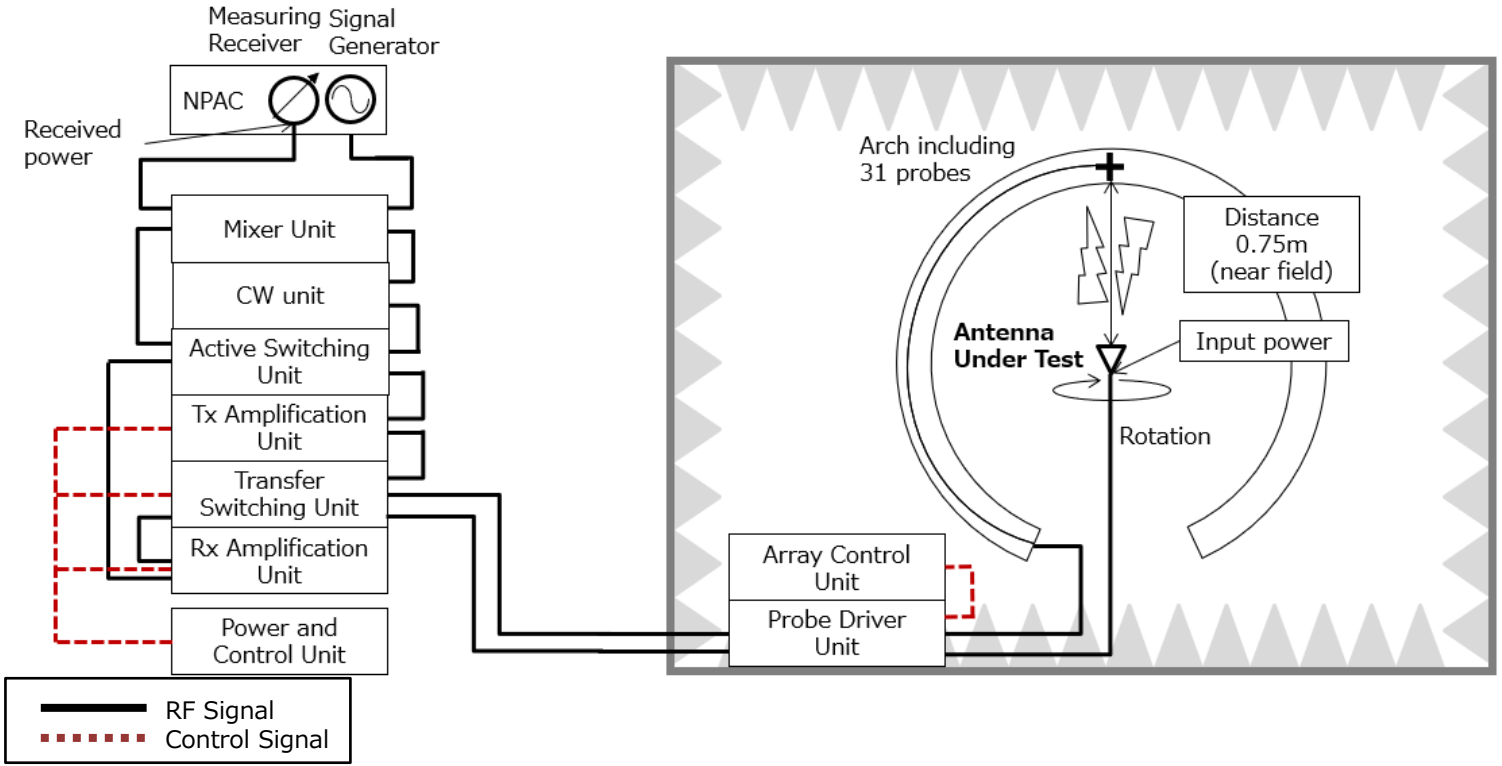
FCC Part 15 Antenna Gain Test Report

FCC ID:	VPYLB1VY
Client:	Murata Manufacturing Co., Ltd.
Type of Equipment:	Communication Module
Model No.:	Type1VY (* installed in Digital Camera 1VY009)
Date of Testing:	March 18, 2024 – March 19, 2024
Date of Issue:	March 25, 2024

Sony Corporation
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:	WF-12
Antenna Type:	Dual Band Monopole
Input Impedance:	50 ohm

Antenna 2

Antenna Model Name:	WF-1008
Antenna Type:	Dual Band Monopole
Input Impedance:	50 ohm

4. Antenna Gains

Antenna 1

Date of Testing: March 18, 2024

Tested Personnel: Masaomi Takayama

Antenna	Frequency (MHz)	Peak Gain (dBi)	Remark
Antenna 1	2400	-0.92	* 2.4 GHz peak
	5200	-1.14	* 5 GHz peak
	5300	-1.92	
	5500	-2.90	
	5800	-3.78	

Antenna 2

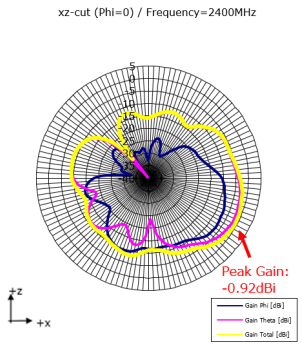
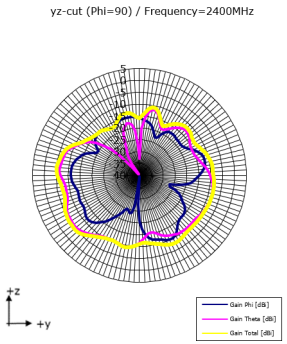
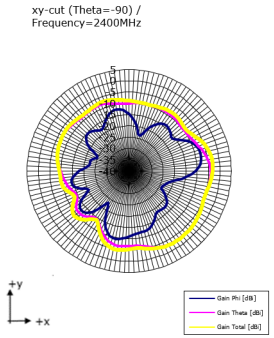
Date of Testing: March 19, 2024

Tested Personnel: Masaomi Takayama

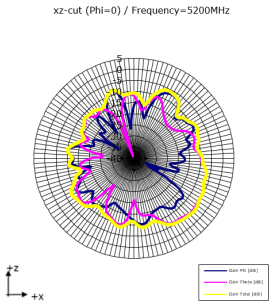
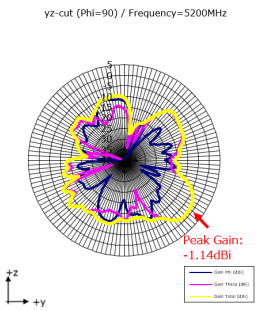
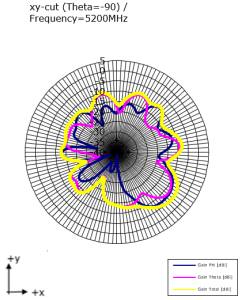
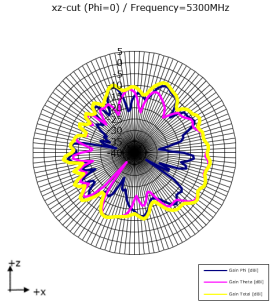
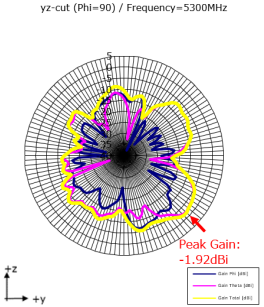
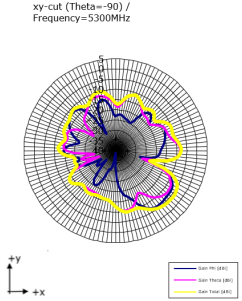
Antenna	Frequency (MHz)	Peak Gain (dBi)	Remark
Antenna 2	2480	-0.65	* 2.4 GHz peak
	5200	-1.06	* 5 GHz peak
	5300	-1.28	
	5500	-1.81	
	5800	-3.04	

5. Antenna Directivity Plots

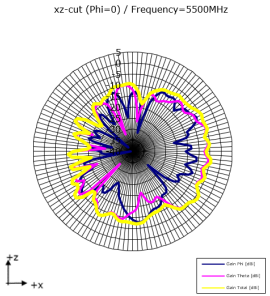
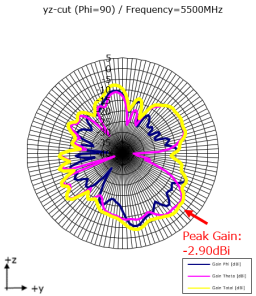
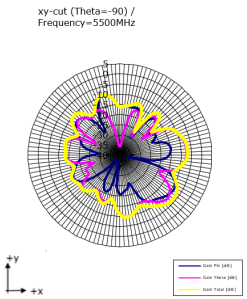
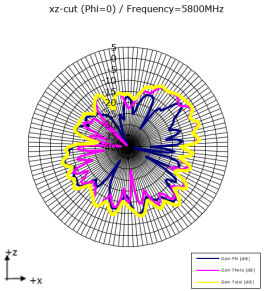
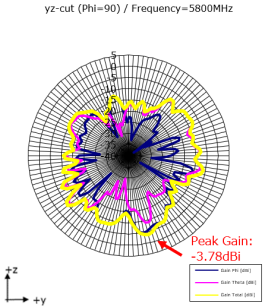
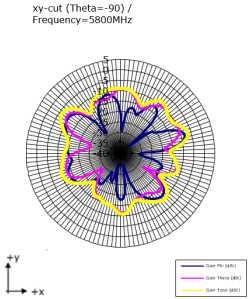
Antenna 1 (1/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
2.4 GHz			

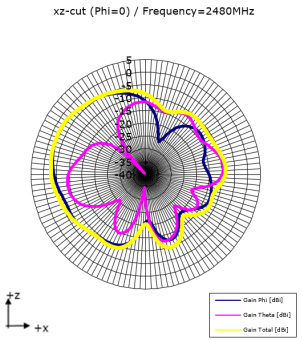
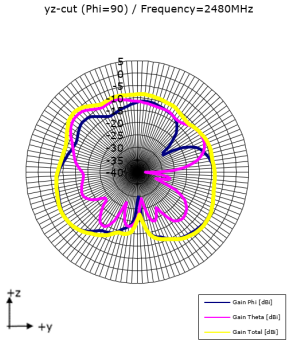
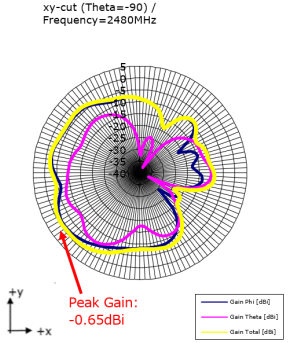
Antenna 1 (2/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W52 (5.2 GHz)			
W53 (5.3 GHz)			

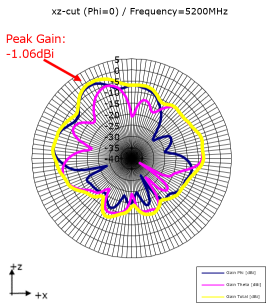
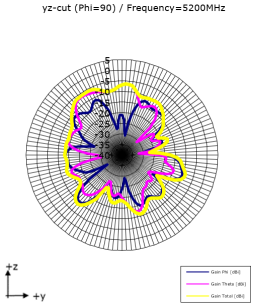
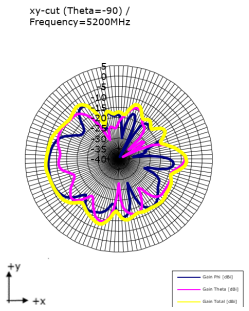
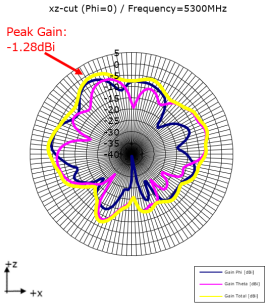
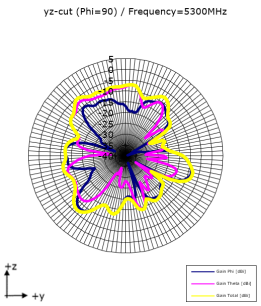
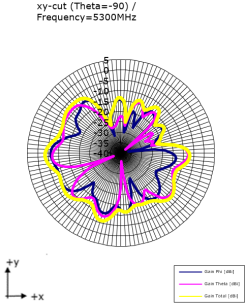
Antenna 1 (3/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W56 (5.7 GHz)			
W58 (5.8 GHz)			

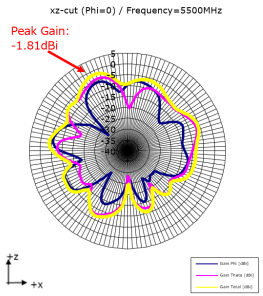
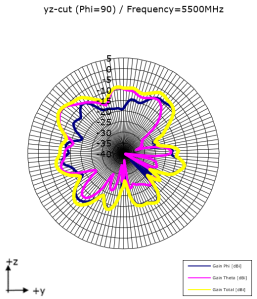
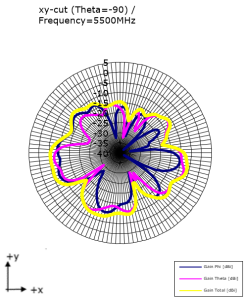
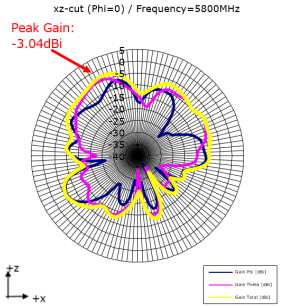
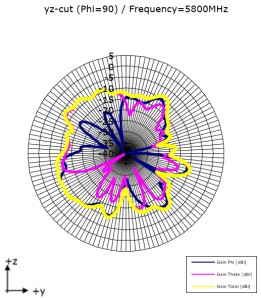
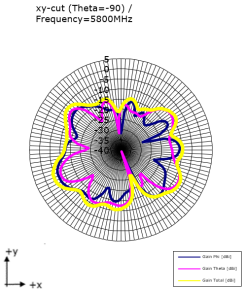
Antenna 2 (1/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
2.4 GHz			

Antenna 2 (2/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W52 (5.2 GHz)			
W53 (5.3 GHz)			

Antenna 2 (3/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W56 (5.5 GHz)			
W58 (5.8 GHz)