

Antenna

YB0016AA Datasheet

Antenna Services

Version: 1.1

Date: 2020-12-16

Status: Released



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Or our local office. For more information, please visit:

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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-10-21	Kenny YIN	Initial
1.1	2020-12-16	Kenny YIN	Updated the antenna image in Chapter 2.

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1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

2 Product Features

- Cellular LTE
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	698–960 MHz; 1710–2700 MHz
Input Impedance	50 Ω
VSWR	≤ 3.0
Gain	≤ 2.5 dBi
Polarization Type	Linear

Mechanical Specifications

Antenna Size (mm)	54 mm \times 91 mm , LMR200 L = 3000 mm
Casing	ABS + PC
Connect Type	SMA Male (with center pin)
Working Temperature	-20 $^{\circ}$ C to +85 $^{\circ}$ C
Radome Color	Black
Ingress Protection Rating	IP66

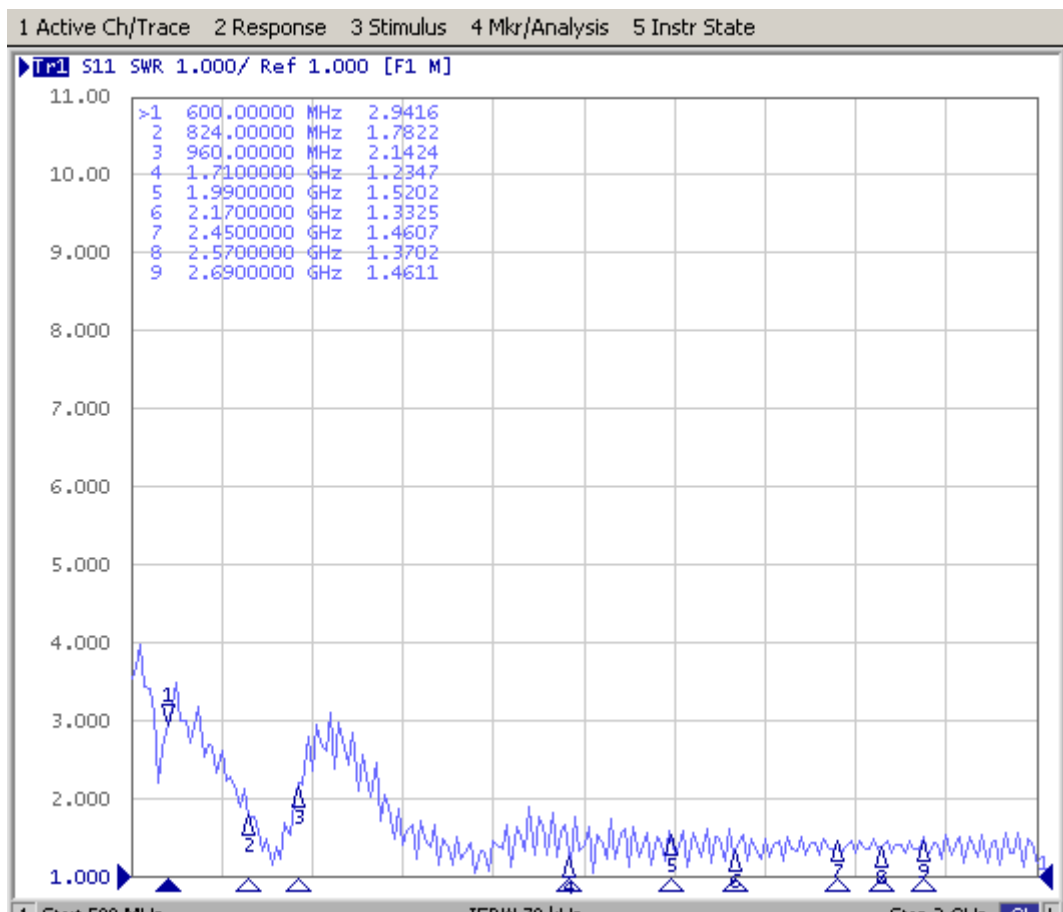
4 Overall Performance

4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 6.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 6.0 GHz

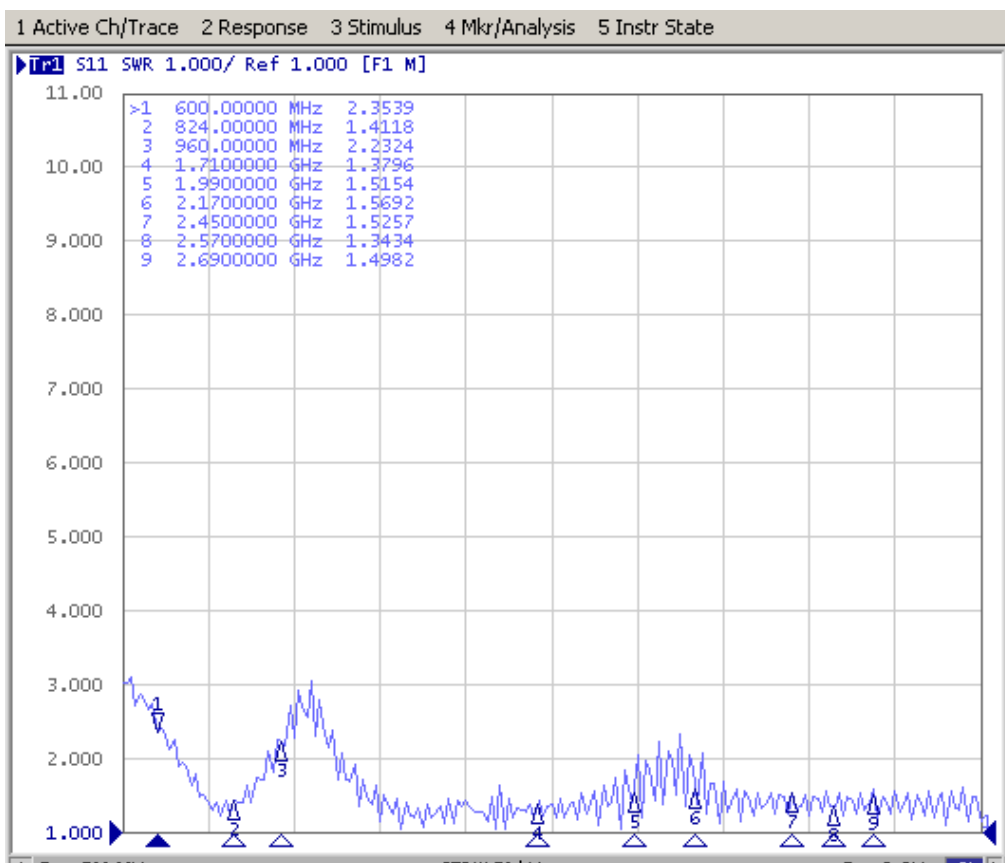
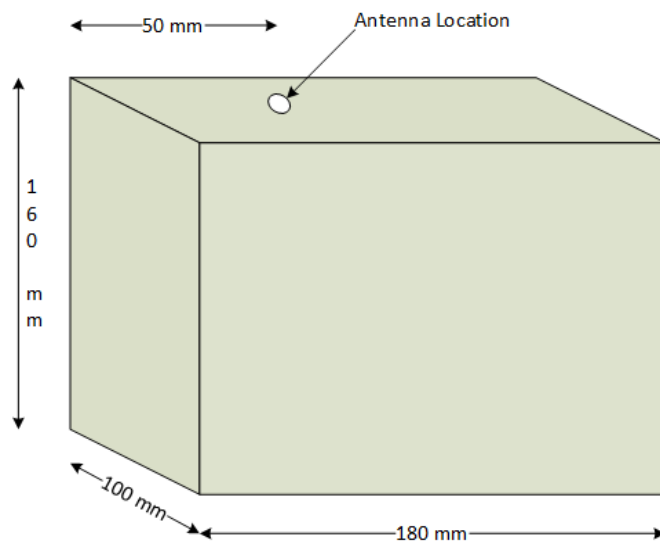


4.2. VSWR



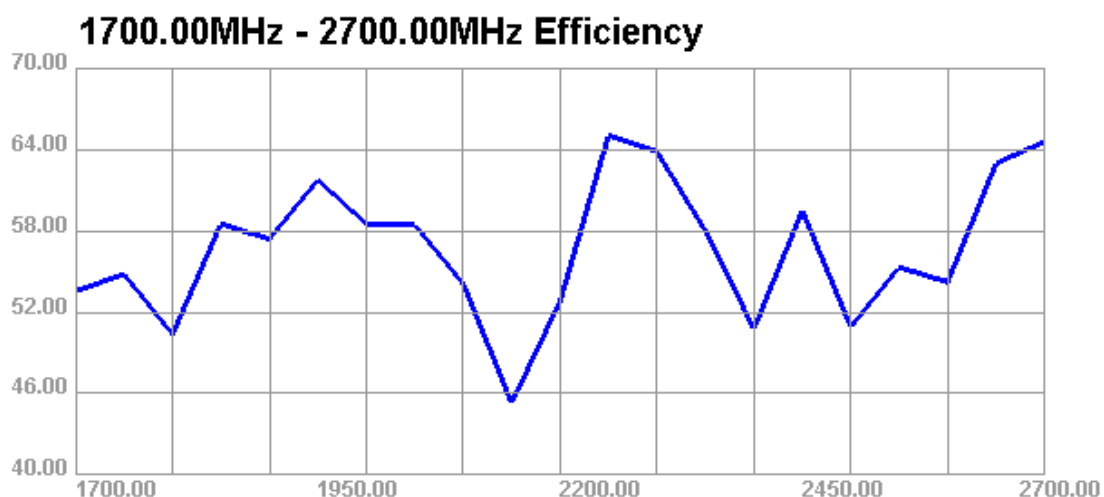
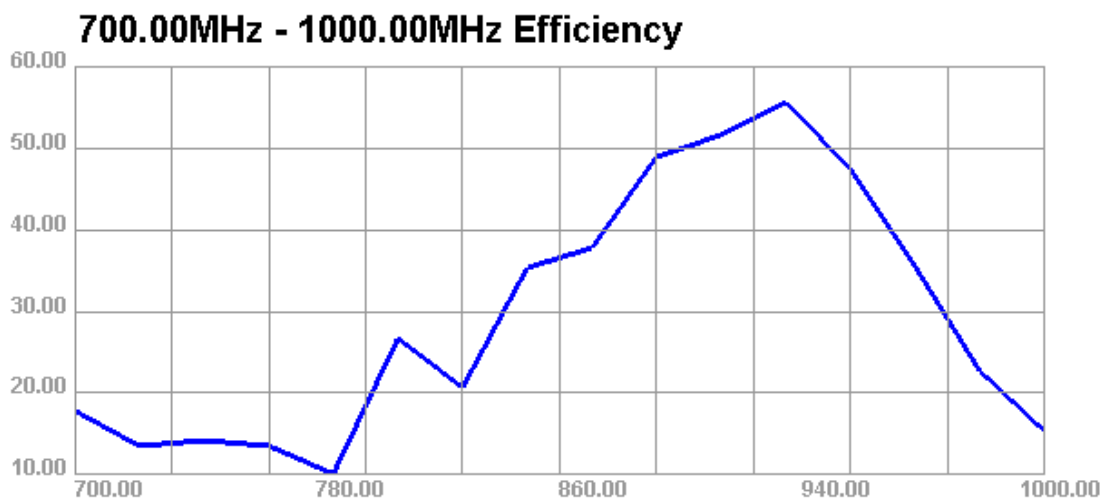
Frequency (MHz)	600	824	960	1710	1990	2170	2450	2570	2690
VSWR	2.94	1.78	2.14	1.23	1.52	1.33	1.46	1.37	1.46

Add metal mounting plate (180 mm × 100 mm × 160 mm):



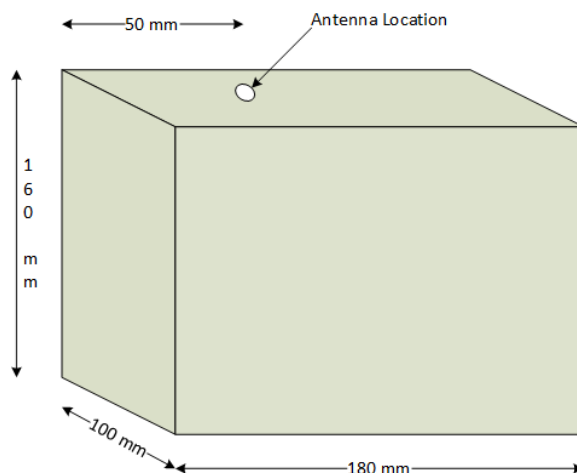
Frequency (MHz)	600	824	960	1710	1990	2170	2450	2570	2690
VSWR	2.35	1.41	2.23	1.38	1.52	1.57	1.53	1.34	1.50

4.3. Efficiency

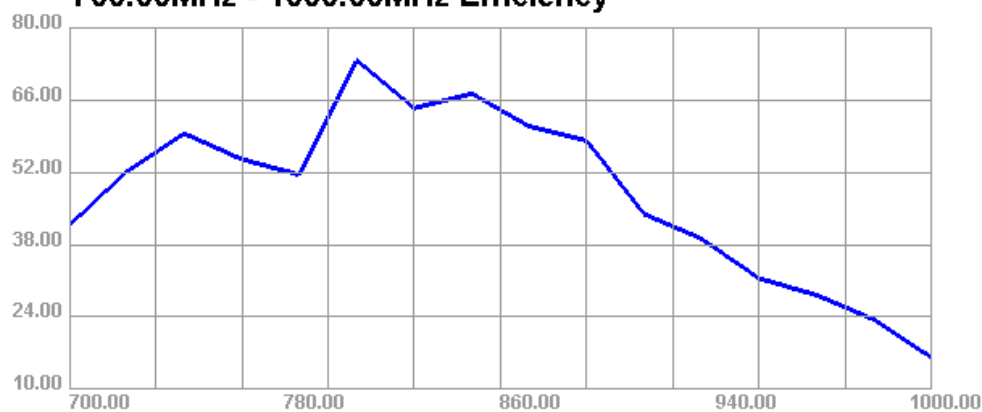


Frequency (MHz)	700	780	840	960	1000	1700	1950	2150	2450	2650
Efficiency (%)	17.85	10.11	35.36	35.52	15.34	53.57	61.76	45.32	59.49	62.98

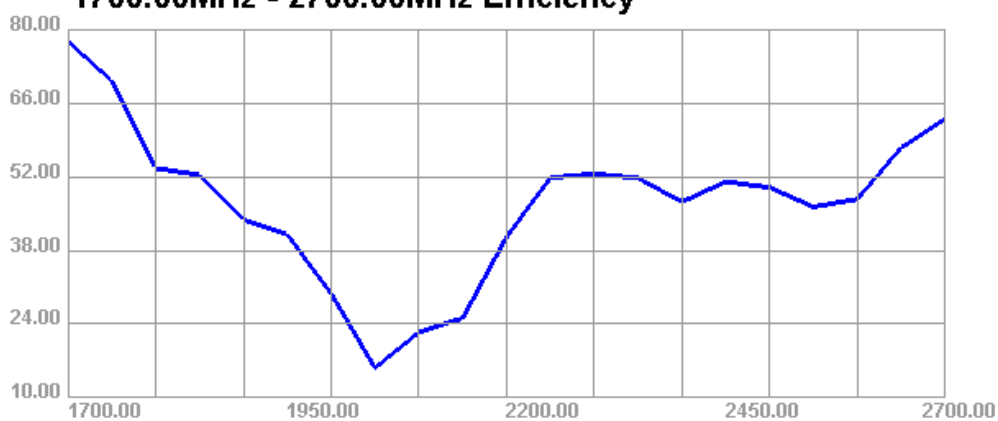
Add metal mounting plate (180 mm × 100 mm × 160 mm):



700.00MHz - 1000.00MHz Efficiency

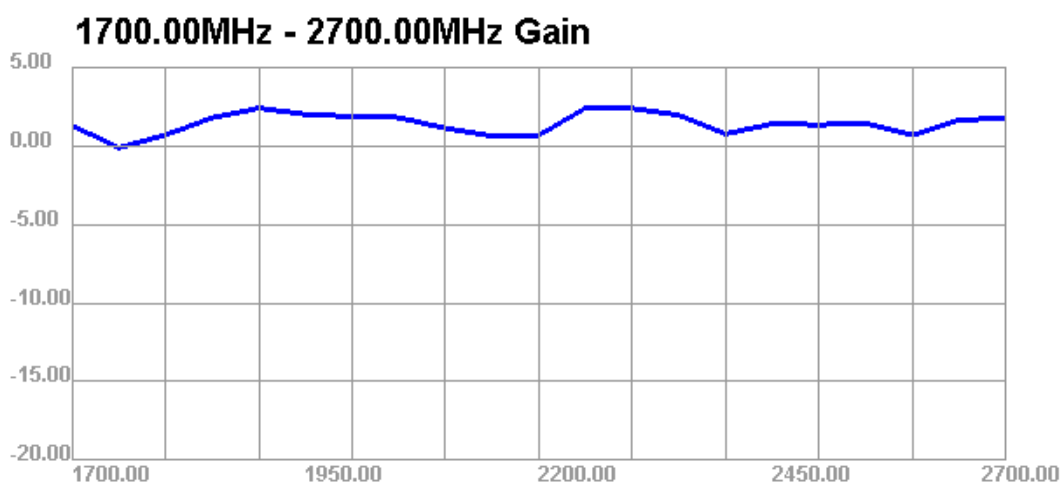
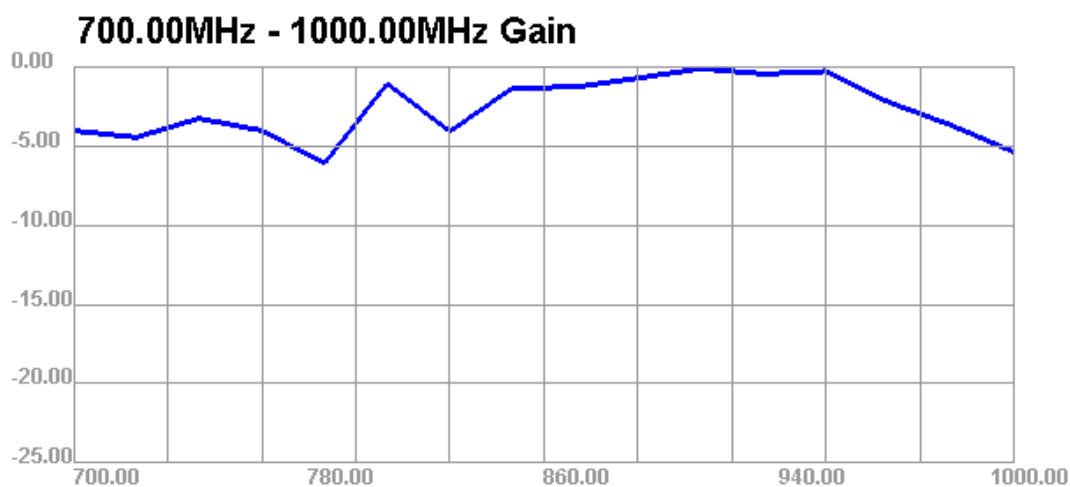


1700.00MHz - 2700.00MHz Efficiency



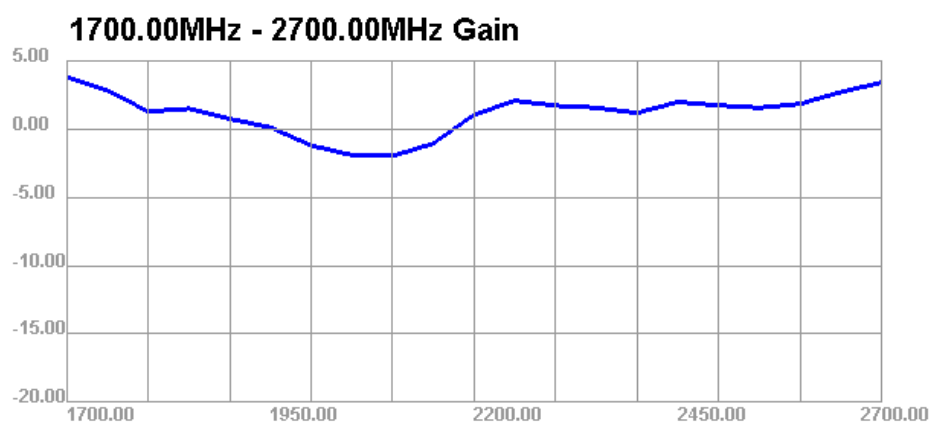
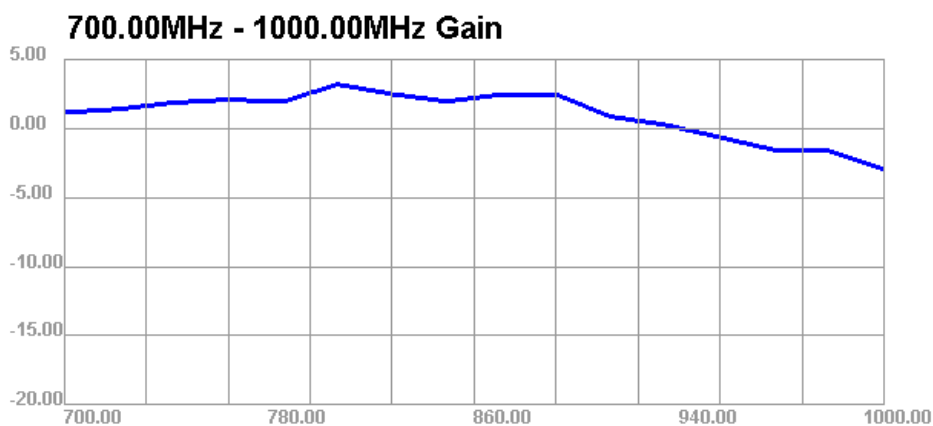
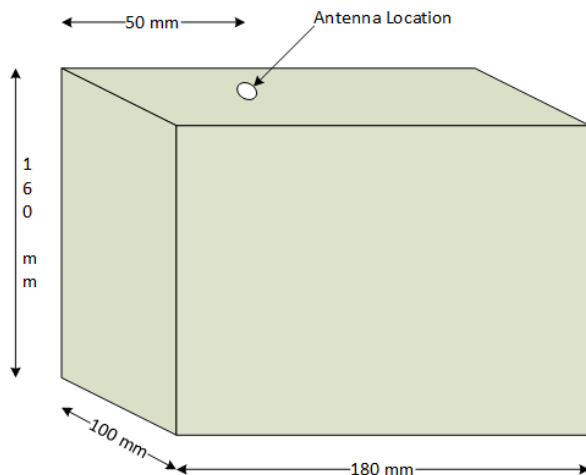
Frequency (MHz)	700	780	840	960	1000	1700	1950	2150	2450	2650
Efficiency (%)	41.78	51.55	67.24	28.25	16.18	77.72	41.01	25.15	51.07	57.54

4.4. Gain



Frequency (MHz)	700	780	840	960	1000	1700	1950	2150	2450	2650
Gain (dBi)	-4.04	-6.09	-1.34	-2.24	-5.39	1.3	2.01	0.63	1.4	1.64

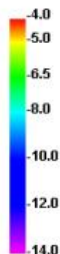
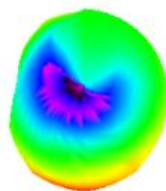
Add metal mounting plate (180 mm × 100 mm × 160mm):



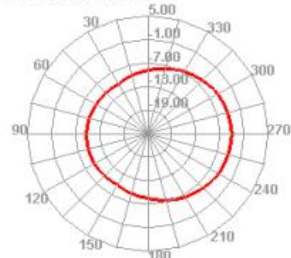
Frequency (MHz)	700	780	840	960	1000	1700	1950	2150	2450	2650
Gain (dBi)	1.15	1.92	1.95	-1.57	-2.97	3.83	0.13	-1.06	1.98	2.71

4.5. Radiation Patterns

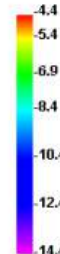
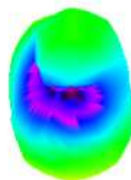
700.000MHz



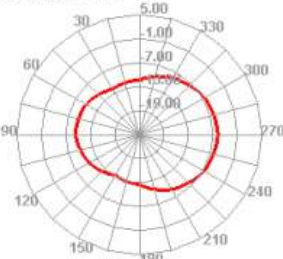
700.000MHz H



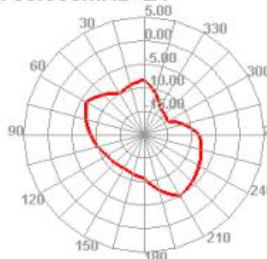
720.000MHz



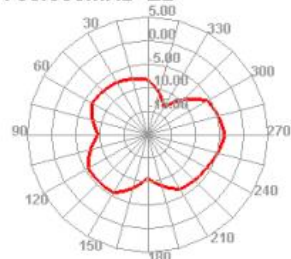
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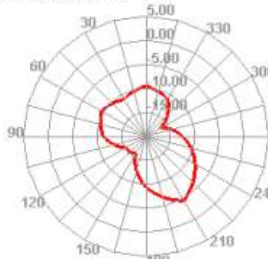
700.000MHz E1



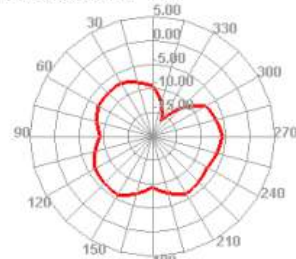
700.000MHz E2



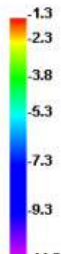
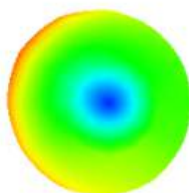
720.000MHz E1



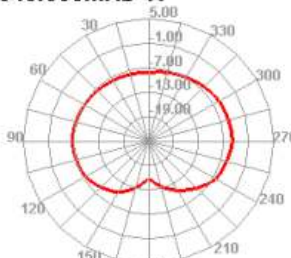
720.000MHz E2



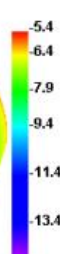
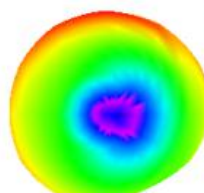
840.000MHz



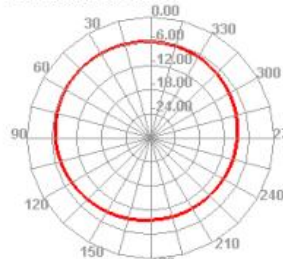
840.000MHz H



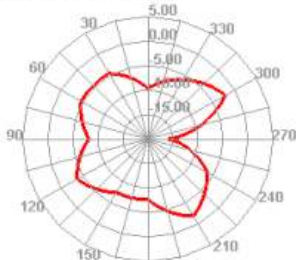
1000.000MHz



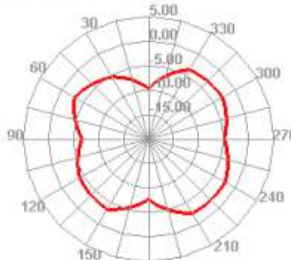
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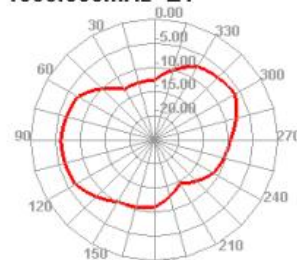
840.000MHz E1



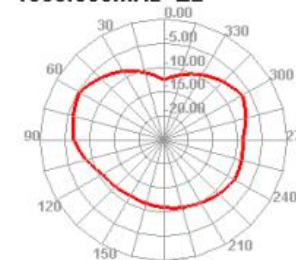
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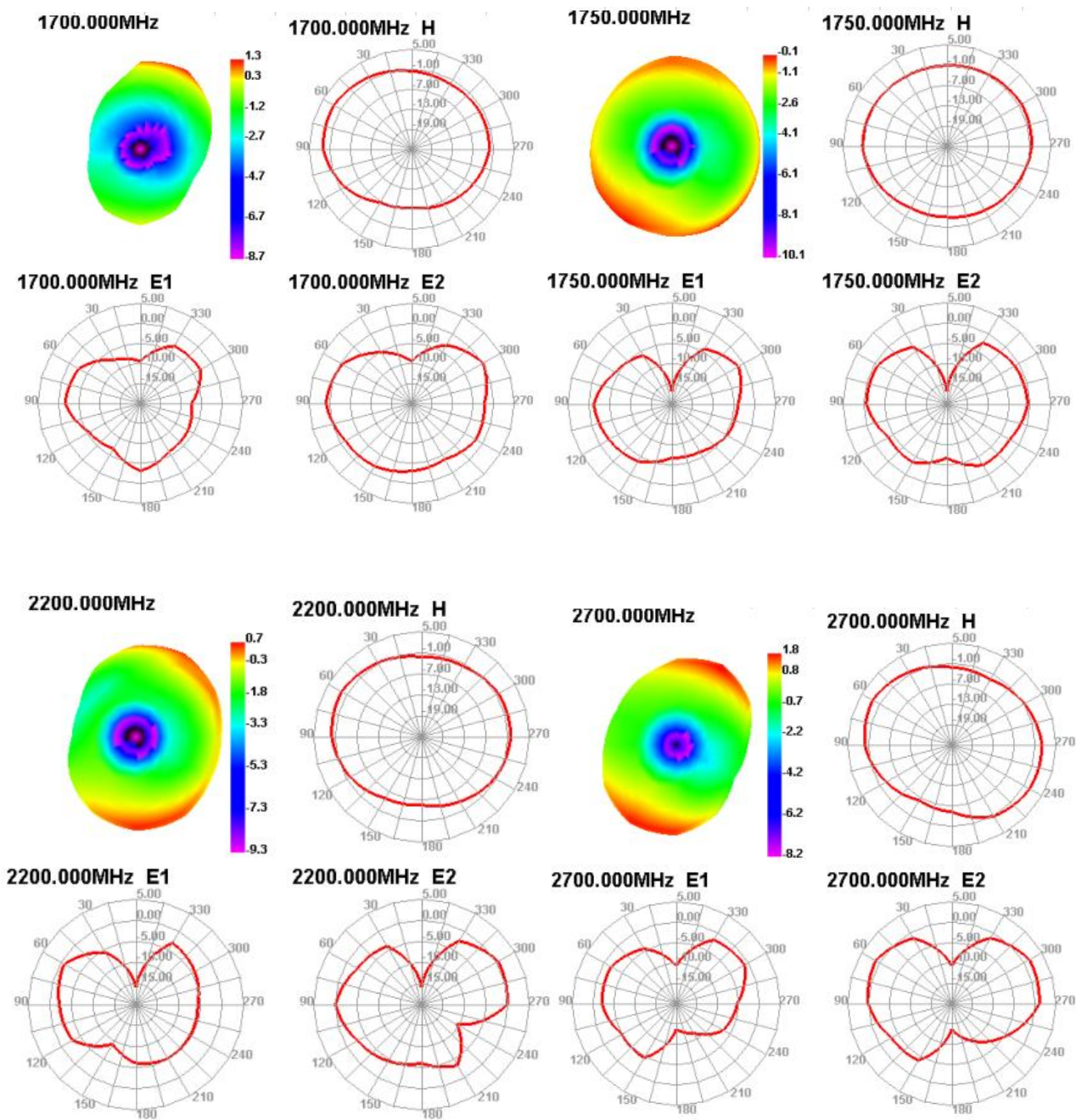


1000.000MHz E1

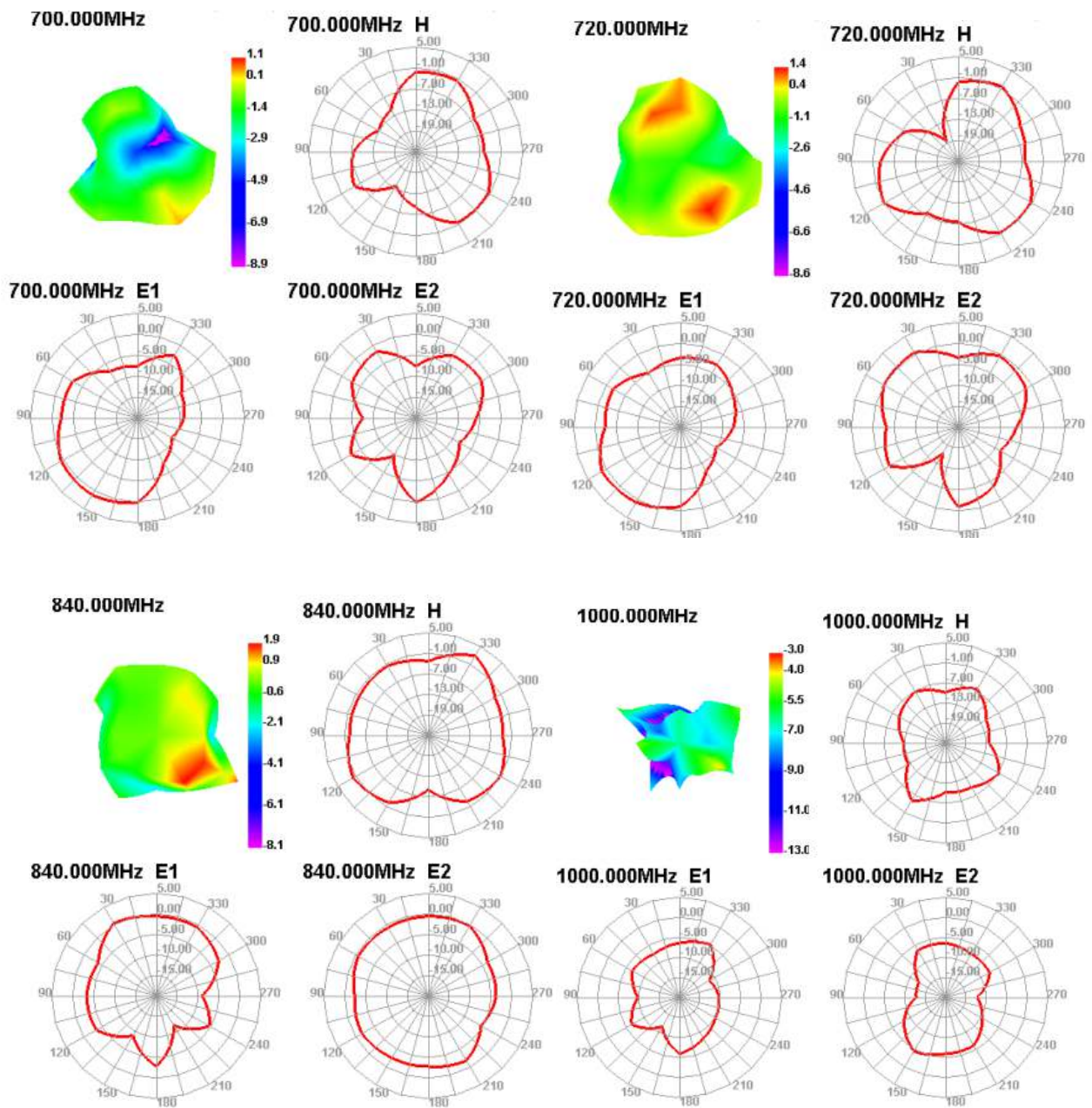
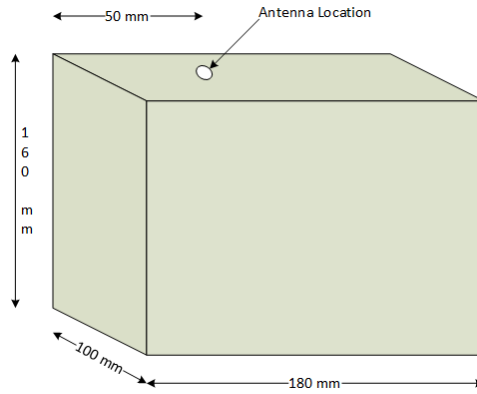


1000.000MHz E2

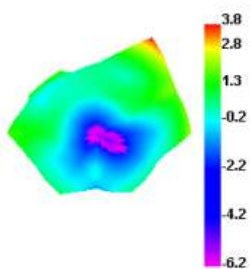




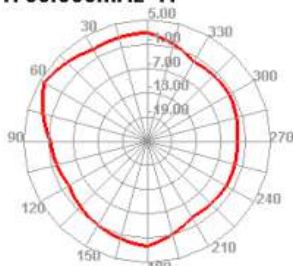
Add metal mounting plate (180 mm × 100 mm × 160mm):



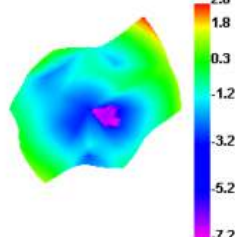
1700.000MHz



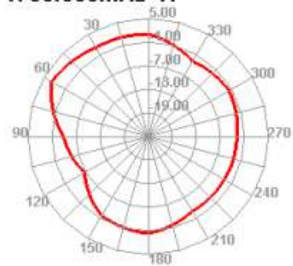
1700.000MHz H



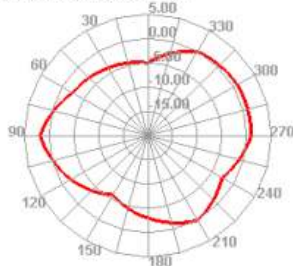
1750.000MHz



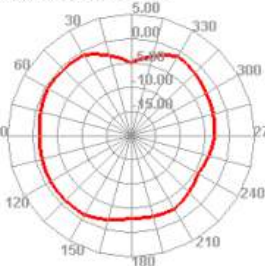
1750.000MHz H



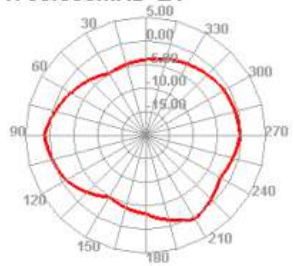
1700.000MHz E1



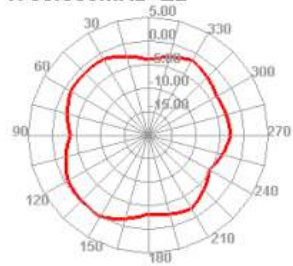
1700.000MHz E2



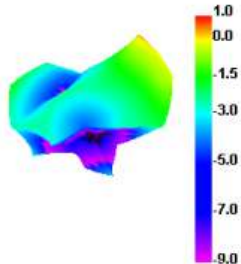
1750.000MHz E1



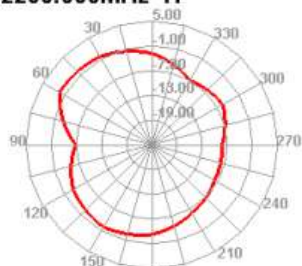
1750.000MHz E2



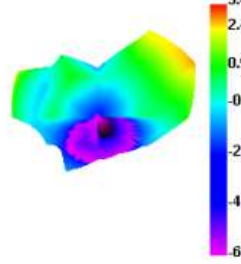
2200.000MHz



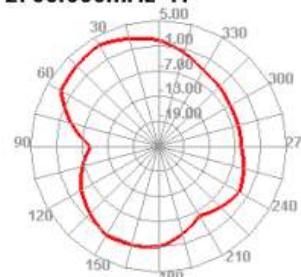
2200.000MHz H



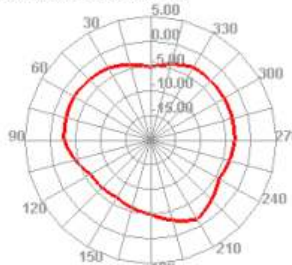
2700.000MHz



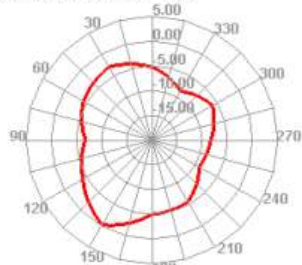
2700.000MHz H



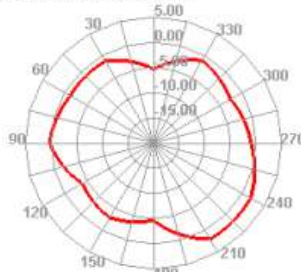
2200.000MHz E1



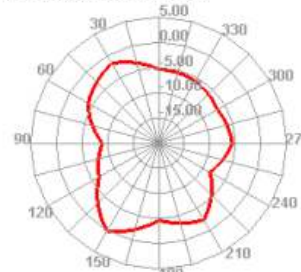
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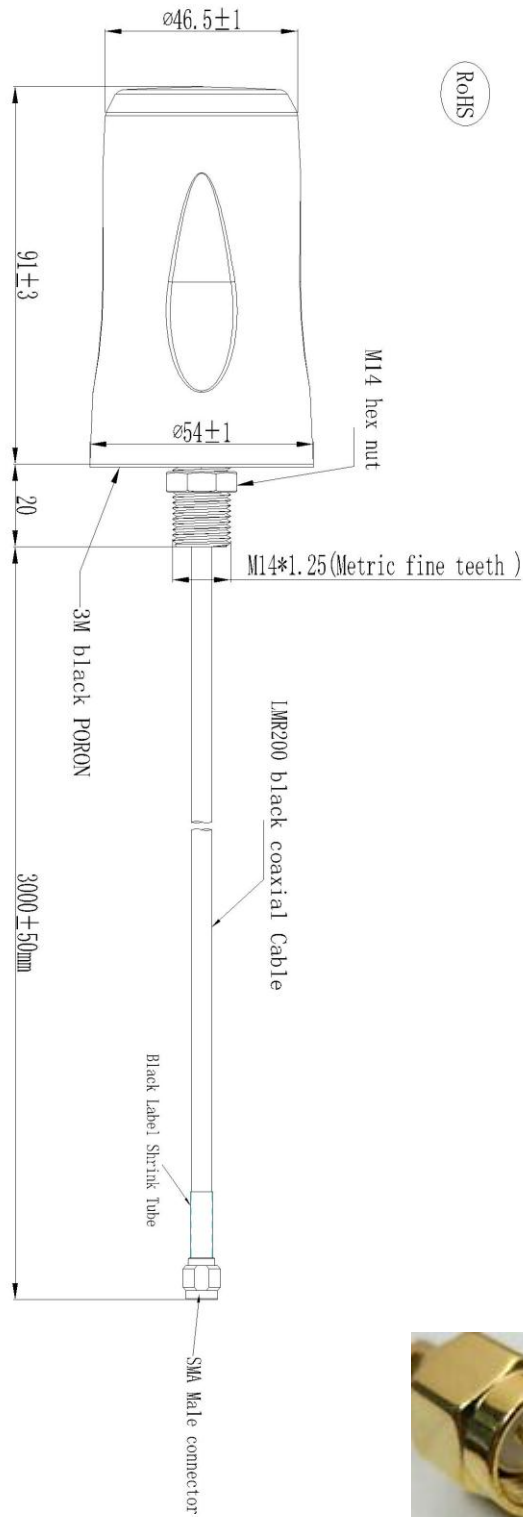
2700.000MHz E1



2700.000MHz E2



5 Product Size



Unit : mm

