



Spot Check Evaluation

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2201-3, XT2201-5
FCC ID : IHDT56AB2
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(L), 27(M),
27(H), 27(F), 96
TEST DATE(S) : Dec. 31, 2021 ~ Jan. 07, 2022

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



Sporton International (Kunshan) Inc.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
192317-01B	Rev. 01	Initial issue of report	Jan. 07, 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	XT2201-3, XT2201-5
FCC ID	IHDT56AB2
HW Version	DVT2
SW Version	SSH32.76
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 03CH04-KS	CN1257	314309

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-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: XT2201-3, XT2201-5, FCC ID: IHDT56AB2) is electrically identical to the reference device (Model: XT2201-4, FCC ID: IHDT56AB3) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 22, 24, 27 (equipment class: PCE) and FCC Part 96 (equipment class: CBE) 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: IHDT56AB2 .

2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AB3 and FCC ID: IHDT56AB2 is as below:

- Add and Remove some WCDMA/LTE/5G NR WWAN Band.

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2201-3, XT2201-5_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
22, 24, 27, 96	PCE (GSM)	GSM 850/1900	IHDT56AB3	Original Grant	FG192317-02A	IHDT56AB2	All sections applicable
	PCE (WCDMA)	Band II, V	IHDT56AB3	Original Grant	FG192317-02A	IHDT56AB2	All sections applicable
	PCE (LTE)	B2/4/5/7/12/13/66 ULCA 5B/66B/66C	IHDT56AB3	Original Grant	FG192317-02B	IHDT56AB2	All sections applicable
	CBE (LTE)	B48 ULCA 48C	IHDT56AB3	Original Grant	FG192317-02C	IHDT56AB2	All sections applicable
	PCE (NR)	n2/n5/n66	IHDT56AB3	Original Grant	FG192317-02F	IHDT56AB2	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	IHDT56AB3 Parent Worst Result	IHDT56AB2 Variant Check Result	Difference (dB)
Conducted Power (dBm)	GSM850	32.75	32.52	0.23
	GSM1900	30.25	30.48	0.23
	WCDMA II	24.41	24.02	0.39
	WCDMA V	24.52	24.35	0.17
	LTE Band 2	23.15	23.10	0.05
	LTE Band 4	22.98	23.24	0.26
	LTE Band 5	22.91	23.25	0.34
	LTE Band 7	23.53	23.91	0.38
	LTE Band 12	24.38	23.19	1.19
	LTE Band 13	24.33	22.96	1.37
	LTE Band 66	23.16	23.28	0.12
	LTE Band 48	22.54	22.50	0.04
	5G NR n2	23.65	23.58	0.07
	5G NR n5	23.33	23.29	0.04
	5G NR n66	23.66	23.65	0.01

Test Item	Mode	IHDT56AB3 Parent Worst Result	IHDT56AB2 Variant Check Result	Difference (dB)
Radiated Spurious Emission (dBm)	Part 22H, LTE B5/GSM850/WCDMA B5/5G n5	-32.25	-32.21	0.04
	Part 24E, GSM1900/WCDMA B2/LTE B2/5G n2	-20.94	-18.61	2.33
	Part 27L, LTE B66/B4/5G n66	-24.07	-27.06	2.99
	Part 27M, LTE B7	-20.82	-22.09	1.27
	Part 27H, LTE B12	-31.28	-31.03	0.25
	Part 27F, LTE B13	-15.41	-17.23	1.82
	Part 96, LTE B48	-8.51	-6.02	2.49

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 Part 96 EUD mechanism/software is used in the variant. Hence, there is no spot check data for Part 96 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. 14, 2021	Jan. 07, 2022	Oct. 13, 2022	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 26, 2021	Jan. 07, 2022	Aug. 25, 2022	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 12, 2021	Jan. 07, 2022	Jul. 11, 2022	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44G, MAX 30dB	Apr. 13, 2021	Dec. 31, 2021	Apr. 12, 2022	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz~1GHz	May 30, 2021	Dec. 31, 2021	May 29, 2022	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 18, 2021	Dec. 31, 2021	Apr. 17, 2022	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 06, 2021	Dec. 31, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz~1GHz	Jan. 06, 2021	Dec. 31, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GG A	060728	18~40GHz	Jan. 07, 2021	Dec. 31, 2021	Jan. 06, 2022	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Dec. 31, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5G Hz	Oct. 13, 2021	Dec. 31, 2021	Oct. 12, 2022	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 31, 2021	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 31, 2021	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 31, 2021	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required.

-THE END-