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
FG471506-01I	Rev. 01	Initial issue of report	Sep. 10, 2024
FG471506-01I	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:

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

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:

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

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

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

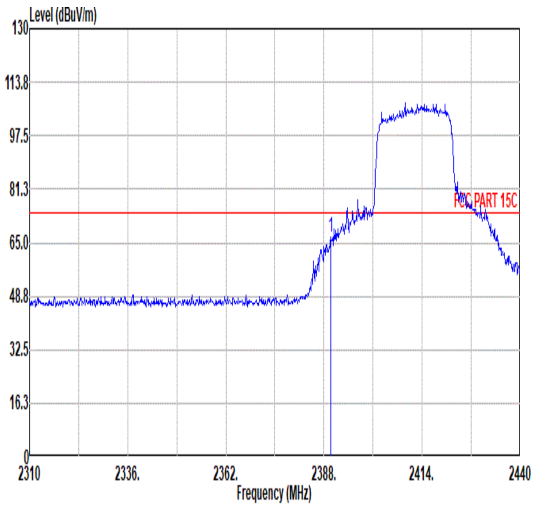
Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	802.11ax HE20	01	2389.95	50.83	54.00	-3.17	H	AVERAGE	Pass	Band Edge
	802.11ax HE20	01	4824.00	44.42	74.00	-29.58	H	PEAK	Pass	Harmonic
2	802.11ax HE80	42	5149.76	50.67	54.00	-3.33	H	AVERAGE	Pass	Band 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

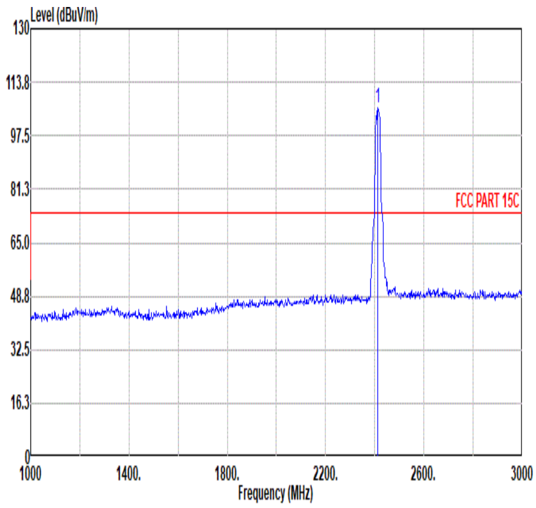
Peak

Horizontal



	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

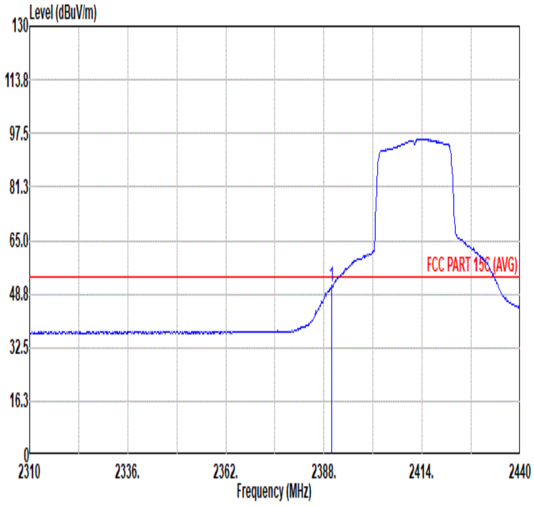
Fundamental



	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

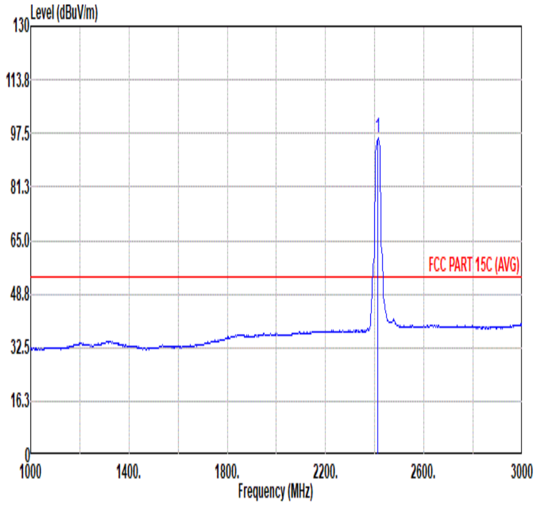
Avg

Horizontal



	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

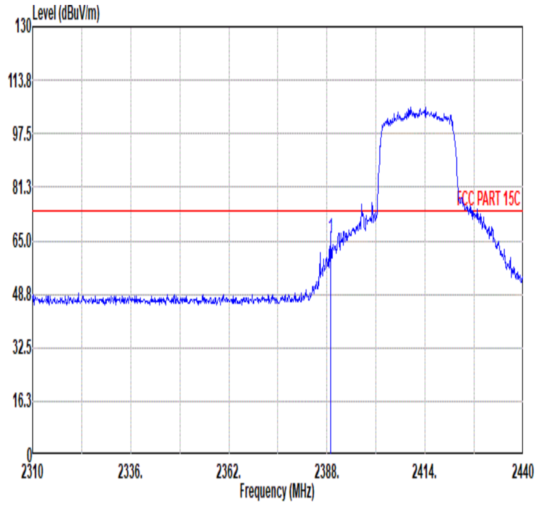
Fundamental



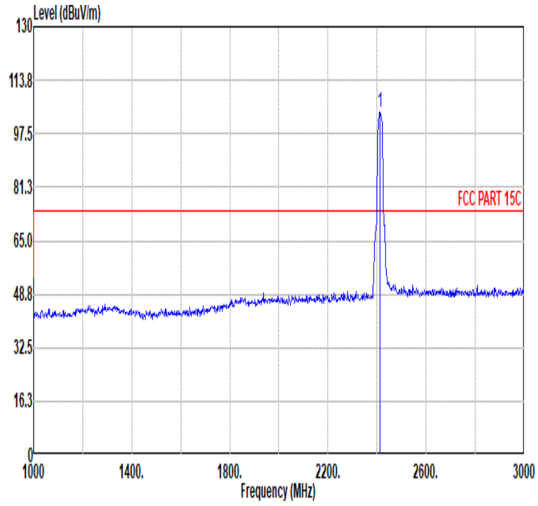
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2412.00	95.94	------	------	87.42	32.17	7.21	36.86	6.00	206	311	AVERAGE

Mode	1	
	Band Edge	
	2400-2483.5_802.11ax HE20_CH01_Full _2412MHz	
ANT	6	
Pol.	Vertical	Fundamental

Peak

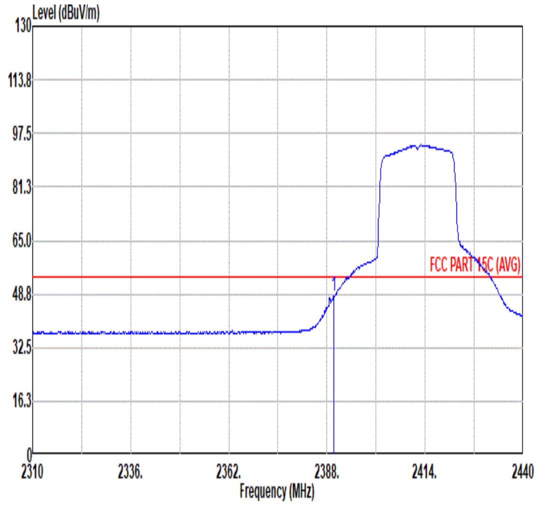


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2388.91	65.71	74.00	-8.29	57.48	31.93	7.16	36.86	6.00	312	52	PEAK

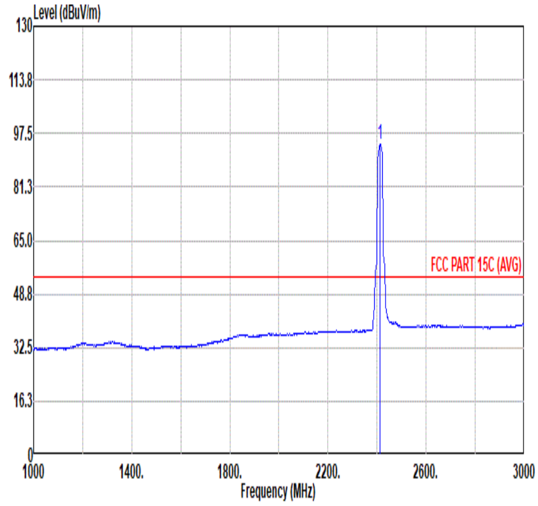


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2412.00	103.99	------	------	95.51	32.14	7.20	36.86	6.00	312	52	PEAK

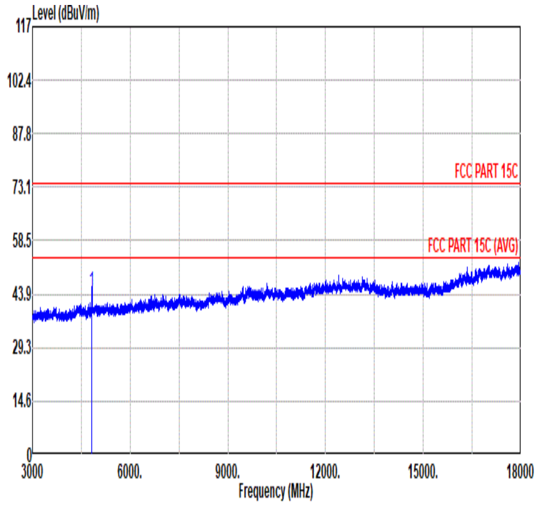
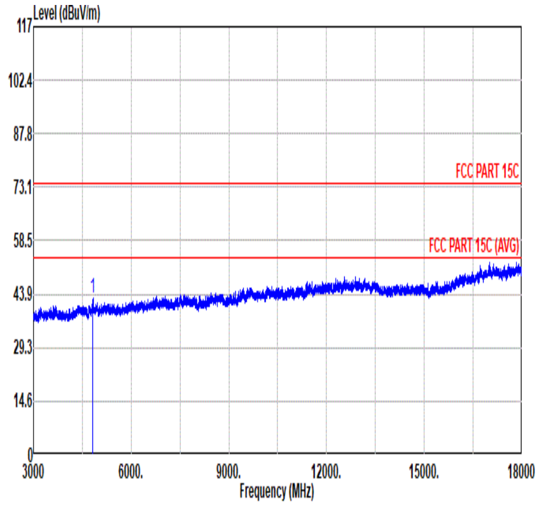
Avg



	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**		

Horizontal:

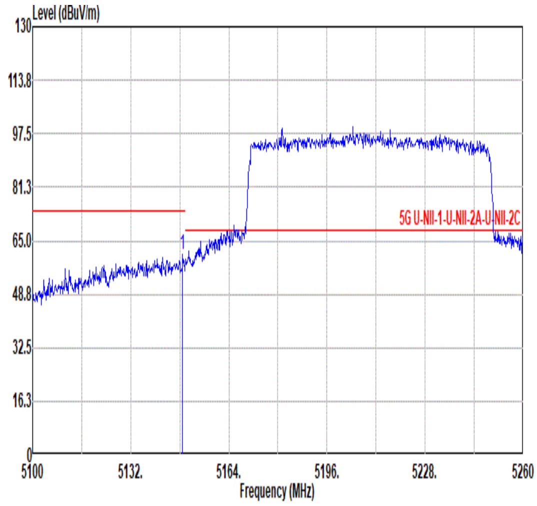
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	4824.00	44.42	74.00	-29.58	64.97	34.40	10.29	65.24	0.00	--	--	PEAK

Vertical:

	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

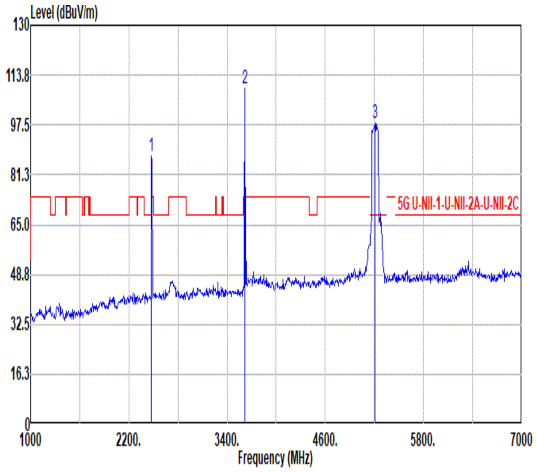
Mode	2	
	Band Edge - L	
	U-NII-1_5.15-5.25_802.11ax HE80_CH42_Full_5210MHz	
ANT	6	
Pol.	Horizontal	Fundamental

Peak – Horizontal



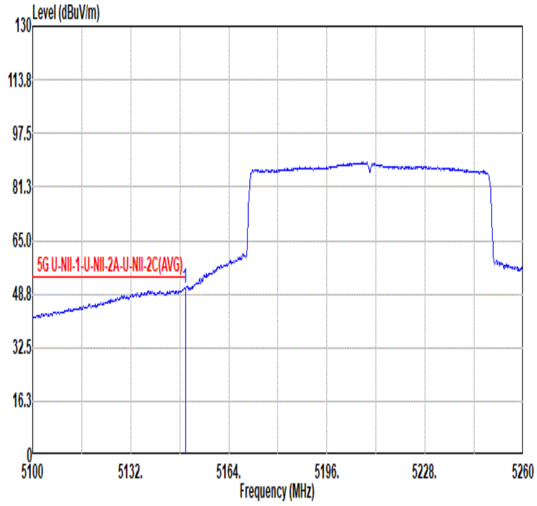
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5148.96	60.84	74.00	-13.16	52.93	34.60	10.65	37.34	0.00	101	236	PEAK

Peak – Fundamental



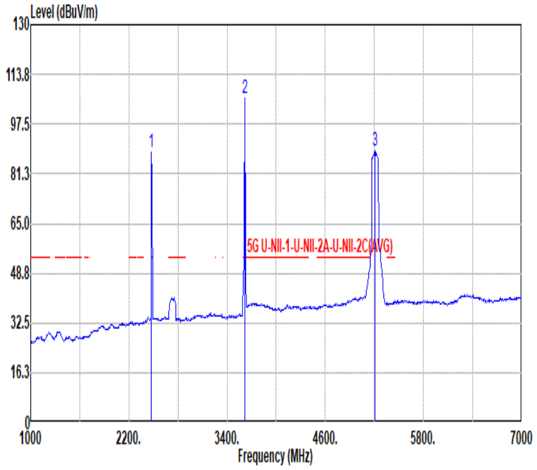
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2476.00	87.52	------	------	84.45	32.60	7.32	36.85	0.00	101	236	Peak
2	3616.00	109.54	------	------	104.37	32.86	8.89	36.58	0.00	101	236	Peak
3	5210.00	98.23	------	------	90.15	34.68	10.72	37.32	0.00	101	236	PEAK

Avg – Horizontal



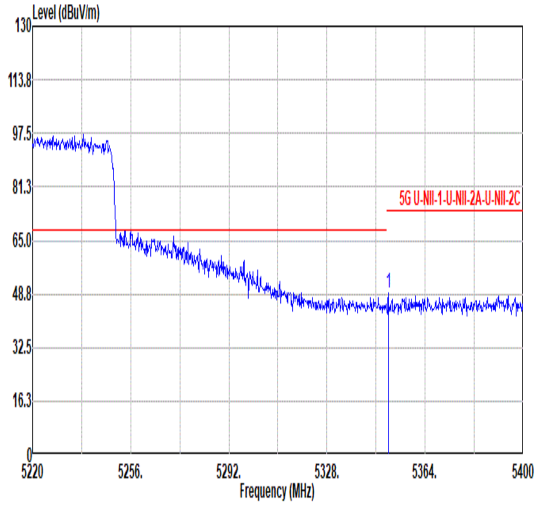
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	5149.76	50.67	54.00	-3.33	42.76	34.60	10.65	37.34	0.00	101	236	AVERAGE

Avg – Fundamental



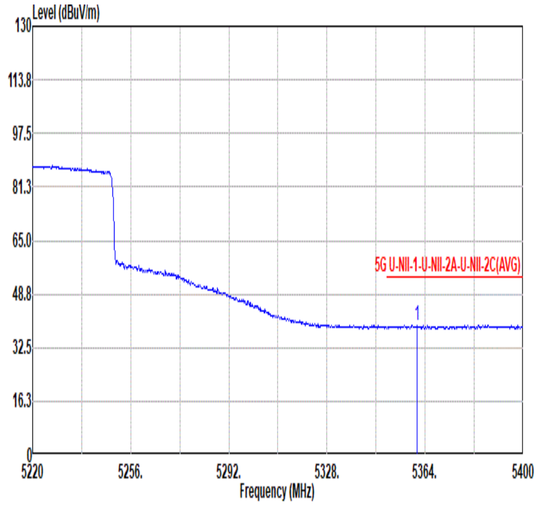
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2476.00	88.52	------	------	85.45	32.60	7.32	36.85	0.00	101	236	Average
2	3616.00	106.02	------	------	100.85	32.86	8.89	36.58	0.00	101	236	Average
3	5210.00	88.73	------	------	80.65	34.69	10.71	37.32	0.00	101	236	AVERAGE

<table>
<tr><td rowspan="3">Mode</td><td colspan="2">2</td></tr>
<tr><td colspan="2">Band Edge - R</td></tr>
<tr><td colspan="2">U-NII-1_5.15-5.25_802.11ax HE80_CH42_Full_5210MHz</td></tr>
<tr><td>ANT</td><td colspan="2">6</td></tr>
<tr><td>Pol.</td><td>Horizontal</td><td>Fundamental</td></tr>
<tr><td>Peak</td><td>



<table>
<tr><td></td><td>Freq</td><td>Level</td><td>Limit Line</td><td>Margin</td><td>Read Level</td><td>Ant Factor</td><td>Cable Loss</td><td>Preamp Factor</td><td>Aux Factor</td><td>APos</td><td>TPos</td><td>Remark</td></tr>
<tr><td></td><td>MHz</td><td>dBuV/m</td><td>dBuV/m</td><td>dB</td><td>dBuV</td><td>dB/m</td><td>dB</td><td>dB</td><td>dB</td><td>cm</td><td>deg</td><td></td></tr>
<tr><td>1</td><td>5350.50</td><td>49.25</td><td>74.00</td><td>-24.75</td><td>40.90</td><td>34.80</td><td>10.84</td><td>37.29</td><td>0.00</td><td>101</td><td>236</td><td>PEAK</td></tr>
</table>

</td><td>Blank</td></tr>
<tr><td>Avg</td><td>



<table>
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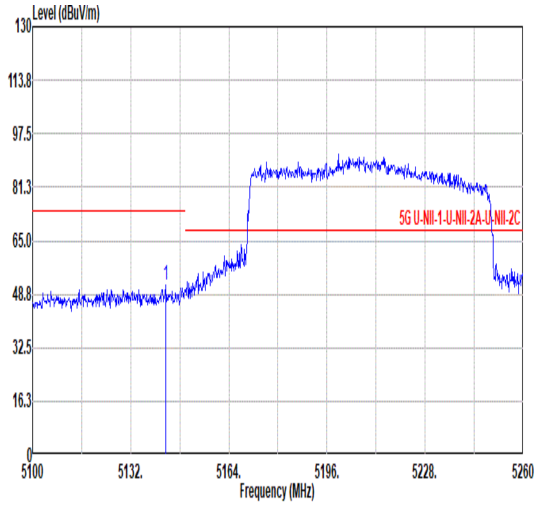
<tr><td></td><td>MHz</td><td>dBuV/m</td><td>dBuV/m</td><td>dB</td><td>dBuV</td><td>dB/m</td><td>dB</td><td>dB</td><td>dB</td><td>cm</td><td>deg</td><td></td></tr>
<tr><td>1</td><td>5361.12</td><td>39.34</td><td>54.00</td><td>-14.66</td><td>31.02</td><td>34.76</td><td>10.85</td><td>37.29</td><td>0.00</td><td>101</td><td>236</td><td>AVERAGE</td></tr>
</table>

</td><td>Blank</td></tr>
</table>

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

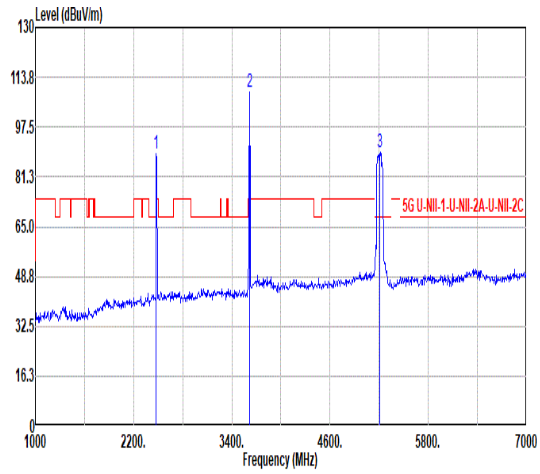
Peak

Vertical



	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

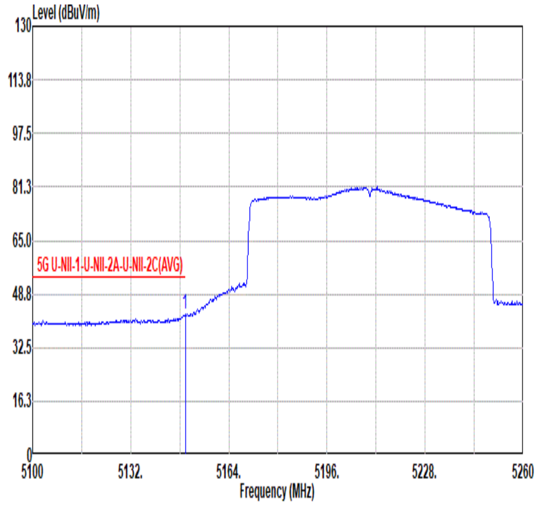
Fundamental



	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

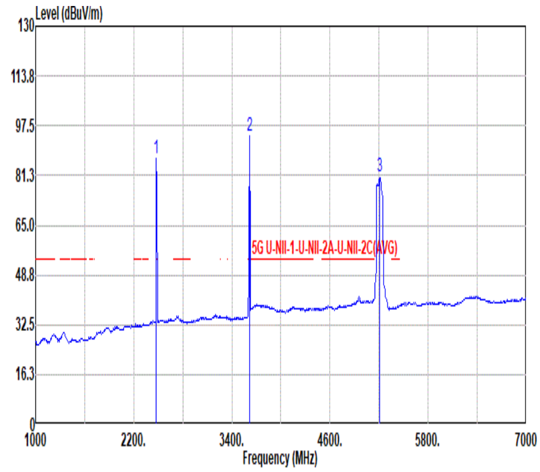
Avg

Vertical



	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

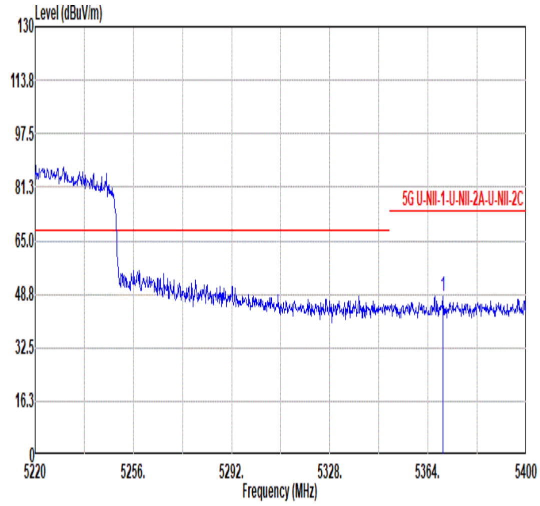
Fundamental



	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

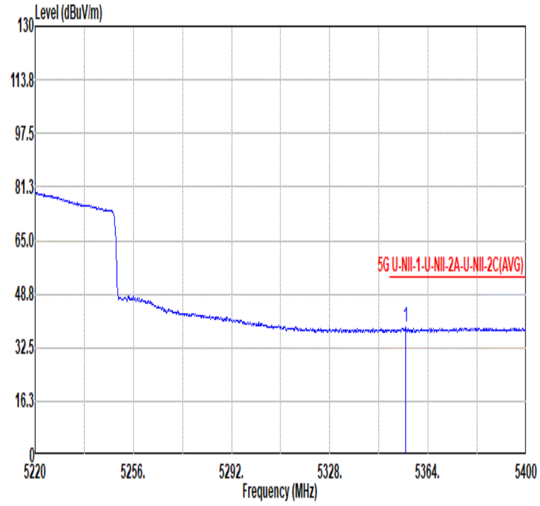
Peak



	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

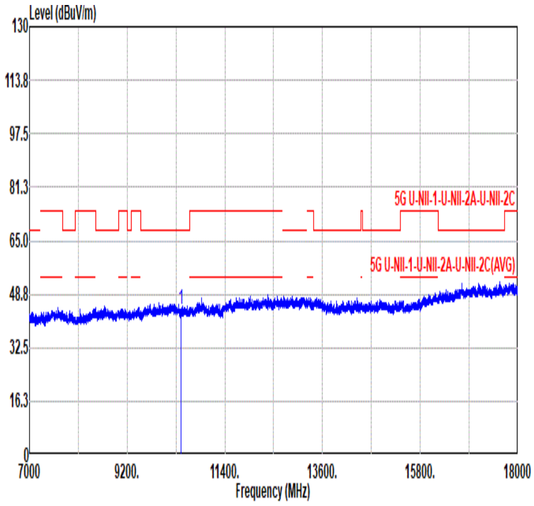
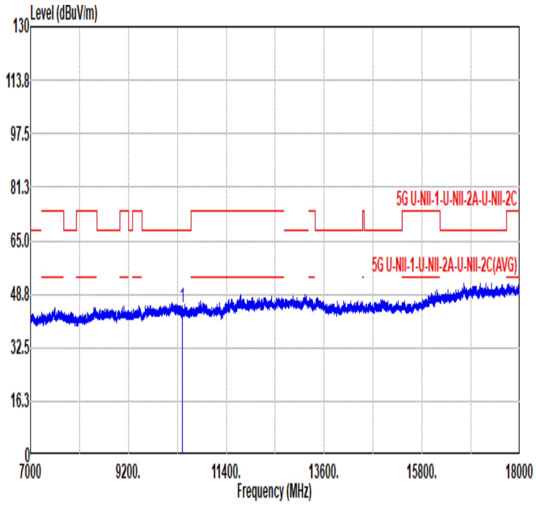
Fundamental: Blank

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

Fundamental: Blank

Mode	2	
	Harmonic	
	U-NII-1_5.15-5.25_802.11ax HE80_CH42_Full_5210MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg		

Horizontal:

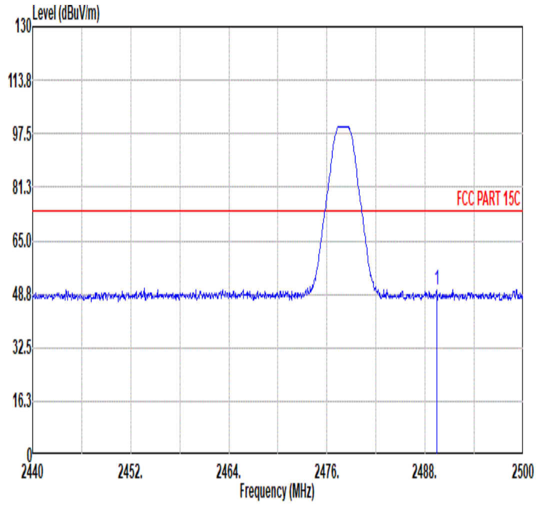
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	10420.00	44.20	68.20	-24.00	57.82	37.60	15.33	66.55	0.00	--	--	PEAK

Vertical:

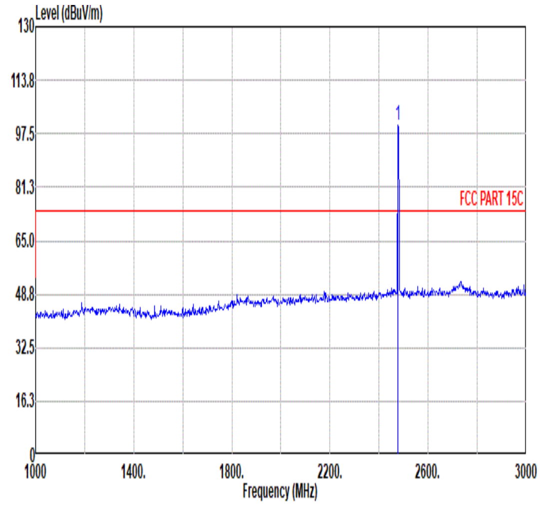
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	10420.00	44.50	68.20	-23.70	58.09	37.62	15.34	66.55	0.00	--	--	PEAK

Mode	2	
	Band Edge	
	2400-2483.5_2400-2483.5_Bluetooth-LE_CH38_Full_2478MHz	
ANT	6	
Pol.	Horizontal	Fundamental

Peak

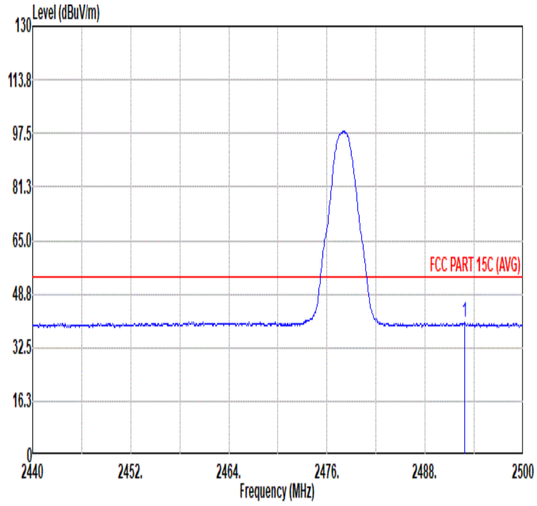


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2489.44	50.27	74.00	-23.73	41.18	32.60	7.34	36.85	6.00	163	301	PEAK

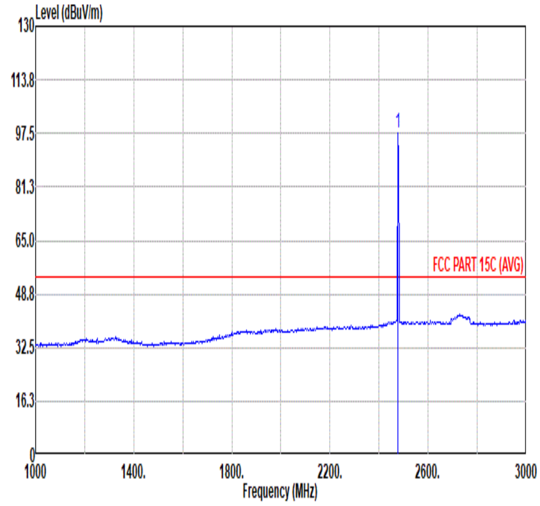


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2478.00	100.04	------	------	90.97	32.60	7.32	36.85	6.00	163	301	PEAK

Avg



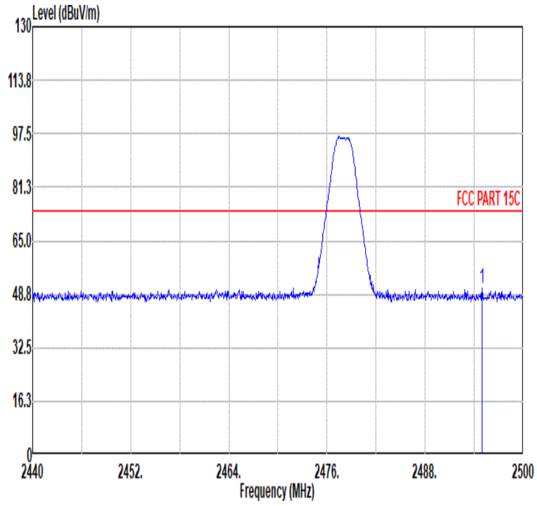
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2492.80	40.02	54.00	-13.98	30.92	32.60	7.35	36.85	6.00	163	301	AVERAGE



	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

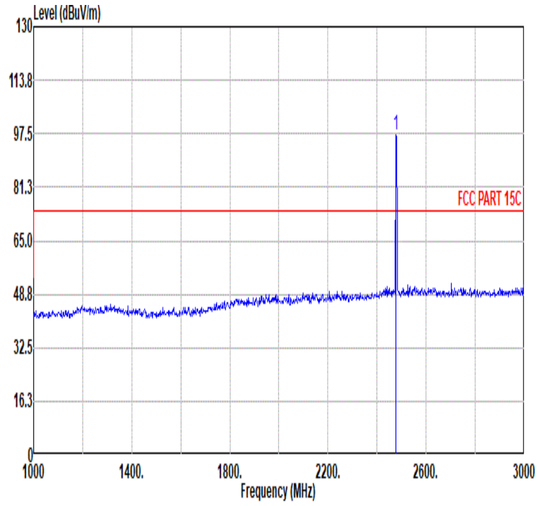
Mode	2	
	Band Edge	
	2400-2483.5_2400-2483.5_Bluetooth-LE_CH38_Full_2478MHz	
ANT	6	
Pol.	Vertical	Fundamental

Peak — Vertical



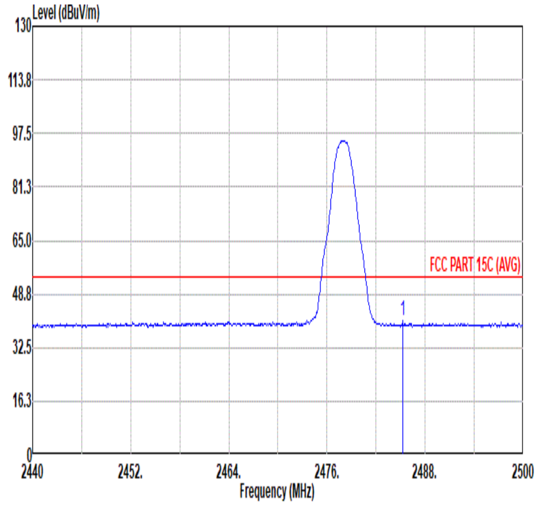
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2494.96	50.36	74.00	-23.64	41.26	32.60	7.35	36.85	6.00	303	56	PEAK

Peak — Fundamental



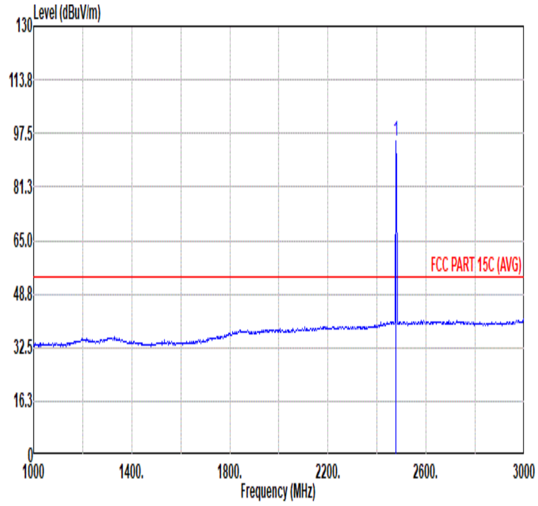
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2478.00	97.33	------	------	88.26	32.60	7.32	36.85	6.00	303	56	PEAK

Avg — Vertical



	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

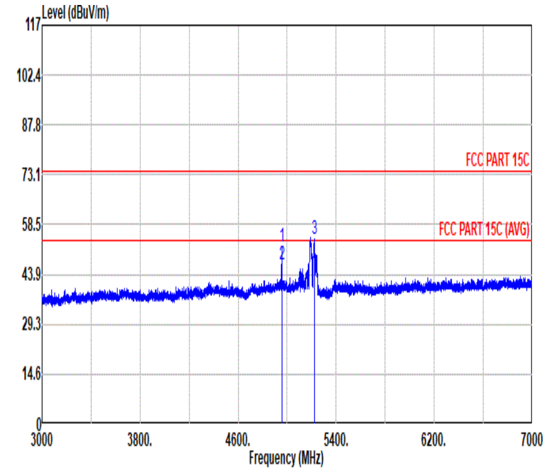
Avg — Fundamental



	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

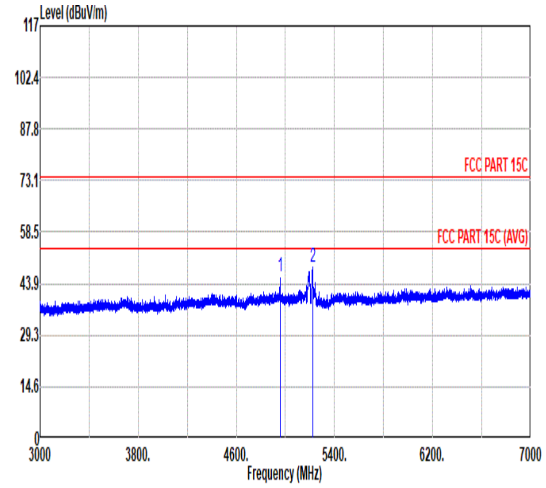
Mode	**2**	
	Harmonic	
	2400-2483.5_2400-2483.5_Bluetooth-LE_CH38_Full_2478MHz	
ANT	**6**	
Pol.	**Horizontal**	**Vertical**
Peak Avg	See plots below	

Horizontal



	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

Vertical



	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

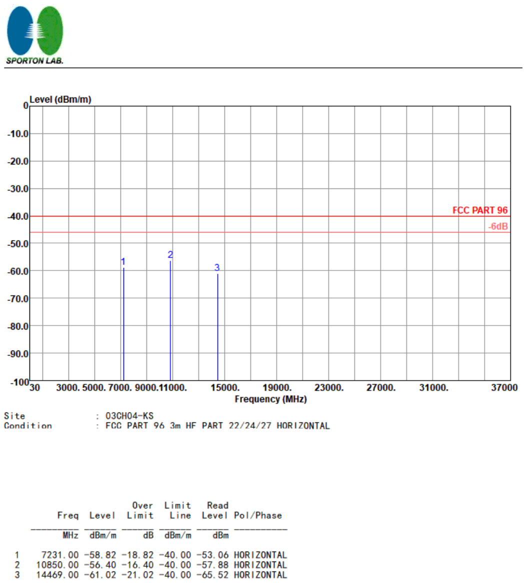
Note: For all plots above, the over limit line signals are Fundamental signal which can be ignored.

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

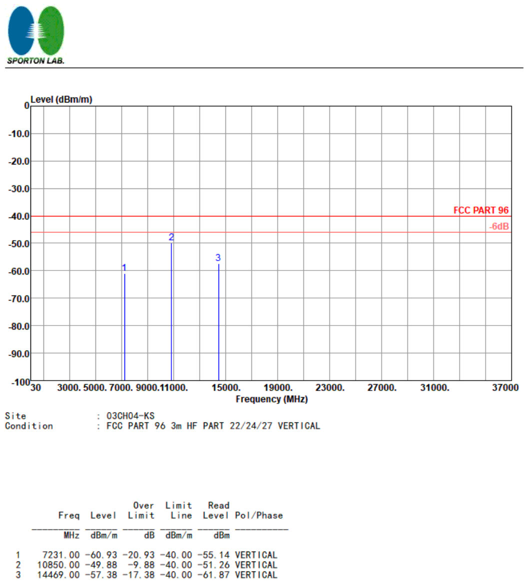
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Part 96_ LTE Band 48	
ANT 5	
Horizontal	Vertical

Horizontal



Vertical



Appendix C. Reference Report

FCC RF Test Report

APPLICANT	**:**	**Xiaomi Communications Co., Ltd.**
EQUIPMENT	**:**	**Mobile Phone**
BRAND NAME	**:**	**Redmi**
MODEL NAME	**:**	**24090RA29G**
FCC ID	**:**	**2AFZZRA29G**
STANDARD	**:**	**47 CFR Part 96**
CLASSIFICATION	**:**	**Citizens Band End User Devices (CBE)**
EQUIPMENT TYPE	**:**	**End User Equipment**
TEST DATE(S)	**:**	**Jul. 23, 2024 ~ Aug. 01, 2024**

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26 and shown 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

ilac-MRA

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

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FG471506K	01	Initial issue of report	Aug. 19, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.3	§2.1046	Conducted Output Power	Reporting only	-
-	§96.41	Peak-to-Average Ratio	Not Applicable	Not applicable for End User Devices
3.4	§96.41	Maximum E.I.R.P	Pass	-
		Maximum Power Spectral Density	Not Applicable	Not applicable for End User Devices
3.5	§2.1049 §96.41	Occupied Bandwidth	Reporting only	-
3.6	§2.1051 §96.41	Conducted Band Edge Measurement Adjacent Channel Leakage Ratio	Pass	-
3.7	§2.1051 §96.41	Conducted Spurious Emission	Pass	
3.8	§2.1055	Frequency Stability for Temperature & Voltage	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 11.15 dB at 14304.00 MHz

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
Tx Frequency	5G NR n48: 3550 MHz – 3700 MHz
Rx Frequency	5G NR n48: 3550 MHz – 3700 MHz
SCS	30kHz
Bandwidth	10MHz / 15MHz / 20MHz / 30MHz / 40MHz
Antenna Gain	<Ant. 2> 5G NR n48: -1.8 dBi <Ant. 3>: 5G NR n48: -4.9 dBi <Ant. 5>: 5G NR n48: -2.5 dBi <Ant. 7>: 5G NR n48: -4.0 dBi
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
IMEI Code	Conducted: 861793070041148/861793070041155 Radiation: 861793070039324/861793070039332
HW Version	135300O16
SW Version	Xiaomi HyperOS 1.0
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The maximum EIRP is calculated from max output power and antenna gain, only the maximum EIRP of Ant. 5 is shown in the report.
3. 5G NR n48 only support SA mode.

1.4 Maximum EIRP Power and Emission Designator

5G NR n48		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	**3555.00 – 3694.98**	0.1671	8M58G7D	0.1285	8M56W7D
15	**3557.52 – 3692.49**	0.1637	13M6G7D	0.1297	13M6W7D
20	**3560.01 – 3690.00**	0.1660	18M2G7D	0.1297	18M2W7D
30	**3565.02 – 3684.99**	0.1641	27M7G7D	0.1294	27M9W7D
40	**3570.00 – 3679.98**	0.1614	37M8G7D	0.1268	37M9W7D

Note: All modulations have been tested, only the worst test results of are shown in the report.

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.**
	03CH04-KS TH01-KS	CN1257	314309

1.6 Test Software

Item	Site	Manufacture	Name	Version
1.	TH01-KS	SPORTON	FCC LTE_Ver2.0 Auto_china_210503	2.0
2.	03CH04-KS	AUDIX	E3	210616

1.7 Applied Standards

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

- ANSI C63.26-2015
- 47 CFR Part 96
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 940660 D01 Part 96 CBRS v03
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

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

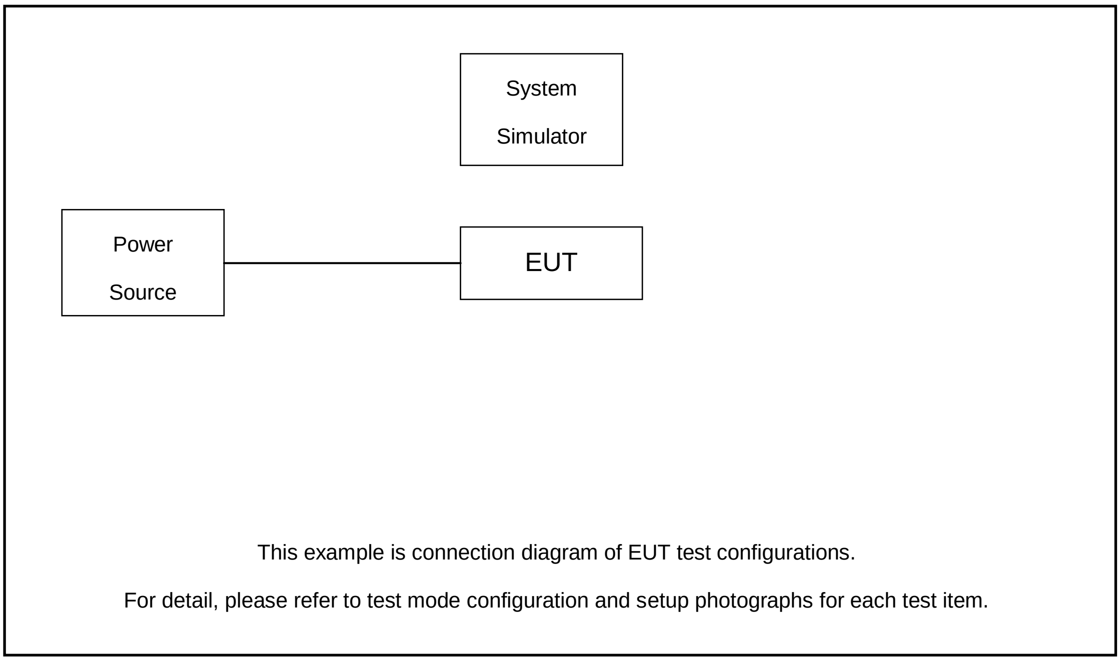
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z plane) were recorded in this report.

Test Items	Band	Bandwidth (MHz)					Modulation					RB #			Test Channel		
		10	15	20	30	40	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	n48	v	v	v	v	v	v	v	v	v	v	v			v	v	v
26dB and 99% Bandwidth	n48	v	v	v	v	v		v	v	v	v			v		v	
Adjacent Channel Leakage Ratio	n48	v		v		v	v	v				v		v	v	v	v
Conducted Band Edge	n48	v		v		v	v	v				v		v	v	v	v
Conducted Spurious Emission	n48	v		v		v	v	v				v			v	v	v
E.I.R.P	n48	v	v	v	v	v	v	v	v	v	v	v			v	v	v
Frequency Stability	n48			v				v						v		v	
Radiated Spurious Emission	n48	Worst Case														v	
Remark	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. All test items are based on engineering evaluation. 5. Frequency Stability: Normal Voltage = 3.91V ; Low Voltage = 3.60V ; High Voltage = 4.30V.																

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	Fixture	INTEL	NGFF Card Carrier	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 6.50 dB and 20dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 6.50 + 20 = 26.50 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n48 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
40	Channel	638000	641666	645332
	Frequency	3570	3624.99	3679.98
30	Channel	637668	641666	645666
	Frequency	3565.02	3624.99	3684.99
20	Channel	637334	641666	646000
	Frequency	3560.01	3624.99	3690
15	Channel	637168	641666	646166
	Frequency	3557.52	3624.99	3692.49
10	Channel	637000	641666	646332
	Frequency	3555	3624.99	3694.98

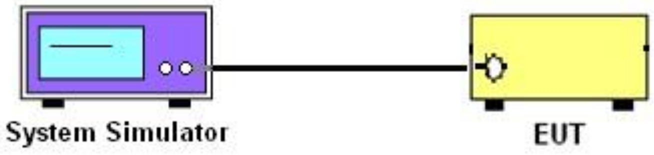
3 Conducted Test Items

3.1 Measuring Instruments

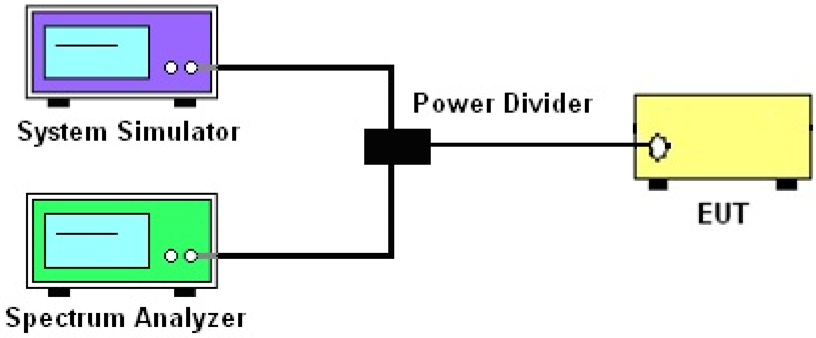
See list of measuring instruments of this test report.

3.2 Test Setup

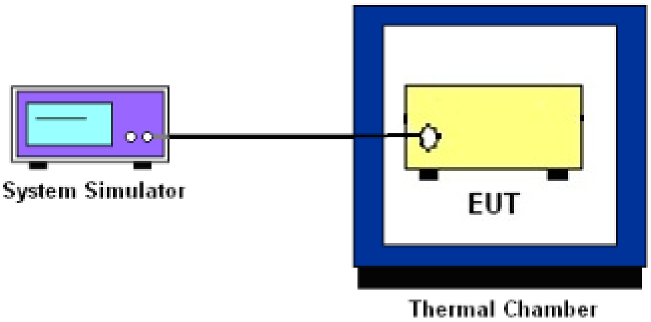
3.2.1 Conducted Output Power / ACLR



3.2.2 26dB & 99% Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.2.4 Test Result of Conducted Test

Please refer to Appendix A.

3.3 Conducted Output Power

3.3.1 Description of the Conducted Output Power Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

3.3.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

3.4 EIRP

3.4.1 Description of the EIRP Measurement

EIRP limits for CBRS equipment as below table:

Device		Maximum EIRP (dBm/10 MHz)	Maximum PSD (dBm/MHz)
Applied	**End User Device**	23	n/a
☐	**Category A CBSD**	30	20
☐	**Category B CBSD**	47	37

Remark:

1. The worst case EIRP shown in this section is found with LTE operating only using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths for LTE Band 48 (i.e. 5, 10, 15, 20MHz)

3.4.2 Test Procedures for EIRP

1. Establishing a communications link with the call box (Base station) to measure the Maximum conducted power, the parameters were set to force the EUT transmitting at maximum output power level. Use the average power measurement function to measure total channel power of each channel bandwidth (per ANSI C63.26-2015 Section 5.2.1)

2. Determining ERP and/or EIRP from conducted RF output power measurements (Per ANSI C63.26-2015 Section 5.2.5.5)

   EIRP = $P_T + G_T - L_C$, ERP = EIRP -2.15, where

   P_T = transmitter output power in dBm

   G_T = gain of the transmitting antenna in dBi

   L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.5 Occupied Bandwidth

3.5.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.5.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
3. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
4. Set the detection mode to peak, and the trace mode to max hold.
5. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
6. Determine the "-26 dB down amplitude" as equal to (Reference Value – X).
7. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the "–X dB down amplitude" determined in step 6. If a marker is below this "-X dB down amplitude" value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.6 Conducted Band Edge

3.6.1 Description of Conducted Band Edge Measurement

Part 96.41 (e) (1) (ii)

For End User Devices the emission limits outside the fundamental are as follows:

Within 0 MHz to B MHz above and below the assigned channel ≤ −13 dBm/MHz

Greater than B MHz above and below the assigned channel ≤ −25 dBm/MHz

where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device.

Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

Part 96.41 (e) (2)

For CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz

3.6.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
5. Offset has included the duty factor for LTE Band 48. Duty factor =10 log (1/x), where x is the measured duty cycle.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.7 Conducted Spurious Emission

3.7.1 Description of Conducted Spurious Emission Measurement

96.41 (e)(2)

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

3.7.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
6. Set spectrum analyzer with RMS detector.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is −40dBm/MHz.

3.8 Frequency Stability

3.8.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block.

3.8.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.8.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

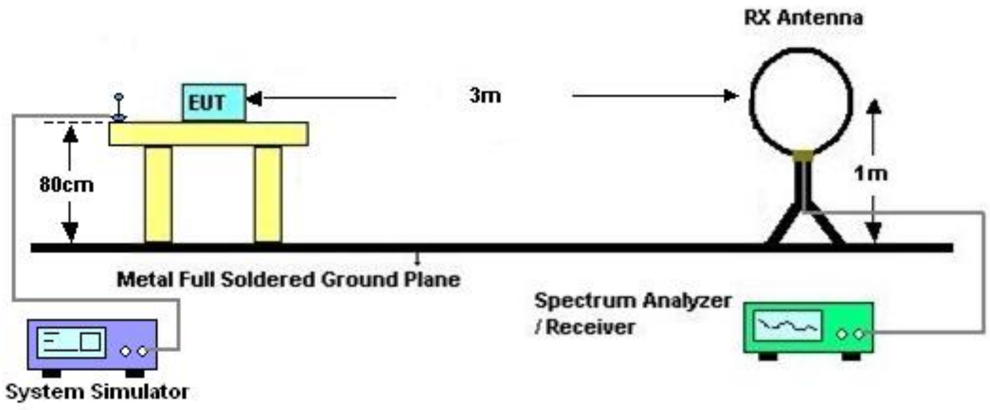
4 Radiated Test Items

4.1 Measuring Instruments

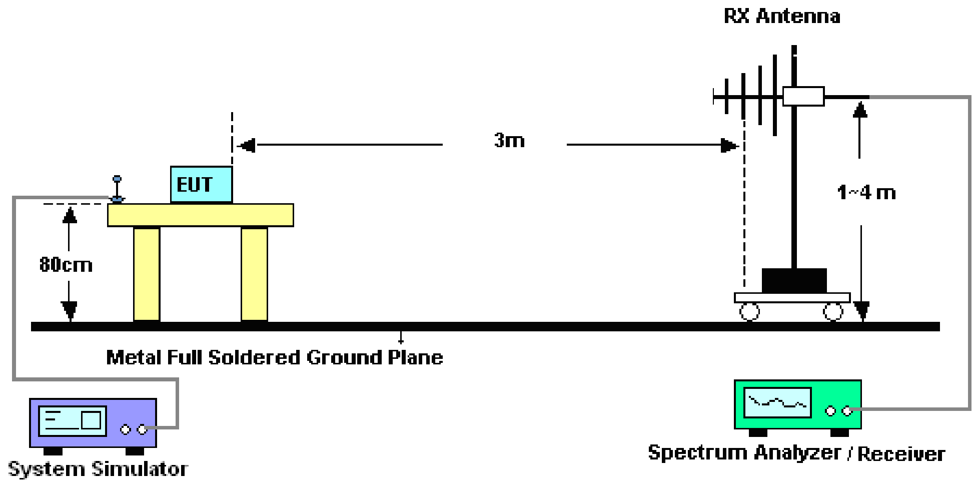
See list of measuring instruments of this test report.

4.2 Test Setup

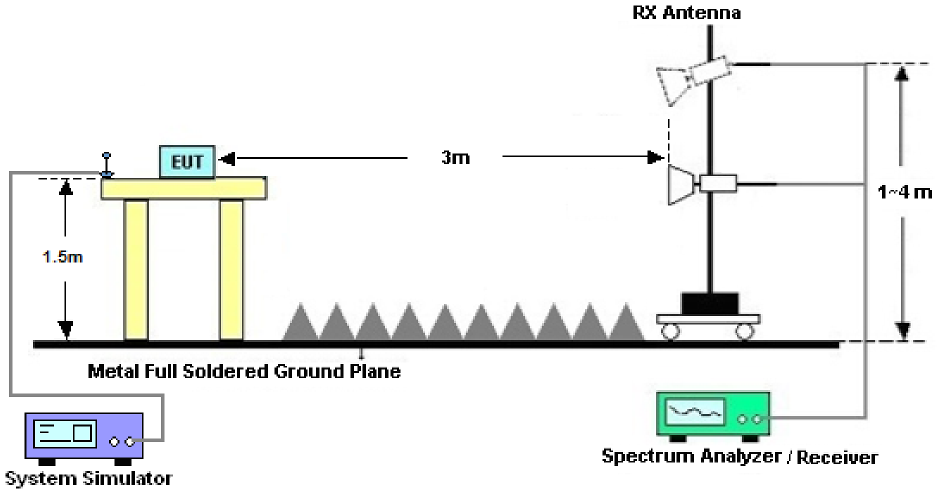
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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.

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI C63.26-2015. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least -40dBm / MHz.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
   Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
   ERP (dBm) = EIRP - 2.15
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
   The limit line is −40dBm/MHz

5 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	Aug. 01, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Aug. 01, 2024	NCR	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 04, 2024	Aug. 01, 2024	Jul. 03, 2025	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 11, 2023	Jul. 23, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11 2023	Jul. 23, 2024	Sep. 10, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Aug. 19, 2023	Jul. 23, 2024	Aug. 18, 2024	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 23, 2023	Jul. 23, 2024	Oct. 22, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 27, 2024	Jul. 23, 2024	Jan. 26, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	413740	9KHz-1GHz	Jan. 03, 2024	Jul. 23, 2024	Jan. 02, 2025	Radiation (03CH04-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Jan. 02, 2024	Jul. 23, 2024	Jan. 01, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 11, 2023	Jul. 23, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
Amplifier	EM	EM01G18GA	060892	1Ghz-18Ghz	Oct. 11, 2023	Jul. 23, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jul. 23, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jul. 23, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jul. 23, 2024	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Measurement Uncertainty

<u>Uncertainty of Conducted Measurement</u>

Conducted Spurious Emission & Bandedge	±2.26 dB
Occupied Channel Bandwidth	±0.1%
Conducted Power	±0.46 dB
Conducted Power Density	±0.88 dB
Peak to Average Ratio	±0.46 dB
Frequency Stability	±0.4 Hz

<u>Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)</u>

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

<u>Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)</u>

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

<u>Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)</u>

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

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

Appendix A. Test Results of Conducted Test

Test Engineer :	Smile Wang	**Temperature :**	22~23℃
		Relative Humidity :	40~42%

Software Version: 23.06.1602

FR1 N48-SCS 30k (ANT 5)

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-2.5dBi

NR Band	SCS	BandWidth	Arfcn	Freq(MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP(W)
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	50@25	14.19	11.69	0.0148
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@1	14.24	11.74	0.0149
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@104	14.16	11.66	0.0147
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@105	23.8	21.3	0.1349
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@0	24.23	21.73	0.1489
48	30	40	638000	3570	DFT-s-OFDM QPSK	50@25	14.21	11.71	0.0148
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@1	14.3	11.8	0.0151
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@104	14.12	11.62	0.0145
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@105	23.35	20.85	0.1216
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@0	23.73	21.23	0.1327
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	50@25	13.7	11.2	0.0132
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@1	13.9	11.4	0.0138
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@104	13.78	11.28	0.0134
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@105	22.29	19.79	0.0953
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@0	22.76	20.26	0.1062
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	50@25	13.75	11.25	0.0133
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@1	13.85	11.35	0.0136
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@104	13.73	11.23	0.0133
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@105	21.82	19.32	0.0855
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@0	22.27	19.77	0.0948
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	50@25	13.64	11.14	0.0130
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@1	13.63	11.13	0.0130
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@104	13.45	10.95	0.0124
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@105	19.74	17.24	0.0530
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@0	20.5	18	0.0631
48	30	40	638000	3570	CP-OFDM QPSK	53@26	13.18	10.68	0.0117
48	30	40	638000	3570	CP-OFDM QPSK	1@1	13.33	10.83	0.0121
48	30	40	638000	3570	CP-OFDM QPSK	1@104	13.22	10.72	0.0118
48	30	40	638000	3570	CP-OFDM QPSK	1@105	21.29	18.79	0.0757
48	30	40	638000	3570	CP-OFDM QPSK	1@0	21.84	19.34	0.0859
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@25	24.57	22.07	0.1611
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	20.54	18.04	0.0637

48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@104	20.83	18.33	0.0681
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@105	24.19	21.69	0.1476
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	23.87	21.37	0.1371
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	50@25	24.58	22.08	0.1614
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.59	18.09	0.0644
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@104	20.83	18.33	0.0681
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@105	23.76	21.26	0.1337
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	23.44	20.94	0.1242
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	50@25	23.53	21.03	0.1268
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	20.67	18.17	0.0656
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@104	20.85	18.35	0.0684
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@105	22.78	20.28	0.1067
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@0	22.53	20.03	0.1007
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	50@25	22.08	19.58	0.0908
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@1	20.64	18.14	0.0652
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@104	20.88	18.38	0.0689
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@105	22.29	19.79	0.0953
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@0	22.08	19.58	0.0908
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	50@25	20.11	17.61	0.0577
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@1	19.93	17.43	0.0553
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@104	20.06	17.56	0.0570
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@105	20.16	17.66	0.0583
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@0	21.55	19.05	0.0804
48	30	40	641666	3624.99	CP-OFDM QPSK	53@26	23.05	20.55	0.1135
48	30	40	641666	3624.99	CP-OFDM QPSK	1@1	20.43	17.93	0.0621
48	30	40	641666	3624.99	CP-OFDM QPSK	1@104	20.71	18.21	0.0662
48	30	40	641666	3624.99	CP-OFDM QPSK	1@105	21.66	19.16	0.0824
48	30	40	641666	3624.99	CP-OFDM QPSK	1@0	21.54	19.04	0.0802
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	50@25	14.25	11.75	0.0150
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@1	14.22	11.72	0.0149
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@104	14.35	11.85	0.0153
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@105	24.15	21.65	0.1462
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@0	24.11	21.61	0.1449
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	50@25	14.14	11.64	0.0146
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@1	14.27	11.77	0.0150
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@104	14.33	11.83	0.0152
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@105	23.67	21.17	0.1309
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	23.75	21.25	0.1334
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	50@25	22.74	20.24	0.1057

48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@1	13.89	11.39	0.0138
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@104	13.85	11.35	0.0136
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@105	22.69	20.19	0.1045
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@0	22.26	19.76	0.0946
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	50@25	13.71	11.21	0.0132
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@1	13.83	11.33	0.0136
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@104	13.88	11.38	0.0137
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@105	22.18	19.68	0.0929
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@0	22.23	19.73	0.0940
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	50@25	13.64	11.14	0.0130
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@1	13.59	11.09	0.0129
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@104	13.59	11.09	0.0129
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@105	20.09	17.59	0.0574
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@0	21.66	19.16	0.0824
48	30	40	645332	3679.98	CP-OFDM QPSK	53@26	13.24	10.74	0.0119
48	30	40	645332	3679.98	CP-OFDM QPSK	1@1	13.31	10.81	0.0121
48	30	40	645332	3679.98	CP-OFDM QPSK	1@104	13.3	10.8	0.0120
48	30	40	645332	3679.98	CP-OFDM QPSK	1@105	21.62	19.12	0.0817
48	30	40	645332	3679.98	CP-OFDM QPSK	1@0	21.65	19.15	0.0822
48	30	10	637000	3555	DFT-s-OFDM PI/2 BPSK	1@1	24.68	22.18	0.1652
48	30	10	637000	3555	DFT-s-OFDM PI/2 BPSK	1@23	24.66	22.16	0.1644
48	30	10	637000	3555	DFT-s-OFDM PI/2 BPSK	1@0	24.06	21.56	0.1432
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	24.53	22.03	0.1596
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@23	24.68	22.18	0.1652
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	24.05	21.55	0.1429
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@1	24.67	22.17	0.1648
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@23	24.64	22.14	0.1637
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@0	24.2	21.7	0.1479
48	30	10	637000	3555	DFT-s-OFDM QPSK	1@1	24.73	22.23	0.1671
48	30	10	637000	3555	DFT-s-OFDM QPSK	1@23	23.45	20.95	0.1245
48	30	10	637000	3555	DFT-s-OFDM QPSK	1@0	23.6	21.1	0.1288
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@1	24.62	22.12	0.1629
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@23	23.58	21.08	0.1282
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	23.46	20.96	0.1247
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@1	24.62	22.12	0.1629
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@23	23.74	21.24	0.1330
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	23.73	21.23	0.1327
48	30	10	637000	3555	DFT-s-OFDM 16 QAM	1@1	23.62	21.12	0.1294
48	30	10	637000	3555	DFT-s-OFDM 16 QAM	1@23	22.47	19.97	0.0993

48	30	10	637000	3555	DFT-s-OFDM 16 QAM	1@0	22.6	20.1	0.1023
48	30	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	23.49	20.99	0.1256
48	30	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@23	22.62	20.12	0.1028
48	30	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@0	22.49	19.99	0.0998
48	30	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@1	23.62	21.12	0.1294
48	30	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@23	22.72	20.22	0.1052
48	30	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@0	22.67	20.17	0.1040
48	30	15	637168	3557.52	DFT-s-OFDM PI/2 BPSK	1@1	20.83	18.33	0.0681
48	30	15	637168	3557.52	DFT-s-OFDM PI/2 BPSK	1@37	24.6	22.1	0.1622
48	30	15	637168	3557.52	DFT-s-OFDM PI/2 BPSK	1@0	24.24	21.74	0.1493
48	30	15	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	24.53	22.03	0.1596
48	30	15	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@37	24.64	22.14	0.1637
48	30	15	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	23.82	21.32	0.1355
48	30	15	646166	3692.49	DFT-s-OFDM PI/2 BPSK	1@1	24.64	22.14	0.1637
48	30	15	646166	3692.49	DFT-s-OFDM PI/2 BPSK	1@37	20.82	18.32	0.0679
48	30	15	646166	3692.49	DFT-s-OFDM PI/2 BPSK	1@0	24.07	21.57	0.1435
48	30	15	637168	3557.52	DFT-s-OFDM QPSK	1@1	20.65	18.15	0.0653
48	30	15	637168	3557.52	DFT-s-OFDM QPSK	1@37	23.53	21.03	0.1268
48	30	15	637168	3557.52	DFT-s-OFDM QPSK	1@0	23.59	21.09	0.1285
48	30	15	641666	3624.99	DFT-s-OFDM QPSK	1@1	24.43	21.93	0.1560
48	30	15	641666	3624.99	DFT-s-OFDM QPSK	1@37	23.63	21.13	0.1297
48	30	15	641666	3624.99	DFT-s-OFDM QPSK	1@0	22.49	19.99	0.0998
48	30	15	646166	3692.49	DFT-s-OFDM QPSK	1@1	24.63	22.13	0.1633
48	30	15	646166	3692.49	DFT-s-OFDM QPSK	1@37	23.69	21.19	0.1315
48	30	15	646166	3692.49	DFT-s-OFDM QPSK	1@0	23.67	21.17	0.1309
48	30	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@1	19.58	17.08	0.0511
48	30	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@37	22.46	19.96	0.0991
48	30	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@0	22.56	20.06	0.1014
48	30	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	23.39	20.89	0.1227
48	30	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@37	22.63	20.13	0.1030
48	30	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@0	22.43	19.93	0.0984
48	30	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@1	23.63	21.13	0.1297
48	30	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@37	22.76	20.26	0.1062
48	30	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@0	22.72	20.22	0.1052
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@1	20.85	18.35	0.0684
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@50	24.68	22.18	0.1652
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	24.15	21.65	0.1462
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	24.5	22	0.1585
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@50	24.7	22.2	0.1660

48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	24.03	21.53	0.1422
48	30	20	646000	3690	DFT-s-OFDM PI/2 BPSK	1@1	24.66	22.16	0.1644
48	30	20	646000	3690	DFT-s-OFDM PI/2 BPSK	1@50	20.82	18.32	0.0679
48	30	20	646000	3690	DFT-s-OFDM PI/2 BPSK	1@0	24.07	21.57	0.1435
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@1	20.68	18.18	0.0658
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@50	23.53	21.03	0.1268
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	23.62	21.12	0.1294
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@1	24.38	21.88	0.1542
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@50	23.65	21.15	0.1303
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	23.36	20.86	0.1219
48	30	20	646000	3690	DFT-s-OFDM QPSK	1@1	24.66	22.16	0.1644
48	30	20	646000	3690	DFT-s-OFDM QPSK	1@50	23.76	21.26	0.1337
48	30	20	646000	3690	DFT-s-OFDM QPSK	1@0	23.6	21.1	0.1288
48	30	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@1	19.78	17.28	0.0535
48	30	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@50	22.58	20.08	0.1019
48	30	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@0	22.68	20.18	0.1042
48	30	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	23.36	20.86	0.1219
48	30	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@50	22.74	20.24	0.1057
48	30	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@0	22.46	19.96	0.0991
48	30	20	646000	3690	DFT-s-OFDM 16 QAM	1@1	23.63	21.13	0.1297
48	30	20	646000	3690	DFT-s-OFDM 16 QAM	1@50	22.79	20.29	0.1069
48	30	20	646000	3690	DFT-s-OFDM 16 QAM	1@0	22.78	20.28	0.1067
48	30	30	637668	3565.02	DFT-s-OFDM PI/2 BPSK	1@1	24.65	22.15	0.1641
48	30	30	637668	3565.02	DFT-s-OFDM PI/2 BPSK	1@77	24.59	22.09	0.1618
48	30	30	637668	3565.02	DFT-s-OFDM PI/2 BPSK	1@0	23.7	21.2	0.1318
48	30	30	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	24.4	21.9	0.1549
48	30	30	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@77	24.61	22.11	0.1626
48	30	30	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	23.64	21.14	0.1300
48	30	30	645666	3684.99	DFT-s-OFDM PI/2 BPSK	1@1	24.59	22.09	0.1618
48	30	30	645666	3684.99	DFT-s-OFDM PI/2 BPSK	1@77	24.64	22.14	0.1637
48	30	30	645666	3684.99	DFT-s-OFDM PI/2 BPSK	1@0	23.94	21.44	0.1393
48	30	30	637668	3565.02	DFT-s-OFDM QPSK	1@1	24.4	21.9	0.1549
48	30	30	637668	3565.02	DFT-s-OFDM QPSK	1@77	23.36	20.86	0.1219
48	30	30	637668	3565.02	DFT-s-OFDM QPSK	1@0	23.52	21.02	0.1265
48	30	30	641666	3624.99	DFT-s-OFDM QPSK	1@1	24.21	21.71	0.1483
48	30	30	641666	3624.99	DFT-s-OFDM QPSK	1@77	23.72	21.22	0.1324
48	30	30	641666	3624.99	DFT-s-OFDM QPSK	1@0	23.36	20.86	0.1219
48	30	30	645666	3684.99	DFT-s-OFDM QPSK	1@1	24.52	22.02	0.1592
48	30	30	645666	3684.99	DFT-s-OFDM QPSK	1@77	23.62	21.12	0.1294

48	30	30	645666	3684.99	DFT-s-OFDM QPSK	1@0	23.42	20.92	0.1236
48	30	30	637668	3565.02	DFT-s-OFDM 16 QAM	1@1	23.36	20.86	0.1219
48	30	30	637668	3565.02	DFT-s-OFDM 16 QAM	1@77	22.36	19.86	0.0968
48	30	30	637668	3565.02	DFT-s-OFDM 16 QAM	1@0	22.39	19.89	0.0975
48	30	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	23.19	20.69	0.1172
48	30	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@77	22.69	20.19	0.1045
48	30	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@0	22.26	19.76	0.0946
48	30	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@1	23.59	21.09	0.1285
48	30	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@77	22.53	20.03	0.1007
48	30	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@0	22.58	20.08	0.1019

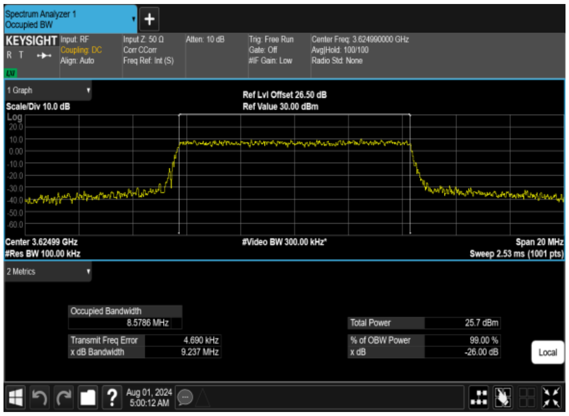
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00341	**PASS**	NV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00255	**PASS**	LV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00326	**PASS**	HV
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00144	**PASS**	-30℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00357	**PASS**	-20℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00245	**PASS**	-10℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00132	**PASS**	0℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00625	**PASS**	10℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00337	**PASS**	20℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00412	**PASS**	30℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00326	**PASS**	40℃
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	100@0	0.00142	**PASS**	50℃

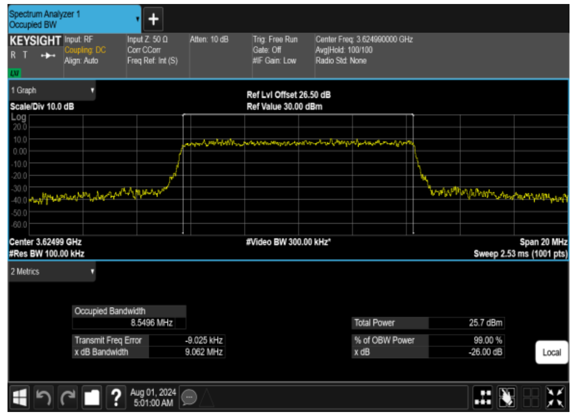
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
48	30	10	641666	3624.99	CP-OFDM QPSK	24@0	8.5786	9.237
48	30	10	641666	3624.99	CP-OFDM 16 QAM	24@0	8.5496	9.062
48	30	10	641666	3624.99	CP-OFDM 64 QAM	24@0	8.5437	9.2
48	30	10	641666	3624.99	CP-OFDM 256 QAM	24@0	8.5605	9.238
48	30	15	641666	3624.99	CP-OFDM QPSK	38@0	13.556	14.36
48	30	15	641666	3624.99	CP-OFDM 16 QAM	38@0	13.609	14.27
48	30	15	641666	3624.99	CP-OFDM 64 QAM	38@0	13.6	14.36
48	30	15	641666	3624.99	CP-OFDM 256 QAM	38@0	13.578	14.29
48	30	20	641666	3624.99	CP-OFDM QPSK	51@0	18.153	19.05
48	30	20	641666	3624.99	CP-OFDM 16 QAM	51@0	18.132	18.9
48	30	20	641666	3624.99	CP-OFDM 64 QAM	51@0	18.188	19.05
48	30	20	641666	3624.99	CP-OFDM 256 QAM	51@0	18.188	18.89
48	30	30	641666	3624.99	CP-OFDM QPSK	78@0	27.742	28.89
48	30	30	641666	3624.99	CP-OFDM 16 QAM	78@0	27.863	29.02
48	30	30	641666	3624.99	CP-OFDM 64 QAM	78@0	27.885	28.99
48	30	30	641666	3624.99	CP-OFDM 256 QAM	78@0	27.867	28.86
48	30	40	641666	3624.99	CP-OFDM QPSK	106@0	37.796	39.28
48	30	40	641666	3624.99	CP-OFDM 16 QAM	106@0	37.846	39.5
48	30	40	641666	3624.99	CP-OFDM 64 QAM	106@0	37.909	39.31
48	30	40	641666	3624.99	CP-OFDM 256 QAM	106@0	37.83	39.45

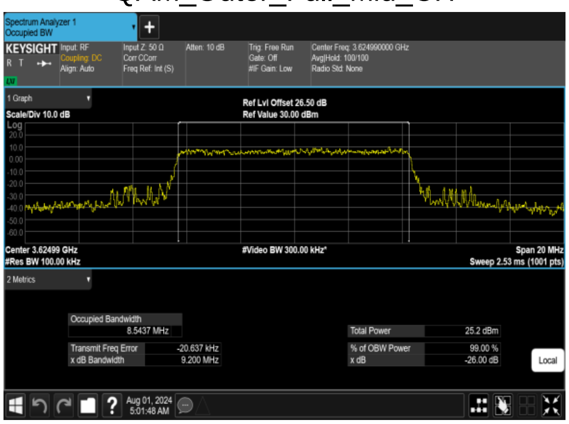
N48(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N48(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

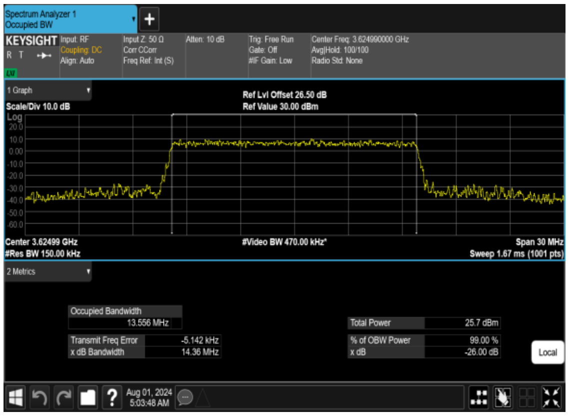


N48(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



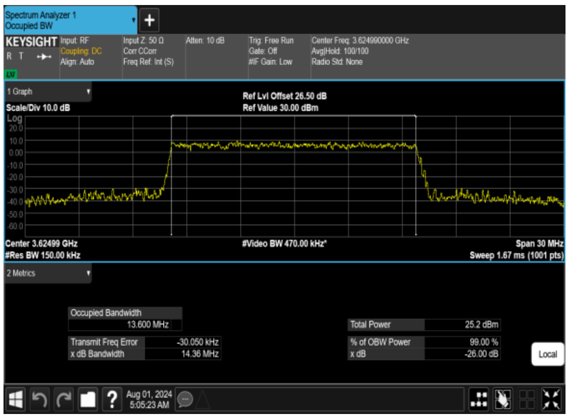
N48(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N48(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

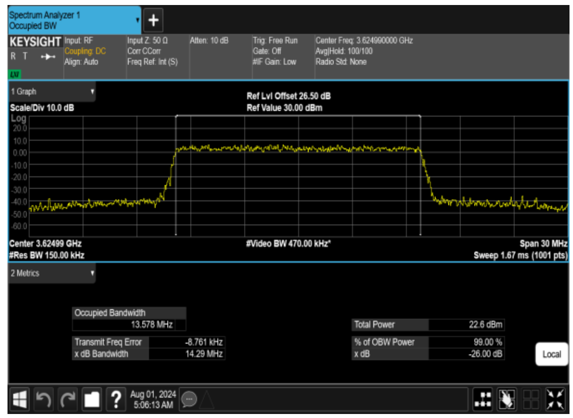


N48(15M)_CP-OFDM_16QAM_Outer_Full_Mid_CH

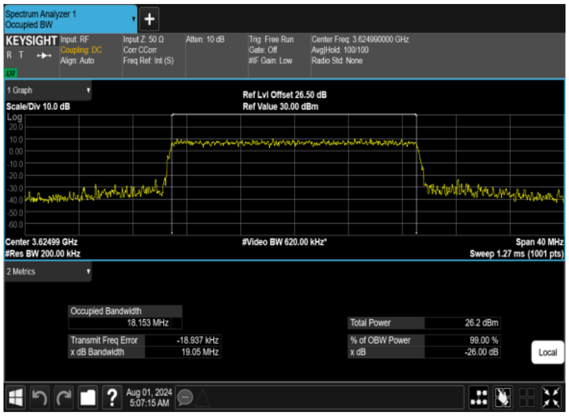
N48(15M)_CP-OFDM_64QAM_Outer_Full_Mid_CH



N48(15M)_CP-OFDM_256QAM_Outer_Full_Mid_CH

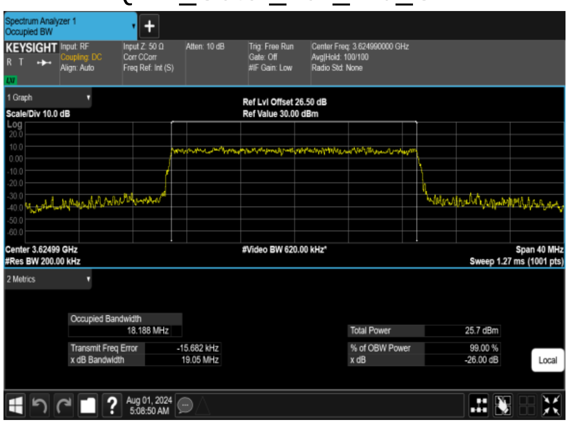


N48(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

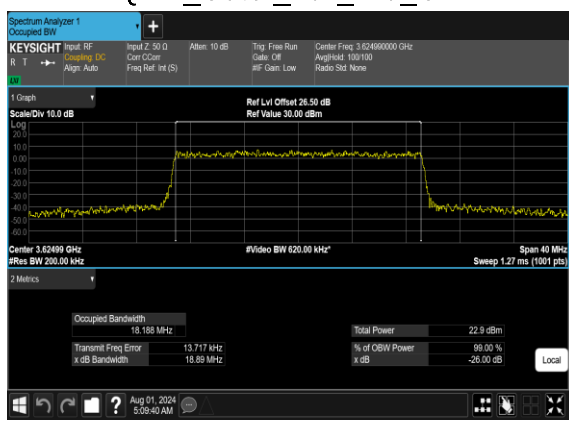


N48(20M)_CP-OFDM_16QAM_Outer_Full_Mid_CH

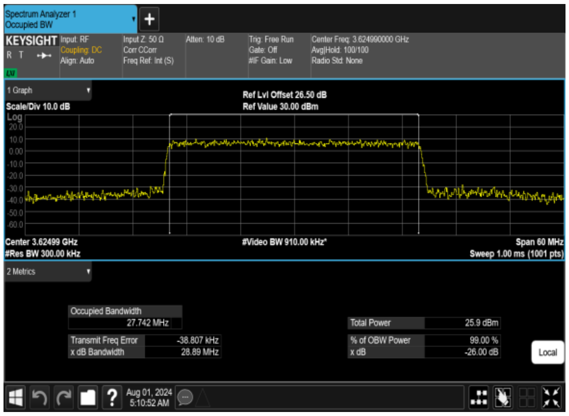
N48(20M)_CP-OFDM_64QAM_Outer_Full_Mid_CH



N48(20M)_CP-OFDM_256QAM_Outer_Full_Mid_CH

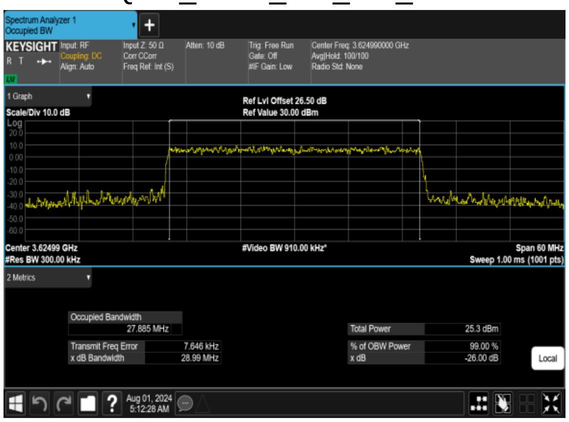


N48(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

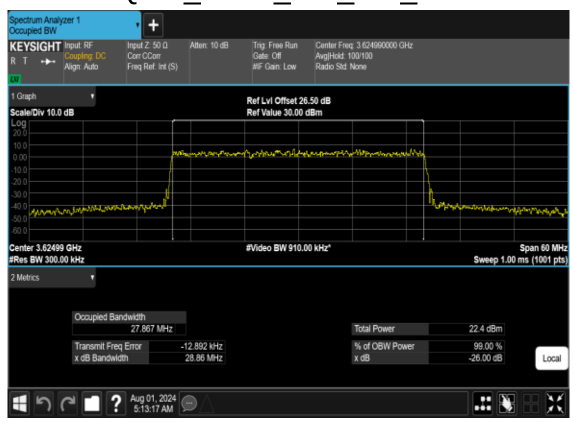


N48(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

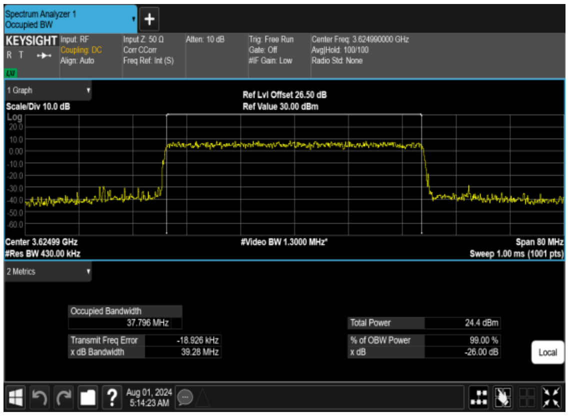
N48(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



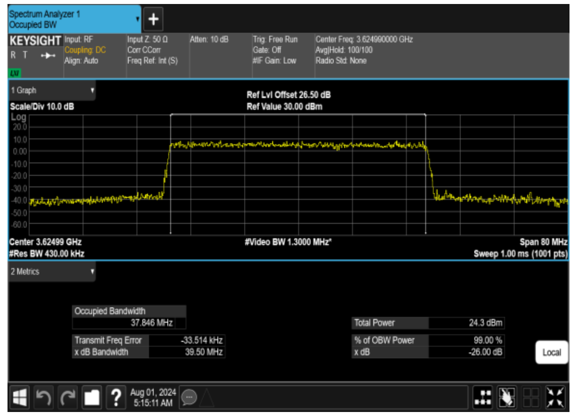
N48(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



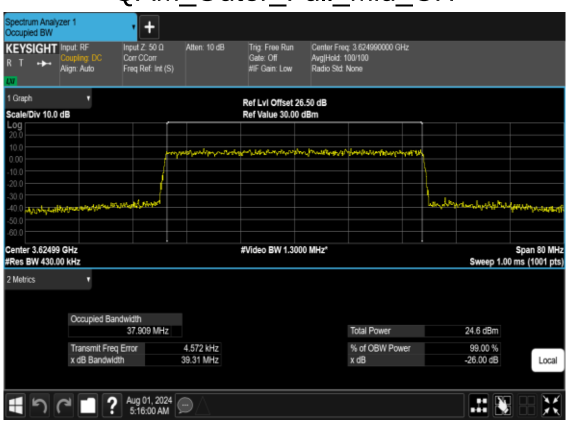
N48(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



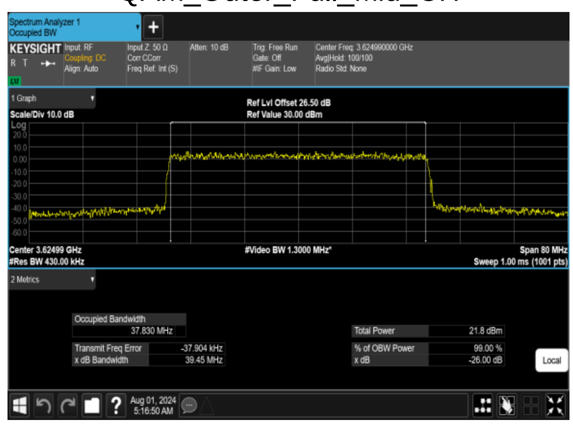
N48(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



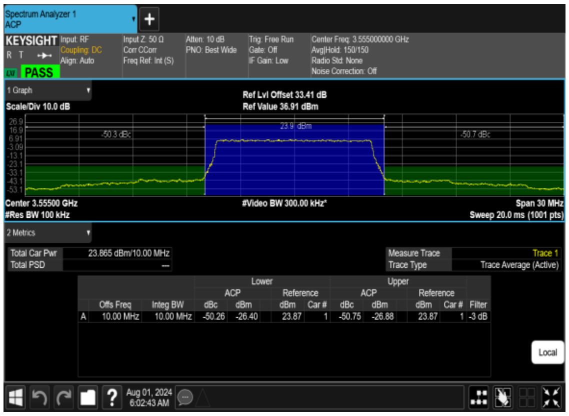
Adjacent Channel Leakage Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Lower Margin	Upper Margin	Result	Verdict
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	24@0	-20.26	-20.75	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@0	-20.73	-26.76	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@23	-26.26	-21.29	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	24@0	-17.93	-18.34	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	-19.86	-26.41	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@23	-26.3	-22.05	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	24@0	-20.09	-20.59	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-19.36	-24.27	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@23	-23.16	-20.6	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	-17.3	-17.67	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	-18.86	-22.57	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@23	-24.07	-19.55	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	24@0	-18.77	-18.58	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@0	-20.33	-24.92	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@23	-24.77	-20.52	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	24@0	-15.71	-15.41	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	-20.01	-24.96	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@23	-24.55	-20.75	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	50@0	-21.21	-21.19	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	-22.57	-24.62	**see graph**	PASS

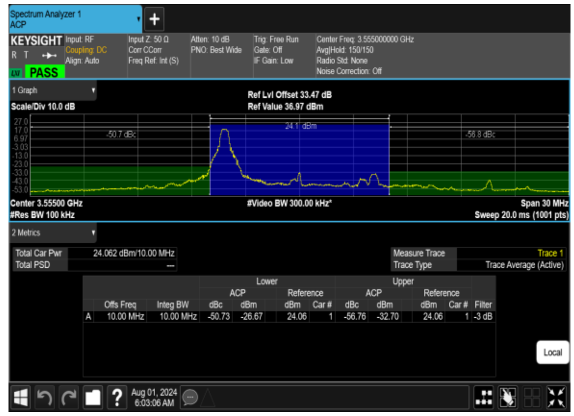
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@50	-24.91	-23.13	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	50@0	-19.15	-18.62	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	-22.38	-24.28	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@50	-25.0	-23.21	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	-19.36	-19.7	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-21.31	-22.81	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@50	-22.2	-20.89	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	-16.95	-17.29	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	-21.07	-22.67	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@50	-22.59	-21.22	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	50@0	-19.48	-18.81	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@0	-20.31	-21.95	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@50	-23.99	-22.4	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	50@0	-18.56	-18.1	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	-20.18	-21.3	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@50	-21.91	-20.55	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	100@0	-13.01	-12.47	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	1@0	-16.75	-20.25	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	1@105	-21.47	-18.03	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	100@0	-13.03	-12.52	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	-17.11	-20.52	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@105	-20.9	-18.08	**see graph**	PASS

48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	-17.49	-17.11	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-16.35	-19.94	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@105	-22.22	-18.94	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	100@0	-17.24	-16.57	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	-17.52	-21.05	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@105	-20.31	-16.41	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	100@0	-12.08	-11.04	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@0	-16.46	-19.2	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@105	-19.76	-16.58	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	100@0	-12.07	-11.06	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	-16.89	-19.45	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@105	-20.47	-17.42	**see graph**	PASS

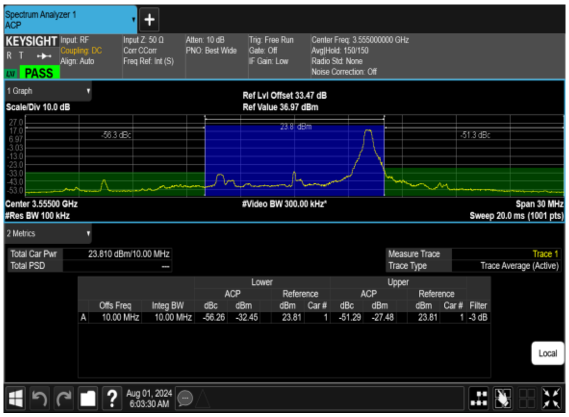
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

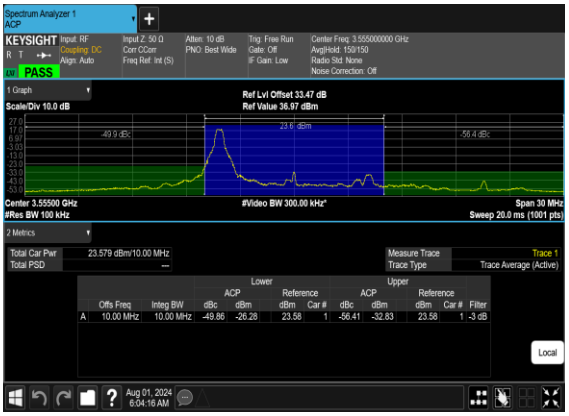


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH

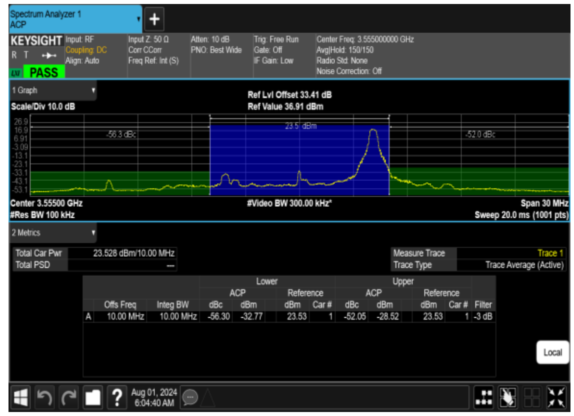


N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

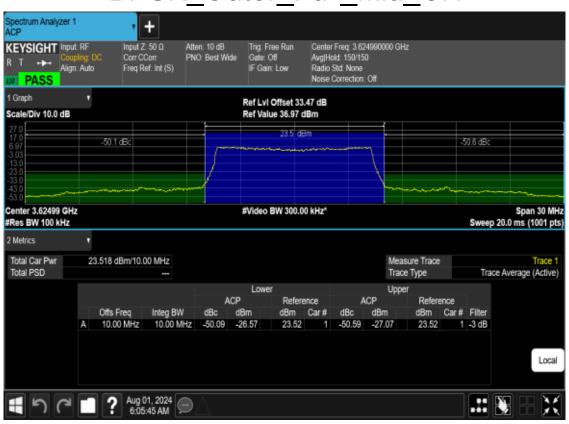
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



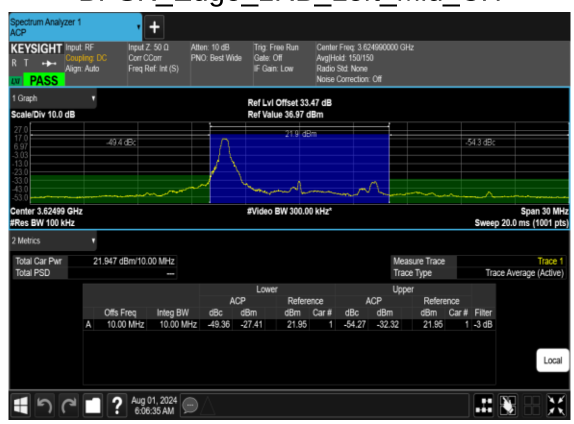
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



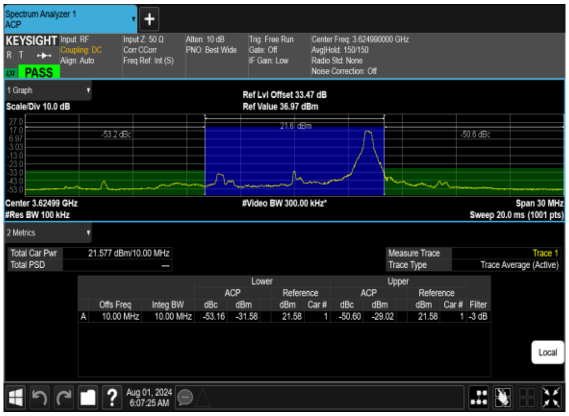
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

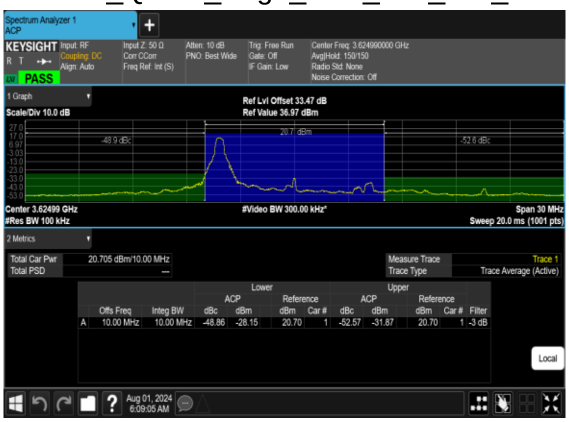


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH

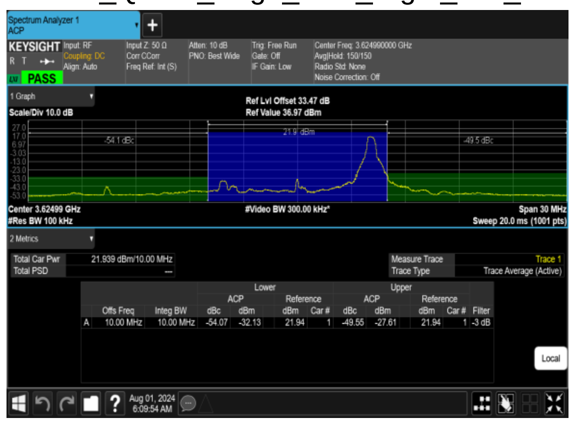


N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

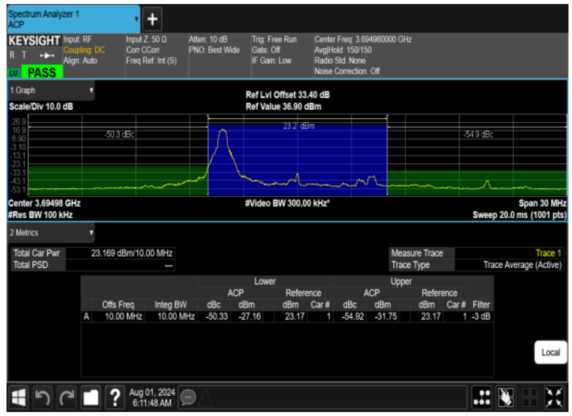


N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH

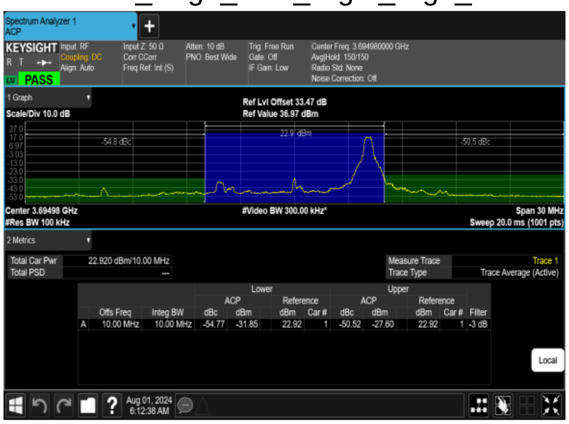


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

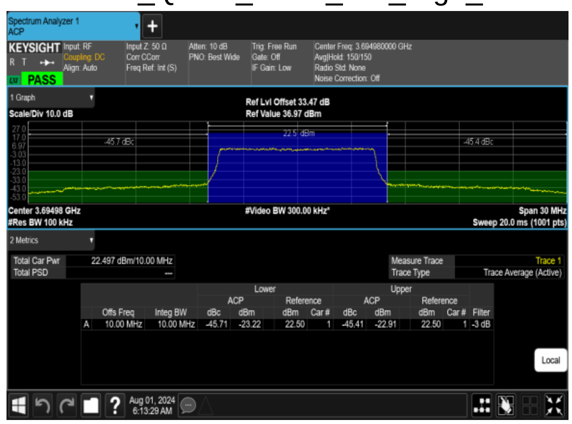
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



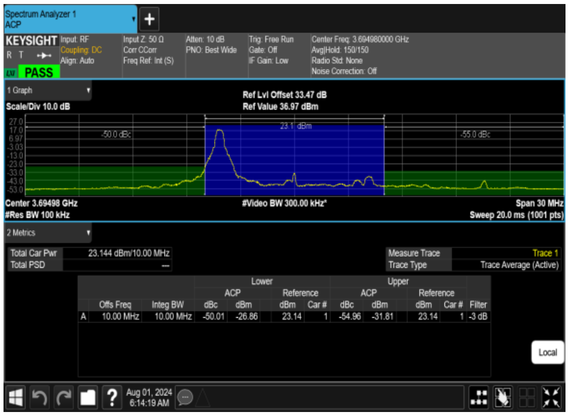
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



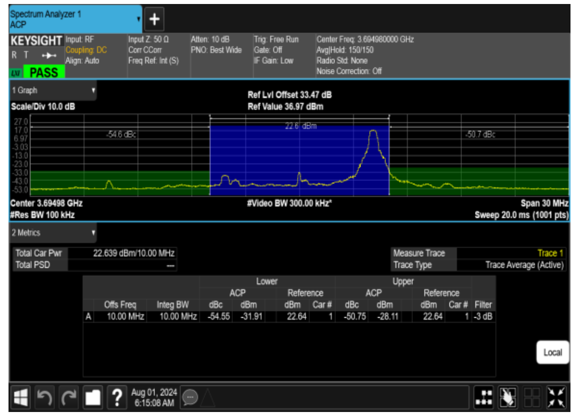
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



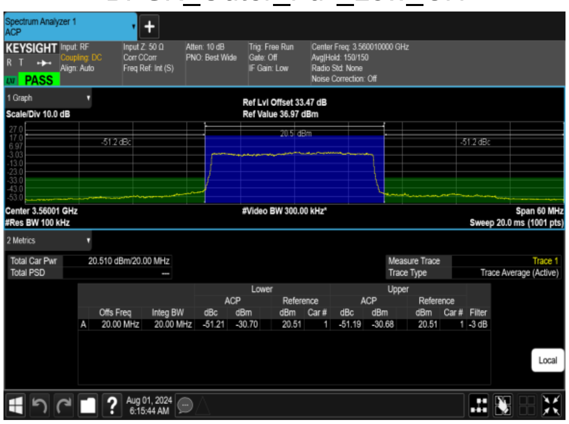
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



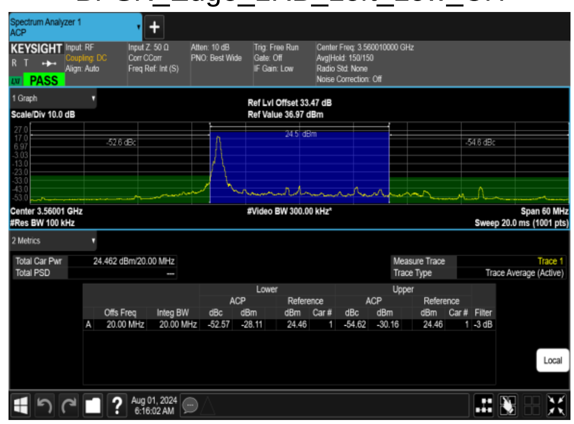
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



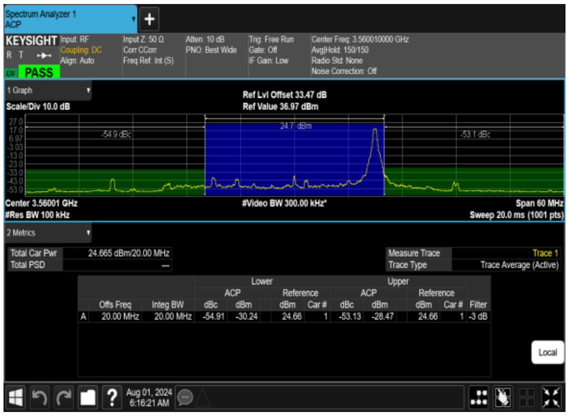
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



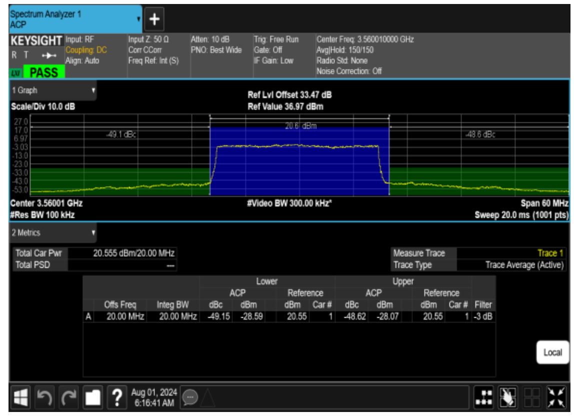
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



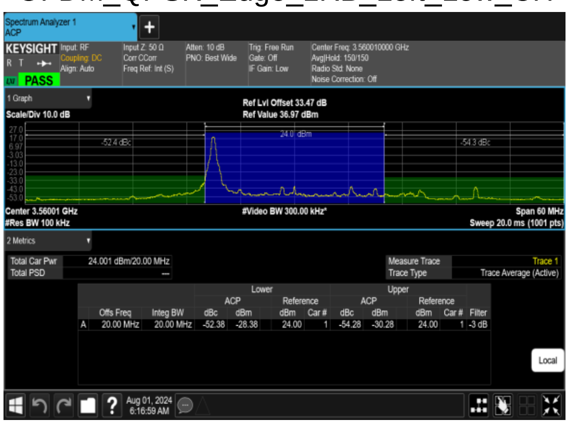
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



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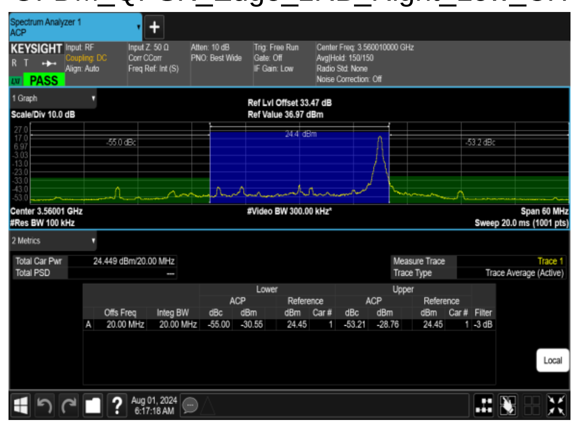
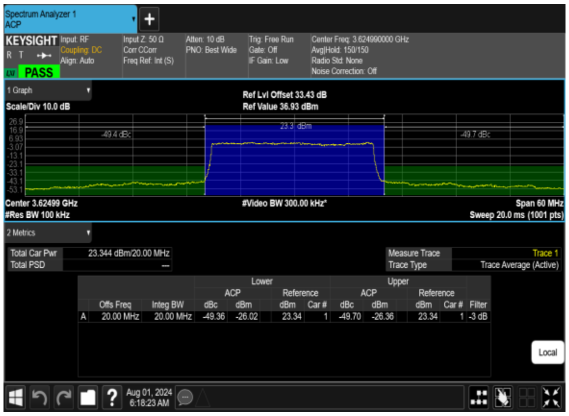
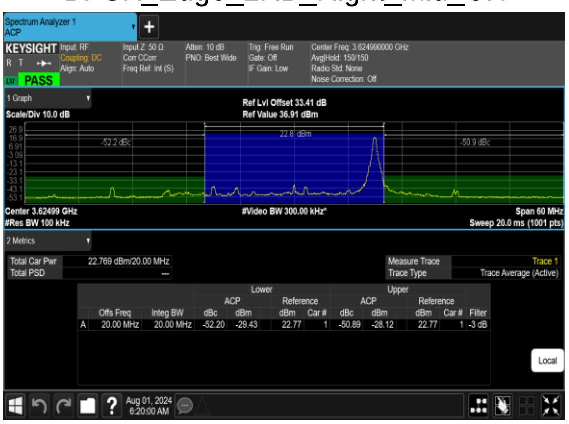


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



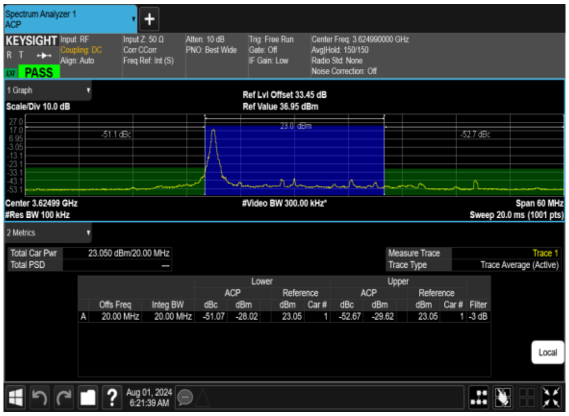
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH

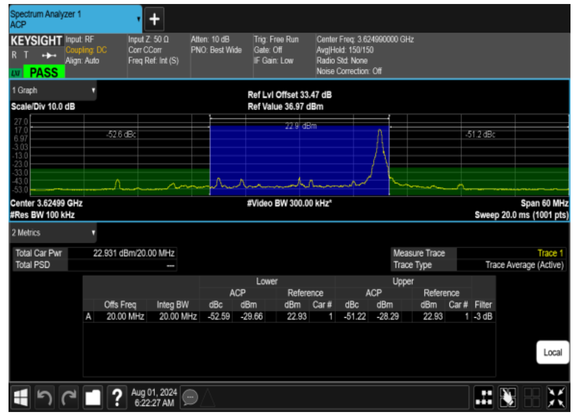


N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

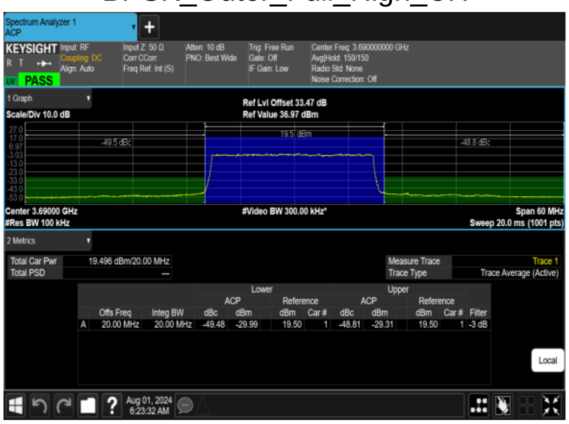
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



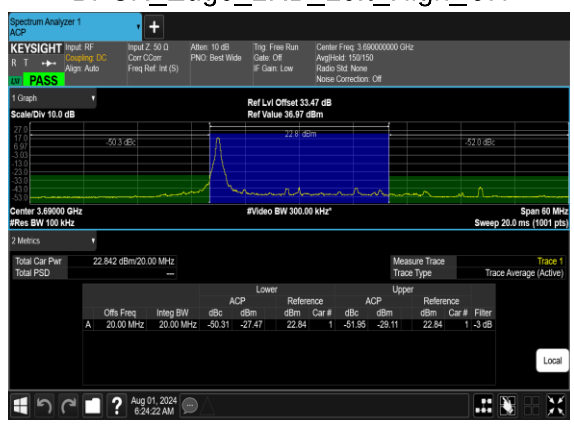
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



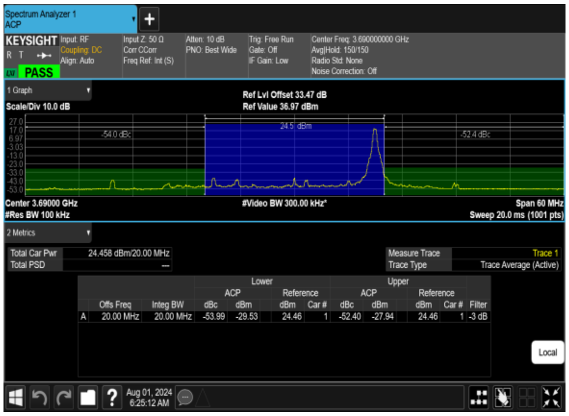
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH

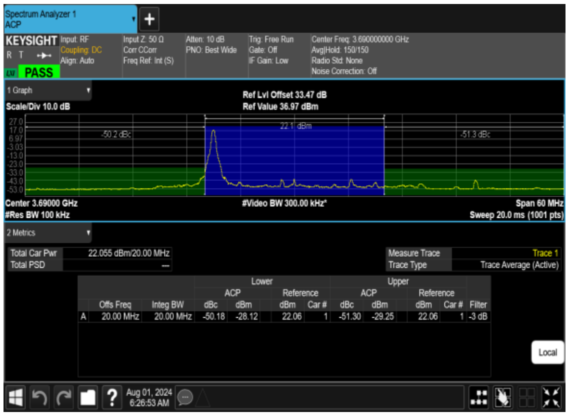


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH

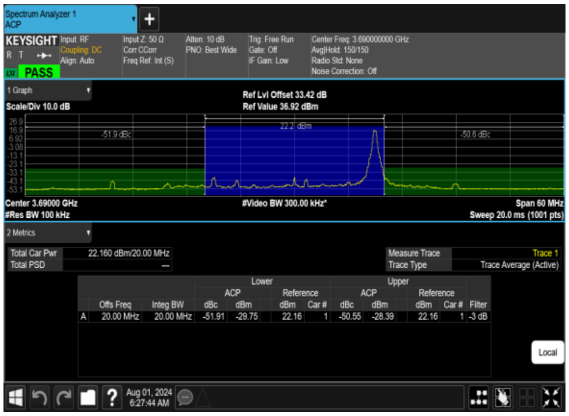


N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

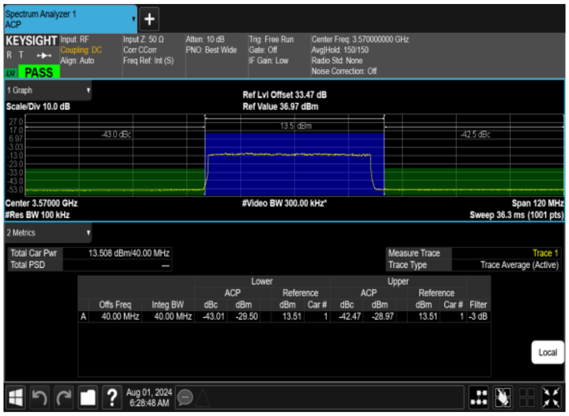
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

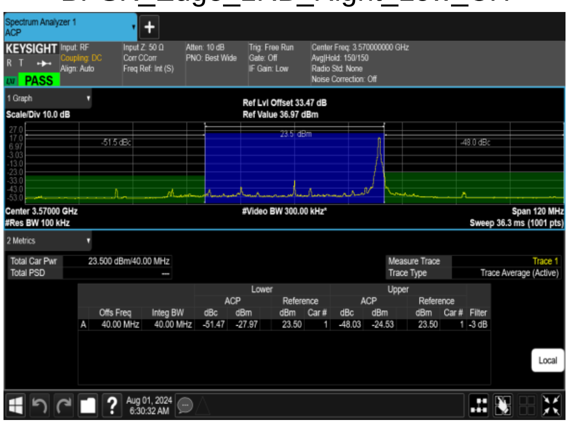


N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH