

Antenna Under Test Report

Company : Panasonic Automotive Systems Co., Ltd.

Signature : Teruyuki Miura

Date : 2023/5/22

1. Antenna Specification

◆ Antenna Description

Item	Description
Antenna type ($\lambda/2$ Dipole Antenna etc)	Planar Reverse F Antenna
Model No.	AN2301
Antenna gain value(dBi)	-2.2(MAX) : Including cable loss
Frequency bandwidth	2400-2483.5MHz
Connector type (SMA reverse,UFL etc)	Micro RF Coax Type(MHF Receptacle)(Dai-ichi Seiko)
Cable Length(mm)	110 \pm 2mm

◆ Antenna Appearance

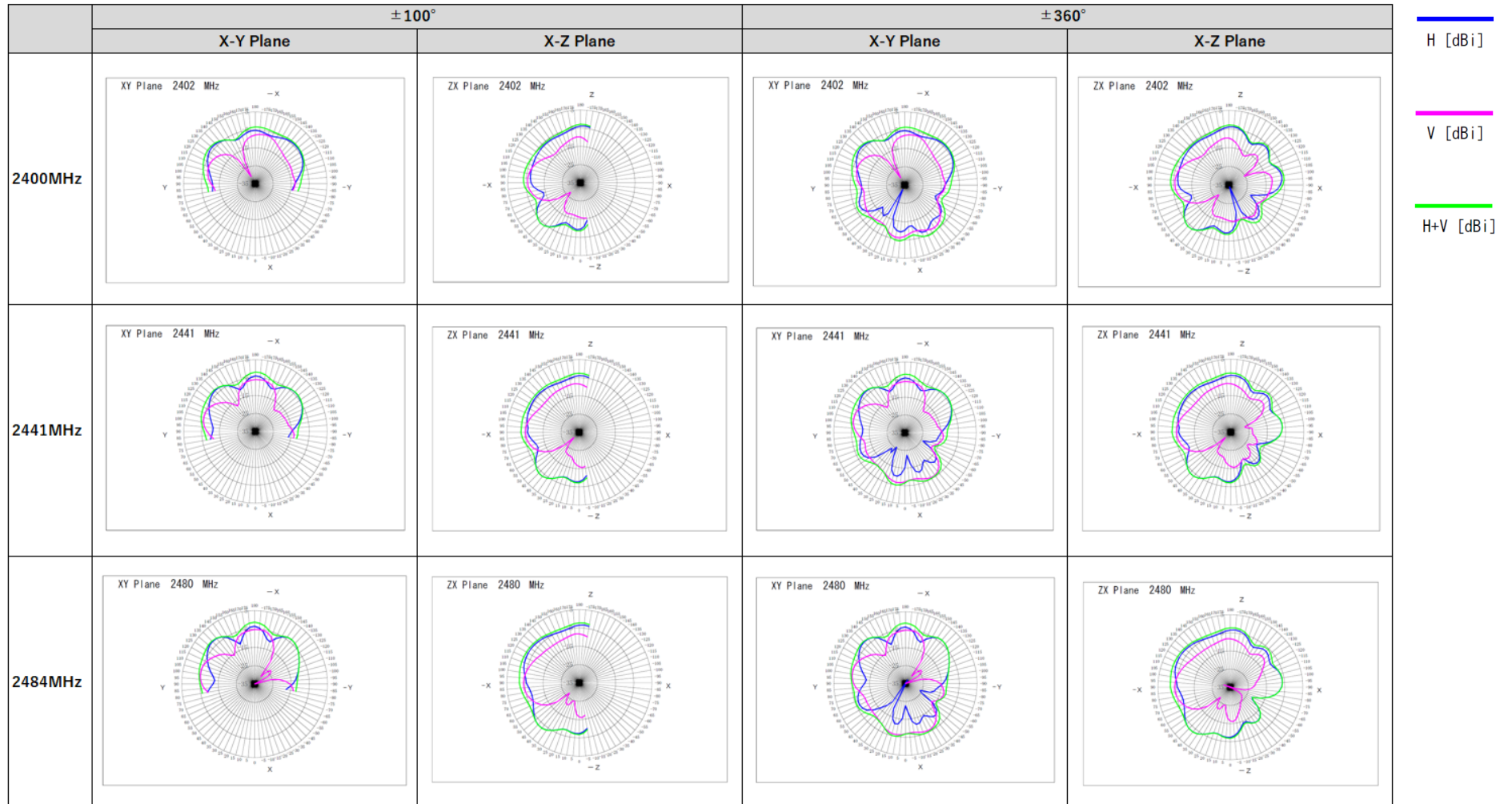
Please refer to photo1 in Appendix.

2. Measurement Result

◆ Antenna Peak Gain

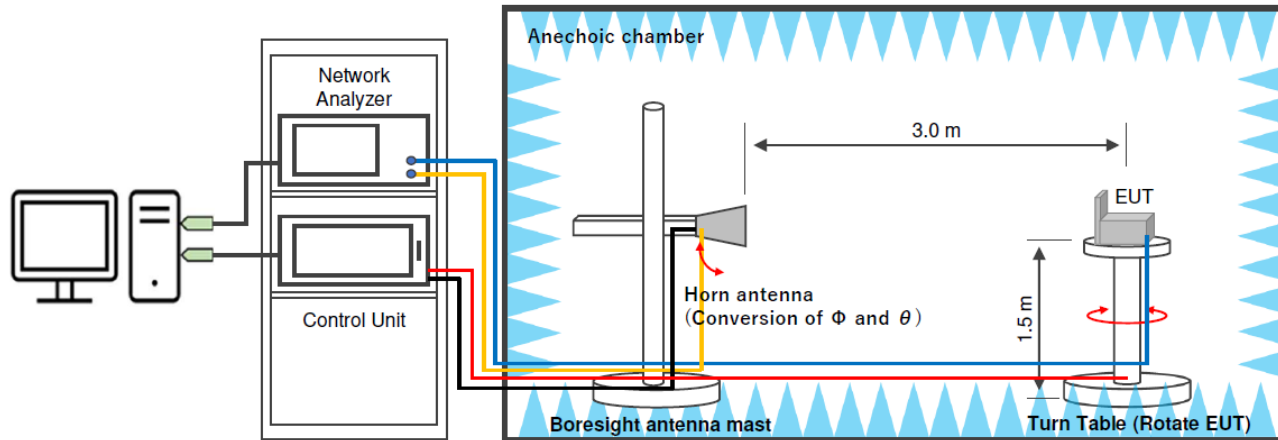
Band [MHz]	Plane	Plane of polarisation	$\pm 100^\circ$	$\pm 360^\circ$
			Peak Gain [dBi]	Peak Gain [dBi]
2402	XY	horizontal XY(H)	-3.47	-3.47
		vertical XY(V)	-7.25	-5.97
	ZX	horizontal ZY(H)	-3.76	-3.76
		vertical ZY(V)	-5.78	-5.78
2441	XY	horizontal XY(H)	-2.92	-2.92
		vertical XY(V)	-5.16	-5.16
	ZX	horizontal ZY(H)	-3.36	-3.36
		vertical ZY(V)	-5.27	-5.27
2480	XY	horizontal XY(H)	-2.28	-2.28
		vertical XY(V)	-4.67	-4.67
	ZX	horizontal ZY(H)	-2.40	-2.40
		vertical ZY(V)	-4.22	-4.22

3. Antenna Radiation Pattern



4. Test Equipment & Conditions

◆ Test Method for antenna gain measurement



◆ Test Setup photo Please refer to photo2 in Appendix.

◆ List of equipment

Device	Type/Model	Serial	Manufacturer
Anechoic chamber	-	602477-0	NISSEI ELECTRIC CO., LTD.
Turn Table	-	602477-0	NISSEI ELECTRIC CO., LTD.
Control Unit	-	602544-1	NISSEI ELECTRIC CO., LTD.
Bore-sight antenna mast	-	602477-0	NISSEI ELECTRIC CO., LTD.
Horn antenna	3115	9107-3687	ETS-Lindgren
Horn antenna 2GHz for Cal.	3160-03	1096	ETS-Lindgren
Port Cable 0.1GHz~18.5GHz	MCCA011	-	NISSEI ELECTRIC CO., LTD.
Ferrite Cable 2.5m - 0.1GHz~18.5GHz	X10511A	-	NISSEI ELECTRIC CO., LTD.
Network Analyzer	N5230C	MY48100176	Keysight

◆ Test software name : Gain Meas 3

◆ Test dates & Location 2017 June 27, NISSEI ELECTRIC CO.,LTD.

