



# Spot Check Evaluation

**APPLICANT** : Motorola Mobility LLC  
**EQUIPMENT** : Mobile Cellular Phone  
**BRAND NAME** : Motorola  
**MODEL NAME** : XT2347-2  
**FCC ID** : IHDT56AN2  
**STANDARD** : 47 CFR Part 2, 22(H), 24(E), 27(M), 27(Q), 90(S)  
47 CFR Part 15 Subpart C §15.225  
47 CFR Part 15 Subpart C §15.247  
47 CFR Part 15 Subpart E §15.407  
**TEST DATE(S)** : Jun. 29, 2023 ~ Jul. 12, 2023

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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People's Republic of China



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# 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	XT2347-2
FCC ID	IHDT56AN2
IMEI Code	Conducted: 350162390024796/350162390024804 Radiation: 350162390019713/350162390019721
HW Version	DVT2
SW Version	T3TC33.12
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. (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>	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		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	TH01-SZ	CN1256	421272

<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 China 518103 TEL: +86-755-33202398		
<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.	03CH01-SZ	AUDIX	E3	6.2009-8-24

### 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 v01
- ♦ 47 CFR Part 2, 22(H), 24(E), 27(M), 27(Q), 90(S)
- ♦ 47 CFR Part 15 Subpart C §15.225
- ♦ 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(Salcomp)	Model Name	MC-331
AC Adapter 1(EU)	Brand Name	Motorola(Salcomp)	Model Name	MC-332
AC Adapter 1(UK)	Brand Name	Motorola(Salcomp)	Model Name	MC-333
AC Adapter 1(AR)	Brand Name	Motorola(Salcomp)	Model Name	MC-336
AC Adapter 1(BR)	Brand Name	Motorola(Salcomp)	Model Name	MC-337
AC Adapter 1(CHILE)	Brand Name	Motorola(Salcomp)	Model Name	MC-339
AC Adapter 2(US)	Brand Name	Motorola(Chenyang)	Model Name	MC-331
AC Adapter 2(EU)	Brand Name	Motorola(Chenyang)	Model Name	MC-332
AC Adapter 2(AR)	Brand Name	Motorola(Chenyang)	Model Name	MC-336
AC Adapter 2(BR)	Brand Name	Motorola(Chenyang)	Model Name	MC-337
AC Adapter 2(BR Local)	Brand Name	Motorola(Cliptech)	Model Name	MC-337
AC Adapter 3(US)	Brand Name	Motorola(AOHAI)	Model Name	MC-331
AC Adapter 3(EU)	Brand Name	Motorola(AOHAI)	Model Name	MC-332
AC Adapter 3(UK)	Brand Name	Motorola(AOHAI)	Model Name	MC-333
Battery 1	Brand Name	Motorola(sunwoda)	Model Name	QB50
Battery 2	Brand Name	Motorola(cosmx)	Model Name	QB50
Bluetooth Earphone	Brand Name	Motorola(SGW)	Model Name	Moto earbuds 135
USB Cable 1	Brand Name	Motorola(Juwei)	Model Name	JWUB1580-T03H
USB Cable 2	Brand Name	Motorola(Saibao)	Model Name	STN-A121A
USB Cable 3	Brand Name	Motorola(ISHENG)	Model Name	SC18D38574



## 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: XT2347-2, FCC ID: IHDT56AN2) is electrically identical to the reference device (Model: XT2347-1, FCC ID: IHDT56AN1) 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, DXX) and FCC Part 15E (equipment class: NII,) and FCC Part 22, 24, 27, 90S (equipment class: PCE) reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 Referencing Test Data v01.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: IHDT56AN2.

### 2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AN1 and FCC ID: IHDT56AN2 is as below:

- Remove WCDMA Band IV, LTE Band 4/12/13/17/25/66/66B/66C and 5G NR n2/n66.
- Add LTE Band 18/19/20/32 and 5G NR n8/n20/n77;

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2347-2\_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	IHDT56AN1	Original Grant	FR352602A	IHDT56AN2	All sections applicable
	DTS (BLE)	2400~2483.5	IHDT56AN1	Original Grant	FR352602B	IHDT56AN2	All sections applicable
	DTS (WLAN)	2400~2483.5	IHDT56AN1	Original Grant	FR352602C	IHDT56AN2	All sections applicable
	DXX (NFC)	13.56	IHDT56AN1	Original Grant	FR352602D	IHDT56AN2	All sections applicable
15E	NII	5180~5240	IHDT56AN1	Original Grant	FR352602E	IHDT56AN2	All sections applicable
		5260~5320	IHDT56AN1	Original Grant	FR352602E FZ352602	IHDT56AN2	All sections applicable
		5500~5720	IHDT56AN1	Original Grant	FR352602E FZ352602	IHDT56AN2	All sections applicable
		5745~5825	IHDT56AN1	Original Grant	FR352602E	IHDT56AN2	All sections applicable
22, 24, 27, 90, 96,	PCE (GSM)	GSM 850/1900	IHDT56AN1	Original Grant	FG352602A	IHDT56AN2	All sections applicable
	PCE (WCDMA)	Band V	IHDT56AN1	Original Grant	FG352602A	IHDT56AN2	All sections applicable
	PCE (LTE)	B5/26	IHDT56AN1	Original Grant	FG352602B	IHDT56AN2	All sections applicable
		B7/38/7C	IHDT56AN1	Original Grant	FG352602C	IHDT56AN2	All sections applicable
		B26 (90S)	IHDT56AN1	Original Grant	FG352602D	IHDT56AN2	All sections applicable
		B42 (Part27Q)	IHDT56AN1	Original Grant	FG352602E	IHDT56AN2	All sections applicable
	PCE (NR)	n5/n26/n7/n38/n41	IHDT56AN1	Original Grant	FG352602G	IHDT56AN2	All sections applicable
		n26 (90S)	IHDT56AN1	Original Grant	FG352602H	IHDT56AN2	All sections applicable





### 2.4 Spot Check Verification Data Section

Conducted power test and radiated spurious emission 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.

Summary for power and RSE spot check for each rule entry and technology is listed as below:

Test Item	Mode	IHDT56AN1 Parent Worst Result	IHDT56AN2 Variant Check Result	Difference (dB)
Conducted Power (dBm)	BT DH5 CH39	13.12	13.05	-0.07
	BT 2DH5 CH39	12.73	12.67	-0.06
	BT 3DH5 CH39	12.84	12.75	-0.09
	BLE 1M CH39	9.14	9.08	-0.06
	BLE 2M CH39	9.07	9	-0.07
	2.4G WLAN 11b CH01	21.45	21.33	-0.12
	2.4G WLAN 11g CH11	23.27	23.16	-0.11
	2.4G WLAN 11ac20 CH06	23.24	23.15	-0.09
	2.4G WLAN 11ac40 CH06	22.42	22.31	-0.11
	5G WLAN 11a CH64	18.41	18.35	-0.06
	5G WLAN 11ac20 CH64	18.50	18.42	-0.08
	5G WLAN 11ac40 CH110	16.89	16.81	-0.08
	5G WLAN 11ac80 CH122	16.75	16.63	-0.12
	5G WLAN 11a CH149	17.40	17.28	-0.12
	5G WLAN 11ac20 CH149	17.43	17.23	-0.2
	5G WLAN 11ac40 CH151	16.04	15.79	-0.25
	5G WLAN 11ac80 CH155	15.72	15.56	-0.16
	GSM850	32.30	32.22	0.08
	EDGE850	25.75	25.75	0
	GSM1900	29.33	29.30	0.03
	EDGE1900	25.00	25.00	0
	WCDMA Band V	22.70	22.70	0
	LTE Band 5	22.42	22.42	0
	LTE Band 7	22.64	22.64	0
	LTE Band 26	22.45	22.45	0
	LTE Band 38	22.78	22.78	0
	LTE Band 42	22.30	22.30	0
	LTE Band 7C	23.46	23.46	0
	LTE Band 26(90S)	22.42	22.42	0
	N5	23.84	23.39	-0.45
	N26( 90S)	23.84	23.15	-0.69
	N26	23.96	23.25	-0.71
	N7	23.95	23.58	-0.37
N38	23.82	22.76	-1.06	
N41	23.94	22.95	-0.99	



Test Item	Mode	IHDT56AN1 Parent Worst Result	IHDT56AN2 Variant Check Result	Difference (dB)
Radiated Spurious Emission (dBm)	BT2.0_1DH5_CH78	-12.93	-12.08	0.85
	BT4.0_2M_CH39	-10.14	-8.33	1.81
	11ac VHT20_CH01	-3.18	-5.36	-2.18
	11ac VHT80_Ch106	-3.10	-4.75	-1.65
	11ac VHT40_Ch151	-12.87	-12.9	-0.03
	GSM 1900 Link	-39.85	-31.46	8.39
	LTE Band 7 Link	-23.68	-22.13	1.55
	Part 90s LTE B26 Link	-46.20	-44.24	1.96
Part 27M SA N7	-19.29	-23.12	-3.83	

Test Item	Mode	IHDT56AN1 Parent Worst Result	IHDT56AN2 Variant Check Result	Difference (dB)
Field Strength (dBuV/m) @ 30m	NFC 13.56MHz	60.18	59.06	-1.12

Conclusion:

Radiated spurious emission 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. The power level and RSE spot check 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 DFS detection EUD mechanism/software is used in the variant. Hence, there is no spot check data for DFS EUD hand-shaking mechanism.

We confirm that the test data reuse policy of FCC KDB 484596 D01 Referencing Test Data v01 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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 06, 2023	Jun. 29, 2023~ Jul. 12, 2023	Apr. 05, 2024	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2022	Jun. 29, 2023~ Jul. 12, 2023	Dec. 24, 2023	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 07, 2022	Jun. 29, 2023~ Jul. 12, 2023	Jul. 06, 2023	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 06, 2023		Jul. 05, 2024	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 26, 2022	Jul. 11, 2023	Dec. 25, 2023	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Jul. 11, 2023	Jul. 27, 2024	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 19, 2022	Jul. 11, 2023	Oct. 18, 2023	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Sep. 28, 2021	Jul. 11, 2023	Sep. 27, 2023	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 06, 2023	Jul. 11, 2023	Jul. 05, 2024	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 08, 2023	Jul. 11, 2023	Apr. 07, 2024	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 04, 2023	Jul. 11, 2023	Apr. 03, 2024	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 19, 2022	Jul. 11, 2023	Oct. 18, 2023	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 05, 2023	Jul. 11, 2023	Jul. 04, 2024	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	Nov. 10, 2022	Jul. 11, 2023	Nov. 09, 2023	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jul. 11, 2023	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jul. 11, 2023	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

Test Item	Uncertainty
Conducted Power	±1.34 dB

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

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