Variant FCC RF Test Report

APPLICANT : Motorola Mobility LLC EQUIPMENT : Mobile Cellular Phone

BRAND NAME : Motorola, Lenovo

MODEL NAME : 9850

FCC ID : IHDT56VF4

STANDARD : 47 CFR Part 2, 22(H), 27(M)

CLASSIFICATION: PCS Licensed Transmitter Held to Ear (PCE)

This is variant report which is only valid together with the original test report. The product was received on Dec. 13, 2016 and completely tested on Dec. 18, 2016. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-D-2010 and the testing has shown the tested sample to be 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.

Prepared by: James Huang / Manager

Approved by: Jones Tsai / Manager



Report No.: FG6D1302B

SPORTON INTERNATIONAL (KUNSHAN) INC. No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China

SPORTON INTERNATIONAL (KUNSHAN) INC.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG6D1302B	Rev. 01	This is a variant report for 9850, the product equality declaration could be referred to Appendix D. Based on the similarity between current and previous, only the worse cases of Conducted Power, EIRP and Radiated Spurious Emission from original test report (Sporton Report Number FG693004-03B) were verified for the differences. The Conducted item of LTE band7 re-use data collected on Model: 9847, FCC ID: IHDT56VF2 (Sporton Report Number FG6D1304B).	Jan. 18, 2017

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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
	§2.1046	Conducted Output Power	Reporting Only	PASS	-
0	§27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 7)	EIRP < 2Watt	PASS	
4.4	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7)	< 55+10log ₁₀ (P[Watts])	PASS	Under limit 27.30 dB at 7576.000 MHz

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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, Lenovo					
Model Name	9850					
FCC ID	IHDT56VF4					
	GSM/GPRS/EGPRS/WCDMA/HSPA/					
	HSPA+(16QAM uplink is not supported)/DC-HSDPA/LTE					
ELIT cumporte Dedice application	WLAN2.4GHz 802.11b/g/n HT20					
EUT supports Radios application	WLAN5GHz 802.11a/n HT20/HT40					
	Bluetooth v3.0+EDR					
	Bluetooth v4.0/4.2 LE					
S/N Code	Radiation: N/A					
HW Version	DVT2(V5.0)					
SW Version	cedric-userdebug 7.0 NPP25.127 859 intcfg,test-keys					
EUT Stage	Identical Prototype					

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification						
	LTE Band 5: 824.7 MHz ~ 848.3 MHz					
Tx Frequency	LTE Band 7: 2502.5 MHz ~ 2567.5 MHz					
	LTE Band 38 : 2572.5MHz ~ 2617.5MHz					
	LTE Band 5: 869.7 MHz ~ 893.3 MHz					
Rx Frequency	LTE Band 7: 2622.5MHz ~ 2687.5 MHz					
	LTE Band 38 : 2572.5MHz ~ 2617.5MHz					
	LTE Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz					
Bandwidth	LTE Band 7: 5MHz/ 10MHz / 15MHz / 20MHz					
	LTE Band 38: 5MHz / 10MHz / 15MHz / 20MHz					
Maximum Output Power to Antenna	LTE Band 7 : 23.73 dBm					
Antenna Gain	LTE Band 7 : -1.24 dBi					
Type of Modulation	QPSK / 16QAM					

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1.5 Specification of Accessory

		Specification of Acce	ssorv	
	Brand Name		Model Name	C D27
AC Adapter 1		, ,		
	Power Rating	I/P: 100-240 Vac, 300m	A, O/P: 5.2Vac	
AC Adapter 2	Brand Name	` ,	Model Name	SPN5940A
	Power Rating	I/P: 100-240 Vac, 300m	A, O/P: 5.2Vdd	
AC Adapter 3	Brand Name	Motorola (Salom)	Model Name	SSW-2919EU C-P36 SPN5944A
	Power Rating	I/P: 100-240 Vac, 300m	A, O/P: 5.2Vdd	c, 2000mA
AC Adapter 4	Brand Name	Motorola (Acbel)	Model Name	C-P35
A Adapter 4	Power Rating	I/P: 100-240 Vac, 300m	A, O/P: 5.2Vdd	c, 2000mA
AC Adapter 5	Brand Name	Motorola (Salom)	Model Name	SSW-2919UMTJ C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300m	A, O/P: 5.2Vdd	c, 2000mA
AC Adapter 6	Brand Name	Motorola (Acbel)	Model Name	C-P48
Ao Adapter o	Power Rating	I/P: 100-240 Vac, 300m	A, O/P: 5.2Vdd	c, 2000mA
AC Adapter 7	Brand Name	Motorola (Salom)	Model Name	SSW-2919AU C-P48 SPN5953A
•	Power Rating	I/P: 100-240 Vac, 300m	A, O/P: 5.2Vdd	c, 2000mA
	Brand Name	Motorola (ATL)	Model Name	GK40
Battery 1	Power Rating	3.8Vdc,2685/2800mAh (Min/Typ)	Туре	Li-ion
	Brand Name	Motorola (Sunwoda)	Model Name	GK40
Battery 2	Power Rating	3.8Vdc,2685/2800mAh (Min/Typ)	Туре	Li-ion
Earphone	Brand Name	Motorola	Model Name	SJYN1181B
Laipilolle	<u> </u>	1.2 meter, non-shielded		
USB Cable 1	Brand Name	Motorola (Liqi)		L25W-051000100AL
COD Cable I	7	1.0 meter, non-shielded		
USB Cable 2	Brand Name	Motorola (Fukangyuan)		
OOD Oable 2	Signal Line Type	1.0 meter, non-shielded	cable, without	ferrite core

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1.6 Modification of EUT

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

1.7 Re-use of Measured Data

1.7.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: 9850, FCC ID: IHDT56VF4) is electrically identical to the reference device (Model: 9847, FCC ID: IHDT56VF2) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 178919 D01.

1.7.2 Difference Section

For details concerning the similarity with respect to component placement, mechanical/electrical design etc., some difference of population/depopulation to enable support of different cellular bands, please refer to the Operational Description.

1.7.3 Spot Check Verification Data Section

In order to confirm hardware similarity of the subject device with the reference device, spot check measurements were performed on the subject device for radiated spurious emission, the test result were consistent with FCC ID: IHDT56VF2.

Assertions concerning the similarity of these devices are based on representations by the applicant. The applicant accepts full responsibility for the validity of the similarity claim, and for the determination that verification test data are sufficient to support it.

1.7.4 Reference detail Section:

Equipment Class	Reference FCC ID	Folder Test/RF Exposure	Report Title/Section
PCE (LTE Band7)	IHDT56VF2	Part27M (FG6D1304B)	Conducted

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1.8 Maximum EIRP Power

L	TE Band 7	QPSK	16QAM	
BW (MHz) Frequency Range (MHz)		Maximum EIRP(W)	Maximum EIRP(W)	
20	2510.0 ~ 2560.0	0.1774	0.1208	

1.9 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.					
	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China					
Test Site Location	TEL: +86-0512-5790-0158					
	FAX: +86-0512-5790-0958					
Took Cita No	Sporton Site No.	FCC Registration No.				
Test Site No.	03CH03-KS	306251				

1.10 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 22(H), 27(M)
- ANSI / TIA / EIA-603-D-2010
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

- 1. All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

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2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Total Manage	Donal		В	andwid	ith (MH	z)		Mod	ulation		RB#		Tes	t Chan	nel
Test Items	Band	1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	М	Н
Max. Output	7														
Power	,	-	-	V	v	V	v	v	٧	V	v	V	v	v	V
E.I.R.P.	7	1	•				v	v	V	V			V	V	v
Radiated Spurious	7	-	-												
Emission	,						V	V		٧				V	
	1. The	e mark	" v " me	eans th	nat this	config	guratio	n is chos	en for test	ing					
	2. The mark "-" means that this bandwidth is not supported.														
Note	3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious														
	emission test under different RB size/offset and modulations in exploratory test. Subsequently, only														
	the	worst	case e	missio	ns are	report	ed.								

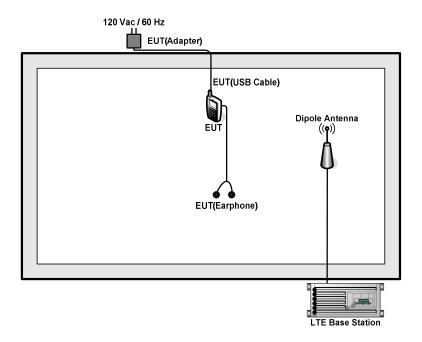
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2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Iter	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m

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2.4 Frequency List of Low/Middle/High Channels

LTE Band 7 Channel and Frequency List									
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest					
00	Channel	20850	21100	21350					
20	Frequency	2510	2535	2560					
15	Channel	20825	21100	21375					
15	Frequency	2507.5	2535	2562.5					
40	Channel	20800	21100	21400					
10	Frequency	2505	2535	2565					
5	Channel	20775	21100	21425					
3	Frequency	2502.5	2535	2567.5					

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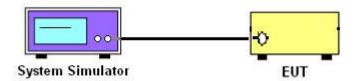
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 Conducted Output Power



3.3 Test Result of Conducted Test

Please refer to Appendix A.

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3.4 Conducted Output Power and EIRP

3.4.1 Description of the Conducted Output Power Measurement and EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The EIRP of mobile transmitters must not exceed 2 Watts for Band 7.

According to KDB 412172 D01 Power Approach,

 $EIRP = P_T + G_T - L_C$, ERP = EIRP - 2.15, where

 P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

 L_{C} = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

- 1. The transmitter output port was connected to the system simulator.
- 2. Set EUT at maximum power through the system simulator.
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Measure and record the power level from the system simulator.

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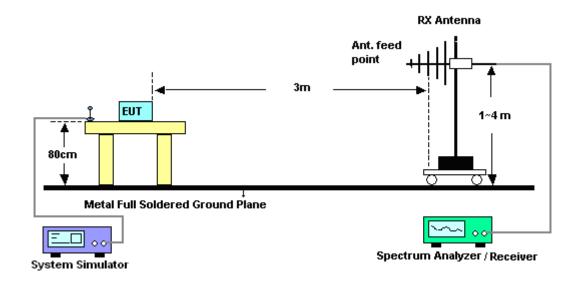
4 Radiated Test Items

4.1 Measuring Instruments

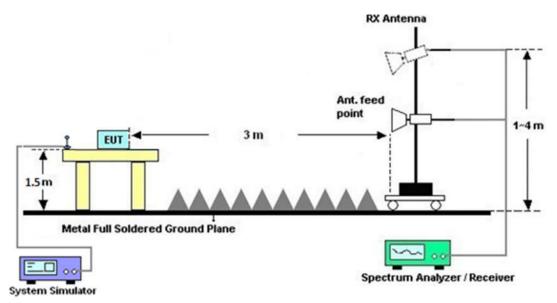
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

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4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-D-2010. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For Band 7

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

- 1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-D-2010 Section 2.2.12.
- 2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
- 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- 4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- 5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
- 6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
- 7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- 8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- 9. Taking the record of output power at antenna port.
- 10. Repeat step 7 to step 8 for another polarization.
- 11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

- = P(W) [43 + 10log(P)] (dB)
- = [30 + 10log(P)] (dBm) [43 + 10log(P)] (dB)
- = -13dBm.
- 12. For Band 7:

The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

EIRP (dBm) = S.G. Power - Tx Cable Loss + Tx Antenna Gain

ERP (dBm) = EIRP - 2.15

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5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 22, 2016	Dec. 18, 2016	Apr. 21, 2017	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 16, 2016	Dec. 18, 2016	Apr. 15, 2017	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 16, 2016	Dec. 18, 2016	Apr. 15, 2017	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Mar. 03, 2016	Dec. 18, 2016	Mar. 02, 2017	Radiation (03CH03-KS)
Amplifier	SONOMA	310N	187289	9kHz~1GHz	Aug. 09, 2016	Dec. 18, 2016	Aug. 08, 2017	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35 -HG	1887435	18GHz~40GHz	Jan. 20, 2016	Dec. 18, 2016	Jan. 19, 2017	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 13, 2016	Dec. 18, 2016	Oct. 12, 2017	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 18, 2016	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 18, 2016	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 18, 2016	NCR	Radiation (03CH03-KS)

NCR: No Calibration Required

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6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of	2.8 dB
Confidence of 95% (U = 2Uc(y))	2.0 UB

<u>Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)</u>

Measuring Uncertainty for a Level of	3,3dB
Confidence of 95% (U = 2Uc(y))	3.3UB

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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

		L	TE Band	7 Maximum Average	Power [dBm]	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0		23.03	22.86	23.21
20	1	49		23.67	23.73	23.30
20	1	99		23.03	22.98	23.04
20	50	0	QPSK	22.00	22.14	21.99
20	50	24	Qr SK	22.09	22.24	22.02
20	50	50		22.04	22.04	21.85
20	100	0		22.09	22.15	21.99
20	1	0		21.81	21.58	21.96
20	1	49		21.64	22.06	22.02
20	1	99		21.32	21.58	21.76
20	50	0	16-QAM	21.10	21.19	21.04
20	50	24		21.29	21.21	20.95
20	50	50		21.31	21.16	20.90
20	100	0		21.23	21.24	20.99
15	1	0		23.01	23.28	23.04
15	1	37		23.50	23.59	23.21
15	1	74		23.14	23.36	22.96
15	36	0	QPSK	22.11	22.23	22.06
15	36	20		22.11	22.27	21.83
15	36	39		22.10	22.16	21.96
15	75	0		22.19	22.14	21.99
15	1	0		21.81	21.91	21.70
15	1	37		22.53	22.49	21.90
15	1	74		22.06	22.09	21.55
15	36	0	16-QAM	21.08	21.18	21.15
15	36	20		21.17	21.26	20.79
15	36	39		21.11	21.10	21.02
15	75	0		21.11	21.29	21.19

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		L	TE Band	7 Maximum Average	Power [dBm]	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0		23.10	23.10	22.91
10	1	25		23.34	23.39	23.21
10	1	49		23.20	23.18	22.92
10	25	0	QPSK	22.14	22.26	21.86
10	25	12	Qr Sit	22.11	22.29	21.95
10	25	25		22.08	22.13	21.91
10	50	0		22.07	22.16	21.79
10	1	0		21.14	22.37	21.84
10	1	25		21.76	22.46	22.13
10	1	49		21.50	21.58	21.21
10	25	0	16-QAM	21.09	21.14	20.84
10	25	12		21.32	21.35	20.99
10	25	25		21.15	21.17	21.05
10	50	0		21.21	21.17	21.02
5	1	0		22.85	23.22	23.01
5	1	12		23.44	23.34	23.23
5	1	24		23.07	23.09	22.75
5	12	0	QPSK	21.92	22.18	21.86
5	12	7		22.10	22.24	21.88
5	12	13		22.06	22.18	21.84
5	25	0		22.07	22.19	21.79
5	1	0		22.02	22.25	21.73
5	1	12		21.79	21.51	21.95
5	1	24		21.72	21.41	21.44
5	12	0	16-QAM	20.95	21.31	20.99
5	12	7		21.00	21.21	20.97
5	12	13		20.82	21.35	20.84
5	25	0		21.07	21.16	20.91

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LTE Band 7 (G_T - L_C = -1.24 dB) QPSK									
Bandwidth		20M							
Channal	20850	21100	21350						
Channel	(Low)	(Mid)	(High)						
Frequency									
(MHz)	2510	2535	2560						
Conducted Power (dBm)	23.67	23.73	23.30						
Conducted Power (Watts)	0.2328	0.2360	0.2138						
EIRP(dBm)	22.43	22.49	22.06						
EIRP(Watts)	0.1750	0.1774	0.1607						

	LTE Band 7 (G _T - L _C = -1.24 dB) 16QAM								
Bandwidth	20M								
Channel	20850	21100	21350						
Channel	(Low)	(Mid)	(High)						
Frequency	0540	0505	0500						
(MHz)	2510	2535	2560						
Conducted Power (dBm)	21.64	22.06	22.02						
Conducted Power (Watts)	0.1459	0.1607	0.1592						
EIRP(dBm)	20.40	20.82	20.78						
EIRP(Watts)	0.1096	0.1208	0.1197						

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Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

	LTE Band 7 / 20MHz / QPSK									
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)	
	5052	-61.29	-25	-36.29	-70.51	-67.85	2.41	8.97	Н	
	7576	-53.23	-25	-28.23	-66.93	-62.23	2.86	11.86	Н	
Middle	10107	-57.75	-25	-32.75	-76.10	-66.65	3.21	12.11	Н	
Middle	5052	-62.16	-25	-37.16	-70.87	-68.72	2.41	8.97	V	
	7576	-52.30	-25	-27.30	-66.93	-61.30	2.86	11.86	V	
	10107	-57.09	-25	-32.09	-76.49	-65.99	3.21	12.11	V	

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

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Appendix D. Product Equality Declaration

SPORTON INTERNATIONAL (KUNSHAN) INC.

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Lenovo Mobile Communication Technology Ltd.

No.999, Qishan North 2nd Road, Information & Optoelectronics Park, Torch Hi-tech Industry Development Zone, Xiamen, P.R.China

Tel: 86-10-58866181; Fax: 86-10-56720293

Date: January 13, 2017

Product Equality Declaration

We, Lenovo Mobile Communication Technology Ltd., declare on our sole responsibility for the product of **Dante-EMEA-APAC SKU** as below:

The differences between **Dante-EMEA-APAC SKU** and previous as below:

Ohiost	1 st Source spe	c	2 nd Source spec		
Object	Specifications	Supplier	Specifications	Supplier	
Battery	GK40	Amperex	GK40	SUNW ODA	
Sim Card	Dual Sims and Single Sim	N∖A	Only Single Sim	N\A	
Band7 Duplexer	B39272B8674P810	EPCOS	SAYEY2G53BA0F0AR05	Murata	
Band28A Duplexer	B8538	EPCOS	SAYEY718MBC0F0A	Murata	
Band28B Duplexer	B8539	EPCOS	SAYEY733MBC0F0A	Murata	
USB Cable	L25W-051000100AL	Liqi	F25W-051000100A	Fukang yuan	
Charger	C-P36 (EU) C-P35 (US)	Acbel	SSW-2919EU C-P36 SPN5944A (EU) SSW-2919UMTJ C-P35 SPN5945A (US)	Salom	

Except above, the others are all the same.

Should you have any questions or comments regarding this matter, please have my best attention.

Sincerely yours,

Contact Person: Lin Biaochun

COMPANY: Motorola Mobility LLC.

Lin Biaochun

Tel:86- 18150396560

E-Mail: Linbc@lenovo.com

Lenovo Mobile Communication Technology Ltd.

No.999, Qishan North 2nd Road, Information & Optoelectronics Park, Torch Hi-tech Industry

Development Zone, Xiamen, P.R.China

Tel: 86-10-58866181; Fax: 86-10-56720293

Date: January 18, 2017

Product Equality Declaration

We, Lenovo Mobile Communication Technology Ltd., declare on our sole responsibility for the product of Motorola 9369, 9847, 9846, 9845, 9850 and 9844 as below:

The differences between Motorola 9369, 9847 (LATAM), 9846 (Brazil), 9845, 9850 (EMEA), and 9844 (India) are as below:

RF section

1. Frequency band difference

	Radio Functionality Matrix -Same Row indicates Signal Path is Shared among SKUs								
Danda/Madaa	LatAm	Brazil	India	EMEA					
Bands/Modes	(9369, 9847)	(9846)	(9844)	(9845, 9850)					
FCC ID	IHDT56VF2	IHDT56VF3	IHDT56VF5	IHDT56VF4					
GSM 850	X	X	X	Х					
GSM 900	X	X	X	Χ					
GSM1800	X	X	X	Χ					
GSM 1900	X	X	X	Х					
LTE 1	X	X	Х	Χ					
LTE 2	X								
LTE 3	X	X	Х	Х					
LTE 4	X								
LTE 5	X	X	Х	Χ					
LTE 7	X	Х		Х					
LTE 8			Х	Χ					
LTE 12	X								
LTE 17	X								
LTE 19				Χ					
LTE 20				Χ					
LTE 28	X	X		Χ					
LTE 38				Χ					
WCDMA 1	X	X	Х	Χ					
WCDMA 2	Х	Х		X					
WCDMA 4	X								
WCDMA 5	X	X	X	X					
WCDMA 8	X	Х	Х	Х					
WCDMA 19				Χ					

2. Board difference

		LatAm (9369, 9847)	Brazil (9846)	India (9844)	EMEA (9845, 9850)			
	IC		Same across all S	KUs(WTR2965)				
WWAN	Component on PCB		See N	lote1				
	Antenna		Same acros	s all SKUs				
	IC	Same across all SKUs						
ВТ	Component on PCB	Same across all SKUs						
	Antenna		Same acros	s all SKUs				
	IC		Same acros	s all SKUs				
WLAN	Component on PCB		Same acros	s all SKUs				
	Antenna		Same acros	s all SKUs				
	IC	Same across all SKUs						
FM	Component on PCB	Same across all SKUs						
	Antenna	Headset is used as the antenna						

Note 1

- One more SPDT is applied in PRX chain of LatAm SKU, which is used for B1 & B4 co-existence. B1 & B4 share the same PRX port of WTR .Because there is no B4 in EMEA & India & Brazil SKUs, the SPDT can be saved.
- One more SP3T is applied in DRX chain of EMEA SKU, which is used for B7 & B38 co-existence. B7
 & B38 share the same DRX port of WTR .Because there is no B38 in LatAm & India & Brazil SKUs, the SP3T can be saved.
- One more SPDT is applied in PRX chain of EMEA SKU, which is used for B38 & B40 co-existence.
 B38 & B40 share the same PRX port of WTR. When there is no B38 in India & Brazil & LatAm SKUs, the SPDT can be saved.
- One more SPDT is applied in DRX chain of EMEA & LatAm SKUs, which is used for B20/B28 co-existence or B12(17)/B28 co-existence. B12(17)/B20 & B28 share the same DRX port of WTR .Because there is no B20/B12(17) in Brazil & India SKUs ,the SPDT can be saved.

■ SW section

For this particular Motorola project SKUs will be sharing one SW release, in which all SKUs will be sharing the same SW image, but different SKUs will load different configurations automatically according to each HW design.

■ Mechanical section

There is no difference in mechanical design and materials used for all SKUs of Dante. There are differences in terms of memory configuration, number of SIMs supported and material vendors across different SKUs.

DVT 2 Samples,

RF Variant	eMCP Capacity	eMCP Vendor& Model	Front camera Vendor& Model	Rear camera Vendor& Model	# Sims	Marketing Model #
LatAm	2G+32G	Hynix H9TQ26ABJTBCUR-KUM	O-film L5695F70	Sunny F13N09U-200	1	9847
LatAm -	2G+16G	Samsung KMQE10013M-B318	Sunny D5V16C-0JG	O-film L258A70	2	9369
Brazil	2G+32G	Samsung KMQX10013M-B419	O-film L5695F70	Sunny F13N09U-200	2	9846
EMEA	3G+16G	Samsung KMRE1000BM-B512	Sunny D5V16C-0JG	O-film L258A70	1	9850
EMEA	3G+16G	Hynix H9TQ17ADFTACUR-KUM	O-film L5695F70	Sunny F13N09U-200	2	9845
India	3G+16G	Samsung KMRE1000BM-B512	O-film L5695F70	Sunny F13N09U-200	2	9844

DVT 3 Samples,

RF Variant	eMCP Capacity	eMCP Vendor& Model	Front camera Vendor& Model	Rear camera Vendor& Model	# Sims	Marketing Model #
LatAm	2G+16G	Samsung KMQE10013M-B318	Sunny D5V16C-0JG	O-film L258A70	1	9847
Brazil	2G+32G	Samsung KMQX10013M-B419	Sunny D5V16C-0JG	O-film L258A70	2	9846
EMEA	2G+16G	Samsung KMQE10013M-B318	Sunny D5V16C-0JG	O-film L258A70	1	9850
India	3G+16G	Samsung KMRE1000BM-B512	O-film L5695F70	Sunny F13N09U-200	2	9844

Except for difference listed above:

- RF trace: same across LatAm, Brazil, India, EMEA SKUs.
- PCB layout: same across LatAm, Brazil, India, EMEA SKUs.
- WLAN/BT antenna type, antenna pattern, antenna location and chipset: Same across LatAm, Brazil, India, EMEA SKUs.
- LatAm, Brazil, India, EMEA SKUs have the same primary antenna and the same diversity GPS antenna.
- Compared with DVT 2 samples, MURATA band 7 and band 28 duplexers are used in DVT 3 samples instead of Epcos duplexers for EMEA, LatAm and Brazil SKUs.
- Second source accessories like Fukangyuan USB cable, Salom adaptor and Sunwoda battery are bundled with DVT 3 samples, compared with those used for DVT 2 samples, like Liqi USB cable, Acbel adaptor and ATL battery.

3 · Overview of the proposed data re-use plan

Radio Functionality Matrix -Same Row indicates Signal Path is Shared among SKUs							
Bands LatAm Brazil India EMEA							
/ Modes	(9369, 9847)	(9846)	(9844)	(9845, 9850)			
GSM 850	RF: verified conducted power, ERP and RSE from original SKU SAR: Verified Worse mode	RF: verified conducted power, ERP and RSE from original SKU SAR: Verified Worse mode	RF: verified conducted power, ERP and RSE from original SKU SAR: Verified Worse mode	RF: verified conducted power, ERP and RSE from original SKU SAR: Verified Worse mode			
GSM1900	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode			
LTE 2	RF: Not the worse band, so not verified SAR: Verified Worse mode						
LTE 4	RF: Not the worse band, so not verified SAR: Verified Worse mode						
LTE 5	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: verified conducted power, EIRP and RSE from original SKU SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode			
LTE 7	Full tested since change the DPX SAR power full test and verified worse mode	RF: Verified worse mode for conducted power, EIRP and RSE Re-used Part 27M conducted test results from Latam SKU SAR: Verified Worse mode		RF: Verified worse mode for conducted power, EIRP and RSE Re-used Part 27M conducted test results from Latam SKU SAR: Verified Worse mode			
LTE 12	RF: Not the worse band, so not verified SAR: Verified Worse mode						
LTE 17	RF: Not the worse band, so not verified SAR: Verified Worse mode						
LTE 38				RF: Not the worse band, so not verified SAR: Verified Worse mode			
WCDMA Band 2	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode		RF: Not the worse band, so not verified SAR: Verified Worse mode			
WCDMA Band 4	RF: Not the worse band, so not verified SAR: Verified Worse mode						
WCDMA Band 5	RF: Not the worse band, so not verified SAR: Verified Worse	RF: Not the worse band, so not verified SAR: Verified Worse	RF: Not the worse band, so not verified SAR: Verified Worse	RF: Not the worse band, so not verified SAR: Verified			

	mode	mode	mode	Worse mode
WLAN 2.4GHz	Worse case of RSE and SAR from original SKU	Worse case of RSE and SAR from original SKU	Worse case of RSE and SAR from original SKU	Worse case of RSE and SAR from original SKU
WLAN 5GHz	Reduce the Conducted Power of band3, retest Conducted item for this band and verified the CH64/100 of 5G WIFI Worse case of RSE and SAR from original SKU	Worse case of RSE and SAR from original SKU Conducted item of WLAN5GHz Band III re-use Latam data	Worse case of RSE and SAR from original SKU Conducted item of WLAN5GHz Band III re-use Latam data	Worse case of RSE and SAR from original SKU Conducted item of WLAN5GHz Band III re-use Latam data
Bluetooth	Worse case of RSE from original SKU	Worse case of RSE from original SKU	Worse case of RSE from original SKU	Worse case of RSE from original SKU

Note:

- 1. According to the difference between SA sample and original sample for each SKU, verified worse mode for EMC/RF/SAR.
- 2. For RF test data for Brazil, EMEA SKU re-used for part 27, 15E, spot check is performed to justify the re-used data is representative form Latam SKU.
- 3. FCC Part 15B verified worse case based on original each SKU.

Except listings above, the others are all the same.

Should you have any questions or comments regarding this matter, please have my best attention. Sincerely yours,

Lin Biaochun

Contact Person: Lin Biaochun

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Tel:86-18150396560

E-Mail: Linbc@lenovo.com

Appendix E. Reference Report

Please refer to Sporton report number FG693004-03B which is issued separately.

Please refer to Sporton report number FG6D1304B as bellow.

SPORTON INTERNATIONAL (KUNSHAN) INC.

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