

PRODUCT SPECIFICATION

Model	Description
AIR-R15A_ANT	IEEE802.15.4

APPROVAL	REMARK	APPENDIX

DESIGNED	CHECKED	APPROVED
2023.11.01	2023.11.01	2023.11.01
K.S.AN	J.B.KIM	I.U.KIM

ANTENNA SPECIFICATION

1. Model : AIR-R15A_ANT
2. Application : 2.4GHz IEEE802.15.4 compliant RF Transceiver
3. Electrical specification and performance

ELECTRICAL DATA	SPECIFICATIONS		REMARK
FREQUENCY RANGE	2405 ~ 2480 MHz		
IMPEDANCE	50 Ω NOMINAL		
V. S. W. R	2405 ~ 2480 MHz	Less than 2.0 : 1	#1. Attached
PEAK GAIN(Min)	2405 ~ 2480 MHz	-1.65 dBi	#2. Attached

4. Hardware specification and mechanical

MECHANICAL	SPECIFICATIONS	REMARK
Dimension	3.7mm x 18.0mm	#3. Attached

5. Company information

ATEC IoT Co.,Ltd. 289, Pangyo-ro, Bundan-gu, Seongnam-si, Gyeonggi, Republic of Korea TEL : +82-31-696-9815 PAX : +82-31-696-9899

6. OPERATING TEMPERATURE

Temperature : - 20°C / + 60°C

Demands : Set Antenna for 48 hours each temperature.

No visual and mechanical changes.

Unchanged mechanically during the test.

The antenna shall satisfy the electrical data

7. HUMIDITY Condition

Condition : 80% / + 30°C ~ +50 °C

Measuring method

Antenna is placed in climatic chamber for 48 hours.

Antenna is taken out from the chamber and measured
after another 24 hours in room temperature

Demands : No visual and mechanical changes.

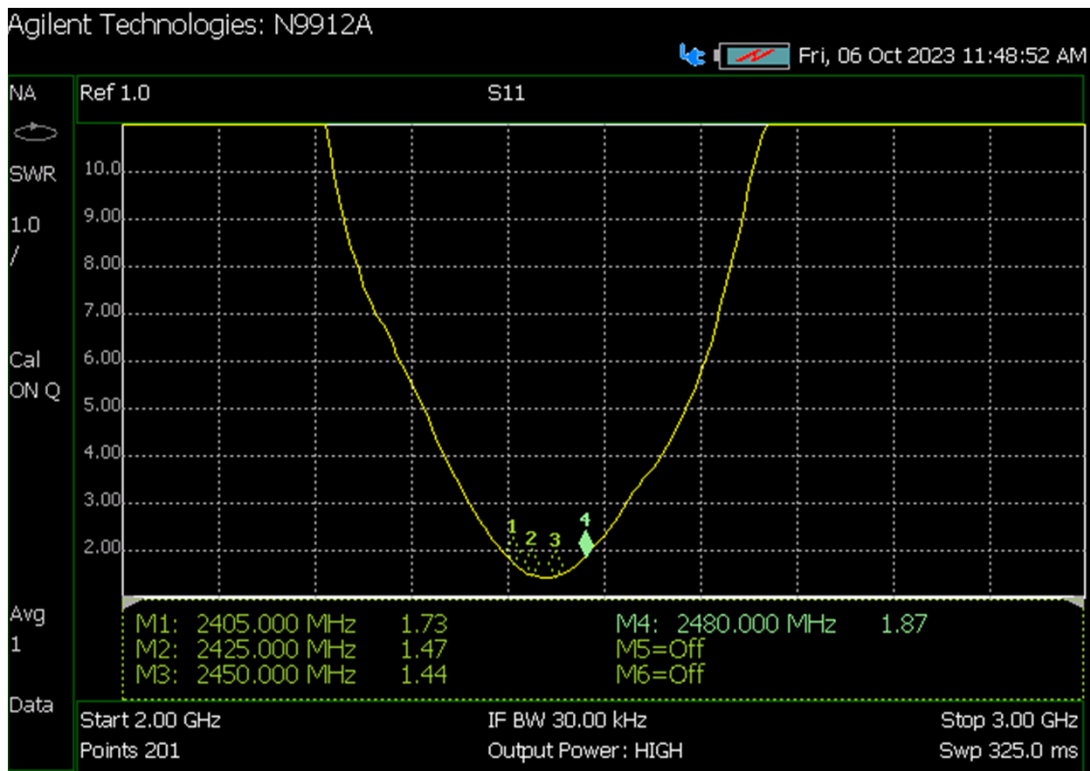
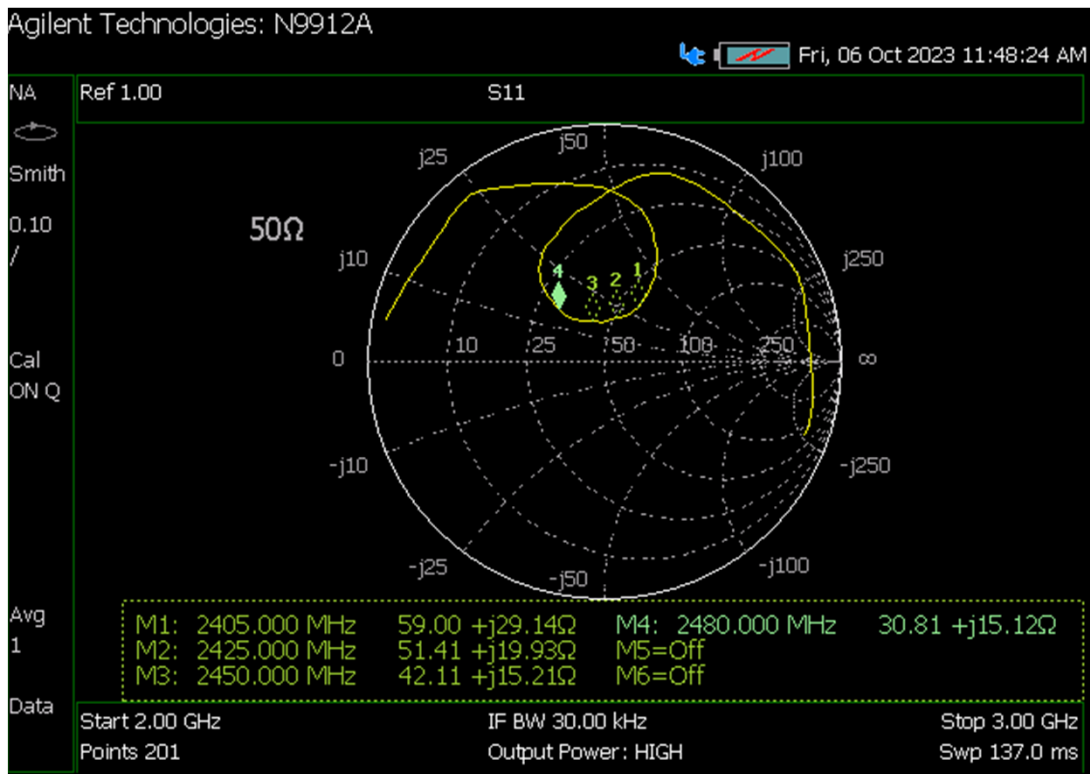
Unchanged mechanically during the test.

The antenna shall satisfy the electrical data.

8. TEST and Q/C

This specification is according to fixed demands and suitable *ATEC IoT* Q/C provision.

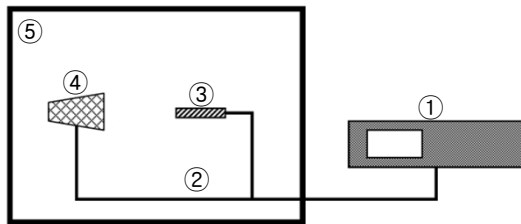
#1. Attached: VSWR



#2. Attached

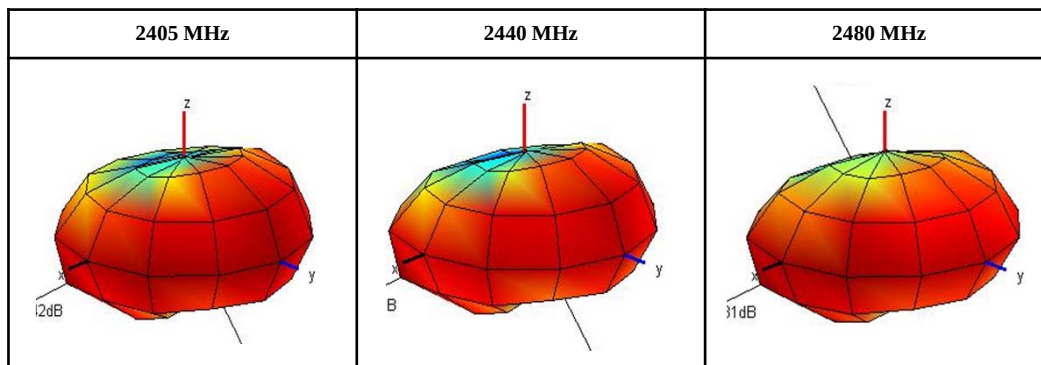
▪ Radiation Pattern and Gain

TEST METHOD



- ① Network Analyzer
- ② Signal Interface : Coaxial Cable
- ③ Test PCB Antenna
- ④ Dual Polarized Antenna
- ⑤ Shield Room

Radiation Pattern



Efficiency

Frequency [MHz]	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480
Efficiency [dB]	-5.26	-5.28	-5.18	-5.18	-5.11	-5.02	-5.00	-4.93	-5.02	-5.21	-5.11	-5.22	-5.19	-4.95	-4.94	-4.96
Efficiency [%]	29.8	29.6	30.4	30.3	30.8	31.5	31.6	32.1	31.5	30.2	30.8	30.1	30.2	32.0	32.1	31.9
Peak Gain [dB]	-2.42	-2.43	-2.27	-2.29	-2.22	-2.09	-2.03	-1.94	-2.01	-2.11	-2.01	-2.04	-2.05	-1.71	-1.66	-1.65
Directivity [dB]	2.84	2.85	2.90	2.89	2.90	2.93	2.97	3.00	3.01	3.09	3.10	3.18	3.15	3.25	3.27	3.31
Minimum Gain [dB]	-16.70	-16.21	-15.68	-15.45	-14.93	-14.56	-14.32	-14.01	-14.06	-14.31	-14.05	-14.27	-14.57	-14.56	-14.91	-15.37

Frequency(MHz)	2405	2440	2480	Avg.	Eff. [%]
Efficiency(dB)	-5.26	-4.93	-4.96	-5.11	30.80

#3. Attached: Drawing paper

