

TEST REPORT

Applicant: SIMCom Wireless Solutions Limited
EUT Description: SIMCom LTE Smart Module
Model: SIM8918EA-2W
Brand: SIMCom
FCC ID: 2AJYU-8XRA003
Standards: CFR 47, FCC Part 15 Subpart E
Date of Receipt: 2026/07/24
Date of Test: 2026/07/24 to 2026/09/10
Date of Issue: 2026/09/10

TOWE tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of the model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. Without written approval of TOWE, the test report shall not be reproduced except in full.



Jim Huang
Approved By:



Carey Chen
Reviewed By:

Revision History

Rev.	Issue Date	Description	Revised by
01	2026/09/10	Original	Carey Chen

Summary of Test Results

Clause	FCC Part	Test Items	Test Bands	Result
4.1	§15.203	Antenna Requirement	---	PASS
4.2	§15.407(g)	Frequency Stability	---	---
4.3	§15.207	AC Power Line Conducted Emission	Section 2.2	N/A
4.4	§15.407(a)(1)(iv) §15.407(a)(2) §15.407(a)(3)(i)	Maximum Conducted Output Power	U-NII-1 U-NII-2A U-NII-2C U-NII-3	PASS
4.5	§KDB 789033 II.C.1	Emission Bandwidth	U-NII-1 U-NII-2A U-NII-2C	Reporting purposes only
4.6	§15.407(e)	Minimum Emission Bandwidth	U-NII-3	PASS
4.7	§KDB 789033 II.D	Occupied Bandwidth	U-NII-1 U-NII-2A U-NII-2C U-NII-3	Reporting purposes only
4.8	§15.407(a)(1)(iv) §15.407(a)(2) §15.407(a)(3)(i)	Maximum Power Spectral Density	U-NII-1 U-NII-2A U-NII-2C U-NII-3	PASS
4.9	§15.407(b) §15.209(d)	Unwanted Emissions	U-NII-1 U-NII-2A U-NII-2C U-NII-3	PASS

Test Method: ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024,
KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Remark:

1. Pass is EUT meets standard requirements.
2. The EUT is DC power supply, "N/A" denotes "not applicable".

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1 General Description

1.1 Lab Information

1.1.1 Testing Location

These measurement tests were conducted at the Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. facility located at F 401 and F 101, Building E, Hongwei Industrial Zone, No. 6, Liuxian 3rd Road, Zone 70, Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, People's Republic of China. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014

Tel.: +86-755-27212361

Contact Email: info@towewireless.com

1.1.2 Test Facility / Accreditations

A2LA (Certificate Number: 7088.01)

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

FCC Designation No.: CN1353

Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory.

Test Firm Registration Number: 684095

Designation Number: CN1353.

ISED CAB identifier: CN0152

Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0152

Company Number: 31000

1.2 Client Information

1.2.1 Applicant

Applicant:	SIMCom Wireless Solutions Limited
Address:	SIMCom Headquarters Building, Building 3, No.289 Linhong Road, Shanghai, China

1.2.2 Manufacturer

Manufacturer:	SIMCom Wireless Solutions Limited
Address:	SIMCom Headquarters Building, Building 3, No.289 Linhong Road, Shanghai, China

1.3 Product Information

EUT Description:	SIMCom LTE Smart Module			
Model.:	SIM8918EA-2W			
Brand:	SIMCom			
Hardware Version:	8XR000-SIM8918_V1.03			
Software Version:	SIM8918B01V01_B			
IMEI:	RF Conducted	865842061689336		
	RSE	865842061688270		
Modulation Type:	802.11a/n:	OFDM-BPSK, QPSK, 16QAM, 64QAM		
	802.11ac:	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM		
Smart System:	☒ SISO	802.11a/n/ac		
DFS Function:	☐ Master ☐ Slave with radar detection ☒ Slave without radar detection			
Frequency Range:	U-NII-1:	5150 ~ 5250MHz		
	U-NII-2A:	5250 ~ 5350MHz		
	U-NII-2C:	5470 ~ 5725MHz		
	U-NII-3:	5725 ~ 5850MHz		
Channel Frequency:	20M BWch.:	U-NII-1:	5180 ~ 5240MHz	4 Channels
		U-NII-2A:	5260 ~ 5320MHz	4 Channels
		U-NII-2C:	5500 ~ 5700MHz	11 Channels
		U-NII-3:	5745 ~ 5825MHz	5 Channels
	40M BWch.:	U-NII-1:	5190 ~ 5230MHz	2 Channels
		U-NII-2A:	5270 ~ 5310MHz	2 Channels
		U-NII-2C:	5510 ~ 5670MHz	5 Channels
		U-NII-3:	5755 ~ 5795MHz	2 Channels
	80M BWch.:	U-NII-1:	5210MHz	1 Channel
		U-NII-2A:	5290MHz	1 Channel
		U-NII-2C:	5530 ~ 5610MHz	2 Channels
		U-NII-3:	5775MHz	1 Channel
Antenna Type:	☒ External, ☐ Integrated			
Antenna Gain:	Frequency Range	Ant0 (dBi)		
	U-NII-1:	2.64		
	U-NII-2A:	1.76		
	U-NII-2C:	4.66		
	U-NII-3:	4.43		
Remark: The above EUT's information was declared by applicant, please refer to the specifications or user's manual for more detailed description.				

2 Test Configuration

2.1 Test Channel

Frequency Channels for U-NII-1							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	40	5200MHz	44	5220MHz	48	5240MHz
38	5190MHz	42	5210MHz	46	5230MHz	/	
Remark: In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:							
Modulation Type		Test Channel		Test Frequency			
802.11a/n20 /ac20		The Lowest channel (CH36)		5180MHz			
		The Middle channel (CH40)		5200MHz			
		The Highest channel (CH48)		5240MHz			
Modulation Type		Test Channel		Test Frequency			
802.11n40 /ac40		The Lowest channel (CH38)		5190MHz			
		The Highest channel (CH46)		5230MHz			
Modulation Type		Test Channel		Test Frequency			
802.11 ac80		The Middle channel (CH42)		5210MHz			

Frequency Channels for U-NII-2A							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
52	5260MHz	56	5280MHz	60	5300MHz	64	5320MHz
54	5270MHz	58	5290MHz	62	5310MHz	/	
Remark: In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:							
Modulation Type		Test Channel		Test Frequency			
802.11a/n20 /ac20		The Lowest channel (CH52)		5260MHz			
		The Middle channel (CH60)		5300MHz			
		The Highest channel (CH64)		5320MHz			
Modulation Type		Test Channel		Test Frequency			
802.11n40 /ac40		The Lowest channel (CH54)		5270MHz			
		The Highest channel (CH62)		5310MHz			
Modulation Type		Test Channel		Test Frequency			
802.11 ac80		The Middle channel (CH58)		5290MHz			

Frequency Channels for U-NII-2C							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
100	5500MHz	110	5550MHz	122	5610MHz	134	5670MHz
102	5510MHz	112	5560MHz	124	5620MHz	136	5680MHz
104	5520MHz	116	5580MHz	126	5630MHz	140	5700MHz
106	5530MHz	118	5590MHz	128	5640MHz	/	
108	5540MHz	120	5600MHz	132	5660MHz		

Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Modulation Type	Test Channel	Test Frequency
802.11a/n20 /ac20	The Lowest channel (CH100)	5500MHz
	The Middle channel (CH116)	5580MHz
	The Highest channel (CH140)	5700MHz
Modulation Type	Test Channel	Test Frequency
802.11n40 /ac40	The Lowest channel (CH102)	5510MHz
	The Middle channel (CH118)	5590MHz
	The Highest channel (CH134)	5670MHz
Modulation Type	Test Channel	Test Frequency
802.11 ac80	The Lowest channel (CH106)	5530MHz
	The Highest channel (CH122)	5610MHz

Frequency Channels for U-NII-3							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745MHz	153	5765MHz	157	5785MHz	161	5805MHz
151	5755MHz	155	5775MHz	159	5795MHz	165	5825MHz

Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Modulation Type	Test Channel	Test Frequency
802.11a/n20 /ac20	The Lowest channel (CH149)	5745MHz
	The Middle channel (CH157)	5785MHz
	The Highest channel (CH165)	5825MHz
Modulation Type	Test Channel	Test Frequency
802.11n40 /ac40	The Lowest channel (CH151)	5755MHz
	The Highest channel (CH159)	5795MHz
Modulation Type	Test Channel	Test Frequency
802.11 ac80	The Middle channel (CH155)	5775MHz

2.2 Worst-case configuration and Mode

Modulation Type	SISO - Data Rate
802.11a	6 Mbps
802.11n20	MCS0 (6.5 Mbps)
802.11n40	MCS0 (13.5 Mbps)
802.11ac20	MCS0 (6.5 Mbps)
802.11ac40	MCS0 (13.5 Mbps)
802.11ac80	MCS0 (29.3 Mbps)
Transmitting mode:	Keep the EUT was programmed to be in continuously transmitting mode.
Normal Link:	Keep the EUT operation to normal function.

Remark: The tuning process for both 802.11n and 802.11ac is the same. 802.11ac covers the testing of 802.11n strategies, so 802.11n can be exempted from testing.

2.3 Support Unit used in test

Description	Manufacturer	Model	Serial Number
Development Board*	SIMCom	8918-TE_V1.04	--
Development Board*	SIMCom	Smart Module-EVB-G2_V1.03	--
Adapter	HONOTO	ADS-36LE-12	--
Laptop	Lenovo	Thinkbook 14 G4+IAP	YX05AZ13
Remark: *the information are provided by applicant.			

2.4 Test Environment

Temperature:	Normal: 15°C ~ 35°C
Humidity:	45 ~ 56 % RH Ambient
Voltage:	DC 3.90V
Remark: The testing environment is within the scope of the EUT user manual and meets the requirements of the standard testing environment.	

2.5 Test RF Cable

For all conducted test items: The offset level is set spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

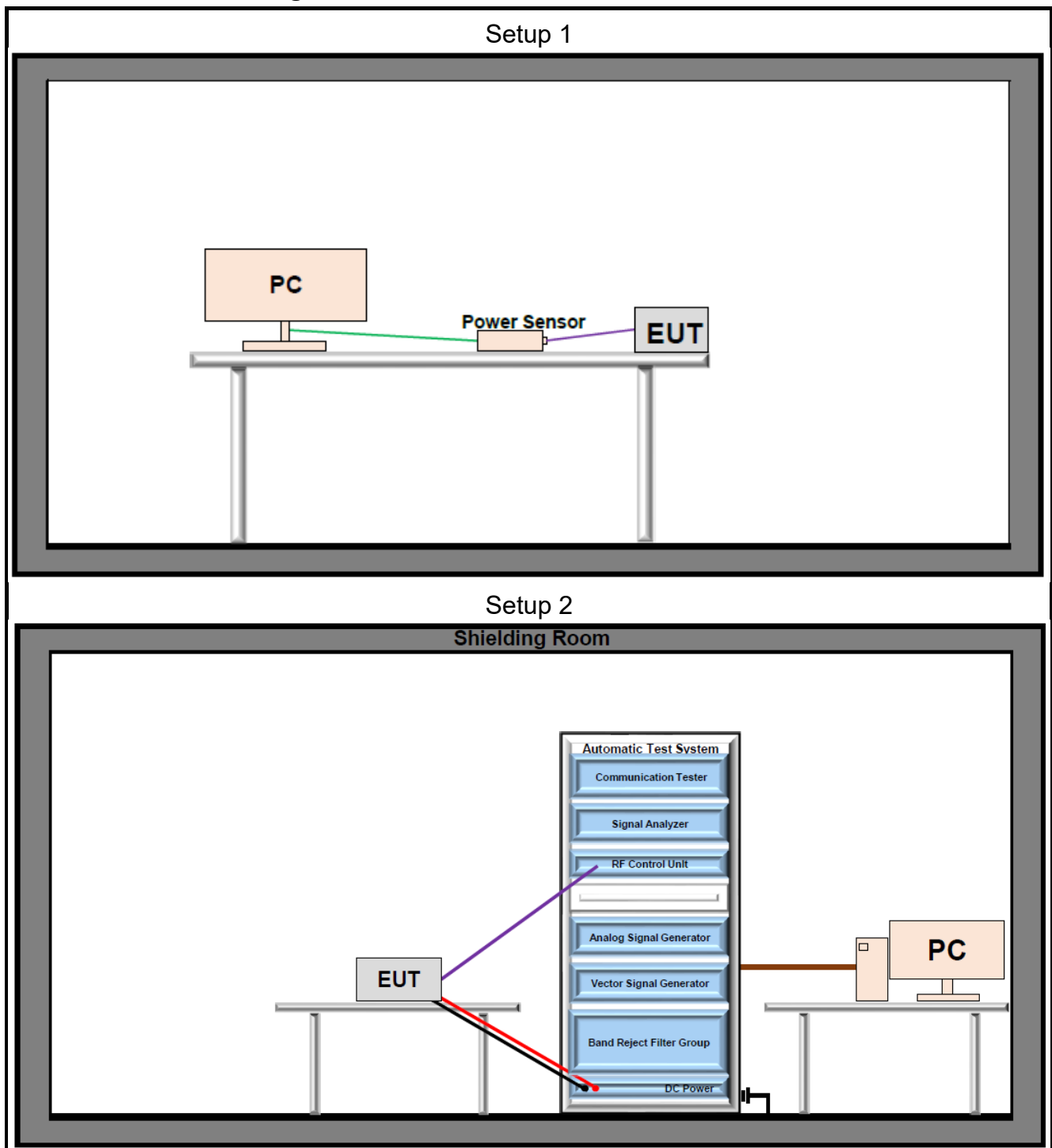
Offset = RF cable loss + attenuator factor.

2.6 Modifications

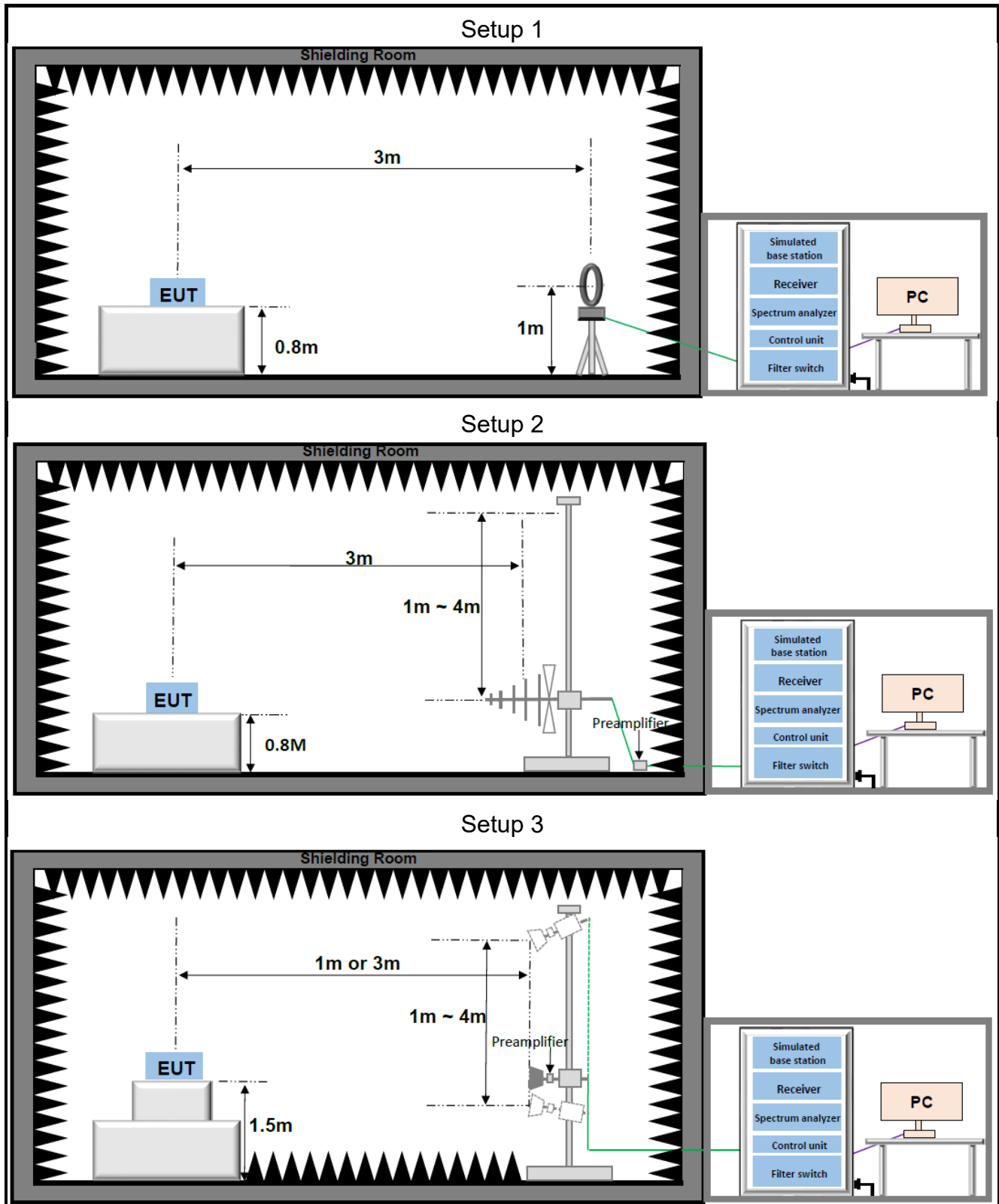
No modifications were made during testing.

2.7 Test Setup Diagram

2.7.1 Conducted Configuration



2.7.2 Radiated Configuration



3 Equipment and Measurement Uncertainty

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, whichever is less, and where applicable is traceable to recognized national standards.

3.1 Test Equipment List

RF Conducted					
Description	Manufacturer	Model	S.N.	Last Due	Cal Due
Signal Analyzer	Keysight	N9020A	US46470429	2026/03/05	2027/03/04
Signal Generator	R&S	SMR20	101027	2026/03/05	2027/03/04
Vector Signal Generator	R&S	SMM100A	549353	2026/05/29	2027/05/28
Power Sensor	Anritsu	MA24408A	12520	2026/05/29	2027/05/28
RF Control Unit	Tonscend	JS0806-2	23C80620671	2026/05/29	2027/05/28
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY63440541	2026/05/29	2027/05/28
Attenuator	Yin Saige	SMA-10dBm	N/A	N/A	N/A
Measurement Software	Tonscend	TS1120-3	10659	N/A	N/A

Radiated Emission					
Description	Manufacturer	Model	S.N.	Last Due	Cal Due
Double-Ridged Horn Antennas	Tonscend	HA32-18	806HA003608251015	2025/12/13	2028/12/12
Biconic Logarithmic Periodic Antennas	Tonscend	BLA32-30	80SBLA001011251010	2025/12/13	2028/12/12
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	1290	2026/06/18	2029/06/17
Loop Antenna	Schwarzbeck	FMZB 1519C	1519C-028	2026/06/13	2029/06/12
Signal Analyzer	Keysight	N9020A	MY57120015	2026/01/19	2028/01/18
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY63440541	2026/05/29	2027/05/28
EMI Tester Receiver	Rohde & Schwarz	ESR7	102719	2026/05/28	2027/05/27
Low Noise Amplifier	Tonscend	TAP9K3G40	806JSAP044710251054	2026/01/19	2028/01/18
Low Noise Amplifier	Tonscend	TAP01018050	806JSAF044509251052	2026/01/19	2028/01/18
Low Noise Amplifier	Tonscend	TAP18040048	AP22G806247	2025/03/11	2027/03/10
Hygrometer	BINGYU	HTC-1	N/A	2026/07/24	2027/07/23
Radio Frequency Switch	Townshend	JS0806s	806JSSX019811251028	N/A	N/A
Test Software	Tonscend	TS+	Version: 5.0.0	N/A	N/A

3.2 Measurement Uncertainty

Parameter	U _{lab}
Frequency Error	679.98Hz
Output Power	0.76dB
Conducted Spurious Emissions	2.22dB
Radiated Emissions(9kHz~30MHz)	2.42dB
Radiated Emissions(30MHz~1000MHz)	4.62dB
Radiated Emissions(1GHz~18GHz)	5.30dB
Radiated Emissions(18GHz~40GHz)	5.52dB

Uncertainty figures are valid to a confidence level of 95%

4 Test Results

4.1 Antenna Requirement

Standard Applicable:	47 CFR Part 15E Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
The antenna gain and type as provided by the manufacturer are as follows: The antenna Type is External. With Antenna gain is 5150 ~ 5250MHz: 2.64dBi; 5250 ~ 5350MHz: 1.76dBi; 5470 ~ 5725MHz: 4.66dBi; 5725 ~ 5850MHz: 4.43dBi; Antenna Anti-Replacement Construction: An embedded-in antenna design is used.	

4.2 Frequency Stability

Standard Applicable:	47 CFR Part 15E Section 15.407(g)
Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.	

4.3 Maximum Conducted Output Power

Limits

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

Test Procedure

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II.E.3.b (Other Channel)

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II.E.2.b(Straddle Channel)

Test Settings

1. PM-G:
Set to the maximum power setting and enable the EUT transmit continuously.
The power output was measured on the EUT antenna port using RF Cable with an attenuator connected to a power sensor. Output power was read directly from the power sensor.
Measure and record the results in the test report.
2. SA:
RBW = 1MHz
VBW $\geq$ 3MHz
Span = Encompass the EBW (or, alternatively, the entire 99% occupied bandwidth)
Sweep = Auto
Detector = power averaging (rms)

Test Setup

Refer to section 2.7.1 Setup 1 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.4 Emission Bandwidth

Limits

None, for reporting purposes only.

Test Procedure

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II.C.1.

Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. The transmitter output is connected to a spectrum analyzer:
3. RBW = 1% - 5%(99%BW)
4. VBW = 3 times the RBW
5. Sweep = Auto
6. Detector = Peak
7. Trace = Max hold
8. The trace was allowed to stabilize
9. Measure and record the results in the test report.

Test Notes

The signal analyzers' automatic bandwidth measurement capability of the spectrum analyzer was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to X= 26. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.

Test Setup

Refer to section 2.7.1 Setup 2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.5 Minimum Emission Bandwidth

Limits

Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Procedure

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II.C.2.

Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. The transmitter output is connected to a spectrum analyzer:
3. RBW = 100kHz(DTS)
4. VBW = 3 times the RBW
5. Sweep = Auto
6. Detector = Peak
7. Trace = Max hold
8. The trace was allowed to stabilize
9. Measure and record the results in the test report.

Test Notes

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Setup

Refer to section 2.7.1- Setup 2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.6 Occupied Bandwidth

Limits

None, for reporting purposes only.

Test Procedure

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II.D.

Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. The transmitter output is connected to a spectrum analyzer:
3. RBW = 1% - 5%(99%BW)
4. VBW = 3 times the RBW
5. Sweep = Auto
6. Detector = Peak
7. Trace = Max hold
8. The trace was allowed to stabilize
9. Measure and record the results in the test report.

Test Setup

Refer to section 2.7.1- Setup 2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.7 Maximum Power Spectral Density

Limits

For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1-megahertz band.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1-megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

Test Procedure

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II.F

Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously
2. The transmitter output is connected to a spectrum analyzer
3. RBW = 1MHz (for 5.15–5.25 GHz, 5.25–5.35 GHz, and 5.47–5.725 GHz)
4. RBW = 500kHz (for 5.725–5.85 GHz)
5. VBW $\geq$ 3 times RBW
6. Sweep = Auto
7. Detector = Peak
8. Trace = Max hold
9. The trace was allowed to stabilize
10. Measure and record the results in the test report.

Test Setup

Refer to section 2.7.1- Setup 2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.8 Unwanted Emissions

Limits

Spurious emissions are permitted in an of the frequency bands:

MHz	MHz	MHz	MHz	GHz	GHz
0.090 - 0.110	12.29 - 12.293	149.9 - 150.05	1660 - 1710	4.5 - 5.15	14.47 - 14.5
0.495 - 0.505	12.51975 - 12.52025	156.52475 - 156.52525	1718.8 - 1722.2	5.35 - 5.46	15.35 - 16.2
2.1735 - 2.1905	12.5767 - 12.57725	156.7 - 156.9	2200 - 2300	7.25 - 7.75	17.7 - 21.4
4.125 - 128	13.36 - 13.41	162.0125 - 167.17	2310 - 2390	8.025 - 8.5	22.01 - 23.12
4.17725 - 4.17775	16.42 - 16.423	167.72 - 173.2	2483.5 - 2500	9.0 - 9.2	23.6 - 24.0
4.20725 - 4.20775	16.69475 - 16.69525	240 - 285	2655 - 2900	9.3 - 9.5	31.2 - 31.8
6.215 - 6.218	16.80425 - 16.80475	322 - 335.4	3260 - 3267	10.6 - 12.7	36.43 - 36.5
6.26775 - 6.26825	25.5 - 25.67	399.9 - 410	3332 - 3339	13.25 - 13.4	
6.31175 - 6.31225	37.5 - 38.25	608 - 614	3345.8 - 3358		
8.291 - 8.294	73 - 74.6	960 - 1240	3600 - 4400		
8.362 - 8.366	74.8 - 75.2	1300 - 1427			
8.37625 - 8.38675	108 - 121.94	1435 - 1626.5			
8.41425 - 8.41475	123 - 138	1645.5 - 1646.5			

Radiated disturbance of an intentional radiator:

Frequency	Field strength ($\mu\text{V/m}$)	Limit (dB $\mu\text{V/m}$)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	74.0	Peak	3
		54.0	Average	

Un-restricted band emissions above 1GHz limit:

For transmitters operating in the 5.15-5.25 GHz band:

All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band:

All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band:

All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating solely in the 5.725-5.850 GHz band:

All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Test Procedure

ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Section 6.4 & 6.5 & 6.6 & 12.7.
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II.G.3 ~ 6.

Test Settings

1. For radiated emissions measurements performed at frequencies less than or equal to 1GHz, the EUT shall be placed on a RF-transparent table or support at a nominal height of 80cm above the reference ground plane.
2. For radiated emissions measurements performed at frequencies above 1GHz, the EUT shall be placed on a RF-transparent table or support at a nominal height of 80cm above the ground plane.
3. Radiated measurements shall be made with the measurement antenna positioned in both horizontal and vertical polarization. The measurement antenna shall be varied from 1m to 4m in height above the reference ground in a search for the relative positioning that produces the maximum radiated signal level (i.e, field strength or received power), when orienting the measurement antenna in vertical polarization, the minimum height of the lowest element of the antenna shall clear the site reference ground plane by at least 25cm.
4. For each suspected emission, the EUT was ranged its worst case and then tune the antenna tower(from 1~4m) and turntable(from 0~360°) find the maximum reading. Preamplifier and a high pass filter are used for the test in order get better signal level comply with the guidelines.
5. The simulated base station was set to force the EUT to its maximum transmitting power.
6. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
7. spectrum analyzer setting:
Measurements Below 1000MHz: RBW = 120 kHz; VBW ≥ 300 kHz; Detector = Peak
Measurements Above 1000MHz: RBW = 1 MHz; VBW ≥ 3 MHz; Detector = Peak
Average Measurements Above 1000MHz:
RBW = 1 MHz; VBW ≥ 3 MHz; Detector = RMS; Trace (RMS) averaging was performed over at least 100 traces.
8. The field strength is calculated by adding the Antenna Factor, Cable Factor. The basic equation with a sample calculation is as follows:
Level = Reading(dBμV) + Factor(dB):
Factor = Cable Factor(dB) + AF(dB/m) - Preamplifier gain(dB)
AF = Antenna Factor(dB/m)
Margin = Limit(dBμV/m) – Level(dBμV/m)
9. Repeat above procedures until all frequencies measured was complete.
10. Measure and record the results in the test report.

Test Notes

1. Emissions below 18GHz were measured at a 3-meter test distance while emissions above 18GHz were measured at a 1-meter test distance with the application of a distance correction factor.
2. Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. the disturbance between 9kHz to 30MHz and 18GHz to 40GHz was very low. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be recorded, so only the harmonics had been displayed.
3. These frequencies which near "-" should be ignored because they are Fundamental frequency.

Test Setup

Refer to section 2.7.2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

5 Test Setup Photos

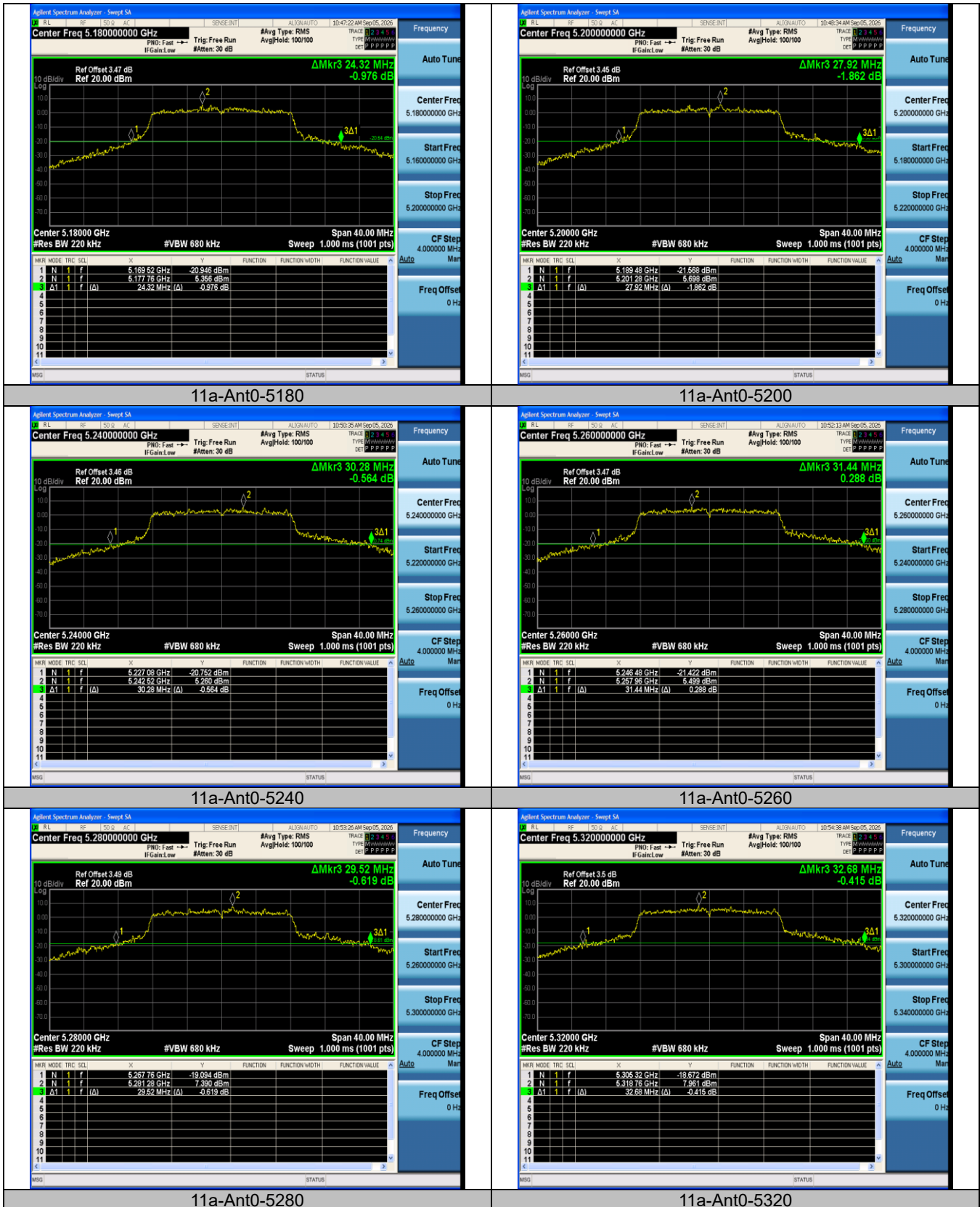
For detailed test setup photos, see **Appendix-E BTWIFI Setup Photos**

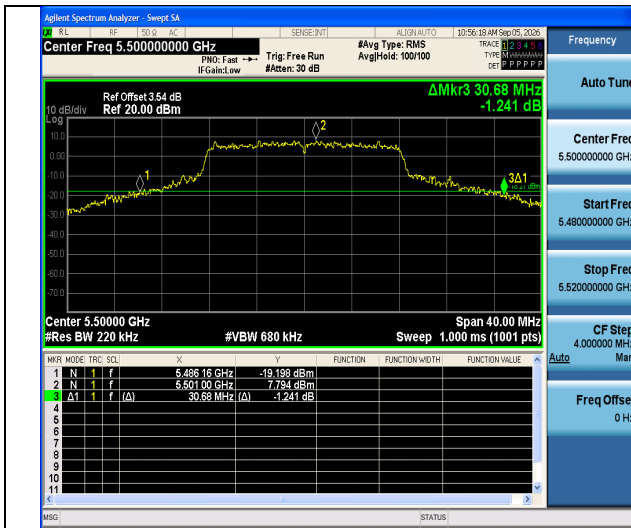
Appendix

Emission Bandwidth Test Result

TestMode	Antenna	Frequency[MHz]	26dB EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11a	Ant0	5180	24.320	5169.520	5193.840	---	---
11a	Ant0	5200	27.920	5189.480	5217.400	---	---
11a	Ant0	5240	30.280	5227.080	5257.360	---	---
11a	Ant0	5260	31.440	5246.480	5277.920	---	---
11a	Ant0	5280	29.520	5267.760	5297.280	---	---
11a	Ant0	5320	32.680	5305.320	5338.000	---	---
11a	Ant0	5500	30.680	5486.160	5516.840	---	---
11a	Ant0	5580	31.400	5565.560	5596.960	---	---
11a	Ant0	5700	32.280	5684.800	5717.080	---	---
11a	Ant0	5745	31.160	5729.880	5761.040	---	---
11a	Ant0	5785	26.240	5772.920	5799.160	---	---
11a	Ant0	5825	24.840	5812.880	5837.720	---	---
11ac20SISO	Ant0	5180	23.560	5168.760	5192.320	---	---
11ac20SISO	Ant0	5200	26.000	5188.960	5214.960	---	---
11ac20SISO	Ant0	5240	27.560	5228.440	5256.000	---	---
11ac20SISO	Ant0	5260	29.560	5247.800	5277.360	---	---
11ac20SISO	Ant0	5280	29.280	5267.080	5296.360	---	---
11ac20SISO	Ant0	5320	30.560	5306.840	5337.400	---	---
11ac20SISO	Ant0	5500	26.080	5488.360	5514.440	---	---
11ac20SISO	Ant0	5580	27.040	5567.680	5594.720	---	---
11ac20SISO	Ant0	5700	30.240	5684.920	5715.160	---	---
11ac20SISO	Ant0	5745	27.040	5731.760	5758.800	---	---
11ac20SISO	Ant0	5785	27.400	5771.520	5798.920	---	---
11ac20SISO	Ant0	5825	25.840	5812.360	5838.200	---	---
11ac40SISO	Ant0	5190	59.280	5168.880	5228.160	---	---
11ac40SISO	Ant0	5230	61.680	5207.360	5269.040	---	---
11ac40SISO	Ant0	5270	69.200	5240.400	5309.600	---	---
11ac40SISO	Ant0	5310	70.720	5279.120	5349.840	---	---
11ac40SISO	Ant0	5510	66.480	5481.280	5547.760	---	---
11ac40SISO	Ant0	5550	68.000	5519.760	5587.760	---	---
11ac40SISO	Ant0	5670	76.400	5632.400	5708.800	---	---
11ac40SISO	Ant0	5755	71.120	5721.720	5792.840	---	---
11ac40SISO	Ant0	5795	61.760	5761.720	5823.480	---	---
11ac80SISO	Ant0	5210	122.560	5167.280	5289.840	---	---
11ac80SISO	Ant0	5290	124.320	5245.680	5370.000	---	---
11ac80SISO	Ant0	5530	120.160	5475.280	5595.440	---	---
11ac80SISO	Ant0	5610	136.160	5550.640	5686.800	---	---
11ac80SISO	Ant0	5775	127.680	5712.920	5840.600	---	---

Test Graphs





11a-Ant0-5500



11a-Ant0-5580



11a-Ant0-5700



11a-Ant0-5745



11a-Ant0-5785



11a-Ant0-5825



11ac20SISO-Ant0-5180



11ac20SISO-Ant0-5200



11ac20SISO-Ant0-5240



11ac20SISO-Ant0-5260



11ac20SISO-Ant0-5280



11ac20SISO-Ant0-5320



11ac20SISO-Ant0-5500



11ac20SISO-Ant0-5580



11ac20SISO-Ant0-5700



11ac20SISO-Ant0-5745



11ac20SISO-Ant0-5785



11ac20SISO-Ant0-5825



11ac40SISO-Ant0-5190



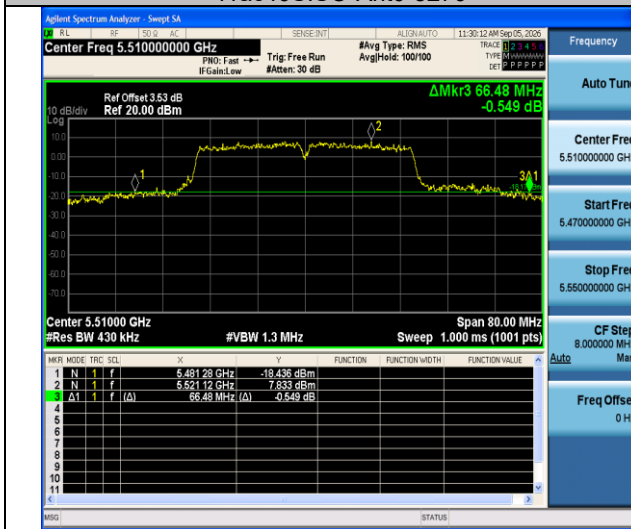
11ac40SISO-Ant0-5230



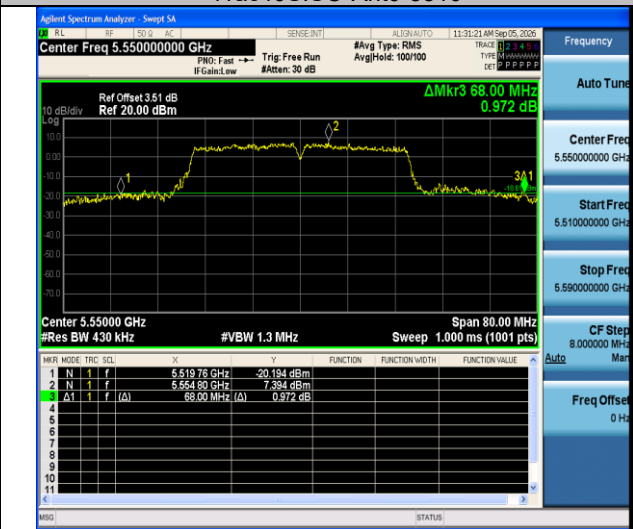
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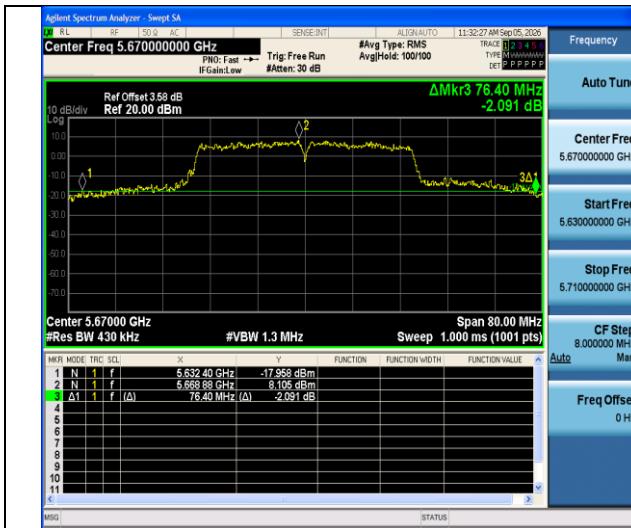
11ac40SISO-Ant0-5310



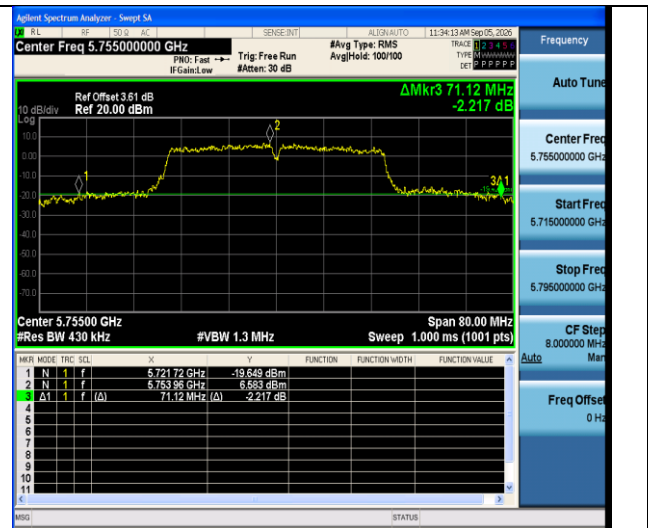
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11ac40SISO-Ant0-5550



11ac40SISO-Ant0-5670



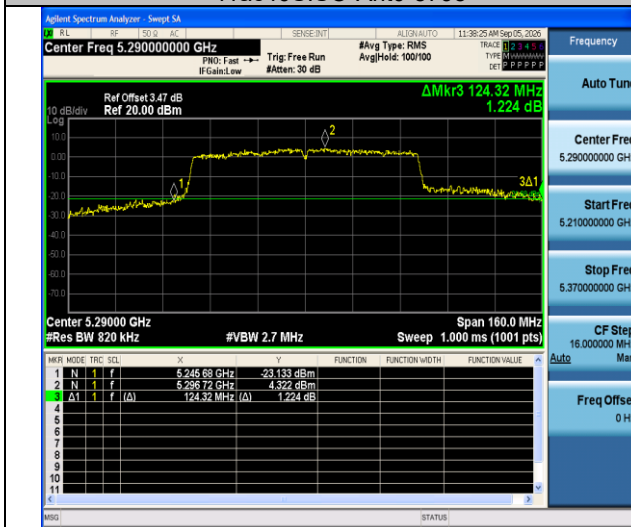
11ac40SISO-Ant0-5755



11ac40SISO-Ant0-5795



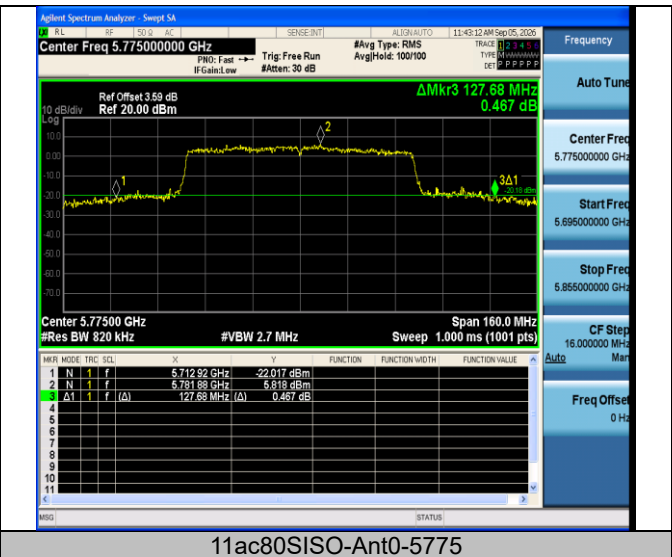
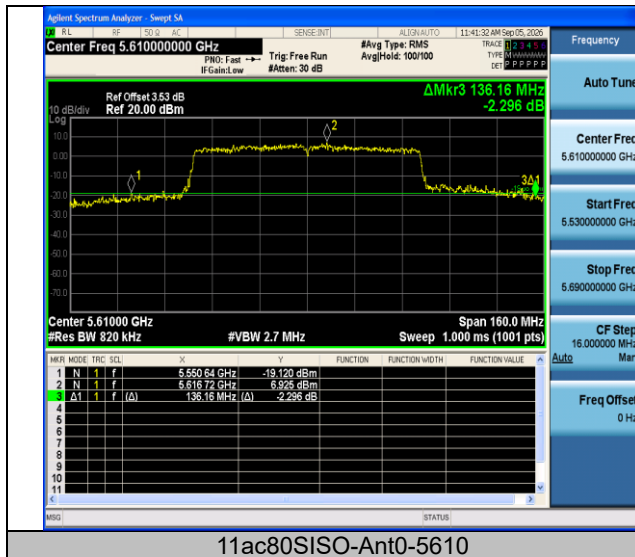
11ac80SISO-Ant0-5210



11ac80SISO-Ant0-5290



11ac80SISO-Ant0-5530



Occupied channel bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11a	Ant0	5180	17.262	5171.5520	5188.8140	---	---
11a	Ant0	5200	18.208	5191.5057	5209.7137	---	---
11a	Ant0	5240	19.355	5231.4445	5250.7995	---	---
11a	Ant0	5260	19.796	5251.3585	5271.1545	---	---
11a	Ant0	5280	20.142	5271.2411	5291.3831	---	---
11a	Ant0	5320	20.752	5311.0099	5331.7619	---	---
11a	Ant0	5500	18.293	5491.2964	5509.5894	---	---
11a	Ant0	5580	18.440	5571.3758	5589.8158	---	---
11a	Ant0	5700	20.318	5690.7092	5711.0272	---	---
11a	Ant0	5745	18.387	5736.1112	5754.4982	---	---
11a	Ant0	5785	17.598	5776.3503	5793.9483	---	---
11a	Ant0	5825	17.220	5816.4512	5833.6712	---	---
11ac20SISO	Ant0	5180	18.186	5171.0033	5189.1893	---	---
11ac20SISO	Ant0	5200	18.409	5191.0107	5209.4197	---	---
11ac20SISO	Ant0	5240	18.889	5230.9923	5249.8813	---	---
11ac20SISO	Ant0	5260	19.350	5250.9400	5270.2900	---	---
11ac20SISO	Ant0	5280	19.412	5270.9094	5290.3214	---	---
11ac20SISO	Ant0	5320	19.925	5310.8253	5330.7503	---	---
11ac20SISO	Ant0	5500	18.641	5490.8728	5509.5138	---	---
11ac20SISO	Ant0	5580	18.772	5570.8918	5589.6638	---	---
11ac20SISO	Ant0	5700	19.920	5690.6393	5710.5593	---	---
11ac20SISO	Ant0	5745	18.796	5735.7918	5754.5878	---	---
11ac20SISO	Ant0	5785	18.427	5775.8851	5794.3121	---	---
11ac20SISO	Ant0	5825	18.256	5815.9118	5834.1678	---	---
11ac40SISO	Ant0	5190	37.219	5171.7136	5208.9326	---	---
11ac40SISO	Ant0	5230	39.179	5211.7512	5250.9302	---	---
11ac40SISO	Ant0	5270	41.230	5251.6567	5292.8867	---	---
11ac40SISO	Ant0	5310	40.124	5291.5885	5331.7125	---	---
11ac40SISO	Ant0	5510	37.074	5491.6317	5528.7057	---	---
11ac40SISO	Ant0	5550	36.990	5531.5910	5568.5810	---	---
11ac40SISO	Ant0	5670	38.276	5651.3824	5689.6584	---	---
11ac40SISO	Ant0	5755	36.992	5736.5217	5773.5137	---	---
11ac40SISO	Ant0	5795	36.675	5776.7328	5813.4078	---	---
11ac80SISO	Ant0	5210	77.238	5172.3399	5249.5779	---	---
11ac80SISO	Ant0	5290	78.779	5252.2105	5330.9895	---	---
11ac80SISO	Ant0	5530	76.298	5491.9005	5568.1985	---	---
11ac80SISO	Ant0	5610	76.729	5571.9233	5648.6523	---	---
11ac80SISO	Ant0	5775	76.481	5736.7272	5813.2082	---	---