

Antenna Under Test Report

Company : Panasonic Automotive Systems Co., Ltd.

Signature : Takenori Kaneko

Date : 2024/4/23

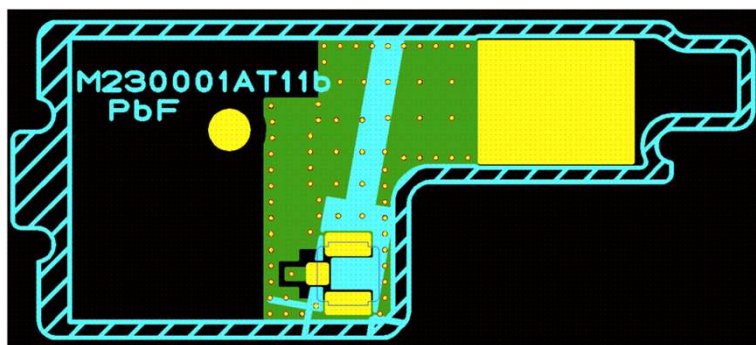
1. Antenna Specification

◆ Antenna Description

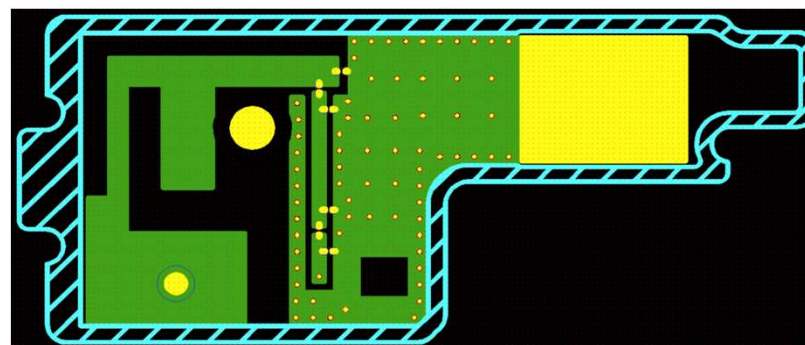
Item	Description	
Antenna type ($\lambda/2$ Dipole Antenna etc)	$\lambda/2$ Monopole F Antenna	
Model No.	AN2402	
Antenna gain value(dBi)	+5.0(MAX) : Including cable loss	+3.0(MAX) : Including cable loss
Frequency bandwidth	2400-2483.5MHz	5725-5850MHz
Connector type (SMA reverse,UFL etc)	Micro RF Coax Type(MHF Receptacle) (Dai-ichi Seiko)	
Cable Length(mm)	82 \pm 1.0mm	

◆ Antenna Appearance

Side A



Side B



2. Measurement Result

◆ Antenna Peak Gain

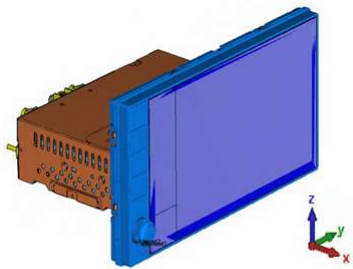
2.4G

Frequency [MHz]	Plane	Polarisation	PEAKGain [dBi]	
			±100deg	360deg
2400	XY	horizontalXY(H)	4.15	4.15
		verticalXY(V)	0.15	0.15
	XZ	horizontalXZ(H)	-0.25	-0.25
		verticalXZ(V)	-4.05	-2.05
2442	XY	horizontalXY(H)	4.35	4.35
		verticalXY(V)	0.35	0.35
	XZ	horizontalXZ(H)	-0.35	-0.35
		verticalXZ(V)	-4.35	-2.05
2484	XY	horizontalXY(H)	4.75	4.75
		verticalXY(V)	-0.95	-0.05
	XZ	horizontalXZ(H)	0.05	0.05
		verticalXZ(V)	-3.15	-1.55

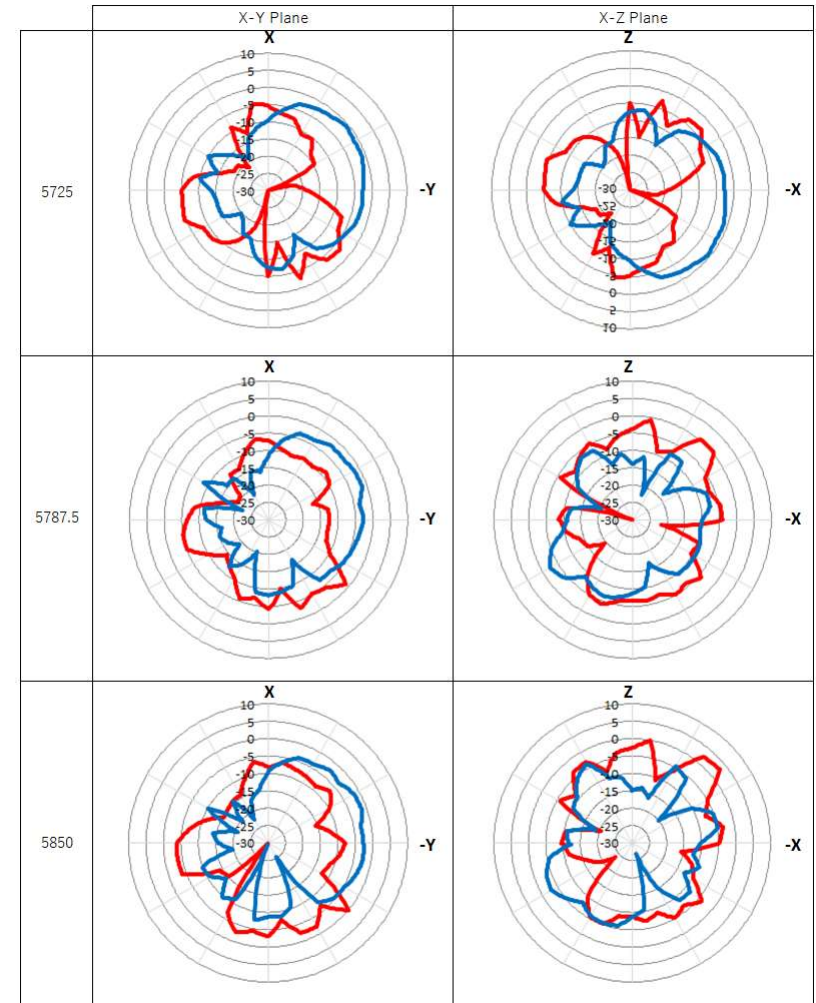
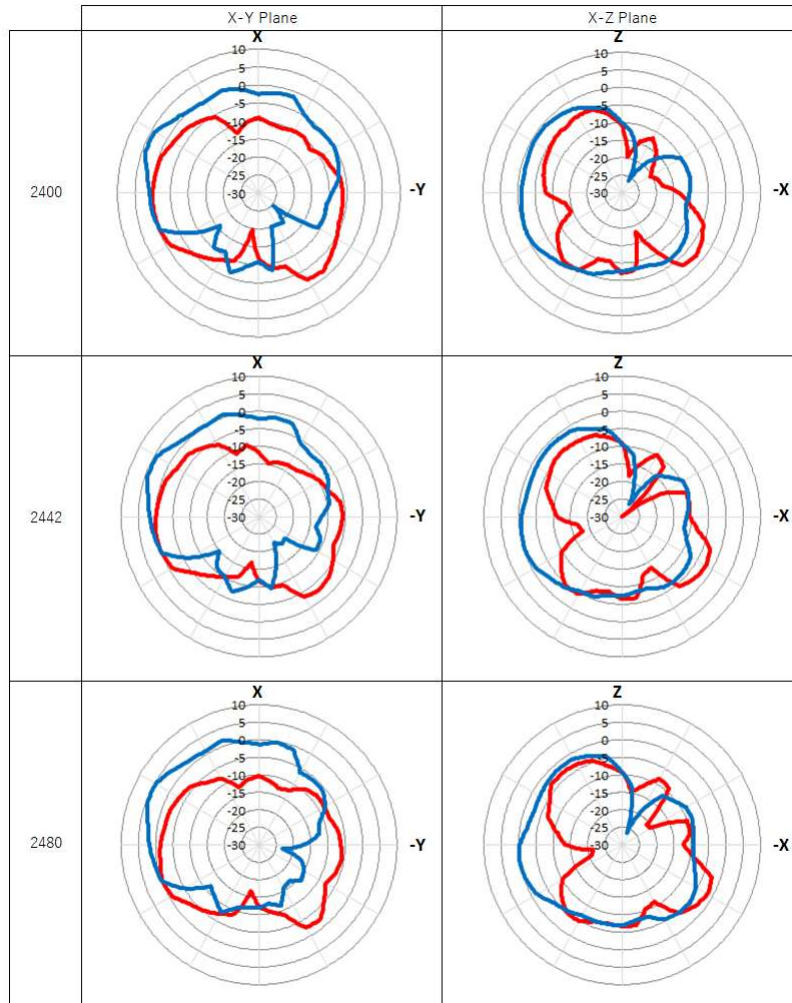
W58

Frequency [MHz]	Plane	Polarisation	PEAKGain [dBi]	
			±100deg	360deg
5725	XY	horizontalXY(H)	-0.75	-0.75
		verticalXY(V)	-4.45	-2.85
	XZ	horizontalXZ(H)	-3.15	-3.15
		verticalXZ(V)	-2.65	-2.65
5787.5	XY	horizontalXY(H)	-1.45	-1.45
		verticalXY(V)	-5.05	-1.05
	XZ	horizontalXZ(H)	-2.45	-2.45
		verticalXZ(V)	-0.75	0.45
5850	XY	horizontalXY(H)	-1.45	-1.45
		verticalXY(V)	-3.65	0.15
	XZ	horizontalXZ(H)	-2.95	-2.95
		verticalXZ(V)	-0.15	2.95

3. Antenna Radiation Pattern

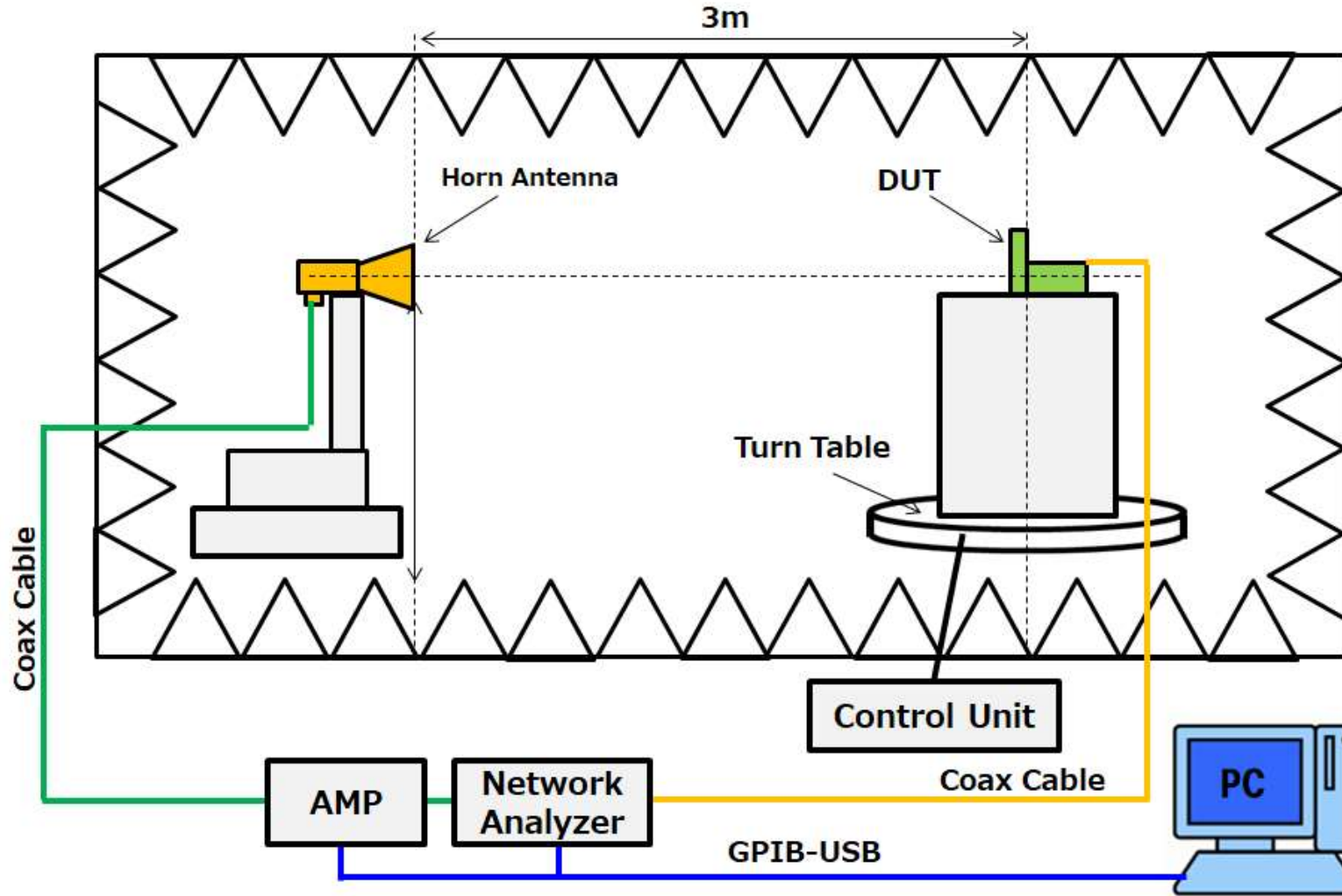


— H
— V



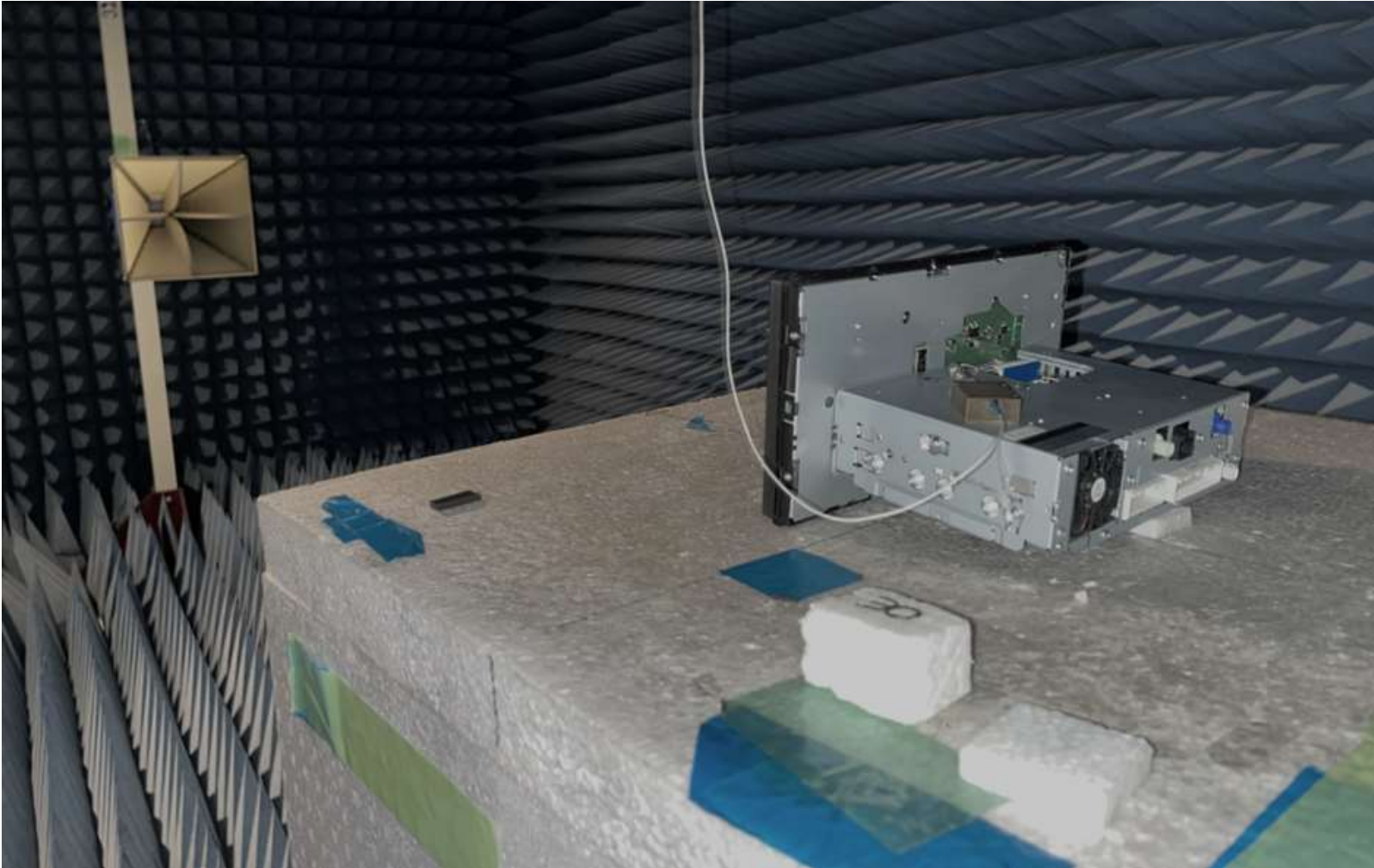
4. Test Equipment & Conditions

- ◆ Test Method for antenna gain measurement



4. Test Equipment & Conditions

◆ Test Setup photo



4. Test Equipment & Conditions

◆ List of equipment

Device	Model	Serial	Manufacturer
Anechoic Chamber	-	3320802495-001	PTT Co., Ltd.
Turn Table	DM3313BV1-S	-	Device Co., Ltd.
Control Unit	DM3100TW-AZ	23100051	Device Co., Ltd.
Horn Antenna	BBHX9120E	BBHX9120E 067	SCHWARZBECK MESS - ELEKTRONIK
Network Analyzer	E5071C	MY48104388	Agilent Technologies Co., Ltd.
Amplifier	LA151-RS	17031001	R&K Co., Ltd.

◆ Test software name : Gain Meas. 3

◆ Test dates & Location : 2024 Jan 26 , Panasonic System Networks R&D Lab. Co., Ltd.