

FCC Part 15 Antenna Gain Test Report

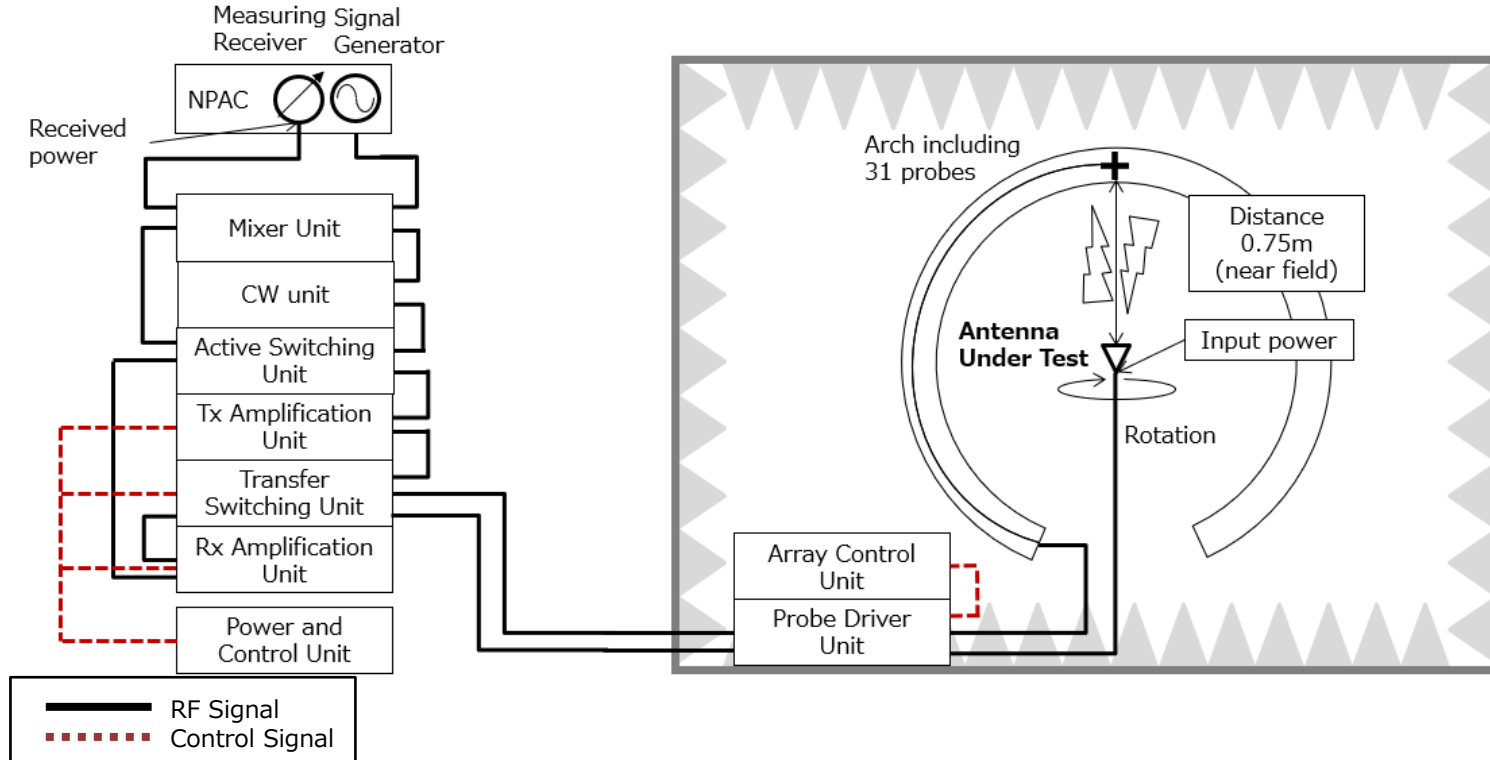
FCC ID: VPYLB1VY
Client: Murata Manufacturing Co., Ltd.
Type of Equipment: Communication Module
Model No.: Type1VY (* installed in Digital Camera 1VY010)
Date of Testing: April 3, 2024 – May 9, 2024
Date of Issue: May 13, 2024

Sony

5-1-1 Minatomirai Nishi-ku Yokohama-shi Kanagawa, 220-8750, Japan

1. Measurement Procedure

- The antenna gain is measured in a fully anechoic chamber



2. Test Equipment and Measurement Software

Used	Equipment Description	Model No.	Serial No.	Manufacturer	Cal. Interval	Last Cal.	Remark
Y	Absorber Chamber	B83117-A1421-T161	21061	Albatross Projects	N/A	N/A	
Y	Multi-Probe Measurement System	SG32	1102611-0001	MVG	12 months	2023.09.25	
N	Dual-Ridge Horn Antenna (0.6-6.0 GHz)	SH600	30	MVG	N/A	N/A	Reference Antenna
N	Sleeve-Dipole Antenna (0.69-0.8 GHz)	SD740	32	MVG	N/A	N/A	Reference Antenna
N	Sleeve-Dipole Antenna (0.865-0.93 GHz)	SD900	153	MVG	N/A	N/A	Reference Antenna
Y	Signal Generator and Receiver	NPAC	1102249-2495	MVG	N/A	N/A	For Passive
Y	Mixer Unit	MU	1102545-2491	MVG	N/A	N/A	
Y	CW Unit	CWU	1102188-2573	MVG	N/A	N/A	
Y	Active Switching Unit	ASU	1101217-2569	MVG	12 months	2023.09.26	
Y	Tx Amplification Unit	TxAU	1102527-2493	MVG	N/A	N/A	
Y	Rx Amplification Unit	RxAU	1102537-2492	MVG	N/A	N/A	
Y	Transfer Switching Unit	TSU	1102181-2494	MVG	N/A	N/A	
Y	Probe Driver Unit	PDU	1102186-2487	MVG	N/A	N/A	
Y	Power and Control Unit	PACU	1102184-2529	MVG	N/A	N/A	
Y	Array Control Unit	ACU	1102345-2489	MVG	N/A	N/A	

- The calibration is valid until the end of the expiration month.

Measurement Software

Used	Software Description	Model No.	Version	Manufacturer	Remark
Y	Automated Antenna and OTA Measurement Software Suite	MVG WaveStudio	23.3.2	MVG	
Y	Near-Field to Far-Field Transformation Software	MV-Sphere	3.3.7	MVG	

3. Antenna Under Test

Antenna 1

Antenna Model Name: MODE DIAL LDS ANTENNA TYPE-B

Antenna Type: Monopole

Input Impedance: 50 ohm

Antenna 2

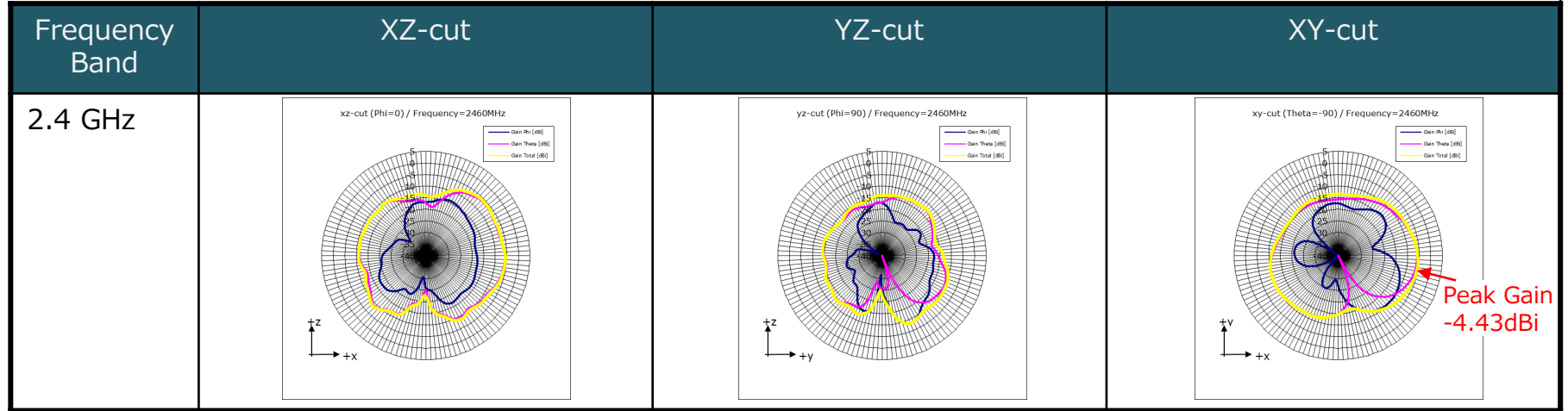
Antenna Model Name: SLA-2004

Antenna Type: Slot

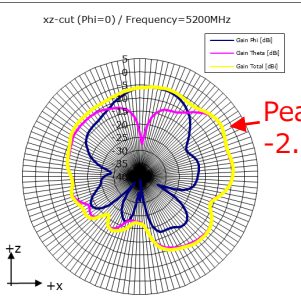
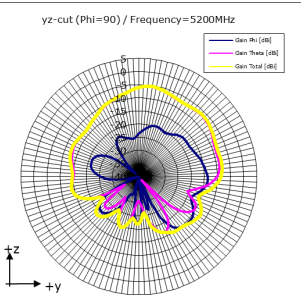
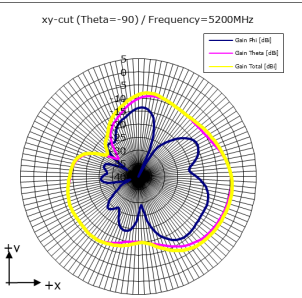
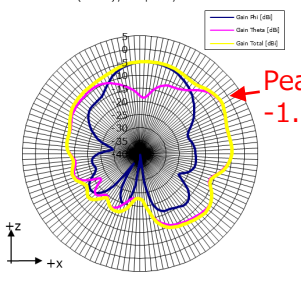
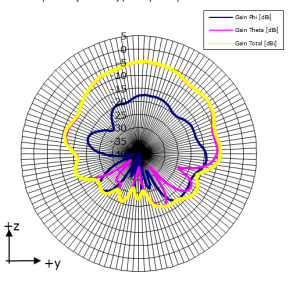
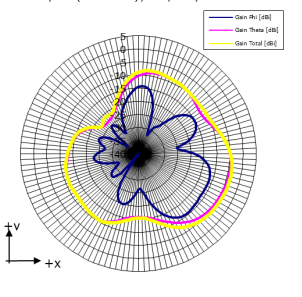
Input Impedance: 50 ohm

5. Antenna Directivity Plots

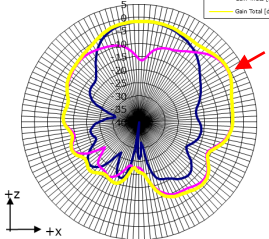
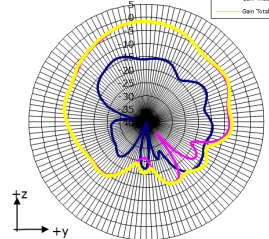
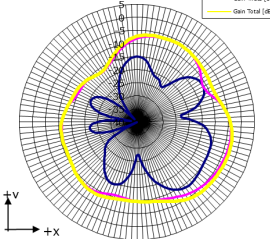
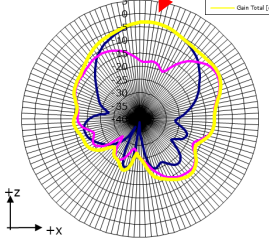
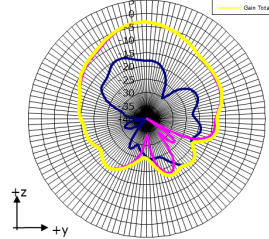
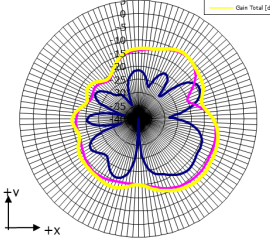
Antenna 1 (1/3)



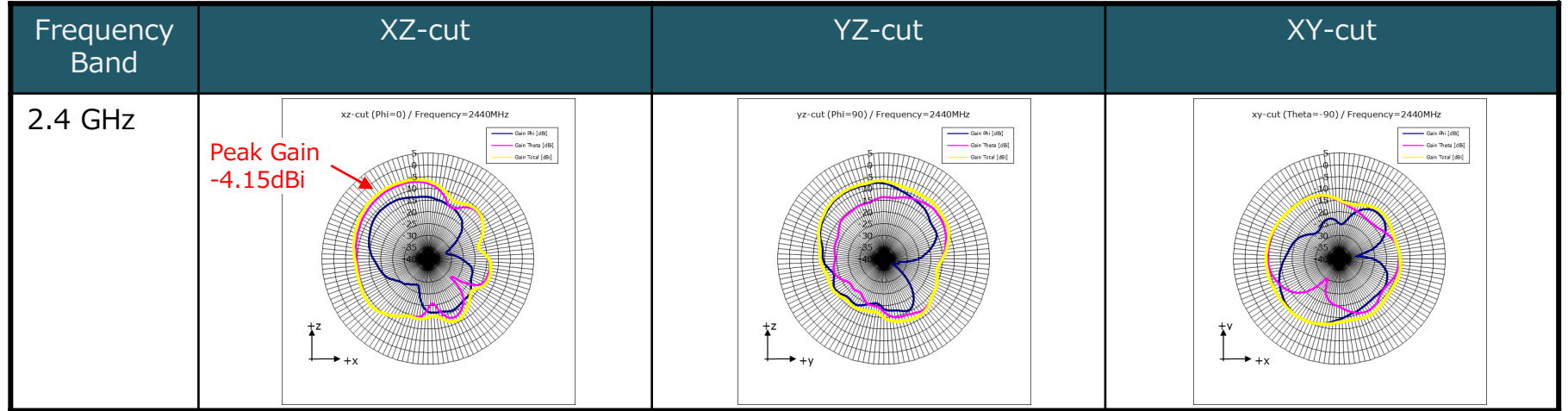
Antenna 1 (2/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W52 (5.2 GHz)	<p data-bbox="440 342 633 358">xz-cut (Phi=0) / Frequency=5200MHz</p>  <p data-bbox="664 430 794 489">Peak Gain -2.02dBi</p>	<p data-bbox="981 342 1174 358">yz-cut (Phi=90) / Frequency=5200MHz</p> 	<p data-bbox="1522 342 1715 358">xy-cut (Theta=-90) / Frequency=5200MHz</p> 
W53 (5.3 GHz)	<p data-bbox="440 687 633 703">xz-cut (Phi=0) / Frequency=5300MHz</p>  <p data-bbox="664 764 794 823">Peak Gain -1.87dBi</p>	<p data-bbox="981 687 1174 703">yz-cut (Phi=90) / Frequency=5300MHz</p> 	<p data-bbox="1522 687 1715 703">xy-cut (Theta=-90) / Frequency=5300MHz</p> 

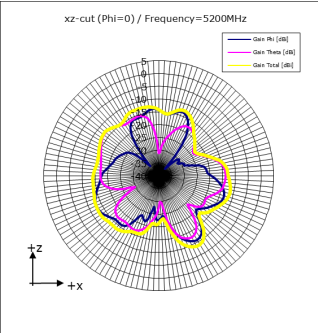
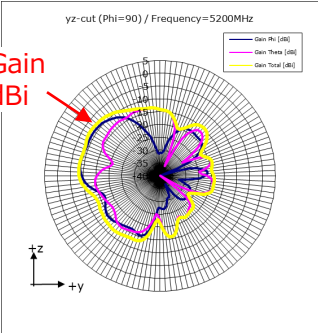
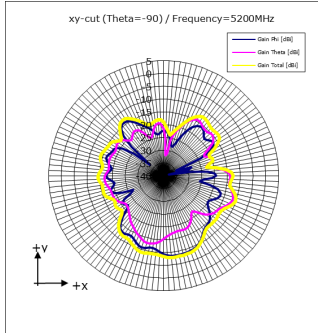
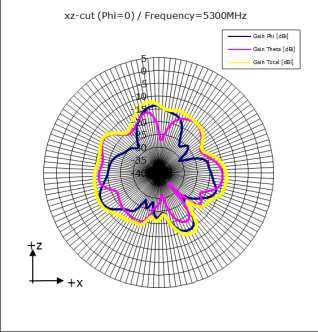
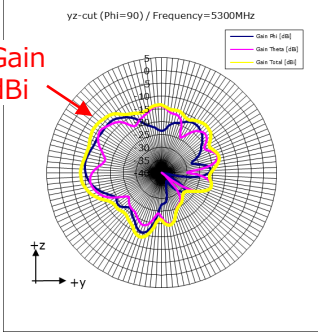
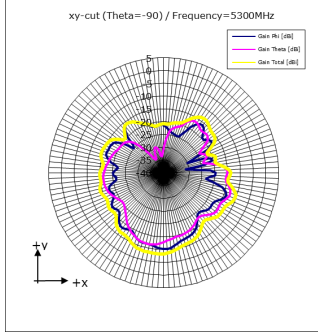
Antenna 1 (3/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W56 (5.5 GHz)	<p data-bbox="434 343 627 360">xz-cut (Phi=0) / Frequency=5500MHz</p>  <p data-bbox="666 431 801 485">Peak Gain +0.80dBi</p>	<p data-bbox="975 343 1168 360">yz-cut (Phi=90) / Frequency=5500MHz</p> 	<p data-bbox="1516 343 1709 360">xy-cut (Theta=-90) / Frequency=5500MHz</p> 
W58 (5.8 GHz)	<p data-bbox="434 693 627 709">xz-cut (Phi=0) / Frequency=5700MHz</p>  <p data-bbox="666 780 801 835">Peak Gain -1.70dBi</p>	<p data-bbox="975 693 1168 709">yz-cut (Phi=90) / Frequency=5700MHz</p> 	<p data-bbox="1516 693 1709 709">xy-cut (Theta=-90) / Frequency=5700MHz</p> 

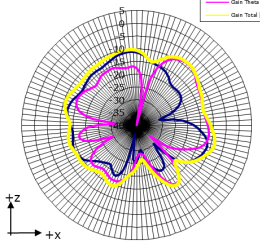
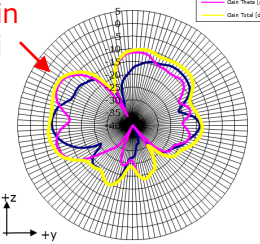
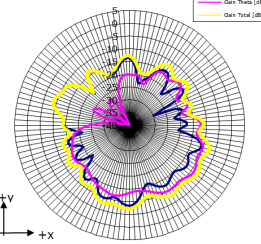
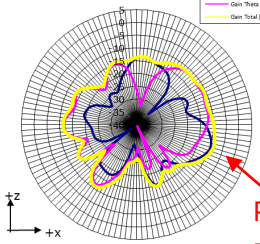
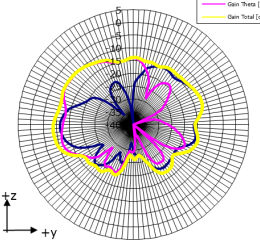
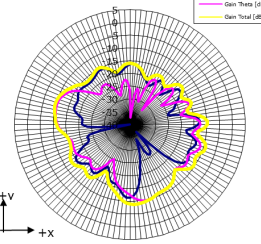
Antenna 2 (1/3)



Antenna 2 (2/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W52 (5.2 GHz)	<p>xz-cut (Phi=0) / Frequency=5200MHz</p>  <p>Legend: Gain Phi (dB), Gain Theta (dB), Gain Total (dB)</p>	<p>yz-cut (Phi=90) / Frequency=5200MHz</p> <p>Peak Gain -6.46dBi</p>  <p>Legend: Gain Phi (dB), Gain Theta (dB), Gain Total (dB)</p>	<p>xy-cut (Theta=-90) / Frequency=5200MHz</p>  <p>Legend: Gain Phi (dB), Gain Theta (dB), Gain Total (dB)</p>
W53 (5.3 GHz)	<p>xz-cut (Phi=0) / Frequency=5300MHz</p>  <p>Legend: Gain Phi (dB), Gain Theta (dB), Gain Total (dB)</p>	<p>yz-cut (Phi=90) / Frequency=5300MHz</p> <p>Peak Gain -6.91dBi</p>  <p>Legend: Gain Phi (dB), Gain Theta (dB), Gain Total (dB)</p>	<p>xy-cut (Theta=-90) / Frequency=5300MHz</p>  <p>Legend: Gain Phi (dB), Gain Theta (dB), Gain Total (dB)</p>

Antenna 2 (3/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W56 (5.5 GHz)	<p data-bbox="440 343 633 358">xz-cut (Phi=0) / Frequency=5500MHz</p>  <p data-bbox="608 365 685 409">— Gain Rh [dB] — Gain Theta [dB] — Gain Total [dB]</p>	<p data-bbox="981 343 1174 358">yz-cut (Phi=90) / Frequency=5500MHz</p>  <p data-bbox="830 382 966 436">Peak Gain -4.93dBi</p> <p data-bbox="1149 365 1226 409">— Gain Rh [dB] — Gain Theta [dB] — Gain Total [dB]</p>	<p data-bbox="1516 343 1709 358">xy-cut (Theta=-90) / Frequency=5500MHz</p>  <p data-bbox="1671 365 1748 409">— Gain Rh [dB] — Gain Theta [dB] — Gain Total [dB]</p>
W58 (5.8 GHz)	<p data-bbox="440 690 633 704">xz-cut (Phi=0) / Frequency=5800MHz</p>  <p data-bbox="608 709 685 753">— Gain Rh [dB] — Gain Theta [dB] — Gain Total [dB]</p> <p data-bbox="656 922 792 977">Peak Gain -7.36dBi</p>	<p data-bbox="981 690 1174 704">yz-cut (Phi=90) / Frequency=5800MHz</p>  <p data-bbox="1149 709 1226 753">— Gain Rh [dB] — Gain Theta [dB] — Gain Total [dB]</p>	<p data-bbox="1516 690 1709 704">xy-cut (Theta=-90) / Frequency=5800MHz</p>  <p data-bbox="1671 709 1748 753">— Gain Rh [dB] — Gain Theta [dB] — Gain Total [dB]</p>