



Spot Check Evaluation

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2341-4
FCC ID : IHDT56AM3
STANDARD : 47 CFR Part 2, 22(H), 27(M)
47 CFR Part 15 Subpart C §15.225
47 CFR Part 15 Subpart C §15.247
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 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)

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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	XT2341-4
FCC ID	IHDT56AM3
IMEI Code	Conducted: 356960280007092/356960280007100 Radiation: 356960280008553/356960280008561
HW Version	DVT2
SW Version	TLA33.30
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 Specification of Accessory

Specification of Accessory				
AC Adapter 1 (US)	Brand Name	Motorola (Salcomp)	Model Name	MC-201L
AC Adapter 1 (EU)	Brand Name	Motorola (Salcomp)	Model Name	MC-202L
AC Adapter 1 (AR)	Brand Name	Motorola (Salcomp)	Model Name	MC-206L
AC Adapter 1 (BR)	Brand Name	Motorola (Salcomp)	Model Name	MC-207L
AC Adapter 1 (CHILE)	Brand Name	Motorola (Salcomp)	Model Name	MC-209L
AC Adapter 2 (US)	Brand Name	Motorola (Aohai)	Model Name	MC-201L
AC Adapter 2 (EU)	Brand Name	Motorola (Aohai)	Model Name	MC-202L
AC Adapter 2 (AR)	Brand Name	Motorola (Aohai)	Model Name	MC-206L
AC Adapter 3 (US)	Brand Name	Motorola (Aohai)	Model Name	MC-101
AC Adapter 3 (EU)	Brand Name	Motorola (Aohai)	Model Name	MC-102
AC Adapter 3 (UK)	Brand Name	Motorola (Aohai)	Model Name	MC-103
AC Adapter 3 (AU)	Brand Name	Motorola (Aohai)	Model Name	MC-105
AC Adapter 4 (US)	Brand Name	Motorola (Chenyang)	Model Name	MC-101
AC Adapter 4 (EU)	Brand Name	Motorola (Chenyang)	Model Name	MC-102
AC Adapter 4 (UK)	Brand Name	Motorola (Chenyang)	Model Name	MC-103
AC Adapter 4 (AU)	Brand Name	Motorola (Chenyang)	Model Name	MC-105
AC Adapter 5 (US)	Brand Name	Motorola (Salcomp)	Model Name	MC-101
AC Adapter 5 (EU)	Brand Name	Motorola (Salcomp)	Model Name	MC-102
AC Adapter 5 (UK)	Brand Name	Motorola (Salcomp)	Model Name	MC-103
AC Adapter 5 (AU)	Brand Name	Motorola (Salcomp)	Model Name	MC-105
Battery 1	Brand Name	Motorola (ATL)	Model Name	PC50
Battery 2	Brand Name	Motorola (SCUD)	Model Name	PC50
Earphone 1	Brand Name	Motorola (New leader)	Model Name	NLD-EM313A-20SF
Earphone 2	Brand Name	Motorola (JWELL)	Model Name	JWEP1205-L20H
USB Cable 1	Brand Name	Motorola (SAIBAO)	Model Name	SLQ-A214A
USB Cable 2	Brand Name	Motorola (JWELL)	Model Name	ATOC



1.6 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	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	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		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH02-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH02-SZ	AUDIX	E3	6.2009-8-24a

1.8 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), 27(M)
- 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



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: XT2341-4, FCC ID: IHDT56AM3) is electrically identical to the reference device (Model: XT2341-2, FCC ID: IHDT56AM1 and Model: XT2341-3, FCC ID: IHDT56AM2) 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, 27 (equipment class: TNE) 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: IHDT56AM3 .

2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AM1 and FCC ID: IHDT56AM3 is as below:

- Remove GSM1900/WCDMA II/IV, LTE B2/4/13/66.
- Add NFC function, WCDMA XIX, LTE B18/19/20/41.

The **main** difference between FCC ID: IHDT56AM2 and FCC ID: IHDT56AM3 is as below:

- Remove GSM1900/WCDMA II, LTE B2.
- Add WCDMA XIX, LTE B18/19/26.

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2341-4_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	IHDT56AM1	Original Grant	FR332006A	IHDT56AM3	All sections applicable
	DTS (BLE)	2400~2483.5	IHDT56AM1	Original Grant	FR332006B	IHDT56AM3	All sections applicable
	DTS (WLAN)	2400~2483.5	IHDT56AM1	Original Grant	FR332006C	IHDT56AM3	All sections applicable
	DXX (NFC)	13.56	IHDT56AM2	Original Grant	FR332010D	IHDT56AM3	All sections applicable
15E	U-NII	5180~5240	IHDT56AM1	Original Grant	FR332006D	IHDT56AM3	All sections applicable
		5260~5320	IHDT56AM1	Original Grant	FR332006D	IHDT56AM3	All sections applicable
		5500~5700	IHDT56AM1	Original Grant	FR332006D	IHDT56AM3	All sections applicable
		5745~5825	IHDT56AM1	Original Grant	FR332006E	IHDT56AM3	All sections applicable
		5260~5320 5500~5700	IHDT56AM1	Original Grant	FZ332006	IHDT56AM3	All sections applicable
22, 27	TNE (GSM)	GSM 850	IHDT56AM1	Original Grant	FG332006A	IHDT56AM3	All sections applicable
	TNE (WCDMA)	Band V	IHDT56AM1	Original Grant	FG332006A	IHDT56AM3	All sections applicable
	TNE (LTE)	B5/7/26	IHDT56AM1	Original Grant	FG332006B	IHDT56AM3	All sections applicable

Note:LTE Band 26 overlaps the entire frequency range of LTE Band 5. Therefore, the test results provided in this report covers Band 5 and the portion of Band 26 subject to Part 22.



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	IHDT56AM1 Parent Worst mode Test Result	IHDT56AM3 Variant Check Test Result	Difference (dB)
Conducted Power (dBm)	BT BR/EDR	9.99	9.77	-0.22
	BT-LE1M	1.97	1.81	-0.16
	BT-LE2M	1.90	1.81	-0.09
	802.11b	22.63	22.57	-0.06
	802.11g	24.95	24.78	-0.17
	11n HT20	24.92	24.86	-0.06
	11a, 5.2GHz	17.79	17.33	-0.68
	11a, 5.3GHz	18.29	17.55	-0.74
	11a, 5.5GHz	18.35	18.33	-0.02
	11a, 5.8GHz	18.02	17.98	-0.04
	11n HT20, 5.2GHz	17.91	17.38	-0.53
	11n HT20, 5.3GHz	18.30	17.42	-0.88
	11n HT20, 5.5GHz	18.47	18.41	-0.06
	11n HT20, 5.8GHz	18.01	17.98	-0.03
	11ac VHT20, 5.2GHz	17.86	17.20	-0.66
	11ac VHT20, 5.3GHz	18.30	17.48	-0.82
	11ac VHT20, 5.5GHz	18.85	18.58	-0.27
	11ac VHT20, 5.8GHz	18.31	18.18	-0.13
	Part 22H GSM850	32.19	32.08	-0.11
	Part 22H WCDMA Band V	22.76	22.64	-0.12
LTE Band 26	23.25	23.10	-0.15	
LTE Band 7	23.11	23.02	-0.09	

Test Item	Mode	IHDT56AM1 Parent Worst Result	IHDT56AM3 Variant Check Result	Difference (dB)
Radiated Spurious Emission (dBm)	GSM850	-37.15	-37.84	-0.69
	WCDMA V	-50.63	-50.62	0.01
	LTE Band 7	-25.05	-25.13	-0.08



Test Item	Mode	IHDT56AM2 Parent Worst Result	IHDT56AM3 Variant Check Result	Difference (dB)
Field Strength (dBuV/m) @ 30m	NFC 13.56MHz	58.09	57.02	-1.07

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 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	101040	10Hz~40GHz	Oct. 12, 2022	Apr. 24, 2023	Oct. 11, 2023	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 05, 2023	Apr. 24, 2023	Jan. 04, 2024	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 05, 2023	Apr. 24, 2023	Jan. 04, 2024	Conducted (TH01-KS)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 07, 2022	May 04, 2023~ May 19, 2023	Jul. 06, 2023	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	May 04, 2023~ May 19, 2023	Jul. 27, 2024	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Sep. 28, 2021	May 04, 2023~ May 19, 2023	Sep. 27, 2023	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 07, 2022	May 04, 2023~ May 19, 2023	Jul. 06, 2023	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 07, 2022	May 04, 2023~ May 19, 2023	Jul. 06, 2023	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Apr. 08, 2023	May 04, 2023~ May 19, 2023	Apr. 07, 2024	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 19, 2022	May 04, 2023~ May 19, 2023	Oct. 18, 2023	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 19, 2022	May 04, 2023~ May 19, 2023	Oct. 18, 2023	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 19, 2022	May 04, 2023~ May 19, 2023	Oct. 18, 2023	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003043	N/A	Nov. 10, 2022	May 04, 2023~ May 19, 2023	Nov. 10, 2023	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	May 04, 2023~ May 19, 2023	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	May 04, 2023~ May 19, 2023	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

Test Item	Uncertainty
Conducted Power	±0.46 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.47dB
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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))	3.31dB
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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))	3.72dB
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-THE END-