

【TN0052E】 Wi-Fi/Bluetooth Antenna**1.Specification**

Antenna Type : Inverted F Antenna

Part No. ANT1 : 2406952-1

ANT2 : 2406951-1

Antenna Gain(Peak) : ANT1 -0.95dBi

ANT2 -0.43dBi

Frequency Band : Wi-Fi 2.4GHz 2402 - 2480 MHz

Bluetooth 2402 - 2480 MHz

2.Appearance / Dimension

See fig.1 on another Document.(TN0052E_Antenna Photo)

Measurement content**1.Measurement condition**

- Reference ANT : Dual-Ridge horn antenna, SH400-198, MVG
- Measuring instrument : ENA Network Analyzer, E5071C, Keysight
- Range of measurement : 360 degree/5 degree step
- Measurement layout : The measurement environment is measured with the following layout.
- The measurement instrument was calibrated on March 12, 2024.

See fig2 on another Document.(TN0052E_Antenna Photo)

2.Measurement direction

See fig3 on another Document.(TN0052E_Antenna Photo)

- Test dates : 2024/3/12
- Names of test personnel : Daisuke Nozue(Hirschmann Car Communication,inc)
- Names of commercial test software being used : Automated Antenna and OTA Measurement Software Suite, Wave Studio, MVG
Near-Field to Far-Field Transformation Software, MV-Sphere, MVG

3. Antenna gain

3-1. Average Gain Left ANT1 +/-100deg(200deg), XY/ZX

frequency	$\pm 100^\circ$ Average Gain[dBi]			In Band
[MHz]	XY	ZX	XY/ZX	
2402	-3.96	-3.53	-3.74	-3.23
2441	-2.84	-3.16	-2.99	
2480	-2.89	-3.09	-2.99	

3-2. Average Gain Left ANT1 +/-180deg(360deg), XY/ZX

frequency	360° Average Gain[dBi]				In Band
[MHz]	XY	YZ	ZX	XY/YZ/ZX	
2402	-3.30	-3.03	-2.80	-3.04	-2.85
2441	-2.75	-2.65	-2.23	-2.54	
2480	-3.22	-3.27	-2.52	-2.99	

3-3. Average Gain Right ANT2 +/-100deg(200deg), XY/ZX

frequency	$\pm 100^\circ$ Average Gain[dBi]			
[MHz]	XY	ZX	XY/ZX	In Band
2402	-2.98	-3.78	-3.36	-3.40
2441	-2.61	-3.77	-3.15	
2480	-3.41	-3.99	-3.69	

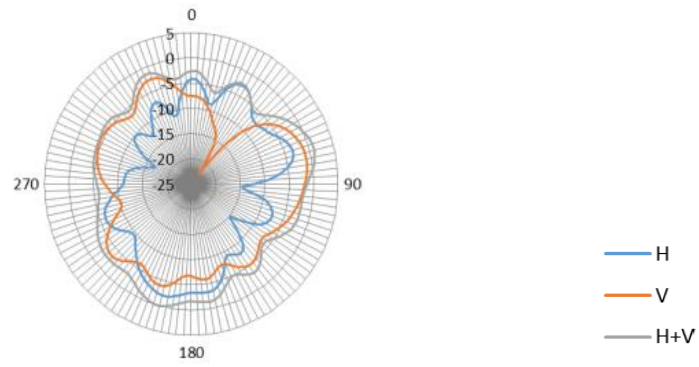
3-4. Average Gain Right ANT2 +/-180deg(360deg), XY/ZX

frequency	360° Average Gain[dBi]				
[MHz]	XY	YZ	ZX	XY/YZ/ZX	In Band
2402	-3.19	-2.92	-2.61	-2.90	-3.21
2441	-3.01	-3.14	-2.88	-3.01	
2480	-3.69	-3.19	-3.71	-3.77	

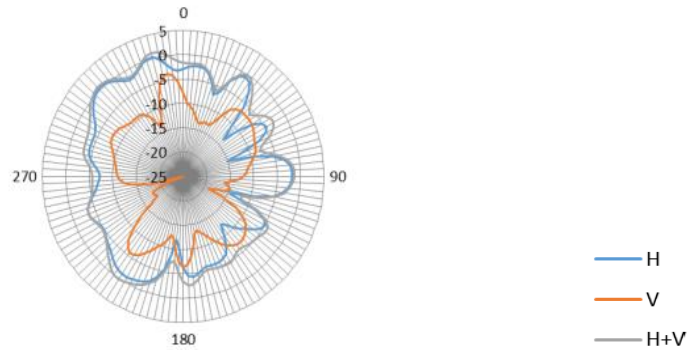
4. Radio wave radiation pattern (directivity graph)

4-1. Antenna1-Left (2.4GHzBand)

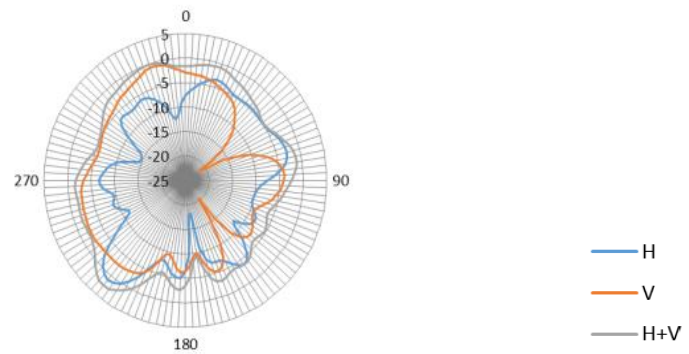
XY-plane @2441 MHz



YZ-plane @2441 MHz

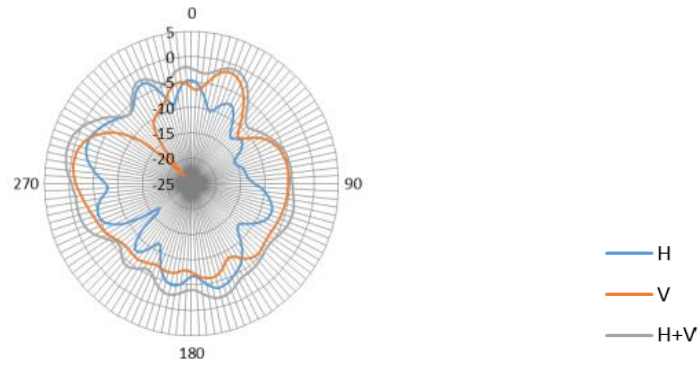


XZ-plane @2441 MHz

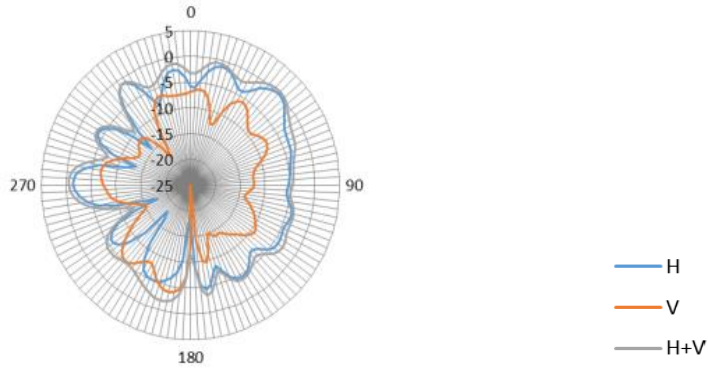


4-3. Antenna2-Right (2.4GHzBand)

XY-plane @2441 MHz



YZ-plane @2441 MHz



XZ-plane @2441 MHz

