TEST REPORT

Applicant:	Sony Corporation
EUT Description:	GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac/ax and NFC and GNSS
Brand:	Sony
FCC ID:	PY7-35087R
Standards:	FCC 47 CFR Part 15 Subpart E
Date of Receipt:	2025/03/07
Date of Test:	2025/03/07 to 2025/05/21 (FCC ID: PY7-63277Y (Lead Model)) 2025/03/07 to 2025/05/28 (FCC ID: PY7-35087R (This Model))
Date of Issue:	2025/05/28

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 sample 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.

ACCREDITED
CERTIFICATE #7088.01

Huang Kun
Approved By:

Chen Chengfu
Reviewed By:

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Revision History

Rev.	Issue Date	Description	Revised by
01	2025/05/28	Original	Chen Chengfu

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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	PASS
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	§5.407(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, KDB 789033 D02 General UNII Test Procedures New Rules v02r01
Remark:
Pass: Refers to FCC ID: PY7-63277Y (Lead Model) data.
PASS*: There is FCC ID: PY7-35087R (This Model) spot check data.

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1 General Description

1.1 Lab Information

1.1.1 Testing Location

These measurements tests were conducted at the Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. Facility located at F401 and F101, Building E, Hongwei Industrial Zone, Liuxian 3rd Road, Bao'an District, Shenzhen, 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. 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:	Sony Corporation
Address:	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan

1.2.2 Manufacturer

Manufacturer:	Sony Corporation
Address:	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan

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1.3 Product Information

EUT Description:	GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac/ax and NFC and GNSS			
Brand:	Sony			
Hardware Version:	A			
Software Version:	0.144 (for RF Conducted, Lead Model) 0.166 (for RSE & AC power line, Lead Model) 0.150 (for RF Conducted & RSE, This Model)			
SN.:	RF Conducted	HQ652G00BA (Lead Model)		
	RSE & AC power line	HQ652D0088 (Lead Model) HQ654900A7 (Lead Model)		
	RF Conducted & RSE	HQ654A02C0 (This Model)		
Modulation Type:	802.11a:	OFDM-BPSK, QPSK, 16QAM, 64QAM		
	802.11n:	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM		
	802.11ac:	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM		
	802.11ax:	OFDM/OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM		
Smart System:	☒SISO	802.11a/n/ac/ax	/	
	☒MIMO	802.11n/ac/ax	(2)TX(2)RX	
	☒CDD	802.11a	(2)TX(2)RX	
EUT Function	☒Client	☐Outdoor AP	☐Indoor AP	☐Fixed P2P AP
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
		Straddle Channel:	5720MHz	1 Channel
	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
		Straddle Channel:	5710MHz	1 Channel
	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
		Straddle Channel:	5690MHz	1 Channel

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	160M BWch.:	U-NII-2A:	5250MHz	1 Channel
		U-NII-2C:	5570MHz	1 Channel
Antenna Type:	PIFA Antenna			
Antenna Gain:	Frequency Range	Ant6 (dBi)	Ant7 (dBi)	
	U-NII-1:	-1.2	-2.4	
	U-NII-2A:	-1.2	-1.7	
	U-NII-2C:	-1.5	-1.2	
	U-NII-3:	-1.3	-1.1	
Remark: The above EUT's information was declared by applicant, please refer to the specifications or user's manual for more detailed description.				

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1.4 Reuse Of Test Data

1.4.1 Introduction

According to the manufacturer the major change between FCC ID: PY7-63277Y (Lead Model), and FCC ID: PY7-35087R (This Model) is changing band configuration by software, The FCC ID: PY7-63277Y (Lead Model) conducted test data shall remain representative of FCC ID: PY7-35087R so, FCC ID: PY7-35087R (This Model) leverages conducted test data from FCC ID: PY7-63277Y (Lead Model).

1.4.2 Device Differences

The equipment under test (EUT) in this filing FCC ID: PY7-35087R (This Model) and the reference device certified under FCC ID: PY7-63277Y (Lead Model) share a common design. The components used for 2.4GHz and 5GHz Wi-Fi and BT and NFC, including antennas and output power are identical between the EUT and reference device.

1.4.3 Spot Check Verification Data

In this filing, the worst-case data and spot checks were tested on the EUT as noted below, against the reference device. All the necessary test cases were performed to verify the variant EUT is still in compliance with the spot checked results to the reference device and was performed using the guidance of ANSI C63.10:2020.

According to 484596 Referencing Test Data v03, Spot checks of the following tests were performed:

Sport check Items	Reference (PY7-63277Y) Worst-case	Variant Test (PY7-35087R)	dB Difference	Spot-Check Parameters	Pass Criterion
Output Power	Avg.*: 11.70dBm	Avg.*: 11.42dBm	Avg.*: d_{dB}=0.28dB	C_{dB}=23.98dBm *Avg.*:* M_{dB}=| C_{dB} - R_{dB} |=12.28dB *Avg.*:* $d_{dBmax}(M_{dB})$=3.61dB	$d_{dB} < d_{dBmax}(M_{dB})$ Pass
Radiated Spurious Emission	5710MHz (Straddle Channel) R_{dB}=47.98dBμV/m	5710MHz (Straddle Channel) V_{dB}=47.1dBμV/m	d_{dB}=0.88dB	C_{dB}=54dBμV/m M_{dB}=| C_{dB} - R_{dB} |=6.02dB $d_{dBmax}(M_{dB})$=3.30dB	$d_{dB} < d_{dBmax}(M_{dB})$ Pass
Radiated Band Edge	5570MHz (802.11ax160, Channel 114) R_{dB}=61.66dBμV/m	5570MHz (802.11ax160, Channel 114) V_{dB}=62.08dBμV/m	d_{dB}=0.42dB	C_{dB}=68.20dBμV/m M_{dB}=| C_{dB} - R_{dB} |=6.54dB $d_{dBmax}(M_{dB})$=3.33dB	$d_{dB} < d_{dBmax}(M_{dB})$ Pass

Note:
R_{dB}: is the corresponding reference measurement level in dB for the lead model.
V_{dB}: is the variant spot-check level in dB.
d_{dB}: is the deviation data.
C_{dB}: is the compliance threshold.
M_{dB}: is the margin in dB from the compliance limit.
d_{dBmax}: is the maximum deviation d_{dB}.

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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	50	5250MHz

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/ax20	The Lowest channel (CH36)	5180MHz
	The Middle channel (CH40)	5200MHz
	The Highest channel (CH48)	5240MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11n40 /ac40/ax40	The Lowest channel (CH38)	5190MHz
	The Highest channel (CH46)	5230MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11 ac80/ax80	The Middle channel (CH42)	5210MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11 ac160/ax160	The Middle channel (CH50)	5250MHz

Frequency Channels for U-NII-2A							
Channel	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**
50	5250MHz	54	5270MHz	58	5290MHz	62	5310MHz
52	5260MHz	56	5280MHz	60	5300MHz	64	5320MHz

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/ax20	The Lowest channel (CH52)	5260MHz
	The Middle channel (CH60)	5300MHz
	The Highest channel (CH64)	5320MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11n40 /ac40/ax40	The Lowest channel (CH54)	5270MHz
	The Highest channel (CH62)	5310MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11 ac80/ax80	The Middle channel (CH58)	5290MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11 ac160/ax160	The Middle channel (CH50)	5250MHz

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Frequency Channels for U-NII-2C							
Channel	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**
100	5500MHz	110	5550MHz	120	5600MHz	132	5660MHz
102	5510MHz	112	5560MHz	122	5610MHz	134	5670MHz
104	5520MHz	114	5570MHz	124	5620MHz	136	5680MHz
106	5530MHz	116	5580MHz	126	5630MHz	140	5700MHz
108	5540MHz	118	5590MHz	128	5640MHz	/	

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/ax20	The Lowest channel (CH100)	5500MHz
	The Middle channel (CH116)	5580MHz
	The Highest channel (CH140)	5700MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11n40 /ac40/ax40	The Lowest channel (CH102)	5510MHz
	The Middle channel (CH118)	5590MHz
	The Highest channel (CH134)	5670MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11 ac80/ax80	The Lowest channel (CH106)	5530MHz
	The Highest channel (CH122)	5610MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11 ac160/ax160	The Middle channel (CH114)	5570MHz

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/ax20	The Lowest channel (CH149)	5745MHz
	The Middle channel (CH157)	5785MHz
	The Highest channel (CH165)	5825MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11n40 /ac40/ax40	The Lowest channel (CH151)	5755MHz
	The Highest channel (CH159)	5795MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11 ac80/ax80	The Middle channel (CH155)	5775MHz

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Straddle Channel		
Modulation Type	**Test Channel**	**Test Frequency**
802.11a/n20 /ac20/ax20	The channel (CH144)	5720MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11n40 /ac40/ax40	The channel (CH142)	5710MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11 ac80/ax80	The channel (CH138)	5690MHz
Modulation Type	**Test Channel**	**Test Frequency**
802.11 ac160/ax160	The channel (CH50)	5250MHz

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2.2 Worst-case configuration and Mode

Modulation Type	SISO - Data Rate	CDD/MIMO(2)TX(2)RX Data Rate
802.11a	6 Mbps	12 Mbps
802.11n20	MCS0 (6.5 Mbps)	MCS0 (13 Mbps)
802.11n40	MCS0 (13.5 Mbps)	MCS0 (27 Mbps)
802.11ac80	MCS0 (29.3 Mbps)	MCS0 (58.6 Mbps)
802.11ac160	MCS0 (58.5 Mbps)	MCS0 (117 Mbps)
802.11ax20	MCS0 (8.6 Mbps)	MCS0 (17.2 Mbps)
802.11ax40	MCS0 (17.2 Mbps)	MCS0 (34.4 Mbps)
802.11ax80	MCS0 (36.0 Mbps)	MCS0 (72.1 Mbps)
802.11ax160	MCS0 (72.1 Mbps)	MCS0 (144.1 Mbps)
Transmitting mode:	Keep the EUT was programmed to be in continuously transmitting mode.	
Normal Link:	Keep the EUT operation to normal function.	

Remark: For 802.11ac20/40 and 802.11ax20/40 mode, the whole testing have assessed only, 802.11ax20/40 by referring to their higher output power.

Test RU Types & Channel Bandwidth:

RU Types	ax20	ax40	ax80	ax160
26-tone RU	26 tone_0 26 tone_8	/	/	/
52-tone RU	52 tone_37 52 tone_40	/	/	/
106-tone RU	106 tone_53 106 tone_54	/	/	/
242-tone RU	/	242 tone 61 242 tone 62	/	/
484-tone RU	/	/	484 tone 65 484 tone 66	/
996-tone RU	/	/	/	996 tone 67 996 tone 68

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2.3 Support Unit used in test

The EUT has been tested as an independent unit.

2.4 Test Environment

Temperature:	Normal: 15℃ ~ 35℃
Humidity:	45 ~ 56 % RH Ambient
Voltage:	DC 3.89V
AC Voltage:	AC 120V/60Hz for Conducted Emissions
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.

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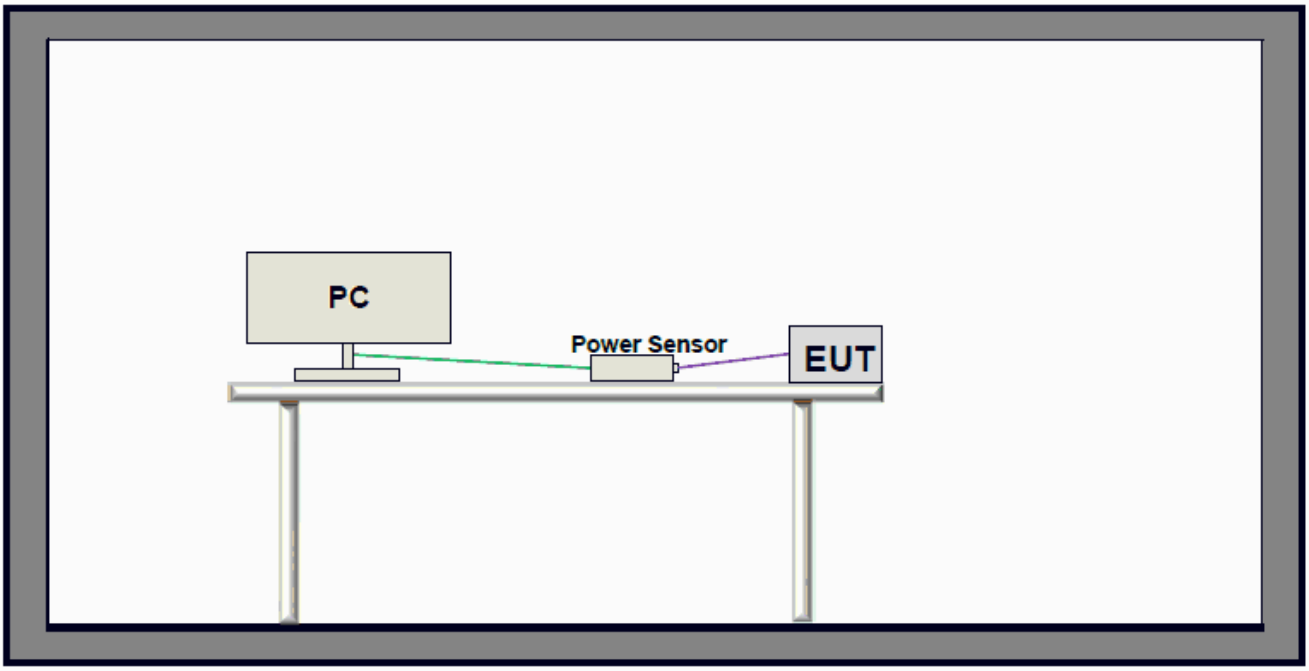
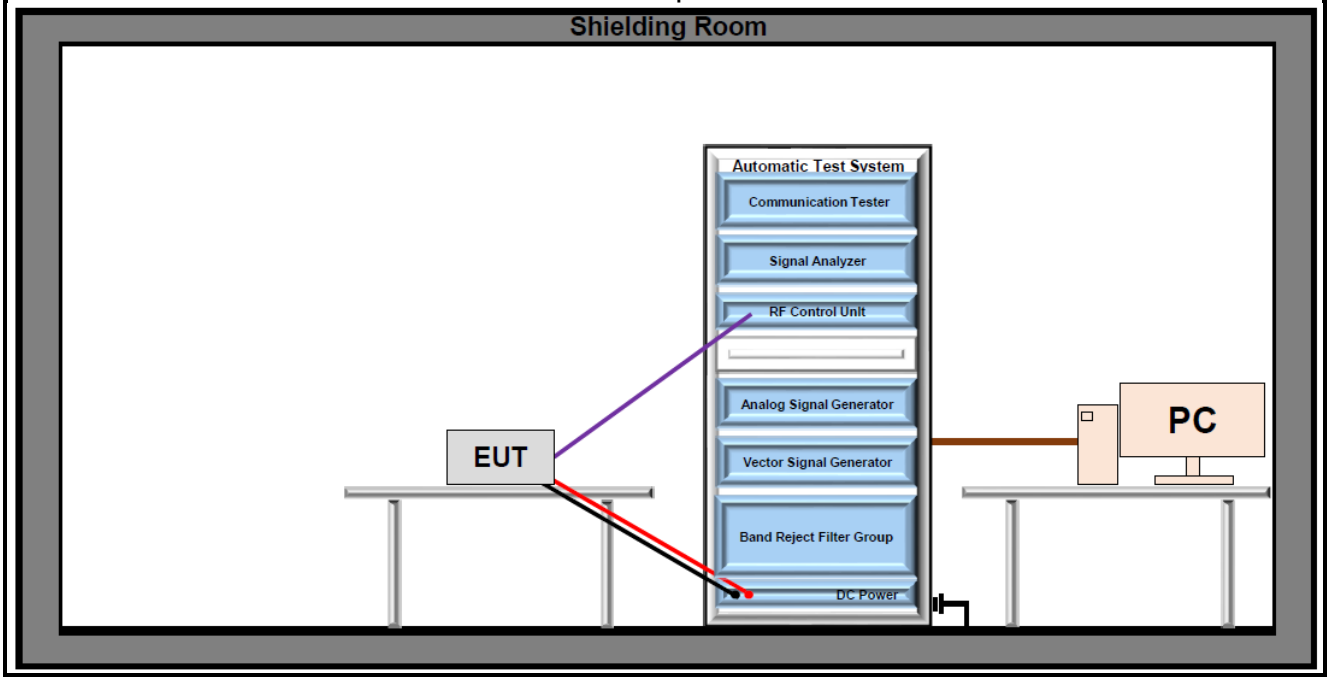
2.7 Test Setup Diagram

2.7.1 Conducted Configuration

Setup 1



Setup 2



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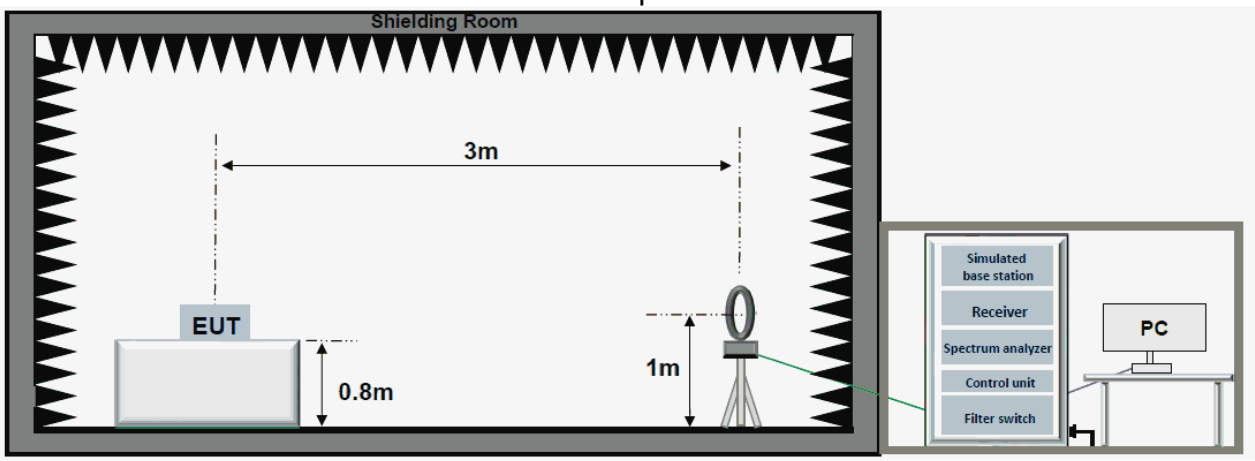
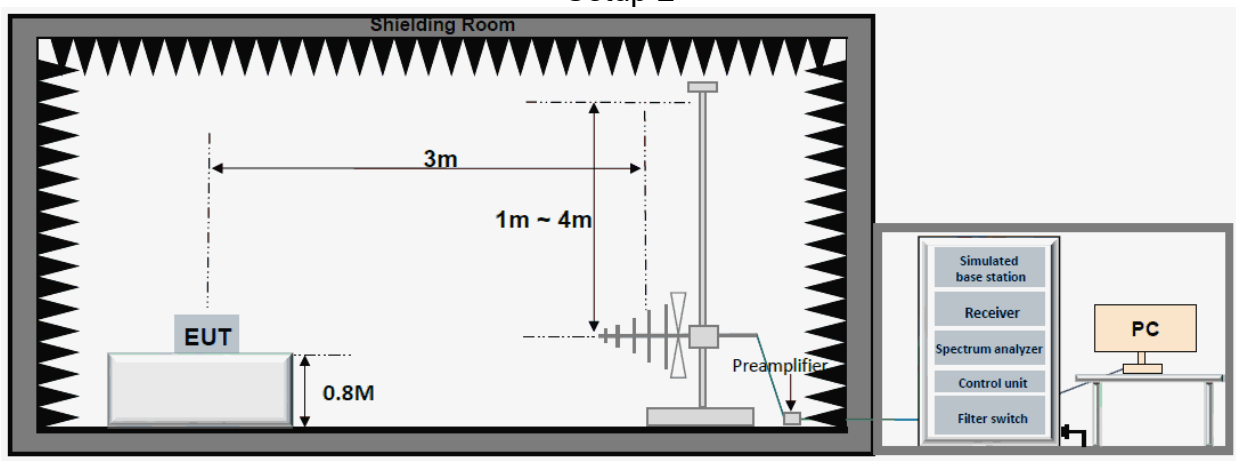
2.7.2 Radiated Configuration

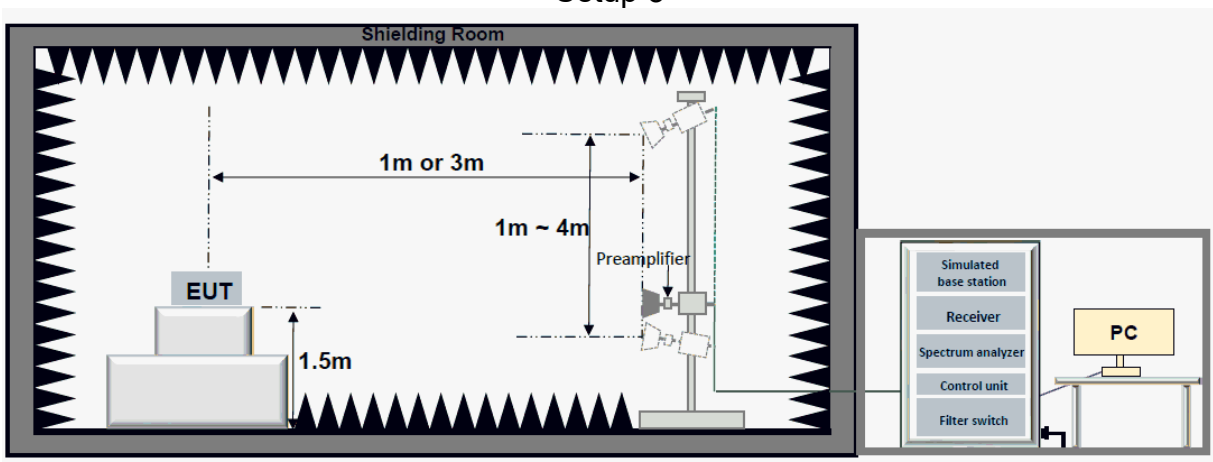
Setup 1



Setup 2



Setup 3



2.8 Accessory

Name	Model	Length (cm)	Shielded (Y/N)	Manufacturer
Adapter	XQZ-UC1	/	/	Sony Corporation
USB Cable	XQZ-UB1	100	Y	Sony Corporation
Earphone	MDR-EX15AP	125	/	Sony Corporation

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Directional gain calculations:

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

If all antennas have the same gain, G_{ANT}, Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

- For power spectral density (PSD) measurements on all devices
  Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB
- For power measurements on IEEE 802.11 devices:
  Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
  Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
  Array Gain = 5 log(N_{ANT}/N_{SS}=1) dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

Unequal antenna gains, with equal transmit powers. For antenna gains given by G1, G2, …, GN dBi

- If transmit signals are correlated, then
  Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] dBi [Note the "20"s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]
- If all transmit signals are completely uncorrelated, then
  Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N_{ANT}$] dBi

The Power and PSD limit should be modified if the directional gain of EUT is over 6dBi.

The EUT supports CDD System.

Transmit signals are completely correlated						
Operation Band	ANT Gain6 (dBi)	ANT Gain7 (dBi)	Directional gain For Power (dBi)	Directional gain For PSD (dBi)	Power Limit Reduction (dBm)	PSD Limit Reduction (dBm)
5150~5250MHz	-1.2	-2.4	-1.2	1.23	0	0
5250~5350MHz	-1.2	-1.7	-1.2	1.56	0	0
5470~5725MHz	-1.5	-1.2	-1.2	1.66	0	0
5725~5850MHz	-1.3	-1.1	-1.1	1.81	0	0

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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	2024/03/25	2025/03/24
				2025/03/14	2026/03/13
Signal Generator	R&S	SMR20	101027	2024/03/25	2025/03/24
				2025/03/11	2026/03/10
Vector Signal Generator	R&S	SMM100A	549353	2024/05/30	2025/05/29
Power Sensor	Anritsu	MA24408A	12520	2024/05/30	2025/05/29
RF Control Unit	Tonscend	JS0806-2	23C80620671	2024/05/30	2025/05/29
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY63440541	2024/05/30	2025/05/29
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**
Biconic Logarithmic Periodic Antennas	Schwarzbeck	VULB9163	1643	2023/06/25	2025/06/24
Double-Ridged Horn Antennas	Schwarzbeck	BBHA 9120D	2809	2023/06/25	2025/06/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	1290	2023/06/25	2025/06/24
Loop Antenna	Schwarzbeck	FMZB 1519C	1519C-028	2023/06/29	2025/06/28
Signal Analyzer	Keysight	N9020A	MY49100252	2024/03/25	2025/03/24
				2025/03/11	2026/03/10
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY63440541	2024/05/30	2025/05/29
Wideband Radio Communication Tester	R&S	CMW500	150645	2024/03/25	2025/03/24
				2025/03/11	2026/03/10
Low Noise Amplifier	Tonscend	TAP9K3G40	AP23A8060273	2023/04/08	2025/04/07
				2025/03/11	2027/03/10
Low Noise Amplifier	Tonscend	TAP01018050	AP22G806258	2023/04/08	2025/04/07
				2025/03/11	2027/03/10
Low Noise Amplifier	Tonscend	TAP18040048	AP22G806247	2023/04/08	2025/04/07
				2025/03/11	2027/03/10
Hygrometer	BINGYU	HTC-1	N/A	2023/06/01	2025/05/31
Band Reject Filter Group	Townshend	JS0806-F	23A806F0652	N/A	N/A
Test Software	Tonscend	TS+	Version: 5.0.0	N/A	N/A

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Conducted Emission					
Description	**Manufacturer**	**Model**	**S.N.**	**Last Due**	**Cal Due**
EMI Tester Receiver	Rohde & Schwarz	ESR3	103108	2024/05/31	2025/05/30
LISN	Rohde & Schwarz	ENV 216	102836	2025/01/04	2026/01/03
Test software	Rohde & Schwarz	ELEKTRA V4.61	N/A	N/A	N/A

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3.2 Measurement Uncertainty

Parameter	U_{lab}
Frequency Error	679.98Hz
Output Power	0.76dB
Conducted Spurious Emissions	2.22dB
Conducted Emissions(150kHz~30MHz)	2.43dB
Radiated Emissions(9kHz~30MHz)	2.40dB
Radiated Emissions(30MHz~1000MHz)	4.66dB
Radiated Emissions(1GHz~18GHz)	5.42dB
Radiated Emissions(18GHz~40GHz)	5.46dB

Uncertainty figures are valid to a confidence level of 95%

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4 Test Results

4.1 Antenna Requirement

Standard Applicable:	47 CFR Part 15C 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 PIFA Antenna. With Antenna gain is 5150 ~ 5250MHz: -1.2dBi(Ant6); -2.4dBi(Ant7); 5250 ~ 5350MHz: -1.2dBi(Ant6); -1.7dBi(Ant7); 5470 ~ 5725MHz: -1.5dBi(Ant6); -1.2dBi(Ant7); 5725 ~ 5850MHz: -1.3dBi(Ant6); -1.1dBi(Ant7); Antenna Anti-Replacement Construction: An embedded-in antenna design is used.	

4.2 Frequency Stability

Standard Applicable:	47 CFR Part 15C 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.	

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4.3 AC Power Line Conducted Emissions

Limits

Frequency range (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

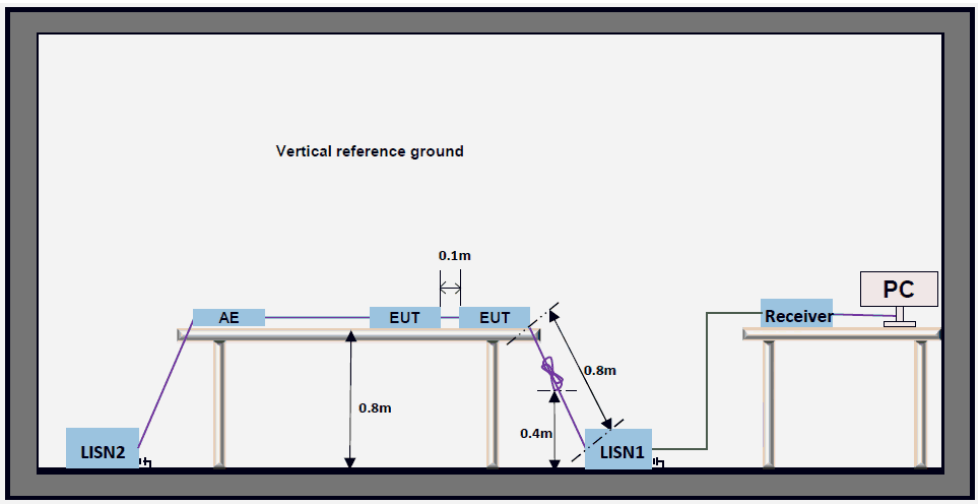
Test Procedure

ANSI C63.10:2020, Section 6.2.

Test Settings

1. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
2. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
3. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
4. Set the test-receiver system to Peak detect function and specified bandwidth (if bandwidth =9kHz) with maximum hod mode. Then measurement is also conducted by average detector and Quasi-Peak detector function respectively
5. Both sides of AC line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Test Setup



Measuring Instruments

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

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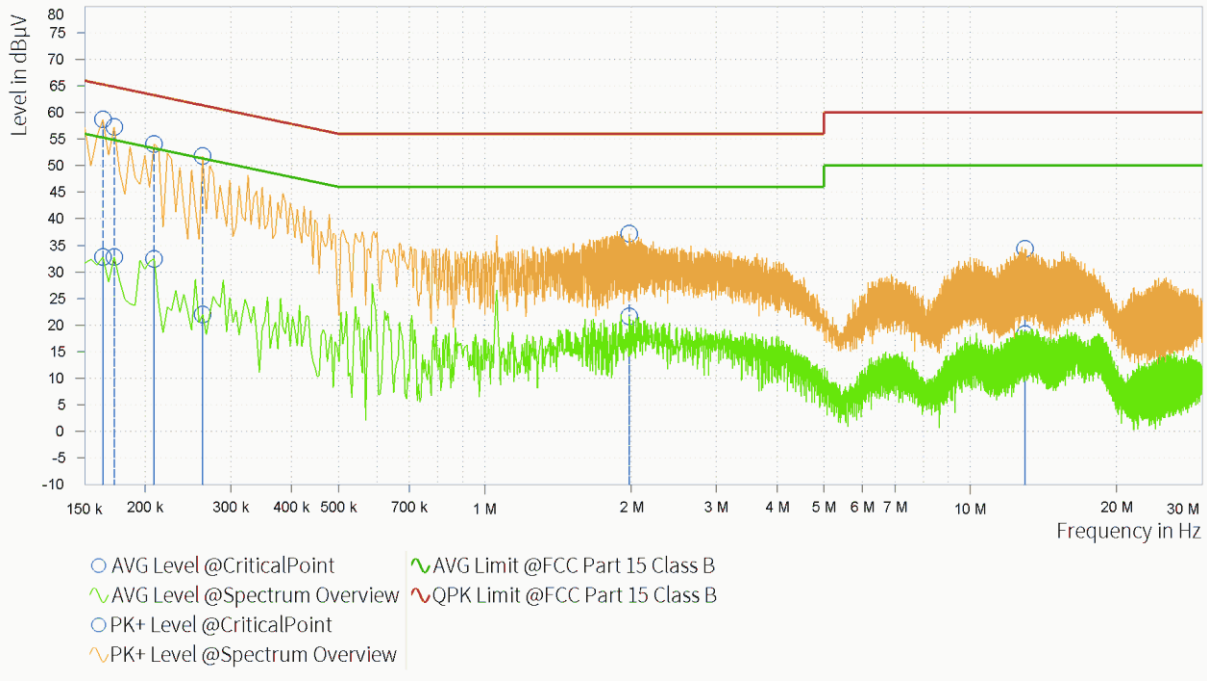
Test Result:

Test mode:	5G WIFI		
Test Voltage:	AC 120V / 60Hz	Phase:	Line



Rg	Frequency [MHz]	PK+ Level [dBµV]	PK+: QPK Limit [dBµV]	PK+ Margin [dB]	AVG Level [dBµV]	AVG Limit [dBµV]	AVG Margin [dB]	Correction [dB]	Line
1	0.164	58.74	65.28	6.54	32.84	55.28	22.44	9.51	L1
2	0.173	57.34	64.84	7.50	32.86	54.84	21.98	9.53	L1
3	0.209	54.12	63.26	9.14	32.46	53.26	20.80	9.54	L1
4	0.263	51.80	61.35	9.55	21.97	51.35	29.38	9.56	L1
5	1.986	37.26	56.00	18.74	21.64	46.00	24.36	9.95	L1
6	12.957	34.29	60.00	25.71	18.28	50.00	31.72	9.90	L1

Note:
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Margin[dB] = Limit[dBµV] - Level[dBµV]

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Test mode:	5G WIFI		
Test Voltage:	AC 120V / 60Hz	Phase:	Neutral

Rg	Frequency [MHz]	PK+ Level [dBµV]	PK+: QPK Limit [dBµV]	PK+ Margin [dB]	AVG Level [dBµV]	AVG Limit [dBµV]	AVG Margin [dB]	Correction [dB]	Line
1	0.155	57.76	65.75	7.99	34.35	55.75	21.40	9.61	N
2	0.168	57.41	65.06	7.65	27.15	55.06	27.91	9.61	N
3	0.182	56.76	64.42	7.66	24.92	54.42	29.50	9.62	N
4	0.204	55.35	63.45	8.10	26.94	53.45	26.51	9.62	N
5	1.829	35.70	56.00	20.30	20.74	46.00	25.26	9.88	N
6	12.561	30.93	60.00	29.07	15.28	50.00	34.72	10.05	N

Note:
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Margin[dB] = Limit[dBµV] - Level[dBµV]

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4.4 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 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.2.b (Other Channel)
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II.E.3.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 attenuator connected to a power meter via wideband power sensor. Peak output power was read directly from power meter.
   Measure and record the results in the test report.
2. SA:
   RBW = 1MHz
   VBW ≥ 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.**

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4.5 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.**

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4.6 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.**

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4.7 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.**

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4.8 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, he 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 ≥ 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.**

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4.9 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 - 1252025	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	1680425 - 1680475	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 (μV/m)	Limit (dBμV/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 Section 6.4 & 6.5 & 6.6.
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II.G.3 ~ 6.

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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 ≥ 1/T, with peak detector for average measurements.
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) + AF(dB/m) + Factor(dB):
   AF = Antenna Factor(dB/m)
   Factor = Cable Factor(dB) - Preamplifier gain(dB)
   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, 30MHz-1GHz 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.**

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5 Test Setup Photos

The detailed test data see: **Appendix-A BTWIFI Setup Photos**

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Appendix

Emission Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	26dB EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11a-CDD	Ant6	5180	18.240	5170.920	5189.160	---	---
11a-CDD	Ant7	5180	18.320	5170.960	5189.280	---	---
11a-CDD	Ant6	5200	18.560	5190.680	5209.240	---	---
11a-CDD	Ant7	5200	18.640	5190.760	5209.400	---	---
11a-CDD	Ant6	5240	19.440	5230.040	5249.480	---	---
11a-CDD	Ant7	5240	18.840	5230.480	5249.320	---	---
11a-CDD	Ant6	5260	18.760	5250.560	5269.320	---	---
11a-CDD	Ant7	5260	18.480	5250.600	5269.080	---	---
11a-CDD	Ant6	5300	18.360	5290.880	5309.240	---	---
11a-CDD	Ant7	5300	18.400	5290.840	5309.240	---	---
11a-CDD	Ant6	5320	19.480	5309.840	5329.320	---	---
11a-CDD	Ant7	5320	18.360	5310.800	5329.160	---	---
11a-CDD	Ant6	5500	18.640	5490.600	5509.240	---	---
11a-CDD	Ant7	5500	24.920	5490.480	5515.400	---	---
11a-CDD	Ant6	5600	18.200	5590.920	5609.120	---	---
11a-CDD	Ant7	5600	18.960	5590.480	5609.440	---	---
11a-CDD	Ant6	5720	18.640	5710.560	5729.200	---	---
11a-CDD	Ant7	5720	18.720	5710.560	5729.280	---	---
11a-CDD	Ant6	5720_UNII-2C	14.44	5710.560	5725	---	---
11a-CDD	Ant7	5720_UNII-2C	14.44	5710.560	5725	---	---
11a-CDD	Ant6	5720_UNII-3	4.2	5725	5729.200	---	---
11a-CDD	Ant7	5720_UNII-3	4.28	5725	5729.280	---	---
11a-CDD	Ant6	5745	18.400	5735.760	5754.160	---	---
11a-CDD	Ant7	5745	18.600	5735.720	5754.320	---	---
11a-CDD	Ant6	5785	18.400	5775.720	5794.120	---	---
11a-CDD	Ant7	5785	18.520	5775.760	5794.280	---	---
11a-CDD	Ant6	5825	18.480	5815.760	5834.240	---	---
11a-CDD	Ant7	5825	18.560	5815.640	5834.200	---	---
11n20MIMO	Ant6	5180	19.480	5170.240	5189.720	---	---
11n20MIMO	Ant7	5180	19.520	5170.240	5189.760	---	---
11n20MIMO	Ant6	5200	19.600	5190.240	5209.840	---	---
11n20MIMO	Ant7	5200	19.160	5190.440	5209.600	---	---
11n20MIMO	Ant6	5240	19.400	5230.360	5249.760	---	---
11n20MIMO	Ant7	5240	19.440	5230.360	5249.800	---	---
11n20MIMO	Ant6	5260	19.440	5250.360	5269.800	---	---
11n20MIMO	Ant7	5260	19.440	5250.160	5269.600	---	---
11n20MIMO	Ant6	5300	19.440	5290.280	5309.720	---	---
11n20MIMO	Ant7	5300	19.440	5290.280	5309.720	---	---
11n20MIMO	Ant6	5320	19.560	5310.240	5329.800	---	---
11n20MIMO	Ant7	5320	19.520	5310.120	5329.640	---	---
11n20MIMO	Ant6	5500	19.800	5490.080	5509.880	---	---
11n20MIMO	Ant7	5500	19.240	5490.360	5509.600	---	---
11n20MIMO	Ant6	5600	19.320	5590.320	5609.640	---	---
11n20MIMO	Ant7	5600	19.320	5590.320	5609.640	---	---
11n20MIMO	Ant6	5720	19.400	5710.280	5729.680	---	---
11n20MIMO	Ant7	5720	19.520	5710.200	5729.720	---	---
11n20MIMO	Ant6	5720_UNII-2C	14.72	5710.280	5725	---	---
11n20MIMO	Ant7	5720_UNII-2C	14.8	5710.200	5725	---	---
11n20MIMO	Ant6	5720_UNII-3	4.68	5725	5729.680	---	---
11n20MIMO	Ant7	5720_UNII-3	4.72	5725	5729.720	---	---
11n20MIMO	Ant6	5745	19.360	5735.280	5754.640	---	---
11n20MIMO	Ant7	5745	19.840	5735.160	5755.000	---	---
11n20MIMO	Ant6	5785	19.400	5775.320	5794.720	---	---
11n20MIMO	Ant7	5785	19.400	5775.320	5794.720	---	---
11n20MIMO	Ant6	5825	19.400	5815.360	5834.760	---	---
11n20MIMO	Ant7	5825	20.080	5814.880	5834.960	---	---

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11n40MIMO	Ant6	5190	39.680	5170.160	5209.840	---	---
11n40MIMO	Ant7	5190	39.680	5170.080	5209.760	---	---
11n40MIMO	Ant6	5230	40.000	5209.920	5249.920	---	---
11n40MIMO	Ant7	5230	39.360	5210.400	5249.760	---	---
11n40MIMO	Ant6	5270	39.760	5250.160	5289.920	---	---
11n40MIMO	Ant7	5270	39.760	5250.000	5289.760	---	---
11n40MIMO	Ant6	5310	39.920	5290.000	5329.920	---	---
11n40MIMO	Ant7	5310	39.840	5290.080	5329.920	---	---
11n40MIMO	Ant6	5510	39.680	5490.240	5529.920	---	---
11n40MIMO	Ant7	5510	39.760	5490.080	5529.840	---	---
11n40MIMO	Ant6	5590	39.840	5570.160	5610.000	---	---
11n40MIMO	Ant7	5590	39.760	5570.080	5609.840	---	---
11n40MIMO	Ant6	5710	40.080	5689.920	5730.000	---	---
11n40MIMO	Ant7	5710	39.760	5690.000	5729.760	---	---
11n40MIMO	Ant6	5710_UNII-2C	35.08	5689.920	5725	---	---
11n40MIMO	Ant7	5710_UNII-2C	35	5690.000	5725	---	---
11n40MIMO	Ant6	5710_UNII-3	5	5725	5730.000	---	---
11n40MIMO	Ant7	5710_UNII-3	4.76	5725	5729.760	---	---
11n40MIMO	Ant6	5755	39.040	5735.560	5774.600	---	---
11n40MIMO	Ant7	5755	39.840	5735.000	5774.840	---	---
11n40MIMO	Ant6	5795	40.000	5775.000	5815.000	---	---
11n40MIMO	Ant7	5795	40.160	5774.600	5814.760	---	---
11ac80MIMO	Ant6	5210	80.800	5169.680	5250.480	---	---
11ac80MIMO	Ant7	5210	80.000	5169.840	5249.840	---	---
11ac80MIMO	Ant6	5290	80.320	5250.000	5330.320	---	---
11ac80MIMO	Ant7	5290	81.440	5249.200	5330.640	---	---
11ac80MIMO	Ant6	5530	80.000	5490.000	5570.000	---	---
11ac80MIMO	Ant7	5530	80.640	5489.680	5570.320	---	---
11ac80MIMO	Ant6	5610	80.960	5569.680	5650.640	---	---
11ac80MIMO	Ant7	5610	79.840	5569.840	5649.680	---	---
11ac80MIMO	Ant6	5690	80.480	5649.840	5730.320	---	---
11ac80MIMO	Ant7	5690	79.680	5650.000	5729.680	---	---
11ac80MIMO	Ant6	5690_UNII-2C	75.16	5649.840	5725	---	---
11ac80MIMO	Ant7	5690_UNII-2C	75	5650.000	5725	---	---
11ac80MIMO	Ant6	5690_UNII-3	5.32	5725	5730.320	---	---
11ac80MIMO	Ant7	5690_UNII-3	4.68	5725	5729.680	---	---
11ac80MIMO	Ant6	5775	80.480	5734.520	5815.000	---	---
11ac80MIMO	Ant7	5775	81.760	5733.560	5815.320	---	---
11ac160MIMO	Ant6	5250	163.520	5168.400	5331.920	---	---
11ac160MIMO	Ant7	5250	164.160	5167.760	5331.920	---	---
11ac160MIMO	Ant6	5250_UNII-1	81.6	5168.400	5250	---	---
11ac160MIMO	Ant7	5250_UNII-1	82.24	5167.760	5250	---	---
11ac160MIMO	Ant6	5250_UNII-2A	81.92	5250	5331.920	---	---
11ac160MIMO	Ant7	5250_UNII-2A	81.92	5250	5331.920	---	---
11ac160MIMO	Ant7	5570	163.200	5488.720	5651.920	---	---
11ac160MIMO	Ant6	5570	164.160	5488.080	5652.240	---	---
11ax20MIMO	Ant6	5180	20.600	5169.680	5190.280	---	---
11ax20MIMO	Ant7	5180	20.600	5169.920	5190.520	---	---
11ax20MIMO	Ant6	5200	20.400	5189.720	5210.120	---	---
11ax20MIMO	Ant7	5200	20.440	5189.840	5210.280	---	---
11ax20MIMO	Ant6	5240	20.560	5229.720	5250.280	---	---
11ax20MIMO	Ant7	5240	20.240	5229.840	5250.080	---	---
11ax20MIMO	Ant6	5260	20.560	5249.840	5270.400	---	---
11ax20MIMO	Ant7	5260	20.440	5249.800	5270.240	---	---
11ax20MIMO	Ant6	5300	20.280	5289.800	5310.080	---	---
11ax20MIMO	Ant7	5300	20.480	5289.800	5310.280	---	---
11ax20MIMO	Ant6	5320	20.400	5309.720	5330.120	---	---
11ax20MIMO	Ant7	5320	20.440	5309.840	5330.280	---	---
11ax20MIMO	Ant6	5500	20.640	5489.680	5510.320	---	---
11ax20MIMO	Ant7	5500	20.360	5489.880	5510.240	---	---
11ax20MIMO	Ant6	5600	20.360	5589.840	5610.200	---	---
11ax20MIMO	Ant7	5600	20.400	5589.840	5610.240	---	---
11ax20MIMO	Ant6	5720	20.400	5709.760	5730.160	---	---
11ax20MIMO	Ant7	5720	20.280	5709.800	5730.080	---	---
11ax20MIMO	Ant6	5720_UNII-2C	15.24	5709.760	5725	---	---
11ax20MIMO	Ant7	5720_UNII-2C	15.2	5709.800	5725	---	---
11ax20MIMO	Ant6	5720_UNII-3	5.16	5725	5730.160	---	---

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11ax20MIMO	Ant7	5720_UNII-3	5.08	5725	5730.080	---	---
11ax20MIMO	Ant6	5745	20.520	5734.600	5755.120	---	---
11ax20MIMO	Ant7	5745	20.360	5734.840	5755.200	---	---
11ax20MIMO	Ant6	5785	20.280	5774.800	5795.080	---	---
11ax20MIMO	Ant7	5785	20.400	5774.880	5795.280	---	---
11ax20MIMO	Ant6	5825	20.320	5814.880	5835.200	---	---
11ax20MIMO	Ant7	5825	20.440	5814.920	5835.360	---	---
11ax40MIMO	Ant6	5190	39.600	5170.320	5209.920	---	---
11ax40MIMO	Ant7	5190	39.680	5170.160	5209.840	---	---
11ax40MIMO	Ant6	5230	40.000	5209.920	5249.920	---	---
11ax40MIMO	Ant7	5230	39.760	5210.080	5249.840	---	---
11ax40MIMO	Ant6	5270	39.680	5250.160	5289.840	---	---
11ax40MIMO	Ant7	5270	40.080	5250.000	5290.080	---	---
11ax40MIMO	Ant6	5310	40.000	5290.000	5330.000	---	---
11ax40MIMO	Ant7	5310	39.840	5290.080	5329.920	---	---
11ax40MIMO	Ant6	5510	39.760	5490.160	5529.920	---	---
11ax40MIMO	Ant7	5510	39.920	5490.160	5530.080	---	---
11ax40MIMO	Ant6	5590	40.320	5569.600	5609.920	---	---
11ax40MIMO	Ant7	5590	39.920	5570.000	5609.920	---	---
11ax40MIMO	Ant6	5710	39.840	5690.080	5729.920	---	---
11ax40MIMO	Ant7	5710	39.760	5690.080	5729.840	---	---
11ax40MIMO	Ant6	5710_UNII-2C	34.92	5690.080	5725	---	---
11ax40MIMO	Ant7	5710_UNII-2C	34.92	5690.080	5725	---	---
11ax40MIMO	Ant6	5710_UNII-3	4.92	5725	5729.920	---	---
11ax40MIMO	Ant7	5710_UNII-3	4.84	5725	5729.840	---	---
11ax40MIMO	Ant6	5755	39.680	5735.160	5774.840	---	---
11ax40MIMO	Ant7	5755	39.920	5735.080	5775.000	---	---
11ax40MIMO	Ant6	5795	39.920	5775.080	5815.000	---	---
11ax40MIMO	Ant7	5795	39.600	5775.320	5814.920	---	---
11ax80MIMO	Ant6	5210	81.120	5169.680	5250.800	---	---
11ax80MIMO	Ant7	5210	80.640	5170.000	5250.640	---	---
11ax80MIMO	Ant6	5290	80.960	5250.000	5330.960	---	---
11ax80MIMO	Ant7	5290	81.120	5249.840	5330.960	---	---
11ax80MIMO	Ant6	5530	80.480	5490.000	5570.480	---	---
11ax80MIMO	Ant7	5530	81.760	5489.040	5570.800	---	---
11ax80MIMO	Ant6	5610	80.800	5569.680	5650.480	---	---
11ax80MIMO	Ant7	5610	80.640	5569.840	5650.480	---	---
11ax80MIMO	Ant6	5690	80.800	5649.680	5730.480	---	---
11ax80MIMO	Ant7	5690	81.120	5649.680	5730.800	---	---
11ax80MIMO	Ant6	5690_UNII-2C	75.32	5649.680	5725	---	---
11ax80MIMO	Ant7	5690_UNII-2C	75.32	5649.680	5725	---	---
11ax80MIMO	Ant6	5690_UNII-3	5.48	5725	5730.480	---	---
11ax80MIMO	Ant7	5690_UNII-3	5.8	5725	5730.800	---	---
11ax80MIMO	Ant6	5775	80.960	5734.520	5815.480	---	---
11ax80MIMO	Ant7	5775	80.480	5734.680	5815.160	---	---
11ax160MIMO	Ant6	5250	163.200	5168.720	5331.920	---	---
11ax160MIMO	Ant7	5250	164.160	5168.400	5332.560	---	---
11ax160MIMO	Ant6	5250_UNII-1	81.28	5168.720	5250	---	---
11ax160MIMO	Ant7	5250_UNII-1	81.6	5168.400	5250	---	---
11ax160MIMO	Ant6	5250_UNII-2A	81.92	5250	5331.920	---	---
11ax160MIMO	Ant7	5250_UNII-2A	82.56	5250	5332.560	---	---
11ax160MIMO	Ant6	5570	164.480	5488.080	5652.560	---	---
11ax160MIMO	Ant7	5570	163.520	5488.720	5652.240	---	---

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Test Graphs

11a-CDD-Ant6-5180

11a-CDD-Ant7-5180

11a-CDD-Ant6-5200

11a-CDD-Ant7-5200

11a-CDD-Ant6-5240

11a-CDD-Ant7-5240

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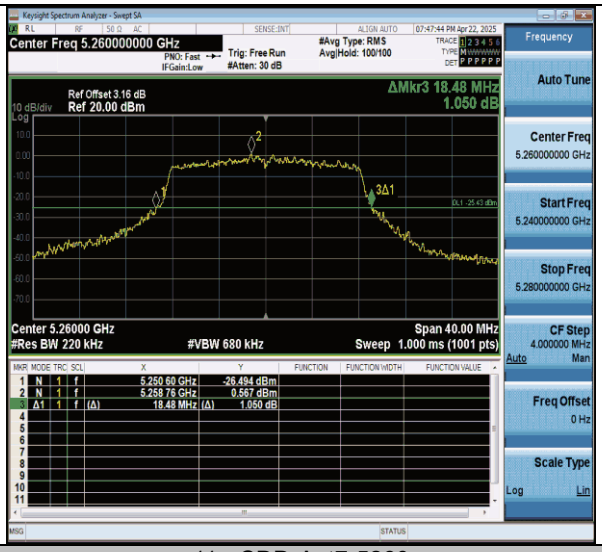
11a-CDD-Ant6-5260



11a-CDD-Ant7-5260

11a-CDD-Ant6-5300

11a-CDD-Ant7-5300

11a-CDD-Ant6-5320

11a-CDD-Ant7-5320

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11a-CDD-Ant6-5500

11a-CDD-Ant7-5500

11a-CDD-Ant6-5600

11a-CDD-Ant7-5600

11a-CDD-Ant6-5720

11a-CDD-Ant7-5720

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11a-CDD-Ant6-5745

11a-CDD-Ant7-5745

11a-CDD-Ant6-5785

11a-CDD-Ant7-5785

11a-CDD-Ant6-5825

11a-CDD-Ant7-5825

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11n20MIMO-Ant6-5180

11n20MIMO-Ant7-5180

11n20MIMO-Ant6-5200

11n20MIMO-Ant7-5200

11n20MIMO-Ant6-5240

11n20MIMO-Ant7-5240

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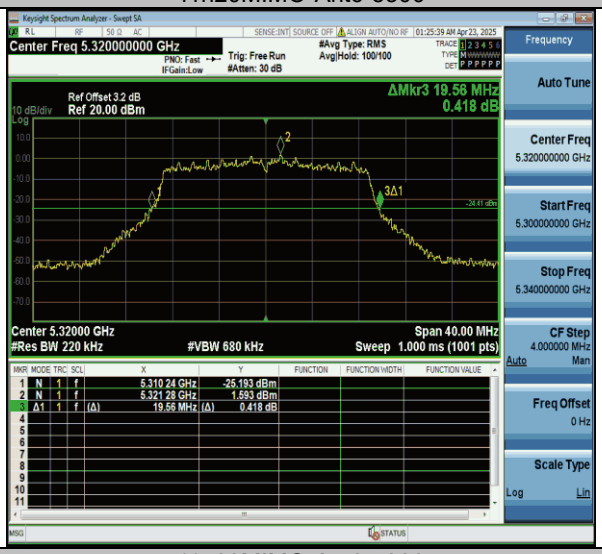
11n20MIMO-Ant6-5260

11n20MIMO-Ant7-5260

11n20MIMO-Ant6-5300

11n20MIMO-Ant7-5300



11n20MIMO-Ant6-5320

11n20MIMO-Ant7-5320

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11n20MIMO-Ant6-5500

11n20MIMO-Ant7-5500

11n20MIMO-Ant6-5600

11n20MIMO-Ant7-5600

11n20MIMO-Ant6-5720

11n20MIMO-Ant7-5720

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11n20MIMO-Ant6-5745

11n20MIMO-Ant7-5745

11n20MIMO-Ant6-5785

11n20MIMO-Ant7-5785

11n20MIMO-Ant6-5825

11n20MIMO-Ant7-5825

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11n40MIMO-Ant6-5190

11n40MIMO-Ant7-5190

11n40MIMO-Ant6-5230

11n40MIMO-Ant7-5230

11n40MIMO-Ant6-5270

11n40MIMO-Ant7-5270

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11n40MIMO-Ant6-5310

11n40MIMO-Ant7-5310

11n40MIMO-Ant6-5510

11n40MIMO-Ant7-5510

11n40MIMO-Ant6-5590

11n40MIMO-Ant7-5590

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11n40MIMO-Ant6-5710

11n40MIMO-Ant7-5710

11n40MIMO-Ant6-5755

11n40MIMO-Ant7-5755

11n40MIMO-Ant6-5795

11n40MIMO-Ant7-5795

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11ac80MIMO-Ant6-5210

11ac80MIMO-Ant7-5210

11ac80MIMO-Ant6-5290

11ac80MIMO-Ant7-5290

11ac80MIMO-Ant6-5530

11ac80MIMO-Ant7-5530

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11ac80MIMO-Ant6-5610

11ac80MIMO-Ant7-5610

11ac80MIMO-Ant6-5690

11ac80MIMO-Ant7-5690

11ac80MIMO-Ant6-5775

11ac80MIMO-Ant7-5775

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11ac160MIMO-Ant6-5250

11ac160MIMO-Ant7-5250

11ac160MIMO-Ant7-5570

11ac160MIMO-Ant6-5570

11ax20MIMO-Ant6-5180

11ax20MIMO-Ant7-5180

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11ax20MIMO-Ant6-5200

11ax20MIMO-Ant7-5200

11ax20MIMO-Ant6-5240

11ax20MIMO-Ant7-5240

11ax20MIMO-Ant6-5260

11ax20MIMO-Ant7-5260

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11ax20MIMO-Ant6-5300

11ax20MIMO-Ant7-5300

11ax20MIMO-Ant6-5320

11ax20MIMO-Ant7-5320

11ax20MIMO-Ant6-5500

11ax20MIMO-Ant7-5500

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11AX20MIMO-Ant6-5600

11ax20MIMO-Ant7-5600

11ax20MIMO-Ant6-5720

11ax20MIMO-Ant7-5720

11ax20MIMO-Ant6-5745

11ax20MIMO-Ant7-5745

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11ax20MIMO-Ant6-5785

11ax20MIMO-Ant7-5785

11ax20MIMO-Ant6-5825

11ax20MIMO-Ant7-5825

11ax40MIMO-Ant6-5190

11ax40MIMO-Ant7-5190

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