

IE290F RF Radiated data

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1. Frequency Band

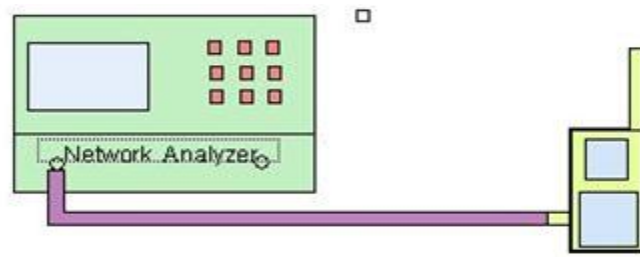
Mode	Frequency Band (MHz)
Zigbee	2,400 ~ 2,500

-

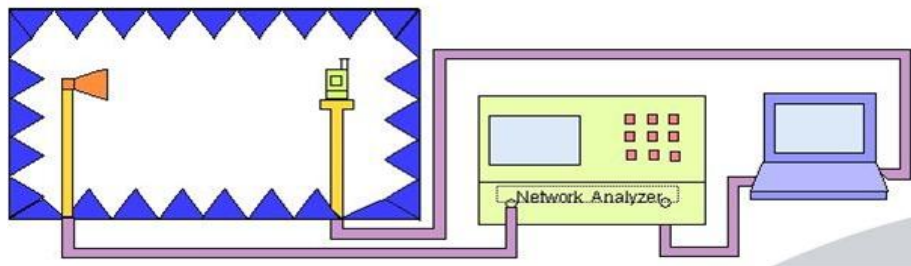
1-1. Measurement Engineer

- Connect the device under test and required test equipment (Network analyzer). Measuring VSWR and frequency. Measurements include the magnitude and phase of both the vertical and horizontal components of the 3-D antenna pattern of actual hardware in an anechoic chamber (Partron). all measurements are made with antennas installed.

- Frequency, VSWR measurement



- Gain measurement



- Co-Polarization, Cross-Polarization Meaning

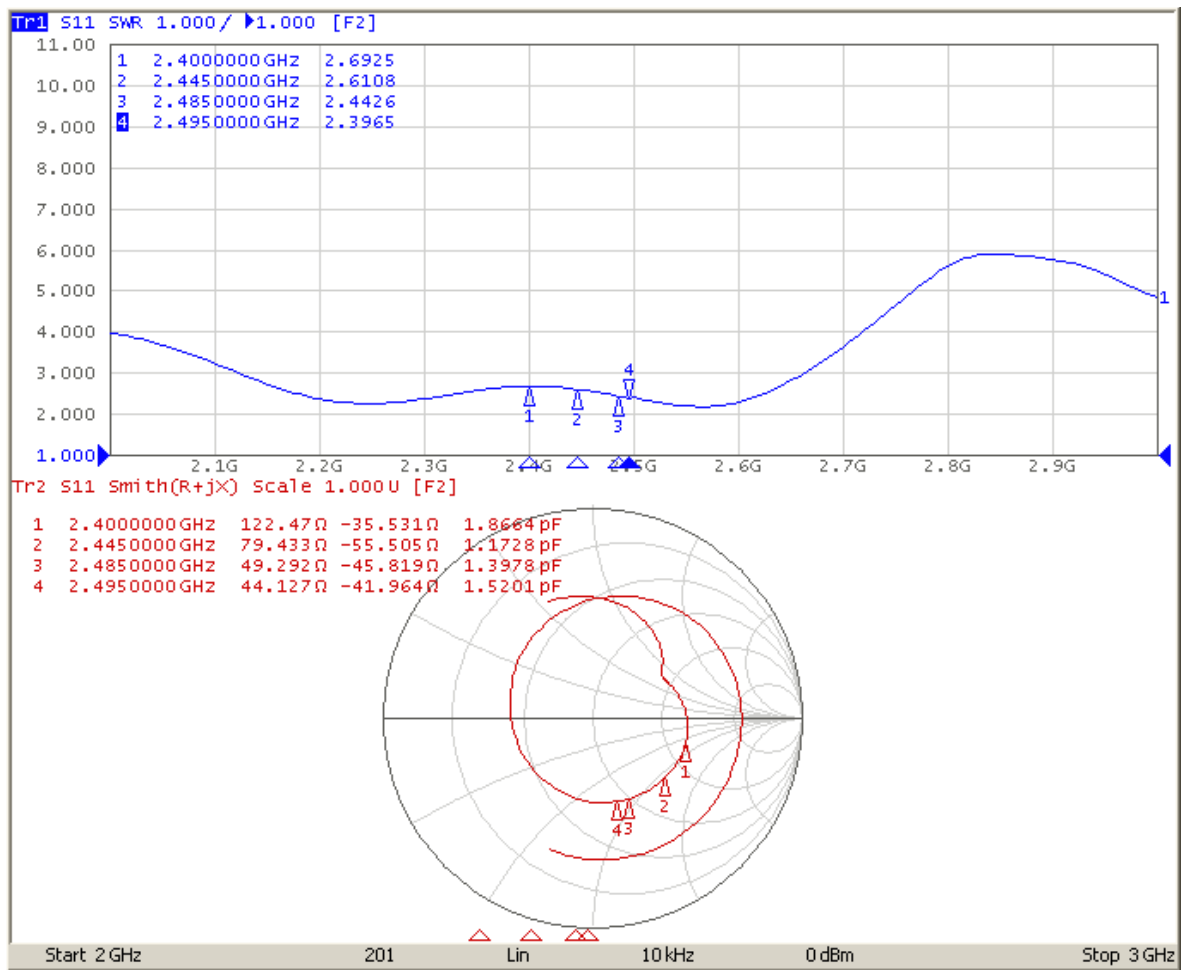
- Co-Polarization : When Radiated Vertical and Horizontal Polarization in Source Ant.

Co-Polarization is Higher Polarization that is Ave. Gain Value

- Cross-Polarization : When Radiated Vertical and Horizontal Polarization in Source Ant.

Co-Polarization is Lower Polarization that is Ave. Gain Value

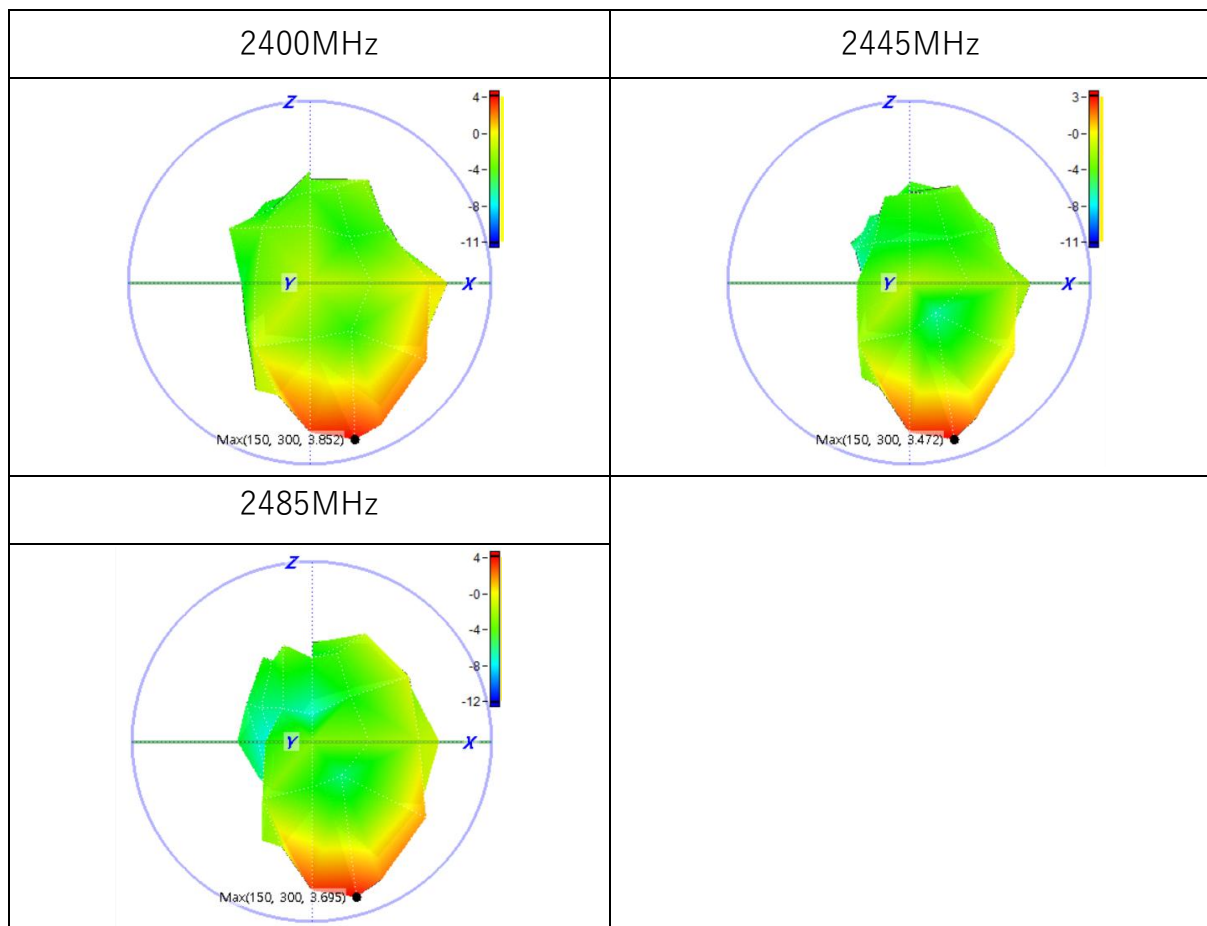
1-2. VSWR



1-3. Efficiency & Gain

Frequency	Max Gain			Min Gain			Average Gain	Efficiency
[MHz]	θ[Deg]	Φ[Deg]	Gain[dBi]	θ[Deg]	Φ[Deg]	Gain[dBi]	Gain[dBi]	[%]
2,400.00	150	300	3.852	120	180	-11.303	-1.857	65.203
2,415.00	150	300	4.216	120	180	-10.03	-1.648	68.422
2,430.00	150	300	3.301	90	180	-10.697	-2.895	51.348
2,445.00	150	300	3.472	90	180	-11.281	-2.99	50.235
2,460.00	150	300	4.114	180	300	-10.232	-2.335	58.411
2,465.00	150	300	4.406	180	300	-10.11	-2.163	60.776
2,480.00	150	300	3.797	180	300	-12.016	-2.762	52.937
2,485.00	150	300	3.695	180	300	-12.476	-2.837	52.034
2,490.00	150	300	3.449	180	300	-13.13	-2.996	50.159
2,500.00	150	300	3.54	180	300	-13.12	-2.978	50.373

1-4. 3D Radiated Pattern



2. TEST METHOD

2-1. Measurement information

Description	Manufacturer	Model
Network Analyzer	Anritsu	ME7848A

2-2. Return Loss & VSWR Test

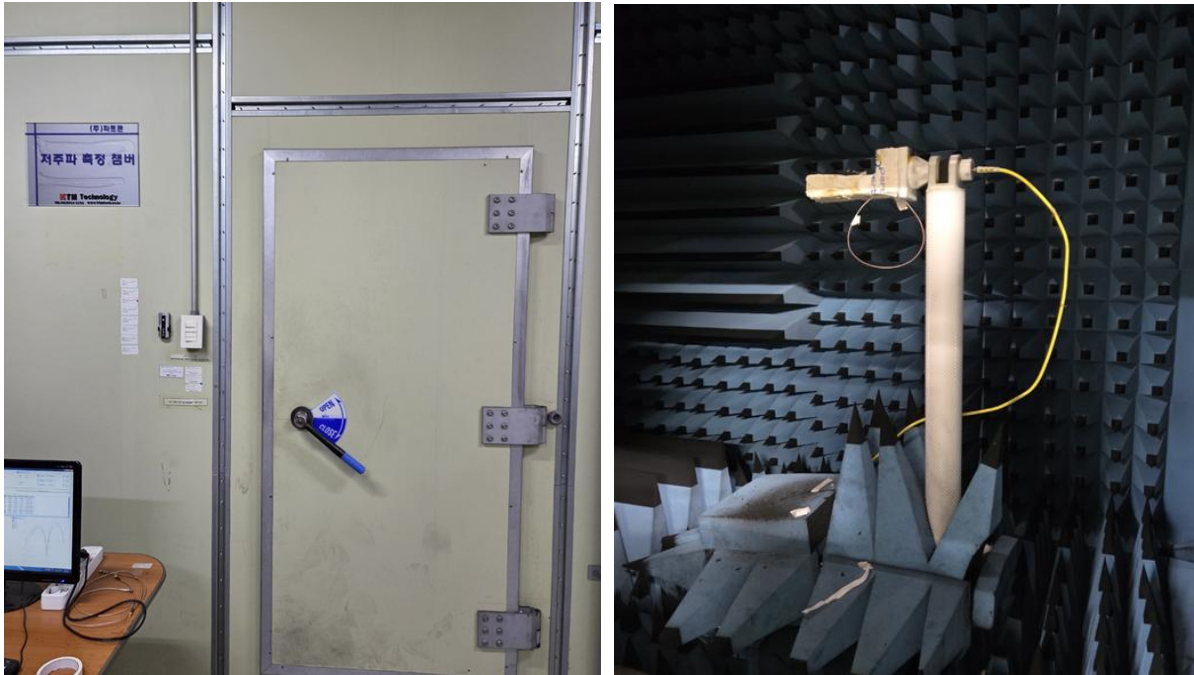
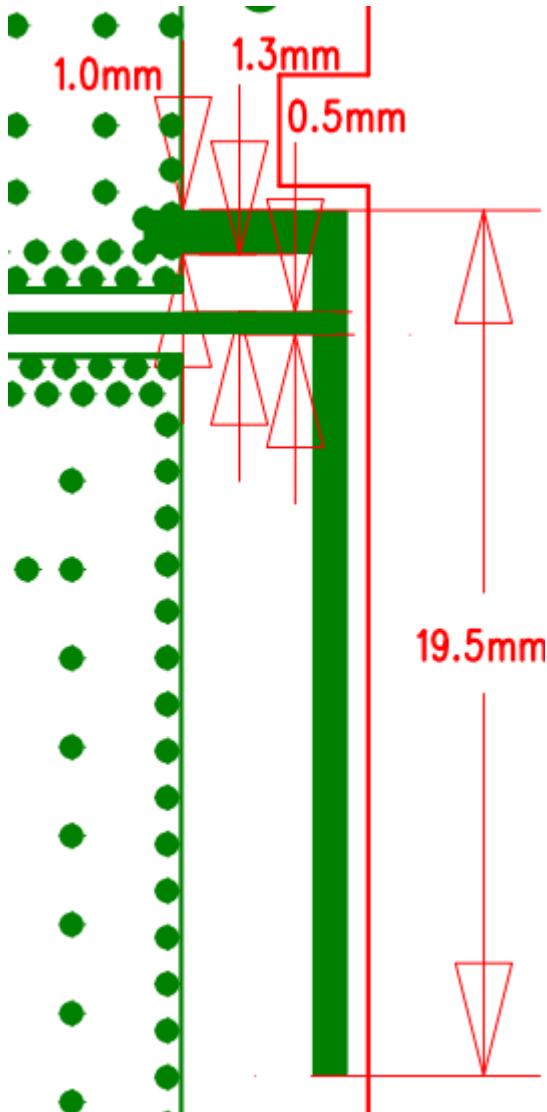


Figure 1: Testing with RF Chamber

Measurement facility: Partron ESL, 3D Chamber

3. Antenna Dimension



Manufacturer: Partron ESL
Address : 829-836, 42, Changeop-ro, Sujeong-gu, Seongnam-si, Gyeonggi-do, South Korea