

Antenna

YF0022AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
-	2020-12-08	Kenny YIN	Creation of the document.
1.0	2020-12-08	Kenny YIN	First official release.
1.1	2021-07-25	Kenny YIN	Updated working temperature and detailed passive electrical specifications (Chapter 3).
1.2	2021-10-08	Kenny YIN	Updated the antenna thickness (Chapter 5).
1.3	2021-11-27	Kenny YIN	Updated the product description in Chapter 1.

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1 Product Description

This Quectel embedded 4G FPC antenna covers main 4G LTE bands and is compatible with 3G/2G/LPWA bands. Featuring high efficiency and gain, it is an ideal antenna for a smooth and stable connection with high-efficiency data transmission even under the influence of the device's internal structure. 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.

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

- LTE Full-Band Antenna_PCB
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Ranges	700–960 MHz, 1710–2170 MHz, 2300–2690 MHz
Input Impedence	50 Ω
VSWR	≤ 3.0
Gain	≤ 5.34 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.)	2.79	-	-	2.21	2.71	-	-	-
Average Efficiency (%)	45	-	-	60	70	-	-	-
Max. Peak Gain (dBi)	3.6	-	-	4.5	5.34	-	-	-

Mechanical Specifications

Antenna Size	40 mm x15 mm x 2.0 mm
Casing	FR4
Connector Type	RF 1
Working Temperature	-40 °C to +85 °C
Radome Color	Green

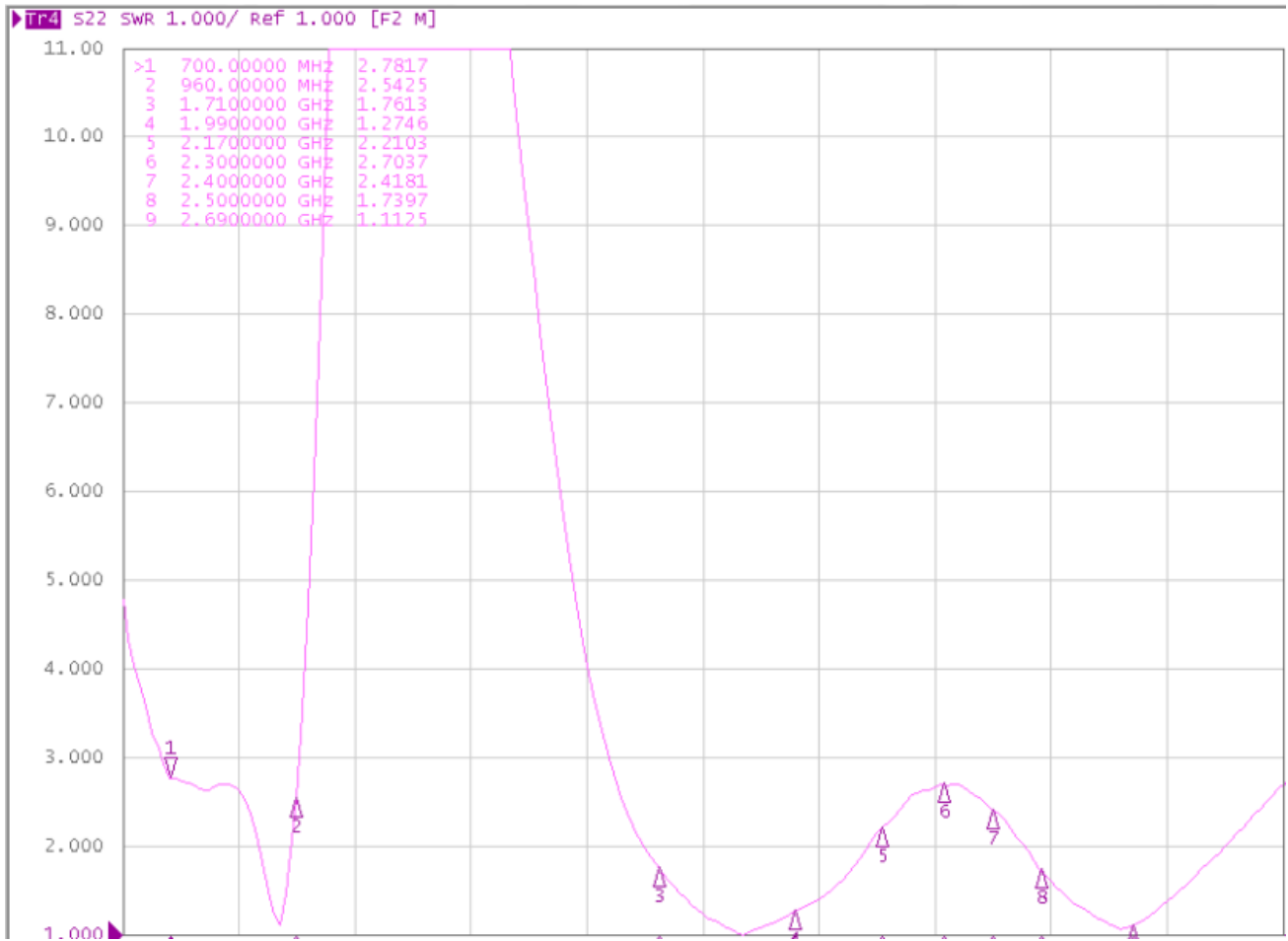
4 Overall Performance

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

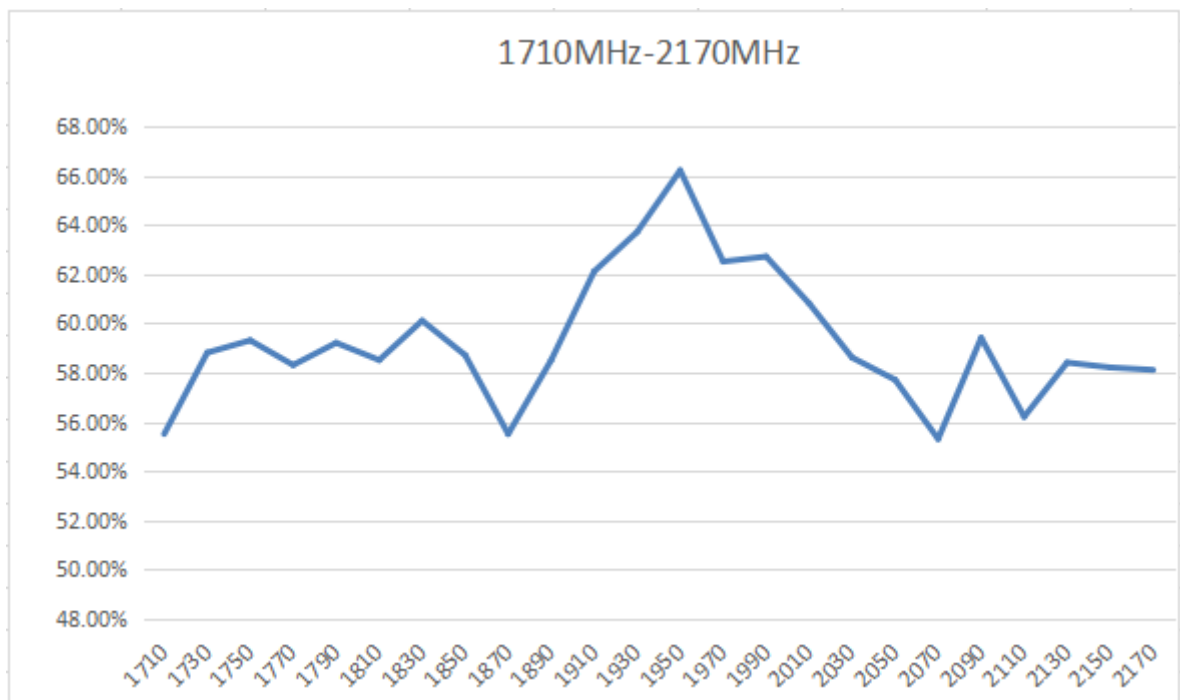
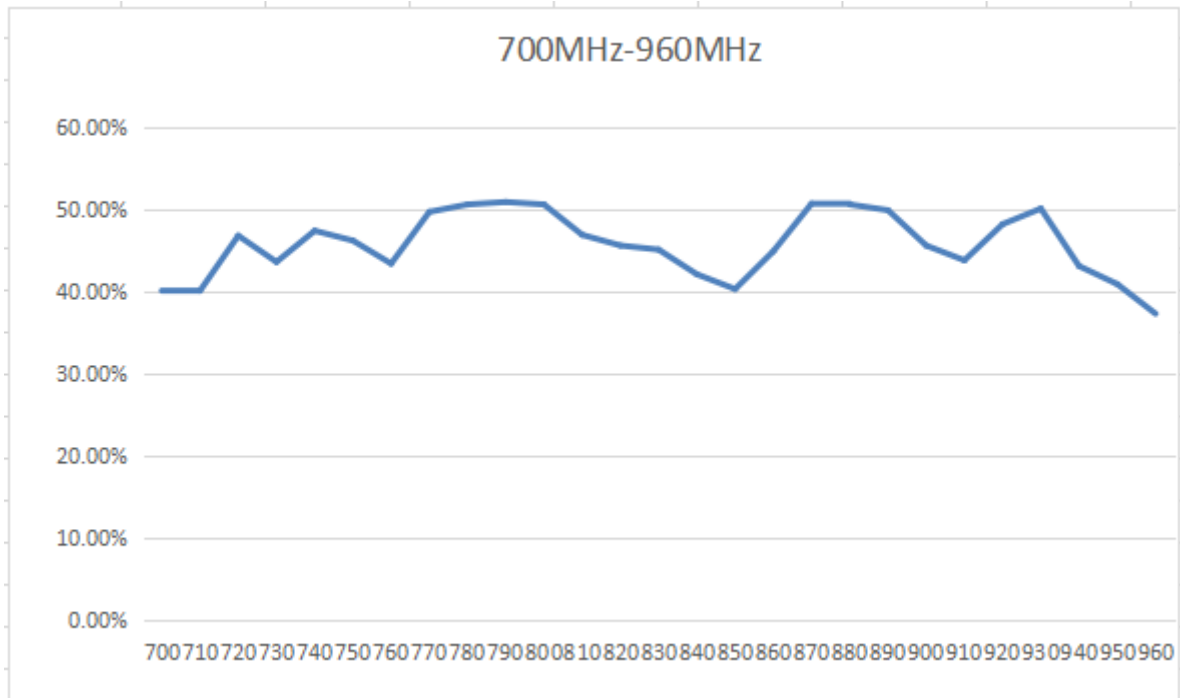


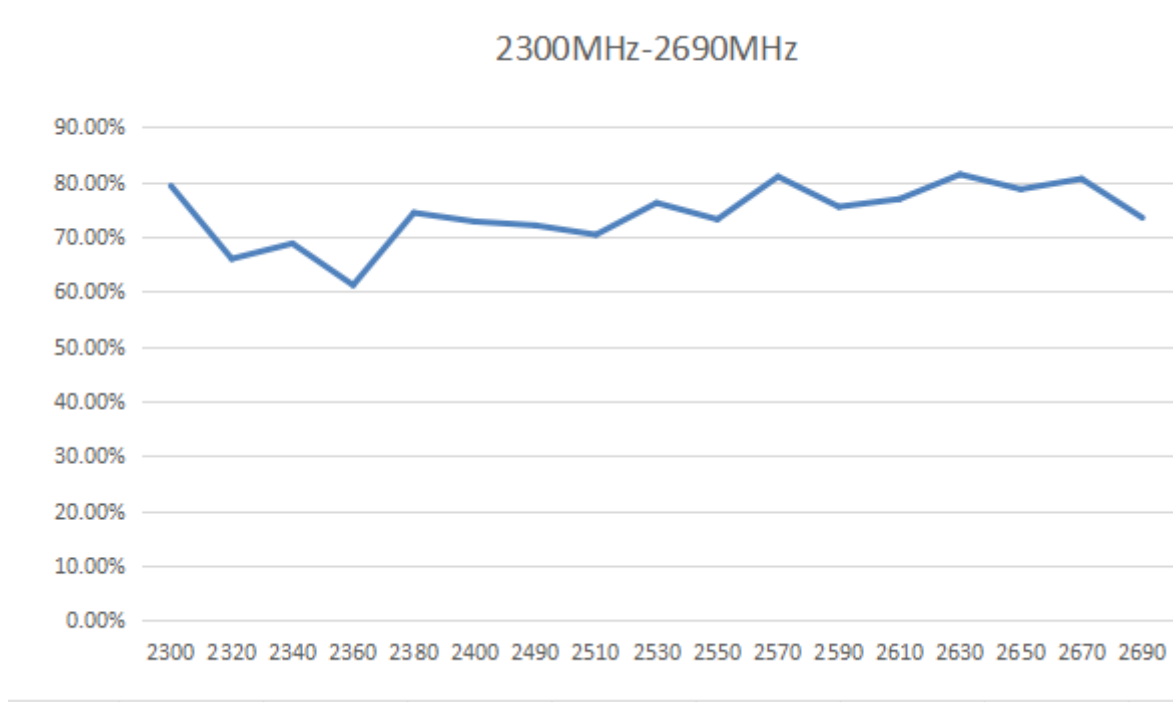
4.2. VSWR



Frequency (MHz)	700	960	1710	1990	2170	2300	2400	2500	2690
VSWR	2.78	2.54	1.76	1.27	2.21	2.71	2.41	1.74	1.12

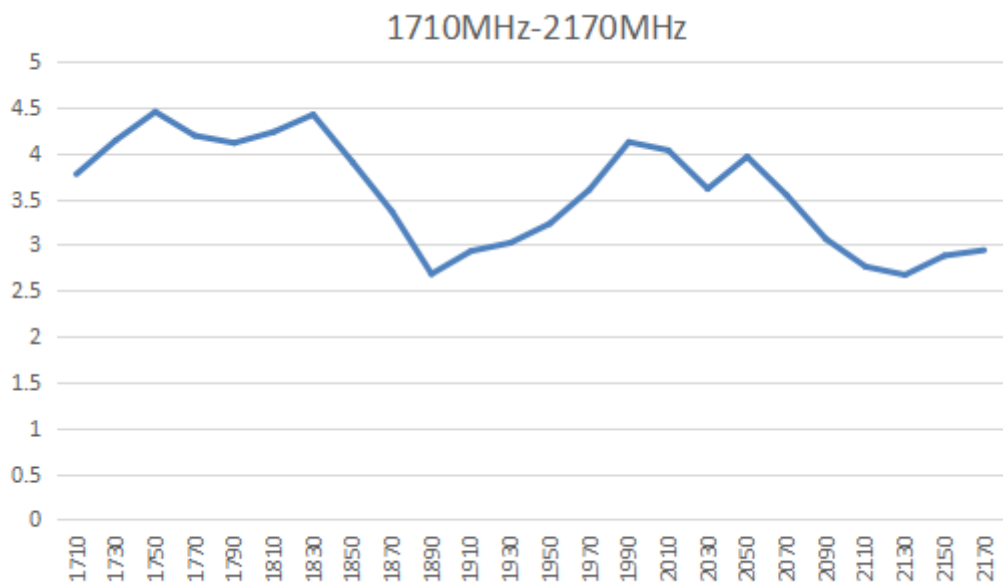
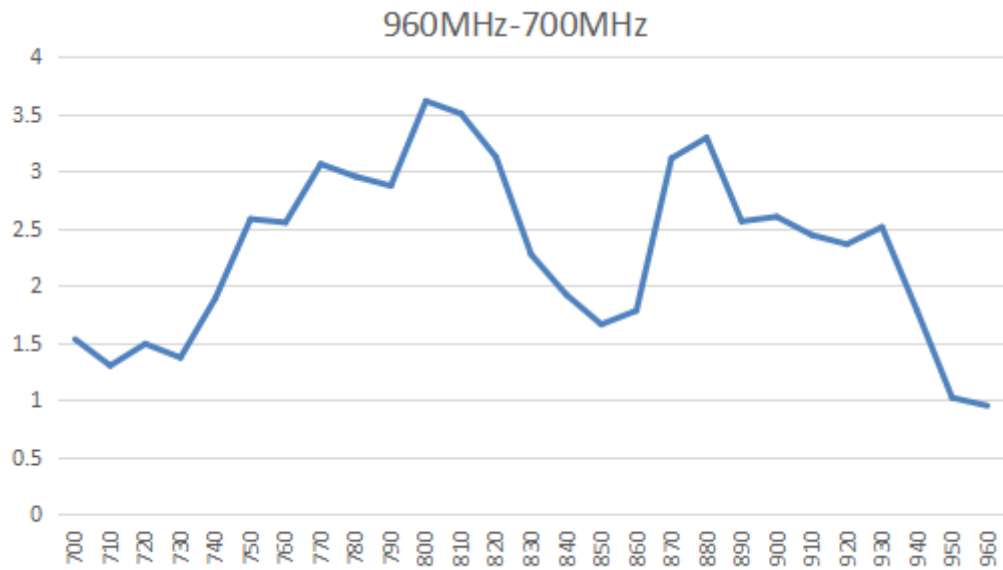
4.3. Efficiency

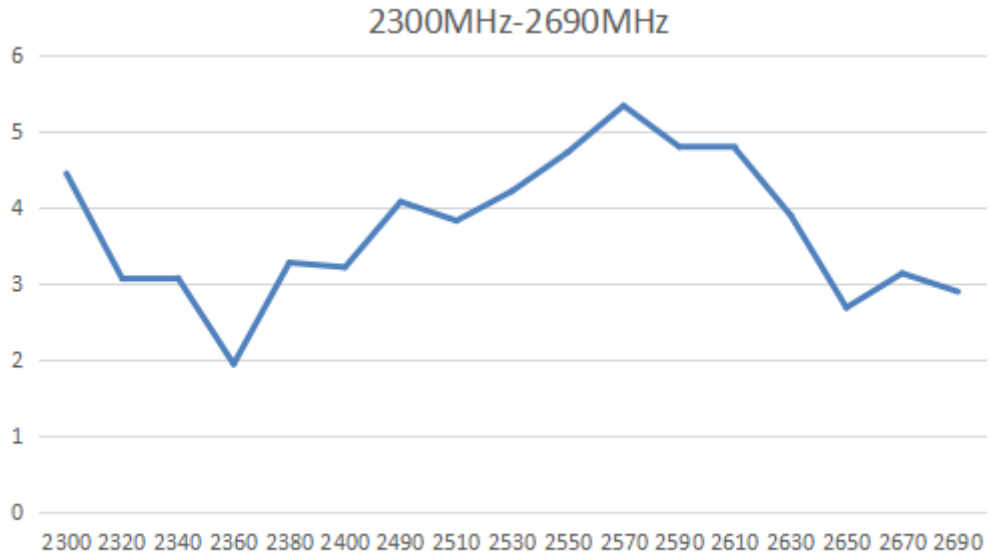




Frequency (MHz)	700	960	1710	1990	2170	2300	2400	2510	2690
Efficiency (%)	40.2	37.4	55.5	62.7	58.1	79.3	72.8	70.4	73.5

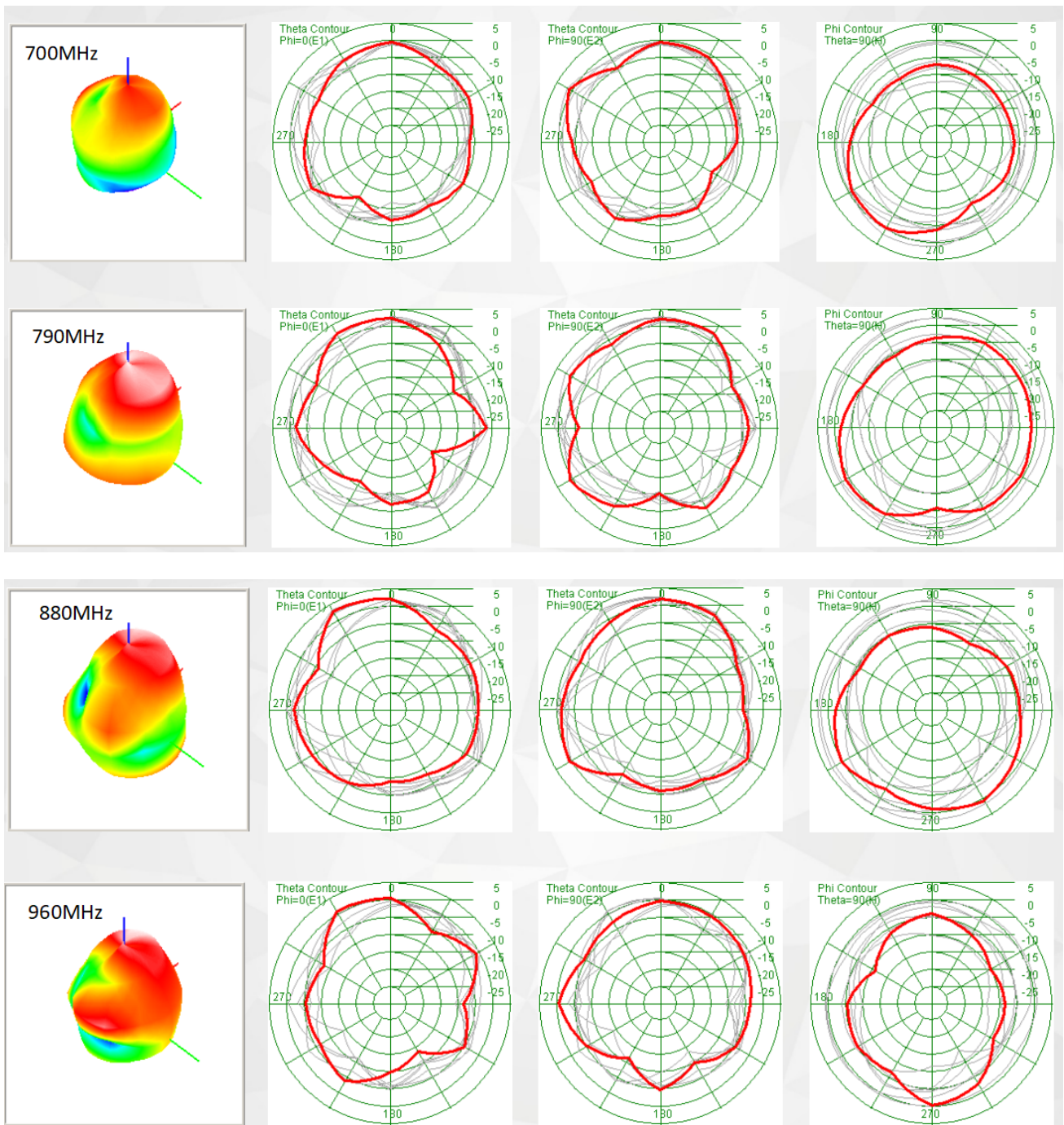
4.4. Gain

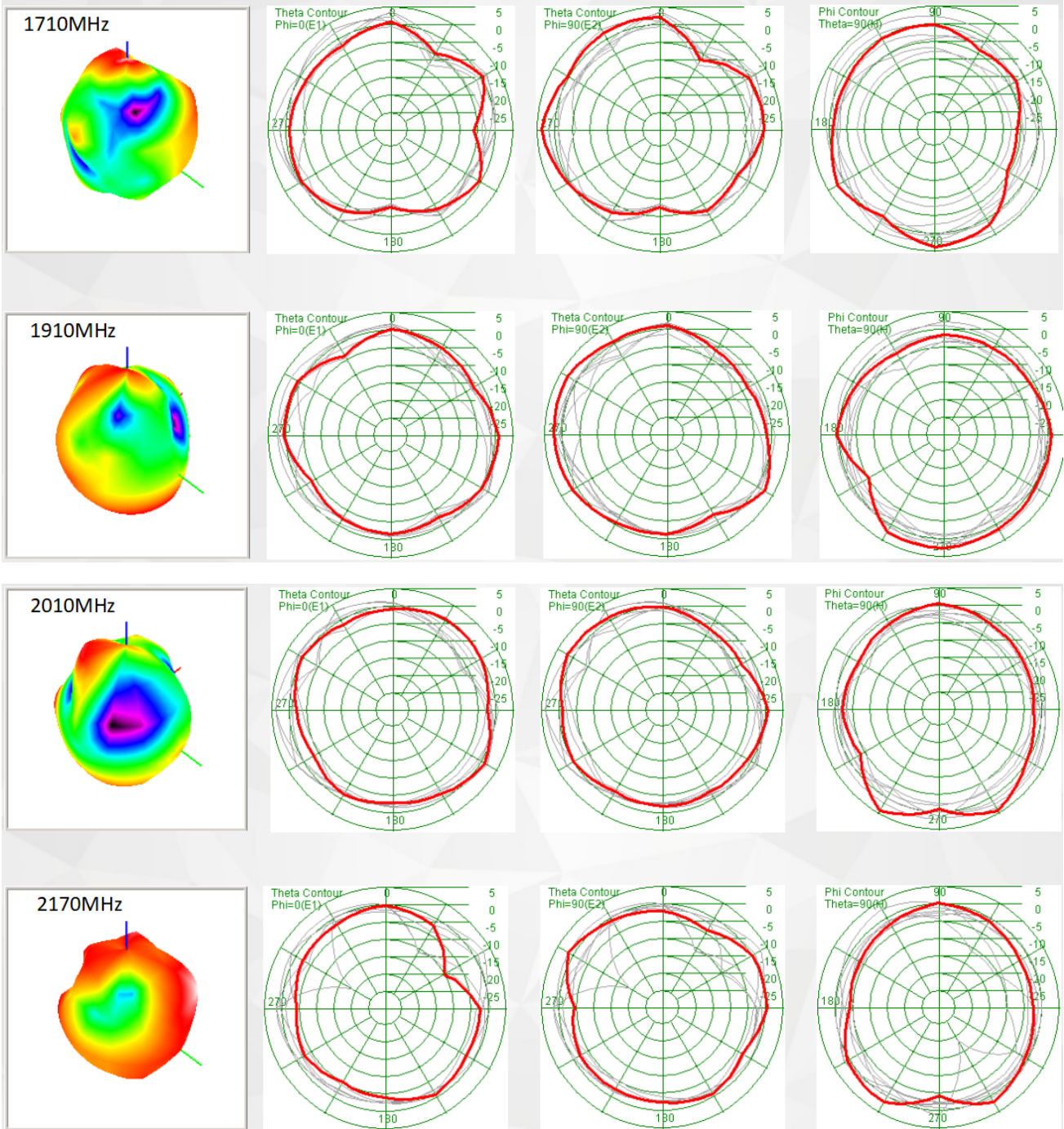


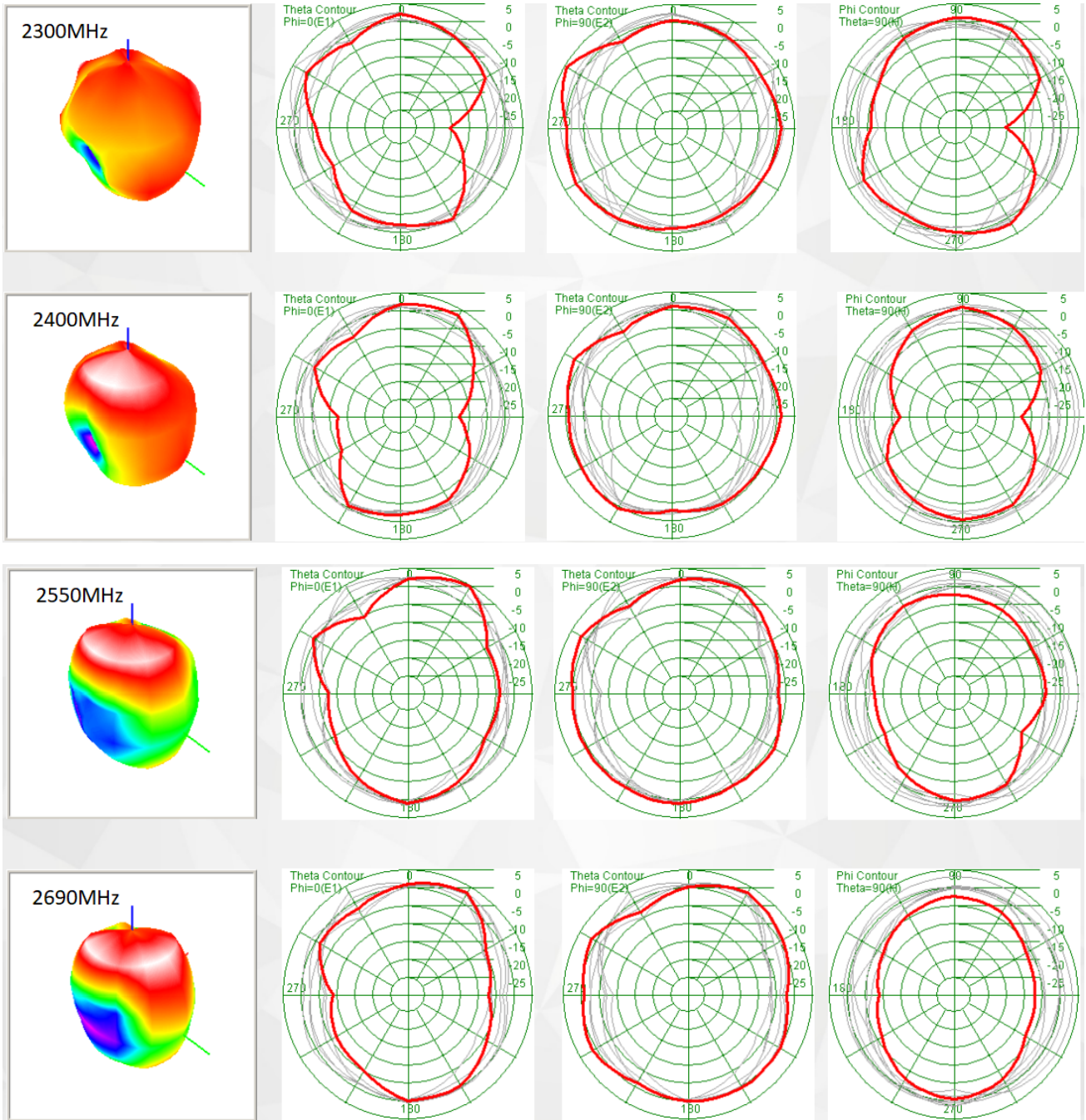


Frequency (MHz)	700	960	1710	1990	2170	2300	2400	2510	2690
Gain (dBi)	1.53	0.95	3.77	4.12	2.94	4.45	3.22	3.83	2.90

4.5. Radiation Pattern







5 Product Size

