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**HCT**

# TEST REPORT

EMI Test for FCC Certification of LM-G900TM Model

APPLICANT

LG Electronics USA, Inc.

REPORT NO.

HCT-EM-2007-FC012

DATE OF ISSUE

July 15, 2020

Tested by  
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(signature)

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# TEST REPORT

EMI Test for  
FCC Certification

**REPORT NO.**

HCT-EM-2007-FC012

**DATE OF ISSUE**

July 15, 2020

**FCC ID / IC**

ZNFG900TM

<b>Applicant</b>	<b>LG Electronics USA, Inc.</b> 111 Sylvan Avenue, North Building , Englewood Cliffs NJ 07632 United States
<b>Product Name</b>	Multi-band CDMA/GSM/EDGE/WCDMA/LTE/5G NR Phone with WLAN, BT and RFID
<b>Model Name</b>	LM-G900TM
<b>Series Model Name</b>	Refer to the clause 1.1 Description of EUT
<b>Travel Adaptor Information</b>	Model name: MCS-H06WR Manufacturer: SUNLIN
<b>Date of Test</b>	July 07, 2020 to July 14, 2020
<b>Test Standard Used</b>	FCC CFR 47 PART 15 Subpart B Class B ANSI C63.4-2014
<b>Test Results</b>	Refer to the present document
<b>Manufacturer</b>	LG Electronics Inc.

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

This test results were applied only to the test methods required by the standard

## REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	July 15, 2020	Initial Release

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2014. (See Test Report if any modifications were made for compliance)  
I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.  
HCT certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862

This Test Report is not related to the accredited test result by KOLAS (Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA.

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## 1. GENERAL INFORMATION

### 1.1 Description of EUT

<b>FCC ID</b>	ZNFG900TM	
<b>Model Name</b>	LM-G900TM	
<b>Series Model Name</b>	LMG900TM, G900TM	
<b>Product Name</b>	Multi-band CDMA/GSM/EDGE/WCDMA/LTE/5G NR Phone with WLAN, BT and RFID	
<b>Frequency Range</b>	<b>RX Frequency</b>	<b>TX Frequency</b>
CDMA BC0	869.70 MHz to 893.31 MHz	824.70 MHz to 848.31 MHz
CDMA BC1	1 931.25 MHz to 1 988.75 MHz	1 851.25 MHz to 1 908.75 MHz
CDMA BC10	862.00 MHz to 894.00 MHz	817.90 MHz to 823.10 MHz
GSM 850	869.20 MHz to 893.80 MHz	824.20 MHz to 848.80 MHz
GSM 1 900	1 930.20 MHz to 1 989.80 MHz	1 850.20 MHz to 1 909.80 MHz
WCDMA B2	1 932.4 MHz to 1 987.6 MHz	1 852.4 MHz to 1 907.6 MHz
WCDMA B4	2 112.4 MHz to 2 152.6 MHz	1712.4 MHz to 1752.6 MHz
WCDMA B5	871.40 MHz to 891.60 MHz	826.40 MHz to 846.60 MHz
LTE B2	1 930 MHz to 1 990 MHz	1 850 MHz to 1 910 MHz
LTE B4	2 110 MHz to 2 155 MHz	1 710 MHz to 1 755 MHz
LTE B5	869 MHz to 894 MHz	824 MHz to 849 MHz
LTE B12	729 MHz to 746 MHz	699 MHz to 716 MHz
LTE B13	746 MHz to 756 MHz	777 MHz to 787 MHz
LTE B17	734 MHz to 746 MHz	704 MHz to 716 MHz
LTE B25	1 925 MHz to 1 990 MHz	1 850 MHz to 1 915 MHz
LTE B26	859 MHz to 894 MHz	814 MHz to 849 MHz
LTE B41	2 496 MHz to 2 690 MHz	2 496 MHz to 2 690 MHz
LTE B66	2 110 MHz to 2 200 MHz	1 710 MHz to 1 780 MHz
LTE B71	617 MHz to 652 MHz	663 MHz to 698 MHz
Bluetooth	2 402 MHz to 2 480 MHz	2 402 MHz to 2 480 MHz
WiFi 2.4 GHz	2 412 MHz to 2 462 MHz	2 412 MHz to 2 462 MHz
WiFi 5 GHz_UNII 1	5 180 MHz to 5 240 MHz	5 180 MHz to 5 240 MHz
WiFi 5 GHz_UNII 2A	5 260 MHz to 5 320 MHz	5 260 MHz to 5 320 MHz
WiFi 5 GHz_UNII 2C	5 500 MHz to 5 720 MHz	5 500 MHz to 5 720 MHz
WiFi 5 GHz_UNII 3	5 745 MHz to 5 825 MHz	5 745 MHz to 5 825 MHz
NFC	13.56 MHz	13.56 MHz
5G NR n25	1 930 MHz to 1 995 MHz	1 850 MHz to 1 915 MHz
5G NR n41	2 496 MHz to 2 690 MHz	2 496 MHz to 2 690 MHz
5G NR n66	2 110 MHz to 2 200 MHz	1 710 MHz to 1 780 MHz
5G NR n71	617 MHz to 652 MHz	663 MHz to 698 MHz

## 1.2 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

Device Type	Model Name	Serial Number	Manufacturer
EUT	LM-G900TM	-	LG
Data Cable	EAD64746102	-	LUXSHARE
Earphone	EAB64468445	-	BUJEON
Travel Adaptor	MCS-H06WR	-	SUNLIN
Micro SD Card	SAMSUNG EVO+microSDXC CLASS10 UHS-I (256 GB)	-	SAMSUNG

## 1.3 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	USB Type C (Data Cable)	Y	N/A	(P) 1.0
	Earphone	N/A	N	(D) 1.2

NOTE. The marked "(D)" means the data cable and "(P)" means the power cable.

## 1.4 Noise Suppression Parts on Cable (I/O Cable)

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	USB Type C (Data Cable)	N	N/A	Y	Both End
	Earphone	N	N/A	Y	EUT End

### 1.5 Test Facility

Test site is located at 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, South Korea. Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4-2014. The Normalized site attenuations (30 MHz to 1 GHz) and Site validation (1 GHz to 18 GHz) were performed in accordance with the standard in ANSI C63.4-2014

Measurement Facilities	Designation No.
Radiated Field strength measurement facility 3 m Semi Anechoic chamber	KR0032
Radiated Field strength measurement facility 10 m Semi Anechoic chamber #1	
Radiated Field strength measurement facility 10 m Semi Anechoic chamber #2	

### 1.6 Calibration of Measuring Instrument

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturers recommendations for utilizing calibration equipment, which is traceable to recognized national standards. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5:2017

### 1.7 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the  $U_{CISPR}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty
Conducted Emission (0.15 MHz to 30 MHz)	1.8 dB
3 m Radiated Emissions (30 MHz to 1 GHz)	4.8 dB
3 m Radiated Emissions (1 GHz to 18 GHz)	5.4 dB
3 m Radiated Emissions (18 GHz to 40 GHz)	5.7 dB

## 2. DESCRIPTION OF TEST

### 2.1 Measurement of Conducted Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 7.3

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN).  
If the EUT is connected to the PC through USB, the AC power-line adapter of the PC is directly connected to a line impedance stabilization network (LISN).  
Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/50uH of coupling impedance for the measuring instrument.
- b. Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration.
- c. The frequency range from 150 kHz to 30 MHz was searched.

#### Conducted Emission Limits

Frequency (MHz)	Resolution Bandwidth (kHz)	Class A		Class B	
		Quasi-Peak (dB $\mu$ V)	Average (dB $\mu$ V)	Quasi-Peak (dB $\mu$ V)	Average (dB $\mu$ V)
0.15 to 0.5	9	79	66	66 to 56*	56 to 46*
0.5 to 5	9	73	60	56	46
5 to 30	9	73	60	60	50

NOTE. Decreases with the logarithm of the frequency.

## 2.2 Measurement of Radiated Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 8.3

- a. The EUT was placed on the top of a turn table 0.8 meters above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from 1 m to 4 m above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 m to 4 m and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to Peak and Average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- g. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.  
(1 GHz to 40 GHz)

### Radiated Emission Limits

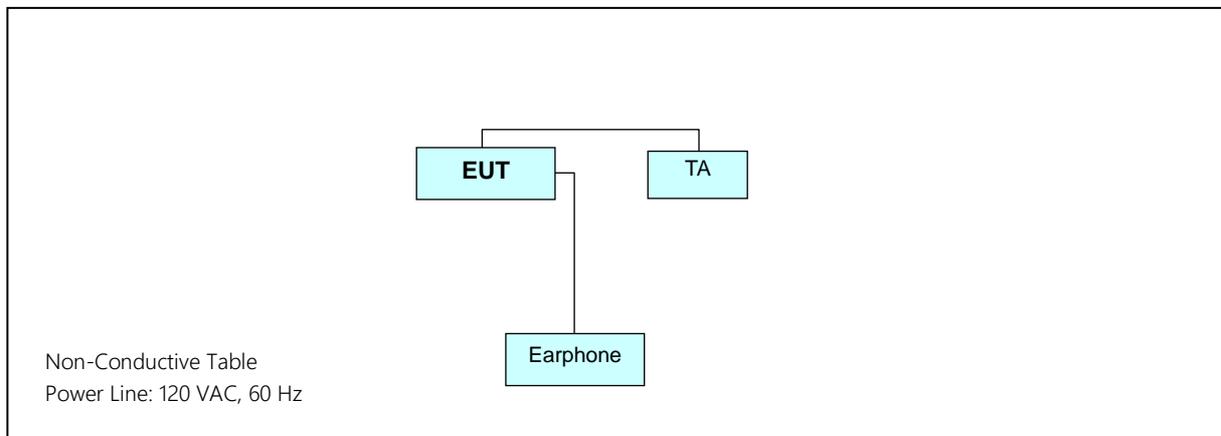
Frequency (MHz)	Class A			Class B		
	Antenna Distance (m)	Field Strength ( $\mu\text{V}/\text{m}$ )	Quasi-Peak ( $\text{dB}\mu\text{V}/\text{m}$ )	Antenna Distance (m)	Field Strength ( $\mu\text{V}/\text{m}$ )	Quasi-Peak ( $\text{dB}\mu\text{V}/\text{m}$ )
30 to 88	10	90	39.0	3	100	40.0
88 to 216	10	150	43.5	3	150	43.5
216 to 960	10	210	46.4	3	200	46.0
Above 960	10	300	49.5	3	500	54.0
Frequency (MHz)	Antenna Distance (m)	Class A		Class B		
		Peak ( $\text{dB}\mu\text{V}/\text{m}$ )	Average ( $\text{dB}\mu\text{V}/\text{m}$ )	Peak ( $\text{dB}\mu\text{V}/\text{m}$ )	Average ( $\text{dB}\mu\text{V}/\text{m}$ )	
Above 1 000	3	80	60	74	54	

### 2.2.1 Frequency Range of Radiated Measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a Radiated Emission limit is specified, up to the frequency shown in the following table

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

### 2.3 Configuration of Tested System



### 3. PRELIMINARY TEST

#### 3.1 Conducted Emission

It was tested the following operating mode, after connecting all peripheral devices.

**Operating Modes:** FRONT CAMERA & MP3 mode  
REAR CAMERA & FM RADIO mode  
IDLE mode

NOTE. The worst-case emissions are reported.

#### 3.2 Radiated Emission

It was tested the following operating mode, after connecting all peripheral devices.

**Operating Modes:** FRONT CAMERA & MP3 mode  
REAR CAMERA & FM RADIO mode  
IDLE mode

NOTE. The worst-case emissions are reported.

#### 4. CONDUCTED EMISSION AND RADIATED EMISSION TEST SUMMARY

##### 4.1 Conducted Emission

##### 4.1.1 Measuring instruments

	Type	Manufacturer	Model Name	Serial Number	Calibration Cycle	Calibration Date
<input checked="" type="checkbox"/>	EMI test receiver	Rohde & Schwarz	ESCI	100584	1 year	06.10.2020
<input checked="" type="checkbox"/>	EMI test receiver	Rohde & Schwarz	ESCI	100033	1 year	06.05.2020
<input checked="" type="checkbox"/>	LISN	Rohde & Schwarz	ENV216	102245	1 year	09.11.2019
<input checked="" type="checkbox"/>	Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.20.2019
<input checked="" type="checkbox"/>	Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
<input checked="" type="checkbox"/>	Software	Rohde & Schwarz	EMC32	-	-	-

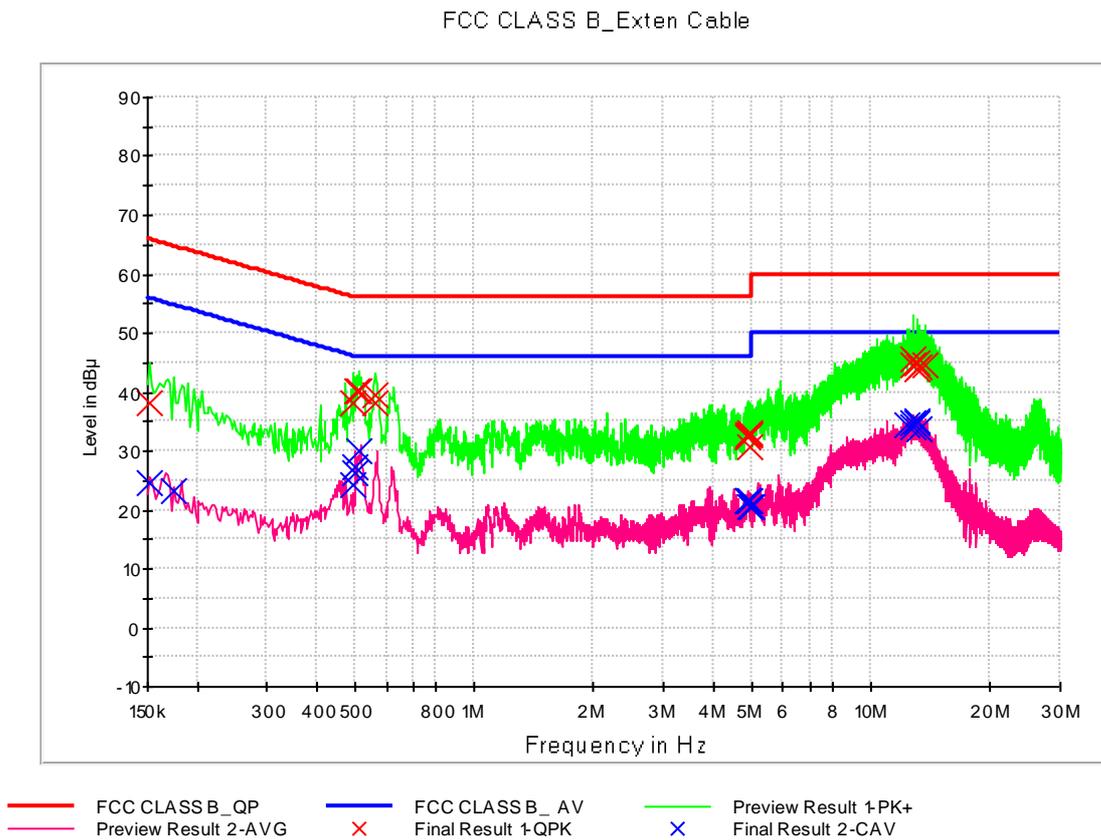
##### 4.1.2 Operating Condition

The test results of conducted emission at mains ports provide the following information:

<b>Test Standard Used</b>	FCC CFR 47 PART 15 Subpart B Class B ANSI C63.4-2014
<b>Frequency Range</b>	150 kHz to 30 MHz
<b>Detector</b>	Quasi-Peak, CISPR-Average
<b>Bandwidth</b>	9 kHz (6 dB)
<b>Worst Case of Operating Mode</b>	FRONT CAMERA & MP3 mode
<b>Kind of Test Site</b>	EMI Shielded Room
<b>Temperature</b>	23.6 / 22.2 °C
<b>Relative Humidity</b>	45.7 / 46.8 %
<b>Test Date</b>	July 09 / July 13, 2020

4.1.3 Measuring Data

Figure 1: Conducted Emission (150 kHz to 30 MHz), FRONT CAMERA & MP3 mode, Line (L1)



## QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.152000	38.1	9.000	L1	9.8	27.8	65.9
0.494000	38.0	9.000	L1	9.8	18.1	56.1
0.508000	40.2	9.000	L1	9.8	15.8	56.0
0.512000	40.0	9.000	L1	9.8	16.0	56.0
0.560000	38.1	9.000	L1	9.8	17.9	56.0
0.564000	39.4	9.000	L1	9.8	16.6	56.0
4.896000	32.4	9.000	L1	10.0	23.6	56.0
4.902000	32.6	9.000	L1	10.0	23.4	56.0
4.908000	32.5	9.000	L1	10.0	23.5	56.0
4.930000	33.1	9.000	L1	10.0	22.9	56.0
4.936000	32.7	9.000	L1	10.0	23.3	56.0
4.958000	30.7	9.000	L1	10.0	25.3	56.0
12.720000	45.5	9.000	L1	10.3	14.5	60.0
12.736000	44.7	9.000	L1	10.3	15.3	60.0
13.010000	43.7	9.000	L1	10.3	16.3	60.0
13.052000	45.0	9.000	L1	10.3	15.0	60.0
13.242000	44.1	9.000	L1	10.3	15.9	60.0
13.682000	44.6	9.000	L1	10.3	15.4	60.0

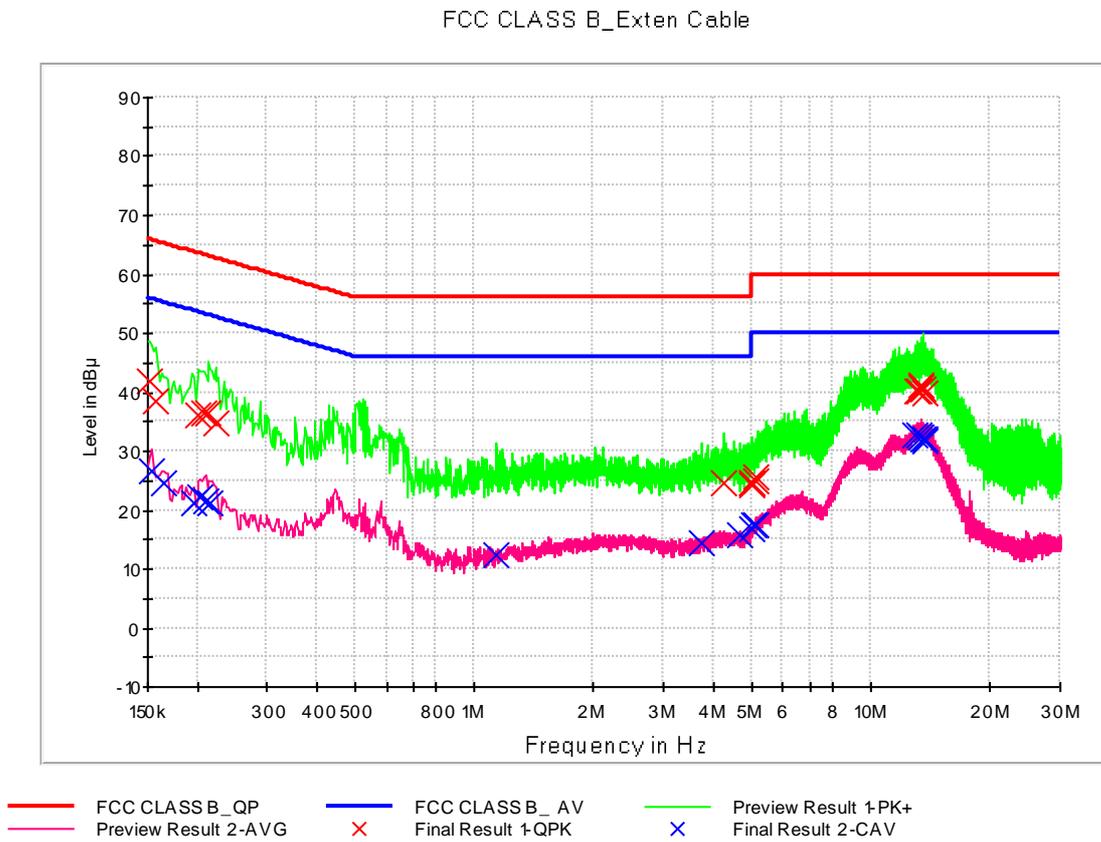
## Calculation Formula:

1. Conductor L1 = Hot, Conductor N = Neutral
2. Corr. = LISN Factor + Cable Loss
3. QuasiPeak or CAverage= Receiver Reading + Corr.
4. Margin = Limit – QuasiPeak or CAverage

## CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dB $\mu$ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.152000	24.5	9.000	L1	9.8	31.4	55.9
0.174000	23.3	9.000	L1	9.8	31.5	54.8
0.494000	24.4	9.000	L1	9.8	21.7	46.1
0.500000	26.2	9.000	L1	9.8	19.8	46.0
0.502000	27.3	9.000	L1	9.8	18.7	46.0
0.510000	30.0	9.000	L1	9.8	16.0	46.0
4.896000	21.4	9.000	L1	10.0	24.6	46.0
4.902000	21.6	9.000	L1	10.0	24.4	46.0
4.908000	21.6	9.000	L1	10.0	24.4	46.0
4.930000	21.6	9.000	L1	10.0	24.4	46.0
4.958000	20.4	9.000	L1	10.0	25.6	46.0
4.984000	20.4	9.000	L1	10.0	25.6	46.0
12.390000	34.3	9.000	L1	10.3	15.7	50.0
12.720000	34.9	9.000	L1	10.3	15.1	50.0
12.828000	34.2	9.000	L1	10.3	15.8	50.0
13.042000	34.8	9.000	L1	10.3	15.2	50.0
13.052000	34.9	9.000	L1	10.3	15.1	50.0
13.242000	33.8	9.000	L1	10.3	16.2	50.0

Figure 2: Conducted Emission (150 kHz to 30 MHz), FRONT CAMERA &amp; MP3 mode, Line (N)



## QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.152000	41.9	9.000	N	9.8	24.0	65.9
0.158000	38.6	9.000	N	9.8	26.9	65.6
0.202000	35.9	9.000	N	9.8	27.6	63.5
0.208000	36.4	9.000	N	9.8	26.9	63.3
0.214000	36.4	9.000	N	9.8	26.7	63.0
0.222000	34.6	9.000	N	9.8	28.2	62.7
4.274000	24.4	9.000	N	10.0	31.6	56.0
4.984000	24.4	9.000	N	10.0	31.6	56.0
5.004000	24.5	9.000	N	10.0	35.5	60.0
5.020000	24.6	9.000	N	10.0	35.4	60.0
5.108000	25.0	9.000	N	10.0	35.0	60.0
5.148000	25.5	9.000	N	10.0	34.5	60.0
13.076000	40.3	9.000	N	10.4	19.7	60.0
13.196000	40.3	9.000	N	10.4	19.7	60.0
13.378000	41.1	9.000	N	10.4	18.9	60.0
13.384000	40.8	9.000	N	10.4	19.2	60.0
13.528000	40.4	9.000	N	10.4	19.6	60.0
13.676000	39.9	9.000	N	10.4	20.1	60.0

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dB $\mu$ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.154000	26.7	9.000	N	9.8	29.1	55.8
0.164000	24.7	9.000	N	9.8	30.6	55.3
0.196000	21.2	9.000	N	9.8	32.6	53.8
0.204000	22.3	9.000	N	9.8	31.1	53.4
0.210000	21.5	9.000	N	9.8	31.8	53.2
0.216000	21.1	9.000	N	9.8	31.8	53.0
1.132000	12.4	9.000	N	9.8	33.6	46.0
3.760000	14.4	9.000	N	10.0	31.6	46.0
4.658000	15.7	9.000	N	10.0	30.3	46.0
5.020000	16.6	9.000	N	10.0	33.4	50.0
5.090000	17.3	9.000	N	10.0	32.7	50.0
5.150000	17.5	9.000	N	10.0	32.5	50.0
12.958000	32.8	9.000	N	10.4	17.2	50.0
13.196000	32.7	9.000	N	10.4	17.3	50.0
13.378000	32.4	9.000	N	10.4	17.6	50.0
13.528000	32.2	9.000	N	10.4	17.8	50.0
13.638000	32.1	9.000	N	10.4	17.9	50.0
13.676000	31.6	9.000	N	10.4	18.4	50.0

## 4.2 Radiated Emission Below 1 GHz

### 4.2.1 Measuring instruments

	Type	Manufacturer	Model Name	Serial Number	Calibration Cycle	Calibration Date
<input checked="" type="checkbox"/>	EMI test receiver	Rohde & Schwarz	ESU40	100524	1 year	05.12.2020
<input checked="" type="checkbox"/>	Bi-Log antenna	Schwarzbeck	VULB 9168	255	2 year	03.26.2019
<input checked="" type="checkbox"/>	Antenna master	INNCO Systems	MA4640-XP-ET	-	N/A	-
<input checked="" type="checkbox"/>	Antenna master controller	INNCO Systems	CO3000	CO3000/870/ 35990515/L	N/A	-
<input checked="" type="checkbox"/>	Turn table	INNCO Systems	1060	-	N/A	-
<input checked="" type="checkbox"/>	Turn table controller	INNCO Systems	CO2000	CO2000/095/ 7590304/L	N/A	-
<input checked="" type="checkbox"/>	Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.20.2019
<input checked="" type="checkbox"/>	Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
<input type="checkbox"/>	Radio communication test station	ANRITSU	MT8000A	6262036812	1 year	01.06.2020
<input type="checkbox"/>	Radio communication analyzer	ANRITSU	MT8821C	6262044720	1 year	01.06.2020
<input checked="" type="checkbox"/>	UXM 5G wireless test platform	KEYSIGHT	E7515B	MY58300756	1 year	01.07.2020
<input checked="" type="checkbox"/>	Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-201	-	-
<input checked="" type="checkbox"/>	Software	Rohde & Schwarz	EMC32	-	-	-

#### 4.2.2 Operating Condition

The test results of radiated emission provide the following information:

Used Test Standard	FCC CFR 47 PART 15 Subpart B Class B ANSI C63.4-2014
Frequency Range	30 MHz to 1 000 MHz
Detector	Quasi-Peak
Bandwidth	120 kHz (6 dB)
Worst Case of Operating Mode	FRONT CAMERA & MP3 mode
Kind of Test Site	3 m semi anechoic chamber
Temperature	23.6 / 21.8 / 22.1 °C
Relative Humidity	45.2 / 46.4 / 48.3 %
Test Date	July 07 / July 10 / July 14, 2020

**- Calculation Formula:**

1. POL. H = Horizontal, POL. V = Vertical
2. QuasiPeak = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor + Cable Loss
4. Margin = Limit - QuasiPeak

## 4.2.3 Measuring Data

FRONT CAMERA &amp; MP3 mode

Frequency (MHz)	Quasi Peak (dB $\mu$ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V/m)
59.404760	21.3	174.8	V	30.0	19.4	18.7	40.0
67.257160	20.4	100.0	V	290.0	18.4	19.6	40.0
217.251560	18.8	125.2	V	197.0	17.4	27.2	46.0
267.310200	19.0	100.0	V	136.0	19.3	27.0	46.0
482.067000	25.0	100.0	H	134.0	24.8	21.0	46.0
797.899560	31.5	125.3	V	204.0	30.2	14.5	46.0

### 4.3 Radiated Emission Above 1 GHz

#### 4.3.1 Measuring instruments

	Type	Manufacturer	Model Name	Serial Number	Calibration Cycle	Calibration Date
<input checked="" type="checkbox"/>	EMI test receiver	Rohde & Schwarz	ESU40	100524	1 year	05.12.2020
<input checked="" type="checkbox"/>	Antenna master	INNCO Systems	MA4640-XP-ET	-	N/A	-
<input checked="" type="checkbox"/>	Antenna master controller	INNCO Systems	CO3000	CO3000/870/ 35990515/L	N/A	-
<input checked="" type="checkbox"/>	Turn table	INNCO Systems	1060	-	N/A	-
<input checked="" type="checkbox"/>	Turn table controller	INNCO Systems	CO2000	CO2000/095/ 7590304/L	N/A	-
<input checked="" type="checkbox"/>	Low noise amplifier	TESTEK	TK-PA18H	170034-L	1 year	03.03.2020
<input checked="" type="checkbox"/>	Low noise amplifier	TESTEK	TK-PA1840H	170030-L	1 year	02.13.2020
<input checked="" type="checkbox"/>	Horn antenna	Schwarzbeck	BBHA 9120D	01836	1 year	07.19.2019
<input checked="" type="checkbox"/>	Horn antenna	Schwarzbeck	BBHA 9170	BBHA9170#786	1 year	12.03.2019
<input checked="" type="checkbox"/>	Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.20.2019
<input checked="" type="checkbox"/>	Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
<input type="checkbox"/>	Radio communication test station	ANRITSU	MT8000A	6262036812	1 year	01.06.2020
<input type="checkbox"/>	Radio communication analyzer	ANRITSU	MT8821C	6262044720	1 year	01.06.2020
<input type="checkbox"/>	UXM 5G wireless test platform	KEYSIGHT	E7515B	MY58300756	1 year	01.07.2020
<input type="checkbox"/>	Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-201	-	-
<input checked="" type="checkbox"/>	Software	Rohde & Schwarz	EMC32	-	-	-

#### 4.3.2 Operating Condition

The test results of radiated emission provide the following information:

<b>Used Test Standard</b>	FCC CFR 47 PART 15 Subpart B Class B ANSI C63.4-2014
<b>Detector</b>	Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz) CISPR-Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz)
<b>Highest Frequency</b>	5 825 MHz
<b>Tested Frequency Range</b>	1 GHz to 30 GHz
<b>Worst Case of Operating Mode</b>	FRONT CAMERA & MP3 mode
<b>Kind of Test Site</b>	3 m semi anechoic chamber
<b>Temperature</b>	21.4 / 22.1 °C
<b>Relative Humidity</b>	47.9 / 48.3 %
<b>Test Date</b>	July 13 / July 14, 2020

## 4.3.3 Measuring Data

## FRONT CAMERA &amp; MP3 mode

Frequency (MHz)	Peak (dB $\mu$ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V/m)
2038.480000	32.0	232.6	H	125.0	-26.4	42.0	74.0
2714.200000	32.8	249.9	H	74.0	-23.5	41.2	74.0
4963.810000	35.6	261.4	H	268.0	-17.8	38.4	74.0
9659.945000	42.7	150.0	V	355.0	-9.6	31.3	74.0
14536.575000	46.6	276.5	V	108.0	-1.1	27.4	74.0
17986.730000	55.2	292.5	H	355.0	9.4	18.8	74.0

Frequency (MHz)	CAverage (dB $\mu$ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V/m)
2038.480000	18.7	232.6	H	125.0	-26.4	35.3	54.0
2714.200000	20.2	249.9	H	74.0	-23.5	33.8	54.0
4963.810000	23.1	261.4	H	268.0	-17.8	30.9	54.0
9659.945000	29.9	150.0	V	355.0	-9.6	24.1	54.0
14536.575000	34.1	276.5	V	108.0	-1.1	19.9	54.0
17986.730000	42.5	292.5	H	355.0	9.4	11.5	54.0

## - Calculation Formula:

1. POL. H = Horizontal, POL. V = Vertical
2. Peak or CAverage = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor+ Cable Loss –Amplifier Gain
4. Margin = Limit - Peak or CAverage

## 5. CONCLUSION

The data collected shows that the **Product Name: Multi-band CDMA/GSM/EDGE/WCDMA/LTE/5G NR Phone with WLAN, BT and RFID, Model Name: LM-G900TM** complies with §15.107 and §15.109 of the FCC rules.

## 6. APPENDIX A. TEST SETUP PHOTO

Please refer to Appendix. A and test setup photo file no. as follows;

File No.	Date of Issue	Description
HCT-EM-2007-FC012-P	July 15, 2020	Initial Release

End of report