

Antenna

YF0002DA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-06-08	Kenny YIN	First official release
1.1	2021-03-12	Kenny YIN	1. Added the installation method (Chapter 3); 2. Updated the drawing (Chapter 5).
1.2	2021-07-25	Kenny YIN	Updated the working temperature and detailed passive electrical specifications (Chapter 3).
1.3	2021-10-09	Vinnie LIU	Updated the drawing (Chapter 5).
1.4	2021-12-06	Vinnie LIU	Updated the product description in Chapter 1.

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1 Product Description

This Quectel embedded 5G FPC antenna covers 5G NR Sub-6 GHz frequency bands and is compatible with 4G/3G/2G/LPWA bands. Ground plane independent, it's designed to be mounted directly to the underside of either a plastic or non-metallic enclosure. Ease of integration with a cable and connector which can be customized to meet your product design and RF module. Used with other 5G antennas, it can achieve MIMO (multiple input, multiple output) antenna technology for wireless communications in which multiple antennas are used at both the source (transmitter) and the destination (receiver).

2 Product Features

- Cellular 5G MIMO
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	700–960 MHz; 1710–2700 MHz; 3300–5000 MHz
Input Impedence	50 Ω
VSWR	≤ 5.0
Gain	≤ 3 dBi
Polarization Type	Linear

Detailed Passive Electrical Specifications

Frequency Range (MHz)	698–960	1176–1280	1400–1610	1710–2170	2170–2690	3300–4000	4000–5000	5000–6000
VSWR (Max.)	5.24	-	-	2.90	3.05	2.64	2.8	-
Average Efficiency (%)	28	-	-	32	41	40	53	-
Max. Peak Gain (dBi)	0	-	-	0.3	0.7	1.5	2.8	-

Mechanical Specifications

Antenna Size	50.25 mm × 20.1 mm × 10.1mm
Casing	PC
Connector Type	SMA (Male Pin with Internal Thread)
Working Temperature	-40 °C to +85 °C
Radome Color	Black
Mounting Type	M1.6 Screw

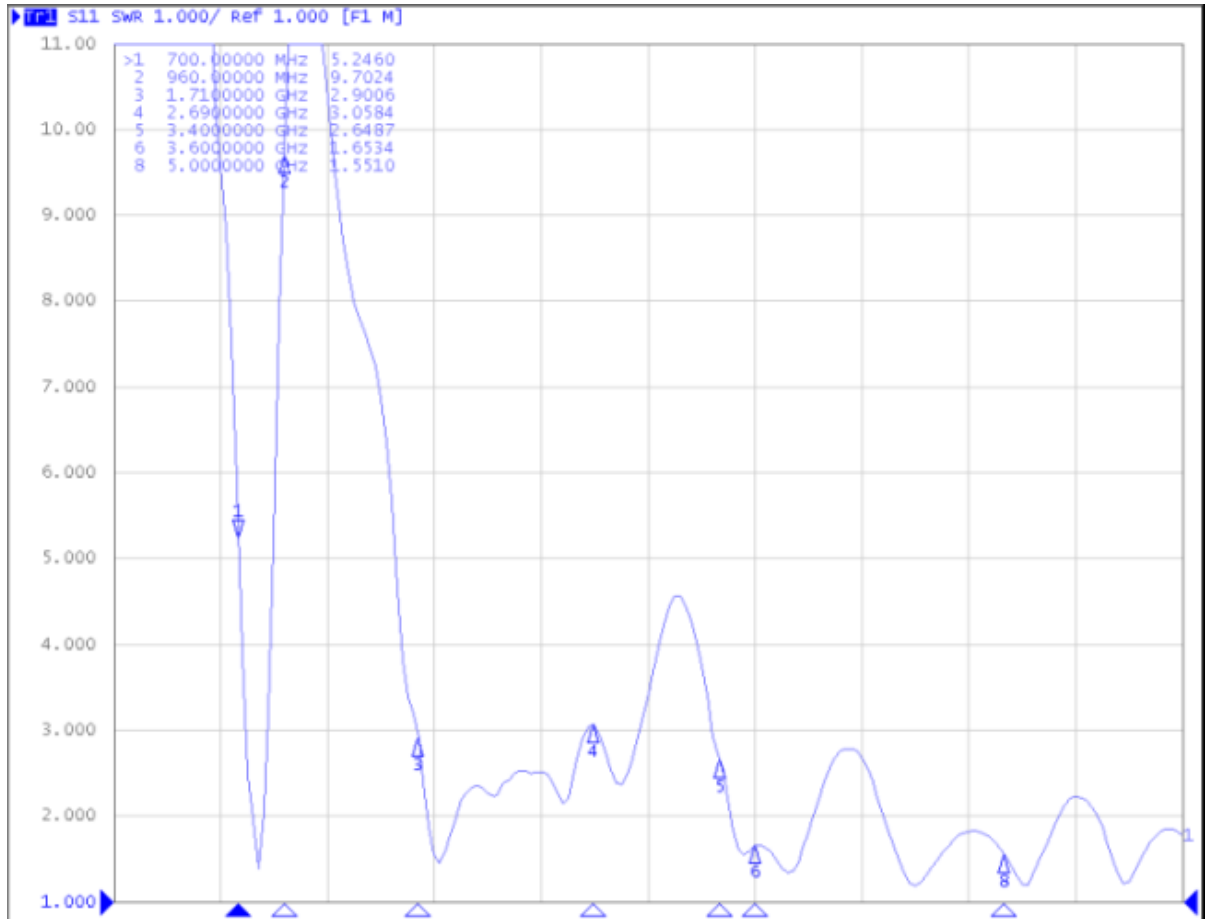
4 Overall Performance

4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO 400 MHz – 8.0 GHz

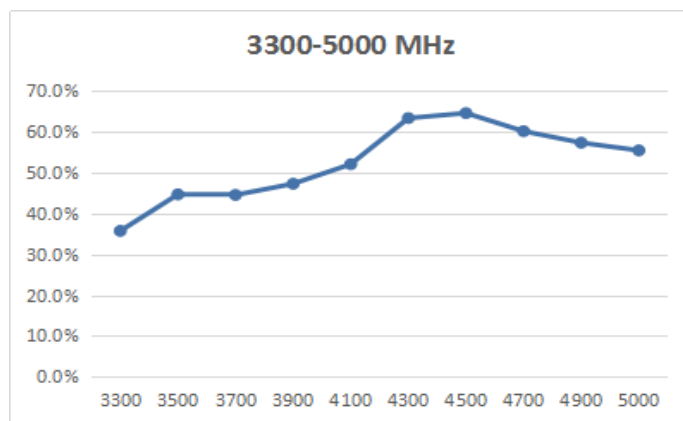
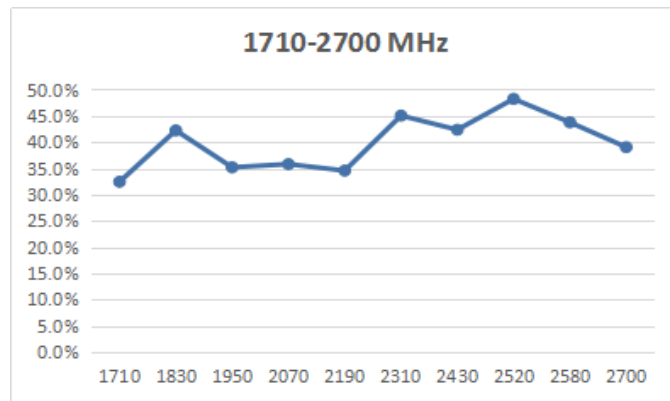
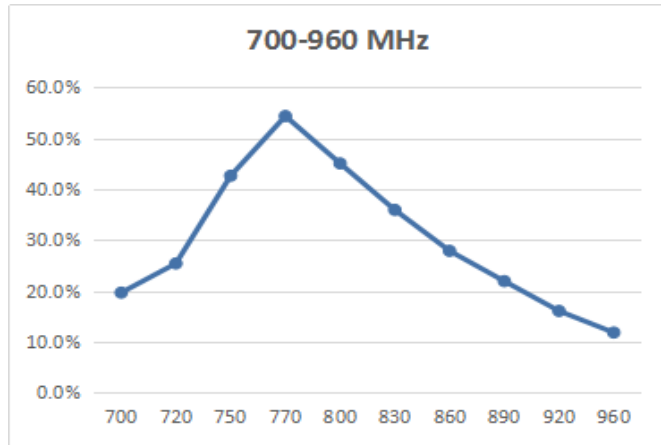


4.2. VSWR



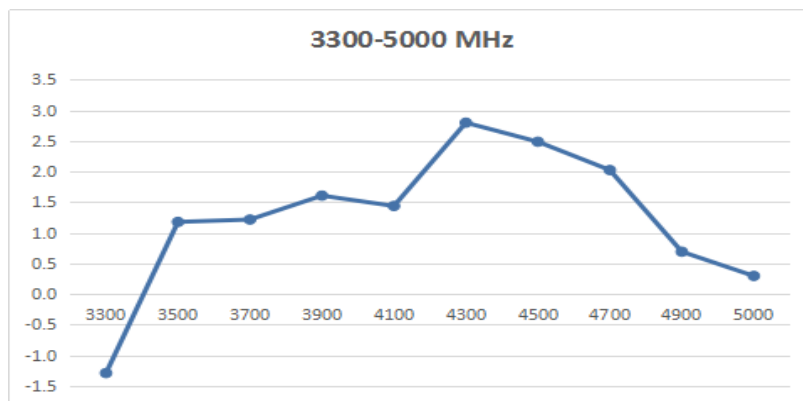
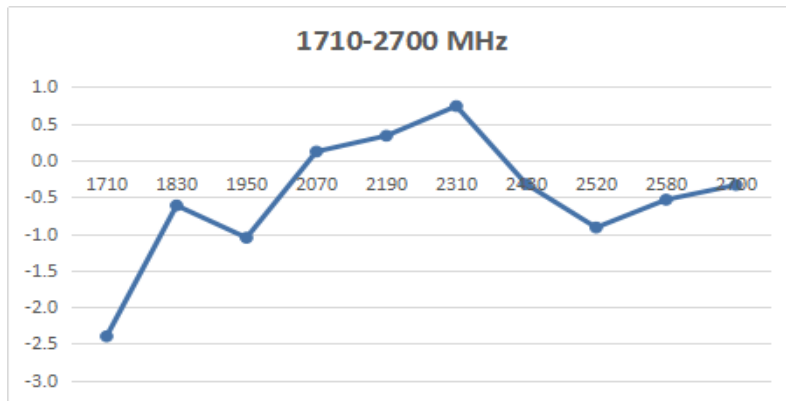
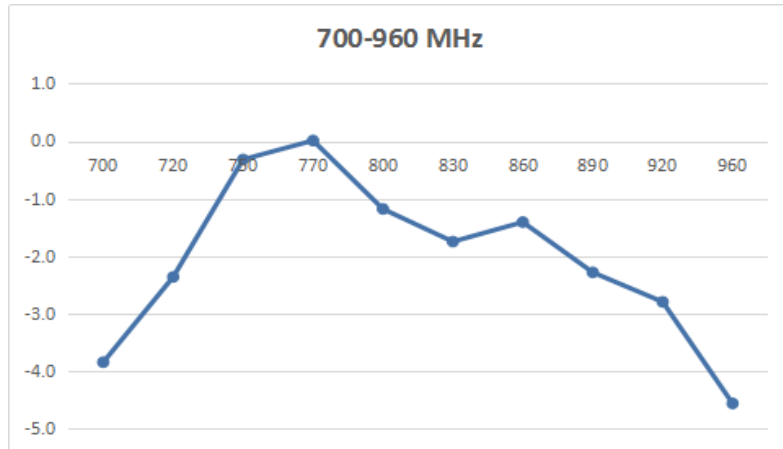
Frequency (MHz)	700	960	1710	2690	3400	3600	5000
VSWR	5.24	9.70	2.90	3.05	2.64	1.65	1.55

4.3. Efficiency



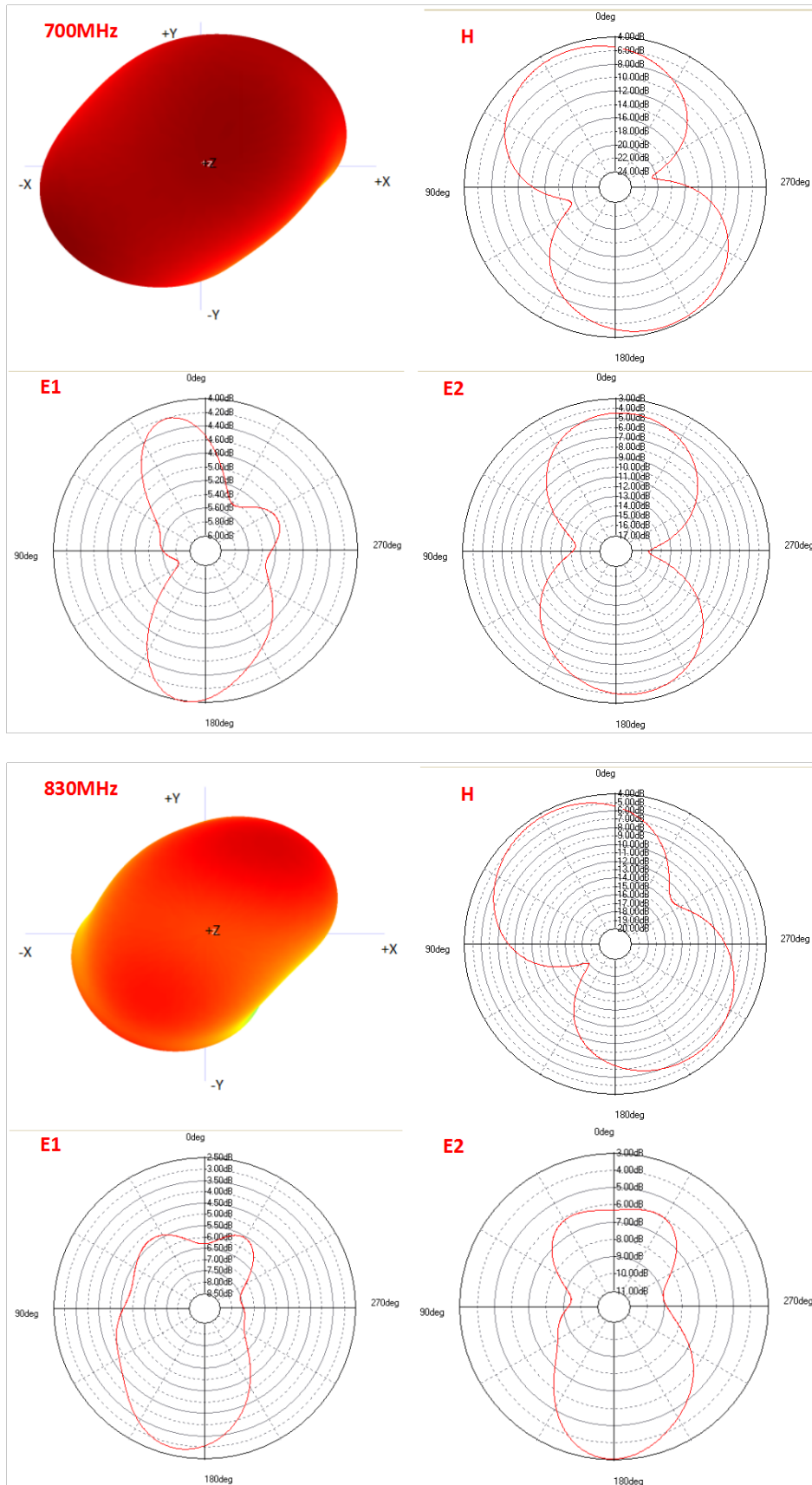
Frequency (MHz)	700	830	960	1710	2190	2700	3300	4100	5000
Efficiency (%)	19.7	35.9	11.8	32.5	34.6	39.0	35.7	52.1	55.5

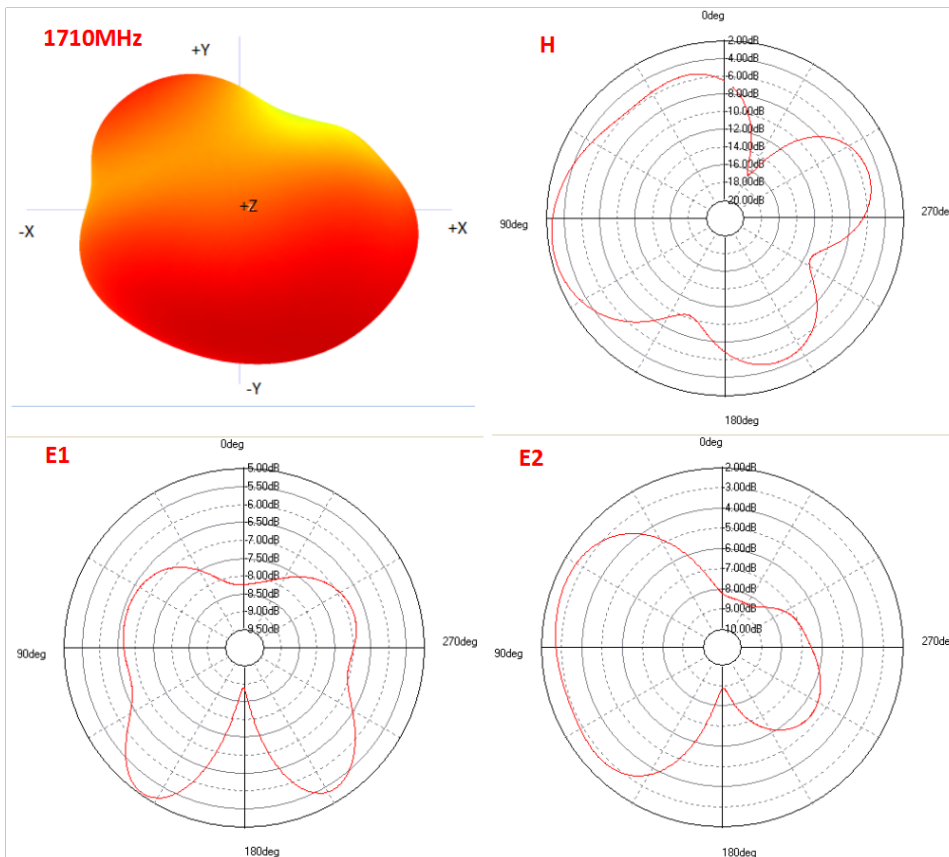
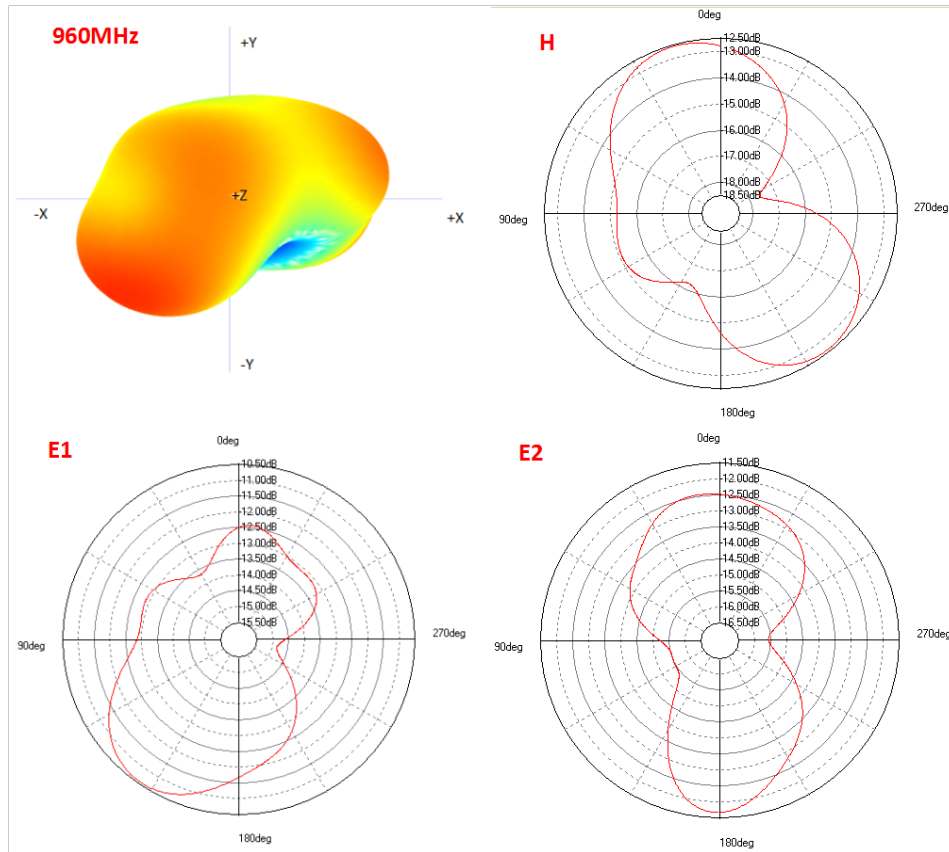
4.4. Gain

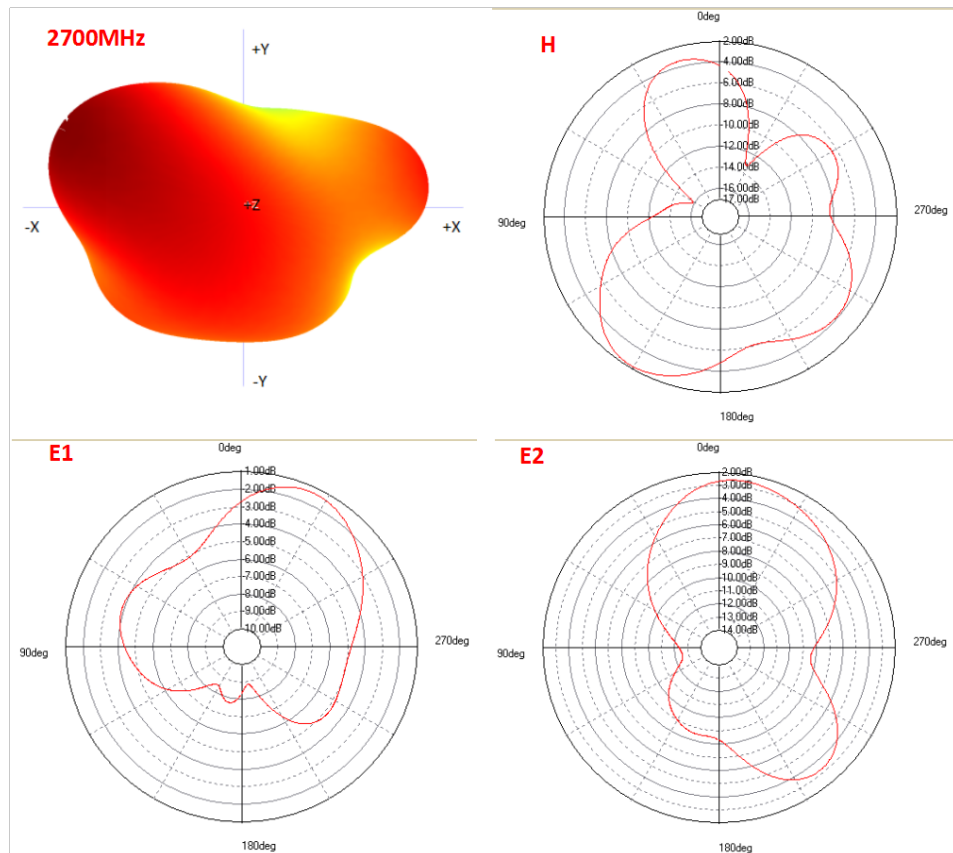
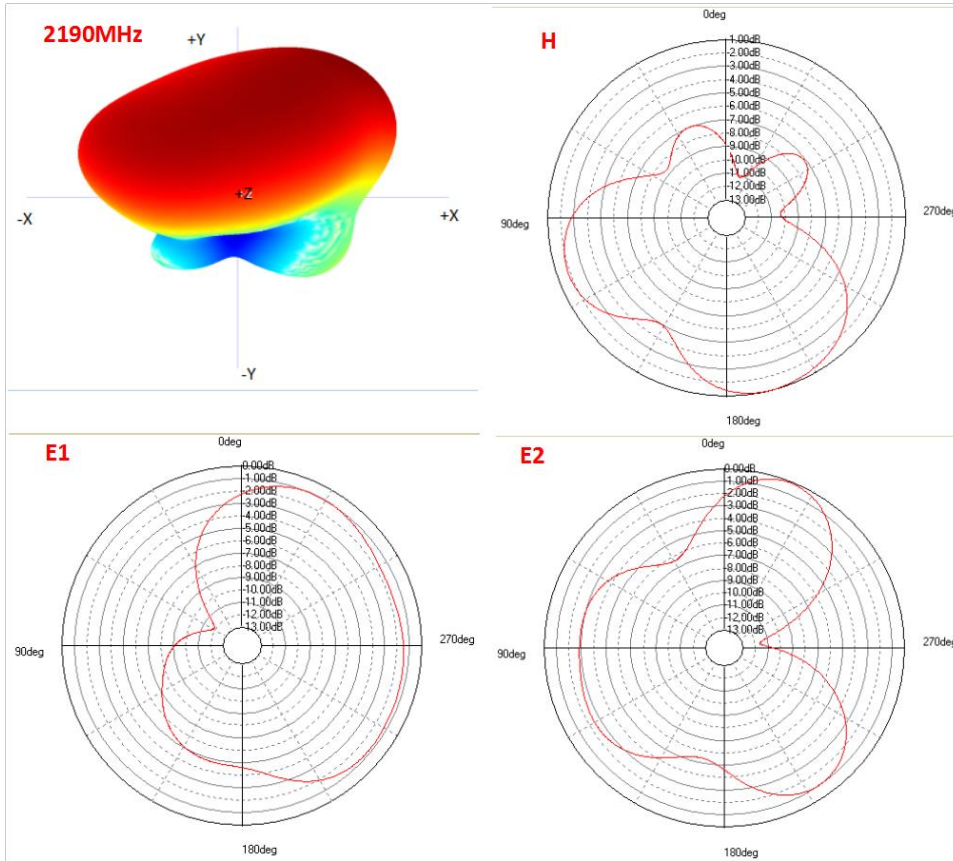


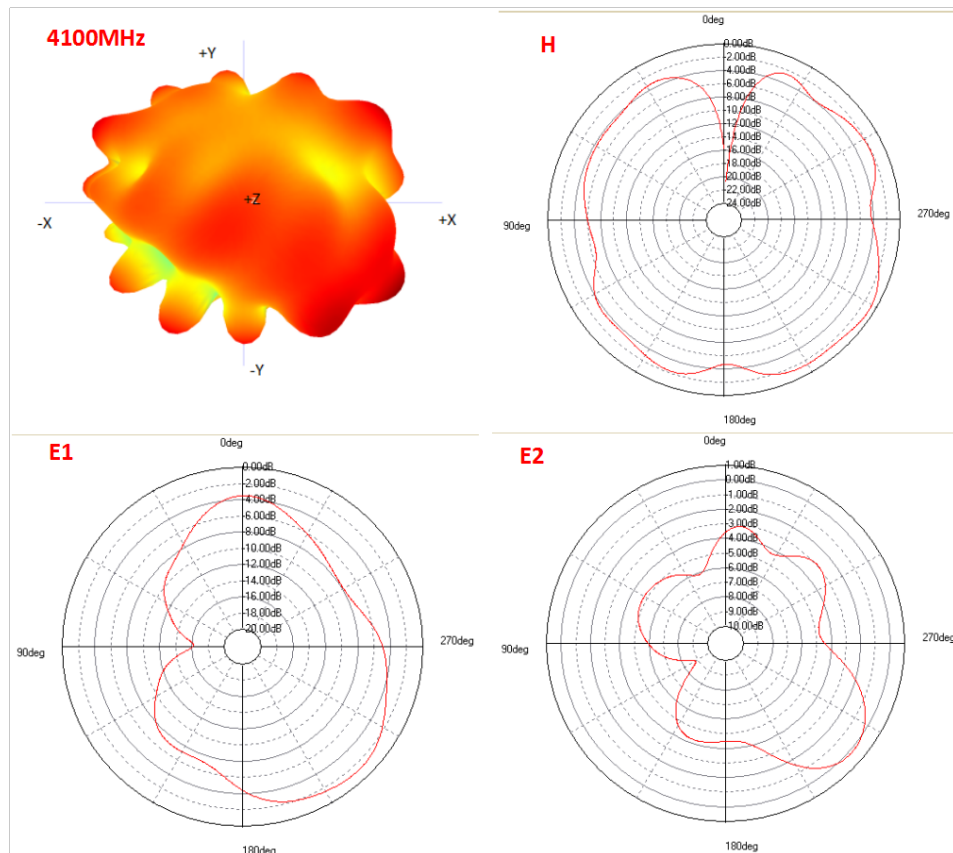
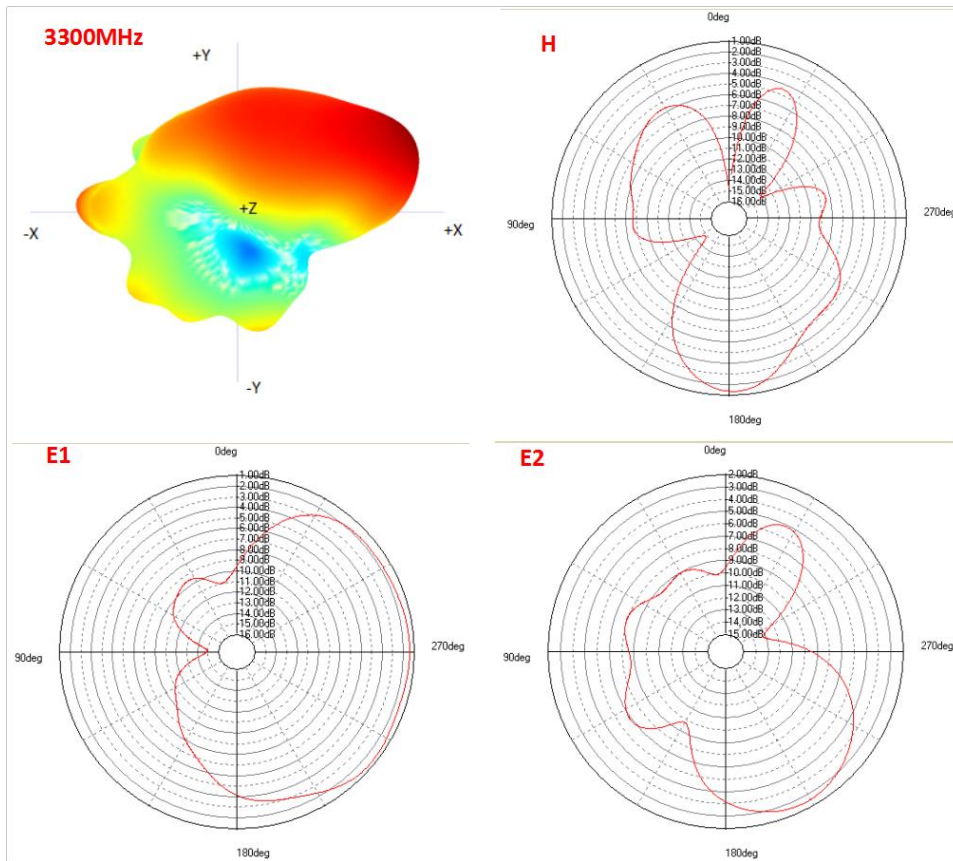
Frequency (MHz)	700	830	960	1710	2190	2700	3300	4100	5000
Gain(dBi)	-3.9	-1.8	-4.6	-2.4	0.3	-0.3	-1.3	1.4	0.3

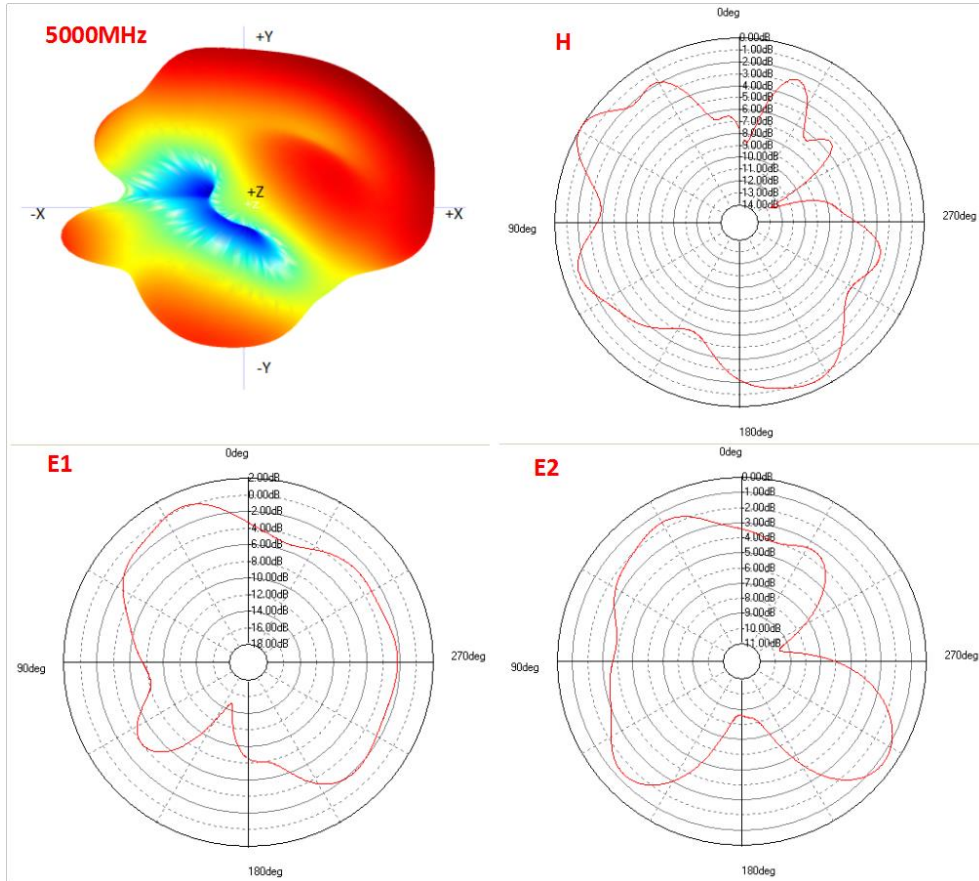
4.5. Radiation Pattern











5 Product Size

