





RF TEST REPORT

Applicant MobiWire SAS

FCC ID QPN-H6821

Product 4G Smart Phone

Brand MobiWire; MobiWire; Altice

MobiWire H6821; MBW Vodafone

Model

Smart V22; Altice S64

Report No. R2206A0570-R2

Issue Date August 17, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in FCC CFR47 Part 2 (2021)/ FCC CFR 47 Part 24E (2021). The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Summary of measurement results

No.	Test Case	Clause in FCC rules	Verdict
1	RF Power Output and Effective Isotropic Radiated Power	2.1046 24.232(c)	PASS
2	Occupied Bandwidth	2.1049	PASS
3	Band Edge Compliance	2.1051 /24.238(a)	PASS
4	Peak-to-Average Power Ratio	24.232/KDB 971168 D01(5.7)	PASS
5	Frequency Stability	2.1055 / 24.235	PASS
6	Spurious Emissions at Antenna Terminals	2.1051 / 24.238(a)	PASS
7	Radiates Spurious Emission	2.1053 / 24.238(a)	PASS

Date of Testing: June 27, 2022 ~ July 15, 2022 Date of Sample Received: March 24, 2022

Note: PASS: The EUT complies with the essential requirements in the standard.

FAIL: The EUT does not comply with the essential requirements in the standard.

All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.



1. Test Laboratory

1.1. Notes of the test report

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(shanghai) co., Ltd. The results documented in this report apply only to the tested sample, under the

conditions and modes of operation as described herein . Measurement Uncertainties were not taken

into account and are published for informational purposes only. This report is written to support

regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission

list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory

Accreditation to perform measurement.

1.3. Testing Location

Company:

TA Technology (Shanghai) Co., Ltd.

Address:

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2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	MobiWire SAS
Applicant address	107 Boulevard de la Mission Marchand, 92400 Courbevoie,
Applicant address	France.
Manufacturer	MobiWire SAS
Manufacturar address	107 Boulevard de la Mission Marchand, 92400 Courbevoie,
Manufacturer address	France.

Report No.: R2206A0570-R2

2.2. General information

EUT Description					
Model	MobiWire H6821; MBW Vodafone Smart V22; Altice S64				
IMEI	353539550000384				
Hardware Version	V00				
Software Version	MobiWire_H6821M_V01				
Power Supply	Battery / AC adapter				
Antenna Type	Internal Antenna				
	Band	Antenna Gain(dBi)			
Antenna Gain	GSM1900	-1.5			
Antenna Gam	WCDMA Band II	-1.5			
	LTE Band 2	-1.5			
Test Mode(s)	GSM1900; WCDMA Band	d II; LTE Band 2;			
Test Modulation	(GSM/GPRS)GMSK, (EGPRS) GMSK/ 8PSK; (WCDMA) BPSK, QPSK,16QAM; (LTE)QPSK,16QAM				
GPRS Multislot Class	12				
EGPRS Multislot Class	12				
HSDPA UE Category	14				
HSUPA UE Category	7				
DC-HSDPA UE Category	24				
HSPA+ UE Category	24				
LTE Release	11				
	GSM 1900:	28.10dBm			
Maximum E.I.R.P	WCDMA Band II:	21.42dBm			
	LTE Band 2:	22.63dBm			
Rated Power Supply Voltage	3.85V				
Operating Voltage	Minimum: 3.60V Maximum: 4.40V				
Operating Temperature	Lowest: -10°C Highest: +55°C				

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Testing Temperature	Lowest: -30°C Highest: +50°C				
	Band	Tx (MHz)	Rx (MHz)		
Operating Frequency Denge(s)	GSM1900	1850 ~ 1910	1930 ~ 1990		
Operating Frequency Range(s)	WCDMA Band II	1850 ~ 1910	1930 ~ 1990		
	LTE Band 2	1850 ~ 1910	1930 ~ 1990		
	EUT Accessory				
Adapter	Manufacturer: Dongguan Aohai Technology Co., Ltd.				
Adaptei	Model: A18A-050100U-US2				
Battery	Manufacturer: NINGBO VEKEN BATTERY CO., LTD				
Battery	Model: 178249203				
Earphone	Manufacturer: JIU JIANG JUWEI ELECTRONICS CO.,LTD				
Laiphone	Model: JWEP0957-M01R				
	Manufacturer: SHENZHEN FKY-QY HARDWARE				
USB Cable	ELECTRONIC CO.,LTD				
	Model: AM/MICRO5P				
Note: 1. The ELIT is contifrom the applicant to TA and the information of the ELIT is declared by					

Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.

Item	Configure 1	Configure 2
Components on PCB changes	1	add second memory
Others	The same	The same

Note: Customer declaration, two models are the same, except for the memory, There are more than one Configure, each one should be applied throughout the compliance test respectively, and however, only the worst case (Configure 1) will be recorded in this report.

Three models: MobiWire H6821; MBW Vodafone Smart V22; Altice S64

The difference:

MBW Vodafone Smart V22, Altice S64:

- 1. Battery silkscreen logo is different.
- 2. Different chargers are used. MBW Vodafone Smart V22 use AU charger, Altice S64 use US charger.

MobiWire H6821 is same as MBW Vodafone Smart V22.

And only the data for MobiWire H6821 is recorded in this report.



3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR 47 Part 24E (2021)

FCC CFR47 Part 2 (2021)

Reference standard:

ANSI C63.26-2015

KDB 971168 D01 Power Meas License Digital Systems v03r01



4. Test Configuration

There is more than one SIM card slot, each one should be applied throughout the compliance test respectively, and however, only the worst case (SIM 1) will be recorded in this report.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (Z axis, horizontal polarization) and the worst case was recorded.

All mode and data rates and positions and RB size and modulations were investigated. Subsequently, only the worst case emissions are reported.

The following testing in GSM/WCDMA/LTE is set based on the maximum RF Output Power.

Test modes are chosen to be reported as the worst case configuration below:

Toot items	Modes/Modulation			
Test items	GSM 1900	WCDMA Band II		
RF Power Output and Effective Isotropic	GSM	RMC		
Radiated Power	GPRS	HSDPA/HSUPA		
Radiated Fower	EGPRS	DC-HSDPA/HSPA+		
	GSM			
Occupied Bandwidth	GPRS(1Tx slot)	RMC		
	EGPRS(1Tx slot)			
	GSM			
Band Edge Compliance	GPRS(1Tx slot)	RMC		
	EGPRS(1Tx slot)			
	GSM			
Peak-to-Average Power Ratio	GPRS(1Tx slot)	RMC		
	EGPRS(1Tx slot)			
	GSM			
Frequency Stability	GPRS(1Tx slot)	RMC		
	EGPRS(1Tx slot)			
Spurious Emissions at Antenna Terminals	GSM	RMC		
Radiates Spurious Emission	GSM	RMC		



Test modes are chosen to be reported as the worst case configuration below for LTE Band 2:

Test items	Bandwidth (MHz)				Modulation		RB			Test Channel				
rest items	1.4	3	5	10	15	20	QPSK	16QAM	1	50%	100%	L	M	Н
RF Power Output and Effective Isotropic Radiated Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Occupied Bandwidth	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Band Edge Compliance	0	0	0	0	0	0	0	0	0	-	0	0	-	0
Peak-to-Average Power Ratio	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Frequency Stability	0	0	0	0	0	0	0	0	0	-	-	-	0	-
Spurious Emissions at Antenna Terminals	0	0	0	0	0	0	0	-	0	-	-	0	0	0
Radiates Spurious Emission	0	-	0	-	-	0	0	-	0	-	-	-	0	-
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing.													



5. Test Case

5.1.RF Power Output and Effective Isotropic Radiated Power

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

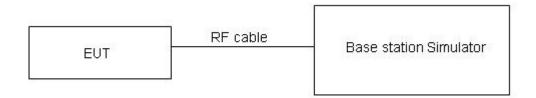
ERP can then be calculated as follows:

EIRP (dBm) = Output Power (dBm) - Losses (dB) + Antenna Gain (dBi)

where:dBd refers to gain relative to an ideal dipole.

EIRP (dBm) = ERP (dBm) + 2.15 (dB.)

Test Setup



Limits

No specific RF power output requirements in part 2.1046.

Rule Part 24.232(c) Mobile and portable stations are limited to 2 watts EIRP.

Rule Part 24.232(e) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

Limit	≤ 2 W (33 dBm)
LIIIIIL	

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 0.4 dB for RF power output, k = 2, U = 1.19 dB for EIRP.

Test Results

Refer to the section 6.1 of this report for test data.

5.2. Occupied Bandwidth

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

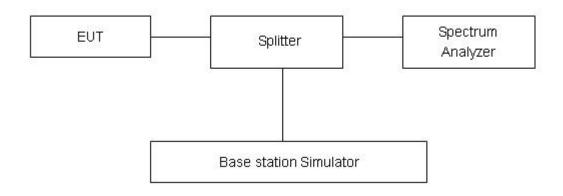
Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The occupied bandwidth is measured using spectrum analyzer.

RBW is set to ≥1%EBW, VBW is set to 3x RBW.

99% power and -26dBc occupied bandwidths are recorded. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

No specific occupied bandwidth requirements in part 2.1049.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 624Hz.

Test Results

Refer to the section 6.2 of this report for test data.



5.3. Band Edge Compliance

Ambient condition

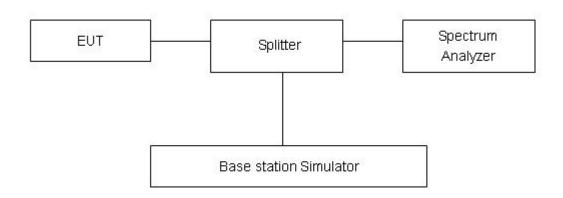
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The band edge of the lowest and highest channels were measured. The Average detector is used and RBW is set to ≥1%EBW, VBW is set to 3x RBW.

Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 24.238(a) specifies that "on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log10 (P) dB."

- 15 dBill

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U=0.684dB.

Test Results

Refer to the section 6.3 of this report for test data.

5.4. Peak-to-Average Power Ratio (PAPR)

Ambient condition

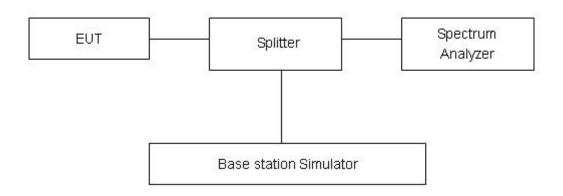
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as PPk. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

PAPR (dB) = PPk (dBm) - PAvg (dBm).

Test Setup



Limits

In measuring transmissions in this band using an average power technique, the peakto-average ratio (PAR) of the transmission may not exceed 13 dB in 24.232(d).

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 0.4 dB.

Test Results

Refer to the section 6.4 of this report for test data.





5.5. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size,

- (1) With all power removed, the temperature was decreased to 0°C and permitted to stabilize for three hours.
- (2) Measure the carrier frequency with the test equipment in a "call mode". These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.
- (3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

Frequency Stability (Voltage Variation)

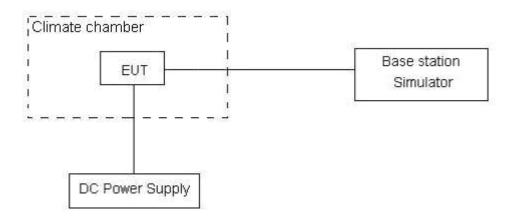
The frequency stability shall be measured with variation of primary supply voltage as follows:

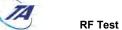
Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried,

battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.60 V and 4.40 V, with a nominal voltage of 3.85V.

Test setup





Limits

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor k = 3, U= 0.01ppm.

Test Results

Refer to the section 6.5 of this report for test data.



5.6. Spurious Emissions at Antenna Terminals

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.

RBW is set to 100kHz, VBW is set to 300kHz for 30MHz~1GHz

RBW is set to 1MHz, VBW is set to 3MHz for above 1GHz, Sweep is set to ATUO.

RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),

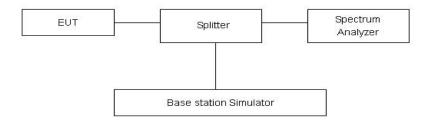
RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

RBW is set to 100 kHz (30MHz~1000 MHz)

RBW is set to 1000 kHz (above 1000MHz)

The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup



Limits

Rule Part 24.238(a) specifies that "on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log10 (P) dB."

Limit	-13 dBm
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty		
9kHz-1GHz	0.684 dB		
1GHz-20GHz	1.407 dB		

Test Results

Refer to the section 6.6 of this report for test data.



5.7. Radiates Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

- 1. The testing follows FCC KDB 971168 v03r01 Section 5.8 and ANSI C63.26-2015.
- 2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
- 3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- 4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, and the maximum value of the receiver should be recorded as (Pr).
- 5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
- 6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (PcI) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
- 7. The measurement results are obtained as described below:

Power(EIRP)=PMea- PAg - Pcl + Ga

The measurement results are amend as described below:

Power(EIRP)=PMea- Pcl + Ga

8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP

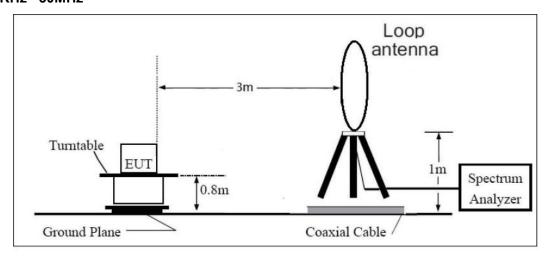


= EIRP-2.15dB.

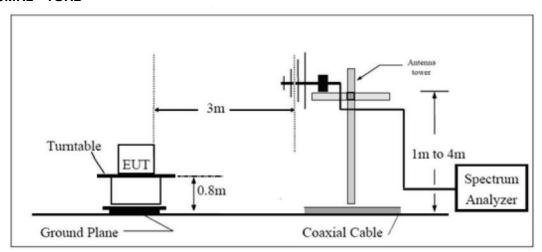
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

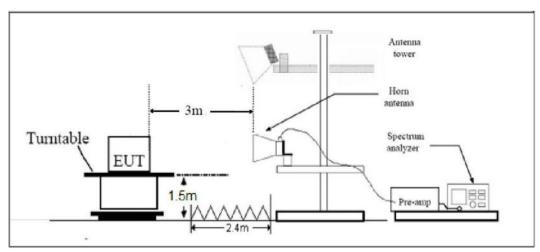
9KHz~30MHz



30MHz~1GHz



Above 1GHz



Note: Area side: 2.4mX3.6m



Limits

Rule Part 24.238(a) specifies that "on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log10 (P) dB."

Limit	-13 dBm
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U = 3.55 dB.

Test Results

Refer to the section 6.7 of this report for test data.





6. Test Results

6.1.RF Power Output and Effective Isotropic Radiated Power

	Maxim	um Output (dBm)	Power	EIRP (dBm)			
GSM 19	00114000		Channel	Channel	Channel	Channel	Channel
GSIVI 19	00	512	661	810	512	661	810
		1850.2	1880	1909.8	1850.2 1880 1909.		
	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)	
GSM(GMSK)	Results	29.51	29.55	29.60	28.01	28.05	28.10
	1TXslot	29.45	29.54	29.58	27.95	28.04	28.08
GPRS	2TXslots	27.45	27.54	27.60	25.95	26.04	26.10
(GMSK)	3TXslots	25.42	25.53	25.64	23.92	24.03	24.14
	4TXslots	24.49	24.59	24.72	22.99	23.09	23.22
	1TXslot	25.04	25.46	25.93	23.54	23.96	24.43
EGPRS	EGPRS 2TXslots 2		24.37	24.85	22.57	22.87	23.35
(8PSK)	3TXslots	21.95	22.35	22.91	20.45	20.85	21.41
	4TXslots	20.87	21.30	21.71	19.37	19.80	20.21

	Maximum	Output Po	wer (dBm)	EIRP (dBm)			
		Channel	Channel	Channel	Channel	Channel	Channel
WCDMA	WCDMA Band II		9400	9538	9262	9400	9538
		1852.4	1880	1907.6	1852.4	1880	1907.6
		(MHz)	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)
RM	IC	22.89	22.92	22.79	21.39	21.42	21.29
	Sub - Test 1	22.35	22.34	22.23	20.85	20.84	20.73
HSDPA	Sub - Test 2	22.34	22.36	22.20	20.84	20.86	20.70
ПЭБРА	Sub - Test 3	21.81	21.86	21.72	20.31	20.36	20.22
	Sub - Test 4	21.82	21.87	21.70	20.32	20.37	20.20
	Sub - Test 1	22.31	22.33	22.18	20.81	20.83	20.68
	Sub - Test 2	21.30	21.31	21.17	19.80	19.81	19.67
HSUPA	Sub - Test 3	21.77	21.79	21.66	20.27	20.29	20.16
	Sub - Test 4	21.23	21.28	21.14	19.73	19.78	19.64
	Sub - Test 5	22.24	22.26	22.12	20.74	20.76	20.62
	Sub - Test 1	22.23	22.28	22.13	20.73	20.78	20.63
DC-HSDPA	Sub - Test 2	22.22	22.27	22.12	20.72	20.77	20.62
DC-HODPA	Sub - Test 3	21.80	21.76	21.63	20.30	20.26	20.13
	Sub - Test 4	21.79	21.75	21.62	20.29	20.25	20.12
HSPA+	16QAM	21.78	21.83	21.69	20.28	20.33	20.19

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			LTE	Band 2			
Bandwidth	UL	RB Size	RB	Modulation	Power	EIRP(dBm)	Verdict
(MHz)	Channel	RD SIZE	Position	Modulation	(dBm)	EIRP(UBIII)	verdict
1.4	18607	1	#0	QPSK	23.90	22.40	PASS
1.4	18607	1	#Mid	QPSK	24.13	22.63	PASS
1.4	18607	1	#Max	QPSK	23.92	22.42	PASS
1.4	18607	3	#0	QPSK	23.93	22.43	PASS
1.4	18607	3	#Mid	QPSK	23.95	22.45	PASS
1.4	18607	3	#Max	QPSK	23.91	22.41	PASS
1.4	18607	6	#0	QPSK	22.92	21.42	PASS
1.4	18607	1	#0	16QAM	22.67	21.17	PASS
1.4	18607	1	#Mid	16QAM	22.93	21.43	PASS
1.4	18607	1	#Max	16QAM	22.64	21.14	PASS
1.4	18607	3	#0	16QAM	22.95	21.45	PASS
1.4	18607	3	#Mid	16QAM	22.98	21.48	PASS
1.4	18607	3	#Max	16QAM	23.00	21.50	PASS
1.4	18607	6	#0	16QAM	21.90	20.40	PASS
1.4	18900	1	#0	QPSK	23.65	22.15	PASS
1.4	18900	1	#Mid	QPSK	23.90	22.40	PASS
1.4	18900	1	#Max	QPSK	23.66	22.16	PASS
1.4	18900	3	#0	QPSK	23.71	22.21	PASS
1.4	18900	3	#Mid	QPSK	23.73	22.23	PASS
1.4	18900	3	#Max	QPSK	23.71	22.21	PASS
1.4	18900	6	#0	QPSK	22.70	21.20	PASS
1.4	18900	1	#0	16QAM	22.65	21.15	PASS
1.4	18900	1	#Mid	16QAM	22.81	21.31	PASS
1.4	18900	1	#Max	16QAM	22.57	21.07	PASS
1.4	18900	3	#0	16QAM	22.62	21.12	PASS
1.4	18900	3	#Mid	16QAM	22.58	21.08	PASS
1.4	18900	3	#Max	16QAM	22.64	21.14	PASS
1.4	18900	6	#0	16QAM	21.61	20.11	PASS
1.4	19193	1	#0	QPSK	23.64	22.14	PASS
1.4	19193	1	#Mid	QPSK	23.82	22.32	PASS
1.4	19193	1	#Max	QPSK	23.66	22.16	PASS
1.4	19193	3	#0	QPSK	23.71	22.21	PASS
1.4	19193	3	#Mid	QPSK	23.73	22.23	PASS
1.4	19193	3	#Max	QPSK	23.70	22.20	PASS
1.4	19193	6	#0	QPSK	22.71	21.21	PASS
1.4	19193	1	#0	16QAM	22.32	20.82	PASS
1.4	19193	1	#Mid	16QAM	22.53	21.03	PASS
1.4	19193	1	#Max	16QAM	22.32	20.82	PASS
1.4	19193	3	#0	16QAM	22.59	21.09	PASS



<u> </u>	- Test Report					eport No.: R2206A	40370-KZ
1.4	19193	3	#Mid	16QAM	22.56	21.06	PASS
1.4	19193	3	#Max	16QAM	22.59	21.09	PASS
1.4	19193	6	#0	16QAM	21.64	20.14	PASS
3	18615	1	#0	QPSK	23.93	22.43	PASS
3	18615	1	#Mid	QPSK	23.88	22.38	PASS
3	18615	1	#Max	QPSK	23.91	22.41	PASS
3	18615	8	#0	QPSK	22.88	21.38	PASS
3	18615	8	#Mid	QPSK	22.88	21.38	PASS
3	18615	8	#Max	QPSK	22.87	21.37	PASS
3	18615	15	#0	QPSK	22.87	21.37	PASS
3	18615	1	#0	16QAM	23.10	21.60	PASS
3	18615	1	#Mid	16QAM	23.09	21.59	PASS
3	18615	1	#Max	16QAM	23.12	21.62	PASS
3	18615	8	#0	16QAM	21.84	20.34	PASS
3	18615	8	#Mid	16QAM	21.85	20.35	PASS
3	18615	8	#Max	16QAM	21.84	20.34	PASS
3	18615	15	#0	16QAM	21.80	20.30	PASS
3	18900	1	#0	QPSK	23.76	22.26	PASS
3	18900	1	#Mid	QPSK	23.68	22.18	PASS
3	18900	1	#Max	QPSK	23.67	22.17	PASS
3	18900	8	#0	QPSK	22.67	21.17	PASS
3	18900	8	#Mid	QPSK	22.67	21.17	PASS
3	18900	8	#Max	QPSK	22.65	21.15	PASS
3	18900	15	#0	QPSK	22.63	21.13	PASS
3	18900	1	#0	16QAM	22.63	21.13	PASS
3	18900	1	#Mid	16QAM	22.62	21.12	PASS
3	18900	1	#Max	16QAM	22.59	21.09	PASS
3	18900	8	#0	16QAM	21.64	20.14	PASS
3	18900	8	#Mid	16QAM	21.63	20.13	PASS
3	18900	8	#Max	16QAM	21.59	20.09	PASS
3	18900	15	#0	16QAM	21.49	19.99	PASS
3	19185	1	#0	QPSK	23.66	22.16	PASS
3	19185	1	#Mid	QPSK	23.71	22.21	PASS
3	19185	1	#Max	QPSK	23.70	22.20	PASS
3	19185	8	#0	QPSK	22.67	21.17	PASS
3	19185	8	#Mid	QPSK	22.67	21.17	PASS
3	19185	8	#Max	QPSK	22.69	21.19	PASS
3	19185	15	#0	QPSK	22.63	21.13	PASS
3	19185	1	#0	16QAM	22.35	20.85	PASS
3	19185	1	#Mid	16QAM	22.37	20.87	PASS
3	19185	1	#Max	16QAM	22.35	20.85	PASS
3	19185	8	#0	16QAM	21.65	20.15	PASS
3	19185	8	#Mid	16QAM	21.66	20.16	PASS



	F Test Report				I Ne	eport No.: R2206/	403/0-NZ
3	19185	8	#Max	16QAM	21.67	20.17	PASS
3	19185	15	#0	16QAM	21.62	20.12	PASS
5	18625	1	#0	QPSK	23.84	22.34	PASS
5	18625	1	#Mid	QPSK	23.96	22.46	PASS
5	18625	1	#Max	QPSK	23.84	22.34	PASS
5	18625	12	#0	QPSK	22.90	21.40	PASS
5	18625	12	#Mid	QPSK	22.91	21.41	PASS
5	18625	12	#Max	QPSK	22.87	21.37	PASS
5	18625	25	#0	QPSK	22.87	21.37	PASS
5	18625	1	#0	16QAM	22.84	21.34	PASS
5	18625	1	#Mid	16QAM	22.96	21.46	PASS
5	18625	1	#Max	16QAM	22.84	21.34	PASS
5	18625	12	#0	16QAM	21.77	20.27	PASS
5	18625	12	#Mid	16QAM	21.77	20.27	PASS
5	18625	12	#Max	16QAM	21.84	20.34	PASS
5	18625	25	#0	16QAM	21.80	20.30	PASS
5	18900	1	#0	QPSK	23.55	22.05	PASS
5	18900	1	#Mid	QPSK	23.66	22.16	PASS
5	18900	1	#Max	QPSK	23.56	22.06	PASS
5	18900	12	#0	QPSK	22.64	21.14	PASS
5	18900	12	#Mid	QPSK	22.65	21.15	PASS
5	18900	12	#Max	QPSK	22.65	21.15	PASS
5	18900	25	#0	QPSK	22.68	21.18	PASS
5	18900	1	#0	16QAM	22.66	21.16	PASS
5	18900	1	#Mid	16QAM	22.76	21.26	PASS
5	18900	1	#Max	16QAM	22.67	21.17	PASS
5	18900	12	#0	16QAM	21.63	20.13	PASS
5	18900	12	#Mid	16QAM	21.64	20.14	PASS
5	18900	12	#Max	16QAM	21.60	20.10	PASS
5	18900	25	#0	16QAM	21.67	20.17	PASS
5	19175	1	#0	QPSK	23.58	22.08	PASS
5	19175	1	#Mid	QPSK	23.68	22.18	PASS
5	19175	1	#Max	QPSK	23.59	22.09	PASS
5	19175	12	#0	QPSK	22.71	21.21	PASS
5	19175	12	#Mid	QPSK	22.69	21.19	PASS
5	19175	12	#Max	QPSK	22.63	21.13	PASS
5	19175	25	#0	QPSK	22.68	21.18	PASS
5	19175	1	#0	16QAM	22.91	21.41	PASS
5	19175	1	#Mid	16QAM	23.05	21.55	PASS
5	19175	1	#Max	16QAM	22.96	21.46	PASS
5	19175	12	#0	16QAM	21.63	20.13	PASS
5	19175	12	#Mid	16QAM	21.60	20.10	PASS
5	19175	12	#Max	16QAM	21.58	20.08	PASS



RF Test Report No.: R2206A0570-R2							
5	19175	25	#0	16QAM	21.67	20.17	PASS
10	18650	1	#0	QPSK	23.93	22.43	PASS
10	18650	1	#Mid	QPSK	24.03	22.53	PASS
10	18650	1	#Max	QPSK	23.87	22.37	PASS
10	18650	25	#0	QPSK	22.85	21.35	PASS
10	18650	25	#Mid	QPSK	22.85	21.35	PASS
10	18650	25	#Max	QPSK	22.89	21.39	PASS
10	18650	50	#0	QPSK	22.87	21.37	PASS
10	18650	1	#0	16QAM	23.10	21.60	PASS
10	18650	1	#Mid	16QAM	23.19	21.69	PASS
10	18650	1	#Max	16QAM	23.01	21.51	PASS
10	18650	25	#0	16QAM	21.88	20.38	PASS
10	18650	25	#Mid	16QAM	21.94	20.44	PASS
10	18650	25	#Max	16QAM	21.90	20.40	PASS
10	18650	50	#0	16QAM	21.85	20.35	PASS
10	18900	1	#0	QPSK	23.79	22.29	PASS
10	18900	1	#Mid	QPSK	23.88	22.38	PASS
10	18900	1	#Max	QPSK	23.70	22.20	PASS
10	18900	25	#0	QPSK	22.76	21.26	PASS
10	18900	25	#Mid	QPSK	22.76	21.26	PASS
10	18900	25	#Max	QPSK	22.75	21.25	PASS
10	18900	50	#0	QPSK	22.71	21.21	PASS
10	18900	1	#0	16QAM	22.65	21.15	PASS
10	18900	1	#Mid	16QAM	22.79	21.29	PASS
10	18900	1	#Max	16QAM	22.61	21.11	PASS
10	18900	25	#0	16QAM	21.76	20.26	PASS
10	18900	25	#Mid	16QAM	21.75	20.25	PASS
10	18900	25	#Max	16QAM	21.72	20.22	PASS
10	18900	50	#0	16QAM	21.71	20.21	PASS
10	19150	1	#0	QPSK	23.68	22.18	PASS
10	19150	1	#Mid	QPSK	23.80	22.30	PASS
10	19150	1	#Max	QPSK	23.74	22.24	PASS
10	19150	25	#0	QPSK	22.82	21.32	PASS
10	19150	25	#Mid	QPSK	22.79	21.29	PASS
10	19150	25	#Max	QPSK	22.69	21.19	PASS
10	19150	50	#0	QPSK	22.73	21.23	PASS
10	19150	1	#0	16QAM	22.31	20.81	PASS
10	19150	1	#Mid	16QAM	22.47	20.97	PASS
10	19150	1	#Max	16QAM	22.37	20.87	PASS
10	19150	25	#0	16QAM	21.77	20.27	PASS
10	19150	25	#Mid	16QAM	21.77	20.27	PASS
10	19150	25	#Max	16QAM	21.66	20.16	PASS
10	19150	50	#0	16QAM	21.74	20.24	PASS
	1		I.		1		ı



						•	AU5/U-R2
15	18675	1	#0	QPSK	23.88	22.38	PASS
15	18675	1	#Mid	QPSK	23.93	22.43	PASS
15	18675	1	#Max	QPSK	23.75	22.25	PASS
15	18675	36	#0	QPSK	22.89	21.39	PASS
15	18675	36	#Mid	QPSK	22.88	21.38	PASS
15	18675	36	#Max	QPSK	22.81	21.31	PASS
15	18675	75	#0	QPSK	22.85	21.35	PASS
15	18675	1	#0	16QAM	23.02	21.52	PASS
15	18675	1	#Mid	16QAM	23.07	21.57	PASS
15	18675	1	#Max	16QAM	22.86	21.36	PASS
15	18675	36	#0	16QAM	21.86	20.36	PASS
15	18675	36	#Mid	16QAM	21.85	20.35	PASS
15	18675	36	#Max	16QAM	21.80	20.30	PASS
15	18675	75	#0	16QAM	21.86	20.36	PASS
15	18900	1	#0	QPSK	23.70	22.20	PASS
15	18900	1	#Mid	QPSK	23.75	22.25	PASS
15	18900	1	#Max	QPSK	23.58	22.08	PASS
15	18900	36	#0	QPSK	22.75	21.25	PASS
15	18900	36	#Mid	QPSK	22.77	21.27	PASS
15	18900	36	#Max	QPSK	22.75	21.25	PASS
15	18900	75	#0	QPSK	22.74	21.24	PASS
15	18900	1	#0	16QAM	22.64	21.14	PASS
15	18900	1	#Mid	16QAM	22.68	21.18	PASS
15	18900	1	#Max	16QAM	22.49	20.99	PASS
15	18900	36	#0	16QAM	21.71	20.21	PASS
15	18900	36	#Mid	16QAM	21.71	20.21	PASS
15	18900	36	#Max	16QAM	21.67	20.17	PASS
15	18900	75	#0	16QAM	21.72	20.22	PASS
15	19125	1	#0	QPSK	23.69	22.19	PASS
15	19125	1	#Mid	QPSK	23.77	22.27	PASS
15	19125	1	#Max	QPSK	23.74	22.24	PASS
15	19125	36	#0	QPSK	22.78	21.28	PASS
15	19125	36	#Mid	QPSK	22.77	21.27	PASS
15	19125	36	#Max	QPSK	22.69	21.19	PASS
15	19125	75	#0	QPSK	22.76	21.26	PASS
15	19125	1	#0	16QAM	22.50	21.00	PASS
15	19125	1	#Mid	16QAM	22.58	21.08	PASS
15	19125	1	#Max	16QAM	22.47	20.97	PASS
15	19125	36	#0	16QAM	21.71	20.21	PASS
15	19125	36	#Mid	16QAM	21.68	20.18	PASS
15	19125	36	#Max	16QAM	21.69	20.19	PASS
15	19125	75	#0	16QAM	21.73	20.23	PASS
20	18700	1	#0	QPSK	23.60	22.10	PASS



	r Test Report				120	eport No.: R2206/	10070112
20	18700	1	#Mid	QPSK	23.92	22.42	PASS
20	18700	1	#Max	QPSK	23.47	21.97	PASS
20	18700	50	#0	QPSK	22.84	21.34	PASS
20	18700	50	#Mid	QPSK	22.81	21.31	PASS
20	18700	50	#Max	QPSK	22.71	21.21	PASS
20	18700	100	#0	QPSK	22.74	21.24	PASS
20	18700	1	#0	16QAM	22.17	20.67	PASS
20	18700	1	#Mid	16QAM	22.50	21.00	PASS
20	18700	1	#Max	16QAM	22.05	20.55	PASS
20	18700	50	#0	16QAM	21.84	20.34	PASS
20	18700	50	#Mid	16QAM	21.86	20.36	PASS
20	18700	50	#Max	16QAM	21.77	20.27	PASS
20	18700	100	#0	16QAM	21.76	20.26	PASS
20	18900	1	#0	QPSK	23.54	22.04	PASS
20	18900	1	#Mid	QPSK	23.88	22.38	PASS
20	18900	1	#Max	QPSK	23.45	21.95	PASS
20	18900	50	#0	QPSK	22.78	21.28	PASS
20	18900	50	#Mid	QPSK	22.76	21.26	PASS
20	18900	50	#Max	QPSK	22.75	21.25	PASS
20	18900	100	#0	QPSK	22.76	21.26	PASS
20	18900	1	#0	16QAM	22.56	21.06	PASS
20	18900	1	#Mid	16QAM	22.93	21.43	PASS
20	18900	1	#Max	16QAM	22.44	20.94	PASS
20	18900	50	#0	16QAM	21.76	20.26	PASS
20	18900	50	#Mid	16QAM	21.78	20.28	PASS
20	18900	50	#Max	16QAM	21.78	20.28	PASS
20	18900	100	#0	16QAM	21.78	20.28	PASS
20	19100	1	#0	QPSK	23.50	22.00	PASS
20	19100	1	#Mid	QPSK	23.84	22.34	PASS
20	19100	1	#Max	QPSK	23.53	22.03	PASS
20	19100	50	#0	QPSK	22.71	21.21	PASS
20	19100	50	#Mid	QPSK	22.71	21.21	PASS
20	19100	50	#Max	QPSK	22.58	21.08	PASS
20	19100	100	#0	QPSK	22.63	21.13	PASS
20	19100	1	#0	16QAM	22.14	20.64	PASS
20	19100	1	#Mid	16QAM	22.51	21.01	PASS
20	19100	1	#Max	16QAM	22.17	20.67	PASS
20	19100	50	#0	16QAM	21.69	20.19	PASS
20	19100	50	#Mid	16QAM	21.66	20.16	PASS
20	19100	50	#Max	16QAM	21.49	19.99	PASS
20	19100	100	#0	16QAM	21.63	20.13	PASS



6.2. Occupied Bandwidth

Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth(MHz)
	512	1850.2	0.2429	0.3038
GSM 1900 (GMSK)	661	1880.0	0.2450	0.3063
(Gillort)	810	1909.8	0.2409	0.2958
0000 4000	512	1850.2	0.2458	0.3138
GPRS 1900 (GMSK)	661	1880.0	0.2454	0.3022
(Gillort)	810	1909.8	0.2502	0.3120
E0000 4000	512	1850.2	0.2492	0.3134
EGPRS 1900 (8PSK)	661	1880.0	0.2499	0.3110
(or only	810	1909.8	0.2417	0.3146
WCDMA	9262	1852.4	4.1648	4.6770
Band II	9400	1880	4.1655	4.6800
(RMC)	9538	1907.6	4.1676	4.6710

LTE Band 2										
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)				
			18607	1850.7	1.094	1.276				
		1.4	18900	1880.0	1.093	1.274				
			19193	1909.3	1.101	1.304				
			18615	1851.5	2.698	2.938				
		3	18900	1880	2.697	2.908				
	QPSK		19185	1908.5	2.685	2.923				
		10	18625	1852.5	4.504	4.895				
			18900	1880	4.504	5.361				
100%			19175	1907.5	4.501	4.888				
			18650	1855	8.963	9.725				
			18900	1880	8.979	9.744				
			19150	1905	8.995	9.726				
		15	18675	1857.5	13.444	14.396				
			18900	1880	13.453	14.314				
			19125	1902.5	13.449	14.491				
		00	18700	1860	17.927	19.264				
		20	18900	1880	17.991	19.381				

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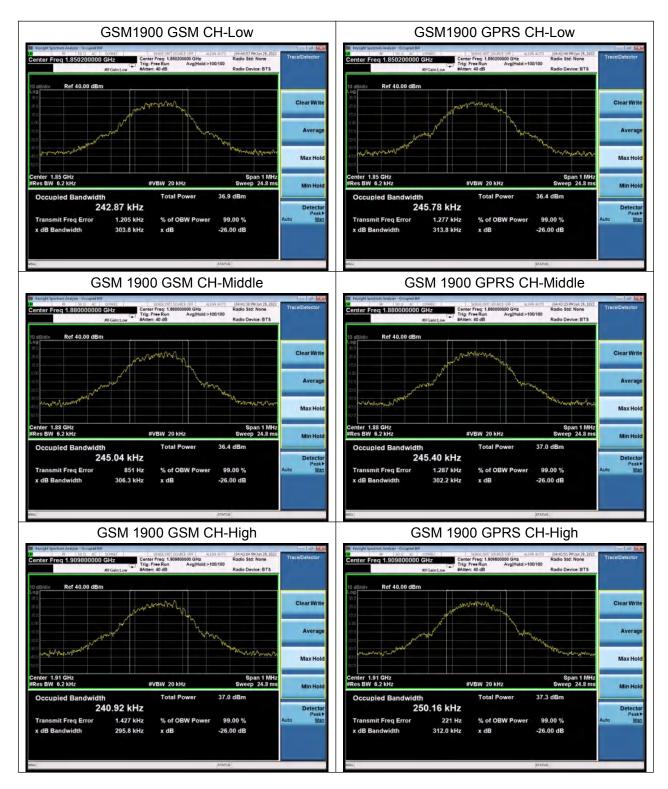
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				-1	
		19100	1900	17.892	19.285
		18607	1850.7	1.096	1.298
	1.4	18900	1880.0	1.095	1.312
		19193	1909.3	1.090	1.260
		18615	1851.5	2.680	2.925
	3	18900	1880	2.682	2.928
		19185	1908.5	2.688	2.921
		18625	1852.5	4.513	4.864
	5	18900	1880	4.499	4.869
160014		19175	1907.5	4.499	4.953
16QAM		18650	1855	8.992	9.542
	10	18900	1880	8.983	9.688
		19150	1905	8.996	9.682
		18675	1857.5	13.449	14.389
	15	18900	1880	13.492	15.087
		19125	1902.5	13.437	14.550
	20	18700	1860	17.968	19.302
		18900	1880	18.070	19.166
		19100	1900	17.980	19.282

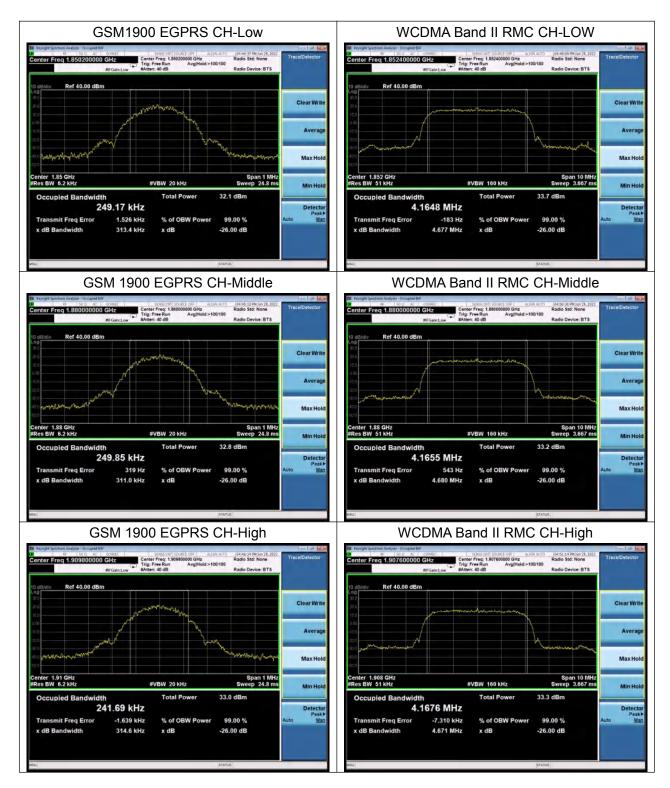




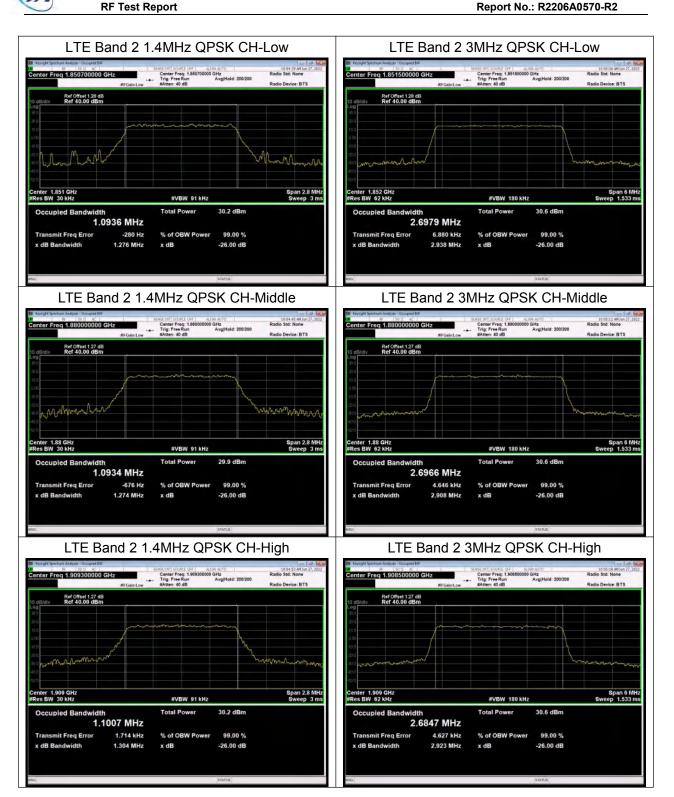






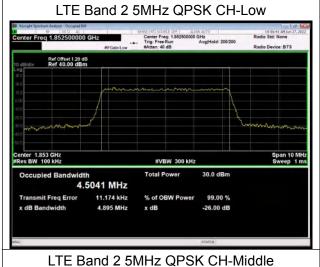


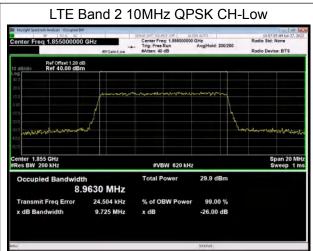
RF Test Report



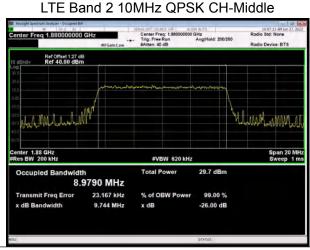


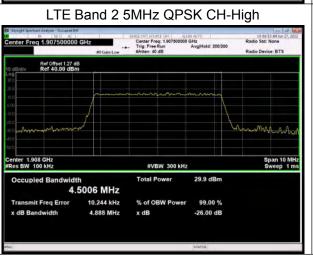


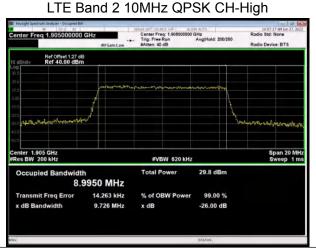




Ref Offset 1.27 dB Ref 40.00 dBm 4.5035 MHz nit Freg Error 11.107 kHz % of OBW Power 99.00 %

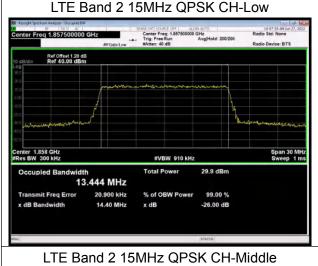


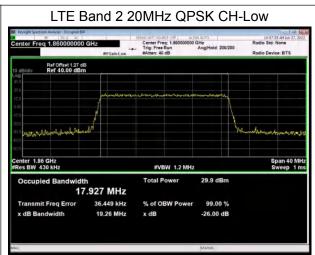




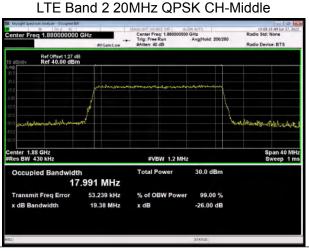


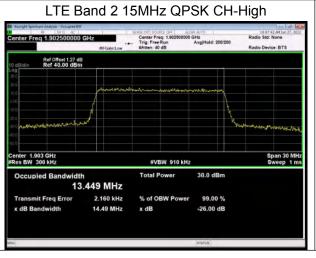


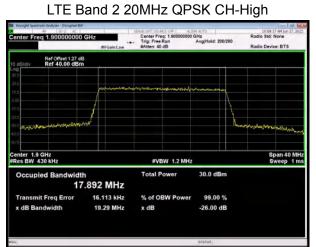




Ref Offset 1.27 dB Ref 40.00 dBm molecular 13.453 MHz nit Frea Error 28,088 kHz % of OBW Power 99.00 %

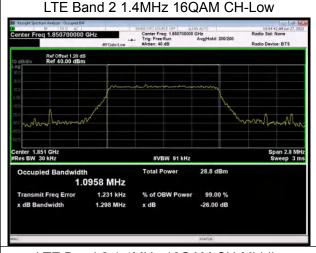


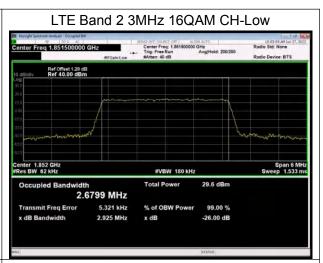




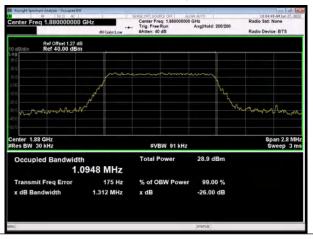


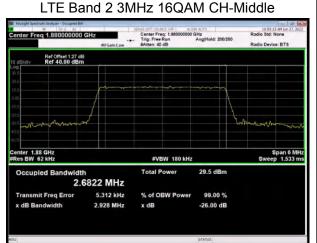




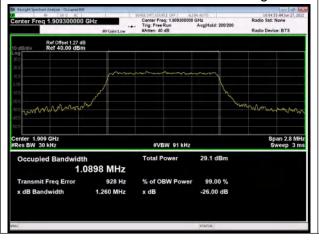


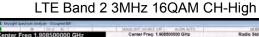
LTE Band 2 1.4MHz 16QAM CH-Middle





LTE Band 2 1.4MHz 16QAM CH-High

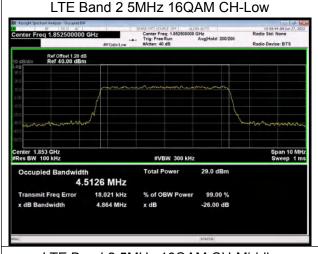


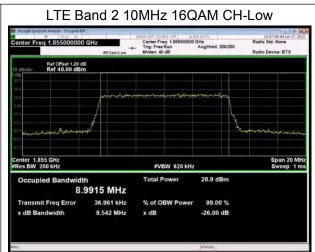




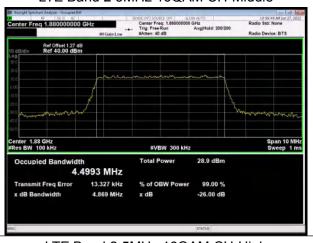


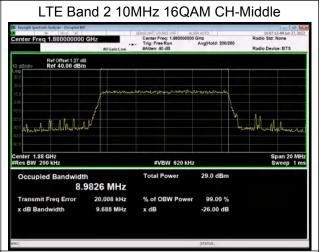




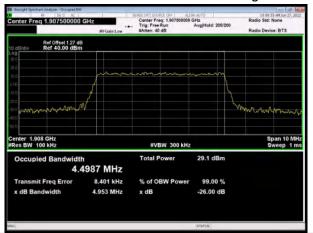


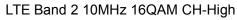
LTE Band 2 5MHz 16QAM CH-Middle

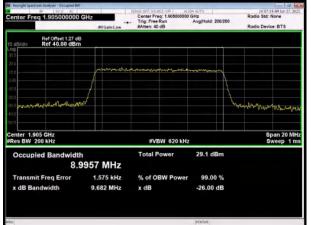




LTE Band 2 5MHz 16QAM CH-High

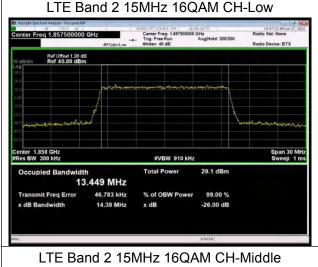


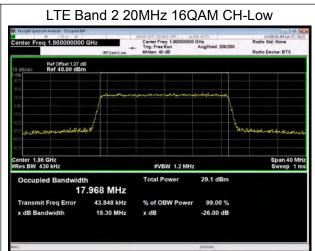




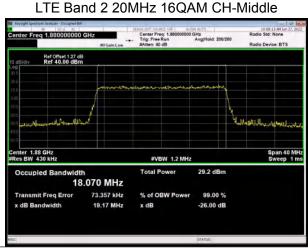


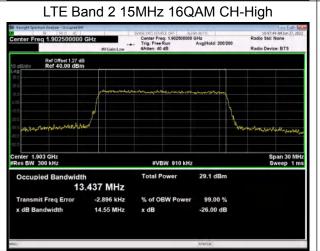


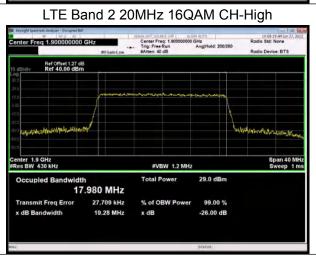




Ref Offset 1.27 dB Ref 40.00 dBm hall Whamball a 13.492 MHz nit Freg Error 39.584 kHz % of OBW Power 99.00 %

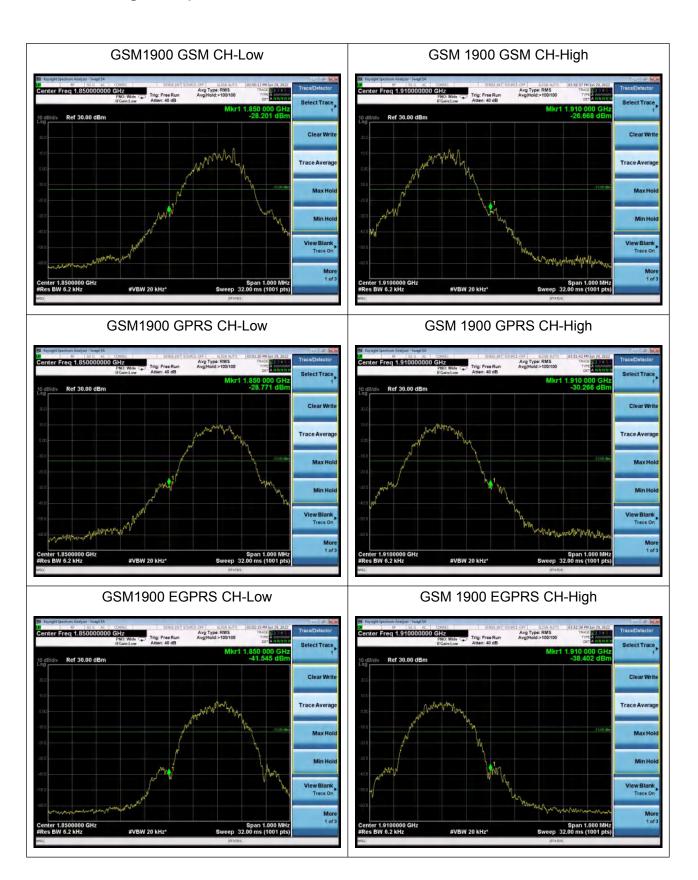






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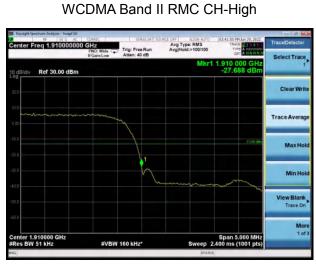
6.3. Band Edge Compliance





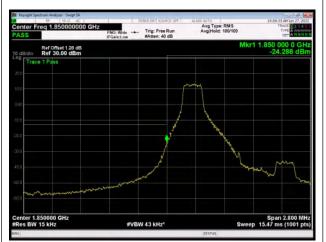
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LTE Band 2 1.4MHz QPSK 1RB CH-Low



LTE Band 2 1.4MHz QPSK 1RB CH-High



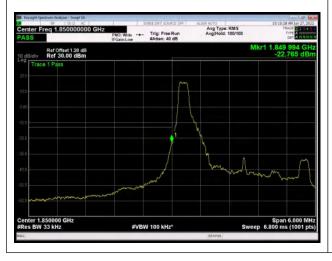
LTE Band 2 1.4MHz QPSK 100%RB CH-Low



LTE Band 2 1.4MHz QPSK 100%RB CH-High



LTE Band 2 3MHz QPSK 1RB CH-Low



LTE Band 2 3MHz QPSK 1RB CH-High

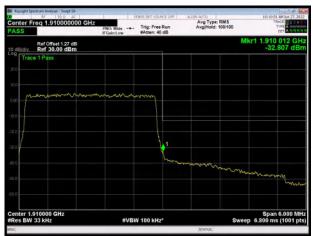




LTE Band 2 3MHz QPSK 100%RB CH-Low



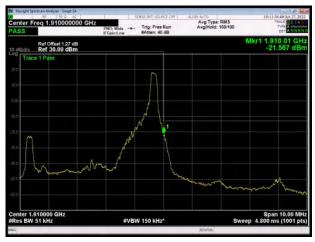
LTE Band 2 3MHz QPSK 100%RB CH-High



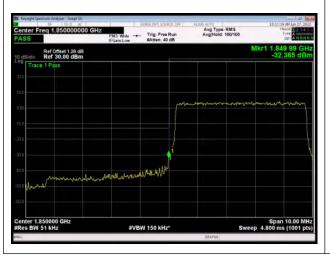
LTE Band 2 5MHz QPSK 1RB CH-Low



LTE Band 2 5MHz QPSK 1RB CH-High



LTE Band 2 5MHz QPSK 100%RB CH-Low

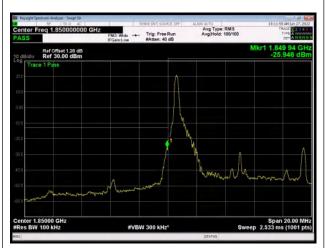


LTE Band 2 5MHz QPSK 100%RB CH-High

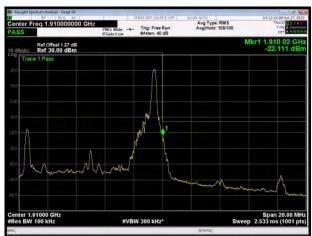




LTE Band 2 10MHz QPSK 1RB CH-Low



LTE Band 2 10MHz QPSK 1RB CH-High



LTE Band 2 10MHz QPSK 100%RB CH-Low



LTE Band 2 10MHz QPSK 100%RB CH-High



LTE Band 2 15MHz QPSK 1RB CH-Low



LTE Band 2 15MHz QPSK 1RB CH-High





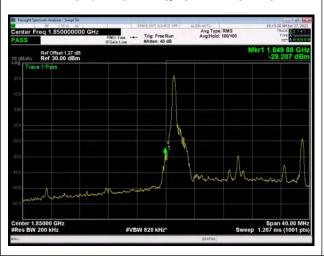
LTE Band 2 15MHz QPSK 100%RB CH-Low



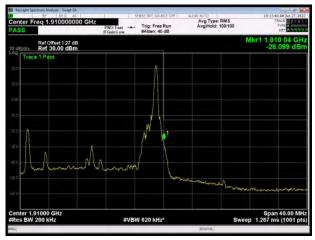
LTE Band 2 15MHz QPSK 100%RB CH-High



LTE Band 2 20MHz QPSK 1RB CH-Low



LTE Band 2 20MHz QPSK 1RB CH-High



LTE Band 2 20MHz QPSK 100%RB CH-Low

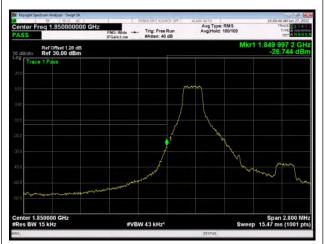


LTE Band 2 20MHz QPSK 100%RB CH-High

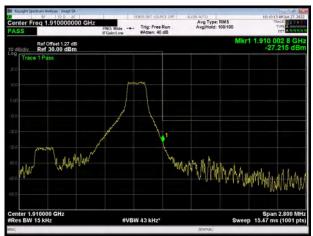




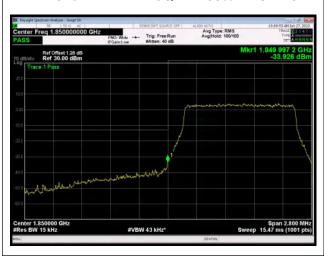
LTE Band 2 1.4MHz 16QAM 1RB CH-Low



LTE Band 2 1.4MHz 16QAM 1RB CH-High



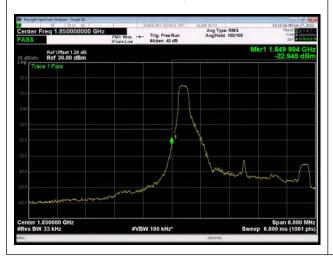
LTE Band 2 1.4MHz 16QAM 100%RB CH-Low



LTE Band 2 1.4MHz 16QAM 100%RB CH-High



LTE Band 2 3MHz 16QAM 1RB CH-Low



LTE Band 2 3MHz 16QAM 1RB CH-High

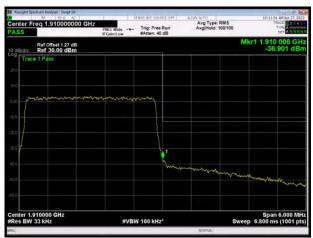




LTE Band 2 3MHz 16QAM 100%RB CH-Low



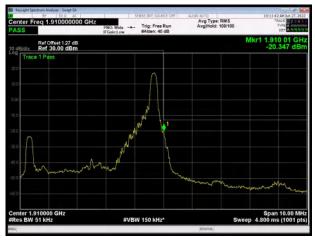
LTE Band 2 3MHz 16QAM 100%RB CH-High



LTE Band 2 5MHz 16QAM 1RB CH-Low



LTE Band 2 5MHz 16QAM 1RB CH-High



LTE Band 2 5MHz 16QAM 100%RB CH-Low



LTE Band 2 5MHz 16QAM 100%RB CH-High





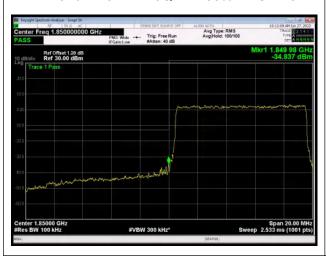
LTE Band 2 10MHz 16QAM 1RB CH-Low



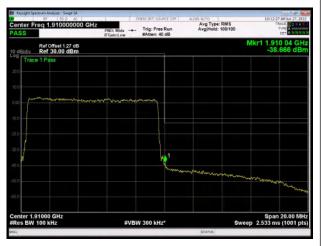
LTE Band 2 10MHz 16QAM 1RB CH-High



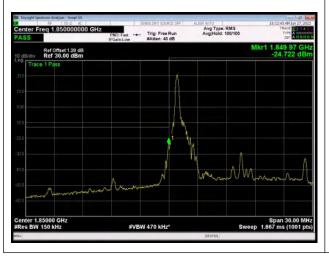
LTE Band 2 10MHz 16QAM 100%RB CH-Low



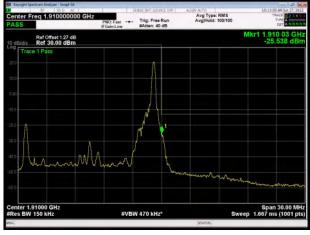
LTE Band 2 10MHz 16QAM 100%RB CH-High



LTE Band 2 15MHz 16QAM 1RB CH-Low



LTE Band 2 15MHz 16QAM 1RB CH-High





LTE Band 2 15MHz 16QAM 100%RB CH-Low



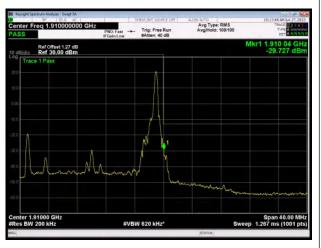
LTE Band 2 15MHz 16QAM 100%RB CH-High



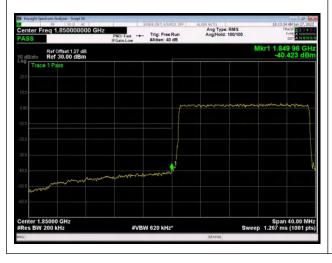
LTE Band 2 20MHz 16QAM 1RB CH-Low



LTE Band 2 20MHz 16QAM 1RB CH-High



LTE Band 2 20MHz 16QAM 100%RB CH-Low



LTE Band 2 20MHz 16QAM 100%RB CH-High





6.4. Peak-to-Average Power Ratio (PAPR)

Mode	Channel	Frequency (MHz)	Peak(dBm)	Avg(dBm)	PAPR(dB)	Limit(dB)	Conclusion
	512	1850.2	31.01	28.40	2.61	≤13	PASS
GSM 1900 (GMSK)	661	1880	31.00	28.39	2.61	≤13	PASS
(GMOIL)	810	1909.8	31.32	27.01	4.31	≤13	PASS
	512	1850.2	31.01	28.41	2.60	≤13	PASS
GPRS 1900 (GMSK)	661	1880	31.01	28.40	2.61	≤13	PASS
(GMOIL)	810	1909.8	31.31	26.80	4.51	≤13	PASS
	512	1850.2	29.54	23.91	5.63	≤13	PASS
EGPRS 1900 (8PSK)	661	1880	29.78	24.19	5.59	≤13	PASS
(6. 6.4)	810	1909.8	30.05	22.84	7.21	≤13	PASS
WCDMA	9262	1852.4	27.50	24.47	3.03	≤13	PASS
Band II	9400	1880	27.38	24.38	3.00	≤13	PASS
(RMC)	9538	1907.6	27.39	24.41	2.98	≤13	PASS

			LTE B	and 2				
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
		18607	1850.7	27.65	22.26	5.39	≤13	PASS
	1.4	18900	1880.0	27.51	22.20	5.31	≤13	PASS
		19193	1909.3	27.30	22.18	5.12	≤13	PASS
		18615	1851.5	27.72	22.23	5.49	≤13	PASS
	3	18900	1880	27.50	22.13	5.37	≤13	PASS
		19185	1908.5	27.36	22.10	5.26	≤13	PASS
	5	18625	1852.5	27.79	22.25	5.54	≤13	PASS
		18900	1880	27.73	22.18	5.55	≤13	PASS
QPSK		19175	1907.5	27.49	22.14	5.35	≤13	PASS
QP3K		18650	1855	27.85	22.33	5.52	≤13	PASS
	10	18900	1880	27.81	22.25	5.56	≤13	PASS
		19150	1905	27.54	22.23	5.31	≤13	PASS
		18675	1857.5	28.12	22.30	5.82	≤13	PASS
	15	18900	1880	28.23	22.29	5.94	≤13	PASS
		19125	1902.5	27.93	22.28	5.65	≤13	PASS
		18700	1860	27.76	22.20	5.56	≤13	PASS
	20	18900	1880	27.99	22.29	5.70	≤13	PASS
		19100	1900	27.55	22.13	5.42	≤13	PASS

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0	iki rest kepoi			Neport No.: N2200A0370-N2					
		18607	1850.7	27.49	21.24	6.25	≤13	PASS	
	1.4	18900	1880.0	27.42	21.20	6.22	≤13	PASS	
		19193	1909.3	27.23	21.22	6.01	≤13	PASS	
		18615	1851.5	27.50	21.23	6.27	≤13	PASS	
	3	18900	1880	27.36	21.11	6.25	≤13	PASS	
		19185	1908.5	27.14	21.12	6.02	≤13	PASS	
		18625	1852.5	27.47	21.25	6.22	≤13	PASS	
	5	18900	1880	27.39	21.16	6.23	≤13	PASS	
16QAM		19175	1907.5	27.19	21.14	6.05	≤13	PASS	
TOQAW		18650	1855	27.63	21.36	6.27	≤13	PASS	
	10	18900	1880	27.54	21.25	6.29	≤13	PASS	
		19150	1905	27.30	21.22	6.08	≤13	PASS	
		18675	1857.5	27.69	21.32	6.37	≤13	PASS	
	15	18900	1880	27.68	21.26	6.42	≤13	PASS	
		19125	1902.5	27.47	21.24	6.23	≤13	PASS	
		18700	1860	27.55	21.24	6.31	≤13	PASS	
	20	18900	1880	27.66	21.29	6.37	≤13	PASS	
		19100	1900	27.33	21.13	6.20	≤13	PASS	





6.5. Frequency Stability

		G	SM 1900			
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	GMSK	8PSK	GMSK	8PSK	
Normal (25℃)		17.70	16.97	0.00942	0.00903	PASS
Extreme (50°C)		4.73	9.81	0.00252	0.00522	PASS
Extreme (40°C)		7.84	14.92	0.00417	0.00793	PASS
Extreme (30°C)		3.07	17.74	0.00163	0.00944	PASS
Extreme (20°C)	Normal	7.68	17.86	0.00408	0.00950	PASS
Extreme (10°C)	INOIIIIai	14.44	5.96	0.00768	0.00317	PASS
Extreme (0°C)		13.27	11.16	0.00706	0.00593	PASS
Extreme (-10°C)		9.01	5.60	0.00479	0.00298	PASS
Extreme (-20°C)		13.33	2.96	0.00709	0.00158	PASS
Extreme (-30°C)		14.22	7.89	0.00756	0.00420	PASS
25 ℃	LV	4.15	13.32	0.00221	0.00709	PASS
23 (HV	2.28	3.13	0.00121	0.00167	PASS

WCDMA II										
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict				
Temperature	Voltage	BPSK	QPSK	BPSK	QPSK					
Normal (25℃)		12.64	7.76	0.00673	0.00413	PASS				
Extreme (50°C)		3.26	1.17	0.00174	0.00062	PASS				
Extreme (40°C)		12.75	2.08	0.00678	0.00111	PASS				
Extreme (30°C)		1.71	7.56	0.00091	0.00402	PASS				
Extreme (20°C)	Mormal	6.41	13.41	0.00341	0.00713	PASS				
Extreme (10°C)	Normal	6.56	8.52	0.00349	0.00453	PASS				
Extreme (0°C)		12.43	16.73	0.00661	0.00890	PASS				
Extreme (-10°C)		3.80	14.92	0.00202	0.00794	PASS				
Extreme (-20°C)		10.96	17.74	0.00583	0.00944	PASS				
Extreme (-30°C)		13.75	7.29	0.00731	0.00388	PASS				
25°C LV		14.26	16.97	0.00758	0.00903	PASS				
25℃	HV	14.32	4.92	0.00761	0.00262	PASS				

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		LT	E Band 2			
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability	Frequency Stability	Verdict
BANDWIDTH	1.4MHz	. ,	. ,	(ppm)	(ppm)	
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)		1.84	2.90	0.00098	0.00154	PASS
Extreme (50°C)		5.25	15.69	0.00279	0.00834	PASS
Extreme (40°C)		2.19	11.24	0.00117	0.00598	PASS
Extreme (30°C)		16.43	15.39	0.00874	0.00819	PASS
Extreme (20°C)	Normal	3.41	6.61	0.00181	0.00352	PASS
Extreme (10°C)	INUITIAI	7.41	6.32	0.00394	0.00336	PASS
Extreme (0°C)		5.88	12.72	0.00313	0.00677	PASS
Extreme (-10°C)		8.19	2.00	0.00436	0.00107	PASS
Extreme (-20°C)		13.57	8.42	0.00722	0.00448	PASS
Extreme (-30°C)		8.74	8.57	0.00465	0.00456	PASS
0.5%	LV	14.26	3.52	0.00759	0.00187	PASS
25℃	HV	11.12	14.26	0.00592	0.00759	PASS
Condition	3MHz	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)		17.34	16.73	0.00922	0.00890	PASS
Extreme (50°C)		9.40	3.42	0.00500	0.00182	PASS
Extreme (40°C)		8.30	11.28	0.00442	0.00600	PASS
Extreme (30°C)		1.82	17.79	0.00097	0.00946	PASS
Extreme (20°C)		17.41	15.89	0.00926	0.00845	PASS
Extreme (10°C)	Normal	1.18	13.39	0.00063	0.00712	PASS
Extreme (0°C)		7.40	5.90	0.00394	0.00314	PASS
Extreme (-10°C)		16.20	4.25	0.00862	0.00226	PASS
Extreme (-20°C)		16.93	3.35	0.00900	0.00178	PASS
Extreme (-30°C)		4.27	9.92	0.00227	0.00528	PASS
0 . °0	LV	11.97	4.11	0.00637	0.00219	PASS
25℃	HV	7.29	10.09	0.00388	0.00537	PASS
Condition	Condition BANDWIDTH 5MHz		Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)		12.40	14.70	0.00660	0.00782	PASS
Extreme (50°C)	Normal	2.66	7.73	0.00142	0.00411	PASS

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RF Test Re	port			Ne	port No.: R2206A	J370-KZ
Extreme (40°C)		10.54	6.82	0.00561	0.00363	PASS
Extreme (30°C)		1.17	11.27	0.00062	0.00599	PASS
Extreme (20°C)		11.43	14.98	0.00608	0.00797	PASS
Extreme (10°C)		8.30	9.60	0.00441	0.00511	PASS
Extreme (0°C)		13.47	4.22	0.00716	0.00225	PASS
Extreme (-10°C)		3.34	4.41	0.00178	0.00234	PASS
Extreme (-20°C)		12.82	1.00	0.00682	0.00053	PASS
Extreme (-30°C)		14.01	8.08	0.00745	0.00430	PASS
0 . °°°	LV	10.87	4.04	0.00578	0.00215	PASS
25 ℃	HV	7.68	9.58	0.00409	0.00510	PASS
0 1111	<u>'</u>			F	F	
Condition		Freq.Error	Freq.Error	Frequency	Frequency	
DANDMIDTH	400411	(Hz)	(Hz)	Stability	Stability	Verdict
BANDWIDTH	10MHz			(ppm)	(ppm)	
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25°C)		8.76	17.73	0.00466	0.00943	PASS
Extreme (50°C)		4.26	11.51	0.00226	0.00612	PASS
Extreme (40°C)		11.43	1.74	0.00608	0.00093	PASS
Extreme (30°C)		8.08	10.79	0.00430	0.00574	PASS
Extreme (20°C)	Normal	9.38	16.30	0.00499	0.00867	PASS
Extreme (10°C)	Normal	7.26	17.84	0.00386	0.00949	PASS
Extreme (0°C)		3.37	12.18	0.00179	0.00648	PASS
Extreme (-10°C)		6.90	3.91	0.00367	0.00208	PASS
Extreme (-20°C)		13.07	5.89	0.00695	0.00314	PASS
Extreme (-30°C)		8.34	17.51	0.00444	0.00931	PASS
25 ℃	LV	14.23	8.81	0.00757	0.00469	PASS
25 C	HV	13.36	5.22	0.00711	0.00278	PASS
Condition				Frequency	Frequency	
Condition		Freq.Error	Freq.Error	Stability	Stability	
BANDWIDTH	15MHz	(Hz)	(Hz)	(ppm)	(ppm)	Verdict
DANDWIDTT	13111112			фриту	(рріп)	
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25°C)		9.18	9.82	0.00488	0.00523	PASS
Extreme (50°C)		5.50	11.46	0.00292	0.00609	PASS
Extreme (40°C)		15.21	7.63	0.00809	0.00406	PASS
Extreme (30°C)		2.53	3.17	0.00134	0.00169	PASS
Extreme (20°C)	Normal	6.49	13.34	0.00345	0.00709	PASS
Extreme (10°C)	Talillai	16.37	6.81	0.00871	0.00362	PASS
Extreme (0°C)		16.68	17.11	0.00887	0.00910	PASS
Extreme (-10°C)		5.78	15.99	0.00307	0.00851	PASS
Extreme (-20℃)		10.49	6.21	0.00558	0.00330	PASS
Extreme (-30℃)		15.83	6.54	0.00842	0.00348	PASS
25 ℃	LV	12.68	13.03	0.00674	0.00693	PASS



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	HV	2.86	16.16	0.00152	0.00859	PASS
Condition		Freq.Error	Freq.Error	Frequency Stability	Frequency Stability	
BANDWIDTH	20MHz	(Hz)	(Hz)	(ppm)	(ppm)	Verdict
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal (25℃)		14.36	14.02	0.00764	0.00746	PASS
Extreme (50°C)		8.00	10.16	0.00425	0.00540	PASS
Extreme (40°C)		2.49	8.36	0.00133	0.00445	PASS
Extreme (30°C)		15.64	4.85	0.00832	0.00258	PASS
Extreme (20°C)	Normal	1.40	1.08	0.00074	0.00058	PASS
Extreme (10°C)	INOITHAL	3.93	14.22	0.00209	0.00756	PASS
Extreme (0°C)		8.32	13.39	0.00443	0.00712	PASS
Extreme (-10°C)		15.13	13.12	0.00805	0.00698	PASS
Extreme (-20℃)		16.16	14.43	0.00859	0.00767	PASS
Extreme (-30°C)		3.85	4.60	0.00205	0.00245	PASS
25℃	LV	4.02	8.13	0.00214	0.00432	PASS
25 C	HV	2.90	11.63	0.00154	0.00619	PASS

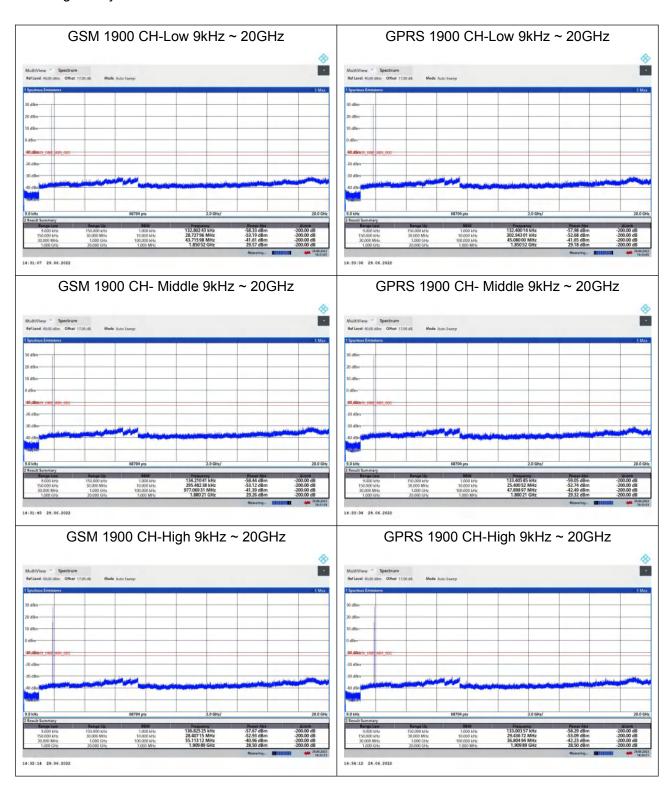




6.6. Spurious Emissions at Antenna Terminals

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.





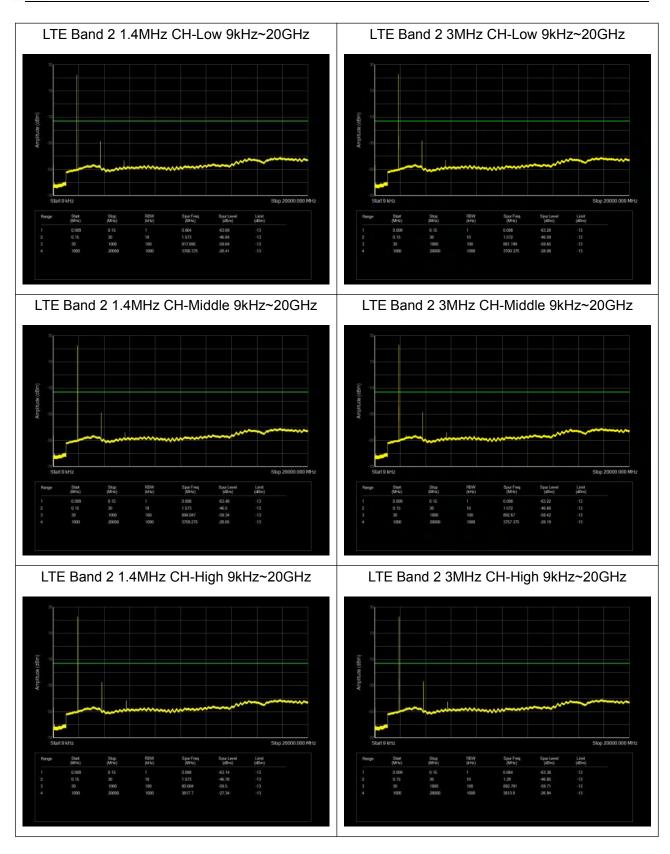
TA-MB-05-002R

EGPRS 1900 CH-Low 9kHz ~ 20GHz WCDMA BAND II CH-Low 9kHz ~ 20GHz EGPRS 1900 CH- Middle 9kHz ~ 20GHz WCDMA BAND II CH- Middle 9kHz ~ 20GHz . WCDMA BAND II CH-High 9kHz ~ 20GHz EGPRS 1900 CH-High 9kHz ~ 20GHz

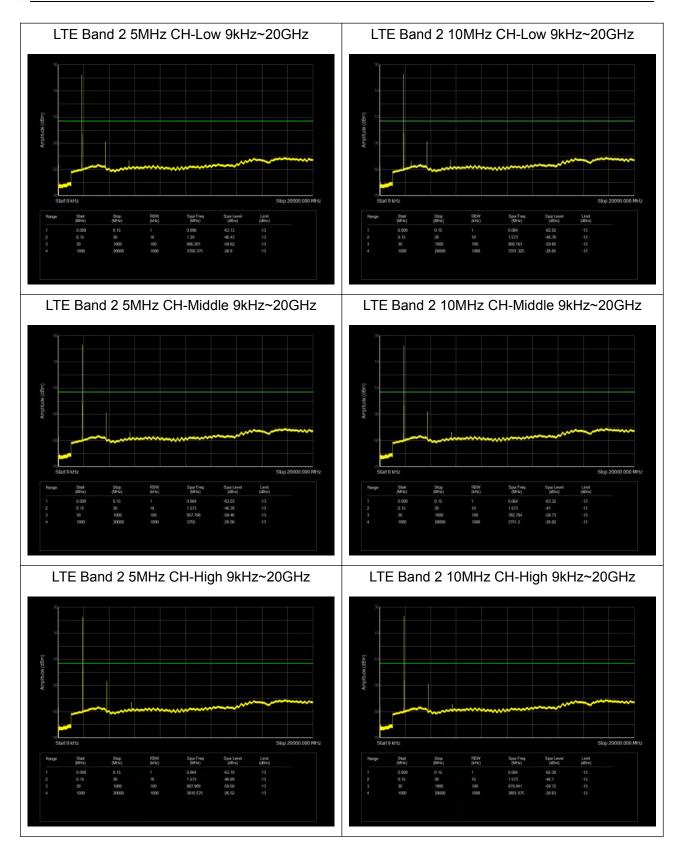
14:36:14 29.06.2022

14:47:15 29.06.2022

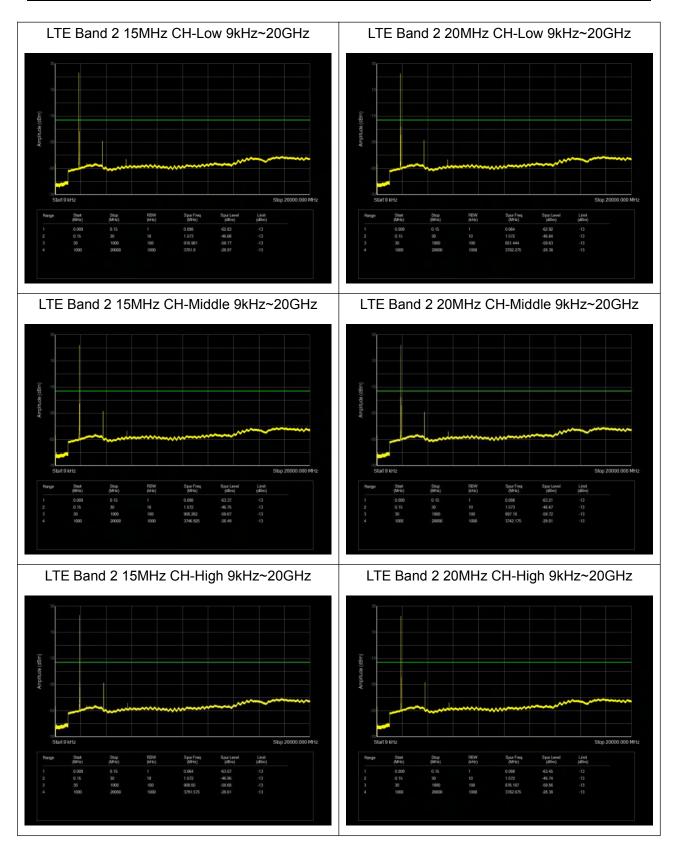














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6.7. Radiates Spurious Emission

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

GSM 1900 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.00	-61.63	2.60	12.50	Horizontal	-51.73	-13.00	38.73	45
3	5640.00	-49.88	3.30	12.50	Horizontal	-40.68	-13.00	27.68	90
4	7520.00	-58.93	4.20	12.20	Horizontal	-50.93	-13.00	37.93	180
5	9400.00	-55.09	4.30	11.10	Horizontal	-48.29	-13.00	35.29	90
6	11280.00	-53.68	5.90	11.90	Horizontal	-47.68	-13.00	34.68	135
7	13160.00	-47.71	5.70	14.00	Horizontal	-39.41	-13.00	26.41	45
8	15040.00	-48.47	5.80	13.10	Horizontal	-41.17	-13.00	28.17	270
9	16920.00	-52.49	6.10	14.60	Horizontal	-43.99	-13.00	30.99	180
10	18800.00	-	-	-	-	-	-	-	-

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

WCDMA Band II CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.00	-50.00	2.60	12.50	Horizontal	-40.10	-13.00	27.10	135
3	5640.00	-56.16	3.30	12.50	Horizontal	-46.96	-13.00	33.96	0
4	7520.00	-59.07	4.20	12.20	Horizontal	-51.07	-13.00	38.07	270
5	9400.00	-54.68	4.30	11.10	Horizontal	-47.88	-13.00	34.88	180
6	11280.00	-51.42	5.90	11.90	Horizontal	-45.42	-13.00	32.42	45
7	13160.00	-53.79	5.70	14.00	Horizontal	-45.49	-13.00	32.49	315
8	15040.00	-49.05	5.80	13.10	Horizontal	-41.75	-13.00	28.75	0
9	16920.00	-51.87	6.10	14.60	Horizontal	-43.37	-13.00	30.37	90
10	18800.00	-	-	-	-	-	-	_	-

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

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LTE Band 2 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3758.90	-45.33	2.60	12.50	Horizontal	-35.43	-13.00	22.43	90
3	5638.88	-47.42	3.30	12.50	Horizontal	-38.22	-13.00	25.22	0
4	7520.00	-59.29	4.20	12.20	Horizontal	-51.29	-13.00	38.29	135
5	9400.00	-55.54	4.30	11.10	Horizontal	-48.74	-13.00	35.74	90
6	11280.00	-54.33	5.90	11.90	Horizontal	-48.33	-13.00	35.33	0
7	13160.00	-53.54	5.70	14.00	Horizontal	-45.24	-13.00	32.24	270
8	15040.00	-49.71	5.80	13.10	Horizontal	-42.41	-13.00	29.41	45
9	16920.00	-52.81	6.10	14.60	Horizontal	-44.31	-13.00	31.31	180
10	18800.00	-	-	-	-	-	-	-	-

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

LTE Band 2 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3755.63	-48.81	2.60	12.50	Horizontal	-38.91	-13.00	25.91	45
3	5633.63	-52.51	3.30	12.50	Horizontal	-43.31	-13.00	30.31	225
4	7520.00	-58.84	4.20	12.20	Horizontal	-50.84	-13.00	37.84	0
5	9400.00	-55.90	4.30	11.10	Horizontal	-49.10	-13.00	36.10	45
6	11280.00	-53.25	5.90	11.90	Horizontal	-47.25	-13.00	34.25	135
7	13160.00	-54.68	5.70	14.00	Horizontal	-46.38	-13.00	33.38	0
8	15040.00	-49.57	5.80	13.10	Horizontal	-42.27	-13.00	29.27	90
9	16920.00	-53.14	6.10	14.60	Horizontal	-44.64	-13.00	31.64	135
10	18800.00	-	-	-	-	-	-	-	-

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

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LTE Band 2 20MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3742.13	-48.00	2.60	12.50	Horizontal	-38.10	-13.00	25.10	45
3	5613.38	-45.74	3.30	12.50	Horizontal	-36.54	-13.00	23.54	45
4	7484.63	-58.32	4.20	12.20	Horizontal	-50.32	-13.00	37.32	225
5	9400.00	-54.25	4.30	11.10	Horizontal	-47.45	-13.00	34.45	0
6	11280.00	-54.41	5.90	11.90	Horizontal	-48.41	-13.00	35.41	45
7	13160.00	-54.18	5.70	14.00	Horizontal	-45.88	-13.00	32.88	135
8	15040.00	-50.56	5.80	13.10	Horizontal	-43.26	-13.00	30.26	0
9	16920.00	-52.81	6.10	14.60	Horizontal	-44.31	-13.00	31.31	90
10	18800.00	_	-	-	-	_	_	-	-

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

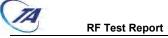




7. Main Test Instruments

Name	Manufacturer	Туре	Serial Number	Calibration Date	Expiration Date
Climate Chamber	ESPEC	SU-242	93000506	2021-12-12	2022-12-11
Wideband radio communication tester	R&S	CMW500	113645	2022-05-14	2023-05-13
Spectrum Analyzer	Keysight	N9020A	MY50510203	2021-12-12	2022-12-11
Universal Radio Communication Tester	Agilent	E5515C	GB44400275	2021-12-12	2022-12-11
Spectrum Analyzer	R&S	FSV30	104028	2021-12-12	2022-12-11
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	01111	20199-12	2022-09-11
Horn Antenna	Schwarzbeck	BBHA 9120D	1594	2020-12-17	2023-12-16
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Software	R&S	EMC32	10.35.10	/	1

******END OF REPORT *****



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ANNEX A: The EUT Appearance

The EUT Appearance is submitted separately.



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ANNEX B: Test Setup Photos

The Test Setup Photos is submitted separately.