BEE-001
AUT Report

note

- Since the radio specifications of BEE-001 and BEE-056 are equivalent including the antenna, the antenna performance measurement was performed on BEE-001 as a representative.

Antenna specification (Antenna0)

- Frequency Range
  - WLAN: 2412-2472, 5180-5320, 5500-5700, 5745-5825 MHz
  - Bluetooth: 2402-2480 MHz
- Antenna Type
  - LDS antenna
- Connector Type
  - MHF Ⅰ / Ⅱ
- Antenna Gain (Peak)
  - 2.4 GHz Band: -2.51 dBi
  - 5 GHz Band: +0.70 dBi

Antenna specification (Antenna1)

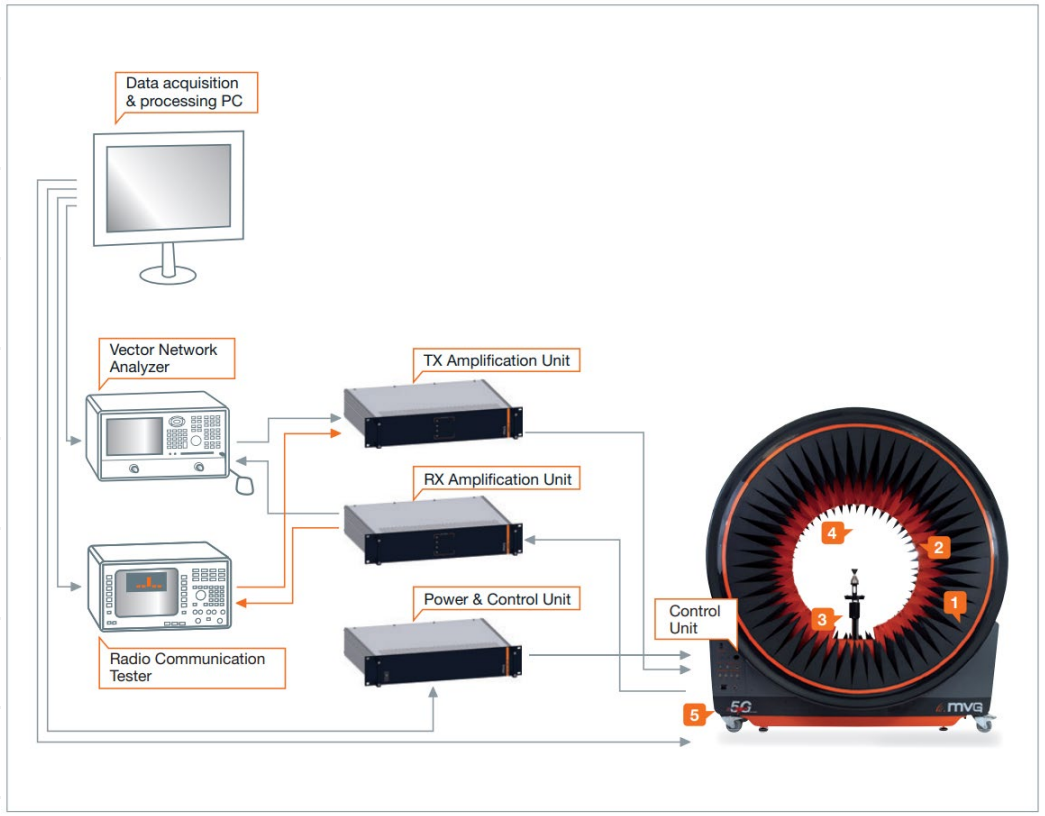
- Frequency Range
  - Bluetooth: 2402-2480 MHz
- Antenna Type
  - LDS antenna
- Connector Type
  - MHF Ⅰ / Ⅱ
- Antenna Gain (Peak)
  - 2.4 GHz Band: -1.74 dBi

Antenna specification (Antenna2)

- Frequency Range
  - WLAN: 2412-2472, 5180-5320, 5500-5700, 5745-5825 MHz
- Antenna Type
  - LDS antenna
- Connector Type
  - MHF Ⅰ / Ⅱ
- Antenna Gain (Peak)
  - 2.4 GHz Band: +0.21 dBi
  - 5 GHz Band: +4.07 dBi

Antenna measurement procedure

- The antenna gain is measured with StarLab system.

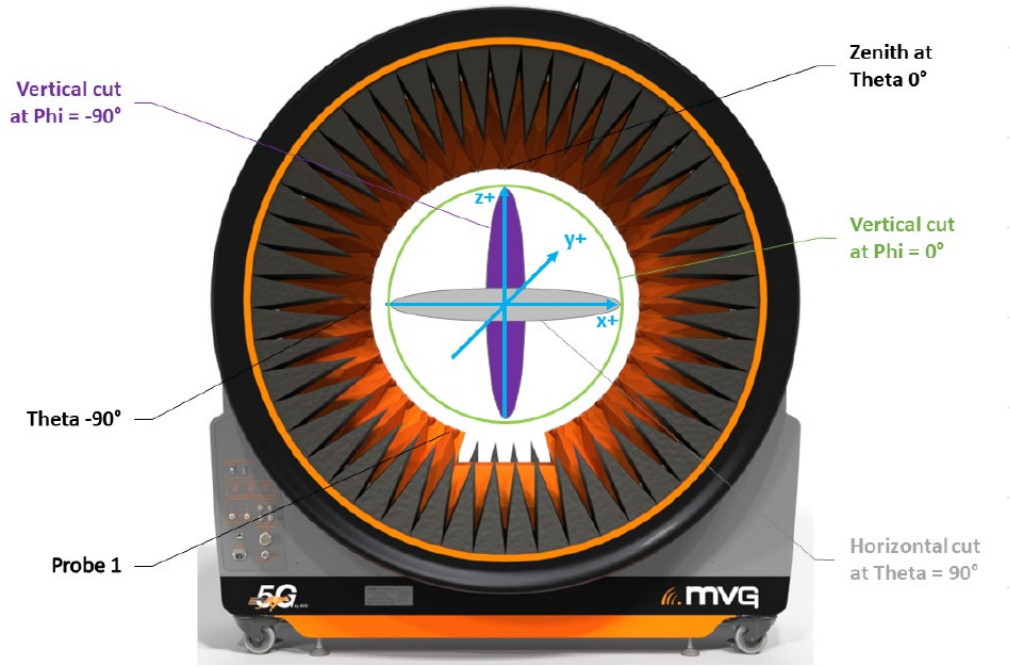


1. Wedge Absorber
2. Probe
3. Positioner
4. Oversampling
5. Accurate Stabilizer

(Reference: MVG, Datasheet of StarLab 50 GHz)

Antenna measurement procedure

- Measurement axis



(Reference: MVG, User Manual of StarLab 50 GHz)

Measurement information

- Test Facility
  - Nintendo Co., Ltd. Development Center
  - 2-1 Minamimatsuda-cho, Higashikujo, Minami-ku, Kyoto 601-8502, Japan
- Test Date
  - 2023/07/21
- Test Engineer
  - Mitsuru Katayama
- Measurement Software
  - Wave Studio ver.22.4.2

Measurement information

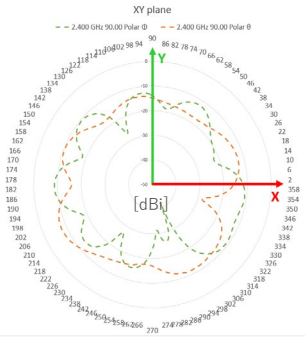
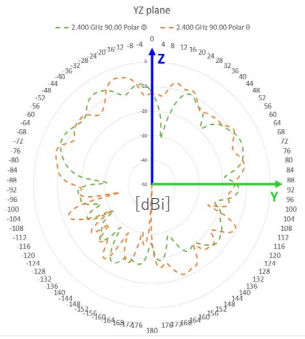
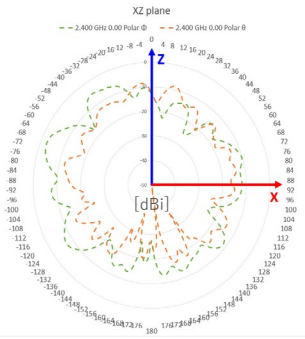
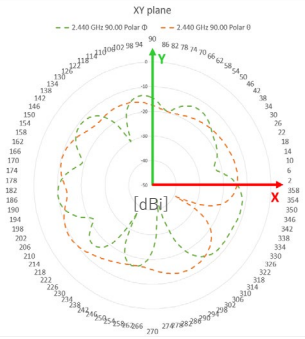
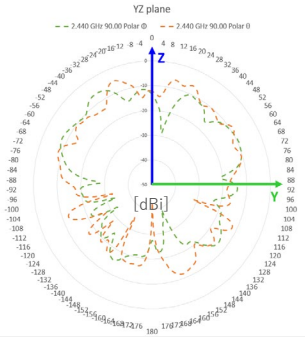
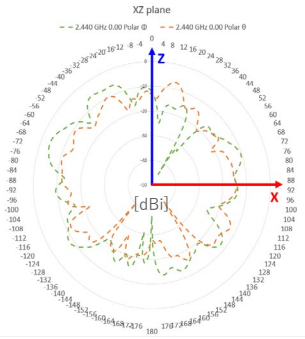
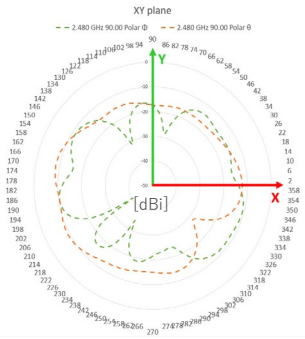
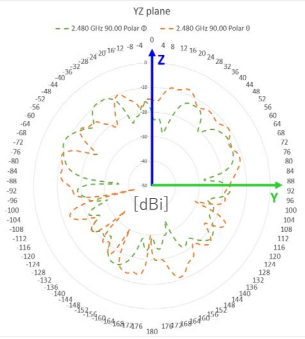
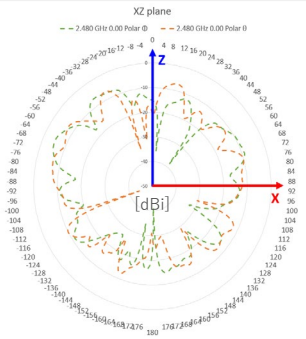
- Measurement Equipment

Instrument	Manufacturer	Model No.	Serial No.	Last Calibration Date
StarLab 50GHz system	MVG	StarLab 50GHz	1103673-0003	2023/01/12
Vector Network Analyzer	Keysight	P5008A	MY58100292	2023/01/12

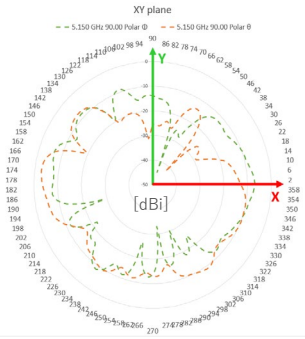
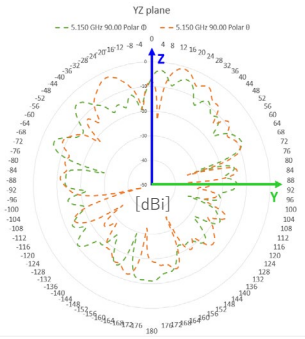
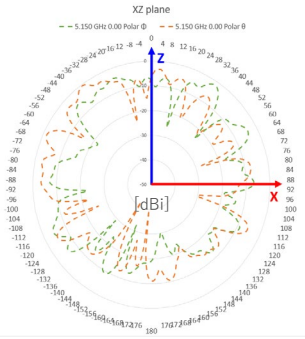
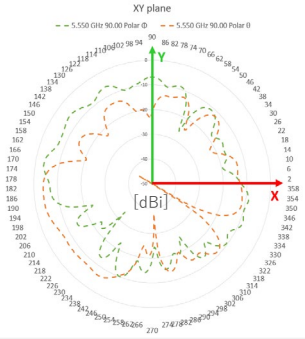
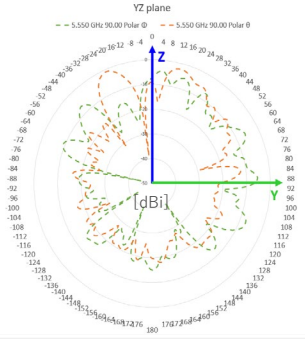
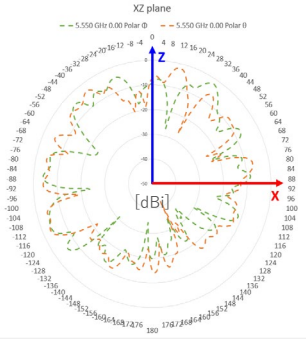
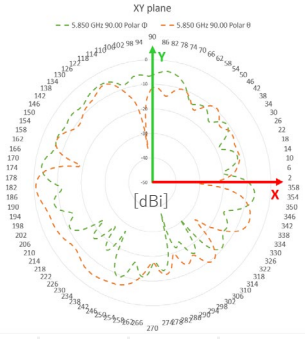
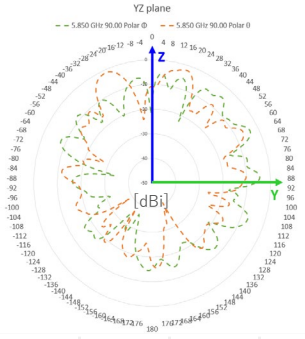
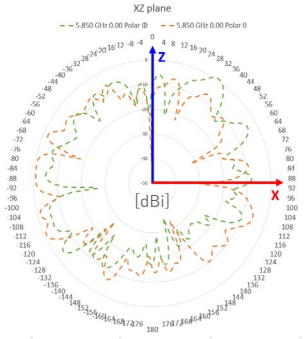
Antenna Gain (Antenna0)

Frequency [MHz]	E_ϕ [dBi]			E_θ [dBi]		
	XY plane	YZ plane	XZ plane	XY plane	YZ plane	XZ plane
2400	-8.69	-5.77	**-2.51**	-7.80	-4.18	-8.42
2440	-9.94	-6.35	-3.77	-9.36	-5.12	-7.29
2480	-10.36	-8.89	-4.97	-8.40	-7.83	-6.75
5150	-6.52	-3.25	-1.62	-2.80	-1.01	-0.47
5550	-3.50	-4.45	-2.13	-3.90	-0.95	-1.80
5850	-2.83	-3.57	**0.70**	-0.81	-1.11	-0.65

Antenna Gain Chart (Antenna0)

Frequency [MHz]	XY plane	YZ plane	XZ plane
2400			
2440			
2480			

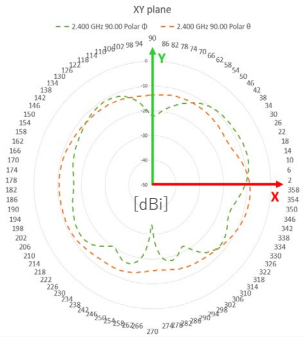
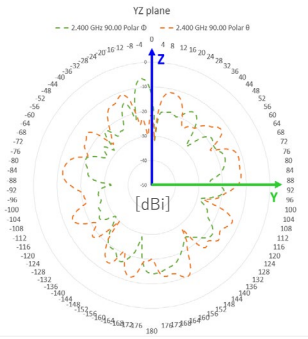
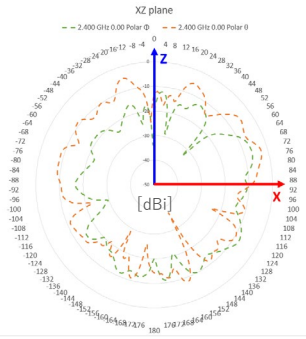
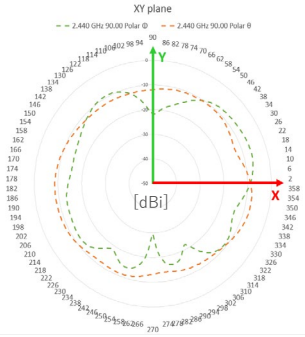
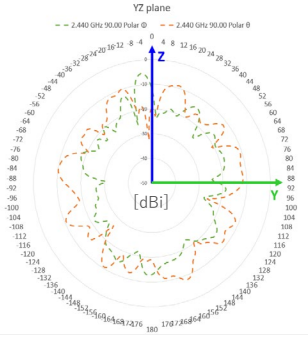
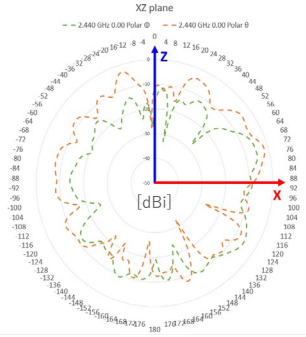
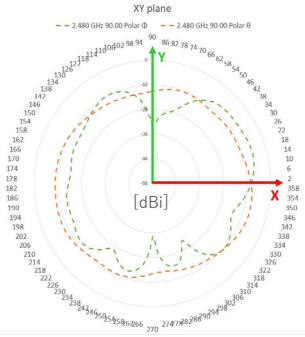
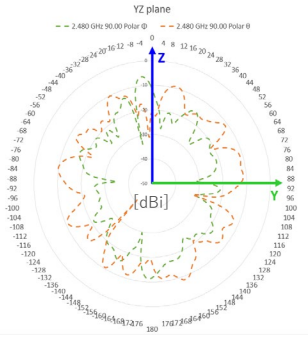
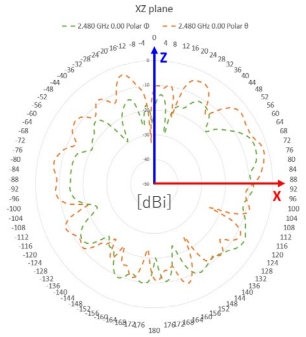
Antenna Gain Chart (Antenna0)

Frequency [MHz]	XY plane	YZ plane	XZ plane
5150			
5550			
5850			

Antenna Gain (Antenna1)

Frequency [MHz]	E_ϕ [dBi]			E_θ [dBi]		
	XY plane	YZ plane	XZ plane	XY plane	YZ plane	XZ plane
2400	-8.17	-6.53	-6.61	-8.59	-9.88	-2.82
2440	-6.56	-5.37	-5.19	-7.77	-8.29	**-1.74**
2480	-5.91	-6.26	-4.88	-7.39	-8.48	-1.88

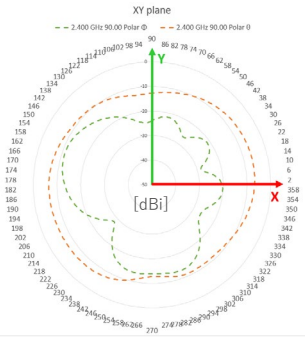
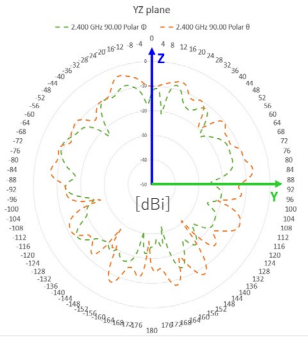
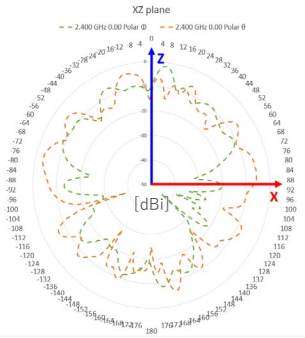
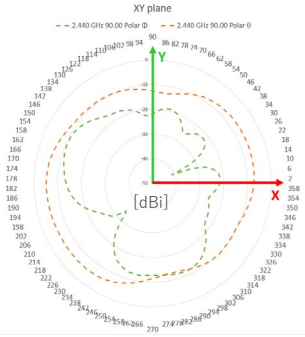
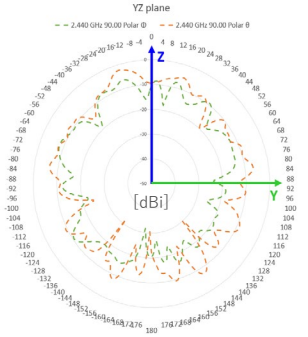
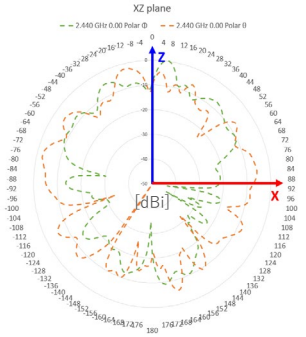
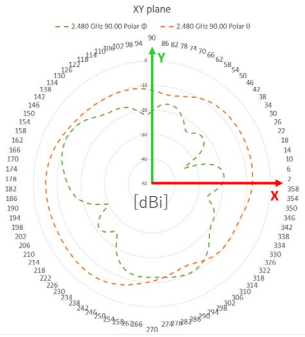
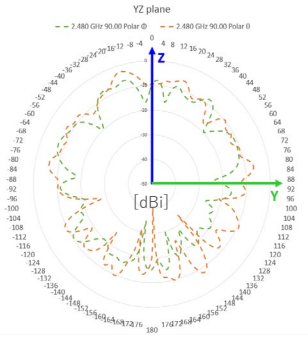
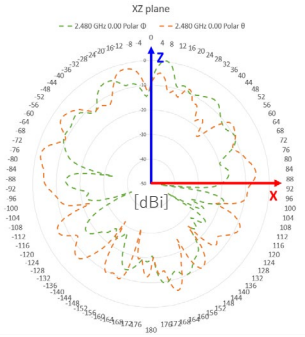
Antenna Gain Chart (Antenna1)

Frequency [MHz]	XY plane	YZ plane	XZ plane
2400			
2440			
2480			

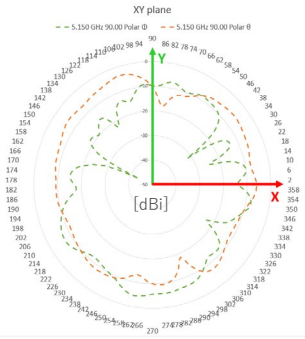
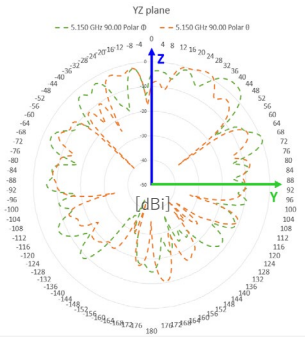
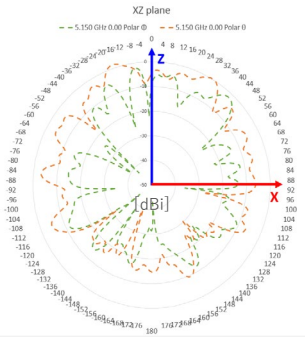
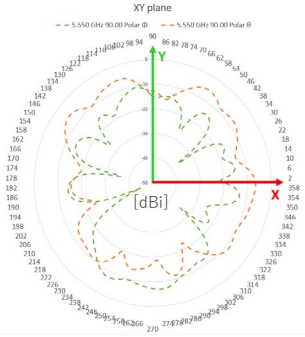
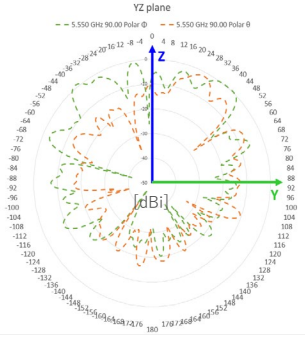
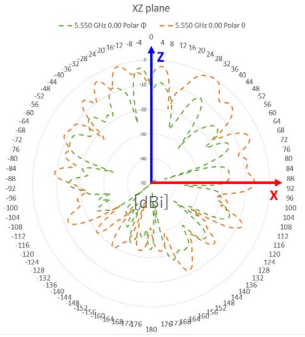
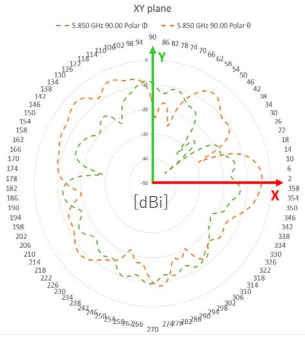
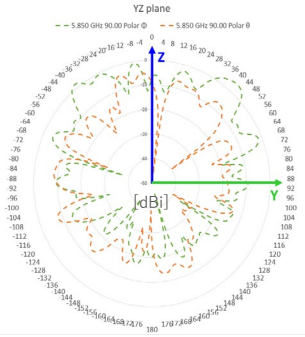
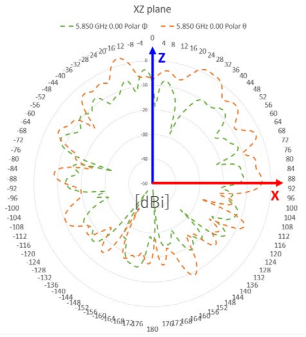
Antenna Gain (Antenna2)

Frequency [MHz]	E_ϕ [dBi]			E_θ [dBi]		
	XY plane	YZ plane	XZ plane	XY plane	YZ plane	XZ plane
2400	-11.16	-8.38	-1.76	-6.50	-3.79	-3.16
2440	-10.63	-6.53	0.11	-5.16	-2.11	-2.11
2480	-9.39	-6.41	**0.21**	-5.05	-2.49	-1.90
5150	-4.51	**4.07**	-1.77	-3.62	1.48	1.52
5550	-6.82	1.16	-3.02	-5.49	-1.63	0.20
5850	-8.44	4.00	-3.60	-3.73	-4.33	3.02

Antenna Gain Chart (Antenna2)

Frequency [MHz]	XY plane	YZ plane	XZ plane
2400			
2440			
2480			

Antenna Gain Chart (Antenna2)

Frequency [MHz]	XY plane	YZ plane	XZ plane
5150			
5550			
5850			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