Spot Check Evaluation

FCC ID	:	**UZ7EM45B1**
EQUIPMENT	:	**Enterprise Mobile**
BRAND NAME	:	**Zebra**
MODEL NAME	:	**EM45B1**
APPLICANT	:	**Zebra Technologies Corporation** **3 Overlook Point, Lincolnshire, IL 60069 USA**
MANUFACTURER	:	**Zebra Technologies Corporation** **3 Overlook Point, Lincolnshire, IL 60069 USA**
STANDARD	:	**47 CFR Part 22(H), 24(E), 27(L), 27(H), 27(F), 27(M), 27(N), 27(O), 27(Q), 90(S)** **47 CFR Part 15 Subpart C §15.247** **47 CFR Part 15 Subpart C §15.225** **47 CFR Part 15 Subpart E §15.407**

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 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

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
FG460508-02J	Rev. 01	Initial issue of report	Feb. 13, 2025

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Enterprise Mobile
Brand Name	Zebra
Model Name	EM45B1
FCC ID	UZ7EM45B1
IMEI Code	Conducted: 350332150060484 Conduction: 350332150060096/350332150064049 Radiation: 350332150060260/350332150063959 CBP/DFS: 350332150060575
HW Version	DV
SW Version	14-24-09.00-UG-U00-PRD-ATH-04
MFD	09DEC24
EUT Stage	Identical Prototype

Specification of Accessory				
Battery	**Brand Name**	Zebra	**Model**	BT-000501
			Part Number	BT-000501-2000

Supported Unit used in test configuration and system				
AC Adapter 1 (Type C Wall Charger 1)	**Brand Name**	Zebra	**Model**	SAWA-102-22520A
			Part Number	PWR-WUA5V45W1US
AC Adapter 2 (Type A Wall Charger 2)	**Brand Name**	Zebra	**Model**	SAWA-65-20005A
			Part Number	PWR-WUA5V12W0US
Earphone 1 (Wired headset USB-C)	**Brand Name**	Zebra	**Part Number**	HDST-USBC-PTT1-01
Earphone 2 (Rugged Bluetooth Headset)	**Brand Name**	Zebra	**Part Number**	HS3100-OTH
Earphone 3 (3.5mm PTT Headset)	**Brand Name**	Zebra	**Part Number**	HDST-35MM-PTT1-02
Earphone 4 (Rugged Headset)	**Brand Name**	Zebra	**Part Number**	HS2100-OTH
3.5mm to 3.5mm audio connector	**Brand Name**	Zebra	**Part Number**	CBL-HS2100-3MS1-01
Type C-Audio Cable (Type C to 3.5mm)	**Brand Name**	Zebra	**Part Number**	ADP-USBC-35MM1-01
USB Cable 1 (USB-C to C Cable)	**Brand Name**	Zebra	**Part Number**	CBL-EC5X-USBC3A-01
USB Cable 2 (USB-A to C Cable)	**Brand Name**	Zebra	**Part Number**	CBL-TC5X-USBC2A-01
EM45 Protective Case	**Brand Name**	Zebra	**Part Number**	SG-EM45EXO2-01

1.2 Modification of EUT

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

1.3 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.**
	TH01-KS CO01-KS DFS01-KS 03CH02-KS 03CH04-KS 03CH06-KS	CN1257	314309

1.4 Test Software

Item	Site	Manufacturer	Name	Version
1.	TH01-KS	Tonscend	JS1120-3 test system China_210602	3.3.10
2.	03CH02-KS	AUDIX	E3	6.2009-8-24al
3.	03CH04-KS	AUDIX	E3	210616
4.	03CH06-KS	AUDIX	E3	210616
5.	DFS01-KS	Sporton	Test Tools	1.0
6.	CO01-KS	AUDIX	E3	6.2009-8-24

1.5 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 22(H), 24(E), 27(L), 27(H), 27(F), 27(M), 27(N), 27(O), 27(Q), 90(S)
- ANSI C63.10-2013
- ANSI C63.26-2015
- 47 CFR Part 15 Subpart C §15.225
- 47 CFR Part 15 Subpart C §15.247
- 47 CFR Part 15 Subpart E §15.407

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: EM45B1, FCC ID: UZ7EM45B1) is electrically identical to the reference device (Model: EM45B2, FCC ID: UZ7EM45B2) 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 FA460508-02.

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 transmission conditions.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: UZ7EM45B1.

2.2 Model Difference Information

The **main** difference between FCC ID: UZ7EM45B2 and FCC ID: UZ7EM45B1 is as below:

- Removed RFID function.
- Antenna 1 removed WWAN TX function，keep supported Low bands and Middle bands RX function.

Other differences and all the details of similarity and difference can be found in the confidential documents (UZ7EM45B1 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	UZ7EM45B2	Full test	FR460508A	UZ7EM45B1	Spot check	Y, All test items
	DTS (BLE)	2400~2483.5	UZ7EM45B2	Full test	FR460508B	UZ7EM45B1	Spot check	Y, All test items
	DTS (WLAN)	2400~2483.5	UZ7EM45B2	Full test	FR460508C	UZ7EM45B1	Spot check	Y, All test items
	DXX (NFC)	13.56	UZ7EM45B2	Full test	FR460508D	UZ7EM45B1	Spot check	Y, All test items
15E	U-NII	5180~5240	UZ7EM45B2	Full test	FR460508E	UZ7EM45B1	Spot check	Y, All test items
		5260~5320	UZ7EM45B2	Full test	FR460508E	UZ7EM45B1	Spot check	Y, All test items
		5500~5720	UZ7EM45B2	Full test	FR460508E	UZ7EM45B1	Spot check	Y, All test items
		5745~5825	UZ7EM45B2	Full test	FR460508E	UZ7EM45B1	Spot check	Y, All test items
		5260~5320 5500~5720	UZ7EM45B2	Full test	FZ460508	UZ7EM45B1	Spot check	Y, All test items
	6CD	5925~7125	UZ7EM45B2	Full test	FR460508G FR460508H	UZ7EM45B1	Spot check	Y, All test items
22, 24, 27, 90	PCE (GSM)	GSM 850/1900	UZ7EM45B2	Full test	FG460508A	UZ7EM45B1	Spot check	Y, All test items
	PCE (WCDMA)	Band II, IV, V	UZ7EM45B2	Full test	FG460508A	UZ7EM45B1	Spot check	Y, All test items
	PCE (LTE)	B2/4/5/7/13/17/26/38/41/42/66/71 ULCA 5B/7C/38C 41C/66B/66C	UZ7EM45B2	Full test	FG460508B FG460508C FG460508D FG460508F	UZ7EM45B1	Spot check	Y, All test items
	PCE (LTE)	B26 (90S)	UZ7EM45B2	Full test	FG460508E	UZ7EM45B1	Spot check	Y, All test items
	PCE (NR)	n2/n5/n7/n26/n38/n41/n66/n71/n77/n78	UZ7EM45B2	Full test	FG460508G FG460508H FG460508J FG460508K	UZ7EM45B1	Spot check	Y, All test items
	PCE (NR)	n26 (90S)	UZ7EM45B2	Full test	FG460508I	UZ7EM45B1	Spot check	Y, All test items

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

2.4 Spot Check Verification Data Section

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

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

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

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

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

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

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

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	UZ7EM45B2 Parent Worst mode Test Result	UZ7EM45B1 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
BT 1Mbps (CH00)	Number of Channels	79	79	0	3
	Hopping Channel Separation	1.135	0.996	0.139	3
	Dwell Time of Each Channel	0.31	0.31	0	3
	20dB Bandwidth	0.94	0.95	0.01	3
	99% Bandwidth	0.851	0.89	0.039	3
	Conducted Band Edges	-41.78	-43.72	1.94	3
	Conducted Spurious Emission	-44.27	-46.4	2.13	3
BT 1Mbps (CH00)	Radiated Band Edges and Radiated Spurious Emission	56.93	55.71	1.22	3
BT	AC Conducted Emission	14.81	13.96	0.85	3
BLE 1Mbps (CH39)	6dB Bandwidth	0.68	0.69	0.01	3
	99% Bandwidth	1.027	1.035	0.008	3
	Power Spectral Density	-5.44	-6.6	1.16	3
	Conducted Band Edges	-57.54	-58.86	1.32	3
	Conducted Spurious Emission	-44.23	-45.77	1.54	3
BLE 2Mbps (CH39)	Radiated Band Edges and Spurious Emission	46.49	48.90	2.41	3
BLE	AC Conducted Emission	14.81	13.96	0.85	3
WIFI 2.4G (802.11b CH11)	6dB Bandwidth	8.56	8.56	0	3
	99% Bandwidth	13.187	13.307	0.12	3
	Power Spectral Density	-1.37	-1.5	0.13	3
	Conducted Band Edges	-47.92	-48.21	0.29	3
	Conducted Spurious Emission	-43.71	-46.01	2.3	3
WIFI 2.4G (802.11g CH01)	Radiated Band Edges and Spurious Emission	51.90	52.85	1.95	3
WIFI 2.4G	AC Conducted Emission	14.81	13.96	0.85	3
WIFI 5G (802.11a CH149)	26dB Bandwidth	19.15	19.29	0.14	3
	99% Bandwidth	16.705	16.705	0	3
	Power Spectral Density	6.94	6.92	0.02	3
	Unwanted Emissions	16.31	16.33	0.02	3
WIFI 5G (11ax HE160 Ch50)	Radiated Band Edges and Spurious Emission	50.75	52.88	2.13	3
WIFI 5G	AC Conducted Emission	11.52	14.22	2.70	3
WIFI 5G (802.11a CH116)	DFS	0.862829	0.935231	0.073	3
WIFI 6G UNII-5 (802.11ax HE160 CH15 6025MHz)-6CD Indoor Client	26dB Emission Bandwidth	165.79	166.17	0.38	3
	99% Occupied Bandwidth	156.8	156.495	0.305	3
	Fundamental Maximum EIRP	17.64	17.39	0.25	3
	Fundamental Power Spectral Density	-2.95	-3.42	0.47	3
	In-Band Emissions	-12.59	-11.73	0.86	3
WIFI 6G UNII-5 (802.11ax HE20 CH1 5955MHz)-6CD Standard Client	26dB Emission Bandwidth	21.15	21.25	0.1	3
	99% Occupied Bandwidth	19.048	19.086	0.038	3
	Fundamental Maximum EIRP	17.68	17.58	0.10	3
	Fundamental Power Spectral Density	5.13	4.38	0.75	3
	In-Band Emissions	-19.18	-18.83	0.35	3
WIFI 6G UNII-5 (802.11ax HE160 CH47 6185MHz)	Contention Based Protocol	-64.77	-66.92	2.15	3

WIFI 6G (802.11ax HE20 Ch233)	Radiated Band Edges and Spurious Emission	66.90	67.00	0.1	3
WIFI 6G	AC Conducted Emission	14.72	16.18	1.46	3
NFC	20dB Spectrum Bandwidth	2.48	2.49	0.01	3
	99% OBW Spectrum Bandwidth	2.11	2.11	0	3
	Frequency Stability	-21.3496	-22.382	1.0324	3
	Field Strength of Fundamental Emissions	60.61	60.41	0.2	3
	Radiated Spurious Emissions	36.17	36.86	0.69	3
	AC Conducted Emission	14.22	16.01	1.79	3

Mode	Test Item	UZ7EM45B2 Parent Worst mode Test Result	UZ7EM45B1 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
Part 27F LTE Band 13	Radiated Spurious Emission	-62.22	-61.76	0.46	3
Part27O_N77	Equivalent Isotropic Radiated Power	26.23	25.90	0.33	3
	Peak-to-Average Ratio	5.24	5.04	0.2	3
	Occupied Bandwidth	57.948	57.853	0.095	3
	Conducted Band Edge	-14.04	-15.20	1.16	3
	Conducted Spurious Emission	-33.15	-33.32	0.17	3
	Frequency Stability	0.0039	0.0027	0.0012	3

Conducted power for Unlicensed bands

Test Item	Mode	UZ7EM45B2 Parent Worst mode Test Result	UZ7EM45B1 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
Conducted Power(dBm) BT & BLE	BT BR/EDR	9.57	9.11	0.46	3
	BLE 1Mbps	9.57	9.10	0.47	3
	BLE 2Mbps	9.58	9.24	0.34	3
Conducted Power(dBm) WIFI 2.4G	11b, 2.4GHz	25.04	24.97	0.07	3
	11g, 2.4GHz	28.45	28.36	0.09	3
	11n HT20, 2.4GHz	28.38	28.34	0.04	3
	11ac VHT20, 2.4GHz	28.30	28.25	0.05	3
	11ax HE20, 2.4GHz	28.56	28.51	0.05	3
Conducted Power(dBm) WIFI 5G	11a, 5.2GHz	22.53	22.38	0.15	3
	11a, 5.3GHz	22.62	22.15	0.47	3
	11a, 5.5GHz	22.19	21.74	0.45	3
	11a, 5.8GHz	21.69	21.47	0.22	3
	11n HT20, 5.2GHz	21.34	21.26	0.08	3
	11n HT20, 5.3GHz	20.98	20.62	0.36	3
	11n HT20, 5.5GHz	21.32	21.26	0.06	3
	11n HT20, 5.8GHz	21.37	21.33	0.04	3
	11ac VHT20, 5.2GHz	21.41	21.29	0.12	3
	11ac VHT20, 5.3GHz	21.04	20.69	0.35	3
	11ac VHT20, 5.5GHz	21.36	21.33	0.03	3
	11ac VHT20, 5.8GHz	21.41	21.36	0.05	3
	11ax HE20, 5.2GHz	21.47	21.34	0.13	3
	11ax HE20, 5.3GHz	21.09	20.72	0.37	3
	11ax HE20, 5.5GHz	21.39	21.37	0.02	3
	11ax HE20, 5.8GHz	21.45	21.39	0.06	3
	11n HT40, 5.2GHz	20.76	20.71	0.05	3
	11n HT40, 5.3GHz	20.71	20.53	0.18	3
	11n HT40, 5.5GHz	20.62	20.58	0.04	3

	11n HT40, 5.8GHz	20.36	20.28	0.08	3
	11ac VHT40, 5.2GHz	20.82	20.76	0.06	3
	11ac VHT40, 5.3GHz	20.77	20.56	0.21	3
	11ac VHT40, 5.5GHz	20.67	20.62	0.05	3
	11ac VHT40, 5.8GHz	20.42	20.32	0.10	3
	11ax HE40, 5.2GHz	20.86	20.81	0.05	3
	11ax HE40, 5.3GHz	20.83	20.61	0.22	3
	11ax HE40, 5.5GHz	20.73	20.68	0.05	3
	11ax HE40, 5.8GHz	20.48	20.36	0.12	3
	11ac VHT80, 5.2GHz	20.07	19.99	0.08	3
	11ac VHT80, 5.3GHz	20.14	19.91	0.23	3
	11ac VHT80, 5.5GHz	20.32	20.08	0.24	3
	11ac VHT80, 5.8GHz	20.17	20.10	0.07	3
	11ax HE80, 5.2GHz	20.12	20.05	0.07	3
	11ax HE80, 5.3GHz	20.22	19.96	0.26	3
	11ax HE80, 5.5GHz	20.38	20.12	0.26	3
	11ax HE80, 5.8GHz	20.24	20.15	0.09	3
	11ac VHT160, 5.3GHz	19.81	19.66	0.15	3
	11ac VHT160, 5.5GHz	19.79	19.63	0.16	3
	11ax HE160, 5.3GHz	19.92	19.70	0.22	3
	11ax HE160, 5.5GHz	19.88	19.69	0.19	3
Conducted Power(dBm) WIFI 6G Indoor Client	6CD 11a, U-NII-5	7.05	6.75	0.30	3
	6CD 11a, U-NII-6	7.97	7.86	0.11	3
	6CD 11a, U-NII-7	6.64	6.58	0.06	3
	6CD 11a, U-NII-8	5.82	5.78	0.04	3
	6CD 11ax HE20, U-NII-5	10.85	10.84	0.01	3
	6CD 11ax HE20, U-NII-6	11.28	11.21	0.07	3
	6CD 11ax HE20, U-NII-7	10.12	10.07	0.05	3
	6CD 11ax HE20, U-NII-8	9.61	9.57	0.04	3
	6CD 11ax HE40, U-NII-5	13.76	13.74	0.02	3
	6CD 11ax HE40, U-NII-6	13.74	13.59	0.15	3
	6CD 11ax HE40, U-NII-7	13.04	12.79	0.25	3
	6CD 11ax HE40, U-NII-8	12.65	12.60	0.05	3
	6CD 11ax HE80, U-NII-5	16.97	16.93	0.04	3
	6CD 11ax HE80, U-NII-6	16.82	16.77	0.05	3
	6CD 11ax HE80, U-NII-7	16.36	16.30	0.06	3
	6CD 11ax HE80, U-NII-8	15.76	15.71	0.05	3
	6CD 11ax HE160, U-NII-5	17.29	17.04	0.25	3
	6CD 11ax HE160, U-NII-6	17.01	16.95	0.06	3
	6CD 11ax HE160, U-NII-7	17.06	17.01	0.05	3
	6CD 11ax HE160, U-NII-8	16.89	16.83	0.06	3
Conducted Power(dBm) WIFI 6G Standard Client	6CD 11a, U-NII-5	17.29	17.21	0.08	3
	6CD 11a, U-NII-7	17.11	17.07	0.04	3
	6CD 11ax HE20, U-NII-5	17.33	17.23	0.10	3
	6CD 11ax HE20, U-NII-7	17.08	17.04	0.04	3
	6CD 11ax HE40, U-NII-5	17.23	17.16	0.07	3
	6CD 11ax HE40, U-NII-7	16.97	16.93	0.04	3
	6CD 11ax HE80, U-NII-5	17.26	17.14	0.12	3
	6CD 11ax HE80, U-NII-7	16.96	16.92	0.04	3
	6CD 11ax HE160, U-NII-5	17.34	17.10	0.24	3
	6CD 11ax HE160, U-NII-7	17.12	17.07	0.05	3

Conducted power for Licensed bands

Test Item	Mode	UZ7EM45B2 Parent Worst mode Test Result	UZ7EM45B1 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
Conducted Power (dBm)	GSM 850	32.32	32.3	0.02	3
	GSM 1900	29.07	28.82	0.25	3
	WCDMA 850	23.02	22.87	0.15	3
	WCDMA1900	22.91	22.64	0.27	3
	WCDMA1700	22.79	22.75	0.04	3
	LTE B2	22.84	22.78	0.06	3
	LTE B4	22.89	22.45	0.44	3
	LTE B5	22.84	22.71	0.13	3
	LTE B5B	22.84	22.77	0.07	3
	LTE B13	22.78	22.63	0.15	3
	LTE B17	22.75	22.56	0.19	3
	LTE B26H	23.04	22.72	0.32	3
	LTE B26L	22.80	22.75	0.05	3
	LTE B66	22.89	22.74	0.15	3
	LTE B71	22.98	22.51	0.47	3
	LTE B7	23.83	23.48	0.35	3
	LTE B7C	23.70	23.59	0.11	3
	LTE B38	22.84	22.7	0.14	3
	LTE B41	22.89	22.66	0.23	3
	LTE B38C	22.84	22.71	0.13	3
	LTE B41C	22.88	22.78	0.1	3
	LTE B42	22.64	22.6	0.04	3
	LTE B66B	22.73	22.54	0.19	3
	LTE B66C	22.72	22.55	0.17	3
	N2	23.69	23.19	0.5	3
	N5	23.19	22.85	0.34	3
	N26H	23.22	22.93	0.29	3
	N26L	22.91	22.73	0.18	3
	N7	24.85	24.37	0.48	3
	N38	23.31	22.85	0.46	3
	N41	23.01	22.67	0.34	3
	N66	23.28	23.12	0.16	3
	N71	23.60	23.22	0.38	3
	N77 27O	26.28	25.95	0.33	3
	N78 27O	26.24	26.02	0.22	3
	N77 27Q	26.29	25.97	0.32	3
	N78 27Q	26.25	25.93	0.32	3
	N77 27O MIMIO	24.32	23.89	0.43	3
	N78 27O MIMO	23.94	23.87	0.07	3
	N77 27Q MIMO	24.38	23.92	0.46	3
	N78 27Q MIMO	24.31	23.95	0.36	3

6CD- < indoor client>

<SISO mode>

U-NII-5 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
11a	6Mbps	1	093	6415	0.03	0.04	4.16	3.22	0.35	-0.85	4.51	2.37	24.00	Pass	6	6

U-NII-5 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
HE20	MCS0	1	093	6415	Full	0.00	0.00	8.03	7.42	0.35	-0.85	8.38	6.57	24.00	Pass	8	8
HE40	MCS0	1	091	6405	Full	0.00	0.00	10.87	10.38	0.35	-0.85	11.22	9.53	24.00	Pass	11	11
HE80	MCS0	1	087	6385	Full	0.00	0.00	14.22	13.48	0.35	-0.85	14.57	12.63	24.00	Pass	14	14
HE160	MCS0	1	015	6025	Full	0.00	0.00	13.83	14.15	0.35	-0.85	14.18	13.30	24.00	Pass	14	14

U-NII-6 SISO															
Mod.	Data Rate	NTX	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
				Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
11a	6Mbps	1	6475	0.03	0.04	5.45	4.09	0.75	-2.44	6.20	1.65	24.00	Pass	5	5

U-NII-6 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
HE20	MCS0	1	105	6475	Full	0.00	0.00	8.42	7.86	0.75	-2.44	9.17	5.42	24.00	Pass	8.5	8.5
HE40	MCS0	1	107	6485	Full	0.00	0.00	11.05	9.97	0.75	-2.44	11.80	7.53	24.00	Pass	11	11
HE80	MCS0	1	103	6465	Full	0.00	0.00	14.09	13.15	0.75	-2.44	14.84	10.71	24.00	Pass	14	14
HE160	MCS0	1	111	6505	Full	0.00	0.00	14.21	13.31	0.75	-2.44	14.96	10.87	24.00	Pass	14	14

U-NII-7 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
11a	6Mbps	1	117	6535	0.03	0.04	4.25	2.69	1.02	0.16	5.27	2.85	24.00	Pass	3.5	3.5

U-NII-7 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
HE20	MCS0	1	181	6855	Full	0.00	0.00	7.03	6.95	1.02	0.16	8.05	7.11	24.00	Pass	7.5	7.5
HE40	MCS0	1	147	6685	Full	0.00	0.00	10.01	9.45	1.02	0.16	11.03	9.61	24.00	Pass	10	10
HE80	MCS0	1	135	6625	Full	0.00	0.00	13.55	12.93	1.02	0.16	14.57	13.09	24.00	Pass	13.5	13.5
HE160	MCS0	1	143	6665	Full	0.00	0.00	14.25	13.54	1.02	0.16	15.27	13.70	24.00	Pass	14	14

U-NII-8 SISO															
Mod.	Data Rate	NTX	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
				Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
11a	6Mbps	1	6895	0.03	0.04	3.27	2.12	0.70	1.66	3.97	3.78	24.00	Pass	3	3

U-NII-8 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
HE20	MCS0	2	185	6875	Full	0.00	0.00	6.68	6.29	0.70	1.66	7.38	7.95	24.00	Pass	7	7
HE40	MCS0	2	195	6925	Full	0.00	0.00	9.78	9.32	0.70	1.66	10.48	10.98	24.00	Pass	10	10
HE80	MCS0	2	199	6945	Full	0.00	0.00	12.75	12.58	0.70	1.66	13.45	14.24	24.00	Pass	13	13
HE160	MCS0	2	207	6985	Full	0.00	0.00	13.97	13.60	0.70	1.66	14.67	15.26	24.00	Pass	14	14

<CDD mode>

U-NII-5 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
11a	6Mbps	2	093	6415	0.03	0.04	4.18	3.25	6.75	0.35		7.10	24.00	Pass	6	

U-NII-6 MIMO														
Mod.	Data Rate	NTX	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
				Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
11a	6Mbps	2	6475	0.03	0.04	5.49	4.11	7.86	0.75		8.61	24.00	Pass	5	

U-NII-7 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
11a	6Mbps	2	117	6535	0.03	0.04	4.29	2.71	6.58	1.02		7.60	24.00	Pass	3.5	

U-NII-8 MIMO														
Mod.	Data Rate	NTX	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
				Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
11a	6Mbps	2	6895	0.03	0.04	3.30	2.17	5.78	1.66		7.44	24.00	Pass	3	

<SDM mode>

U-NII-5 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
HE20	MCS0	2	093	6415	Full	0.00	0.00	8.18	7.45	10.84	0.35		11.19	24.00	Pass	8	
HE40	MCS0	2	091	6405	Full	0.00	0.00	11.01	10.43	13.74	0.35		14.09	24.00	Pass	11	
HE80	MCS0	2	087	6385	Full	0.00	0.00	14.29	13.52	16.93	0.35		17.28	24.00	Pass	14	
HE160	MCS0	2	015	6025	Full	0.00	0.00	13.88	14.18	17.04	0.35		17.39	24.00	Pass	14	

U-NII-6 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
HE20	MCS0	2	105	6475	Full	0.00	0.00	8.47	7.91	11.21	0.75		11.96	24.00	Pass	8.5	
HE40	MCS0	2	107	6485	Full	0.00	0.00	11.09	10.01	13.59	0.75		14.34	24.00	Pass	11	
HE80	MCS0	2	103	6465	Full	0.00	0.00	14.24	13.22	16.77	0.75		17.52	24.00	Pass	14	
HE160	MCS0	2	111	6505	Full	0.00	0.00	14.42	13.39	16.95	0.75		17.70	24.00	Pass	14	

U-NII-7 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
HE20	MCS0	2	181	6855	Full	0.00	0.00	7.09	7.02	10.07	1.02		11.09	24.00	Pass	7.5	
HE40	MCS0	2	147	6685	Full	0.00	0.00	10.06	9.48	12.79	1.02		13.81	24.00	Pass	10	
HE80	MCS0	2	135	6625	Full	0.00	0.00	13.59	12.97	16.30	1.02		17.32	24.00	Pass	13.5	
HE160	MCS0	2	143	6665	Full	0.00	0.00	14.35	13.61	17.01	1.02		18.03	24.00	Pass	14	

U-NII-8 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
HE20	MCS0	2	185	6875	Full	0.00	0.00	6.77	6.34	9.57	1.66		11.23	24.00	Pass	7	
HE40	MCS0	2	195	6925	Full	0.00	0.00	9.81	9.35	12.60	1.66		14.26	24.00	Pass	10	
HE80	MCS0	2	199	6945	Full	0.00	0.00	12.78	12.62	15.71	1.66		17.37	24.00	Pass	13	
HE160	MCS0	2	207	6985	Full	0.00	0.00	14.01	13.63	16.83	1.66		18.49	24.00	Pass	14	

<standard client >

<SISO mode>

U-NII-5 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
11a	6Mbps	1	001	5955	0.03	0.04	14.19	14.13	0.35	-0.85	14.54	13.28	30.00	Pass	14	

U-NII-5 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
HE20	MCS0	1	001	5955	Full	0.00	0.00	14.21	14.22	0.35	-0.85	14.56	13.37	30.00	Pass	14	14
HE40	MCS0	1	003	5965	Full	0.00	0.00	14.17	14.05	0.35	-0.85	14.52	13.20	30.00	Pass	14	14
HE80	MCS0	1	007	5985	Full	0.00	0.00	14.16	14.06	0.35	-0.85	14.51	13.21	30.00	Pass	14	14
HE160	MCS0	1	015	6025	Full	0.00	0.00	13.83	14.15	0.35	-0.85	14.18	13.30	30.00	Pass	14	14

U-NII-7 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
11a	6Mbps	1	149	6695	0.03	0.04	14.27	13.78	1.02	0.16	15.29	13.94	30.00	Pass	14	14

U-NII-7 SISO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10	Ant 8	Ant 10			Ant 8	Ant 10
HE20	MCS0	1	149	6695	Full	0.00	0.00	14.22	13.78	1.02	0.16	15.24	13.94	30.00	Pass	14	14
HE40	MCS0	1	147	6685	Full	0.00	0.00	14.29	13.43	1.02	0.16	15.31	13.59	30.00	Pass	14	14
HE80	MCS0	1	135	6625	Full	0.00	0.00	14.27	13.47	1.02	0.16	15.29	13.63	30.00	Pass	14	14
HE160	MCS0	1	143	6665	Full	0.00	0.00	14.25	13.54	1.02	0.16	15.27	13.70	30.00	Pass	14	14

<CDD mode>

U-NII-5 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
11a	6Mbps	2	001	5955	0.03	0.04	14.22	14.17	17.21	0.35		17.56	30.00	Pass	14	

U-NII-5 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
HE20	MCS0	2	001	5955	Full	0.00	0.00	14.24	14.19	17.23	0.35		17.58	30.00	Pass	14	
HE40	MCS0	2	003	5965	Full	0.00	0.00	14.22	14.07	17.16	0.35		17.51	30.00	Pass	14	
HE80	MCS0	2	007	5985	Full	0.00	0.00	14.17	14.09	17.14	0.35		17.49	30.00	Pass	14	
HE160	MCS0	2	015	6025	Full	0.00	0.00	13.95	14.23	17.10	0.35		17.45	30.00	Pass	14	

U-NII-7 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
11a	6Mbps	2	149	6695	0.03	0.04	14.31	13.80	17.07	1.02		18.09	30.00	Pass	14	

U-NII-7 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 8	Ant 10	Ant 8	Ant 10	SUM	Ant 8	Ant 10	SUM			Ant 8	Ant 10
HE20	MCS0	2	149	6695	Full	0.00	0.00	14.24	13.81	17.04	1.02		18.06	30.00	Pass	14	
HE40	MCS0	2	147	6685	Full	0.00	0.00	14.32	13.48	16.93	1.02		17.95	30.00	Pass	14	
HE80	MCS0	2	135	6625	Full	0.00	0.00	14.29	13.49	16.92	1.02		17.94	30.00	Pass	14	
HE160	MCS0	2	143	6665	Full	0.00	0.00	14.39	13.71	17.07	1.02		18.09	30.00	Pass	14	

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
EMI Test Receiver	Keysight	N9038A	MY56400023	3Hz~8.5GHz;Max 30dBm	Jan. 02, 2024	Nov. 06, 2024	Jan. 01, 2025	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471084	10Hz-44GHz	Jul. 04, 2024	Nov. 06, 2024	Jul. 03, 2025	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 08, 2024	Nov. 06, 2024	Sep. 07, 2025	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Sep. 03, 2024	Nov. 06, 2024	Sep. 02, 2025	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 11, 2024	Nov. 06, 2024	Apr. 10, 2025	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 06, 2024	Nov. 06, 2024	Jan. 05, 2025	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	372171	9KHz ~1GHZ	Jan. 02, 2024	Nov. 06, 2024	Jan. 01, 2025	Radiation (03CH06-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Jan. 02, 2024	Nov. 06, 2024	Jan. 01, 2025	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2082395	1Ghz-18Ghz	Jan. 02, 2024	Nov. 06, 2024	Jan. 01, 2025	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY57280119	500MHz~26.5GHz	Oct. 09, 2024	Nov. 06, 2024	Oct. 08, 2025	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Nov. 06, 2024	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Nov. 06, 2024	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Nov. 06, 2024	NCR	Radiation (03CH06-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 18, 2024	Oct. 27, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Aug. 20, 2024	Oct. 27, 2024	Aug. 19, 2025	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 18, 2024	Oct. 27, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 09, 2024	Oct. 27, 2024	Oct. 08, 2025	Conduction (CO01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 10, 2024	Nov. 07, 2024~ Feb. 11, 2025	Oct. 09, 2025	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2024	Nov. 07, 2024~ Feb. 11, 2025	Jan. 01, 2025	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2025		Jan. 01, 2026	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2024	Nov. 07, 2024~ Feb. 11, 2025	Jan. 01, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2025		Jan. 01, 2026	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 10, 2024	Nov. 05, 2024	Oct. 09, 2025	CBP (DFS01-KS)
MXG-B RF Vector Signal Genertor	Keysight	5182B /5182BX07	MY56200417/MY59360210	9kHz~7.2GHz	Apr. 17, 2024	Nov. 05, 2024	Apr. 16, 2025	CBP (DFS01-KS)
Vector Signal Generator	R&S	SMBV100A	258305	9kHz~6GHz	Jan. 02, 2024	Nov. 05, 2024	Jan. 01, 2025	CBP (DFS01-KS)
Combiner	MTJ Cooperation	MTJ7112	N/A	0.4-6GHz	NCR	Nov. 05, 2024	NCR	CBP (DFS01-KS)
Signal Analyzer	R&S	FSV7	101632	10Hz~7GHz	Jan. 02, 2024	Nov. 05, 2024	Jan. 01, 2025	DFS (DFS01-KS)
Vector Signal Generator	R&S	SMJ100A	101908	100kHz~6GHz	Jan. 02, 2024	Nov. 05, 2024	Jan. 01, 2025	DFS (DFS01-KS)
MXG-B RF Vector Signal Genertor	Keysight	5182B /5182BX07	MY56200417/MY59360210	9kHz~7.2GHz	Apr. 17, 2024	Nov. 05, 2024	Apr. 16, 2025	DFS (DFS01-KS)

Combiner	MTJ Cooperation	MTJ7114-M	N/A	0.5GHz~18GHz	NCR	Nov. 05, 2024	NCR	DFS (DFS01-KS)

NCR: No Calibration Required

For NFC:

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Oct. 11, 2024	Oct. 24, 2024	Oct. 10, 2025	Radiation (03CH02-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 08, 2024	Oct. 24, 2024	Sep. 07, 2025	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	59915	30MHz-1GHz	Aug. 18, 2024	Oct. 24, 2024	Aug. 17, 2025	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Oct. 24, 2024	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Oct. 24, 2024	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Oct. 24, 2024	NCR	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	413740	9KHz-1GHz	Jan. 03, 2024	Oct. 24, 2024	Jan. 02, 2025	Radiation (03CH02-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 18, 2024	Oct. 26, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Aug. 20, 2024	Oct. 26, 2024	Aug. 19, 2025	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 18, 2024	Oct. 26, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 09, 2024	Oct. 26, 2024	Oct. 08, 2025	Conduction (CO01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 10, 2024	Nov. 07, 2024	Oct. 09, 2025	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2024	Nov. 07, 2024	Jan. 01, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2024	Nov. 07, 2024	Jan. 01, 2025	Conducted (TH01-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. 10, 2024	Nov. 04, 2024	Oct. 09, 2025	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Nov. 04, 2024	NCR	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 05, 2023	Nov. 04, 2024	Jul. 04, 2024	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY553705 28	10Hz-44G,MAX 30dB	Oct. 11, 2024	Oct. 20, 2024	Oct. 10, 2025	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Dec. 06, 2023	Oct. 20, 2024	Dec. 05, 2024	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00227860	1GHz~18GHz	Aug. 16, 2024	Oct. 20, 2024	Aug. 15, 2025	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 27, 2024	Oct. 20, 2024	Jan. 26, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	413740	9KHz-1GHz	Jan. 03, 2024	Oct. 20, 2024	Jan. 02, 2025	Radiation (03CH04-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Jan. 02, 2024	Oct. 20, 2024	Jan. 01, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 09, 2024	Oct. 20, 2024	Oct. 08, 2025	Radiation (03CH04-KS)
Amplifier	EM	EM01G18GA	060892	1Ghz-18Ghz	Oct. 09, 2024	Oct. 20, 2024	Oct. 08, 2025	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Oct. 20, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Oct. 20, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Oct. 20, 2024	NCR	Radiation (03CH04-KS)
Signal Analyzer	R&S	FSV7	101472	10Hz~7GHz	Jan. 05, 2024	Nov. 12, 2024	Jan. 04, 2025	Conducted (DFS01-KS)
Combiner	MTJ Cooperation	MTJ7112	N/A	0.4-6GHz	NCR	Nov. 12, 2024	NCR	Conducted (DFS01-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)

Test Item	Uncertainty
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	±0.04 ppm

Uncertainty of Conducted Measurement(WIFI 6G)

Test Item	Uncertainty
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	0.04ppm
Conducted Generated signal Levels	±0.56 dB
Conducted Time	0.54%

Uncertainty of Conducted Measurement(NFC)

Test Item	Uncertainty
Occupied Channel Bandwidth	±0.1%
Frequency	0.04ppm

Uncertainty of Conducted Measurement (DFS)

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

Uncertainty of Conducted Measurement (WWAN)

Test Item	Uncertainty
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	±0.04 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

03CH06-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

03CH02-KS(NFC):

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))	6.04dB

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 B. Reference Report

FCC RF Test Report

FCC ID	:	**UZ7EM45B2**
EQUIPMENT	:	**Enterprise Mobile**
BRAND NAME	:	**Zebra**
MODEL NAME	:	**EM45B2**
APPLICANT	:	**Zebra Technologies Corporation** **3 Overlook Point, Lincolnshire, IL 60069 USA**
MANUFACTURER	:	**Zebra Technologies Corporation** **3 Overlook Point, Lincolnshire, IL 60069 USA**
STANDARD	:	**47 CFR Part 2, 27 Subpart O (3700-3980MHz)**
CLASSIFICATION	:	**PCS Licensed Transmitter Held to Ear (PCE)**
Test Date(s)	:	**Jul. 16, 2024 ~ Aug. 12, 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 C63.26-2015 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

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

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG460508J	Rev. 01	Initial issue of report	Sep. 11, 2024

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(j)(3)	Equivalent Isotropic Radiated Power	EIRP < 1Watt		
3.5	§27.50(j)(4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(l)(2)	Conducted Band Edge Measurement	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §27.53(l)(2)	Conducted Spurious Emission	< 43+10log10(P[Watts])	PASS	-
3.9	§27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(l)(2)	Radiated Spurious Emission	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 31.55 dB at 11378.000 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 Product Feature of Equipment Under Test

Product Feature	
Equipment	Enterprise Mobile
Brand Name	Zebra
Model Name	EM45B2
FCC ID	UZ7EM45B2
IMEI Code	Conducted: 350854420028793/350854420029353 Radiation: 350854420030211/350854420030229
HW Version	EV2.5
SW Version	13-32-02.00-TG-U06-STD-ATH-04
MFD	02AUG24
EUT Stage	Identical Prototype

Specification of Accessory				
Battery	**Brand Name**	Zebra	**Model**	BT-000501
			Part Number	BT-000501-2000

Supported Unit used in test configuration and system				
AC Adapter 1 (Type C Wall Charger 1)	**Brand Name**	Zebra	**Model**	SAWA-102-22520A
			Part Number	PWR-WUA5V45W1US
AC Adapter 2 (Type A Wall Charger 2)	**Brand Name**	Zebra	**Model**	SAWA-65-20005A
			Part Number	PWR-WUA5V12W0US
Earphone 1 (Wired headset USB-C)	**Brand Name**	Zebra	**Part Number**	HDST-USBC-PTT1-01
Earphone 2 (Rugged Bluetooth Headset)	**Brand Name**	Zebra	**Part Number**	HS3100-OTH
Earphone 3 (3.5mm PTT Headset)	**Brand Name**	Zebra	**Part Number**	HDST-35MM-PTT1-02
Earphone 4 (Rugged Headset)	**Brand Name**	Zebra	**Part Number**	HS2100-OTH
3.5mm to 3.5mm audio connector	**Brand Name**	Zebra	**Part Number**	CBL-HS2100-3MS1-01
Type C-Audio Cable (Type C to 3.5mm)	**Brand Name**	Zebra	**Part Number**	ADP-USBC-35MM1-01
USB Cable 1 (USB-C to C Cable)	**Brand Name**	Zebra	**Part Number**	CBL-EC5X-USBC3A-01
USB Cable 2 (USB-A to C Cable)	**Brand Name**	Zebra	**Part Number**	CBL-TC5X-USBC2A-01
EM45 Protective Case	**Brand Name**	Zebra	Part Number	SG-EM45EXO1-01

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency	5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
SCS	30kHz
Bandwidth	20 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100MHz
Antenna Gain	5G NR n77: **<Ant. 2>:** -4.00 dBi **<Ant. 3>:** -0.07 dBi **<Ant. 4>:** -0.05 dBi **<Ant. 6>:** 0.74 dBi 5G NR n78: **<Ant. 2>:** -4.00 dBi **<Ant. 3>:** -0.92 dBi **<Ant. 4>:** -0.25 dBi **<Ant. 6>:** 0.65 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The maximum Conducted Power is calculated from max output power and max antenna gain, only the maximum Conducted Power is shown in the report, 5G NR n77/n78 for Antenna 4 and UL MIMO for Ant.(4+6).
2. The device supports n77/n78(1T4R) SRS resources on Ant.2/3/4/6, only the test data of worst Ant.4 is showed in the report according to the maximum power.
3. 5G NR n77 & n78 supports PC2.
4. 5G NR n77/n78 UL MIMO mode only supports CP-OFDM Modulation, and the UL MIMO mode is completely uncorrelated, the directional gain is selected the maximum gain among the MIMO antennas.
5. For n77/n78 UL MIMO mode, the conducted BE/Spurious are tested at single antenna port and add 10*log(N_{ANT}) according to KDB 662911 D01.
6. 5G NR n77/n78 support SA and NSA mode. The whole testing has assessed SA mode by referring to the higher conducted power for conducted test items.
7. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
8. The EN-DC mode combination could be referred to the product spec
9. For NSA mode of RSE testing, we only choose the combination of the maximum power among all NSA combinations to test.

1.3 Modification of EUT

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

1.4 Maximum EIRP and Emission Designator

5G NR n77		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)
20	3710.01 ~ 3969.99	0.4055	18M2G7D	0.3251	18M2W7D
30	3715.02 ~ 3964.98	0.4064	27M8G7D	0.3228	27M9W7D
40	3720.00 ~ 3960.00	0.4178	37M9G7D	0.3342	37M9W7D
50	3725.01 ~ 3954.99	0.3890	47M4G7D	0.3148	47M4W7D
60	3730.02 ~ 3949.98	0.3855	57M9G7D	0.3119	57M8W7D
70	3735.00 ~ 3945.00	0.3811	67M5G7D	0.3083	67M5W7D
80	3740.01 ~ 3939.99	0.3793	77M4G7D	0.3076	77M6W7D
90	3745.02 ~ 3934.98	0.3811	87M4G7D	0.3076	87M6W7D
100	3750.00 ~ 3930.00	0.4198	97M3G7D	0.3062	97M5W7D

5G NR n77 UL MIMO		QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	3710.01 ~ 3969.99	0.3172	18M2G7D	0.2874	18M3W7D
30	3715.02 ~ 3964.98	0.3119	27M8G7D	0.2834	27M9W7D
40	3720.00 ~ 3960.00	0.3108	37M8G7D	0.2804	37M9W7D
50	3725.01 ~ 3954.99	0.2967	47M5G7D	0.2735	47M6W7D
60	3730.02 ~ 3949.98	0.2972	57M9G7D	0.2600	57M9W7D
70	3735.00 ~ 3945.00	0.2893	67M4G7D	0.2655	67M6W7D
80	3740.01 ~ 3939.99	0.2904	77M5G7D	0.2572	77M7W7D
90	3745.02 ~ 3934.98	0.2874	87M7G7D	0.2596	87M7W7D
100	3750.00 ~ 3930.00	0.3206	97M3G7D	0.2635	97M7W7D

5G NR n78		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)
20	3710.01 ~ 3789.99	0.3936	18M2G7D	0.3097	18M2W7D
30	3715.02 ~ 3784.98	0.3936	27M8G7D	0.3155	27M9W7D
40	3720.00 ~ 3780.00	0.3899	37M9G7D	0.3266	37M9W7D
50	3725.01 ~ 3774.99	0.3724	47M4G7D	0.2992	47M4W7D
60	3730.02 ~ 3769.98	0.3639	57M9G7D	0.2951	57M8W7D
70	3735.00 ~ 3765.00	0.3681	67M5G7D	0.2965	67M5W7D
80	3740.01 ~ 3759.99	0.3707	77M4G7D	0.2931	77M6W7D
90	3745.02 ~ 3754.98	0.3648	87M4G7D	0.2911	87M6W7D
100	3750.00 ~ 3750.00	0.3972	97M3G7D	0.3126	97M5W7D

5G NR n78 UL MIMO		QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	3710.01 ~ 3789.99	0.2754	18M2G7D	0.2505	18M3W7D
30	3715.02 ~ 3784.98	0.2779	27M8G7D	0.2523	27M9W7D
40	3720.00 ~ 3780.00	0.2845	37M8G7D	0.2582	37M9W7D
50	3725.01 ~ 3774.99	0.2654	47M5G7D	0.2452	47M6W7D
60	3730.02 ~ 3769.98	0.2584	57M9G7D	0.2375	57M9W7D
70	3735.00 ~ 3765.00	0.2596	67M4G7D	0.2313	67M6W7D
80	3740.01 ~ 3759.99	0.2620	77M5G7D	0.2383	77M7W7D
90	3745.02 ~ 3754.98	0.2636	87M7G7D	0.2346	87M7W7D
100	3750.00 ~ 3750.00	0.2880	97M3G7D	0.2522	97M7W7D

Note:

1. All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.
2. 5G NR Band n77 overlaps the entire frequency range of Band n78, and n77 power > n78 power, therefore the conducted test results of n77 provided in this report cover n78.

1.5 Testing Location

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

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-KS 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.	03CH04-KS	AUDIX	E3	6.2009-8-24al

1.7 Applicable Standards

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

- 47 CFR Part 2, 27O
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

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

2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

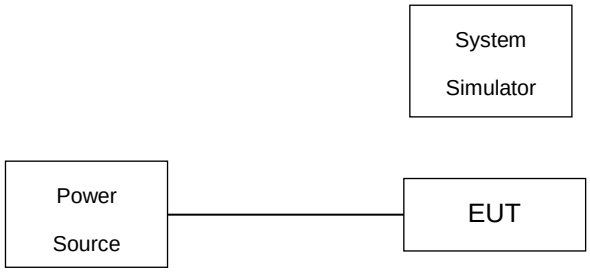
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

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.

Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			

Test Items	5G NR	Bandwidth (MHz)												Modulation					RB #		Test Channel		
		10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16 QAM	64 QAM	256 QAM	1	Full	L	M	H
Max. Output Power	n77	-	-	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n78	-	-	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n77	-	-	v	-					-			v	v	v				v			v	
26dB and 99% Bandwidth	n77	-	-	v	-	v	v	v	v	v	v	v	v		v	v	v	v		v		v	
Conducted Band Edge	n77	-	-		-			v					v	v	v	v			v	v	v		v
Conducted Spurious Emission	n77	-	-		-			v					v	v	v	v			v		v	v	v
Frequency Stability	n77	-	-	v	-										v					v		v	
E.I.R.P	n77	-	-	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n78	-	-	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n77	Worst Case																			v	v	v
Note	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. Based on engineering evaluation, only the worst modulations test results are shown in the report. 5. Frequency Stability: Normal Voltage: 3.85Vdc, Extreme Voltage: 3.50Vdc ~4.41Vdc.																						

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

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

2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	DC Power Supply	GW	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m

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 7.0 dB and 20dB attenuator.

Example :

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

= 7.0 + 20 = 27.0 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G n77 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000	656000	662000
	Frequency	3750	3840	3930
90	Channel	649668	656000	662332
	Frequency	3745.02	3840	3934.98
80	Channel	649334	656000	662666
	Frequency	3740.01	3840	3939.99
70	Channel	649000	656000	663000
	Frequency	3735	3840	3945
60	Channel	648668	656000	663332
	Frequency	3730.02	3840	3949.98
50	Channel	648334	656000	663666
	Frequency	3725.01	3840	3954.99
40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647668	656000	664332
	Frequency	3715.02	3840	3964.98
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99

5G n78 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel		650000	
	Frequency		3750	
90	Channel	649668	650000	650332
	Frequency	3745.02	3750	3754.98
80	Channel	649334	650000	650666
	Frequency	3740.01	3750	3759.99
70	Channel	649000	650000	651000
	Frequency	3735	3750	3765
60	Channel	648668	650000	651332
	Frequency	3730.02	3750	3769.98
50	Channel	648334	650000	651666
	Frequency	3725.01	3750	3774.99
40	Channel	648000	650000	652000
	Frequency	3720	3750	3780
30	Channel	647668	650000	652332
	Frequency	3715.02	3750	3784.98
20	Channel	647334	650000	652666
	Frequency	3710.01	3750	3789.99

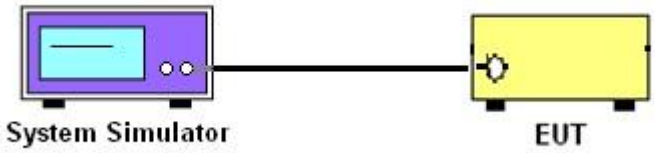
3 Conducted Test Items

3.1 Measuring Instruments

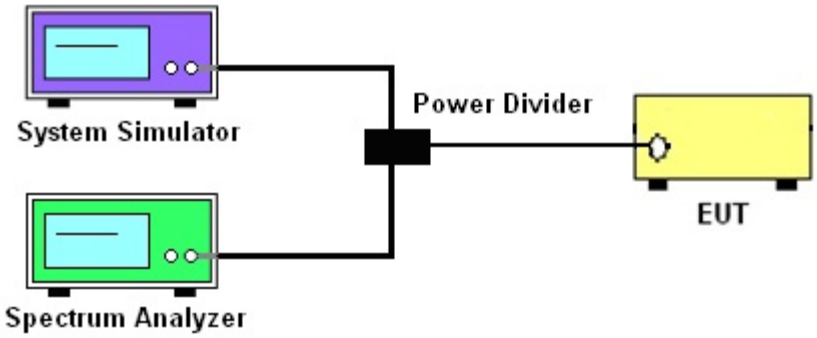
See list of measuring instruments of this test report.

3.2 Test Setup

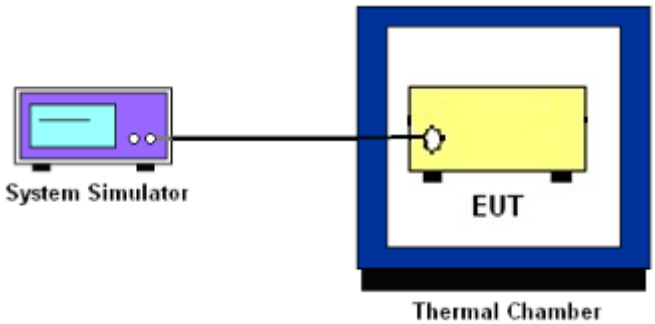
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and EIRP

3.4.1 Description of the Conducted Output Power Measurement and EIRP 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.

The EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n77/n78.

According to KDB 412172 D01 Power Approach,

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

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 Occupied Bandwidth

3.6.1 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.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. 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.
4. 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.
5. Set the detection mode to peak, and the trace mode to max hold.
6. 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)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. 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.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

27.53(l)(2)

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used or a narrower RBW was used (generally limited to no less than 1% of the OBW) and the measured power was integrated over the full required measurement bandwidth.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.
   Example:
   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
9. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10^{th} harmonic.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. 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.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

3.9 Frequency Stability

3.9.1 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.

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. 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.
4. 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.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

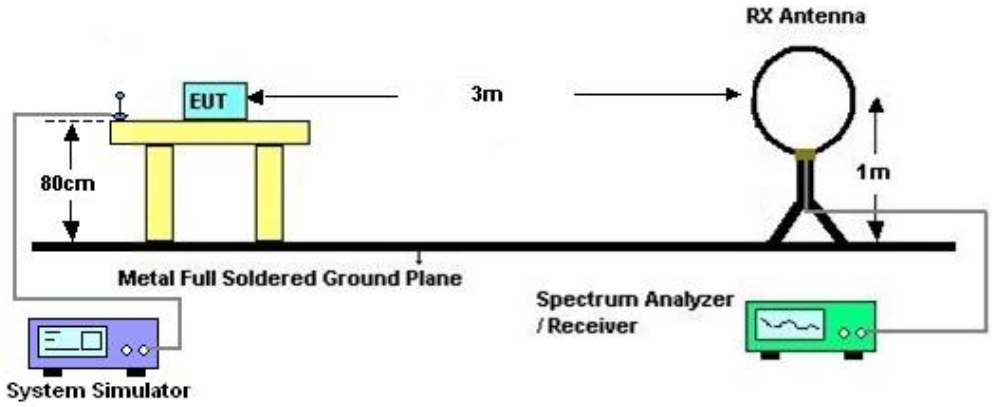
4 Radiated Test Items

4.1 Measuring Instruments

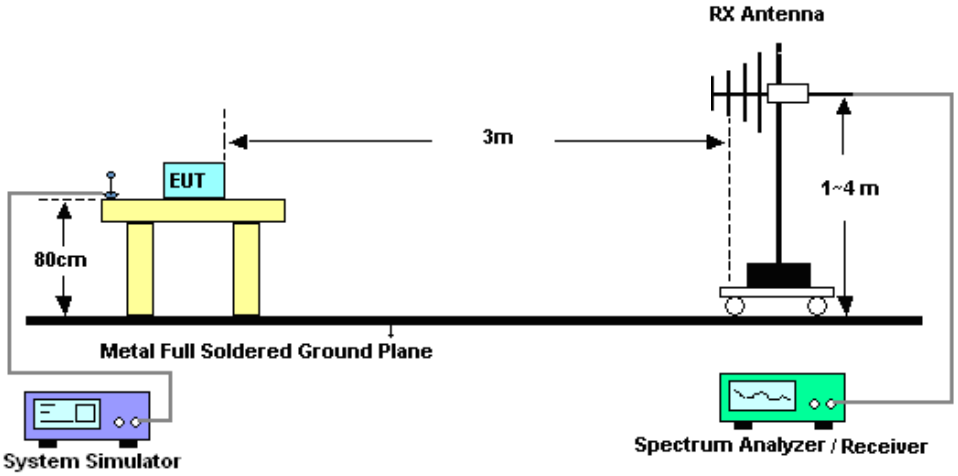
See list of measuring instruments of this test report.

4.2 Test Setup

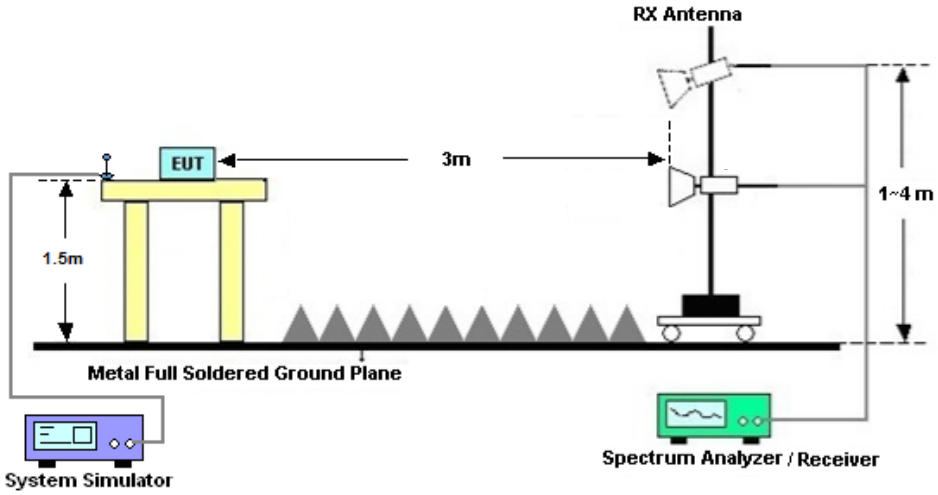
4.2.1 For radiated test below 30MHz



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

The radiated spurious emission was measured by substitution method according to ANSI C63.26. 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 43 + 10 log (P) dB.

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

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. 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.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

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	Jul. 16, 2024~ Jul. 17, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Jul. 16, 2024~ Jul. 17, 2024	NCR	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 04, 2024	Jul. 16, 2024~ Jul. 17, 2024	Jul. 03, 2025	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 11, 2023	Aug. 12, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11 2023	Aug. 12, 2024	Sep. 10, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Aug. 18, 2023	Aug. 12, 2024	Aug. 17, 2025	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 23, 2023	Aug. 12, 2024	Oct. 22, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 27, 2024	Aug. 12, 2024	Jan. 26, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	413740	9KHz-1GHz	Jan. 03, 2024	Aug. 12, 2024	Jan. 02, 2025	Radiation (03CH04-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Jan. 02, 2024	Aug. 12, 2024	Jan. 01, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 11, 2023	Aug. 12, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
Amplifier	EM	EM01G18GA	060892	1Ghz-18Ghz	Oct. 11, 2023	Aug. 12, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Aug. 12, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Aug. 12, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Aug. 12, 2024	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±2.26 dB
Occupied Channel Bandwidth	±0.1%
Conducted Power	±0.50 dB
Peak to Average Ratio	±0.50 dB
Frequency Stability	±0.04 ppm

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. Test Results of Conducted Test

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

Software Version: 23.06.1602

FR1 N77 (Ant4)

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-0.05dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	25.62	25.57	0.3606
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	25.55	25.5	0.3548
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	25.53	25.48	0.3532
77	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	25.62	25.57	0.3606
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	25.66	25.61	0.3639
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	25.55	25.5	0.3548
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	24.61	24.56	0.2858
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	24.72	24.67	0.2931
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	24.62	24.57	0.2864
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	23.13	23.08	0.2032
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	23.02	22.97	0.1982
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	22.93	22.88	0.1941
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	21.1	21.05	0.1274
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	20.98	20.93	0.1239
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	20.96	20.91	0.1233
77	30	100	650000	3750	CP-OFDM QPSK	137@68	24.02	23.97	0.2495
77	30	100	650000	3750	CP-OFDM QPSK	1@1	24.19	24.14	0.2594
77	30	100	650000	3750	CP-OFDM QPSK	1@271	23.98	23.93	0.2472

77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	25.76	25.71	0.3724
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.81	25.76	0.3767
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@271	25.57	25.52	0.3565
77	30	100	656000	3840	DFT-s-OFDM QPSK	135@67	25.81	25.76	0.3767
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@1	25.83	25.78	0.3784
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@271	25.62	25.57	0.3606
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	135@67	24.69	24.64	0.2911
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.89	24.84	0.3048
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@271	24.66	24.61	0.2891
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	135@67	23.18	23.13	0.2056
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.21	23.16	0.2070
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@271	22.97	22.92	0.1959
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	135@67	21.18	21.13	0.1297
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@1	21.13	21.08	0.1282
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@271	20.96	20.91	0.1233
77	30	100	656000	3840	CP-OFDM QPSK	137@68	24.12	24.07	0.2553
77	30	100	656000	3840	CP-OFDM QPSK	1@1	24.33	24.28	0.2679
77	30	100	656000	3840	CP-OFDM QPSK	1@271	24.1	24.05	0.2541
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	135@67	25.68	25.63	0.3656
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@1	25.77	25.72	0.3733
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@271	25.68	25.63	0.3656
77	30	100	662000	3930	DFT-s-OFDM QPSK	135@67	25.66	25.61	0.3639
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@1	26.28	26.23	0.4198

77	30	100	662000	3930	DFT-s-OFDM QPSK	1@271	25.75	25.7	0.3715
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	135@67	24.62	24.57	0.2864
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@1	24.91	24.86	0.3062
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@271	24.79	24.74	0.2979
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	135@67	23.17	23.12	0.2051
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@1	23.21	23.16	0.2070
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@271	23.08	23.03	0.2009
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	135@67	21.25	21.2	0.1318
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@1	21.14	21.09	0.1285
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@271	21.07	21.02	0.1265
77	30	100	662000	3930	CP-OFDM QPSK	137@68	24.21	24.16	0.2606
77	30	100	662000	3930	CP-OFDM QPSK	1@1	24.3	24.25	0.2661
77	30	100	662000	3930	CP-OFDM QPSK	1@271	24.11	24.06	0.2547
77	30	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	1@1	25.95	25.9	0.3890
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@1	26	25.95	0.3936
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@1	25.03	24.98	0.3148
77	30	20	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	26.09	26.04	0.4018
77	30	20	656000	3840	DFT-s-OFDM QPSK	1@1	26.13	26.08	0.4055
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.17	25.12	0.3251
77	30	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	1@1	25.96	25.91	0.3899
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@1	26.1	26.05	0.4027
77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@1	25.08	25.03	0.3184
77	30	30	647668	3715.02	DFT-s-OFDM PI/2 BPSK	1@1	26.03	25.98	0.3963

77	30	30	647668	3715.02	DFT-s-OFDM QPSK	1@1	26.07	26.02	0.3999
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	1@1	25.11	25.06	0.3206
77	30	30	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	26.01	25.96	0.3945
77	30	30	656000	3840	DFT-s-OFDM QPSK	1@1	26.08	26.03	0.4009
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.12	25.07	0.3214
77	30	30	664332	3964.98	DFT-s-OFDM PI/2 BPSK	1@1	26.02	25.97	0.3954
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	1@1	26.14	26.09	0.4064
77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@1	25.14	25.09	0.3228
77	30	40	648000	3720	DFT-s-OFDM PI/2 BPSK	1@1	26.19	26.14	0.4111
77	30	40	648000	3720	DFT-s-OFDM QPSK	1@1	26.26	26.21	0.4178
77	30	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	25.28	25.23	0.3334
77	30	40	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	26.16	26.11	0.4083
77	30	40	656000	3840	DFT-s-OFDM QPSK	1@1	26.21	26.16	0.4130
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.25	25.2	0.3311
77	30	40	664000	3960	DFT-s-OFDM PI/2 BPSK	1@1	26.15	26.1	0.4074
77	30	40	664000	3960	DFT-s-OFDM QPSK	1@1	26.26	26.21	0.4178
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	1@1	25.29	25.24	0.3342
77	30	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@1	25.89	25.84	0.3837
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	25.93	25.88	0.3873
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	25.03	24.98	0.3148
77	30	50	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.9	25.85	0.3846
77	30	50	656000	3840	DFT-s-OFDM QPSK	1@1	25.95	25.9	0.3890

77	30	50	656000	3840	DFT-s-OFDM 16 QAM	1@1	25	24.95	0.3126
77	30	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@1	25.83	25.78	0.3784
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@1	25.92	25.87	0.3864
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@1	24.97	24.92	0.3105
77	30	60	648668	3730.02	DFT-s-OFDM PI/2 BPSK	1@1	25.83	25.78	0.3784
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@1	25.91	25.86	0.3855
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	1@1	24.96	24.91	0.3097
77	30	60	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.88	25.83	0.3828
77	30	60	656000	3840	DFT-s-OFDM QPSK	1@1	25.91	25.86	0.3855
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.99	24.94	0.3119
77	30	60	663332	3949.98	DFT-s-OFDM PI/2 BPSK	1@1	25.72	25.67	0.3690
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@1	25.76	25.71	0.3724
77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	1@1	24.86	24.81	0.3027
77	30	70	649000	3735	DFT-s-OFDM PI/2 BPSK	1@1	25.72	25.67	0.3690
77	30	70	649000	3735	DFT-s-OFDM QPSK	1@1	25.82	25.77	0.3776
77	30	70	649000	3735	DFT-s-OFDM 16 QAM	1@1	24.81	24.76	0.2992
77	30	70	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.84	25.79	0.3793
77	30	70	656000	3840	DFT-s-OFDM QPSK	1@1	25.75	25.7	0.3715
77	30	70	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.84	24.79	0.3013
77	30	70	663000	3945	DFT-s-OFDM PI/2 BPSK	1@1	25.82	25.77	0.3776
77	30	70	663000	3945	DFT-s-OFDM QPSK	1@1	25.86	25.81	0.3811
77	30	70	663000	3945	DFT-s-OFDM 16 QAM	1@1	24.94	24.89	0.3083

77	30	80	649334	3740.01	DFT-s-OFDM PI/2 BPSK	1@1	25.74	25.69	0.3707
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	1@1	25.74	25.69	0.3707
77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	1@1	24.72	24.67	0.2931
77	30	80	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.77	25.72	0.3733
77	30	80	656000	3840	DFT-s-OFDM QPSK	1@1	25.84	25.79	0.3793
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.93	24.88	0.3076
77	30	80	662666	3939.99	DFT-s-OFDM PI/2 BPSK	1@1	25.77	25.72	0.3733
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	1@1	25.79	25.74	0.3750
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	1@1	24.73	24.68	0.2938
77	30	90	649668	3745.02	DFT-s-OFDM PI/2 BPSK	1@1	25.64	25.59	0.3622
77	30	90	649668	3745.02	DFT-s-OFDM QPSK	1@1	25.77	25.72	0.3733
77	30	90	649668	3745.02	DFT-s-OFDM 16 QAM	1@1	24.76	24.71	0.2958
77	30	90	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.81	25.76	0.3767
77	30	90	656000	3840	DFT-s-OFDM QPSK	1@1	25.84	25.79	0.3793
77	30	90	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.93	24.88	0.3076
77	30	90	662332	3934.98	DFT-s-OFDM PI/2 BPSK	1@1	25.8	25.75	0.3758
77	30	90	662332	3934.98	DFT-s-OFDM QPSK	1@1	25.86	25.81	0.3811
77	30	90	662332	3934.98	DFT-s-OFDM 16 QAM	1@1	24.83	24.78	0.3006

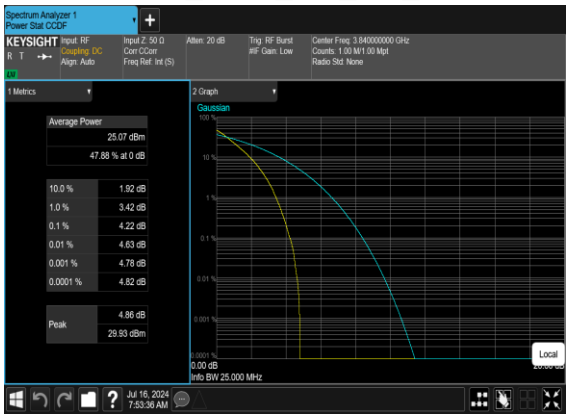
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.0027	**PASS**	NV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.0012	**PASS**	LV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0015	**PASS**	HV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0039	**PASS**	-30℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.0015	**PASS**	-20℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0034	**PASS**	-10℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0031	**PASS**	0℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.0018	**PASS**	10℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.0043	**PASS**	20℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.0024	**PASS**	30℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.0029	**PASS**	40℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	0.0031	**PASS**	50℃

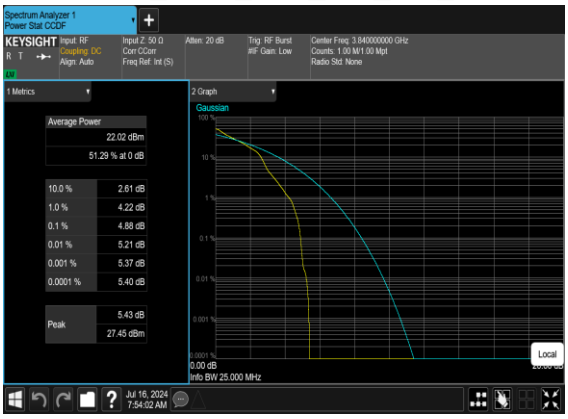
Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	50@0	4.22	13	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	1@0	4.88	13	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	5.24	13	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	4.16	13	**PASS**

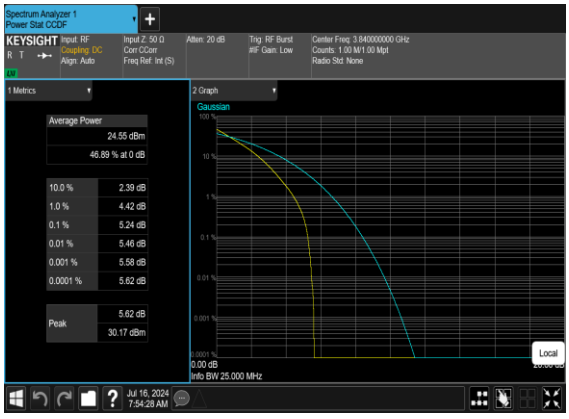
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



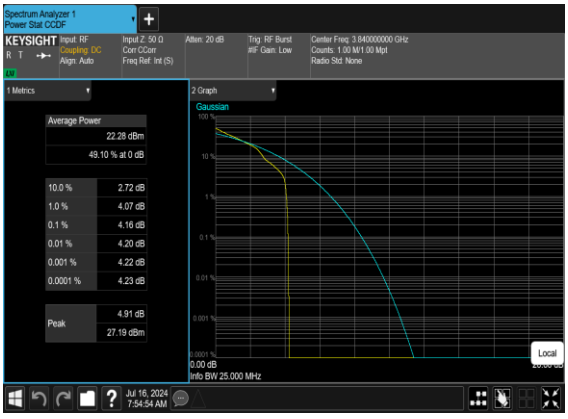
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

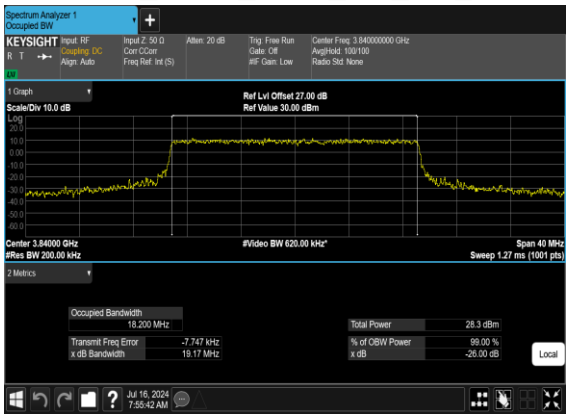


Occupied Bandwidth

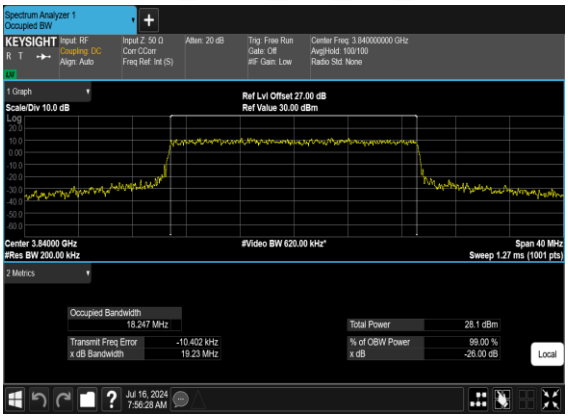
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	20	656000	3840.0	CP-OFDM QPSK	51@0	18.2	19.17
77	30	20	656000	3840.0	CP-OFDM 16 QAM	51@0	18.247	19.23
77	30	20	656000	3840.0	CP-OFDM 64 QAM	51@0	18.186	19.47
77	30	20	656000	3840.0	CP-OFDM 256 QAM	51@0	18.163	19.22
77	30	30	656000	3840.0	CP-OFDM QPSK	78@0	27.825	29.01
77	30	30	656000	3840.0	CP-OFDM 16 QAM	78@0	27.81	29.04
77	30	30	656000	3840.0	CP-OFDM 64 QAM	78@0	27.874	28.8
77	30	30	656000	3840.0	CP-OFDM 256 QAM	78@0	27.821	28.85
77	30	40	656000	3840.0	CP-OFDM QPSK	106@0	37.883	39.24
77	30	40	656000	3840.0	CP-OFDM 16 QAM	106@0	37.805	39.33
77	30	40	656000	3840.0	CP-OFDM 64 QAM	106@0	37.765	39.07
77	30	40	656000	3840.0	CP-OFDM 256 QAM	106@0	37.868	39.16
77	30	50	656000	3840.0	CP-OFDM QPSK	133@0	47.358	49.39
77	30	50	656000	3840.0	CP-OFDM 16 QAM	133@0	47.37	49.25
77	30	50	656000	3840.0	CP-OFDM 64 QAM	133@0	47.357	49.07
77	30	50	656000	3840.0	CP-OFDM 256 QAM	133@0	47.449	49.18
77	30	60	656000	3840.0	CP-OFDM QPSK	162@0	57.948	59.99
77	30	60	656000	3840.0	CP-OFDM 16 QAM	162@0	57.765	59.71
77	30	60	656000	3840.0	CP-OFDM 64 QAM	162@0	57.803	59.74
77	30	60	656000	3840.0	CP-OFDM 256 QAM	162@0	57.838	59.96
77	30	70	656000	3840.0	CP-OFDM QPSK	189@0	67.521	69.82
77	30	70	656000	3840.0	CP-OFDM 16 QAM	189@0	67.512	70.01
77	30	70	656000	3840.0	CP-OFDM 64 QAM	189@0	67.338	69.69

77	30	70	656000	3840.0	CP-OFDM 256 QAM	189@0	67.474	69.77
77	30	80	656000	3840.0	CP-OFDM QPSK	217@0	77.445	79.92
77	30	80	656000	3840.0	CP-OFDM 16 QAM	217@0	77.646	80.04
77	30	80	656000	3840.0	CP-OFDM 64 QAM	217@0	77.381	79.91
77	30	80	656000	3840.0	CP-OFDM 256 QAM	217@0	77.485	80.01
77	30	90	656000	3840.0	CP-OFDM QPSK	245@0	87.411	90.22
77	30	90	656000	3840.0	CP-OFDM 16 QAM	245@0	87.267	90.26
77	30	90	656000	3840.0	CP-OFDM 64 QAM	245@0	87.462	90.25
77	30	90	656000	3840.0	CP-OFDM 256 QAM	245@0	87.603	90.27
77	30	100	656000	3840.0	CP-OFDM QPSK	273@0	97.337	100.4
77	30	100	656000	3840.0	CP-OFDM 16 QAM	273@0	97.354	100.5
77	30	100	656000	3840.0	CP-OFDM 64 QAM	273@0	97.481	100.4
77	30	100	656000	3840.0	CP-OFDM 256 QAM	273@0	97.495	100.3

N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



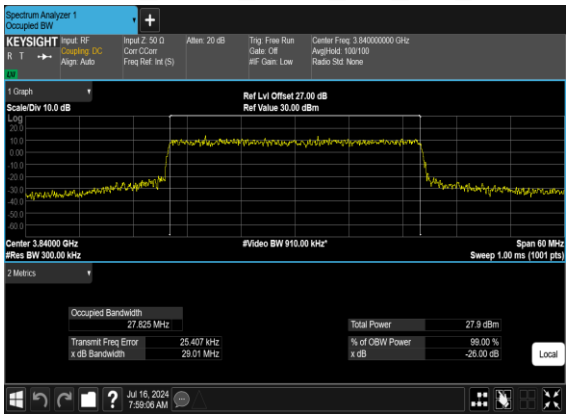
N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N77(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

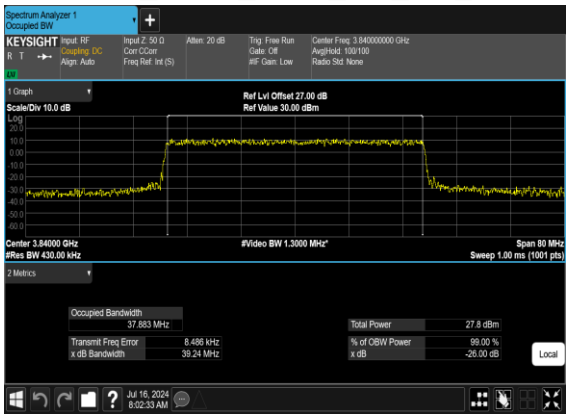


N77(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

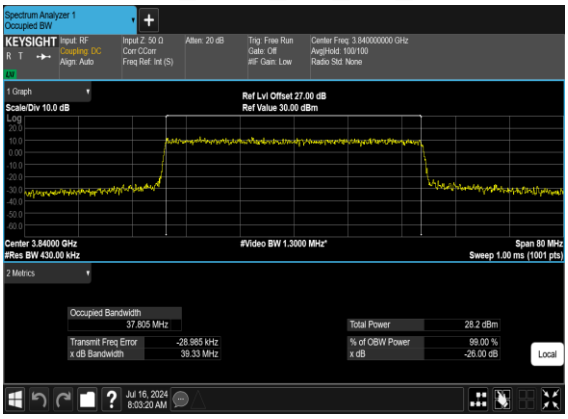
N77(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

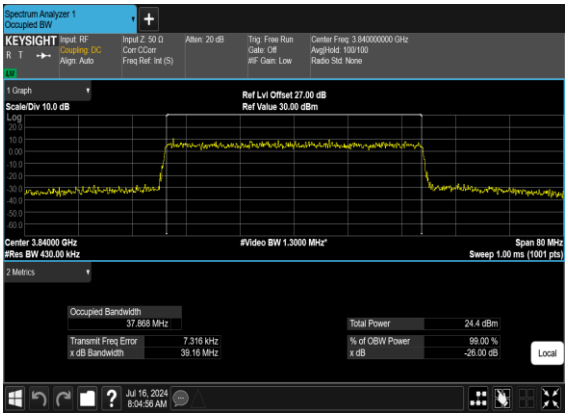


N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

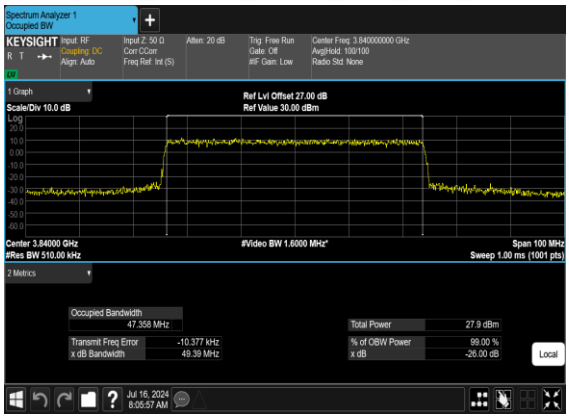


N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

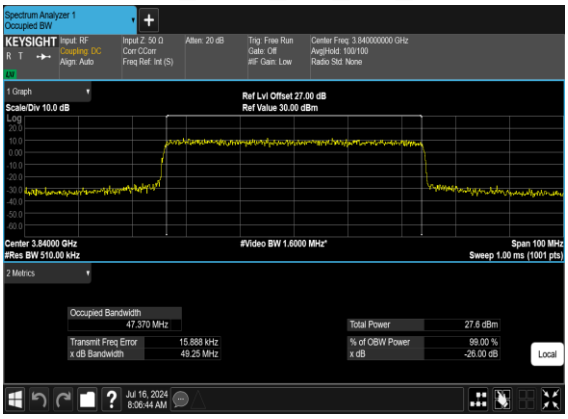
N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



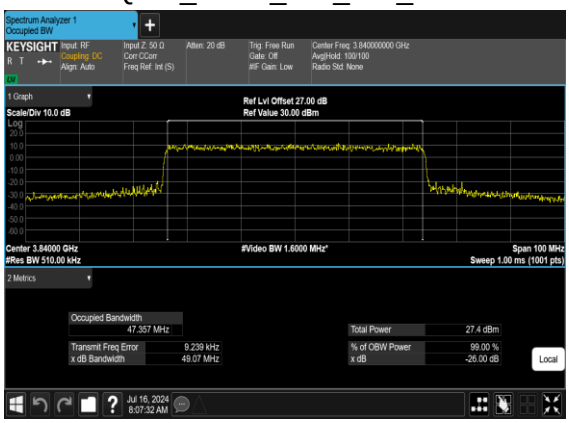
N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



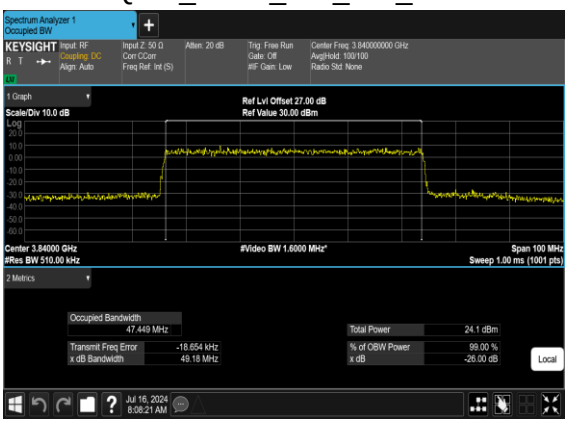
N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

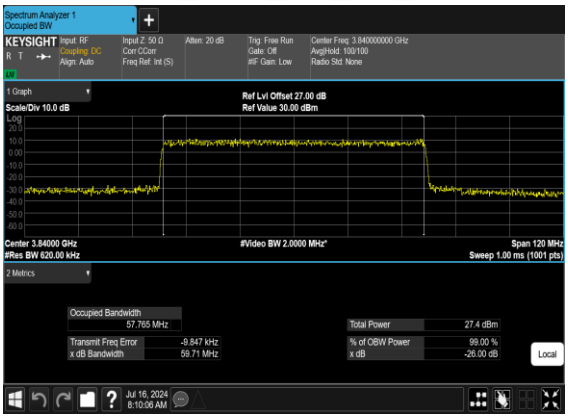


N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N77(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

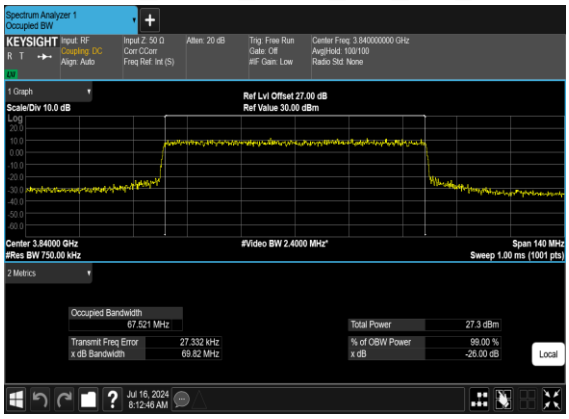
N77(60M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



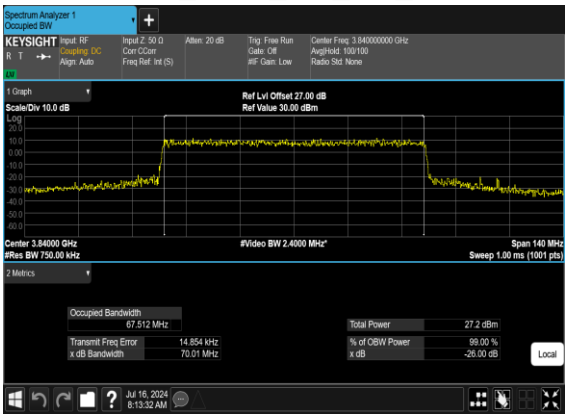
N77(60M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N77(70M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



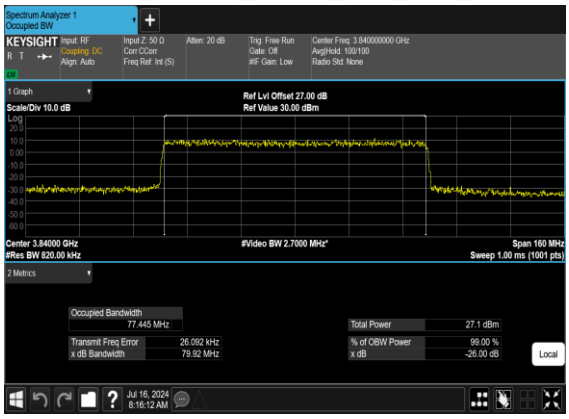
N77(70M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(70M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(70M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

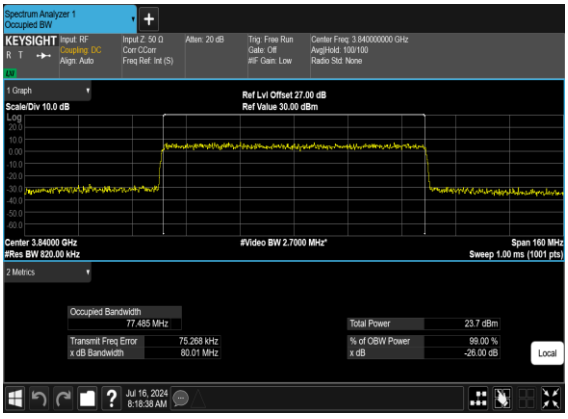
N77(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



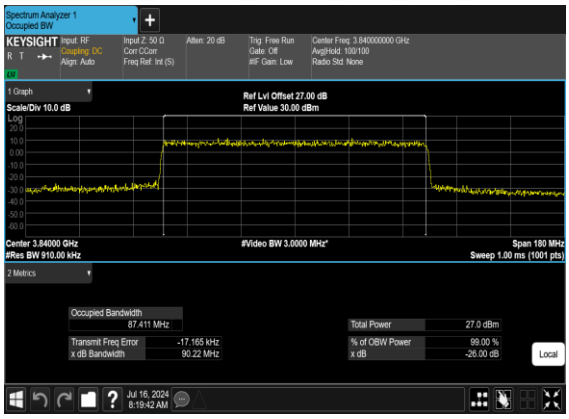
N77(80M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

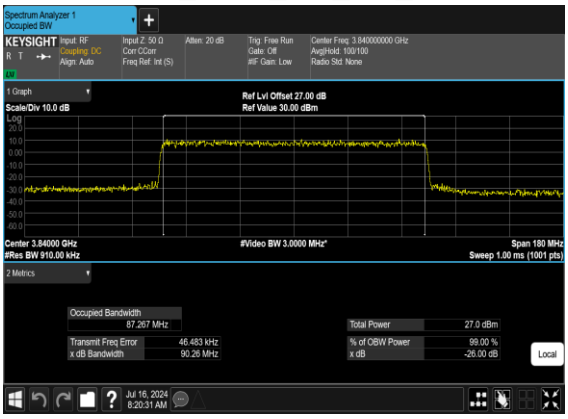
N77(80M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



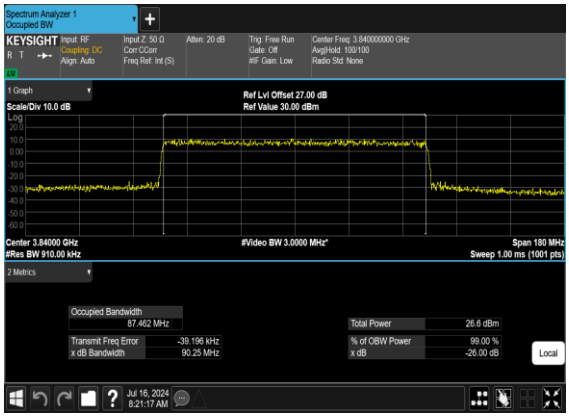
N77(90M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



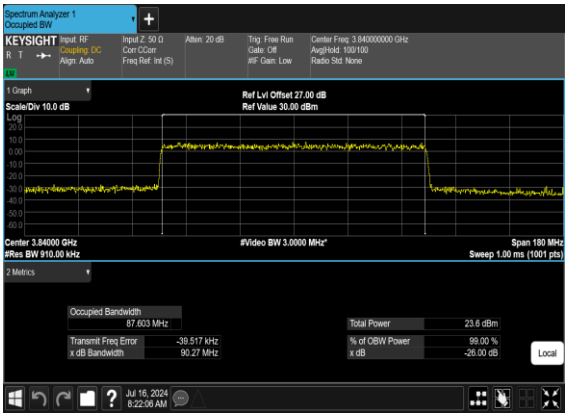
N77(90M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



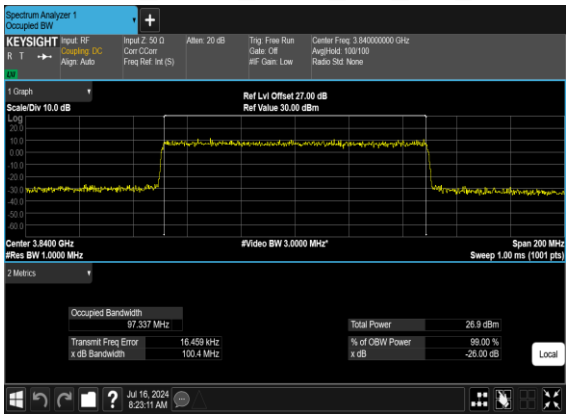
N77(90M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



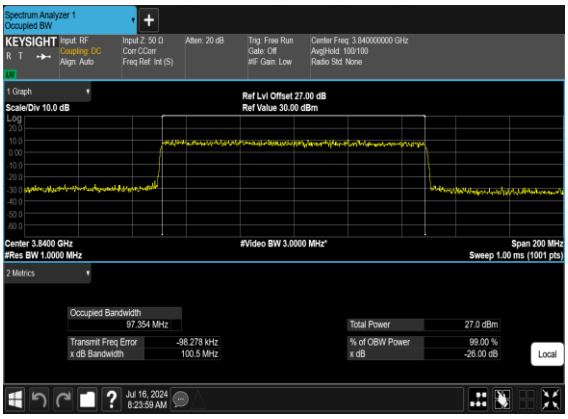
N77(90M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



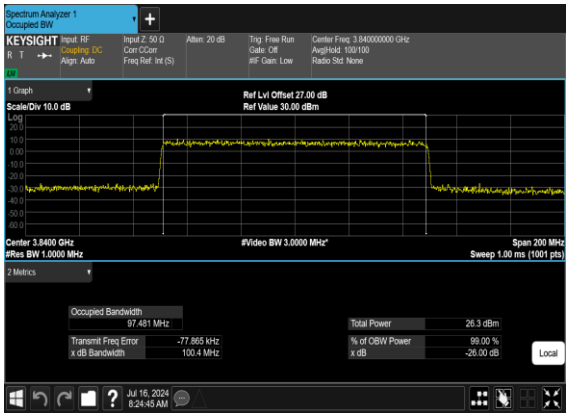
N77(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



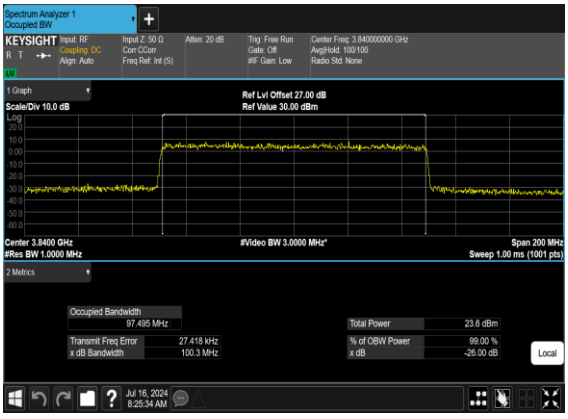
N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



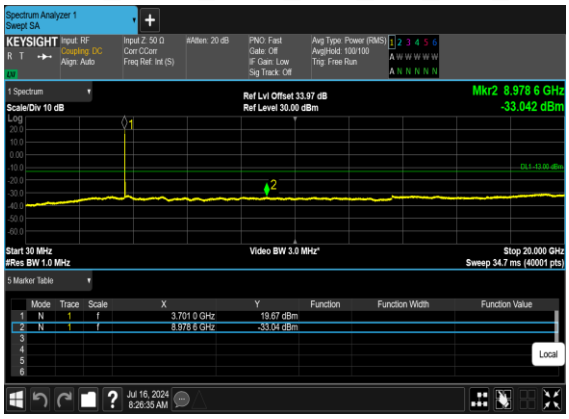
Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	20	664666	3969.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	648668	3730.02	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	60	648668	3730.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**

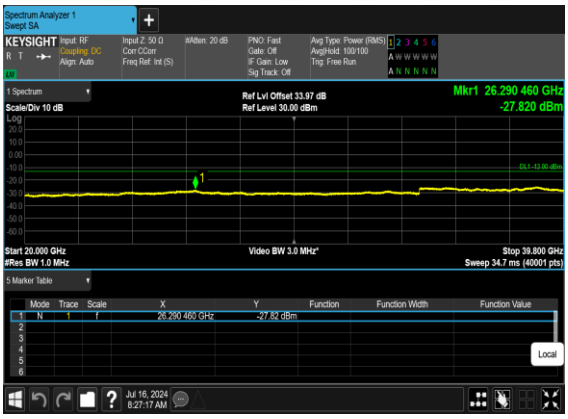
77	30	60	648668	3730.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	60	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	60	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	663332	3949.98	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	60	663332	3949.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	663332	3949.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

77	30	100	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	100	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

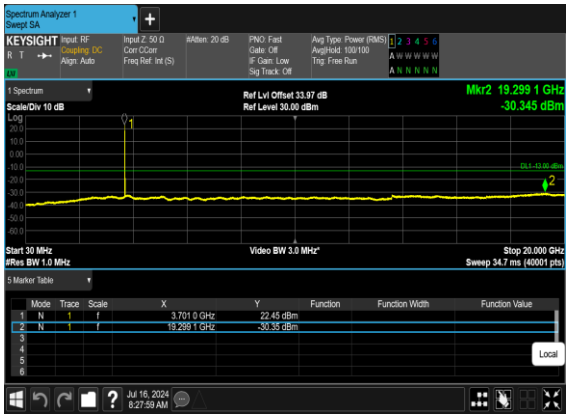
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



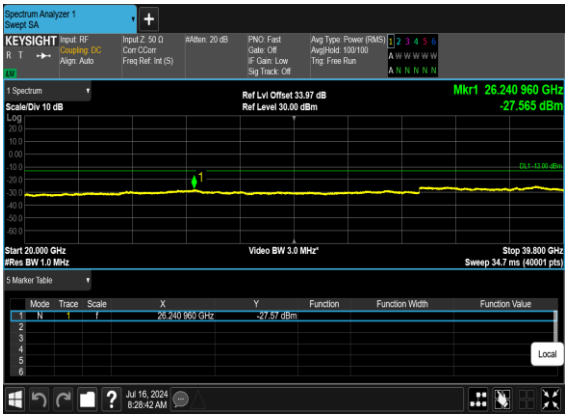
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



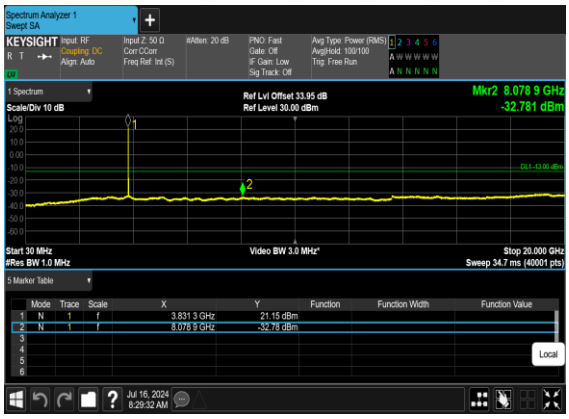
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



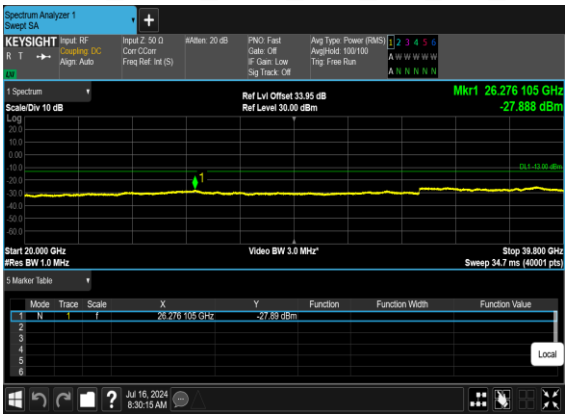
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



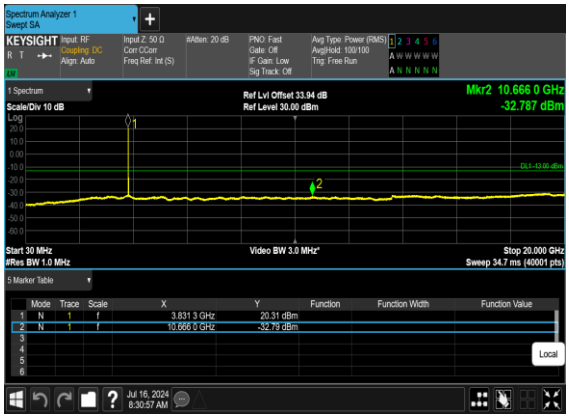
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



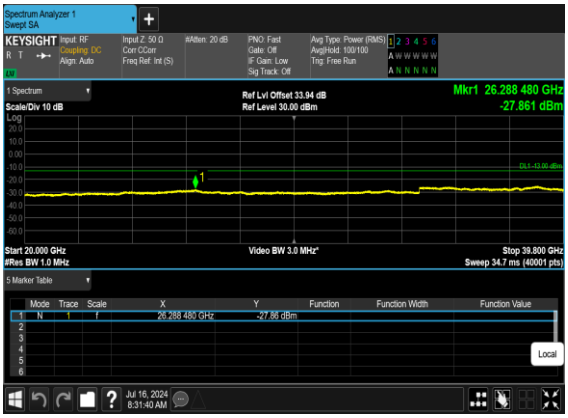
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



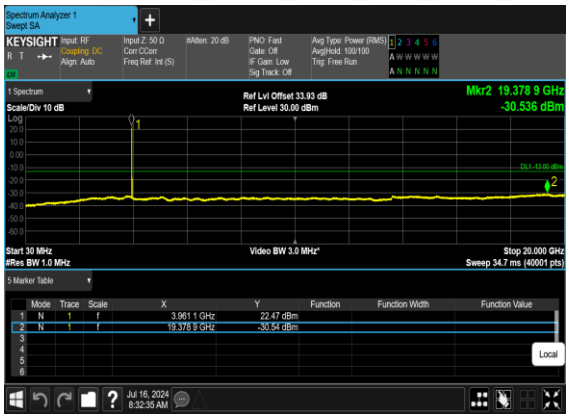
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



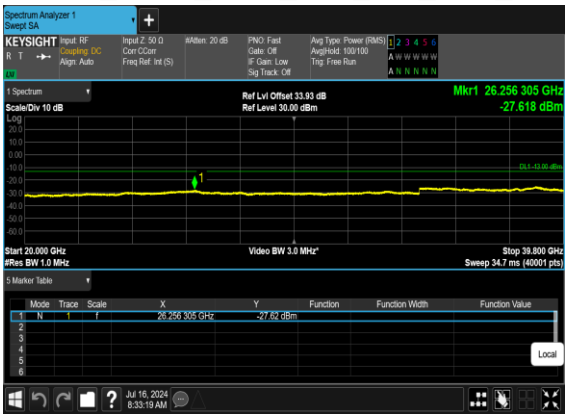
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



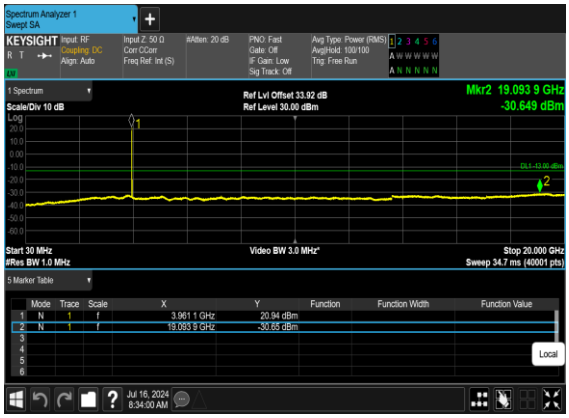
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



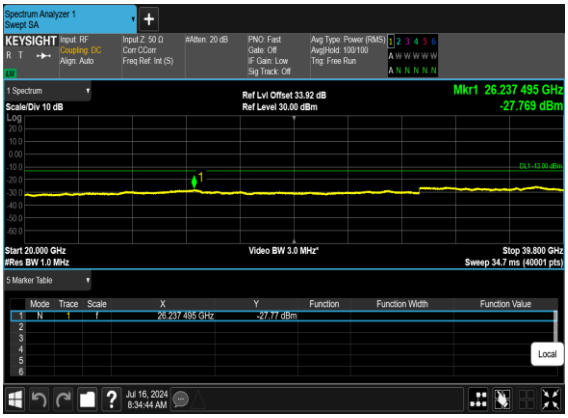
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



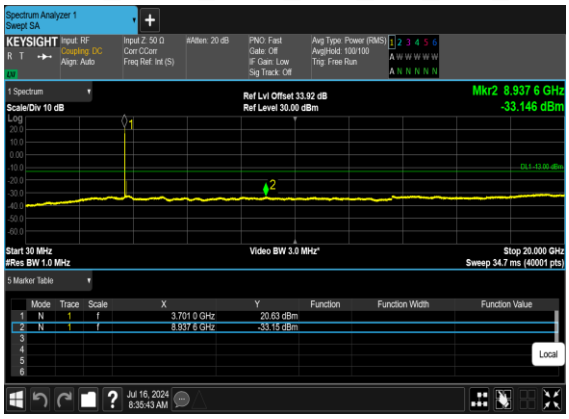
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



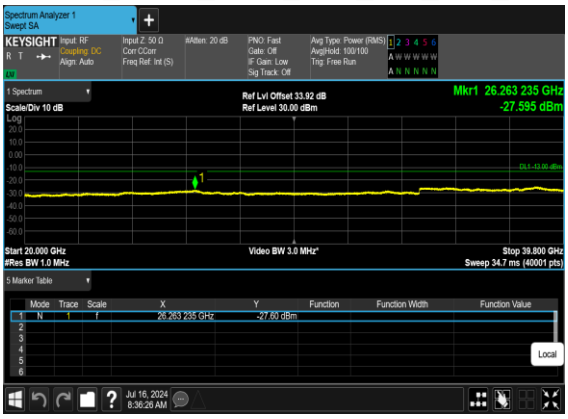
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



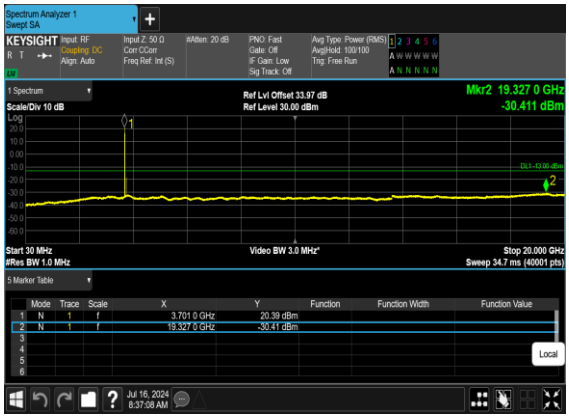
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



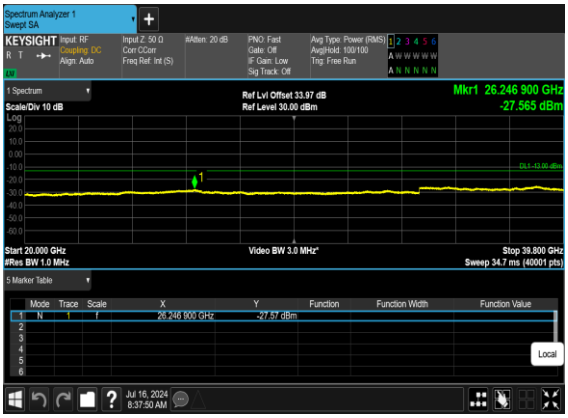
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



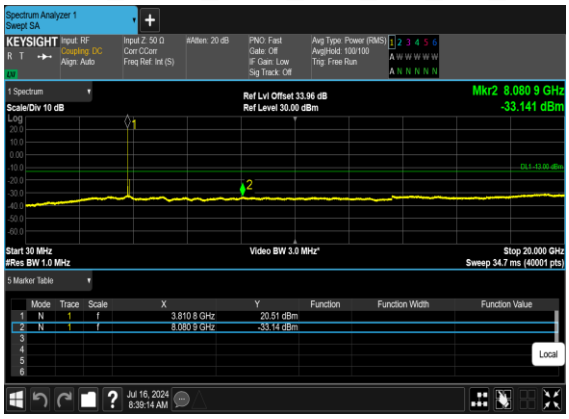
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



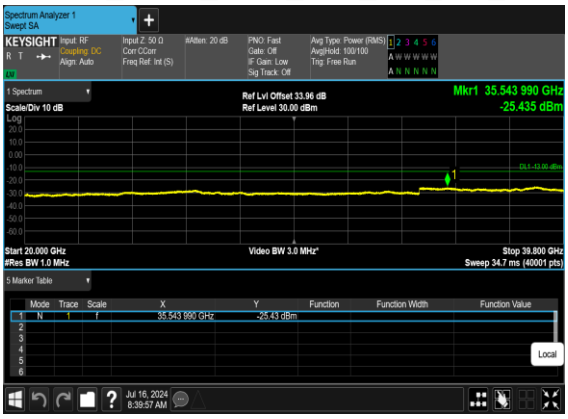
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



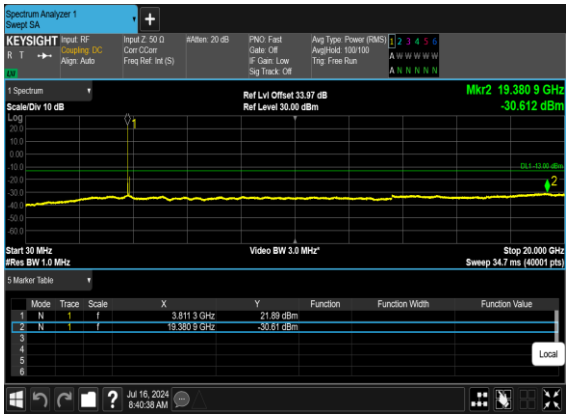
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



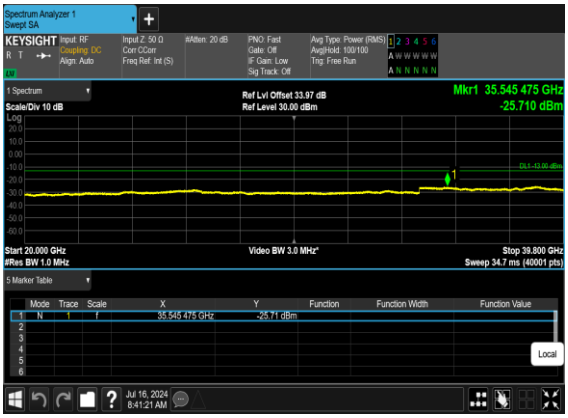
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



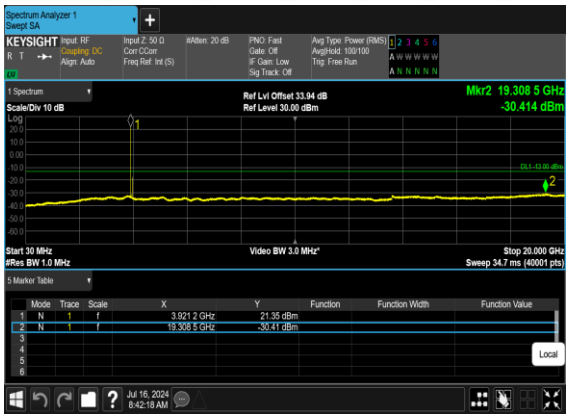
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



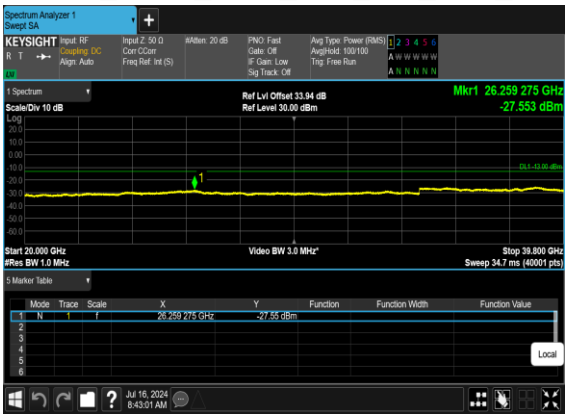
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



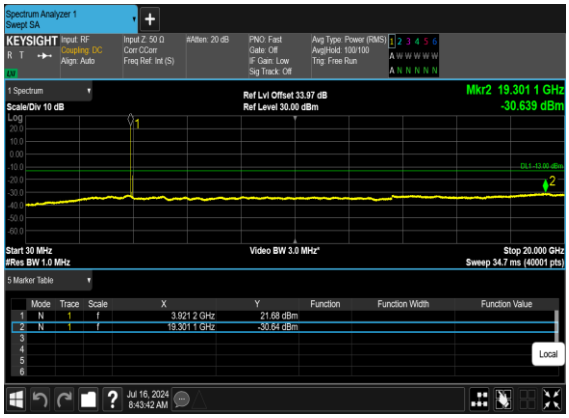
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



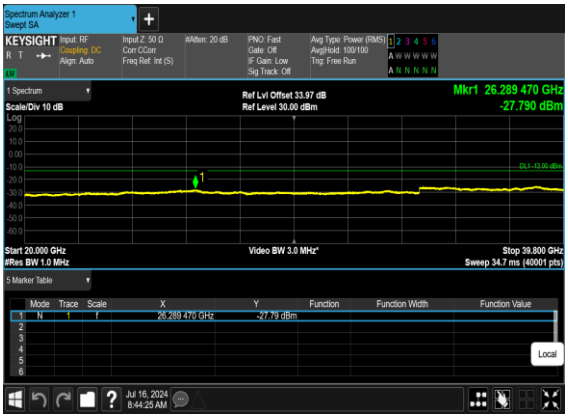
N77(60M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



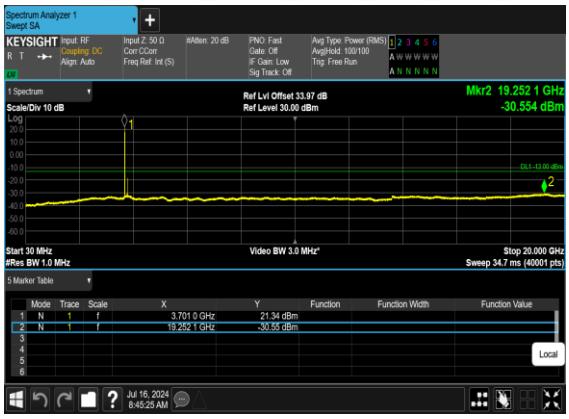
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



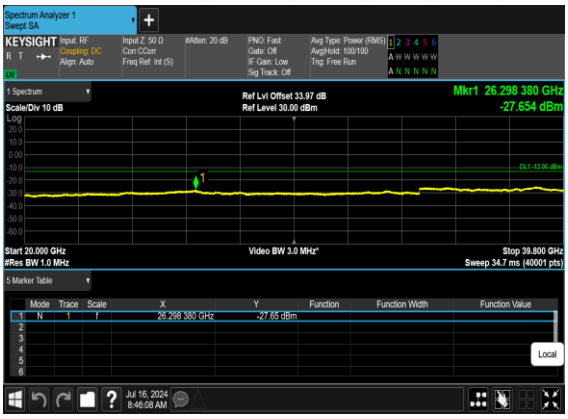
N77(60M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



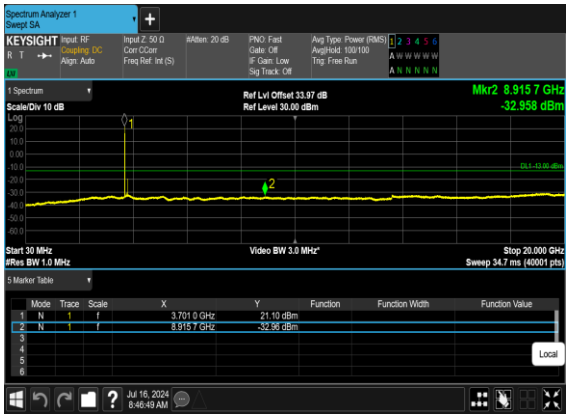
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



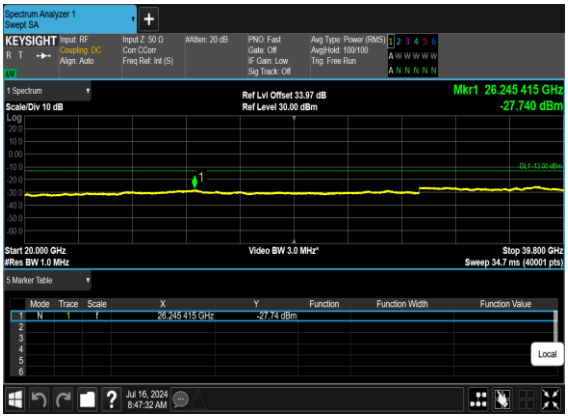
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



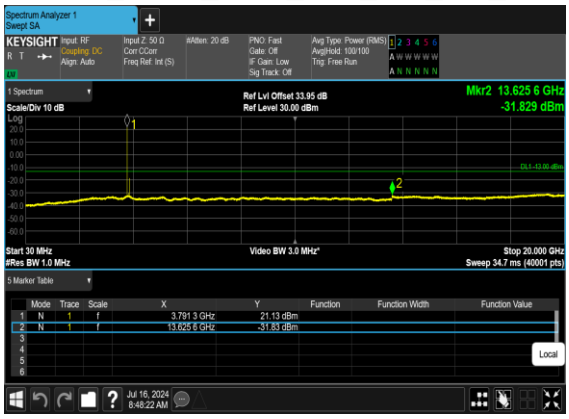
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



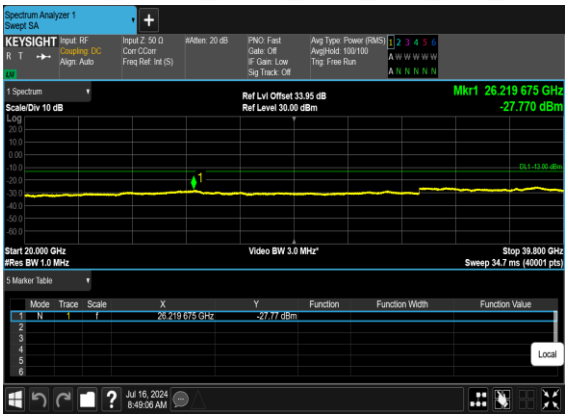
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



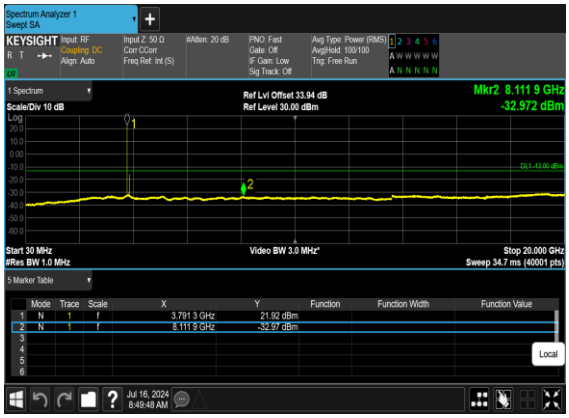
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH