

EVALUATION REPORT

Applicant Name:

LG Electronics MobileComm U.S.A., Inc.

Address:

1000 Sylvan Avenue, Englewood Cliffs NJ 07632

Date of Evaluation:

March 21, 2017

Test Site/Location:

HCT CO., LTD., 74,Seoicheon-ro 578beon-gil,Majangmyeo, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

FCC ID : ZNFM250DSF
APPLICANT : LG Electronics MobileComm U.S.A., Inc.

Test Data Re-Use Summary

Introduction

FCC ID : ZNFM250DSF
Equipment Class(es) : PCE, DTS, DSS
Rule Part(s) : 2, 15, 22, 24, 27
Application's Statement :

The applicant takes full responsibility that the test data referenced below represents compliance for this FCC ID.

Differences
Brief Description :

Some Cellular parts, Bluetooth & WLAN hardware and software of this device are identical to the implementation in ZNFM250H. The operational description includes detailed information about the changes between the devices. The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the summary table below.

Spot Check Verification Result Summary

(Note: The detail test data can be found in this documents, Appendix A, hereafter)

Category	Spot Check	Verdict
SAR :	GSM 850 / 1900	Share
	WCDMA 850 / 1900	Share
	2.4 GHz WLAN	Share
	LTE Band 7	Share
Licensed EMC	ERP / EIRP	Share
	RSE	Share
Unlicensed EMC	Band Edge	Share
	Spurious Emissions	Share

Reference Detail Section

Reference FCC ID	Equipment Class	Folder Test / RF Exposure	Report Title / Section
ZNFM250H	PCE	SAR Report	All sections(Except for LTE B2, 4, 5, 13, 17 and WCDMA 1700)
		GSM WCDMA Report	All sections(Except for WCDMA 1700)
		LTE Report	All sections(Except for LTE B2, 4, 5, 13, 17)
	DSS	Bluetooth Report	All sections
		WLAN DTS Report	All sections
	DTS	BT LE Report	All sections
		SAR Report	All sections



Signature
Research Engineer / Yunseok Lee
HCT CO.,LTD

Appendix A. The Spot check test data

1. Summary of the spot check for Licensed EMC

EFFECTIVE RADIATED POWER (GSM850) / (WCDMA850)

Modulation	Frequency		Mode	ZNFM250H (Reference)	ZNFM250DSF (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
				ERP	ERP	
	MHz	Ch.		(dBm)	(dBm)	
GSM850	836.6	190	VOICE	29.00	28.32	-0.68
WCDMA850	836.6	4183	RMC	20.33	19.73	-0.60

RADIATED SPURIOUS EMISSIONS (GSM850) / (WCDMA850)

Modulation	Frequency		Mode	ZNFM250H (Reference)	ZNFM250DSF (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
				ERP	ERP	
	MHz	Ch.		(dBm)	(dBm)	
GSM850	1,697.60	251	VOICE	-58.45	-55.82	2.63
	2,546.40			-54.01	-52.58	1.43
	3,395.20			-52.38	-53.94	-1.56
WCDMA850	1,693.20	4233	RMC	-59.77	-59.22	0.55
	2,539.80			-53.19	-54.38	-1.19
	3,386.40			-53.69	-53.42	0.27

EQUIVALENT ISOTROPIC RADIATED POWER (GSM1900) / (WCDMA1900)

Modulation	Frequency		Mode	ZNFM250H (Reference)	ZNFM250DSF (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
				EIRP	EIRP	
	MHz	Ch.		(dBm)	(dBm)	
GSM1900	1909.8	810	VOICE	30.35	29.39	-0.96
WCDMA1900	2,539.80	9400	RMC	23.33	23.01	-0.32

RADIATED SPURIOUS EMISSIONS (GSM1900) / (WCDMA1900)

Modulation	Frequency		Mode	ZNFM250H (Reference)	ZNFM250DSF (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	EIRP			EIRP		
	MHz	Ch.		(dBm)	(dBm)	
GSM1900	3,700.40	512	VOICE	-48.19	-51.91	-3.72
	5,550.60			-38.85	-45.14	-6.29
	7,400.80			-39.60	-38.80	0.80
WCDMA1900	3,704.80	9262	RMC	-49.85	-47.91	1.94
	5,557.20			-44.70	-43.02	1.68
	7,409.60			-40.56	-40.16	0.40

EQUIVALENT ISOTROPIC RADIATED POWER (LTE – Band 7)

Modulation	Frequency		Mode Bandwidth	ZNFM250H (Reference)	ZNFM250DSF (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	EIRP			EIRP		
	MHz	Ch.		(dBm)	(dBm)	
LTE – B7	2510.0	20850	QPSK	20.58	22.99	2.41
	2535.0	21100	20M	19.48	21.99	2.51
	2560.0	21350		18.63	21.45	2.82

RADIATED SPURIOUS EMISSIONS (LTE – Band 7)

Modulation	Frequency		Mode Bandwidth	ZNFM250H (Reference)	ZNFM250DSF (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	EIRP			EIRP		
	MHz	Ch.		(dBm)	(dBm)	
LTE – B7	5,020.00	20850	QPSK	-50.59	-56.51	-5.92
	7,530.00		20M	-39.82	-51.03	-11.21
	10,040.00			-47.94	-46.38	1.56

2. Summary of the spot check for SAR

Per FCC KDB 484596 D01 Referencing Test Data DR01-42712 4) e)

For RF exposure purposes, each combination of frequency band, wireless mode, and exposure test conditions shall be considered separately. A KDB inquiry is recommended for complex device configurations to confirm appropriate RF exposure test cases

SAR Spot check												
Band	Freq.	Exposure Conditions	Frequency Channel		Tune Up Limit	Original Model			Data Re-use Model			Dev. (%).
						ZNFM250H			ZNFM250DS			
			Meas. Power	Measured SAR	Reported SAR	Meas. Power	Measured SAR	Reported SAR				
			MHz	Ch.	(dB m)	(dBm)	1g (W/kg)	1g (W/kg)	(dBm)	1g (W/kg)	1g (W/kg)	
GSM/GPRS/EDGE 850	824.2 ~ 848.8	Head	836.6	190	28.7	28.5	0.311	0.326	28.61	0.321	0.328	0.5
		Body worn	836.6	190	28.7	28.5	0.587	0.615	28.61	0.639	0.652	6.1
		Hotspot	836.6	190	28.7	28.5	0.587	0.615	28.61	0.639	0.652	6.1
GSM/GPRS/EDGE 1900	1 850.2 ~ 1 909.8	Head	1880	661	25.7	25.43	0.239	0.254	25.48	0.216	0.227	-10.5
		Body worn	1880	661	25.7	25.43	0.378	0.402	25.48	0.402	0.423	5.2
		Hotspot	1880	661	25.7	25.43	0.411	0.437	25.48	0.359	0.378	-13.6
UMTS 850	826.4 ~ 846.6	Head	836.6	4183	24.7	24.44	0.347	0.369	24.37	0.381	0.411	11.4
		Body worn	836.6	4183	24.7	24.44	0.534	0.567	24.37	0.549	0.592	4.5
		Hotspot	836.6	4183	24.7	24.44	0.534	0.567	24.37	0.549	0.592	4.5
UMTS 1900	1 852.4 ~ 1 907.6	Head	1 880.0	9400	23.7	23.66	0.358	0.361	23.59	0.349	0.358	-0.8
		Body worn	1 880.0	9400	23.7	23.66	0.537	0.542	23.59	0.529	0.543	0.1
		Hotspot	1 880.0	9400	23.7	23.66	0.641	0.647	23.59	0.569	0.584	-9.8
LTE 7	2 502.5 ~ 2 567.5	Head	2510	20850	23.7	23.65	0.091	0.092	23.49	0.051	0.054	-41.8
		Body worn	2510	20850	23.7	23.65	0.681	0.689	23.49	0.662	0.695	0.9
		Hotspot	2510	20850	23.7	23.65	0.681	0.689	23.49	0.662	0.695	0.9
802.11b	2 412 ~ 2 462	Head	2 437	6	16.5	16.26	0.892	0.946	16.31	0.872	0.914	-3.4
		Body worn	2 437	6	16.5	16.26	0.191	0.202	16.31	0.198	0.208	3.0
		Hotspot	2 437	6	16.5	16.26	0.191	0.202	16.31	0.198	0.208	3.0

Note : We measured the conducted power of the ZNFM250DSF and confirmed that it was within the tune up limit.

3. Summary of the spot check for Unlicensed EMC

Report	Test Item	Channel	Measured Frequency	LG-M250H Result [dBuV/m]_(Original)		LG-M250dsF Result [dBuV/m]		Gap [dB]	
				Peak	Average	Peak	Average	Peak	Average
BT	Band Edge	78	2483.5MHz~2500 MHz	66.25	38.32	66.68	38.98	0.43	0.66
	RSE	39	7323 MHz	55.51	41.70	55.37	41.59	-0.14	-0.11
BT LE	Band Edge	39	2483.5MHz~2500 MHz	53.31	43.97	51.27	40.05	-2.04	-3.92
	RSE	19	7320 MHz	55.49	45.61	55.27	43.43	-0.22	-2.18
DTS	Band Edge	1	2310 MHz~2390 MHz	67.92	50.09	69.76	49.36	1.84	-0.73
	RSE	6	4874 MHz	53.01	46.14	49.33	37.12	-3.68	-9.02