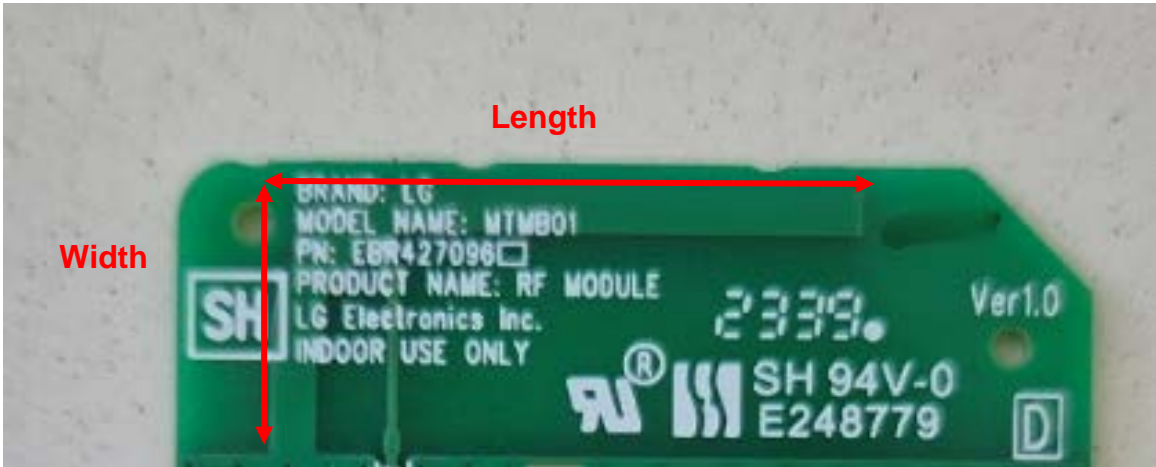


## Antenna Information

Item	Contents
Antenna Type	PCB Pattern Antenna
Antenna peak gain	0.95 dBi
Manufacturer / Model name	LG Innotek Co., Ltd. / ETWZBSBC01
Address of manufacturer	E1/E3, 30, Magokjungang 10-ro, Gangseo-gu, Seoul, 07796, Lorea
Test Laboratory	LG Innotek Co., Ltd.
Antenna 1 Length	2.0 cm
Antenna 1 Width	0.9 cm



Model name: MTMB01

# SPECIFICATIONS

**PRODUCT NAME : 2.4GHz Thread Module**

**MODEL NAME : ETWZBSBC01**

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Designed	Checked	Approved	<b>LG Innotek Co., Ltd.</b>	
S.J.Han				
2024.01.16	-		DOCUMENT No.	2024RF-ANT-01
			PAGE	7



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**SPECIFICATION**

REV.NO : 1.0

REV. DATE : 2024.01.16

MODEL NAME : ETWZBSBC01 (LGIT)

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**1. ANT Features**

- Thread ANT
- Main Frequency: 2.45GHz
- Frequency range  
: From 2.405 to 2.480 GHz
- Operating temperature range  
: 0 to +85°C

**2. Antenna Characteristics**

Built-in performance				
Parameter	Min	Typ	Max	Unit
Frequency Range	2.405	2.45	2.480	GHz
Directivity	-	Omni	-	-
2.45GHz	Average Gain	-	-1.02	dBi
	Peak Gain	-	0.95	
V.S.W.R	-	-	3.0:1	Under
Impedance		50		Ohm
Radiation Material		PCB Printed PIFA type		

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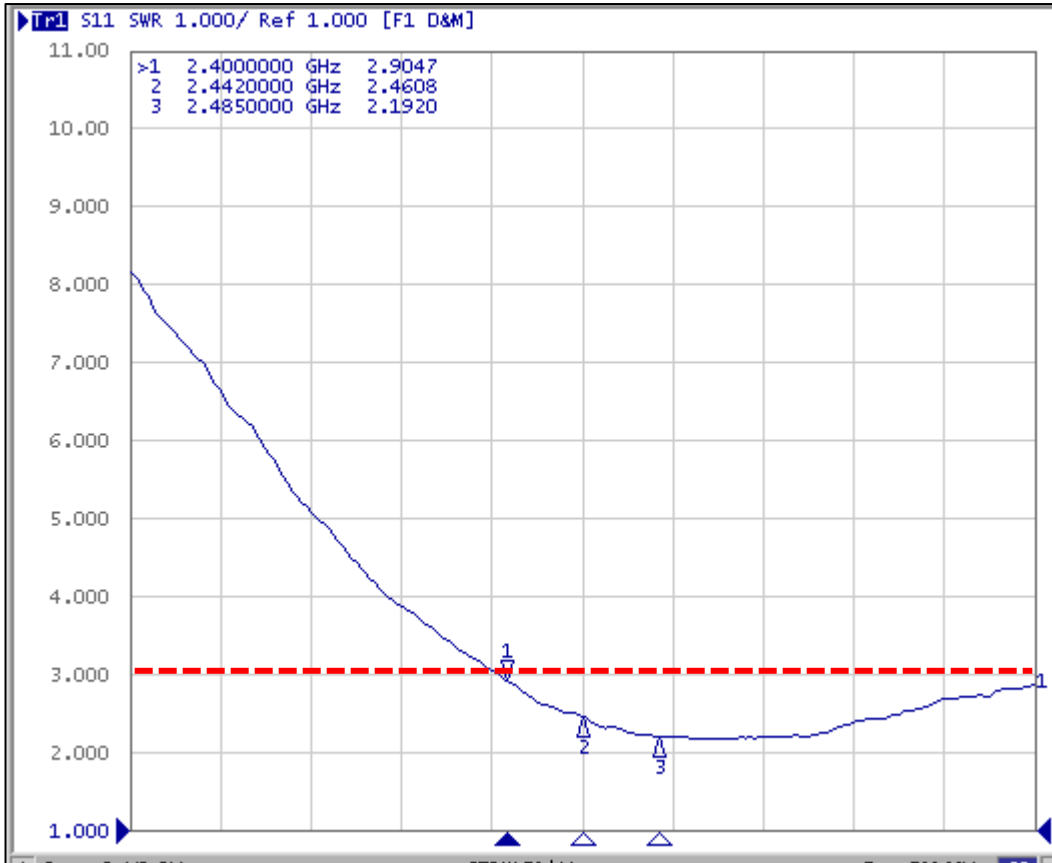
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## 2.1 Network Data

### VSWR



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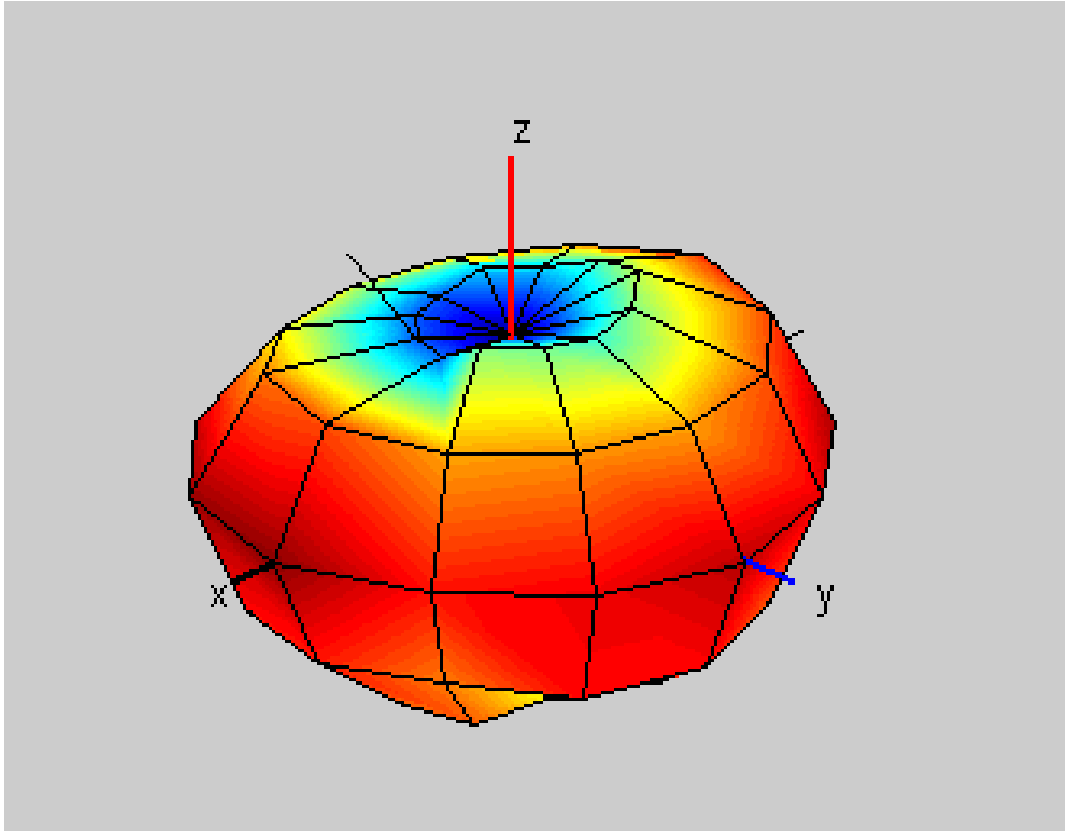
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**2.2. Efficiency**

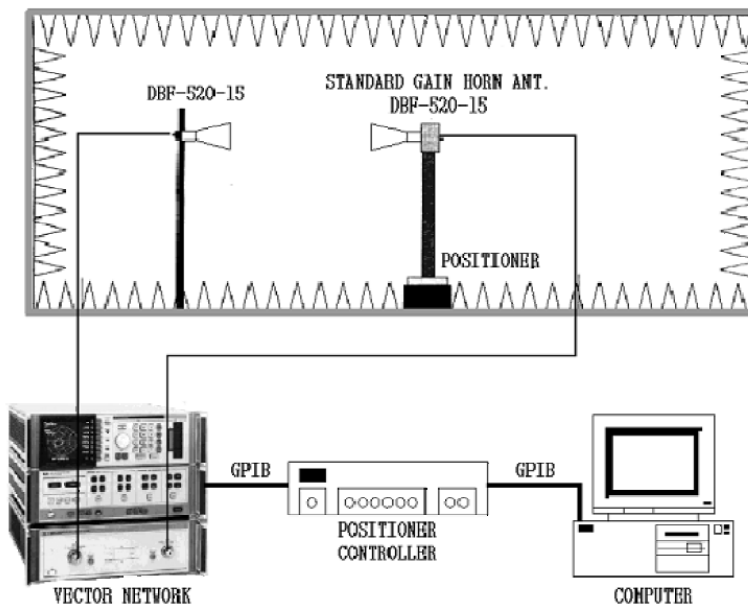
	1	2	3	4	5	6	7	8	9	10
Frequency(MHz)	2412	2420	2430	2440	2445	2450	2460	2470	2480	2485
Efficiency(dB)	-1.15	-1.13	-1.04	-0.95	-0.92	-1.02	-1.01	-0.91	-1.01	-1.08
Efficiency(%)	76.79	77.14	78.69	80.30	80.87	78.98	79.24	81.12	79.30	77.97
TRG(dB)	-1.15	-1.13	-1.04	-0.95	-0.92	-1.02	-1.01	-0.91	-1.01	-1.08
TRG <sub>Theta</sub> (dB)	-3.26	-3.30	-3.36	-3.29	-3.26	-3.44	-3.46	-3.35	-3.47	-3.49
TRG <sub>Phi</sub> (dB)	-5.29	-5.18	-4.87	-4.75	-4.73	-4.72	-4.67	-4.57	-4.64	-4.79
UHRG(dB)	-3.67	-3.63	-3.55	-3.41	-3.41	-3.44	-3.47	-3.37	-3.47	-3.56
UHRG/TRG(%)	56.00	56.23	56.07	56.78	56.42	57.30	56.79	56.77	56.74	56.51
H-Plane	-2.99	-2.83	-2.83	-2.84	-2.67	-3.19	-3.12	-2.92	-3.34	-3.18
E1-Plane, AVG(dB)	-5.56	-5.79	-5.87	-5.98	-5.98	-6.18	-6.20	-6.26	-6.48	-6.56
E2-Plane, AVG(dB)	-2.37	-2.36	-2.59	-2.47	-2.45	-2.33	-2.23	-2.24	-2.37	-2.47
Peak Gain(dB)	0.91	0.85	0.92	0.91	0.95	0.82	0.78	0.93	0.88	0.94
Directivity(dB)	2.61	2.58	2.49	2.41	2.27	2.48	2.42	2.29	2.47	2.40
Minimum Gain(dB)	-6.30	-6.54	-6.44	-6.30	-6.08	-6.08	-5.63	-5.58	-5.89	-6.06
Test Condition	FS									
Antenna Type										
Average Efficiency	-1.02 dB,		79.04 %							

### 2.3. Radiation Pattern



### 3. ANT Test Condition

CTIA-OTA Test Chamber : 3x6x3m





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**4. ANT Dimensions**

