Spot Check Evaluation

APPLICANT	:	Xiaomi Communications Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	POCO
MODEL NAME	:	24095PCADG
FCC ID	:	2AFZZRA8EG
STANDARD	:	47 CFR Part 2, 22(H), 24(E), 27(L), 27(M), 27(O), 27(Q), Part96 47 CFR Part 15 Subpart C §15.247 47 CFR Part 15 Subpart E §15.407
TEST DATE(S)	:	Aug. 15, 2024 ~ Oct. 16, 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.

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

ACCREDITED
Cert #5145.02

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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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FZ471506-01	Rev. 01	Initial issue of report	Sep. 10, 2024
FZ471506-01	Rev. 02	1. Added Conducted power for L/M/H test channels across all frequency bands 2. Added Radiated spurious emissions test data for LTE Band 48 in Appendix A	Oct. 17, 2024

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

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.2 Manufacturer

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	POCO
Model Name	24095PCADG
FCC ID	2AFZZRA8EG
IMEI Code	Conducted: 862769070026585/862769070026593 for BT/WLAN 862769070029589/862769070029597 for WWAN Radiation: 862769070028524 for BT/WLAN 862769070029282/862769070029290 for WWAN Conduction: 862669070025702/862769070025710 DFS: 862769070026585/862769070026593
HW Version	135300O16
SW Version	Xiaomi HyperOS 1.0
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 Modification of EUT

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

1.5 Testing Site

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.**
	CO01-KS TH01-KS DFS01-KS 03CH03-KS 03CH04-KS	CN1257	314309

1.6 Test Software

Item	Site	Manufacturer	Name	Version
1.	TH01-KS	Tonscend	JS1120-3 test system China_210602	3.3.10
2.	DFS01-KS	Sporton	Test Tools	1.0
3.	CO01-KS	AUDIX	E3	6.2009-8-24
4.	03CH03-KS	AUDIX	E3	210616
5.	03CH04-KS	AUDIX	E3	210616

1.7 Applicable Standards

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

- FCC KDB 484596 D01 Referencing Test Data v02r03
- 47 CFR Part 2, 22(H), 24(E), 27(L), 27(M), 27(O), 27(Q), Part96
- 47 CFR Part 15 Subpart C §15.247
- 47 CFR Part 15 Subpart E §15.407
- ANSI C63.10-2013
- ANSI C63.26-2015

2 Re-use of Measured Data

2.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: 24095PCADG, FCC ID: 2AFZZRA8EG) is electrically identical to the reference device (Model: 24090RA29G, FCC ID: 2AFZZRA29G) for the portions of the circuitry corresponding to the data being re-used, following the FCC KDB 484596 D01 Referencing Test Data v02r03.

ECR Data Referencing Inquiry has been approved by FCC, and the data referencing and spot check test plan includes RF/EMC, the details are presented in section 2.3 of this report, and for SAR Reference detail, please refer to FCC SAR report FA471506-01.

The criteria set in section 3 of KDB 484596 D01 v02r03 is followed to determine whether the data referencing is justified. For SAR, the higher between the referenced value and the spot check value is used to determine compliance in both standalone and simultaneous transimission conditions

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: 2AFZZRA8EG .

2.2 Model Difference Information

The **main** difference between FCC ID: 2AFZZRA29G and FCC ID: 2AFZZRA8EG is as below:

- Removed LTE Band 12/13/17/26/32
- Removed TX1 B20 alternative path of B20 which used for low band + low band CA and ENDC

Other differences and all the details of similarity and difference can be found in the confidential documents (2AFZZRA8EG Operational Description of Product Equality Declaration).

2.3 Reference detail Section:

Rule Part	Equipment Class	Frequency Band (MHz)	Reference FCC ID (Parent)	Reference on test	Reference Title	FCC ID Filling (Variant)	Test on the variant	Data Referencing (Y/N)
15C	DSS (BR/EDR)	2400~2483.5	2AFZZRA29G	Full test	FR471506A	2AFZZRA8EG	Spot check	Y, All test items
	DTS (BLE)	2400~2483.5	2AFZZRA29G	Full test	FR471506B	2AFZZRA8EG	Spot check	Y, All test items
	DTS (WLAN)	2400~2483.5	2AFZZRA29G	Full test	FR471506C	2AFZZRA8EG	Spot check	Y, All test items
15E	U-NII	5180~5240	2AFZZRA29G	Full test	FR471506E	2AFZZRA8EG	Spot check	Y, All test items
		5260~5320	2AFZZRA29G	Full test	FR471506E	2AFZZRA8EG	Spot check	Y, All test items
		5500~5720	2AFZZRA29G	Full test	FR471506E	2AFZZRA8EG	Spot check	Y, All test items
		5745~5825	2AFZZRA29G	Full test	FR471506E	2AFZZRA8EG	Spot check	Y, All test items
		5260~5320 5500~5720	2AFZZRA29G	Full test	FZ471506	2AFZZRA8EG	Spot check	Y, All test items
22, 24, 27, 96,	PCE (GSM)	GSM 850/1900	2AFZZRA29G	Full test	FG471506A	2AFZZRA8EG	Spot check	Y, All test items
	PCE (WCDMA)	Band II, IV, V	2AFZZRA29G	Full test	FG471506A	2AFZZRA8EG	Spot check	Y, All test items
	PCE/CBE (LTE)	B2/4/7/7C/38/38C/41/42//48/66	2AFZZRA29G	Full test	FG471506B FG471506C FG471506E FG471506F FG471506G	2AFZZRA8EG	Spot check	Y, All test items
	PCE/CBE (NR)	n2/n5/n7/n38/n41/ n48/n66/n77/n78	2AFZZRA29G	Full test	FG471506I FG471506J FG471506K FG471506L FG471506M FG471506N	2AFZZRA8EG	Spot check	Y, All test items

Y: Pointer to spot-check exhibit; N: Pointer to full test exhibit

2.4 Spot Check Verification Data Section

All test items test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.
All test procedures follow the related section of parent report.

Spot-check measurements, while being always compliant with the applicable rule part(s) for the test under consideration, show a deviation d_{dB} from the reference data no larger than 3 dB:

$$d_{dB} = | V_{dB} – R_{dB} | \leq 3 \text{ dB} \quad (1)$$

V_{dB}, the variant spot-check level
R_{dB}, the corresponding measurement level for the reference model

An alternative to the limit of eq. (1) is available, and is based on considering how far the reference data R_{dB} is from the compliance threshold C_{dB} (also expressed in dB), for the particular test under consideration. In this case, if $M_{dB} =|C_{dB} – R_{dB}|$ is the margin in dB from the compliance limit, a spot check may be considered acceptable when the deviation ddB from the reference data satisfies the following condition:

$$d_{dB} = | V_{dB} – R_{dB} | \leq (3 + M_{dB} /20) \text{ dB , for } 0 \leq M_{dB} \leq 60 \text{ dB}$$

$$d_{dB} = | V_{dB} – R_{dB} | = 6 \text{ dB} \quad \text{, for } M_{dB} > 60 \text{ dB} \quad (2)$$

where “| |” is the absolute value of the measured quantity.
When using the option in eq. (2), d_{dB} increases linearly from 3 dB to 6 dB.

Summary for spot check for each rule entry and technology is listed as below:

Mode	Test Item	2AFZZRA29G Parent Worst mode Test Result	2AFZZRA8EG Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
BT 1Mbps (DH5-CH00)	Number of Channels (N)	79	79	0	3
	Hopping Channel Separation (MHz)	1.004	1.002	0.002	3
	Dwell Time of Each Channel(s)	0.31	0.31	0	3
	20dB Bandwidth(MHz)	0.86	0.86	0	3
	99% Bandwidth(MHz)	0.76	0.76	0	3
	Conducted Band Edges(dBm)	-48.06	-49.2	1.14	3
	Conducted Spurious Emission(dBm)	-50.22	-50.55	0.33	3
BT (Ch78)	Radiated Band Edges and Radiated Spurious Emission (dBuV/m)	51.51	51.02	0.49	3
BT	AC Conducted Emission (dBuV)	34.93	33.95	0.98	3
BLE 1Mbps (CH00)	6dB Bandwidth (MHz)	0.7	0.69	0.01	3
	99% Bandwidth (MHz)	1.04	1.04	0	3
	Power Spectral Density (dBm/3KHz)	-8.4	-8.6	0.2	3
	Conducted Band Edges and Spurious Emission (dBm)	-51.86	-52.32	0.46	3
	Conducted Spurious Emission (dBm)	-50.91	-51.88	0.97	3
BLE (CH38)	Radiated Band Edges and Radiated Spurious Emission (dBuV/m)	40.2	40.22	0.02	3
BLE	AC Conducted Emission (dBuV)	34.93	33.95	0.98	3
WIFI 2.4G (802.11b CH11)	6dB Bandwidth (MHz)	8.04	8.02	0.02	3
	99% Bandwidth (MHz)	13.23	13.14	0.09	3
	Power Spectral Density (dBm/3KHz)	-7.64	-7.88	0.24	3
	Conducted Band Edges and Spurious Emission (dBm)	-34.74	-35.55	0.81	3
	Conducted Spurious Emission (dBm)	-41.41	-42.08	0.67	3
WIFI 2.4G (802.11ax HE20 CH01)	Radiated Band Edges and Spurious Emission (dBuV/m)	50.96	50.50	0.46	3
WLAN 2.4G	AC Conducted Emission (dBuV)	34.93	33.95	0.98	3
WIFI 5G (802.11a CH116)	26dB Emission Bandwidth (MHz)	23.73	23.66	0.07	3
	99% Occupied Bandwidth (MHz)	17.41	17.38	0.03	3
	Power Spectral Density (dBm/MHz)	6.9	6.88	0.02	3
WIFI 5G (802.11ax HE80 CH42)	Radiated Band Edges and Spurious Emission (dBuV/m)	50.86	50.89	0.03	3
WLAN 5G	AC Conducted Emission (dBuV)	38.5	40.8	2.3	3
WLAN 5G	DFS (S)	0.846028	0.848428	0.0024	3

Mode	Test Item	2AFZZRA29G Parent Worst mode Test Result	2AFZZRA8EG Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
Part 22/24/27 (LTE Band 48)	Peak-to-Average Ratio (dB)	5.42	5.16	0.26	3
	Occupied Bandwidth (MHz)	17.94	17.90	0.04	3
	Conducted Band Edge (dBm/MHz)	-14.08	-14.87	0.79	3
	Conducted Spurious Emission (dBm/MHz)	-42.80	-44.75	1.95	3
	Frequency Stability (ppm)	0.0016	0.0003	0.0013	3
Part 96 (LTE Band 48)	Radiated Spurious Emission (dBm)	-47.27	-49.88	2.61	3

Conducted power for Unlicensed bands

Test Item	Mode	2AFZZRA29G Parent Worst mode Test Result	2AFZZRA8EG Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
Conducted Power (dBm)	BT BR/EDR -CH 00-DH5	10.09	8.65	1.44	3
	BT BR/EDR -CH 39-DH5	8.29	7.04	1.25	3
	BT BR/EDR -CH 78-DH5	11.29	9.64	1.65	3
	BT BR/EDR -CH 00-2DH1	9.09	7.72	1.37	3
	BT BR/EDR -CH 39-2DH1	7.19	6.20	0.99	3
	BT BR/EDR -CH 78-2DH1	10.36	8.96	1.40	3
	BT BR/EDR -CH 00-3DH1	8.89	7.56	1.33	3
	BT BR/EDR -CH 39-3DH1	6.95	6.04	0.91	3
	BT BR/EDR -CH 78-3DH1	10.19	8.80	1.39	3
	BLE 1Mbps -CH00	6.49	7.02	0.31	3
	BLE 1Mbps -CH19	7.33	5.88	0.43	3
	BLE 1Mbps -CH39	6.31	6.12	0.43	3
	BLE 2Mbps -CH00	6.55	6.12	0.43	3
	BLE 2Mbps -CH19	7.37	7.05	0.32	3
	BLE 2Mbps -CH39	6.49	6.08	0.41	3
	11b-CH 01	17.18	16.87	0.31	3
	11b-CH 06	20.52	20.28	0.24	3
	11b-CH 11	16.96	16.64	0.32	3
	11g-CH 01	24.5	24.46	0.04	3
	11g-CH 06	24.88	24.42	0.46	3
	11g-CH 11	24.4	23.98	0.42	3
	11n HT20-CH 01	25.15	24.86	0.29	3
	11n HT20-CH 06	25	24.65	0.35	3
	11n HT20-CH 11	24.88	24.53	0.35	3
	11ax HE20-CH 01	24.4	24.08	0.32	3
	11ax HE20-CH 06	24.66	24.35	0.31	3
	11ax HE20-CH 11	24.31	24.02	0.29	3
	11a-CH 36	16.98	16.51	0.47	3
	11a-CH 44	16.91	16.58	0.33	3
	11a-CH 48	16.89	16.49	0.40	3
	11a-CH 52	16.88	16.65	0.23	3
	11a-CH 60	16.96	16.54	0.42	3
	11a-CH 64	16.82	16.59	0.23	3
	11a-CH 100	16.85	16.45	0.40	3
	11a-CH 116	17.06	16.91	0.15	3
	11a-CH 140	12.49	12.45	0.04	3
	11a-CH 149	17.17	16.91	0.26	3
	11a-CH 157	17.29	16.97	0.32	3
	11a-CH 165	17.21	16.92	0.29	3
	11n HT20-CH 36	16.02	15.65	0.37	3
	11n HT20-CH 44	16.00	15.53	0.47	3
	11n HT20-CH 48	15.79	15.32	0.47	3
	11n HT20-CH 52	15.72	15.42	0.30	3
	11n HT20-CH 60	15.87	15.45	0.42	3
	11n HT20-CH 64	15.84	15.51	0.33	3
	11n HT20-CH 100	15.89	15.40	0.49	3
	11n HT20-CH 116	16.13	16.04	0.09	3
	11n HT20-CH 140	11.50	11.48	0.02	3
	11n HT20-CH 149	16.06	16.00	0.06	3
	11n HT20-CH 157	16.26	15.96	0.30	3

	11n HT20-CH 165	16.20	16.02	0.18	3
	11ac VHT20-CH 36	16.08	15.68	0.40	3
	11ac VHT20-CH 44	16.06	15.58	0.48	3
	11ac VHT20-CH 48	15.85	15.45	0.40	3
	11ac VHT20-CH 52	15.79	15.45	0.34	3
	11ac VHT20-CH 60	15.90	15.47	0.43	3
	11ac VHT20-CH 64	15.87	15.54	0.33	3
	11ac VHT20-CH 100	15.94	15.46	0.48	3
	11ac VHT20-CH 116	16.17	16.06	0.11	3
	11ac VHT20-CH 140	11.58	11.52	0.06	3
	11ac VHT20-CH 149	16.12	16.01	0.11	3
	11ac VHT20-CH 157	16.33	15.98	0.35	3
	11ac VHT20-CH 165	16.24	16.04	0.20	3
	11ax HE20-CH 36	16.18	15.76	0.42	3
	11ax HE20-CH 44	16.14	15.67	0.47	3
	11ax HE20-CH 48	15.94	15.53	0.41	3
	11ax HE20-CH 52	15.86	15.53	0.33	3
	11ax HE20-CH 60	16.00	15.57	0.43	3
	11ax HE20-CH 64	15.97	15.62	0.35	3
	11ax HE20-CH 100	16.06	15.59	0.47	3
	11ax HE20-CH 116	16.24	16.13	0.11	3
	11ax HE20-CH 140	11.64	11.60	0.04	3
	11ax HE20-CH 149	16.24	16.10	0.14	3
	11ax HE20-CH 157	16.41	16.06	0.35	3
	11ax HE20-CH 165	16.35	16.13	0.22	3
	11n HT40-CH 38	14.11	13.65	0.46	3
	11n HT40-CH 46	15.06	14.57	0.49	3
	11n HT40-CH 54	15.01	14.60	0.41	3
	11n HT40-CH 62	14.52	14.20	0.32	3
	11n HT40-CH 102	13.80	13.62	0.18	3
	11n HT40-CH 110	14.77	14.62	0.15	3
	11n HT40-CH 134	15.23	15.06	0.17	3
	11n HT40-CH 151	15.32	15.13	0.19	3
	11n HT40-CH 159	15.36	15.09	0.27	3
	11ac VHT40-CH 38	14.34	14.16	0.18	3
	11ac VHT40-CH 46	15.80	15.32	0.48	3
	11ac VHT40-CH 54	15.88	15.40	0.48	3
	11ac VHT40-CH 62	14.44	14.07	0.37	3
	11ac VHT40-CH 102	13.72	13.44	0.28	3
	11ac VHT40-CH 110	15.76	15.39	0.37	3
	11ac VHT40-CH 134	15.51	15.40	0.11	3
	11ac VHT40-CH 151	16.10	15.94	0.16	3
	11ac VHT40-CH 159	16.24	15.86	0.38	3
	11ax40-CH 38	14.24	13.76	0.48	3
	11ax40-CH 46	15.17	14.69	0.48	3
	11ax40-CH 54	15.12	14.70	0.42	3
	11ax40-CH 62	14.65	14.29	0.36	3
	11ax40-CH 102	13.94	13.70	0.24	3
	11ax40-CH 110	14.88	14.73	0.15	3
	11ax40-CH 134	15.35	15.16	0.19	3
	11ax40-CH 151	15.41	15.21	0.20	3
	11ax40-CH 159	15.47	15.19	0.28	3
	11ac VHT80-CH 042	13.40	12.98	0.42	3
	11ac VHT80-CH 058	12.70	12.53	0.17	3
	11ac VHT80-CH 106	13.30	13.08	0.22	3

	11ac VHT80-CH 122	14.15	13.86	0.29	3
	11ac VHT80-CH 138	14.01	13.93	0.08	3
	11ac VHT80-CH 155	14.21	13.88	0.33	3
	11ax HE80-CH 042	13.57	13.09	0.48	3
	11ax HE80-CH 058	12.84	12.63	0.21	3
	11ax HE80-CH 106	13.43	13.16	0.27	3
	11ax HE80-CH 122	14.24	13.97	0.27	3
	11ax HE80-CH 138	14.13	14.02	0.11	3
	11ax HE80-CH 155	14.33	13.98	0.35	3

Conducted power/ERP/EIRP for Licensed bands

Test Item	Mode	Bandwidth	Channel	Frequency	Modulation	2AFZZRA29G Parent Worst mode Test Result		2AFZZRA8EG Variant Check Test Result		Deviation (dB)	Deviation Limit (dB)
						Coducted (dBm)	ERP/EIRP (W)	Coducted (dBm)	ERP/EIRP (W)		
Conducted Power /ERP/EIRP	GSM 850	/	128	824.2	GMSK	32.4	1.7378	32.15	1.6406	0.25	3
	GSM 850	/	189	836.4	GMSK	32.46	1.7620	32.26	1.6827	0.2	3
	GSM 850	/	251	848.8	GMSK	32.45	1.7579	32.28	1.6904	0.17	3
	GSM 1900	/	512	1850.2	GMSK	29.31	0.8531	29.12	0.8166	0.19	3
	GSM 1900	/	661	1880	GMSK	29.45	0.8810	29.22	0.8356	0.23	3
	GSM 1900	/	810	1909.8	GMSK	29.43	0.8770	29.18	0.8279	0.25	3
	WCDMA 850	/	4132	826.4	BPSK	24.48	0.2805	24.36	0.2729	0.12	3
	WCDMA 850	/	4182	836.4	BPSK	24.5	0.2818	24.38	0.2742	0.12	3
	WCDMA 850	/	4233	846.6	BPSK	24.44	0.2780	24.29	0.2685	0.15	3
	WCDMA1900	/	9262	1852.4	BPSK	22.91	0.1954	22.85	0.1928	0.06	3
	WCDMA1900	/	9400	1880	BPSK	22.98	0.1986	22.90	0.1950	0.08	3
	WCDMA1900	/	9538	1907.6	BPSK	22.93	0.1963	22.82	0.1914	0.11	3
	WCDMA1700	/	1312	1712.4	BPSK	23.91	0.2460	23.69	0.2339	0.22	3
	WCDMA1700	/	1413	1732.6	BPSK	23.96	0.2489	23.75	0.2371	0.21	3
	WCDMA1700	/	1513	1752.6	BPSK	23.92	0.2466	23.63	0.2307	0.29	3
	B2	20M	18700	1860	QPSK	23.01	0.2000	22.61	0.1824	0.4	3
	B2	20M	18900	1880	QPSK	23.05	0.2018	22.67	0.1849	0.38	3
	B2	20M	19100	1900	QPSK	22.98	0.1986	22.65	0.1841	0.33	3
	B4	20M	20050	1720	QPSK	23.81	0.2404	23.75	0.2371	0.06	3
	B4	20M	20175	1732.5	QPSK	23.86	0.2432	23.80	0.2399	0.06	3
	B4	20M	20300	1745	QPSK	23.83	0.2415	23.72	0.2355	0.11	3
	B66	20M	132072	1720	QPSK	23.83	0.2415	23.68	0.2333	0.15	3
	B66	20M	132322	1745	QPSK	23.94	0.2477	23.73	0.2360	0.21	3
	B66	20M	132572	1770	QPSK	23.93	0.2472	23.65	0.2317	0.28	3
	B7	20M	20850	2510	QPSK	23.68	0.2333	23.64	0.2312	0.04	3
	B7	20M	21100	2535	QPSK	23.75	0.2371	23.68	0.2333	0.07	3
	B7	20M	21350	2560	QPSK	23.66	0.2323	23.61	0.2296	0.05	3
	B7C	20M+20M	20850_21048	2510_2529.8	QPSK	23.24	0.2109	23.22	0.2099	0.02	3
	B7C	20M+20M	21001_21199	2525.1_2544.9	QPSK	23.29	0.2133	23.24	0.2109	0.05	3
	B7C	20M+20M	21152_21350	2540.2_2560	QPSK	23.28	0.2128	23.13	0.2056	0.15	3
	B38	20M	37850	2580	QPSK	23.43	0.2203	23.40	0.2188	0.03	3
	B38	20M	38000	2595	QPSK	23.52	0.2249	23.43	0.2203	0.09	3

	B38	20M	38150	2610	QPSK	23.48	0.2228	23.38	0.2178	0.1	3
	B41	20M	39750	2506	QPSK	23.44	0.2208	23.40	0.2188	0.04	3
	B41	20M	40620	2593	QPSK	23.6	0.2291	23.49	0.2234	0.11	3
	B41	20M	41490	2680	QPSK	23.54	0.2259	23.39	0.2183	0.15	3
	B38C-20M+20M	20M+20M	37850_38048	2580_2599.8	QPSK	23.38	0.2178	23.31	0.2143	0.07	3
	B38C-20M+20M	20M+20M	37901_38099	2585.1_2604.9	QPSK	23.39	0.2183	23.35	0.2163	0.04	3
	B38C-20M+20M	20M+20M	37952_38150	2590.2_2610	QPSK	23.36	0.2168	23.27	0.2123	0.09	3
	B42	20M	42190	3460	QPSK	24.56	0.2858	24.34	0.2716	0.22	3
	B42	20M	42590	3500	QPSK	24.59	0.2877	24.45	0.2786	0.14	3
	B42	20M	42990	3540	QPSK	24.54	0.2844	24.47	0.2799	0.07	3
	B48	20M	55340	3560	QPSK	24.41	0.2761	24.33	0.2710	0.08	3
	B48	20M	55830	3609	QPSK	24.48	0.2805	24.36	0.2729	0.12	3
	B48	20M	56640	3690	QPSK	24.38	0.2742	24.29	0.2685	0.09	3
	N2-L	20M	372000	1860	PI/2 BPSK	22.83	0.1919	22.78	0.1897	0.05	3
	N2-M	20M	376000	1880	PI/2 BPSK	22.78	0.1897	22.72	0.1871	0.06	3
	N2-H	20M	380000	1900	PI/2 BPSK	22.64	0.1837	22.61	0.1824	0.03	3
	N5-L	20M	166800	834	PI/2 BPSK	24.37	0.2735	24.33	0.2710	0.04	3
	N5-M	20M	167300	836.5	PI/2 BPSK	24.46	0.2793	24.41	0.2761	0.05	3
	N5-H	20M	167800	839	PI/2 BPSK	24.4	0.2754	24.28	0.2679	0.12	3
	N7-L	50M	505000	2525	PI/2 BPSK	22.85	0.1928	22.81	0.1910	0.04	3
	N7-M	50M	507000	2535	PI/2 BPSK	23.01	0.2000	22.98	0.1986	0.03	3
	N7-H	50M	509000	2545	PI/2 BPSK	23.3	0.2138	23.13	0.2056	0.17	3
	N38-L	40M	518000	2590	QPSK	23.16	0.2070	23.11	0.2046	0.05	3
	N38-M	40M	519000	2595	QPSK	23.16	0.2070	23.09	0.2037	0.07	3
	N38-H	40M	520000	2600	QPSK	23.18	0.2080	23.15	0.2065	0.03	3
	N41-L	100M	509202	2546.01	QPSK	23.16	0.2070	23.11	0.2046	0.05	3
	N41-M	100M	518598	2592.99	QPSK	23.23	0.2104	23.18	0.2080	0.05	3
	N41-H	100M	528000	2640	QPSK	23.03	0.2009	22.98	0.1986	0.05	3
	N66-L	40M	346000	1730	PI/2 BPSK	24.2	0.2630	24.16	0.2606	0.04	3
	N66-M	40M	349000	1745	PI/2 BPSK	24	0.2512	23.96	0.2489	0.04	3
	N66-H	40M	352000	1760	PI/2 BPSK	24.09	0.2564	24.03	0.2529	0.06	3
	N48-L	40M	638000	3570	PI/2 BPSK	24.23	0.2649	24.14	0.2594	0.09	3
	N48-M	40M	641666	3624.99	PI/2 BPSK	24.58	0.2871	24.48	0.2805	0.1	3
	N48-H	40M	645332	3679.98	PI/2 BPSK	24.15	0.2600	24.10	0.2570	0.05	3
	N77 27O-L	100M	650000	3750	PI/2 BPSK	26.17	0.4140	26.14	0.4111	0.03	3
	N77 27O-M	100M	656000	3840	PI/2 BPSK	26.19	0.4159	26.13	0.4102	0.06	3
	N77 27O-H	100M	662000	3930	PI/2 BPSK	26.4	0.4365	26.31	0.4276	0.09	3
	N78 27O	100M	650000	3750	QPSK	26.31	0.4276	26.27	0.4236	0.04	3
	N77 27Q	100M	633334	3500.01	PI/2 BPSK	26.3	0.4266	26.25	0.4217	0.05	3
	N78 27Q	100M	633334	3500.01	PI/2 BPSK	26.28	0.4246	26.11	0.4083	0.17	3

Conclusion:
All test items test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Based on the spot check test result, the test data from the original model is representative for the variant model. All spot check test data are shown within expected level compliant to limit line.

We are using power and ERP/EIRP measurements from the original parent model reports to list on the grant.

The same detection mechanism/software/antenna gain is used in the variant of DFS. Hence, all test cases refer to parent report.

We confirm that the test data referencing policy of FCC KDB 484596 D01 Referencing Test Data v02r03 has been followed and the test data as referenced from the parent model report represents compliance with new FCC ID.

3 List of Measuring Equipment

For BT/WIFI:

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	Aug. 28, 2024~ Oct. 16, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 10, 2024		Oct. 09, 2025	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2024	Aug. 28, 2024~ Oct. 16, 2024	Jan. 01, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2024	Aug. 28, 2024~ Oct. 16, 2024	Jan. 01, 2025	Conducted (TH01-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 18, 2024	Aug. 28, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 11, 2023	Aug. 28, 2024	Oct. 10, 2024	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 18, 2024	Aug. 28, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 11, 2023	Aug. 28, 2024	Oct. 10, 2024	Conduction (CO01-KS)
Signal Analyzer	R&S	FSV7	101472	10Hz~7GHz	Jan. 02, 2024	Aug, 30, 2024	Jan. 01, 2025	Conducted (DFS01-KS)
MXG-B RF Vector Signal Genertor	Keysight	5182B /5182BX07	MY56200417 /MY59360210	9kHz~7.2GHz	Apr 17, 2024	Aug, 30, 2024	Apr 16, 2025	Conducted (DFS01-KS)
Combiner	MTJ Cooperation	MTJ7112	N/A	0.4-6GHz	NCR	Aug, 30, 2024	NCR	Conducted (DFS01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 11, 2023	Aug, 15, 2024	Oct. 10, 2024	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44GHz	Oct. 11, 2023	Aug, 15, 2024	Oct. 10, 2024	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11, 2023	Aug, 15, 2024	Sep. 10, 2024	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	30MHz-1GHz	Dec. 06, 2023	Aug, 15, 2024	Dec. 05, 2024	Radiation (03CH03-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 23, 2023	Aug, 15, 2024	Oct. 22, 2024	Radiation (03CH03-KS)
SHF-EHF Horn	com-power	AH-840	101115	18GHz~40GHz	Oct. 15, 2023	Aug, 15, 2024	Oct. 14, 2024	Radiation (03CH03-KS)
Amplifier	SONOMA	310N	413740	30MHz ~1000MHz	Jan. 03, 2024	Aug, 15, 2024	Jan. 02, 2025	Radiation (03CH03-KS)
Amplifier	EM	EM18G40GA	060851	18~40GHz	Jan. 03, 2024	Aug, 15, 2024	Jan. 02, 2025	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2082394	1Ghz-18Ghz	Jan. 03, 2024	Aug, 15, 2024	Jan. 02, 2025	Radiation (03CH03-KS)
Amplifier	Keysight	83017A	MY53270319	1GHz~26.5GHz	Oct. 11, 2023	Aug, 15, 2024	Oct. 10, 2024	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Aug, 15, 2024	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Aug, 15, 2024	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Aug, 15, 2024	NCR	Radiation (03CH03-KS)

NCR: No Calibration Required.

For WWAN Bands:

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	Aug. 28, 2024~ Oct. 16, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 10, 2024		Oct. 09, 2025	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Aug. 28, 2024~ Oct. 16, 2024	NCR	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 04, 2024	Aug. 28, 2024~ Oct. 16, 2024	Jul. 03, 2025	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 11, 2023	Aug. 22, 2024~ Oct. 15, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2024		Oct. 09, 2025	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Aug. 18, 2024	Aug. 22, 2024~ Oct. 15, 2024	Aug. 17, 2025	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 23, 2023	Aug. 22, 2024~ Oct. 15, 2024	Oct. 22, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 27, 2024	Aug. 22, 2024~ Oct. 15, 2024	Jan. 26, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	413740	9KHz-1GHz	Jan. 03, 2024	Aug. 22, 2024~ Oct. 15, 2024	Jan. 02, 2025	Radiation (03CH04-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Jan. 02, 2024	Aug. 22, 2024~ Oct. 15, 2024	Jan. 01, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 11, 2023	Aug. 22, 2024~ Oct. 15, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 10, 2024		Oct. 09, 2025	Radiation (03CH04-KS)
Amplifier	EM	EM01G18GA	060892	1Ghz-18Ghz	Oct. 11, 2023	Aug. 22, 2024~ Oct. 15, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
Amplifier	EM	EM01G18GA	060892	1Ghz-18Ghz	Oct. 10, 2024		Oct. 09, 2025	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Aug. 22, 2024~ Oct. 15, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Aug. 22, 2024~ Oct. 15, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Aug. 22, 2024~ Oct. 15, 2024	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required.

4 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement (BT/WIFI2.4G/5G)

Conducted Spurious Emission & Bandedge	**±2.22 dB**
Occupied Channel Bandwidth	**±0.1%**
Conducted Power	**±0.50 dB**
Conducted Power Spectral Density	**±0.90 dB**
Frequency	**±0.4 ppm**

Uncertainty of Conducted Measurement (DFS)

Test Item	Uncertainty
Conducted Generated signal Levels	**±0.56 dB**
Conducted Time	**0.38%**

Uncertainty of Conducted Measurement (WWAN)

Conducted Spurious Emission & Bandedge	**±2.22 dB**
Occupied Channel Bandwidth	**±0.1%**
Conducted Power	**±0.50 dB**
Peak to Average Ratio	**±0.46 dB**
Frequency Stability	**±0.4 ppm**

Uncertainty of AC Conducted Emission Measurement (0.15 MHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.84 dB**

03CH03-KS(BT/WIF):

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.30dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.08dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.18dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.22dB

03CH04-KS(WWAN):

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.83 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.83 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.82 dB

-THE END-

Appendix A. Radiated Spurious Emission Test Data

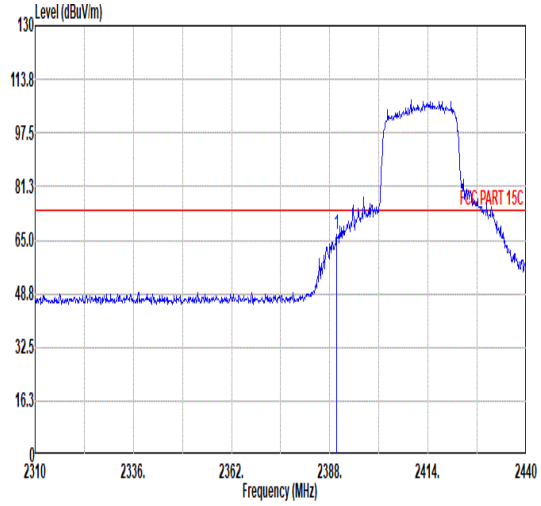
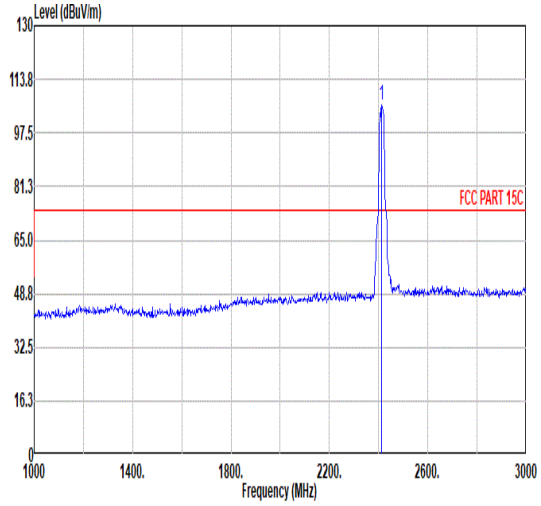
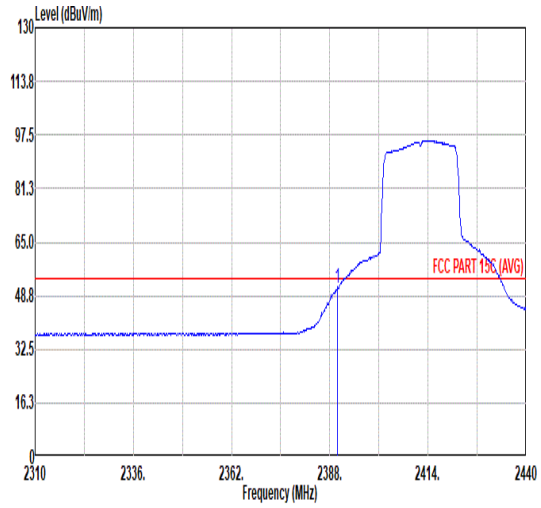
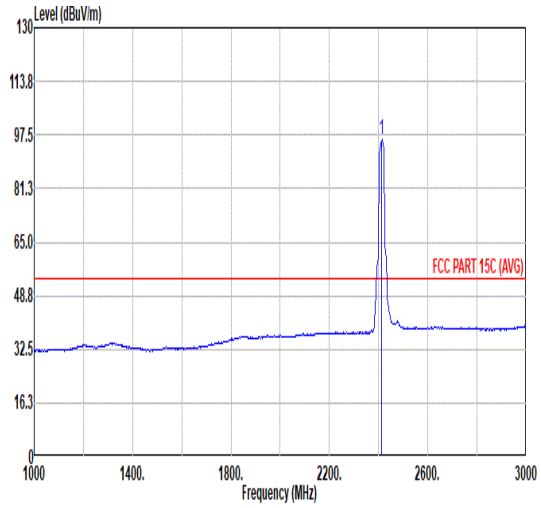
Test Engineer :	Jake Zhou	Relative Humidity :	53-58%
		Temperature :	23-26℃

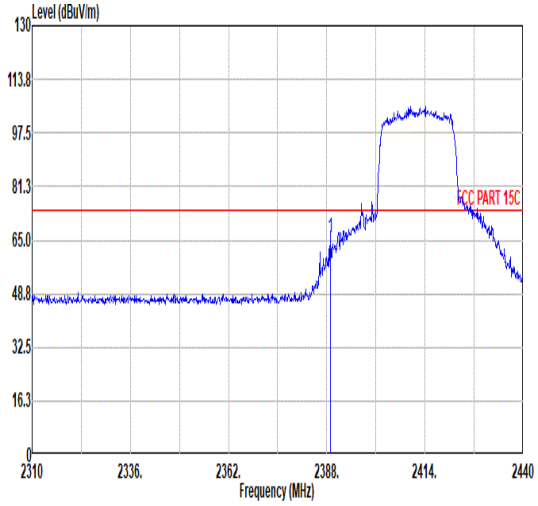
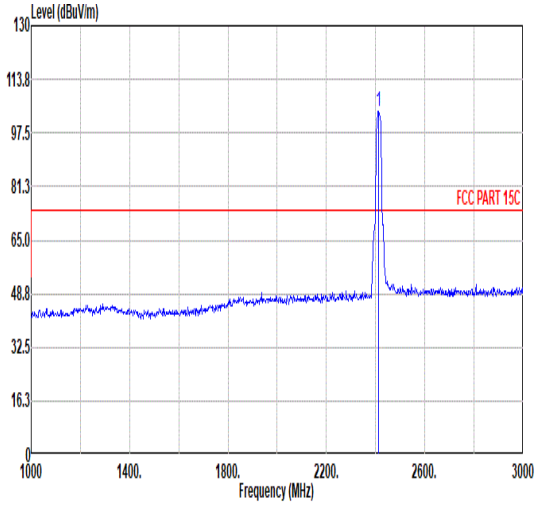
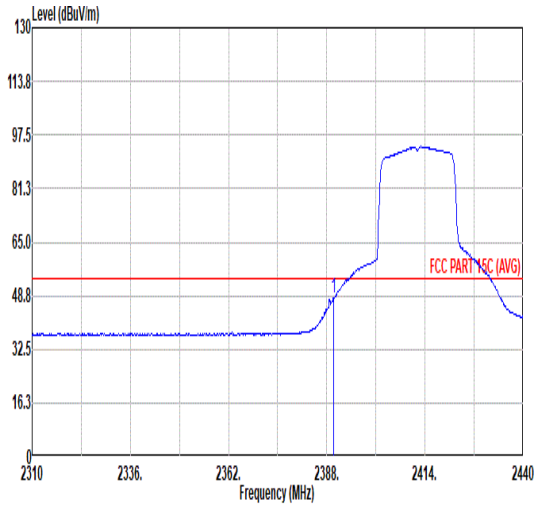
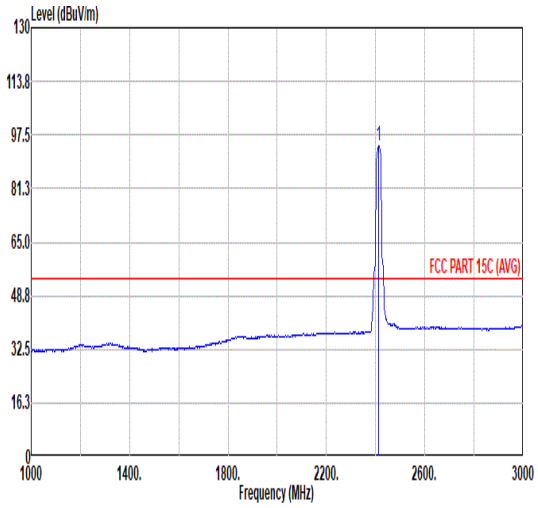
Radiated Spurious Emission Test Modes for Co-location

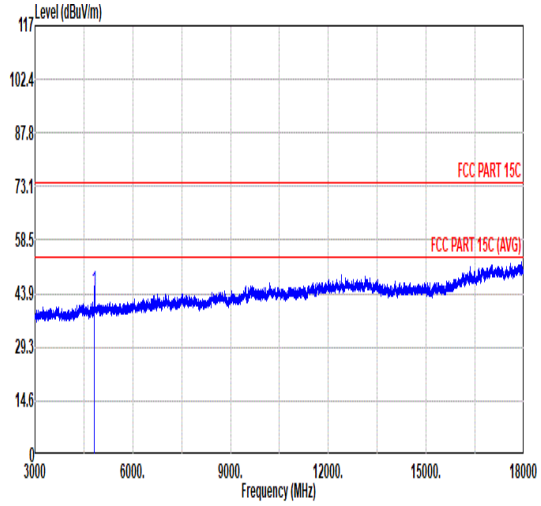
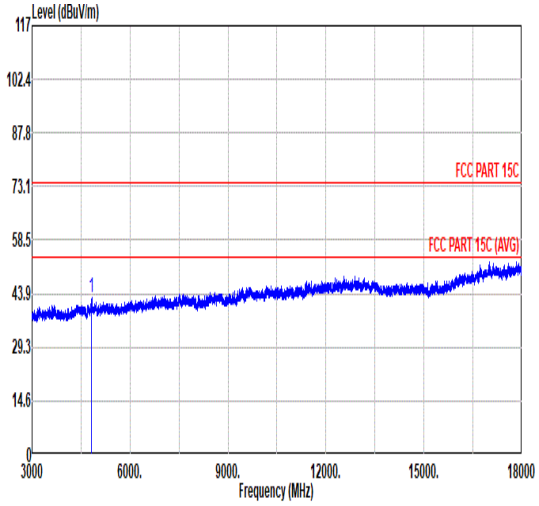
Mode	Band	Band	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	Co-location	2.4G WIFI	6	802.11ax HE20	01	2412	MCS0	Full	-
		WWAN	3	Part 96 LTE Band 48 BW=20M					
Mode 2	Co-location	5G U-NII-1	6	802.11ax HE80	42	5210	MCS0	Full	-
		-	6	Bluetooth-LE	38	2478	2Mbps	Full	-
		WWAN	3	Part 96 LTE Band 48 BW=20M					

Summary of each worse mode

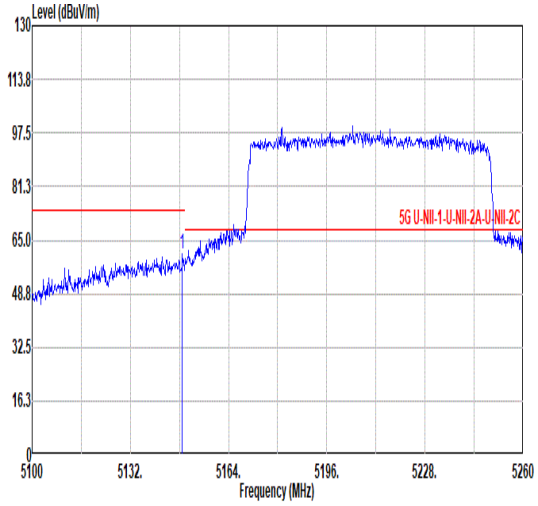
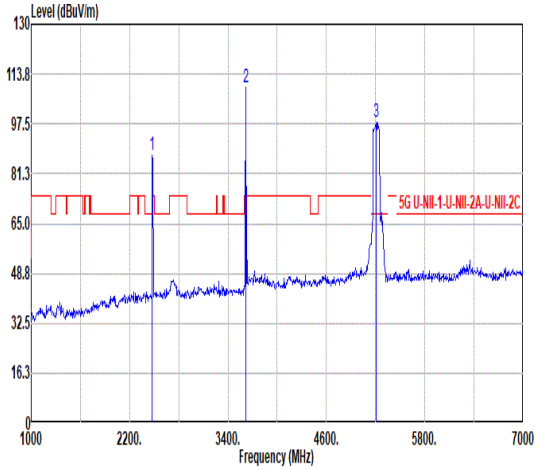
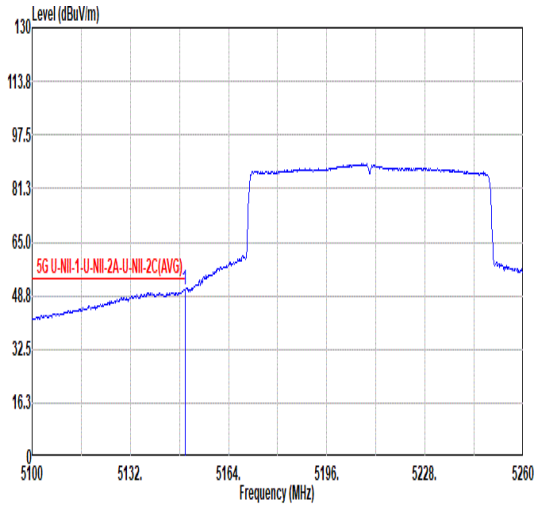
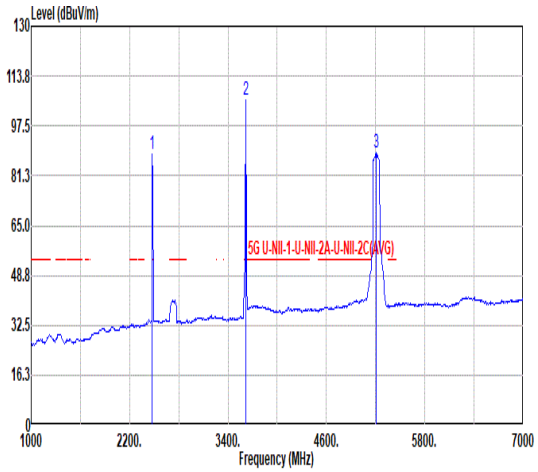
Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	802.11ax HE20	01	2389.95	50.83	54.00	-3.17	H	AVERAGE	Pass	Band Edge
	802.11ax HE20	01	4824.00	44.42	74.00	-29.58	H	PEAK	Pass	Harmonic
2	802.11ax HE80	42	5149.76	50.67	54.00	-3.33	H	AVERAGE	Pass	Band Edge
	802.11ax HE80	42	10420.00	44.50	68.20	-23.70	V	PEAK	Pass	Harmonic
	Bluetooth-LE	38	2485.24	40.48	54.00	-13.52	V	AVERAGE	Pass	Band Edge
	Bluetooth-LE	38	4956.00	46.87	54.00	-7.13	H	AVERAGE	Pass	Harmonic

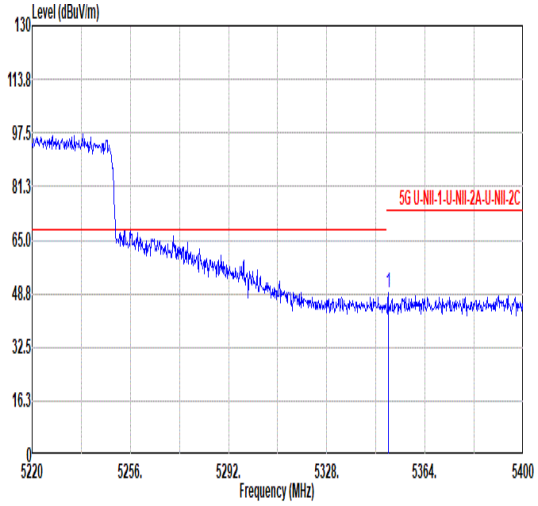
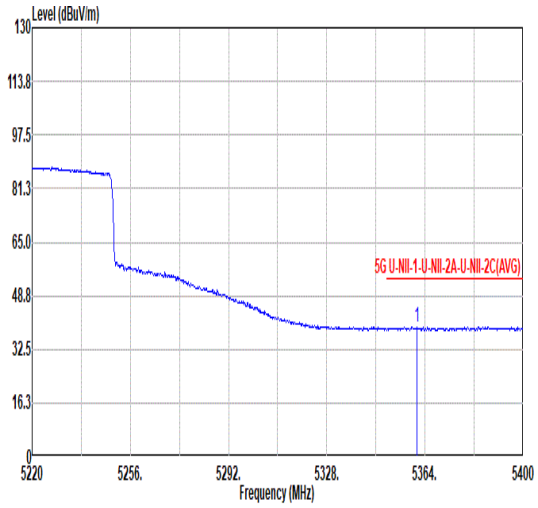
Mode	1	
	Band Edge	
	2400-2483.5_802.11ax HE20_CH01_Full _2412MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2389.82 66.56 74.00 -7.44 58.32 31.94 7.16 36.86 6.00 206 311 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2412.00 105.97 ------ ------ 97.49 32.14 7.20 36.86 6.00 206 311 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2389.95 50.83 54.00 -3.17 42.59 31.94 7.16 36.86 6.00 206 311 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2412.00 95.94 ------ ------ 87.42 32.17 7.21 36.86 6.00 206 311 AVERAGE

Mode	1	
	Band Edge	
	2400-2483.5_802.11ax HE20_CH01_Full _2412MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2388.91 65.71 74.00 -8.29 57.48 31.93 7.16 36.86 6.00 312 52 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2412.00 103.99 ------ ------ 95.51 32.14 7.20 36.86 6.00 312 52 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2389.82 48.00 54.00 -6.00 39.76 31.94 7.16 36.86 6.00 312 52 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2412.00 93.97 ------ ------ 85.49 32.14 7.20 36.86 6.00 312 52 AVERAGE

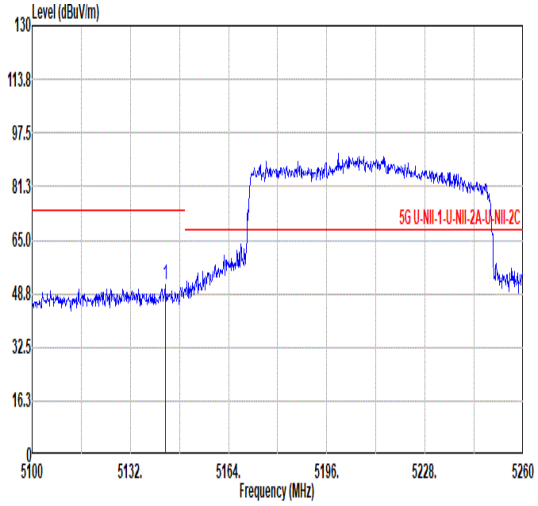
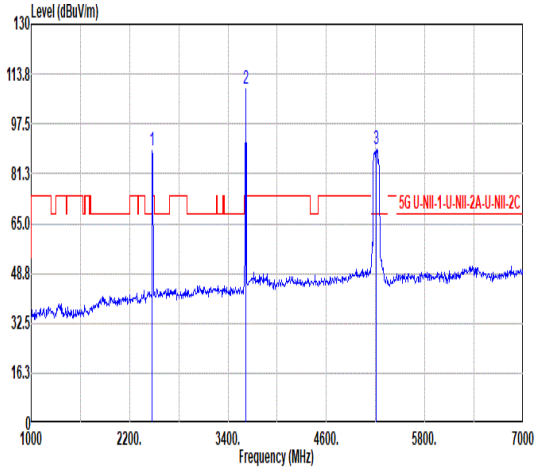
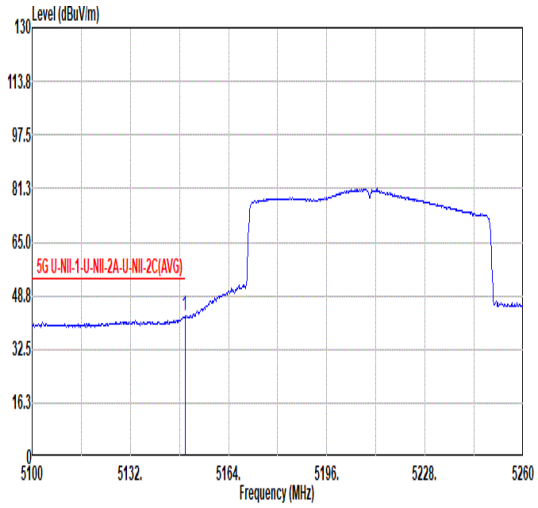
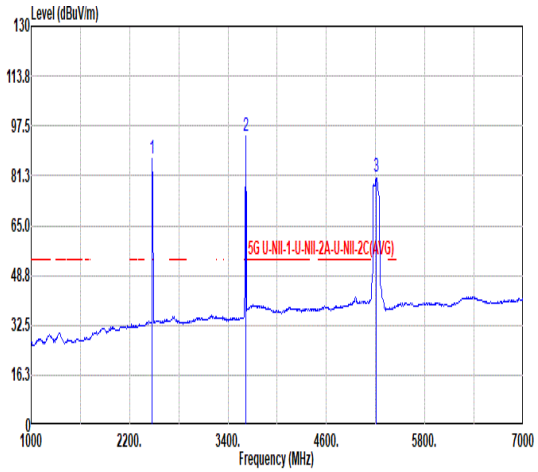
Mode	1	
	Harmonic	
	2400-2483.5_802.11ax HE20_CH01_Full _2412MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4824.00 44.42 74.00 -29.58 64.97 34.40 10.29 65.24 0.00 -- -- PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4824.00 43.04 74.00 -30.96 63.59 34.40 10.29 65.24 0.00 -- -- PEAK

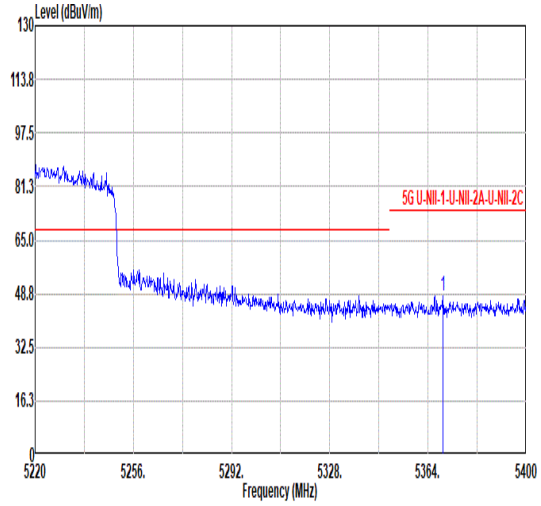
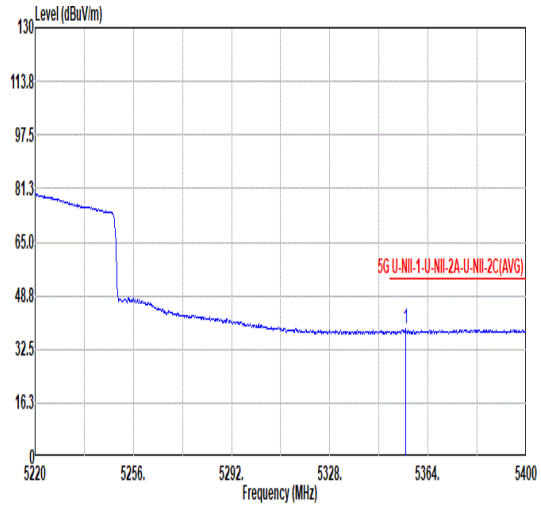
Mode	2
	Band Edge - L
	U-NII-1_5.15-5.25_802.11ax HE80_CH42_Full_5210MHz
ANT	6

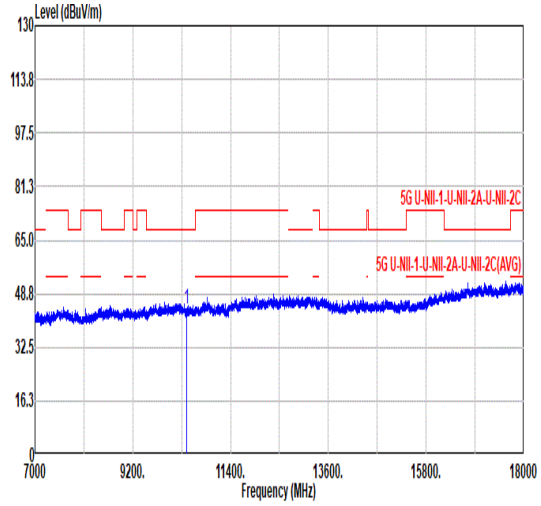
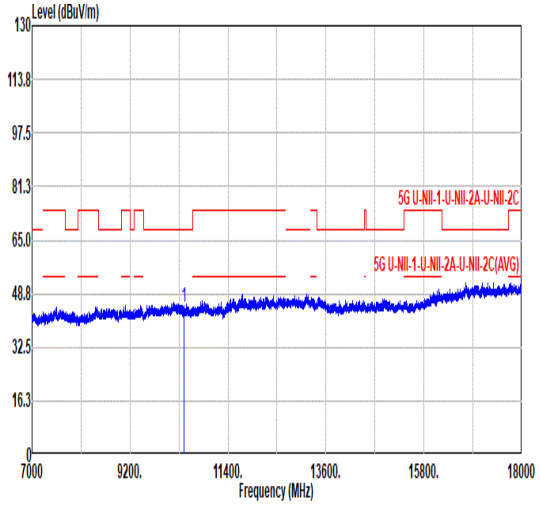
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5148.96 60.84 74.00 -13.16 52.93 34.60 10.65 37.34 0.00 101 236 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2476.00 87.52 ------ ------ 84.45 32.60 7.32 36.85 0.00 101 236 Peak 2 3616.00 109.54 ------ ------ 104.37 32.86 8.89 36.58 0.00 101 236 Peak 3 5210.00 98.23 ------ ------ 90.15 34.68 10.72 37.32 0.00 101 236 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5149.76 50.67 54.00 -3.33 42.76 34.60 10.65 37.34 0.00 101 236 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2476.00 88.52 ------ ------ 85.45 32.60 7.32 36.85 0.00 101 236 Average 2 3616.00 106.02 ------ ------ 100.85 32.86 8.89 36.58 0.00 101 236 Average 3 5210.00 88.73 ------ ------ 80.65 34.69 10.71 37.32 0.00 101 236 AVERAGE

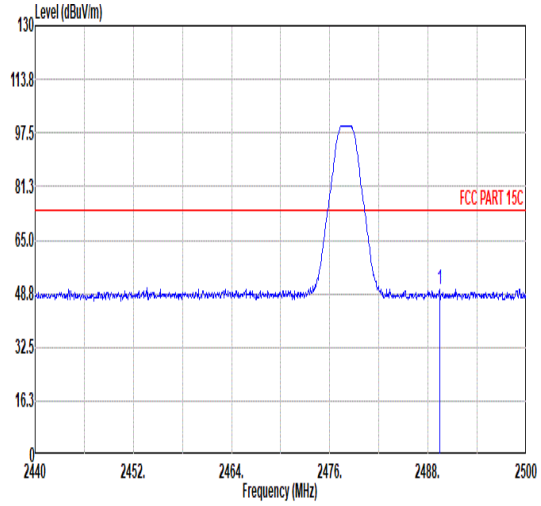
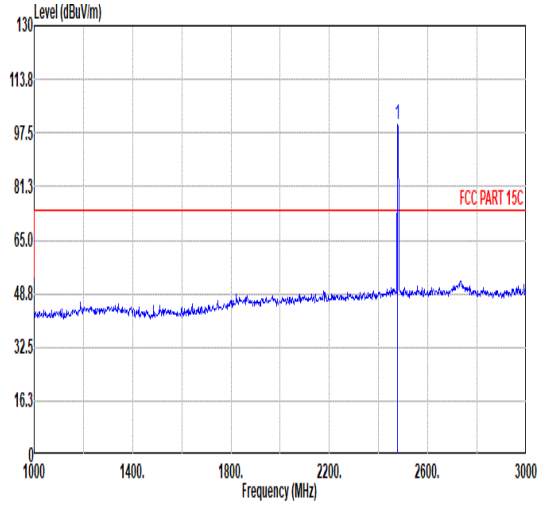
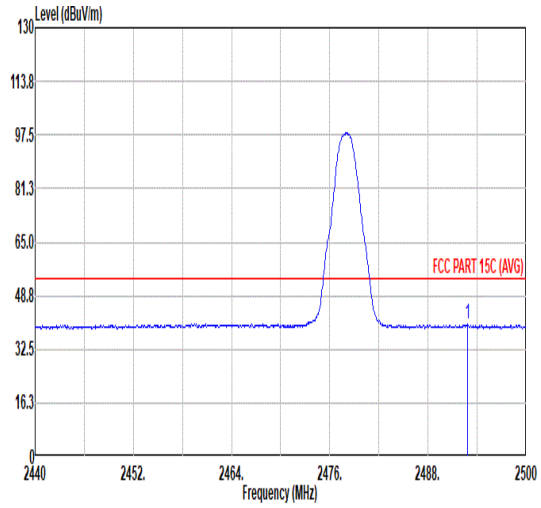
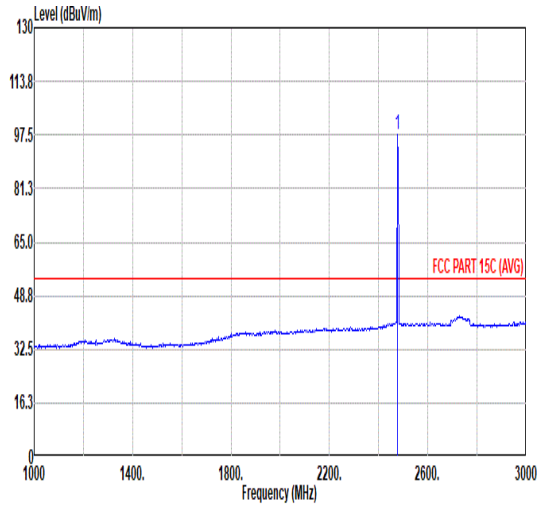
Mode	2	
	Band Edge - R	
	U-NII-1_5.15-5.25_802.11ax HE80_CH42_Full_5210MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5350.50 49.25 74.00 -24.75 40.90 34.80 10.84 37.29 0.00 101 236 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5361.12 39.34 54.00 -14.66 31.02 34.76 10.85 37.29 0.00 101 236 AVERAGE	Blank

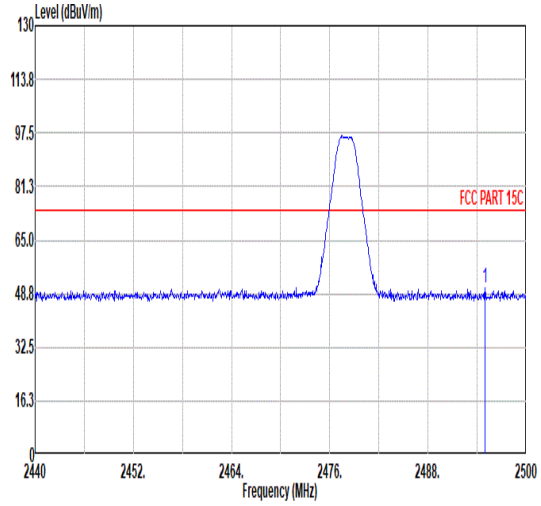
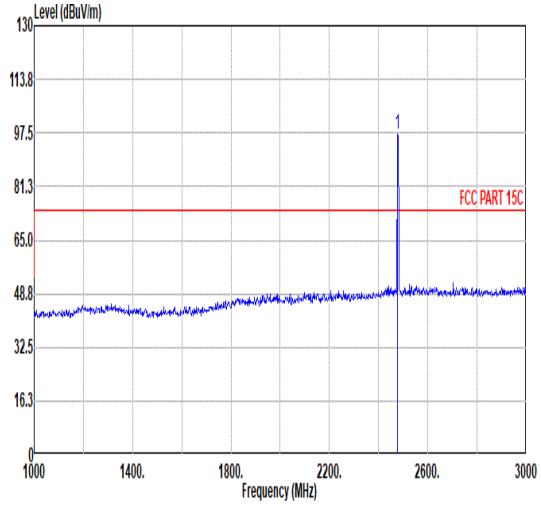
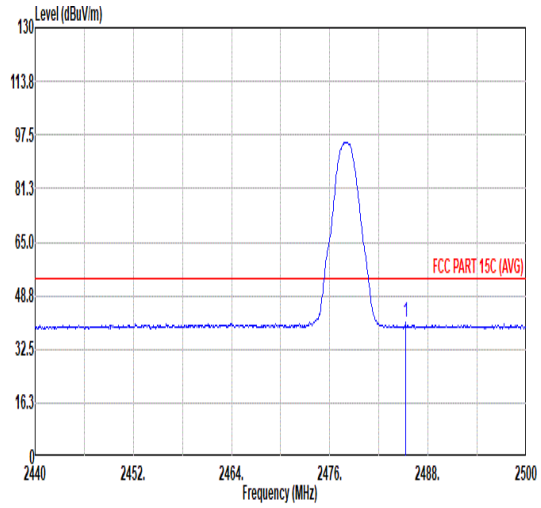
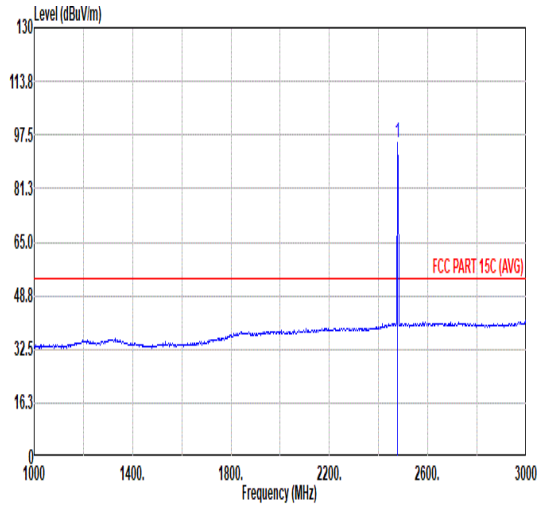
Mode	2
	Band Edge - L
	U-NII-1_5.15-5.25_802.11ax HE80_CH42_Full_5210MHz
ANT	6

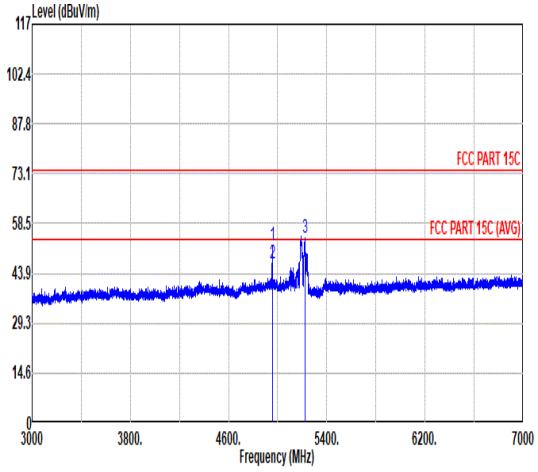
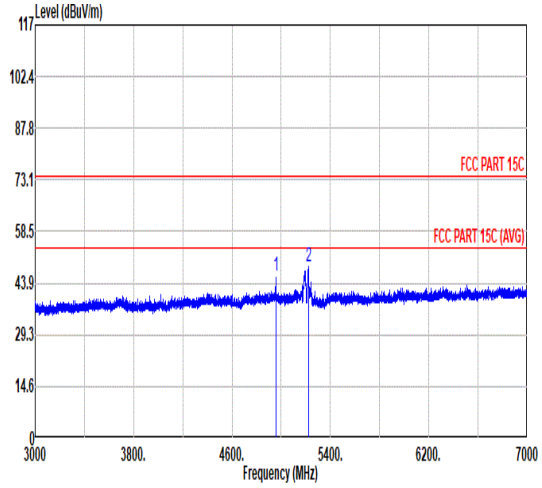
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5143.36 51.34 74.00 -22.66 43.40 34.63 10.65 37.34 0.00 376 116 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2476.00 88.86 ------ ------ 85.79 32.60 7.32 36.85 0.00 376 116 Peak 2 3616.00 108.67 ------ ------ 103.50 32.86 8.89 36.58 0.00 376 116 Peak 3 5210.00 89.32 ------ ------ 81.24 34.68 10.72 37.32 0.00 376 116 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5149.76 42.48 54.00 -11.52 34.57 34.60 10.65 37.34 0.00 376 116 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2476.00 86.75 ------ ------ 83.68 32.60 7.32 36.85 0.00 376 116 Average 2 3616.00 94.11 ------ ------ 88.94 32.86 8.89 36.58 0.00 376 116 Average 3 5210.00 80.75 ------ ------ 77.68 32.60 7.32 36.85 0.00 376 116 AVERAGE

Mode	2	
	Band Edge - R	
	U-NII-1_5.15-5.25_802.11ax HE80_CH42_Full_5210MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5369.40 48.08 74.00 -25.92 39.79 34.72 10.86 37.29 0.00 376 116 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5355.72 38.67 54.00 -15.33 30.33 34.78 10.85 37.29 0.00 376 116 AVERAGE	Blank

Mode	2	
	Harmonic	
	U-NII-1_5.15-5.25_802.11ax HE80_CH42_Full_5210MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 10420.00 44.20 68.20 -24.00 57.82 37.60 15.33 66.55 0.00 -- -- PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 10420.00 44.50 68.20 -23.70 58.09 37.62 15.34 66.55 0.00 -- -- PEAK

Mode	2	
	Band Edge	
	2400-2483.5_2400-2483.5_Bluetooth-LE_CH38_Full_2478MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2489.44 50.27 74.00 -23.73 41.18 32.60 7.34 36.85 6.00 163 301 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2478.00 100.04 ------ ------ 90.97 32.60 7.32 36.85 6.00 163 301 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2492.80 40.02 54.00 -13.98 30.92 32.60 7.35 36.85 6.00 163 301 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2478.00 97.84 ------ ------ 88.77 32.60 7.32 36.85 6.00 163 301 AVERAGE

Mode	2	
	Band Edge	
	2400-2483.5_2400-2483.5_Bluetooth-LE_CH38_Full_2478MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2494.96 50.36 74.00 -23.64 41.26 32.60 7.35 36.85 6.00 303 56 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2478.00 97.33 ------ ------ 88.26 32.60 7.32 36.85 6.00 303 56 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2485.24 40.48 54.00 -13.52 31.40 32.60 7.33 36.85 6.00 303 56 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2478.00 95.32 ------ ------ 86.25 32.60 7.32 36.85 6.00 303 56 AVERAGE

Mode	2	
	Harmonic	
	2400-2483.5_2400-2483.5_Bluetooth-LE_CH38_Full_2478MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4956.00 51.92 74.00 -22.08 72.55 34.56 10.44 65.63 0.00 100 234 PEAK 2 4956.00 46.87 54.00 -7.13 67.50 34.56 10.44 65.63 0.00 100 234 AVERAGE 3 5222.00 54.27 74.00 -19.73 74.58 34.66 10.73 65.70 0.00 -- -- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4956.00 46.02 74.00 -27.98 66.65 34.56 10.44 65.63 0.00 -- -- PEAK 2 5224.80 48.44 74.00 -25.56 68.76 34.65 10.73 65.70 0.00 -- -- Peak

Note: For all plots above, the over limit line signals are Fundamental signal which can be ignored.

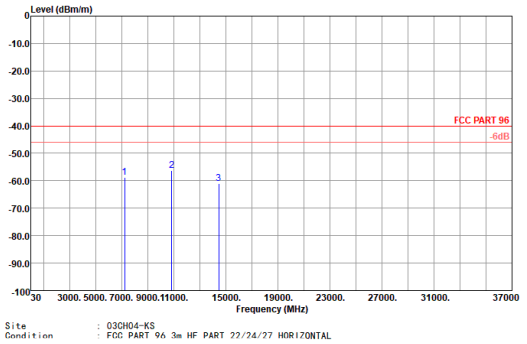
LTE Band 48 / 20MHz / QPSK / Ant.5								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7231	-58.82	-40	-18.82	-70.28	2.84	14.30	H
	10850	-56.40	-40	-16.40	-66.34	3.49	13.43	H
	14469	-61.02	-40	-21.02	-71.26	3.85	14.09	H
	7231	-60.93	-40	-20.93	-72.39	2.84	14.30	V
	10850	-49.88	-40	-9.88	-59.82	3.49	13.43	V
	14469	-57.38	-40	-17.38	-67.62	3.85	14.09	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Part 96_ LTE Band 48

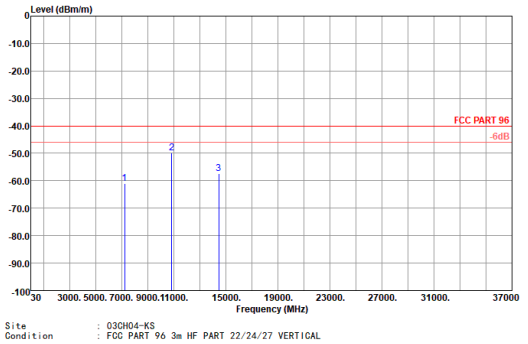
ANT 5

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Pol/Phase
	MHz	dBm/m	dB	dBm/m	dBm	
1	7231.00	-58.82	-18.82	-40.00	-53.06	HORIZONTAL
2	10850.00	-56.40	-16.40	-40.00	-57.88	HORIZONTAL
3	14469.00	-61.02	-21.02	-40.00	-65.52	HORIZONTAL

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Pol/Phase
	MHz	dBm/m	dB	dBm/m	dBm	
1	7231.00	-60.93	-20.93	-40.00	-55.14	VERTICAL
2	10850.00	-49.88	-9.88	-40.00	-51.26	VERTICAL
3	14469.00	-57.38	-17.38	-40.00	-61.87	VERTICAL

Appendix C. Reference Report

DYNAMIC FREQUENCY SELECTION

DFS Test Report

APPLICANT	:	Xiaomi Communications Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	Redmi
MODEL NAME	:	24090RA29G
FCC ID	:	2AFZZRA29G
STANDARD	:	FCC Part 15 Subpart E
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure
TEST DATE(S)	:	Jul. 20, 2024

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

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

ACCREDITED
Cert #5145.02

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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APPENDIX A. SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FZ471506	Rev. 01	Initial issue of report	Aug. 19, 2024

SUMMARY OF DYNAMIC FREQUENCY SELECTION TEST

UNII	Bandwidth and Channel	Description	Measured	Limit	Result
UNII Band 2-A 5250-5350MHz & UNII Band 2-C 5470-5725MHz	80MHz (CH106) 5530MHz	Channel Move Time	0.846028sec	< 10 sec	Pass
		Channel Closing Transmission time	200ms + 8.4ms (aggregate)	< 200 ms + aggregate of 60 ms over remaining 10 s period	Pass
		Non-Occupancy Period and Client Beacon Test	No transmission or Beacons occurred	≥ 30 minutes	Pass

Note: Since the product is client without radar detection function, only Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Test are required to be performed.

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

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.2. Manufacturer

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.3. Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Redmi
Model Name	24090RA29G
FCC ID	2AFZZRA29G
IMEI Code	861793070040843/861793070040850
HW Version	135300O16
SW Version	Xiaomi HyperOS 1.0
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

Product Specification subjective to this standard	
DFS Function	Client without radar detection function
Tx/Rx Channel Frequency Range	5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
EUT support WLAN function	802.11a 802.11n HT20/HT40 802.11ac VHT20/VHT40/VHT80 802.11ax HE20/HE40/HE80
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac/ax : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)

Note: the device does not support 802.11ax channel puncturing.

1.5. Modification of EUT

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

1.6. Testing Site

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.**
	DFS01-KS	CN1257	314309

1.7. Applied 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 905462 D02 UNII DFS Compliance Procedures New Rules v02
- FCC KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

1.8. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	HW / FW Version	Power Cord
1.	WLAN AP	Cisco	Air-CAP3072E-A-K9	LDK102087	HW:NA FW: 15.2(4)JB6	Shielded, 1.8 m
2.	Notebook	Lenovo	Edge E335	PPD-AR5B95	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2 Requirements and Parameters for DFS Test

2.1. Summary of Dynamic Frequency Selection Test

Bandwidth and Channel	Test Items	Limit
80MHz 5530MHz (CH106)		
80MHz (CH106) 5530MHz	Channel Move Time	< 10 sec
	Channel Closing Transmission time	< 200 ms + aggregate of 60 ms over remaining 10 s period
	Non-Occupancy Period and Client Beacon Test	≥ 30 minutes

2.2. Applicability of DFS Requirements

EUT is client and operates as client without radar detection function.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required	Yes
Client Beacon Test	N/A	Yes	Yes

Additional requirements for devices with multiple bandwidth modes	Operational Mode	
	Master 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.

2.3. Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (see notes 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 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.

2.4. 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 99% power bandwidth See Note 3.

Note 1: The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows:

- For the Short pulse radar Test Signals this instant is the end of the *Burst*.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar *Burst* generated.
- For the Long Pulse radar Test Signal this instant is the end of the 12 second period defining the radar transmission.

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 *Channel* changes (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 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.

2.5. Short Pulse Radar Test Waveforms

As the EUT is a Client Device with no Radar Detection, only one type radar pulse is required for the testing. Radar Pulse type 0 was used in the evaluation of the Client device for the purpose of measuring the Channel Move Time and the Channel Closing Transmission Time.

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Trials
0	1	1428	18	60%	30
1	1	Test A Test B	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\text{PRI}_{\mu\text{sec}}}\right)\right\}$	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a
Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A

A minimum of 30 unique waveforms are required for each of the short pulse radar types 2 through 4. For short pulse radar type 1, the same waveform is used a minimum of 30 times. If more than 30 waveforms are used for short pulse radar types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms.

If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

The aggregate is the average of the percentage of successful detections of short pulse radar types 1-4.

3 Calibration Setup and DFS Test Results

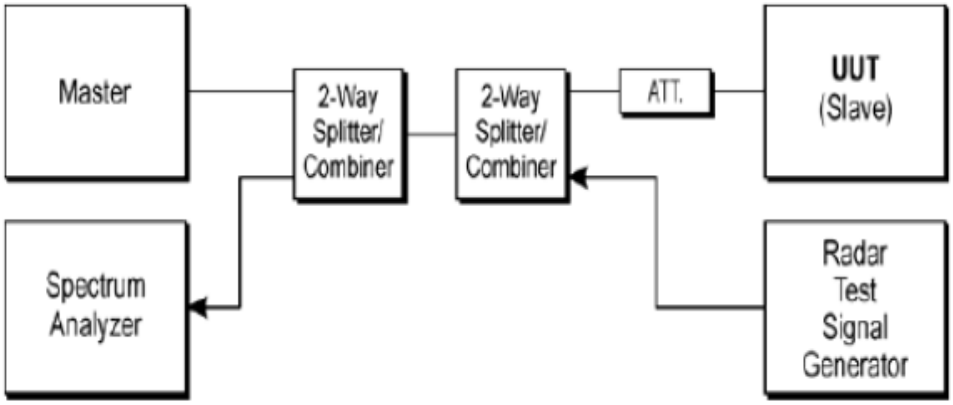
3.1. Calibration of Radar Waveform

3.1.1 Radar Waveform Calibration Procedure

The Interference Radar Detection Threshold Level that had been taken into account the output power range and antenna gain. The following equipment setup was used to calibrate the radiated Radar Waveform. A vector signal generator was utilized to establish the test signal level for radar type 0. During this process there were no transmissions by either the Master or Client Device. The spectrum analyzer was switched to the zero span (Time Domain) at the frequency of the Radar Waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz to measure the type 0 radar waveform. The spectrum analyzer had offset to compensate and RF cable loss.

3.1.2 Test Setup

Conducted Test Setup

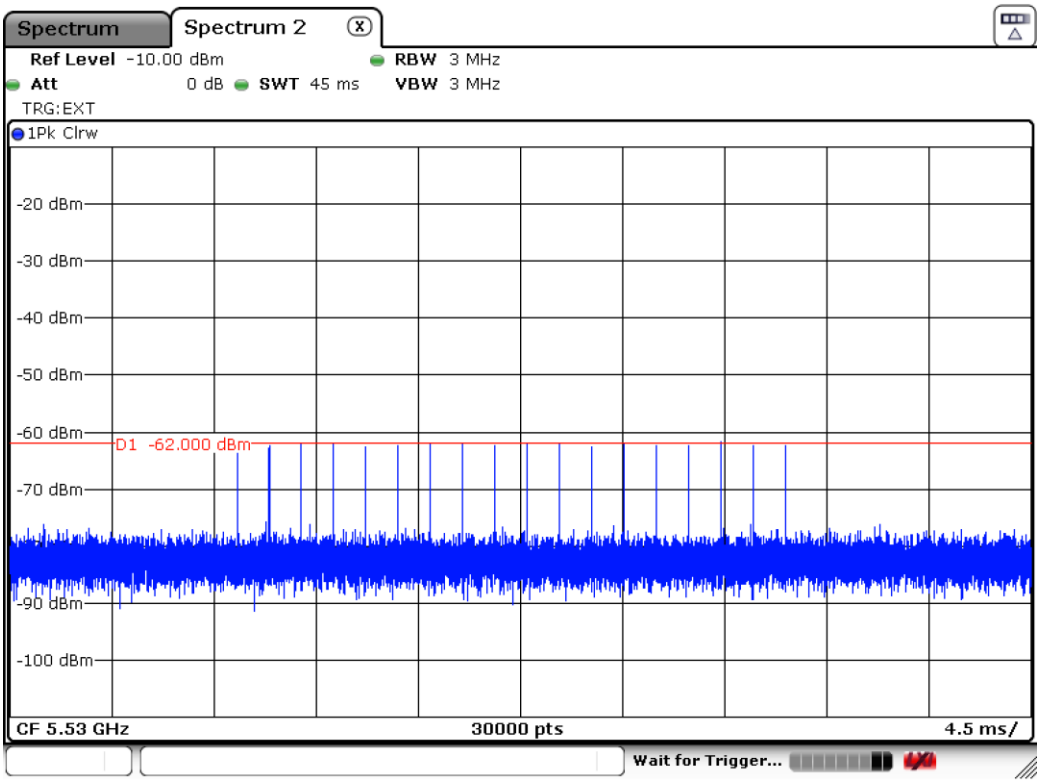


3.1.3 Calibration Deviation

There is no deviation with the original standard.

3.1.4 Radar Waveform Calibration Result

<80MHz / 5530MHz> Radar Type 0
Radar / DFS detection threshold level and the burst of pulses on the Channel frequency



3.2. In-Service Monitoring: Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period

3.2.1 Limit of In-Service Monitoring

The EUT has In-Service Monitoring function to continuously monitor the radar signals, If radar is detected, it must leave the channel (Shutdown). The Channel Move Time to cease all transmissions on the current Channel upon detection of a Radar Waveform above the DFS Detection Threshold within 10 sec. The total duration of *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 *Channel* changes (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.

Non-Occupancy Period time is 30 minute during which a Channel will not be utilized after a Radar Waveform is detected on that Channel. The non-associated Client Beacon Test is during the 30 minutes observation time. The EUT should not make any transmissions in the DFS band after EUT power up.

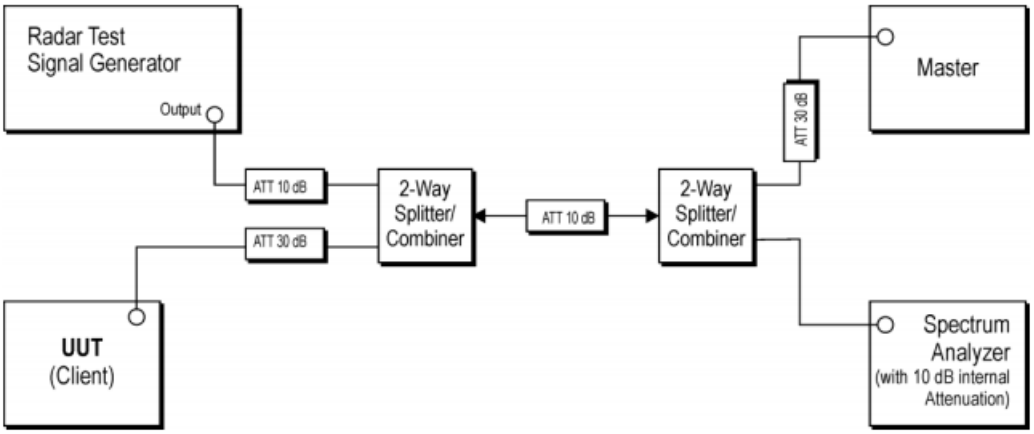
3.2.2 Test Procedures

1. The radar pulse generator is setup to provide a pulse at frequency that the Master and Client are operating. A type 0 radar pulse with a 1us pulse width and a 1428 us PRI is used for the testing.
2. The vector signal generator is adjusted to provide the radar burst (18 pulses) at a level of approximately -62dBm at the antenna of the Master device.
3. A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
4. A U-NII device operating as a Client Device will associate with the Master at Channel. The MPEG file “TestFile.mpg” specified by the FCC is streamed from the “file computer” through the Master to the Client Device and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
5. When a radar Burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device. At time T0 the Radar Waveform generator sends a Burst of pulse of the radar waveform at Detection Threshold + 1dB.
6. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the EUT during the observation time (Channel Move Time). One 12 seconds plot is reported for the Short Pulse Radar Types 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
7. Measurement of the aggregate duration of the Channel Closing Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: **Dwell (0.4ms)= S (12000ms) / B (30000)**; where Dwell is the dwell time per spectrum analyzer sampling bin, S is the sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: **C (ms)= N X Dwell (0.4 ms)**; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
8. Measure the EUT for more than 30 minutes following the channel move time to verify that no transmissions or beacons occur on this Channel.

3.2.3 Test Setup

UUT is a Client without Radar detection and Radar Test Waveforms are injected into the Master.

Conducted Test Setup



3.2.4 Test Deviation

There is no deviation with the original standard.

3.2.5 Result of Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period for Client Beacon Test

Test Mode :	Client without radar detection	**Temperature :**	23.2℃
Test Engineer :	Eloise	**Relative Humidity :**	56%

BW / Channel	Test Item	Test Result	Limit	Pass/Fail
80MHz / 5530MHz	Channel Move Time	846.028ms	< 10s	Pass
	Channel Closing Transmission Time	200ms + 8.4ms	< 260ms	Pass
	Non-Occupancy Period	≥ 30	≥ 30 min	Pass

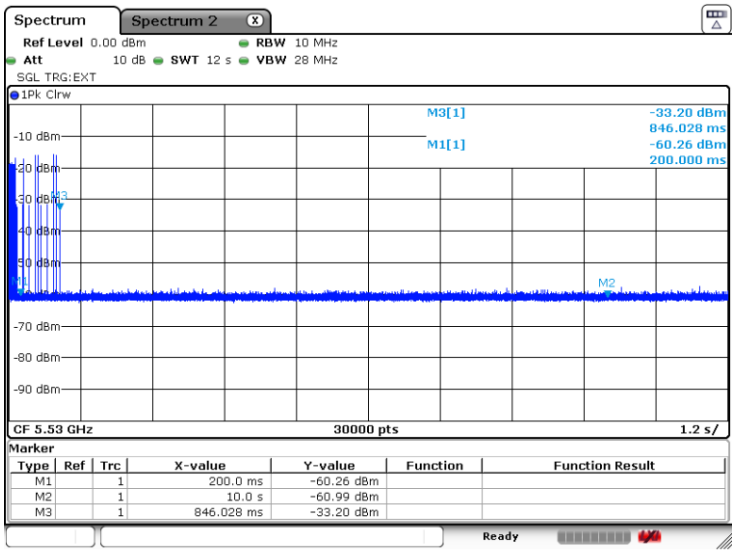
Note: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.

3.2.6 Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period for Client Beacon Test Plots

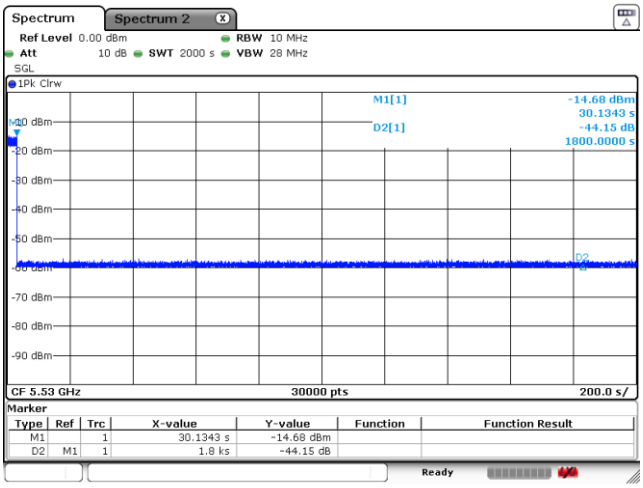
<80MHz / 5530> In-Service Monitoring

Channel Move Time &

Channel Closing Transmission Time

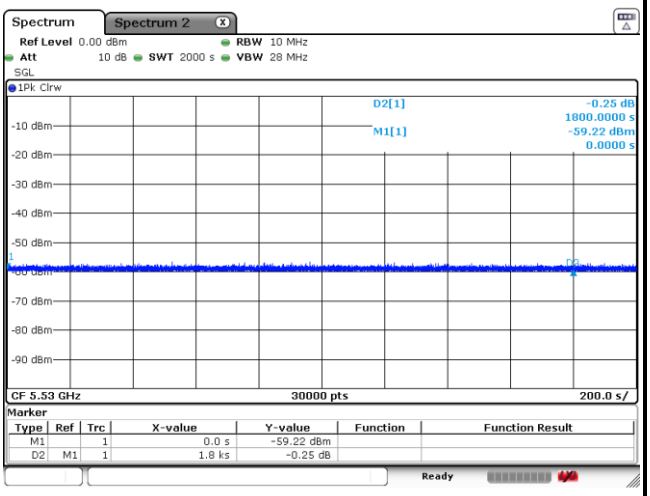


Non-Occupancy Period



Non-associated test

Master was off. (beacon test)

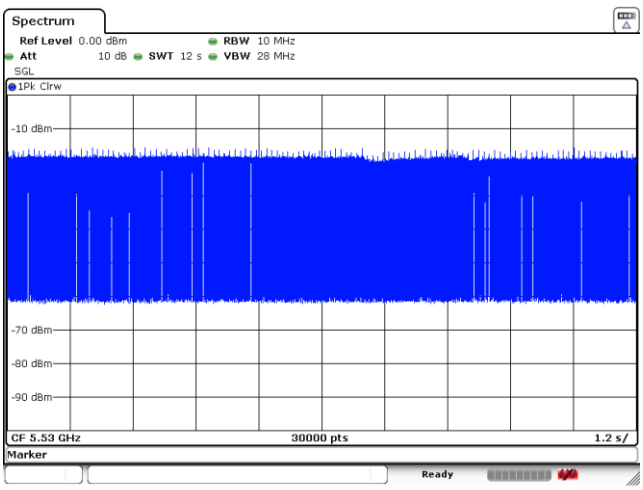
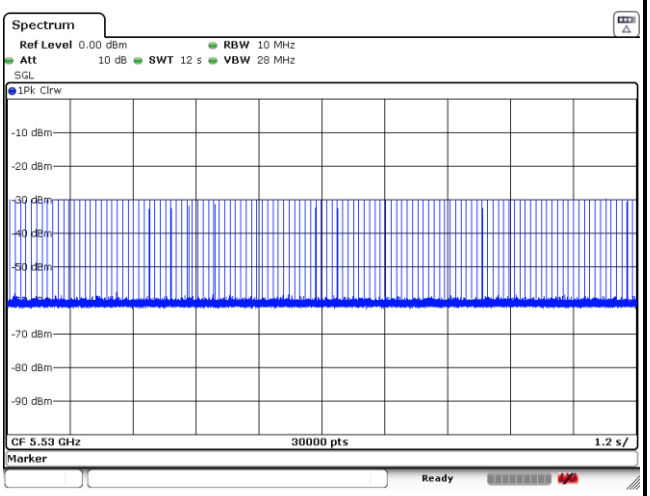


Note:

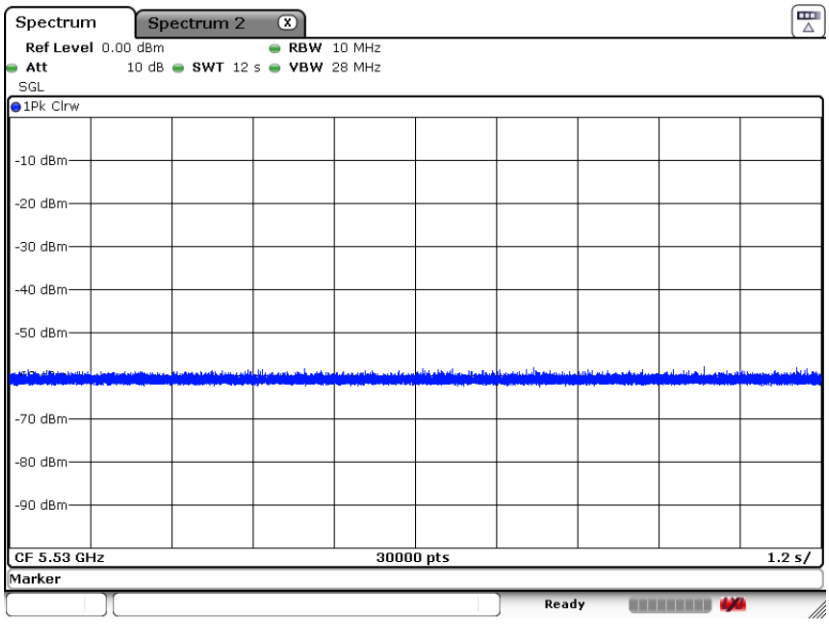
Dwell (0.4 ms)= Sweep Time (12000 ms) / Sweep Point Bins (30000)

Channel Closing Transmission Time (200 +8.4ms) = 200 + Number (21)* Dwell (0.4 ms) < 260ms

3.2.7 Data Traffic and Noise Floor Plots

EUT data traffic (Client)	Access Point data traffic (Master)
	

Noise Floor (No transmission)



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV7	101632	10Hz~7GHz	Jan.03,2024	Jul.20,2024	Jan.02,2025	DFS (DFS01-KS)
Signal Generator	KEYSIGHT	N5182B	MY53050604	9KHz~6GHz	Apr.17.2024	Jul.20,2024	Apr.16,2025	DFS (DFS01-KS)

NCR: No Calibration Required

5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Conducted Generated signal Levels	**±0.56 dB**
Conducted Time	**0.38%**

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