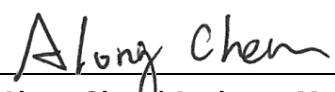


IC Test Report

IC : 3069B-WLTFSM13641
Equipment : LTE Cat 6 Single-Mode Indoor CPE
Model No. : WLTFSM-136ACN_384041
Brand Name : Gemtek
Applicant : Gemtek Technology Co., Ltd.
Address : No. 15-1 Zhonghua Road, Hsinchu Industrial
Park, Hukou, Hsinchu, Taiwan, 30352.
Standard : RSS-199 Issue 3 December 2016
Received Date : Dec. 09, 2016
Tested Date : Mar. 30 ~ Apr. 06, 2017

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:


Along Chen / Assistant Manager

Approved by:

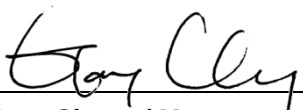

Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
CW6D1001	Rev. 01	Initial issue	May 10, 2017

Summary of Test Results

IC Rules	Test Items	Measured	Result
RSS-199 Section 4.4	Transmitter Output Power and Equivalent Isotropically Radiated Power (e.i.r.p.)	Conducted Power [W]: 0.231 EIRP Power[W]: 0.540	Pass
RSS-199 Section 4.4	Peak to Average Ratio	Meet the requirement of limit	Pass
RSS-199 Section 4.5	Transmitter Unwanted Emissions	Meet the requirement of limit	Pass
RSS-199 Section 4.5	Conducted Emission	Meet the requirement of limit	Pass
RSS-199 Section 4.2	Channel Bandwidth	Meet the requirement of limit	Pass
RSS-199 Section 4.3 RSS-Gen Section 6.11	Transmitter Frequency Stability	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

Operating Frequency	Channel Bandwidth: 5MHz: 2577.5 MHz ~ 2612.5 MHz Channel Bandwidth: 10MHz: 2580.0 MHz ~ 2610.0 MHz Channel Bandwidth: 15MHz: 2582.5 MHz ~ 2607.5 MHz Channel Bandwidth: 20MHz: 2585.0 MHz ~ 2605.0 MHz
Modulation	QPSK, 16QAM (Uplink)
Release Version	9
Duplex Mode	TDD
UE Category	Cat. 5 / Cat. 6
H/W Version	Mother board: WLTFSM-136ACN_MB_V00 ; Daughter board (LTE RF module): WLTSS-119_RF_module_V00
S/W Version	01.01.02.115

1.1.2 Antenna Details

Ant. No.	Type	Gain (dBi)	Connector	Remark
1	Internal Dipole	UFL	3.69	---

1.1.3 EUT Operational Condition

Power Supply Type	12Vdc from adapter		
Operational Voltage	☒ Vnom (120 V)	☒ Vmax (138 V)	☒ Vmin (102 V)
Operational Climatic	☒ Tnom (20°C)	☒ Tmax (50°C)	☒ Tmin (-30°C)

1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter 1	Brand Name: SHENZHEN FRECOM Model Name: F18W8-120150SPAU Power Rating: I/P: 100-240Vac, 50-60Hz, 0.6A O/P: 12Vdc, 1.5A DC 1.2m non-shielded cable w/o core
2	AC adapter 2	Brand Name: Leader Model Name: MU18AY120150-A1 Power Rating: I/P: 100-240Vac, 50-60Hz, 0.6A O/P: 12Vdc, 1.5A DC 1.5m non-shielded cable w/o core

1.1.5 Operating Channel List

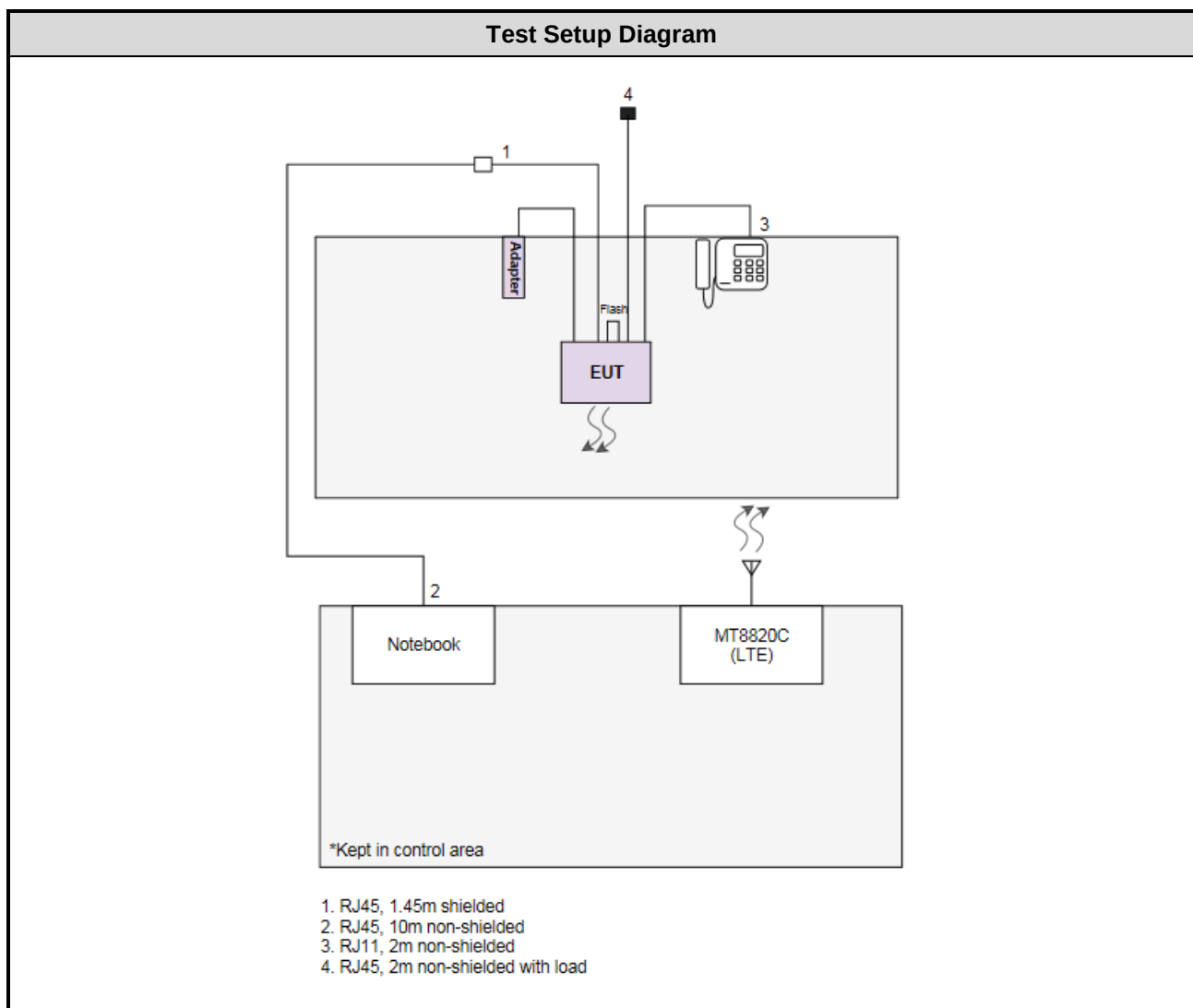
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
5	40465	2577.5
5	40640	2595.0
5	40815	2612.5
10	40490	2580.0
10	40640	2595.0
10	40790	2610.0
15	40515	2582.5
15	40640	2595.0
15	40765	2607.5
20	40540	2585.0
20	40640	2595.0
20	40740	2605.0

1.2 Local Support Equipment List

Support Equipment List						
No.	Equipment	Brand	Model	S/N	FCC ID	Signal cable / Length (m)
1	Notebook	DELL	Latitude E6430	9ZFB4X1	DoC	RJ45, 10m non-shielded.
2	Telephone	HTT	HTT-806	187118	---	RJ11, 2m non-shielded.
3	USB Flash	SONY	USM16GU	0000020	---	---
4	External Dipole Antenna (Gain 2.5 dBi)	---	---	---	---	---

Note: No.4 was provided by applicant

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Nov. 25, 2016	Nov. 24, 2017
Receiver	R&S	ESR3	101658	Nov. 24, 2016	Nov. 23, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 04, 2016	Aug. 03, 2017
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 21, 2016	Dec. 20, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Dec. 29, 2016	Dec. 28, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Preamplifier	EMC	EMC02325	980225	Aug. 05, 2016	Aug. 04, 2017
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2016	Oct. 05, 2017
Preamplifier	EMC	EMC184045B	980192	Aug. 24, 2016	Aug. 23, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 09, 2016	Dec. 08, 2017
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	16052	Dec. 09, 2016	Dec. 08, 2017
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 09, 2016	Dec. 08, 2017
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 09, 2016	Dec. 08, 2017
Measurement Software	AUDIX	e3	6.120210g	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 09, 2016	Sep. 08, 2017
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 21, 2016	Nov. 20, 2017
Power Meter	Anritsu	ML2495A	1241002	Oct. 06, 2016	Oct. 05, 2017
Power Sensor	Anritsu	MA2411B	1207366	Oct. 06, 2016	Oct. 05, 2017
Radio Communication Analyzer	Anritsu	MT8820C	6201465544	Aug. 19, 2016	Aug. 18, 2017
AC POWER SOURCE	APC	AFC-500W	F312060012	Oct. 28, 2016	Oct. 27, 2017
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA

Note: Calibration Interval of instruments listed above is one year.

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards.

RSS-199 Issue 3 December 2016

SRSP-517 Issue 1 July 2014

ANSI C63.4-2014

ANSI C63.26-2015

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Frequency error	±34.134 Hz
Conducted emission	±2.670 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.63 dB
Temperature	±0.6 °C

2 Test Configuration

2.1 Testing Condition and Location Information

Test Item	Test Site	Ambient Condition	Tested By
RF Conducted	TH01-WS	22°C / 63%	Alex Huang
Radiated Emissions	03CH01-WS	21-24°C / 62%	Kevin Lee Vincent Yeh

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Test item	Channel Bandwidth	Modulation	Test Frequencies (MHz)
Transmitter Output Power and Equivalent Isotropically Radiated Power (e.i.r.p.)	5 MHz	QPSK / 16QAM	2577.5 / 2595.0 / 2612.5
Conducted Emissions	10 MHz	QPSK / 16QAM	2580.0 / 2595.0 / 2610.0
Channel Bandwidth	15 MHz	QPSK / 16QAM	2582.5 / 2595.0 / 2607.5
	20 MHz	QPSK / 16QAM	2585.0 / 2595.0 / 2605.0
Radiated Emission ≤ 1GHz	5 MHz	QPSK	2577.5
	10 MHz	QPSK	2580.0
	15 MHz	QPSK	2582.5
	20 MHz	QPSK	2585.0
Radiated Emission > 1GHz	5 MHz	QPSK	2577.5 / 2595.0 / 2612.5
Peak to Average Ratio	10 MHz	QPSK	2580.0 / 2595.0 / 2610.0
	15 MHz	QPSK	2582.5 / 2595.0 / 2607.5
	20 MHz	QPSK	2585.0 / 2595.0 / 2605.0
Frequency Stability	5 MHz	QPSK / 16QAM	2577.5 / 2612.5
	10 MHz	QPSK / 16QAM	2580.0 / 2610.0
	15 MHz	QPSK / 16QAM	2582.5 / 2607.5
	20 MHz	QPSK / 16QAM	2585.0 / 2605.0

NOTE:

1. Two adapters had been covered during the pretest and found that **Adapter 1** was the worst case and was selected for final testing (Adapter 1: SHENZHEN FRECOM adapter; Adapter 2: Leader adapter).

3 Test Results

3.1 Transmitter Output Power and Equivalent Isotropically Radiated Power (e.i.r.p.)

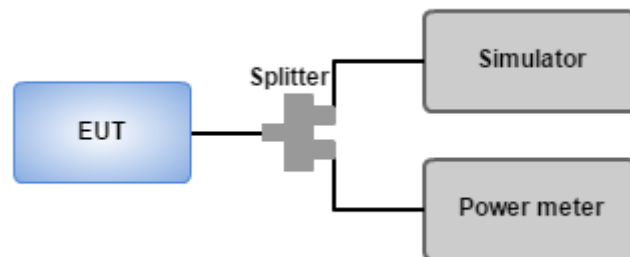
3.1.1 Limit of Transmitter Output Power and Equivalent Isotropically Radiated Power (e.i.r.p.)

For mobile subscriber equipment, the e.i.r.p. shall not exceed 2 watts. For fixed subscriber equipment, the transmitter output power shall not exceed 2 watts and the e.i.r.p. shall be limited to 40 watts

3.1.2 Test Procedures

1. A broadband Average RF power meter is used for output power measurement. The video bandwidth of power meter is greater than Occupied bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

3.1.3 Test Setup



3.1.4 Test Result of Transmitter Output Power and Equivalent Isotropically Radiated Power (e.i.r.p.)

CB:5M	Channel	Freq. (MHz)	RB	RB Offset	Conducted Peak Power			Antenna Gain (dBi)	EIRP		
					dBm	W	Limit (W)		dBm	W	Limit (W)
QPSK	40465	2577.5	1	0	22.04	0.160	NA	3.69	25.73	0.374	2
			1	12	22.39	0.173	NA	3.69	26.08	0.406	2
			1	24	22.09	0.162	NA	3.69	25.78	0.378	2
			12	0	22.21	0.166	NA	3.69	25.90	0.389	2
			12	6	22.30	0.170	NA	3.69	25.99	0.397	2
			12	11	22.28	0.169	NA	3.69	25.97	0.395	2
			25	0	22.23	0.167	NA	3.69	25.92	0.391	2
	40640	2595	1	0	22.50	0.178	NA	3.69	26.19	0.416	2
			1	12	22.86	0.193	NA	3.69	26.55	0.452	2
			1	24	22.56	0.180	NA	3.69	26.25	0.422	2
			12	0	22.58	0.181	NA	3.69	26.27	0.424	2
			12	6	22.70	0.186	NA	3.69	26.39	0.436	2
			12	11	22.64	0.184	NA	3.69	26.33	0.430	2
			25	0	22.61	0.182	NA	3.69	26.30	0.427	2
	40815	2612.5	1	0	22.37	0.173	NA	3.69	26.06	0.404	2
			1	12	22.80	0.191	NA	3.69	26.49	0.446	2
			1	24	22.50	0.178	NA	3.69	26.19	0.416	2
			12	0	22.54	0.179	NA	3.69	26.23	0.420	2
			12	6	22.66	0.185	NA	3.69	26.35	0.432	2
			12	11	22.66	0.185	NA	3.69	26.35	0.432	2
			25	0	22.61	0.182	NA	3.69	26.30	0.427	2
16QAM	40465	2577.5	1	0	22.40	0.174	NA	3.69	26.09	0.406	2
			1	12	22.74	0.188	NA	3.69	26.43	0.440	2
			1	24	22.37	0.173	NA	3.69	26.06	0.404	2
			12	0	22.26	0.168	NA	3.69	25.95	0.394	2
			12	6	22.36	0.172	NA	3.69	26.05	0.403	2
			12	11	22.30	0.170	NA	3.69	25.99	0.397	2
			25	0	22.27	0.169	NA	3.69	25.96	0.394	2
	40640	2595	1	0	22.80	0.191	NA	3.69	26.49	0.446	2
			1	12	23.09	0.204	NA	3.69	26.78	0.476	2
			1	24	22.85	0.193	NA	3.69	26.54	0.451	2
			12	0	22.67	0.185	NA	3.69	26.36	0.433	2
			12	6	22.79	0.190	NA	3.69	26.48	0.445	2
			12	11	22.74	0.188	NA	3.69	26.43	0.440	2
			25	0	22.70	0.186	NA	3.69	26.39	0.436	2
	40815	2612.5	1	0	22.63	0.183	NA	3.69	26.32	0.429	2
			1	12	23.01	0.200	NA	3.69	26.70	0.468	2
			1	24	22.77	0.189	NA	3.69	26.46	0.443	2
			12	0	22.59	0.182	NA	3.69	26.28	0.425	2
			12	6	22.67	0.185	NA	3.69	26.36	0.433	2
			12	11	22.62	0.183	NA	3.69	26.31	0.428	2
			25	0	22.65	0.184	NA	3.69	26.34	0.431	2

CB:10M	Channel	Freq. (MHz)	RB	RB Offset	Conducted Peak Power			Antenna Gain (dBi)	EIRP		
					dBm	W	Limit (W)		dBm	W	Limit (W)
QPSK	40490	2580	1	0	21.66	0.147	NA	3.69	25.35	0.343	2
			1	24	22.41	0.174	NA	3.69	26.10	0.407	2
			1	49	21.83	0.152	NA	3.69	25.52	0.356	2
			25	0	22.03	0.160	NA	3.69	25.72	0.373	2
			25	12	22.24	0.167	NA	3.69	25.93	0.392	2
			25	24	22.17	0.165	NA	3.69	25.86	0.385	2
			50	0	22.06	0.161	NA	3.69	25.75	0.376	2
	40640	2595	1	0	22.05	0.160	NA	3.69	25.74	0.375	2
			1	24	22.81	0.191	NA	3.69	26.50	0.447	2
			1	49	22.18	0.165	NA	3.69	25.87	0.386	2
			25	0	22.42	0.175	NA	3.69	26.11	0.408	2
			25	12	22.67	0.185	NA	3.69	26.36	0.433	2
			25	24	22.52	0.179	NA	3.69	26.21	0.418	2
			50	0	22.38	0.173	NA	3.69	26.07	0.405	2
	40790	2610	1	0	22.18	0.165	NA	3.69	25.87	0.386	2
			1	24	22.88	0.194	NA	3.69	26.57	0.454	2
			1	49	22.27	0.169	NA	3.69	25.96	0.394	2
			25	0	22.56	0.180	NA	3.69	26.25	0.422	2
			25	12	22.74	0.188	NA	3.69	26.43	0.440	2
			25	24	22.63	0.183	NA	3.69	26.32	0.429	2
			50	0	22.57	0.181	NA	3.69	26.26	0.423	2
16QAM	40490	2580	1	0	22.03	0.160	NA	3.69	25.72	0.373	2
			1	24	22.75	0.188	NA	3.69	26.44	0.441	2
			1	49	22.13	0.163	NA	3.69	25.82	0.382	2
			25	0	22.06	0.161	NA	3.69	25.75	0.376	2
			25	12	22.21	0.166	NA	3.69	25.90	0.389	2
			25	24	22.22	0.167	NA	3.69	25.91	0.390	2
			50	0	22.05	0.160	NA	3.69	25.74	0.375	2
	40640	2595	1	0	22.36	0.172	NA	3.69	26.05	0.403	2
			1	24	23.10	0.204	NA	3.69	26.79	0.478	2
			1	49	22.42	0.175	NA	3.69	26.11	0.408	2
			25	0	22.38	0.173	NA	3.69	26.07	0.405	2
			25	12	22.62	0.183	NA	3.69	26.31	0.428	2
			25	24	22.45	0.176	NA	3.69	26.14	0.411	2
			50	0	22.45	0.176	NA	3.69	26.14	0.411	2
	40790	2610	1	0	22.54	0.179	NA	3.69	26.23	0.420	2
			1	24	23.14	0.206	NA	3.69	26.83	0.482	2
			1	49	22.60	0.182	NA	3.69	26.29	0.426	2
			25	0	22.60	0.182	NA	3.69	26.29	0.426	2
			25	12	22.79	0.190	NA	3.69	26.48	0.445	2
			25	24	22.67	0.185	NA	3.69	26.36	0.433	2
			50	0	22.51	0.178	NA	3.69	26.20	0.417	2

CB:15M	Channel	Freq. (MHz)	RB	RB Offset	Conducted Peak Power			Antenna Gain (dBi)	EIRP		
					dBm	W	Limit (W)		dBm	W	Limit (W)
QPSK	40515	2582.5	1	0	21.15	0.130	NA	3.69	24.84	0.305	2
			1	37	22.39	0.173	NA	3.69	26.08	0.406	2
			1	74	21.46	0.140	NA	3.69	25.15	0.327	2
			36	0	21.80	0.151	NA	3.69	25.49	0.354	2
			36	18	22.21	0.166	NA	3.69	25.90	0.389	2
			36	37	22.01	0.159	NA	3.69	25.70	0.372	2
			75	0	22.01	0.159	NA	3.69	25.70	0.372	2
	40640	2595	1	0	21.47	0.140	NA	3.69	25.16	0.328	2
			1	37	22.79	0.190	NA	3.69	26.48	0.445	2
			1	74	21.65	0.146	NA	3.69	25.34	0.342	2
			36	0	22.12	0.163	NA	3.69	25.81	0.381	2
			36	18	22.62	0.183	NA	3.69	26.31	0.428	2
			36	37	22.35	0.172	NA	3.69	26.04	0.402	2
			75	0	22.28	0.169	NA	3.69	25.97	0.395	2
	40765	2607.5	1	0	21.63	0.146	NA	3.69	25.32	0.340	2
			1	37	22.87	0.194	NA	3.69	26.56	0.453	2
			1	74	21.84	0.153	NA	3.69	25.53	0.357	2
			36	0	22.30	0.170	NA	3.69	25.99	0.397	2
			36	18	22.66	0.185	NA	3.69	26.35	0.432	2
			36	37	22.42	0.175	NA	3.69	26.11	0.408	2
			75	0	22.33	0.171	NA	3.69	26.02	0.400	2
16QAM	40515	2582.5	1	0	21.48	0.141	NA	3.69	25.17	0.329	2
			1	37	22.79	0.190	NA	3.69	26.48	0.445	2
			1	74	21.77	0.150	NA	3.69	25.46	0.352	2
			36	0	21.86	0.153	NA	3.69	25.55	0.359	2
			36	18	22.21	0.166	NA	3.69	25.90	0.389	2
			36	37	22.06	0.161	NA	3.69	25.75	0.376	2
			75	0	21.92	0.156	NA	3.69	25.61	0.364	2
	40640	2595	1	0	21.73	0.149	NA	3.69	25.42	0.348	2
			1	37	23.04	0.201	NA	3.69	26.73	0.471	2
			1	74	21.99	0.158	NA	3.69	25.68	0.370	2
			36	0	22.13	0.163	NA	3.69	25.82	0.382	2
			36	18	22.58	0.181	NA	3.69	26.27	0.424	2
			36	37	22.28	0.169	NA	3.69	25.97	0.395	2
			75	0	22.18	0.165	NA	3.69	25.87	0.386	2
	40765	2607.5	1	0	21.92	0.156	NA	3.69	25.61	0.364	2
			1	37	23.08	0.203	NA	3.69	26.77	0.475	2
			1	74	22.07	0.161	NA	3.69	25.76	0.377	2
			36	0	22.30	0.170	NA	3.69	25.99	0.397	2
			36	18	22.62	0.183	NA	3.69	26.31	0.428	2
			36	37	22.40	0.174	NA	3.69	26.09	0.406	2
			75	0	22.30	0.170	NA	3.69	25.99	0.397	2

CB:20M	Channel	Freq. (MHz)	RB	RB Offset	Conducted Peak Power			Antenna Gain (dBi)	EIRP		
					dBm	W	Limit (W)		dBm	W	Limit (W)
QPSK	40540	2585	1	0	22.81	0.191	NA	3.69	26.50	0.447	2
			1	49	22.49	0.177	NA	3.69	26.18	0.415	2
			1	99	23.30	0.214	NA	3.69	26.99	0.500	2
			50	0	22.49	0.177	NA	3.69	26.18	0.415	2
			50	24	22.47	0.177	NA	3.69	26.16	0.413	2
			50	49	22.72	0.187	NA	3.69	26.41	0.438	2
			100	0	22.65	0.184	NA	3.69	26.34	0.431	2
	40640	2595	1	0	22.95	0.197	NA	3.69	26.64	0.461	2
			1	49	22.75	0.188	NA	3.69	26.44	0.441	2
			1	99	23.28	0.213	NA	3.69	26.97	0.498	2
			50	0	22.74	0.188	NA	3.69	26.43	0.440	2
			50	24	22.77	0.189	NA	3.69	26.46	0.443	2
			50	49	22.95	0.197	NA	3.69	26.64	0.461	2
			100	0	22.89	0.195	NA	3.69	26.58	0.455	2
	40740	2605	1	0	23.27	0.212	NA	3.69	26.96	0.497	2
			1	49	22.86	0.193	NA	3.69	26.55	0.452	2
			1	99	23.46	0.222	NA	3.69	27.15	0.519	2
			50	0	22.91	0.195	NA	3.69	26.60	0.457	2
			50	24	22.86	0.193	NA	3.69	26.55	0.452	2
			50	49	23.07	0.203	NA	3.69	26.76	0.474	2
			100	0	22.96	0.198	NA	3.69	26.65	0.462	2
16QAM	40540	2585	1	0	23.07	0.203	NA	3.69	26.76	0.474	2
			1	49	22.76	0.189	NA	3.69	26.45	0.442	2
			1	99	23.52	0.225	NA	3.69	27.21	0.526	2
			50	0	22.52	0.179	NA	3.69	26.21	0.418	2
			50	24	22.44	0.175	NA	3.69	26.13	0.410	2
			50	49	22.67	0.185	NA	3.69	26.36	0.433	2
			100	0	22.55	0.180	NA	3.69	26.24	0.421	2
	40640	2595	1	0	23.22	0.210	NA	3.69	26.91	0.491	2
			1	49	23.10	0.204	NA	3.69	26.79	0.478	2
			1	99	23.62	0.230	NA	3.69	27.31	0.538	2
			50	0	22.76	0.189	NA	3.69	26.45	0.442	2
			50	24	22.77	0.189	NA	3.69	26.46	0.443	2
			50	49	22.86	0.193	NA	3.69	26.55	0.452	2
			100	0	22.83	0.192	NA	3.69	26.52	0.449	2
	40740	2605	1	0	23.63	0.231	NA	3.69	27.32	0.540	2
			1	49	23.11	0.205	NA	3.69	26.80	0.479	2
			1	99	23.46	0.222	NA	3.69	27.15	0.519	2
			50	0	22.91	0.195	NA	3.69	26.60	0.457	2
			50	24	22.86	0.193	NA	3.69	26.55	0.452	2
			50	49	22.95	0.197	NA	3.69	26.64	0.461	2
			100	0	22.90	0.195	NA	3.69	26.59	0.456	2

3.2 Transmitter Unwanted Emissions

3.2.1 Limit of Transmitter Unwanted Emissions

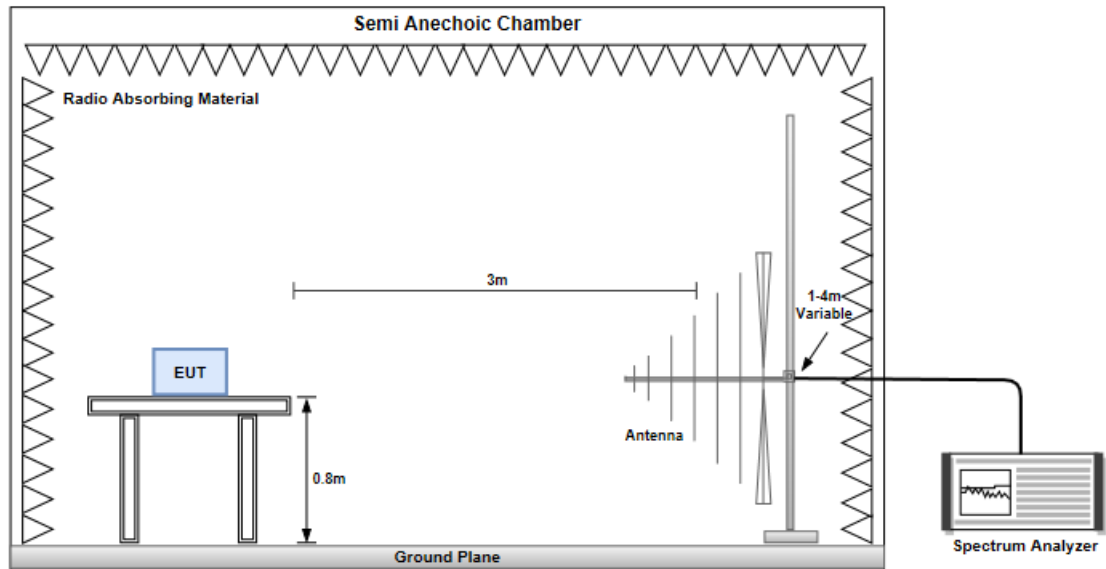
The power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least $55 + 10 \log_{10} p$

3.2.2 Test Procedures

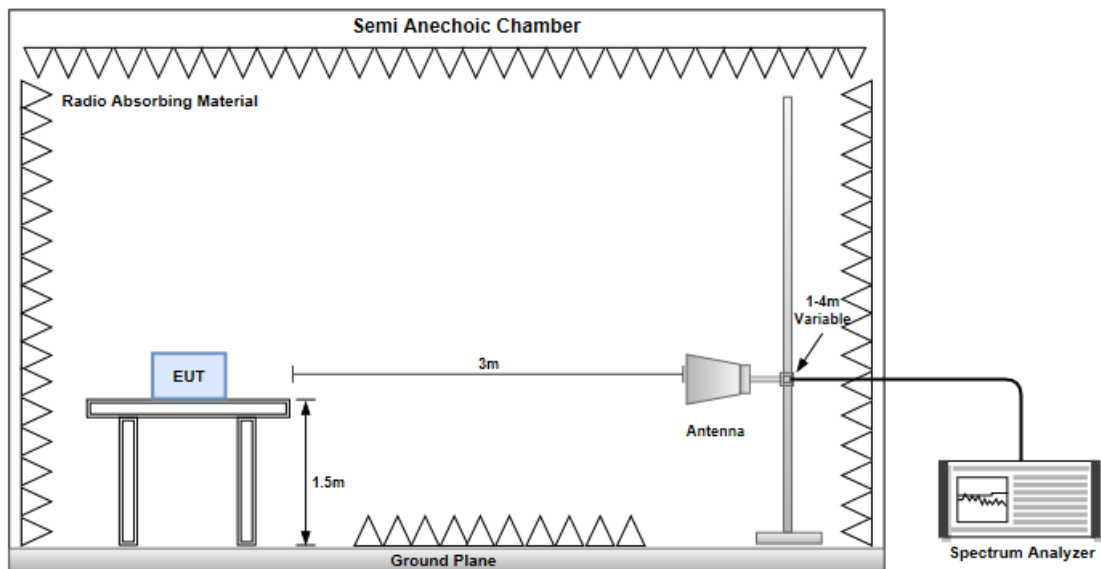
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.
4. After finding the max radiated emission, substitution method will be used for getting effective radiated power. EUT will be removed and substitution antenna will be placed at same position. Signal generator will output CW signal to substitution antenna through a RF cable. Rotate turntable and move antenna to find maximum radiated emission. Adjust output power of signal generator to let the maximum radiated emission is same as step 3. Record the output power level.
5. E.I.R.P = output power of step 4 + gain of substitution antenna – cable loss of RF cable.

3.2.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.2.4 Test Result of Transmitter Unwanted Emissions below 1GHz

Mode		CB:5MHz, 1RB, Offset 12, Channel:40640					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
39.70	H	-54.64	-25.00	-29.64	-62.40	-42.31	-12.33
107.60	H	-58.74	-25.00	-33.74	-57.55	-58.59	-0.15
163.86	H	-56.37	-25.00	-31.37	-55.88	-56.60	0.23
215.27	H	-63.34	-25.00	-38.34	-59.75	-67.71	4.37
353.01	H	-56.92	-25.00	-31.92	-59.04	-61.26	4.34
415.09	H	-62.90	-25.00	-37.90	-66.01	-67.11	4.21
39.70	V	-56.92	-25.00	-31.92	-54.71	-44.59	-12.33
102.75	V	-54.66	-25.00	-29.66	-55.13	-54.78	0.12
130.88	V	-54.71	-25.00	-29.71	-55.55	-53.59	-1.12
164.83	V	-55.46	-25.00	-30.46	-58.06	-55.82	0.36
355.92	V	-61.90	-25.00	-36.90	-64.52	-66.23	4.33
600.36	V	-57.60	-25.00	-32.60	-67.07	-61.14	3.54

Mode		CB:10MHz, 1RB, Offset 24, Channel:40790					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
39.70	H	-55.44	-25.00	-30.44	-63.20	-43.11	-12.33
132.82	H	-58.38	-25.00	-33.38	-57.79	-57.21	-1.17
164.83	H	-55.18	-25.00	-30.18	-54.65	-55.54	0.36
211.39	H	-57.80	-25.00	-32.80	-54.08	-62.16	4.36
355.92	H	-60.12	-25.00	-35.12	-62.29	-64.45	4.33
599.39	H	-60.78	-25.00	-35.78	-66.59	-64.33	3.55
94.99	V	-57.11	-25.00	-32.11	-57.40	-57.65	0.54
130.88	V	-54.97	-25.00	-29.97	-55.81	-53.85	-1.12
163.86	V	-56.58	-25.00	-31.58	-59.18	-56.81	0.23
217.21	V	-61.58	-25.00	-36.58	-63.60	-65.95	4.37
356.89	V	-61.69	-25.00	-36.69	-64.32	-66.02	4.33
596.48	V	-59.03	-25.00	-34.03	-68.36	-62.60	3.57

Mode		CB:15MHz, 1RB, Offset 37, Channel:40765					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
39.70	H	-54.72	-25.00	-29.72	-62.48	-42.39	-12.33
132.82	H	-58.57	-25.00	-33.57	-57.98	-57.40	-1.17
163.86	H	-54.41	-25.00	-29.41	-53.92	-54.64	0.23
217.21	H	-62.93	-25.00	-37.93	-59.39	-67.30	4.37
354.95	H	-59.06	-25.00	-34.06	-61.21	-63.40	4.34
653.71	H	-60.22	-25.00	-35.22	-66.68	-64.06	3.84
39.70	V	-58.83	-25.00	-33.83	-56.62	-46.50	-12.33
89.17	V	-53.75	-25.00	-28.75	-53.85	-54.28	0.53
132.82	V	-55.08	-25.00	-30.08	-56.01	-53.91	-1.17
164.83	V	-56.80	-25.00	-31.80	-59.40	-57.16	0.36
349.13	V	-61.13	-25.00	-36.13	-63.69	-65.47	4.34
599.39	V	-56.95	-25.00	-31.95	-66.40	-60.50	3.55

Mode		CB:20MHz, 1RB, Offset 99, Channel:40740					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
39.70	H	-54.71	-25.00	-29.71	-62.47	-42.38	-12.33
133.79	H	-58.14	-25.00	-33.14	-57.62	-56.94	-1.20
164.83	H	-54.42	-25.00	-29.42	-53.89	-54.78	0.36
217.21	H	-62.76	-25.00	-37.76	-59.22	-67.13	4.37
354.95	H	-59.73	-25.00	-34.73	-61.88	-64.07	4.34
721.61	H	-52.66	-25.00	-27.66	-60.53	-56.25	3.59
39.70	V	-60.24	-25.00	-35.24	-58.03	-47.91	-12.33
94.99	V	-57.11	-25.00	-32.11	-57.40	-57.65	0.54
126.03	V	-54.89	-25.00	-29.89	-55.50	-53.90	-0.99
163.86	V	-56.76	-25.00	-31.76	-59.36	-56.99	0.23
354.95	V	-61.10	-25.00	-36.10	-63.72	-65.44	4.34
714.82	V	-45.21	-25.00	-20.21	-54.46	-48.84	3.63

3.2.5 Test Result of Transmitter Unwanted Emissions above 1GHz

Mode	CB:5MHz, 1RB, Offset 12, Channel:40465						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5155.00	H	-40.90	-25.00	-15.90	-58.29	-47.07	6.17
7732.50	H	-27.15	-25.00	-2.15	-48.20	-30.22	3.07
10310.00	H	-28.57	-25.00	-3.57	-53.23	-29.91	1.34
5155.00	V	-39.86	-25.00	-14.86	-57.31	-46.03	6.17
7732.50	V	-33.27	-25.00	-8.27	-55.22	-36.34	3.07
10310.00	V	-33.59	-25.00	-8.59	-57.34	-34.93	1.34

Mode	CB:5MHz, 1RB, Offset 12, Channel:40640						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5190.00	H	-37.75	-25.00	-12.75	-55.21	-43.93	6.18
7785.00	H	-27.24	-25.00	-2.24	-48.47	-30.33	3.09
10380.00	H	-29.18	-25.00	-4.18	-53.67	-30.46	1.28
5190.00	V	-38.52	-25.00	-13.52	-56.05	-44.70	6.18
7785.00	V	-30.25	-25.00	-5.25	-52.33	-33.34	3.09
10380.00	V	-35.65	-25.00	-10.65	-59.47	-36.93	1.28

Mode	CB:5MHz, 1RB, Offset 12, Channel:40815						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5225.00	H	-40.96	-25.00	-15.96	-58.38	-47.16	6.20
7837.50	H	-27.48	-25.00	-2.48	-48.85	-30.54	3.06
10450.00	H	-28.49	-25.00	-3.49	-52.79	-29.71	1.22
5225.00	V	-37.24	-25.00	-12.24	-54.78	-43.44	6.20
7837.50	V	-36.73	-25.00	-11.73	-59.00	-39.79	3.06
10450.00	V	-33.21	-25.00	-8.21	-57.09	-34.43	1.22

Note: EIRP = S.G Power value + Correction factor.

Mode	CB:10MHz, 1RB, Offset 24, Channel:40490						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5160.00	H	-41.42	-25.00	-16.42	-58.82	-47.59	6.17
7740.00	H	-26.93	-25.00	-1.93	-48.01	-30.00	3.07
10320.00	H	-29.34	-25.00	-4.34	-53.98	-30.67	1.33
5160.00	V	-41.28	-25.00	-16.28	-58.74	-47.45	6.17
7740.00	V	-34.63	-25.00	-9.63	-56.60	-37.70	3.07
10320.00	V	-29.32	-25.00	-4.32	-53.08	-30.65	1.33

Mode	CB:10MHz, 1RB, Offset 24, Channel:40640						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5190.00	H	-41.28	-25.00	-16.28	-58.74	-47.46	6.18
7785.00	H	-27.31	-25.00	-2.31	-48.54	-30.40	3.09
10380.00	H	-29.58	-25.00	-4.58	-54.07	-30.86	1.28
5190.00	V	-41.31	-25.00	-16.31	-58.84	-47.49	6.18
7785.00	V	-33.56	-25.00	-8.56	-55.64	-36.65	3.09
10380.00	V	-31.67	-25.00	-6.67	-55.49	-32.95	1.28

Mode	CB:10MHz, 1RB, Offset 24, Channel:40790						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5220.00	H	-40.53	-25.00	-15.53	-57.96	-46.73	6.20
7830.00	H	-27.56	-25.00	-2.56	-48.91	-30.62	3.06
10440.00	H	-30.33	-25.00	-5.33	-54.65	-31.56	1.23
5220.00	V	-40.48	-25.00	-15.48	-58.02	-46.68	6.20
7830.00	V	-31.37	-25.00	-6.37	-53.60	-34.43	3.06
10440.00	V	-31.42	-25.00	-6.42	-55.29	-32.65	1.23

Note: EIRP = S.G Power value + Correction factor.

Mode	CB:15MHz, 1RB, Offset 37, Channel:40515						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5165.00	H	-42.22	-25.00	-17.22	-59.63	-48.39	6.17
7747.50	H	-27.38	-25.00	-2.38	-48.49	-30.45	3.07
10330.00	H	-29.33	-25.00	-4.33	-53.94	-30.65	1.32
5165.00	V	-41.18	-25.00	-16.18	-58.65	-47.35	6.17
7747.50	V	-36.53	-25.00	-11.53	-58.52	-39.60	3.07
10330.00	V	-32.28	-25.00	-7.28	-56.05	-33.60	1.32

Mode	CB:15MHz, 1RB, Offset 37, Channel:40640						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5190.00	H	-40.34	-25.00	-15.34	-57.80	-46.52	6.18
7785.00	H	-27.53	-25.00	-2.53	-48.76	-30.62	3.09
10380.00	H	-29.87	-25.00	-4.87	-54.36	-31.15	1.28
5190.00	V	-40.20	-25.00	-15.20	-57.73	-46.38	6.18
7785.00	V	-31.47	-25.00	-6.47	-53.55	-34.56	3.09
10380.00	V	-32.38	-25.00	-7.38	-56.20	-33.66	1.28

Mode	CB:15MHz, 1RB, Offset 37, Channel:40765						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5215.00	H	-39.27	-25.00	-14.27	-56.71	-45.46	6.19
7822.50	H	-27.59	-25.00	-2.59	-48.87	-30.66	3.07
10430.00	H	-29.56	-25.00	-4.56	-53.92	-30.80	1.24
5215.00	V	-41.31	-25.00	-16.31	-58.86	-47.50	6.19
7822.50	V	-34.24	-25.00	-9.24	-56.44	-37.31	3.07
10430.00	V	-33.93	-25.00	-8.93	-57.80	-35.17	1.24

Note: EIRP = S.G Power value + Correction factor.

Mode	CB:20MHz, 1RB, Offset 99, Channel:40540						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5189.80	H	-41.27	-25.00	-16.27	-58.73	-47.45	6.18
7784.70	H	-27.53	-25.00	-2.53	-48.76	-30.62	3.09
10379.60	H	-29.29	-25.00	-4.29	-53.78	-30.57	1.28
5189.80	V	-36.77	-25.00	-11.77	-54.30	-42.95	6.18
7784.70	V	-32.38	-25.00	-7.38	-54.46	-35.47	3.09
10379.60	V	-34.63	-25.00	-9.63	-58.45	-35.91	1.28

Mode	CB:20MHz, 1RB, Offset 99, Channel:40640						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5209.80	H	-42.22	-25.00	-17.22	-59.68	-48.41	6.19
7814.70	H	-27.57	-25.00	-2.57	-48.89	-30.65	3.08
10419.60	H	-26.52	-25.00	-1.52	-50.90	-27.77	1.25
5209.80	V	-39.54	-25.00	-14.54	-57.09	-45.73	6.19
7814.70	V	-30.38	-25.00	-5.38	-52.55	-33.46	3.08
10419.60	V	-33.55	-25.00	-8.55	-57.40	-34.80	1.25

Mode	CB:20MHz, 1RB, Offset 0, Channel:40740						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5190.20	H	-41.16	-25.00	-16.16	-58.62	-47.35	6.19
7785.30	H	-27.32	-25.00	-2.32	-48.55	-30.41	3.09
10380.40	H	-27.72	-25.00	-2.72	-52.21	-29.00	1.28
5190.20	V	-40.55	-25.00	-15.55	-58.09	-46.74	6.19
7785.30	V	-31.76	-25.00	-6.76	-53.84	-34.85	3.09
10380.40	V	-29.91	-25.00	-4.91	-53.73	-31.19	1.28

Note: EIRP = S.G Power value + Correction factor.

3.3 Conducted Emission

3.3.1 Limit of Conducted Emission

For mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:

- (i) $40 + 10 \log_{10} p$ from the channel edges to 5 MHz away
- (ii) $43 + 10 \log_{10} p$ between 5 MHz and X MHz from the channel edges, and
- (iii) $55 + 10 \log_{10} p$ at X MHz and beyond from the channel edges

In addition, the attenuation shall not be less than $43 + 10 \log_{10} p$ on all frequencies between 2490.5 MHz and 2496 MHz, and $55 + 10 \log_{10} p$ at or below 2490.5 MHz.

3.3.2 Test Procedures

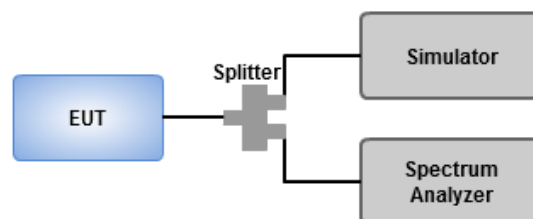
Measurement for frequency out of channel edge

1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30MHz~27GHz.
3. Set RBW = 1MHz, VBW = 3MHz, detector = Average, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

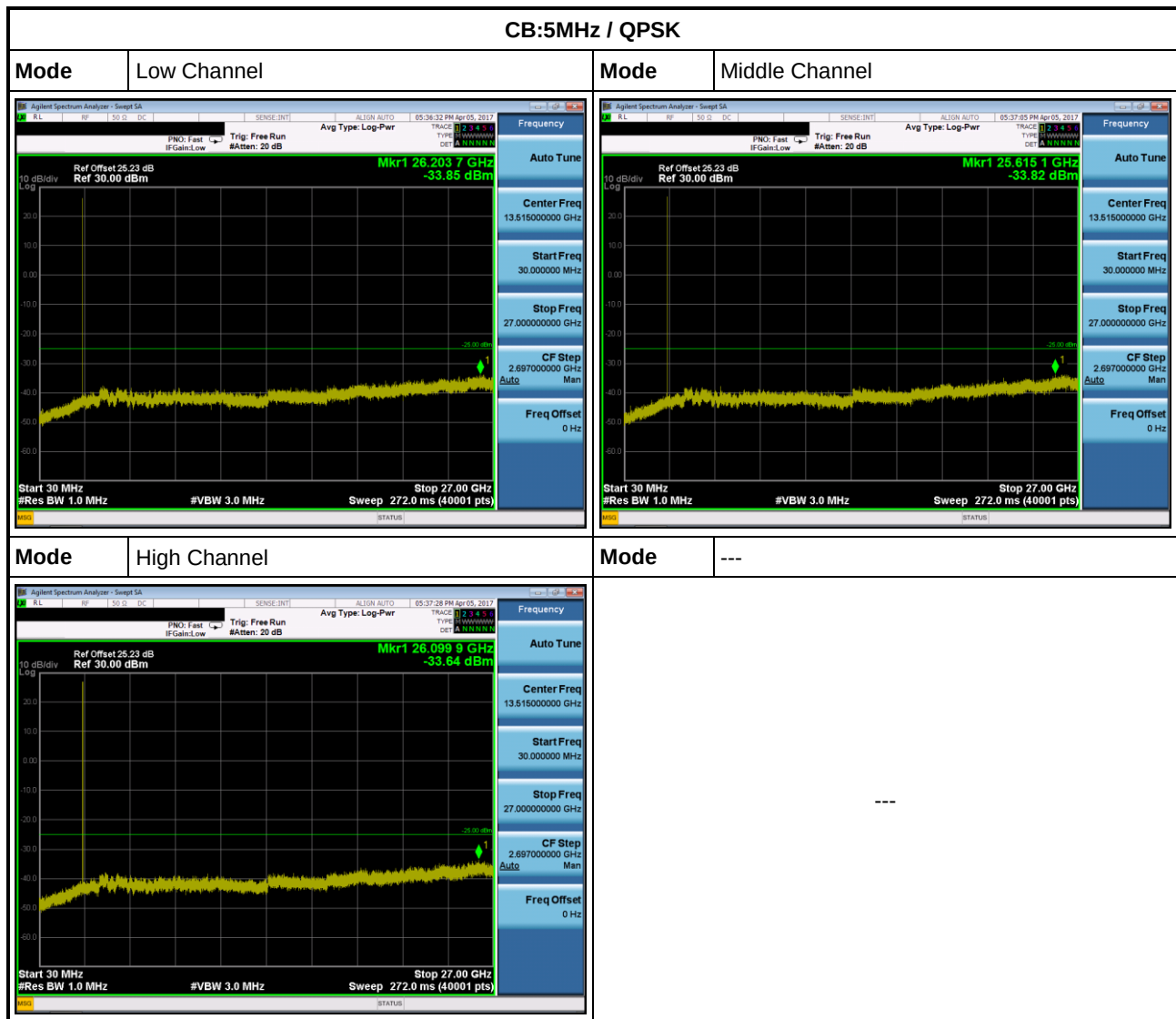
Measurement for channel edge

1. Lowest, middle and highest operating channels are tested for this item.
3. Set RBW = 2% of OBW , VBW = 3*RBW , detector = Average, sweep time = auto.
4. Use channel power measurement function of spectrum analyzer to integrate the power of channel edge

3.3.3 Test Setup



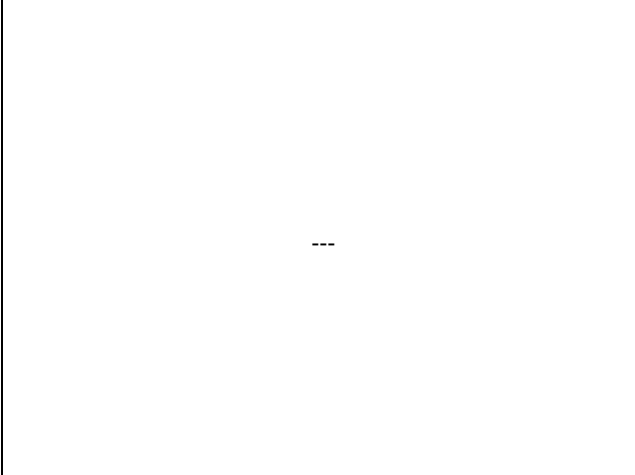
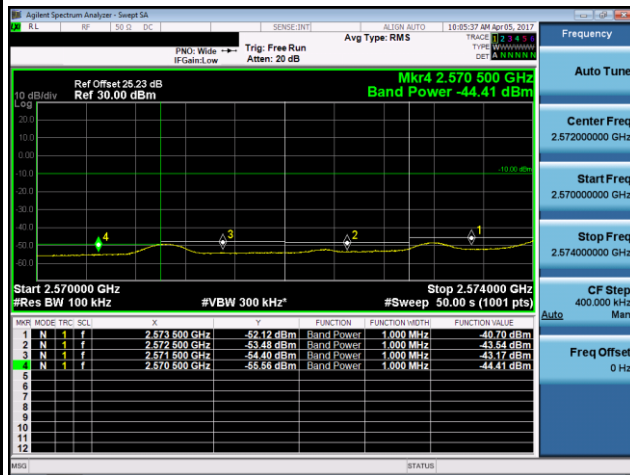
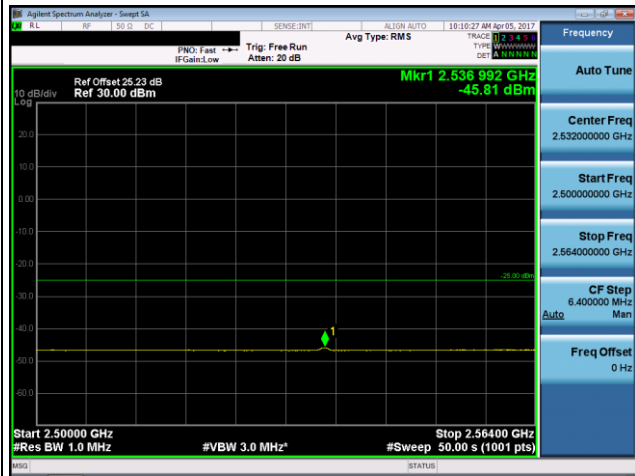
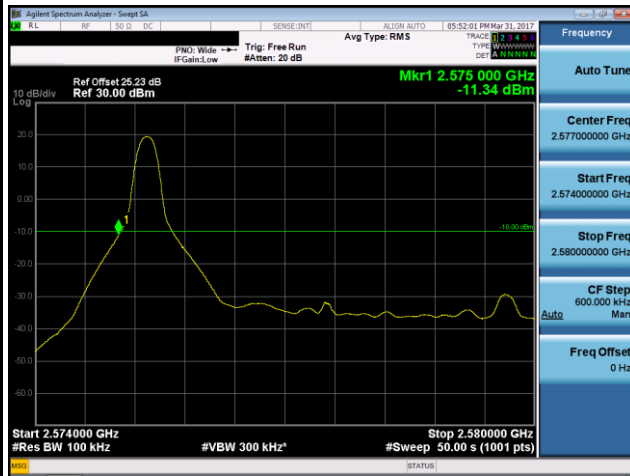
3.3.4 Test Result of Conducted Emission



CB:5MHz / QPSK

Mode

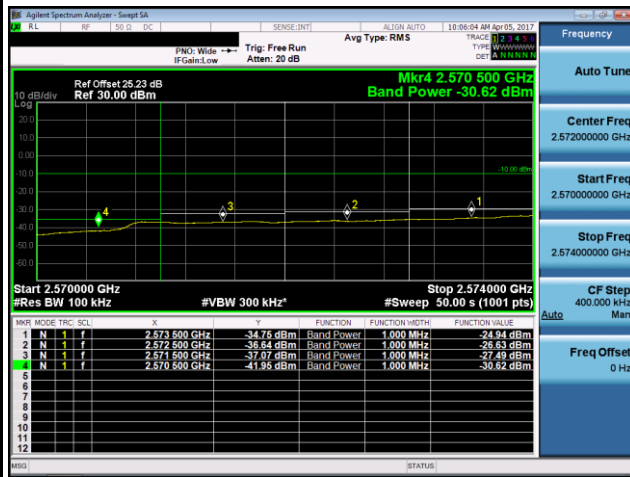
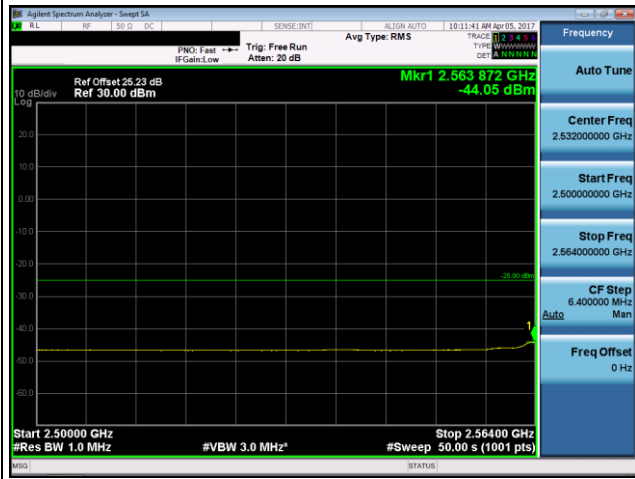
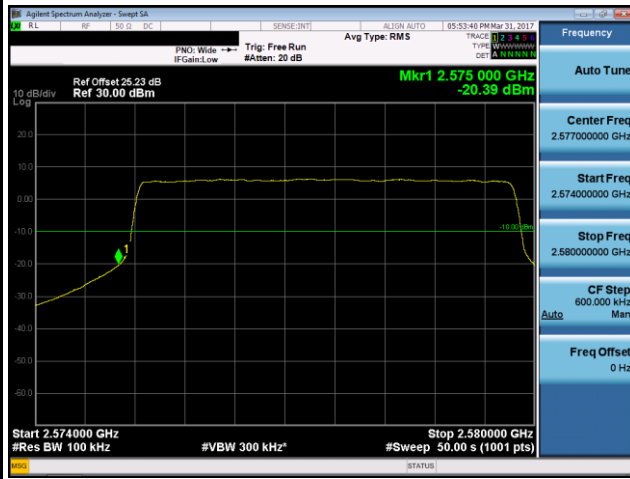
Low Channel-1RB



CB:5MHz / QPSK

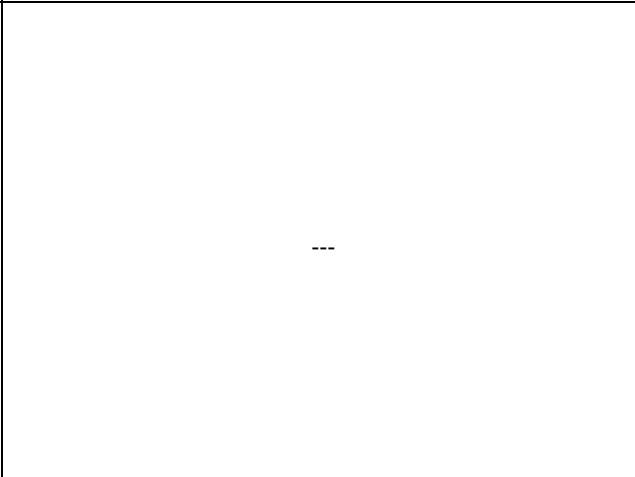
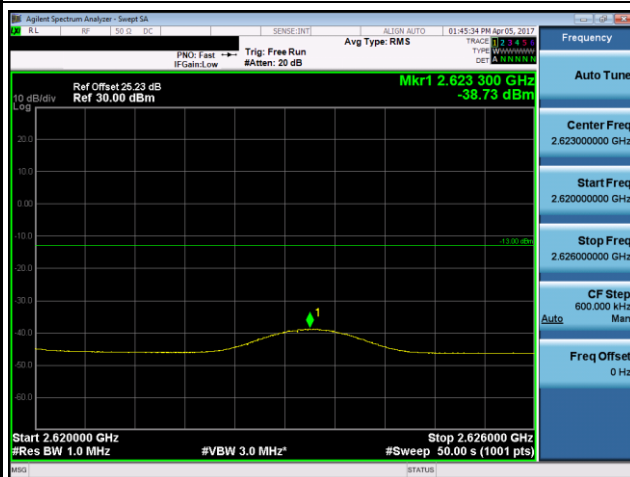
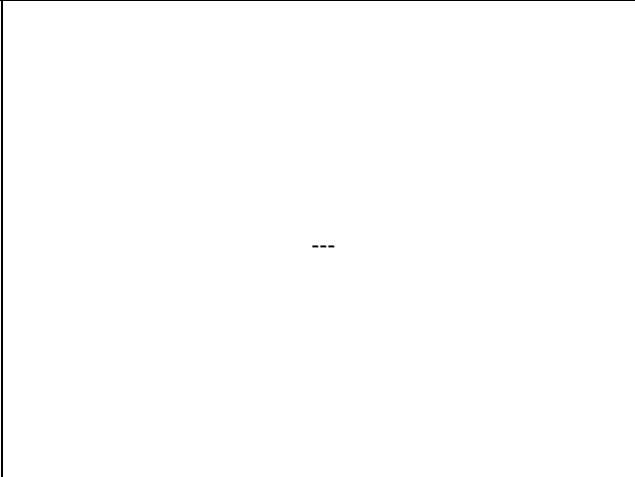
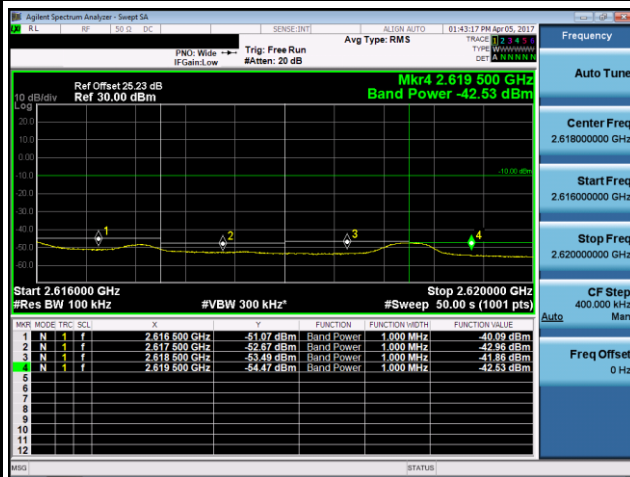
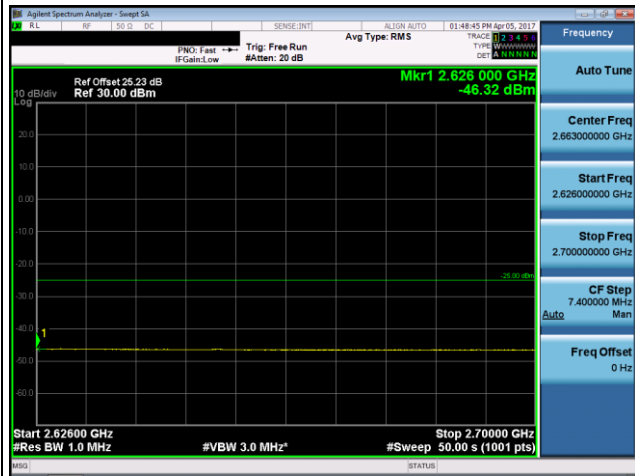
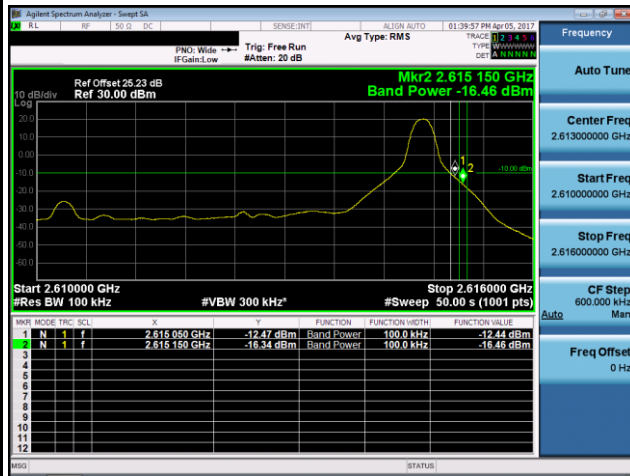
Mode

Low Channel-Full RB



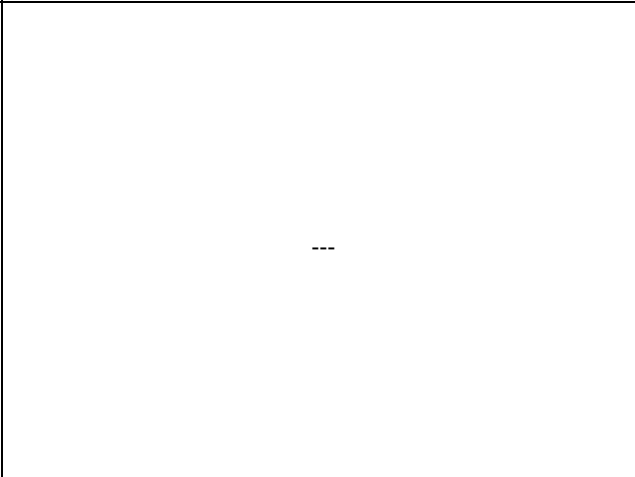
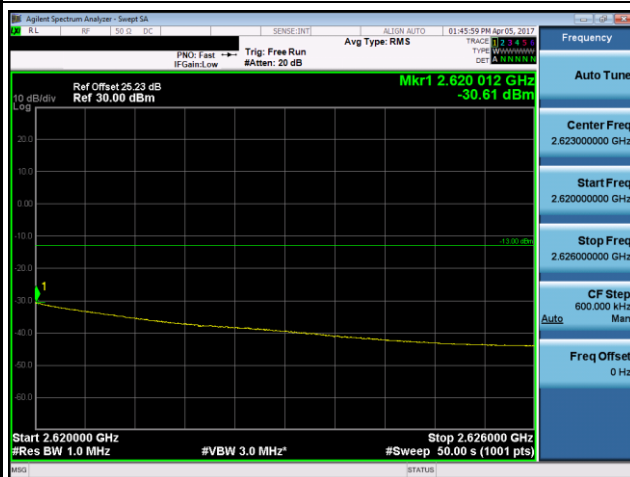
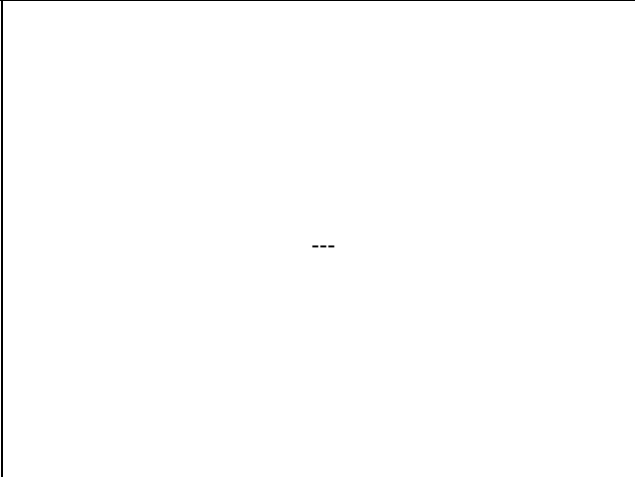
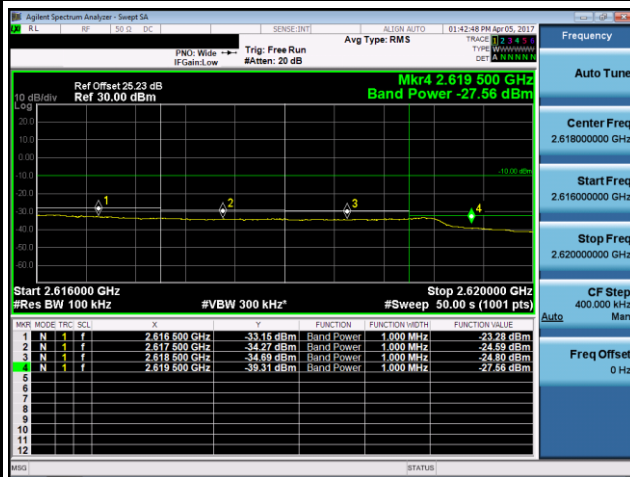
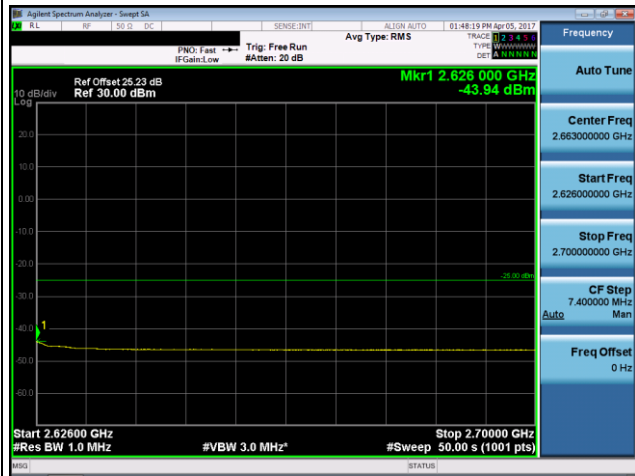
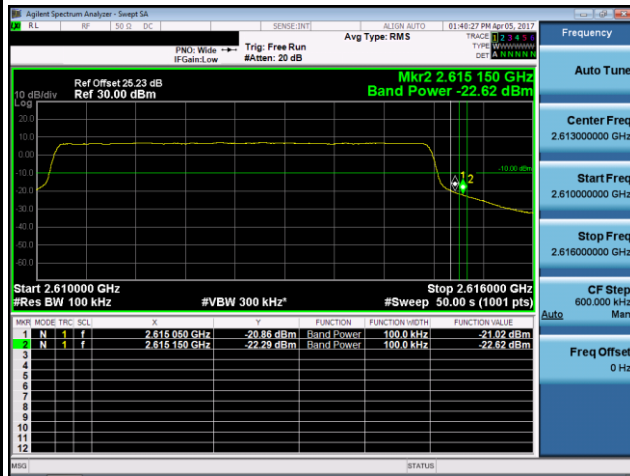
CB:5MHz / QPSK

Mode High Channel-1RB

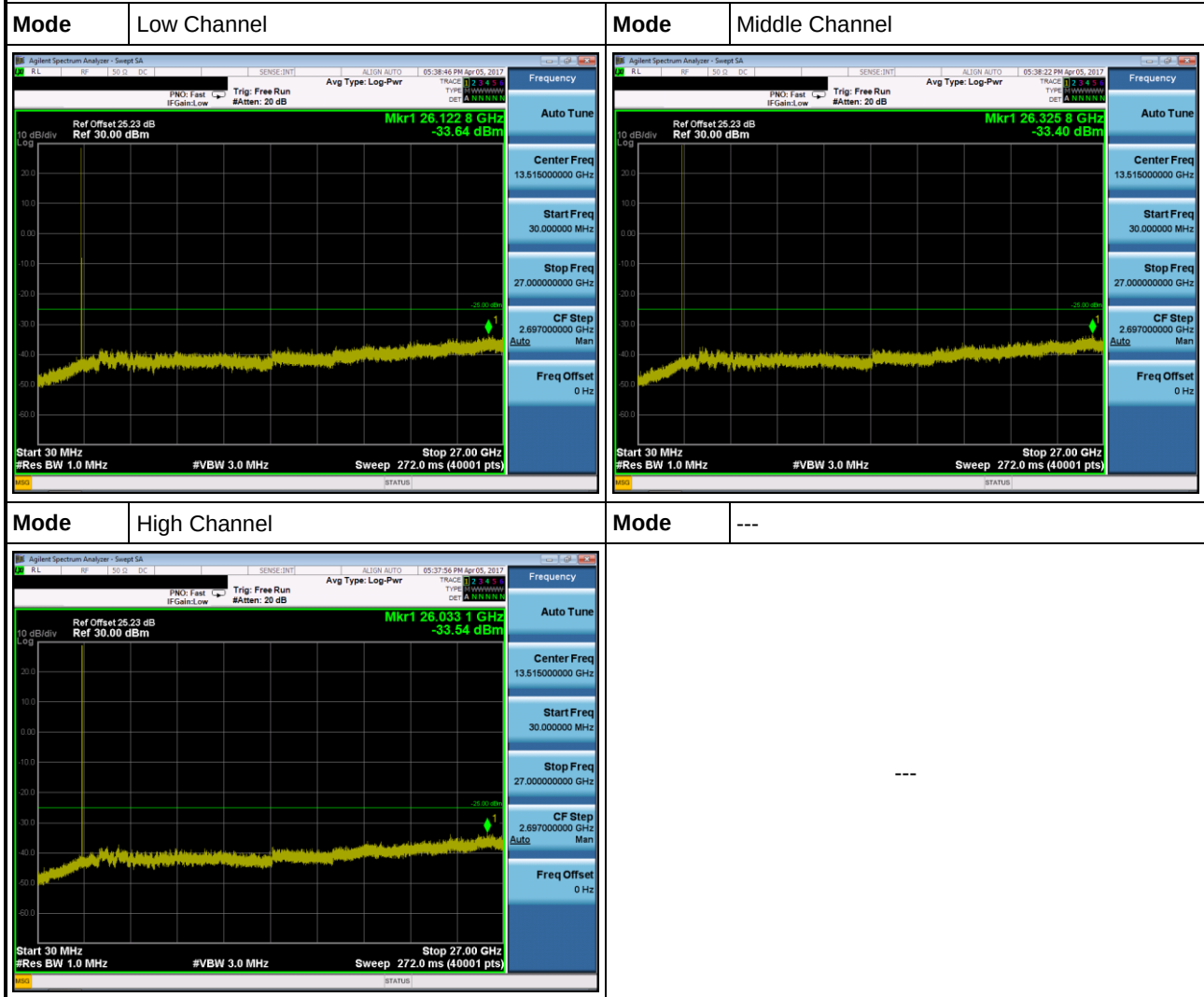


CB:5MHz / QPSK

Mode High Channel-Full RB



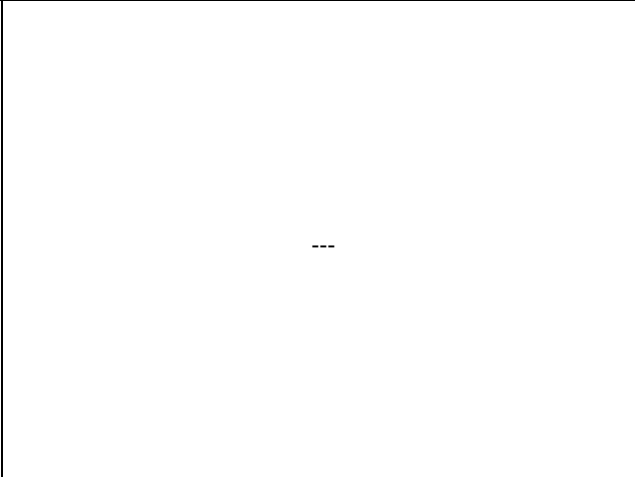
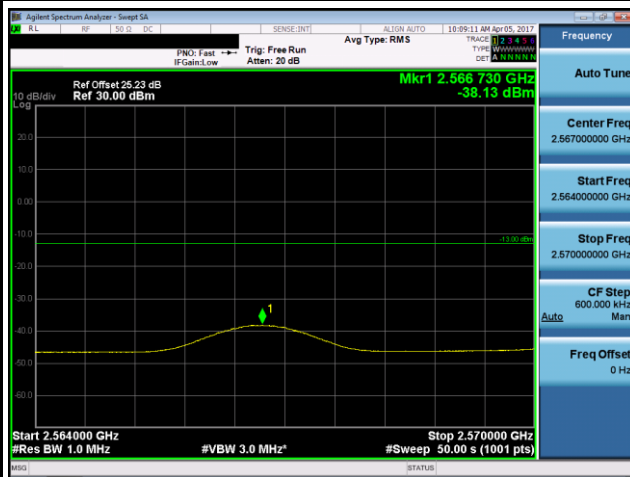
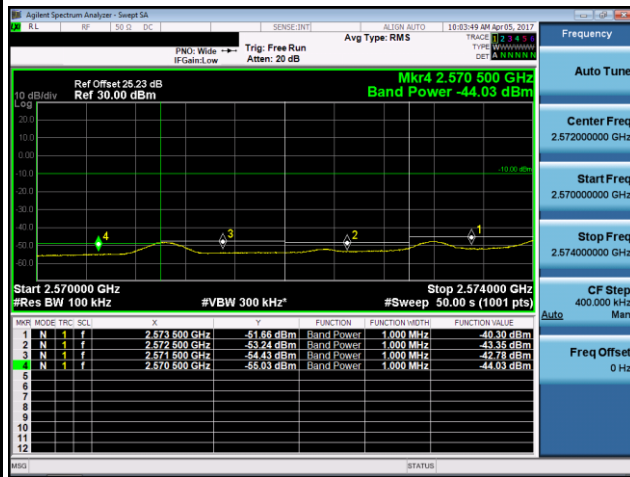
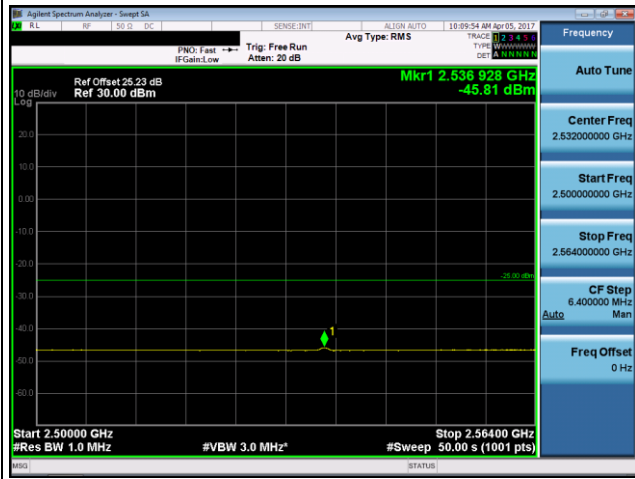
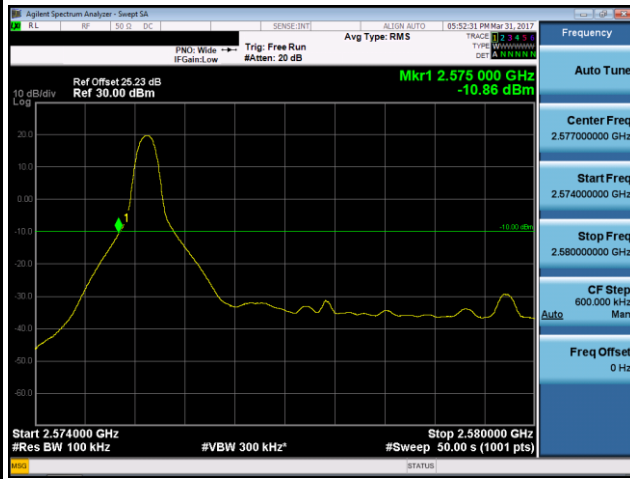
CB:5MHz / 16QAM



CB:5MHz / 16QAM

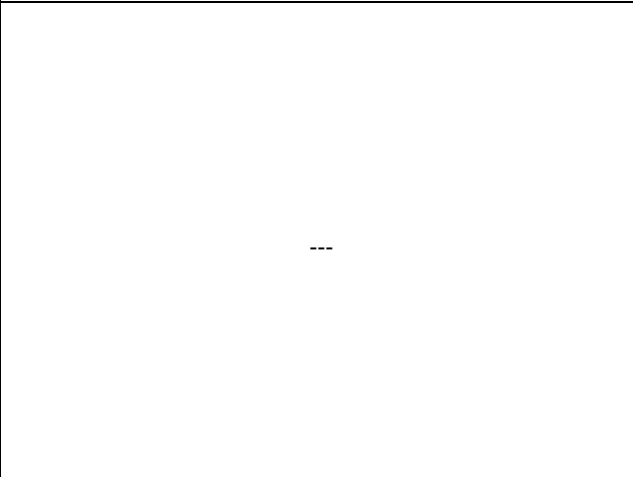
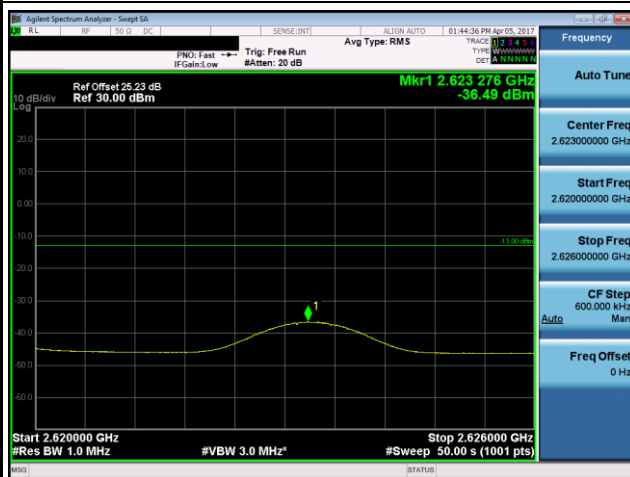
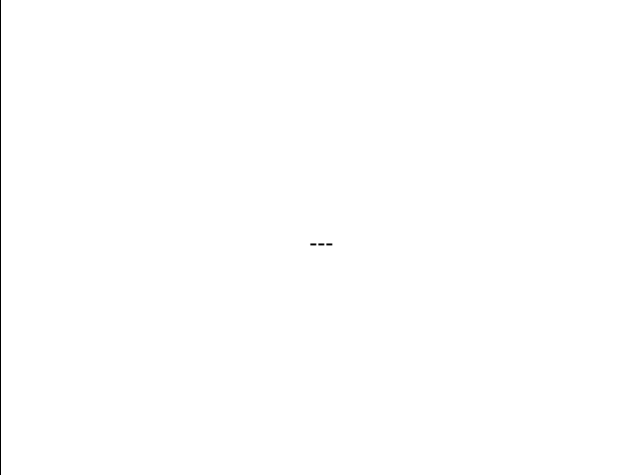
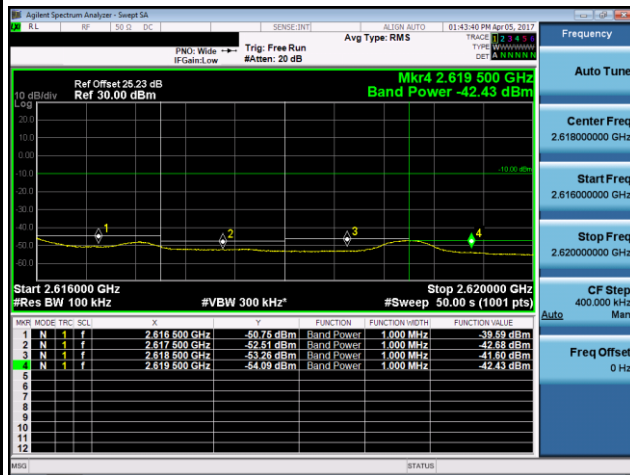
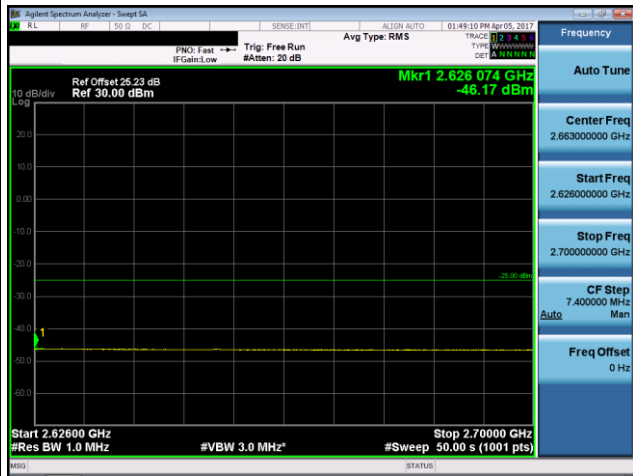
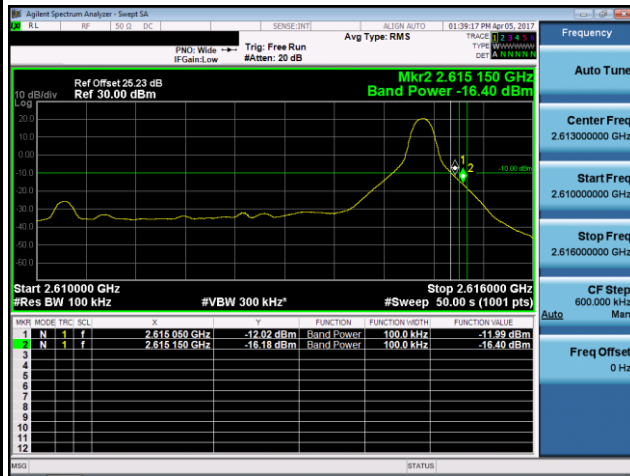
Mode

Low Channel-1RB



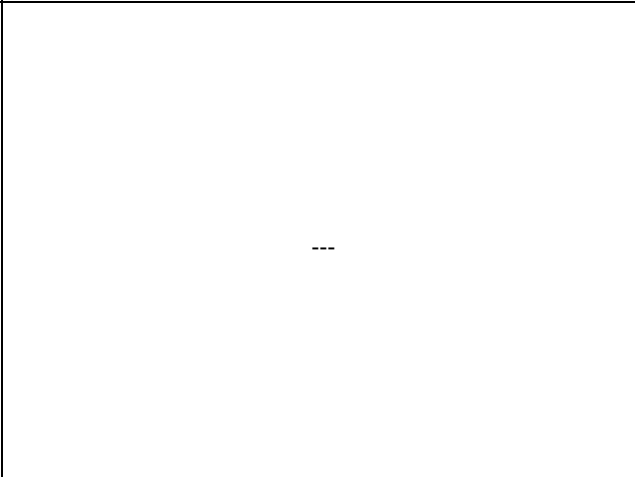
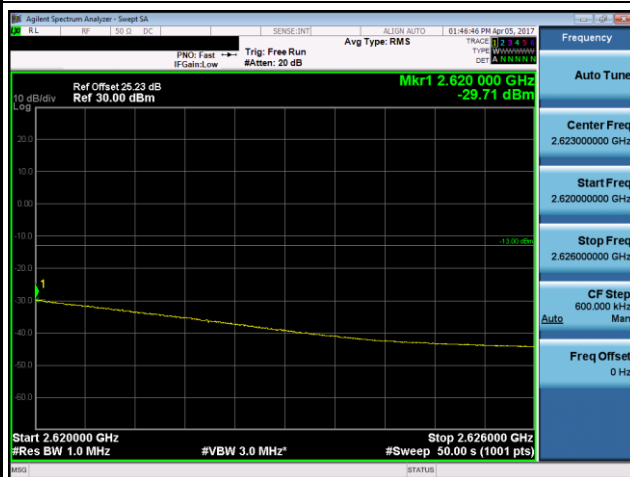
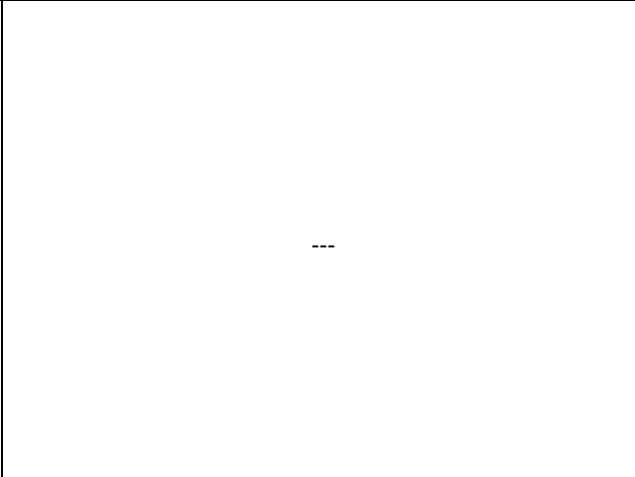
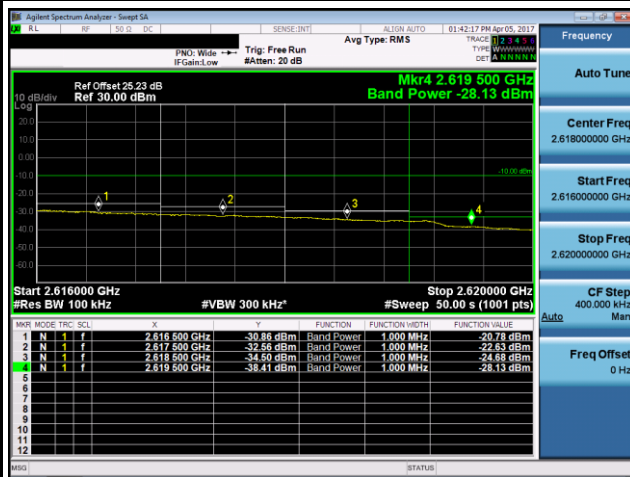
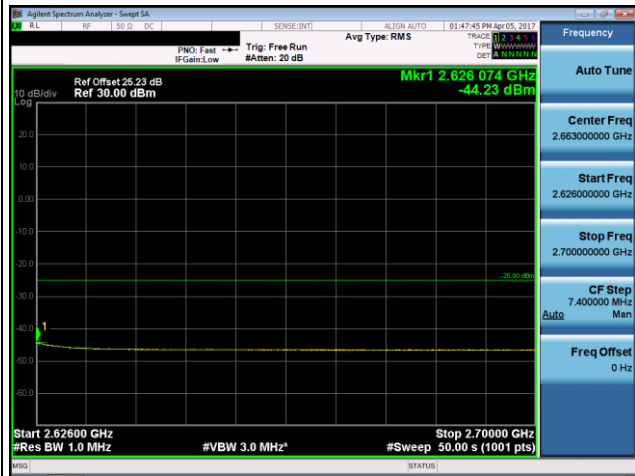
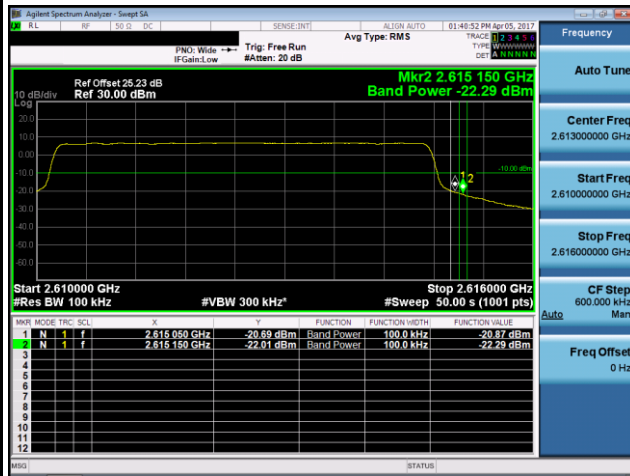
CB:5MHz / 16QAM

Mode High Channel-1RB



CB:5MHz / 16QAM

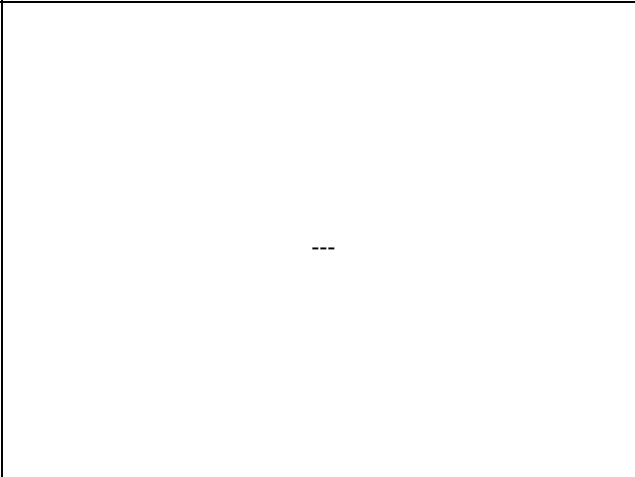
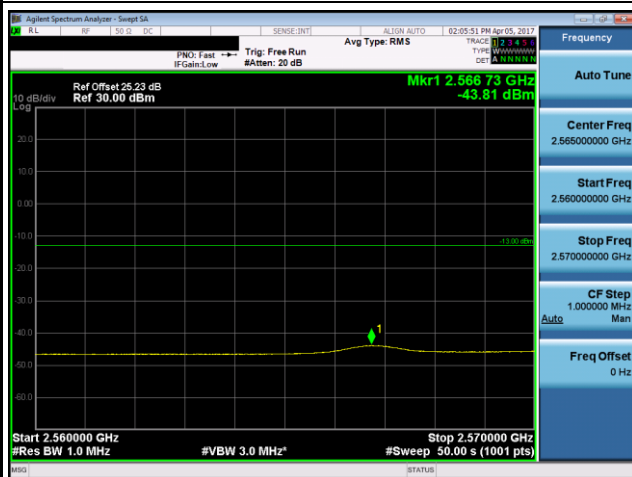
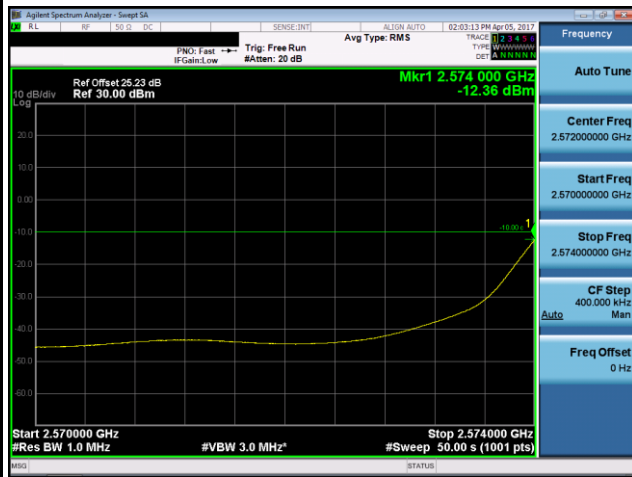
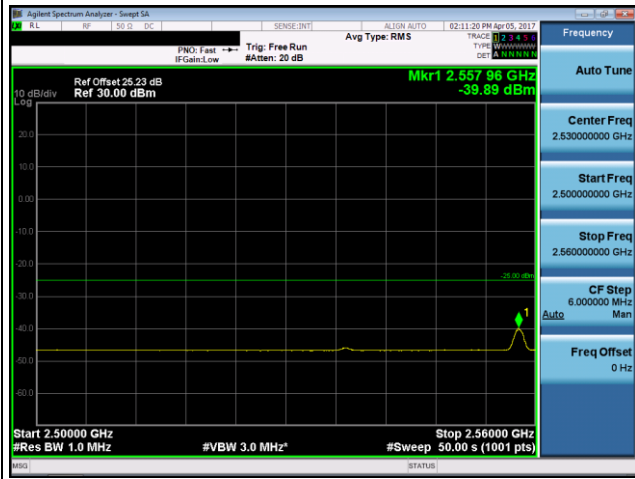
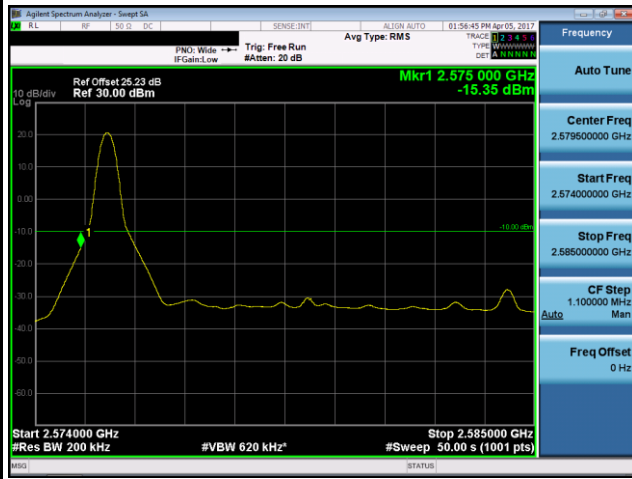
Mode High Channel-Full RB



CB:10MHz / QPSK

Mode

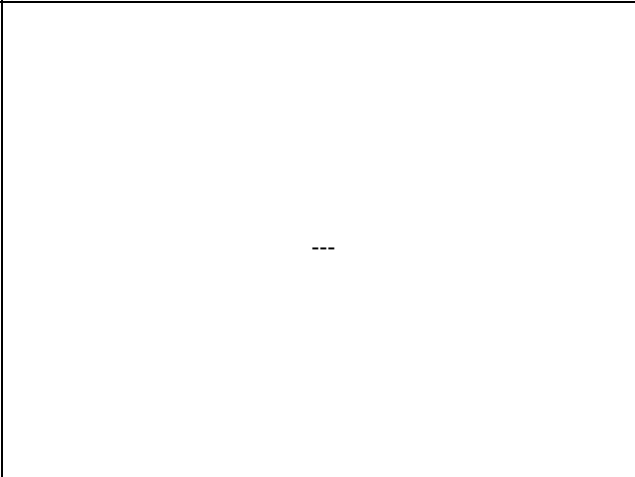
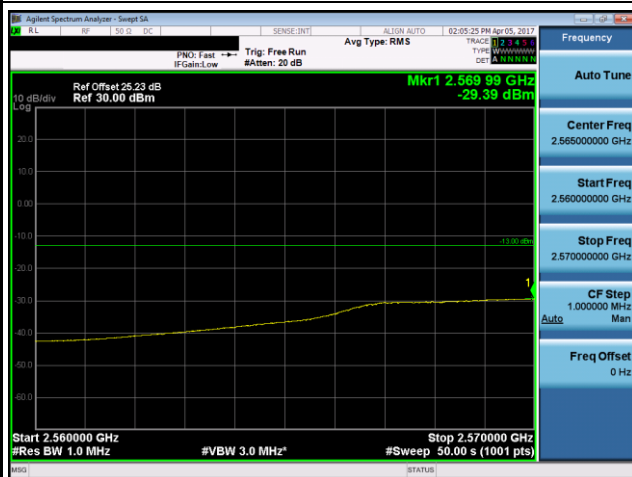
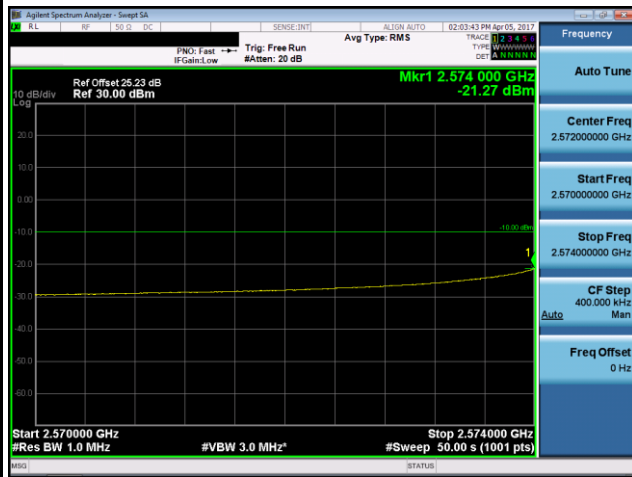
Low Channel-1RB



CB:10MHz / QPSK

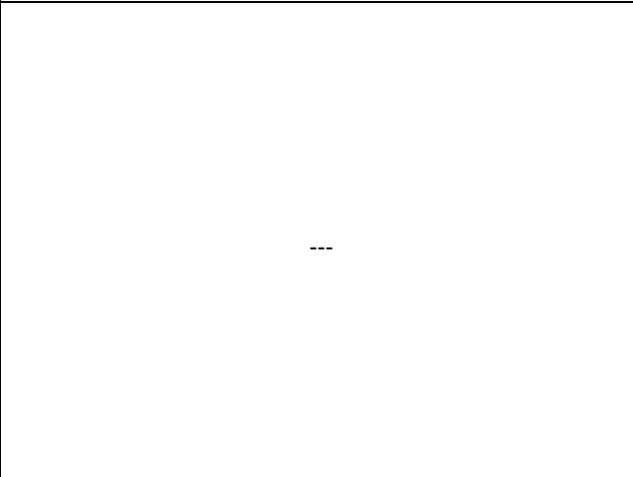
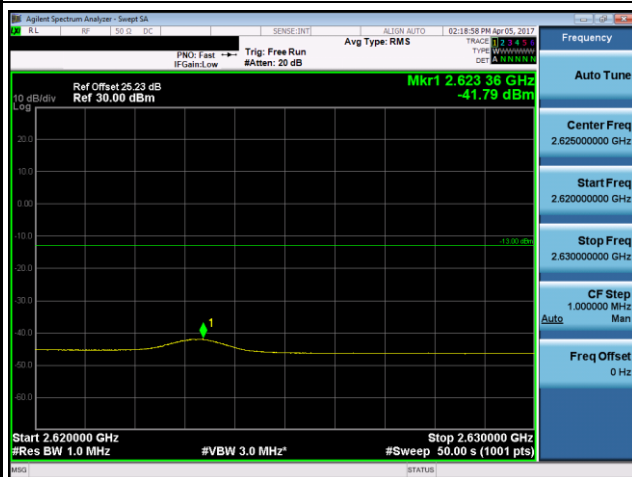
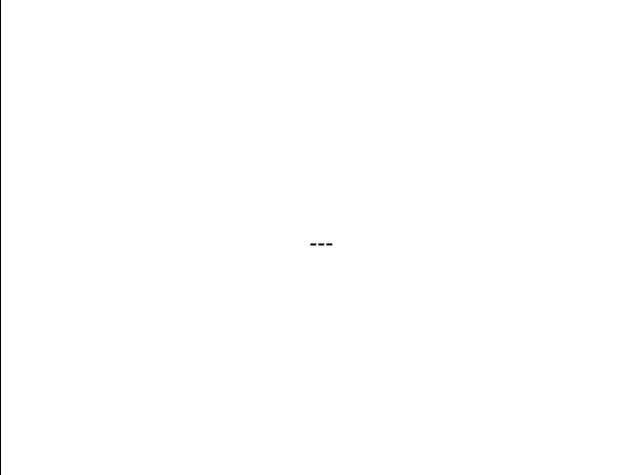
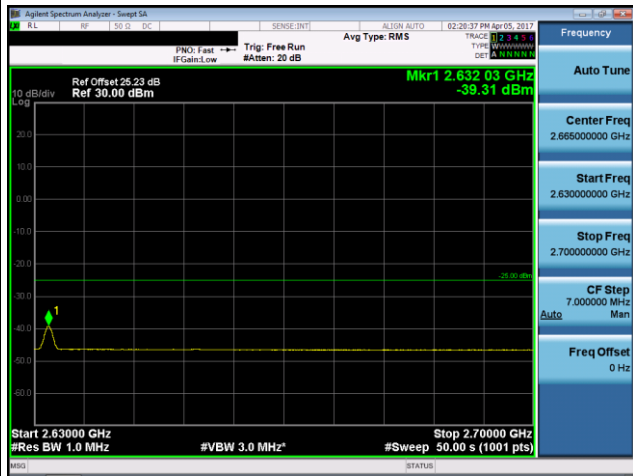
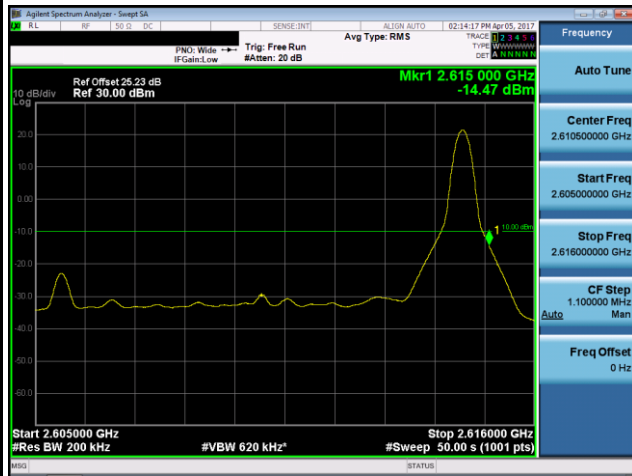
Mode

Low Channel-Full RB



CB:10MHz / QPSK

Mode High Channel-1RB



CB:10MHz / QPSK

Mode High Channel-Full RB

