

R310 RF Radiated data

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1. Frequency Band

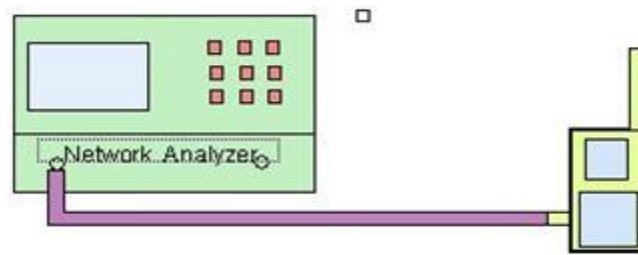
Mode	Frequency Band (MHz)
Zigbee	2,400 ~ 2,500

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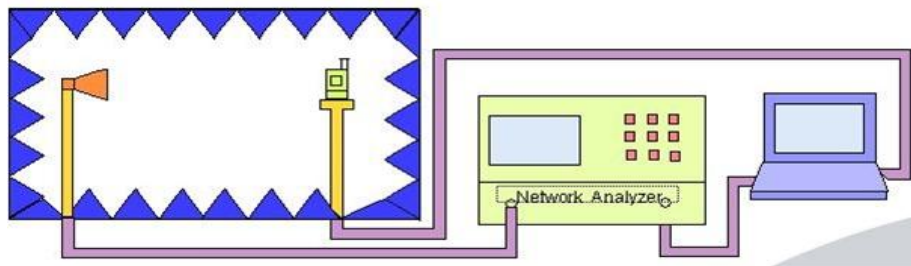
1-1. Measurement Engineer

- 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

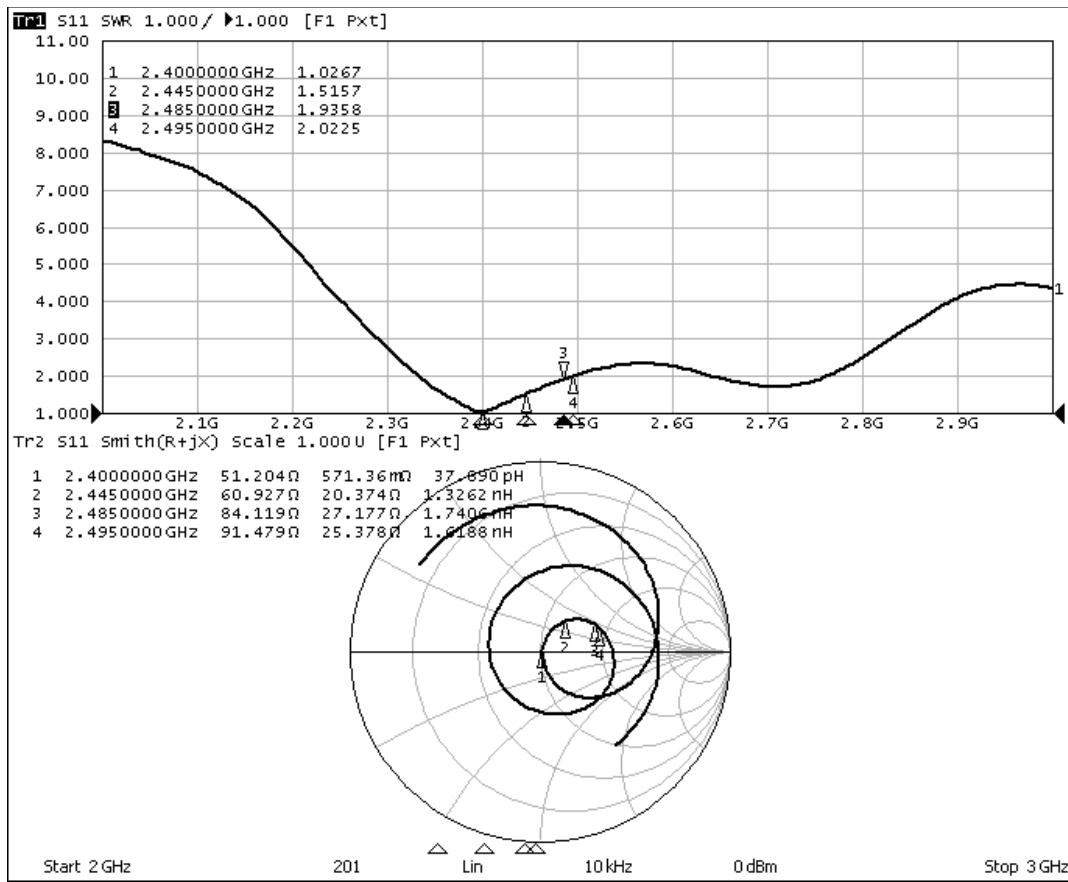
- Co-Polarization : When Radiated Vertical and Horizontal Polarization in Source Ant.

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

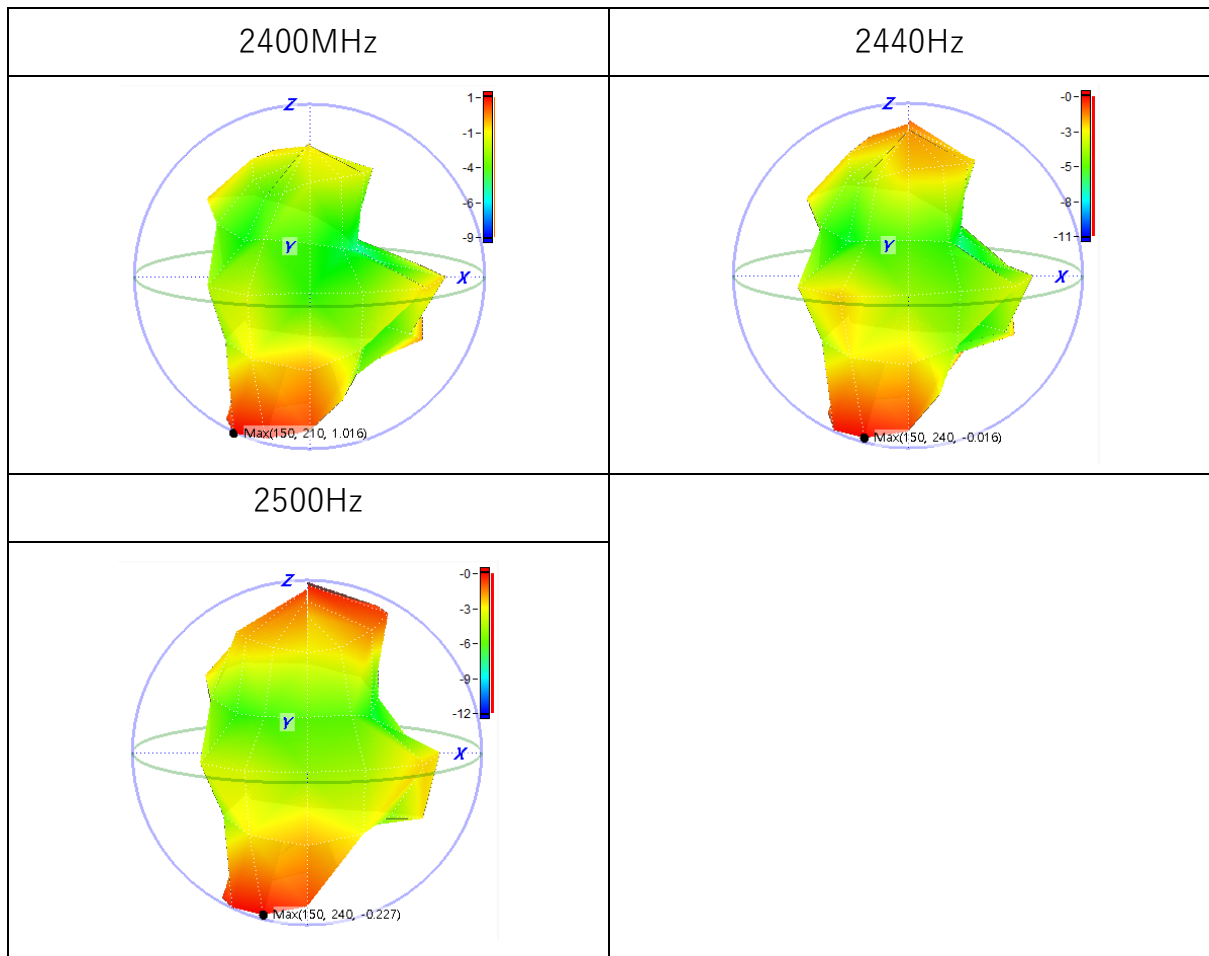
1-2. VSWR



1-3. Efficiency & Gain

Frequency	Peak Value		Minimum Value		Avg. Gain	Efficiency
[MHz]	Value[dBi]	Degree	Value[dBi]	Degree	[dBi]	[%]
2400.000	1.016321	150 / 210	-8.917520	180 / 270	-2.139467	61.101695
2415.000	1.243954	150 / 240	-8.964200	180 / 270	-1.956647	63.728741
2430.000	-0.167078	150 / 240	-10.574801	180 / 270	-3.472676	44.950281
2445.000	-0.015593	150 / 240	-10.851348	180 / 270	-3.370664	46.018623
2460.000	0.822422	150 / 240	-10.567999	180 / 270	-2.462200	56.725720
2465.000	1.106685	150 / 240	-10.246287	180 / 270	-2.251644	59.543664
2480.000	0.125676	150 / 240	-11.589105	180 / 270	-3.105528	48.915585
2485.000	-0.226978	150 / 240	-11.967959	180 / 270	-3.424913	45.447366
2490.000	-0.223697	0 / 30	-12.501024	180 / 240	-3.563867	44.016274
2500.000	-0.260304	0 / 30	-12.605858	180 / 240	-3.561386	44.041424

1-4. 3D Radiated Pattern



2.TEST METHOD

2-1. Measurement information

Description	Manufacturer	Model
Network Analyzer	Anritsu	ME7848A

2-2. 3D Chamber

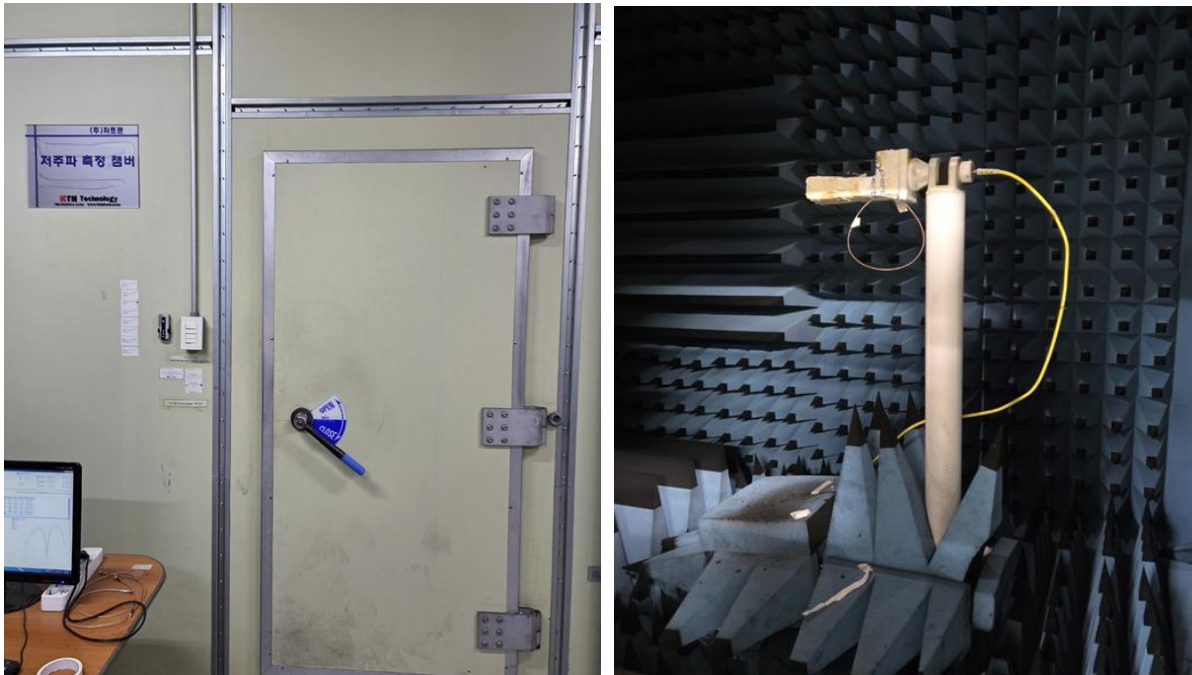
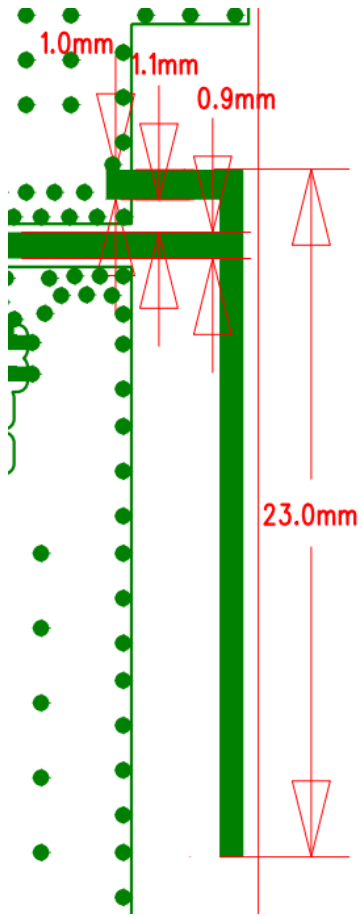


Figure 1: Testing with RF Chamber

Measurement facility: Partron ESL, 3D Chamber

2. Antenna Dimension



Manufacturer : Partron ESL

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