

## FCC LTE REPORT

#### **Class II Permissive Change**

Date of Issue: April 11, 2019 Location:
HCT CO., LTD.,
74, Seoicheon-ro 578beon-gil, Majang-myeon,
Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA <b>Report No.:</b> HCT-RF-1904-FC007-R1

#### FCC ID: A3LSMA6060

#### APPLICANT: SAMSUNG Electronics Co., Ltd.

Model(s):	SM-A6060
Additional Model(s): EUT Type:	SM-A606Y/DS Mobile Phone
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§22, §2

Mada	Mode Tx Frequency Emission		T. Francisco		El	RP
(MHz)		Modulation	Modulation	Max. Power (W)	Max. Power (dBm)	
		1M09G7D	QPSK	0.021	13.31	
LTE – Band5 (1.4)	824.7 - 848.3	1M09W7D	16QAM	0.019	12.70	
		1M09W7D	64QAM	0.014	11.60	
		2M71G7D	QPSK	0.023	13.57	
LTE – Band5 (3)	825.5 - 847.5	2M70W7D	16QAM	0.019	12.82	
		2M72W7D	64QAM	0.015	11.76	
		4M51G7D	QPSK	0.023	13.61	
LTE – Band5 (5)	826.5 - 846.5	4M50W7D	16QAM	0.019	12.81	
		4M51W7D	64QAM	0.015	11.77	
		8M99G7D	QPSK	0.023	13.67	
LTE – Band5 (10)	829.0 - 844.0	8M99W7D	16QAM	0.020	12.96	
		8M98W7D	64QAM	0.017	12.34	

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

# Ar

Report prepared by : Jae Ryang Do Engineer of Telecommunication Testing Center



Report approved by : Jong Seok Lee Manager of Telecommunication Testing Center

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# <u>Version</u>

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1904-FC007	April 10, 2019	- First Approval Report
HCT-RF-1904-FC007-R1	April 11, 2019	<ul> <li>Added the Test scenario.</li> <li>Revised on test results page 21.</li> </ul>

Report No.: HCT-RF-1904-FC007-R1

ICT CO., LTD.



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## **MEASUREMENT REPORT**

## **1. GENERAL INFORMATION**

Applicant Name:	SAMSUNG Electronics Co., Ltd.		
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea		
FCC ID:	A3LSMA6060		
Application Type:	Certification		
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)		
FCC Rule Part(s):	§22, §2		
EUT Type:	Mobile Phone		
Model(s):	SM-A6060		
Additional Model(s):	SM-A606Y/DS		
Tx Frequency:	824.7 MHz – 848.3 MHz (LTE – Band 5 (1.4 MHz)) 825.5 MHz – 847.5 MHz (LTE – Band 5 (3 MHz)) 826.5 MHz – 846.5 MHz (LTE – Band 5 (5 MHz)) 829.0 MHz – 844.0 MHz (LTE – Band 5 (10 MHz))		
Date(s) of Tests:	April 01, 2019 ~ April 10, 2019		



## 2. INTRODUCTION

#### 2.1. DESCRIPTION OF EUT

The EUT was a Mobile Phone with GSM/GPRS/EGPRS/UMTS and LTE. It also supports IEEE 802.11 a/b/g/n/ac, Bluetooth, BTLE, NFC & ANT+.

#### 2.2. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

#### 2.3. TEST FACILITY

The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the **74**, **Seoicheon-ro 578beon-gil**, **Majang-myeon**, **Icheon-si**, **Gyeonggi-do**, **17383**, **Rep. of KOREA**.

## **3. DESCRIPTION OF TESTS**

#### 3.1 TEST PROCEDURE

Test Description	Test Procedure Used
Occupied Bandwidth	- KDB 971168 D01 v03r01 – Section 4.3
	- ANSI C63.26-2015 – Section 5.4.4
Band Edge	- KDB 971168 D01 v03r01 – Section 6.0
Band Euge	- ANSI C63.26-2015 – Section 5.7
Spurious and Harmonic Emissions at Antenna	- KDB 971168 D01 v03r01 – Section 6.0
Terminal	- ANSI C63.26-2015 – Section 5.7
Conducted Output Power	- N/A (See SAR Report)
Frequency stability	- ANSI C63.26-2015 – Section 5.6
Effective Radiated Power/	- KDB 971168 D01 v03r01 – Section 5.2 & 5.8
Effective Isotropic Radiated Power	- ANSI C63.26-2015 – Section 5.2
	- ANSI/TIA-603-E-2016 – Section 2.2.17
Radiated Spurious and Harmonic Emissions	- KDB 971168 D01 v03r01 – Section 6.2
	- ANSI/TIA-603-E-2016 – Section 2.2.12

#### 3.2 RADIATED POWER

#### Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

The equipment under test is placed on a non-conductive table 3-meters away from the receive antenna in accordance with ANSI/TIA-603-E-2016 Clause 2.2.17.

#### Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power"

measurement capability for signals with continuous operation.

- 2. RBW = 1 5% of the expected OBW, not to exceed 1MHz
- 3. VBW  $\ge$  3 x RBW
- 4. Span = 1.5 times the OBW
- 5. No. of sweep points > 2 x span / RBW
- 6. Detector = RMS
- 7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
- 8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with

continuous operation.

- 9. Trace mode = trace averaging (RMS) over 100 sweeps
- 10. The trace was allowed to stabilize

#### Test Note

- 1. The turntable is rotated through 360 degrees, and the receiving antenna scans in order to determine the level of the maximized emission.
- 2. A half wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.

The power is calculated by the following formula;

 $P_{d(dBm)} = Pg_{(dBm)} - cable loss_{(dB)} + antenna gain_{(dB)}$ 

Where: P<sub>d</sub> is the dipole equivalent power and P<sub>g</sub> is the generator output power into the substitution antenna.

3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value.

These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference between the gain of the horn and an isotropic antenna are taken into consideration

- 4. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- 5. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

#### 3.3 RADIATED SPURIOUS EMISSIONS

#### **Test Overview**

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method according to ANSI/TIA-603-E-2016.

#### Test Settings

- 1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 2. VBW  $\ge$  3 x RBW
- 3. Span = 1.5 times the OBW
- 4. No. of sweep points > 2 x span / RBW
- 5. Detector = Peak
- 6. Trace mode = Max Hold
- 7. The trace was allowed to stabilize
- 8. Test channel : Low/ Middle/ High
- 9. Frequency range : We are performed all frequency to 10<sup>th</sup> harmonics from 9 kHz.

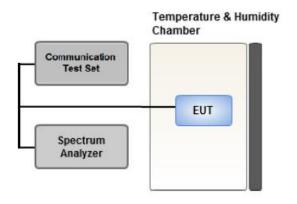
#### Test Note

- Measurements value show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
- 2. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.

The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the test data



#### 3.4 OCCUPIED BANDWIDTH.



#### Test setup

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

The EUT makes a call to the communication simulator.

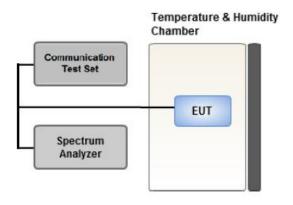
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

#### **Test Settings**

- 1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- 3. VBW  $\ge$  3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within
  - 1-5% of the 99% occupied bandwidth observed in Step 7

#### 3.5 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



#### Test setup

#### **Test Overview**

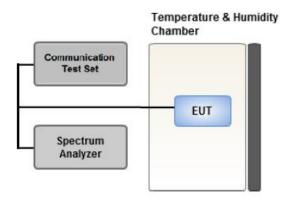
The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

#### Test Settings

- 1. RBW = 1 MHz
- 2. VBW ≥ 3 MHz
- 3. Detector = RMS
- 4. Trace Mode = Average
- 5. Sweep time = auto
- 6. Number of points in sweep ≥ 2 \* Span / RBW



#### 3.6 BAND EDGE



#### Test setup

#### **Test Overview**

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

#### Test Settings

- 1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW > 1% of the emission bandwidth
- 4. VBW >  $3 \times RBW$
- 5. Detector = RMS
- 6. Number of sweep points  $\geq$  2 x Span/RBW
- 7. Trace mode = trace average
- 8. Sweep time = auto couple
- 9. The trace was allowed to stabilize

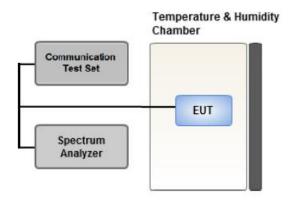
#### Test Notes

According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of The authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

All measurements were done at 2 channels(low and high operational frequency range.)

The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

#### 3.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



#### Test setup

#### **Test Overview**

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015. The frequency stability of the transmitter is measured by:

1. Temperature:

The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

- 2. Primary Supply Voltage:
  - Unless otherwise specified, vary primary supply voltage from 85% to 115% of the nominal value for other than hand carried battery equipment.
  - .- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

#### **Test Settings**

- The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
- 2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
- 3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

#### 3.8 WORST CASE(RADIATED TEST)

- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- All modes of operation were investigated and the worst case configuration results are reported.
- The worst case is reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the test data.
- Please refer to the table below.

	[ worst case ]			
Test Description	Modulation	RB size	RB offset	Axis
Effective Radiated Power	QPSK, 16QAM, 64QAM	1	0	Y
Radiated Spurious and Harmonic Emissions	QPSK	1	0	Х

### [ Worst asso ]



#### 3.9 WORST CASE(CONDUCTED TEST)

- Worst case : Of all modulation, We have tested modulation of the high Conducted Output Power. Conducted Output Power value can be confirmed on the SAR report.

	[ 110.	si case j				
Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset	
Occupied Bandwidth	QPSK, 16QAM, 64QAM	1.4, 3, 5, 10	Mid	Full RB	0	
		1.4	Low	1	0	
		1.4	High	1	5	
	* QPSK	3	Low	1	0	
			High	1	14	
Band Edge		PSK 5	Low	1	0	
Band Edge			High	1	24	
			Low	1	0	
			10	High	1	49
		1 4 2 5 40	Low,	Full RB	0	
		1.4, 3, 5, 10	High		U	
Spurious and Harmonic Emissions at			Low,			
Antenna Terminal	* QPSK	1.4, 3, 5, 10	Mid,	1	0	
			High			

-			
	Worst	case	L

## **4. LIST OF TEST EQUIPMENT**

Manufacture	Model/ Equipment	Serial Number	Calibration Date	Calibration Interval	Calibration Due
REOHDE & SCHWARZ	SCU 18 / AMPLIFIER	10094	04/17/2018	Annual	04/17/2019
Wainwright	WHK1.2/15G-10EF/H.P.F	4	04/02/2019	Annual	04/02/2020
Wainwright	WHK3.3/18G-10EF/H.P.F	2	04/02/2019	Annual	04/02/2020
Hewlett Packard	11667B / Power Splitter(DC~26.5 GHz)	5001	06/07/2018	Annual	06/07/2019
Agilent	E3632A/DC Power Supply	KR75303243	05/09/2018	Annual	05/09/2019
Schwarzbeck	UHAP/ Dipole Antenna	557	03/29/2019	Biennial	03/29/2021
Schwarzbeck	UHAP/ Dipole Antenna	558	03/29/2019	Biennial	03/29/2021
ESPEC	SU-642 / Chamber	93000718	08/07/2018	Annual	08/07/2019
Schwarzbeck	BBHA 9120D/ Horn Antenna(1~18GHz)	147	09/14/2018	Annual	09/14/2019
Schwarzbeck	BBHA 9120D/ Horn Antenna(1~18GHz)	9120D-1298	10/04/2018	Annual	10/04/2019
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	BBHA9170342	04/25/2017	Biennial	04/25/2019
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	BBHA9170124	04/25/2017	Biennial	04/25/2019
Agilent	N9020A/Signal Analyzer(10Hz~26.5GHz)	MY52090906	06/08/2018	Annual	06/08/2019
Hewlett Packard	8493C/ATTENUATOR(20dB)	17280	06/21/2018	Annual	06/21/2019
REOHDE & SCHWARZ	FSV40/Spectrum Analyzer(10Hz~40GHz)	100931	10/22/2018	Annual	10/22/2019
Agilent	8960 (E5515C)/ Base Station	MY48360800	09/27/2018	Annual	09/27/2019
Schwarzbeck	FMZB1513/ Loop Antenna(9kHz~30MHz)	1513-175	08/23/2018	Biennial	08/23/2020
Schwarzbeck	VULB9160/ Bilog Antenna	9160-3368	08/09/2018	Biennial	08/09/2020
Schwarzbeck	VULB9160/ Hybrid Antenna	760	03/22/2019	Biennial	03/22/2021
Anritsu Corp.	MT8821C/Wideband Radio Communication Tester	6201502997	08/13/2018	Annual	08/13/2019
Anritsu Corp.	MT8820C/Wideband Radio Communication Tester	6201026545	01/30/2019	Annual	01/30/2020
REOHDE & SCHWARZ	SMB100A/ SIGNAL GENERATOR (100kHz~40GHz)	177633	07/19/2018	Annual	07/19/2019
REOHDE & SCHWARZ	ESU40 / EMI TEST RECEIVER	100524	07/27/2018	Annual	07/27/2019
HCT CO., LTD.,	FCC LTE Mobile Conducted RF Automation Test Software	-	-	-	-

#### Note:

1. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

## **5. 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 (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	5.70
Radiated Disturbance (18 GHz ~ 40 GHz)	5.71



## **6. SUMMARY OF TEST RESULTS**

#### 6.1 Test Condition : Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result	Status
Occupied Bandwidth	§2.1049	N/A	PASS	NT <sup>Note4</sup>
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§2.1051, §22.917(a)	< 43 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions	PASS	NT <sup>Note4</sup>
Conducted Output Power	§2.1046	N/A	See Note1	C <sup>Note5</sup>
Frequency stability / variation of ambient temperature	§2.1055, §22.355	< 2.5 ppm	PASS	NT <sup>Note4</sup>

#### Note:

1. See SAR Report

- 2. C = Comply, NT = Not Tested, NA = Not Applicable, NC = Not Comply
- 3. C2PC models are electrically identical to the Original models.

The Product Equality Declaration includes detailed information about the changes between the devices.

- 4. The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the test result of section 8
- 5. Output power was verified to be within the expected tune up tolerances prior to performing the spot checks for radiated spurious emissions, E.R.P and E.I.R.P to confirm that the proposed changes to the digital circuitry had not adversely affected the previously reported values in the original filing.

#### 6.2 Test Condition : Radiated Test

Test Description	FCC Part Section(s)	Test Limit	Test Result	Status
Effective Radiated Power	§22.913(a)(5)	< 7 Watts max. ERP	PASS	C <sup>Note3</sup>
Radiated Spurious and	§2.1053,	< 43 + 10log10 (P[Watts]) for	PASS	C <sup>Note3</sup>
Harmonic Emissions	§22.917(a)	all out-of band emissions	FA00	Contract

#### Note:

- 1. C = Comply, NT = Not Tested, NA = Not Applicable, NC = Not Comply
- 2. C2PC models are electrically identical to the Original models.

The Product Equality Declaration includes detailed information about the changes between the devices.

3. The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the test result of section 8

#### 6.3 Test Scenario : Radiated Test

#### Test scenario

: The test scenario for spot check is based on the worst-case of original report results.

## 7. SAMPLE CALCULATION

#### 7.1 ERP Sample Calculation

Ch	./ Freq.	Measured	asured Substitute Ant. Gain		<u></u>	Pol.	ERP	
channel	Freq.(MHz)	Level(dBm)	Level(dBm)	(dBd)	C.L	P0I.	w	dBm
128	824.20	-21.37	38.40	-10.61	0.95	Н	0.483	26.84

#### ERP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test , the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power.

#### 7.2 EIRP Sample Calculation

Ch.	/ Freq.	Measured Substitute Ant. Gai		Ant. Gain	C.L	Pol.	EIRP		
channel	Freq.(MHz)	Level(dBm)	Level(dBm)	(dBi)	U.L	FUI.	w	dBm	
20175	1,732.50	-15.75	18.45	9.90	1.76	Н	0.456	26.59	

#### EIRP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test , the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

#### **GSM Emission Designator**

Emission Designator = 249KGXW GSM BW = 249 kHz G = Phase Modulation X = Cases not otherwise covered W = Combination (Audio/Data)

#### **EDGE Emission Designator**

Emission Designator = 249KG7W GSM BW = 249 kHz G = Phase Modulation 7 = Quantized/Digital Info W = Combination (Audio/Data)

WCDMA Emission Designator	<b>QPSK Modulation</b>
Emission Designator = 4M17F9W	Emission Designator = 4M48G7D
WCDMA BW = 4.17 MHz	LTE BW = 4.48 MHz
F = Frequency Modulation	G = Phase Modulation
9 = Composite Digital Info	7 = Quantized/Digital Info
W = Combination (Audio/Data)	D = Data transmission; telemetry; telecommand

16QAM Modulation
Emission Designator = 4M48W7D
LTE BW = 4.48 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

**64QAM Modulation** Emission Designator = 4M48W7D LTE BW = 4.48 MHz W = Amplitude/Angle Modulated 7 = Quantized/Digital Info D = Data transmission; telemetry; telecommand



## 8. TEST RESULT (E.R.P & Radiated Spurious Emissions)

#### 8.1 EFFECTIVE RADIATED POWER

Freq	Mod	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EF	RP
(MHz)	(Bandwidth)		Level (aBm)	Level (dBm)	Gain(dBd)			W	W	dBm
836.5	LTE B5 (10 MHz)	QPSK	-37.57	24.70	-10.21	0.86	V	< 7.00	0.023	13.63

Modulation	Freq	uency	Mod/ Original		C2PC	Deviation
Modulation	MHz	Ch.	Bandwidth	(dBm)	(dBm)	(dB)
LTE B5	836.5	20525	QPSK(10M)	13.67	13.63	0.04

#### **8.2 RADIATED SPURIOUS EMISSIONS**

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBd)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	dBc
20643 (848.3)	3,393.20	-58.80	10.56	-65.06	1.95	Н	-58.60	110.01

Modulation	Freq	uency	Mod/ Bandwidth	Original (dBm)	C2PC	Deviation
	MHz	Ch.	Bandwidth	(dbiii)	(dBm)	(dB)
LTE B5	3393.2	20643	QPSK(1.4M)	-55.77	-58.60	2.83



## 9. ANNEX A\_ TEST SETUP PHOTO

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

No.	Description
1	HCT-RF-1904-FC007-P