

Document : **Antenna Specification**

Project : HMG Digital Key System

Version: 1.0

Date: 2026.05.07

Product Information:

HW: 1.00

Number of pages: 8

Tested by	Approved by
 Christopoulos, Nicholas	 HyoungLack Jung

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1. BLE Antenna General Information

Item	MASTER	SLAVE	Remarks
Type of Antenna	PCB antenna	PCB antenna	
Antenna Polarization	Linear	Linear	
Antenna Directional Characteristics	Omni-directional	Omni-directional	
Antenna Manufacturer	AUMOVIO	AUMOVIO	
Antenna Model Name	MASTER_ANT	SLAVE_ANT	As PCB antenna, there is no specific antenna model name due to built in PCB antenna. This name is added an index as “_ANT” behind product name.

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Antenna gain Measuring Institution	AUMOVIO	AUMOVIO	
Manufacturer Address	AUMOVIO Korea Ltd., 26 Hwangsaeul-ro 312 beon-gil, Bundang-gu Seongnam-si, Gyeonggi- do, 13591, Republic of Korea		

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2. Frequency Band

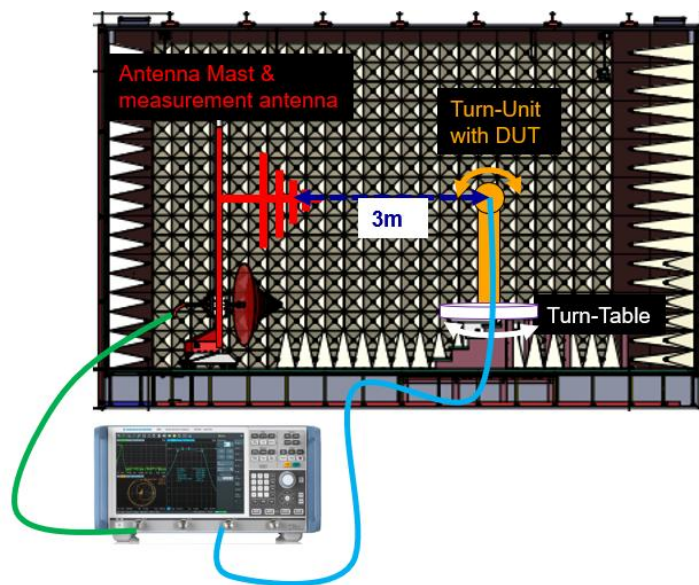
Mode	Frequency Band(Mhz)
Bluetooth Low Energy	2400 ~ 2483.5

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3. Test Condition

A. Measurement Method

3D Far-Field measurement based on the 2-antenna method
(VNA S21 measurement)



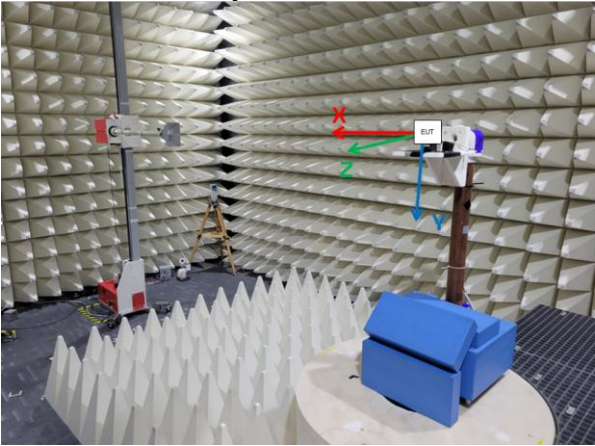
B. Measurement Equipment Information

Item	Manufacturer	Model	Calibrate date
Vector Network Analyser	Rohde & Schwarz	ZNB20 2-Port	2025-09-18
Double Ridge Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2025-10-23

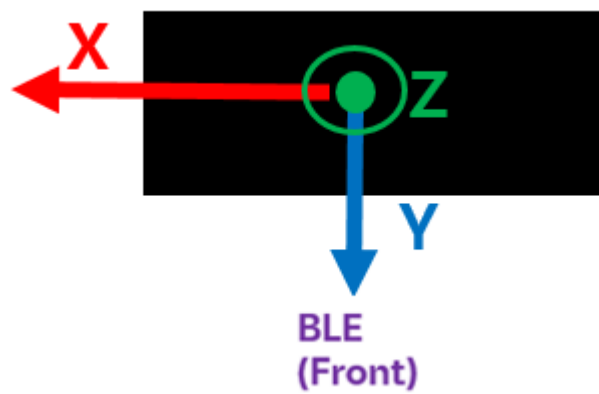
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C. Test Environment

Measurement facility: SIEMENS AG Anechoic Chamber, Regensburg, Germany



D. DUT Coordinate Define



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4. Antenna Dimension

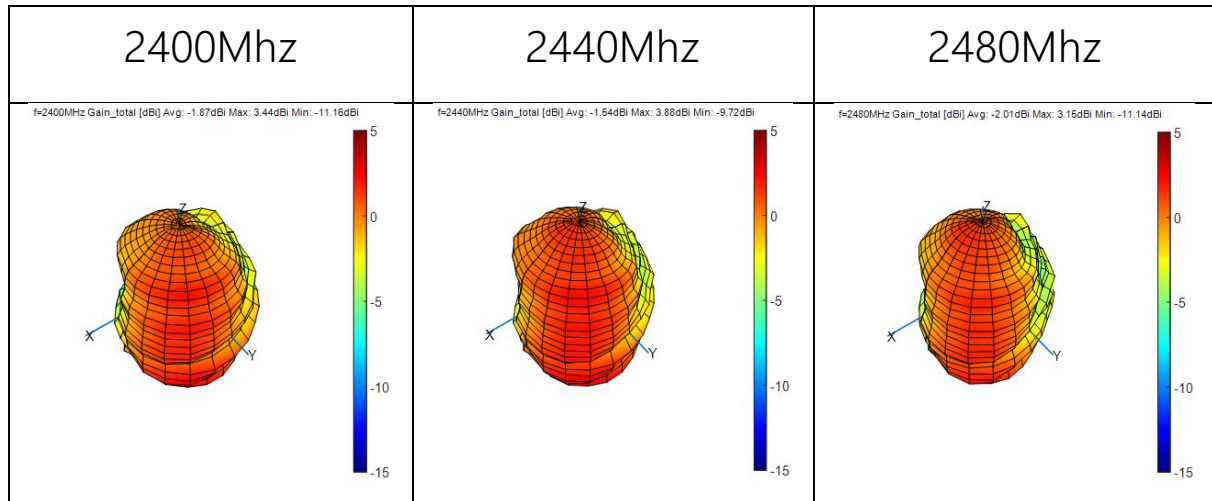
Manufacturer: AUMOVIO Electronics LLC. 74-7, Geumhoseonmal-gil, Bugang-myeon, Sejong-si, 30077, Republic of Korea

MASTER	SLAVE
A: 0.5mm B: 0.5mm C: 1.44mm D: 3.0mm E: 15.35mm F: 16.42mm	A: 0.5mm B: 0.5mm C: 1.44mm D: 3.0mm E: 15.35mm F: 16.42mm

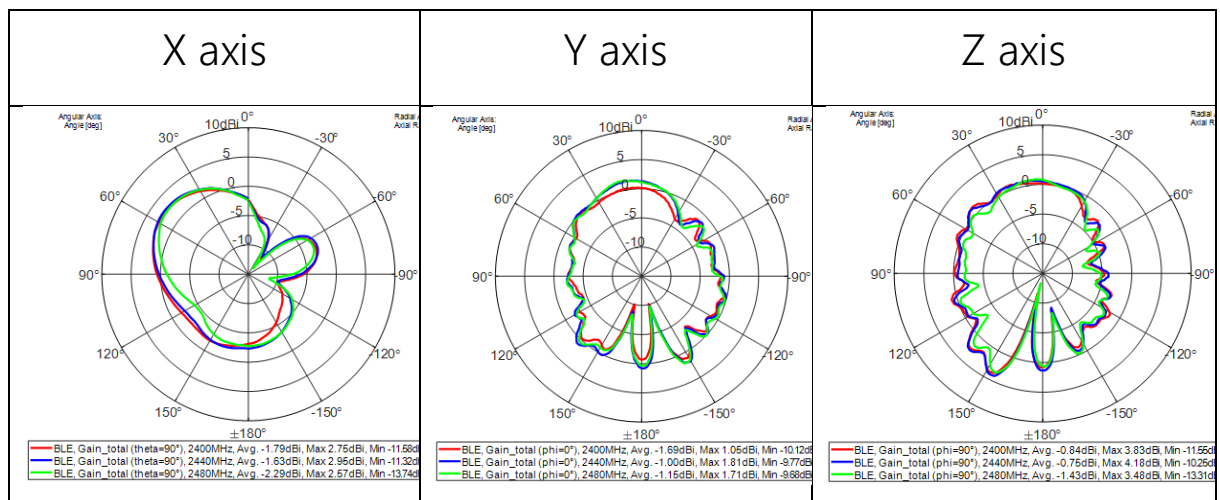
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5. Master Antenna Characteristic

A. Gain Total 3D



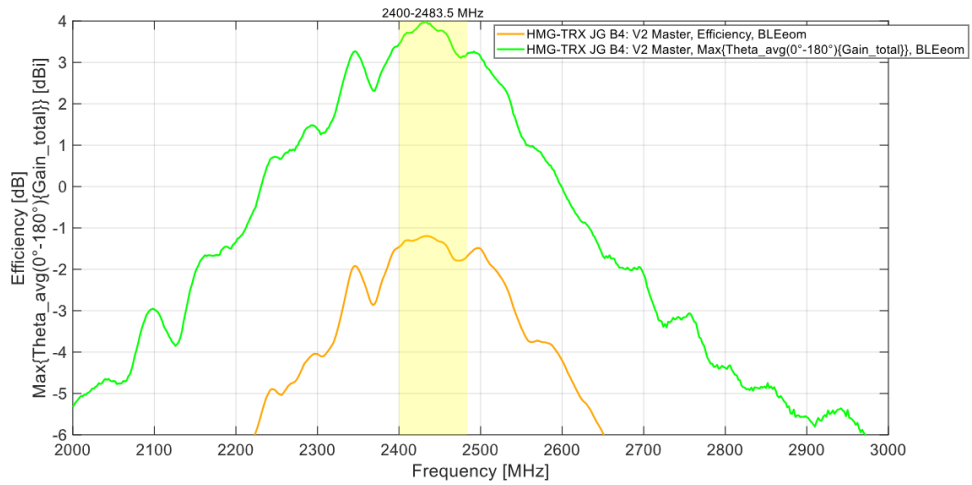
B. Gain Total 2D Cut



C. Efficiency VS Gain Total Max (Theta from 0 to 180 degrees)

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Efficiency vs Gain Total Max (Theta from 0° to 180°)

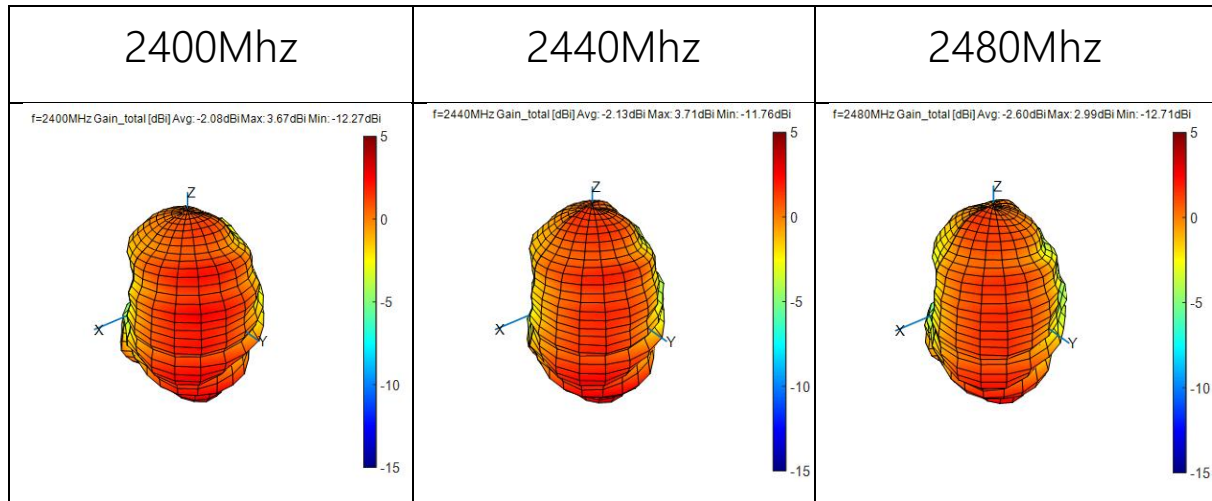


Items	G_AVG [dB]	G-MAX[dB]
2400Mhz	-1.87	3.44
2440Mhz	-1.54	3.88
2480Mhz	-2.01	3.15

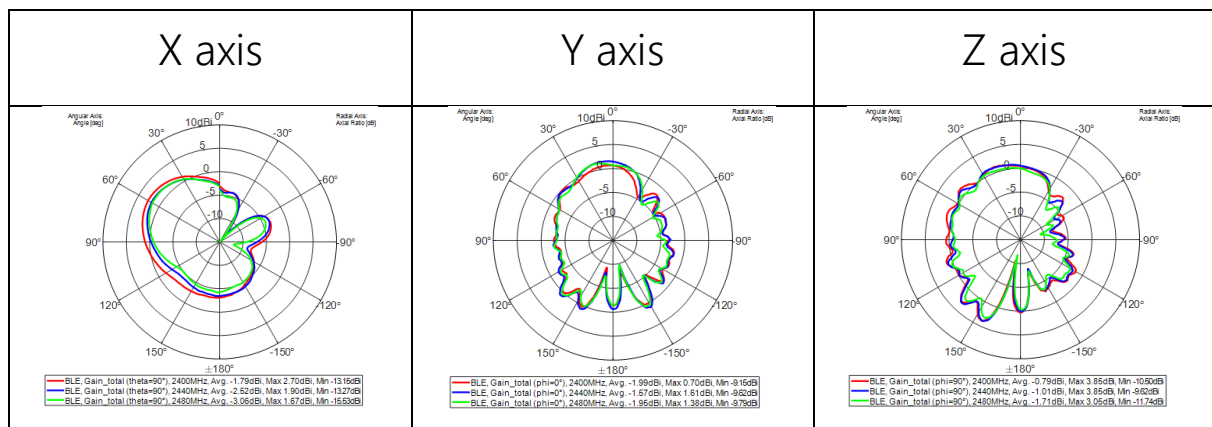
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6. SLAVE Antenna Characteristic

A. Gain Total 3D



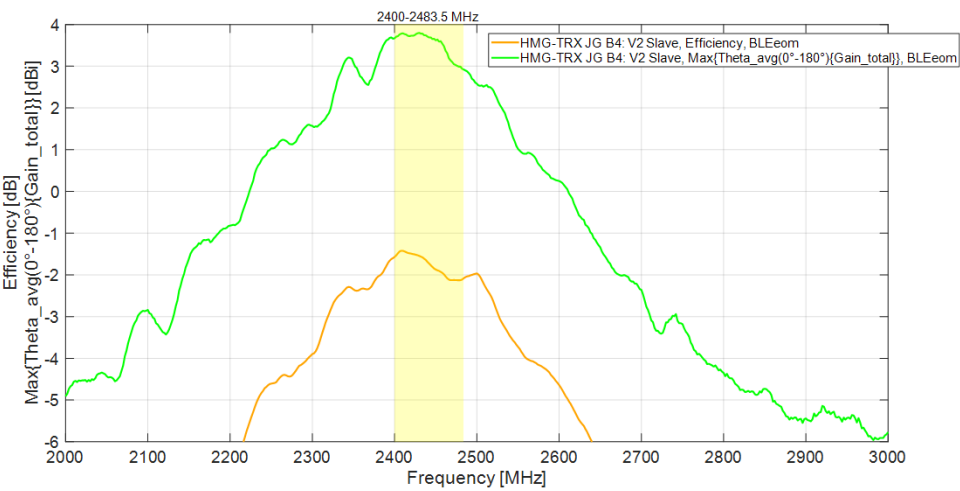
B. Gain Total 2D Cut



C. Efficiency VS Gain Total Max (Theta from 0 to 180 degrees)

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Efficiency vs Gain Total Max (Theta from 0° to 180°)



Items	G_AVG [dB]	G-MAX [dB]
2400Mhz	-2.08	3.67
2440Mhz	-2.13	3.71
2480Mhz	-2.60	2.99