



# Spot Check Evaluation

APPLICANT : Motorola Mobility LLC  
EQUIPMENT : Mobile Cellular Phone  
BRAND NAME : Motorola  
MODEL NAME : XT2427-2  
FCC ID : IHDT56AN9  
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(M), 27(Q), 90(S)  
47 CFR Part 15 Subpart C §15.247  
47 CFR Part 15 Subpart E §15.407  
TEST DATE(S) : Apr. 16, 2024 ~ May 09, 2024

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

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

**Sporton International Inc. (Kunshan)**

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300  
People's Republic of China**



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### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
432901-01	Rev. 01	Initial issue of report	May 10, 2024
432901-01	Rev. 02	Updated accessories in section 1.8.	May 17, 2024

**Conformity Assessment Condition:**

- 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.
- 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	XT2427-2
FCC ID	IHDT56AN9
IMEI Code	Conducted/DFS:358691460005253 Conduction: 356446900013298/356446900013306 Radiation(part15C/15E): 356446900013116/356446900013124 Radiation(WWAN): 356446900012993/356446900013009
HW Version	DVT2
SW Version	U3UO34.31
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4 Modification of EUT

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



### 1.5 Testing Site

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

<b>Test Firm</b>	Sporton International Inc. (Kunshan)		
<b>Test Site Location</b>	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	TH01-KS CO01-KS DFS01-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.

<b>Test Firm</b>	Sporton International Inc. (Shenzhen)		
<b>Test Site Location</b>	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		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	03CH01-SZ	CN1256	421272

### 1.6 Test Software

Item	Site	Manufacturer	Name	Version
1.	TH01-KS	SPORTON	FCC 15C-15E Test Tools Ver10.0_210607	10.0
2.	TH01-KS	SPORTON	Part2224_Ver5.0 200330	5.0
3.	CO01-KS	AUDIX	E3	6.2009-8-24
4.	03CH01-SZ	AUDIX	E3	6.2009-8-24
5.	DFS01-KS	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(Q), 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

Specification of Accessory				
AC Adapter 1(US)	Brand Name	Motorola (Chenyang)	Model Name	MC-331
AC Adapter 1(EU)	Brand Name	Motorola (Chenyang)	Model Name	MC-332
AC Adapter 1(AU)	Brand Name	Motorola (Chenyang)	Model Name	MC-335
AC Adapter 1(AR)	Brand Name	Motorola (Chenyang)	Model Name	MC-336
AC Adapter 1(BR)	Brand Name	Motorola (Chenyang)	Model Name	MC-337
AC Adapter 2(US)	Brand Name	Motorola (AOHAI)	Model Name	MC-331
AC Adapter 2(EU)	Brand Name	Motorola (AOHAI)	Model Name	MC-332
AC Adapter 2(UK)	Brand Name	Motorola (AOHAI)	Model Name	MC-333
AC Adapter 3(CHILE)	Brand Name	Motorola (Salcomp)	Model Name	MC-339
AC Adapter 3(KR)	Brand Name	Motorola (Salcomp)	Model Name	MC-330
Battery 1	Brand Name	Motorola (SCUD)	Model Name	QE50
Battery 2	Brand Name	Motorola (COSMX)	Model Name	QE50
USB Cable 1	Brand Name	Motorola (hexin)	Model Name	S928E21807
USB Cable 2	Brand Name	Motorola (chuantuo)	Model Name	S928E21806
Earphone	Brand Name	Motorola (Lyand)	Model Name	MI181C



## 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: XT2427-2, FCC ID: IHDT56AN9) is electrically identical to the reference device (Model: XT2427-1, FCC ID: IHDT56AN8) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 15C (equipment class: DTS, DSS) and FCC Part 15E (equipment class: NII) and FCC Part 22, 24, 27, 90S (equipment class: PCE) referencing the original model's result and do spot-check, following the FCC KDB 484596 D01 Referencing Test Data v02r03.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: IHDT56AN9 .

### 2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AN8 and FCC ID: IHDT56AN9 is as below:

- Remove WCDMA Band IV/LTE B4/12/13/17/25/66 and 5G NR n2/n66/n78(3450 MHz ~ 3550 MHz).
- Add LTE B18/19/20/32 and 5G NR n8/n20/n77/n78(3700 MHz ~ 3800 MHz).

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2427-2\_Operational Description of Product Equality Declaration).



2.3 Reference detail Section:

Rule Part	Equipment Class	Frequency Band (MHz)	Reference FCC ID (Parent)	Type Grant/Permissive Change	Reference Title	FCC ID Filling (Variant)	Report Title/Section
15C	DSS (BR/EDR)	2400~2483.5	IHDT56AN8	Original Grant	FR432901A	IHDT56AN9	All sections applicable
	DTS (BLE)	2400~2483.5	IHDT56AN8	Original Grant	FR432901B	IHDT56AN9	All sections applicable
	DTS (WLAN)	2400~2483.5	IHDT56AN8	Original Grant	FR432901C	IHDT56AN9	All sections applicable
15E	U-NII	5180~5240	IHDT56AN8	Original Grant	FR432901E	IHDT56AN9	All sections applicable
		5260~5320	IHDT56AN8	Original Grant	FR432901E	IHDT56AN9	All sections applicable
		5500~5720	IHDT56AN8	Original Grant	FR432901E	IHDT56AN9	All sections applicable
		5745~5825	IHDT56AN8	Original Grant	FR432901E	IHDT56AN9	All sections applicable
		5260~5320 5500~5720	IHDT56AN8	Original Grant	FZ432901	IHDT56AN9	All sections applicable
22, 24, 27, 90S	PCE (GSM)	GSM 850/1900	IHDT56AN8	Original Grant	FG432901A	IHDT56AN9	All sections applicable
	PCE (WCDMA)	Band II, V	IHDT56AN8	Original Grant	FG432901A	IHDT56AN9	All sections applicable
	PCE (LTE)	B2/5/7/7C/26/38/38C/41/42	IHDT56AN8	Original Grant	FG432901B FG432901C FG432901E	IHDT56AN9	All sections applicable
		B26(90S)	IHDT56AN8	Original Grant	FG432901D	IHDT56AN9	All sections applicable, except for RSE
	PCE (5G NR)	n5/n7/n26/n38/n41	IHDT56AN8	Original Grant	FG432901G	IHDT56AN9	sections applicable for RSE

Note1: DC\_7A\_n5A/DC\_5A\_n41A have added to full test.





### 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:

$$d_{dB} = |V_{dB} - R_{dB}| \leq 3 \text{ dB} \tag{1}$$

$V_{dB}$ , 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:

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

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

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	IHDT56AN8 Parent Worst mode Test Result	IHDT56AN9 Variant Check Test Result	Deviation (dB)	Limit (dB)
BT 1Mbps (CH78)	Number of Channels	79	79	0	3
	Hopping Channel Separation	0.835	0.9986	0.1636	3
	Dwell Time of Each Channel	0.31	0.31	0	3
	20dB Bandwidth	0.94	0.9378	0.0022	3
	99% Bandwidth	0.854	0.851	0.003	3
	Conducted Band Edges	-42.84	-44.38	1.54	3
	Conducted Spurious Emission	-35.74	-38.12	2.38	3
BT 1Mbps (CH00)	Radiated Band Edges and Radiated Spurious Emission	51.57	49.75	1.82	3
BT	AC Conducted Emission	14.94	15.71	0.77	3
BLE 1Mbps (CH00)	6dB Bandwidth	0.660	0.660	0	3
	99% Bandwidth	1.027	1.023	0.004	3
	Power Spectral Density	-4.90	-5.22	0.32	3
	Conducted Band Edges	-41.88	-42.85	0.97	3



	Conducted Spurious Emission	-36.36	-38.33	1.97	3
BLE 2Mbps (CH39)	Radiated Band Edges and Spurious Emission	39.96	42.78	2.82	3
BLE	AC Conducted Emission	14.94	15.71	0.77	3
WIFI 2.4G (802.11N20 CH11)	6dB Bandwidth	16.16	15.30	0.86	3
	99% Bandwidth	18.382	18.03	0.352	3
	Power Spectral Density	-8.34	-6.31	2.03	3
	Conducted Band Edges	-36.91	-35.31	1.6	3
	Conducted Spurious Emission	-35.69	-38.22	2.53	3
WIFI 2.4G (802.11g CH01)	Radiated Band Edges and Spurious Emission	50.72	50.79	0.07	3
WIFI 2.4G	AC Conducted Emission	14.94	15.71	0.77	3
WIFI 5G (802.11a CH149)	26dB Bandwidth	21.10	21.329	0.229	3
WIFI 5G (802.11a CH149)	99% Bandwidth	16.983	16.683	0.3	3
WIFI 5G (802.11a CH149)	Power Spectral Density	4.89	3.29	1.6	3
WIFI 5G (802.11a CH149)	Conducted Output Power	18.55	17.73	0.82	3
802.11ac VHT40_Ch155	Unwanted Emissions	54.5	54.16	0.34	3
WIFI 5G (802.11ac VHT80 CH106)	DFS	10	10	0	3
WIFI 5G	AC Conducted Emission	14.25	16.16	1.91	3
Part 22/24/27 (LTE Band 41)	Equivalent Isotropic Radiated Power	0.0693	0.0690	0.0003	3
	Peak-to-Average Ratio	7.86	6.85	1.01	3
	Occupied Bandwidth	17.90	17.82	0.08	3
	Conducted Band Edge	-27.15	-29.55	2.4	3
	Conducted Spurious Emission	-47.40	-45.22	2.18	3
	Frequency Stability	0.0061	0.0028	0.0033	3
Part 22/24/27	-				
Part 22H 2G 850	Radiated Spurious Emission	-32.41	-34.94	2.53	3
Part 22H 3G 850		-56.94	-56.80	-0.14	3
Part 24E 2G 1900		-52.04	-51.19	-0.85	3
Part 24E LTE B2		-56.25	-54.46	-1.79	3
Part 27M LTE Band 7C		-51.08	-50.92	-0.16	3
Part 27M SA N7		-52.46	-51.5	-0.96	3



Test Item	Mode	IHDT56AN8 Parent Worst mode Test Result	IHDT56AN9 Variant Check Test Result	Deviation (dB)	Limit (dB)
Conducted Power (dBm)	BT BR/EDR	14.69	13.76	0.93	3
	BLE 1Mbps	11.39	10.67	0.72	3
	BLE 2Mbps	11.75	10.89	0.86	3
	11b, 2.4GHz	21.15	21.06	0.09	3
	11g, 2.4GHz	23.46	23.31	0.15	3
	11n HT20, 2.4GHz	23.42	23.36	0.06	3
	11n HT40, 2.4GHz	22.95	22.88	0.07	3
	11a, 5.2GHz	18.79	18.19	0.6	3
	11a, 5.3GHz	18.95	18.83	0.12	3
	11a, 5.5GHz	18.89	18.85	0.04	3
	11a, 5.8GHz	18.62	17.52	1.1	3
	11n HT20, 5.2GHz	18.59	17.99	0.6	3
	11n HT20, 5.3GHz	18.77	18.69	0.08	3
	11n HT20, 5.5GHz	18.77	18.25	0.52	3
	11n HT20, 5.8GHz	18.43	17.49	0.94	3
	11ac VHT20, 5.2GHz	18.63	18.02	0.61	3
	11ac VHT20, 5.3GHz	18.79	18.71	0.08	3
	11ac VHT20, 5.5GHz	18.79	18.28	0.51	3
	11ac VHT20, 5.8GHz	18.48	17.52	0.96	3
	11n HT40, 5.2GHz	17.5	16.95	0.55	3
	11n HT40, 5.3GHz	17.47	17.22	0.25	3
	11n HT40, 5.5GHz	17.71	17.68	0.03	3
	11n HT40, 5.8GHz	17.58	16.67	0.91	3
	11ac VHT40, 5.2GHz	17.61	16.98	0.63	3
	11ac VHT40, 5.3GHz	17.59	17.23	0.36	3
	11ac VHT40, 5.5GHz	17.88	17.73	0.15	3
	11ac VHT40, 5.8GHz	17.69	16.7	0.99	3
	11ac VHT80, 5.2GHz	13.51	13.28	0.23	3
	11ac VHT80, 5.3GHz	13.43	13.22	0.21	3
	11ac VHT80, 5.5GHz	16.56	16.53	0.03	3
	11ac VHT80, 5.8GHz	16.54	15.28	1.26	3
	GSM 850	31.93	31.88	0.05	3
	GSM 1900	29.40	29.26	0.14	3
	WCDMA 850	22.65	22.56	0.09	3
	WCDMA 1900	22.66	22.58	0.08	3
	LTE B2	22.71	22.66	0.05	3
	LTE B5	22.47	22.38	0.09	3
	LTE B26	22.55	22.33	0.22	3
	LTE B26-90S	22.38	22.37	0.01	3
	LTE B7	22.68	22.58	0.1	3
LTE B38	22.88	22.76	0.12	3	
LTE B41	22.91	22.86	0.05	3	
LTE B42	22.96	22.92	0.04	3	
LTE B7CA	22.56	22.48	0.08	3	
LTE B38CA	22.86	22.82	0.04	3	



**Conclusion:**

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

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

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

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

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



### 3 List of Measuring Equipment

For BT/WIFI:

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	May 08, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2024	May 08, 2024	Jan. 01, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2024	May 08, 2024	Jan. 01, 2025	Conducted (TH01-KS)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2023	Apr. 16, 2024	Dec. 26, 2024	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 07, 2023	Apr. 16, 2024	Jul. 06, 2024	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Apr. 16, 2024	Jul. 27, 2024	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Oct. 24, 2023	Apr. 16, 2024	Oct. 23, 2025	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 08, 2023	Apr. 16, 2024	Jul. 07, 2024	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz~40GHz	Apr. 09, 2024	Apr. 16, 2024	Apr. 08, 2025	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 09, 2024	Apr. 16, 2024	Apr. 08, 2025	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 18, 2023	Apr. 16, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 18, 2023	Apr. 16, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 07, 2023	Apr. 16, 2024	Jul. 06, 2024	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	Oct. 18, 2023	Apr. 16, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Apr. 16, 2024	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Apr. 16, 2024	NCR	Radiation (03CH01-SZ)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	May 16, 2023	May 09, 2024	May 15, 2024	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 11, 2023	May 09, 2024	Oct. 10, 2024	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	May 16, 2023	May 09, 2024	May 15, 2024	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000811	AC 0V~300V, 45Hz~1000Hz	Oct. 11, 2023	May 09, 2024	Oct. 10, 2024	Conduction (CO01-KS)
Spectrum Analyzer	R&S	FSV7	101632	10Hz~7GHz	Jan. 03, 2024	May 09, 2024	Jan. 02, 2025	DFS (DFS01-KS)
Signal Generator	KEYSIGHT	N5182B	MY53050604	9KHz~6GHz	May 15, 2023	May 09, 2024	May 14, 2024	DFS (DFS01-KS)
Combiner	MTJ Cooperation	MTJ7112	N/A	0.4-6GHz	NCR	May 09, 2024	NCR	DFS (DFS01-KS)

NCR: No Calibration Required.



For WWAN Bands:

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	May 08, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	May 08, 2024	NCR	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 06, 2023	May 08, 2024	Jul. 05, 2024	Conducted (TH01-KS)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2023	Apr. 27, 2024	Dec. 26, 2024	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Apr. 27, 2024	Jul. 27, 2024	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 18, 2023	Apr. 27, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Oct. 24, 2023	Apr. 27, 2024	Oct. 23, 2025	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 08, 2023	Apr. 27, 2024	Jul. 07, 2024	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Apr. 09, 2024	Apr. 27, 2024	Apr. 08, 2025	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 09, 2024	Apr. 27, 2024	Apr. 08, 2025	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P-R	1943528	1GHz~18GHz	Oct. 18, 2023	Apr. 27, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 07, 2023	Apr. 27, 2024	Jul. 06, 2024	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	Oct. 18, 2023	Apr. 27, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Apr. 27, 2024	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Apr. 27, 2024	NCR	Radiation (03CH01-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/WIFI 2.4G/5G)

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±2.26 dB
Occupied Channel Bandwidth	±0.1%
Conducted Power	±0.46 dB
Conducted Power Spectral Density	±0.88 dB
Frequency	±0.4 ppm

### Uncertainty of Conducted Measurement (WWAN Bands)

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

### Uncertainty of Conducted Measurement (DFS)

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



**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
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03CH01-SZ:(BT/WIFI)

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.20dB
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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))	5.00dB
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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))	4.30dB
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03CH01-SZ:(WWAN)

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.48dB
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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))	3.53dB
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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))	4.02dB
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-THE END-





## Appendix A. Test Results of Radiated Test

Test Engineer :	HuaCong Liang	Temperature :	24~25°C
		Relative Humidity :	48~49%

RSE pretest all the supported antennas, only the worst results are recorded in the report.

EN-DC_7A_n5A / LTE 10MHz + NR 20MHz / QPSK (ANT1+4)									
Channel	Frequency ( MHz )	ERP/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 n5 Middle	1654.5	-59.97	-13	-46.97	-72.10	-63.22	4.00	9.40	H
	2481.75	-57.07	-13	-44.07	-76.32	-60.64	4.88	10.60	H
	3309	-58.90	-13	-45.90	-80.05	-63.83	5.52	12.60	H
	1654.5	-57.88	-13	-44.88	-70.65	-61.13	4.00	9.40	V
	2481.75	-59.44	-13	-46.44	-79.01	-63.01	4.88	10.60	V
	3309	-57.90	-13	-44.90	-79.75	-62.83	5.52	12.60	V
LTE Band7 Middle	5061.18	-57.47	-25	-32.47	-81.54	-63.03	7.14	12.70	H
	7591.77	-55.14	-25	-30.14	-81.77	-58.44	8.30	11.60	H
	10122.36	-51.52	-25	-26.52	-82.48	-53.04	10.48	12.00	H
	5061.18	-56.21	-25	-31.21	-81.49	-61.77	7.14	12.70	V
	7591.77	-55.06	-25	-30.06	-81.69	-58.36	8.30	11.60	V
	10122.36	-50.77	-25	-25.77	-82.78	-52.29	10.48	12.00	V

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

EN-DC_5A_n41A / LTE 10MHz + NR 100MHz / QPSK (ANT4+1)									
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 n41 Middle	5089.00	-56.14	-25	-31.14	-80.42	-61.70	7.14	12.70	H
	7633.50	-54.48	-25	-29.48	-81.02	-57.78	8.30	11.60	H
	10178.00	-52.12	-25	-27.12	-83.14	-53.64	10.48	12.00	H
	5089.00	-55.62	-25	-30.62	-80.88	-61.18	7.14	12.70	V
	7633.50	-53.77	-25	-28.77	-80.99	-57.07	8.30	11.60	V
	10178.00	-50.77	-25	-25.77	-83.01	-52.29	10.48	12.00	V
LTE Band5 Middle	1673	-65.03	-13	-52.03	-77.29	-68.28	4.00	9.40	H
	2509.5	-57.59	-13	-44.59	-77.09	-61.16	4.88	10.60	H
	3346	-59.00	-13	-46.00	-80.34	-63.93	5.52	12.60	H
	1673	-64.06	-13	-51.06	-77.03	-67.31	4.00	9.40	V
	2509.5	-56.15	-13	-43.15	-75.86	-59.72	4.88	10.60	V
	3346	-58.76	-13	-45.76	-80.40	-63.69	5.52	12.60	V

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