

Antenna

YB0016AA Datasheet

Antenna Services

Version: 1.1

Date: 2020-12-16

Status: Released



Our aim is to provide customers with timely and comprehensive service. For any assistance, please contact our company headquarters:

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: info@quectel.com

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

<http://www.quectel.com/support/sales.htm>.

For technical support, or to report documentation errors, please visit:

<http://www.quectel.com/support/technical.htm>

Or email to support@quectel.com.

General Notes

Quectel offers the information as a service to its customers. The information provided is based upon customers' requirements. Quectel makes every effort to ensure the quality of the information it makes available. Quectel does not make any warranty as to the information contained herein, and does not accept any liability for any injury, loss or damage of any kind incurred by use of or reliance upon the information. All information supplied herein is subject to change without prior notice.

Disclaimer

While Quectel has made efforts to ensure that the functions and features under development are free from errors, it is possible that these functions and features could contain errors, inaccuracies and omissions. Unless otherwise provided by valid agreement, Quectel makes no warranties of any kind, implied or express, with respect to the use of features and functions under development. To the maximum extent permitted by law, Quectel excludes all liability for any loss or damage suffered in connection with the use of the functions and features under development, regardless of whether such loss or damage may have been foreseeable.

Duty of Confidentiality

The Receiving Party shall keep confidential all documentation and information provided by Quectel, except when the specific permission has been granted by Quectel. The Receiving Party shall not access or use Quectel's documentation and information for any purpose except as expressly provided herein. Furthermore, the Receiving Party shall not disclose any of the Quectel's documentation and information to any third party without the prior written consent by Quectel. For any noncompliance to the above requirements, unauthorized use, or other illegal or malicious use of the documentation and information, Quectel will reserve the right to take legal action.

Copyright

The information contained here is proprietary technical information of Quectel. Transmitting, reproducing, disseminating and editing this document as well as using the content without permission are forbidden. Offenders will be held liable for payment of damages. All rights are reserved in the event of a patent grant or registration of a utility model or design.

Copyright © Quectel Wireless Solutions Co., Ltd. 2020. All rights reserved.

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.

Contents

About the Document.....	3
Contents	4
1 Product Description.....	5
2 Product Features	5
3 Product Specifications	6
4 Overall Performance	7
4.1. Test Environment	7
4.2. VSWR.....	8
4.3. Efficiency	10
4.4. Gain.....	12
4.5. Radiation Patterns.....	14
5 Product Size	18

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 Impedence	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

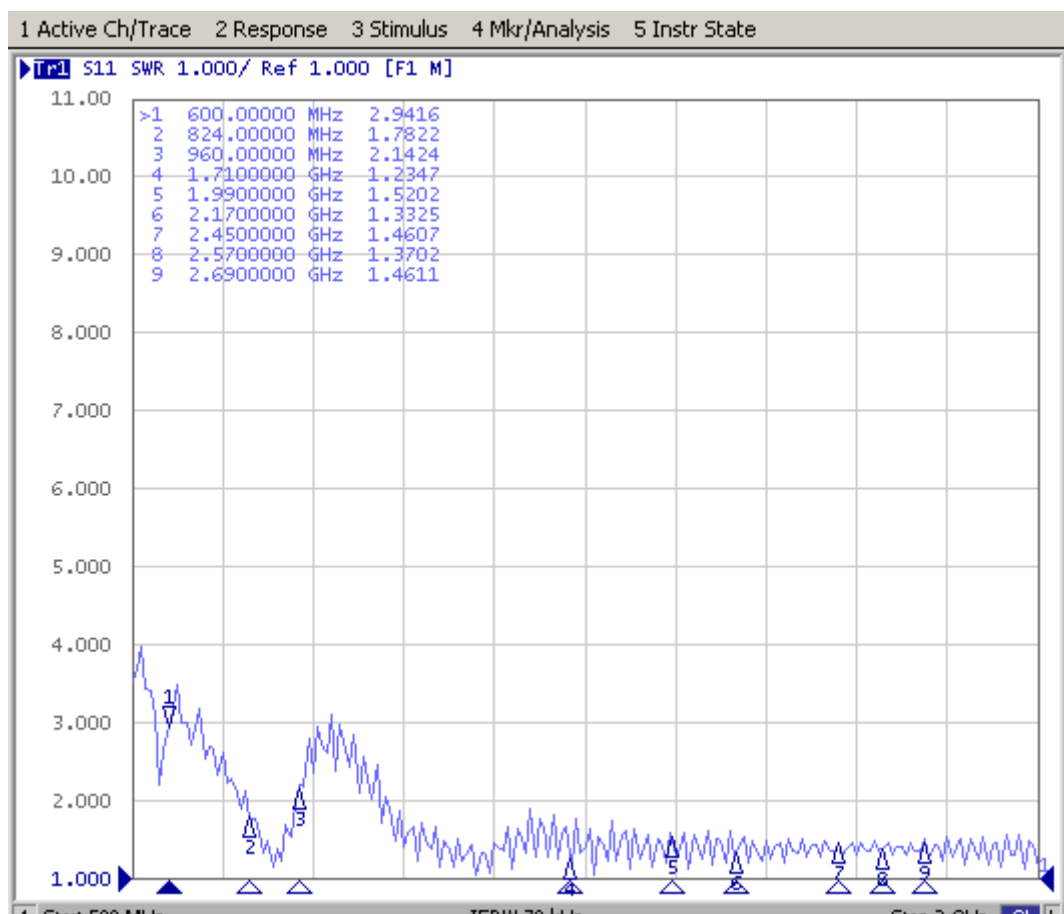
4 Overall Performance

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

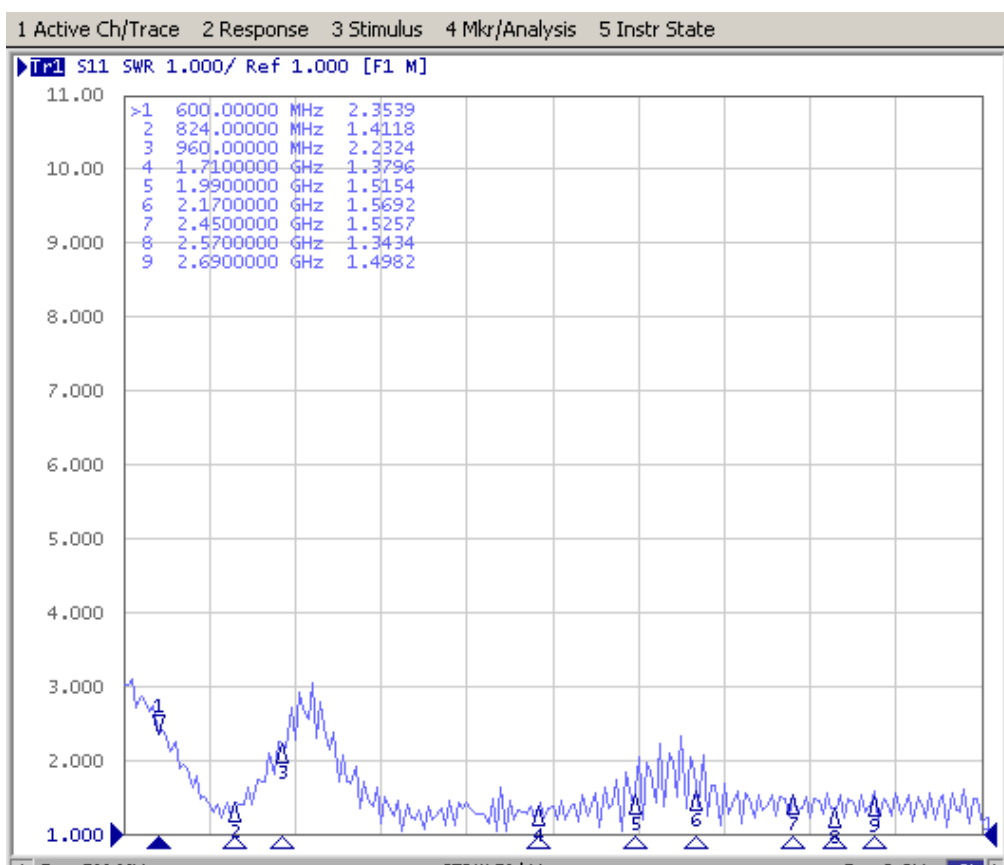
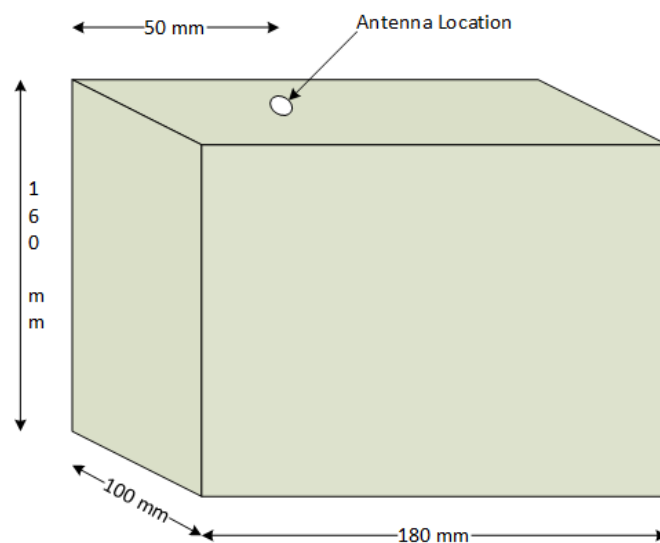


4.2. VSWR



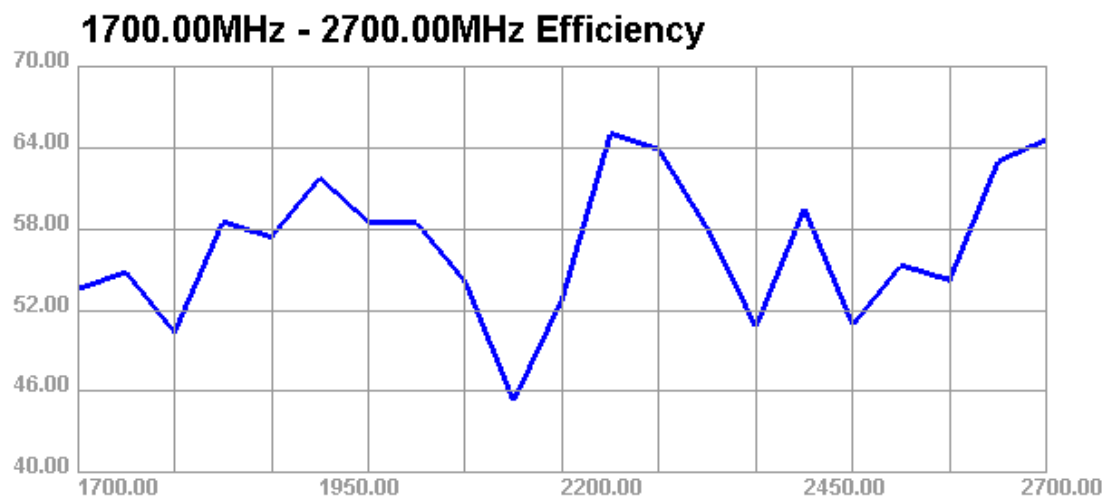
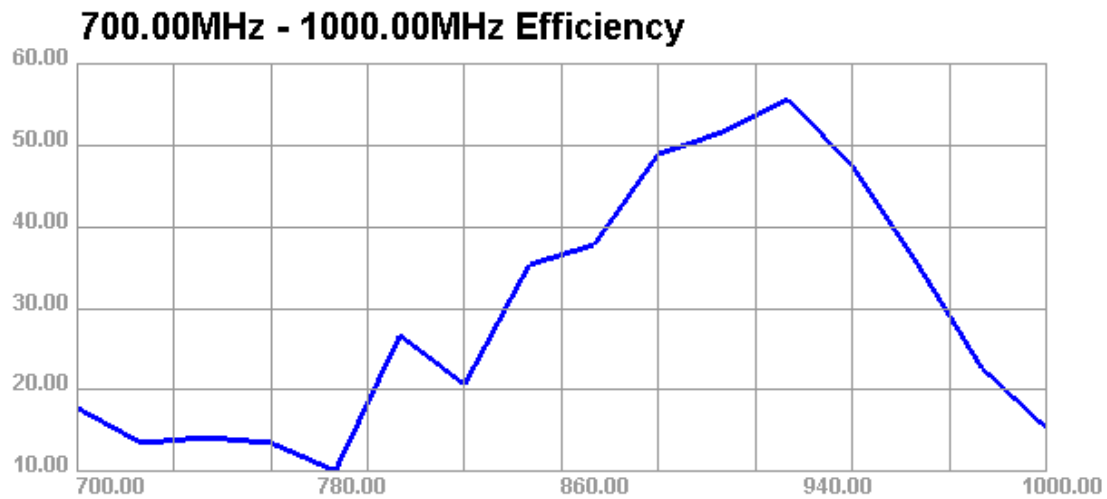
Frequency (MHz)	600	824	960	1710	1990	2170	2450	2570	2690
VSWR	2.94	1.78	2.14	1.23	1.52	1.33	1.46	1.37	1.46

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



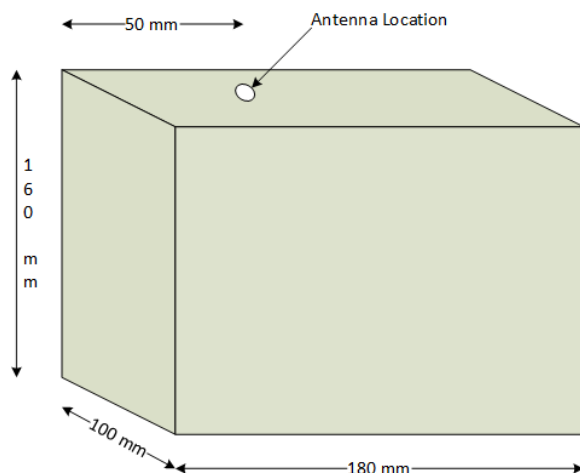
Frequency (MHz)	600	824	960	1710	1990	2170	2450	2570	2690
VSWR	2.35	1.41	2.23	1.38	1.52	1.57	1.53	1.34	1.50

4.3. Efficiency

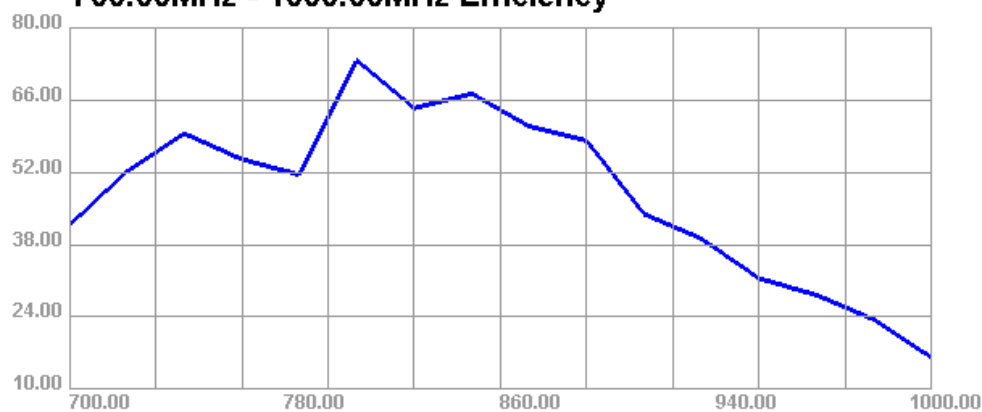


Frequency (MHz)	700	780	840	960	1000	1700	1950	2150	2450	2650
Efficiency (%)	17.85	10.11	35.36	35.52	15.34	53.57	61.76	45.32	59.49	62.98

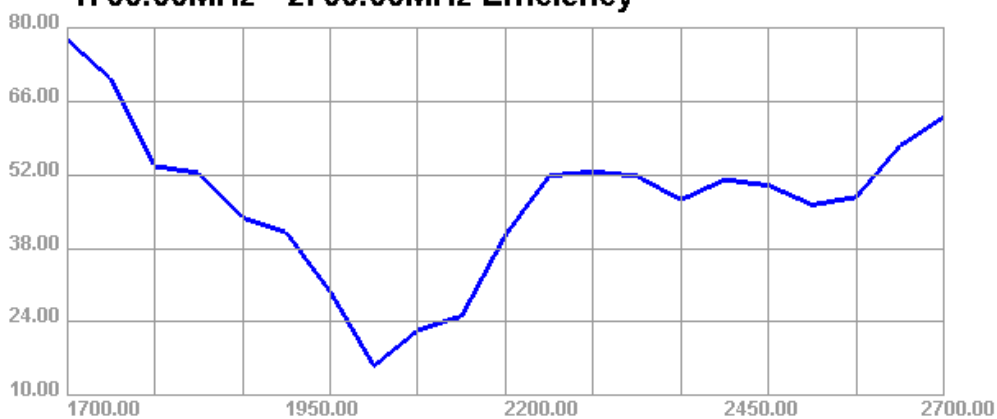
Add metal mounting plate (180 mm × 100 mm × 160 mm):



700.00MHz - 1000.00MHz Efficiency

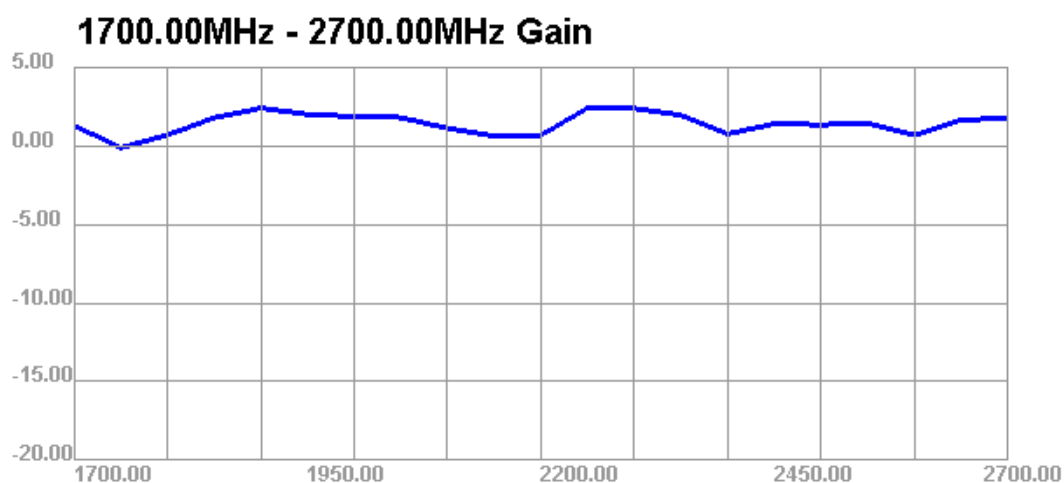
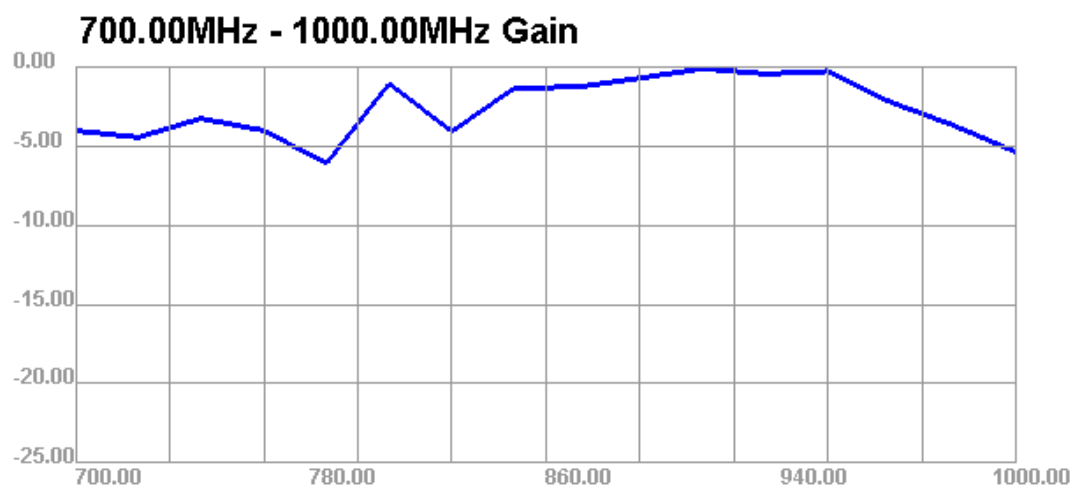


1700.00MHz - 2700.00MHz Efficiency



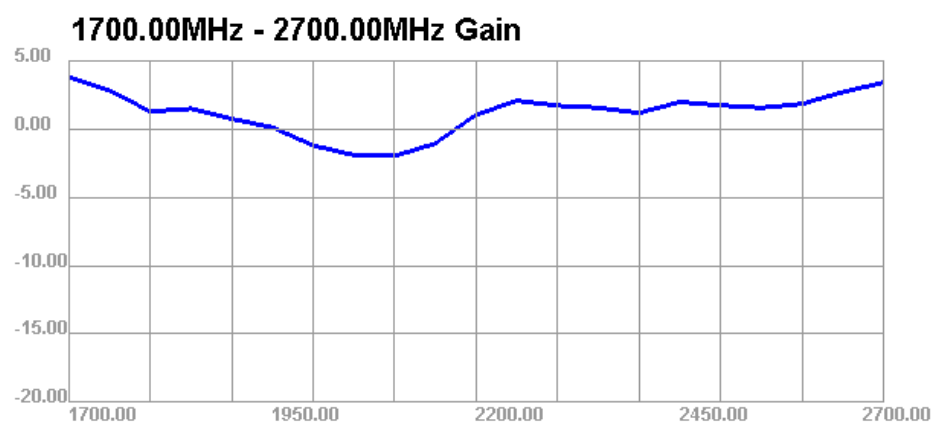
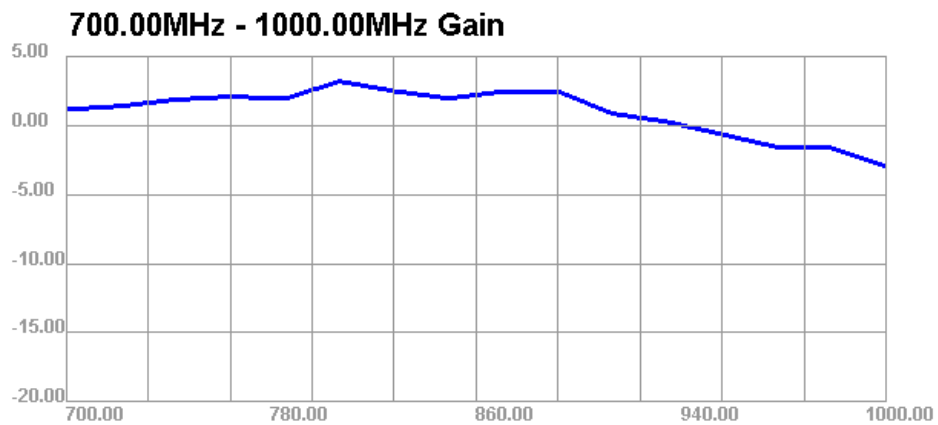
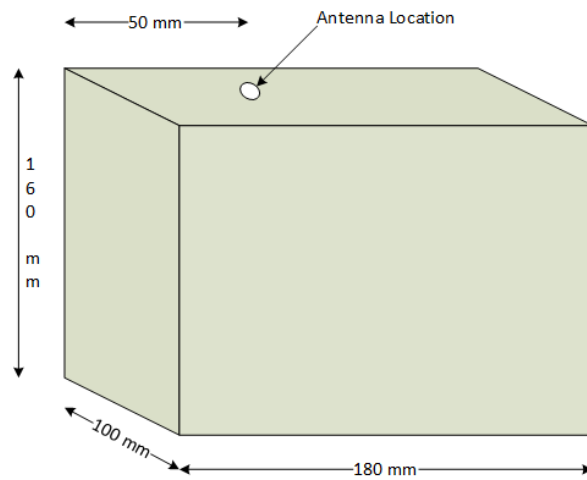
Frequency (MHz)	700	780	840	960	1000	1700	1950	2150	2450	2650
Efficiency (%)	41.78	51.55	67.24	28.25	16.18	77.72	41.01	25.15	51.07	57.54

4.4. Gain



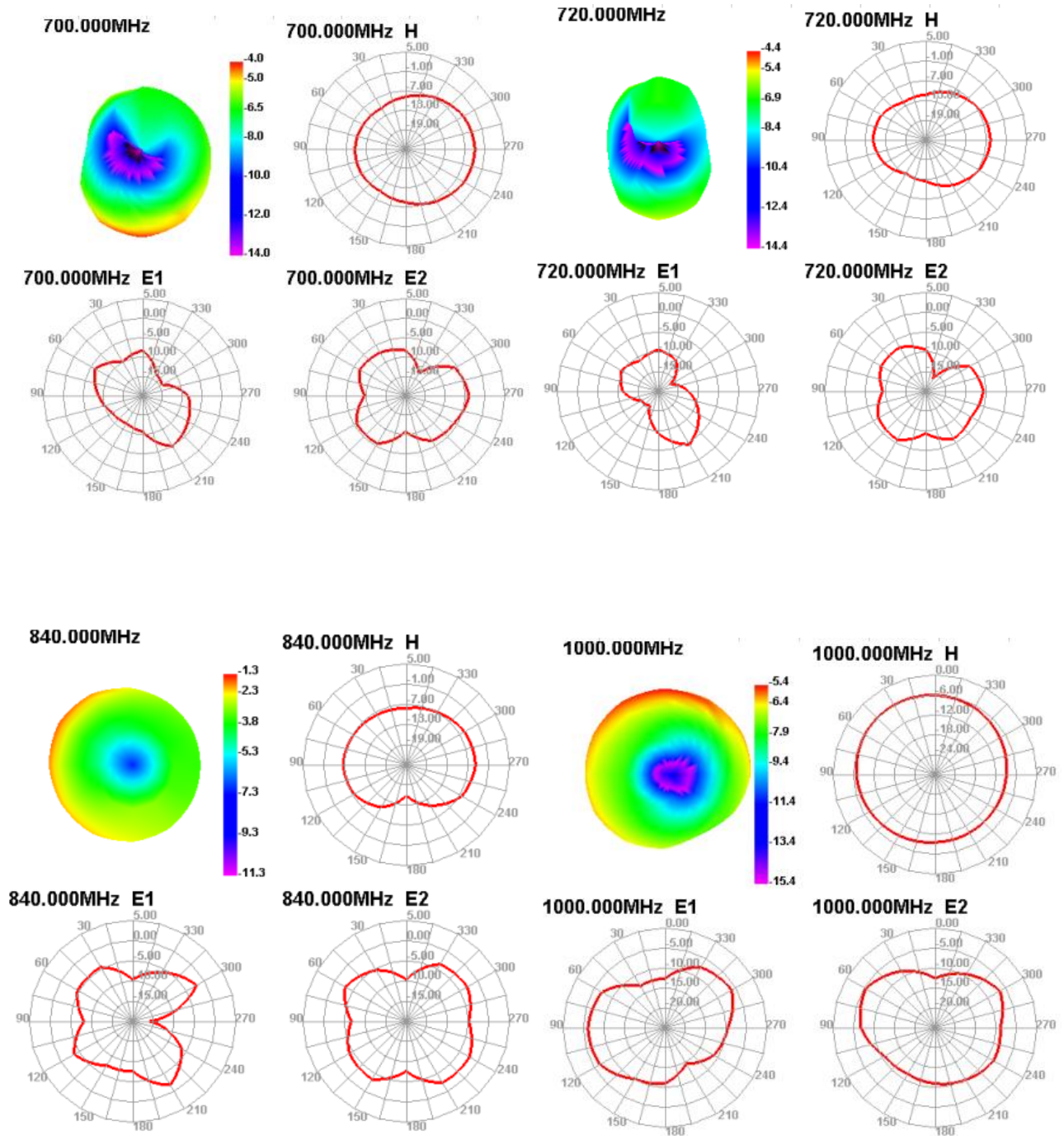
Frequency (MHz)	700	780	840	960	1000	1700	1950	2150	2450	2650
Gain (dBi)	-4.04	-6.09	-1.34	-2.24	-5.39	1.3	2.01	0.63	1.4	1.64

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

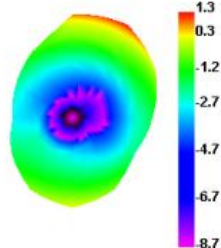


Frequency (MHz)	700	780	840	960	1000	1700	1950	2150	2450	2650
Gain (dBi)	1.15	1.92	1.95	-1.57	-2.97	3.83	0.13	-1.06	1.98	2.71

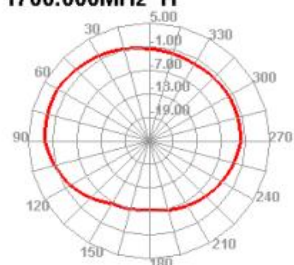
4.5. Radiation Patterns



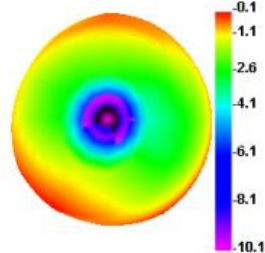
1700.000MHz



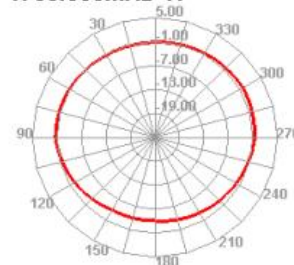
1700.000MHz H



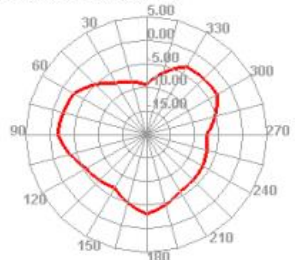
1750.000MHz



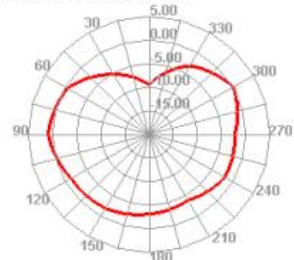
1750.000MHz H



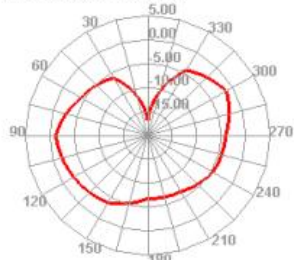
1700.000MHz E1



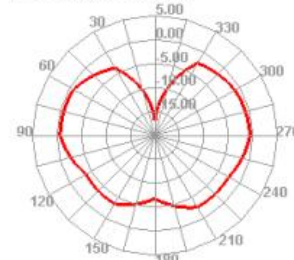
1700.000MHz E2



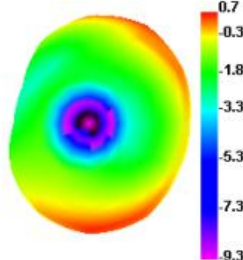
1750.000MHz E1



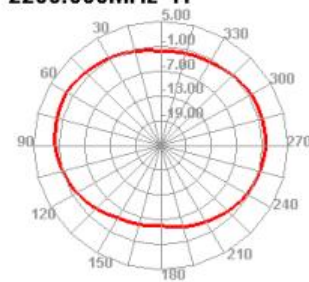
1750.000MHz E2



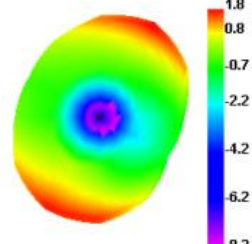
2200.000MHz



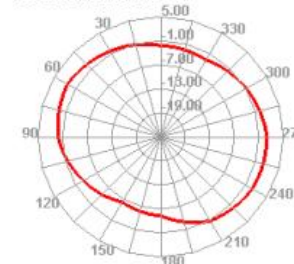
2200.000MHz H



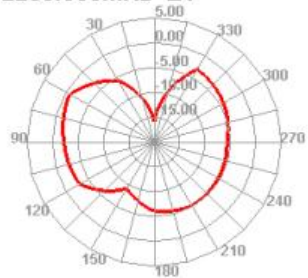
2700.000MHz



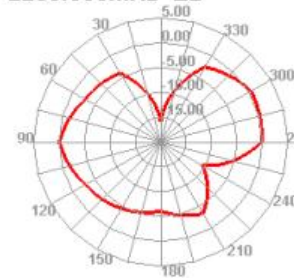
2700.000MHz H



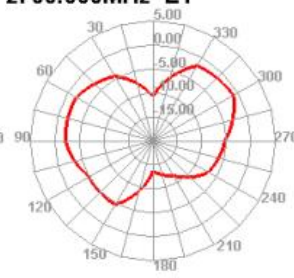
2200.000MHz E1



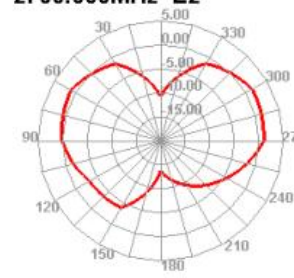
2200.000MHz E2



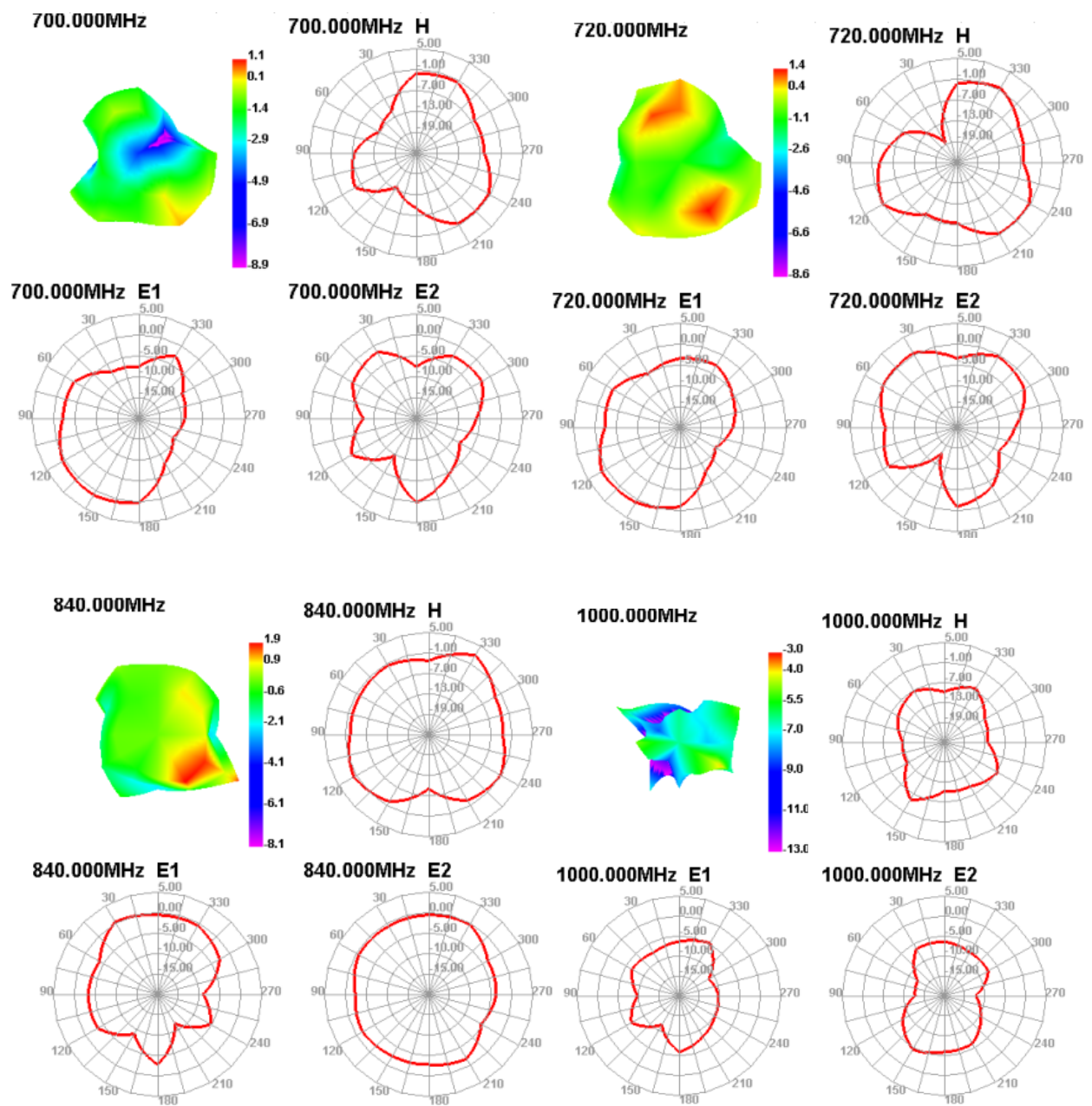
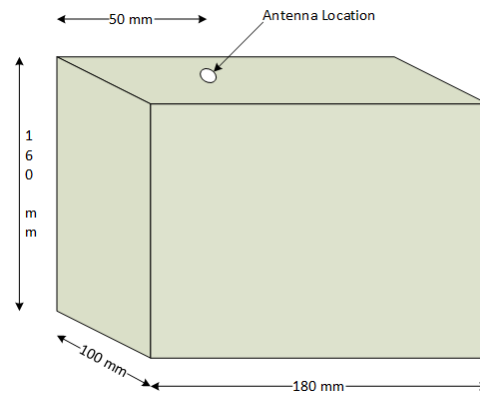
2700.000MHz E1



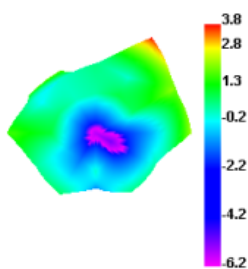
2700.000MHz E2



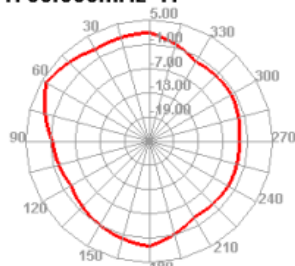
Add metal mounting plate (180 mm × 100 mm × 160mm):



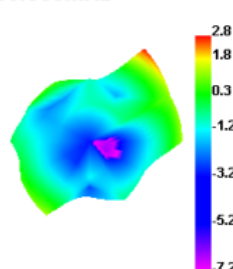
1700.000MHz



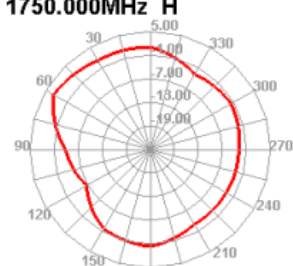
1700.000MHz H



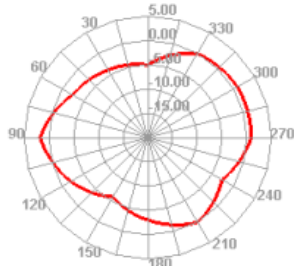
1750.000MHz



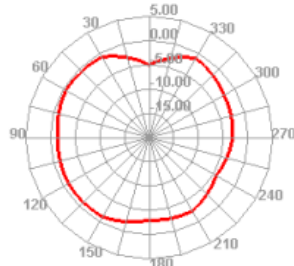
1750.000MHz H



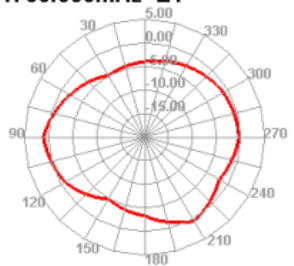
1700.000MHz E1



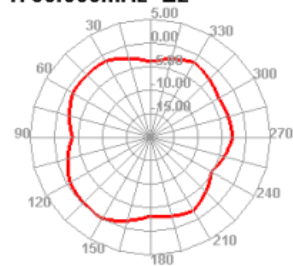
1700.000MHz E2



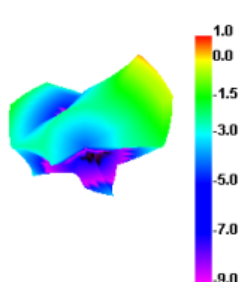
1750.000MHz E1



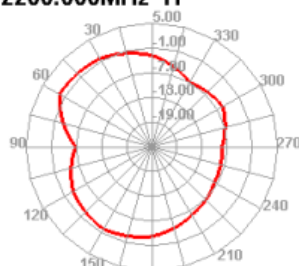
1750.000MHz E2



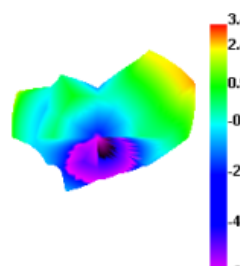
2200.000MHz



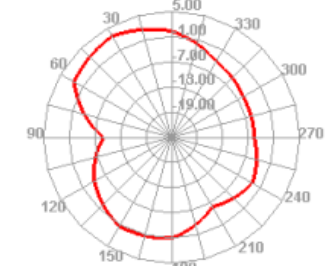
2200.000MHz H



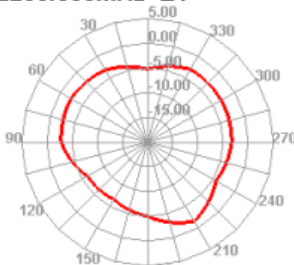
2700.000MHz



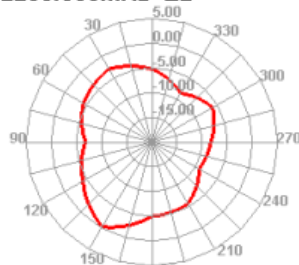
2700.000MHz H



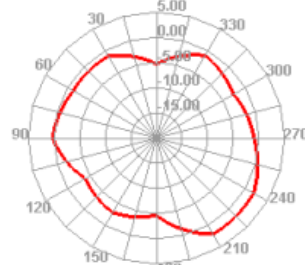
2200.000MHz E1



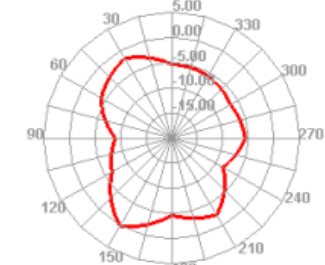
2200.000MHz E2



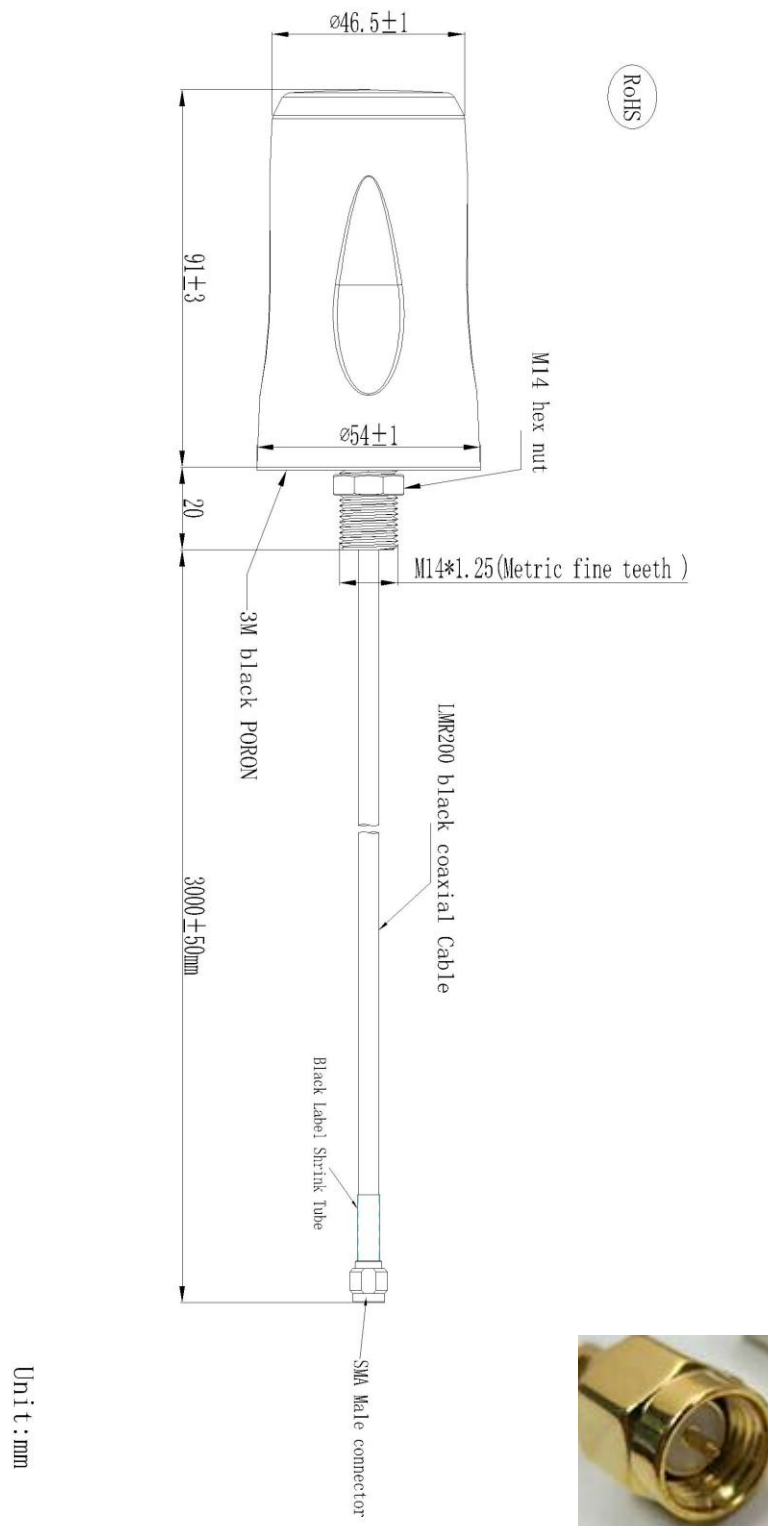
2700.000MHz E1



2700.000MHz E2



5 Product Size



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Quectel:](#)
[YB0016AA](#)