



TEST REPORT

MANUFACTURER : Hot Pepper, Inc.

PRODUCT NAME : 4G Feature Phone

MODEL NAME : HPP-LF2

BRAND NAME : Hot Pepper

FCC ID : 2APD4-A90L

STANDARD(S) : 47 CFR Part 22 Subpart H
47 CFRs Part 24 Subpart E
47 CFR Part 27 Subpart L

RECEIPT DATE : 2019-08-12

TEST DATE : 2019-08-12 to 2019-11-01

ISSUE DATE : 2020-01-09

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Change History		
Version	Date	Reason for change
1.0	2020-01-09	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Hot Pepper, Inc.
Applicant Address:	5151 California Ave., Suite 100, Irvine 92617, USA
Manufacturer:	Hot Pepper, Inc.
Manufacturer Address:	5151 California Ave., Suite 100, Irvine 92617, USA

1.2. Equipment Under Test (EUT) Description

Product Name:	4G Feature Phone
Serial No:	(N/A, marked #1 by test site)
Hardware Version:	A90L_MAINBOARD_P1
Software Version:	HPP-LF2-V1.0.3-190809
Modulation Type:	GSM/GPRS Mode with GMSK Modulation EDGE Mode with 8PSK Modulation WCDMA Mode with QPSK Modulation HSDPA Mode with QPSK Modulation HSUPA Mode with QPSK Modulation
Operating Frequency Range:	GSM 850MHz: Tx: 824.20 - 848.80MHz Rx: 869.20 - 893.80MHz GSM 1900MHz: Tx: 1850.20 - 1909.80MHz Rx: 1930.20 - 1989.80MHz WCDMA Band V Tx: 826.4 - 846.6MHz Rx: 871.4 - 891.6MHz WCDMA Band II Tx: 1852.4 - 1907.6MHz Rx: 1932.4 - 1987.6MHz



Operating Frequency Range:	WCDMA Band IV Tx: 1712.4 – 1752.6MHz Rx: 2112.4 - 2152.6MHz	
Antenna Type:	Fixed Internal	
Antenna Gain:	GSM 850:	-1.2 dBi
	GSM1900:	-0.9dBi
	WCDMA Band V:	-1.2 dBi
	WCDMA Band II:	-0.9 dBi
	WCDMA Band IV:	-0.8dBi
Accessory Information:	Battery	
	Manufacturer:	Shenzhen HUATIAN TONG TECHNOLOGY CO.LTD
	Brand Name:	Hot Pepper
	Model No.:	HPP-LF2
	Serial No.:	(N/A, marked #1 by test site)
	Capacity:	1700mAh
	Rated Voltage:	3.80V
	Charge Limit:	4.35V
	AC Adapter	
	Manufacturer:	Shenzhen Tianyin Electronics Co.,Ltd.
	Brand Name:	Hot Pepper
	Model No.:	TPA-46B050100UU
	Serial No.:	(N/A, marked #1 by test site)
	Rated Input:	100-240V ~ 50/60Hz 0.2A
	Rated Output:	5V=1.0A

Note 1: The transmitter (Tx) frequency arrangement of the Cellular 850MHz band used by the EUT can be represented with the formula $F(n)=824.2+0.2*(n-128)$, $128 \leq n \leq 251$; the lowest, middle, highest channel numbers (ARFCHs) used and tested in this report are separately 128 (824.2MHz), 190 (836.6MHz) and 251 (848.8MHz).

Note 2: The transmitter (Tx) frequency arrangement of the PCS 1900MHz band used by the EUT can be represented with the formula $F(n)=1850.2+0.2*(n-512)$, $512 \leq n \leq 810$; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 512 (1850.2MHz), 661 (1880.0MHz) and 810 (1909.8MHz).

Note 3: The transmitter (Tx) frequency arrangement of the WCDMA Band V used by the EUT can be represented with the formula $F(n)=826.4+0.2*(n-4132)$, $4132 \leq n \leq 4233$; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 4132 (826.4MHz), 4182(836.4MHz) and 4233 (846.6MHz).

Note 4: The transmitter (Tx) frequency arrangement of the WCDMA Band II used by the EUT can



be represented with the formula $F(n)=1852.4+0.2*(n-9262)$, $9262 \leq n \leq 9538$; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 9262 (1852.4MHz), 9400 (1880MHz) and 9538 (1907.6MHz).

Note 5: The transmitter (Tx) frequency arrangement of the WCDMA 1700MHz band used by the EUT can be represented with the formula $F(n)=1712.4+0.2*(n-1312)$, $1312 \leq n \leq 1513$; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 1312 (1712.4MHz), 1413 (1732.6MHz) and 1513 (1752.6MHz).

Note 6: All modes and data rates were considered and evaluated respectively by performing full test. Test modes are chosen to be reported as the worst case below:

GPRS mode and EDGE mode for GSM 850;

GPRS mode and EDGE mode for GSM 1900;

WCDMA mode for WCDMA band V;

WCDMA mode for WCDMA band II;

WCDMA mode for WCDMA band IV;

Note 7: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



1.3. Maximum ERP/EIRP and Emission Designator

System	Maximum ERP/EIRP (W)	Emission Designator
GSM850	0.675	249KGXW
EDGE850	0.678	258KG7W
GSM1900	0.804	244KGXW
EDGE1900	0.826	254KG7W
WCDMA Band V	0.083	4M18F9W
WCDMA Band II	0.155	4M17F9W
WCDMA Band IV	0.120	4M17F9W

1.4. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 22, Part 24 and Part 27 for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 2 (10-1-12 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10-1-12 Edition)	Public Mobile Services
3	47 CFR Part 24 (10-1-12 Edition)	Personal Communications Services
4	47 CFR Part 27 (10-1-12 Edition)	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result
1	2.1046	Conducted RF Output Power	Aug 12,2019 Aug 13,2019 Aug 14,2019	laihuihuang	PASS
2	22.913(d) 24.232(d), 27.50(d)	Peak - Average Ratio	Aug 12,2019 Aug 13,2019 Aug 14,2019	laihuihuang	PASS
3	2.1049	99% Occupied Bandwidth	Aug 13,2019 Aug 13,2019 Aug 14,2019	laihuihuang	PASS
4	2.1055, 22.355, 24.235, 27.54	Frequency Stability	Aug 14,2019 Aug 13,2019 Aug 14,2019	laihuihuang	PASS



5	2.1051, 22.917(a), 24.238(a), 27.53(h)	Conducted Out of Band Emissions	Aug 12,2019 Aug 13,2019 Aug 14,2019	laihuihuang	PASS
6	2.1051, 22.917(a), 24.238(a), 27.53(h)	Band Edge	Aug 13,2019 Aug 13,2019 Aug 14,2019	laihuihuang	PASS
7	27.50(d),22.913(a), 24.232(a)	Transmitter Radiated Power (EIPR/ERP)	Aug 14,2019 Aug 13,2019 Aug 14,2019	laihuihuang	PASS
8	2.1051, 22.917(a), 24.238(a), 27.53(h)	Radiated Out of Band Emissions	Sep 10, 2019 Sep 12, 2019	Hui Li	PASS
Note 1: The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 r01 and ANSI/TIA-603-E-2016. Note 2: The path loss during the RF test is calibrated to correct the results by the offset setting in the test equipments.					

1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

2.47 CFR Part 2, Part 22H , 24E&27L Requirements

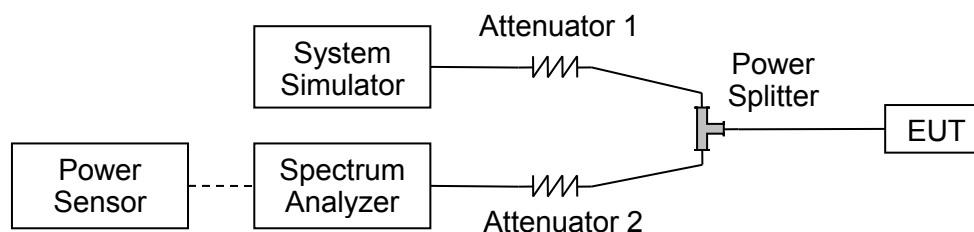
2.1. Conducted RF Output Power

2.1.1. Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

2.1.2. Test Description

Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

**2.1.3. Test Results**

GSM850	Average Power (dBm)		
TX Channel	128	190	251
Frequency (MHz)	824.2	836.6	848.8
GSM 1 Tx slot	32.14	32.10	32.16
GPRS 1 Tx slot	32.20	32.15	32.18
GPRS 2 Tx slots	31.20	30.82	30.78
GPRS 3 Tx slots	28.55	28.57	28.63
GPRS 4 Tx slots	27.54	27.61	27.69
EDGE 1 Tx slot	26.69	27.04	26.81
EDGE 2 Tx slots	26.16	26.07	26.08
EDGE 3 Tx slots	24.20	24.26	23.98
EDGE 4 Tx slots	22.90	22.98	22.85

GSM1900	Average Power (dBm)		
TX Channel	512	661	810
Frequency (MHz)	1850.2	1880	1909.8
GSM 1 Tx slot	30.17	30.45	30.57
GPRS 1 Tx slot	30.16	30.36	30.58
GPRS 2 Tx slots	28.15	28.36	28.60
GPRS 3 Tx slots	25.96	26.59	26.40
GPRS 4 Tx slots	25.29	25.45	25.71
EDGE 1 Tx slot	26.58	26.52	26.48
EDGE 2 Tx slots	25.46	25.52	25.36
EDGE 3 Tx slots	23.42	23.48	23.32
EDGE 4 Tx slots	22.08	22.32	22.21

WCDMA Band V	Average Power (dBm)		
TX Channel	4132	4182	4233
Frequency (MHz)	826.4	836.4	846.6
AMR 12.2Kbps	23.05	22.92	23.00
RMC 12.2Kbps	23.10	22.99	23.05
HSDPA Subtest-1	22.19	22.23	22.16
HSDPA Subtest-2	22.06	21.42	21.83
HSDPA Subtest-3	21.87	21.12	21.15
HSDPA Subtest-4	21.84	21.90	21.66



DC-HSDPASubtest-1	19.35	20.04	20.47
DC-HSDPA Subtest-2	19.68	19.52	18.90
DC-HSDPA Subtest-3	17.53	18.52	18.25
DC-HSDPA Subtest-4	18.07	18.21	17.83
HSUPA Subtest-1	21.23	21.43	21.64
HSUPA Subtest-2	19.89	19.97	19.15
HSUPA Subtest-3	20.12	20.93	20.11
HSUPA Subtest-4	19.31	19.93	19.87
HSUPA Subtest-5	21.30	21.05	21.07
HSPA+ (16QAM) Subtest-1	19.33	19.32	19.50

WCDMA Band II	Average Power (dBm)		
TX Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
AMR 12.2Kbps	23.11	22.89	23.30
RMC 12.2Kbps	23.23	23.12	23.32
HSDPA Subtest-1	22.59	22.63	22.70
HSDPA Subtest-2	22.42	22.51	22.64
HSDPA Subtest-3	22.04	22.09	22.12
HSDPA Subtest-4	22.00	22.05	22.09
DC-HSDPASubtest-1	19.56	19.63	19.55
DC-HSDPA Subtest-2	19.22	19.15	19.18
DC-HSDPA Subtest-3	17.82	17.83	17.79
DC-HSDPA Subtest-4	17.56	17.88	17.71
HSUPA Subtest-1	21.13	21.26	21.15
HSUPA Subtest-2	19.64	19.25	19.31
HSUPA Subtest-3	20.56	20.41	20.51
HSUPA Subtest-4	19.56	19.64	19.42
HSUPA Subtest-5	21.10	21.09	21.11
HSPA+ (16QAM) Subtest-1	20.25	20.68	20.44

WCDMA Band IV	Average Power (dBm)		
TX Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
AMR 12.2Kbps	22.01	22.09	22.05
RMC 12.2Kbps	22.08	22.19	22.17
HSDPA Subtest-1	21.96	21.33	21.53
HSDPA Subtest-2	22.01	21.75	21.54



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HSDPA Subtest-3	21.81	21.52	21.32
HSDPA Subtest-4	21.80	21.48	21.43
DC-HSDPA Subtest-1	19.43	19.58	19.52
DC-HSDPA Subtest-2	19.62	19.75	19.81
DC-HSDPA Subtest-3	17.67	17.54	17.28
DC-HSDPA Subtest-4	17.35	17.57	17.64
HSUPA Subtest-1	20.47	20.35	20.46
HSUPA Subtest-2	18.29	18.36	18.24
HSUPA Subtest-3	19.34	19.13	19.46
HSUPA Subtest-4	18.45	18.39	18.41
HSUPA Subtest-5	20.09	20.10	20.13
HSPA+ (16QAM) Subtest-1	17.42	17.50	17.80

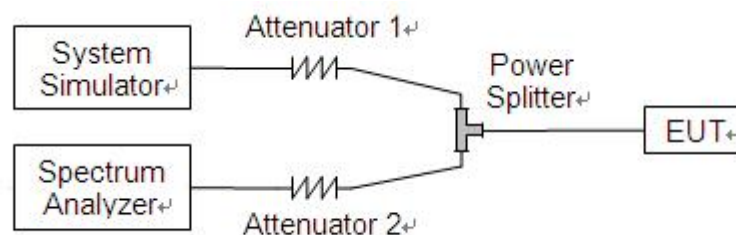
2.2. Peak to Average Ratio

2.2.1. Requirement

According to FCC 24.232(d)&22.913(d)&27.50(d) the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

2.2.2. Test Description

Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2.2.3. Test procedure

1. For GSM/EDGE operating mode:

- Set RBW=1MHz, VBW=3MHz, peak detector in spectrum analyzer.
- Set EUT in maximum output power, and triggered the burst signal.
- Measured respectively the peak level and mean level, and the deviation was recorded as Peak to Average ratio.

2. For UMTS operating mode:

- Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
- The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1%.

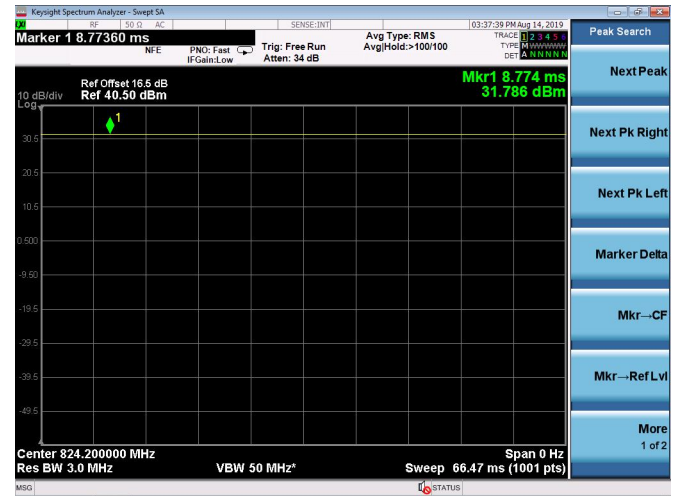
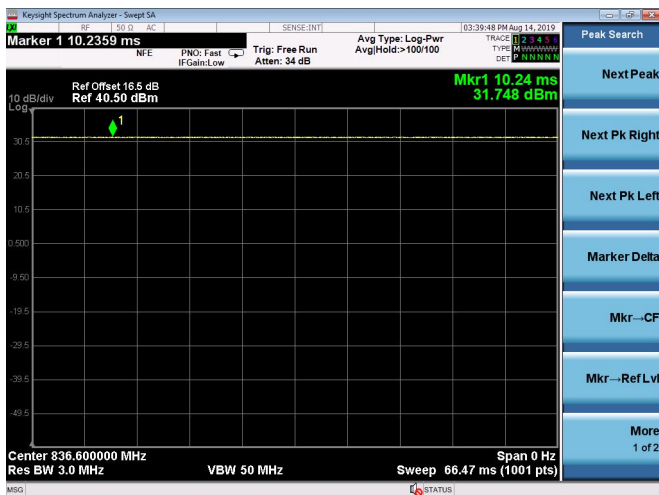
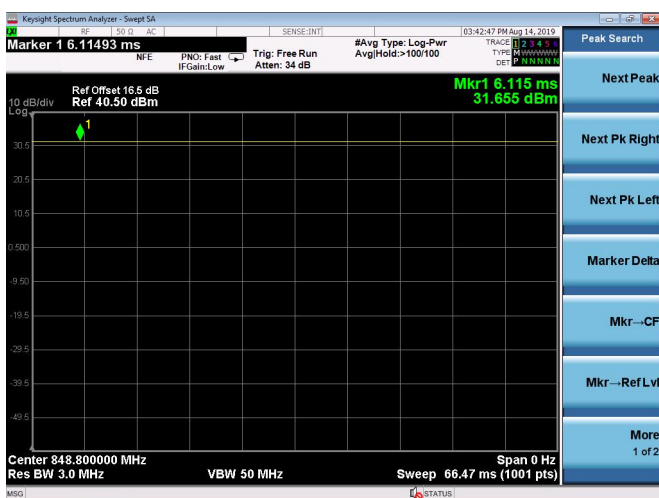
**2.2.4. Test Result**

The lowest, middle and highest channels are selected to perform testing to verify the conducted RF output peak power of the Module.

A. Test Verdict:

Band	Channel	Frequency (MHz)	Peak to Average ratio	Limit	Verdict
			dB	dB	
GSM 850MHz	128	824.2	0.011	13	PASS
	190	836.6	0.002		PASS
	251	848.8	0.002		PASS
GSM 1900MHz	512	1850.2	0.009		PASS
	661	1880.0	0.008		PASS
	810	1909.8	0.006		PASS
EDGE 850MHz	128	824.2	1.307		PASS
	190	836.6	0.061		PASS
	251	848.8	0.073		PASS
EDGE 1900MHz	512	1850.2	0.197		PASS
	661	1880.0	0.252		PASS
	810	1909.8	0.166		PASS

Band	Channel	Frequency (MHz)	Peak to Average ratio	Limit	Verdict
			dB	dB	
WCDMA Band V	4132	826.4	2.89	13	PASS
	4182	836.4	2.78		PASS
	4233	846.6	2.71		PASS
WCDMA Band II	9262	1852.4	3.06		PASS
	9400	1880.0	2.95		PASS
	9538	1907.6	2.98		PASS
WCDMA Band IV	1312	1712.4	5.50		PASS
	1413	1732.6	5.54		PASS
	1513	1752.6	5.55		PASS

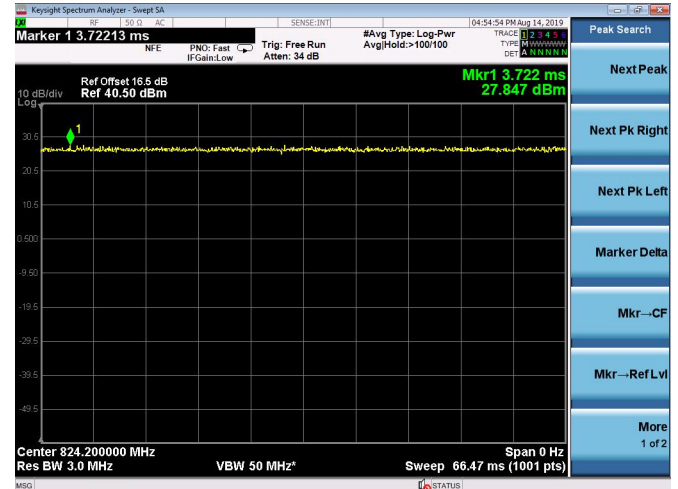
**GSM 850MHz CH128 824.2MHz****GSM 850MHz CH190 836.6MHz****GSM 850MHz CH251 848.8MHz**

**GSM 1900MHz CH512 1850.2MHz****GSM 1900MHz CH661 1880.0MHz****GSM 1900MHz CH810 1909.8MHz**

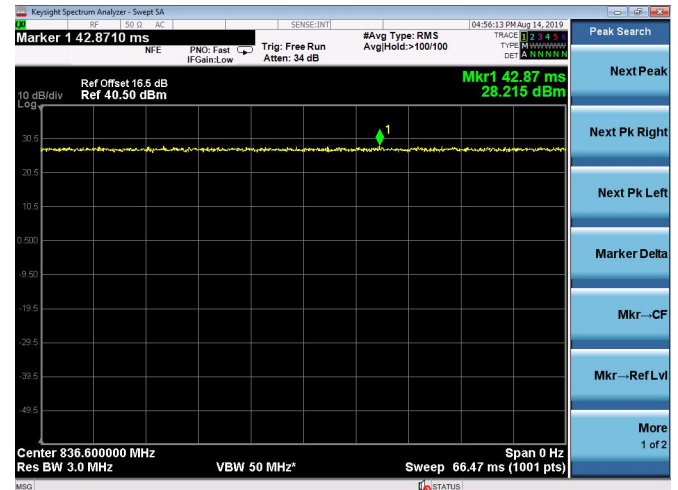
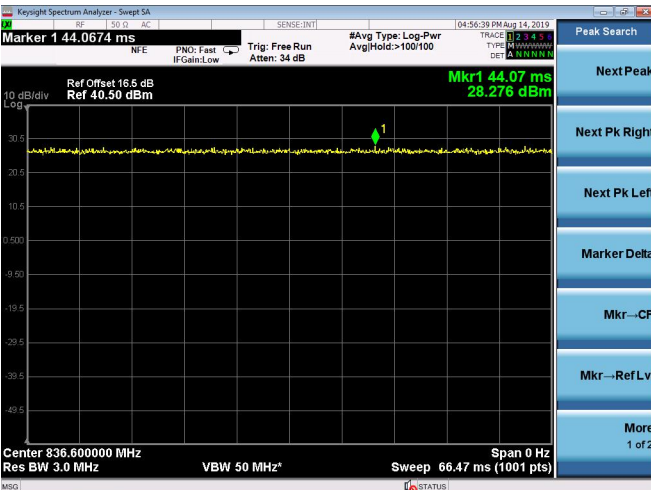


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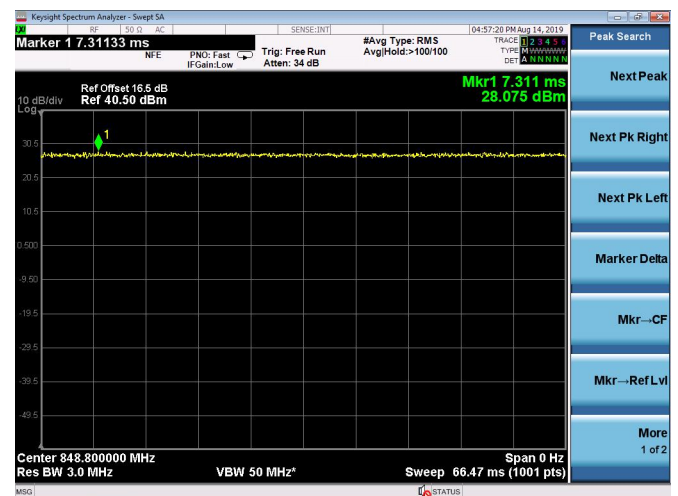
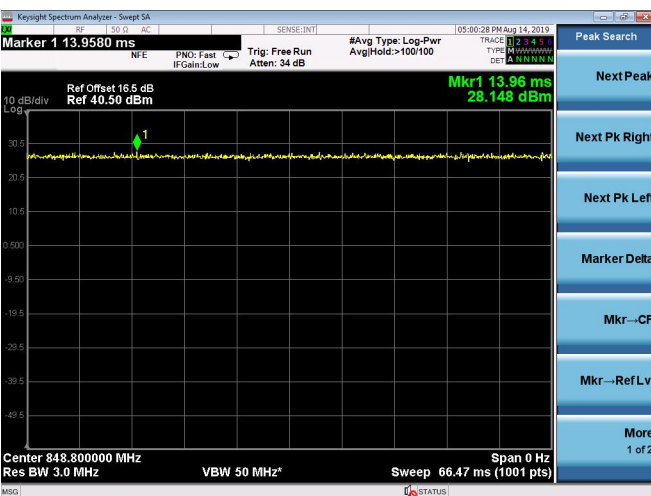
EDGE 850MHz CH128 824.2MHz



EDGE 850MHz CH190 836.6MHz

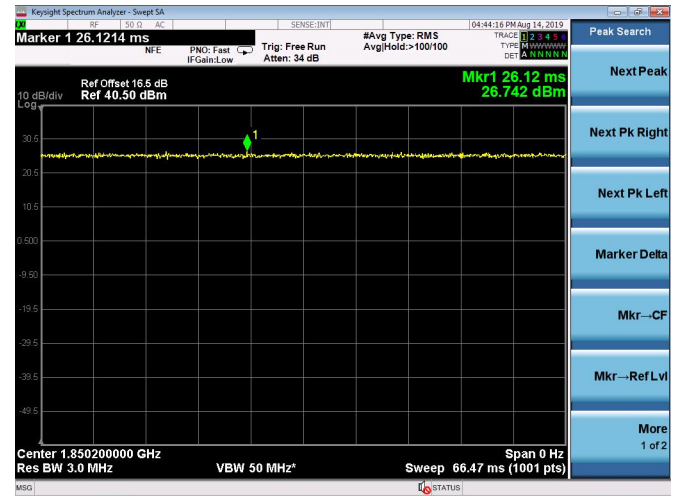
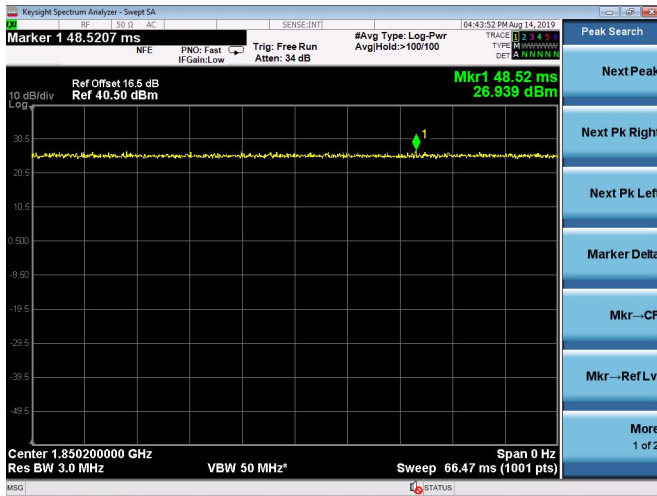


EDGE 850MHz CH251 848.8MHz

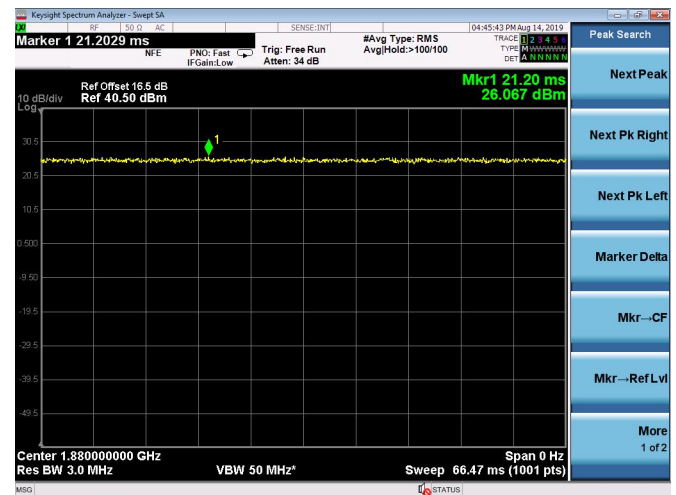
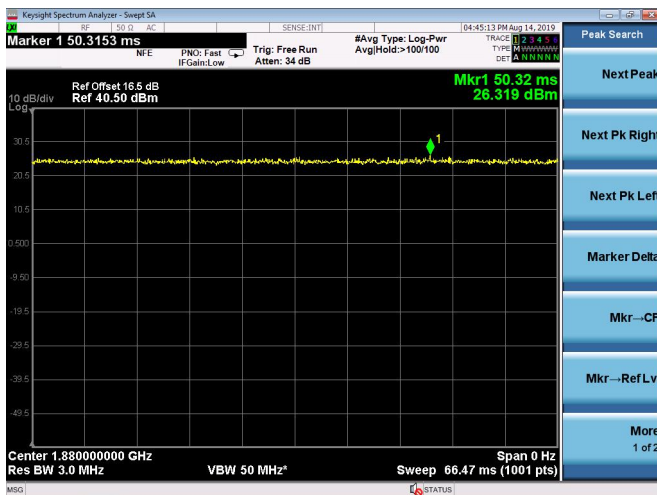




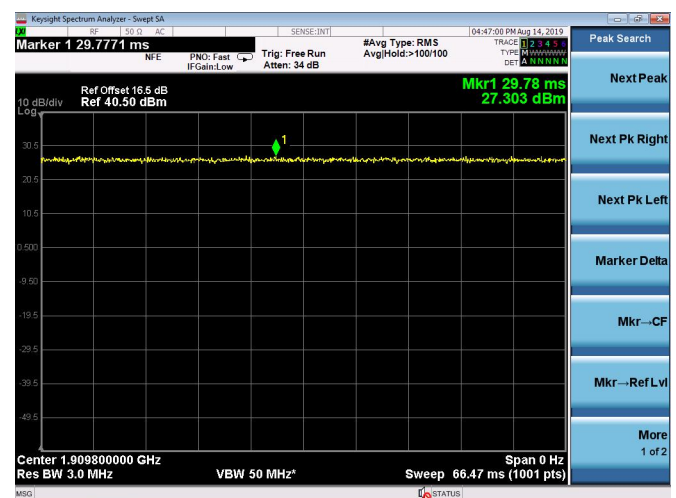
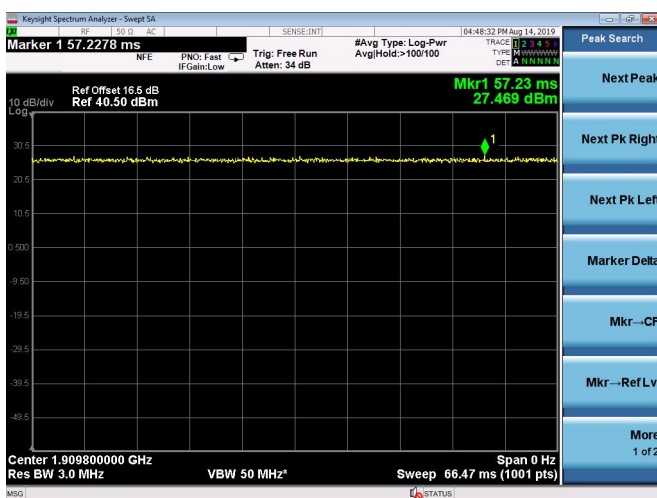
EDGE 1900MHz CH512 1850.2MHz

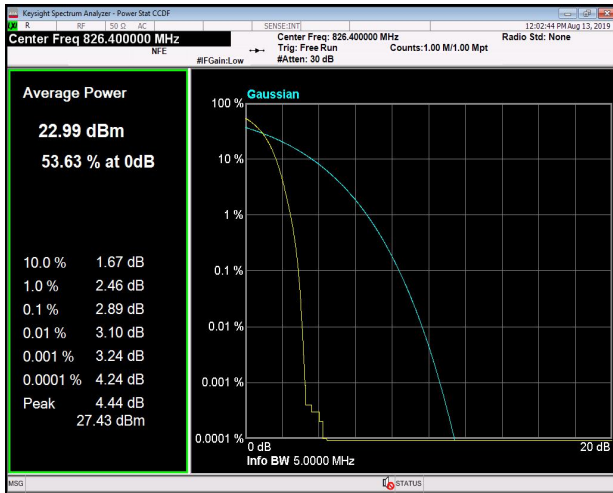
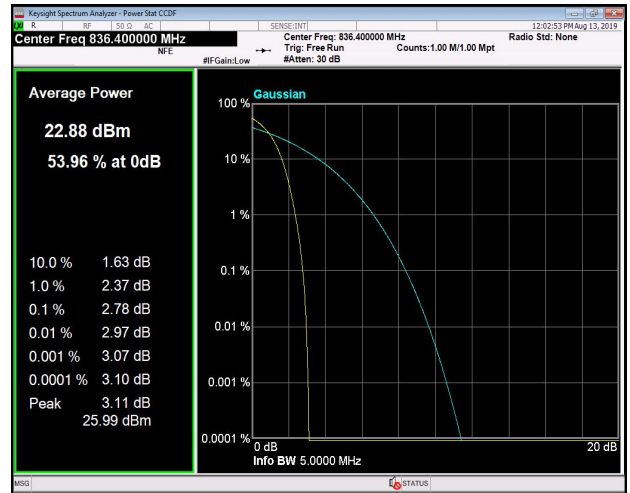
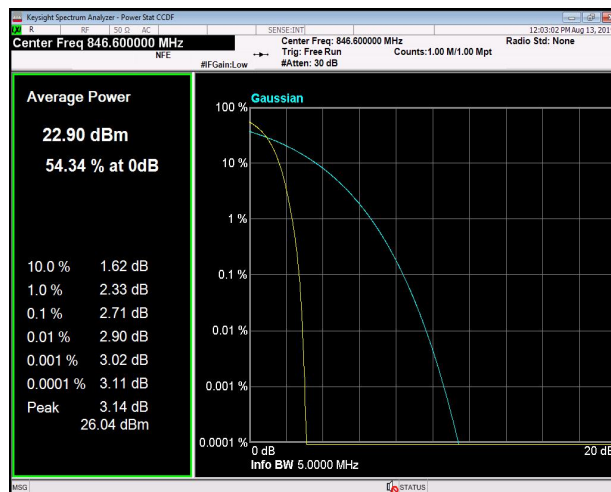


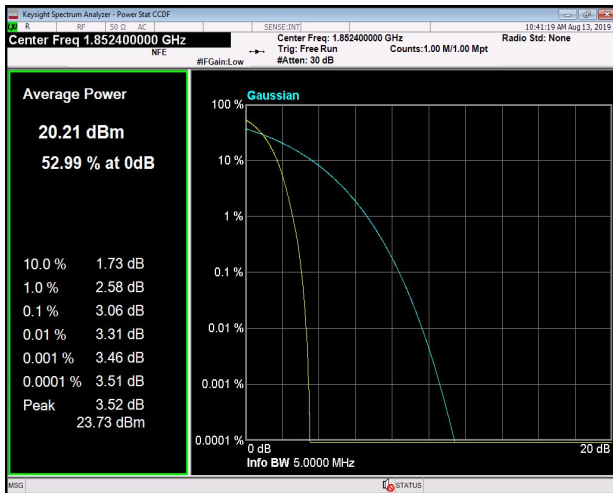
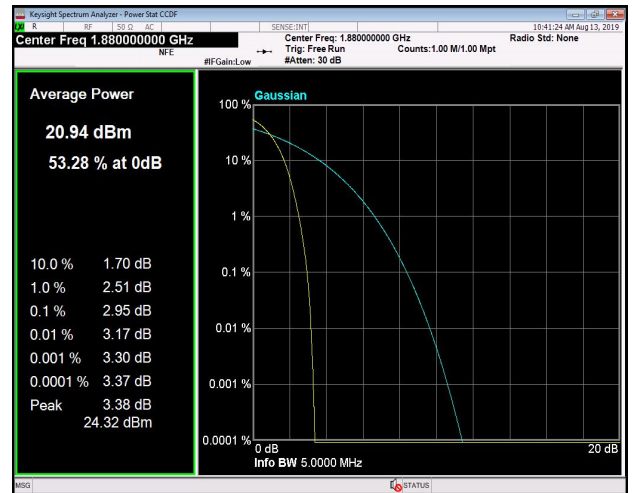
EDGE 1900MHz CH661 1880.0MHz

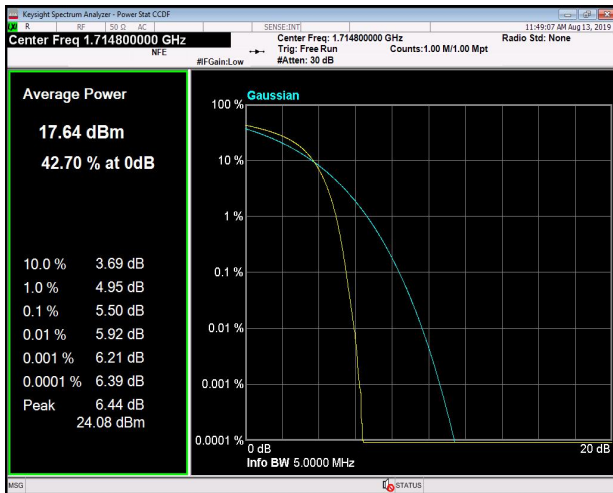


EDGE 1900MHz CH810 1909.8MHz



**WCDMA Band V CH4132 826.4MHz****WCDMA Band V CH4182 836.4MHz****WCDMA Band V CH4233 846.6MHz**

**WCDMA Band II CH9262 1852.4MHz****WCDMA Band II CH9400 1880.0MHz****WCDMA Band II CH9538 1907.6MHz**

**WCDMA Band IV CH1312 1712.4MHz****WCDMA Band IV CH1413 1732.6MHz****WCDMA Band IV CH1513 1752.6MHz**

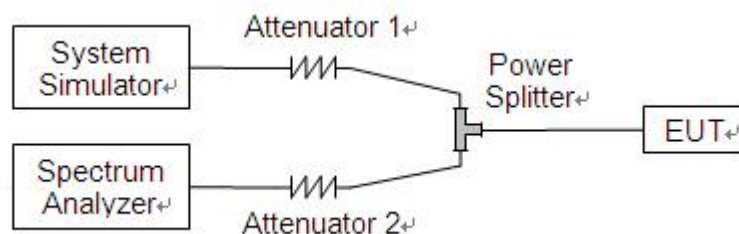
2.3.99% Occupied Bandwidth

2.3.1. Requirement

According to FCC section 2.1049, the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission. Occupied bandwidth is also known as the 99% emission bandwidth.

2.3.2. Test Description

Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.



2.3.3. Test Result

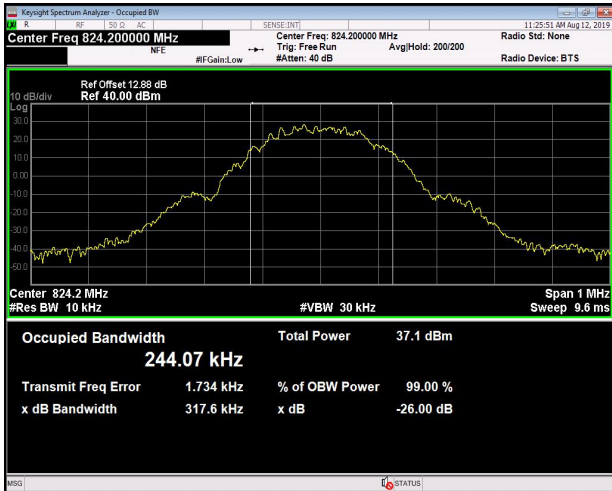
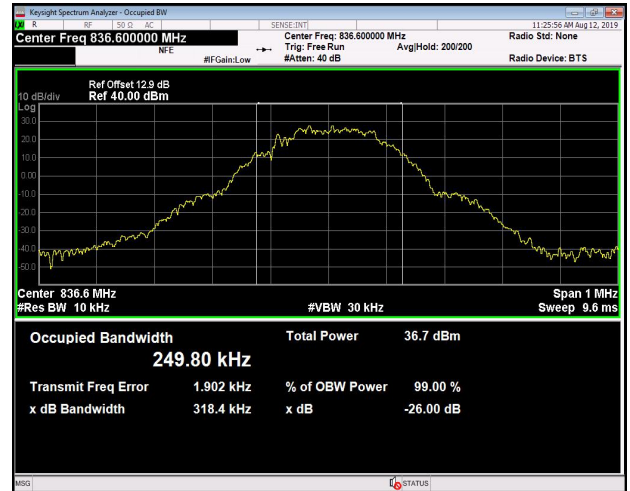
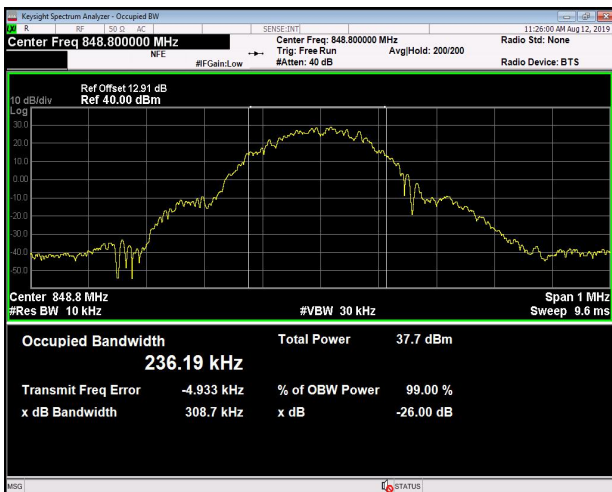
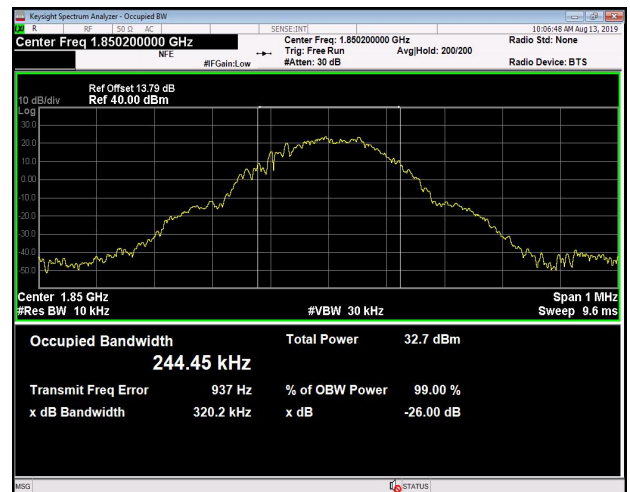
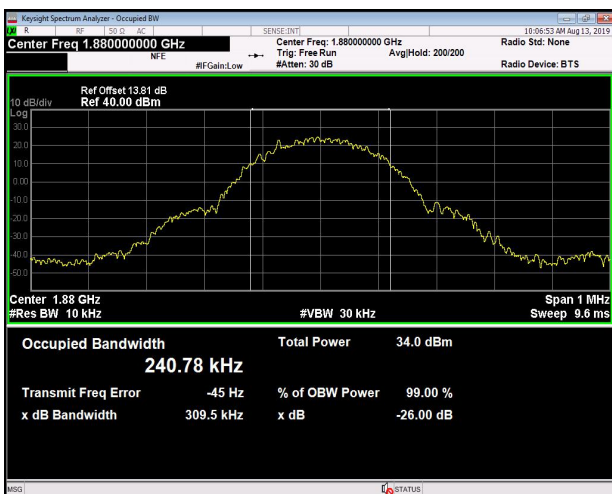
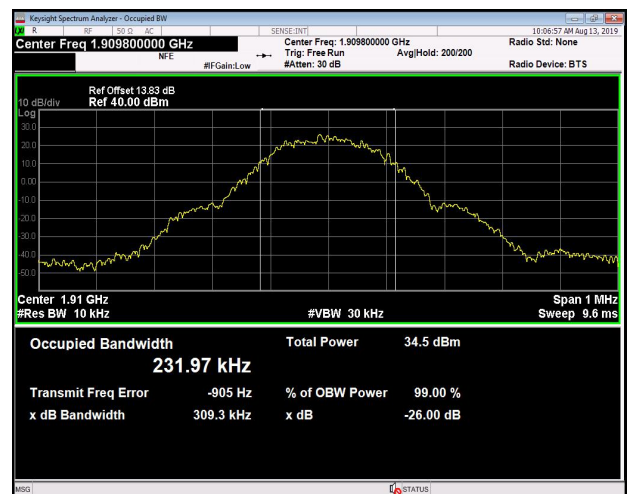
The lowest, middle and highest channels are selected to perform testing to record the 99% occupied bandwidth.

GSM Test Verdict:

Band	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)
GSM 850MHz	128	824.2	244.070	317.633
	190	836.6	249.305	318.400
	251	848.8	235.767	308.716
GSM 1900MHz	512	1850.2	244.446	320.187
	661	1880.0	240.776	309.462
	810	1909.8	231.970	309.349
EDGE 850MHz	128	824.2	237.408	286.228
	190	836.6	258.702	321.287
	251	848.8	256.201	329.538
EDGE 1900MHz	512	1850.2	250.632	321.002
	661	1880.0	254.962	317.687
	810	1909.8	250.338	320.247

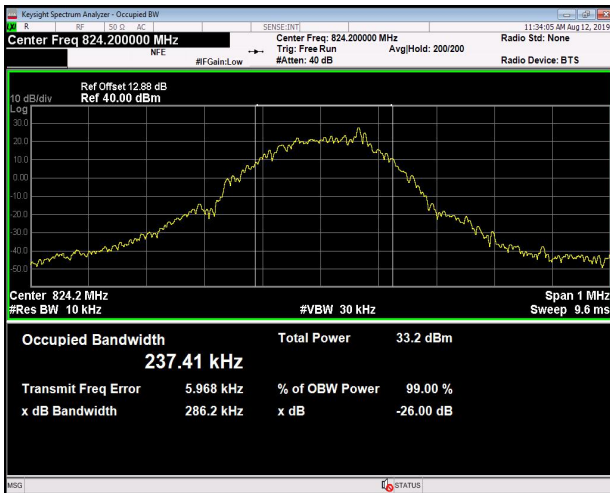
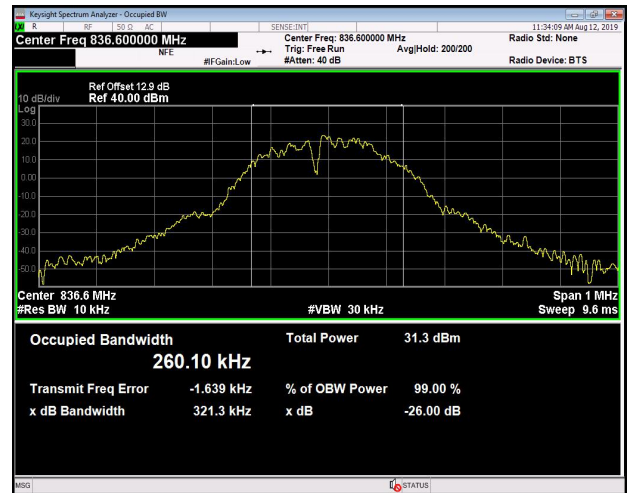
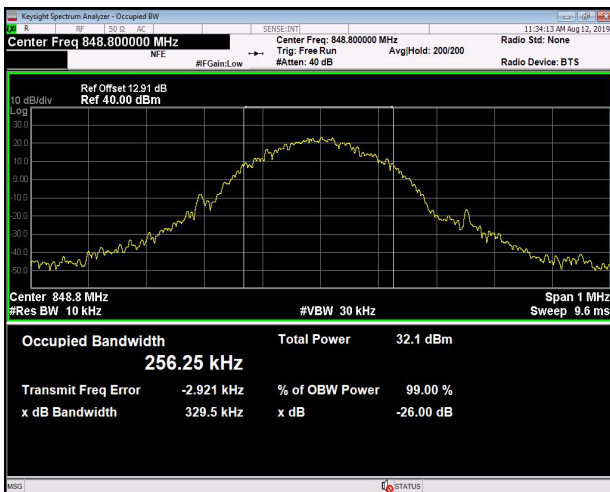
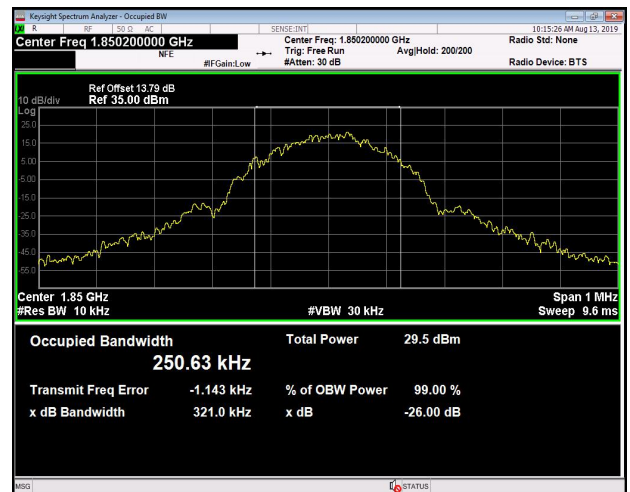
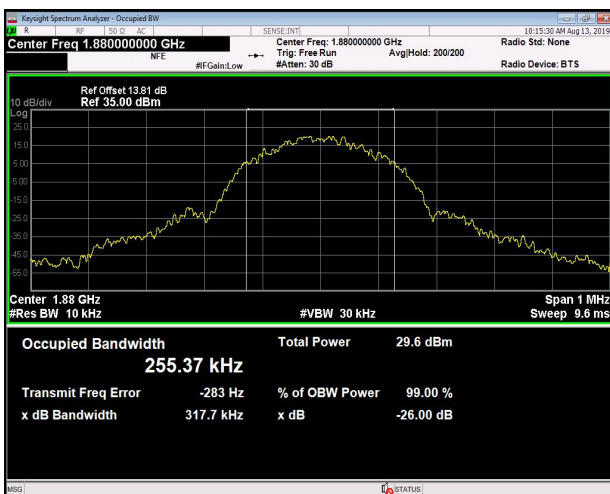
WCDMA Test Verdict:

Band	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
WCDMA Band V	4132	826.4	4.163	4.701
	4182	836.4	4.170	4.701
	4233	846.6	4.176	4.718
WCDMA Band II	9262	1852.4	4.169	4.705
	9400	1880.0	4.178	4.724
	9538	1907.6	4.167	4.705
WCDMA Band IV	1312	1712.4	4.182	4.696
	1413	1732.6	4.178	4.706
	1513	1752.6	4.173	4.712

**GSM 850MHz CH128 824.2MHz****GSM 850MHz CH190 836.6MHz****GSM 850MHz CH251 848.8MHz****GSM 1900MHz CH512 1850.2MHz****GSM 1900MHz CH661 1880.0MHz****GSM 1900MHz CH810 1909.8MHz**



REPORT No. : XM19070036W02

EDGE 850MHz CH128 824.2MHz**EDGE 850MHz CH190 836.6MHz****EDGE 850MHz CH251 848.8MHz****EDGE 1900MHz CH512 1850.2MHz****EDGE 1900MHz CH661 1880.0MHz****EDGE 1900MHz CH810 1909.8MHz**