Spot Check Evaluation

FCC ID	:	**UZ7EM45A1**
EQUIPMENT	:	**Enterprise Mobile**
BRAND NAME	:	**Zebra**
MODEL NAME	:	**EM45A1**
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(D), 27(H), 27(F), 27(M), 27(N), 27(O), 27(Q), 90(S), 90(R), 96** **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

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG460505-02L	Rev. 01	Initial issue of report	Feb. 12, 2025

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Enterprise Mobile
Brand Name	Zebra
Model Name	EM45A1
FCC ID	UZ7EM45A1
IMEI Code	Conducted: 354708620060822/354708620063123 Conduction: 354708620060426/354708620064352 Radiation: 354708620060269/ 354708620064113 DFS/CBP: 354708620060657/354708620063206
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(D), 27(H), 27(F), 27(M), 27(N), 27(O), 27(Q), 90(S), 90(R), 96
- 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: EM45A1, FCC ID: UZ7EM45A1) is electrically identical to the reference device (Model: EM45A2, FCC ID: UZ7EM45A2) 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 FA460505-02.

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: UZ7EM45A1.

2.2 Model Difference Information

The **main** difference between FCC ID: UZ7EM45A2 and FCC ID: UZ7EM45A1 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 (UZ7EM45A1 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	UZ7EM45A2	Full test	FR460505A	UZ7EM45A1	Spot check	Y, All test items
	DTS (BLE)	2400~2483.5	UZ7EM45A2	Full test	FR460505B	UZ7EM45A1	Spot check	Y, All test items
	DTS (WLAN)	2400~2483.5	UZ7EM45A2	Full test	FR460505C	UZ7EM45A1	Spot check	Y, All test items
	DXX (NFC)	13.56	UZ7EM45A2	Full test	FR460505D	UZ7EM45A1	Spot check	Y, All test items
15E	U-NII	5180~5240	UZ7EM45A2	Full test	FR460505E	UZ7EM45A1	Spot check	Y, All test items
		5260~5320	UZ7EM45A2	Full test	FR460505E	UZ7EM45A1	Spot check	Y, All test items
		5500~5720	UZ7EM45A2	Full test	FR460505E	UZ7EM45A1	Spot check	Y, All test items
		5745~5825	UZ7EM45A2	Full test	FR460505E	UZ7EM45A1	Spot check	Y, All test items
		5260~5320 5500~5720	UZ7EM45A2	Full test	FZ460505	UZ7EM45A1	Spot check	Y, All test items
	6CD	5925~7125	UZ7EM45A2	Full test	FR460505G FR460505H	UZ7EM45A1	Spot check	Y, All test items
22, 24, 27, 90, 96,	PCE (WCDMA)	Band II, IV, V	UZ7EM45A2	Full test	FG460505A	UZ7EM45A1	Spot check	Y, All test items
	PCE (LTE)	B2/4/5/7/12/13/17/25/26/30/38/41/66/71 ULCA 5B/7C/38C 41C/66B/66C	UZ7EM45A2	Full test	FG460505B FG460505C FG460505D FG460505G FG460505J	UZ7EM45A1	Spot check	Y, All test items
	PCE (LTE)	B14 (90R)	UZ7EM45A2	Full test	FG460505E	UZ7EM45A1	Spot check	Y, All test items
	PCE (LTE)	B26 (90S)	UZ7EM45A2	Full test	FG460505F	UZ7EM45A1	Spot check	Y, All test items
	CBE (LTE)	B48/48C (Part96)	UZ7EM45A2	Full test	FG460505H FG460505I	UZ7EM45A1	Spot check	Y, All test items
	PCE (NR)	n2/n5/n7/n12/n13/n25/n26/n30/n38/n41/n66/n71/n77/n78	UZ7EM45A2	Full test	FG460505K FG460505L FG460505O FG460505R FG460505S	UZ7EM45A1	Spot check	Y, All test items
	PCE (NR)	n14 (90R)	UZ7EM45A2	Full test	FG460505M	UZ7EM45A1	Spot check	Y, All test items
	PCE (NR)	n26 (90S)	UZ7EM45A2	Full test	FG460505N	UZ7EM45A1	Spot check	Y, All test items
	CBE (NR)	n48/n77/n78 (Part96)	UZ7EM45A2	Full test	FG460505P FG460505Q	UZ7EM45A1	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	UZ7EM45A2 Parent Worst mode Test Result	UZ7EM45A1 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
BT 1Mbps (CH78)	Number of Channels	79	79	0	3
	Hopping Channel Separation	0.996	1.004	0.008	3
	Dwell Time of Each Channel	0.31	0.31	0	3
	20dB Bandwidth	0.94	0.94	0	3
	99% Bandwidth	0.836	0.845	0.009	3
	Conducted Band Edges	-41.83	-44.27	2.44	3
	Conducted Spurious Emission	-45.65	-48	2.35	3
BT 1Mbps (CH39)	Radiated Band Edges and Radiated Spurious Emission	55.68	56.85	1.17	3
BT	AC Conducted Emission	11.93	10.83	1.1	3
BLE 1Mbps (CH39)	6dB Bandwidth	1.15	1.15	0	3
	99% Bandwidth	2.01	2.014	0.004	3
	Power Spectral Density	-9.33	-9.34	0.01	3
	Conducted Band Edges	-33.74	-33.98	0.24	3
	Conducted Spurious Emission	-51.53	-52.95	1.42	3
BLE 2Mbps (CH39)	Radiated Band Edges and Spurious Emission	47.73	46.09	1.46	3
BLE	AC Conducted Emission	11.93	10.83	1.1	3
WIFI 2.4G (802.11b CH11)	6dB Bandwidth	8.08	8.08	0	3
	99% Bandwidth	13.467	13.387	0.08	3
	Power Spectral Density	-1.15	-1.27	0.12	3
	Conducted Band Edges	-47.96	-48.2	0.24	3
	Conducted Spurious Emission	-43.67	-45.68	2.01	3
WIFI 2.4G (802.11ax HE20 CH11)	Radiated Band Edges and Spurious Emission	52.29	49.61	2.68	3
WIFI 2.4G	AC Conducted Emission	11.93	10.83	1.1	3
WIFI 5G (802.11a CH149)	26dB Bandwidth	19.29	19.2	0.09	3
WIFI 5G (802.11a CH149)	99% Bandwidth	16.705	16.705	0	3
WIFI 5G (802.11a CH149)	Power Spectral Density	8.3	7.99	0.31	3
WIFI 5G (802.11a CH149)	Unwanted Emissions	16.31	16.31	0	3
WIFI 5G (11ax HE80 Ch42)	Radiated Band Edges and Spurious Emission	50.86	50.93	0.07	3
WIFI 5G	AC Conducted Emission	12.50	11.33	1.17	3
WIFI 5G (802.11a CH116)	DFS	0.851628	0.87852	0.026	3
FCC-WIFI 6G UNII-5 (802.11ax HE80 CH47 6185MHz)-6XD	26dB Emission Bandwidth	165.79	165.41	0.38	3
	99% Occupied Bandwidth	157.105	157.257	0.152	3
	Fundamental Maximum EIRP	17.30	17.00	0.30	3
	Fundamental Power Spectral Density	-3.33	-5.16	1.83	3
	In-Band Emissions	-12.47	-11.09	1.38	3

FCC-WIFI 6G UNII-5 (802.11ax HE80 CH47 6185MHz)-6CD	26dB Emission Bandwidth	165.79	165.41	0.38	3
	99% Occupied Bandwidth	157.105	157.257	0.152	3
	Fundamental Maximum EIRP	17.30	17.04	0.26	3
	Fundamental Power Spectral Density	-3.33	-5.16	1.83	3
	In-Band Emissions	-12.47	-11.09	1.38	3
WIFI 6G UNII-5 (802.11ax HE160 CH47 6185MHz)	Contention Based Protocol	-65.36	-65.88	0.52	3
6E (802.11ax HE20_Ch233)	Radiated Band Edges and Spurious Emission	66.93	67.17	0.24	3
WIFI 6G	AC Conducted Emission	11.52	12.62	1.1	3
Part 15C NFC	20dB Spectrum Bandwidth	2.48	2.48	0	3
	99% OBW Spectrum Bandwidth	2.10	2.11	0.01	3
	Frequency Stability	-22.9351	-20.8333	2.1018	3
	Field Strength of Fundamental Emissions	58.04	58.19	0.15	3
	Radiated Spurious Emissions	33.28	35.09	1.81	3
	AC Conducted Emissions	11.94	11.86	0.06	3

Mode	Test Item	UZ7EM45A2 Parent Worst mode Test Result	UZ7EM45A1 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
Part 96 SA_n77	Radiated Spurious Emission	-43.4	-43.69	0.29	3
Part 96 SA_n48	End User Device additional requirement	Pass	Pass	-	-
Part96 Band48CA	Equivalent Isotropic Radiated Power	20.99	20.96	0.203	3
	Peak-to-Average Ratio	6.43	6.22	0.21	3
	Occupied Bandwidth	32.80	32.80	0.00	3
	Conducted Band Edge	-40.19	-40.98	0.79	3
	Conducted Spurious Emission	-48.81	-47.65	1.16	3
	Frequency Stability	0.0005	0.0011	0.0006	3

Conducted power for Unlicensed bands

Test Item	Mode	UZ7EM45A2 Parent Worst mode Test Result	UZ7EM45A1 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
Conducted Power (dBm)	BT BR/EDR	9.32	8.85	0.47	3
	BLE 1Mbps	9.12	8.87	0.25	3
	BLE 2Mbps	9.33	9.00	0.33	3
	11b, 2.4GHz	22.51	22.46	0.05	3
	11g, 2.4GHz	21.97	21.92	0.05	3
	11n HT20, 2.4GHz	21.27	21.20	0.07	3
	11ac VHT20, 2.4GHz	21.31	21.25	0.06	3
	11ax HE20, 2.4GHz	21.33	21.31	0.02	3
	11a, 5.2GHz	22.28	22.15	0.13	3
	11a, 5.3GHz	22.27	22.08	0.19	3
	11a, 5.5GHz	22.41	22.22	0.19	3
	11a, 5.8GHz	22.45	22.39	0.06	3
	11n HT20, 5.2GHz	21.20	21.11	0.09	3
	11n HT20, 5.3GHz	20.56	20.27	0.29	3
	11n HT20, 5.5GHz	21.42	21.01	0.41	3
	11n HT20, 5.8GHz	21.51	21.14	0.37	3
	11ac VHT20, 5.2GHz	21.25	21.16	0.09	3
	11ac VHT20, 5.3GHz	20.62	20.31	0.31	3
	11ac VHT20, 5.5GHz	21.46	21.04	0.42	3
	11ac VHT20, 5.8GHz	21.56	21.17	0.39	3
	11ax HE20, 5.2GHz	21.29	21.20	0.09	3
	11ax HE20, 5.3GHz	20.68	20.38	0.30	3
	11ax HE20, 5.5GHz	21.41	21.09	0.32	3
	11ax HE20, 5.8GHz	21.41	21.06	0.35	3
	11n HT40, 5.2GHz	20.45	20.03	0.42	3
	11n HT40, 5.3GHz	20.22	19.85	0.37	3
	11n HT40, 5.5GHz	20.52	20.33	0.19	3
	11n HT40, 5.8GHz	20.30	20.24	0.06	3
	11ac VHT40, 5.2GHz	20.51	20.08	0.43	3
	11ac VHT40, 5.3GHz	20.27	19.89	0.38	3
	11ac VHT40, 5.5GHz	20.55	20.39	0.16	3
	11ac VHT40, 5.8GHz	20.36	20.32	0.04	3
	11ax HE40, 5.2GHz	20.56	20.14	0.42	3
	11ax HE40, 5.3GHz	20.30	19.94	0.36	3
	11ax HE40, 5.5GHz	20.60	20.44	0.16	3
	11ax HE40, 5.8GHz	20.42	20.35	0.07	3
	11ac VHT80, 5.2GHz	20.25	20.02	0.23	3
	11ac VHT80, 5.3GHz	20.03	19.77	0.26	3
	11ac VHT80, 5.5GHz	20.18	20.01	0.17	3
	11ac VHT80, 5.8GHz	19.83	19.79	0.04	3
	11ax HE80, 5.2GHz	20.31	20.05	0.26	3
	11ax HE80, 5.3GHz	20.07	19.79	0.28	3
	11ax HE80, 5.5GHz	20.21	20.03	0.18	3
	11ax HE80, 5.8GHz	19.85	19.82	0.03	3
	11ac VHT160, 5.3GHz	19.21	19.11	0.10	3
	11ac VHT160, 5.5GHz	19.48	19.24	0.24	3
	11ax HE160, 5.3GHz	19.23	19.14	0.09	3
	11ax HE160, 5.5GHz	19.52	19.28	0.24	3
	6CD Indoor 11a, U-NII-5	7.13	7.06	0.07	3
	6CD Indoor 11a, U-NII-6	7.63	7.61	0.02	3
	6CD Indoor 11a, U-NII-7	6.43	6.38	0.05	3
	6CD Indoor 11a, U-NII-8	5.80	5.71	0.09	3
	6CD Indoor 11ax HE20, U-NII-5	10.68	10.47	0.21	3
	6CD Indoor 11ax HE20, U-NII-6	11.19	11.12	0.07	3

	6CD Indoor 11ax HE20, U-NII-7	9.90	9.86	0.04	3
	6CD Indoor 11ax HE20, U-NII-8	9.18	8.91	0.27	3
	6CD Indoor 11ax HE40, U-NII-5	13.56	13.40	0.16	3
	6CD Indoor 11ax HE40, U-NII-6	14.02	13.89	0.13	3
	6CD Indoor 11ax HE40, U-NII-7	12.74	12.65	0.09	3
	6CD Indoor 11ax HE40, U-NII-8	12.41	12.34	0.07	3
	6CD Indoor 11ax HE80, U-NII-5	16.49	16.28	0.21	3
	6CD Indoor 11ax HE80, U-NII-6	16.36	16.34	0.02	3
	6CD Indoor 11ax HE80, U-NII-7	16.05	15.96	0.09	3
	6CD Indoor 11ax HE80, U-NII-8	15.84	15.78	0.06	3
	6CD Indoor 11ax HE160, U-NII-5	16.95	16.65	0.30	3
	6CD Indoor 11ax HE160, U-NII-6	16.48	16.09	0.39	3
	6CD Indoor 11ax HE160, U-NII-7	16.71	16.43	0.28	3
	6CD Indoor 11ax HE160, U-NII-8	16.80	16.50	0.30	3
	6CD Outdoor 11a, U-NII-5	17.02	16.53	0.49	3
	6CD Outdoor 11a, U-NII-7	16.69	16.62	0.07	3
	6CD Outdoor 11ax HE20, U-NII-5	16.95	16.55	0.40	3
	6CD Outdoor 11ax HE20, U-NII-7	16.61	16.26	0.35	3
	6CD Outdoor 11ax HE40, U-NII-5	16.90	16.60	0.30	3
	6CD Outdoor 11ax HE40, U-NII-7	16.52	16.22	0.30	3
	6CD Outdoor 11ax HE80, U-NII-5	16.85	16.52	0.33	3
	6CD Outdoor 11ax HE80, U-NII-7	16.43	16.13	0.30	3
	6CD Outdoor 11ax HE160, U-NII-5	16.95	16.65	0.30	3
	6CD Outdoor 11ax HE160, U-NII-7	16.42	16.20	0.22	3

Conducted power for Licensed bands

Test Item	Mode	UZ7EM45A2 Parent Worst mode Test Result	UZ7EM45A1 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
Conducted Power (dBm)	WCDMA II	23.97	23.79	0.18	3
	WCDMA IV	23.92	23.88	0.04	3
	WCDMA V	23.98	23.66	0.32	3
	LTE B2	23.66	23.24	0.42	3
	LTE B4	23.56	23.32	0.24	3
	LTE B5	23.69	23.35	0.34	3
	LTE B5B	23.65	23.52	0.13	3
	LTE B7	22.8	22.61	0.19	3
	LTE B7C	22.79	22.75	0.04	3
	LTE B12	23.89	23.65	0.24	3
	LTE B13	23.71	23.31	0.4	3
	LTE B14	23.83	23.38	0.45	3
	LTE B17	23.82	23.43	0.39	3
	LTE B25	23.68	23.19	0.49	3
	LTE B26L	23.47	23.26	0.21	3
	LTE B26H	23.71	23.26	0.45	3
	LTE B30	23.69	23.57	0.12	3
	LTE B66	23.60	23.28	0.32	3
	LTE B71	22.76	22.72	0.04	3
	LTE B38	22.77	22.70	0.07	3
	LTE B41	26.01	26.00	0.01	3
	LTE B38C	22.63	22.59	0.04	3
	LTE B41C	25.73	25.62	0.11	3
	LTE B48 part96	21.85	21.82	0.03	3
	LTE B48C part96	21.55	21.52	0.03	3
	LTE B66B	23.49	23.27	0.22	3
	LTE B66C	23.32	23.21	0.11	3

	N13	24.27	23.96	0.31	3
	N14	24.26	23.98	0.28	3
	N26 L	24.45	24.06	0.39	3
	N26 H	24.49	24.02	0.47	3
	ENDC_48A_n66A	24.22	24.18	0.04	3
	N77 27O MIMO	24.70	24.36	0.34	3
	N78 27O MIMO	24.61	24.32	0.29	3
	N77 part96 MIMO	22.31	22.25	0.06	3
	N78 part96 MIMO	22.26	22.19	0.07	3
	N77 27Q MIMO	24.45	24.12	0.33	3
	N78 27Q MIMO	24.11	23.86	0.25	3
	ENDC_5A_n2A	24.72	24.27	0.45	3
	ENDC_12A_n25A	24.74	24.29	0.45	3
	ENDC_2A_n5A	24.39	24.31	0.08	3
	ENDC_2A_n7A	23.85	23.51	0.34	3
	ENDC_2A_n12A	24.52	24.25	0.27	3
	ENDC_2A_n30A	23.65	23.58	0.07	3
	ENDC_2A_n38A	23.59	23.45	0.14	3
	ENDC_2A_n41A	26.56	26.45	0.11	3
	ENDC_2A_n71A	23.39	23.31	0.08	3
	ENDC_2A_N77A 27O	26.23	26.17	0.06	3
	ENDC_2A_N78A 27O	26.01	25.94	0.07	3
	ENDC_2A_N77A 27Q	25.99	25.75	0.24	3
	ENDC_2A_N78A 27Q	25.81	25.47	0.34	3
	ENDC_2A_N77A part96	22.85	22.62	0.23	3
	ENDC_2A_N78A part96	22.76	22.58	0.18	3
	ENDC_2A_N48A part96	22.04	22.01	0.03	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	001	5955	0.03	0.03	4.55	3.39	0.35	-0.85	4.90	2.54	24.00	Pass	4.5	

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	049	6195	Full	0.00	0.00	7.91	6.82	0.35	-0.85	8.26	5.97	24.00	Pass	8	8
HE40	MCS0	1	003	5965	Full	0.00	0.00	10.63	10.08	0.35	-0.85	10.98	9.23	24.00	Pass	11	11
HE80	MCS0	1	007	5985	Full	0.00	0.00	13.43	13.02	0.35	-0.85	13.78	12.17	24.00	Pass	14	14
HE160	MCS0	1	047	6185	Full	0.00	0.00	14.01	13.13	0.35	-0.85	14.36	12.28	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	6515	0.03	0.04	4.81	4.31	0.75	-2.44	5.56	1.87	24.00	Pass	5.5	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	8.41	7.67	0.75	-2.44	9.16	5.23	24.00	Pass	9	9
HE40	MCS0	1	107	6485	Full	0.00	0.00	11.21	10.45	0.75	-2.44	11.96	8.01	24.00	Pass	12	12
HE80	MCS0	1	103	6465	Full	0.00	0.00	13.63	12.91	0.75	-2.44	14.38	10.47	24.00	Pass	14	14
HE160	MCS0	1	111	6505	Full	0.00	0.00	13.37	12.72	0.75	-2.44	14.12	10.28	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	3.54	3.14	1.02	0.16	4.56	3.30	24.00	Pass	4	4

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	117	6535	Full	0.00	0.00	7.19	6.43	1.02	0.16	8.21	6.59	24.00	Pass	7.5	7.5
HE40	MCS0	1	123	6565	Full	0.00	0.00	9.97	9.19	1.02	0.16	10.99	9.35	24.00	Pass	10.5	10.5
HE80	MCS0	1	135	6625	Full	0.00	0.00	13.33	12.45	1.02	0.16	14.35	12.61	24.00	Pass	14	14
HE160	MCS0	1	175	6825	Full	0.00	0.00	13.25	13.51	1.02	0.16	14.27	13.67	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	7095	0.03	0.04	2.72	2.58	0.70	1.66	3.42	4.24	24.00	Pass	3.5	3.5

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	1	229	7095	Full	0.00	0.00	5.85	5.76	0.70	1.66	6.55	7.42	24.00	Pass	6.5	6.5
HE40	MCS0	1	227	7085	Full	0.00	0.00	9.27	9.26	0.70	1.66	9.97	10.92	24.00	Pass	10	10
HE80	MCS0	1	199	6945	Full	0.00	0.00	12.98	12.45	0.70	1.66	13.68	14.11	24.00	Pass	13.5	13.5
HE160	MCS0	1	207	6985	Full	0.00	0.00	13.22	13.58	0.70	1.66	13.92	15.24	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	001	5955	0.03	0.04	4.60	3.43	7.06	0.35		7.41	24.00	Pass	4.5	

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	6515	0.03	0.04	4.84	4.35	7.61	0.75		8.36	24.00	Pass	5.5	

U-NII-7 MIMO															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 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	3.57	3.17	6.38	1.02		7.40	24.00	Pass	4	

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	7095	0.03	0.04	2.74	2.65	5.71	1.66		7.37	24.00	Pass	3.5	

<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	049	6195	Full	0.00	0.00	7.96	6.89	10.47	0.35		10.82	24.00	Pass	8	
HE40	MCS0	2	003	5965	Full	0.00	0.00	10.67	10.10	13.40	0.35		13.75	24.00	Pass	11	
HE80	MCS0	2	007	5985	Full	0.00	0.00	13.49	13.04	16.28	0.35		16.63	24.00	Pass	14	
HE160	MCS0	2	047	6185	Full	0.00	0.00	14.06	13.17	16.65	0.35		17.00	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	8.44	7.76	11.12	0.75		11.87	24.00	Pass	9	
HE40	MCS0	2	107	6485	Full	0.00	0.00	11.24	10.48	13.89	0.75		14.64	24.00	Pass	12	
HE80	MCS0	2	103	6465	Full	0.00	0.00	13.68	12.95	16.34	0.75		17.09	24.00	Pass	14	
HE160	MCS0	2	111	6505	Full	0.00	0.00	13.40	12.74	16.09	0.75		16.84	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	117	6535	Full	0.00	0.00	7.22	6.44	9.86	1.02		10.88	24.00	Pass	7.5	
HE40	MCS0	2	123	6565	Full	0.00	0.00	10.02	9.22	12.65	1.02		13.67	24.00	Pass	10.5	
HE80	MCS0	2	135	6625	Full	0.00	0.00	13.35	12.51	15.96	1.02		16.98	24.00	Pass	14	
HE160	MCS0	2	175	6825	Full	0.00	0.00	13.29	13.55	16.43	1.02		17.45	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	229	7095	Full	0.00	0.00	5.88	5.91	8.91	1.66		10.57	24.00	Pass	6.5	
HE40	MCS0	2	227	7085	Full	0.00	0.00	9.33	9.32	12.34	1.66		14.00	24.00	Pass	10	
HE80	MCS0	2	199	6945	Full	0.00	0.00	13.02	12.50	15.78	1.66		17.44	24.00	Pass	13.5	
HE160	MCS0	2	207	6985	Full	0.00	0.00	13.36	13.62	16.50	1.66		18.16	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	049	6195	0.03	0.04	14.00	12.85	0.35	-0.85	14.35	12.00	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	049	6195	Full	0.00	0.00	13.99	12.97	0.35	-0.85	14.34	12.12	30.00	Pass	14	14
HE40	MCS0	1	051	6205	Full	0.00	0.00	14.02	13.03	0.35	-0.85	14.37	12.18	30.00	Pass	14	14
HE80	MCS0	1	055	6225	Full	0.00	0.00	13.88	13.01	0.35	-0.85	14.23	12.16	30.00	Pass	14	14
HE160	MCS0	1	047	6185	Full	0.00	0.00	14.01	13.13	0.35	-0.85	14.36	12.28	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	181	6855	0.03	0.04	13.58	13.45	1.02	0.16	14.60	13.61	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	117	6535	Full	0.00	0.00	13.63	12.76	1.02	0.16	14.65	12.92	30.00	Pass	14	14
HE40	MCS0	1	123	6565	Full	0.00	0.00	13.57	12.76	1.02	0.16	14.59	12.92	30.00	Pass	14	14
HE80	MCS0	1	167	6785	Full	0.00	0.00	13.37	12.76	1.02	0.16	14.39	12.92	30.00	Pass	14	14
HE160	MCS0	1	143	6665	Full	0.00	0.00	13.37	12.91	1.02	0.16	14.39	13.07	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	049	6195	0.03	0.04	14.05	12.92	16.53	0.35		16.88	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	049	6195	Full	0.00	0.00	14.02	13.00	16.55	0.35		16.90	30.00	Pass	14	
HE40	MCS0	2	051	6205	Full	0.00	0.00	14.06	13.07	16.60	0.35		16.95	30.00	Pass	14	
HE80	MCS0	2	055	6225	Full	0.00	0.00	13.92	13.05	16.52	0.35		16.87	30.00	Pass	14	
HE160	MCS0	2	047	6185	Full	0.00	0.00	14.06	13.17	16.65	0.35		17.00	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	181	6855	0.03	0.04	13.63	13.60	16.62	1.02		17.64	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	117	6535	Full	0.00	0.00	13.68	12.78	16.26	1.02		17.28	30.00	Pass	14	
HE40	MCS0	2	123	6565	Full	0.00	0.00	13.59	12.79	16.22	1.02		17.24	30.00	Pass	14	
HE80	MCS0	2	167	6785	Full	0.00	0.00	13.40	12.83	16.13	1.02		17.15	30.00	Pass	14	
HE160	MCS0	2	143	6665	Full	0.00	0.00	13.42	12.95	16.20	1.02		17.22	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. 05, 2024	Jan. 01, 2025	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471084	10Hz-44GHz	Jul. 04, 2024	Nov. 05, 2024	Jul. 03, 2025	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 08, 2024	Nov. 05, 2024	Sep. 07, 2025	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Sep. 03, 2024	Nov. 05, 2024	Sep. 02, 2025	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 11, 2024	Nov. 05, 2024	Apr. 10, 2025	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 06, 2024	Nov. 05, 2024	Jan. 05, 2025	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	372171	9KHz ~1GHZ	Jan. 02, 2024	Nov. 05, 2024	Jan. 01, 2025	Radiation (03CH06-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Jan. 02, 2024	Nov. 05, 2024	Jan. 01, 2025	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2082395	1Ghz-18Ghz	Jan. 02, 2024	Nov. 05, 2024	Jan. 01, 2025	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY57280119	500MHz~26.5GHz	Oct. 09, 2024	Nov. 05, 2024	Oct. 08, 2025	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Nov. 05, 2024	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Nov. 05, 2024	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Nov. 05, 2024	NCR	Radiation (03CH06-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~ 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	Conducted (DFS01-KS)
Vector Signal Generator	R&S	SMJ100A	101908	100kHz~6GHz	Jan. 02, 2024	Nov. 05, 2024	Jan. 01, 2025	Conducted (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	Conducted (DFS01-KS)
Combiner	MTJ Cooperation	MTJ7114-M	N/A	0.5GHz~18GHz	NCR	Nov. 05, 2024	NCR	Conducted (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. 02, 2024	Oct. 09, 2025	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Nov. 02, 2024	NCR	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 04, 2024	Nov. 02, 2024	Jul. 03, 2025	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)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 10, 2024	Oct. 20, 2024	Sep. 09, 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	:	UZ7EM45A2
EQUIPMENT	:	Enterprise Mobile
BRAND NAME	:	Zebra
MODEL NAME	:	EM45A2
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 27
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S)	:	Jun. 19, 2024 ~ Jul. 05, 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.

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

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

Jason Jia

Approved by: Jason Jia

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
FG460505L	Rev. 01	Initial issue of report	Sep. 05, 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(b)(10) §27.50(c)(10)	Effective Radiated Power (5G NR n12, n13, n71)	ERP < 3 Watt		
	§27.50(h)(2)	Equivalent Isotropic Radiated Power (5G NR n7, n41, n38)	EIRP < 2Watt		
3.5	N/A	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(g)	Conducted Band Edge Measurement (5G NR n12, n13, n71)	< 43+10log10(P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (5G NR n7, n41, n38)	§27.53(m)(4)		
3.8	§2.1051 §27.53(g)	Conducted Spurious Emission (5G NR n12, n13, n71)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (5G NR n7, n41, n38)	< 55+10log$_{10}$(P[Watts])		
3.9	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(g)	Radiated Spurious Emission (5G NR n12, n13, n71)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 12.82 dB at 1560.00 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (5G NR n7, n41, n38)	< 55+10log$_{10}$(P[Watts])		

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	EM45A2
FCC ID	UZ7EM45A2
IMEI Code	Conducted : 352991990028965/352991990029377 Radiation : 352991990029609
HW Version	EV2.5
SW Version	13-32-08.00-TG-U06-STD-ATH-04
MFD	08AUG24
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 Frequency	5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n13 : 777 MHz ~ 787 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n71: 663 MHz ~ 698 MHz
Rx Frequency	5G NR n7 : 2620 MHz ~ 2690 MHz 5G NR n12: 729 MHz ~ 746 MHz 5G NR n13 : 746 MHz ~ 756 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n71: 617 MHz ~ 652 MHz
Bandwidth	n7: 5MHz / 10MHz / 15MHz / 20MHz / 25MHz / 30MHz / 40MHz n12: 5MHz / 10MHz / 15MHz n13: 5MHz / 10MHz n38: 20MHz / 30MHz / 40MHz n41 : 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70MHz /80MHz / 90MHz / 100MHz n71: 5MHz / 10MHz / 15MHz / 20MHz
SCS	15kHz for FDD Bands, 30kHz for TDD Bands
Antenna Gain	**<Ant. 0>:** n12: -2.00 dBi n13: -2.00 dBi n41: -1.50 dBi n71: -2.00 dBi **<Ant. 1>:** n12: -2.04 dBi n13: -2.34 dBi n71: -3.24 dBi **<Ant. 3>:** n7: 0.05 dBi n38: 0.02 dBi n41: 0.05 dBi **<Ant. 5>:** n41: -1.40 dBi **<Ant. 6>:** n41: 0.90 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The maximum ERP/EIRP is calculated from max output power and max antenna gain, only the maximum ERP/EIRP are shown in the report, 5G NR n12/n13/n71 for Ant. 0 and n7/n38/n41 for Ant. 3.
2. All the supported ENDC combinations are verified conducted power, only the ENDC combination with highest power are shown in the report.
3. 5G NR support SA (n7/n38/n41/n71/n12/n13) mode and NSA(n7/n38/n41/n71/n12) mode. According to the maximum power between SA and NSA mode, NSA covers SA mode for 5G NR n7/n38/n41/n71/n12.

4. The EN-DC mode combination could be referred to the product spec.
5. The device supports two PAs for 5G NR n7/n38/n41: main PA and other PA. The maximum power of main PA is higher than the other PA, therefore, we chose higher power of PA to calculate the EIRP and show in the report.

1.3 Modification of EUT

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

1.4 Maximum ERP/EIRP and Emission Designator

5G NR n12		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	701.5 ~ 713.5	0.1076	4M47G7D	0.0861	4M47W7D
10	704.0~ 711.0	0.1086	9M26G7D	0.0875	9M28W7D
15	706.5 ~ 708.5	0.1089	14M1G7D	0.0877	14M1W7D

5G NR n13		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	779.5 ~ 784.5	0.1009	4M46G7D	0.0809	4M48W7D
10	782	0.1028	9M26G7D	0.0817	9M28W7D

5G NR n71		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	665.5 ~ 695.5	0.0830	4M46G7D	0.0676	4M49W7D
10	668.0 ~ 693.0	0.0830	9M25G7D	0.0675	9M28W7D
15	670.5 ~ 690.5	0.0834	14M1G7D	0.0668	14M1W7D
20	673.0 ~ 688.0	0.0839	18M9G7D	0.0690	18M9W7D

5G NR n7		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)
5	2502.5 ~ 2567.5	0.2280	4M47G7D	0.1742	4M49W7D
10	2505.0 ~ 2565.0	0.2323	9M28G7D	0.1758	9M30W7D
15	2507.5 ~ 2562.5	0.2223	14M1G7D	0.1687	14M1W7D
20	2510.0 ~ 2560.0	0.2259	18M9G7D	0.1726	19M0W7D
25	2512.5 ~ 2557.5	0.2234	23M8G7D	0.1675	23M8W7D
30	2515.0 ~ 2555.0	0.2213	28M6G7D	0.1694	28M7W7D
40	2520.0 ~ 2550.0	0.2455	38M6G7D	0.1954	38M6W7D

5G NR n38		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	2580.0 ~ 2610.0	0.2138	18M2G7D	0.1849	18M3W7D
30	2585.0 ~ 2605.0	0.2213	27M9G7D	0.1905	27M9W7D
40	2590.0 ~ 2600.0	0.2296	37M8G7D	0.1923	37M9W7D

5G NR n41		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	2506.02 ~ 2679.99	0.3981	18M2G7D	0.3412	18M3W7D
30	2511.00 ~ 2674.98	0.4178	27M9G7D	0.3483	27M9W7D
40	2516.01 ~ 2670.00	0.4256	37M8G7D	0.3631	37M9W7D
50	2521.02 ~ 2664.99	0.3917	47M5G7D	0.3334	47M6W7D
60	2526.00 ~ 2659.98	0.3873	57M9G7D	0.3214	57M9W7D
70	2531.01 ~ 2655.00	0.4140	67M5G7D	0.3499	67M6W7D
80	2536.02 ~ 2649.99	0.3899	77M4G7D	0.3311	77M6W7D
90	2541.00 ~ 2644.98	0.3741	87M5G7D	0.3170	87M7W7D
100	2546.01 ~ 2640.00	0.4581	97M4G7D	0.3819	97M8W7D

Note:

1. 5G NR n41 overlaps the entire frequency range of 5G NR n38. Therefore, the test results provided in this report covers 5G NR n41 as well as 5G NR n38.
2. All modulations have been tested, only the worst test results of PSK & QAM are shown in the report.

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.**
	03CH04-KS	CN1257	314309

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

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Note: Test data subcontracted: Conducted test cases in section 3.4~3.9 of this report.

1.6 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH04-KS	AUDIX	E3	210616

1.7 Applicable Standards

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

- 47 CFR Part 27
- 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 (X/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.

	X Plane	Y Plane	Z Plane
Orthogonal Planes of EUT			

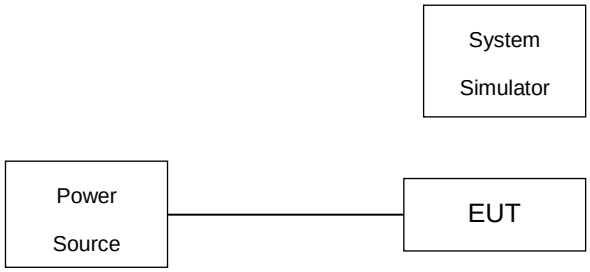
Test Items	5G NR	Bandwidth (MHz)													Modulation					RB #		Test Channel		
		5	10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Max. Output Power	n7	v	v	v	v	v	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n12	v	v	v	-	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n13	v	v	-	-	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n38	-	-	-	v	-	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n41	-	-	-	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n71	v	v	v	v	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n7				v				-	-	-	-	-	-	v	v					v		v	
	n12		v		-	-	-	-	-	-	-	-	-	-	v	v					v		v	
	n13		v	-	-	-	-	-	-	-	-	-	-	-	v	v					v		v	
	n41	-	-	-	v	-									v	v					v		v	
	n71				v	-	-	-	-	-	-	-	-	-	v	v					v		v	
26dB and 99% Bandwidth	n7	v	v	v	v	v	v	v	-	-	-	-	-	-		v	v	v	v		v		v	
	n12	v	v	v	-	-	-	-	-	-	-	-	-	-		v	v	v	v		v		v	
	n13	v	v	-	-	-	-	-	-	-	-	-	-	-		v	v	v	v		v		v	
	n41	-	-	-	v	-	v	v	v	v	v	v	v	v		v	v	v	v		v		v	
	n71	v	v	v	v	-	-	-	-	-	-	-	-	-		v	v	v	v		v		v	
Conducted	n7	v			v			v	-	-	-	-	-	-	v	v				v	v	v		v

Test Items	5G NR	Bandwidth (MHz)													Modulation					RB #		Test Channel		
		5	10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Band Edge	n12	v	v	v	-	-	-	-	-	-	-	-	-	-	v	v				v	v	v		v
	n13	v	v	-	-	-	-	-	-	-	-	-	-	-	v	v				v	v	v		v
	n41	-	-	-	v	-				v				v	v	v				v	v	v		v
	n71	v	v		v	-	-	-	-	-	-	-	-	-	v	v				v	v	v		v
Conducted Spurious Emission	n7	v			v			v	-	-	-	-	-	-	v	v				v		v	v	v
	n12	v	v	v	-	-	-	-	-	-	-	-	-	-	v	v				v		v	v	v
	n13	v	v	-	-	-	-	-	-	-	-	-	-	-	v	v				v		v	v	v
	n41	-	-	-	v	-				v				v	v	v				v		v	v	v
	n71	v	v		v	-	-	-	-	-	-	-	-	-	v	v				v		v	v	v
Frequency Stability	n7				v				-	-	-	-	-	-	v						v		v	
	n12		v		-	-	-	-	-	-	-	-	-	-	v						v		v	
	n13		v	-	-	-	-	-	-	-	-	-	-	-	v						v		v	
	n41	-	-	-	v	-									v						v		v	
	n71				v	-	-	-	-	-	-	-	-	-	v						v		v	
E.R.P / E.I.R.P	n7	v	v	v	v	v	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n12	v	v	v	-	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n13	v	v	-	-	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n38	-	-	-	v	-	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
	n41	-	-	-	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n71	v	v	v	v	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n7	Worst Case																				v	v	v
	n12	Worst Case																				v	v	v
	n13	Worst Case																				v	v	v
	n41	Worst Case																				v	v	v
	n71	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. Frequency Stability：Normal Voltage = 3.85V ；Low Voltage =3.50V.；High Voltage =4.41V

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.

The EUT has been configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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 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

Offset = RF cable loss.

Following shows an offset computation example with cable loss 8.6 dB.

Example :

Offset(dB) = RF cable loss(dB).

= 8.6 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n7 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
40	Channel	504000	507000	510000
	Frequency	2520	2535	2550
30	Channel	503000	507000	511000
	Frequency	2515	2535	2555
25	Channel	502500	507000	511500
	Frequency	2512.5	2535	2557.5
20	Channel	502000	507000	512000
	Frequency	2510	2535	2560
15	Channel	501500	507000	512500
	Frequency	2507.5	2535	2562.5
10	Channel	501000	507000	513000
	Frequency	2505	2535	2565
5	Channel	500500	507000	513500
	Frequency	2502.5	2535	2567.5

5G NR n12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	141300	141500	141700
	Frequency	706.5	707.5	708.5
10	Channel	140800	141500	142200
	Frequency	704	707.5	711
5	Channel	140300	141500	142700
	Frequency	701.5	707.5	713.5

5G NR n13 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	156400		
	Frequency	782		
5	Channel	155900	156400	156900
	Frequency	779.5	782	784.5

5G NR n38 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	518000	519000	520000
	Frequency	2590	2595	2600
30	Channel	517000	519000	521000
	Frequency	2585	2595	2605
20	Channel	516000	519000	522000
	Frequency	2580	2595	2610

5G NR n41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	509202	518598	528000
	Frequency	2546.01	2592.99	2640
90	Channel	508200	518598	528996
	Frequency	2541	2592.99	2644.98
80	Channel	507204	518598	529998
	Frequency	2536.02	2592.99	2649.99
70	Channel	506202	518598	531000
	Frequency	2531.01	2592.99	2655
60	Channel	505200	518598	531996
	Frequency	2526	2592.99	2659.98
50	Channel	504204	518598	532998
	Frequency	2521.02	2592.99	2664.99
40	Channel	503202	518598	534000
	Frequency	2516.01	2592.99	2670
30	Channel	502200	518598	534996
	Frequency	2511	2592.99	2674.98
20	Channel	501204	518598	535998
	Frequency	2506.02	2592.99	2679.99

5G NR n71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	134600	136100	137600
	Frequency	673	680.5	688
15	Channel	134100	136100	138100
	Frequency	670.5	680.5	690.5
10	Channel	133600	136100	138600
	Frequency	668	680.5	693
5	Channel	133100	136100	139100
	Frequency	665.5	680.5	695.5

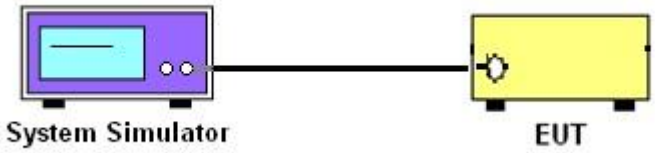
3 Conducted Test Items

3.1 Measuring Instruments

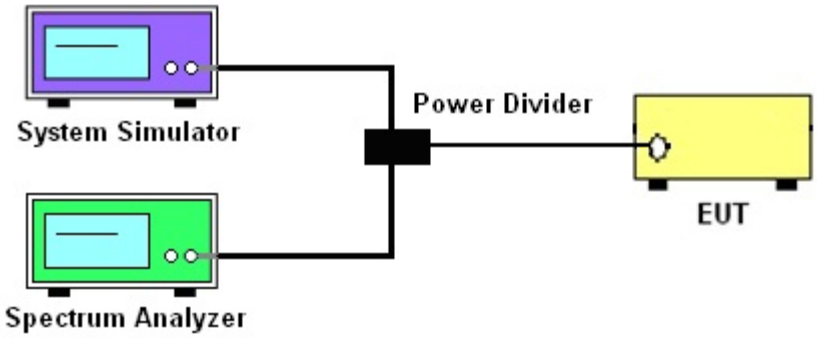
See list of measuring instruments of this test report.

3.2 Test Setup

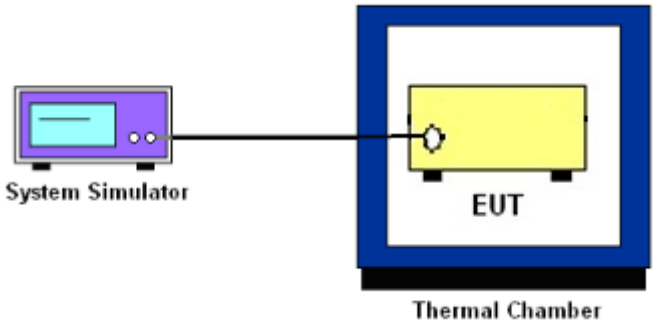
3.2.1 Conducted Output Power



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 ERP/EIRP

3.4.1 Description of the Conducted Output Power Measurement and ERP/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 ERP of mobile transmitters must not exceed 3 Watts for 5G NR n12, n13, n71.

The EIRP of mobile transmitters must not exceed 2 Watts for 5G NR n7, n38, n41.

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 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53(m)(4)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

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%/2% 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. For 5G NR n7/n38/n41, the other 40 dB, and 55 dB have additionally applied same calculation above.
10. 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.

For 5G NR n7/n38/n41:

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 55 + 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.
11. For 5G NR n7/n38/n41
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [55+ 10log(P)] (dB)
    = [30+ 10log(P)] (dBm) - [55+ 10log(P)] (dB)
    = -25dBm.

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.

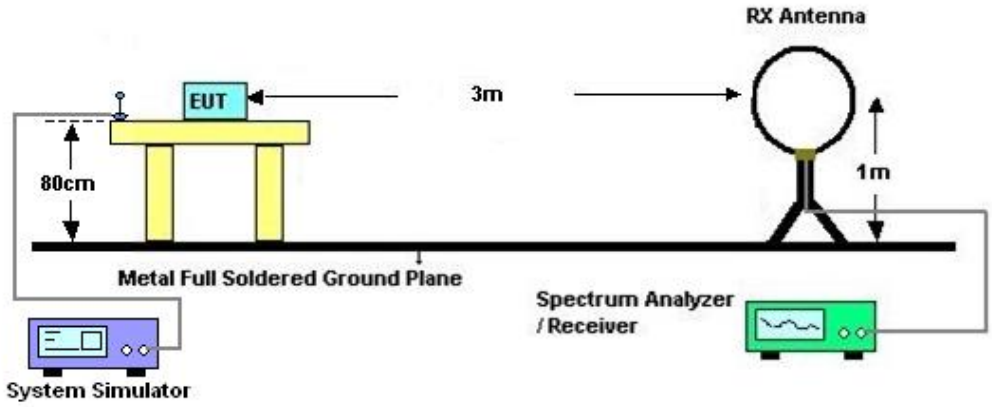
4 Radiated Test Items

4.1 Measuring Instruments

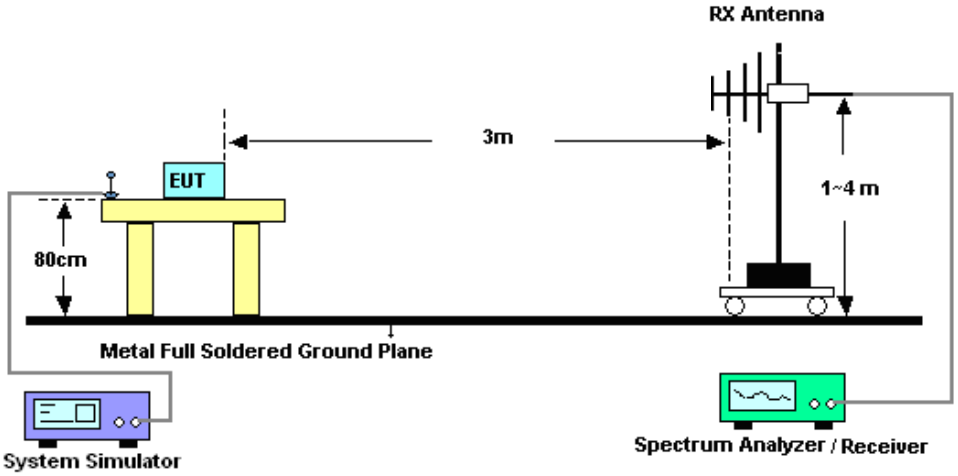
See list of measuring instruments of this test report.

4.2 Test Setup

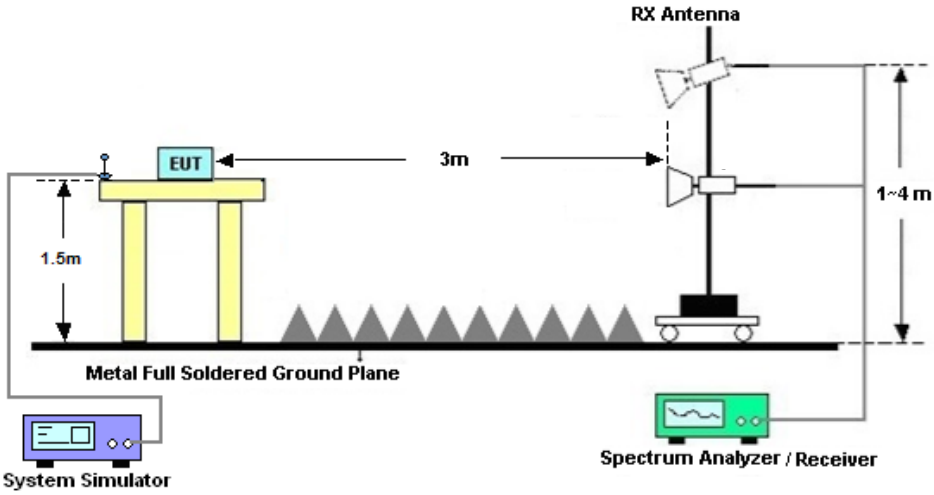
4.2.1 For radiated test below 30MHz



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.

For 5G NR n7/n38/n41

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 55 + 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.
13. For 5G NR n7/n38/n41:
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 09, 2024	Jun. 19, 2024~ Jul. 05, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2023	Jun. 19, 2024~ Jul. 05, 2024	Dec. 24, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 04, 2023	Jun. 19, 2024~ Jul. 05, 2024	Jul. 03, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 03, 2024		Jul. 02, 2025	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 11, 2023	Jul. 05, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11 2023	Jul. 05, 2024	Sep. 10, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Aug. 18, 2023	Jul. 05, 2024	Aug. 17, 2025	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 23, 2023	Jul. 05, 2024	Oct. 22, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 27, 2024	Jul. 05, 2024	Jan. 26, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	413740	9KHz-1GHz	Jan. 03, 2024	Jul. 05, 2024	Jan. 02, 2025	Radiation (03CH04-KS)
Amplifier	EM	EM18G40G A	060728	18~40GHz	Jan. 02, 2024	Jul. 05, 2024	Jan. 01, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18G A	060840	1Ghz-18Ghz	Oct. 11, 2023	Jul. 05, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
Amplifier	EM	EM01G18G A	060892	1Ghz-18Ghz	Oct. 11, 2023	Jul. 05, 2024	Oct. 10, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jul. 05, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jul. 05, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jul. 05, 2024	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 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

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±1.34 dB
Occupied Channel Bandwidth	±0.012 MHz
Conducted Power	±1.34 dB
Peak to Average Ratio	±1.34 dB
Frequency Stability	±1.3 Hz

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 :	Khan Zhen	**Temperature :**	22~23℃
		Relative Humidity :	40~42%

Software Version: 23.06.1602

FR1 N7(Main PA)

LTE Band: 2, LTE BW: 10M, LTE ARFCN: Mid

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)	ERP (dBm)	ERP (W)
7	15	5	500500	2502.5	DFT-s-OFDM QPSK	1@1	22.69	22.74	0.1879
7	15	5	500500	2502.5	DFT-s-OFDM 16 QAM	1@1	21.55	21.6	0.1445
7	15	5	507000	2535	DFT-s-OFDM QPSK	1@1	23.3	23.35	0.2163
7	15	5	507000	2535	DFT-s-OFDM 16 QAM	1@1	22.11	22.16	0.1644
7	15	5	513500	2567.5	DFT-s-OFDM QPSK	1@1	23.53	23.58	0.2280
7	15	5	513500	2567.5	DFT-s-OFDM 16 QAM	1@1	22.36	22.41	0.1742
7	15	10	501000	2505	DFT-s-OFDM QPSK	1@1	22.71	22.76	0.1888
7	15	10	501000	2505	DFT-s-OFDM 16 QAM	1@1	21.59	21.64	0.1459
7	15	10	507000	2535	DFT-s-OFDM QPSK	1@1	23.24	23.29	0.2133
7	15	10	507000	2535	DFT-s-OFDM 16 QAM	1@1	21.98	22.03	0.1596
7	15	10	513000	2565	DFT-s-OFDM QPSK	1@1	23.61	23.66	0.2323
7	15	10	513000	2565	DFT-s-OFDM 16 QAM	1@1	22.4	22.45	0.1758
7	15	15	501500	2507.5	DFT-s-OFDM QPSK	1@1	22.58	22.63	0.1832
7	15	15	501500	2507.5	DFT-s-OFDM 16 QAM	1@1	21.35	21.4	0.1380
7	15	15	507000	2535	DFT-s-OFDM QPSK	1@1	23.42	23.47	0.2223
7	15	15	507000	2535	DFT-s-OFDM 16 QAM	1@1	22.22	22.27	0.1687
7	15	15	512500	2562.5	DFT-s-OFDM QPSK	1@1	23.42	23.47	0.2223

7	15	15	512500	2562.5	DFT-s-OFDM 16 QAM	1@1	22.14	22.19	0.1656
7	15	20	502000	2510	DFT-s-OFDM QPSK	1@1	22.62	22.67	0.1849
7	15	20	502000	2510	DFT-s-OFDM 16 QAM	1@1	21.44	21.49	0.1409
7	15	20	507000	2535	DFT-s-OFDM QPSK	1@1	23.49	23.54	0.2259
7	15	20	507000	2535	DFT-s-OFDM 16 QAM	1@1	22.32	22.37	0.1726
7	15	20	512000	2560	DFT-s-OFDM QPSK	1@1	23.16	23.21	0.2094
7	15	20	512000	2560	DFT-s-OFDM 16 QAM	1@1	22.05	22.1	0.1622
7	15	25	502500	2512.5	DFT-s-OFDM QPSK	1@1	22.1	22.15	0.1641
7	15	25	502500	2512.5	DFT-s-OFDM 16 QAM	1@1	20.95	21	0.1259
7	15	25	507000	2535	DFT-s-OFDM QPSK	1@1	23.44	23.49	0.2234
7	15	25	507000	2535	DFT-s-OFDM 16 QAM	1@1	22.19	22.24	0.1675
7	15	25	511500	2557.5	DFT-s-OFDM QPSK	1@1	23.21	23.26	0.2118
7	15	25	511500	2557.5	DFT-s-OFDM 16 QAM	1@1	21.98	22.03	0.1596
7	15	30	503000	2515	DFT-s-OFDM QPSK	1@1	22.11	22.16	0.1644
7	15	30	503000	2515	DFT-s-OFDM 16 QAM	1@1	20.97	21.02	0.1265
7	15	30	507000	2535	DFT-s-OFDM QPSK	1@1	23.4	23.45	0.2213
7	15	30	507000	2535	DFT-s-OFDM 16 QAM	1@1	22.24	22.29	0.1694
7	15	30	511000	2555	DFT-s-OFDM QPSK	1@1	23.26	23.31	0.2143
7	15	30	511000	2555	DFT-s-OFDM 16 QAM	1@1	22.24	22.29	0.1694
7	15	40	504000	2520	DFT-s-OFDM PI/2 BPSK	108@54	23.37	23.42	0.2198
7	15	40	504000	2520	DFT-s-OFDM PI/2 BPSK	1@1	23.12	23.17	0.2075
7	15	40	504000	2520	DFT-s-OFDM PI/2 BPSK	1@214	23.63	23.68	0.2333

7	15	40	504000	2520	DFT-s-OFDM QPSK	108@54	23.47	23.52	0.2249
7	15	40	504000	2520	DFT-s-OFDM QPSK	1@1	23.06	23.11	0.2046
7	15	40	504000	2520	DFT-s-OFDM QPSK	1@214	23.64	23.69	0.2339
7	15	40	504000	2520	DFT-s-OFDM 16 QAM	108@54	22.56	22.61	0.1824
7	15	40	504000	2520	DFT-s-OFDM 16 QAM	1@1	21.8	21.85	0.1531
7	15	40	504000	2520	DFT-s-OFDM 16 QAM	1@214	22.68	22.73	0.1875
7	15	40	504000	2520	DFT-s-OFDM 64 QAM	108@54	21.04	21.09	0.1285
7	15	40	504000	2520	DFT-s-OFDM 64 QAM	1@1	20.77	20.82	0.1208
7	15	40	504000	2520	DFT-s-OFDM 64 QAM	1@214	21.34	21.39	0.1377
7	15	40	504000	2520	DFT-s-OFDM 256 QAM	108@54	19.02	19.07	0.0807
7	15	40	504000	2520	DFT-s-OFDM 256 QAM	1@1	18.33	18.38	0.0689
7	15	40	504000	2520	DFT-s-OFDM 256 QAM	1@214	18.87	18.92	0.0780
7	15	40	504000	2520	CP-OFDM QPSK	108@54	22.02	22.07	0.1611
7	15	40	504000	2520	CP-OFDM QPSK	1@1	21.71	21.76	0.1500
7	15	40	504000	2520	CP-OFDM QPSK	1@214	22.28	22.33	0.1710
7	15	40	507000	2535	DFT-s-OFDM PI/2 BPSK	108@54	23.63	23.68	0.2333
7	15	40	507000	2535	DFT-s-OFDM PI/2 BPSK	1@1	23.35	23.4	0.2188
7	15	40	507000	2535	DFT-s-OFDM PI/2 BPSK	1@214	23.74	23.79	0.2393
7	15	40	507000	2535	DFT-s-OFDM QPSK	108@54	23.58	23.63	0.2307
7	15	40	507000	2535	DFT-s-OFDM QPSK	1@1	23.41	23.46	0.2218
7	15	40	507000	2535	DFT-s-OFDM QPSK	1@214	23.8	23.85	0.2427
7	15	40	507000	2535	DFT-s-OFDM 16 QAM	108@54	22.71	22.76	0.1888
7	15	40	507000	2535	DFT-s-OFDM 16 QAM	1@1	22.2	22.25	0.1679

7	15	40	507000	2535	DFT-s-OFDM 16 QAM	1@214	22.86	22.91	0.1954
7	15	40	507000	2535	DFT-s-OFDM 64 QAM	108@54	21.17	21.22	0.1324
7	15	40	507000	2535	DFT-s-OFDM 64 QAM	1@1	21.11	21.16	0.1306
7	15	40	507000	2535	DFT-s-OFDM 64 QAM	1@214	21.49	21.54	0.1426
7	15	40	507000	2535	DFT-s-OFDM 256 QAM	108@54	19.13	19.18	0.0828
7	15	40	507000	2535	DFT-s-OFDM 256 QAM	1@1	18.66	18.71	0.0743
7	15	40	507000	2535	DFT-s-OFDM 256 QAM	1@214	19.09	19.14	0.0820
7	15	40	507000	2535	CP-OFDM QPSK	108@54	22.17	22.22	0.1667
7	15	40	507000	2535	CP-OFDM QPSK	1@1	21.99	22.04	0.1600
7	15	40	507000	2535	CP-OFDM QPSK	1@214	22.43	22.48	0.1770
7	15	40	510000	2550	DFT-s-OFDM PI/2 BPSK	108@54	23.78	23.83	0.2415
7	15	40	510000	2550	DFT-s-OFDM PI/2 BPSK	1@1	23.59	23.64	0.2312
7	15	40	510000	2550	DFT-s-OFDM PI/2 BPSK	1@214	23.76	23.81	0.2404
7	15	40	510000	2550	DFT-s-OFDM QPSK	108@54	23.85	23.9	0.2455
7	15	40	510000	2550	DFT-s-OFDM QPSK	1@1	23.68	23.73	0.2360
7	15	40	510000	2550	DFT-s-OFDM QPSK	1@214	23.81	23.86	0.2432
7	15	40	510000	2550	DFT-s-OFDM 16 QAM	108@54	22.82	22.87	0.1936
7	15	40	510000	2550	DFT-s-OFDM 16 QAM	1@1	22.38	22.43	0.1750
7	15	40	510000	2550	DFT-s-OFDM 16 QAM	1@214	22.64	22.69	0.1858
7	15	40	510000	2550	DFT-s-OFDM 64 QAM	108@54	21.28	21.33	0.1358
7	15	40	510000	2550	DFT-s-OFDM 64 QAM	1@1	21.01	21.06	0.1276
7	15	40	510000	2550	DFT-s-OFDM 64 QAM	1@214	21.45	21.5	0.1413
7	15	40	510000	2550	DFT-s-OFDM 256 QAM	108@54	19.36	19.41	0.0873

7	15	40	510000	2550	DFT-s-OFDM 256 QAM	1@1	18.93	18.98	0.0791
7	15	40	510000	2550	DFT-s-OFDM 256 QAM	1@214	19.08	19.13	0.0818
7	15	40	510000	2550	CP-OFDM QPSK	108@54	22.38	22.43	0.1750
7	15	40	510000	2550	CP-OFDM QPSK	1@1	22.14	22.19	0.1656
7	15	40	510000	2550	CP-OFDM QPSK	1@214	22.46	22.51	0.1782

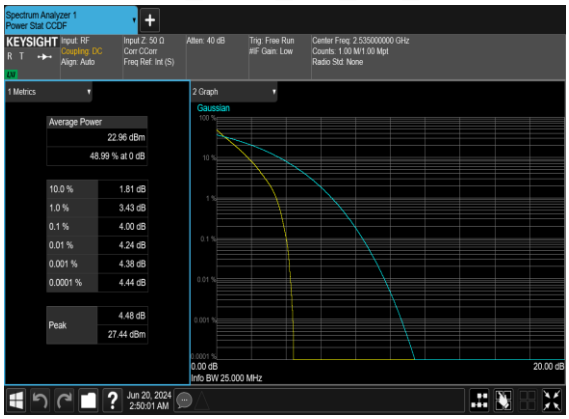
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0038	**PASS**	NV
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0034	**PASS**	LV
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0024	**PASS**	HV
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0053	**PASS**	-30℃
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0069	**PASS**	-20℃
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0038	**PASS**	-10℃
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0058	**PASS**	0℃
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0021	**PASS**	10℃
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0038	**PASS**	20℃
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0030	**PASS**	30℃
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0051	**PASS**	40℃
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	0.0068	**PASS**	50℃

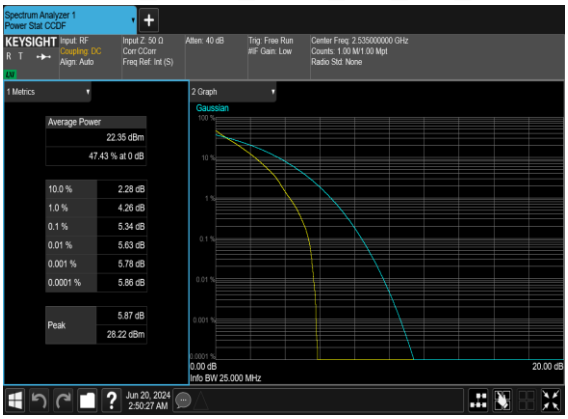
Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
7	15	20	507000	2535.0	DFT-s-OFDM PI/2 BPSK	100@0	4.0	13	**PASS**
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	100@0	5.34	13	**PASS**

B2_N7(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



B2_N7(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

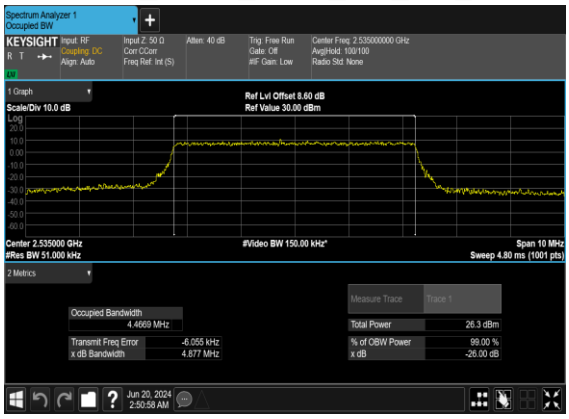


Occupied Bandwidth

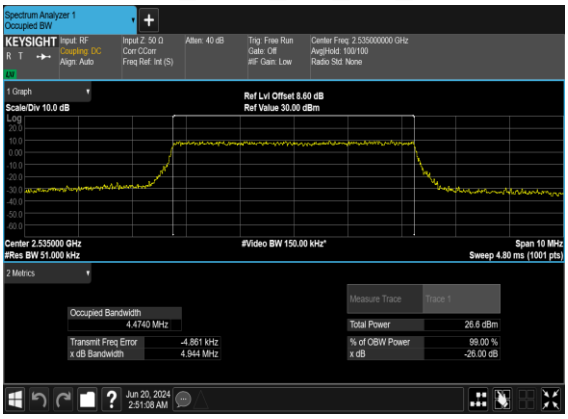
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
7	15	5	507000	2535.0	CP-OFDM QPSK	25@0	4.4669	4.877
7	15	5	507000	2535.0	CP-OFDM 16 QAM	25@0	4.474	4.944
7	15	5	507000	2535.0	CP-OFDM 64 QAM	25@0	4.4727	4.933
7	15	5	507000	2535.0	CP-OFDM 256 QAM	25@0	4.4649	4.892
7	15	10	507000	2535.0	CP-OFDM QPSK	52@0	9.2835	9.963
7	15	10	507000	2535.0	CP-OFDM 16 QAM	52@0	9.2738	9.852
7	15	10	507000	2535.0	CP-OFDM 64 QAM	52@0	9.2827	9.816
7	15	10	507000	2535.0	CP-OFDM 256 QAM	52@0	9.2951	9.856
7	15	15	507000	2535.0	CP-OFDM QPSK	79@0	14.109	14.73
7	15	15	507000	2535.0	CP-OFDM 16 QAM	79@0	14.112	14.85
7	15	15	507000	2535.0	CP-OFDM 64 QAM	79@0	14.108	14.82
7	15	15	507000	2535.0	CP-OFDM 256 QAM	79@0	14.086	14.7
7	15	20	507000	2535.0	CP-OFDM QPSK	106@0	18.924	19.75
7	15	20	507000	2535.0	CP-OFDM 16 QAM	106@0	18.928	19.69
7	15	20	507000	2535.0	CP-OFDM 64 QAM	106@0	18.934	20.2
7	15	20	507000	2535.0	CP-OFDM 256 QAM	106@0	18.895	19.77
7	15	25	507000	2535.0	CP-OFDM QPSK	133@0	23.78	24.69
7	15	25	507000	2535.0	CP-OFDM 16 QAM	133@0	23.757	24.64
7	15	25	507000	2535.0	CP-OFDM 64 QAM	133@0	23.702	24.71
7	15	25	507000	2535.0	CP-OFDM 256 QAM	133@0	23.784	24.73
7	15	30	507000	2535.0	CP-OFDM QPSK	160@0	28.531	29.56
7	15	30	507000	2535.0	CP-OFDM 16 QAM	160@0	28.557	29.59

7	15	30	507000	2535.0	CP-OFDM 64 QAM	160@0	28.57	29.53
7	15	30	507000	2535.0	CP-OFDM 256 QAM	160@0	28.539	29.64
7	15	40	507000	2535.0	CP-OFDM QPSK	216@0	38.498	39.89
7	15	40	507000	2535.0	CP-OFDM 16 QAM	216@0	38.47	39.86
7	15	40	507000	2535.0	CP-OFDM 64 QAM	216@0	38.559	39.77
7	15	40	507000	2535.0	CP-OFDM 256 QAM	216@0	38.59	39.86

B2_N7(5M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

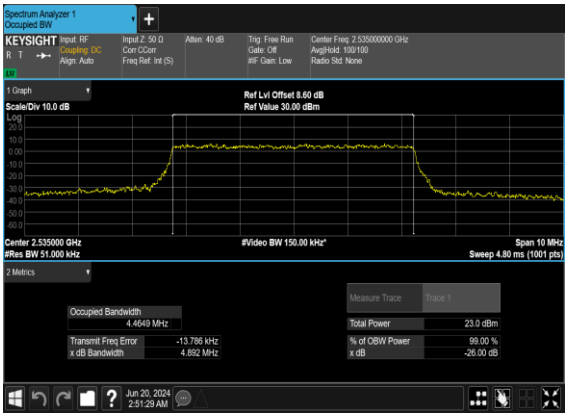


B2_N7(5M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

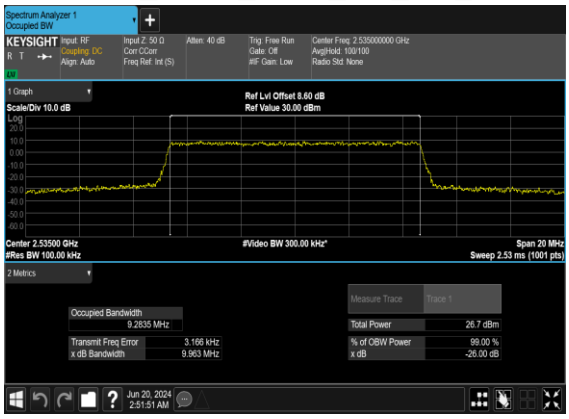


B2_N7(5M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

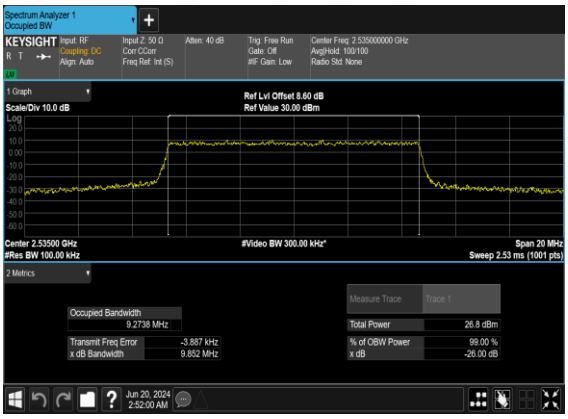
B2_N7(5M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



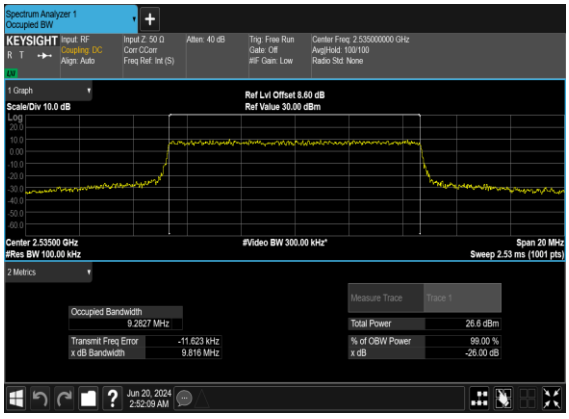
B2_N7(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



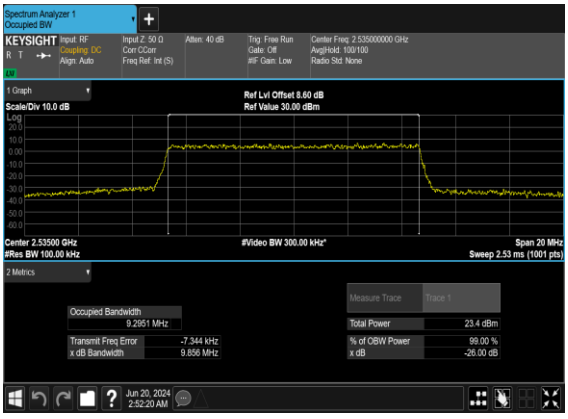
B2_N7(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



B2_N7(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

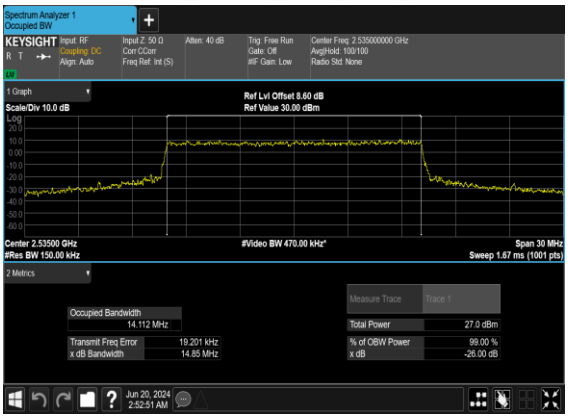


B2_N7(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



B2_N7(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

B2_N7(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



B2_N7(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

B2_N7(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

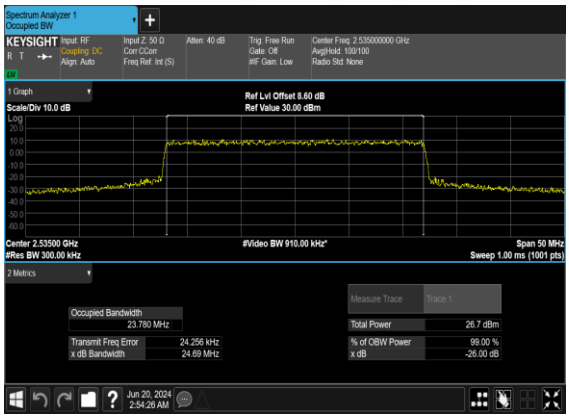
B2_N7(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

B2_N7(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

B2_N7(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

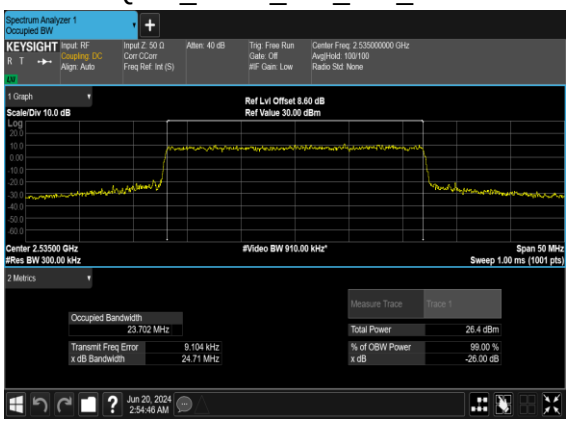
B2_N7(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

B2_N7(25M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

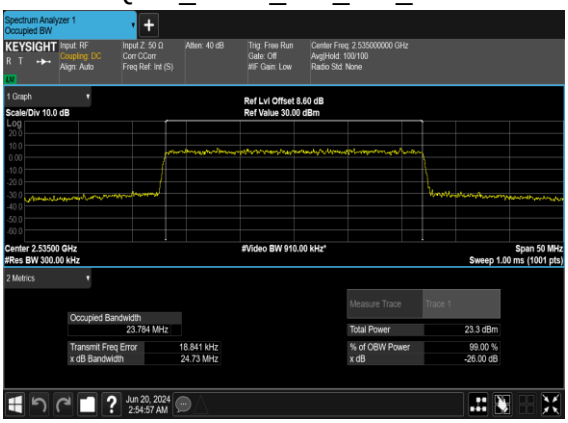


B2_N7(25M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

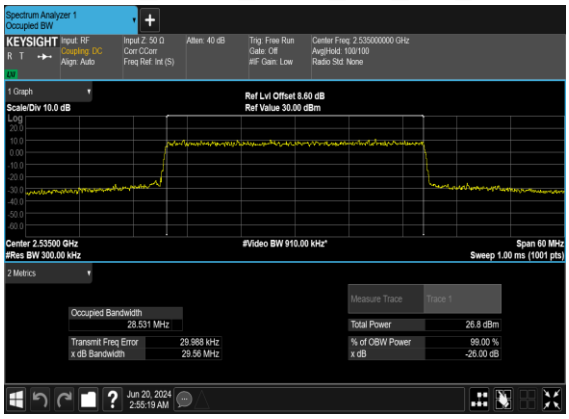
B2_N7(25M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



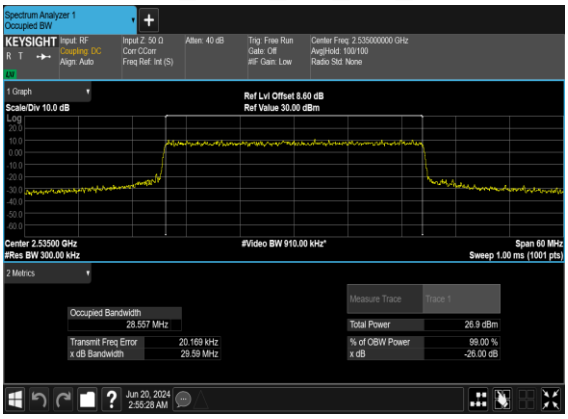
B2_N7(25M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



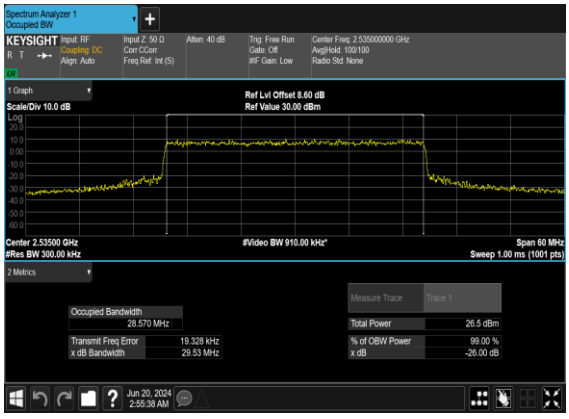
B2_N7(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



B2_N7(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

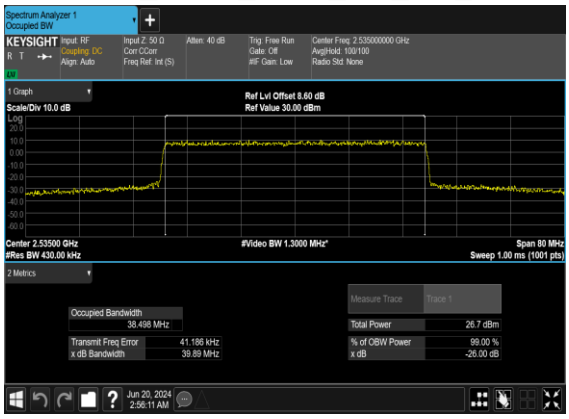


B2_N7(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

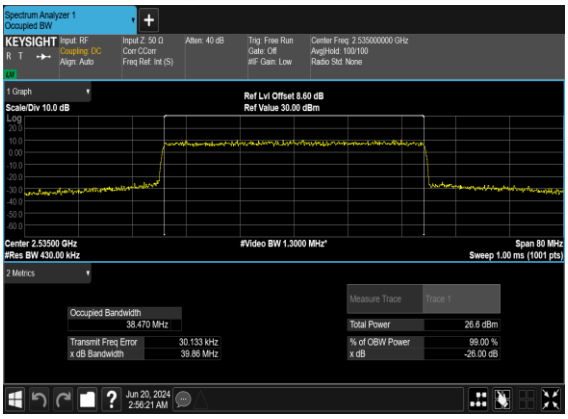


B2_N7(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

B2_N7(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



B2_N7(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



B2_N7(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

B2_N7(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

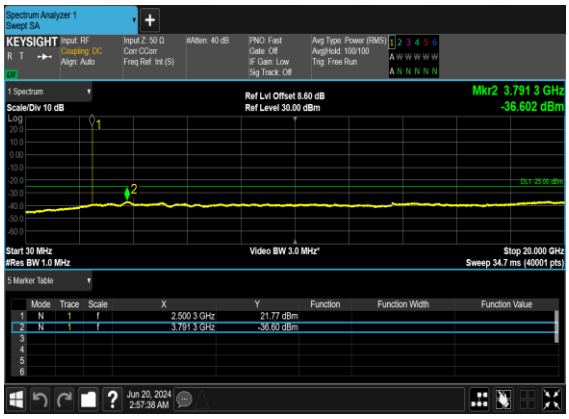
Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
7	15	5	500500	2502.5	DFT-s-OFDM BPSK	1@0	see graph	**---**
7	15	5	500500	2502.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	5	500500	2502.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	5	500500	2502.5	DFT-s-OFDM QPSK	1@0	see graph	**---**
7	15	5	500500	2502.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	5	500500	2502.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	5	507000	2535.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
7	15	5	507000	2535.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	5	507000	2535.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	5	507000	2535.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
7	15	5	507000	2535.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	5	507000	2535.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	5	513500	2567.5	DFT-s-OFDM BPSK	1@0	see graph	**---**
7	15	5	513500	2567.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	5	513500	2567.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	5	513500	2567.5	DFT-s-OFDM QPSK	1@0	see graph	**---**
7	15	5	513500	2567.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	5	513500	2567.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	20	502000	2510.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
7	15	20	502000	2510.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**

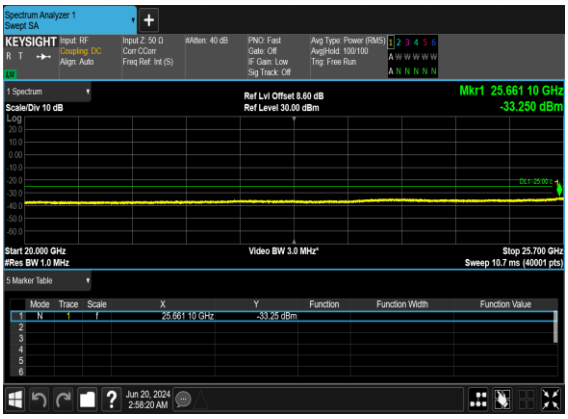
7	15	20	502000	2510.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	20	502000	2510.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
7	15	20	502000	2510.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	20	502000	2510.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	20	507000	2535.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
7	15	20	507000	2535.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	20	507000	2535.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	20	507000	2535.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	20	512000	2560.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
7	15	20	512000	2560.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	20	512000	2560.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	20	512000	2560.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
7	15	20	512000	2560.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	20	512000	2560.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	40	504000	2520.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
7	15	40	504000	2520.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	40	504000	2520.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	40	504000	2520.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
7	15	40	504000	2520.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	40	504000	2520.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

7	15	40	507000	2535.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
7	15	40	507000	2535.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	40	507000	2535.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	40	507000	2535.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
7	15	40	507000	2535.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	40	507000	2535.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	40	510000	2550.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
7	15	40	510000	2550.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	40	510000	2550.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
7	15	40	510000	2550.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
7	15	40	510000	2550.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
7	15	40	510000	2550.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

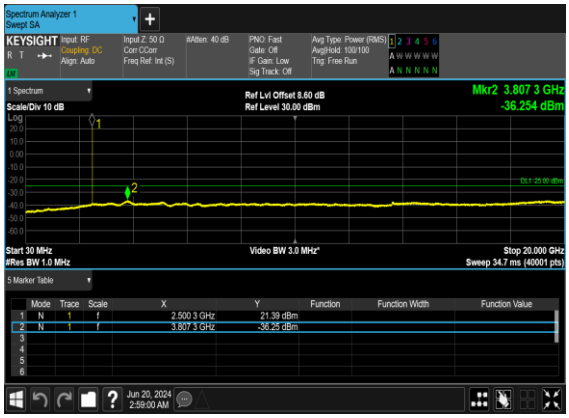
B2_N7(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



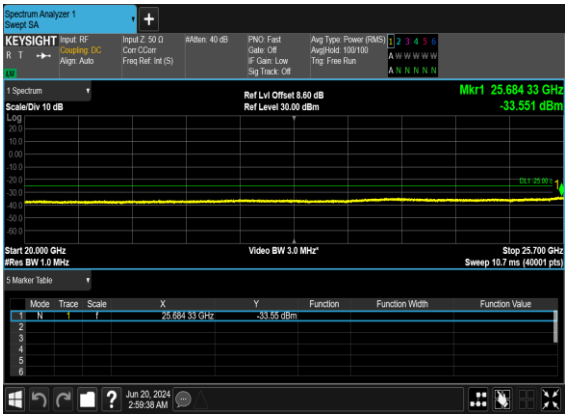
B2_N7(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



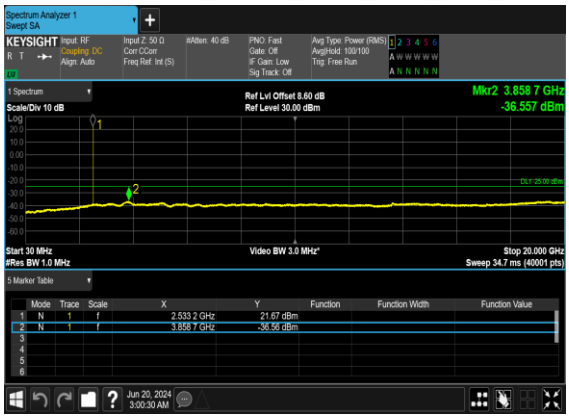
B2_N7(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



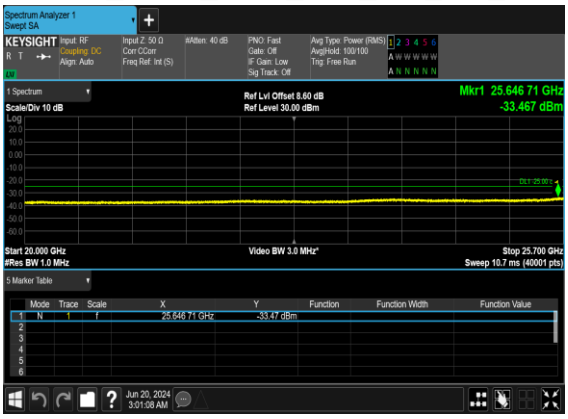
B2_N7(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



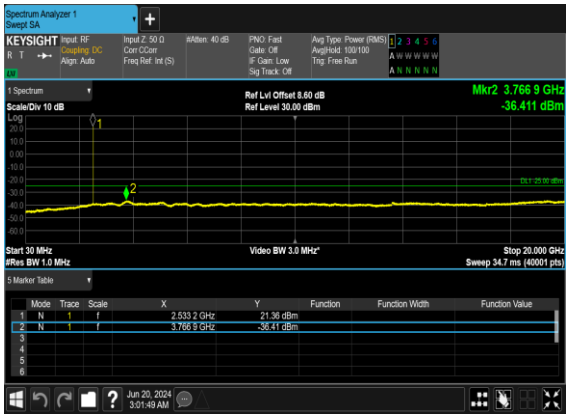
B2_N7(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



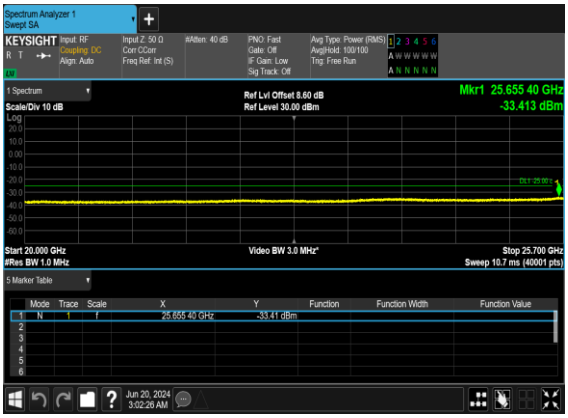
B2_N7(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



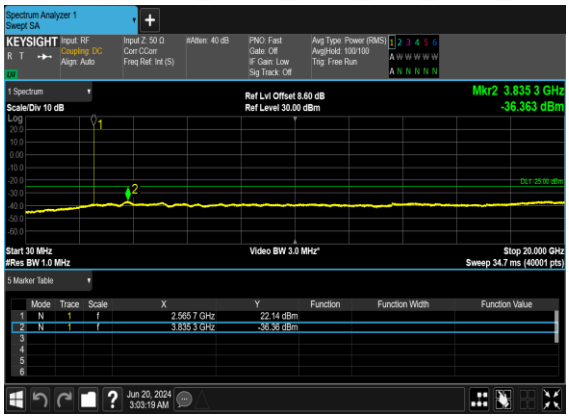
B2_N7(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



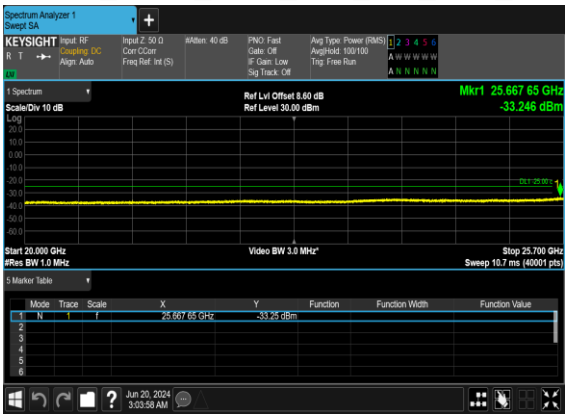
B2_N7(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



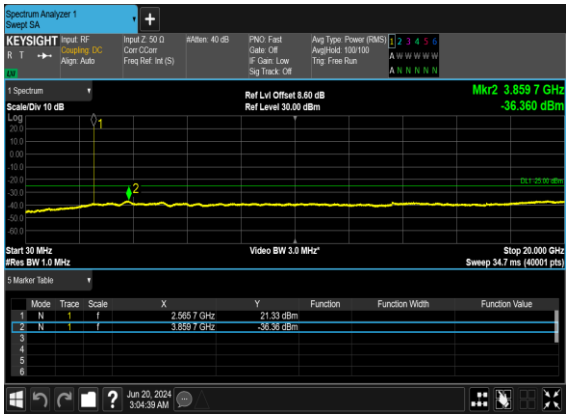
B2_N7(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



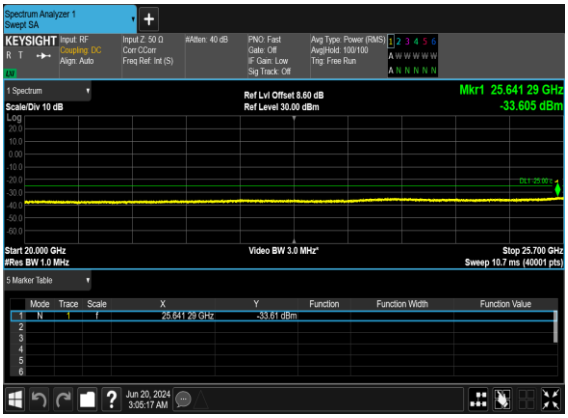
B2_N7(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



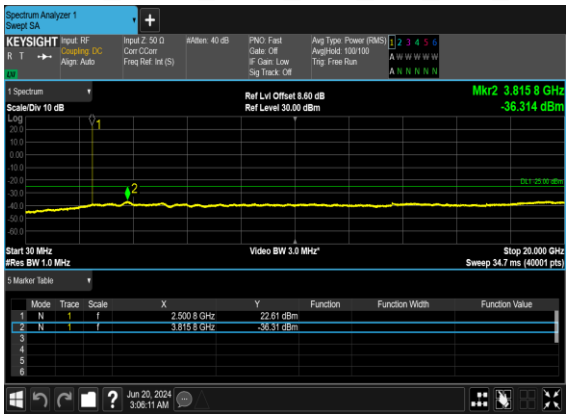
B2_N7(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



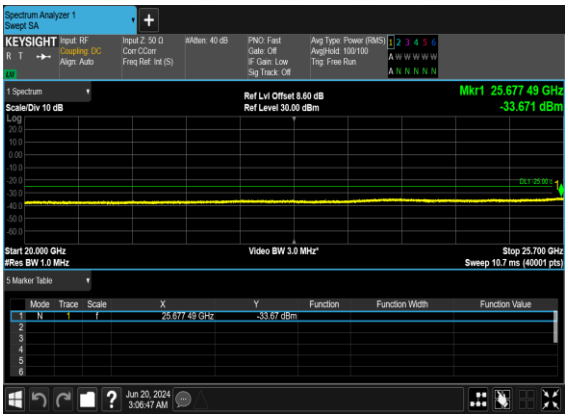
B2_N7(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



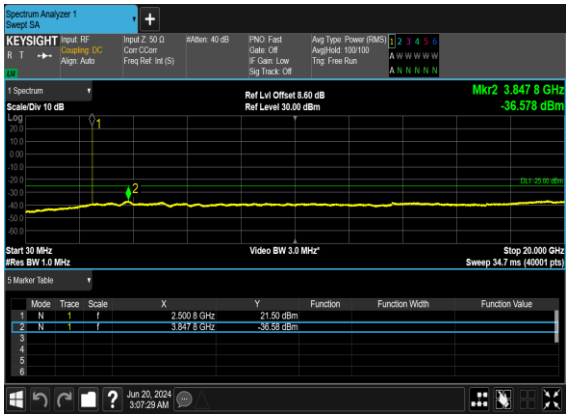
B2_N7(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



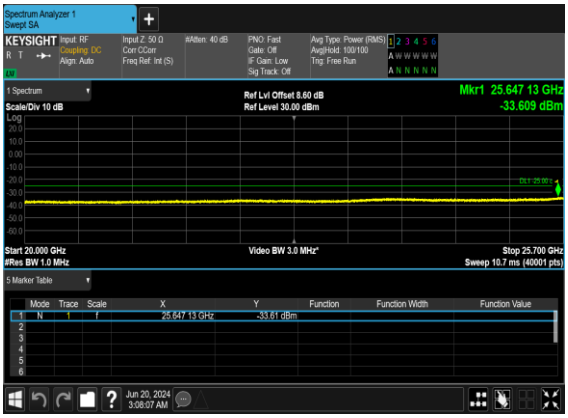
B2_N7(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



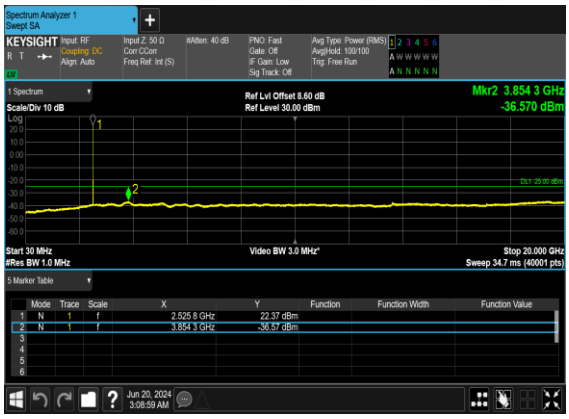
B2_N7(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



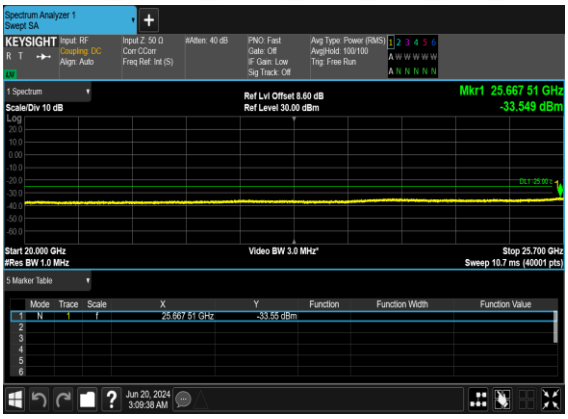
B2_N7(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



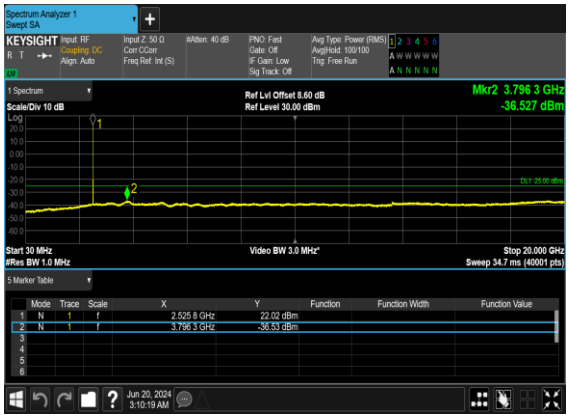
B2_N7(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



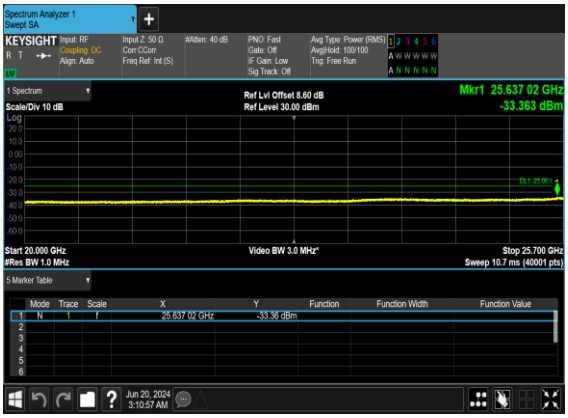
B2_N7(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



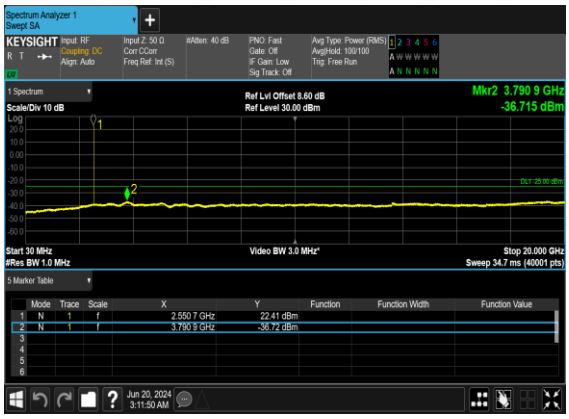
B2_N7(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



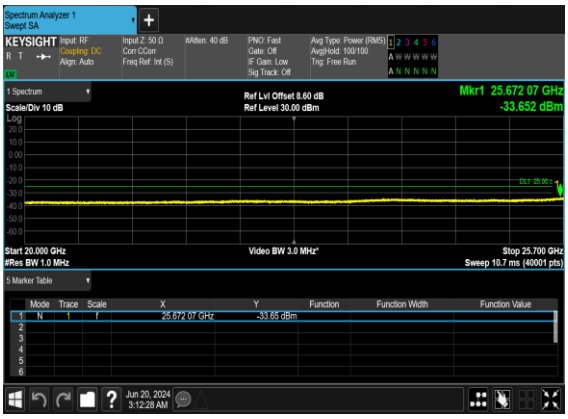
B2_N7(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



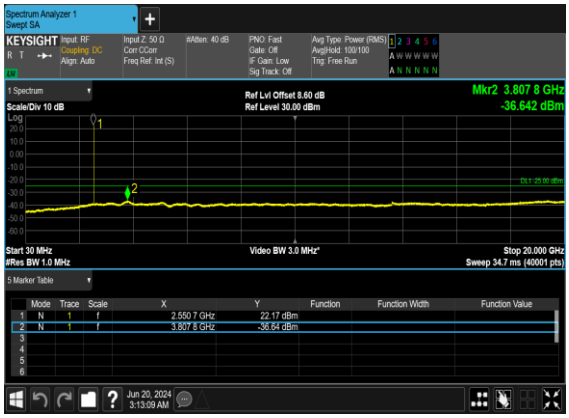
B2_N7(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



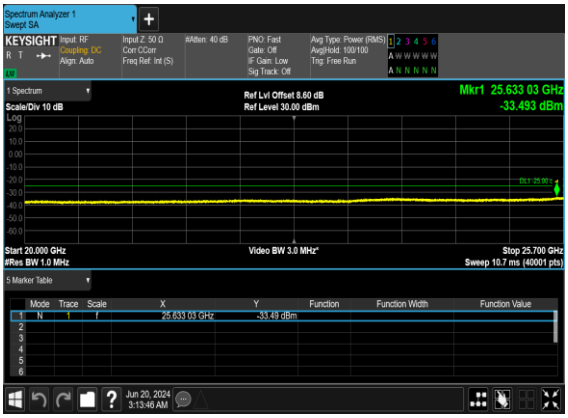
B2_N7(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



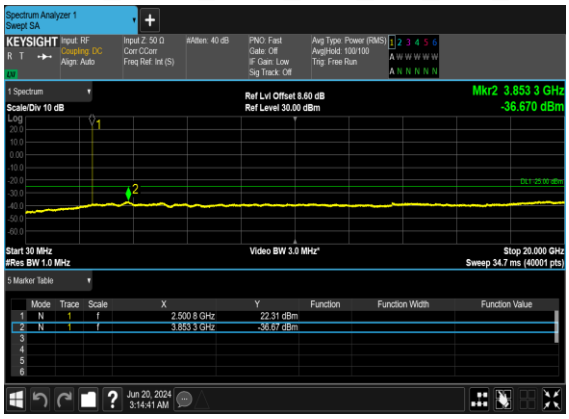
B2_N7(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



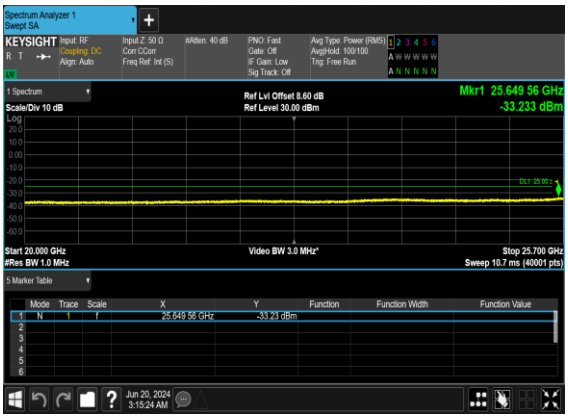
B2_N7(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



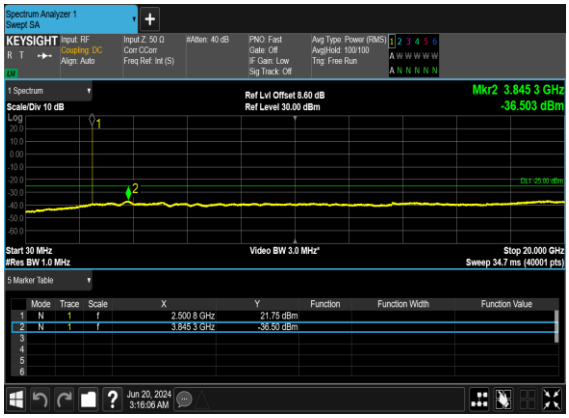
B2_N7(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



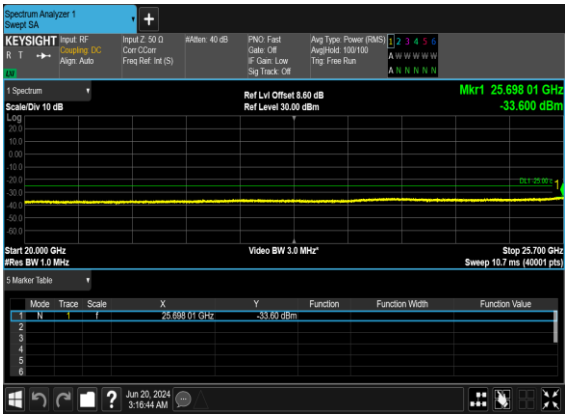
B2_N7(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



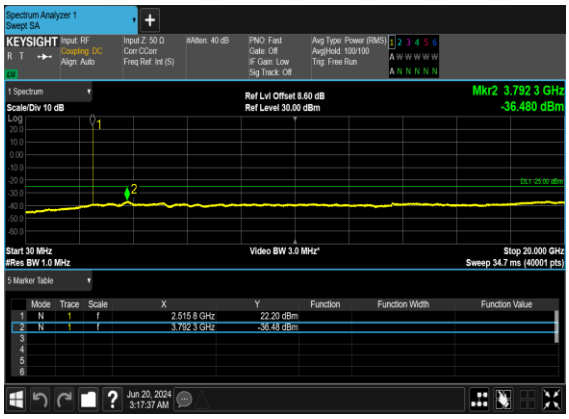
B2_N7(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



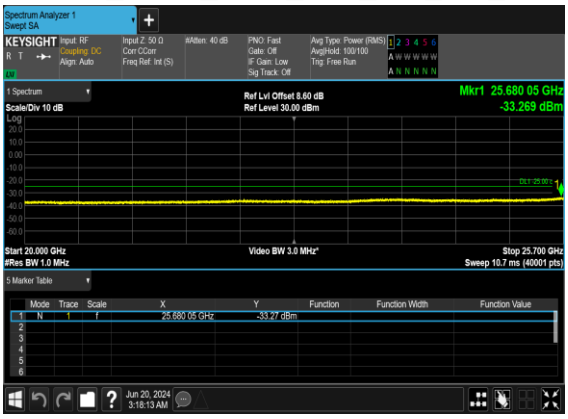
B2_N7(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



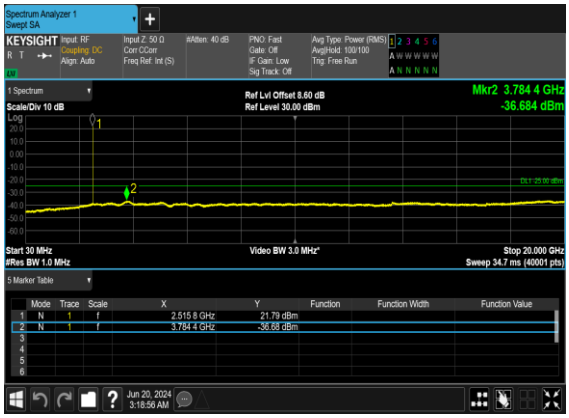
B2_N7(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



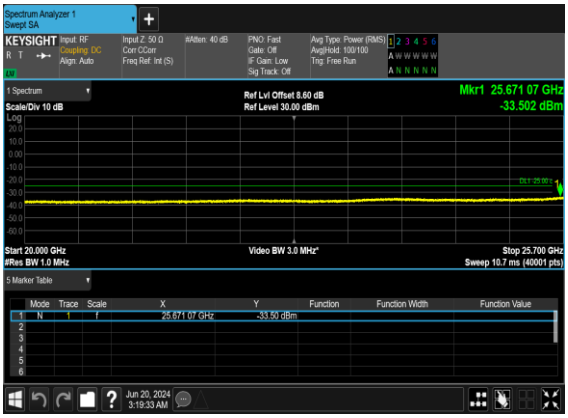
B2_N7(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



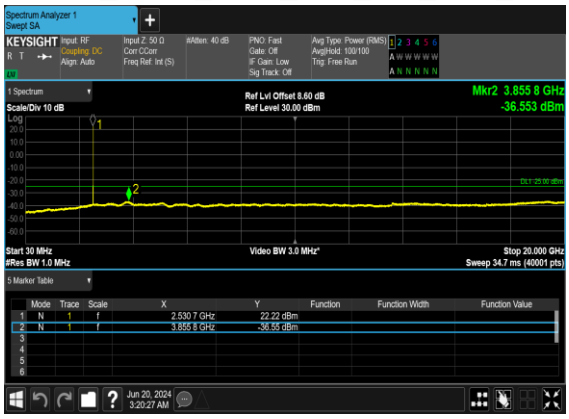
B2_N7(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



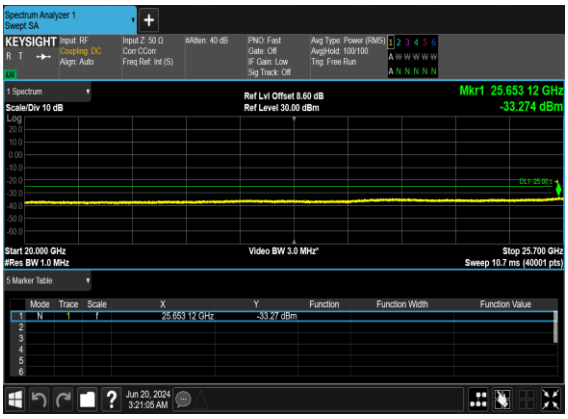
B2_N7(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



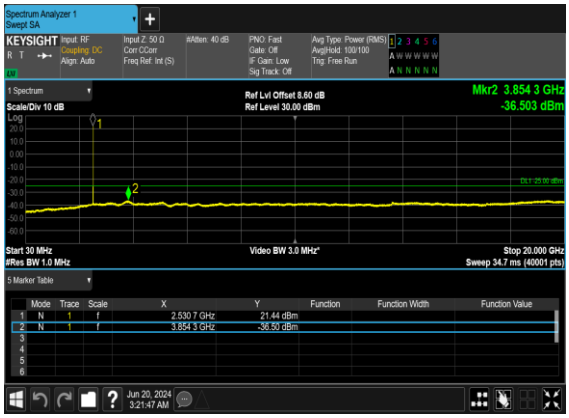
B2_N7(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



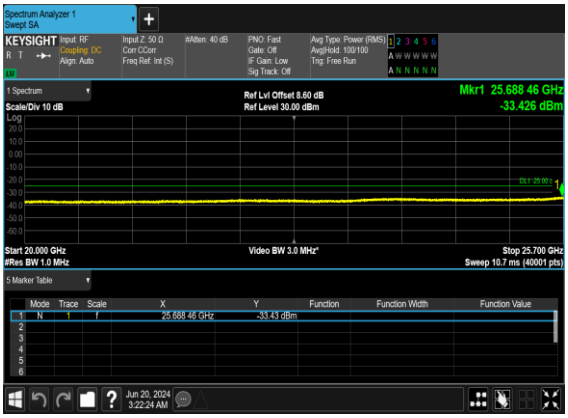
B2_N7(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



B2_N7(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



B2_N7(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

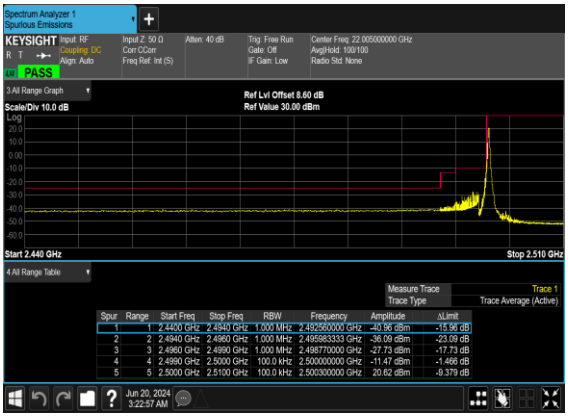


Conducted Band Edge

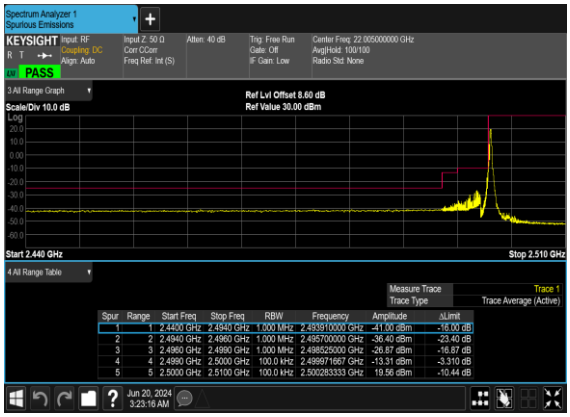
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
7	15	5	500500	2502.5	DFT-s-OFDM BPSK	1@0	see graph	PASS
7	15	5	500500	2502.5	DFT-s-OFDM QPSK	1@0	see graph	PASS
7	15	5	500500	2502.5	DFT-s-OFDM BPSK	25@0	see graph	PASS
7	15	5	500500	2502.5	DFT-s-OFDM QPSK	25@0	see graph	PASS
7	15	5	513500	2567.5	DFT-s-OFDM BPSK	1@24	see graph	PASS
7	15	5	513500	2567.5	DFT-s-OFDM QPSK	1@24	see graph	PASS
7	15	5	513500	2567.5	DFT-s-OFDM BPSK	25@0	see graph	PASS
7	15	5	513500	2567.5	DFT-s-OFDM QPSK	25@0	see graph	PASS
7	15	20	502000	2510.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
7	15	20	502000	2510.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
7	15	20	502000	2510.0	DFT-s-OFDM BPSK	100@0	see graph	PASS
7	15	20	502000	2510.0	DFT-s-OFDM QPSK	100@0	see graph	PASS
7	15	20	512000	2560.0	DFT-s-OFDM BPSK	1@105	see graph	PASS
7	15	20	512000	2560.0	DFT-s-OFDM QPSK	1@105	see graph	PASS
7	15	20	512000	2560.0	DFT-s-OFDM BPSK	100@0	see graph	PASS
7	15	20	512000	2560.0	DFT-s-OFDM QPSK	100@0	see graph	PASS
7	15	40	504000	2520.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
7	15	40	504000	2520.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
7	15	40	504000	2520.0	DFT-s-OFDM BPSK	216@0	see graph	PASS
7	15	40	504000	2520.0	DFT-s-OFDM QPSK	216@0	see graph	PASS

7	15	40	510000	2550.0	DFT-s-OFDM BPSK	1@215	see graph	**PASS**
7	15	40	510000	2550.0	DFT-s-OFDM QPSK	1@215	see graph	**PASS**
7	15	40	510000	2550.0	DFT-s-OFDM BPSK	216@0	see graph	**PASS**
7	15	40	510000	2550.0	DFT-s-OFDM QPSK	216@0	see graph	**PASS**

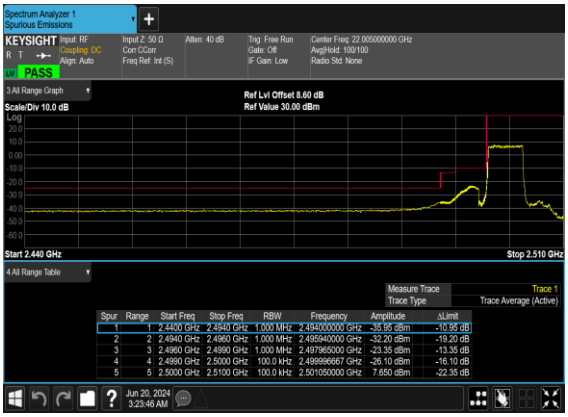
B2_N7(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



B2_N7(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



B2_N7(5M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



B2_N7(5M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH