

R290F RF Radiated data

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1. Frequency Band

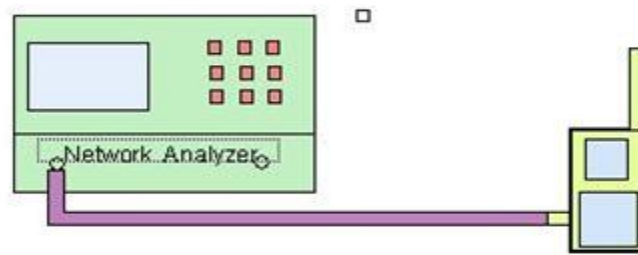
Mode	Frequency Band (MHz)
Zigbee	2,400 ~ 2,500

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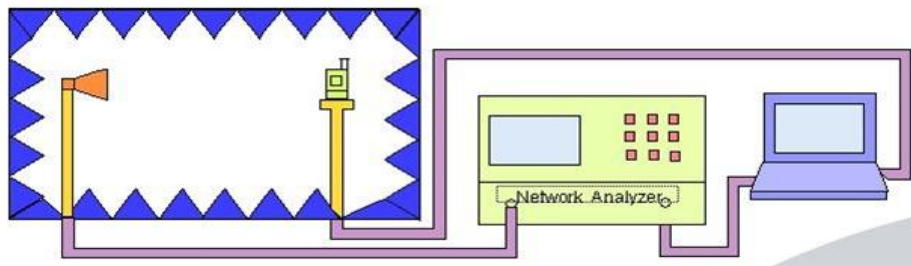
1-1. Measurement Engineer

- 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

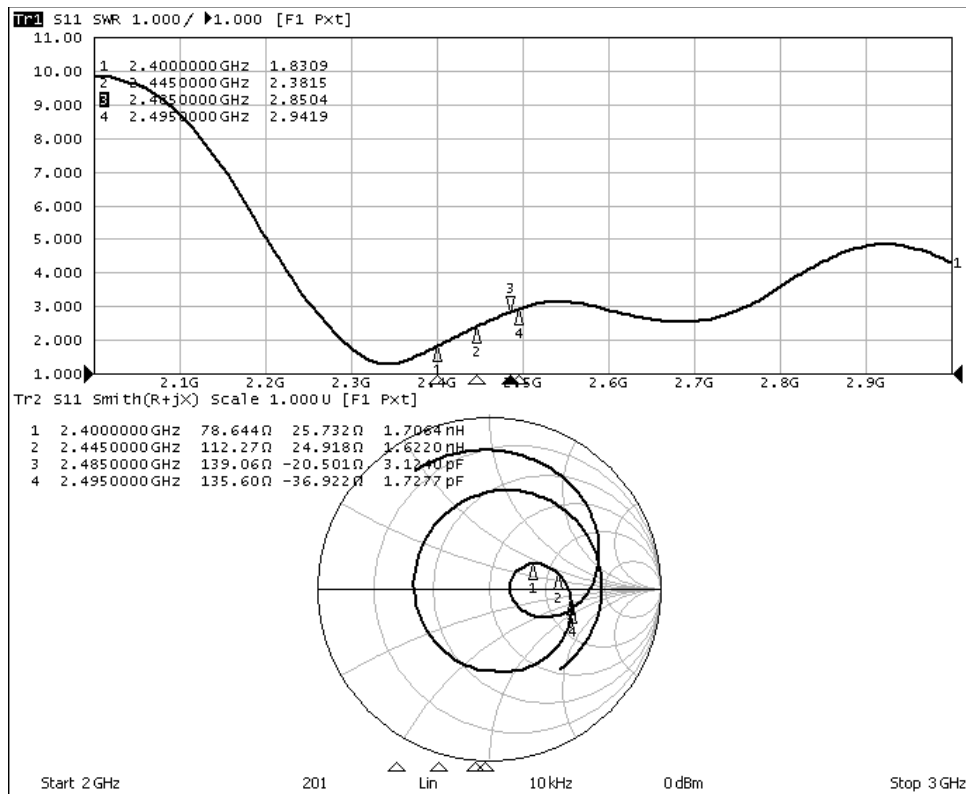
- Co-Polarization : When Radiated Vertical and Horizontal Polarization in Source Ant.

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

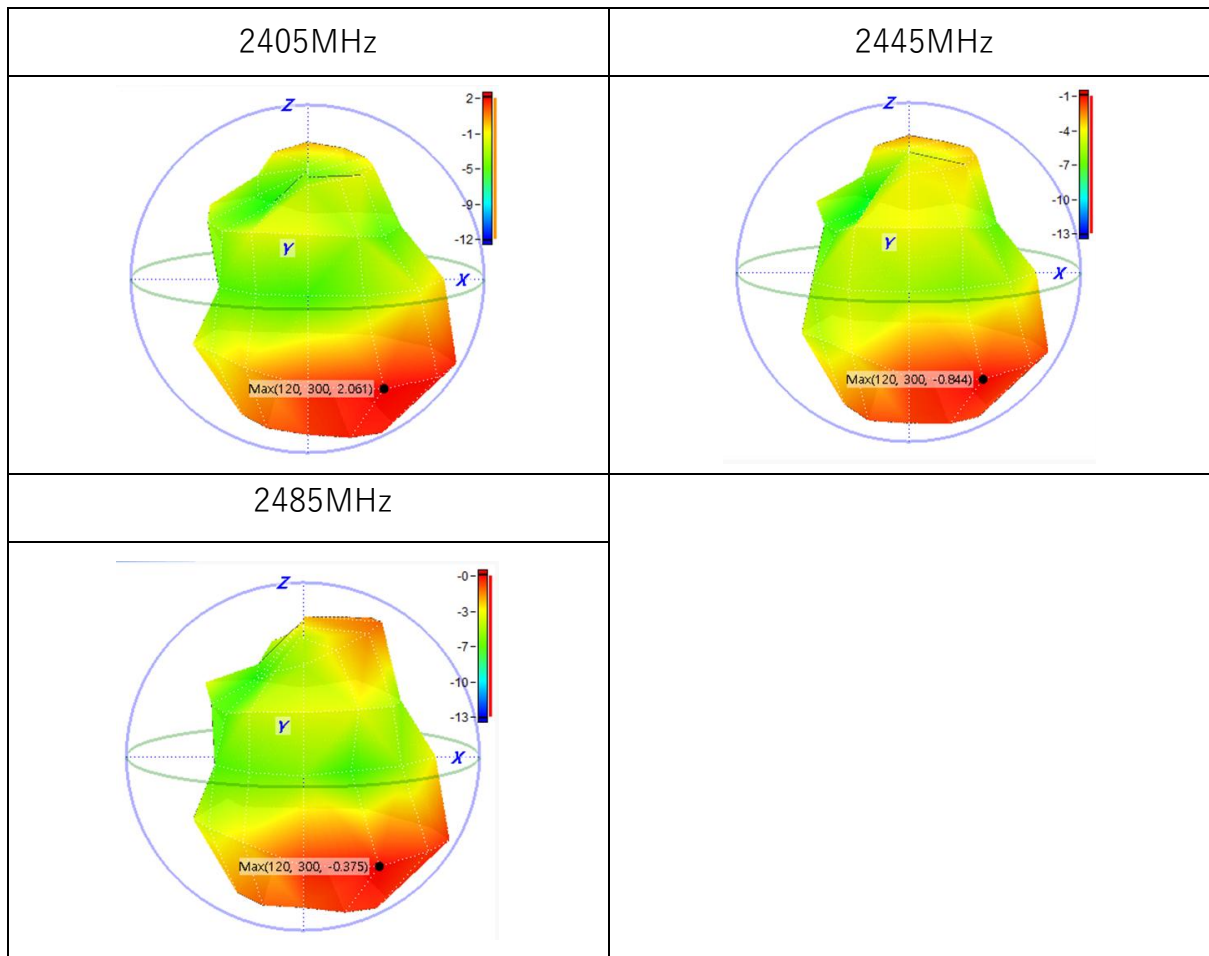
1-2. VSWR



1-3. Efficiency & Gain

Frequency	Peak Value		Minimum Value		Avg. Gain	Efficiency
[MHz]	Value[dBi]	Degree	Value[dBi]	Degree	[dBi]	[%]
2400.000	2.061149	120 / 300	-12.153306	180 / 240	-1.508336	70.658824
2415.000	1.883616	120 / 300	-12.304143	180 / 240	-1.641287	68.528513
2430.000	-1.038057	120 / 300	-14.332992	180 / 240	-4.375497	36.513232
2445.000	-0.844442	120 / 300	-13.085812	180 / 240	-4.112298	38.794506
2460.000	0.742960	120 / 300	-11.364745	180 / 240	-2.545016	55.654263
2465.000	0.838646	120 / 300	-10.600945	180 / 240	-2.398096	57.569229
2480.000	-0.361952	120 / 300	-12.460888	180 / 240	-3.580064	43.852419
2485.000	-0.375323	120 / 300	-12.636852	180 / 240	-3.566852	43.986032
2490.000	-0.288629	120 / 300	-13.221777	180 / 240	-3.465725	45.022286
2500.000	0.068157	120 / 300	-12.579223	180 / 240	-3.073513	49.277501

1-4. 3D Radiated Pattern



2. TEST METHOD

2-1. Measurement information

Description	Manufacturer	Model
Network Analyzer	Anritsu	ME7848A

2-2. 3D Chamber

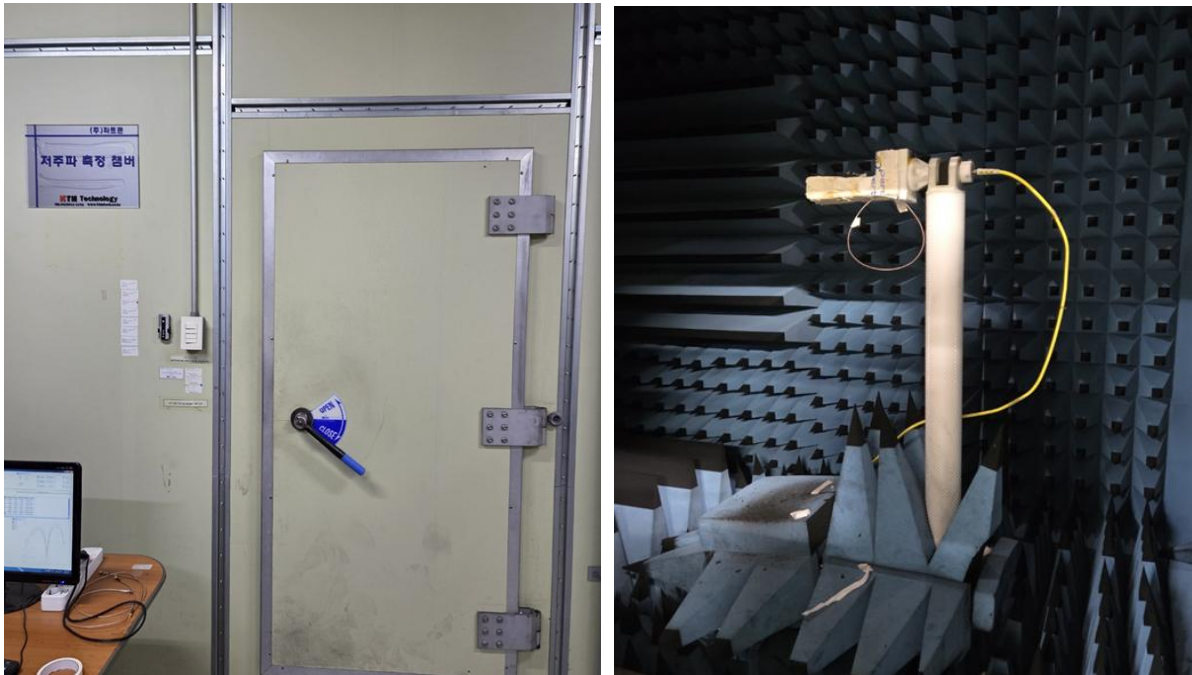
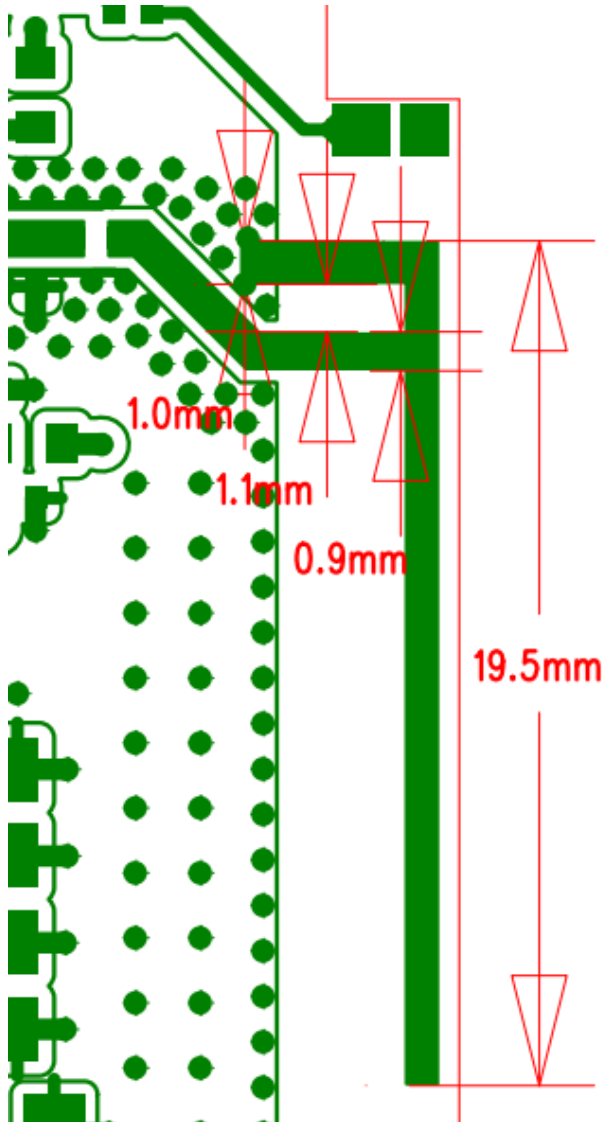


Figure 1: Testing with RF Chamber

Measurement facility: Partron ESL, 3D Chamber

3. Antenna Dimension



Manufacturer : Partron ESL

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