Prüfbericht-Nr.: *Test report no.:*	CN21BZ5K(P15E-WiFi) 001	**Auftrags-Nr.:** *Order no.*:	238522264	Seite 1 von 120 *Page 1 of 120*
Kunden-Referenz-Nr.: *Client reference no.:*	N/A	**Auftragsdatum:** *Order date:*	2021-11-10	
Auftraggeber: *Client:*	WatchGuard Technologies, Inc. 505 Fifth Avenue South, Suite 500, Seattle Washington United States 98104			
Prüfgegenstand: *Test item:*	Wireless Access Point			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	AP432			
Auftrags-Inhalt: *Order content*:	FCC Part 15E Test report (WiFi 5GHz)			
Prüfgrundlage: *Test specification:*	FCC 47CFR Part 15: Subpart E Section 15.407			

Wareneingangsdatum: *Date of sample receipt:*	2021-11-11
Prüfmuster-Nr.: *Test sample no:*	A003162916-019, 005 A003162916-001, 004
Prüfzeitraum: *Testing period:*	2021-11-18 - 2021-12-22
Ort der Prüfung: *Place of testing:*	EMC/RF Taipei Testing Site
Prüflaboratorium: *Testing laboratory:*	Taipei Testing Laboratories
Prüfergebnis*: *Test result*:*	Pass

überprüft von: *compiled by:*		**genehmigt von:** authorized by:	
Datum: *Date:* 2021-12-27	Allen Yu	**Ausstellungsdatum:** *Issue date:* 2021-12-27	Brenda Chen
Stellung / *Position:*	Project Manager	**Stellung** / *Position:*	Senior Project Manager

Sonstiges / *Other:*

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt
Condition of the test item at delivery: *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
** Legend:*	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

TEST SUMMARY

Report Section	FCC Clause	Test Item	Result
5.1.1	15.407(a) & 15.203	Antenna Requirement	Pass
5.1.2	15.407(a)	Maximum Conducted Output Power	Pass
5.1.3	15.407(h)(1)	Transmit Power Control (TPC)	Pass
5.1.4	15.407(a)	26 dB Bandwidth	Pass
5.1.4	2.1049	99% Occupied Bandwidth	Pass
5.1.5	15.407(e)	6 dB Bandwidth (U-NII-3 Band only)	Pass
5.1.6	15.407(g)	Frequency Stability	Pass
5.1.7	15.407(a)	Power Spectral Density	Pass
5.1.8	15.407(b) & 15.205 & 15.209	Radiated Spurious Emissions and Band Edges	Pass
5.1.9	15.407(h) & KDB 905462 D02	Dynamic Frequency Selection	Pass
5.2.1	15.207	Mains Conducted Emission	Pass

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Contents

HISTORY OF THIS TEST REPORT

Report No.	Description	Date Issued
CN21BZ5K(P15E-WiFi) 001	Original Release	2021-12-27

1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:
Appendix A - Test Result of Conducted
Appendix B - Test Result of Radiated Emissions & Mains Conducted Emission
Appendix SP - Photographs of Test Setup
Appendix EP - Photographs of EUT

Applied Standard and Test Levels

Radio
FCC 47CFR Part 15: Subpart E Section 15.407
FCC 47CFR Part 2: Subpart J Section 2.1049
ANSI C63.10:2013
KDB 789033 D02 General UNII Test Procedures New Rules v02r01
KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02
KDB 662911 D01 Multiple Transmitter Output v02r01

1.2 Decision Rule of Conformity

The decision rule of conformity of this test report is following the requirements of the requested standard in the quotation, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty, unless it is required by the specific standard.

2. Test Sites

2.1 Test Laboratory

Taipei Testing Laboratories

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

2.2 Test Facility

Taipei Testing Laboratories

No.458-18, Sec. 2, Fenliao Rd., Linkou Dist.,
New Taipei City 244
Taiwan (R.O.C.)
FCC Registration No.: 226631
ISED Registration No.: 25563

2.3 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically in a suitably accredited Calibration Lab. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

All measurement uncertainty values are shown with a coverage factor of k=2 to indicate a 95% level of confidence.

Emission Measurement Uncertainty

Parameter	Uncertainty
Radiated Emission (9 kHz ~ 30 MHz)	± 1.15 dB
Radiated Emission (30 MHz ~ 200 MHz)	± 1.30 dB
Radiated Emission (200 MHz ~ 1 GHz)	± 1.30 dB
Radiated Emission (1 GHz ~ 18 GHz)	± 1.54 dB
Radiated Emission (18 GHz ~ 40 GHz)	± 2.52 dB
Mains Conducted Emission	± 1.65 dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a Wireless Access Point. It contains a WLAN compatible module enabling the user to communicate data through a Wireless interface.
For details refer to the User Guide, Data Sheet and Circuit Diagram.

3.2 System Details and Ratings

Basic Information of EUT

Item	EUT information
Kind of Equipment/Test Item	Wireless Access Point
Type Identification	AP432
FCC ID	Q6G-AP432

Technical Specification of EUT

Item	EUT information	
Operating Frequency	Band 1: 5180 MHz ~ 5240 MHz Band 2: 5260 MHz ~ 5320 MHz Band 3: 5500 MHz ~ 5700 MHz Band 4: 5745 MHz ~ 5825 MHz	
Channel Number	Band 1: 4 for 802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20 2 for 802.11n HT40, 802.11ac VHT40, 802.11ax HE40 1 for 802.11ac VHT80, 802.11ax HE80 Band 2: 4 for 802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20 2 for 802.11n HT40, 802.11ac VHT40, 802.11ax HE40 1 for 802.11ac VHT80, 802.11ax HE80 Band 3: 11for 802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20 5 for 802.11n HT40, 802.11ac VHT40, 802.11ax HE40 2 for 802.11ac VHT80, 802.11ax HE80 Band 4: 5 for 802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20 2 for 802.11n HT40, 802.11ac VHT40, 802.11ax HE40 1 for 802.11ac VHT80, 802.11ax HE80	
Data Rate	802.11a: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to MCS7 802.11ac: up to MCS9 802.11ax: up to MCS11	
Operation Voltage	Adapter: Input: 100~240Vac; Output: 12 Vdc POE: Input: 100~240Vac; Output: 54 Vdc	
Modulation	802.11a, 802.11n HT20, 802.11n HT40: OFDM-BPSK, QPSK, 16QAM, 64QAM 802.11ac VHT20, 802.11ac VHT40, 802.11ac VHT80: OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax HE20, 802.11ax HE40, 802.11ax HE80 OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM	
Maximum Output Power (mW)	CDD Mode	5180 ~ 5240 MHz: 402.18 5260 ~ 5320 MHz: 85.84 5500 ~ 5700 MHz: 79.63 5745 ~ 5825 MHz: 870.52
	Beamforming Mode	5180 ~ 5240 MHz: 100.56 5260 ~ 5320 MHz: 21.46 5500 ~ 5700 MHz: 19.91 5745 ~ 5825 MHz: 153.35
TPC Function	Supported	
Antenna Information	Refer to 5.1.1	
Accessory Device	Refer to 4.4	

3.3 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.4 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The test modes were adapted accordingly in reference to the instructions for use.
During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output expected by the customer and is going to be fixed on the firmware of the final end product.

Table for Parameters of Test Software Setting

802.11a		802.11n HT20		802.11n HT40		802.11ac VHT20		802.11ac VHT40	
Channel	Power Setting	Channel	Power Setting	Channel	Power Setting	Channel	Power Setting	Channel	Power Setting
36	15.5	36	16.5	38	15	36	16.5	38	15
40	16.5	40	16.5	46	19	40	16.5	46	19
48	19.5	48	17	54	12.5	48	17	54	12.5
52	10.5	52	10.5	62	12.5	52	10.5	62	12.5
60	10.5	60	11	102	12	60	11	102	12
64	11	64	11	110	12	64	11	110	12
100	10.5	100	11	134	17	100	11	134	12
116	10.5	116	10.5	151	20.5	116	10.5	151	20.5
140	11	140	11	159	21	140	11	159	21
149	24	149	20			149	20		
157	24	157	20.5			157	20.5		
165	24	165	21			165	21		
802.11ac VHT80		802.11ax HE20		802.11ax HE40		802.11ax HE80			
Channel	Power Setting	Channel	Power Setting	Channel	Power Setting	Channel	Power Setting		
42	15.5	36	16.5	38	15	42	15.5		
58	12.5	40	16.5	46	19	58	12.5		
106	12	48	17	54	12.5	106	12		
122	12	52	10.5	62	12.5	122	12		
155	17.5	60	11	102	12	155	17.5		
		64	11	110	12				
		100	11	134	12				
		116	10.5	151	20.5				
		140	11	159	21				
		149	20						
		157	20.5						
		165	21						

4.2 Carrier Frequency and Channel

Band	Channel	Frequency (MHz)	802.11a 802.11n HT20 802.11ac VHT20 802.11ax HE20	802.11n HT40 802.11ac VHT40 802.11ax HE40	802.11ac VHT80 802.11ax HE80
U-NII-1 (Band 1)	36	5180	V		
	38	5190		V	
	40	5200	V		
	42	5210			V
	44	5220	V		
	46	5230		V	
	48	5240	V		
U-NII-2A (Band 2)	52	5260	V		
	54	5270		V	
	56	5280	V		
	58	5290			V
	60	5300	V		
	62	5310		V	
	64	5320	V		
U-NII-2C (Band 3)	100	5500	V		
	102	5510		V	
	104	5520	V		
	106	5530			V
	108	5540	V		
	110	5550		V	
	112	5560	V		
	116	5580	V		
	118	5590		V	
	120	5600	V		
	122	5610			V
	124	5620	V		
	126	5630		V	
	128	5640	V		
	132	5660	V		
	134	5670		V	
	136	5680	V		
	140	5700	V		
Straddle Channel	138	5690			
	142	5710			
	144	5720			
U-NII-3 (Band 4)	149	5745	V		
	151	5755		V	
	153	5765	V		
	155	5775			V
	157	5785	V		
	159	5795		V	
	161	5805	V		
	165	5825	V		

4.3 Test Operation and Test Software

Setup for testing: Test samples are provided with a USB interface which makes it possible to control them through a test software installed on a notebook computer.
This software was running on the laptop computer connected to the EUT. It was used to enable the operation modes listed as below.

Test Software	QSPR

The samples were used as follows:
A003162916-019, 005 for radiated test
A003162916-001, 004 for conducted test
Full test was applied on all test modes, but only worst case was shown.

The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers.

Modulation Mode	Tx Function
802.11a	4TX (MIMO)
802.11n HT20	4TX (MIMO)
802.11n HT40	4TX (MIMO)
802.11ac VHT20	4TX (MIMO)
802.11ac VHT40	4TX (MIMO)
802.11ac VHT80	4TX (MIMO)
802.11ax HE20	4TX (MIMO)
802.11ax HE40	4TX (MIMO)
802.11ax HE80	4TX (MIMO)

* The modulation and bandwidth are similar for 802.11n mode HT20/HT40, 802.11ac mode VHT20/40/80 and 802.11ax mode HE20/40/80, therefore investigated worse case as representative mode in test report.
** For Beamforming mode, only output power is evaluated and presented in this report.

EUT Configure Mode	Applicable To				Description
	Antenna Port Conducted Measurement	Radiated Spurious Emissions above 1 GHz	Radiated Spurious Emissions below 1 GHz	Mains Conducted Emission	
-	√	√	√	√	-

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when position on X-plane.
2. "-" means no effect.
3. POE Mode had been verified the worst case of Radiated Spurious Emissions and Mains Conducted Emission tests.

Antenna Port Conducted Measurement

☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
CDD	802.11a	5180-5240	36 to 48	36, 40, 48	6.0
		5260-5320	52 to 64	52, 60, 64	
		5500-5700	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11n HT20	5180-5240	36 to 48	36, 40, 48	MCS0
		5260-5320	52 to 64	52, 60, 64	
		5500-5700	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11n HT40	5180-5240	38 to 46	38, 46	
		5260-5320	54 to 62	54, 62	
		5500-5700	102 to 134	102, 110, 134	
		5745-5825	151 to 159	151, 159	
	802.11ac VHT20	5180-5240	36 to 48	36, 40, 48	
		5260-5320	52 to 64	52, 60, 64	NSS1 MCS0
		5500-5700	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11ac VHT40	5180-5240	38 to 46	38, 46	
		5260-5320	54 to 62	54, 62	
		5500-5700	102 to 134	102, 110, 134	
		5745-5825	151 to 159	151, 159	
	802.11ac VHT80	5180-5240	36 to 48	42	
		5260-5320	52 to 64	58	
		5500-5700	100 to 140	106, 122	
		5745-5825	149 to 165	155	
	802.11ax HE20	5180-5240	36 to 48	36, 40, 48	
		5260-5320	52 to 64	52, 60, 64	
		5500-5700	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11ax HE40	5180-5240	38 to 46	38, 46	
		5260-5320	54 to 62	54, 62	
		5500-5700	102 to 134	102, 110, 134	
		5745-5825	151 to 159	151, 159	
	802.11ax HE80	5180-5240	36 to 48	42	
		5260-5320	52 to 64	58	
		5500-5700	100 to 140	106, 122	
		5745-5825	149 to 165	155	

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
BFM	802.11n HT20	5180-5240	36 to 48	36, 40, 48	MCS0
		5260-5320	52 to 64	52, 60, 64	
		5500-5700	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11n HT40	5180-5240	38 to 46	38, 46	
		5260-5320	54 to 62	54, 62	
		5500-5700	102 to 134	102, 110, 134	
		5745-5825	151 to 159	151, 159	
	802.11ac VHT20	5180-5240	36 to 48	36, 40, 48	
		5260-5320	52 to 64	52, 60, 64	NSS1 MCS0
		5500-5700	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11ac VHT40	5180-5240	38 to 46	38, 46	
		5260-5320	54 to 62	54, 62	
		5500-5700	102 to 134	102, 110, 134	
		5745-5825	151 to 159	151, 159	
	802.11ac VHT80	5180-5240	36 to 48	42	
		5260-5320	52 to 64	58	
		5500-5700	100 to 140	106, 122	
		5745-5825	149 to 165	155	
	802.11ax HE20	5180-5240	36 to 48	36, 40, 48	
		5260~5230	52 to 64	52, 60, 64	
		5500-5700	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11ax HE40	5180-5240	38 to 46	38, 46	
		5260-5320	54 to 62	54, 62	
		5500-5700	102 to 134	102, 110, 134	
		5745-5825	151 to 159	151, 159	
	802.11ax HE80	5180-5240	36 to 48	42	
		5260-5320	52 to 64	58	
		5500-5700	100 to 140	106, 122	
		5745-5825	149 to 165	155	

Radiated Spurious Emissions (Above 1 GHz)

☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
Adapter	802.11a	5180-5240	36 to 48	36, 40, 48	6.0
		5260-5320	52 to 64	52, 60, 64	
		5500-5700	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11ax HE20	5180-5240	36 to 48	36, 40, 48	NSS1 MCS0
		5260-5320	52 to 64	52, 60, 64	
		5500-5700	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11ax HE40	5180-5240	38 to 46	38, 46	
		5260-5320	54 to 62	54, 62	
		5500-5700	102 to 134	102, 110, 134	
		5745-5825	151 to 159	151, 159	
	802.11ax HE80	5180-5240	42	42	
		5260-5320	58	58	
		5500-5700	106 to 140	106, 122	
		5745-5825	155	155	
POE	802.11a	5260-5320	52 to 64	64	6.0
		5745-5825	149 to 165	165	
	802.11ax HE40	5180-5240	38 to 46	38	NSS1 MCS0
		5500-5700	102 to 134	134	

Radiated Spurious Emissions (Below 1 GHz)

☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
Adapter	802.11a	5260-5320	52 to 64	64	6.0
		5745-5825	149 to 165	165	
	802.11ax HE40	5180-5240	36 to 48	38	NSS1 MCS0
		5500-5700	100 to 140	134	
POE	802.11a	5260-5320	52 to 64	64	6.0
		5745-5825	149 to 165	165	
	802.11ax HE40	5180-5240	38 to 46	38	NSS1 MCS0
		5500-5700	102 to 134	134	

Mains Conducted Emission Test

☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
Adapter	802.11ax HE40	5180-5240	38 to 46	38	NSS1 MCS0
POE	802.11ax HE40	5180-5240	38 to 46	38	NSS1 MCS0

Test Condition

Test Item	Ambient Temperature	Relative Humidity	Tested by
Conducted Measurement	20.4-22.1 °C	67-75 %	Stanislas Charles
Radiated Spurious Emissions above 1 GHz	22.6-24.3 °C	50-60 %	Hunter Wang
Radiated Spurious Emissions below 1 GHz	22.6-24.3 °C	50-60 %	Hunter Wang
Mains Conducted Emission	23.2-23.9 °C	50-56 %	Hunter Wang

4.4 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

Accessory of EUT

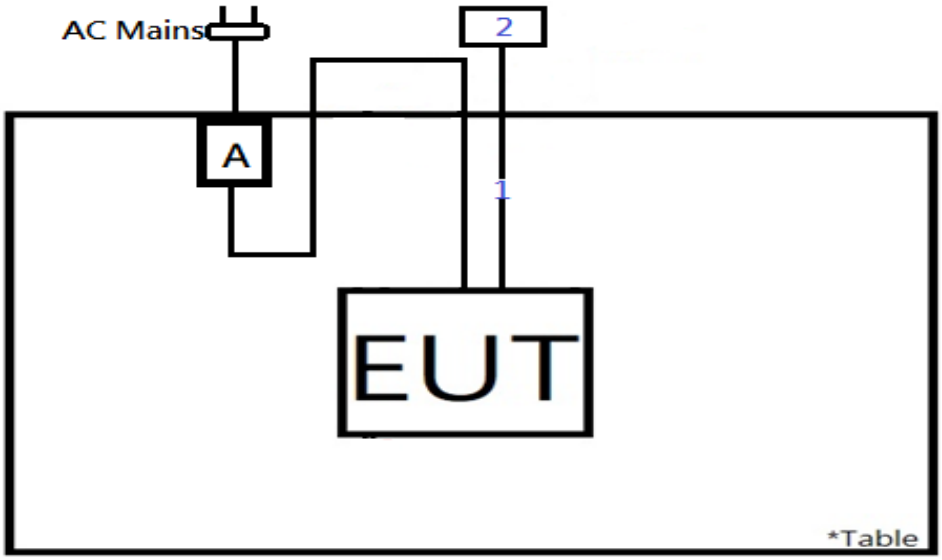
None.

Support Unit

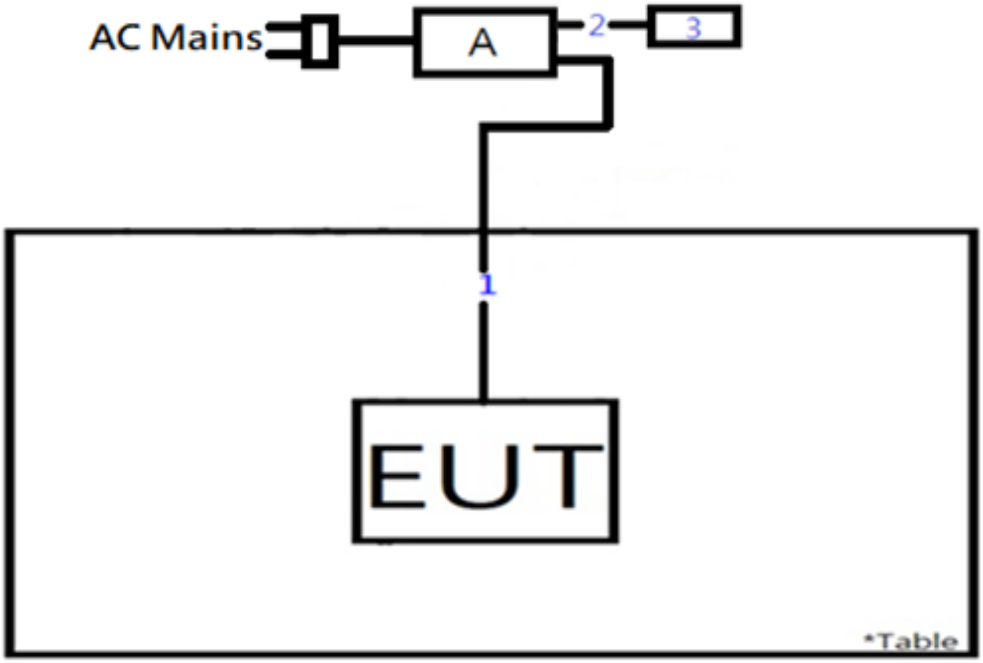
No.	Description	Brand	Model	S/N	Remark
Radiated Test for Adapter Mode					
A	Adapter	Asian Power Devices Inc.	WA-30J12R	-	148 cm non-shielded cable w/o core
1	LAN Cable	TUV-JP	TUV-JP-001	-	300 cm non-shielded cable w/o core
2	Notebook	HP	15s-du0007TX	CND93662VF	-
Radiated Test for Poe Mode					
A	PoE Adapter	QNO	QPE1011G-30W	-	55 cm non-shielded cable w/o core
1	LAN Cable	TUV-JP	TUV-JP-001	-	1000 cm non-shielded cable w/o core
2	LAN Cable	TUV-JP	TUV-JP-001	-	300 cm non-shielded cable w/o core
3	Notebook	HP	15s-du0007TX	CND93662VF	300 cm non-shielded cable w/o core
Mains Conducted Test for Adapter Mode					
A	Adapter	Asian Power Devices Inc.	WA-30J12R	-	148 cm non-shielded cable w/o core
1	LAN Cable	TUV-JP	TUV-JP-001	-	180 m shielded cable with core
2	Notebook	HP	15s-du0007TX	CND93662VF	-
Mains Conducted Test for Poe Mode					
A	PoE Adapter	EPA	EPA5006GAT	-	55 cm non-shielded cable w/o core
1	LAN Cable	TUV-JP	TUV-JP-001	-	120 cm non-shielded cable w/o core
2	LAN Cable	TUV-JP	TUV-JP-001	-	180 cm non-shielded cable w/o core
3	Notebook	HP	15s-du0007TX	CND93662VF	-

4.5 Test Setup Diagram

<Radiated Spurious Emissions, Adapter Mode>



<Radiated Spurious Emissions, POE Mode>



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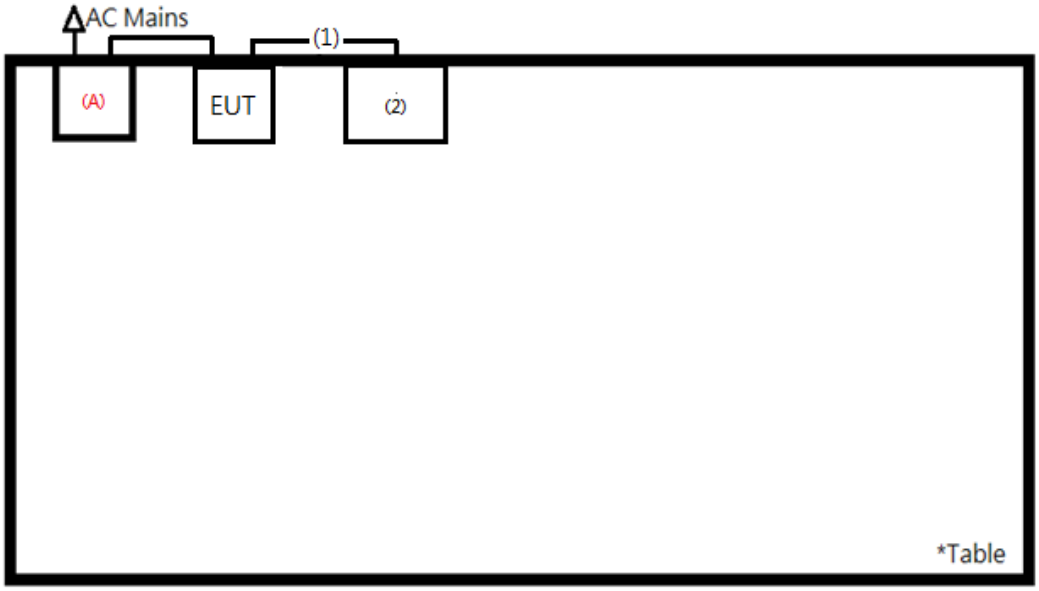
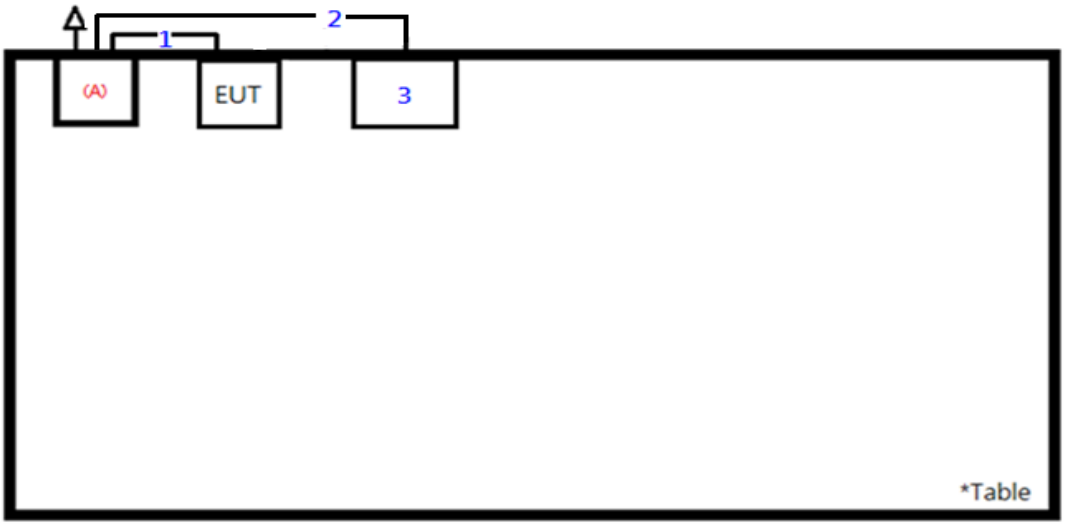


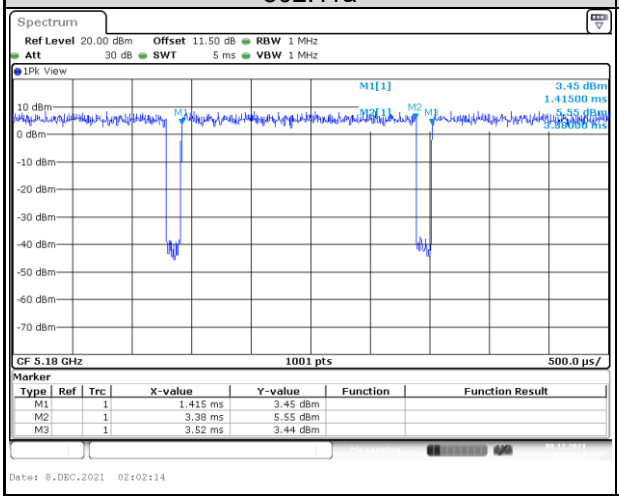
<Mains Conducted Emission, POE Mode>



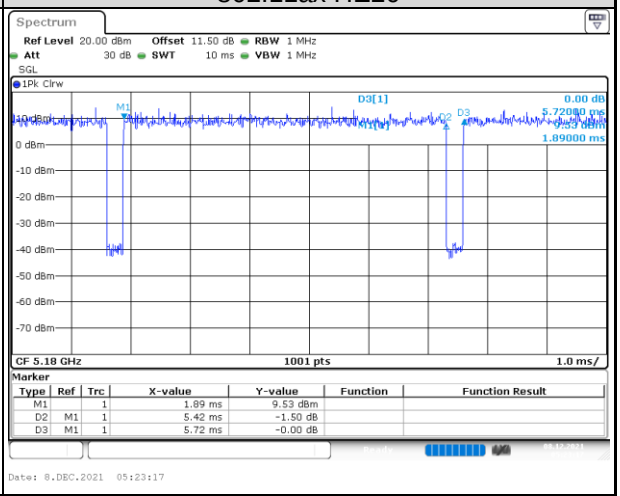
4.6 Duty Cycle of Test Signal

Mode	On + Off Time (ms)	On Time (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11a	3.52	3.38	96.02	0.18
802.11ax HE20	5.72	5.42	94.76	0.23
802.11ax HE40	5.70	5.41	94.91	0.23
802.11ax HE80	5.71	5.40	94.57	0.24

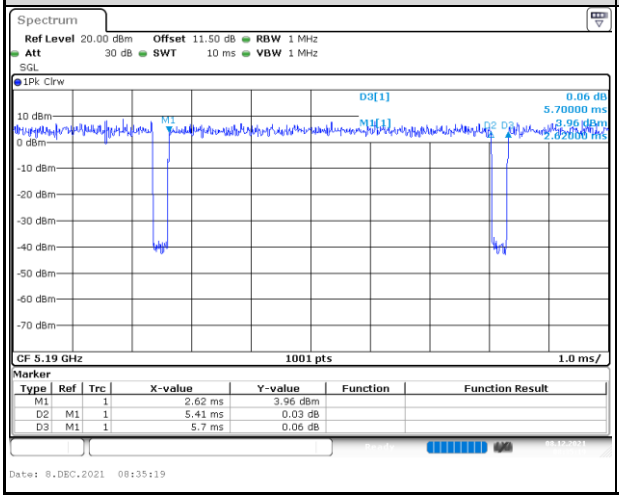
802.11a



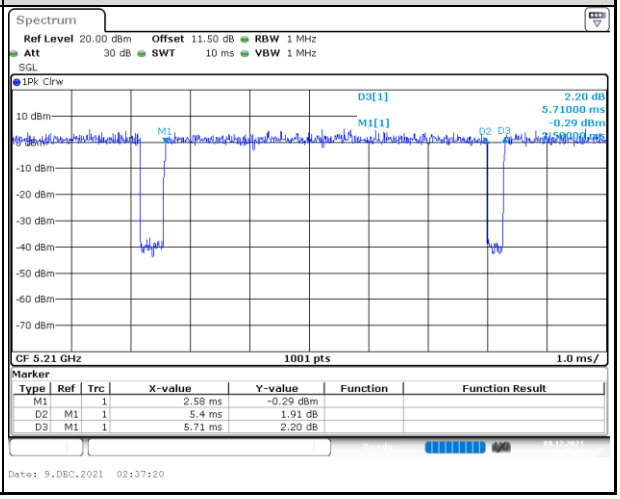
802.11ax HE20



802.11ax HE40



802.11ax HE80



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

Requirement Use of approved antennas only

According to the manufacturer declaration, the EUT's antenna specifications are described as below. The antenna is used with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

ANT	Antenna Type	Gain (dBi)			
		5180~5240 MHz	5260~5320 MHz	5500~5700 MHz	5745~5825 MHz
1	PIFA	5.13	5.13	5.19	5.19
2	PIFA	4.26	4.26	4.26	3.81
3	PIFA	4.03	4.03	4.56	4.56
4	PIFA	5.04	5.04	5.04	5.04
Max Peak Gain		5.13	5.13	5.19	5.19
CDD Mode	Power Directional Gain =	5.13	5.13	5.19	5.19
	PSD Directional Gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}]$ =	10.65	10.65	10.79	10.69
Beamforming Mode	Power Directional Gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}]$ =	10.65	10.65	10.79	10.69
	PSD Directional Gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}]$ =	10.65	10.65	10.79	10.69

Refer to EUT photo for details.

5.1.2 Maximum Conducted Output Power

Limit

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	Fixed point-to-point Access Point	1 Watt (30 dBm)
	Indoor Access Point	1 Watt (30 dBm)
	Mobile and Portable client device	250 mW (24 dBm)
U-NII-2A	---	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C	---	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-3	---	1 Watt (30 dBm)

Note: B* is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement 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}) dB or 3 dB, whichever is less for 20 MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

Kind of Test Site Shielded room

Test Setup

Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Power Meter	Anritsu	ML2495A	1901008	2021/03/24	2022/03/23	2021/11/19	2021/12/21
Power Sensor	Anritsu	MA2411B	1725269	2021/03/24	2022/03/23	2021/11/19	2021/12/21

Test Procedures

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to AVERAGE. Duty factor is not added to measured value.

Test Result, CDD Mode

<802.11a>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
36	5180	15.91	15.74	16.78	16.58	22.30	169.63	30.00
40	5200	17.12	16.81	17.76	17.52	23.34	215.69	30.00
48	5240	19.61	19.19	20.23	19.69	25.72	372.95	30.00
52	5260	11.00	10.67	11.34	11.50	17.16	52.00	23.86
60	5300	10.61	10.34	11.21	11.39	16.93	49.31	23.81
64	5320	11.26	10.80	11.50	11.98	17.43	55.29	23.84
100	5500	10.83	10.45	11.38	11.53	17.09	51.16	23.89
116	5580	10.74	10.46	11.17	11.85	17.11	51.38	23.84
140	5700	11.09	10.87	11.50	11.92	17.38	54.76	23.86
149	5745	23.94	23.35	23.14	23.02	29.40	870.52	30.00
157	5785	23.73	23.28	23.09	23.05	29.32	854.40	30.00
165	5825	23.48	23.14	23.03	22.91	29.17	825.25	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (19.34) = 23.86 dBm < 24 dBm.
2. 11 dBm + 10log (19.10) = 23.81 dBm < 24 dBm.
3. 11 dBm + 10log (19.22) = 23.84 dBm < 24 dBm.
4. 11 dBm + 10log (19.46) = 23.89 dBm < 24 dBm.
5. 11 dBm + 10log (19.22) = 23.84 dBm < 24 dBm.
6. 11 dBm + 10log (19.30) = 23.86 dBm < 24 dBm.

<802.11n HT20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
36	5180	16.92	16.64	17.43	17.52	23.16	207.16	30.00
40	5200	16.85	16.63	17.49	17.54	23.17	207.30	30.00
48	5240	17.39	17.27	17.53	17.81	23.53	225.18	30.00
52	5260	10.50	10.56	11.31	11.44	16.99	50.05	24.00
60	5300	11.34	10.73	11.94	11.89	17.52	56.53	24.00
64	5320	11.23	10.57	11.64	11.75	17.34	54.23	24.00
100	5500	11.01	10.86	11.89	12.11	17.52	56.52	24.00
116	5580	10.64	10.57	11.32	11.70	17.10	51.33	24.00
140	5700	10.96	11.00	11.41	12.11	17.42	55.15	24.00
149	5745	19.94	19.55	20.07	20.58	26.07	404.70	30.00
157	5785	20.06	20.12	20.57	21.04	26.49	445.28	30.00
165	5825	20.54	20.43	21.13	21.48	26.94	493.97	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (20.98) = 24.22 dBm > 24 dBm.
2. 11 dBm + 10log (21.02) = 24.23 dBm > 24 dBm.
3. 11 dBm + 10log (20.70) = 24.16 dBm > 24 dBm.
4. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.
5. 11 dBm + 10log (20.82) = 24.18 dBm > 24 dBm.
6. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.

<802.11n HT40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
38	5190	16.31	16.50	15.74	15.93	22.15	164.10	30.00
46	5230	19.98	19.17	20.48	19.93	25.94	392.23	30.00
54	5270	12.99	12.52	13.33	13.51	19.12	81.74	24.00
62	5310	13.11	12.55	13.28	13.41	19.12	81.66	24.00
102	5510	12.19	12.22	12.75	13.17	18.62	72.82	24.00
110	5550	12.24	12.09	12.70	13.31	18.63	72.98	24.00
134	5670	12.26	12.14	12.46	13.11	18.53	71.28	24.00
151	5755	21.39	21.04	21.86	22.41	27.73	592.42	30.00
159	5795	21.53	21.33	22.03	22.32	27.84	608.26	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
2. 11 dBm + 10log (41.56) = 27.19 dBm > 24 dBm.
3. 11 dBm + 10log (41.40) = 27.17 dBm > 24 dBm.
4. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
5. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.

<802.11ac VHT20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
36	5180	16.81	16.53	17.52	17.43	23.11	204.78	30.00
40	5200	17.11	16.85	17.41	17.39	23.22	209.73	30.00
48	5240	17.53	17.10	17.64	17.56	23.48	223.00	30.00
52	5260	11.02	10.82	11.25	11.35	17.14	51.71	24.00
60	5300	11.33	10.72	12.06	11.88	17.55	56.87	24.00
64	5320	11.12	10.56	11.50	11.66	17.25	53.10	24.00
100	5500	11.00	11.02	11.87	12.11	17.55	56.87	24.00
116	5580	10.51	10.68	11.12	11.81	17.08	51.05	24.00
140	5700	11.18	10.95	11.45	11.94	17.42	55.16	24.00
149	5745	19.90	19.57	20.05	20.61	26.07	404.53	30.00
157	5785	20.38	20.01	20.64	20.97	26.53	450.28	30.00
165	5825	20.63	20.42	21.17	21.36	26.93	493.46	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (20.98) = 24.22 dBm > 24 dBm.
2. 11 dBm + 10log (21.02) = 24.23 dBm > 24 dBm.
3. 11 dBm + 10log (20.70) = 24.16 dBm > 24 dBm.
4. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.
5. 11 dBm + 10log (20.82) = 24.18 dBm > 24 dBm.
6. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.

<802.11ac VHT40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
38	5190	16.02	15.61	16.89	16.57	22.32	170.65	30.00
46	5230	19.93	19.20	20.47	19.89	25.92	390.51	30.00
54	5270	13.11	12.65	13.62	13.46	19.25	84.07	24.00
62	5310	13.22	12.49	13.64	13.63	19.29	84.92	24.00
102	5510	12.83	12.17	13.14	13.39	18.93	78.10	24.00
110	5550	12.89	12.28	13.15	13.41	18.97	78.94	24.00
134	5670	12.60	12.20	12.86	13.22	18.76	75.10	24.00
151	5755	21.14	20.99	21.52	22.43	27.58	572.51	30.00
159	5795	21.44	21.32	21.85	22.36	27.78	600.13	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
2. 11 dBm + 10log (41.56) = 27.19 dBm > 24 dBm.
3. 11 dBm + 10log (41.40) = 27.17 dBm > 24 dBm.
4. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
5. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.

<802.11ac VHT80>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
42	5210	16.04	15.44	16.46	16.32	22.10	162.29	30.00
58	5290	12.85	12.14	13.33	13.27	18.94	78.40	24.00
106	5530	12.47	11.83	12.56	13.15	18.55	71.58	24.00
122	5610	12.29	11.93	12.67	13.16	18.56	71.73	24.00
155	5775	17.86	17.49	18.11	18.37	23.99	250.62	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (82.16) = 30.15 dBm > 24 dBm.
2. 11 dBm + 10log (82.00) = 30.14 dBm > 24 dBm.
3. 11 dBm + 10log (81.84) = 30.13 dBm > 24 dBm.

<802.11ax HE20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
36	5180	17.02	16.73	17.50	17.41	23.20	208.76	30.00
40	5200	17.15	16.61	17.50	17.41	23.20	209.01	30.00
48	5240	17.83	17.41	17.97	18.04	23.84	242.10	30.00
52	5260	10.84	10.62	11.43	11.65	17.18	52.19	24.00
60	5300	11.17	11.20	11.93	11.89	17.58	57.32	24.00
64	5320	11.18	10.89	11.53	12.04	17.45	55.62	24.00
100	5500	11.22	11.03	12.03	12.12	17.65	58.17	24.00
116	5580	10.47	10.73	11.41	11.73	17.14	51.70	24.00
140	5700	11.17	10.92	11.57	11.97	17.45	55.55	24.00
149	5745	20.04	19.63	20.21	20.60	26.15	412.53	30.00
157	5785	20.51	21.11	20.62	21.09	26.86	485.46	30.00
165	5825	20.56	20.49	21.22	21.53	26.99	500.37	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (20.98) = 24.22 dBm > 24 dBm.
2. 11 dBm + 10log (21.02) = 24.23 dBm > 24 dBm.
3. 11 dBm + 10log (20.70) = 24.16 dBm > 24 dBm.
4. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.
5. 11 dBm + 10log (20.82) = 24.18 dBm > 24 dBm.
6. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.

<802.11ax HE40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
38	5190	16.12	15.71	16.94	16.55	22.37	172.78	30.00
46	5230	19.99	19.26	20.67	20.06	26.04	402.18	30.00
54	5270	13.20	12.68	13.76	13.55	19.34	85.84	24.00
62	5310	13.15	12.48	13.69	13.81	19.33	85.79	24.00
102	5510	12.85	12.26	13.12	13.62	19.01	79.63	24.00
110	5550	12.74	12.37	13.06	13.60	18.99	79.19	24.00
134	5670	12.65	12.24	12.87	13.23	18.78	75.56	24.00
151	5755	21.35	21.12	21.97	22.47	27.78	599.88	30.00
159	5795	21.66	21.32	22.10	22.28	27.88	613.30	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
2. 11 dBm + 10log (41.56) = 27.19 dBm > 24 dBm.
3. 11 dBm + 10log (41.40) = 27.17 dBm > 24 dBm.
4. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
5. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.

<802.11ax HE80>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
42	5210	16.23	15.61	16.86	16.59	22.37	172.50	30.00
58	5290	13.05	12.47	13.61	13.49	19.20	83.14	24.00
106	5530	12.84	12.17	13.22	13.34	18.94	78.28	24.00
122	5610	12.62	12.19	13.08	13.52	18.90	77.65	24.00
155	5775	18.12	17.74	18.37	18.67	24.26	266.62	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (82.16) = 30.15 dBm > 24 dBm.
2. 11 dBm + 10log (82.00) = 30.14 dBm > 24 dBm.
3. 11 dBm + 10log (81.84) = 30.13 dBm > 24 dBm.

Test Result, Beamforming Mode

<802.11n HT20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
36	5180	10.90	10.62	11.41	11.50	17.14	51.80	25.35
40	5200	10.83	10.61	11.47	11.52	17.15	51.83	25.35
48	5240	11.37	11.25	11.51	11.79	17.51	56.30	25.35
52	5260	4.48	4.54	5.29	5.42	10.97	12.51	19.35
60	5300	5.32	4.71	5.92	5.87	11.50	14.13	19.35
64	5320	5.21	4.55	5.62	5.73	11.32	13.56	19.35
100	5500	4.99	4.84	5.87	6.09	11.50	14.13	19.21
116	5580	4.62	4.55	5.30	5.68	11.08	12.84	19.21
140	5700	4.94	4.98	5.39	6.09	11.40	13.79	19.21
149	5745	13.92	13.53	14.05	14.56	20.05	101.19	25.31
157	5785	14.04	14.10	14.55	15.02	20.47	111.33	25.31
165	5825	14.52	14.41	15.11	15.46	20.92	123.51	25.31

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (20.98) = 24.22 dBm > 24 dBm.
2. 11 dBm + 10log (21.02) = 24.23 dBm > 24 dBm.
3. 11 dBm + 10log (20.70) = 24.16 dBm > 24 dBm.
4. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.
5. 11 dBm + 10log (20.82) = 24.18 dBm > 24 dBm.
6. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.

<802.11n HT40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
38	5190	10.29	10.48	9.72	9.91	16.13	41.03	25.35
46	5230	13.96	13.15	14.46	13.91	19.92	98.07	25.35
54	5270	6.97	6.50	7.31	7.49	13.10	20.44	19.35
62	5310	7.09	6.53	7.26	7.39	13.10	20.42	19.35
102	5510	6.17	6.20	6.73	7.15	12.60	18.21	19.21
110	5550	6.22	6.07	6.68	7.29	12.61	18.25	19.21
134	5670	6.24	6.12	6.44	7.09	12.51	17.82	19.21
151	5755	15.37	15.02	15.84	16.39	21.71	148.13	25.31
159	5795	15.51	15.31	16.01	16.30	21.82	152.09	25.31

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
2. 11 dBm + 10log (41.56) = 27.19 dBm > 24 dBm.
3. 11 dBm + 10log (41.40) = 27.17 dBm > 24 dBm.
4. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
5. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
6. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.

<802.11ac VHT20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
38	5190	10.00	9.59	10.87	10.55	17.09	51.20	25.35
46	5230	13.91	13.18	14.45	13.87	17.20	52.44	25.35
54	5270	7.09	6.63	7.60	7.44	17.46	55.76	25.35
62	5310	7.20	6.47	7.62	7.61	11.12	12.93	19.35
102	5510	6.81	6.15	7.12	7.37	11.53	14.22	19.35
110	5550	6.87	6.26	7.13	7.39	11.23	13.28	19.35
134	5670	6.58	6.18	6.84	7.20	11.53	14.22	19.21
151	5755	15.12	14.97	15.50	16.41	11.06	12.77	19.21
159	5795	15.42	15.30	15.83	16.34	11.40	13.79	19.21
38	5190	10.00	9.59	10.87	10.55	20.05	101.15	25.31
46	5230	13.91	13.18	14.45	13.87	20.51	112.59	25.31
54	5270	7.09	6.63	7.60	7.44	20.91	123.38	25.31

Note:
For U-NII-2A, U-NII-2C Band:
Ant 1
1. 11 dBm + 10log (20.98) = 24.22 dBm > 24 dBm.
2. 11 dBm + 10log (21.02) = 24.23 dBm > 24 dBm.
3. 11 dBm + 10log (20.70) = 24.16 dBm > 24 dBm.
4. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.
5. 11 dBm + 10log (20.82) = 24.18 dBm > 24 dBm.
6. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.

<802.11ac VHT40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
38	5190	10.00	9.59	10.87	10.55	16.30	42.67	25.35
46	5230	13.91	13.18	14.45	13.87	19.90	97.64	25.35
54	5270	7.09	6.63	7.60	7.44	13.23	21.02	19.35
62	5310	7.20	6.47	7.62	7.61	13.27	21.23	19.35
102	5510	6.81	6.15	7.12	7.37	12.91	19.53	19.21
110	5550	6.87	6.26	7.13	7.39	12.95	19.74	19.21
134	5670	6.58	6.18	6.84	7.20	12.74	18.78	19.21
151	5755	15.12	14.97	15.50	16.41	21.56	143.15	25.31
159	5795	15.42	15.30	15.83	16.34	21.76	150.05	25.31

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
2. 11 dBm + 10log (41.56) = 27.19 dBm > 24 dBm.
3. 11 dBm + 10log (41.40) = 27.17 dBm > 24 dBm.
4. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
5. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.

<802.11ac VHT80>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
42	5210	10.02	9.42	10.44	10.30	16.08	40.58	25.35
58	5290	6.83	6.12	7.31	7.25	12.92	19.60	19.35
106	5530	6.45	5.81	6.54	7.13	12.53	17.90	19.21
122	5610	6.27	5.91	6.65	7.14	12.54	17.94	19.21
155	5775	11.84	11.47	12.09	12.35	17.97	62.66	25.31

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (82.16) = 30.15 dBm > 24 dBm.
2. 11 dBm + 10log (82.00) = 30.14 dBm > 24 dBm.
3. 11 dBm + 10log (81.84) = 30.13 dBm > 24 dBm.

<802.11ax HE20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
36	5180	11.00	10.71	11.48	11.39	17.18	52.20	25.35
40	5200	11.13	10.59	11.48	11.39	17.18	52.26	25.35
48	5240	11.81	11.39	11.95	12.02	17.82	60.53	25.35
52	5260	4.82	4.60	5.41	5.63	11.16	13.05	19.35
60	5300	5.15	5.18	5.91	5.87	11.56	14.33	19.35
64	5320	5.16	4.87	5.51	6.02	11.43	13.91	19.35
100	5500	5.20	5.01	6.01	6.10	11.63	14.54	19.21
116	5580	4.45	4.71	5.39	5.71	11.12	12.93	19.21
140	5700	5.15	4.90	5.55	5.95	11.43	13.89	19.21
149	5745	14.02	13.61	14.19	14.58	20.13	103.15	25.31
157	5785	14.49	15.09	14.60	15.07	20.84	121.38	25.31
165	5825	14.54	14.47	15.20	15.51	20.97	125.11	25.31

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (20.98) = 24.22 dBm > 24 dBm.
2. 11 dBm + 10log (21.02) = 24.23 dBm > 24 dBm.
3. 11 dBm + 10log (20.70) = 24.16 dBm > 24 dBm.
4. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.
5. 11 dBm + 10log (20.82) = 24.18 dBm > 24 dBm.
6. 11 dBm + 10log (20.90) = 24.20 dBm > 24 dBm.

<802.11ax HE40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
38	5190	10.10	9.69	10.92	10.53	16.35	43.20	25.35
46	5230	13.97	13.24	14.65	14.04	20.02	100.56	25.35
54	5270	7.18	6.66	7.74	7.53	13.32	21.46	19.35
62	5310	7.13	6.46	7.67	7.79	13.31	21.45	19.35
102	5510	6.83	6.24	7.10	7.60	12.99	19.91	19.21
110	5550	6.72	6.35	7.04	7.58	12.97	19.80	19.21
134	5670	6.63	6.22	6.85	7.21	12.76	18.89	19.21
151	5755	15.33	15.10	15.95	16.45	21.76	149.99	25.31
159	5795	15.64	15.30	16.08	16.26	21.86	153.35	25.31

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
2. 11 dBm + 10log (41.56) = 27.19 dBm > 24 dBm.
3. 11 dBm + 10log (41.40) = 27.17 dBm > 24 dBm.
4. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.
5. 11 dBm + 10log (41.64) = 27.19 dBm > 24 dBm.

<802.11ax HE80>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
42	5210	10.21	9.59	10.84	10.57	16.35	43.13	25.35
58	5290	7.03	6.45	7.59	7.47	13.18	20.79	19.35
106	5530	6.82	6.15	7.20	7.32	12.92	19.57	19.21
122	5610	6.60	6.17	7.06	7.50	12.88	19.42	19.21
155	5775	12.10	11.72	12.35	12.65	18.24	66.66	25.31

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (82.16) = 30.15 dBm > 24 dBm.
2. 11 dBm + 10log (82.00) = 30.14 dBm > 24 dBm.
3. 11 dBm + 10log (81.84) = 30.13 dBm > 24 dBm.

5.1.3 Transmit Power Control (TPC)

Requirement U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall emply a TPC mechanism. The U-NII device is required to have capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p of less than 500 mW.

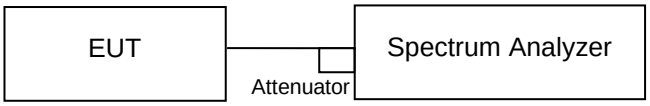
Maximum EIRP of this device is 279.67mW which less than 500mW, therefor it's not require TPC function.

TPC	E.I.R.P	15.407(h)(1)
	> 500mW	The TPC mechanism is required for system with an E.I.R.P. of above 500mW
V	< 500mW	-

5.1.4 26 dB Bandwidth and 99% Occupied Bandwidth

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV40	101512	2021/01/29	2022/01/28	2021/12/08	2021/12/21

Test Procedure

a. Set RBW = approximately 1% of the emission bandwidth.
b. Set the VBW > RBW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
f. For 99% Bandwidth Measurement, the transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to PEAK. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean power of a given emission.

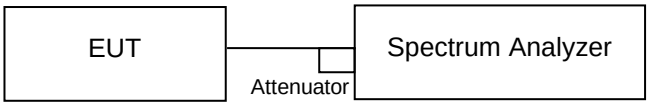
Test Results

Please refer to Appendix A

5.1.5 6 dB Bandwidth (5725-5850MHz)

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV40	101512	2021/01/29	2022/01/28	2021/12/21	2021/12/21

Test Procedure

MEASUREMENT PROCEDURE REF

a. Set resolution bandwidth (RBW) = 100 kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

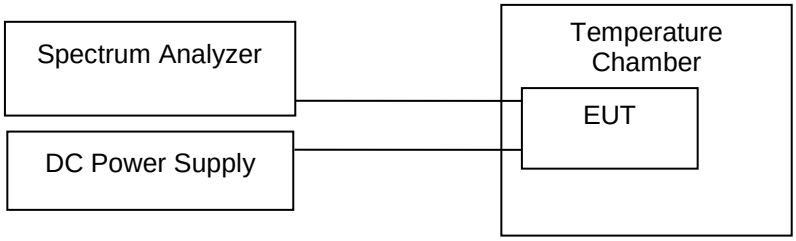
Test Results

Please refer to Appendix A.

5.1.6 Frequency Stability Measurement

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV40	101512	2021/01/29	2022/01/28	2021/11/19	2021/12/21

Test Procedure

a. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.

b. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.

c. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

Test Results

<Chain 0, U-NII-1>

Frequency (MHz)	5200			
Voltage (V)	Measurement Frequency (MHz)			Deviation (ppm)
132	5199.95861			7.960
120	5199.95861			7.960
108	5199.95861			7.960
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5199.92764	5199.92764	5199.92764	5199.92764
30	5199.94096	5199.94096	5199.94096	5199.94096
20	5199.95861	5199.95861	5199.95861	5199.95861
10	5199.97742	5199.97742	5199.97742	5199.97742
0	5199.99768	5199.99768	5199.99768	5199.99768
Max. Deviation (ppm)	13.915	14.415	14.862	14.862

<Chain 0, U-NII-2>

Frequency (MHz)	5300			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5299.95774			7.974
120	5299.95774			7.974
108	5299.95774			7.974
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5299.92619	5299.92619	5299.92619	5299.92619
30	5299.9398	5299.9398	5299.9398	5299.9398
20	5299.95774	5299.95774	5299.95774	5299.95774
10	5299.97685	5299.97685	5299.97685	5299.97685
0	5299.99768	5299.9974	5299.9974	5299.9974
Max. Deviation (ppm)	14.909	14.909	14.909	14.909

<Chain 0, U-NII-2C>

Frequency (MHz)	5580			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5579.95543			7.987
120	5579.95543			7.987
108	5579.95543			7.987
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5579.92243	5579.92243	5579.92243	5579.92243
30	5579.93661	5579.93661	5579.93661	5579.93661
20	5579.95543	5579.95543	5579.95543	5579.95543
10	5579.9754	5579.9754	5579.9754	5579.9754
0	5579.99711	5579.99711	5579.99711	5579.99711
Max. Deviation (ppm)	15.919	15.919	15.919	15.919

<Chain 0, U-NII-3>

Frequency (MHz)	5785			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5784.95369			8.005
120	5784.9644			6.154
108	5784.95369			8.005
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5784.91954	5784.91954	5784.91954	5784.91954
30	5784.9343	5784.9343	5784.93401	5784.9343
20	5784.9644	5784.96237	5784.95861	5784.9563
10	5784.97424	5784.97424	5784.97453	5784.97453
0	5784.99711	5784.99682	5784.99711	5784.99682
Max. Deviation (ppm)	16.164	16.164	16.164	16.164

<Chain 1, U-NII-1>

Frequency (MHz)	5200			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5199.95861			7.960
120	5199.95861			7.960
108	5199.95861			7.960
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5199.92764	5199.92764	5199.92764	5199.92764
30	5199.94124	5199.94096	5199.94124	5199.94096
20	5199.95861	5199.95861	5199.95861	5199.95861
10	5199.97742	5199.97742	5199.97742	5199.97742
0	5199.99768	5199.99768	5199.99768	5199.99768
Max. Deviation (ppm)	14.862	14.862	14.862	14.862

<Chain 1, U-NII-2>

Frequency (MHz)	5300			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5299.95774			7.974
120	5299.95774			7.974
108	5299.95774			7.974
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5299.92619	5299.92619	5299.92619	5299.92619
30	5299.9398	5299.9398	5299.9398	5299.9398
20	5299.95774	5299.95774	5299.95774	5299.95774
10	5299.97685	5299.97685	5299.97685	5299.97685
0	5299.9974	5299.9974	5299.9974	5299.9974
Max. Deviation (ppm)	14.909	14.855	14.855	14.855

<Chain 1, U-NII-2C>

Frequency (MHz)	5580			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5579.95543			7.987
120	5579.95543			7.987
108	5579.95543			7.987
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5579.92359	5579.92301	5579.92301	5579.92214
30	5579.93661	5579.93661	5579.93661	5579.93661
20	5579.95543	5579.95543	5579.95543	5579.95543
10	5579.9754	5579.9754	5579.9754	5579.9754
0	5579.99711	5579.99711	5579.99711	5579.99711
Max. Deviation (ppm)	15.919	15.919	15.919	15.919

<Chain 1, U-NII-3>

Frequency (MHz)	5785			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5784.95369			8.005
120	5784.95601			7.604
108	5784.95369			8.005
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5784.91954	5784.91954	5784.91954	5784.91954
30	5784.9343	5784.93401	5784.93401	5784.93401
20	5784.95601	5784.95514	5784.95456	5784.95398
10	5784.97424	5784.97424	5784.97424	5784.97424
0	5784.99682	5784.99682	5784.99711	5784.99682
Max. Deviation (ppm)	16.164	16.164	16.164	16.164

<Chain 2, U-NII-1>

Frequency (MHz)	5200			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5199.96411			6.902
120	5199.97221			5.344
108	5199.96816			6.123
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5199.92764	5199.92764	5199.92764	5199.92764
30	5199.94182	5199.94153	5199.94124	5199.94124
20	5199.97221	5199.96151	5199.95977	5199.95919
10	5199.97742	5199.97742	5199.97742	5199.97742
0	5199.99768	5199.99768	5199.99768	5199.99768
Max. Deviation (ppm)	14.806	14.862	14.862	14.862

<Chain 2, U-NII-2>

Frequency (MHz)	5300			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5299.95774			7.974
120	5299.95774			7.974
108	5299.95774			7.974
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5299.9259	5299.92619	5299.92619	5299.92619
30	5299.9398	5299.9398	5299.9398	5299.9398
20	5299.95774	5299.95774	5299.95774	5299.95774
10	5299.97685	5299.97685	5299.97685	5299.97685
0	5299.9974	5299.9974	5299.9974	5299.9974
Max. Deviation (ppm)	14.855	14.855	14.855	14.855

<Chain 2, U-NII-2C>

Frequency (MHz)	5580			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5579.95543			7.987
120	5579.95543			7.987
108	5579.95543			7.987
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5579.92214	5579.92243	5579.92214	5579.92214
30	5579.93661	5579.93661	5579.93661	5579.93661
20	5579.95543	5579.95543	5579.95543	5579.95543
10	5579.9754	5579.9754	5579.9754	5579.9754
0	5579.99711	5579.99711	5579.99711	5579.99711
Max. Deviation (ppm)	15.919	15.919	15.919	15.919

<Chain 2, U-NII-3>

Frequency (MHz)	5785			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5784.95369			8.005
120	5784.95398			6.154
108	5784.95369			8.005
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5784.92012	5784.91983	5784.91954	5784.91954
30	5784.93401	5784.9343	5784.93401	5784.93401
20	5784.95398	5784.95398	5784.95398	5784.95369
10	5784.97482	5784.97482	5784.97453	5784.97453
0	5784.99219	5784.99305	5784.99363	5784.9945
Max. Deviation (ppm)	16.164	16.164	16.164	16.164

<Chain 3, U-NII-1>

Frequency (MHz)	5200			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5199.95919			7.848
120	5199.95919			7.848
108	5199.95919			7.848
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5199.92764	5199.92764	5199.92764	5199.92764
30	5199.94385	5199.94327	5199.94269	5199.94182
20	5199.95919	5199.9589	5199.95861	5199.95861
10	5199.97742	5199.97742	5199.97742	5199.97742
0	5199.99768	5199.99797	5199.99797	5199.99768
Max. Deviation (ppm)	14.304	14.471	14.750	14.806

<Chain 3, U-NII-2>

Frequency (MHz)	5300			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5299.95774			7.974
120	5299.95774			7.974
108	5299.95774			7.974
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5299.9259	5299.9259	5299.92619	5299.92619
30	5299.9398	5299.9398	5299.9398	5299.9398
20	5299.95774	5299.95774	5299.95774	5299.95774
10	5299.97685	5299.97685	5299.97685	5299.97685
0	5299.9974	5299.9974	5299.9974	5299.9974
Max. Deviation (ppm)	14.855	14.855	14.855	14.855

<Chain 3, U-NII-2C>

Frequency (MHz)	5580			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5579.95543			7.987
120	5579.95543			7.987
108	5579.95543			7.987
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5579.92214	5579.92214	5579.92214	5579.92214
30	5579.93661	5579.93661	5579.93661	5579.93661
20	5579.95543	5579.95543	5579.95543	5579.95543
10	5579.9754	5579.97569	5579.97569	5579.9754
0	5579.9974	5579.9974	5579.99711	5579.99711
Max. Deviation (ppm)	15.919	15.919	15.919	15.919

<Chain 3, U-NII-3>

Frequency (MHz)	5785			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
132	5784.95369			8.005
120	5784.95369			6.154
108	5784.95369			8.005
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
40	5784.92069	5784.92069	5784.92012	5784.92012
30	5784.93401	5784.93401	5784.93401	5784.93401
20	5784.95369	5784.95369	5784.95369	5784.95369
10	5784.97627	5784.97598	5784.97569	5784.97482
0	5784.9945	5784.9945	5784.99479	5784.99508
Max. Deviation (ppm)	16.164	16.164	16.164	16.164

5.1.7 Power Spectral Density

Limit

For the 5.15~5.25GHz Bands:
For mobile and portable client devices in the 5.15~5.25GHz band, the Maximum Power spectral density shall not exceed 11dBm/MHz. For an indoor access point operating in the band 5.15~5.25GHz, the maximum power spectral density shall not exceed 17dBm/MHz.

For the 5.25~5.35GHz Bands:

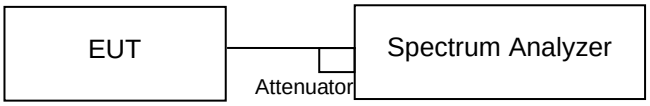
a) The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.
b) All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text “for indoor use only.”

For the 5.47~5.725GHz Bands:
The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

For the 5.745~5.85GHz Bands:
The maximum power spectral density shall not exceed 30dBm/500kHz.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV40	101512	2021/01/29	2022/01/28	2021/12/08	2021/12/21

Test Procedure

For U-NII-1, U-NII-2A, U-NII-2C band:
Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

※For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 500 kHz, Set VBW ≥ 3 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
4. Sweep time = auto, trigger set to “free run”.
5. Trace average at least 100 traces in power averaging mode.
6. Record the max value and add 10 log (1/duty cycle)

For MIMO mode, calculation method follows FCC KDB 662911 Method 2) a) of power density measurement using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Test Results

Please refer to Appendix A

5.1.8 Radiated Spurious Emissions

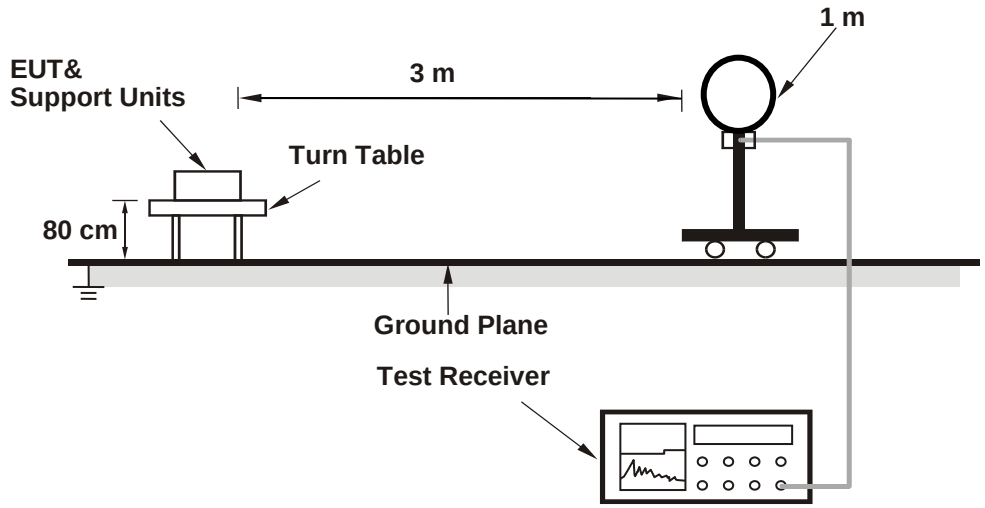
Limit

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).
Emissions radiated outside the restricted and authorized frequency bands must either comply with the radiated emission limits specified for the restricted bands or in §15.407(b).

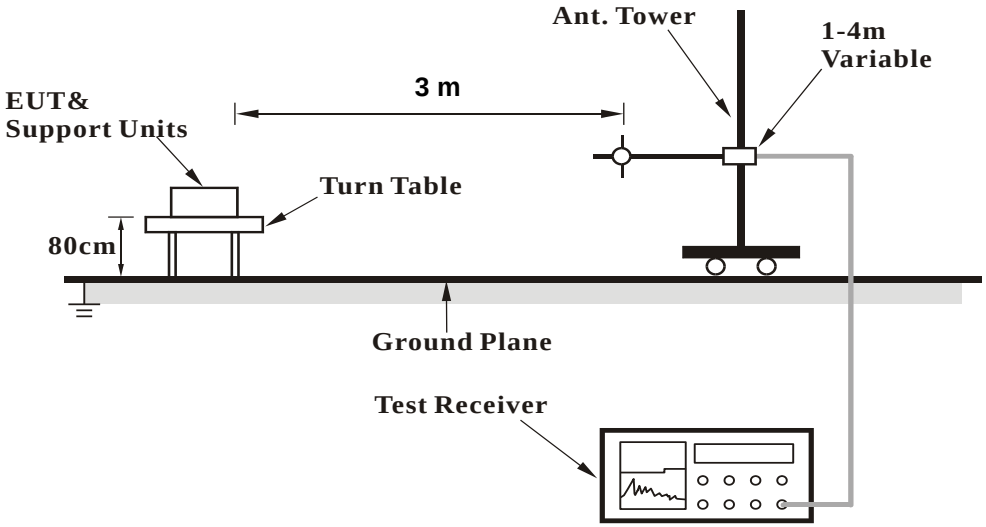
Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup

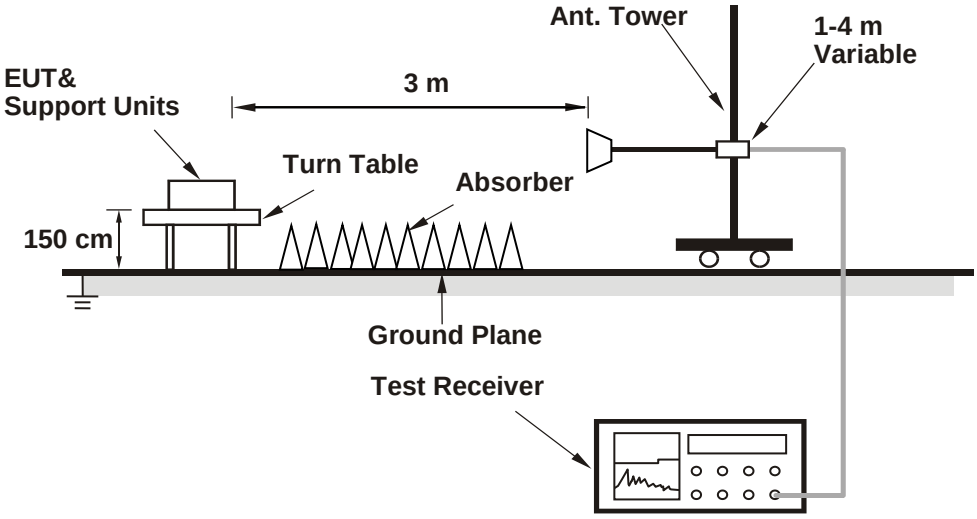
<Radiated Emissions below 30 MHz>



<Radiated Emissions 30 MHz to 1 GHz>



<Radiated Emissions above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Receiver	R&S	ESR7	102109	2021/03/16	2022/03/15
Signal Analyzer	R&S	FSV40	101508	2021/03/16	2022/03/15
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2021/02/18	2022/02/17
Horn Antenna	ETS-Lindgren	3117	00218929	2021/11/25	2022/11/24
Horn Antenna	SCHWARZBECK	BBHA 9170	00887	2021/04/08	2022/04/07
LF-AMP	Agilent	8447D	2944A10772	2021/02/18	2022/02/17
HF-AMP + AC source	EMCI	EMC051845SE	980633	2021/02/09	2022/02/08
HF-AMP + AC source	EMCI	EMC184045SE	980657	2021/02/01	2022/01/31
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104EA	800056/4EA	2021/03/17	2022/03/16
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104	804680/4	2021/03/17	2022/03/16
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104	MY37202/4	2021/03/17	2022/03/16
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	800898/2EA	2021/04/16	2022/04/15
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	800901/2EA	2021/04/16	2022/04/15
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	801027/2EA	2021/04/16	2022/04/15
Loop Antenna	SCHWARZBECK	FMZB1519B	00215	2021/12/08	2022/12/07

Test Procedures

For Radiated Emissions below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. Parallel (OPEN), perpendicular (CLOSE), and ground-parallel (GROUND) orientations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated Emissions above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98 %) or 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The Radiated Emissions testing was performed in the X(E1), Y(H) and Z(E2) axis orientation. The worst-case Axis orientation is recorded in this test report.

Test Results

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

Please refer to Appendix B.

5.1.9 Dynamic Frequency Selection

Limit

<DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection>

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

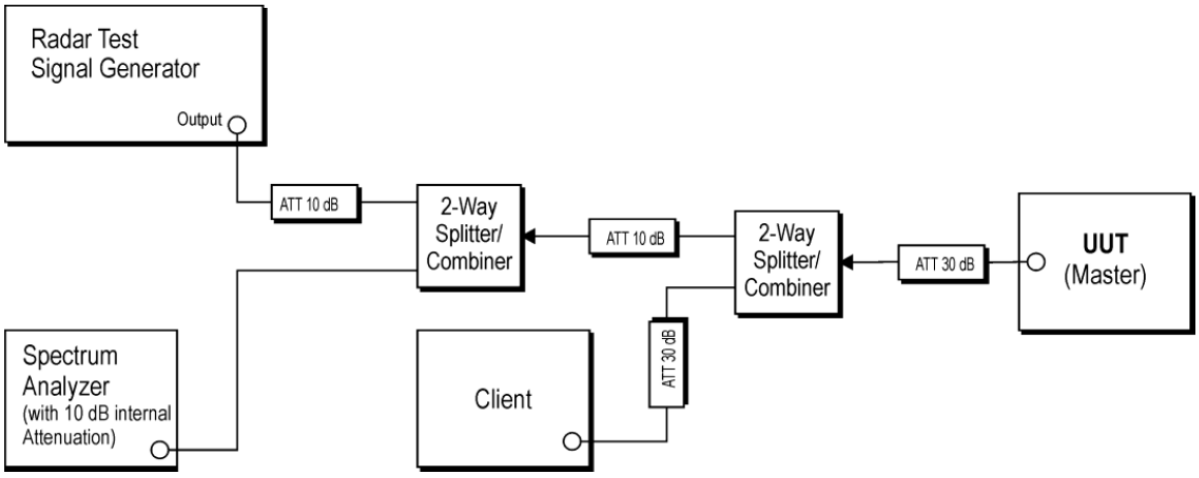
<DFS Response Requirement Values>

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.
Note 1: *Channel Move Time and the Channel Closing Transmission Time* should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. Note 2: The *Channel Closing Transmission Time* is comprised of 200 milliseconds starting at the beginning of the *Channel Move Time* plus any additional intermittent control signals required to facilitate a *Channel* move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions. Note 3: During the *U-NII Detection Bandwidth* detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

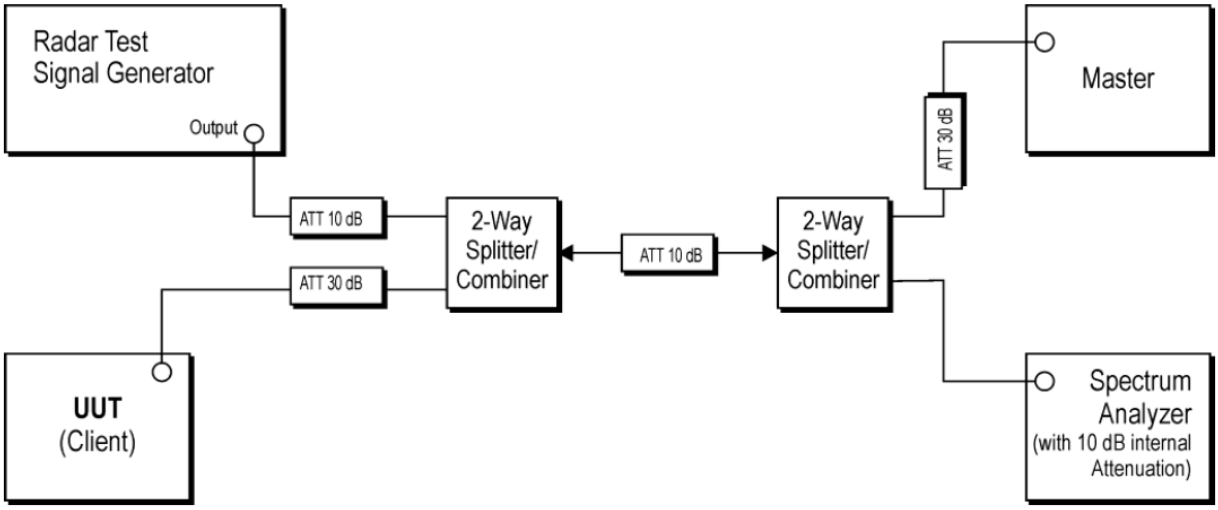
Kind of Test Site Shielded room

Test Setup

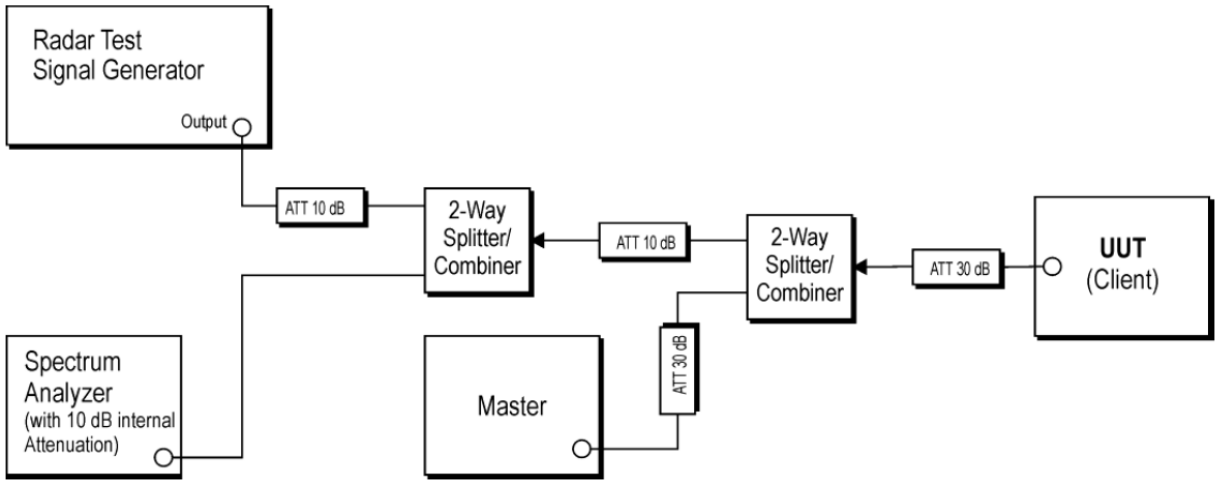
<Setup for Master with injection at the Master>



<Setup for Client with injection at the Master>



<Setup for Client with injection at the Client>



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Horn Antenna	SCHWARZBECK	9120D	1945	2021/06/23	2022/06/22	2021/11/29	2021/12/06
Spectrum Analyzer	Agilent	N9010A	MY53470241	2021/06/15	2022/06/14	2021/11/29	2021/12/06
MXG Vector Signal Generator	Agilent	N5182B	MY53050524	2021/03/25	2022/03/24	2021/11/29	2021/12/06

Requirement

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

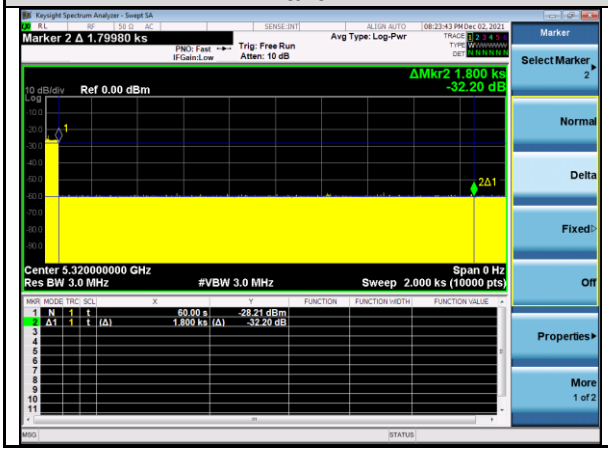
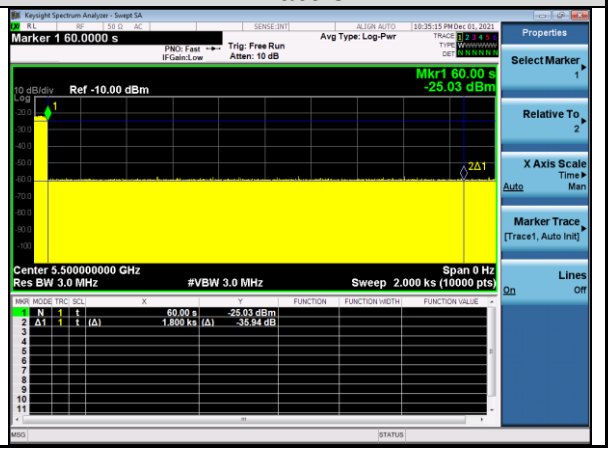
Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

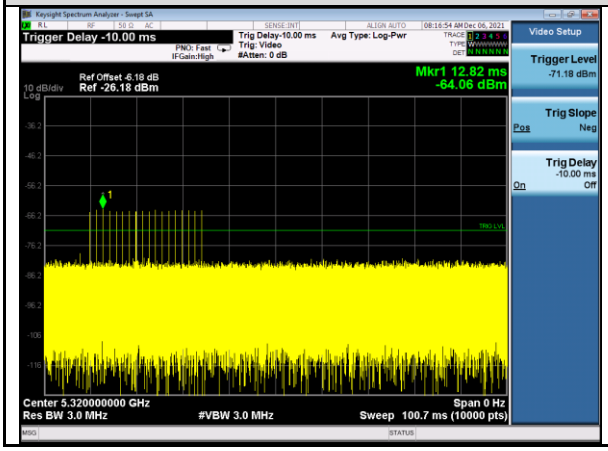
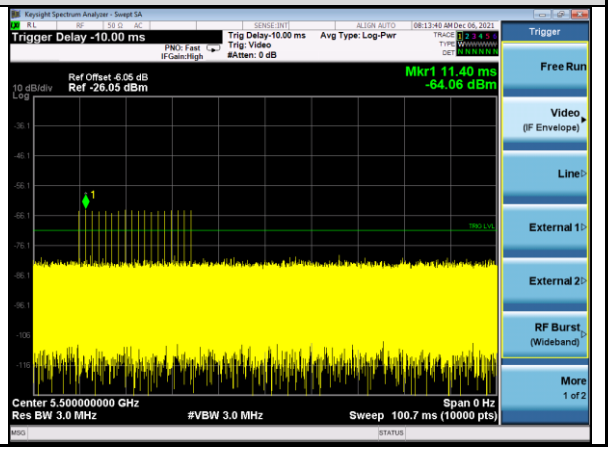
Test Results

<802.11ax HE20 >

Non-occupancy period

Channel (MHz)	Limit (minute)	Result
5320	≥ 30	Pass
5500	≥ 30	Pass

Non-occupancy period	
Band 2	Babd 3
	

Radar Level-R0	
Band 2	Babd 3
	

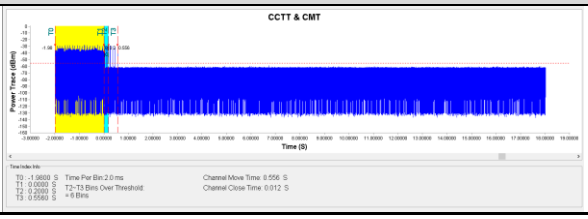
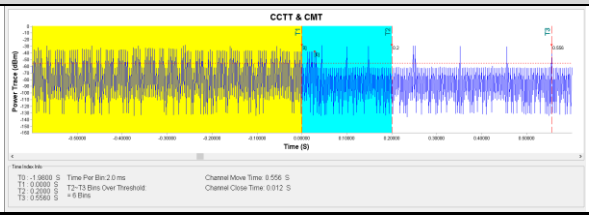
<802.11ax HE80 >

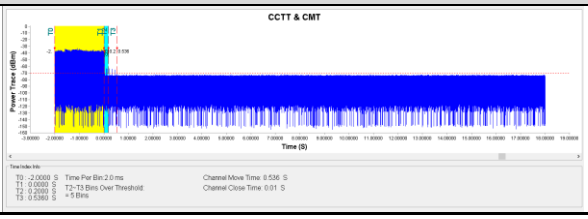
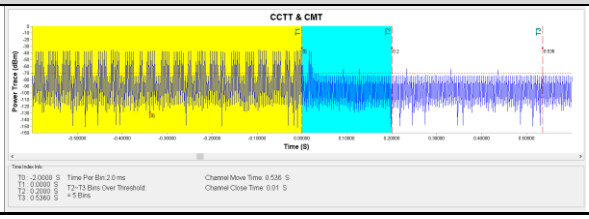
Channel Moving Time (CMT):

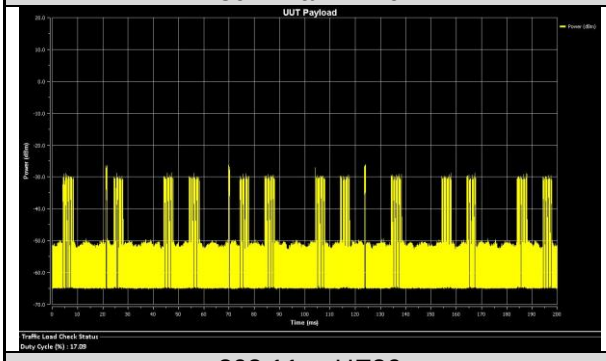
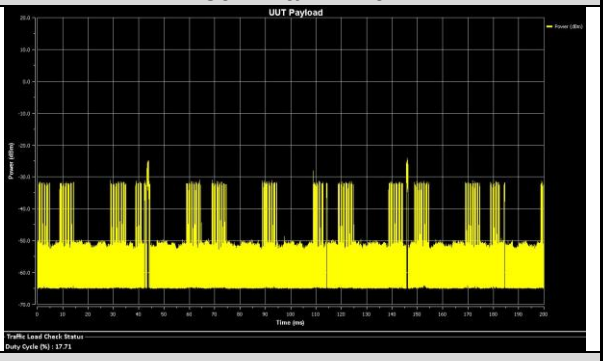
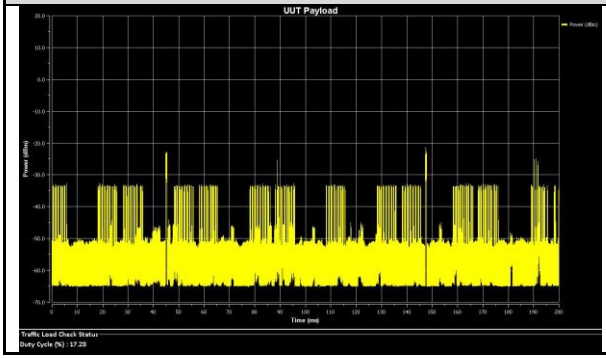
Radar Type	Channel (MHz)	Channel Move Time (s)	Limit (s)	Result
R0	5290	0.556	10	Pass
	5530	0.536	10	Pass

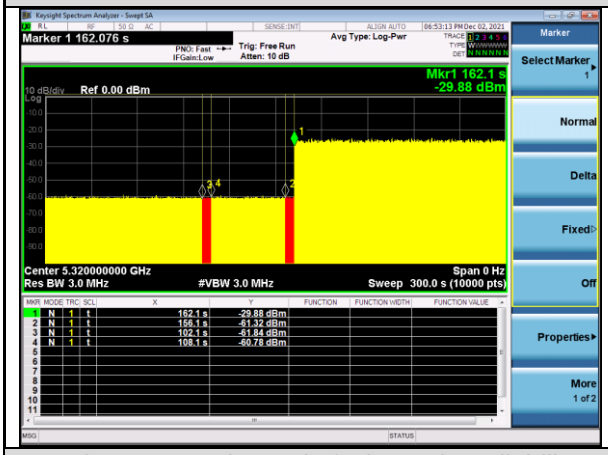
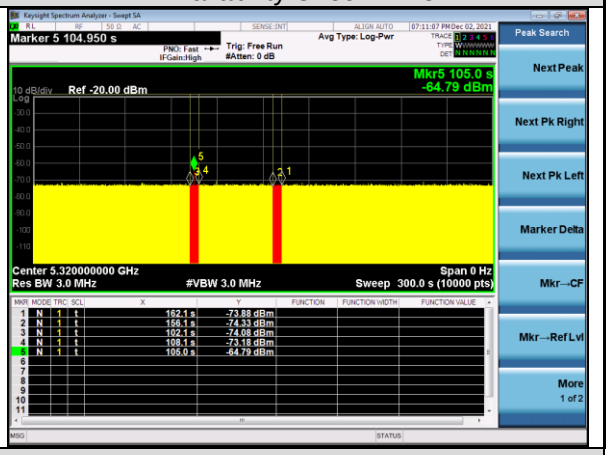
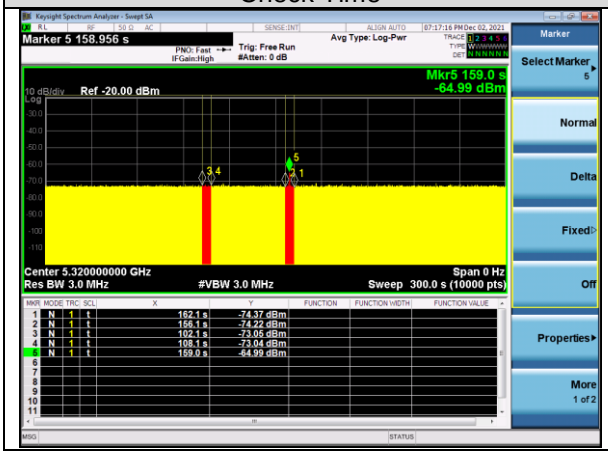
Channel Closing Transmission Time (CCTT):

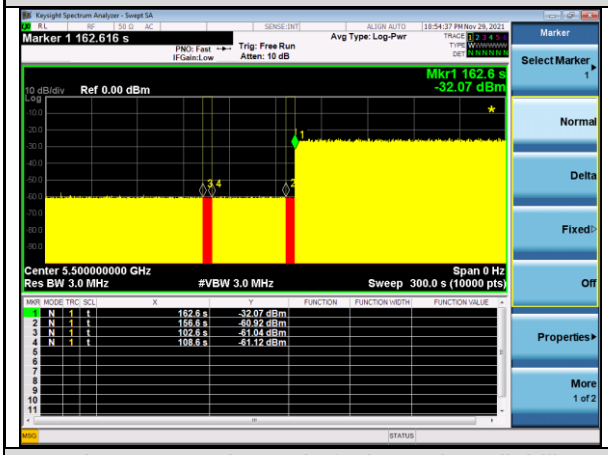
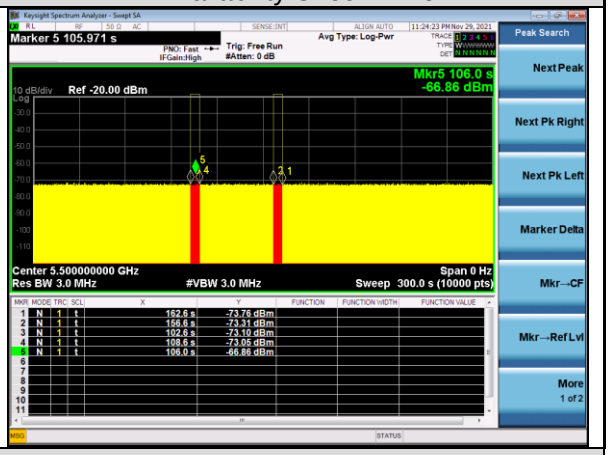
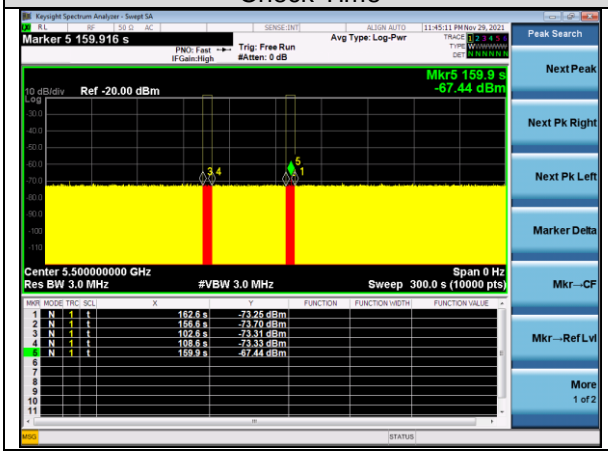
Radar Type	Channel (MHz)	Channel Closing Transmission Time (s)	Limit (ms)	Result
R0	5290	0.012	< 60	Pass
	5530	0.010	< 60	Pass

5290MHz	
R0	
CCTT&CMT	In 500ms
	

5530MHz	
R0	
CCTT&CMT	500ms
	

Channel Loading	
802.11ax HE20	802.11ax HE40
	
802.11ax HE80	
	

Channel Availability Check Time	
Band 2	
Initial Channel Availability Check Time	Radar Burst at the beginning of Channel Availability Check Time
	
Radar Burst at the end of Channel Availability Check Time	
	

Channel Availability Check Time	
Band 3	
Initial Channel Availability Check Time	Radar Burst at the beginning of Channel Availability Check Time
	
Radar Burst at the end of Channel Availability Check Time	
	

<U-NII Detection Bandwidth>

20 MHz Signal Bandwidth											
EUT Frequency = 5320MHz											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, Blank= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5309	0	0	0	0	0	0	0	0	0	0	0%
5310(FL)	1	1	1	1	1	1	1	1	1	1	100%
5311	1	1	1	1	1	1	1	1	1	1	100%
5312	1	1	1	1	1	1	1	1	1	1	100%
5313	1	1	1	1	1	1	1	1	1	1	100%
5314	1	1	1	1	1	1	1	1	1	1	100%
5315	1	1	1	1	1	1	1	1	1	1	100%
5316	1	1	1	1	1	1	1	1	1	1	100%
5317	1	1	1	1	1	1	1	1	1	1	100%
5318	1	1	1	1	1	1	1	1	1	1	100%
5319	1	1	1	1	1	1	1	1	1	1	100%
5320	1	1	1	1	1	1	1	1	1	1	100%
5321	1	1	1	1	1	1	1	1	1	1	100%
5322	1	1	1	1	1	1	1	1	1	1	100%
5323	1	1	1	1	1	1	1	1	1	1	100%
5324	1	1	1	1	1	1	1	1	1	1	100%
5325	1	1	1	1	1	1	1	1	1	1	100%
5326	1	1	1	1	1	1	1	1	1	1	100%
5327	1	1	1	1	1	1	1	1	1	1	100%
5328	1	1	1	1	1	1	1	1	1	1	100%
5329	1	1	1	1	1	1	1	1	1	1	100%
5330(FH)	1	1	1	1	1	1	1	1	1	1	100%
5331	0	0	0	0	0	0	0	0	0	0	0%
20 MHz Detection Bandwidth = Fh - Fl = 5330MHz - 5310MHz = 20MHz											
EUT 99% Bandwidth = 19.14MHz											

20 MHz Signal Bandwidth											
EUT Frequency = 5500MHz											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, Blank= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5489	0	0	0	0	0	0	0	0	0	0	0%
5490(FL)	1	1	1	1	1	1	1	1	1	1	100%
5491	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5496	1	1	1	1	1	1	1	1	1	1	100%
5497	1	1	1	1	1	1	1	1	1	1	100%
5498	1	1	1	1	1	1	1	1	1	1	100%
5499	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5501	1	1	1	1	1	1	1	1	1	1	100%
5502	1	1	1	1	1	1	1	1	1	1	100%
5503	1	1	1	1	1	1	1	1	1	1	100%
5504	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5506	1	1	1	1	1	1	1	1	1	1	100%
5507	1	1	1	1	1	1	1	1	1	1	100%
5508	1	1	1	1	1	1	1	1	1	1	100%
5509	1	1	1	1	1	1	1	1	1	1	100%
5510(FH)	1	1	1	1	1	1	1	1	1	1	100%
5511	0	0	0	0	0	0	0	0	0	0	0%
20 MHz Detection Bandwidth = Fh - Fl = 5510MHz - 5490MHz = 20MHz											
EUT 99% Bandwidth = 19.13MHz											

40 MHz Signal Bandwidth											
EUT Frequency = 5310MHz											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, Blank= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5289	0	0	0	0	0	0	0	0	0	0	0%
5290(FL)	1	1	1	1	1	1	1	1	1	1	100%
5291	1	1	1	1	1	1	1	1	1	1	100%
5292	1	1	1	1	1	1	1	1	1	1	100%
5293	1	1	1	1	1	1	1	1	1	1	100%
5294	1	1	1	1	1	1	1	1	1	1	100%
5295	1	1	1	1	1	1	1	1	1	1	100%
5296	1	1	1	1	1	1	1	1	1	1	100%
5297	1	1	1	1	1	1	1	1	1	1	100%
5298	1	1	1	1	1	1	1	1	1	1	100%
5299	1	1	1	1	1	1	1	1	1	1	100%
5300	1	1	1	1	1	1	1	1	1	1	100%
5301	1	1	1	1	1	1	1	1	1	1	100%
5302	1	1	1	1	1	1	1	1	1	1	100%
5303	1	1	1	1	1	1	1	1	1	1	100%
5304	1	1	1	1	1	1	1	1	1	1	100%
5305	1	1	1	1	1	1	1	1	1	1	100%
5306	1	1	1	1	1	1	1	1	1	1	100%
5307	1	1	1	1	1	1	1	1	1	1	100%
5308	1	1	1	1	1	1	1	1	1	1	100%
5309	1	1	1	1	1	1	1	1	1	1	100%
5310	1	1	1	1	1	1	1	1	1	1	100%
5311	1	1	1	1	1	1	1	1	1	1	100%
5312	1	1	1	1	1	1	1	1	1	1	100%
5313	1	1	1	1	1	1	1	1	1	1	100%
5314	1	1	1	1	1	1	1	1	1	1	100%
5315	1	1	1	1	1	1	1	1	1	1	100%
5316	1	1	1	1	1	1	1	1	1	1	100%
5317	1	1	1	1	1	1	1	1	1	1	100%
5318	1	1	1	1	1	1	1	1	1	1	100%
5319	1	1	1	1	1	1	1	1	1	1	100%
5320	1	1	1	1	1	1	1	1	1	1	100%
5321	1	1	1	1	1	1	1	1	1	1	100%
5322	1	1	1	1	1	1	1	1	1	1	100%
5323	1	1	1	1	1	1	1	1	1	1	100%
5324	1	1	1	1	1	1	1	1	1	1	100%

5325	1	1	1	1	1	1	1	1	1	1	100%
5326	1	1	1	1	1	1	1	1	1	1	100%
5327	1	1	1	1	1	1	1	1	1	1	100%
5328	1	1	1	1	1	1	1	1	1	1	100%
5329	1	1	1	1	1	1	1	1	1	1	100%
5330(FH)	1	1	1	1	1	1	1	1	1	1	100%
5331	0	0	0	0	0	0	0	0	0	0	0%
40 MHz Detection Bandwidth = Fh - Fl = 5330MHz - 5290MHz = 40MHz											
EUT 99% Bandwidth = 38.2MHz											

40 MHz Signal Bandwidth											
EUT Frequency = 5510MHz											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, Blank= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5489	0	0	0	0	0	0	0	0	0	0	0%
5490(FL)	1	1	1	1	1	1	1	1	1	1	100%
5491	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5496	1	1	1	1	1	1	1	1	1	1	100%
5497	1	1	1	1	1	1	1	1	1	1	100%
5498	1	1	1	1	1	1	1	1	1	1	100%
5499	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5501	1	1	1	1	1	1	1	1	1	1	100%
5502	1	1	1	1	1	1	1	1	1	1	100%
5503	1	1	1	1	1	1	1	1	1	1	100%
5504	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5506	1	1	1	1	1	1	1	1	1	1	100%
5507	1	1	1	1	1	1	1	1	1	1	100%
5508	1	1	1	1	1	1	1	1	1	1	100%
5509	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5511	1	1	1	1	1	1	1	1	1	1	100%
5512	1	1	1	1	1	1	1	1	1	1	100%
5513	1	1	1	1	1	1	1	1	1	1	100%
5514	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5516	1	1	1	1	1	1	1	1	1	1	100%
5517	1	1	1	1	1	1	1	1	1	1	100%
5518	1	1	1	1	1	1	1	1	1	1	100%
5519	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5521	1	1	1	1	1	1	1	1	1	1	100%
5522	1	1	1	1	1	1	1	1	1	1	100%
5523	1	1	1	1	1	1	1	1	1	1	100%
5524	1	1	1	1	1	1	1	1	1	1	100%

5525	1	1	1	1	1	1	1	1	1	1	100%
5526	1	1	1	1	1	1	1	1	1	1	100%
5527	1	1	1	1	1	1	1	1	1	1	100%
5528	1	1	1	1	1	1	1	1	1	1	100%
5529	1	1	1	1	1	1	1	1	1	1	100%
5530(FH)	1	1	1	1	1	1	1	1	1	1	100%
5531	0	0	0	0	0	0	0	0	0	0	0%
40 MHz Detection Bandwidth = Fh - Fl = 5530MHz - 5490MHz = 40MHz											
EUT 99% Bandwidth = 38.08MHz											

80 MHz Signal Bandwidth											
EUT Frequency = 5290MHz											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, Blank= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5249	0	0	0	0	0	0	0	0	0	0	0%
5250(FL)	1	1	1	1	1	1	1	1	1	1	100%
5251	1	1	1	1	1	1	1	1	1	1	100%
5252	1	1	1	1	1	1	1	1	1	1	100%
5253	1	1	1	1	1	1	1	1	1	1	100%
5254	1	1	1	1	1	1	1	1	1	1	100%
5255	1	1	1	1	1	1	1	1	1	1	100%
5256	1	1	1	1	1	1	1	1	1	1	100%
5257	1	1	1	1	1	1	1	1	1	1	100%
5258	1	1	1	1	1	1	1	1	1	1	100%
5259	1	1	1	1	1	1	1	1	1	1	100%
5260	1	1	1	1	1	1	1	1	1	1	100%
5261	1	1	1	1	1	1	1	1	1	1	100%
5262	1	1	1	1	1	1	1	1	1	1	100%
5263	1	1	1	1	1	1	1	1	1	1	100%
5264	1	1	1	1	1	1	1	1	1	1	100%
5265	1	1	1	1	1	1	1	1	1	1	100%
5266	1	1	1	1	1	1	1	1	1	1	100%
5267	1	1	1	1	1	1	1	1	1	1	100%
5268	1	1	1	1	1	1	1	1	1	1	100%
5269	1	1	1	1	1	1	1	1	1	1	100%
5270	1	1	1	1	1	1	1	1	1	1	100%
5271	1	1	1	1	1	1	1	1	1	1	100%
5272	1	1	1	1	1	1	1	1	1	1	100%
5273	1	1	1	1	1	1	1	1	1	1	100%
5274	1	1	1	1	1	1	1	1	1	1	100%
5275	1	1	1	1	1	1	1	1	1	1	100%
5276	1	1	1	1	1	1	1	1	1	1	100%
5277	1	1	1	1	1	1	1	1	1	1	100%
5278	1	1	1	1	1	1	1	1	1	1	100%
5279	1	1	1	1	1	1	1	1	1	1	100%
5280	1	1	1	1	1	1	1	1	1	1	100%
5281	1	1	1	1	1	1	1	1	1	1	100%
5282	1	1	1	1	1	1	1	1	1	1	100%
5283	1	1	1	1	1	1	1	1	1	1	100%
5284	1	1	1	1	1	1	1	1	1	1	100%
5285	1	1	1	1	1	1	1	1	1	1	100%

5286	1	1	1	1	1	1	1	1	1	1	100%
5287	1	1	1	1	1	1	1	1	1	1	100%
5288	1	1	1	1	1	1	1	1	1	1	100%
5289	1	1	1	1	1	1	1	1	1	1	100%
5290	1	1	1	1	1	1	1	1	1	1	100%
5291	1	1	1	1	1	1	1	1	1	1	100%
5292	1	1	1	1	1	1	1	1	1	1	100%
5293	1	1	1	1	1	1	1	1	1	1	100%
5294	1	1	1	1	1	1	1	1	1	1	100%
5295	1	1	1	1	1	1	1	1	1	1	100%
5296	1	1	1	1	1	1	1	1	1	1	100%
5297	1	1	1	1	1	1	1	1	1	1	100%
5298	1	1	1	1	1	1	1	1	1	1	100%
5299	1	1	1	1	1	1	1	1	1	1	100%
5300	1	1	1	1	1	1	1	1	1	1	100%
5301	1	1	1	1	1	1	1	1	1	1	100%
5302	1	1	1	1	1	1	1	1	1	1	100%
5303	1	1	1	1	1	1	1	1	1	1	100%
5304	1	1	1	1	1	1	1	1	1	1	100%
5305	1	1	1	1	1	1	1	1	1	1	100%
5306	1	1	1	1	1	1	1	1	1	1	100%
5307	1	1	1	1	1	1	1	1	1	1	100%
5308	1	1	1	1	1	1	1	1	1	1	100%
5309	1	1	1	1	1	1	1	1	1	1	100%
5310	1	1	1	1	1	1	1	1	1	1	100%
5311	1	1	1	1	1	1	1	1	1	1	100%
5312	1	1	1	1	1	1	1	1	1	1	100%
5313	1	1	1	1	1	1	1	1	1	1	100%
5314	1	1	1	1	1	1	1	1	1	1	100%
5315	1	1	1	1	1	1	1	1	1	1	100%
5316	1	1	1	1	1	1	1	1	1	1	100%
5317	1	1	1	1	1	1	1	1	1	1	100%
5318	1	1	1	1	1	1	1	1	1	1	100%
5319	1	1	1	1	1	1	1	1	1	1	100%
5320	1	1	1	1	1	1	1	1	1	1	100%
5321	1	1	1	1	1	1	1	1	1	1	100%
5322	1	1	1	1	1	1	1	1	1	1	100%
5323	1	1	1	1	1	1	1	1	1	1	100%
5324	1	1	1	1	1	1	1	1	1	1	100%
5325	1	1	1	1	1	1	1	1	1	1	100%
5326	1	1	1	1	1	1	1	1	1	1	100%

5327	1	1	1	1	1	1	1	1	1	1	100%
5328	1	1	1	1	1	1	1	1	1	1	100%
5329	1	1	1	1	1	1	1	1	1	1	100%
5330(FH)	1	1	1	1	1	1	1	1	1	1	100%
5331	0	0	0	0	0	0	0	0	0	0	0%
80 MHz Detection Bandwidth = Fh - Fl = 5330MHz - 5250MHz = 80MHz											
EUT 99% Bandwidth = 77.48MHz											

80 MHz Signal Bandwidth											
EUT Frequency = 5530MHz											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, Blank= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5489	0	0	0	0	0	0	0	0	0	0	0%
5490(FL)	1	1	1	1	1	1	1	1	1	1	100%
5491	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5496	1	1	1	1	1	1	1	1	1	1	100%
5497	1	1	1	1	1	1	1	1	1	1	100%
5498	1	1	1	1	1	1	1	1	1	1	100%
5499	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5501	1	1	1	1	1	1	1	1	1	1	100%
5502	1	1	1	1	1	1	1	1	1	1	100%
5503	1	1	1	1	1	1	1	1	1	1	100%
5504	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5506	1	1	1	1	1	1	1	1	1	1	100%
5507	1	1	1	1	1	1	1	1	1	1	100%
5508	1	1	1	1	1	1	1	1	1	1	100%
5509	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5511	1	1	1	1	1	1	1	1	1	1	100%
5512	1	1	1	1	1	1	1	1	1	1	100%
5513	1	1	1	1	1	1	1	1	1	1	100%
5514	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5516	1	1	1	1	1	1	1	1	1	1	100%
5517	1	1	1	1	1	1	1	1	1	1	100%
5518	1	1	1	1	1	1	1	1	1	1	100%
5519	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5521	1	1	1	1	1	1	1	1	1	1	100%
5522	1	1	1	1	1	1	1	1	1	1	100%
5523	1	1	1	1	1	1	1	1	1	1	100%
5524	1	1	1	1	1	1	1	1	1	1	100%

5525	1	1	1	1	1	1	1	1	1	1	100%
5526	1	1	1	1	1	1	1	1	1	1	100%
5527	1	1	1	1	1	1	1	1	1	1	100%
5528	1	1	1	1	1	1	1	1	1	1	100%
5529	1	1	1	1	1	1	1	1	1	1	100%
5530	1	1	1	1	1	1	1	1	1	1	100%
5531	1	1	1	1	1	1	1	1	1	1	100%
5532	1	1	1	1	1	1	1	1	1	1	100%
5533	1	1	1	1	1	1	1	1	1	1	100%
5534	1	1	1	1	1	1	1	1	1	1	100%
5535	1	1	1	1	1	1	1	1	1	1	100%
5536	1	1	1	1	1	1	1	1	1	1	100%
5537	1	1	1	1	1	1	1	1	1	1	100%
5538	1	1	1	1	1	1	1	1	1	1	100%
5539	1	1	1	1	1	1	1	1	1	1	100%
5540	1	1	1	1	1	1	1	1	1	1	100%
5541	1	1	1	1	1	1	1	1	1	1	100%
5542	1	1	1	1	1	1	1	1	1	1	100%
5543	1	1	1	1	1	1	1	1	1	1	100%
5544	1	1	1	1	1	1	1	1	1	1	100%
5545	1	1	1	1	1	1	1	1	1	1	100%
5546	1	1	1	1	1	1	1	1	1	1	100%
5547	1	1	1	1	1	1	1	1	1	1	100%
5548	1	1	1	1	1	1	1	1	1	1	100%
5549	1	1	1	1	1	1	1	1	1	1	100%
5550	1	1	1	1	1	1	1	1	1	1	100%
5551	1	1	1	1	1	1	1	1	1	1	100%
5552	1	1	1	1	1	1	1	1	1	1	100%
5553	1	1	1	1	1	1	1	1	1	1	100%
5554	1	1	1	1	1	1	1	1	1	1	100%
5555	1	1	1	1	1	1	1	1	1	1	100%
5556	1	1	1	1	1	1	1	1	1	1	100%
5557	1	1	1	1	1	1	1	1	1	1	100%
5558	1	1	1	1	1	1	1	1	1	1	100%
5559	1	1	1	1	1	1	1	1	1	1	100%
5560	1	1	1	1	1	1	1	1	1	1	100%
5561	1	1	1	1	1	1	1	1	1	1	100%
5562	1	1	1	1	1	1	1	1	1	1	100%
5563	1	1	1	1	1	1	1	1	1	1	100%
5564	1	1	1	1	1	1	1	1	1	1	100%
5565	1	1	1	1	1	1	1	1	1	1	100%

5566	1	1	1	1	1	1	1	1	1	1	100%
5567	1	1	1	1	1	1	1	1	1	1	100%
5568	1	1	1	1	1	1	1	1	1	1	100%
5569	1	1	1	1	1	1	1	1	1	1	100%
5570(FH)	1	1	1	1	1	1	1	1	1	1	100%
5571	0	0	0	0	0	0	0	0	0	0	0%
80 MHz Detection Bandwidth = Fh - Fl = 5570MHz - 5490MHz = 80MHz											
EUT 99% Bandwidth = 77.52MHz											