
Operational Temperature	-30 to +65°C
Storage Temperature	-40 to +70°C
IP Rating	IP65
RoHS and REACH compliant	Yes

5 RF Characteristics

S11 Parameter



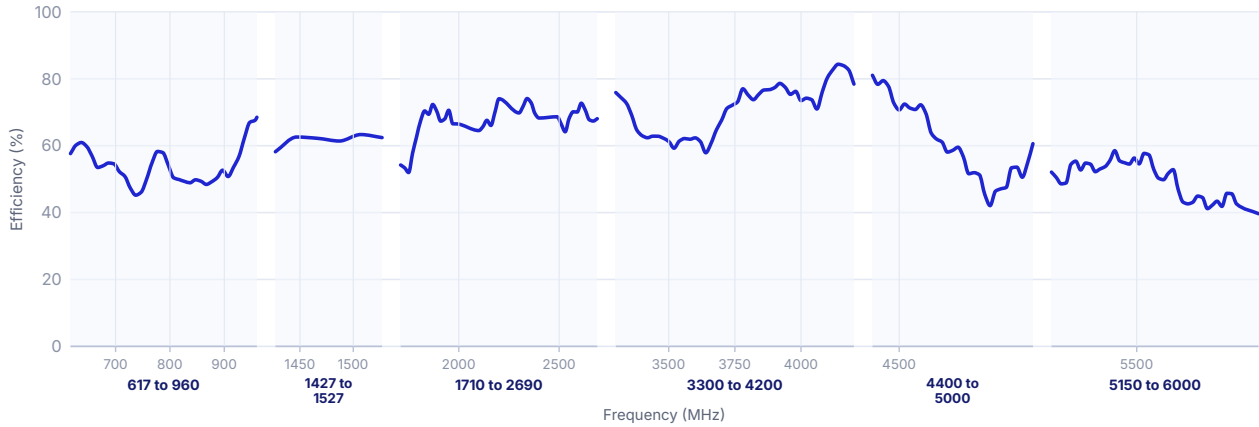
VSWR



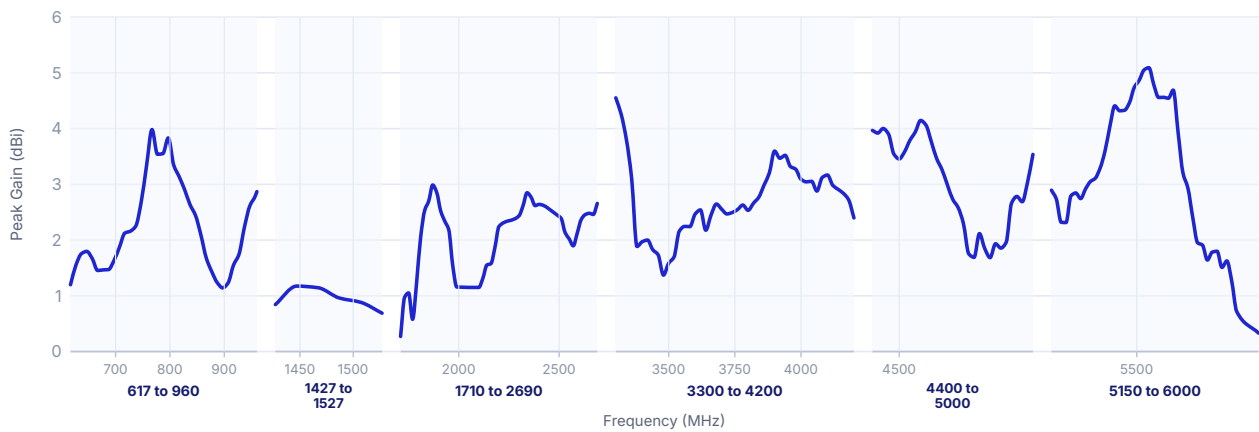
6

Antenna Performance

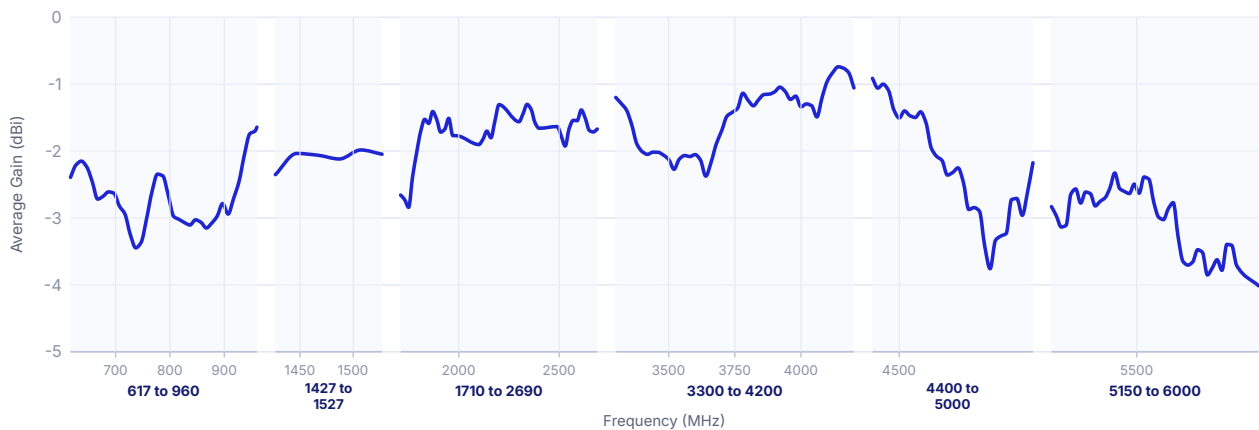
Efficiency



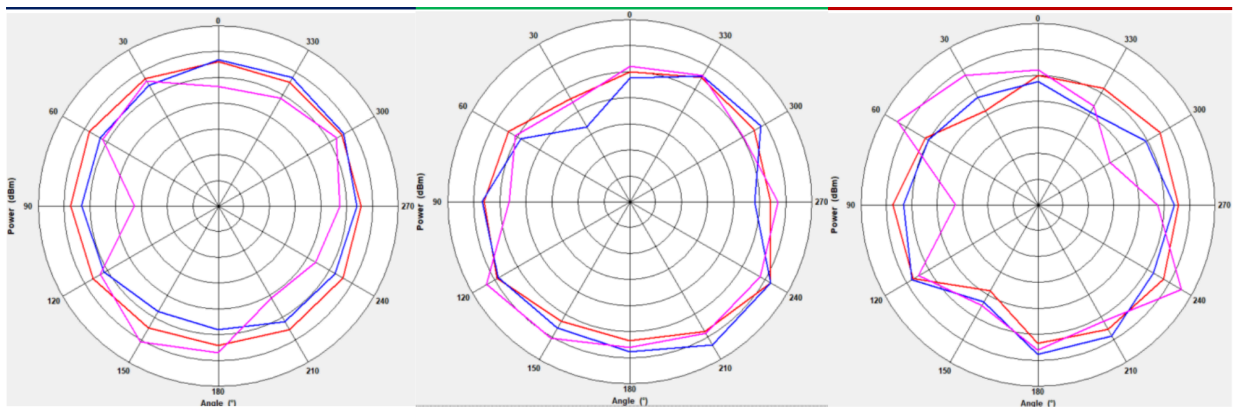
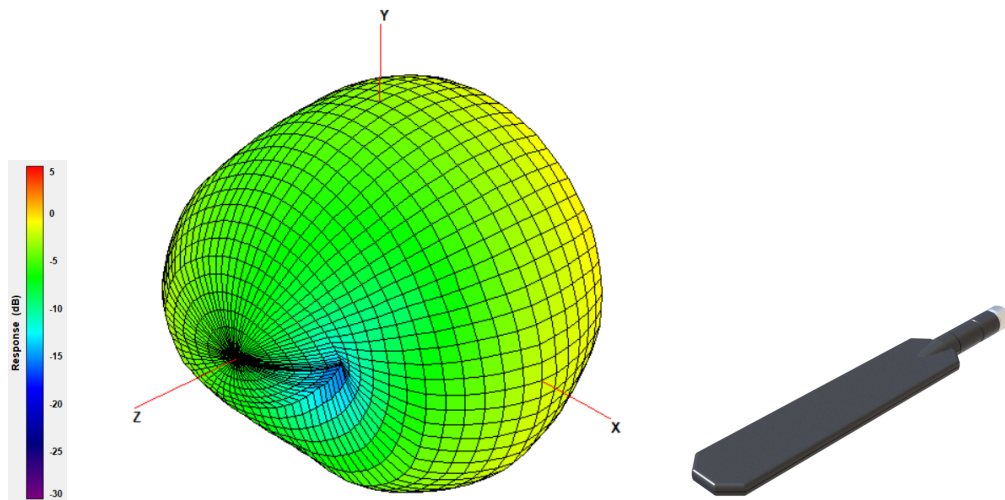
Peak Gain



Average Gain



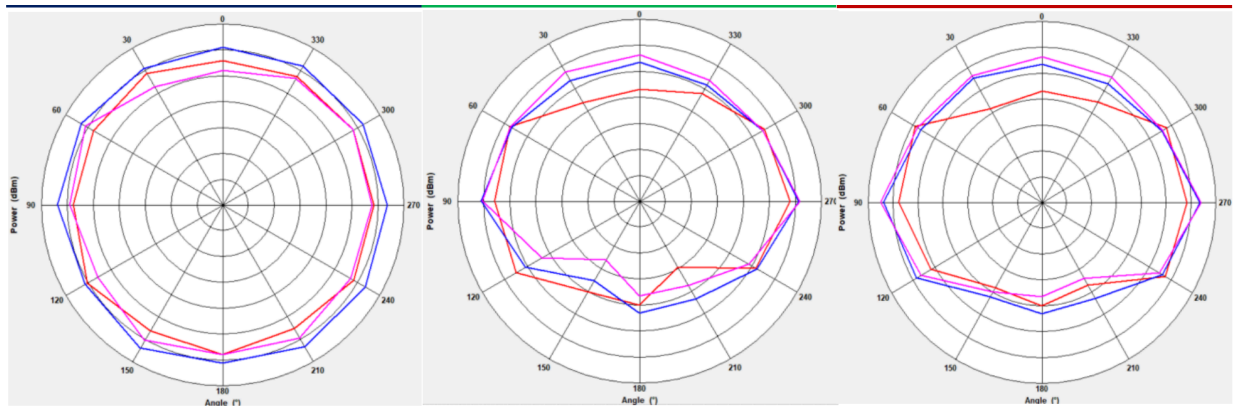
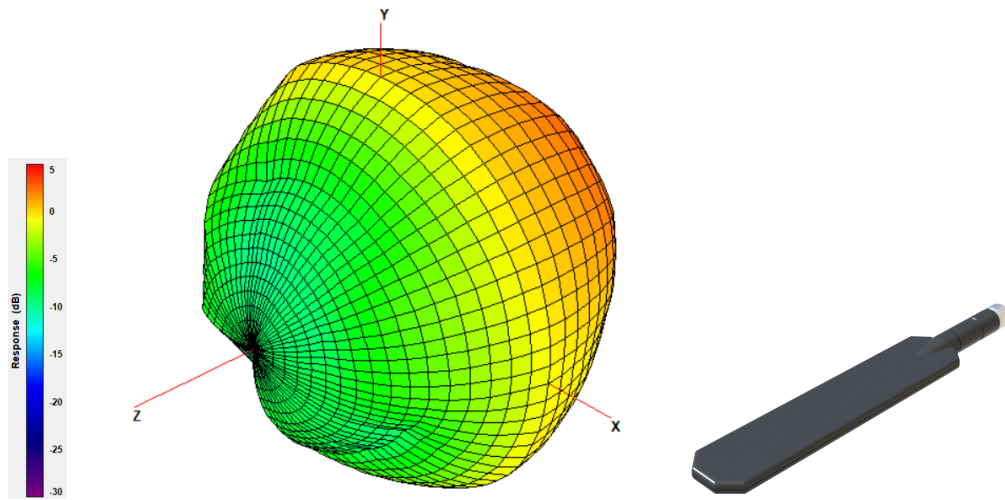
7 Radiation Patterns at 700 MHz



Max: 5
Min: -30
Scale: 5/div

617
707
960

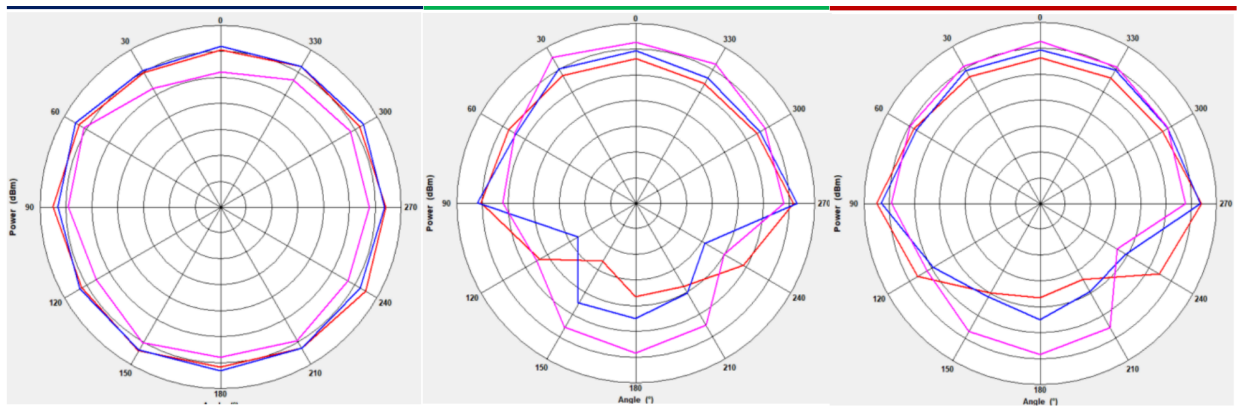
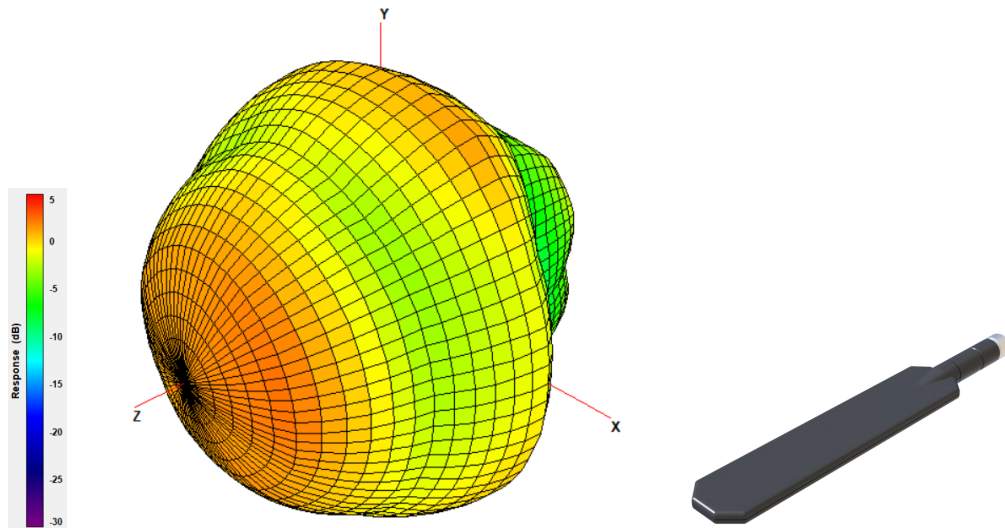
8 Radiation Patterns at 1880 MHz



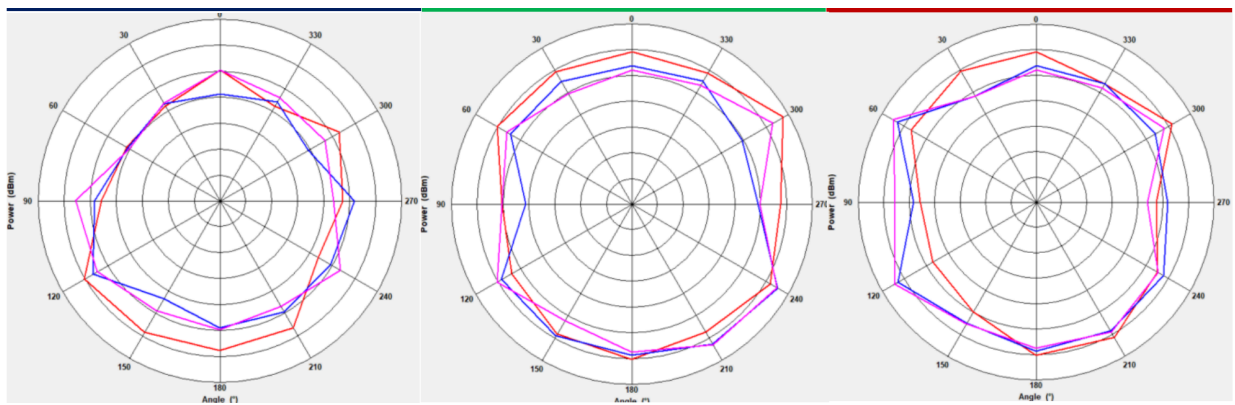
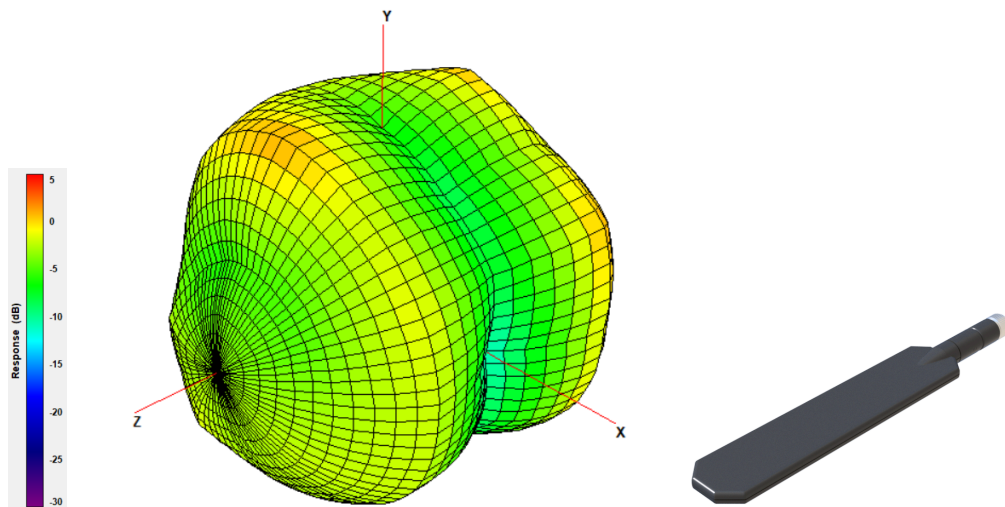
Max: 5
Min: -30
Scale: 5/div

1710
2180
2300

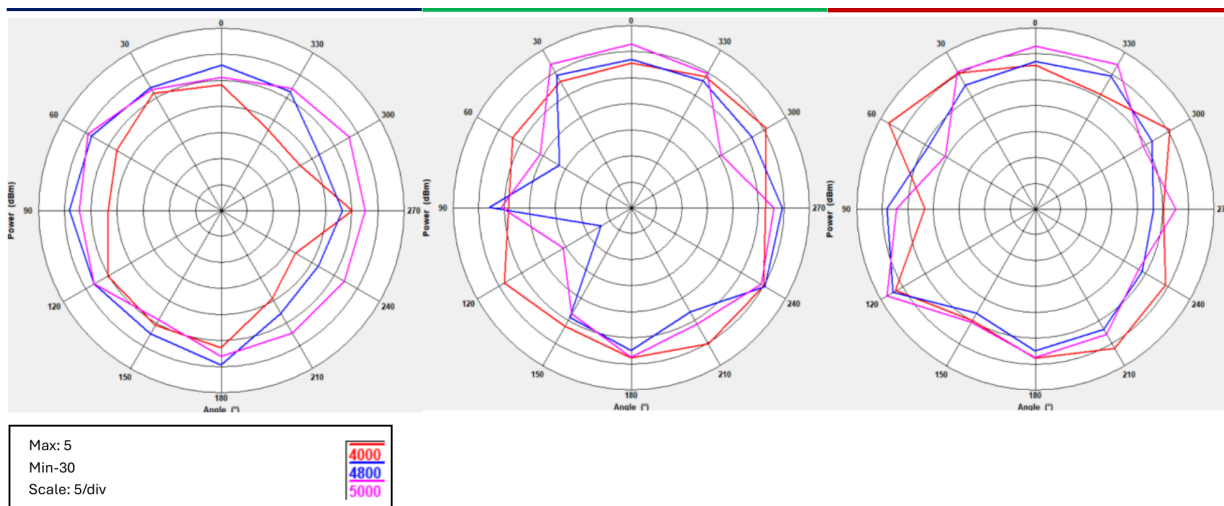
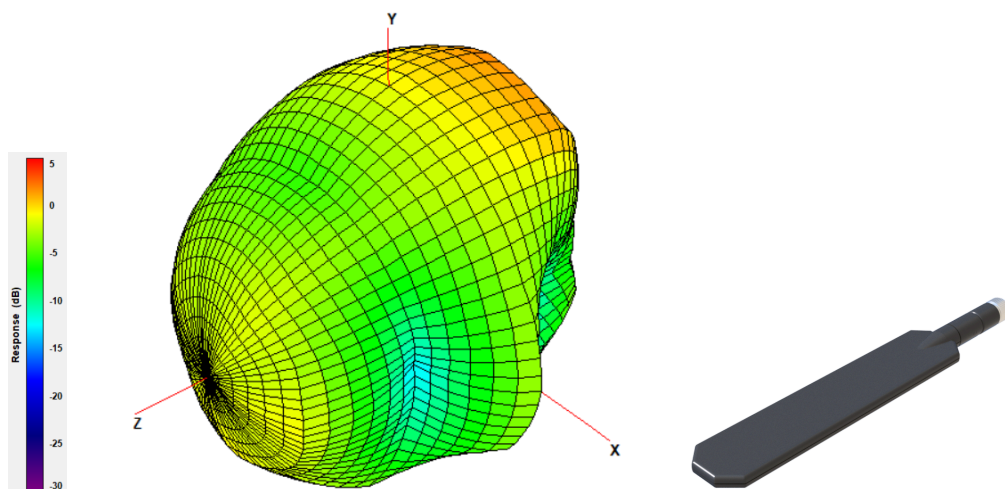
9 Radiation Patterns at 2600 MHz



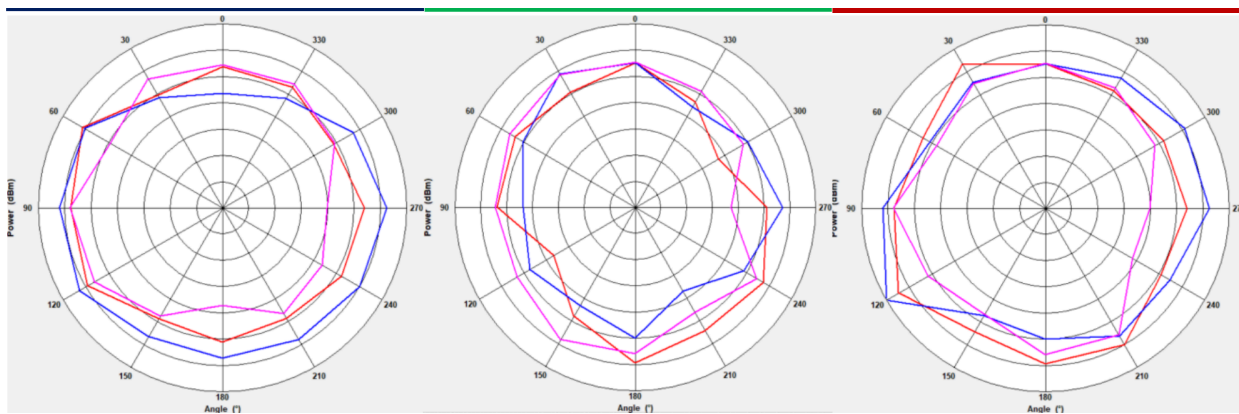
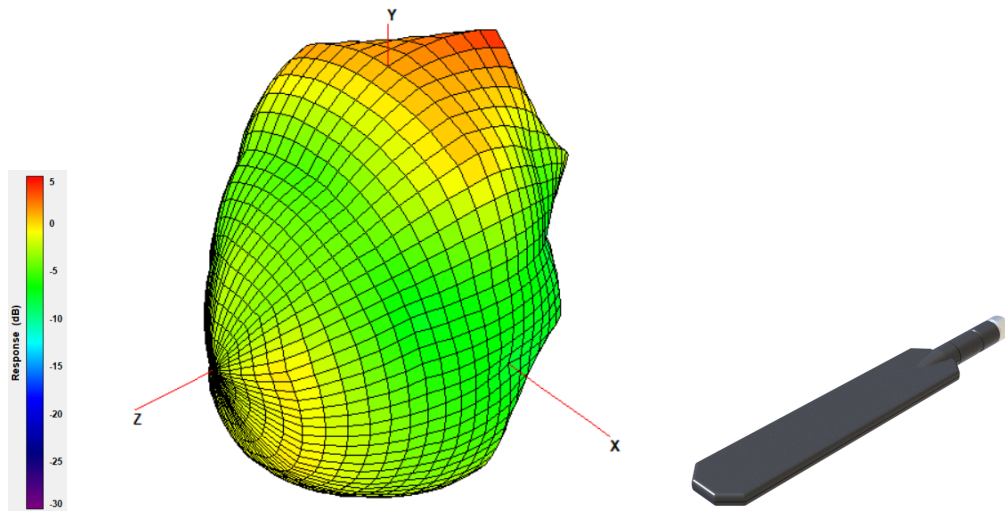
10 Radiation Patterns at 3600 MHz



11 Radiation Patterns at 4800 MHz



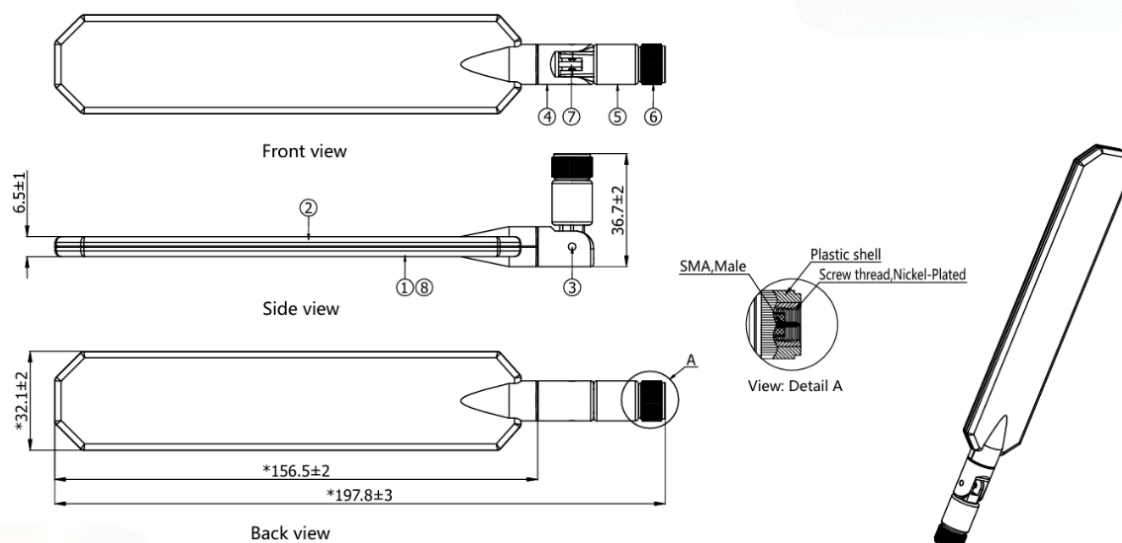
12 Radiation Patterns at 5500 MHz



Max: 5
Min: -30
Scale: 5/div

5140
5500
6000

13 Mechanical Drawing



All dimensions in mm. Important dimensions marked with "*", and () for reference.

14 Materials

No.	Part	Description	Qty
1	Left-Cover	ABS; Color: Black	1
2	Right-Cover	ABS; Color: Black	1
3	Rivet	POM; Color: Black	2
4	Up-Base	PC; Color: Black	1
5	Down-Base	PC+PBT; Color: Black	1
6	Connector	SMA, Male; Shell Color: Black	1
7	Cable	RG-178 cable; Color: Brown & transparent	1
8	Antenna	PCB Board: FR4; Color: Black solder resist ink	1

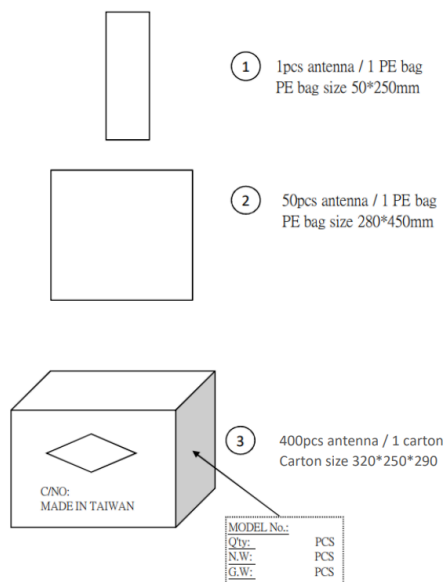
15 Construction Notes

- ◆ Waterproof rating: IP65
- ◆ The antenna complies with RoHS 2.0
- ◆ Connector complies with the 48 hour salt spray test

16 Product Views



17 Packaging



1 pc antenna per PE bag, PE bag size 50 × 250 mm.

50 pcs antennas per PE bag, PE bag size 280 × 450 mm.

400 pcs antennas per carton, carton size 320 × 250 × 290 mm.

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Compliance

ROHS

Compliant

Conforms to EU RoHS Directive 2011/65/EU as amended by Delegated Directive (EU) 2015/863.

REACH

Compliant

Conforms to EU REACH Regulation (EC) No 1907/2006.

CERTIFICATE

On request

A certificate of conformance is available upon request from sales@synzen.com.tw.

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