



Antenna datasheet

시험보고서 (TEST REPORT)

수신자(Recipient) Maroon

(경 유)

제 목(Subject) BMS PCB Patten Antenna Test(RAPA-ICT-2026-026)

시험 의뢰자 (Applicant)	기관(업)명 (Company)	Maroon	
	주소 (Address)	1247, Dureung-yuri-ro, Ochang-eup, Cheongwon-gun Cheongju-si, Chungcheongbuk-do	
	의뢰일/신청번호 (Date of Application)	2026. 6. 30.	
시험 정보 (Products)	품명/모델명 (Name/Model)	BMS PCB Pattern Antenna	
	일련번호 (Serial Number)	-	
	제조사 (Manufacturer)	Maroon	
시험일 (Date of Test)		2026. 6. 30.	
시험 규격/방법 (Test Standard/Method)		IEEE Std 149-2021(IEEE Standard Procedures for Antennas)	
시험 결과 (Test Results)		Replaced with data	
시험 담당자 (Tested by)		Ju-hyun Kwon	검토자 (Reviewed by) Ki-Beom Kim

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붙임 [Test report] Maroon 1부. 끝.

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TEST REPORT

(Applicant organization: Marooon)

2026. 7. 2.

 Korea Radio Promotion Association

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1. Applicant Organization

- Organization Name: Marooon
- Address: 1247, Dureung-yuri-ro, Ochang-eup, Cheongwon-gun, Cheongju-si, Chungcheongbuk-do
- Date of Application: June 30, 2026

2. Purpose of the Verification Report

- For submission of test results

3. Test Object

- BMS PCB Pattern Antenna

4. Test Environment

- Temperature $(23 \pm 1)^{\circ}\text{C}$, Humidity $(50 \pm 5)\%$ R.H

5. Test Period

- 2026. 6. 30

6. Test Method

- IEEE Std 149-2021(IEEE Standard Procedures for Antennas)

7. Test Results

- Replaced with data

8. Test Personnel

- Ju-hyun Kwon, Research Engineer

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1. Overview

This document is a test result report for the "BMS PCB Pattern Antenna" manufactured by Maroon. The test was conducted upon the request of Maroon, and the contents described herein are limited to the specific sample and test conditions of this evaluation.

Purpose	For submission of FCC certification
Overview	PCB pattern antenna test report

1.1 Test Item Information

- The information of the sample (DUT) used in this test is as follows.

[illegible]

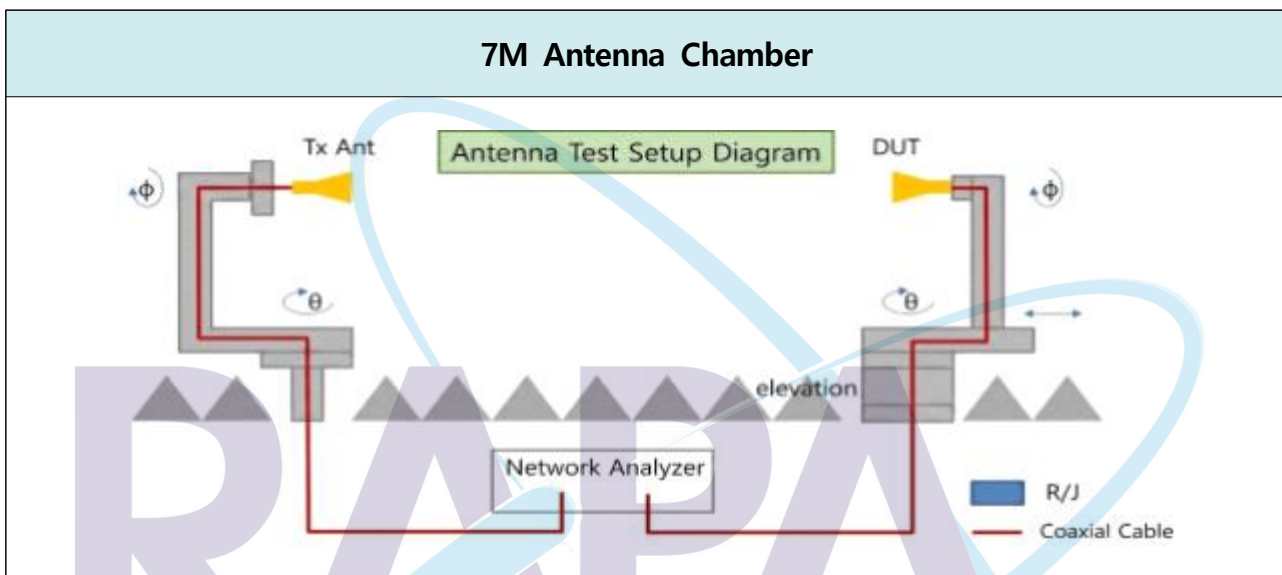
※ The above sample information was provided by the test applicant.

2. Test Environment and Procedure

2.1 Test Environment

- The test environment for conducting the test on the product under evaluation is as follows.

Test Date	Temperature	Relative Humidity
2026. 6. 30	(23 ± 1) °C	(50 ± 5) % R.H.



[Figure 1] Antenna Test Setup Diagram

2.2 Test Equipment

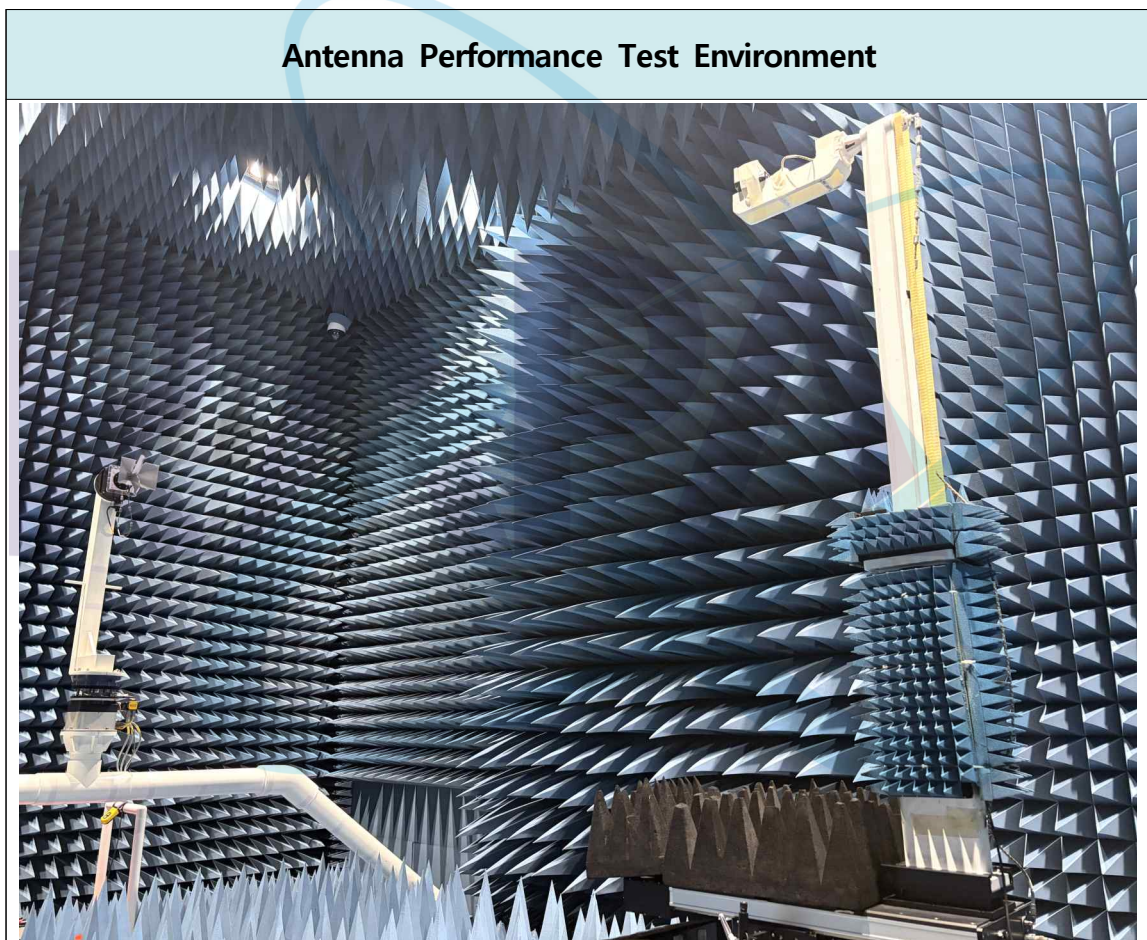
- The equipment used during the testing process of the product under evaluation is listed below.

[Table 1] Test Equipment List

NO	Application	Manufacturer	Model Name	Cal Date
1	Anechoic Chamber(Far-field, 7m)	MTG	-	
2	Standard Gain Horn Antenna (Rx for Calibration)	SCHWARZBECK	BBHA9120LF	25.12.2
3	Vector Network Analyzer	Rohde & Schwarz	ZNA26	25.12.2

2.3. Test Procedure

- In order to perform the antenna performance verification, the sample is mounted in the 7m Far-field chamber, and the verification environment is configured.
- The antenna performance verification is performed referring to the test method of the IEEE Std 149-2021 (IEEE Standard Test Procedure for Antennas) standard.



3.1 BMS Performance Parameter

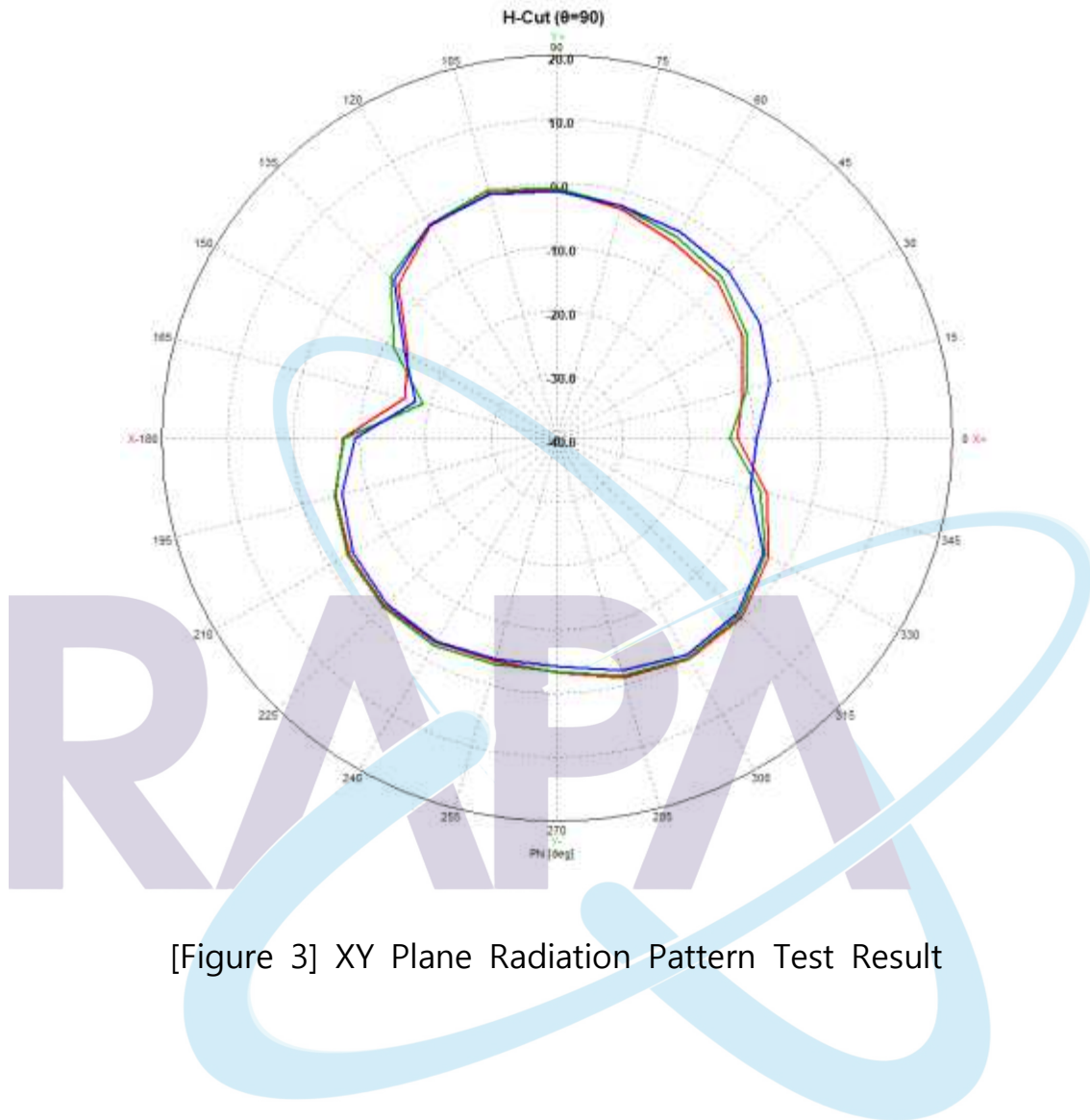
Frequency(GHz)	Peak Gain(dBi)		Average Gain(dBi)	
	Horizontal	Vertical	Horizontal	Vertical
2.400	0.50	1.22	-6.28	-5.63
2.485	0.03	0.89	-6.22	-5.93

[Figure 2] DUT Parameter Table(Polarization)

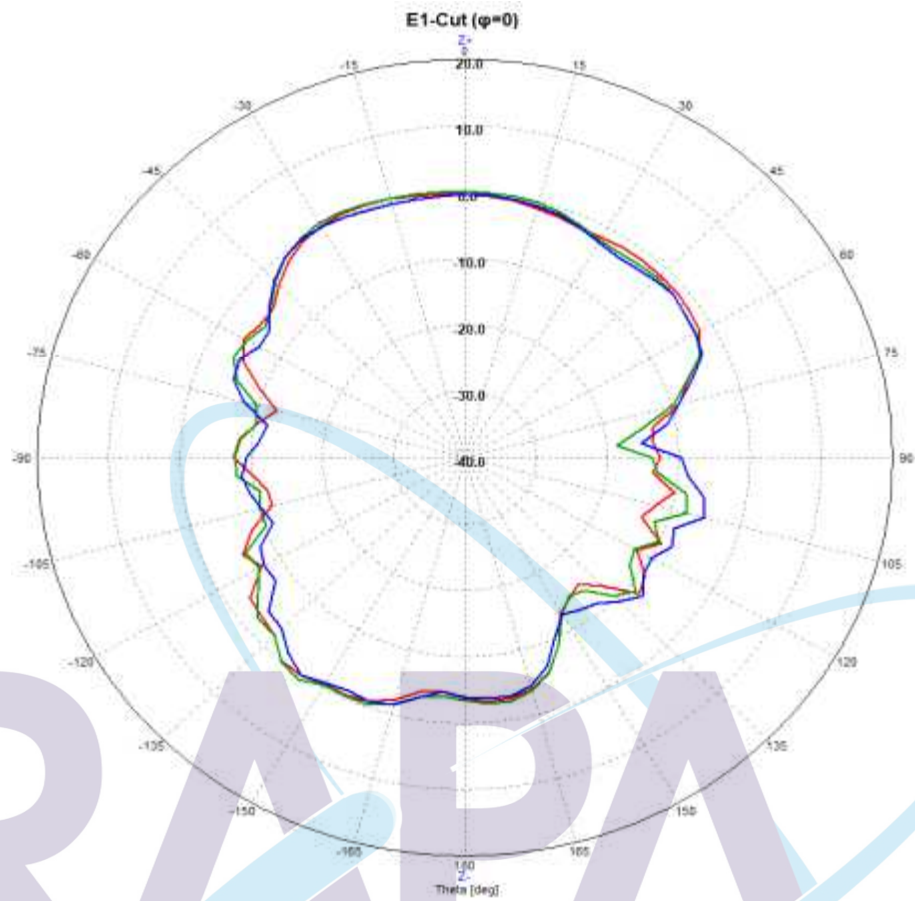
RAPA

3.2 BMS 2D Radiation Pattern

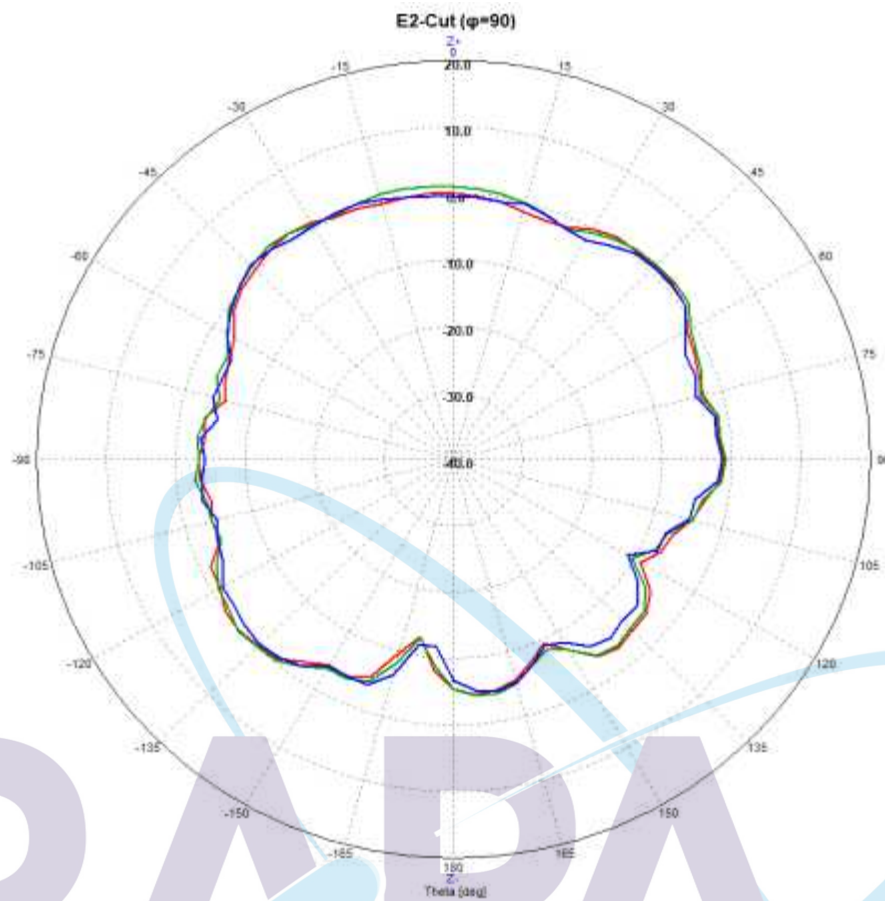
○ The 2D plane test results of the BMS antenna are as follows.



[Figure 3] XY Plane Radiation Pattern Test Result



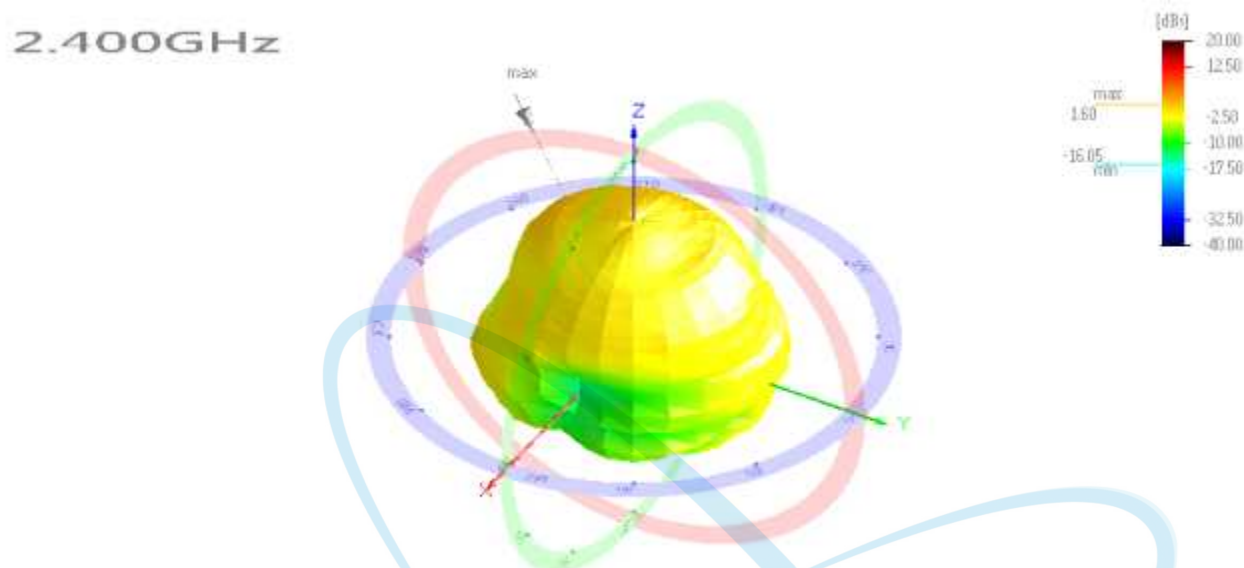
[Figure 4] XZ Plane Radiation Test Result



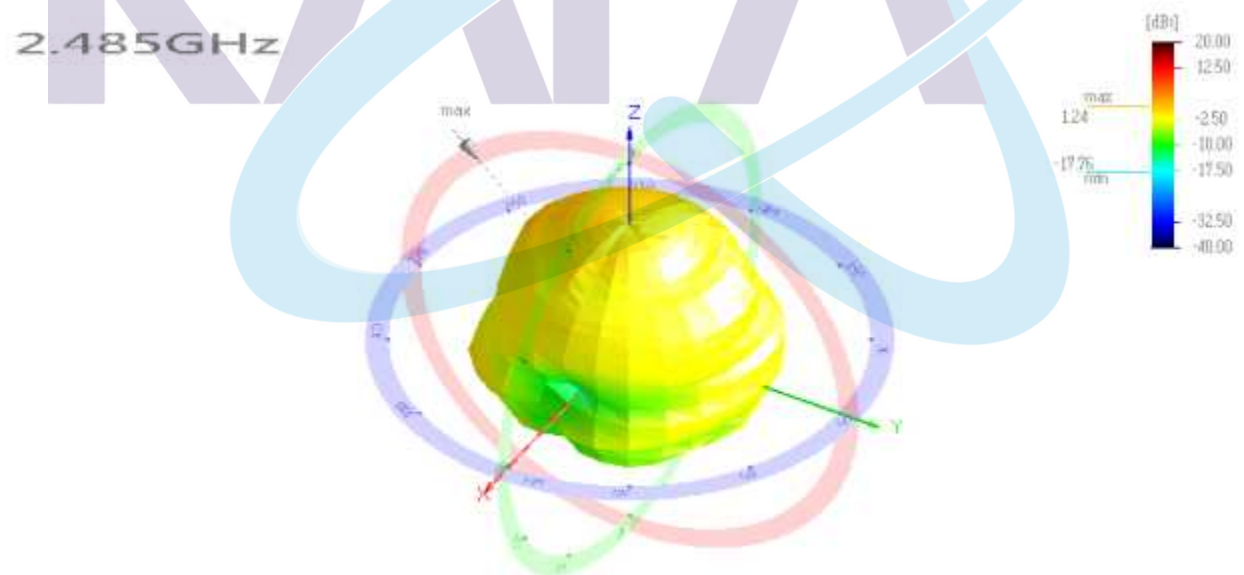
[Figure 5] YZ Plane Radiation Pattern Test Result

3.3 BMS 3D Radiation Pattern

- The 3D test results by frequency of the BMS antenna are as follows.



[Figure 6] 3D Radiation Pattern Test Result (2.4GHz)



[Figure 7] 3D Radiation Pattern Test Result (2.485GHz)

○ Test Result Report Issue History

Issue Date	Test Result Report Number	Reason for Issue
2026. 07. 02.	RAPA-ICT-2026-026	Initial Issuance

