Prüfbericht-Nr.: *Test report no.:*	CN250RQA 001	**Auftrags-Nr.:** *Order no.*:	48278653	Seite 1 von 48 *Page 1 of 48*
Kunden-Referenz-Nr.: *Client reference no.:*	N/A	**Auftragsdatum:** *Order date:*	2025-06-23	
Auftraggeber: *Client:*	Wistron Corporation 21F., No. 88, Sec. 1, HsinTai 5th Rd., Hsichih Dist, New Taipei City 221, Taiwan			
Prüfgegenstand: *Test item:*	MERCURY			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	MERCURY			
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:*	2025-06-25			
Prüfmuster-Nr.: *Test sample no:*	A004028791-001 A004028791-010			
Prüfzeitraum: *Testing period:*	2025-07-09 - 2025-08-15			
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:*	David Huang	**genehmigt von:** authorized by:	Brenda Chen
Datum: *Date:* 2025-09-03		**Ausstellungsdatum:** *Issue date:* 2025-09-03	
Stellung */ Position:*	David Huang 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*

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. *The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.*
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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. *Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report.* *Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.*
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnisen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2023, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezueglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. *The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the “Zero Guard Band Rule” and “Simple Acceptance” in accordance with ILAC G8:2019 and IEC Guide 115:2023, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.*

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

Revision	Description	Date Issued
R01	Original Release	2025-09-03

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 C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
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.: 180491
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 MERCURY. 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	MERCURY
Type Identification	MERCURY
FCC ID	PU5-MERCURY

Technical Specification of EUT

Item		EUT information
Operating Frequency		Band 1: 5175 MHz ~ 5245 MHz Band 2: 5255 MHz ~ 5325 MHz Band 3: 5495 MHz ~ 5715 MHz Band 4: 5740 MHz ~ 5845 MHz
Channel Number		5 MHz (802.11n/ac/ax HT5/VHT5/HE5): 84 10 MHz (802.11n/ac/ax HT10/VHT10/HE10): 84 20 MHz (802.11a/n/ac/ax HT20/VHT20/HE20): 21
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		12 Vdc
Modulation		OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) OFDMA (1024QAM)
Maximum Output Power (mW)	CDD	5175 ~ 5245 MHz: 82.98 5255 ~ 5325 MHz: 70.71 5495 ~ 5715 MHz: 70.05 5740 ~ 5845 MHz: 953.77
	Beamforming	5175 ~ 5245 MHz: 20.75 5255 ~ 5325 MHz: 17.68 5495 ~ 5715 MHz: 17.51 5740 ~ 5845 MHz: 238.47
Maximum EIRP (mW)	CDD	5255 ~ 5325 MHz: 164.61 5495 ~ 5715 MHz: 160.10
	Beamforming	5255 ~ 5325 MHz: 164.61 5495 ~ 5715 MHz: 160.10

Item	EUT information
DFS Mode	Slave without radar detection
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 HT5 802.11ac VHT5 802.11ax HE5		802.11n HT10 802.11ac VHT10 802.11ax HE10		802.11n HT20 802.11ac VHT20 802.11ax HE20	
Channel	Power Setting	Channel	Power Setting	Channel	Power Setting	Channel	Power Setting
36	12	35	7.5	35	9.5	36	12.5
40	12	42	7.5	42	9.5	40	12.5
48	12	49	7.5	49	9.5	48	12
52	11.5	51	7.5	51	9	52	11.5
60	11.5	58	7.5	58	9	60	11.5
64	11.5	65	7.5	65	9	64	11.5
100	12	99	7.5	99	9.5	100	12
116	12	116	7.5	116	9.5	116	12
140	12	143	7.5	143	9.5	140	12
149	24	148	22.5	148	22	149	24
157	24	158	21.5	158	22.5	157	24
165	24	169	22	169	24	165	24

4.2 Carrier Frequency and Channel

802.11a, 802.11n/ac/ax HT5/VHT5/HE5/HT10/VHT10/HE10:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
35	5175	64	5320	136	5680
36	5180	65	5325	137	5685
37	5185	99	5495	139	5695
38	5190	100	5500	140	5700
39	5195	101	5505	141	5705
40	5200	102	5510	143	5715
41	5205	103	5515	148	5740
42	5210	104	5520	149	5745
43	5215	105	5525	150	5750
44	5220	106	5530	151	5755
45	5225	107	5535	152	5760
46	5230	108	5540	153	5765
47	5235	109	5545	154	5770
48	5240	110	5550	155	5775
49	5245	111	5555	156	5780
51	5255	112	5560	157	5785
52	5260	113	5565	158	5790
53	5265	114	5570	159	5795
54	5270	115	5575	160	5800
55	5275	116	5580	161	5805
56	5280	117	5585	162	5810
57	5285	118	5590	163	5815
58	5290	119	5595	164	5820
59	5295	131	5655	165	5825
60	5300	132	5660	166	5830
61	5305	133	5665	167	5835
62	5310	134	5670	168	5840
63	5315	135	5675	169	5845

802.11n/ac/ax HT20/VHT20/HE20:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	100	5500	149	5745
40	5200	104	5520	153	5765
44	5220	108	5540	157	5785
48	5240	112	5560	161	5805
52	5260	116	5580	165	5825
56	5280	132	5660		
60	5300	136	5680		
64	5320	140	5700		

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	QRCT4 V4.0.209.0

The samples were used as follows:
A004028791-001
A004028791-010
Full test was applied on all test modes, but only worst case was shown.

The EUT provides four completed transmitters and receivers.

Modulation Mode	Tx Function
802.11a	4TX
802.11n HT5	4Tx
802.11n HT10	4Tx
802.11n HT20	4TX
802.11ac VHT5	4TX
802.11ac VHT10	4TX
802.11ac VHT20	4TX
802.11ax HE5	4TX
802.11ax HE10	4TX
802.11ax HE20	4TX

* The modulation and bandwidth are similar for 802.11n mode HT5/HT10/HT20 and 802.11ac mode VHT5/VHT10/VHT20 and 802.11ax mode HE5/HE10/HE20, therefore investigated worse case as representative mode in test report.
** For Beamforming mode, only the output power is evaluated and presented in this report.
*** 802.11ax HE20 for Full RU and Partial RU had been pre-tested, and Full RU is found as the worst case for the final tests.

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 **Z-plane**.
2. "-" means no effect.

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	
		5500-5715	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11n HT5 (Power only)	5175-5245	35 to 49	35, 42, 49	MCS0
		5255-5325	51 to 65	51, 58, 65	
		5495-5715	99 to 143	99, 116, 143	
		5740-5845	148 to 169	148, 158, 169	
	802.11n HT10 (Power only)	5175-5245	35 to 49	35, 42, 49	MCS0
		5255-5325	51 to 65	51, 58, 65	
		5495-5715	99 to 143	99, 116, 143	
		5740-5845	148 to 169	148, 158, 169	
	802.11n HT20 (Power only)	5180-5240	36 to 48	36, 40, 48	MCS0
		5260-5320	52 to 64	52, 60, 64	
		5500-5715	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11ac VHT5 (Power only)	5175-5245	35 to 49	35, 42, 49	NSS1 MCS0
		5255-5325	51 to 65	51, 58, 65	
		5495-5715	99 to 143	99, 116, 143	
		5740-5845	148 to 169	148, 158, 169	
	802.11ac VHT10 (Power only)	5175-5245	35 to 49	35, 42, 49	NSS1 MCS0
		5255-5325	51 to 65	51, 58, 65	
		5495-5715	99 to 143	99, 116, 143	
		5740-5845	148 to 169	148, 158, 169	
	802.11ac VHT20 (Power only)	5180-5240	36 to 48	36, 40, 48	NSS1 MCS0
		5260-5320	52 to 64	52, 60, 64	
		5500-5715	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
	802.11ax HE5	5175-5245	35 to 49	35, 42, 49	NSS1 MCS0
		5255-5325	51 to 65	51, 58, 65	
		5495-5715	99 to 143	99, 116, 143	
		5740-5845	148 to 169	148, 158, 169	
	802.11ax HE10	5175-5245	35 to 49	35, 42, 49	NSS1 MCS0
		5255-5325	51 to 65	51, 58, 65	
		5495-5715	99 to 143	99, 116, 143	
		5740-5845	148 to 169	148, 158, 169	
	802.11ax HE20	5180-5240	36 to 48	36, 40, 48	NSS1 MCS0
		5260-5320	52 to 64	52, 60, 64	
		5500-5715	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
CDD	802.11ax HE20_RU26 / RU52 / RU106 (Power & PSD only)	5180-5240	36 to 48	36, 40, 48	NSS1 MCS0
		5260-5320	52 to 64	52, 60, 64	
		5500-5715	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	
Beamforming (Power only)	802.11ax HE5	5175-5245	35 to 49	35, 42, 49	NSS1 MCS0
		5255-5325	51 to 65	51, 58, 65	
		5495-5715	99 to 143	99, 116, 143	
		5740-5845	148 to 169	148, 158, 169	
	802.11ax HE10	5175-5245	35 to 49	35, 42, 49	NSS1 MCS0
		5255-5325	51 to 65	51, 58, 65	
		5495-5715	99 to 143	99, 116, 143	
		5740-5845	148 to 169	148, 158, 169	
	802.11ax HE20	5180-5240	36 to 48	36, 40, 48	NSS1 MCS0
		5260-5320	52 to 64	52, 60, 64	
		5500-5715	100 to 140	100, 116, 140	
		5745-5825	149 to 165	149, 157, 165	

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)
-	802.11a	5180-5240	36 to 48	36, 40, 48	6.0
-		5260-5320	52 to 64	52, 60, 64	
-		5500-5715	100 to 140	100, 116, 140	
-		5745-5825	149 to 165	149, 157, 165	
-	802.11ax HE5	5175-5245	35 to 49	35, 42, 49	NSS1 MCS0
-		5255-5325	51 to 65	51, 58, 65	
-		5495-5715	99 to 143	99, 116, 143	
-		5740-5845	148 to 169	148, 158, 169	
-	802.11ax HE10	5175-5245	35 to 49	35, 42, 49	NSS1 MCS0
-		5255-5325	51 to 65	51, 58, 65	
-		5495-5715	99 to 143	99, 116, 143	
-		5740-5845	148 to 169	148, 158, 169	
-	802.11ax HE20	5180-5240	36 to 48	36, 40, 48	NSS1 MCS0
-		5260-5320	52 to 64	52, 60, 64	
-		5500-5715	100 to 140	100, 116, 140	
-		5745-5825	149 to 165	149, 157, 165	
-	802.11ax HE20 RU106	5180-5240	36 to 48	36	NSS1 MCS0
-		5260-5320	52 to 64	52	
-		5500-5715	100 to 140	100	
-		5745-5825	149 to 165	149	

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)
-	802.11ax HE20	5745-5825	149 to 165	149	NSS1 MCS0

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)
-	802.11ax HE20	5745-5825	149 to 165	149	NSS1 MCS0

Test Condition

Test Item	Ambient Temperature	Relative Humidity	Tested by
Conducted Measurement	23.1-24 °C	67-73 %	Andy Chen
Radiated Spurious Emissions above 1 GHz	23.2-25.8 °C	55-58 %	Roger Liao
Radiated Spurious Emissions below 1 GHz	23.2-25.8 °C	55-58 %	Roger Liao
Mains Conducted Emission	22.1 °C	54 %	Chuan Chu

4.4 Special Accessories and Auxiliary Equipment

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

Accessory of EUT

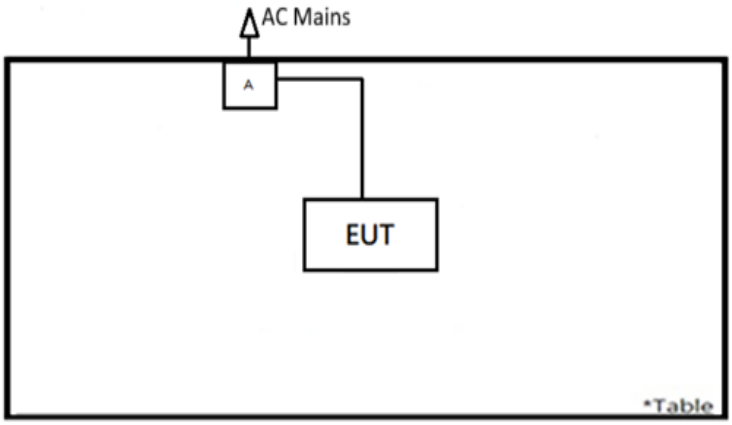
None

Support Unit

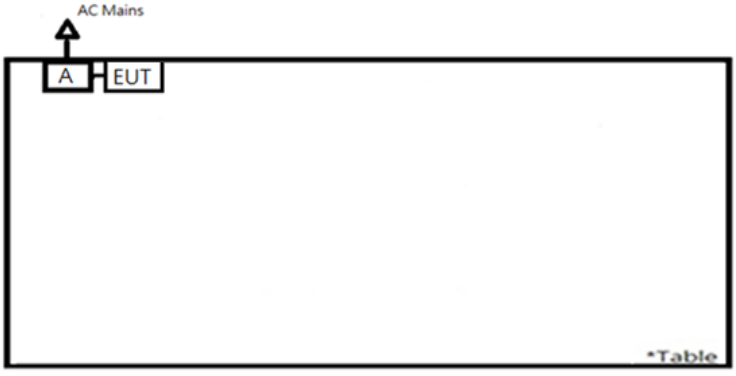
Support Unit								
No	Description	Brand	Model	S/N	Shielded	Ferrite Core (Qty)	Length (cm)	Remark
A	Adapter	APD	WA-30J12FU	N/A	NO	NO	170	--
-	Notebook	DELL	Latitude 7490	887V7Y2	-	-	-	--
-	Power Supply	Keysight	E3642A	MY63016446	-	-	-	--
-	USB Cable	TUV	TUV-06	1	NO	NO	150	--
-	QC405 DEBUG BOARD	Wistron	DEBUG BOARD	N/A	-	-	-	--

4.5 Test Setup Diagram

<Radiated Spurious Emissions mode>



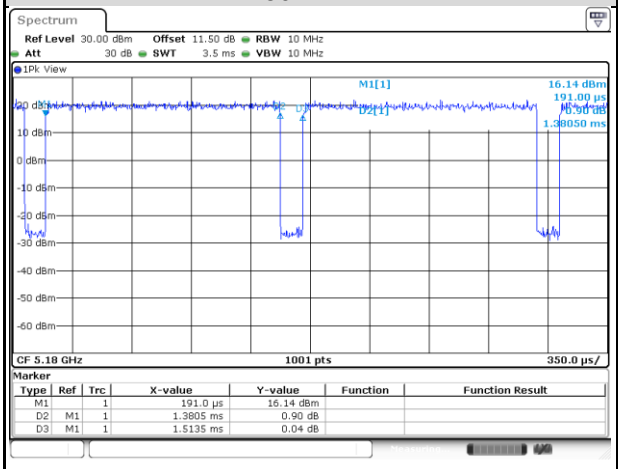
<Mains Conducted Emission mode>



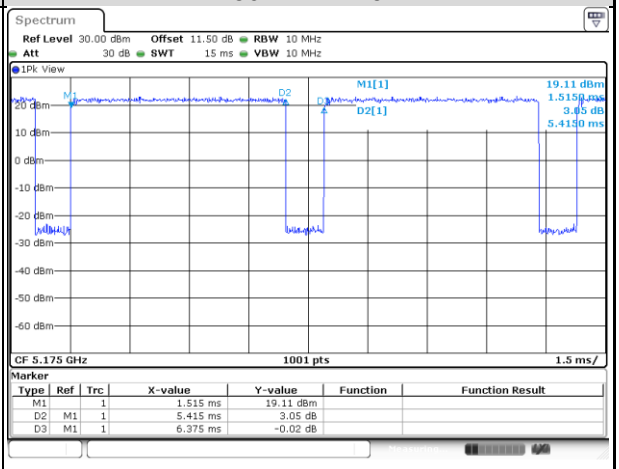
4.6 Duty Cycle of Test Signal

Mode	On + Off Time (ms)	On Time (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11a	1.51	1.38	91.21	0.40
802.11n HT5	6.38	5.42	84.94	0.71
802.11n HT10	6.36	5.43	85.38	0.69
802.11n HT20	6.35	5.43	85.58	0.68
802.11ac VHT5	6.35	5.43	85.58	0.68
802.11ac VHT10	6.39	5.43	84.98	0.71
802.11ac VHT20	6.38	5.43	85.18	0.70
802.11ax HE5	6.48	5.48	84.49	0.73
802.11ax HE10	6.38	5.46	85.65	0.67
802.11ax HE20	6.39	5.45	85.21	0.70

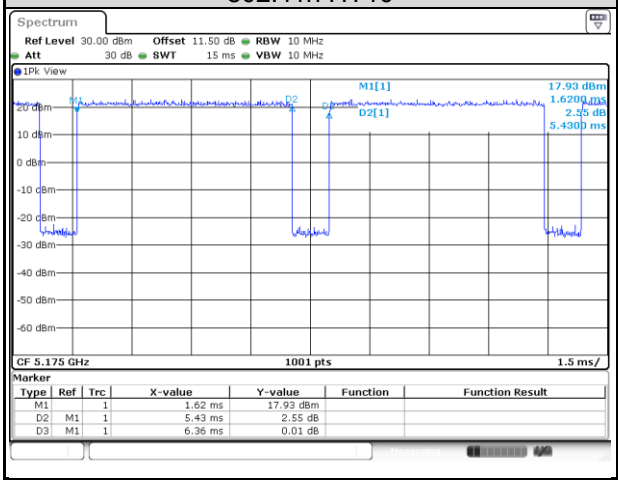
802.11a



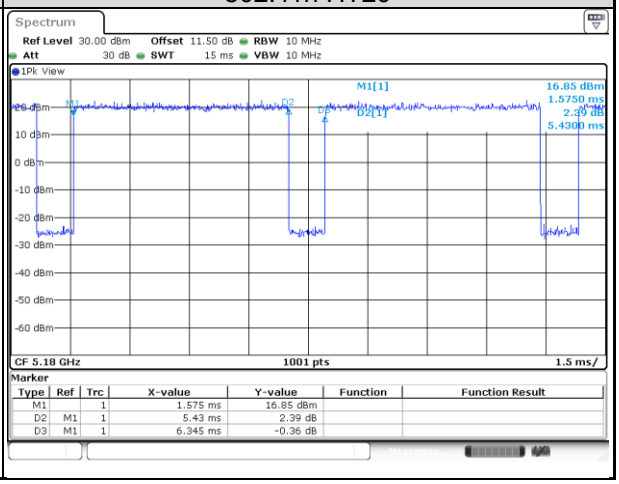
802.11n HT5



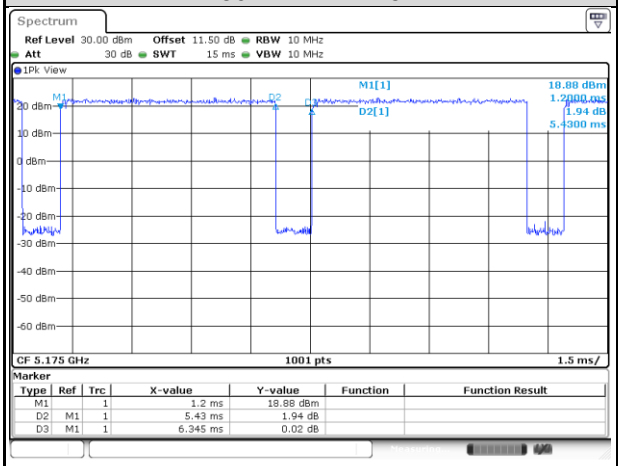
802.11n HT10



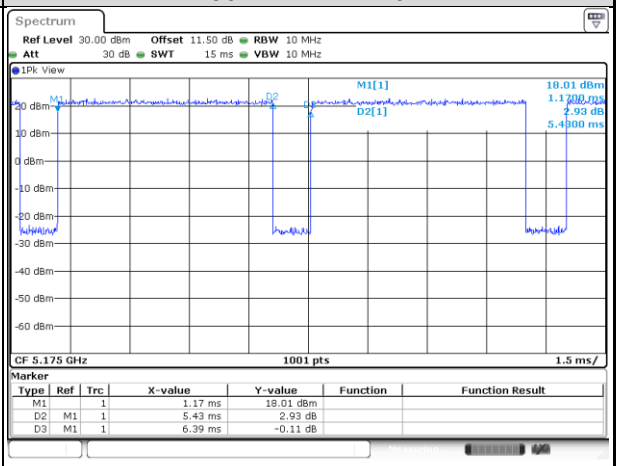
802.11n HT20



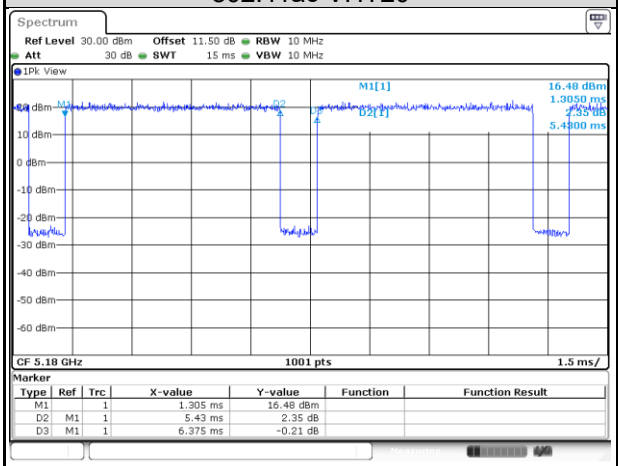
802.11ac VHT5



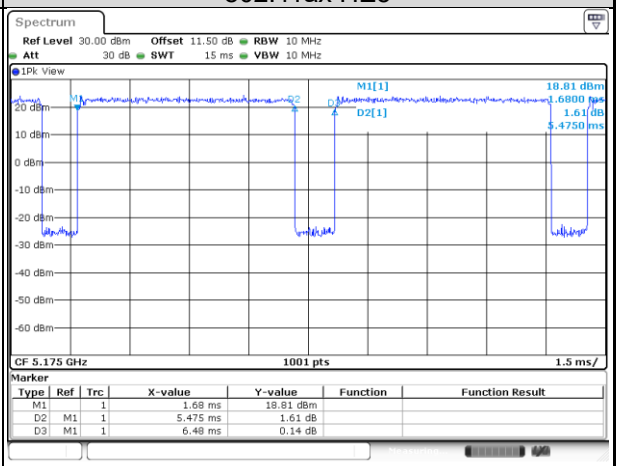
802.11ac VHT10



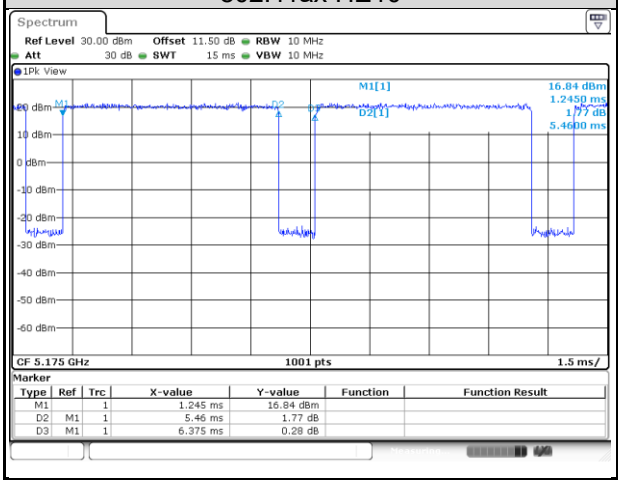
802.11ac VHT20



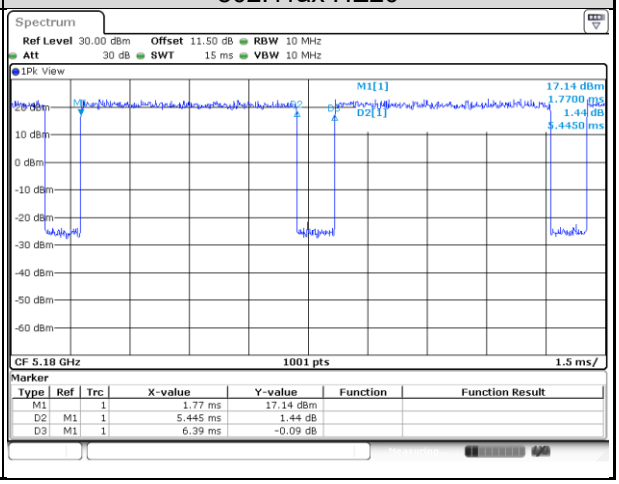
802.11ax HE5



802.11ax HE10



802.11ax HE20



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 antenna information is as listed below. The antenna is with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

Brand	Model	Ant No.	Antenna Gain (dBi)				Antenna Type
			B1	B2	B3	B4	
HONGBO WIRELESS COMMUNICATION	260-29228	1/2/3/4	3.28	3.67	3.59	3.59	Dipole Antenna
Auden Techno. Corp.	B93640-30	1/2/3/4	3.11	3.47	3.36	3.33	Dipole Antenna
Auden Techno. Corp.	B93641-30	1/2/3/4	3.04	3.02	3.43	3.3	Dipole Antenna
CDD Mode	Power Directional Gain		3.28	3.67	3.59	3.59	-
	PSD Directional Gain		9.30	9.69	9.61	9.61	-
Beamforming Mode	Power Directional Gain		9.30	9.69	9.61	9.61	-
	PSD Directional Gain		9.30	9.69	9.61	9.61	-

Note:
1. PSD Directional Gain = $G_{ANT}+10*\log(N_{ANT})$
2. Only the antenna model 260-29228 was used for the testing.

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	2025/02/26	2026/02/25	2025/7/9	2025/8/14
Power Sensor	Anritsu	MA2411B	1725269	2025/02/26	2026/02/25	2025/7/9	2025/8/14

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

<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	11.64	11.37	12.48	13.54	18.36	68.59	24.00
40	5200	11.52	11.36	12.32	13.61	18.32	67.89	24.00
48	5240	11.68	11.91	12.44	13.85	18.58	72.05	24.00
52	5260	11.27	11.23	11.99	13.29	18.05	63.81	24.00
60	5300	11.47	11.41	11.78	13.18	18.04	63.73	24.00
64	5320	11.56	11.72	11.63	12.97	18.03	63.55	24.00
100	5500	12.25	12.31	11.92	11.66	18.06	64.02	24.00
116	5580	11.18	11.67	12.26	12.19	17.87	61.20	24.00
140	5700	11.04	11.23	12.18	12.63	17.84	60.82	24.00
149	5745	23.01	22.91	23.48	24.04	29.40	871.78	30.00
157	5785	23.06	23.17	23.11	23.72	29.29	849.94	30.00
165	5825	23.19	23.41	22.82	23.19	29.18	827.60	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (20.70) = 24.16 dBm > 24 dBm.
2. 11 dBm + 10log (20.70) = 24.16 dBm > 24 dBm.
3. 11 dBm + 10log (20.78) = 24.18 dBm > 24 dBm.
4. 11 dBm + 10log (20.94) = 24.21 dBm > 24 dBm.
5. 11 dBm + 10log (20.38) = 24.09 dBm > 24 dBm.
6. 11 dBm + 10log (20.42) = 24.10 dBm > 24 dBm.

<802.11n HT5>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
35	5175	4.24	4.46	5.94	6.73	11.49	14.08	24.00
42	5210	3.99	4.54	6.01	6.62	11.44	13.93	24.00
49	5245	5.92	6.03	5.54	6.31	11.98	15.77	24.00
51	5255	5.81	5.93	5.22	6.25	11.84	15.27	18.47
58	5290	5.87	5.90	4.89	5.92	11.69	14.75	18.38
65	5325	5.76	5.63	4.55	5.74	11.47	14.02	18.45
99	5495	5.73	5.36	5.59	5.65	11.61	14.47	18.43
116	5580	5.80	5.12	5.82	6.13	11.75	14.97	18.44
143	5715	4.42	5.40	5.82	5.85	11.43	13.90	18.41
148	5740	21.75	21.46	22.57	22.77	28.19	659.53	30.00
158	5790	21.17	21.06	21.21	21.15	27.17	521.01	30.00
169	5845	21.70	21.75	21.50	20.91	27.50	562.10	30.00

<802.11n HT10>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
35	5175	9.31	9.09	10.14	10.92	15.95	39.33	24.00
42	5210	9.56	9.39	9.62	11.27	16.05	40.29	24.00
49	5245	9.39	9.25	10.00	11.34	16.10	40.72	24.00
51	5255	8.84	8.73	9.24	10.74	15.49	35.37	21.44
58	5290	9.09	8.96	9.21	10.80	15.60	36.34	21.47
65	5325	9.24	9.29	9.19	10.43	15.59	36.23	21.42
99	5495	10.01	10.13	9.53	9.79	15.89	38.83	21.43
116	5580	9.29	9.41	9.82	10.01	15.66	36.84	21.46
143	5715	9.03	8.87	9.95	10.22	15.58	36.11	21.45
148	5740	21.19	20.92	21.90	22.12	27.58	572.93	30.00
158	5790	21.95	21.78	22.09	22.19	28.03	634.72	30.00
169	5845	23.47	23.50	23.34	22.54	29.25	841.45	30.00

<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	12.39	12.21	12.90	14.13	19.00	79.35	24.00
40	5200	12.30	12.08	13.03	14.06	18.96	78.69	24.00
48	5240	11.98	12.11	12.52	13.92	18.72	74.56	24.00
52	5260	11.53	11.42	12.16	13.42	18.23	66.51	24.00
60	5300	11.75	11.61	11.95	13.38	18.25	66.89	24.00
64	5320	11.89	12.08	11.94	13.12	18.31	67.74	24.00
100	5500	12.42	12.65	12.02	11.81	18.26	66.96	24.00
116	5580	11.59	11.98	12.33	12.48	18.13	65.00	24.00
140	5700	11.46	11.49	12.52	12.94	18.17	65.63	24.00
149	5745	23.10	23.03	24.04	24.08	29.61	914.45	30.00
157	5785	23.29	23.33	23.77	23.49	29.49	890.17	30.00
165	5825	23.41	23.55	23.44	23.13	29.41	872.13	30.00

<802.11ac VHT5>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
35	5175	4.32	4.56	6.05	6.83	11.59	14.41	24.00
42	5210	4.11	4.65	6.09	6.71	11.54	14.25	24.00
49	5245	6.01	6.12	5.63	6.42	12.07	16.12	24.00
51	5255	5.89	6.03	5.34	6.35	11.94	15.63	18.47
58	5290	5.94	5.99	5.00	6.03	11.78	15.07	18.38
65	5325	5.85	5.73	4.64	5.82	11.56	14.32	18.45
99	5495	5.82	5.47	5.66	5.75	11.70	14.78	18.43
116	5580	5.87	5.20	5.91	6.21	11.83	15.25	18.44
143	5715	4.51	5.49	5.90	5.94	11.52	14.18	18.41
148	5740	21.82	21.55	22.66	22.87	28.28	673.09	30.00
158	5790	21.25	21.16	21.33	21.26	27.27	533.46	30.00
169	5845	21.79	21.85	21.60	21.00	27.59	574.55	30.00

<802.11ac VHT10>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
35	5175	9.41	9.20	10.22	11.01	16.04	40.19	24.00
42	5210	9.64	9.48	9.73	11.37	16.15	41.18	24.00
49	5245	9.46	9.34	10.11	11.43	16.19	41.58	24.00
51	5255	8.94	8.84	9.34	10.86	15.60	36.27	21.44
58	5290	9.18	9.04	9.30	10.91	15.70	37.14	21.47
65	5325	9.31	9.38	9.27	10.53	15.68	36.95	21.42
99	5495	10.09	10.23	9.61	9.88	15.98	39.62	21.43
116	5580	9.36	9.50	9.89	10.11	15.75	37.55	21.46
143	5715	9.11	8.96	10.04	10.31	15.66	36.85	21.45
148	5740	21.26	21.02	21.98	22.22	27.67	584.62	30.00
158	5790	22.02	21.86	22.16	22.27	28.10	645.78	30.00
169	5845	23.57	23.61	23.41	22.63	29.34	859.64	30.00

<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	12.51	12.31	12.99	14.24	19.10	81.30	24.00
40	5200	12.40	12.20	13.11	14.15	19.05	80.44	24.00
48	5240	12.07	12.20	12.63	14.03	18.83	76.32	24.00
52	5260	11.61	11.52	12.26	13.53	18.33	68.05	24.00
60	5300	11.87	11.72	12.06	13.48	18.36	68.59	24.00
64	5320	11.97	12.17	12.03	13.22	18.40	69.17	24.00
100	5500	12.52	12.75	12.10	11.90	18.35	68.41	24.00
116	5580	11.66	12.07	12.44	12.60	18.23	66.50	24.00
140	5700	11.55	11.59	12.61	13.05	18.27	67.13	24.00
149	5745	23.19	23.12	24.13	24.17	29.70	933.60	30.00
157	5785	23.37	23.43	23.86	23.60	29.59	909.87	30.00
165	5825	23.51	23.66	23.54	23.24	29.51	893.47	30.00

<802.11ax HE5>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
35	5175	4.41	4.67	6.12	6.91	11.67	14.69	24.00
42	5210	4.19	4.74	6.18	6.81	11.63	14.55	24.00
49	5245	6.08	6.22	5.72	6.51	12.16	16.45	24.00
51	5255	5.99	6.15	5.43	6.45	12.04	16.00	18.47
58	5290	6.05	6.09	5.08	6.14	11.88	15.42	18.38
65	5325	5.92	5.82	4.73	5.91	11.64	14.60	18.45
99	5495	5.91	5.58	5.76	5.83	11.79	15.11	18.43
116	5580	5.96	5.30	6.01	6.32	11.93	15.61	18.44
143	5715	4.59	5.57	5.98	6.04	11.60	14.46	18.41
148	5740	21.91	21.63	22.75	22.97	28.37	687.30	30.00
158	5790	21.32	21.25	21.43	21.34	27.36	544.01	30.00
169	5845	21.87	21.95	21.68	21.09	27.68	586.25	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (5.58) = 18.47 dBm < 24 dBm.
2. 11 dBm + 10log (5.48) = 18.38 dBm < 24 dBm.
3. 11 dBm + 10log (5.55) = 18.45 dBm < 24 dBm.
4. 11 dBm + 10log (5.53) = 18.43 dBm < 24 dBm.
5. 11 dBm + 10log (5.54) = 18.44 dBm < 24 dBm.
6. 11 dBm + 10log (5.51) = 18.41 dBm < 24 dBm.

<802.11ax HE10>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
35	5175	9.51	9.29	10.31	11.09	16.13	41.02	24.00
42	5210	9.73	9.56	9.84	11.46	16.24	42.07	24.00
49	5245	9.56	9.42	10.18	11.53	16.28	42.43	24.00
51	5255	9.02	8.93	9.44	10.95	15.69	37.03	21.44
58	5290	9.27	9.15	9.38	11.01	15.79	37.96	21.47
65	5325	9.39	9.48	9.37	10.64	15.77	37.80	21.42
99	5495	10.16	10.31	9.68	9.97	16.06	40.34	21.43
116	5580	9.46	9.59	9.98	10.21	15.84	38.38	21.46
143	5715	9.19	9.06	10.11	10.39	15.75	37.55	21.45
148	5740	21.36	21.13	22.06	22.32	27.77	597.79	30.00
158	5790	22.13	21.95	22.25	22.38	28.20	660.84	30.00
169	5845	23.68	23.71	23.52	22.73	29.45	880.71	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (11.08) = 21.44 dBm < 24 dBm.
2. 11 dBm + 10log (11.15) = 21.47 dBm < 24 dBm.
3. 11 dBm + 10log (11.01) = 21.42 dBm < 24 dBm.
4. 11 dBm + 10log (11.05) = 21.43 dBm < 24 dBm.
5. 11 dBm + 10log (11.13) = 21.46 dBm < 24 dBm.
6. 11 dBm + 10log (11.09) = 21.45 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	12.58	12.40	13.08	14.34	19.19	82.98	24.00
40	5200	12.49	12.28	13.19	14.26	19.15	82.16	24.00
48	5240	12.15	12.29	12.74	14.13	18.92	78.02	24.00
52	5260	11.68	11.61	12.35	13.61	18.41	69.35	24.00
60	5300	11.96	11.82	12.17	13.57	18.46	70.14	24.00
64	5320	12.06	12.28	12.11	13.32	18.49	70.71	24.00
100	5500	12.62	12.86	12.21	11.99	18.45	70.05	24.00
116	5580	11.74	12.16	12.52	12.70	18.32	67.86	24.00
140	5700	11.62	11.69	12.72	13.14	18.36	68.59	24.00
149	5745	23.28	23.21	24.22	24.27	29.79	953.77	30.00
157	5785	23.45	23.53	23.94	23.71	29.68	929.44	30.00
165	5825	23.58	23.74	23.65	23.32	29.60	911.15	30.00

Note:
For U-NII-2A, U-NII-2C Band:
1. 11 dBm + 10log (22.10) = 24.44 dBm > 24 dBm.
2. 11 dBm + 10log (22.26) = 24.47 dBm > 24 dBm.
3. 11 dBm + 10log (22.26) = 24.47 dBm > 24 dBm.
4. 11 dBm + 10log (22.10) = 24.44 dBm > 24 dBm.
5. 11 dBm + 10log (22.18) = 24.46 dBm > 24 dBm.
6. 11 dBm + 10log (22.22) = 24.47 dBm > 24 dBm.

<802.11ax HE20_Partial RU>

Channel	Channel Frequency (MHz)	RU Config.	Average Output Power (dBm)				Total Power		Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
36	5180	26/0	0.43	0.71	2.19	3.07	7.76	5.97	24.00
40	5200	26/0	0.46	0.55	2.06	2.79	7.60	5.75	24.00
48	5240	26/8	1.73	2.38	1.75	2.32	8.08	6.42	24.00
52	5260	26/0	1.89	2.16	1.82	2.69	8.17	6.57	24.00
60	5300	26/0	1.77	1.85	1.29	2.18	7.80	6.03	24.00
64	5320	26/8	1.69	1.96	0.58	1.53	7.49	5.61	24.00
100	5500	26/0	2.21	1.74	1.28	1.96	7.83	6.07	24.00
116	5580	26/0	2.25	1.52	1.36	1.95	7.80	6.03	24.00
140	5700	26/8	0.41	2.25	2.48	2.81	8.10	6.46	24.00
149	5745	26/0	14.19	14.02	14.91	13.53	20.21	104.99	30.00
157	5785	26/0	14.63	13.97	14.75	13.16	20.19	104.54	30.00
165	5825	26/8	14.31	14.02	15.45	13.27	20.36	108.52	30.00
36	5180	52/37	0.44	0.61	1.89	2.76	7.55	5.69	24.00
40	5200	52/37	0.25	0.43	1.48	2.89	7.42	5.51	24.00
48	5240	52/40	1.79	2.42	1.71	2.33	8.09	6.45	24.00
52	5260	52/37	1.91	1.56	1.64	2.53	7.95	6.23	24.00
60	5300	52/37	1.71	1.79	1.23	2.29	7.79	6.01	24.00
64	5320	52/40	1.57	1.98	0.74	1.77	7.56	5.70	24.00
100	5500	52/37	2.34	1.73	1.41	1.59	7.80	6.03	24.00
116	5580	52/37	2.23	1.46	1.46	1.80	7.77	5.98	24.00
140	5700	52/40	0.69	2.37	2.52	2.71	8.16	6.55	24.00
149	5745	52/37	17.64	17.41	18.22	17.87	23.82	240.77	30.00
157	5785	52/37	17.09	16.69	17.03	16.24	22.80	190.37	30.00
165	5825	52/40	16.94	16.72	17.53	16.14	22.88	194.16	30.00
36	5180	106/53	9.09	8.92	9.58	10.31	15.53	35.73	24.00
40	5200	106/53	8.97	8.83	9.65	10.49	15.56	35.95	24.00
48	5240	106/54	9.01	9.09	9.42	10.81	15.67	36.87	24.00
52	5260	106/53	8.53	8.32	8.92	10.38	15.14	32.63	24.00
60	5300	106/53	8.36	8.04	8.29	10.07	14.79	30.13	24.00
64	5320	106/54	8.34	8.63	8.45	9.41	14.75	29.85	24.00
100	5500	106/53	9.55	9.62	8.64	8.32	15.09	32.28	24.00
116	5580	106/53	8.38	8.69	8.84	8.43	14.61	28.90	24.00
140	5700	106/54	8.13	8.21	8.54	9.99	14.81	30.25	24.00
149	5745	106/53	20.36	20.24	20.91	21.36	26.76	474.41	30.00
157	5785	106/53	20.02	20.07	20.21	20.43	26.21	417.45	30.00
165	5825	106/54	19.87	20.04	20.19	19.61	25.95	393.86	30.00

Beamforming

<802.11ax HE5>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
35	5175	-1.61	-1.35	0.10	0.89	5.65	3.67	20.70
42	5210	-1.83	-1.28	0.16	0.79	5.61	3.64	20.70
49	5245	0.06	0.20	-0.30	0.49	6.14	4.11	20.70
51	5255	-0.03	0.13	-0.59	0.43	6.02	4.00	14.78
58	5290	0.03	0.07	-0.94	0.12	5.86	3.86	14.69
65	5325	-0.10	-0.20	-1.29	-0.11	5.62	3.65	14.76
99	5495	-0.11	-0.44	-0.26	-0.19	5.77	3.78	14.82
116	5580	-0.06	-0.72	-0.01	0.30	5.91	3.90	14.83
143	5715	-1.43	-0.45	-0.04	0.02	5.58	3.62	14.80
148	5740	15.89	15.61	16.73	16.95	22.35	171.85	26.39
158	5790	15.30	15.23	15.41	15.32	21.34	136.02	26.39
169	5845	15.85	15.93	15.66	15.07	21.66	146.58	26.39

<802.11ax HE10>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)				Total Power		Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3	(dBm)	(mW)	
35	5175	3.49	3.27	4.29	5.07	10.11	10.26	20.70
42	5210	3.71	3.54	3.82	5.44	10.22	10.52	20.70
49	5245	3.54	3.40	4.16	5.51	10.26	10.61	20.70
51	5255	3.00	2.91	3.42	4.93	9.67	9.26	17.75
58	5290	3.25	3.13	3.36	4.99	9.77	9.49	17.78
65	5325	3.37	3.46	3.35	4.62	9.75	9.45	17.73
99	5495	4.14	4.29	3.66	3.95	10.04	10.09	17.82
116	5580	3.44	3.57	3.96	4.19	9.82	9.60	17.85
143	5715	3.17	3.04	4.09	4.37	9.73	9.39	17.84
148	5740	15.34	15.11	16.04	16.30	21.75	149.47	26.39
158	5790	16.11	15.93	16.23	16.36	22.18	165.23	26.39
169	5845	17.66	17.69	17.50	16.71	23.43	220.21	26.39

<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	6.56	6.38	7.06	8.32	13.17	20.75	20.70
40	5200	6.47	6.26	7.17	8.24	13.13	20.54	20.70
48	5240	6.13	6.27	6.72	8.11	12.90	19.51	20.70
52	5260	5.66	5.59	6.33	7.59	12.39	17.34	20.31
60	5300	5.94	5.80	6.15	7.55	12.44	17.54	20.31
64	5320	6.04	6.26	6.09	7.30	12.47	17.68	20.31
100	5500	6.60	6.84	6.19	5.97	12.43	17.51	20.39
116	5580	5.72	6.14	6.50	6.68	12.30	16.97	20.39
140	5700	5.60	5.67	6.70	7.12	12.34	17.15	20.39
149	5745	17.26	17.19	18.20	18.25	23.77	238.47	26.39
157	5785	17.43	17.51	17.92	17.69	23.66	232.39	26.39
165	5825	17.56	17.72	17.63	17.30	23.58	227.82	26.39

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.

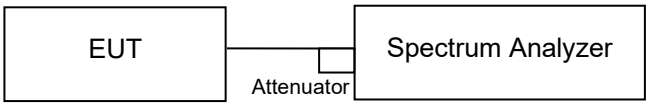
Maximum EIRP of this device is 164.61mW which is less than 500mW, therefore, TPC function is not required..

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

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	FSV	101512	2025/02/26	2026/02/25	2025/7/9	2025/8/14

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.

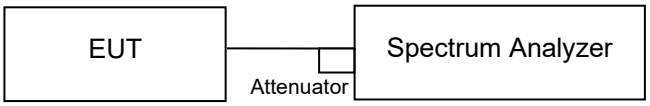
Test Results

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	FSV	101512	2025/02/26	2026/02/25	2025/7/9	2025/8/14

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.

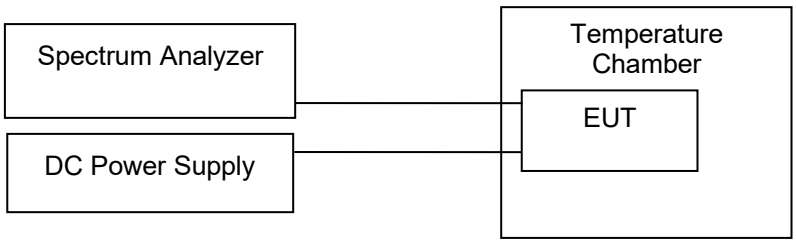
Test Results

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	FSV	101512	2025/02/26	2026/02/25	2025/7/9	2025/8/14

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

Frequency (MHz)	5180			
Voltage (V)	Measurement Frequency (MHz)			Max. Deviation (ppm)
13.2	5179.98292			3.297
12	5179.98263			3.353
10.8	5179.98379			3.129
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
50	5179.95745	5179.95456	5179.95572	5179.95456
40	5179.96353	5179.96064	5179.95774	5179.95977
30	5179.97511	5179.9725	5179.97164	5179.97106
20	5179.98263	5179.98177	5179.98205	5179.98177
10	5180.00984	5180.0026	5180.00376	5180.00492
0	5180.02981	5180.03039	5180.03155	5180.03126
-10	5180.05557	5180.05644	5180.0547	5180.05615
Max. Deviation (ppm)	10.728	10.896	10.560	10.840

5.1.7 Power Spectral Density

Limit

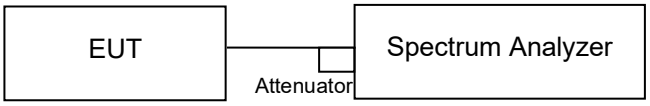
For the 5.15~5.25GHz Bands:
For mobile and portable client devices in the 5.15~5.25GHz band, the Maximum Power spectral density shall not exceed 11dBm/MHz. For an indoor access point operating in the band 5.15~5.25GHz, the maximum power spectral density shall not exceed 17dBm/MHz.

For the 5.25~5.35GHz and 5.47~5.725GHz Bands:
The maximum power spectral density shall not exceed 11dBm/MHz.

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	FSV	101512	2025/02/26	2026/02/25	2025/7/9	2025/8/14

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

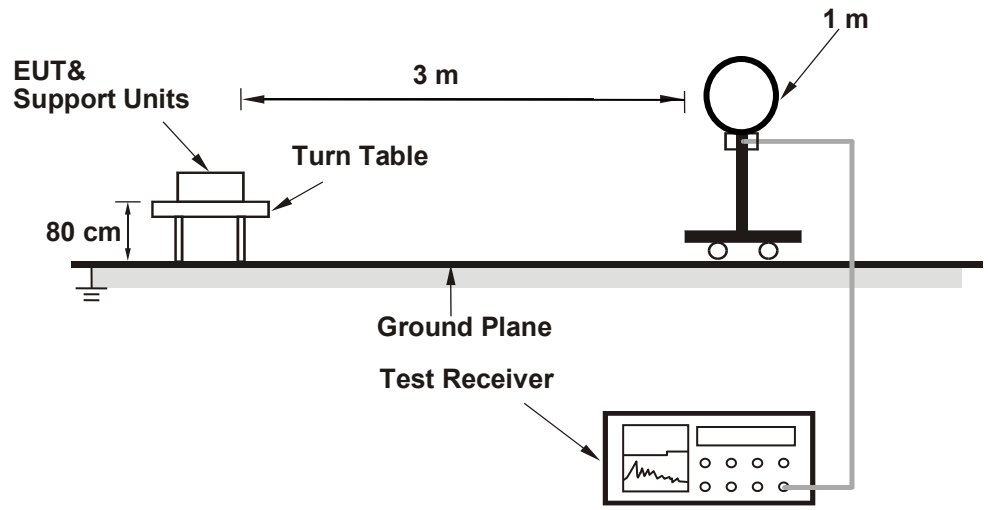
Limit

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).

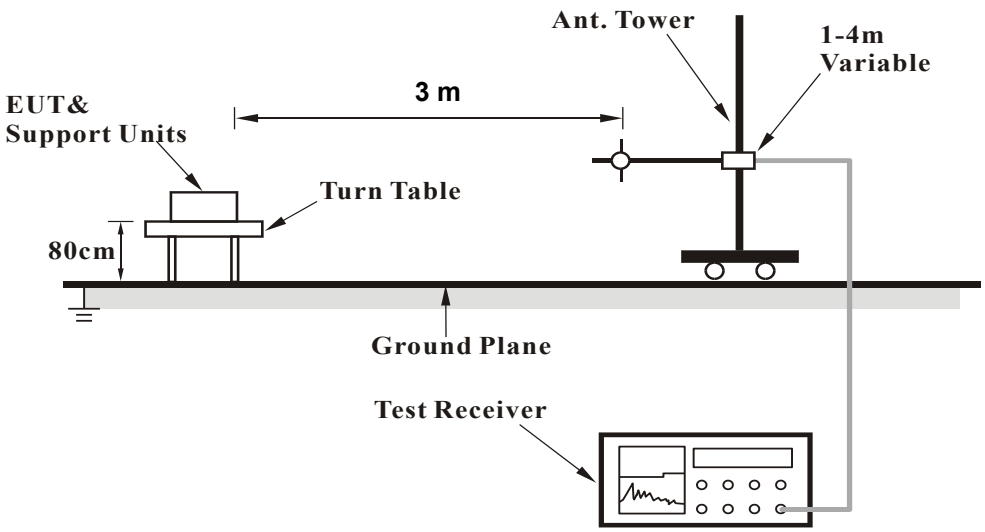
Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup

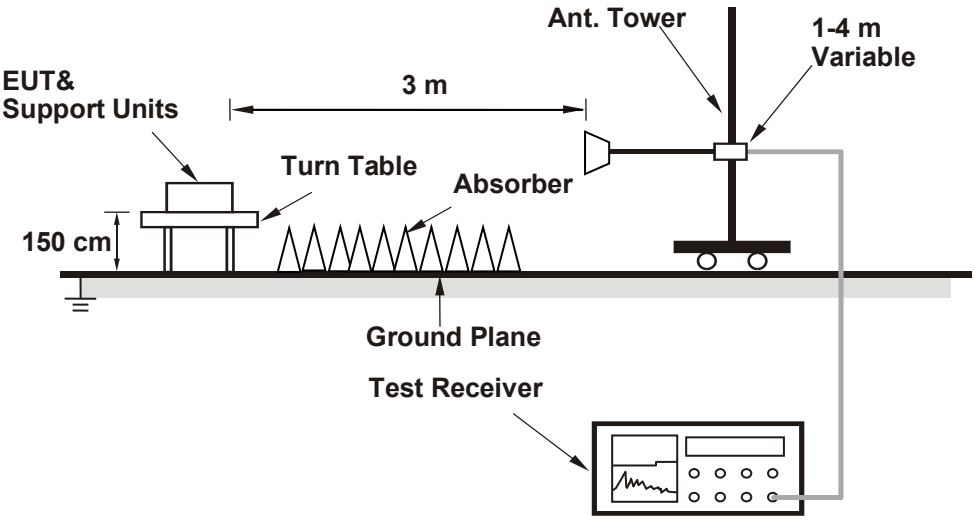
<Radiated Emissions below 30 MHz>



<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
Above 1 GHz					
Signal Analyzer	R&S	FSV40	101509	2025/5/7	2026/5/6
Horn Antenna	ETS-Lindgren	3117	00218930	2024/12/10	2025/12/9
Horn Antenna	SCHWARZBECK	BBHA 9170	00887	2025/3/28	2026/3/27
Amplifier	EM	EM01G18GA	060967	2025/4/2	2026/4/1
HF-AMP + AC source	EMCI	EMC184045SE	980657	2025/2/4	2026/2/3
Test Software	Audix E3	15914a_20191106 tuv	PK-001087	N/A	N/A
30 MHz ~ 1 GHz					
Receiver	R&S	ESR7	102109	2025/2/13	2026/2/12
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2025/4/8	2026/4/7
LF-AMP	Agilent	8447D	2944A107722	2025/3/19	2026/3/18
Test Software	Audix E3	15914a_20191106 tuv	PK-001087	N/A	N/A
Below 30 MHz					
Receiver	R&S	ESR7	102109	2025/2/13	2026/2/12
Loop Antenna	SCHWARZBECK	FMZB 1519B	00215	2024/12/11	2025/12/10
Test Software	Audix E3	15914a_20191106 tuv	PK-001087	N/A	N/A

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.
6. The emission levels of other frequencies (including the 10th harmonic of the highest fundamental frequency) are very lower than the limit and are not shown in the test report.

Test Results

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) – Amplifier (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.	

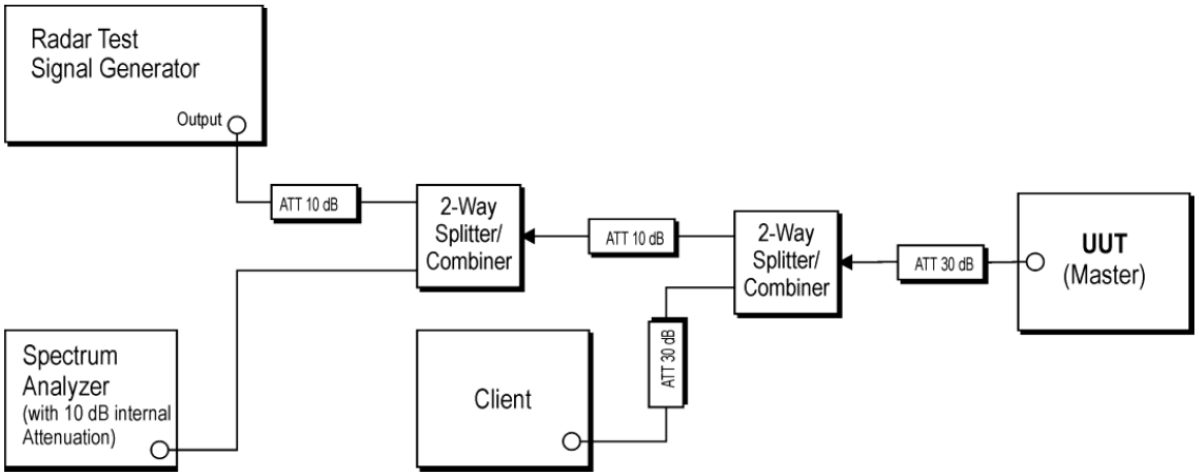
<DFS Response Requirement Values>

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.	

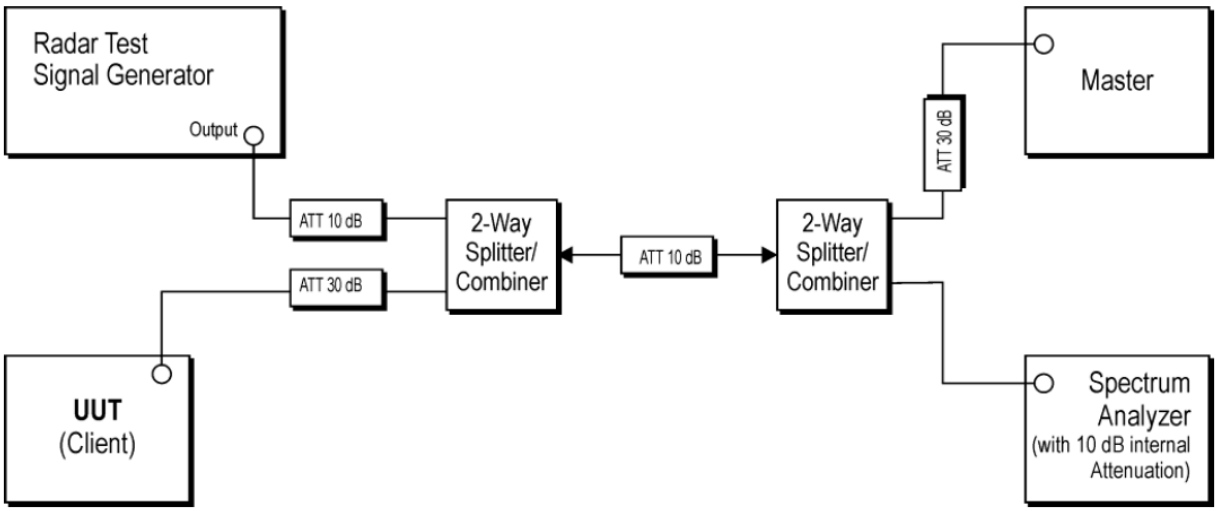
Kind of Test Site Shielded room

Test Setup

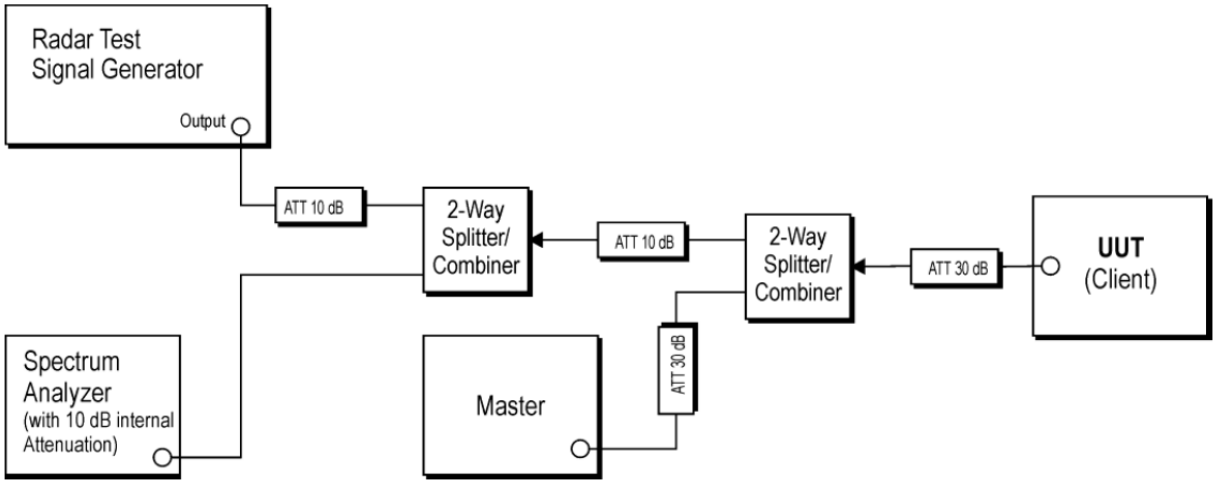
<Setup for Master with injection at the Master>



<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
Spectrum Analyzer	Keysight	N9000B	MY62361339	2025/02/13	2026/02/12	2025/7/10	2025/7/10
EXG Vector Signal Generator	Keysight	N5172B	MY61253270	2024/12/24	2025/12/23	2025/7/10	2025/7/10
Frequency Extender	Keysight	N5182BX07	MY61500182	2024/12/24	2025/12/23	2025/7/10	2025/7/10

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

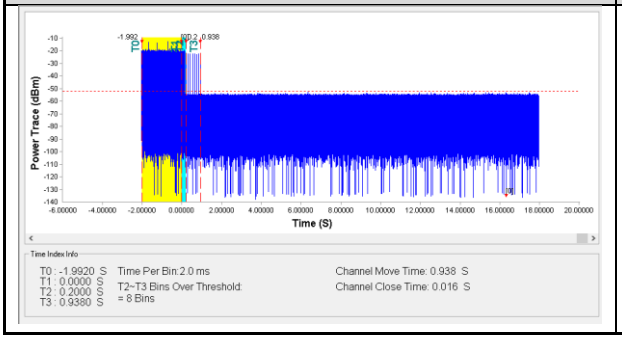
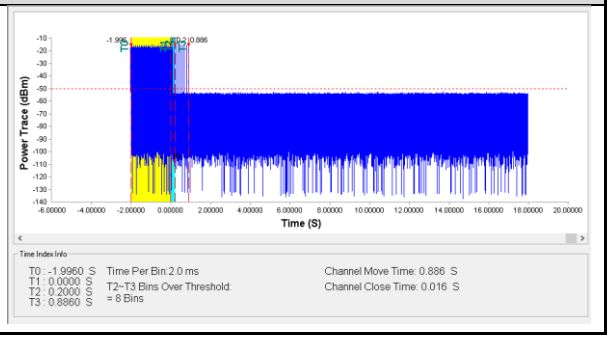
Band 2	Band 3
	

Channel Moving Time

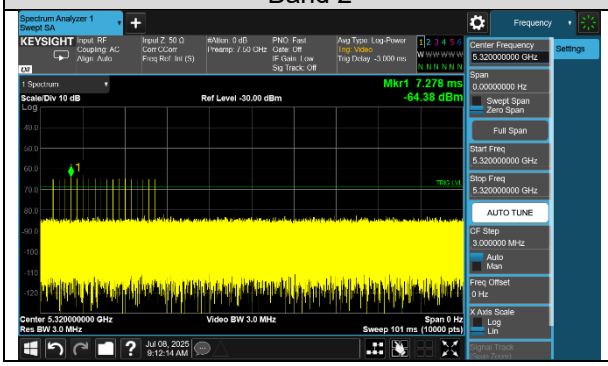
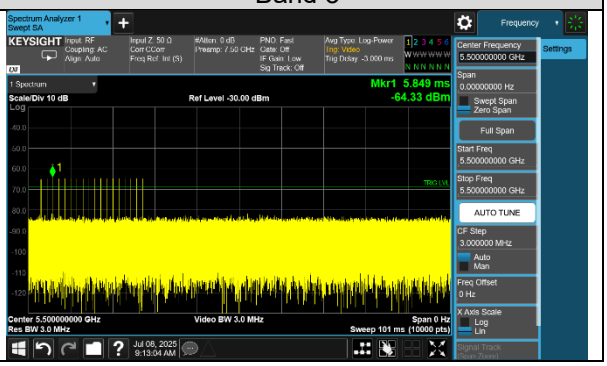
Channel (MHz)	Channel Move Time (s)	Limit (s)	Result
5320	0.938	10	Pass
5500	0.886	10	Pass

Channel Closing Transmission Time

Channel (MHz)	Channel Closing Transmission Time (ms)	Limit (ms)	Result
5320	16	60	Pass
5500	16	60	Pass

Channel Shutdown	
5320 MHz	5500 MHz
	

Radar Level

Band 2	Band 3
	

5.2 Mains Emission

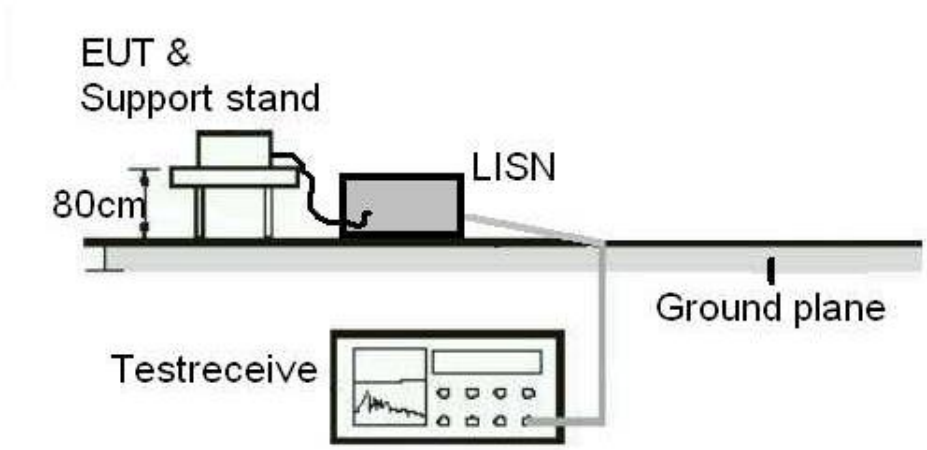
5.2.1 Mains Conducted Emission

Limit

Mains Conducted emissions as defined in §15.207 must comply with the mains conducted emission limits.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Two-Line V-Network	Rohde & Schwarz	ENV216	101938	2024/10/22	2025/10/21
Test Software	Audix	e3	Ver. 9	N/A	N/A

Test Procedures

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz – 30 MHz.

Test Results

Please refer to Appendix B.