

PRODUCT SPECIFICATION

Model	Description
AIR-Y13A_ANT	IEEE802.15.4

APPROVAL	REMARK	APPENDIX	DESIGNED	CHECKED	APPROVED
			2025.05.14	2025.05.14	2025.05.14
			K.S.LEE	K.S.AN	I.U.KIM

ANTENNA SPECIFICATION

- 1. Model : AIR-Y13A_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	-1.06 dBi	#2. Attached

- 4. Hardware specification and mechanical

MECHANICAL	SPECIFICATIONS	REMARK
Dimension	3.75mm x 17.75mm	#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
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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.

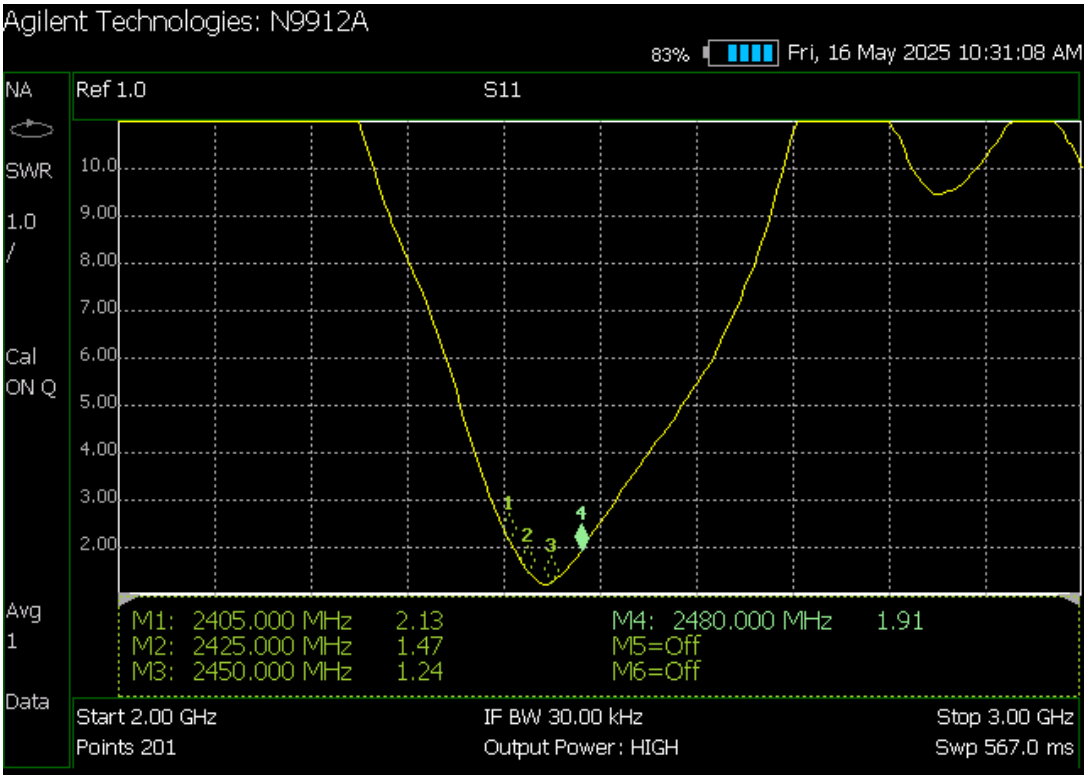
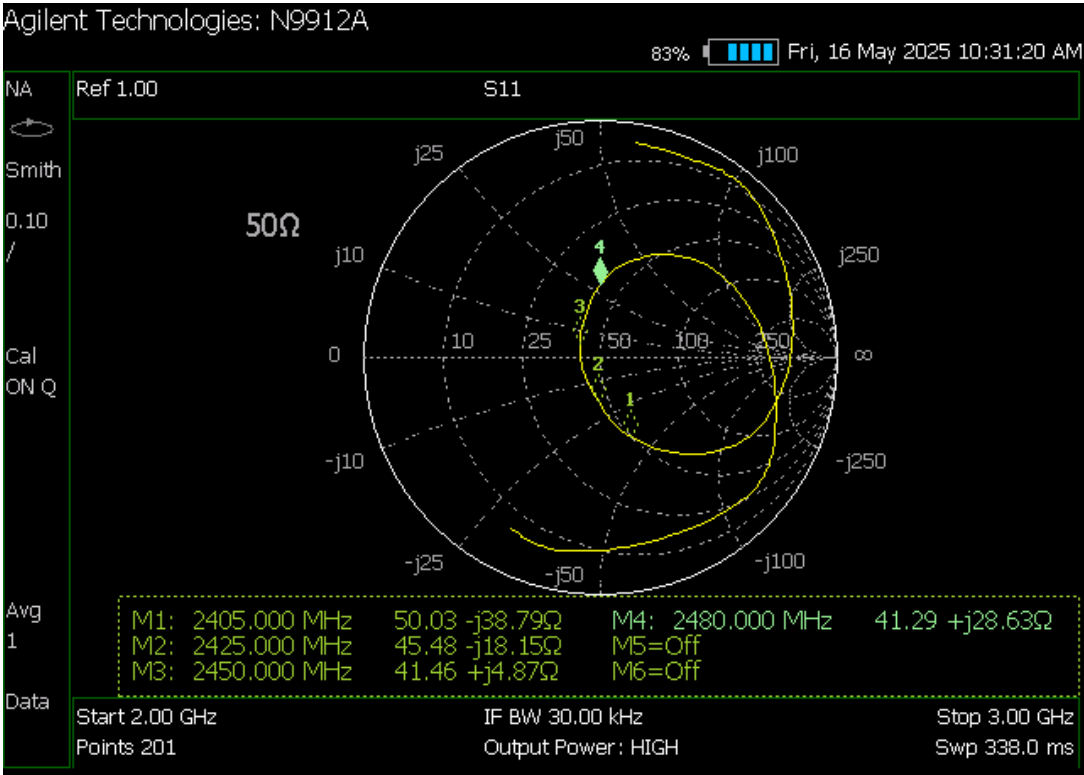
Unchanged mechanically during the test.

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

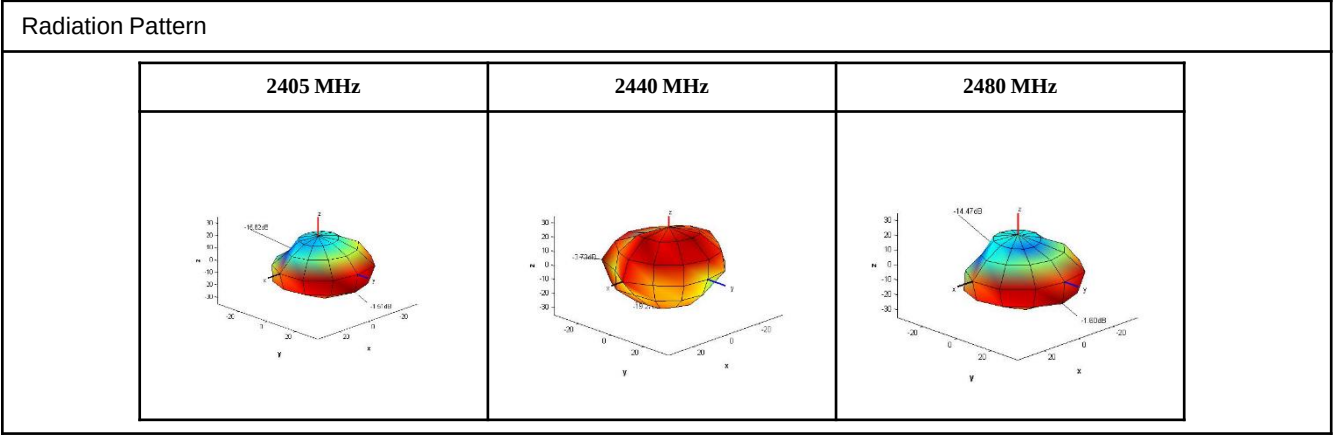
① Network Analyzer

② Signal Interface : Coaxial Cable

③ Test PCB Antenna

④ Dual Polarized Antenna

⑤ Shield Room



Efficiency

Frequency [MHz]	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480
Efficiency [dB]	-6.02	-5.91	-5.79	-5.71	-5.49	-5.49	-5.39	-5.37	-5.46	-5.61	-5.71	-5.98	-6.16	-6.05	-6.22	-6.19
Efficiency [%]	25.0	25.7	26.3	26.9	28.2	28.3	28.9	29.0	28.4	27.5	26.9	25.2	24.2	24.9	23.9	24.1
Peak Gain [dB]	-1.51	-1.39	-1.28	-1.16	-0.97	-0.95	-0.81	-0.80	-0.91	-1.06	-1.14	-1.40	-1.56	-1.46	-1.63	-1.60
Directivity [dB]	4.51	4.52	4.52	4.54	4.53	4.53	4.58	4.57	4.55	4.54	4.56	4.58	4.60	4.58	4.59	4.59
Minimum Gain [dB]	-15.82	-15.60	-15.46	-15.13	-14.61	-14.49	-14.14	-13.71	-13.63	-13.76	-13.81	-14.14	-14.20	-14.18	-14.55	-14.47

Frequency(MHz)	2405	2440	2480	Avg.	Eff. [%]
Efficiency(dB)	-6.02	-5.37	-6.19	-5.88	25.83

#3. Attached: Drawing paper

