TEST REPORT
Specific Wireless Devices

for

Products Name: Meeting Room Display Tablet

Model No.: WA1099T

Report No.: SST2604E278

Issued Date: 2026-4-30

Issued for

Johnson Controls International

1101 E Whitaker Mill Rd suite 220, Raleigh, NC 27604, USA

Issued by

Dongguan Qiyang Testing Technology Co., Ltd.

Room 101-1, Building 1, No.19, Tianxin Butterfly 1st Road, Huangjiang, Dongguan, Guangdong, China

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1. Basic Introduction

Applicant's name..... :	Johnson Controls International	
Address ..... :	1101 E Whitaker Mill Rd suite 220, Raleigh, NC 27604, USA	
Manufacturer's name ..... :	Johnson Controls International	
Address ..... :	1101 E Whitaker Mill Rd suite 220, Raleigh, NC 27604, USA	
Factory's name ..... :	Shenzhen Electron Technology Co., Ltd	
Address ..... :	Bld 2, Yingfeng Industrial Zone, Tantou Community, Songgang Street, Bao'an, Shenzhen, Guangdong, P.R.China	
Products Name..... :	Meeting Room Display Tablet	
Model No..... :	WA1099T	
Trade Mark ..... :	N/A	
Rating(s)..... :	Adapter Model: FJ-SW1202000N Input: 100-240V, 50/60Hz Output: DC 12.0V 24W or DC 48V, 0.5A by POE power supply	
Date of sample receipt..... :	2026-4-3	
Date of Test..... :	2026-4-3~2026-4-28	
Standard(s) ..... :	Article 2 paragraph 1 item(19) MIC Notice No.88 Annex 1 MIC Notice No.88 Annex 43	
Tested by (+signature)..... :	Connor Ma	Connor Ma
Check by (+signature)..... :	Davis Zhou	Davis Zhou
Approved by (+signature).... :	Tiger Chen	Tiger Chen

DONGGUAN QIYANG TESTING TECHNOLOGY CO.,LTD.

2. General description

2.1. EUT description

Products Name ..... :	Meeting Room Display Tablet	
Model No. ..... :	WA1099T	
Rating(s) ..... :	Adapter Model: FJ-SW1202000N Input: 100-240V, 50/60Hz Output: DC 12.0V 24W or DC 48V, 0.5A by POE power supply	
Software version..... :	V1.0	
Hardware version ..... :	R160 V2.1A	
Operation frequency..... :	2402MHz ~ 2480MHz	
Channel numbers ..... :	40	
Modulation technology .... :	GFSK	
Antenna type ..... :	FPC antenna	
Antenna Gain ..... :	1.48 dBi	
Cable ..... :	**Name**	**Description**
	C-C cable	☒Shielded ☐Unshielded ☒Detachable ☐Un-detachable ☐No applicable ☐Length: 1.5m

2.2.Serial model(s) and model difference

Main model(s) ..... :	**WA1099T**
Serial model(s) ..... :	**/**
Model difference ..... :	**/**

2.3.Auxiliary equipment

Support equipment list			
Description	**Manufacturer**	**Model No.**	**Serial No.**
PC	HP	Zhan 66P	/
Support cable list			
Description	**Specified length(m)**	**Shielded**	**Unshielded**
		☐	☐

2.4. Description of test modes and condition

Mode 1	Continuously transmit
Mode 2	Receiver status
Mode 3	Normal operation
Temperature(℃):	23.9
Humidity (%):	53
Atmospheric pressure:	100.9kPa
Power Supply	

Voltage Fluctuations Test	Normal voltage	Low voltage (-10%)	High voltage (+10%)
Input to EUT (DC,V)	12	10.8	13.2
To RF Module (DC, V)	3.3	3.3	3.3
Voltage Variation (%)	-	0	0

Note1: Voltage Variation(%)=(Output high or Low Voltage -Output Normal Voltage)/Output Normal Voltage*100.
Note2: After checking the fluctuation of input voltage to the circuit of the radio part (excluding the power supply)of the equipment to be tested, the fluctuation less than +/-1% when input voltage from an external supply into the equipment fluctuates +/-10%, therefore, the test is carried out only at the normal voltage.

2.5.Test environmental conditions

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment.
The climatic conditions during the tests were within the following limits:

Ambient temperature	Relative humidity	Atmospheric pressure
15 °C ~ 35 °C	30 % ~ 60 %	86 kPa ~ 106 kPa

If explicitly required in the basic standard or applied product standard the climatic values are recorded and documented separately in this test report.

2.6.Statement of Measurement Uncertainty

Test Item	Uncertainty
Uncertainty for Conducted emissions	3.31 dB
Uncertainty for Radiated emission (30 MHz to 1 GHz)	4.53 dB
Uncertainty for Radiated emission (above 1 GHz)	4.80 dB
RF power, conducted	1.08 dB
Power Spectral Density, Conducted	1.46 dB
Spurious Emissions, Conducted	2.94 dB
Occupied bandwidth	57.74 kHz
Dwell Time	2%
Frequency	3%

Measurement Uncertainty Decision Rule
Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2023, clause 4.3.3 and 4.3.4.

2.7.Report modification record

Report No.	Issue Date	Description
SST2604E278	2026-4-30	Original Report

2.8.Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS	Registration No.: L17883
Location	Dongguan Qiyang Testing Technology Co., Ltd. Room 101-1, Building 1, No.19, Tianxin Butterfly 1st Road, Huangjiang, Dongguan, Guangdong, China

2.9. Additional Instruction

Test Software	CMD
Power level setup	Default

2.10. Other information

The laboratory responsible for all the information provided in the report, except those information provided by the applicant.

The applicant shall fully responsible for the information they provided.

The report would be invalid without a stamp of test laboratory and the signatures of compiler and approver.

The laboratory has not been responsible for the sampling stage; the test report merely corresponds to the test sample received.

Any objection to the test report shall submitted to the test laboratory within 15 days from the date of receipt of the report.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

3. Verdict summary section

Requirement – Test case	Result
RF shielding method	Pass
Tolerance of Frequency	Pass
Antenna Power	Pass
Occupied bandwidth	Pass
Spurious Emissions Intensity	Pass
Secondary radiated emissions	Pass
Interference suppression	Pass
Transmission Antenna Gain	Pass
Transmission Radiation Angle Width(3dB Beam width)	N/A, EIRP less than 12.14 dbm

Test case verdicts	
- Test case does not apply to the test object	N/A
- Test object does meet the requirement	P (Pass)
- Test object does not meet the requirement	F (Fail)

4. List of Test Equipment

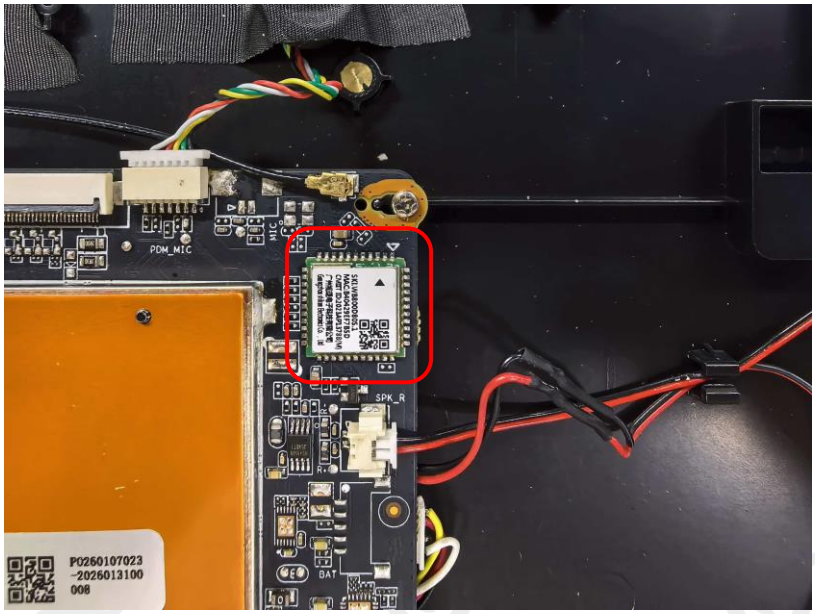
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Date	Cal. Due
RF conducted						
Spectrum Analyzer	keysight	N9020A	MY51280659	2025/04/16	2026/04/09	2027/04/09
Signal Generator	Agilent	N5181A	MY48180054	2025/04/16	2026/04/09	2027/04/09
Signal Generator	keysight	N5172B	MY57281610	2025/04/16	2026/04/09	2027/04/09
Spectrum Analyzer	R&S	FSV40-N	101791	2025/04/16	2026/04/09	2027/04/09
Wideband Radio Communication Tester	R&S	CMW500	123123	2025/04/16	2026/04/09	2027/04/09
RF Switch Box	TST PASS	TST V2	/	2025/04/16	2026/04/09	2027/04/09
Thermohygrometer	KTJ	TA218A	879032	2025/04/20	2026/04/09	2027/04/09
DC power supply	Lodestar	LPS6010D	LP2303371	/	/	/
Temperature and humidity chamber	Guangdong fenghe	FH-TH-1000	FH24032017	2025/04/26	2026/04/09	2027/04/09
Test Software	TST PASS	TST PASS	V2.0	/	/	/

Calibration Information (Article 24-2, Paragraph 4 of the Radio Act)	
	a. Calibration conducted by the National Institute of Information and Communications Technology (NICT) or a designated calibration agency under Article 102-18-1 of the Radio Act
	b. Calibration conducted based on the regulations of Articles 135 or 144 of the measurement Act
✓	c. Calibration conducted in foreign countries, which is equivalent to calibration conducted by the NICT or a designated calibration agency under Article 102-18-1 of the Radio Act
	d. Calibration, etc. conducted by using measuring instruments and other facilities listed at the bottom of appended table 3 of the Radio Act, which is to have been calibrated as described in (a)through (c) above

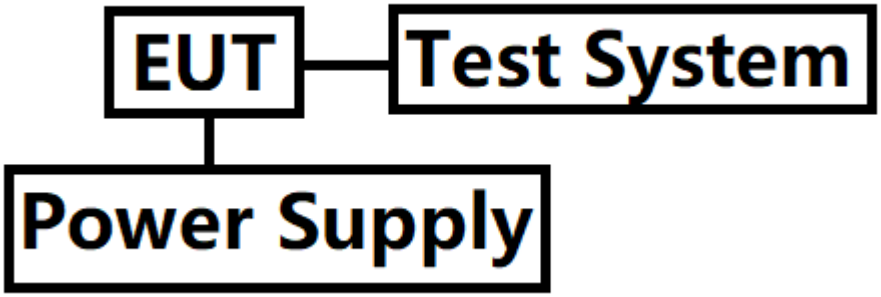
5. Technical Requirement and Measurement Data

5.1. Cabinet

Requirement:
The high-frequency section and modulation section (except for the antenna system)shall not be capable of being opened easily
Shielding method: The radio part was embedded in a shielding housing



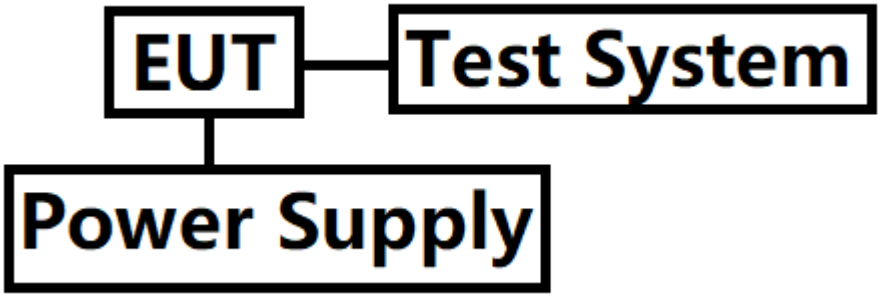
5.2. Antenna Power

Limit
10mW Tolerance: +20%
Block diagram of Test Setup

Test Setup
Test Frequency: centre Frequency Span: Max allowed to capture the trace RBW: >Occupied Bandwidth VBW: ≥RBW Sweep Time: Auto Detector: Peak Trace: Max hold Mark the highest peak value, then centre the frequency
Verdict
Pass

5.2.1. Test Result

Refer to section 8 for details

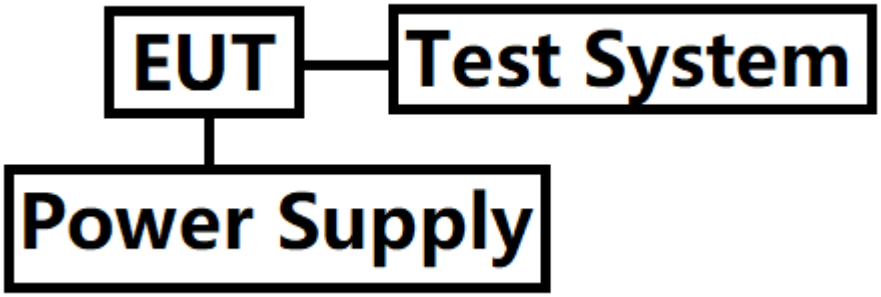
5.3. Frequency Tolerance

Limit
$\pm 50 \times 10^{-6}$
Block diagram of Test Setup

Test Setup
Test Frequency: centre Frequency Span: 1MHz RBW: 10kHz VBW: =RBW Sweep Time: Auto Detector: Peak Trace: Max hold While the trace is stabilized, mark the highest transmit frequency
Verdict
Pass

5.3.1. Test Result

Refer to section 8 for details

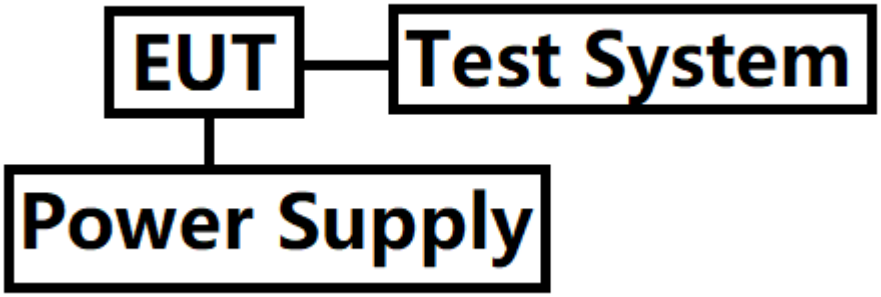
5.4. Occupied Bandwidth

Limit
26MHz or less
Block diagram of Test Setup

Test Setup
Test Frequency: centre Frequency Span: Max allowed to capture hole trace RBW: 300kHz VBW: =RBW Sweep Time: Auto Detector: Peak Trace: Max hold While the trace is stabilized, Use the 99 % bandwidth function of the spectrum analyser to measure the Occupied Channel Bandwidth of the UUT. This value shall be recorded. Mark lowest frequency FL of the 99% bandwidth and the highest Frequency FH of 99% bandwidth.
Verdict
Pass

5.4.1. Test Result

Refer to section 8 for details

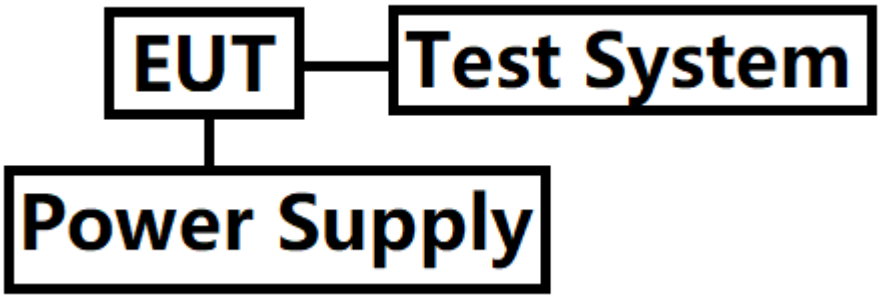
5.5. Spurious Emission Intensity

Limit
Permissible mean power of spurious emission of each frequency supplied to a feeder, that is, mean power of spurious emission in the 1 MHz bandwidth at frequency f other than frequency band used shall be as follows: a. 2,387 MHz ≤ f ≤ 2,400 MHz and 2,483.5 MHz < f ≤ 2,496.5 MHz: 25 μW/MHz or less b. 2,387 MHz > f and 2,496.5 MHz < f: 2.5 μW/MHz or less
Block diagram of Test Setup

Test Setup
Analyser frequency set to the wanted transmitting frequency Frequency Range:30MHz ~ 12.5GHz RBW: 1MHz VBW:=RBW Sweep time: Auto Detector: Peak Trace: Max Hold Allow the trace to stabilize. Use mark-peak function to mark the highest emission level.
Verdict
Pass

5.5.1. Test Result

Refer to section 8 for details

5.6. Second Radiated Emission

Limit
4nW or less at a frequency below 1 GHz and 20 nW or less at a frequency of 1 GHz or higher
Block diagram of Test Setup

Test Setup
Analyser frequency set to the wanted transmitting frequency Frequency Range:30MHz ~ 12.5GHz RBW: 100 kHz<1GHz; 1MHz>1GHz VBW:=RBW Sweep time: Auto Detector: Peak Trace: Max Hold Allow the trace to stabilize. Use mark-peak function to mark the highest emission level.
Verdict
Pass

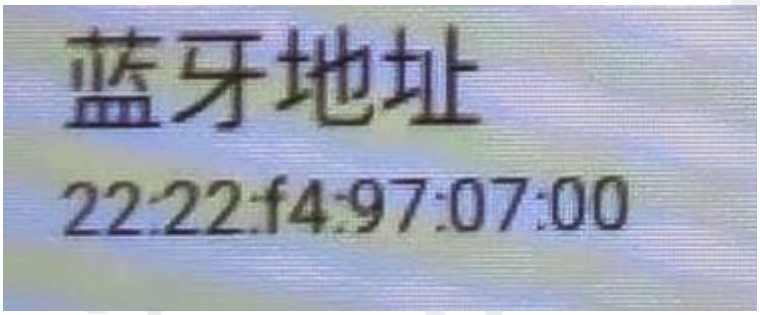
5.6.1. Test Result

Refer to section 8 for details

5.7. Interference Prevention Function

Limit
a. Identification code transmission/reception: Radio equipment used mainly on the same premises and automatically transmits or receives identification code b. Frequency switching and other functions: Users shall be able to choose operating frequencies and halt emission.
Block diagram of Test Setup
Radio equipment — Dummy load Attenuator — Demodulator
Verdict
Pass

5.7.1. Test Result

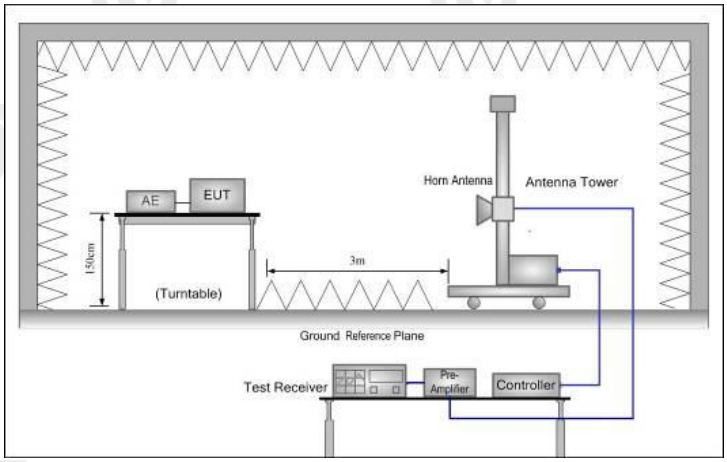


5.8. Equivalent Isotropic Radiated Power

Limit

12.14dBm

Block diagram of Test Setup



Test Procedures

Step 1

Set the test equipment at test frequency, and in continuous transmitting mode or intermittent burst mode (constant frequency and constant burst time). Stop the spread.

Step 2

Set the height and direction of test equipment and measurement antenna approximately facing each other.

Step 3

In the frequency derived in D), change the height of the measurement antenna from the ground by ±50cm with a central focus on the antenna of test equipment. Search the location that the power is maximum by adjusting the direction of measurement antenna. Set the indicator of spectrum analyzer at this point as “E”.

Step 4

Remove the test equipment from the turntable, set the opening of substitution antenna at the same location as the opening of the test equipment, and receive by outputting radio wave of the same frequency from the standard signal generator for substitution.

Step 5

Adjust at the maximum power point, turning the substitution antenna.

Step 6

Change the height of the measurement antenna from the ground by ±50cm with a central focus on the substitution antenna, and adjust the direction of measurement antenna to the location that the received power is maximum.

Step 7

Adjust output of standard signal generator and record the power Ps that is equal to “E”. Or record Ps by counting backward from the difference with “E” as the close value to “E” (within ±1dB).

Step 8

EIRP is derived from the following calculating formula:

$EIRP = G_S – L_F + P_S$

G_S; Absolute gain of substitution antenna (dBi).

L_F; Loss of electric supply line between standard signal generator and substitution antenna (dB).

P_S; Output of standard signal generator (dBm).

Verdict

N/A, EIRP less than 12.14 dbm

6. Test setup photo

Refer to appendix I for details

7. Photo of the EUT

Refer to appendix II for details

8. Test Result

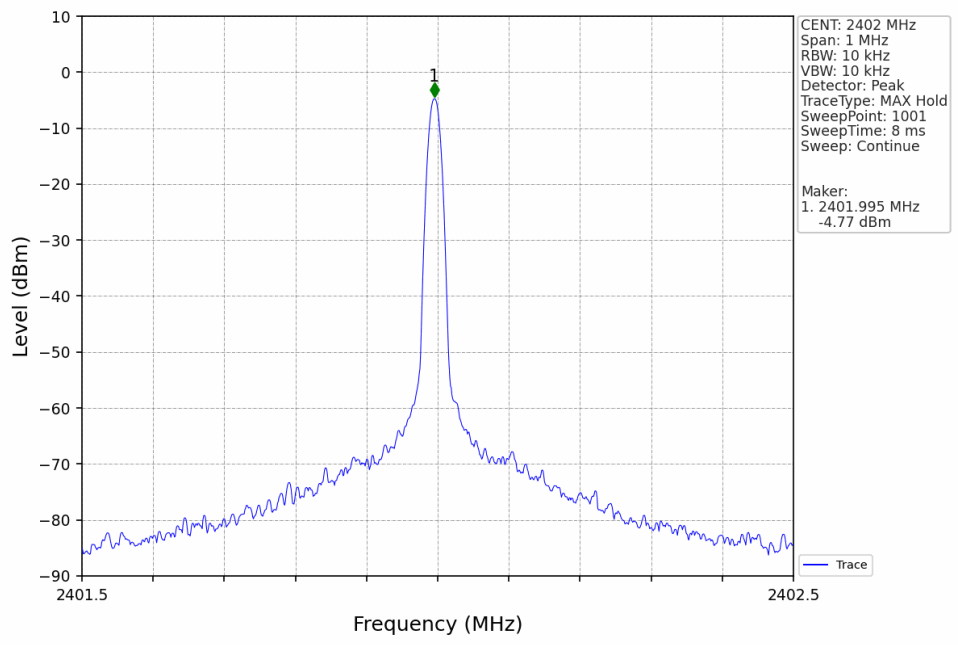
1. Frequency Error

1.1 Test Result

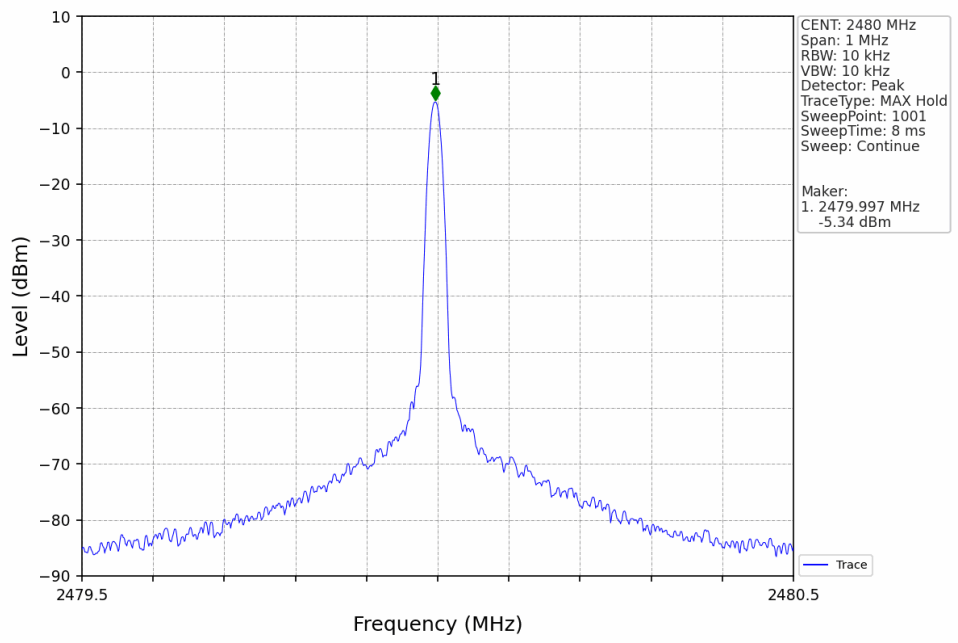
Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
					Result	Limit	
NTNV	Carrier Wave	SISO	2402	2401.995	-2.08	-50 to 50	Pass
			2480	2479.997	-1.21	-50 to 50	Pass

1.2 Test Graph

Frequency Error_NTNV_Carrier Wave_2402MHz_Ant1_NTNV



Frequency Error_NTNV_Carrier Wave_2480MHz_Ant1_NTNV



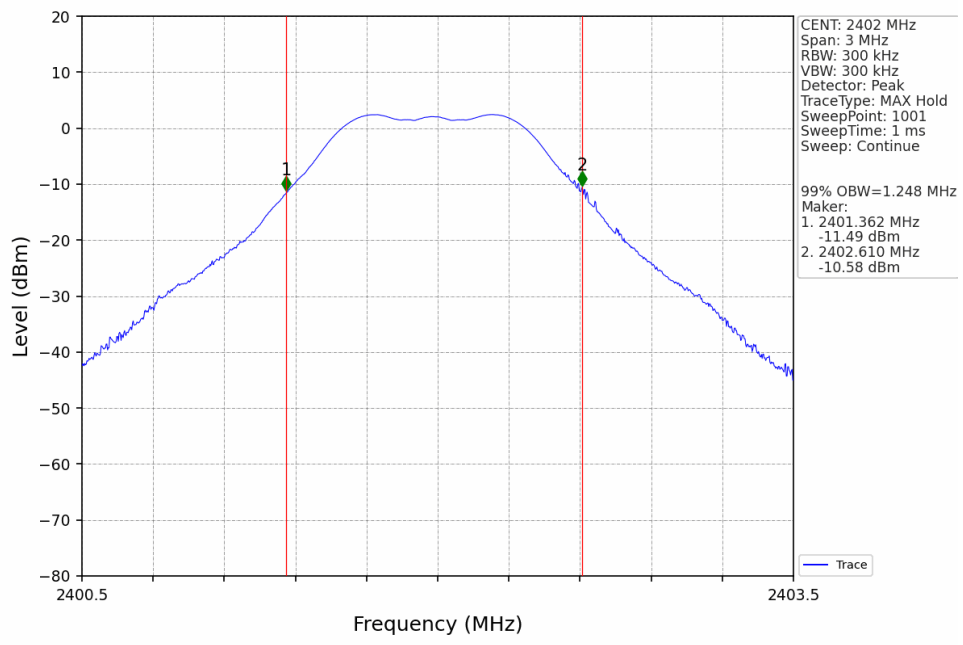
2. Occupied Bandwidth

2.1 Test Result

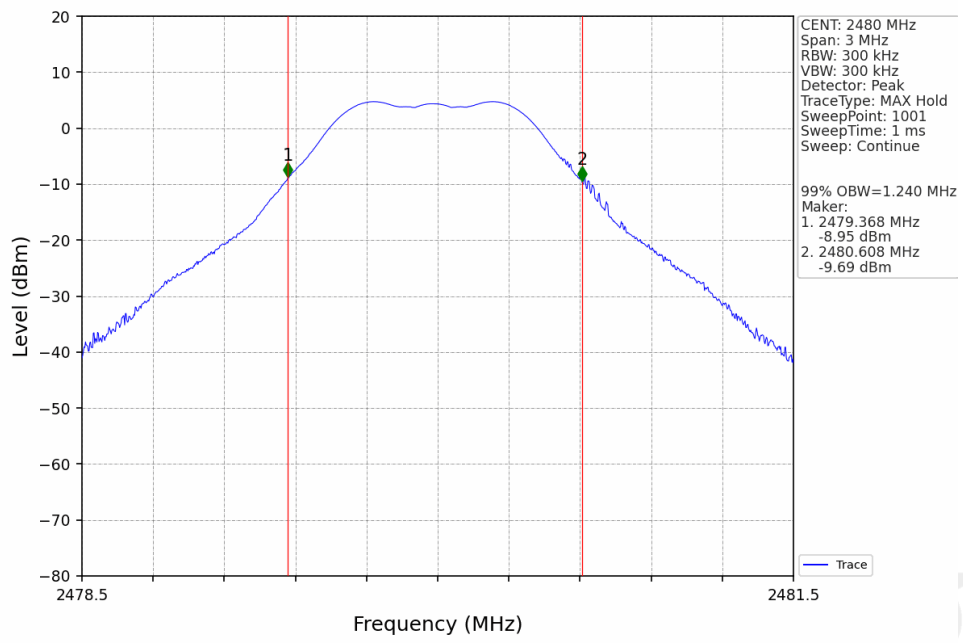
ENV	Mode	TX Type	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	1M	SISO	2402	1.248	<=26	Pass
			2480	1.240	<=26	Pass

2.2 Test Graph

1M_2402MHz_Ant1_NTNV



1M_2480MHz_Ant1_NTNV



3. Antenna Power

3.1 Test Result

3.1.1 Power

ENV	Mode	TX Type	Frequency (MHz)	Antenna Power			Nominal Power (mW)	Tolerance (%)		Verdict
				Measured (dBm)	Measured (mW)	Limit		Measured	Limit	
NTNV	1M	SISO	2402	2.55	1.80	<=10.00	3	-40	<=20	Pass
			2480	4.88	3.08	<=10.00	3	2.7	<=20	Pass

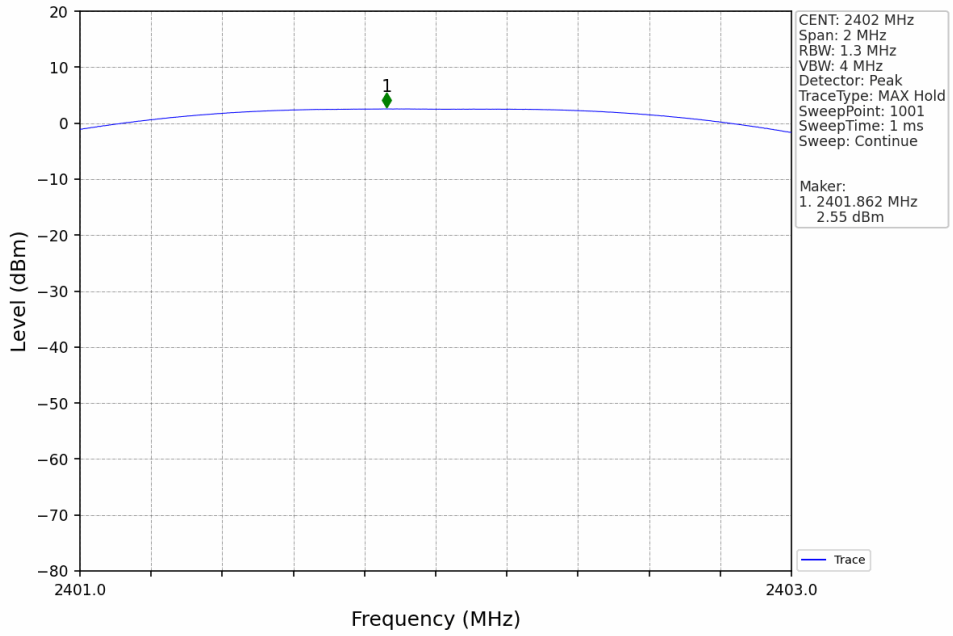
3.1.2 EIRP

ENV	Mode	TX Type	Frequency (MHz)	ANT	Gain (dBi)	EIRP (dBm/MHz)		Verdict
						Result	Limit	
NTNV	1M	SISO	2402	1	1.48	4.03	<=12.14	Pass
			2480	1	1.48	6.36	<=12.14	Pass

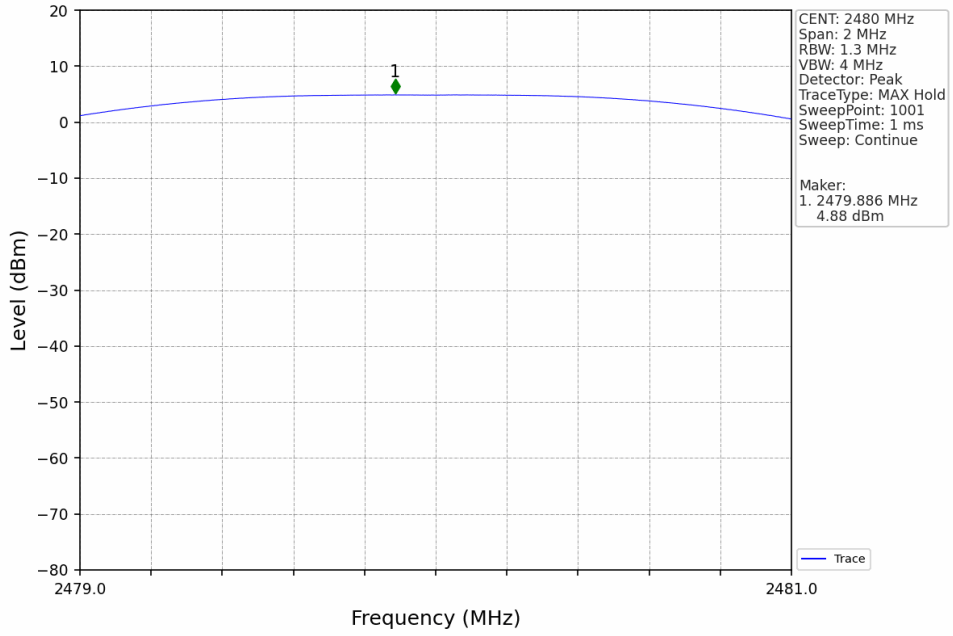
3.2 Test Graph

3.2.1 Power

1M_2402MHz_Ant1_NTNV



1M_2480MHz_Ant1_NTNV



4. Spurious Emission Intensity

4.1 Test Result

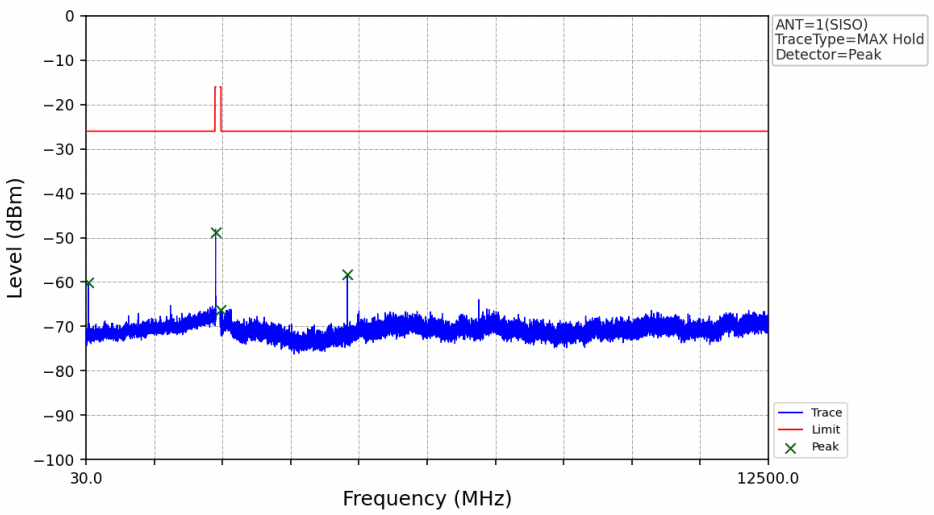
4.1.1 TxSe_NTNV

NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (uW /MHz)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm /MHz)	PK Power (uW /MHz)	AV Power (dBm /MHz)	AV Power (uW /MHz)		
1M	SISO	2402	1	30	2387	75	-60.13	0.001	/	/	2.5	Pass
				2387	2400	2399.987	-48.74	0.013	/	/	25	Pass
				2483.5	2496.5	2488.531	-66.31	0.000	/	/	25	Pass
				2496.5	12500	4804	-58.34	0.001	/	/	2.5	Pass
		2480	1	30	2387	75	-61.02	0.001	/	/	2.5	Pass
				2387	2400	2399.22	-66.11	0.000	/	/	25	Pass
				2483.5	2496.5	2483.825	-63.05	0.000	/	/	25	Pass
				2496.5	12500	4961	-57.49	0.002	/	/	2.5	Pass

4.2 Test Graph

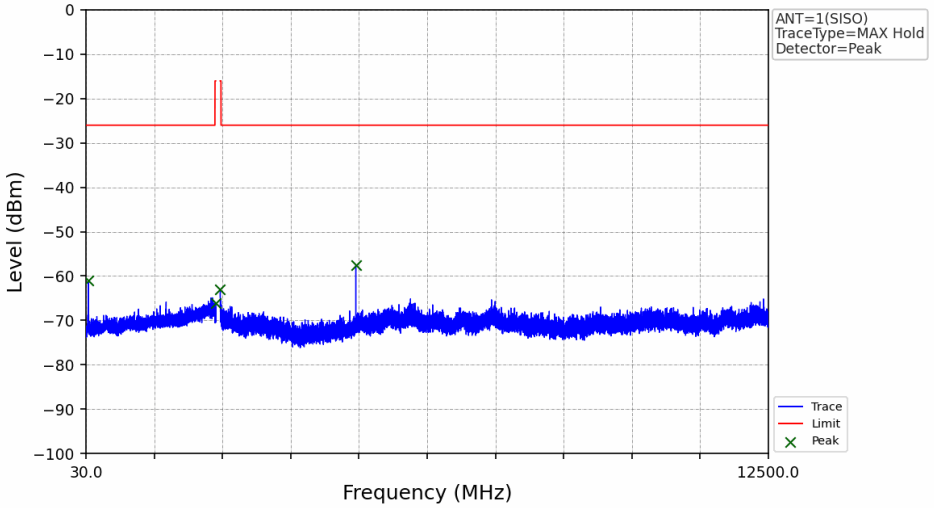
4.2.1 TxSe_NTNV

1M_2402MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	75.000	-60.13	/	-26	Pass
2387	2400	1	1	2399.987	-48.74	/	-16	Pass
2483.5	2496.5	1	1	2488.531	-66.31	/	-16	Pass
2496.5	12500	1	1	4804.000	-58.34	/	-26	Pass

1M_2480MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	75.000	-61.02	/	-26	Pass
2387	2400	1	1	2399.220	-66.11	/	-16	Pass
2483.5	2496.5	1	1	2483.825	-63.05	/	-16	Pass
2496.5	12500	1	1	4961.000	-57.49	/	-26	Pass

5. Secondary Radiated Emission

5.1 Test Result

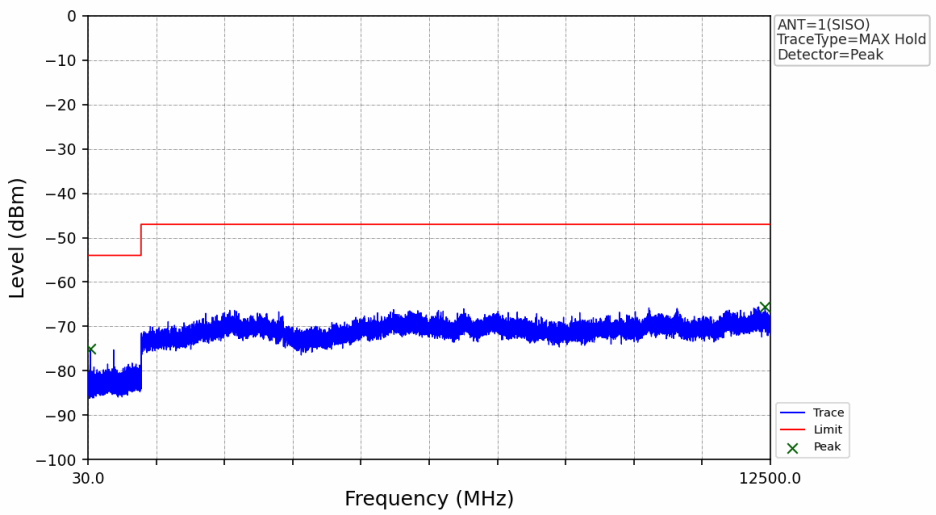
5.1.1 RxSe_NTNV

NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
1M	SISO	2402	1	30	1000	73.9	-75.00	0.032	/	/	4	Pass
				1000	12500	12403.5	-65.54	0.279	/	/	20	Pass
		2480	1	30	1000	73.15	-74.69	0.034	/	/	4	Pass
				1000	12500	12327.5	-64.84	0.328	/	/	20	Pass

5.2 Test Graph

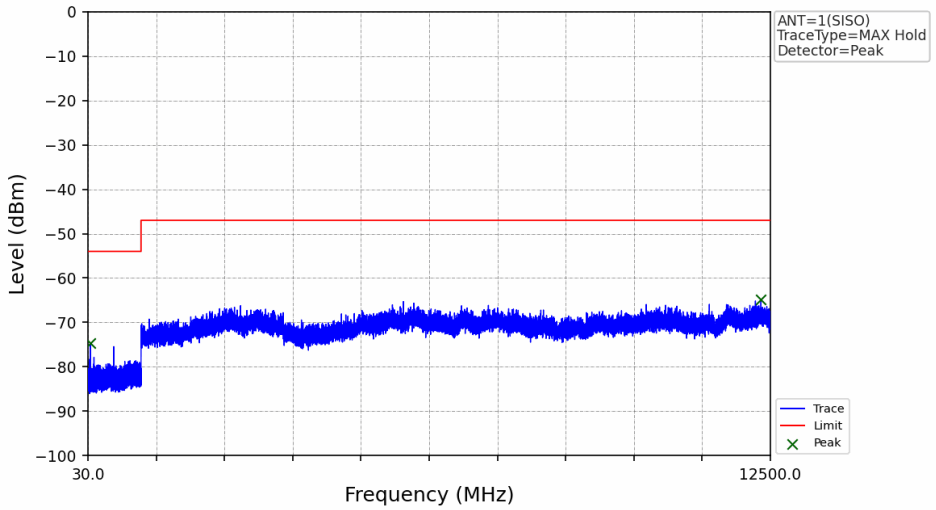
5.2.1 RxSe_NTNV

1M_2402MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	73.900	-75.00	/	-54	Pass
1000	12500	1	1	12403.500	-65.54	/	-47	Pass

1M_2480MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	73.150	-74.69	/	-54	Pass
1000	12500	1	1	12327.500	-64.84	/	-47	Pass

*******End of report*******