

FCC Part 15 Antenna Gain Test Report

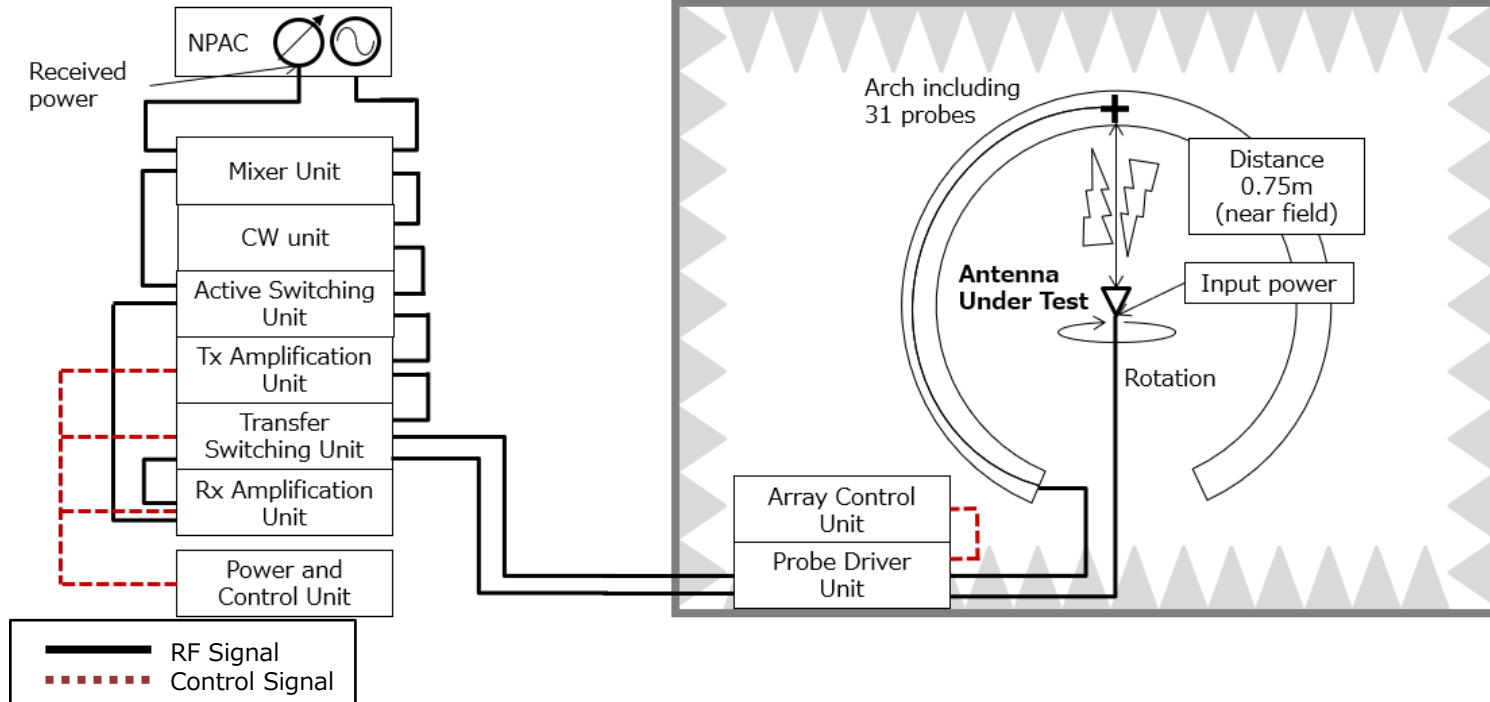
FCC ID:	VPYLBEE5QG2CX
Client:	Murata Manufacturing Co., Ltd.
Type of Equipment:	Communication Module
Model No.:	Type2CX (* installed in Host Device 2CX001)
Date of Testing:	December 24, 2024 – December 26, 2024
Date of Issue:	March 17, 2025

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	2024.08.05	
Y	Active Switching Unit	ASU	1101217-2569	MVG	12 months	2024.08.05	
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

Measurement Software

Used	Software Description	Model No.	Version	Manufacturer	Remark
Y	Automated Antenna and OTA Measurement Software Suite	MVG WaveStudio	24.2.6	MVG	
Y	Near-Field to Far-Field Transformation Software	MV-Sphere	3.4.4	MVG	

3. Antenna Under Test

Antenna 1

Antenna Model Name: MODE DIAL LDS ANTENNA TYPE-C
Antenna Type: Monopole
Input Impedance: 50 ohm

Antenna 2

Antenna Model Name: SLA-2005
Antenna Type: Slot
Input Impedance: 50 ohm

4. Antenna Gains

Antenna 1

Date of Testing: December 24, 2024

Tested Personnel: Yuki Hamachi

Antenna	Frequency (MHz)	Peak Gain (dBi)	Remark
Antenna 1	2440	-6.56	* 2.4 GHz peak
	5200	-4.58	
	5300	-5.35	
	5500	-2.46	* 5 GHz peak
	5800	-4.93	
	6400	-3.55	
	6500	-3.10	
	6700	-3.53	
	7000	-2.22	* 6 GHz peak

Antenna 2

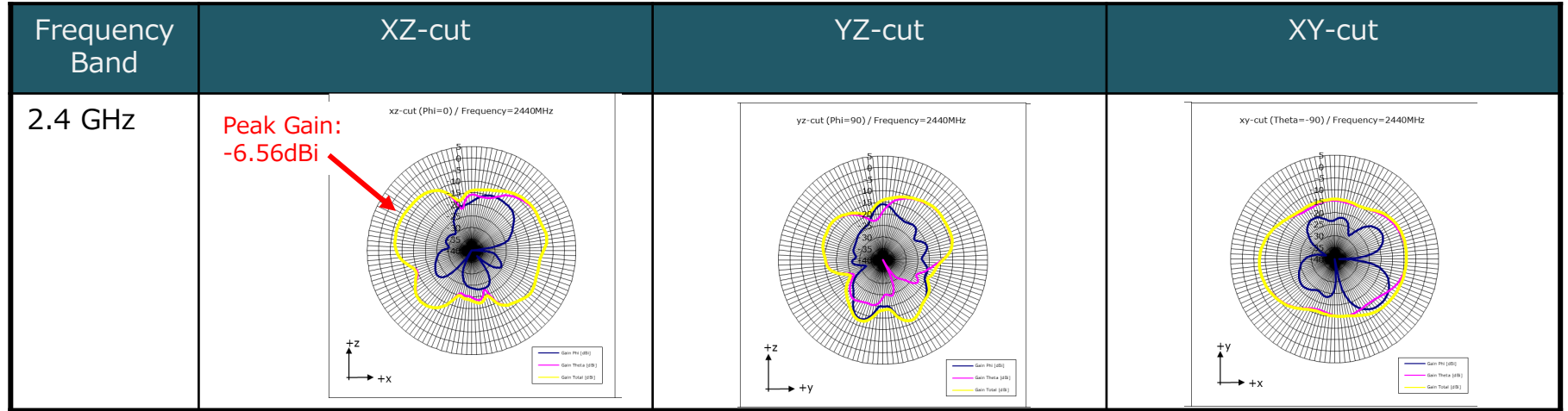
Date of Testing: December 26, 2024

Tested Personnel: Akihiro Somura

Antenna	Frequency (MHz)	Peak Gain (dBi)	Remark
Antenna 2	2440	-3.58	* 2.4 GHz peak
	5200	-3.16	
	5300	-3.26	
	5500	-2.87	* 5 GHz peak
	5800	-4.03	
	6400	-3.47	
	6500	-4.47	
	6600	-3.58	
	7000	-2.53	* 6 GHz peak

5. Antenna Directivity Plots

Antenna 1 (1/5)



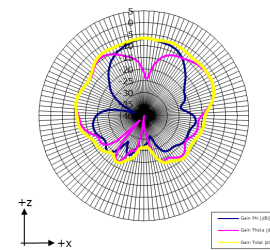
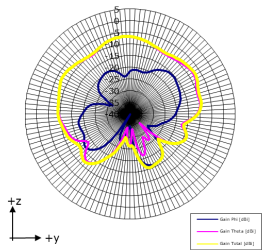
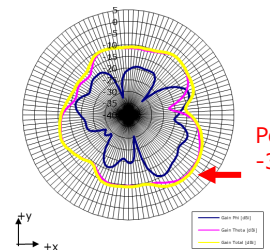
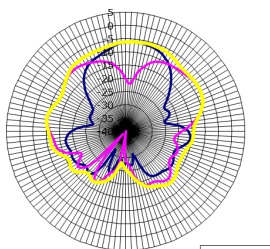
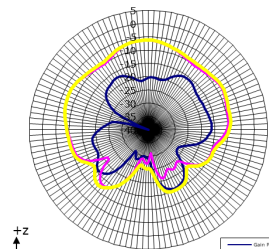
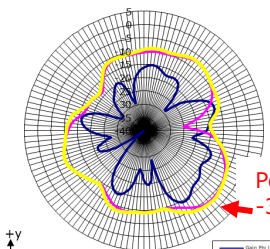
Antenna 1 (2/5)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W52 (5.2 GHz)	xz-cut (Phi=0) / Frequency=5200MHz Peak Gain: -4.58dBi	yz-cut (Phi=90) / Frequency=5200MHz	xy-cut (Theta=-90) / Frequency=5200MHz
W53 (5.3 GHz)	xz-cut (Phi=0) / Frequency=5300MHz Peak Gain: -5.35dBi	yz-cut (Phi=90) / Frequency=5300MHz	xy-cut (Theta=-90) / Frequency=5300MHz

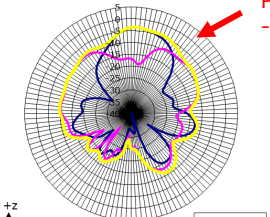
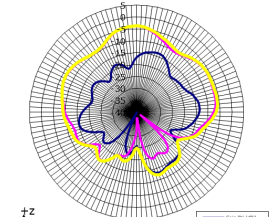
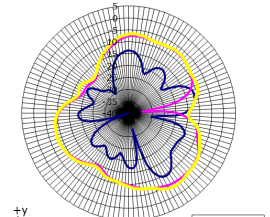
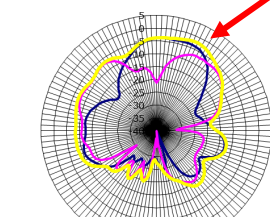
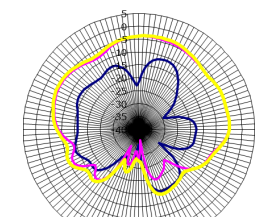
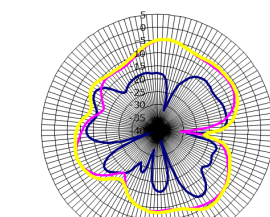
Antenna 1 (3/5)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W56 (5.5 GHz)	xz-cut (Phi=0) / Frequency=5500MHz Peak Gain: -2.46dBi	yz-cut (Phi=90) / Frequency=5500MHz	xy-cut (Theta=-90) / Frequency=5500MHz
W58 (5.8 GHz)	xz-cut (Phi=0) / Frequency=5800MHz Peak Gain: -4.93dBi	yz-cut (Phi=90) / Frequency=5800MHz	xy-cut (Theta=-90) / Frequency=5800MHz

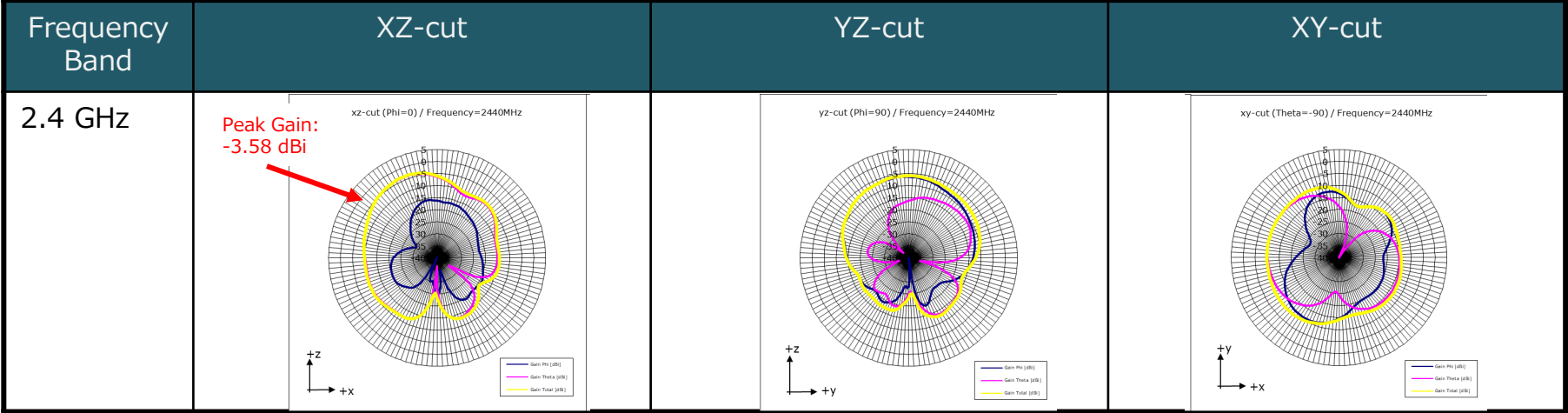
Antenna 1 (4/5)

Frequency Band	XZ-cut	YZ-cut	XY-cut
U-NII 5 (6.4 GHz)	xz-cut (Phi=0) / Frequency=6400MHz 	yz-cut (Phi=90) / Frequency=6400MHz 	xy-cut (Theta=-90) / Frequency=6400MHz  Peak Gain: -3.55dBi
U-NII 6 (6.5 GHz)	xz-cut (Phi=0) / Frequency=6500MHz 	yz-cut (Phi=90) / Frequency=6500MHz 	xy-cut (Theta=-90) / Frequency=6500MHz  Peak Gain: -3.10dBi

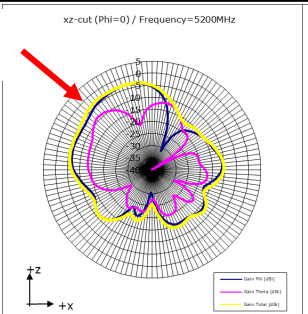
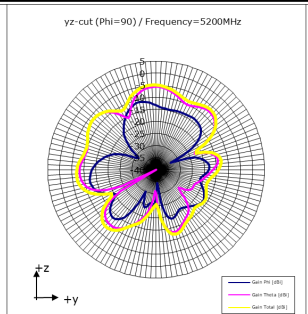
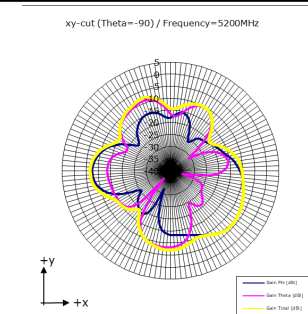
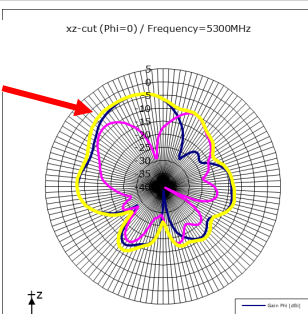
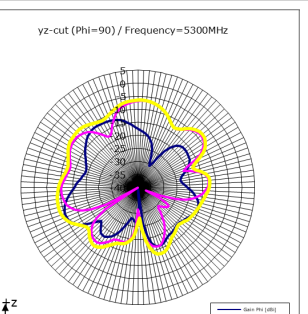
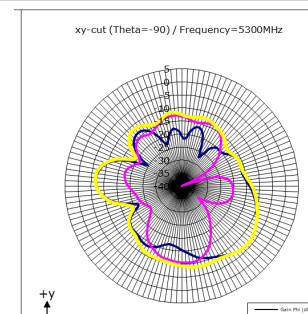
Antenna 1 (5/5)

Frequency Band	XZ-cut	YZ-cut	XY-cut
U-NII 7 (6.7 GHz)	xz-cut (Phi=0) / Frequency=6700MHz  Peak Gain: -3.53dBi	yz-cut (Phi=90) / Frequency=6700MHz 	xy-cut (Theta=-90) / Frequency=6700MHz 
U-NII 8 (7GHz)	xz-cut (Phi=0) / Frequency=7000MHz  Peak Gain: -2.22dBi	yz-cut (Phi=90) / Frequency=7000MHz 	xy-cut (Theta=-90) / Frequency=7000MHz 

Antenna 2 (1/5)



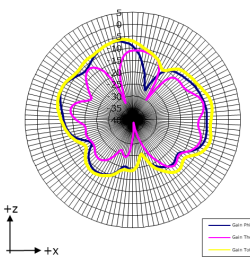
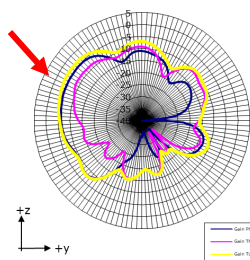
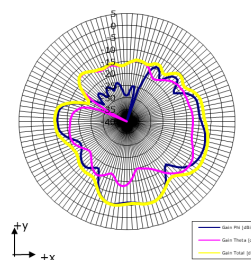
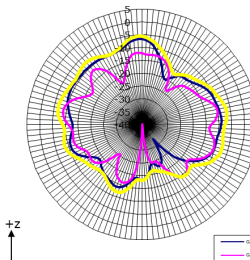
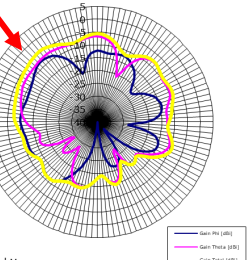
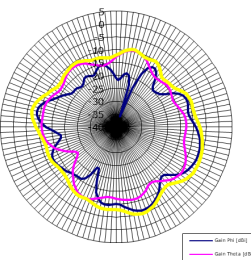
Antenna 2 (2/5)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W52 (5.2 GHz)	Peak Gain: -3.16dBi 		
W53 (5.3 GHz)	Peak Gain: -3.26dBi 		

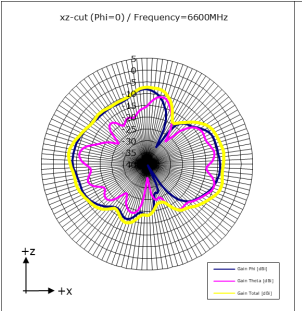
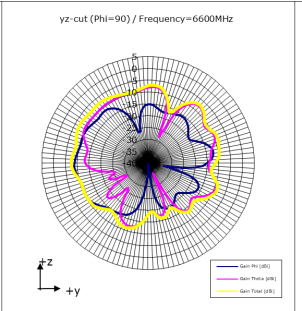
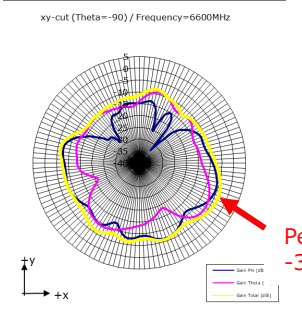
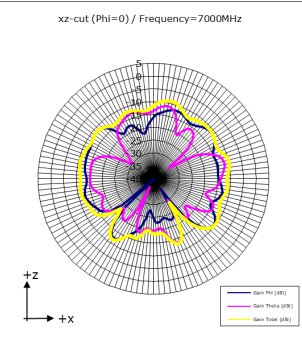
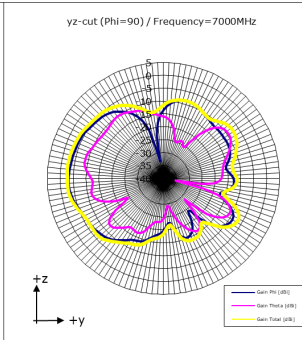
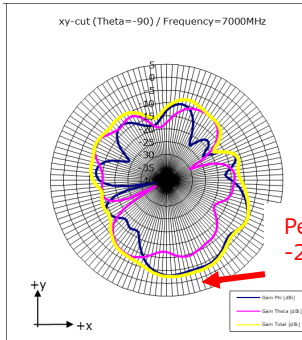
Antenna 2 (3/5)

Frequency Band	XZ-cut	YZ-cut	XY-cut
W56 (5.5 GHz)	Peak Gain: -2.87dBi xz-cut (Phi=0) / Frequency=5500MHz	yz-cut (Phi=90) / Frequency=5500MHz	xy-cut (Theta=-90) / Frequency=5500MHz
W58 (5.8 GHz)	Peak Gain: -4.03dBi xz-cut (Phi=0) / Frequency=5800MHz	yz-cut (Phi=90) / Frequency=5800MHz	xy-cut (Theta=-90) / Frequency=5800MHz

Antenna 2 (4/5)

Frequency Band	XZ-cut	YZ-cut	XY-cut
U-NII 5 (6.4 GHz)	xz-cut (Phi=0) / Frequency=6400MHz 	yz-cut (Phi=90) / Frequency=6400MHz Peak Gain: -3.47dBi 	xy-cut (Theta=-90) / Frequency=6400MHz 
U-NII 6 (6.5 GHz)	xz-cut (Phi=0) / Frequency=6500MHz 	cut (Phi=90) / Frequency=6500MHz Peak Gain: -4.47dBi 	xy-cut (Theta=-90) / Frequency=6500MHz 

Antenna 2 (5/5)

Frequency Band	XZ-cut	YZ-cut	XY-cut
U-NII 7 (6.6 GHz)			 Peak Gain: -3.58dBi
U-NII 8 (7GHz)			 Peak Gain: -2.53dBi