

Design Information

Document: Antenna Specification

Project	Thunder
Date	Aug. 22, 2024
Document Control Number	BAB-231113-001

Approver	<i>N. Semach</i> 2024. 8. 22
Verifier	<i>N. Semach</i> 2024. 8. 22
Author	<i>H. Iszati</i> 2024. 8. 22

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Revision history

Ver. No.	Date	Description of Change	Author
1	Nov. 13, 23	Initial release	H. Isozaki
2	Aug. 22, 24	Added 2.Antenna Measurement	H. Isozaki

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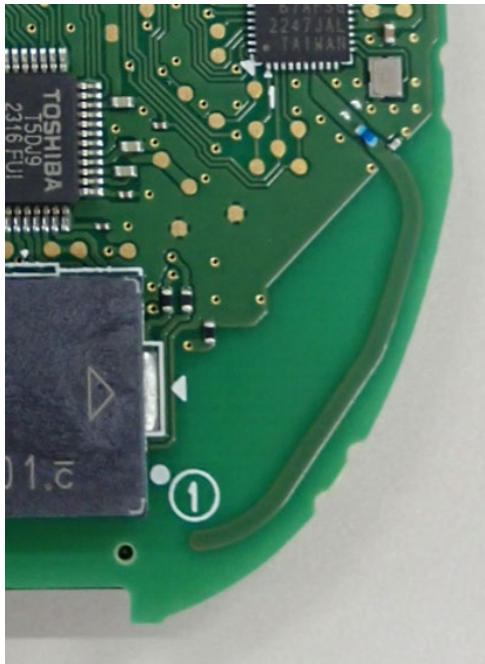
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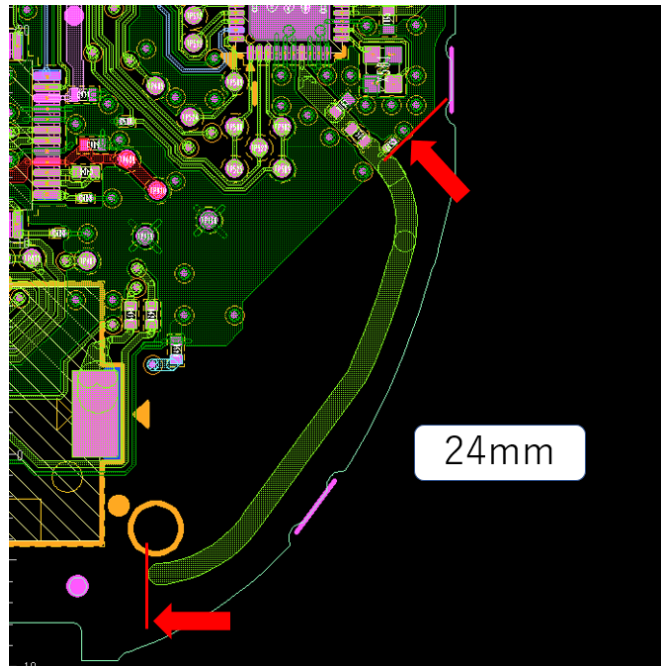
1. Antenna Specification

Antenna Type	Pattern Antenna Note) It is impossible for end users to replace the antenna.
Model Name	Contour care Contour plus BLUE Contour fit
Antenna Gain	0.24dBi at 2440MHz (Mean) 0.57dBi at 2440MHz (Max)
Frequency Range	2402MHz to 2480MHz

1.1. Antenna External View

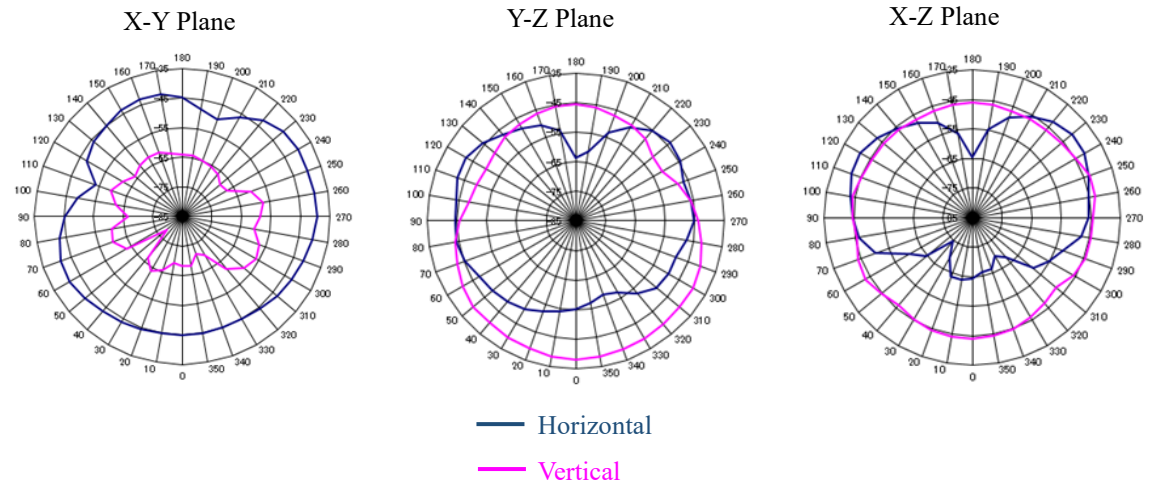


Pattern Antenna Length:24mm



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1.2. Radiation Pattern at 2440MHz



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2. Antenna Measurement

2.1. Test Setup Diagram

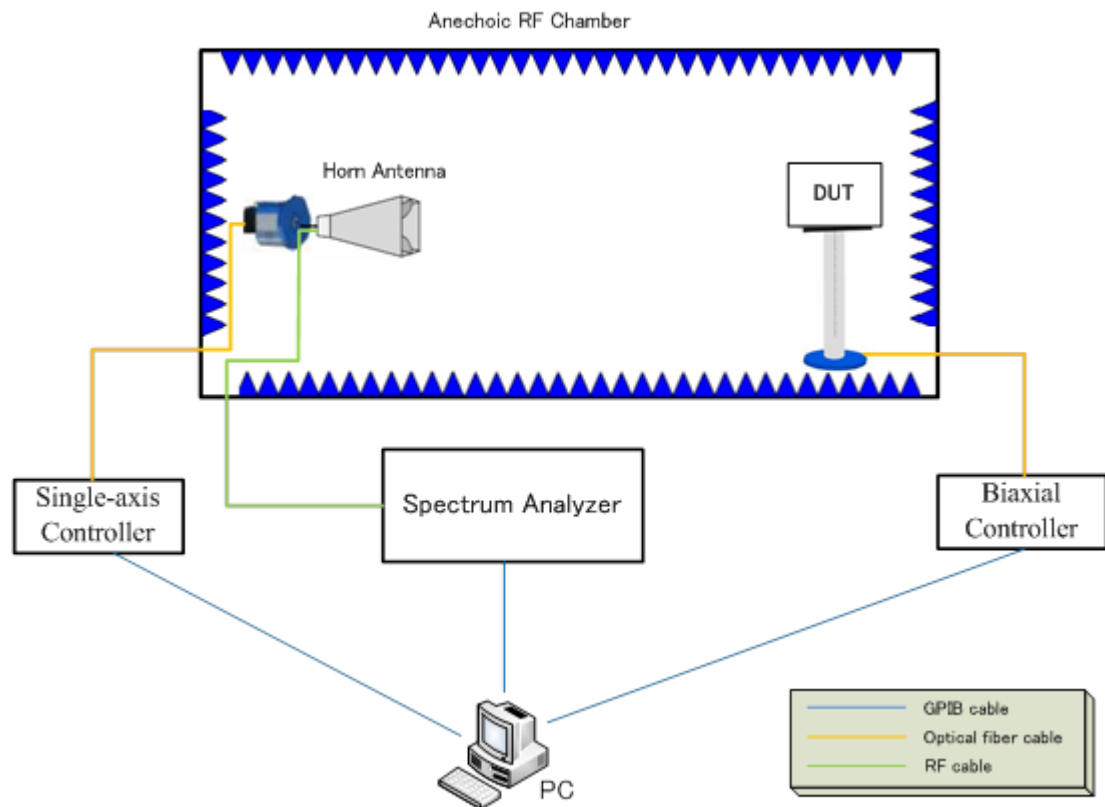


Figure 1 – Test Block Diagram

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This figure is for reference only and is not representative of the meters tested.

Figure 5 – Y-Z Plane

2.2. Test Procedure

1. Configure the DUT to operate in RF Test mode CW(*1), Channel 19 - 2440MHz.
*1: “RF Test mode CW” is a mode in which the DUT can transmit continuously at 0dBm.
2. Place the DUT on the turntable in the X-Y Plane as shown in Figure 3.
3. Configure the PC Running Software(*2) to acquire the data at resolution of 10 degrees or better.
*2: “PC Running Software” is TY2100AM version5.3 made by TOYO corporation.
4. Run the data acquisition software.
(The horn antenna changes from “horizontal” to “vertical” automatically.)
5. Repeat steps 3 and 4 for the X-Z Plane and Y-Z Plane as shown in Figure 4 and Figure 5, respectively.
6. Repeat steps 1 through 5 for each DUT.
7. Calculate EIRP and Null of Antenna from measured data.

2.3. Test Condition

Item	Description
Test site	PHC laboratory
Data Acquisition Software	TY2100AM version5.3
Date	see below
Temperature	see below
Humidity	see below

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Name of Test Equipment	Part Number	PHC ID#	Calibration information
Spectrum Analyzer	N9000A	005450	Calibrated on Aug. 2017 Calibration due Aug. 2018
RF Anechoic Chamber	MAB101	005450	-
Horn Antenna	MDH0118	005450	-
Thermometer	TR-72U	MK0138	Calibrated on Jul. 2017 Calibration due Jul. 2018

The calibration is valid until the end of the month described.

2.4. Result

Tester : H.Isozaki
Temperature : 22.6degC, 23.5degC

Date : 2018/6/18, 2018/6/20
Relative humidity: 58%, 62%

S/N	Antenna GAIN [dBi]
	2440MHz
P200372	-0.03
P200373	-0.22
P200374	0.36
P201423	0.57
P201424	0.48
Mean	0.24
Max	0.57
Min	-0.22

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3. Appendix

3.1. Reference Documents

Test Protocol : MATEPM-49130_rev1 (RF Transmission Signal Strength)

Test Report : MATEPD-184907-320_rev0 (RF Transmission Signal Strength)