FCC RF Test Report

APPLICANT	:	Quectel Wireless Solutions Co., Ltd.
EQUIPMENT	:	Smart Module
BRAND NAME	:	Quectel
MODEL NAME	:	SG560D-WF
FCC ID	:	XMR2023SG560DWF
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	15E 6 GHz Low Power Indoor Access Point (6ID)
TEST DATE(S)	:	Sep. 14, 2024 ~ Sep. 30, 2024

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

This report contains data that were produced under subcontract by Sporton International Inc. (ShenZhen)

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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History of this test report

Report No.	Version	Description	Issued Date
FR482209E	01	Initial issue of report	Oct. 23, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.407(a)(5)	Maximum Conducted Output Power	Reporting only	-
3.1	15.407(a)(5)	Fundamental Maximum EIRP	Pass	-
3.2	15.407(d)(6)	Contention Based Protocol	Pass	
3.3	15.407(b)	Unwanted Emissions	Pass	Under limit 3.56 dB at 287.05 MHz
3.4	15.203 15.407(a)	Antenna Requirement	Pass	-

Remark : This is a variant report, the change note could be referred to the Class II Permissive Change letter which is exhibit separately. According to the differences, only the related test cases were verified from original test report (Report Number KSCR231200230501).

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. 2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Applicant

Quectel Wireless Solutions Co., Ltd.
Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, 200233, China

1.2 Manufacturer

Quectel Wireless Solutions Co., Ltd.
Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, 200233, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smart Module
Brand Name	Quectel
Model Name	SG560D-WF
FCC ID	XMR2023SG560DWF
SN Code	Conducted/CBP: D1C24CG10000191 Radiation: 6d896798
HW Version	R2.0
SW Version	SG560DWFPBR03A01
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	U-NII-5: 5925 MHz ~ 6425 MHz U-NII-6: 6425 MHz ~ 6525 MHz U-NII-7: 6525 MHz ~ 6875 MHz U-NII-8: 6875 MHz ~ 7125 MHz
Maximum EIRP	**<MIMO Ant.1+2>** **<5925 MHz ~ 7125 MHz >** 802.11a : 12.19 dBm / 0.0166 W 802.11ax HE20 : 12.19 dBm / 0.0166 W 802.11ax HE40 : 14.96 dBm / 0.0313 W 802.11ax HE80 : 18.19 dBm / 0.0659 W 802.11ax HE160 : 20.08 dBm / 0.1019 W
Antenna Type / Gain	**<5925 MHz ~ 6425 MHz >** <Ant. 1> : Dipole Antenna with gain -0.90 dBi <Ant. 2> : Dipole Antenna with gain -0.90 dBi **<6425 MHz ~ 6525 MHz >** <Ant. 1> : Dipole Antenna with gain -0.90 dBi <Ant. 2> : Dipole Antenna with gain -0.90 dBi **<6525 MHz ~ 6875 MHz >** <Ant. 1> : Dipole Antenna with gain 0.40 dBi <Ant. 2> : Dipole Antenna with gain 0.40 dBi **<6875 MHz ~ 7125 MHz >** <Ant. 1> : Dipole Antenna with gain 1.60 dBi <Ant. 2> : Dipole Antenna with gain 1.60 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac/ax : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)

Remark:

1. The EUT does not support channel puncturing mode.
2. CBP test with antenna path of minimum gain (Minimum gain= -0.90 dBi).

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-KS DFS01-KS	CN1257	314309

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	CN1256	421272

Note: Test data subcontracted: Radiation test case in section 3.2 of this report

1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH04-SZ	AUDIX	E3	6.2009-8-24

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart E
- FCC KDB 987594 D02 U-NII 6 GHz EMC Measurement v02r01
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

2.1 Carrier Frequency and Channel

<U-NII-5, 6, 7, 8>

BW 20M	**Channel**	1	5	9	13	17	21	25	29
	Freq. (MHz)	5955	5975	5995	6015	6035	6055	6075	6095
BW 40M	**Channel**	3		11		19		27	
	Freq. (MHz)	5965		6005		6045		6085	
BW 80M	**Channel**	7				23			
	Freq. (MHz)	5985				6065			
BW 160M	**Channel**	15							
	Freq. (MHz)	6025							

BW 20M	**Channel**	33	37	41	45	49	53	57	61
	Freq. (MHz)	6115	6135	6155	6175	6195	6215	6235	6255
BW 40M	**Channel**	35		43		51		59	
	Freq. (MHz)	6125		6165		6205		6245	
BW 80M	**Channel**	39				55			
	Freq. (MHz)	6145				6225			
BW 160M	**Channel**	47							
	Freq. (MHz)	6185							

BW 20M	**Channel**	65	69	73	77	81	85	89	93
	Freq. (MHz)	6275	6295	6315	6335	6355	6375	6395	6415
BW 40M	**Channel**	67		75		83		91	
	Freq. (MHz)	6285		6325		6365		6405	
BW 80M	**Channel**	71				87			
	Freq. (MHz)	6305				6385			
BW 160M	**Channel**	79							
	Freq. (MHz)	6345							

BW 20M	Channel	97	101	105	109	113	117	121	125
	Freq. (MHz)	6435	6455	6475	6495	6515	6535	6555	6575
BW 40M	Channel	99		107		115		123	
	Freq. (MHz)	6445		6485		6525		6565	
BW 80M	Channel	103				119			
	Freq. (MHz)	6465				6545			
BW 160M	Channel	111							
	Freq. (MHz)	6505							

BW 20M	Channel	129	133	137	141	145	149	153	157
	Freq. (MHz)	6595	6615	6635	6655	6675	6695	6715	6735
BW 40M	Channel	131		139		147		155	
	Freq. (MHz)	6605		6645		6685		6725	
BW 80M	Channel	135				151			
	Freq. (MHz)	6625				6705			
BW 160M	Channel	143							
	Freq. (MHz)	6665							

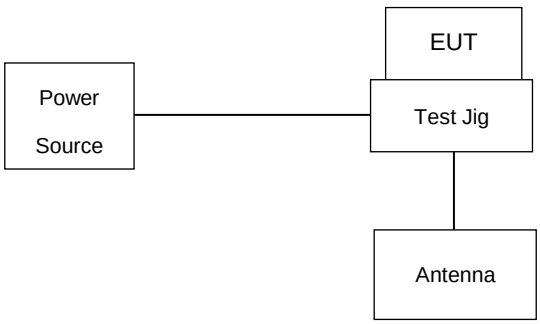
BW 20M	Channel	161	165	169	173	177	181	185	189
	Freq. (MHz)	6755	6775	6795	6815	6835	6855	6875	6895
BW 40M	Channel	163		171		179		187	
	Freq. (MHz)	6765		6805		6845		6885	
BW 80M	Channel	167				183			
	Freq. (MHz)	6785				6865			
BW 160M	Channel	175							
	Freq. (MHz)	6825							

BW 20M	Channel	193	197	201	205	209	213	217	221
	Freq. (MHz)	6915	6935	6955	6975	6995	7015	7035	7055
BW 40M	Channel	195		203		211		219	
	Freq. (MHz)	6925		6965		7005		7045	
BW 80M	Channel	199				215			
	Freq. (MHz)	6945				7025			
BW 160M	Channel	207							
	Freq. (MHz)	6985							

BW 20M	Channel	225	229	233
	Freq. (MHz)	7075	7095	7115
BW 40M	Channel	227		
	Freq. (MHz)	7085		

2.2 Connection Diagram of Test System

Radiated Emission:



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Adapter	N/A	N/A	N/A	N/A	N/A
2.	Antenna	N/A	N/A	N/A	N/A	N/A
3.	Test Jig	N/A	N/A	N/A	N/A	N/A

2.4 EUT Operation Test Setup

For WLAN RF test items, an engineering test program (QRCT TX Tool) was provided and enabled to make EUT continuously transmit.

3 Test Result

3.1 Maximum conducted Output Power and Fundamental Maximum EIRP Measurement

3.1.1 Limit of Fundamental Maximum EIRP

<FCC 14-30 CFR 15.407>

(a)(5) For an indoor access point operating in the 5.925-7.125 GHz band, the maximum e.i.r.p. over the frequency band of operation must not exceed 30dBm.

3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

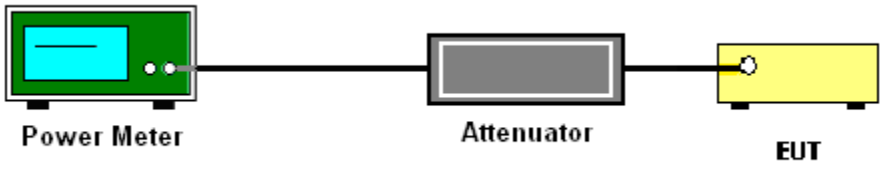
3.1.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, 10 log(1/x), where x is the duty cycle.
4. For MIMO mode, the measure-and-sum technique should be used for measuring the in-band transmit power of a device.

3.1.4 Test Setup



3.1.5 Test Result of Fundamental Maximum EIRP

U-NII-5 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	SUM			Ant 1	Ant 2
11a	6Mbps	2	001	5955	0.04	0.03	5.81	5.48	8.66	-0.90		7.76	30.00	Pass	6	
11a	6Mbps	2	045	6175	0.04	0.03	4.36	4.86	7.63	-0.90		6.73	30.00	Pass	5	
11a	6Mbps	2	093	6415	0.04	0.03	5.92	6.26	9.11	-0.90		8.21	30.00	Pass	6.5	

U-NII-6 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	SUM			Ant 1	Ant 2
11a	6Mbps	2	097	6435	0.04	0.03	5.87	6.35	9.13	-0.90		8.23	30.00	Pass	6	
11a	6Mbps	2	105	6475	0.04	0.03	5.33	5.90	8.64	-0.90		7.74	30.00	Pass	5.5	
11a	6Mbps	2	113	6515	0.04	0.03	5.55	6.49	9.06	-0.90		8.16	30.00	Pass	5.5	

U-NII-7 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	SUM			Ant 1	Ant 2
11a	6Mbps	2	117	6535	0.04	0.03	5.37	6.27	8.86	0.40		9.26	30.00	Pass	5.5	
11a	6Mbps	2	149	6695	0.04	0.03	4.77	5.67	8.26	0.40		8.66	30.00	Pass	5.5	
11a	6Mbps	2	181	6855	0.04	0.03	5.13	5.47	8.32	0.40		8.72	30.00	Pass	5	

U-NII-8 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	SUM			Ant 1	Ant 2
11a	6Mbps	2	185	6875	0.04	0.03	4.90	5.04	7.98	1.60		9.58	30.00	Pass	5	
11a	6Mbps	2	189	6895	0.04	0.03	6.94	7.01	9.99	1.60		11.59	30.00	Pass	7	
11a	6Mbps	2	209	6995	0.04	0.03	6.71	6.87	9.80	1.60		11.40	30.00	Pass	6.5	
11a	6Mbps	2	233	7115	0.04	0.03	7.89	7.25	10.59	1.60		12.19	30.00	Pass	2	

U-NII-5 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting
						Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	SUM			
HE20	MCS0	2	001	5955	Full	0.00	0.00	6.34	6.09	9.23	-0.90		8.33	30.00	Pass	6.5
HE20	MCS0	2	045	6175	Full	0.00	0.00	5.78	5.89	8.84	-0.90		7.94	30.00	Pass	6
HE20	MCS0	2	093	6415	Full	0.00	0.00	5.98	6.49	9.25	-0.90		8.35	30.00	Pass	6.5
HE40	MCS0	2	003	5965	Full	0.00	0.00	9.58	8.95	12.29	-0.90		11.39	30.00	Pass	9.5
HE40	MCS0	2	043	6165	Full	0.00	0.00	8.47	8.21	11.35	-0.90		10.45	30.00	Pass	8.5
HE40	MCS0	2	091	6405	Full	0.00	0.00	8.59	8.98	11.80	-0.90		10.90	30.00	Pass	9
HE80	MCS0	2	007	5985	Full	0.00	0.00	12.41	11.69	15.08	-0.90		14.18	30.00	Pass	12.5
HE80	MCS0	2	039	6145	Full	0.00	0.00	11.41	11.18	14.31	-0.90		13.41	30.00	Pass	11.5
HE80	MCS0	2	087	6385	Full	0.00	0.00	10.98	11.44	14.23	-0.90		13.33	30.00	Pass	12
HE160	MCS0	2	015	6025	Full	0.03	0.05	14.62	13.76	17.22	-0.90		16.32	30.00	Pass	14.5
HE160	MCS0	2	047	6185	Full	0.03	0.05	14.41	14.36	17.39	-0.90		16.49	30.00	Pass	14.5
HE160	MCS0	2	079	6345	Full	0.03	0.05	14.56	14.52	17.55	-0.90		16.65	30.00	Pass	15

U-NII-6 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting
						Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	SUM			
HE20	MCS0	2	097	6435	Full	0.00	0.00	6.64	7.06	9.87	-0.90		8.97	30.00	Pass	6.5
HE20	MCS0	2	105	6475	Full	0.00	0.00	6.56	6.87	9.73	-0.90		8.83	30.00	Pass	6.5
HE20	MCS0	2	113	6515	Full	0.00	0.00	6.12	7.03	9.61	-0.90		8.71	30.00	Pass	6
HE40	MCS0	2	099	6445	Full	0.00	0.00	8.92	9.49	12.22	-0.90		11.32	30.00	Pass	9
HE40	MCS0	2	107	6485	Full	0.00	0.00	8.99	9.33	12.17	-0.90		11.27	30.00	Pass	9
HE40	MCS0	2	115	6525	Full	0.00	0.00	8.56	9.43	12.03	-0.90		11.13	30.00	Pass	8.5
HE80	MCS0	2	103	6465	Full	0.00	0.00	11.89	12.62	15.28	-0.90		14.38	30.00	Pass	12
HE80	MCS0	2	119	6545	Full	0.00	0.00	12.21	13.03	15.65	-0.90		14.75	30.00	Pass	12
HE160	MCS0	2	111	6505	Full	0.03	0.05	15.32	16.14	18.76	-0.90		17.86	30.00	Pass	15

U-NII-7 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting
						Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	SUM			
HE20	MCS0	2	117	6535	Full	0.00	0.00	6.66	7.33	10.02	0.40		10.42	30.00	Pass	6.5
HE20	MCS0	2	149	6695	Full	0.00	0.00	5.75	6.90	9.37	0.40		9.77	30.00	Pass	6.5
HE20	MCS0	2	181	6855	Full	0.00	0.00	5.84	6.32	9.10	0.40		9.50	30.00	Pass	5.5
HE40	MCS0	2	123	6565	Full	0.00	0.00	8.66	9.73	12.24	0.40		12.64	30.00	Pass	9
HE40	MCS0	2	147	6685	Full	0.00	0.00	8.31	9.42	11.91	0.40		12.31	30.00	Pass	9
HE40	MCS0	2	179	6845	Full	0.00	0.00	8.26	8.84	11.57	0.40		11.97	30.00	Pass	8
HE80	MCS0	2	135	6625	Full	0.00	0.00	11.96	12.68	15.35	0.40		15.75	30.00	Pass	12.5
HE80	MCS0	2	151	6705	Full	0.00	0.00	11.33	12.33	14.87	0.40		15.27	30.00	Pass	12
HE80	MCS0	2	167	6785	Full	0.00	0.00	11.56	12.25	14.93	0.40		15.33	30.00	Pass	11.5
HE160	MCS0	2	143	6665	Full	0.03	0.05	14.66	15.41	18.06	0.40		18.46	30.00	Pass	15

U-NII-8 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting
						Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	SUM			
HE20	MCS0	2	185	6875	Full	0.00	0.00	5.85	5.77	8.82	1.60		10.42	30.00	Pass	5.5
HE20	MCS0	2	189	6895	Full	0.00	0.00	7.58	7.58	10.59	1.60		12.19	30.00	Pass	7.5
HE20	MCS0	2	209	6995	Full	0.00	0.00	7.28	7.49	10.40	1.60		12.00	30.00	Pass	7
HE20	MCS0	2	233	7115	Full	0.00	0.00	-9.93	-12.78	-8.11	1.60		-6.51	30.00	Pass	-12.5
HE40	MCS0	2	187	6885	Full	0.00	0.00	10.32	10.38	13.36	1.60		14.96	30.00	Pass	10
HE40	MCS0	2	195	6925	Full	0.00	0.00	9.79	10.08	12.95	1.60		14.55	30.00	Pass	9.5
HE40	MCS0	2	203	6965	Full	0.00	0.00	9.69	10.03	12.87	1.60		14.47	30.00	Pass	9.5
HE40	MCS0	2	227	7085	Full	0.00	0.00	10.07	9.52	12.81	1.60		14.41	30.00	Pass	9
HE80	MCS0	2	183	6865	Full	0.00	0.00	11.45	11.47	14.47	1.60		16.07	30.00	Pass	11
HE80	MCS0	2	199	6945	Full	0.00	0.00	12.85	12.73	15.80	1.60		17.40	30.00	Pass	12.5
HE80	MCS0	2	215	7025	Full	0.00	0.00	13.61	13.55	16.59	1.60		18.19	30.00	Pass	13
HE160	MCS0	2	175	6825	Full	0.00	0.00	15.24	15.70	18.48	1.60		20.08	30.00	Pass	14.5
HE160	MCS0	2	207	6985	Full	0.03	0.05	14.06	14.03	17.05	1.60		18.65	30.00	Pass	13.5

3.2 Contention Based Protocol

3.2.1 Limit of Contention Based Protocol

<FCC 14-30 CFR 15.407>

(d)(6) All U-NII transmitters, except for standard power access points and fixed client devices, operating in the 5.925-7.125 GHz band must employ a contention-based protocol.

Unlicensed low-power indoor devices must detect co-channel radio frequency power that is at least -62 dBm or lower. Upon detection of energy in the band, unlicensed low power indoor devices must vacate the channel and stay off the channel as long as detected radio frequency power is equal to or greater than the threshold (-62 dBm). The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain. To ensure incumbent operations are reliably detected in the band, low power indoor devices must detect RF energy throughout their intended operating channel. For example, an 802.11 device that plans to transmit a 40 MHz- wide signal (on a primary 20 MHz channel and a secondary 20 MHz channel) must detect energy throughout the entire 40 MHz channel. Additionally, low-power indoor devices must detect co-channel energy with 90% or greater certainty.

Table 1. Criteria to determine number of times detection threshold test may be performed

If	Number of Tests	Placement of Incumbent Transmission
$BW_{EUT} \leq BW_{Inc}$	Once	Tune incumbent and EUT transmissions ($f_{c1} = f_{c2}$)
$BW_{Inc} < BW_{EUT} \leq 2BW_{Inc}$	Once	Incumbent transmission is contained within BW_{EUT}
$2BW_{Inc} < BW_{EUT} \leq 4BW_{Inc}$	Twice. Incumbent transmission is contained within BW_{EUT}	Incumbent transmission is located as closely as possible to the lower edge and upper edge, respectively, of the EUT channel
$BW_{EUT} > 4BW_{Inc}$	Three times	Incumbent transmission is located as closely as possible to the lower edge of the EUT channel, in the middle of EUT channel, and as closely as possible to the upper edge of the EUT channel

where:
$BWEUT$: Transmission bandwidth of EUT signal
$BWInc$: Transmission bandwidth of the simulated incumbent signal (10 MHz wide AWGN signal)
$fc1$: Center frequency of EUT transmission
$fc2$: Center frequency of simulated incumbent signal

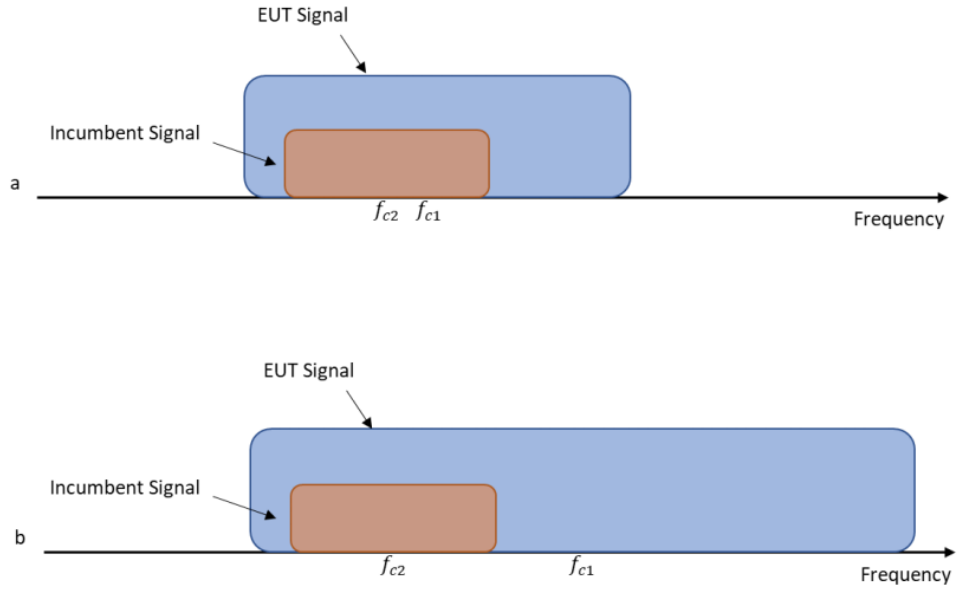


Figure 1. Two possible scenarios where a) center frequency of EUT transmission falls within incumbent's bandwidth, or b) outside of it

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 Test Procedures

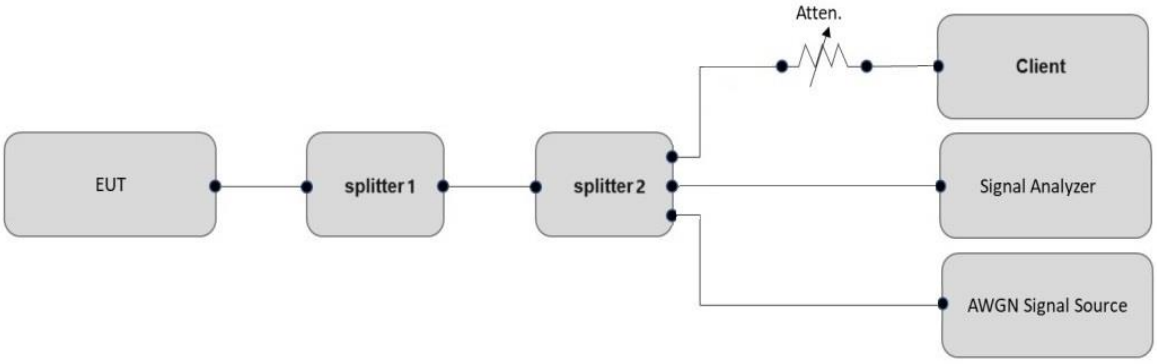
1. To ensure EUT reliably detects an incumbent signal in both scenarios shown in Figure 1, the detection threshold test may be repeated more than once with the incumbent signal (having center frequency $fc2$) tuned to different center frequencies within the UT transmission bandwidth. The criteria specified in Table 1 determines how many times the detection threshold test must be performed
2. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.
3. Monitor the signal analyzer to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.
4. (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.
5. Refer to Table 1 to determine number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 2, choose a different center

frequency for the AWGN signal and repeat the process.

6. EUT was driven in MIMO mode, the interferer signal was injected to both chains to monitor the performance, while the interferer level is determined according to the lowest antenna gain among both antennas.

3.2.4 Test Setup

Conducted Setup



3.2.5 Support Unit used in test configuration and system

Instrument	Brand Name	Model No.	Characteristics
Signal Generator	Keysight	5182B/5182BX07	9KHz~7.2GHz
Spectrum Analyzer	R&S	FSV40	10kHz~40GHz
Terminal (NB Server)	DELL	P78G	LAN
Combiner (splitter1)	Tojoin	N/A	2G~8GHz
Combiner (splitter2)	MTJ Cooperation	MTJ7144-M	0.5GHz~18GHz
Attenuator	Keysight	8494B	0-110dBm
Client (phone)	N/A	N/A	N/A

3.2.6 Test Summary of Contention Based Protocol Test

Band	Channel Freq. (MHz)	Channel BW (MHz)	Incumbent freq. (MHz)	Injected AWGN Level (dBm)	Detection Rate (%)	Regulated Threshold level (dBm)	Adjusted Power (dBm)	Margin (dB)
UNII Band 5	6135	20	6135	-72.81	100	-62	-71.91	9.91
					Result: Stop Transmission			
				-73.81	< 90	-62	-72.91	10.91
					Result: Minimal Operation			
				-74.51	= 0	-62	-73.61	11.61
					Result: Normal Operation			
	6185	160	6110	-67.99	100	-62	-67.09	5.09
					Result: Stop Transmission			
				-68.99	< 90	-62	-68.09	6.09
					Result: Minimal Operation			
				-70.01	= 0	-62	-69.11	7.11
					Result: Normal Operation			
			6185	-63.20	100	-62	-62.3	0.3
					Result: Stop Transmission			
				-64.20	< 90	-62	-63.3	1.3
					Result: Minimal Operation			
				-65.27	= 0	-62	-64.37	2.37
					Result: Normal Operation			
			6260	-66.21	100	-62	-65.31	3.31
					Result: Stop Transmission			
				-67.21	< 90	-62	-66.31	4.31
					Result: Minimal Operation			
				-69.59	= 0	-62	-68.69	6.69
					Result: Normal Operation			

Note 1: Adjusted Power = Injected AWGN Level - minimum antenna gain (gain = -0.9dBi)

Note 2: Path Loss between antenna and RF connector is negligible. (0 dB)

Note 3: Margin = Regulated Threshold level - Adjusted Power

Band	Channel Freq. (MHz)	Channel BW (MHz)	Incumbent freq. (MHz)	Injected AWGN Level (dBm)	Detection Rate (%)	Regulated Threshold level (dBm)	Adjusted Power (dBm)	Margin (dB)
UNII Band 6	6455	20	6455	-70.33	100	-62	-69.43	7.43
					Result: Stop Transmission			
				-71.33	< 90	-62	-70.43	8.43
					Result: Minimal Operation			
				-73.92	= 0	-62	-73.02	11.02
					Result: Normal Operation			
	6505	160	6430	-67.40	100	-62	-66.5	4.5
					Result: Stop Transmission			
				-68.40	< 90	-62	-66.5	4.5
					Result: Minimal Operation			
				-69.35	= 0	-62	-68.45	6.45
					Result: Normal Operation			
			6505	**-63.06 (worst)**	100	-62	-62.16	0.16
					Result: Stop Transmission			
				-64.06	< 90	-62	-63.16	1.16
					Result: Minimal Operation			
				-64.38	= 0	-62	-63.48	1.48
					Result: Normal Operation			
			6580	-67.55	100	-62	-66.65	4.65
					Result: Stop Transmission			
				-68.55	< 90	-62	-67.65	5.65
					Result: Minimal Operation			
				-69.55	= 0	-62	-68.65	6.65
					Result: Normal Operation			

Note 1: Adjusted Power = Injected AWGN Level - minimum antenna gain (gain = -0.9dBi)

Note 2: Path Loss between antenna and RF connector is negligible. (0 dB)

Note 3: Margin = Regulated Threshold level - Adjusted Power

Band	Channel Freq. (MHz)	Channel BW (MHz)	Incumbent freq. (MHz)	Injected AWGN Level (dBm)	Detection Rate (%)	Regulated Threshold level (dBm)	Adjusted Power (dBm)	Margin (dB)
UNII Band 7	6695	20	6695	-72.77	100	-62	-71.87	9.87
					Result: Stop Transmission			
				-73.77	< 90	-62	-72.87	10.87
					Result: Minimal Operation			
				-74.43	= 0	-62	-73.53	11.53
					Result: Normal Operation			
	6665	160	6590	-70.93	100	-62	-70.03	8.03
					Result: Stop Transmission			
				-71.93	< 90	-62	-71.03	9.03
					Result: Minimal Operation			
				-72.97	= 0	-62	-71.03	9.03
					Result: Normal Operation			
			6665	-68.07	100	-62	-67.17	5.17
					Result: Stop Transmission			
				-69.07	< 90	-62	-68.17	6.17
					Result: Minimal Operation			
				-69.63	= 0	-62	-68.73	6.73
					Result: Normal Operation			
			6740	-71.27	100	-62	-70.37	8.37
					Result: Stop Transmission			
				-72.27	< 90	-62	-71.37	9.37
					Result: Minimal Operation			
				-72.99	= 0	-62	-72.09	10.09
					Result: Normal Operation			

Note 1: Adjusted Power = Injected AWGN Level - minimum antenna gain (gain = -0.9dBi)

Note 2: Path Loss between antenna and RF connector is negligible. (0 dB)

Note 3: Margin = Regulated Threshold level - Adjusted Power

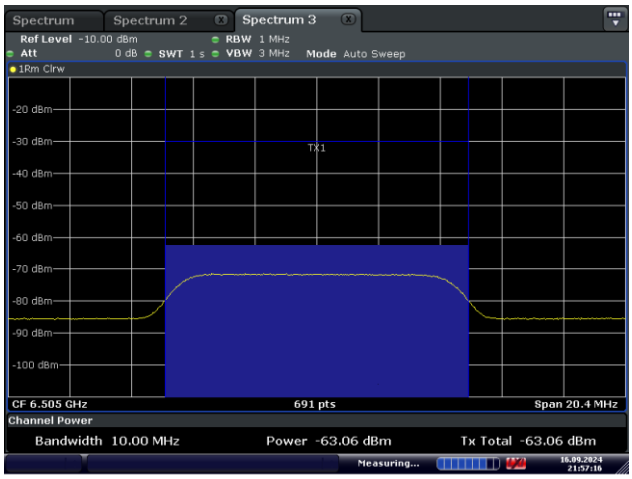
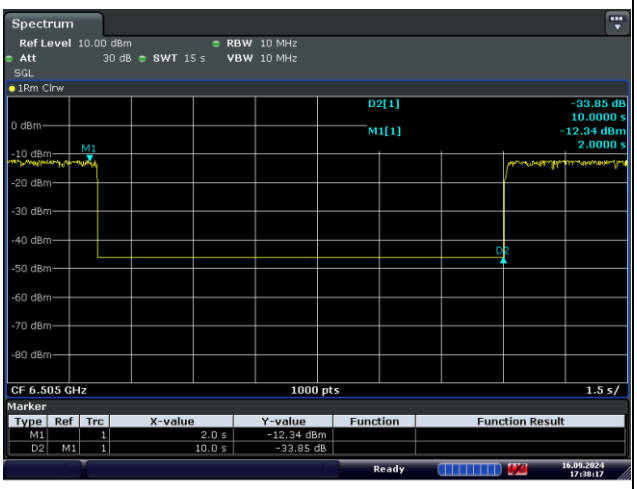
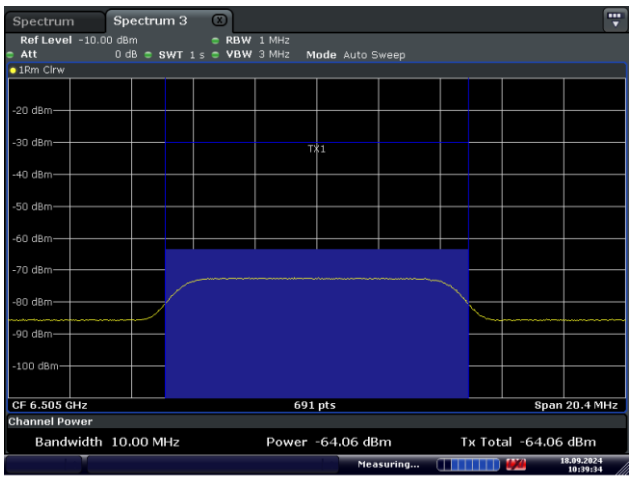
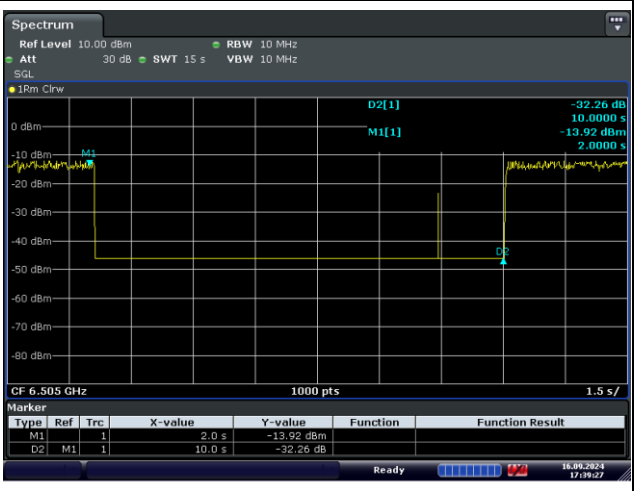
Band	Channel Freq. (MHz)	Channel BW (MHz)	Incumbent freq. (MHz)	Injected AWGN Level (dBm)	Detection Rate (%)	Regulated Threshold level (dBm)	Adjusted Power (dBm)	Margin (dB)
UNII Band 8	7015	20	7015	-74.42	100	-62	-73.52	11.52
					Result: Stop Transmission			
				-75.42	< 90	-62	-74.52	12.52
					Result: Minimal Operation			
				-76.63	= 0	-62	-75.73	13.73
					Result: Normal Operation			
	6985	160	6910	-70.94	100	-62	-70.04	8.04
					Result: Stop Transmission			
				-71.94	< 90	-62	-70.04	8.04
					Result: Minimal Operation			
				-72.12	= 0	-62	-71.22	9.22
					Result: Normal Operation			
			6985	-68.55	100	-62	-67.65	5.65
					Result: Stop Transmission			
				-69.55	< 90	-62	-68.65	6.65
					Result: Minimal Operation			
				-70.01	= 0	-62	-69.11	7.11
					Result: Normal Operation			
			7060	-69.11	100	-62	-68.21	6.21
					Result: Stop Transmission			
				-70.11	< 90	-62	-69.21	7.21
					Result: Minimal Operation			
				-71.30	= 0	-62	-70.4	8.4
					Result: Normal Operation			

Note 1: Adjusted Power = Injected AWGN Level - minimum antenna gain (gain = -0.9dBi)

Note 2: Path Loss between antenna and RF connector is negligible. (0 dB)

Note 3: Margin = Regulated Threshold level - Adjusted Power

3.2.7 Worst Case Plots of Contention Based Protocol

Contention Based Protocol Result Plots on U-NII 6 (AWGN Interference)	
802.11ax (HE160) / 6505MHz (Middle) Threshold Level (TL) = -63.06 dBm	802.11ax (HE160) / CH111 (Middle) Test result is pass due to no transmission occur.
	
802.11ax (HE160) / 6505MHz (Middle) Threshold Level (TL) =-64.06 dBm	802.11ax (HE160) / CH111 (Middle) Transmit when the interferer is 1dB lower.
	

Remark: M1: Injection of AWGN signal, D1: Removal of AWGN signal

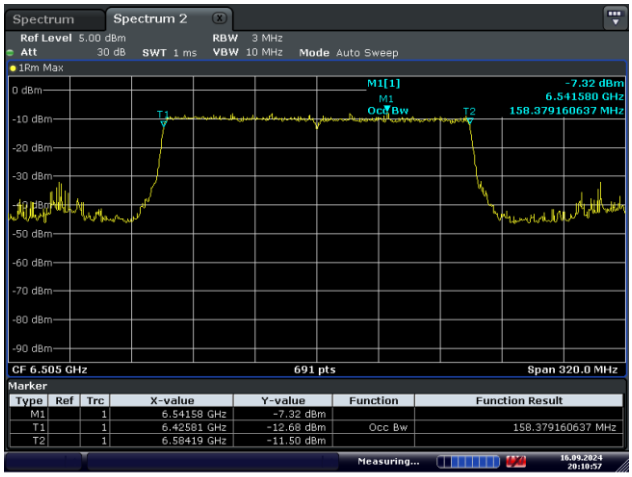
3.2.8 Worst Case of Contention Based Protocol Transmission Bandwidth

Verify transmission absence when Incumbent signal at different frequency (frequency domain plots).

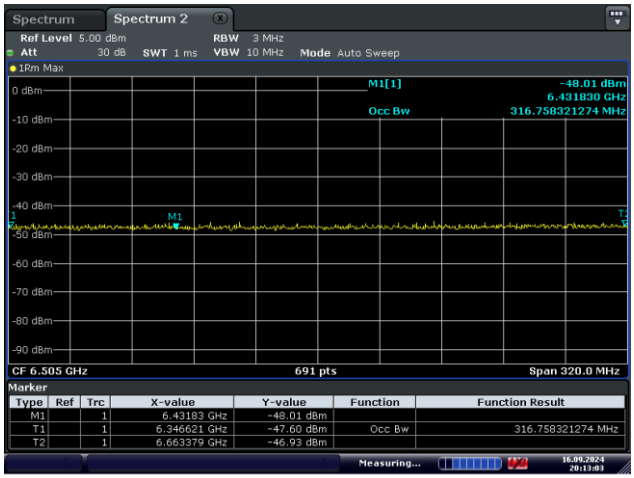
1. When Incumbent Signal inject at lowest frequency, the whole 160MHz bandwidth stop transmission;
2. When Incumbent Signal inject at middle frequency, the transmission bandwidth reduced to 20MHz;
3. When Incumbent Signal inject at highest frequency, the transmission bandwidth reduced to 80MHz;
4. This device does not support channel puncturing mode for incumbent avoidance but bandwidth reduction mechanism is supported.

UNII 6_CH97(6505MHz / BW=160MHz)

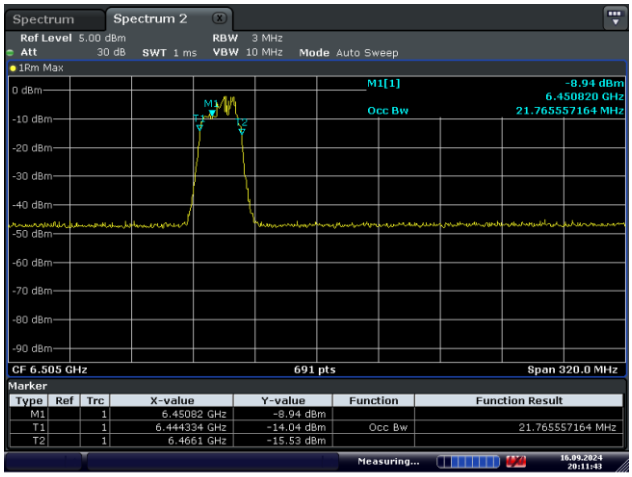
Non-Incumbent Signal



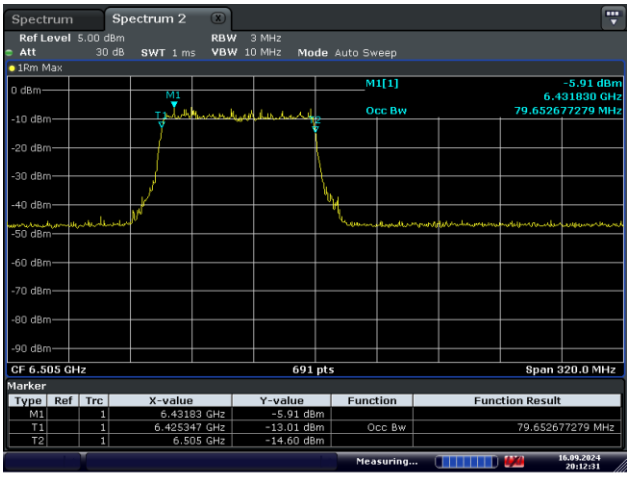
Incumbent Signal @ Lowest Frequency



Incumbent Signal @ Middle Frequency



Incumbent Signal @ Highest Frequency



3.3 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

3.3.1 Limit of Unwanted Emissions

(1) For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of −27 dBm/MHz.

EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27 (RMS)	68.3
- 7 (Peak)	88.3

Unwanted emissions outside of restricted bands are measured with a RMS detector.
In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit

(2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

Note: The following formula is used to convert the EIRP to field strength.

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

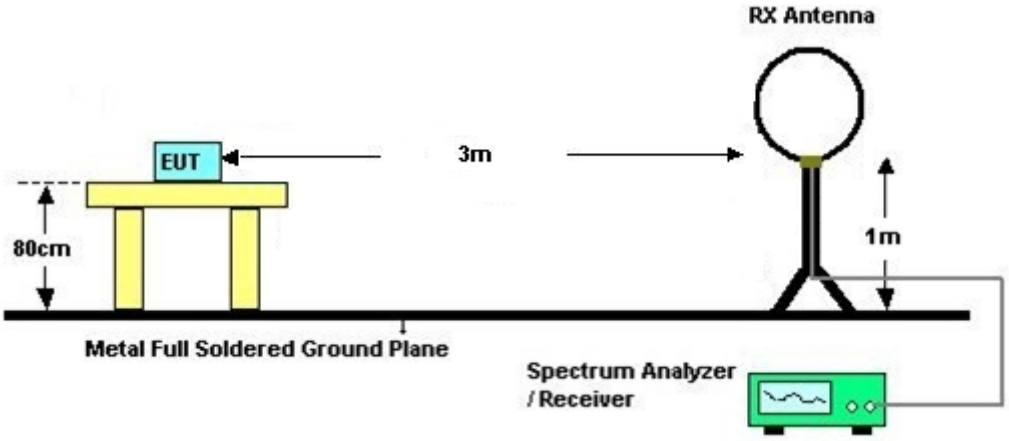
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

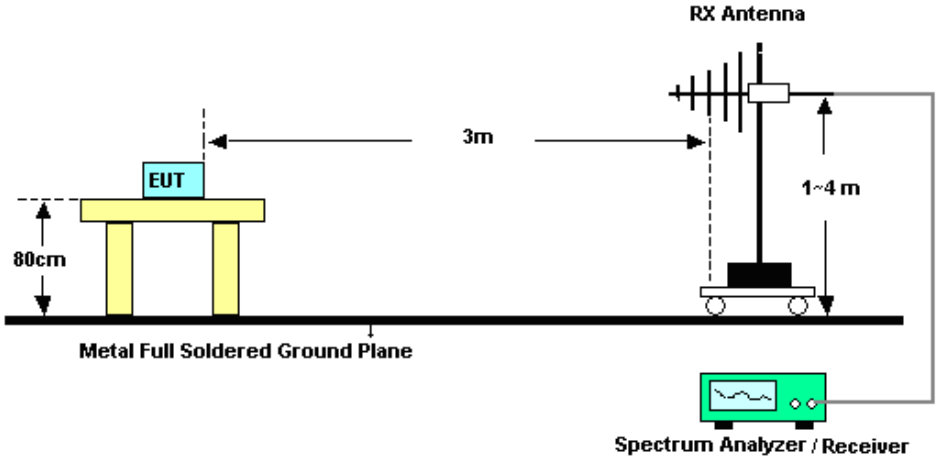
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.3.4 Test Setup

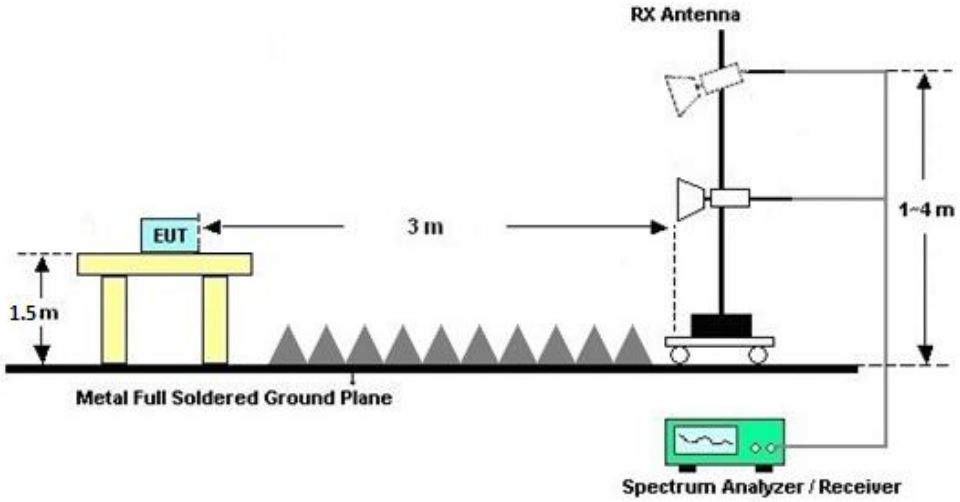
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.3.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.3.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A

3.3.7 Duty Cycle

Please refer to Appendix B.

3.3.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix A.

The emission level above 18GHz is checked that the emission level is noise floor only, so it is not reflected in the report.

3.4 Antenna Requirements

3.4.1 Standard Applicable

§15.203: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

3.4.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used. The EUT complies with the requirement of 15.203.

3.4.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e.,

Directional gain = $G_{ANT\ MAX}$(Ant.1 Gain, Ant.2 Gain,…) + Array Gain, as following table for Power, where Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

For PSD, the directional gain calculation is following,

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{Gn/20})^2 / N_{ANT}$] dBi, as following table for PSD.

N_{ANT} = number of transmit antennas

N_{SS} = number of spatial streams. (The worst case directional gain will occur when NSS = 1)

<CDD Modes>

	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)
U-NII-5	-0.90	-0.90	-0.90	2.11
U-NII-6	-0.90	-0.90	-0.90	2.11
U-NII-7	0.40	0.40	0.40	3.41
U-NII-8	1.60	1.60	1.60	4.61

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	Sep. 30, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2024	Sep. 30, 2024	Jan. 01, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2024	Sep. 30, 2024	Jan. 01, 2025	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Oct. 18, 2023	Sep. 14, 2024~ Sep. 30, 2024	Oct. 17, 2024	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Sep. 14, 2024~ Sep. 30, 2024	Jul. 02, 2025	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 29, 2023	Sep. 14, 2024~ Sep. 30, 2024	Dec. 28, 2024	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	May 09, 2024	Sep. 14, 2024~ Sep. 30, 2024	May 08, 2025	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	Jul. 07, 2023	Sep. 14, 2024~ Sep. 30, 2024	Jul. 06, 2025	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 04, 2024	Sep. 14, 2024~ Sep. 30, 2024	Jul. 03, 2025	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 18, 2023	Sep. 14, 2024~ Sep. 30, 2024	Oct. 17, 2024	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 18, 2023	Sep. 14, 2024~ Sep. 30, 2024	Oct. 17, 2024	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 03, 2024	Sep. 14, 2024~ Sep. 30, 2024	Jul. 02, 2025	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY57280136	500MHz~26.5GHz	Jul. 03, 2024	Sep. 14, 2024~ Sep. 30, 2024	Jul. 02, 2025	Radiation (03CH04-SZ)
AC Power Source	APC	AFV-S-600B	F119050019	N/A	Oct. 18, 2023	Sep. 14, 2024~ Sep. 30, 2024	Oct. 17, 2024	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Sep. 14, 2024~ Sep. 30, 2024	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Sep. 14, 2024~ Sep. 30, 2024	NCR	Radiation (03CH04-SZ)
Signal Analyzer	R&S	FSV7	101472	10Hz~7GHz	Jan. 02, 2024	Sep. 16, 2024	Jan. 01, 2025	CBP (DFS01-KS)
MXG-B RF Vector Signal Genertor	Keysight	5182B /5182BX07	MY56200417 /MY59360210	9kHz~7.2GHz	Apr 17, 2024	Sep. 16, 2024	Apr 16, 2025	CBP (DFS01-KS)

NCR: No Calibration Required

5 Measurement Uncertainty

Uncertainty of Conducted Measurement

Conducted Power	**±0.50 dB**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1 dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.8 dB**

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1 dB**

---------- THE END ----------

Appendix A. Radiated Spurious Emission Test Data

Test Engineer :	ZhangXu	Relative Humidity :	50%
		Temperature :	20℃-22℃

Radiated Spurious Emission Test Modes

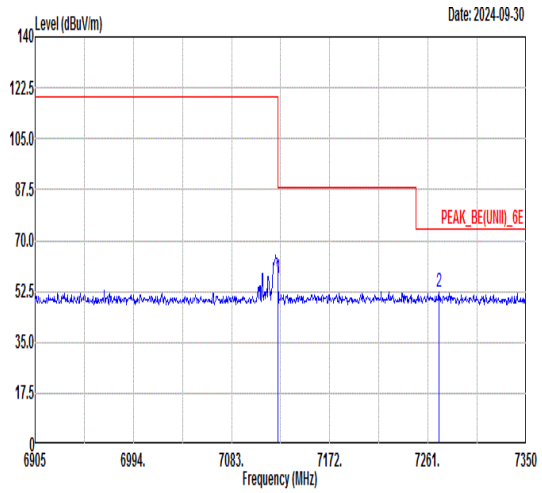
Mode	Band	Band (GHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	U-NII-8	6.525-6.875	CDD 1+2	802.11ax HE20	233	7115	MCS0	-	-
Mode 2	U-NII-8	6.525-6.875	CDD 1+2	802.11ax HE20	233	7115	MCS0	-	LF

Summary of each worse mode

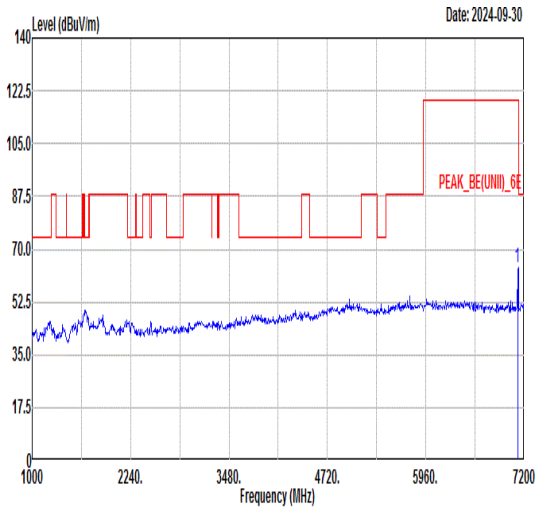
Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	802.11ax HE20	233	7125.28	61.72	68.20	-6.48	V	AVERAGE	Pass	Band Edge
	802.11ax HE20	233	14230.00	49.20	88.20	-39.00	H	Peak	Pass	Harmonic
2	802.11ax HE20	233	287.05	42.44	46.00	-3.56	H	Peak	Pass	LF

Mode	1	
	Band Edge	
	U-NII-8_6.525-6.875_802.11ax HE20_CH233_7115MHz	
ANT	CDD 1+2	
Pol.	Horizontal	Fundamental

Peak

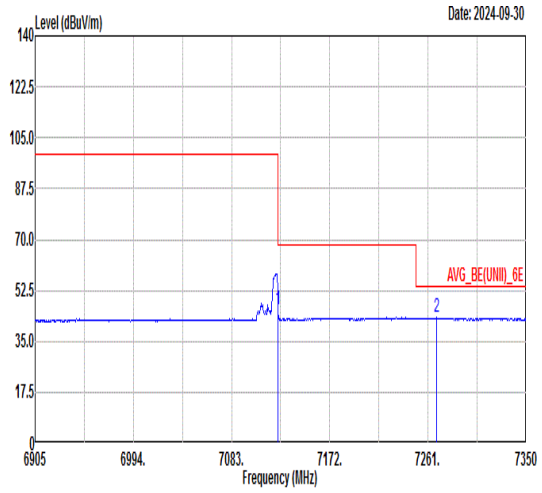


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	(dB)	dBuV	dB/m	dB	dB	cm	deg	
1	7125.28	56.89	88.20	-31.31	43.39	36.95	10.20	33.65	300	164	PEAK
2	7271.24	52.17	74.00	-21.83	38.69	36.89	10.18	33.59	300	164	PEAK

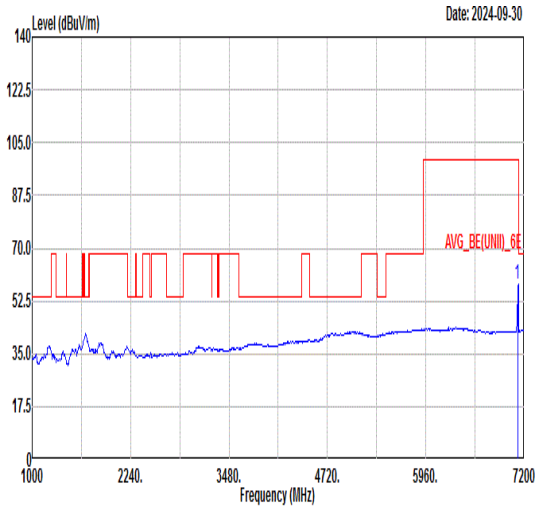


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	(dB)	dBuV	dB/m	dB	dB	cm	deg	
1	7115.00	63.96	------	------	50.46	36.95	10.20	33.65	300	164	PEAK

Avg



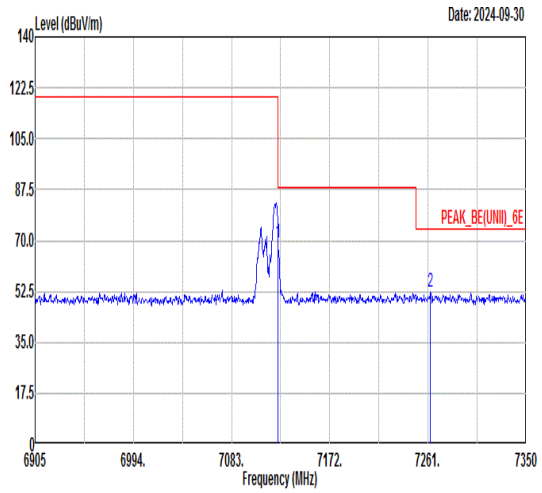
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	(dB)	dBuV	dB/m	dB	dB	cm	deg	
1	7125.28	45.87	68.20	-22.33	32.37	36.95	10.20	33.65	300	164	AVERAGE
2	7268.57	43.07	54.00	-10.93	29.59	36.89	10.18	33.59	300	164	AVERAGE



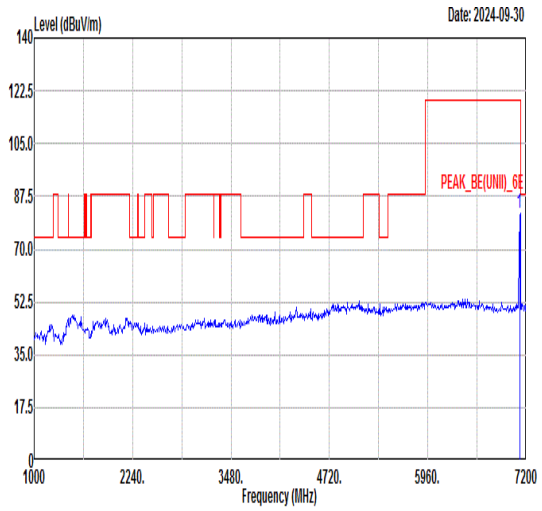
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	(dB)	dBuV	dB/m	dB	dB	cm	deg	
1	7115.00	58.20	------	------	44.70	36.95	10.20	33.65	300	164	AVERAGE

Mode	1	
	Band Edge	
	U-NII-8_6.525-6.875_802.11ax HE20_CH233_7115MHz	
ANT	CDD 1+2	
Pol.	Vertical	Fundamental

Peak

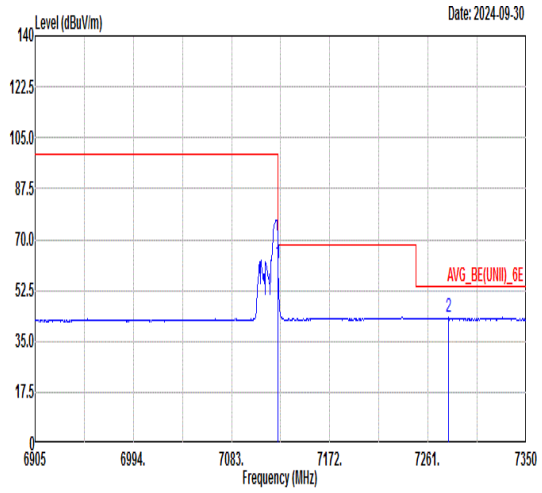


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	(dB)	dBuV	dB/m	dB	dB	cm	deg	
1	7125.28	69.46	88.20	-18.74	55.96	36.95	10.20	33.65	304	191	PEAK
2	7263.23	52.24	74.00	-21.76	38.76	36.89	10.18	33.59	304	191	PEAK

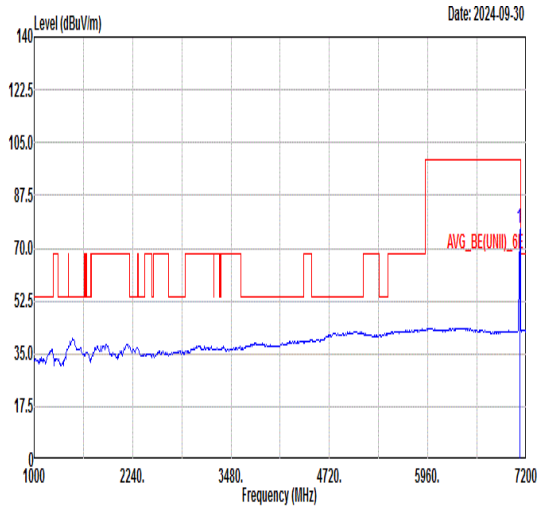


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	(dB)	dBuV	dB/m	dB	dB	cm	deg	
1	7115.00	81.76	------	------	68.26	36.95	10.20	33.65	304	191	PEAK

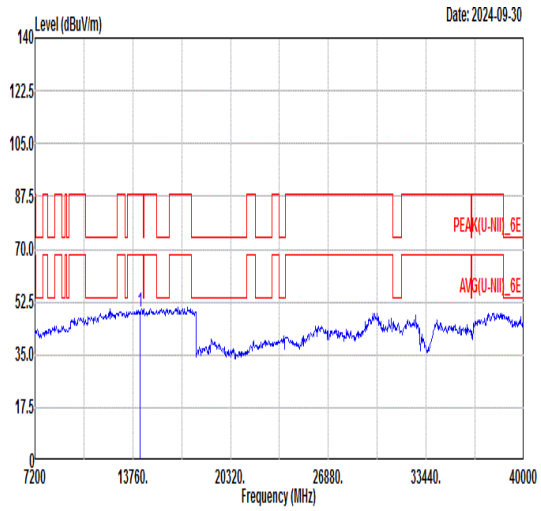
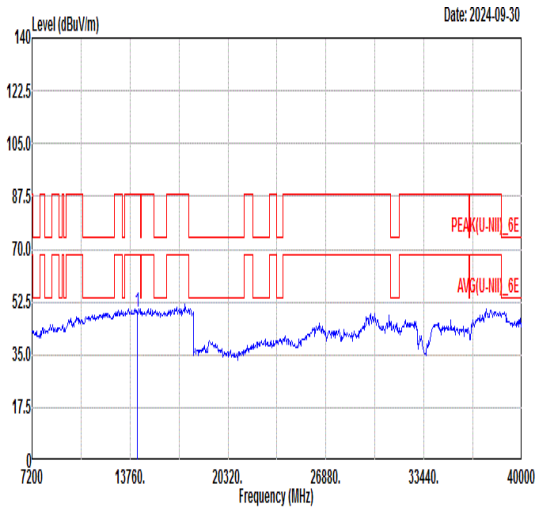
Avg



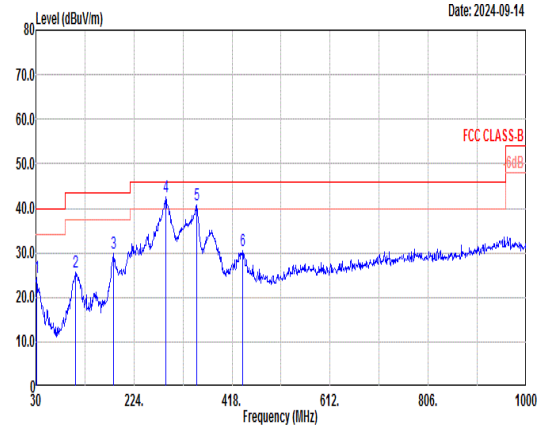
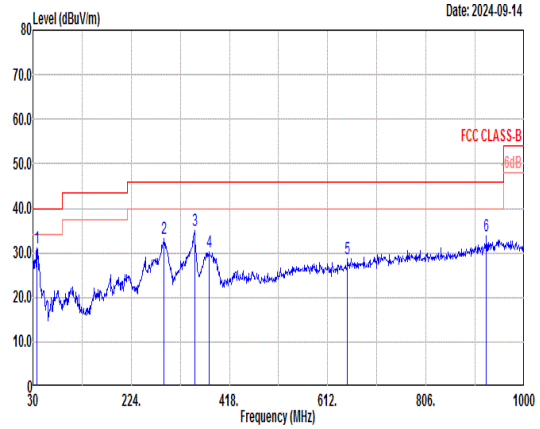
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	(dB)	dBuV	dB/m	dB	dB	cm	deg	
1	7125.28	61.72	68.20	-6.48	48.22	36.95	10.20	33.65	304	191	AVERAGE
2	7279.69	43.09	54.00	-10.91	29.61	36.89	10.18	33.59	304	191	AVERAGE



	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	(dB)	dBuV	dB/m	dB	dB	cm	deg	
1	7115.00	76.47	------	------	62.97	36.95	10.20	33.65	304	191	AVERAGE

Mode	1	
	Harmonic	
	U-NII-8_6.525-6.875_802.11ax HE20_CH233_7115MHz	
ANT	CDD 1+2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 14230.00 49.20 88.20 -39.00 58.73 40.38 13.98 63.89 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 14230.00 48.93 88.20 -39.27 58.46 40.38 13.98 63.89 --- --- Peak

Mode	2
	LF
	U-NII-8_6.525-6.875_802.11ax HE20_CH233
ANT	CDD 1+2

Pol.	Horizontal	Vertical
QP/ Peak		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg	
1	30.97	24.41	40.00	-15.59	30.79	24.70	0.54	31.62	---	---	Peak
2	108.57	25.56	43.50	-17.94	39.47	16.90	1.06	31.87	---	---	Peak
3	183.26	29.90	43.50	-13.60	45.25	14.90	1.38	31.63	---	---	Peak
4	287.05	42.44	46.00	-3.56	53.23	18.98	1.76	31.53	---	---	Peak
5	348.16	40.68	46.00	-5.32	49.69	20.42	1.97	31.40	---	---	Peak
6	438.37	30.40	46.00	-15.60	36.82	22.90	2.18	31.50	---	---	Peak

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg	
1	37.76	31.11	40.00	-8.89	41.28	21.00	0.59	31.76	---	---	Peak
2	288.99	33.16	46.00	-12.84	43.85	19.06	1.77	31.52	---	---	Peak
3	349.13	34.88	46.00	-11.12	43.84	20.46	1.98	31.40	---	---	Peak
4	377.26	30.31	46.00	-15.69	38.63	21.08	2.05	31.45	---	---	Peak
5	650.80	28.81	46.00	-17.19	30.88	26.48	2.65	31.20	---	---	Peak
6	925.31	33.90	46.00	-12.10	31.95	29.60	3.20	30.85	---	---	Peak

Appendix B. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11ax HE20	100	-	-	10Hz

802.11ax HE20