



Spot Check Evaluation

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2529-3, XT2529-4
FCC ID : IHDT56AV3
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(M), 27(H), 27(L), 90(S)
47 CFR Part 15 Subpart C §15.247
47 CFR Part 15 Subpart E §15.407
TEST DATE(S) : Mar. 04, 2025 ~ Mar. 25, 2025

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

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

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (ShenZhen)

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
520602-02	Rev. 01	Initial issue of report	Mar. 31, 2025
520602-02	Rev. 02	Added RSE test data for EN-DC_41A_n77A on Page A9 This report is an update version, replacing the report issued on Mar. 31, 2025	Apr. 07, 2025

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/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2529-3, XT2529-4
FCC ID	IHDT56AV3
IMEI Code	Conducted: 357325840021596 Radiation: 357325840026413/357325840026421 for Sample 1 357325840034912/357325840034920 for Sample 2
HW Version	DVT2
SW Version	V2VOJ35.45
EUT Stage	Identical Prototype

Remark:

1. The difference between the two model names: XT2529-3 is paired with 8+128G memory, and XT2529-4 is paired with 4+128G memory.
2. There are two types of EUT for each model name, the differences could be referred to the XT2529-3, XT2529-4_Operational Description of Product Equality Declaration which is exhibit separately. According to the difference, we choose sample 1 for spot-check.

1.4 Modification of EUT

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

1.5 Testing Site

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

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-SZ DFS01-SZ CO02-SZ 03CH04-SZ 03CH02-SZ	CN1256	421272

1.6 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-SZ	AUDIX	E3	6.2009-8-24
2.	03CH02-SZ	AUDIX	E3	6.2009-8-24a
3.	CO02-SZ	AUDIX	E3	6.2009-8-24al
4.	DFS01-SZ	Sporton	Test Tools	1.0

1.7 Applicable Standards

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

- ♦ FCC KDB 484596 D01 Referencing Test Data v02r03
- ♦ 47 CFR Part 2, 22(H), 24(E), 27(M), 27(H), 27(L), 90(S)
- ♦ 47 CFR Part 15 Subpart C §15.247
- ♦ 47 CFR Part 15 Subpart E §15.407
- ♦ ANSI C63.10-2013
- ♦ ANSI C63.26-2015

1.8 Specification of Accessory

Accessories Information				
AC Adapter 1(US)	Brand Name	Motorola(Salcomp)	Model Name	MC-331L
AC Adapter 2(US)	Brand Name	Motorola(Chenyang)	Model Name	MC-331L
AC Adapter 3(US)	Brand Name	Motorola(Salcomp)	Model Name	MC-331
Battery 1	Brand Name	Motorola(Sunwoda)	Model Name	RB52
Battery 2	Brand Name	Motorola(ATL)	Model Name	RB52
USB Cable 1	Brand Name	Motorola(Yihuaxing)	Model Name	T365-020 T365-020-01 T365-020-02
USB Cable 2	Brand Name	Motorola(WASHIN)	Model Name	HX-TL-01 HX-TL-07 HX-TL-08
USB Cable 3	Brand Name	Motorola(Juwei)	Model Name	JWUB1614-T03H JWUB1705-T03H JWUB1856-T03H
USB Cable 4	Brand Name	Motorola(Saibao)	Model Name	STN-A131A
USB Cable 5	Brand Name	Motorola(WASHIN)	Model Name	HX-TL-04



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: XT2529-3, XT2529-4, FCC ID: IHDT56AV3) is electrically identical to the reference device (Model: XT2529-1, FCC ID: IHDT56AV1) 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, for SAR Reference detail, please refer to FCC SAR report FA520602-02.

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: IHDT56AV3 .

2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AV1 and FCC ID: IHDT56AV3 is as below:

- Remove LTE B7/13/25/40/66, 5G NR n2/n5/n7/n26/n38/n40/n66, n77/n78(3450MHz ~ 3550MHz).
- Add LTE B11/18/19, and NSA mode for 5G NR n77.
- LTE B41 upgraded to PC2 via software.

Other differences and all the details of similarity and difference can be found in the confidential documents (IHDT56AV3 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	IHDT56AV1	Full test	FR520602A	IHDT56AV3	Spot check	Y, All test items
	DTS (BLE)	2400~2483.5	IHDT56AV1	Full test	FR520602B	IHDT56AV3	Spot check	Y, All test items
	DTS (WLAN)	2400~2483.5	IHDT56AV1	Full test	FR520602C	IHDT56AV3	Spot check	Y, All test items
	DXN (NFC)	13.56	-	-	-	-	-	N
15E	U-NII	5180~5240	IHDT56AV1	Full test	FR520602E	IHDT56AV3	Spot check	Y, All test items
		5260~5320	IHDT56AV1	Full test	FR520602E	IHDT56AV3	Spot check	Y, All test items
		5500~5720	IHDT56AV1	Full test	FR520602E	IHDT56AV3	Spot check	Y, All test items
		5745~5825	IHDT56AV1	Full test	FR520602E	IHDT56AV3	Spot check	Y, All test items
		5260~5320 5500~5720	IHDT56AV1	Full test	FZ520602	IHDT56AV3	Spot check	Y, All test items
22, 24, 27, 90,	PCE (GSM)	GSM 850/1900	IHDT56AV1	Full test	FG520602A	IHDT56AV3	Spot check	Y, All test items
	PCE (WCDMA)	Band II, IV, V	IHDT56AV1	Full test	FG520602A	IHDT56AV3	Spot check	Y, All test items
	PCE (LTE)	B5/12/17/26/38	IHDT56AV1	Full test	FG520602B FG520602C	IHDT56AV3	Spot check	Y, All test items
	PCE (LTE)	B26 (90S)	IHDT56AV1	Full test	FG520602D	IHDT56AV3	Spot check	Y, All test items
	PCE (LTE)	B42 (Part27Q)	IHDT56AV1	Full test	FG520602E	IHDT56AV3	Spot check	Y, All test items
	PCE (LTE)	B2/4/41/41C	-	-	-	-	-	N
	PCE (NR)	n41/n77/n78	-	-	-	-	-	N

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 d_{dB} from the reference data satisfies the following condition:

$$d_{dB} = |V_{dB} - R_{dB}| \leq (3 + M_{dB} / 20) \text{ dB} , \text{ for } 0 \leq M_{dB} \leq 60 \text{ dB} \quad (2)$$

$$d_{dB} = |V_{dB} - R_{dB}| = 6 \text{ dB} , \text{ for } M_{dB} > 60 \text{ dB}$$

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	IHDT56AV1 Parent Worst mode Test Result	IHDT56AV3 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
BT 1Mbps (CH39)	Number of Channels	79	79	0	3
	Hopping Channel Separation	0.999	0.999	0	3
	Dwell Time of Each Channel	0.307	0.307	0	3
	20dB Bandwidth	0.852	0.865	0.013	3
	99% Bandwidth	0.755	0.753	0.002	3
	Conducted Band Edges	-54.09	-53.47	0.62	3
	Conducted Spurious Emission	-38.42	-36.27	2.15	3
BT 1Mbps (CH38)	Radiated Band Edges and Radiated Spurious Emission	45.55	44.29	1.26	3
BT	AC Conducted Emission	46.96	44.3	2.66	3
BLE 1Mbps (CH19)	6dB Bandwidth	1.172	1.176	0.004	3
	99% Bandwidth	2.034	2.038	0.004	3
	Power Spectral Density	-15.49	-15.01	0.48	3
	Conducted Band Edges	-55.34	-55.5	0.16	3
	Conducted Spurious Emission	-38.52	-36.46	2.06	3
BLE 2Mbps (CH38)	Radiated Band Edges and Spurious Emission	39.31	39.15	0.15	3
BLE	AC Conducted Emission	46.96	44.3	2.66	3
WIFI 2.4G	6dB Bandwidth	35.24	35.24	0.00	3



(802.11n HT40 CH06)	99% Bandwidth	37.31	37.07	0.24	3
	Power Spectral Density	-10.26	-10.47	0.21	3
	Conducted Band Edges	-25.36	-27.48	2.12	3
	Conducted Spurious Emission	-48	-47.66	0.34	3
WIFI 2.4G (802.11n HT40 CH03)	Radiated Band Edges and Spurious Emission	50.63	50.09	0.54	3
WIFI 2.4G	AC Conducted Emission	46.96	44.3	2.66	3
WIFI 5G (802.11a CH100)	26dB Bandwidth	32.58	29.82	2.76	3
	99% Bandwidth	32.58	29.82	2.76	3
	Power Spectral Density	7.72	7.05	0.67	3
WIFI 5G (802.11n HT40 CH38)	Unwanted Emissions	50.55	49.45	1.1	3
WIFI 5G (802.11ac VHT80 CH58)	DFS	1.018834	0.803627	0.215207	3
WIFI 5G	AC Conducted Emission	46.89	46.61	0.28	3
Part 22/24/27/90 (LTE Band 26_90S)	Peak-to-Average Ratio	5.33	5.13	0.2	3
	26dB down Bandwidth	4.87	4.93	0.06	3
	Occupied Bandwidth	4.49	4.48	0.01	3
	Conducted Band Edge	-37.86	-39.38	1.52	3
	Conducted Spurious Emission	-26.51	-24.7	1.81	3
	Frequency Stability	0.0028	0.0024	0.0004	3
GSM 850	Radiated Spurious Emission	36.85	35.16	1.69	3



Test Item	Mode	IHDT56AV1 Parent Worst mode Test Result	IHDT56AV3 Variant Check Test Result	Deviation (dB)	Deviation Limit (dB)
Conducted Power (dBm)	EDR-DH5	11.30	10.82	0.48	3
	BLE-2M	2.72	2.42	0.30	3
	11b	21.83	21.67	0.16	3
	11g	25.20	25.17	0.03	3
	11n HT20	25.27	25.22	0.05	3
	11n HT40	25.27	25.23	0.04	3
	11ac VHT20	25.17	25.14	0.03	3
	11ac VHT40	24.97	24.93	0.04	3
	11a, 5.2GHz~5.5GHz	18.90	18.42	0.48	3
	11n HT20, 5.2GHz~5.5GHz	18.74	18.43	0.31	3
	11n HT40, 5.2GHz~5.5GHz	17.39	17.36	0.03	3
	11ac VHT20, 5.2GHz~5.5GHz	18.61	18.40	0.21	3
	11ac VHT40, 5.2GHz~5.5GHz	17.30	17.21	0.09	3
	11ac VHT80, 5.2GHz~5.5GHz	16.17	16.15	0.02	3
	11a, 5.8GHz	18.62	18.31	0.31	3
	11n HT20, 5.8GHz	18.46	18.14	0.32	3
	11n HT40, 5.8GHz	17.07	17.01	0.06	3
	11ac VHT20, 5.8GHz	18.38	18.05	0.33	3
	11ac VHT40, 5.8GHz	17.03	16.98	0.05	3
	11ac VHT80, 5.8GHz	16.05	16.03	0.02	3
	GSM850	31.9	31.78	0.12	3
	GSM1900	28.96	28.67	0.29	3
	WCDMA B2	22.78	22.76	0.02	3
	WCDMA B4	22.38	22.4	0.02	3
	WCDMA B5	22.61	22.58	0.03	3
	LTE B5	22.68	22.7	0.02	3
	LTE B12	22.3	22.32	0.02	3
	LTE B17	22.23	22.28	0.05	3
	LTE B26	22.74	22.75	0.01	3
	LTE B26-90S	22.68	22.55	0.13	3
	LTE B38	22.69	22.8	0.11	3
	LTE B42	23.08	22.93	0.15	3

Conclusion:

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

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

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

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



3 List of Measuring Equipment

For BT/WIFI:

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 09, 2024	Mar. 06, 2025	Apr. 08, 2025	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1339473	30MHz~40GHz	Dec. 25, 2024	Mar. 06, 2025	Dec. 24, 2025	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Oct.14, 2024	Mar. 06, 2025	Oct. 13, 2025	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Oct. 14, 2024	Mar. 13, 2025	Oct. 13, 2025	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Mar. 13, 2025	Jul. 02, 2025	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 28, 2024	Mar. 13, 2025	Dec. 27, 2025	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	May 09, 2024	Mar. 13, 2025	May 08, 2025	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	Jul. 07, 2023	Mar. 13, 2025	Jul. 06, 2025	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 04, 2024	Mar. 13, 2025	Jul. 03, 2025	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz~3000MHz	Oct. 18, 2024	Mar. 13, 2025	Oct. 17, 2025	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 14, 2024	Mar. 13, 2025	Oct. 13, 2025	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 03, 2024	Mar. 13, 2025	Jul. 02, 2025	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY57280136	500MHz~26.5GHz	Jul. 03, 2024	Mar. 13, 2025	Jul. 02, 2025	Radiation (03CH04-SZ)
AC Power Source	APC	AFV-S-600B	F119050019	N/A	Oct. 14, 2024	Mar. 13, 2025	Oct. 13, 2025	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Mar. 13, 2025	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Mar. 13, 2025	NCR	Radiation (03CH04-SZ)
EMI Receiver	R&S	ESR7	102297	9kHz~7GHz;	Jul. 03, 2024	Mar. 04, 2025	Jul. 02, 2025	Conduction (CO02-SZ)
AC LISN	R&S	ENV216	101499	9kHz~30MHz	Jul. 03, 2024	Mar. 04, 2025	Jul. 02, 2025	Conduction (CO02-SZ)
AC Power Source	CHROMA	61601	616010002470	100Vac~250Vac	Dec.25, 2024	Mar. 04, 2025	Dec. 24, 2025	Conduction (CO02-SZ)
Signal Analyzer	R&S	FSV7	101473	10Hz~7GHz	Dec. 25, 2024	Mar. 25, 2025	Dec. 24, 2025	DFS (DFS01-SZ)
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200424	9kHz~6GHz	Apr. 09, 2024	Mar. 25, 2025	Apr. 08, 2025	DFS (DFS01-SZ)
Combiner	TOJOIN	PS-2AM-0460	SZE14011007	0.4~6GHz	Sep. 05, 2024	Mar. 25, 2025	Sep. 04, 2025	DFS (DFS01-SZ)

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	101078	10Hz~40GHz	Apr. 09, 2024	Mar. 04, 2025	Apr. 08, 2025	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V , 3A	Oct.14, 2024	Mar. 04, 2025	Oct. 13, 2025	Conducted (TH01-SZ)
Power Divider	Titan	P02N005180	923402	0.4GHz~26.5G Hz	Nov. 08, 2024	Mar. 04, 2025	Nov. 07, 2025	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 03, 2024	Mar. 04, 2025	Jul. 02, 2025	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Mar. 19, 2025	Jul. 02, 2025	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 28, 2024	Mar. 19, 2025	Dec. 27, 2025	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Oct. 24, 2023	Mar. 19, 2025	Oct. 23, 2025	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2024	Mar. 19, 2025	Jul. 04, 2025	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 03, 2024	Mar. 19, 2025	Jul. 03, 2025	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 09, 2024	Mar. 19, 2025	Apr. 08, 2025	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 18, 2024	Mar. 19, 2025	Oct. 17, 2025	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 14, 2024	Mar. 19, 2025	Oct. 13, 2025	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003043	N/A	Oct. 18, 2024	Mar. 19, 2025	Oct. 17, 2025	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Mar. 19, 2025	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Mar. 19, 2025	NCR	Radiation (03CH02-SZ)

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	±1.34 dB
Occupied Channel Bandwidth	±0.012 MHz
Conducted Power	±1.34 dB
Conducted Power Spectral Density	±1.32 dB
Frequency	±1.3 Hz

Uncertainty of Conducted Measurement (DFS)

Test Item	Uncertainty
Conducted Generated signal Levels	±1.23 dB
Conducted Time	0.38%

Uncertainty of Conducted Measurement (WWAN)

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 AC Conducted Emission Measurement (0.15 MHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.5 dB
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**03CH04-SZ(BT/WIFI):****Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)**

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

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

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

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

03CH02-SZ(WWAN):**Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)**

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.47 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.31 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.72 dB
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Appendix A. Radiated Spurious Emission

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

Co-location

Radiated Spurious Emission Test Modes

Mode	Band	Band (GHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	U-NII-1	5.15-5.25	5	802.11n HT40	38	5190	MCS0	-	-
		2400-2483.5	6	Bluetooth-LE_GSFK	38	2478	2Mbps		
		LTE	1	B41 Link+NFC ON					

Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	CO_TX		5150.00	48.82	54.00	-5.18	H	Average	Pass	Band Edge
			10380.00	47.39	68.30	-20.91	V	Peak	Pass	Harmonic

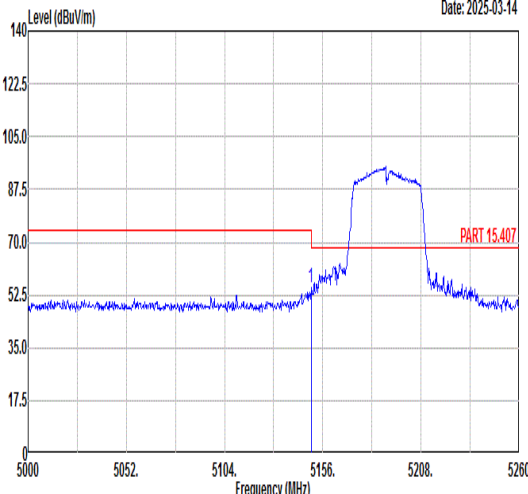
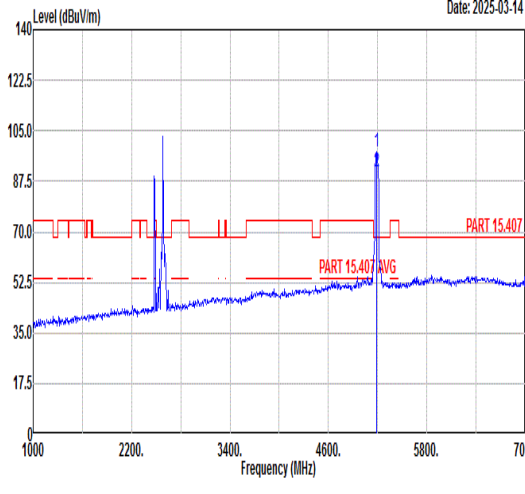
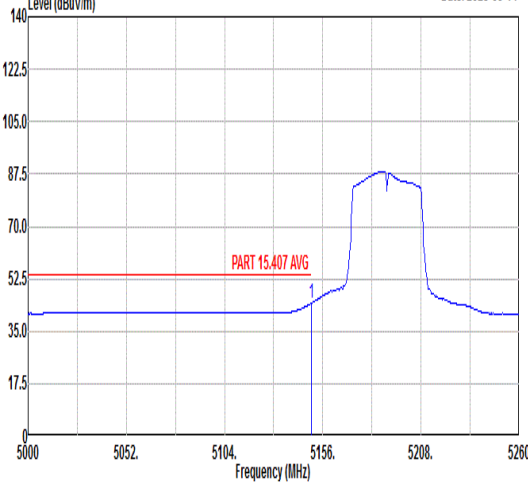


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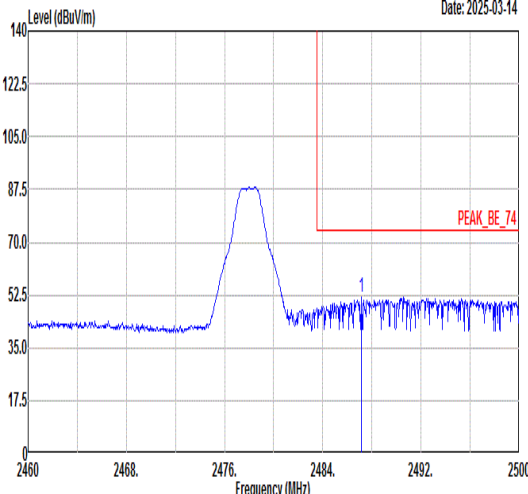
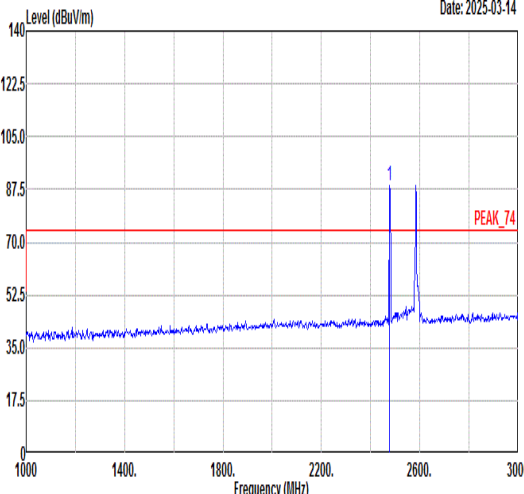
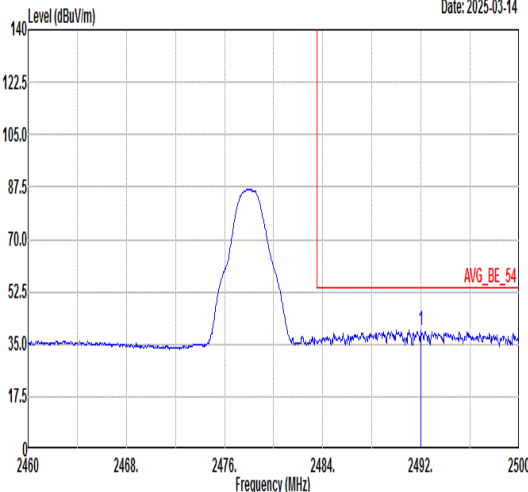
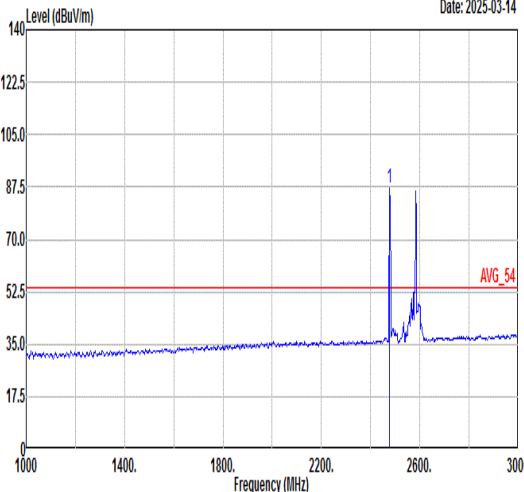


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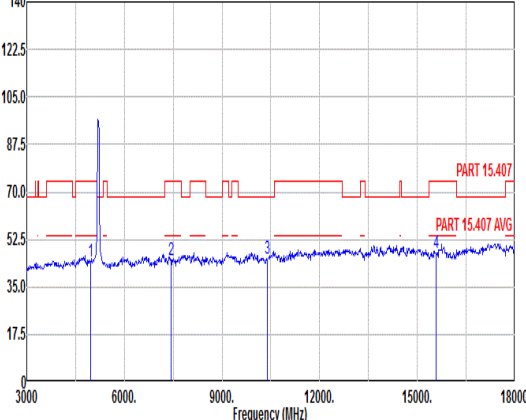
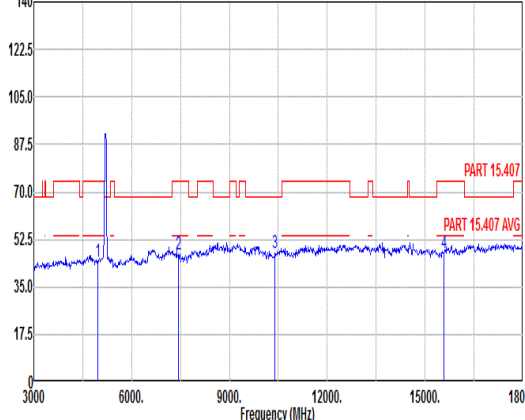


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	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	cm	deg																																																																																	
1	2478.00	88.50	-----	-----	86.36	30.80	5.45	34.11	254	298	Peak																																																																															
Avg																																																																																										
	<table><tr><th></th><th>Limit</th><th>Read</th><th>Ant</th><th>Cable</th><th>Preamp</th><th>APos</th><th>TPos</th><th></th></tr><tr><th>Freq</th><th>Level</th><th>Line</th><th>Margin</th><th>Level</th><th>Factor</th><th>Loss Factor</th><th></th><th>Remark</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB/m</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2491.96</td><td>39.77</td><td>54.00</td><td>-14.23</td><td>37.60</td><td>30.80</td><td>5.47</td><td>34.10</td><td>254</td><td>298</td><td>Average</td></tr></table>							Limit	Read	Ant	Cable	Preamp	APos	TPos		Freq	Level	Line	Margin	Level	Factor	Loss Factor		Remark		MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	cm	deg	1	2491.96	39.77	54.00	-14.23	37.60	30.80	5.47	34.10	254	298	Average	<table><tr><th></th><th>Limit</th><th>Read</th><th>Ant</th><th>Cable</th><th>Preamp</th><th>APos</th><th>TPos</th><th></th></tr><tr><th>Freq</th><th>Level</th><th>Line</th><th>Margin</th><th>Level</th><th>Factor</th><th>Loss Factor</th><th></th><th>Remark</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB/m</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2478.00</td><td>87.25</td><td>-----</td><td>-----</td><td>85.11</td><td>30.80</td><td>5.45</td><td>34.11</td><td>254</td><td>298</td><td>Average</td></tr></table>						Limit	Read	Ant	Cable	Preamp	APos	TPos		Freq	Level	Line	Margin	Level	Factor	Loss Factor		Remark		MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	cm	deg	1	2478.00	87.25	-----	-----	85.11	30.80	5.45	34.11	254	298
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4	15570.00	47.59	74.00	-26.41	26.58	41.34	14.60	34.93	---	---	Peak																																																																												

Remark: All signals exceeding the limit are fundamental frequency signals and can be ignored.



EN-DC_41A_n77A / LTE 20MHz + NR 100MHz / QPSK(1+7)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n77 Middle	7584.00	-58.66	-13	-45.66	-64.59	-61.96	8.30	11.60	H
	11376.00	-53.71	-13	-40.71	-68.48	-55.23	10.48	12.00	H
	15168.00	-52.10	-13	-39.10	-69.12	-53.80	11.80	13.50	H
	7584.00	-59.24	-13	-46.24	-65.13	-62.54	8.30	11.60	V
	11376.00	-53.89	-13	-40.89	-68.39	-55.41	10.48	12.00	V
	15168.00	-52.71	-13	-39.71	-69.08	-54.41	11.80	13.50	V
LTE Band41 Middle	5177.00	-58.97	-25	-33.97	-80.76	-64.53	7.14	12.70	H
	7765.50	-58.69	-25	-33.69	-64.97	-61.99	8.30	11.60	H
	10354.00	-55.59	-25	-30.59	-67.23	-57.11	10.48	12.00	H
	5177.00	-58.92	-25	-33.92	-81	-64.48	7.14	12.70	V
	7765.50	-58.79	-25	-33.79	-64.91	-62.09	8.30	11.60	V
	10354.00	-56.31	-25	-31.31	-67.08	-57.83	10.48	12.00	V

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

EN-DC_41A_n77A / LTE 20MHz + NR 100MHz / QPSK(1+7) for Other PA									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n77 Middle	7584.00	-59.07	-13	-46.07	-65.00	-62.37	8.30	11.60	H
	11376.00	-53.40	-13	-40.40	-68.17	-54.92	10.48	12.00	H
	15168.00	-51.79	-13	-38.79	-68.81	-53.49	11.80	13.50	H
	7584.00	-59.38	-13	-46.38	-65.27	-62.68	8.30	11.60	V
	11376.00	-53.82	-13	-40.82	-68.32	-55.34	10.48	12.00	V
	15168.00	-52.48	-13	-39.48	-68.85	-54.18	11.80	13.50	V
LTE Band41 Middle	5177.00	-59.08	-25	-34.08	-80.87	-64.64	7.14	12.70	H
	7765.50	-58.16	-25	-33.16	-64.44	-61.46	8.30	11.60	H
	10354.00	-55.36	-25	-30.36	-67.00	-56.88	10.48	12.00	H
	5177.00	-59.09	-25	-34.09	-81.17	-64.65	7.14	12.70	V
	7765.50	-58.82	-25	-33.82	-64.94	-62.12	8.30	11.60	V
	10354.00	-56.35	-25	-31.35	-67.12	-57.87	10.48	12.00	V

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