

## Antenna Specification

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- Antenna Model Name : 19AA-10-tmp
  - Antenna type : monopole
  - Cable length : 10-200 mm
  - Frequency : 2400-2483.5 MHz, 5150-5850 MHz, 5900-7150 MHz
  - Maximum Peak Antenna Gain (Cable length: 10 mm)
    - 2.4 GHz band
      - 2400-2484 MHz : 2.67dBi @ 2484 MHz
    - 5 GHz band
      - 5150-5350 MHz : 5.14 dBi @ 5150 MHz
      - 5470-5725 MHz : 3.53 dBi @ 5470 MHz
      - 5725-5850 MHz : 3.05 dBi @ 5725 MHz
    - 6 GHz band
      - 5900-6525 MHz : 1.61 dBi @ 5950 MHz
      - 6525-7150 MHz : 0.60 dBi @ 7150 MHz
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## Antenna Specification

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- Minimum Peak Antenna Gain (Cable length: 10 mm)
    - 2.4 GHz band
      - 2400-2484 MHz : 1.84 dBi @ 2437 MHz
    - 5 GHz band
      - 5150-5350 MHz : 3.63 dBi @ 5350 MHz
      - 5470-5725 MHz : 3.05 dBi @ 5725 MHz
      - 5725-5850 MHz : 2.01 dBi @ 5850 MHz
    - 6 GHz band
      - 5900-6525 MHz : -0.33 dBi @ 6465 MHz
      - 6525-7150 MHz : -0.81 dBi @ 6855 MHz
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# Antenna Specification

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- Minimum Peak Antenna Gain (Cable length: 200 mm)\*
  - 2.4 GHz band
    - 2400-2484 MHz : 1.10 dBi @ 2437 MHz
  - 5 GHz band
    - 5150-5350 MHz : 2.53 dBi @ 5350 MHz
    - 5470-5725 MHz : 1.95 dBi @ 5725 MHz
    - 5725-5850 MHz : 0.91 dBi @ 5850 MHz
  - 6 GHz band
    - 5900-6525 MHz : -1.55 dBi @ 6465 MHz
    - 6525-7150 MHz : -2.03 dBi @ 6855 MHz

\* This minimum peak antenna gain data is calculated by subtracting the increased insertion loss (the difference between the insertion loss for cable lengths 200 mm and 10 mm, as shown in the table on the right) from the minimum peak antenna gain data for the cable length of 10 mm.

Frequency band	Increased insertion loss [dB]
2.4 GHz	0.74
5 GHz	1.10
6 GHz	1.22

# Antenna Data : 19AA-10-tmp

<2.4GHz 2400-2484MHz>

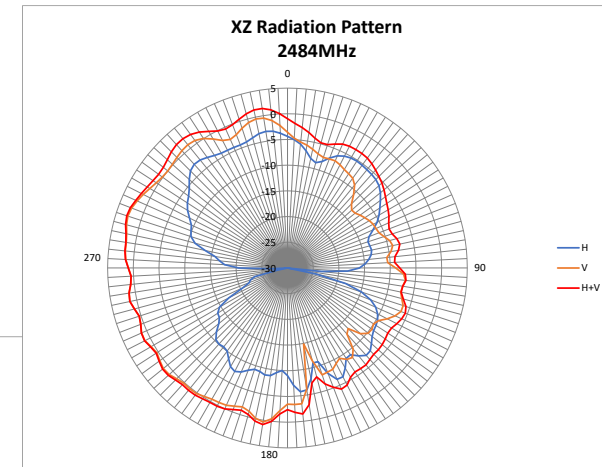
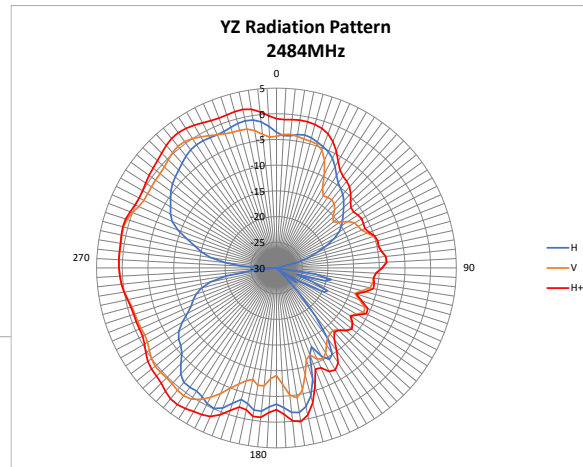
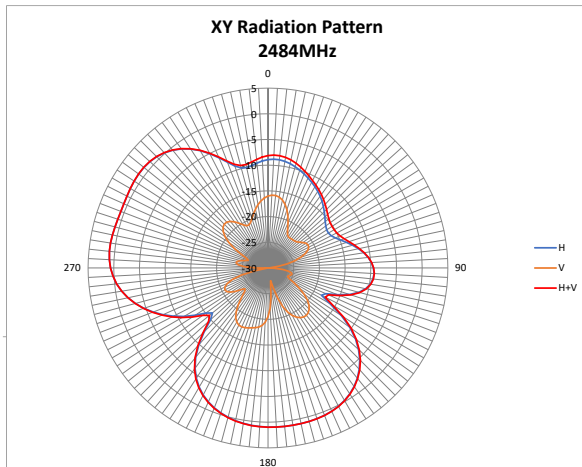
Cable length: 10 mm

Liniar Polarization		XY-Plane		YZ-Plane		ZX-Plane	
		Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]
2400MHz	MAX	0.72	-17.55	0.09	0.06	-2.07	<b>1.95</b>
	AVG	-3.59	-22.02	-4.95	-4.29	-7.53	-2.61
2437MHz	MAX	1.13	-17.94	-0.56	0.30	-2.46	<b>1.84</b>
	AVG	-3.19	-22.42	-5.49	-3.83	-7.77	-2.41
2442MHz	MAX	0.97	-18.04	-0.49	0.41	-2.44	<b>2.10</b>
	AVG	-3.33	-22.32	-5.44	-3.71	-7.70	-2.33
2484MHz	MAX	1.10	-15.82	-0.08	0.80	-2.86	<b>2.67</b>
	AVG	-3.10	-20.58	-5.61	-3.32	-7.85	-2.09

Min. peak gain frequency

Max. peak gain frequency

Bold numbers: Peak gain at each frequency



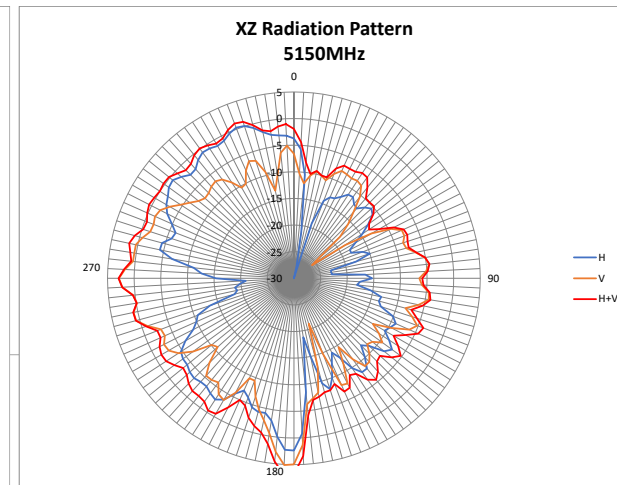
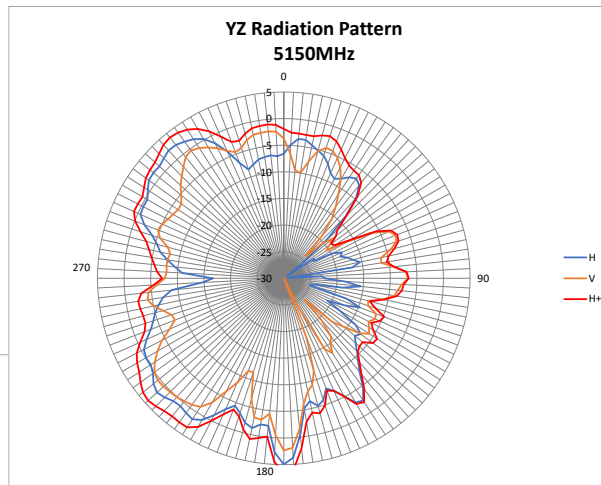
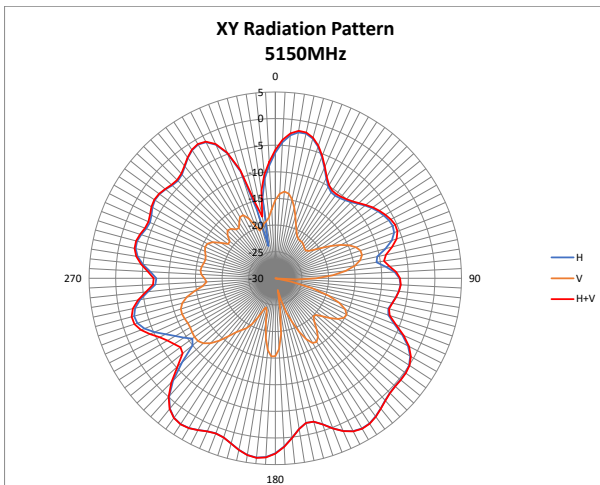
# Antenna Data : 19AA-10-tmp

<5GHz 5150-5350MHz>

Cable length: 10 mm

Liniar Polarization		XY-Plane		YZ-Plane		ZX-Plane		
		Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]	
Max. peak gain frequency	5150MHz	MAX	3.86	-11.23	4.96	2.34	2.34	<b>5.14</b>
		AVG	-2.06	-16.40	-3.08	-5.02	-5.51	-4.14
	5250MHz	MAX	3.28	-11.32	4.34	2.41	2.41	<b>4.48</b>
		AVG	-2.42	-17.19	-3.62	-5.26	-5.55	-4.58
Min. peak gain frequency	5350MHz	MAX	2.51	-11.05	3.37	1.72	1.72	<b>3.63</b>
		AVG	-2.96	-17.58	-4.05	-6.11	-6.01	-5.15

Bold numbers: Peak gain at each frequency



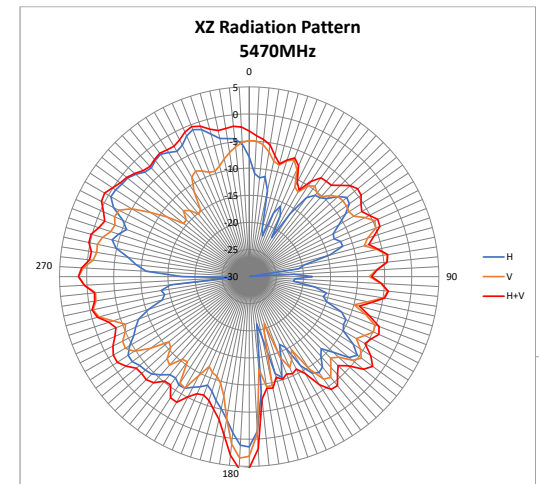
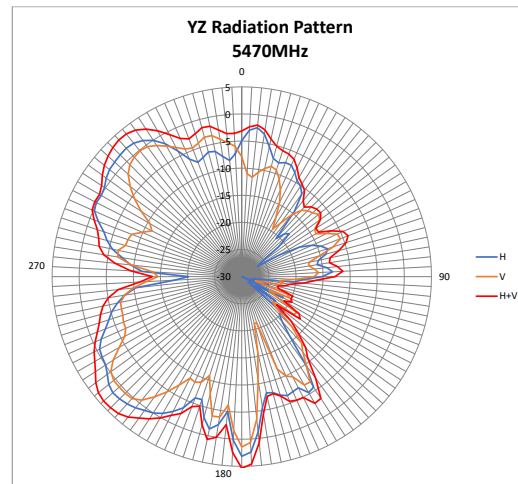
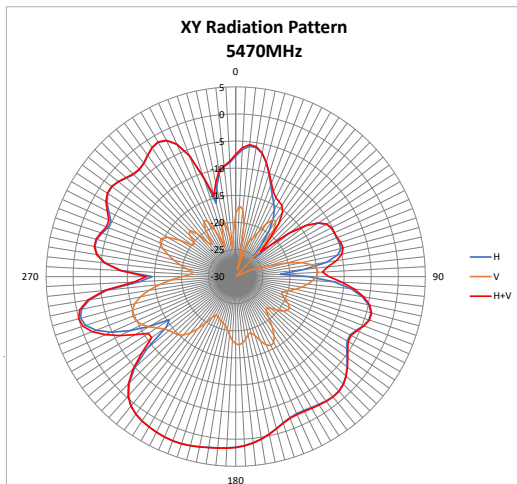
# Antenna Data : 19AA-10-tmp

<5GHz 5470-5725MHz>

Cable length: 10 mm

Liniar Polarization		XY-Plane		YZ-Plane		ZX-Plane		
		Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]	
Max. peak gain frequency	5470MHz	MAX	2.44	-9.69	3.15	1.41	1.41	<b>3.53</b>
		AVG	-3.15	-17.33	-3.67	-6.06	-6.13	-5.21
	5600MHz	MAX	3.18	-9.25	3.00	1.83	1.10	<b>3.39</b>
		AVG	-3.55	-16.96	-3.45	-5.35	-7.08	-5.68
Min. peak gain frequency	5725MHz	MAX	<b>3.05</b>	-10.18	2.88	2.86	0.17	1.95
		AVG	-3.64	-17.11	-3.58	-4.49	-7.96	-5.93

Bold numbers: Peak gain at each frequency



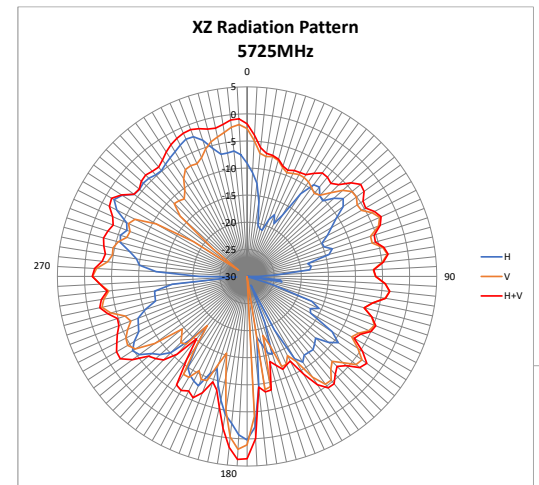
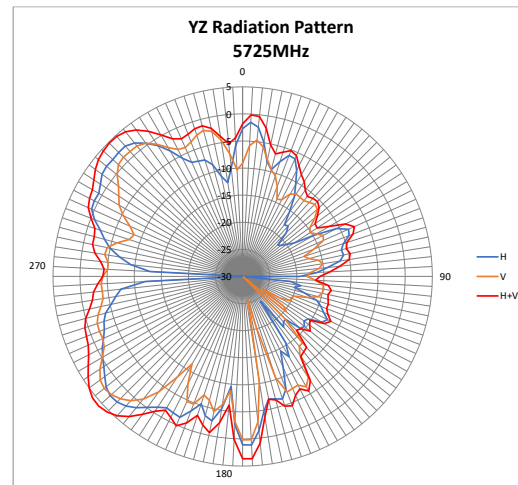
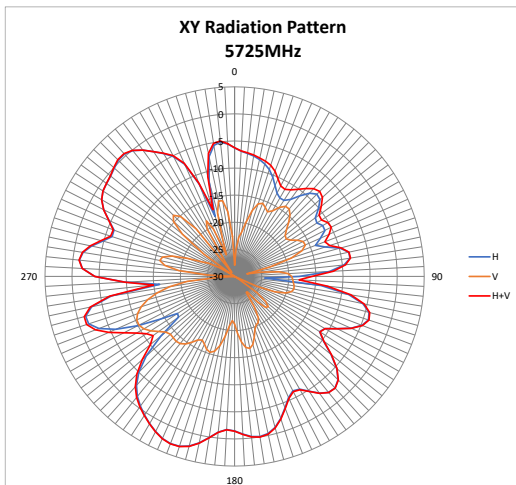
# Antenna Data : 19AA-10-tmp

<5GHz 5725-5850MHz>

Cable length: 10 mm

Liniar Polarization		XY-Plane		YZ-Plane		ZX-Plane		
		Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]	
Max. peak gain frequency	5725MHz	MAX	<b>3.05</b>	-10.18	2.88	2.86	0.17	1.95
		AVG	-3.64	-17.11	-3.58	-4.49	-7.96	-5.93
	5785MHz	MAX	<b>2.78</b>	-10.71	2.49	2.68	-0.19	1.52
		AVG	-3.61	-18.12	-4.14	-4.75	-8.34	-5.87
Min. peak gain frequency	5850MHz	MAX	1.62	-11.84	<b>2.01</b>	<b>2.01</b>	-1.29	1.15
		AVG	-4.19	-18.68	-4.61	-5.28	-8.21	-5.98

Bold numbers: Peak gain at each frequency



# Antenna Data : 19AA-10-tmp

<6GHz 5900-6525MHz>

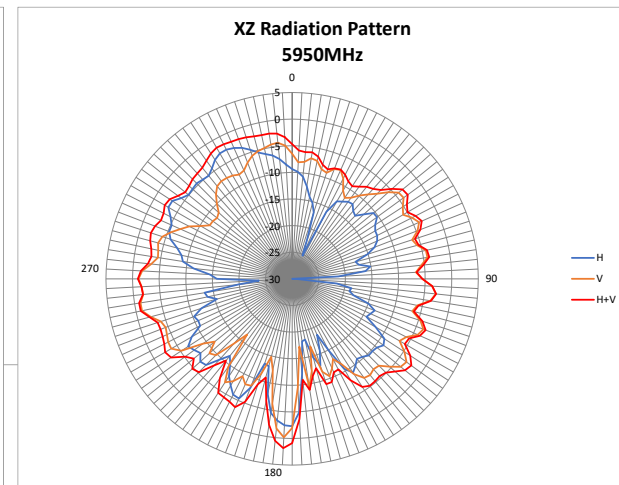
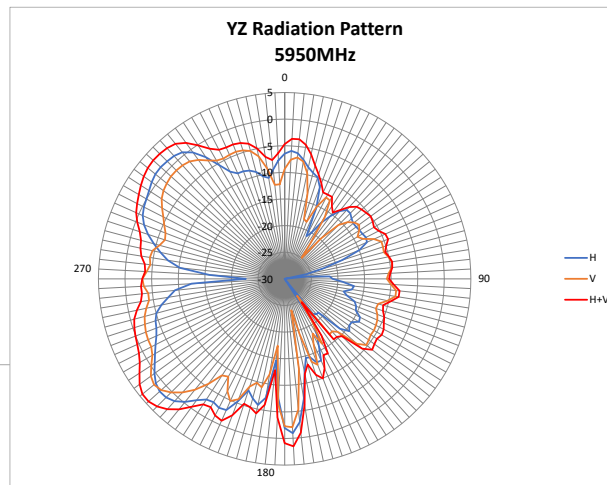
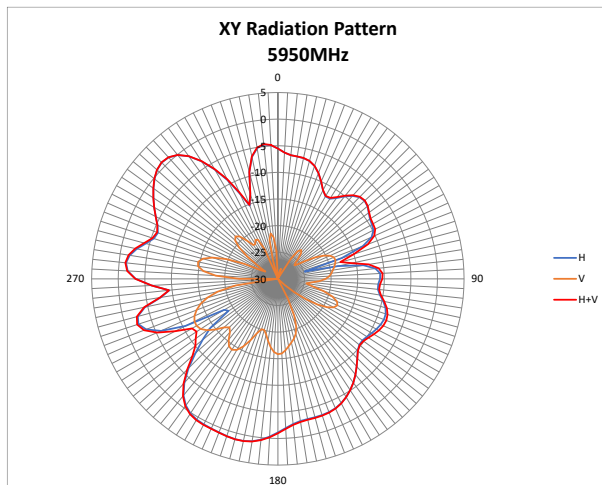
Cable length: 10 mm

Liniar Polarization		XY-Plane		YZ-Plane		ZX-Plane	
		Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]
5900MHz	MAX	1.34	-12.36	1.37	<b>1.59</b>	-1.68	0.67
	AVG	-4.13	-19.17	-5.15	-5.60	-8.58	-6.02
5950MHz	MAX	1.17	-12.35	<b>1.61</b>	<b>1.61</b>	-2.31	-0.17
	AVG	-4.27	-19.03	-5.14	-5.71	-8.33	-5.85
6465MHz	MAX	<b>-0.33</b>	-13.99	-0.81	-1.07	-5.11	-3.68
	AVG	-6.54	-20.92	-8.13	-7.23	-10.62	-7.91
6525MHz	MAX	-0.20	-13.74	<b>-0.13</b>	-0.66	-4.84	-2.77
	AVG	-6.16	-20.46	-7.42	-6.86	-9.91	-7.50

Max. peak gain frequency

Min. peak gain frequency

Bold numbers: Peak gain at each frequency





# Antenna Data : 19AA-10-tmp

<6GHz 6525-7150MHz>

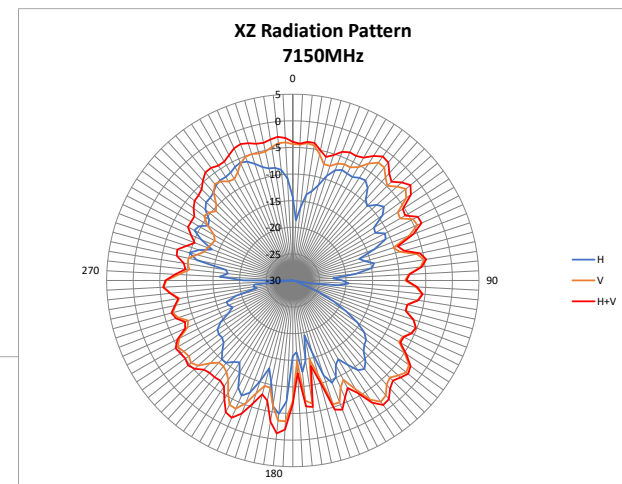
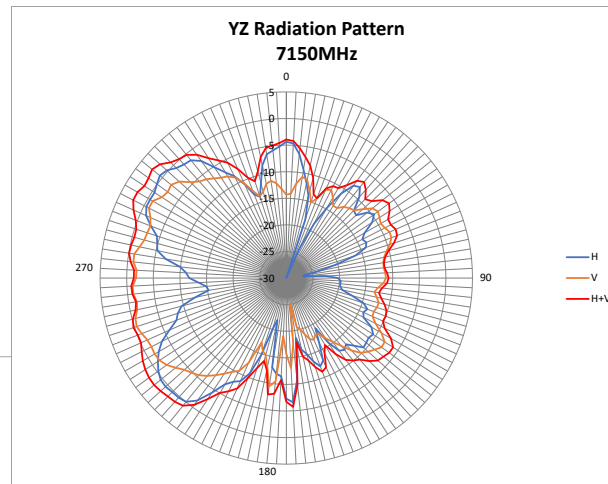
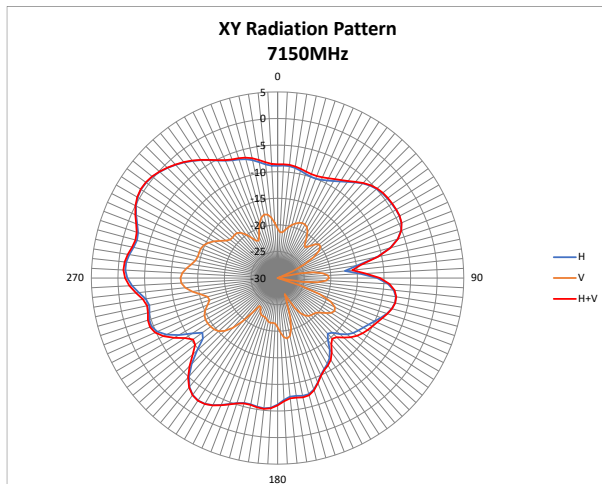
Cable length: 10 mm

Liniar Polarization		XY-Plane		YZ-Plane		ZX-Plane	
		Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]	Hor. [dBi]	Ver. [dBi]
6525MHz	MAX	<b>-0.20</b>	-13.74	-0.13	-0.66	-4.84	-2.77
	AVG	-6.16	-20.46	-7.42	-6.86	-9.91	-7.50
6800MHz	MAX	-2.26	-14.70	<b>-0.09</b>	-2.03	-5.76	-2.30
	AVG	-6.68	-20.74	-7.63	-8.42	-11.02	-7.23
6855MHz	MAX	-2.81	-15.53	<b>-0.81</b>	-2.73	-6.27	-2.81
	AVG	-7.11	-21.53	-8.24	-8.95	-11.70	-7.82
7150MHz	MAX	<b>0.60</b>	-11.74	<b>0.60</b>	-0.42	-4.79	-1.84
	AVG	-5.24	-18.21	-6.32	-6.40	-10.60	-6.04

Min. peak gain frequency

Max. peak gain frequency

Bold numbers: Peak gain at each frequency



Measurement date		2022,9,8
Measurement executor	Company	Tyco Electronics Japan
	Personnel	Hikaru Tamura
Calibrated measurement equipment Cabirated day:2022.3.9	Reference antenna	Dual-Ridge horn antenna, SH600-154, MVG
	Measurement probe	Multi-Probe Measurement system, SG24, MVG
	Measurement equipment	ENA Network Analyzer, E5071C, Keysight

Measurement software	Automated Antenna and OTA Measurement Software Suite, Wave Studio, MVG Near-Field to Far-Field Transformation Software, MV-Sphere, MVG
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Measurement system /Test setup

INSTRUMENTATION ROOM

ANECHOIC CHAMBER

- 1 Arch
- 2 Mast
- 3 Patented Goniometer
- 4 Antennas
- 5 Absorbers and anechoic chambers

DUT

Anechoic chamber

Measurement range	Available frequency	400MHz~10000MHz
	Quite-zone	Sphere Dia. 0.84m