

EVALUATION REPORT

Applicant Name:
LG Electronics MobileComm U.S.A., Inc.
Address:
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Date of Issue:
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Test Site/Location:
HCT CO., LTD., 74, Seoicheon-ro 578beon-gil, Majangmyeo,
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FCC ID : ZNFM320Y

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

Test Data Re-Use Summary

Introduction

FCC ID : ZNFM320Y
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. The deviations are typical and within expected tolerances for identical production devices and not a result of the model differences.

Differences
Brief Description :

Some Cellular parts, Bluetooth & WLAN hardware and software of this device are identical to the implementation in ZNFM320H. 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 : GSM 850(All sections) Re-Test : GSM 1900(Body, Hot spot)
	WCDMA 850 / 1900	Share : WCDMA 850(All sections) Re-Test : WCDMA 1900(All sections)
	2.4 GHz WLAN	Share
	LTE Report	Share : LTE B7(Head) Re-Test : LTE B7(Body, Hot spot)
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
ZNFM320H	PCE	SAR Report	GSM 850(All sections), GSM1900(Head), WCDMA 850(All sections), LTE B7(Head) WLAN(All sections)
		GSM WCDMA Report	WCDMA 850, 1900
		LTE Report	LTE B7
	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	ZNFM320H (Reference)	ZNFM320Y (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
				ERP	ERP	
	MHz	Ch.		(dBm)	(dBm)	
GSM850	824.2	128	VOICE	28.84	28.28	-0.56
WCDMA850	836.6	4183	RMC	19.41	19.21	-0.20

RADIATED SPURIOUS EMISSIONS (GSM850) / (WCDMA850)

Modulation	Frequency		Mode	ZNFM320H (Reference)	ZNFM320Y (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
				ERP	ERP	
	MHz	Ch.		(dBm)	(dBm)	
GSM850	1,648.40	128	VOICE	-51.06	-52.47	-1.41
	2,472.60			-41.26	-45.98	-4.72
	3,296.80			-51.94	-54.28	-2.34
	4,121.00			-45.34	-43.71	1.63
WCDMA850	1,693.20	4233	RMC	-59.72	-59.65	0.07
	2,539.80			-53.71	-53.84	-0.13
	3,386.40			-52.89	-54.07	-1.18

EQUIVALENT ISOTROPIC RADIATED POWER (GSM1900) / (WCDMA1900)

Modulation	Frequency		Mode	ZNFM320H (Reference)	ZNFM320Y (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	EIRP			EIRP		
	MHz	Ch.		(dBm)	(dBm)	
GSM1900	1880.0	661	VOICE	31.57	30.50	-1.07
WCDMA1900	1880.0	9400	RMC	23.65	22.17	-1.48

RADIATED SPURIOUS EMISSIONS (GSM1900) / (WCDMA1900)

Modulation	Frequency		Mode	ZNFM320H (Reference)	ZNFM320Y (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	EIRP			EIRP		
	MHz	Ch.		(dBm)	(dBm)	
GSM1900	3,700.40	512	VOICE	-47.32	-45.19	2.13
	5,550.60			-33.11	-35.37	-2.26
	7,400.80			-41.72	-42.03	-0.31
	9,251.00			-33.71	-37.32	-3.61
WCDMA1900	3,815.20	9538	RMC	-50.73	-51.91	-1.18
	5,722.80			-41.95	-42.72	-0.77
	7,630.40			-42.26	-43.40	-1.14

EQUIVALENT ISOTROPIC RADIATED POWER (LTE – Band 7)

Modulation	Frequency		Mode	ZNFM320H (Reference)	ZNFM320Y (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	EIRP			EIRP	EIRP	
	MHz	Ch.		(dBm)	(dBm)	
LTE – B7	2510.0	20850.0	QPSK (20 MHz)	20.51	20.92	0.41
			16QAM (20 MHz)	19.69	20.10	0.41
	2535.0	21100.0	QPSK (20 MHz)	20.42	21.04	0.62
			16QAM (20 MHz)	19.58	20.20	0.62
	2560.0	21350.0	QPSK (20 MHz)	19.53	20.73	1.20
			16QAM (20 MHz)	18.67	19.87	1.20

RADIATED SPURIOUS EMISSIONS (LTE – Band 7)

Modulation	Frequency		Mode	ZNFM320H (Reference)	ZNFM320Y (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	EIRP			EIRP	EIRP	
	MHz	Ch.		(dBm)	(dBm)	
LTE – B7	5,010.00	20800	QPSK	-49.61	-47.59	2.02
	7,515.00		(10 MHz)	-37.33	-35.86	1.47
	10,020.00			-47.19	-48.82	-1.63

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 (dBm)	Original Model		Data Re-use Model		Spot Check Result	Deviation (%)
						ZNF320H		ZNF320Y			
						Meas. Power (dBm)	Measured SAR 1g (W/kg)	Meas. Power (dBm)	Measured SAR 1g (W/kg)		
MHz	Ch.										
GSM/GPRS/EDGE 850	824.2 ~ 848.8	Head	836.6	190	29.2	29.0	0.495	29.10	0.531	Share	7.3
		Body worn	836.6	190	29.2	29.0	0.632	29.10	0.638	Share	0.9
		Hotspot	836.6	190	29.2	29.0	0.632	29.10	0.638	Share	0.9
GSM/GPRS/EDGE 1900	1 850.2 ~ 1 909.8	Head	1 880	661	26.2	25.78	0.542	25.81	0.589	Share	8.7
		Body worn	1 880	661	26.2	25.78	0.435	25.81	0.703	Re-test	61.6
		Hotspot	1 880	661	26.2	25.78	0.489	25.81	0.703	Re-test	43.8
UMTS 850	826.4 ~ 846.6	Head	836.6	4183	24.2	24.02	0.331	23.99	0.317	Share	-4.2
		Body worn	836.6	4183	24.2	24.02	0.390	23.99	0.366	Share	-6.2
		Hotspot	836.6	4183	24.2	24.02	0.390	23.99	0.366	Share	-6.2
UMTS 1900	1 852.4 ~ 1 907.6	Head	1 880	9400	23.2	22.91	0.630	22.94	0.503	Re-test	-20.2
		Body worn	1 880	9400	23.2	22.91	0.495	22.94	0.677	Re-test	36.8
		Hotspot	1 880	9400	23.2	22.91	0.540	22.94	0.677	Re-test	25.4
LTE 7	2 502.5 ~ 2 567.5	Head	2 510	20850	23.4	23.31	0.246	23.25	0.197	Share	-19.9
		Body worn	2 510	20850	23.4	23.31	0.590	23.25	0.730	Re-test	23.7
		Hotspot	2 510	20850	23.4	23.31	0.590	23.25	0.730	Re-test	23.7
802.11b	2 412 ~ 2 462	Head	2 437	6	16.5	16.37	0.911	16.25	0.962	Share	5.6
		Body worn	2 437	6	16.5	16.37	0.282	16.25	0.208	Share	-26.2
		Hotspot	2 437	6	16.5	16.37	0.282	16.25	0.208	Share	-26.2

Note :We measured the conducted power of the ZNF320Y 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-M320H Result [dBuV/m]		LG-M320Y Result [dBuV/m]		Gap [dB]	
				Peak	Average	Peak	Average	Peak	Average
BT	Band Edge	78	2483.5 MHz~2500 MHz	69.26	41.95	67.86	40.36	-1.40	-1.59
	RSE	0	7206 MHz	56.36	42.53	55.24	40.48	-1.12	-2.05
BT LE	Band Edge	39	2483.5 MHz~2500 MHz	49.30	39.55	49.16	39.49	-0.14	-0.06
	RSE	0	7206 MHz	55.75	45.60	55.09	44.88	-0.66	-0.72
DTS	Band Edge	11	2483.5 MHz~2500 MHz	62.42	47.60	63.12	47.63	0.70	0.03
	RSE	6	7311 MHz	54.75	42.48	54.93	42.50	0.18	0.02