



Spot Check Evaluation

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2201-4
FCC ID : IHDT56AB3
STANDARD : 47 CFR Part 15 Subpart C §15.209
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) : Dec. 06, 2021 ~ Dec. 22, 2021

We, Sporton International (Kunshan) Inc., 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

Alex Wang

Approved by: Alex Wang / Manager



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
192317-02	Rev. 01	Initial issue of report	Jan. 06, 2022
192317-02	Rev. 02	Remove DCD equipment class	Jan. 24, 2022



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	XT2201-4
FCC ID	IHDT56AB3
HW Version	DVT2
SW Version	S1SH32.10
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 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	Brand Name	Motorola(Salom)	Model Name	MC-301
AC Adapter 2(US)	Brand Name	Motorola(Acbel)	Model Name	MC-301
Battery	Brand Name	Motorola(ATL)	Model Name	NA50
Earphone	Brand Name	Motorola (Lyand)	Model Name	MD211(SH38D20195)
USB Cable 1	Brand Name	Motorola(Saibao)	Model Name	SC18D13215
USB Cable 2	Brand Name	Motorola(Cabletech)	Model Name	SC18D13216
USB Cable 3	Brand Name	Motorola(Luxshare)	Model Name	SC18D13217
Type C to HDMI Cable /USBC Cable	Brand Name	Motorola(Linxee)	Model Name	SC18D02146
Stylus	Brand Name	Motorola smart stylus	Model Name	XT2201-S
Smart Folio	Brand Name	Motorola(Techson)	Model Name	SS68D36907,SS68D36906
Wireless Dongle	Brand Name	Motorola	Model Name	MD-02
HDMI Cable	Brand Name	Motorola	Model Name	HC-01
USB Cable(Type A/C)	Brand Name	Motorola	Model Name	SC18C24367



1.5 Modification of EUT

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

1.6 Testing Location

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

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-KS 03CH06-KS 03CH02-KS	CN1257	314309

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH06-KS	AUDIX	E3	6.2009-8-24a
2.	03CH02-KS	AUDIX	E3	6.2009-8-24a



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: XT2201-4, FCC ID: IHDT56AB3) is electrically identical to the reference device (Model: XT2201-1, FCC ID: IHDT56AB1) 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) reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: IHDT56AB3 .

2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AB1 and FCC ID: IHDT56AB3 is as below:

- Remove WCDMA Band 4, LTE Band 8/17/18/19/25/26/32/38/39/40/41/42/43, 5G NR Band n1/n3/n7/n8/n20/n28/n38/n40/n41.
- Add LTE Band 46, 5G NR Band n2/n48/n260/n261.

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2201-4_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	IHDT56AB1	Original Grant	FR192317A	IHDT56AB3	All sections applicable
	DTS (BLE)	2400~2483.5	IHDT56AB1	Original Grant	FR192317B	IHDT56AB3	All sections applicable
	DTS (WLAN)	2400~2483.5	IHDT56AB1	Original Grant	FR192317C	IHDT56AB3	All sections applicable
	DXX (NFC)	13.56	IHDT56AB1	Original Grant	FR192317D	IHDT56AB3	All sections applicable
15E	U-NII-1	5150~5250	IHDT56AB1	Original Grant	FR192317E	IHDT56AB3	All sections applicable
	U-NII-2A	5250~5350	IHDT56AB1	Original Grant	FR192317E	IHDT56AB3	All sections applicable
	U-NII-2C	5470~5725	IHDT56AB1	Original Grant	FR192317E	IHDT56AB3	All sections applicable
	U-NII-3	5725~5850	IHDT56AB1	Original Grant	FR192317F	IHDT56AB3	All sections applicable
	DFS	5250~5350 5470~5725	IHDT56AB1	Original Grant	FZ192317	IHDT56AB3	All sections applicable
	U-NII-5,6,7,8	5925~7125	IHDT56AB1	Original Grant	FR192317H	IHDT56AB3	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

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

Test Item	Mode	IHDT56AB1 Parent Worst Result	IHDT56AB3 Variant Check Result	Difference (dB)
Conducted Power (dBm)	BT BR/EDR (Ant. 4)	13.73	13.69	0.04
	BT BR/EDR (Ant. 6)	15.51	11.78	3.73
	BLE 1Mbps (Ant. 4)	10.18	9.86	0.32
	BLE 1Mbps (Ant. 6)	8.85	8.15	0.70
	BLE 2Mbps (Ant. 4)	10.41	10.02	0.39
	BLE 2Mbps (Ant. 6)	8.97	8.35	0.62
	WLAN 2.4GHz (MIMO)	29.39	29.39	0
	WLAN 5GHz (MIMO)	21.31	21.04	0.27
	WLAN 6GHz (MIMO)	18.57	17.70	0.87

Test Item	Mode	IHDT56AB1 Parent Worst Result	IHDT56AB3 Variant Check Result	Difference (dB)
Radiated Spurious Emission (dBuV/m) @ 3m	BT BR/EDR (Ant. 6)	57.78	54.81	2.97
	BLE 1Mbps (Ant. 4)	46.51	46.39	0.12
	BLE 2Mbps (Ant. 4)	48.89	49.19	0.30
	WLAN 2.4GHz (MIMO) 11ax HE20 CH11 Full RU	50.14	48.78	1.36
	WLAN 5GHz (MIMO) 11ax HE160 CH114 RU996-left	46.49	47.42	0.93
	WLAN 5GHz (MIMO) 11ax HE40 CH159 RU242-Right	57.42	56.36	1.06
	WLAN 6GHz (MIMO) 11ax HE160 CH15 Full RU	47.69	49.14	1.45
	NFC 13.56MHz	54.63	58.68	4.05

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 measurements from the original parent model reports to list on the grant.

The same DFS detection is used in the variant. Hence, there is no spot check data for DFS.

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. 14, 2021	Dec. 06, 2021	Oct. 13, 2022	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 07, 2021	Dec. 06, 2021	Jan. 06, 2022	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 07, 2021	Dec. 06, 2021	Jan. 06, 2022	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz; Max 30dBm	Oct. 16, 2021	Dec. 19, 2021~Dec. 21, 2021	Oct. 15, 2022	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz~44GHz	Apr. 12, 2021	Dec. 19, 2021~Dec. 21, 2021	Apr. 11, 2022	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Dec. 19, 2021~Dec. 21, 2021	Oct. 29, 2022	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz~1GHz	May 27, 2021	Dec. 19, 2021~Dec. 21, 2021	May 26, 2022	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 25, 2021	Dec. 19, 2021~Dec. 21, 2021	Apr. 24, 2022	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 06, 2021	Dec. 19, 2021~Dec. 21, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHz	Apr. 12, 2021	Dec. 19, 2021~Dec. 21, 2021	Apr. 11, 2022	Radiation (03CH06-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 06, 2021	Dec. 19, 2021~Dec. 21, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Dec. 19, 2021~Dec. 21, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Apr. 13, 2021	Dec. 19, 2021~Dec. 21, 2021	Apr. 12, 2022	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 19, 2021~Dec. 21, 2021	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 19, 2021~Dec. 21, 2021	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 19, 2021~Dec. 21, 2021	NCR	Radiation (03CH06-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz; Max 30dBm	Oct. 16, 2021	Dec. 21, 2021~Dec. 22, 2021	Oct. 15, 2022	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz~44G, MAX 30dB	Oct. 16, 2021	Dec. 21, 2021~Dec. 22, 2021	Oct. 15, 2022	Radiation (03CH02-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Dec. 21, 2021~Dec. 22, 2021	Oct. 29, 2022	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz~1GHz	Jan. 26, 2021	Dec. 21, 2021~Dec. 22, 2021	Jan. 25, 2022	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 06, 2021	Dec. 21, 2021~Dec. 22, 2021	Jan. 05, 2022	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Dec. 21, 2021~Dec. 22, 2021	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Dec. 21, 2021~Dec. 22, 2021	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Dec. 21, 2021~Dec. 22, 2021	NCR	Radiation (03CH02-KS)

NCR: No Calibration Required.

-THE END-