

# EVALUATION REPORT

**Applicant Name:**

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

**Address:**

1000 Sylvan Avenue, Englewood Cliffs NJ 07632

**Date of Issue:**

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 : ZNFM320N**

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

## Test Data Re-Use Summary

**Introduction**

FCC ID : ZNFM320N

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 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(1900 Re-Test)
	WCDMA 850 / 1900	Share(1900 Re-Test)
	2.4 GHz WLAN	Share(Head Re-Test)
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	All sections(Except for LTE and GSM/WCDMA 1700, 1900(Body-worn)) * GSM/WCDMA 1900 Body-worn Re-test
		GSM WCDMA Report	All sections(Except for WCDMA 1700)
	DSS	Bluetooth Report	All sections
		WLAN DTS Report	All sections
	DTS	BT LE Report	All sections
		SAR Report	All sections(Except for Head)



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**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)	ZNFM320N (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	ERP			ERP	ERP	
	MHz	Ch.		(dBm)	(dBm)	
GSM850	824.2	128	VOICE	28.84	28.62	-0.22
WCDMA850	836.6	4183	RMC	19.41	19.22	-0.19

#### RADIATED SPURIOUS EMISSIONS (GSM850) / (WCDMA850)

Modulation	Frequency		Mode	ZNFM320H (Reference)	ZNFM320N (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	ERP			ERP	ERP	
	MHz	Ch.		(dBm)	(dBm)	
GSM850	1,648.40	128	VOICE	-51.06	-54.00	-2.94
	2,472.60			-41.26	-43.32	-2.06
	3,296.80			-51.94	-51.97	-0.03
	4,121.00			-45.34	-45.50	-0.16
WCDMA850	1,693.20	4233	RMC	-59.72	-60.53	-0.81
	2,539.80			-53.71	-53.84	-0.13
	3,386.40			-52.89	-53.70	-0.81

**EQUIVALENT ISOTROPIC RADIATED POWER (GSM1900) / (WCDMA1900)**

Modulation	Frequency		Mode	ZNFM320H (Reference)	ZNFM320N (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	EIRP			EIRP		
	MHz	Ch.		(dBm)	(dBm)	
GSM1900	1880.0	661	VOICE	31.57	30.37	-1.20
WCDMA1900	1880.0	9400	RMC	23.65	22.68	-0.97

**RADIATED SPURIOUS EMISSIONS (GSM1900) / (WCDMA1900)**

Modulation	Frequency		Mode	ZNFM320H (Reference)	ZNFM320N (Reuse)	deviation
				(Reference test data)	(Spot check test data)	
	EIRP			EIRP		
	MHz	Ch.		(dBm)	(dBm)	
GSM1900	3,700.40	512	VOICE	-47.32	-50.00	-2.68
	5,550.60			-33.11	-31.86	1.25
	7,400.80			-41.72	-41.32	0.40
	9,251.00			-33.71	-36.51	-2.80
WCDMA1900	3,815.20	9538	RMC	-50.73	-49.38	1.35
	5,722.80			-41.95	-42.57	-0.62
	7,630.40			-42.26	-42.15	0.11

## 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. %	Spot Check Result
						ZNFM320H		ZNFM320N			
			MHz	Ch.	(dBm)	Meas. Power (dBm)	Measured SAR 1g (W/kg)	Meas. Power (dBm)	Measured SAR 1g (W/kg)		
GSM/GPRS/EDGE 850	824.2 ~ 848.8	Head	836.6	190	29.2	29	0.495	28.89	0.533	7.7	Share
		Body worn	836.6	190	29.2	29	0.632	28.89	0.682	7.9	Share
		Hotspot	836.6	190	29.2	29	0.632	28.89	0.682	7.9	Share
GSM/GPRS/EDGE 1900	1 850.2 ~ 1 909.8	Head	1 880	661	26.2	25.78	0.542	25.54	0.567	4.6	Share
		Body worn	1 880	661	26.2	25.78	0.435	25.54	0.678	55.9	Re-test
		Hotspot	1 880	661	26.2	25.78	0.489	25.54	0.678	38.7	Re-test
UMTS 850	826.4 ~ 846.6	Head	836.6	4183	24.2	24.02	0.331	24.01	0.279	-15.7	Share
		Body worn	836.6	4183	24.2	24.02	0.390	24.01	0.413	5.9	Share
		Hotspot	836.6	4183	24.2	24.02	0.390	24.01	0.413	5.9	Share
UMTS 1900	1 852.4 ~ 1 907.6	Head	1 880	9400	23.2	22.91	0.630	22.72	0.643	2.1	Share
		Body worn	1 880	9400	23.2	22.91	0.495	22.72	0.658	32.9	Re-test
		Hotspot	1 880	9400	23.2	22.91	0.540	22.72	0.658	21.9	Re-test
802.11b	2 412 ~ 2 462	Head	2 437	6	16.5	16.37	0.911	16.24	0.990	8.7	Re-test
		Body worn	2 437	6	16.5	16.37	0.282	16.24	0.284	0.7	Share
		Hotspot	2 437	6	16.5	16.37	0.282	16.24	0.284	0.7	Share

● Note : We measured the conducted power of the ZNFM320N and confirmed that it was within the tune up limit tolerance.

## 3. Summary of the spot check for Unlicensed EMC

Report	Test Item	Channel	Measured Frequency	ZNFM320H Result [dBuV/m]		ZNFM320N Result [dBuV/m]		Gap [dB]	
				Peak	Average	Peak	Average	Peak	Average
BT	Band Edge	78	2483.5 MHz~2500 MHz	69.26	41.95	68.57	41.20	0.69	0.75
	RSE	0	7206 MHz	56.36	42.53	54.89	40.43	1.47	2.10
BT LE	Band Edge	39	2483.5 MHz~2500 MHz	49.30	39.55	49.48	39.76	-0.18	-0.21
	RSE	0	7206 MHz	55.75	45.60	54.99	44.82	0.76	0.78
DTS	Band Edge	11	2483.5 MHz~2500 MHz	62.42	47.60	61.61	47.42	0.81	0.18
	RSE	6	7311 MHz	54.75	42.48	54.85	42.40	-0.10	0.08