

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 Host device 1VY006)
Date of Testing: July 10, 2023 – July 14, 2023
Date of Issue: July 18, 2023

Sony Corporation

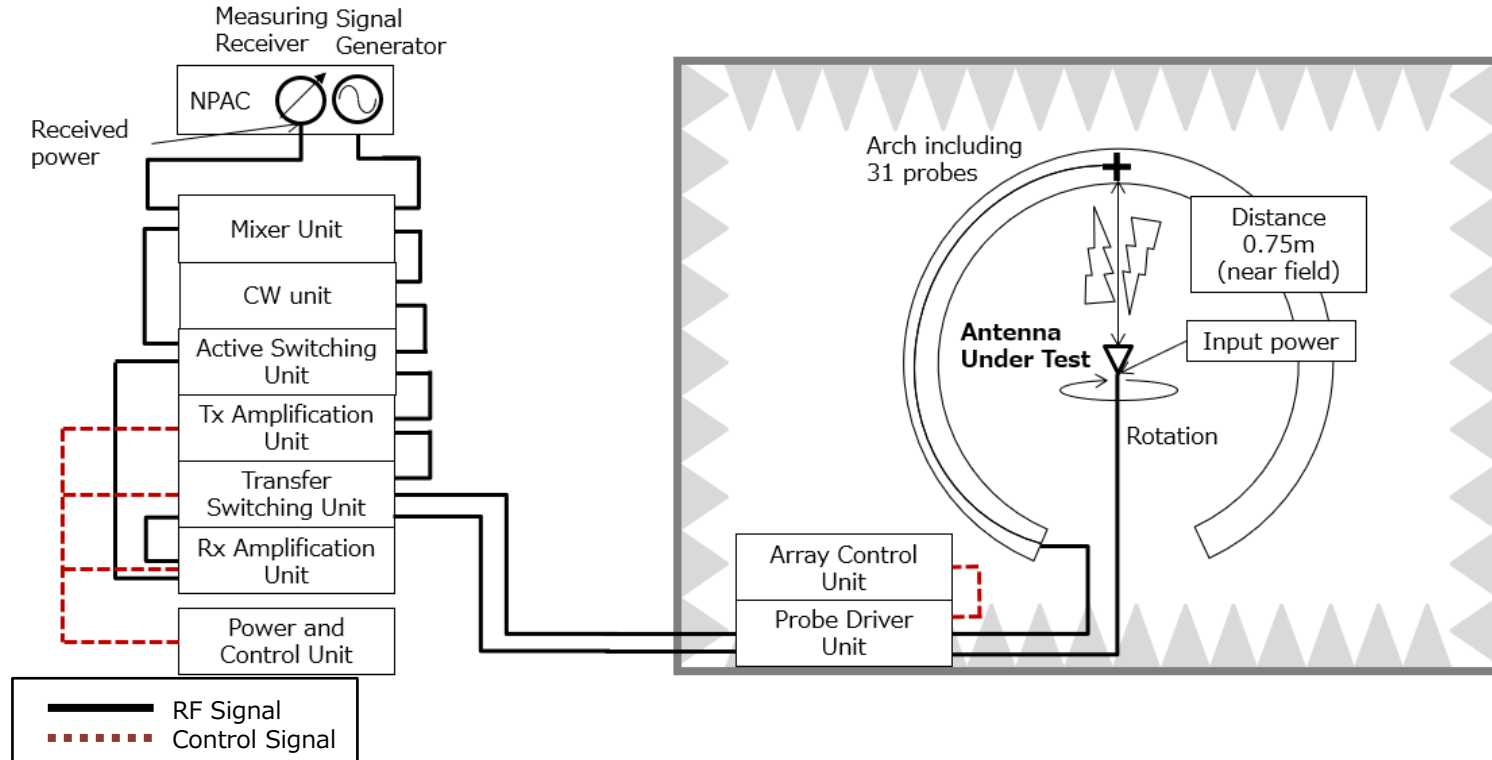
5-1-1 Minatomirai Nishi-ku Yokohama-shi Kanagawa, 220-8750, Japan

Revision history

rev	Date.	Create	Comment	Remark
1	July 18, 2023	Keinan Gi	Issued	
2	November 15, 2023	Keinan Gi	•Additional Revision history page(This page) •4. Antenna Gains Corrected the comment position for 5GHz Peak.	
3	November 17, 2023	Keinan Gi	•4. Antenna Gains •5. Antenna Directivity Plots Fixed Typo	

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	2022.09.22	
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	2022.09.28	
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	22.5.5	MVG	
Y	Near-Field to Far-Field Transformation Software	MV-Sphere	3.0.1	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

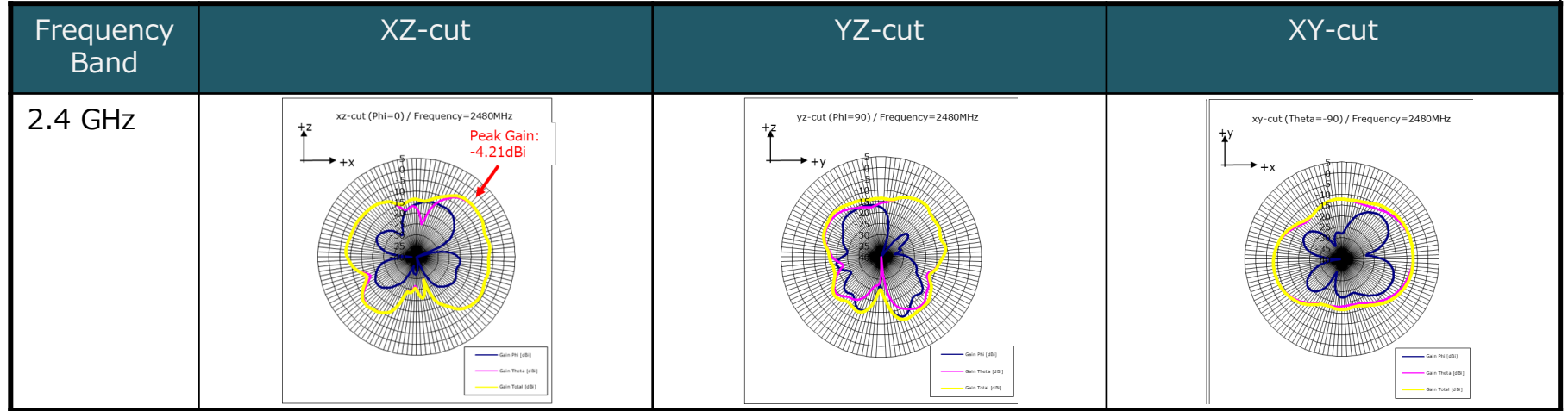
Antenna Model Name: SLA-2004
Antenna Type: Slot
Input Impedance: 50 ohm

Rev3
Nov-17-2023
Fixed Typo

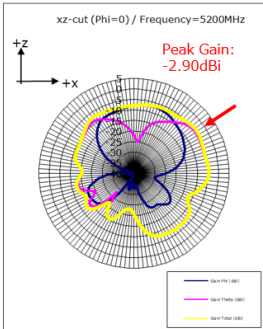
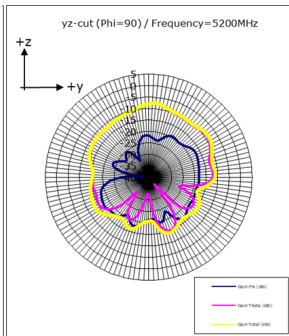
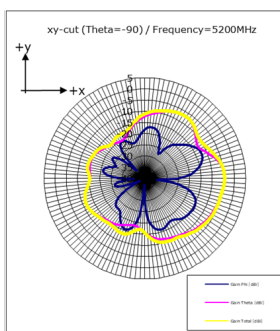
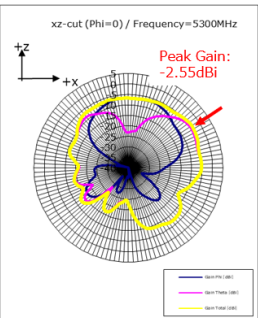
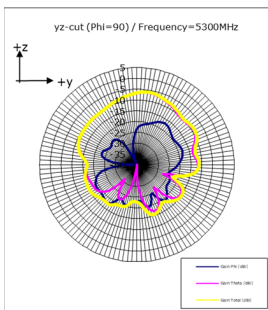
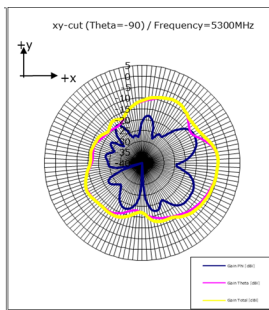
[illegible]

5. Antenna Directivity Plots

Antenna 1 (1/3)



Antenna 1 (2/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W52 (5.2 GHz)	 xz-cut (Phi=0) / Frequency=5200MHz Peak Gain: -2.90dBi	 yz-cut (Phi=90) / Frequency=5200MHz	 xy-cut (Theta=-90) / Frequency=5200MHz
W53 (5.3 GHz)	 xz-cut (Phi=0) / Frequency=5300MHz Peak Gain: -2.55dBi	 yz-cut (Phi=90) / Frequency=5300MHz	 xy-cut (Theta=-90) / Frequency=5300MHz

Antenna 1 (3/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W56 (5.6 GHz)	xz-cut (Phi=0) / Frequency=5600MHz	yz-cut (Phi=90) / Frequency=5600MHz	xy-cut (Theta=-90) / Frequency=5600MHz
W58 (5.8 GHz)	xz-cut (Phi=0) / Frequency=5800MHz	yz-cut (Phi=90) / Frequency=5800MHz	xy-cut (Theta=-90) / Frequency=5800MHz

Antenna 2 (1/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
2.4 GHz	xz-cut (Phi=0) / Frequency=2400MHz Peak Gain: -14.43dBi	yz-cut (Phi=90) / Frequency=2400MHz	xy-cut (Theta=-90) / Frequency=2400MHz

Antenna 2 (2/3)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W52 (5.2 GHz)	xz-cut (Phi=0) / Frequency=5200MHz Peak Gain: -2.93dBi	yz-cut (Phi=90) / Frequency=5200MHz Peak Gain: -2.93dBi	xy-cut (Theta=-90) / Frequency=5200MHz Peak Gain: -2.93dBi
W53 (5.3 GHz)	xz-cut (Phi=0) / Frequency=5300MHz Peak Gain: -3.69dBi	yz-cut (Phi=90) / Frequency=5300MHz Peak Gain: -3.69dBi	xy-cut (Theta=-90) / Frequency=5300MHz Peak Gain: -3.69dBi

Antenna 2 (3/3)

Rev3
Nov-17-2023
Fixed typo
W58 YZ-Cut frequency, and XY-cut frequency

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