

Antenna Specification

Model	ITM-Gen3
Model Number	SLP-I211BZXXWW

ITM specification

PRODUCT NAME	ITM-Gen3	
MODEL CODE	SLP-I211BZXXWW	
APPLIED MODEL	JC Controller	
PRODUCT SPECIFICATION	BLE, ZigBee	
MANUFACTURER	RFtech	
MANUFACTURER ADDRESS	60, Jukyang-daero 1763beon-gil, Wonsam-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea	

[Information]

This is an IOT module that controls lighting using BLE+Zigbee.

- I. Supports BLE+Zigbee
- II. It consists of a built-in antenna(PCB)
- III. It controls external LED instead of wall switch

ANTENNA Electrical characteristics

- I. Operating frequency band
 - BT ANTENNA

Band	Frequency [MHz]	
BLUETOOTH	2400	2485

- II. Electrical specifications
 - The antenna must meet the requirements specified in the electrical specifications.

Impedance	50 Ω
Partiality	Linear
Radiation pattern	Omni directional
Maximum output	100mWatte

Measurement method

I. VSWR and SMITH CHART

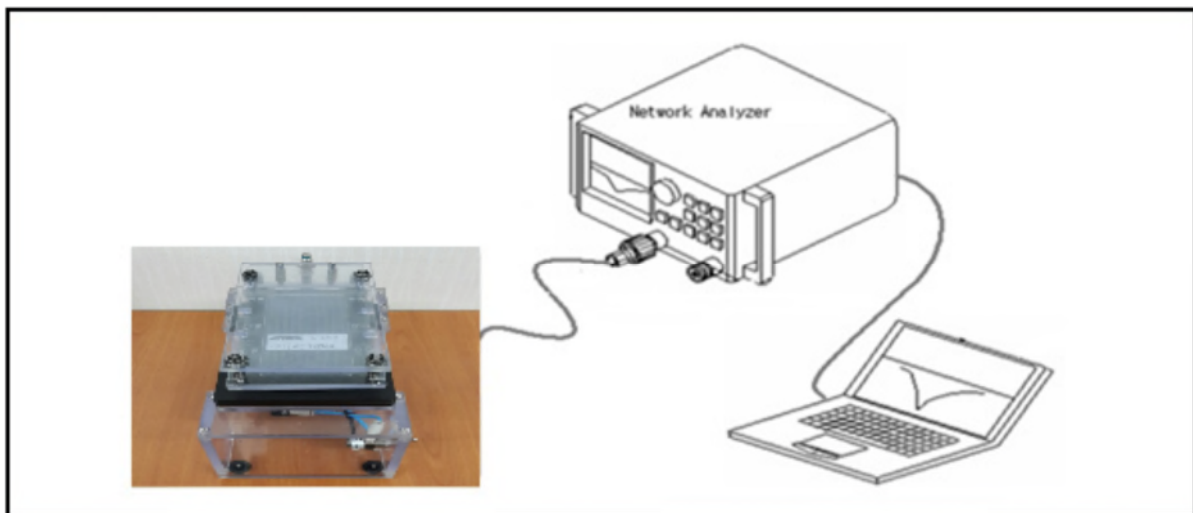
1-1. Power on Network Analyzer.

1-2. Set the start frequency and end frequency for optimal calibration.

1-3. Perform One port calibration in the order of open , short , load and check for abnormalities.

1-4. Since the characteristics of the antenna are greatly affected by surrounding metal objects, avoid from Network Analyzer.

-. Condition



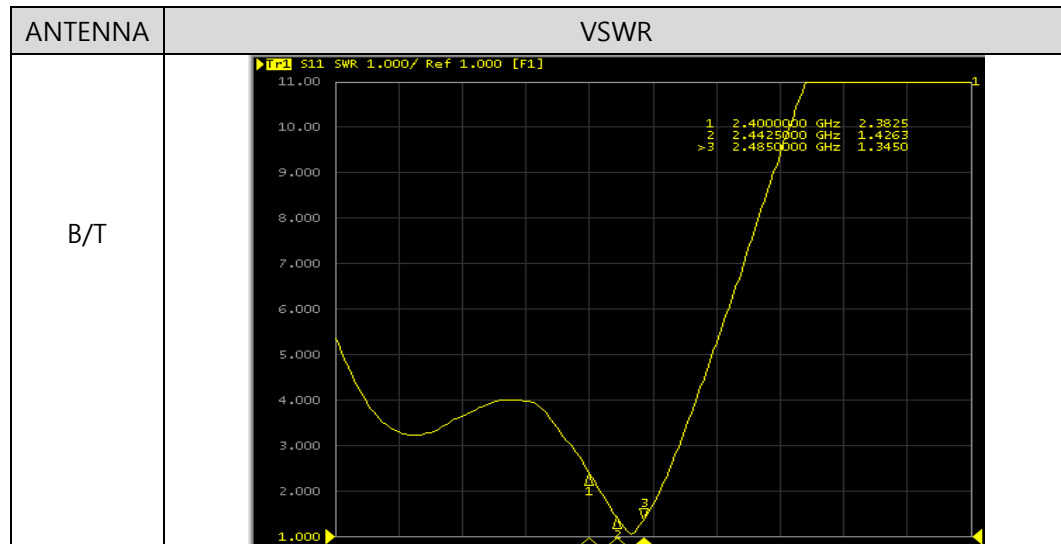
Electrical Characteristics DATA

I. Matching Values

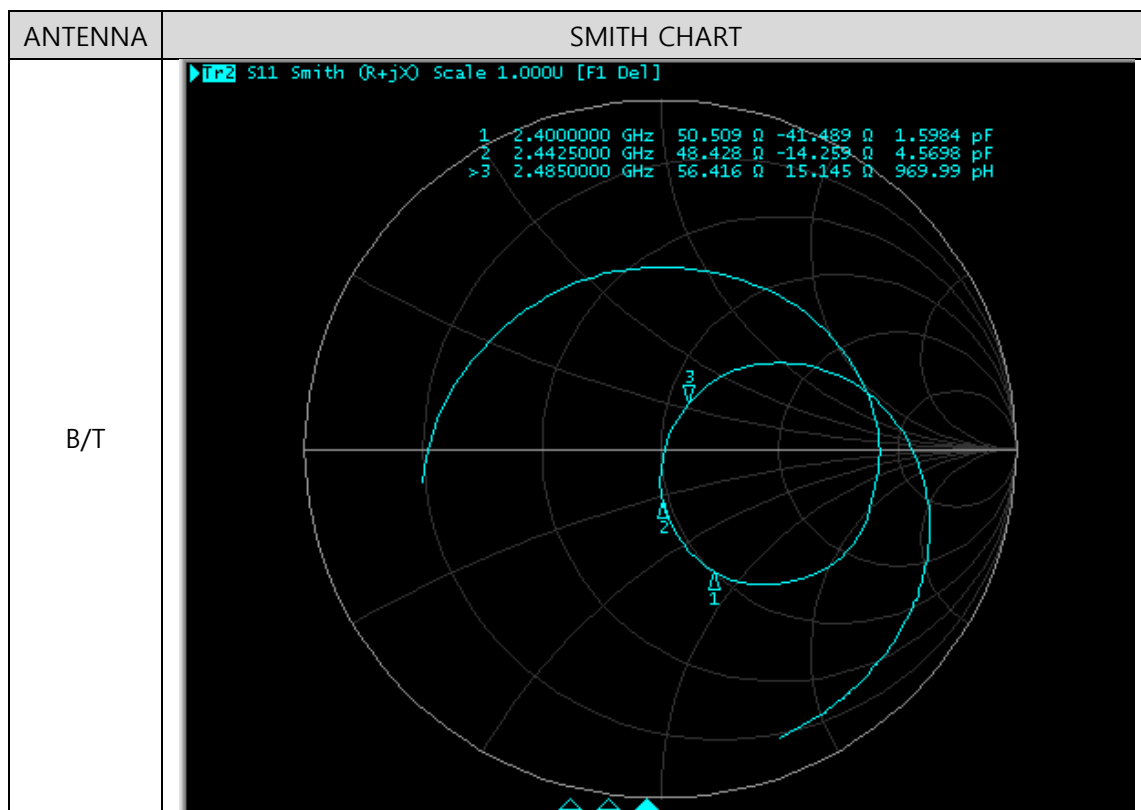
ANTENNA	Matching Value
B/T	

II. VSWR

Band	Bluetooth		
	2400MHz	2442.5MHz	2485MHz
VSWR	2.4 : 1 less	1.4 : 1 less	1.4 : 1 less

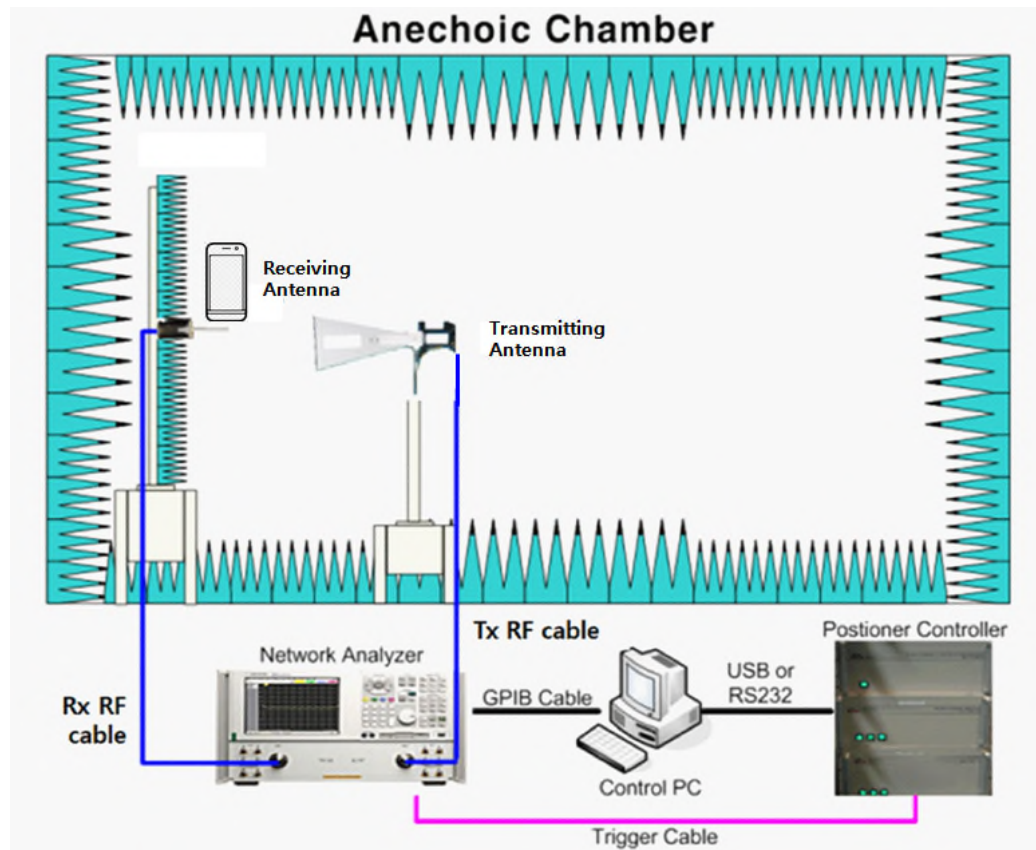


I. Smith chart



GAIN DATA / RADIATION PATTERN

I. 3D Gain/Radiation pattern measurement method



II. Chamber setup and calibration

- . Install the standard gain horn antenna suitable for the frequency to be measured toward the reflector.
- . Frequency setting and calibration

III. Antenna measurement procedure

- . Connect the cable to the port on the antenna and measure the radiation pattern using a measurement program
- . Setting the measurement frequency and measuring horizontal and vertical radiation pattern.
- . Save the raw data after checking the measurement result.

IV. Equipment

Classification	Description	Specifications	Remark
Test site	No reflection Passive Chamber	3m x 2.5m x 3m	-
Equipment	Network Analyzer	Keysight E5071B	-
	PC(Desktop)	I3-3220 / 8GB	-

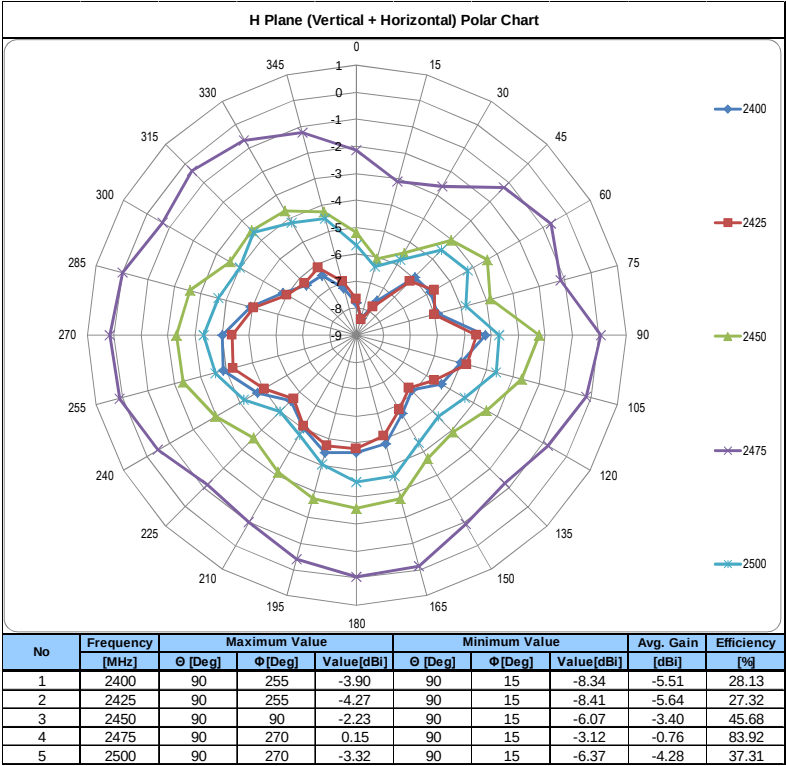
V. Peak Gain

. The gain of the antenna is displayed in [dBi] by setting the horn antenna to the standard antenna

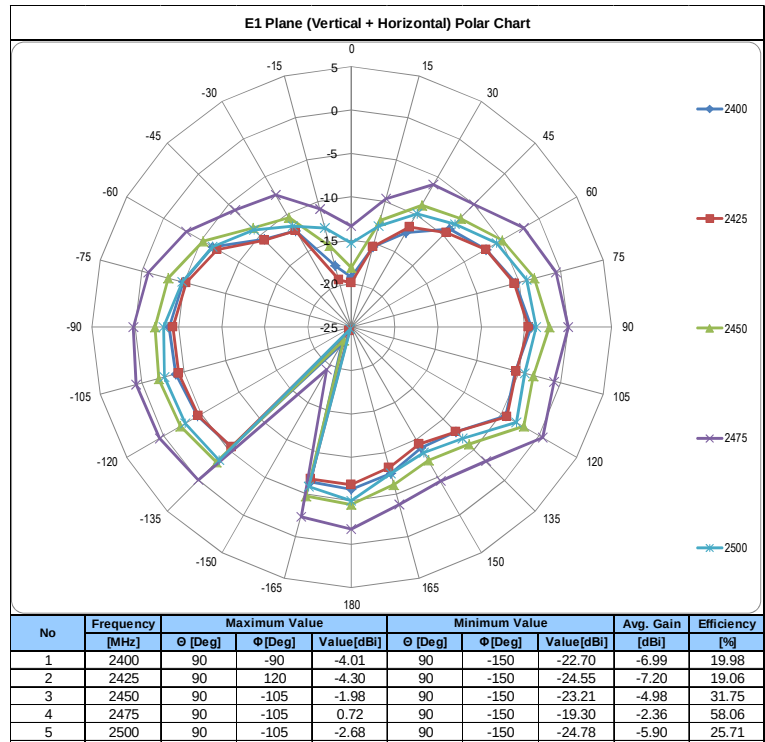
Frequency Range		Bluetooth		
		2400MHz	2450MHz	2500MHz
Peak. Gain	H	-3.90	-2.23	-3.32
	E1	-4.01	-1.98	-2.68
	E2	-4.36	-2.06	-2.40

I.1.1 ANTENNA

(1) H Plane



(2) E1 Plane



(3) E2 Plane

