

FCC Radio Test Report

FCC ID: 2AF8C-T373B

Original Grant

Report No. : TB-FCC145508
Applicant : Ulbo Tech Co., Limited
Equipment Under Test (EUT)
EUT Name : OBDII GPS Tracker
Model No. : T373B
Series No. : T360, T361, T363A, T363B, T370, T371, T373A
Brand Name : Ulbo Tech Co., Limited
Receipt Date : 2015-09-21
Test Date : 2015-09-21 to 2015-10-21
Issue Date : 2015-10-22
Standards : FCC Part 2
FCC Part 22 Subpart H, FCC Part 24 Subpart E, 2014
ANSI/TIAC603D: 2010
Conclusions : **PASS**

In the configuration tested, the EUT complied with the standards specified above,
The EUT technically complies with the FCC requirements

Test/Witness Engineer :

LIWAN SU

Approved & Authorized :

Ray Lai



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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1. General Information about EUT

1.1 Client Information

Applicant : Ulbo Tech Co., Limited
Address : Room 601, Building 3 Zone2 No.11 Kuiqi First Road Chan Cheng District Foshan, Guangdong China
Manufacturer : Ulbo Tech Co., Limited
Address : Room 601, Building 3 Zone2 No.11 Kuiqi First Road Chan Cheng District Foshan, Guangdong China

1.2 General Description of EUT (Equipment Under Test)

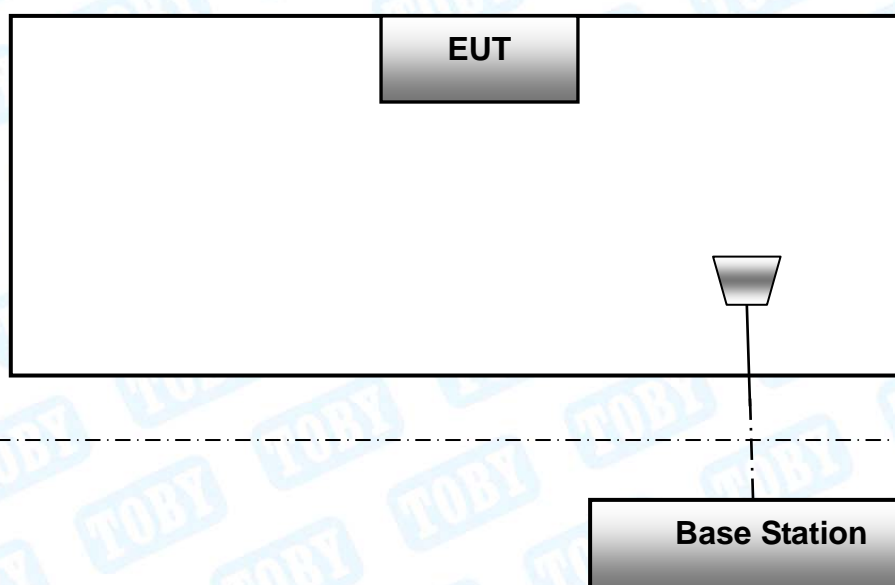
EUT Name	:	OBDII GPS Tracker
Models No.	:	T360, T361, T363A, T363B, T370, T371, T373A, T373B
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.
Product Description	:	Frequency Bands: GSM850; PCS1900; UMTS FDD Band II; UMTS FDD Band V
		GSM 850 Power : Cond:32.35 dBm ERP:31.54 dBm
		PCS 1900 Power : Cond:29.42 dBm EIRP:25.89 dBm
		UMTS Band V Power: Cond:23.15 dBm ERP:18.57 dBm
		UMTS Band II Power: Cond:22.35 dBm EIRP:18.05 dBm
		Antenna Gain: GSM 850: -1.2 dBi PCS 1900: 0.72 dBi WCDMA Band V: -1.2 dBi WCDMA Band II: 0.72 dBi
		Modulation Type: GSM/GPRS:GMSK EDGE: 8PSK UMTS:QPSK
FCC Operating Frequency	:	GSM 850: 824.20MHz-848.80MHz PCS1900: 1850.20MHz-1909.80MHz UMTS Band II: 1852.40MHz-1907.60MHz UMTS Band V:826.40MHz-846.60MHz
Emission Designator	:	GSM 850: 247KGXW, PCS 1900: 253KGXW GPRS 850: 249KG7W, GPRS 1900: 249KG7W EGPRS 850: 252KG7W, EGPRS 1900: 253KG7W UMTS Band V: 4M18F9W, UMTS Band II: 4M15F9W
Power Supply	:	DC power by Li-ion battery.

Power Rating	:	DC 3.7V by Li-ion Battery. DC 12V/2A by DC Battery.
Connecting I/O Port(S)	:	Please refer to the User's Manual

Note:

- (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. The EUT has also been tested and complied the FCC 15C for BLE function, and recorded in the separate test report.
- (2) This test report only product for PCS Licensed Transmitter (PCB).

1.3 Block Diagram Showing the Configuration of System Tested



The above block diagram of setup is the normal mode. And more detail please refer to the test setup of each test item of bellow.

1.4 Description of Support Units

The EUT has been tested as an independent unit.

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

During all testing, EUT is link mode with base station at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range. Frequency range investigated for radiated emission as below:

1. 9kHz~10GHz for GSM850 and UMTS Band V.

2. 9kHz~20GHz for PCS1900 and UMTS Band II.

Test Channel		
Mode	Channel	Frequency(MHz)
GSM 850	128	824.20
	190	836.60
	251	848.80
PCS 1900	512	1850.20
	661	1880.00
	810	1909.80
UMTS Band V	4132	826.40
	4175	835.00
	4233	846.60
UMTS Band II	9262	1852.40
	9400	1880.00
	9538	1907.60
Pre-scanning test Mode		Description
GSM 850		highest , middle, lowest channels
GPRS 850		highest , middle, lowest channels
GSM 1900		highest , middle, lowest channels
GPRS 1900		highest , middle, lowest channels
RMC UMTS Band V		highest , middle, lowest channels
HSDPA UMTS Band V		highest , middle, lowest channels
HSUPA UMTS Band V		highest , middle, lowest channels
RMC UMTS Band II		highest , middle, lowest channels
HSDPA UMTS Band II		highest , middle, lowest channels
HSUPA UMTS Band II		highest , middle, lowest channels
Final test Mode		Description
GSM 850		highest , middle, lowest channels
GSM 1900		highest , middle, lowest channels
RMC UMTS 850		highest , middle, lowest channels
RMC UMTS Band II		highest , middle, lowest channels

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

- (2) During the testing procedure, the EUT is in link mode with base station emulator at maximum power level in each test mode.
- (3) The EUT has GSM, GPRS, EDGE functions, and after pre-testing, GSM function is the worst case for all the emission tests.
- (4) The EUT has RMC, HSDP, HSUP functions in UMTS band II and UMTS band V, and after pre-testing, RMC mode is the worst case for all the emission tests.
- (5) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on Z-plane as the normal use. Therefore only the test data of this Z-plane was used for radiated emission measurement test.

1.6 Measurement Uncertainty

Test Item	Parameters	Expanded Uncertainty (U_{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	± 3.42 dB ± 3.42 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	± 4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	± 4.40 dB
Radiated Emission	Level Accuracy: Above 1000MHz	± 4.20 dB

1.7 Test Facility

The testing was performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at: 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China.

At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

2. Test Summary

Test Standards and Test Results			
Standard	Document Title		
FCC Part 2 (10-1-05 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations		
FCC Part 22 (10-1-05 Edition)	Public Mobile Services		
FCC Part 24 (10-1-05 Edition)	Personal Communications Services		
Standard Section	Test Item	Judgment	Remark
2.1046	Conducted RF Output Power	PASS	N/A
24.232(d)	Peak-Average Ratio	PASS	N/A
2.1049; 22.917; 24.238	99% & -26 dB Occupied Bandwidth	PASS	N/A
2.1055; 22.355; 24.235	Frequency Stability	PASS	N/A
2.1051; 2.1057; 22.917; 24.238	Conducted Out of Band Emissions	PASS	N/A
2.1051; 2.1057; 22.917; 24.238	Band Edge	PASS	N/A
22.913; 24.238	Transmitter Radiated Power (EIRP/ERP)	PASS	N/A
2.1053; 2.1057; 22.917; 24.238	Radiated Out of Band Emissions	PASS	N/A
Note: N/A is an abbreviation for Not Applicable.			

3. Test Equipment

AC Main Conducted Emission					
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	ROHDE& SCHWARZ	ESCI	100321	Aug. 07, 2015	Aug. 06, 2016
50ΩCoaxial Switch	Anritsu	MP59B	X10321	Aug. 07, 2015	Aug. 06, 2016
L.I.S.N	Rohde & Schwarz	ENV216	101131	Aug. 07, 2015	Aug. 06, 2016
L.I.S.N	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 07, 2015	Aug. 06, 2016
Radiation Spurious Emission					
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Aug. 29, 2015	Aug. 28, 2016
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 07, 2015	Aug. 06, 2016
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 28, 2015	Mar. 27, 2016
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 28, 2015	Mar. 27, 2016
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 28, 2015	Mar. 27, 2016
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	Sonoma	310N	185903	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	HP	8447B	3008A00849	Aug. 29, 2015	Aug. 28, 2016
Cable	HUBER+SUHNER	100	SUCOFLEX	Aug. 07, 2015	Aug. 06, 2016
Signal Generator	Rohde & Schwarz	SML03	IKW682-054	Mar. 28, 2015	Mar. 27, 2016
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Universal Radio Communication Tester	Rohde&Schwarz	CMU200	103903	Mar. 21, 2015	Mar. 20, 2016
Antenna Conducted Emission					
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Aug. 29, 2015	Aug. 28, 2016
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 07, 2015	Aug. 06, 2016
Universal Radio Communication Tester	Rohde&Schwarz	CMU200	103903	Mar. 21, 2015	Mar. 20, 2016

4. Frequency Stability

4.1 Test Standard and Requirement

4.1.1 Test Standard

FCC Part 2.1055

FCC Part 22.355

FCC Part 24.235

4.1.2 Requirement

According to FCC section 22.355 and FCC section 24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

(1) Temperature:

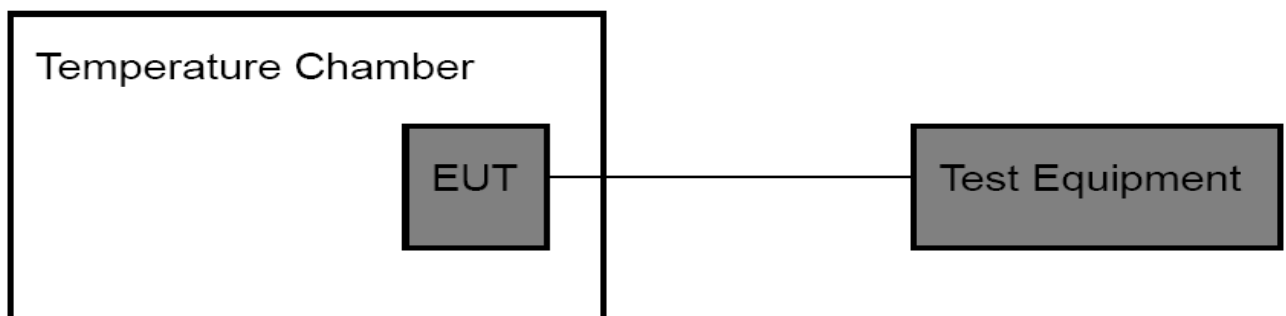
The temperature is varied from -30°C to $+50^{\circ}\text{C}$ at intervals of not more than 10°C .

(2) Primary Supply Voltage:

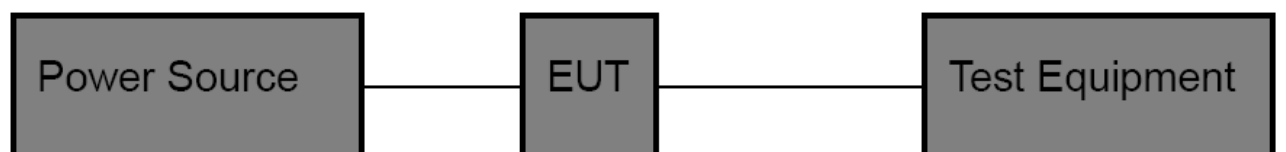
For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at input to the cable normally provide with the equipment, or at the power supply terminals if cables are not normally provided.

4.2 Test Setup

For Temperature Test:



For Voltage Test:



4.3 Test Procedure

Test Procedures for Temperature Variation:

- (1) The EUT was set up in the thermal chamber and connected with the base station.
- (2) With power off, the temperature was decreased to -30°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
- (3) With power off, the temperature was raised in 10°C set up to 50°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
- (4) If the EUT cannot be turned on at -30°C , the testing lowest temperature will be raised in 10°C step until the EUT can be turned on.

Test Procedures for Voltage Variation:

- (1) The EUT was placed in a temperature chamber at $25 \pm 5^{\circ}\text{C}$ and connected with the base station.
- (2) Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.
- (3) The variation in frequency was measured for the worst case.

4.4 EUT Operating Condition

The Equipment Under Test was set to Communication with the Base Station.

3.5 Test Data

Please refer the following pages.

Temperature Variation

Temperature Variation GSM 850 (CH190)						
Temperature (°C)	GSM		GPRS		EDGE	
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)
-30	26	0.031	15	0.018	17	0.020
-20	28	0.033	16	0.019	19	0.023
-10	29	0.035	14	0.017	20	0.024
0	25	0.030	13	0.016	18	0.022
10	26	0.031	18	0.022	16	0.019
20	28	0.033	16	0.019	17	0.020
30	27	0.032	18	0.022	21	0.025
40	24	0.029	17	0.020	19	0.023
50	29	0.035	16	0.019	20	0.024
60	30	0.036	15	0.018	16	0.019
Limit	2.5 (ppm)					
Result	PASS					

Temperature Variation GSM 1900 (CH661)						
Temperature (°C)	GSM		GPRS		EDGE	
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)
-30	29	0.044	18	0.027	20	0.030
-20	26	0.039	16	0.024	18	0.027
-10	27	0.041	19	0.029	23	0.035
0	28	0.042	21	0.032	19	0.029
10	25	0.038	20	0.030	17	0.026
20	30	0.045	18	0.027	19	0.029
30	29	0.044	19	0.029	21	0.032
40	31	0.047	17	0.026	20	0.030
50	28	0.042	16	0.024	23	0.035
60	26	0.039	15	0.023	21	0.032
Limit	2.5 (ppm)					
Result	PASS					

Temperature Variation UMTS Band V (CH 4182)		
Temperature (°C)	RMC Mode	
	Freq. Dev. (Hz)	Deviation (ppm)
-30	24	0.029
-20	26	0.031
-10	24	0.029
0	23	0.027
10	19	0.023
20	20	0.024
30	21	0.025
40	26	0.031
50	24	0.029
60	25	0.030
Limit	2.5 (ppm)	
Result	PASS	

Temperature Variation UMTS Band II (CH 9400)		
Temperature (°C)	RMC Mode	
	Freq. Dev. (Hz)	Deviation (ppm)
-30	31	0.016
-20	32	0.017
-10	29	0.015
0	27	0.014
10	30	0.016
20	29	0.015
30	28	0.015
40	30	0.016
50	31	0.016
60	29	0.015
Limit	2.5 (ppm)	
Result	PASS	

Voltage Variation

Voltage Variation GSM 850 (CH190)						
Voltage (V)	GSM		GPRS		EDGE	
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)
3.15	14	0.017	11	0.013	10	0.012
3.70	16	0.019	13	0.016	12	0.014
4.26	18	0.022	14	0.017	14	0.017
Limit	2.5 (ppm)					
Result	PASS					

Voltage Variation GSM 1900 (CH661)						
Voltage (V)	GSM		GPRS		EDGE	
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)
3.15	18	0.027	20	0.030	19	0.029
3.70	20	0.030	18	0.027	20	0.030
4.26	19	0.029	21	0.032	21	0.032
Limit	2.5 (ppm)					
Result	PASS					

Voltage Variation UMTS Band V (CH 4182)		
Voltage (V)	RMC Mode	
	Freq. Dev. (Hz)	Deviation (ppm)
3.15	20	0.024
3.70	19	0.023
4.26	21	0.025
Limit	2.5 (ppm)	
Result	PASS	

Voltage Variation UMTS Band II (CH 9400)		
Voltage (V)	RMC Mode	
	Freq. Dev. (Hz)	Deviation (ppm)
3.15	23	0.012
3.70	20	0.011
4.26	22	0.012
Limit	2.5 (ppm)	
Result	PASS	

5. Conducted RF Output Power

5.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 2: 2.1046

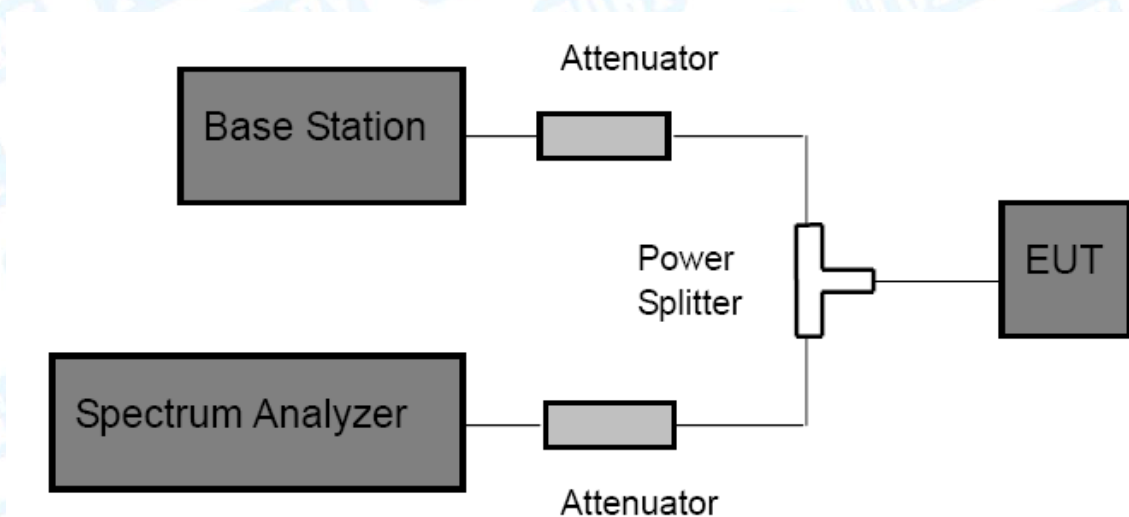
FCC Part 22H : 22.913 (a)

FCC Part 24E: 24.232 (c)

5.1.2 Test Limit

GSM850/UMTS Band V	PCS 1900/UMTS Band II
38.5 dBm (ERP)	33 dBm (EIRP)

5.2 Test Setup



5.3 Test Procedure

- (1) The EUT is coupled to the Spectrum Analyzer and the Base Station with the suitable Attenuators through the Power Splitter, the path loss is calibrated to correct the reading.
- (2) A call is set up by the Base Station to the generic call set up procedure.
- (3) Set EUT at maximum power level through base station by power level command.
- (4) Set the frequency range of the Spectrum Analyzer suitably to capture the waveform; search peak and mark it; finally record the peak and the plot.

5.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

5.5 EUT Operating Condition

GSM 850				
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)
GSM 850	128	824.2	32.24	1.675
	190	836.6	32.35	1.718
	251	848.8	32.29	1.694
GPRS 850 (1 Slot)	128	824.2	31.24	1.330
	190	836.6	31.18	1.312
	251	848.8	31.75	1.496
GPRS 850 (2 Slot)	128	824.2	31.83	1.524
	190	836.6	31.68	1.472
	251	848.8	31.72	1.486
GPRS 850 (3 Slot)	128	824.2	31.66	1.466
	190	836.6	31.35	1.365
	251	848.8	31.79	1.510
GPRS 850 (4 Slot)	128	824.2	31.24	1.330
	190	836.6	31.69	1.476
	251	848.8	31.78	1.507
EDGE 850 (1 Slot)	128	824.2	31.69	1.476
	190	836.6	31.71	1.483
	251	848.8	31.73	1.489
EDGE 850 (2 Slot)	128	824.2	31.91	1.552
	190	836.6	31.86	1.535
	251	848.8	31.68	1.472
EDGE 850 (3 Slot)	128	824.2	31.75	1.496
	190	836.6	31.73	1.489
	251	848.8	31.69	1.476
EDGE 850 (4 Slot)	128	824.2	31.84	1.528
	190	836.6	31.86	1.535
	251	848.8	31.88	1.542

PCS 1900				
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)
GSM 1900	512	1850.2	29.28	0.847
	661	1880.0	29.34	0.859
	810	1909.8	29.42	0.875
GPRS 1900 (1 Slot)	512	1850.2	28.35	0.684
	661	1880.0	28.47	0.703
	810	1909.8	28.64	0.731
GPRS 1900 (2 Slot)	512	1850.2	28.13	0.650
	661	1880.0	28.64	0.731
	810	1909.8	28.51	0.710
GPRS 1900 (3 Slot)	512	1850.2	28.38	0.689
	661	1880.0	28.33	0.681
	810	1909.8	28.43	0.697
GPRS 1900 (4 Slot)	512	1850.2	28.14	0.652
	661	1880.0	28.18	0.658
	810	1909.8	28.42	0.695
EDGE 1900 (1 Slot)	512	1850.2	28.32	0.679
	661	1880.0	28.52	0.711
	810	1909.8	28.50	0.708
EDGE 1900 (2 Slot)	512	1850.2	28.34	0.682
	661	1880.0	28.47	0.703
	810	1909.8	28.28	0.673
EDGE 1900 (3 Slot)	512	1850.2	28.91	0.778
	661	1880.0	28.31	0.678
	810	1909.8	28.54	0.714
EDGE 1900 (4 Slot)	512	1850.2	28.39	0.690
	661	1880.0	28.48	0.705
	810	1909.8	28.34	0.682

UMTS Band V				
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)
Band V RMC	4132	826.4	22.35	0.172
	4175	835.0	22.18	0.165
	4233	846.6	22.65	0.184
HSDPA Subtest 1	4132	826.4	21.35	0.136
	4175	835.0	20.98	0.125
	4233	846.6	21.85	0.153
HSDPA Subtest 2	4132	826.4	20.89	0.123
	4175	835.0	21.65	0.146
	4233	846.6	21.41	0.138
HSDPA Subtest 3	4132	826.4	21.68	0.147
	4175	835.0	21.87	0.154
	4233	846.6	21.96	0.157
HSDPA Subtest 4	4132	826.4	21.89	0.155
	4175	835.0	20.99	0.126
	4233	846.6	21.03	0.127
HSUPA Subtest 1	4132	826.4	21.14	0.130
	4175	835.0	21.86	0.153
	4233	846.6	21.84	0.153
HSUPA Subtest 2	4132	826.4	21.83	0.152
	4175	835.0	20.96	0.125
	4233	846.6	20.89	0.123
HSUPA Subtest 3	4132	826.4	20.26	0.106
	4175	835.0	20.48	0.112
	4233	846.6	20.35	0.108
HSUPA Subtest 4	4132	826.4	21.38	0.137
	4175	835.0	21.87	0.154
	4233	846.6	21.05	0.127
HSUPA Subtest 5	4132	826.4	21.35	0.136
	4175	835.0	20.59	0.115
	4233	846.6	21.88	0.154

UMTS Band II				
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)
Band II RMC	9262	1852.4	22.74	0.188
	9400	1880.0	23.15	0.207
	9538	1907.6	22.37	0.173
HSDPA Subtest 1	9262	1852.4	20.68	0.117
	9400	1880.0	21.68	0.147
	9538	1907.6	21.36	0.137
HSDPA Subtest 2	9262	1852.4	20.48	0.112
	9400	1880.0	21.68	0.147
	9538	1907.6	21.45	0.140
HSDPA Subtest 3	9262	1852.4	21.67	0.147
	9400	1880.0	21.65	0.146
	9538	1907.6	21.16	0.131
HSDPA Subtest 4	9262	1852.4	21.63	0.146
	9400	1880.0	20.39	0.109
	9538	1907.6	20.15	0.104
HSUPA Subtest 1	9262	1852.4	21.21	0.132
	9400	1880.0	21.68	0.147
	9538	1907.6	20.96	0.125
HSUPA Subtest 2	9262	1852.4	21.32	0.136
	9400	1880.0	21.67	0.147
	9538	1907.6	21.68	0.147
HSUPA Subtest 3	9262	1852.4	21.87	0.154
	9400	1880.0	21.95	0.157
	9538	1907.6	20.45	0.111
HSUPA Subtest 4	9262	1852.4	21.69	0.148
	9400	1880.0	20.57	0.114
	9538	1907.6	20.62	0.115
HSUPA Subtest 5	9262	1852.4	20.53	0.113
	9400	1880.0	21.58	0.144
	9538	1907.6	21.48	0.141

6. Peak-Average Ratio

6.1 Test Standard and Limit

6.1.1 Test Standard

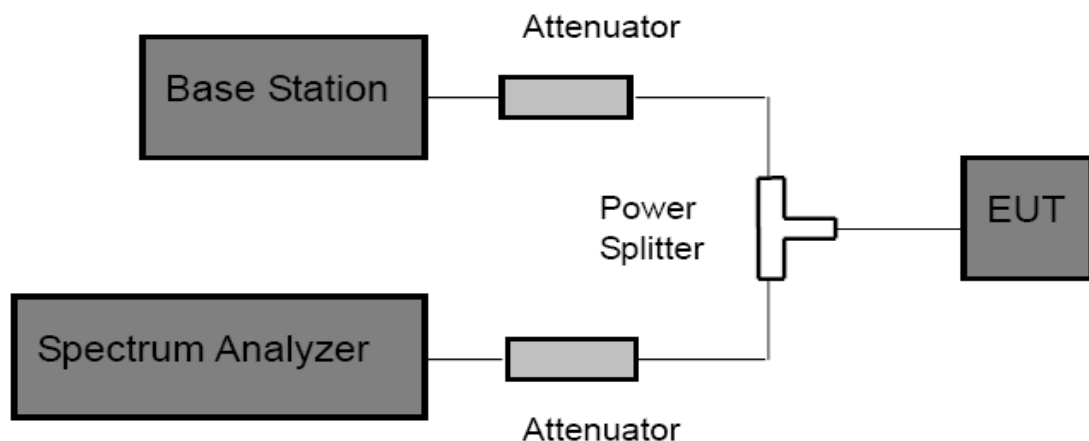
FCC Part 24E: 24.232 (d)

6.1.2 Test Limit

PCS 1900 /UMTS Band II

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

6.2 Test Setup



6.3 Test Procedure

According with KDB 971168

- (1) The signal analyzer's CCDF measurement profile is enabled.
- (2) Frequency = carrier center frequency.
- (3) Measurement BW > Emission bandwidth of signal.
- (4) The signal analyzer was set to collect one million samples to generate the CCDF curve.
- (5) The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which of the transmitter is operating at maximum power.

6.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

6.5 Test Data

PCS 1900					
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)		Peak-Average Ratio (PAR)
			Peak	Average	
PCS 1900	512	1850.2	32.68	31.25	1.43
	661	1880.0	33.12	31.58	1.54
	810	1909.8	32.86	31.58	1.28

UMTS Band II					
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)		Peak-Average Ratio (PAR)
			Peak	Average	
UMTS Band II	9262	1852.4	25.36	23.24	2.12
	9400	1880.0	24.98	22.86	2.12
	9538	1907.6	25.45	23.06	2.39

7. Radiated Output Power

7.1 Test Standard and Limit

7.1.1 Test Standard

FCC Part 22H : 22.913 (a)

FCC Part 24E: 24.232 (c)

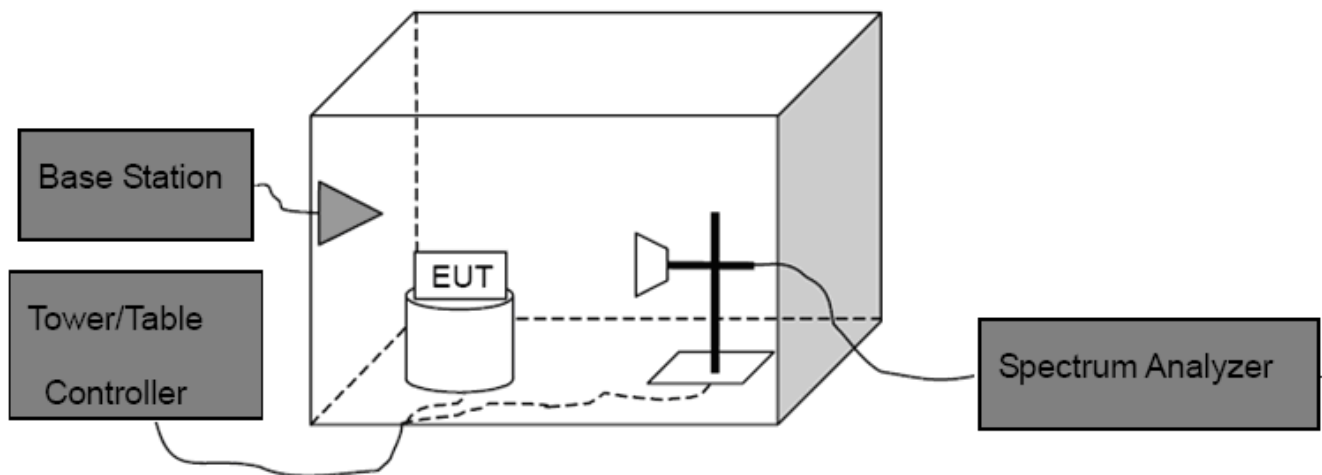
7.1.2 Test Limit

According to FCC Part 22.913 (a), the ERP of Cellular mobile transmitters must not exceed 7 Watts(38.5 dBm).

According to FCC Part 24.232 (c), the Mobile/portable stations are limited to 2 Watts(33 dBm) EIRP peak power.

Cellular Band		PCS Band	
GSM850	UMTS Band V	PCS 1900	UMTS Band II
38.5 dBm (ERP)		33 dBm (EIRP)	

7.2 Test Setup



7.3 Test Procedure

- (1) The EUT was placed on an non-conductive rotating platform with 0.8 meter height in an anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RBW=3 MHz, VBW=3 MHz and peak detector settings.
- (2) During the measurement, the EUT was enforced in maximum power and linked with the Base

Station. The highest was recorded from analyzer power level (LVT) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.

- (3) Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by dipole antenna (for frequency below 1 GHz) or Horn antenna (for frequency above 1 GHz) at same location with same polarize of receiver antenna and then a known power of each measure frequency from S.G. was applied into the dipole antenna or Horn antenna through a TX cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna.

Then the EUT's EIRP and ERP was calculated with the correction factor:

$ERP = S.G. Level + Antenna Gain Cord.(dBd) - Cable Loss(dB)$

$EIRP = S.G. Level + Antenna Gain Cord.(dBi) - Cable Loss(dB)$

7.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

7.5 Test Data

Measurement Data (worst case)

GSM 850					
Mode	Channel	Frequency (MHz)	Antenna (H&V)	ERP Power (dBm)	ERP Power (W)
GSM 850	128	824.2	H	30.67	1.167
			V	31.25	1.334
	190	836.6	H	31.21	1.321
			V	29.65	0.923
	251	848.8	H	30.15	1.035
			V	29.86	0.968
GPRS 850 (1 Slot)	128	824.2	H	30.24	1.057
			V	31.54	1.426
	190	836.6	H	29.87	0.971
			V	29.76	0.946
	251	848.8	H	30.24	1.057
			V	30.24	1.057
EDGE 850 (1 Slot)	128	824.2	H	29.93	0.984
			V	28.37	0.687
	190	836.6	H	29.13	0.818
			V	29.24	0.839
	251	848.8	H	29.36	0.863
			V	28.99	0.793
Limit				38.5	7

PCS 1900					
Mode	Channel	Frequency (MHz)	Antenna (H&V)	EIRP Power (dBm)	EIRP Power (W)
GSM 1900	512	1850.2	H	25.89	0.388
			V	25.18	0.330
	661	1880.0	H	25.24	0.334
			V	24.68	0.294
	810	1909.8	H	23.98	0.250
			V	24.54	0.284
GPRS 1900 (1 Slot)	512	1850.2	H	23.85	0.243
			V	24.37	0.274
	661	1880.0	H	23.86	0.243
			V	24.94	0.312
	810	1909.8	H	23.41	0.219
			V	23.68	0.233
EDGE 1900 (1 Slot)	512	1850.2	H	24.06	0.255
			V	24.68	0.294
	661	1880.0	H	24.68	0.294
			V	23.89	0.245
	810	1909.8	H	22.98	0.199
			V	24.45	0.279
Limit				33	2

UMTS Band V					
Mode	Channel	Frequency (MHz)	Antenna (H&V)	ERP Power (dBm)	ERP Power (W)
Band V RMC	4132	826.4	H	17.68	0.059
			V	18.57	0.072
	4175	835.0	H	17.58	0.057
			V	16.99	0.050
	4233	846.6	H	18.14	0.065
			V	17.28	0.053
Limit				38.5	7

UMTS Band II					
Mode	Channel	Frequency (MHz)	Antenna (H&V)	ERP Power (dBm)	ERP Power (W)
Band II RMC	9262	1852.4	H	16.98	0.050
			V	17.50	0.056
	9400	1880.0	H	18.05	0.064
			V	17.85	0.061
	9538	1907.6	H	16.58	0.045
			V	17.16	0.052
Limit				33	2

8. Occupied Bandwidth

8.1 Test Standard and Limit

8.1.1 Test Standard

FCC Part 2: 2.1049

FCC Part 22H : 22.913 (a)

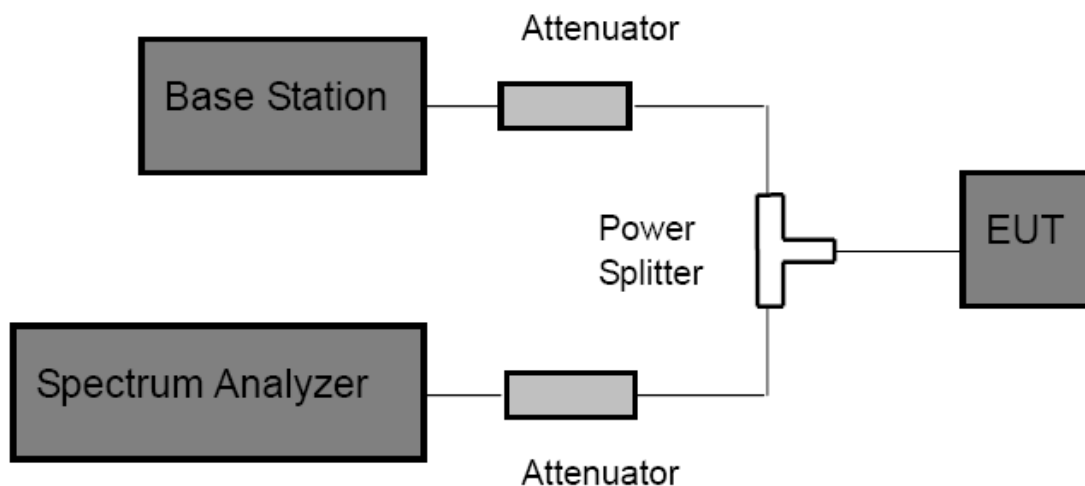
FCC Part 24E: 24.232 (c)

8.1.2 Test 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 99% power and -26dBC occupied bandwidths.

8.2 Test Setup



8.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and Base station via power splitter as show in the block diagram above.
- (2) The resolution bandwidth of the Spectrum Analyzer is set to at least 1% of the occupied bandwidth.
- (3) The low, middle and the high channels are selected to perform tests respectively.
- (4) Set the frequency range of the Spectrum Analyzer suitably to capture the waveform; search peak; make a line whose value is 26dB lower than the peak; mark two points which the line intersected the waveform at; finally record the delta of the two points as the occupied bandwidth and the plot.
- (5) Set the Spectrum Analyzer Occupied bandwidth function to measure the 99% occupied bandwidth.

8.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

8.5 Test Data

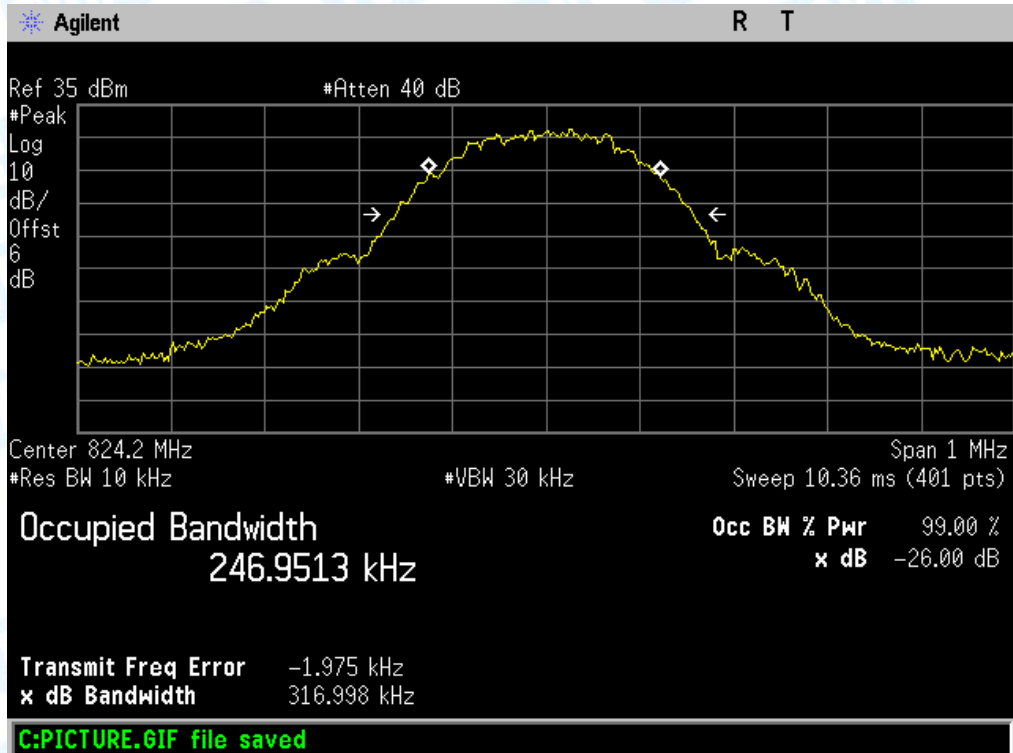
Please refer following pages.

GSM 850				
Mode	Channel	Frequency (MHz)	99% OBW (KHz)	-26dB Bandwidth (kHz)
GSM 850	128	824.2	246.9513	316.998
	190	836.6	243.4509	317.755
	251	848.8	246.0897	321.934
GPRS 850 (1 Slot)	128	824.2	246.4063	309.126
	190	836.6	248.8951	321.059
	251	848.8	245.5121	315.636
EDGE 850 (1 Slot)	128	824.2	243.6738	317.262
	190	836.6	240.2702	316.004
	251	848.8	252.4234	319.946
PCS 1900				
Mode	Channel	Frequency (MHz)	99% OBW (KHz)	-26dB Bandwidth (kHz)
GSM 1900	512	1850.2	241.8150	317.373
	661	1880.0	252.9688	312.965
	810	1909.8	250.6169	326.433
GPRS 1900 (1 Slot)	512	1850.2	242.6695	316.506
	661	1880.0	249.1443	319.228
	810	1909.8	244.0240	318.099
EDGE 1900 (1 Slot)	512	1850.2	247.4824	317.954
	661	1880.0	245.5340	320.319
	810	1909.8	252.8772	323.198

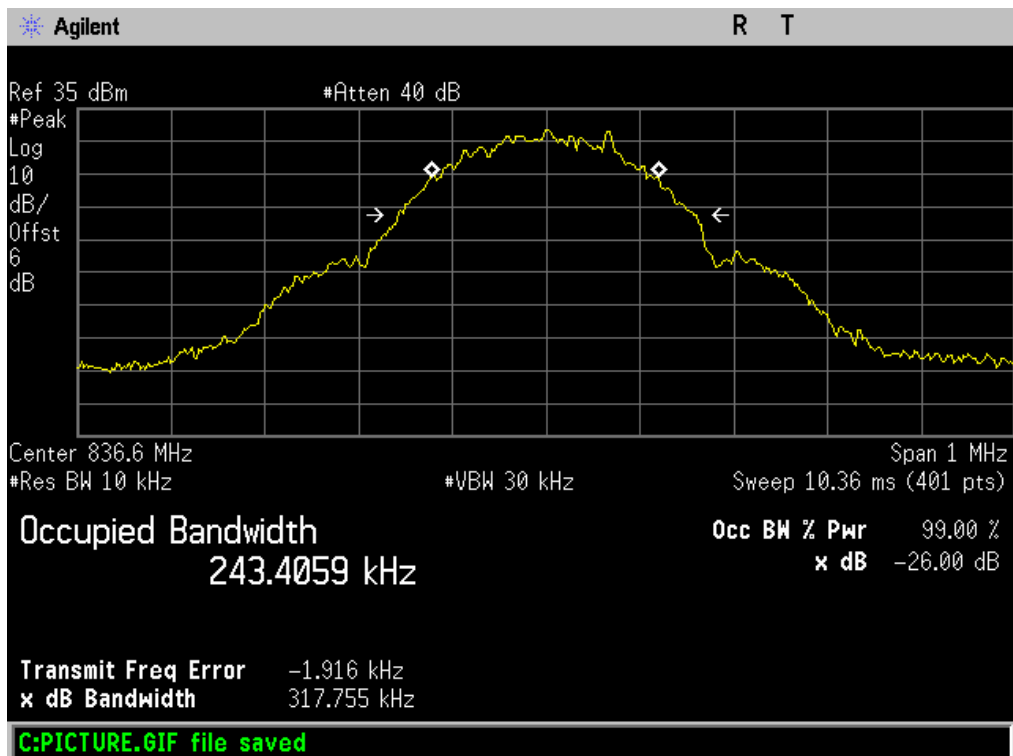
UMTS Band V				
Mode	Channel	Frequency (MHz)	99% OBW (MHz)	-26dB Bandwidth (MHz)
Band V RMC	4132	826.4	4.1576	4.709
	4175	835.0	4.1379	4.696
	4233	846.6	4.1617	4.710
Band V HSDPA	4132	826.4	4.1793	4.711
	4175	835.0	4.1597	4.705
	4233	846.6	4.1575	4.708
Band V HSUPA	4132	826.4	4.1615	4.717
	4175	835.0	4.1683	4.712
	4233	846.6	4.1469	4.693
UMTS Band II				
Mode	Channel	Frequency (MHz)	99% OBW (MHz)	-26dB Bandwidth (MHz)
Band II RMC	9262	1852.4	4.1263	4.794
	9400	1880.0	4.0944	4.715
	9538	1907.6	4.1537	5.863
Band II HSDPA	9262	1852.4	4.0762	4.653
	9400	1880.0	4.0943	4.697
	9538	1907.6	4.1278	5.642
Band II HSUPA	9262	1852.4	4.0809	4.647
	9400	1880.0	4.0717	4.630
	9538	1907.6	4.1174	4.690

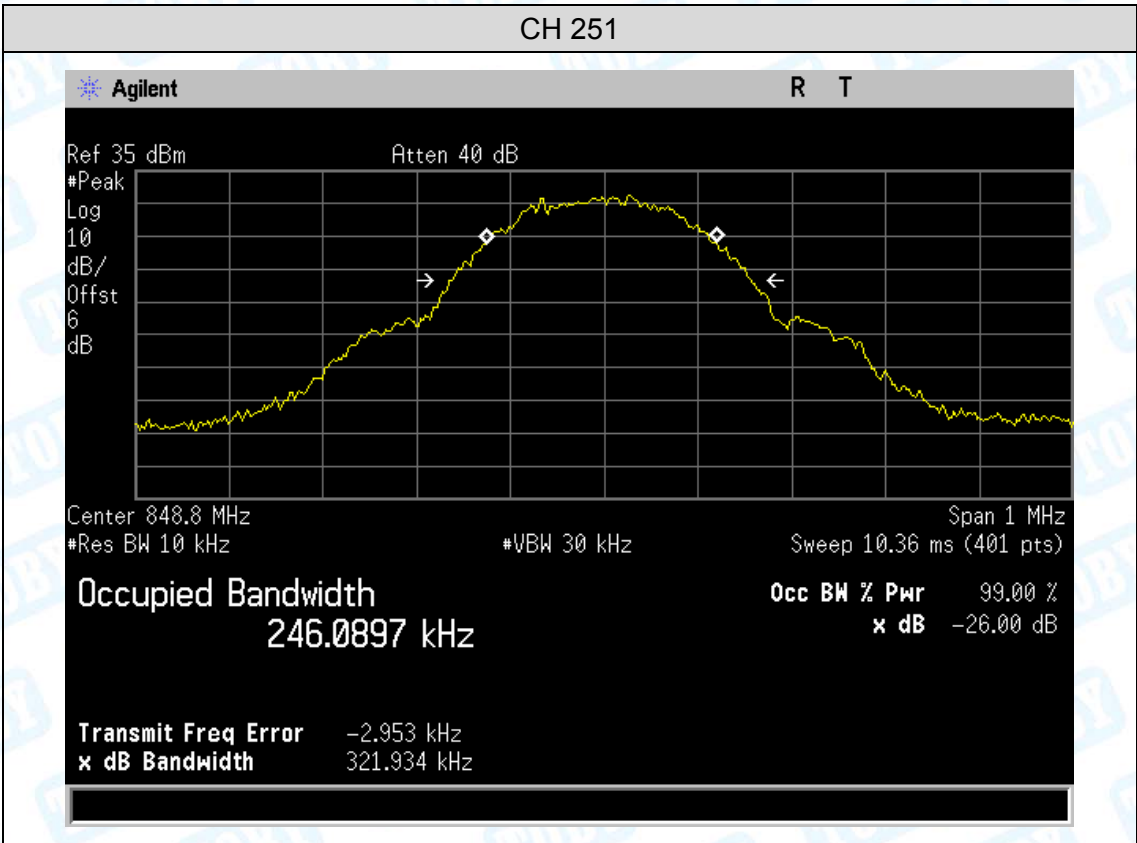
GSM850

CH 128



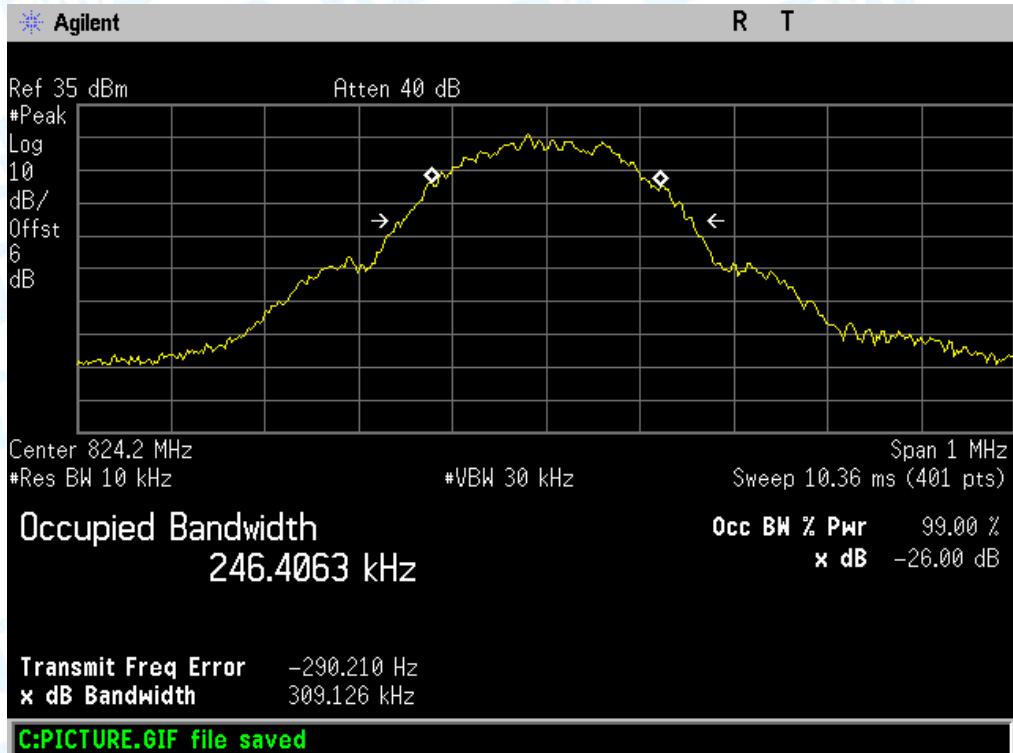
CH 190



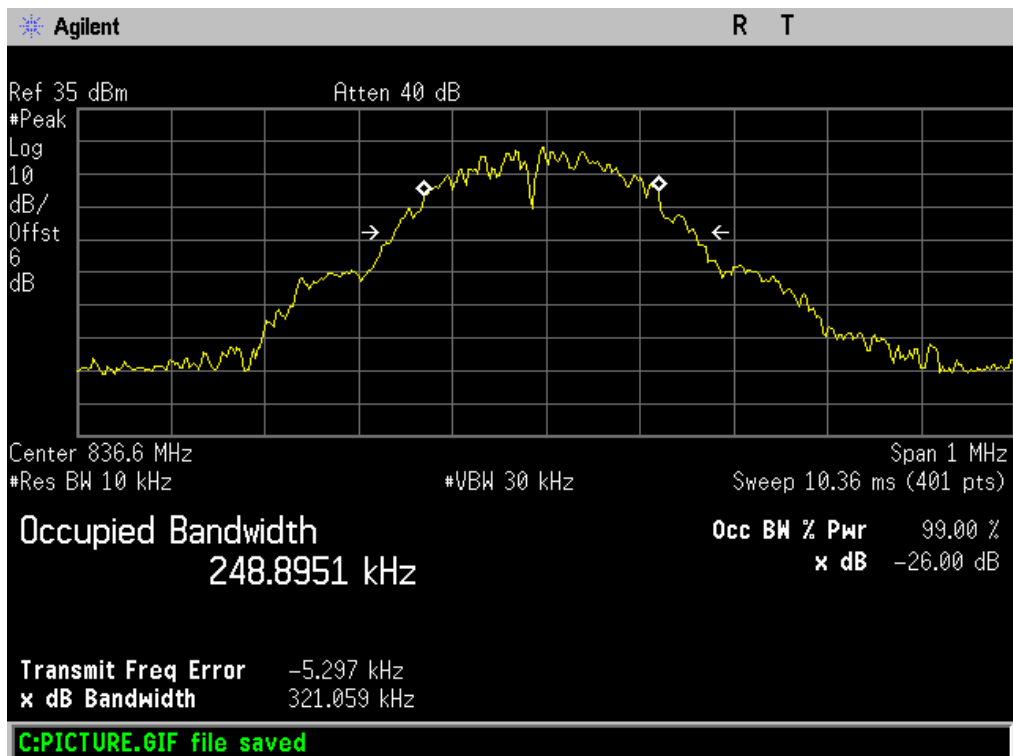


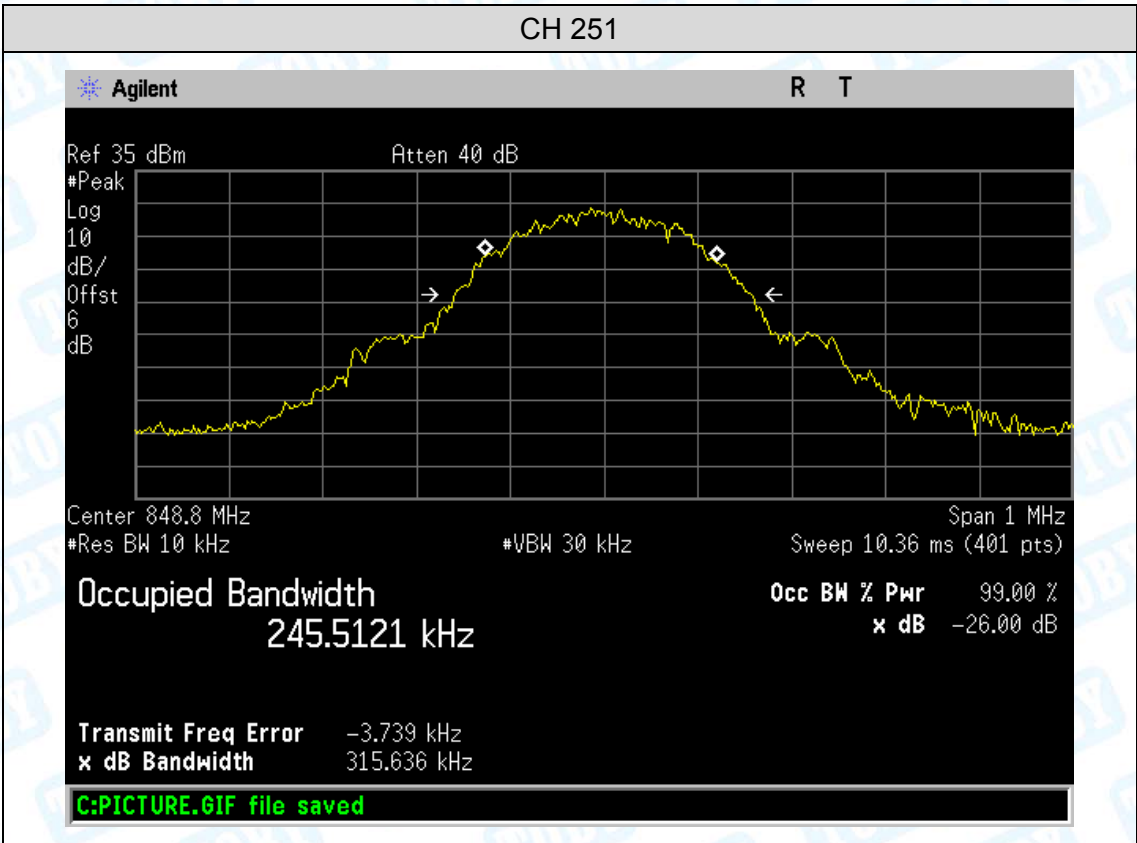
GPRS 850

CH 128



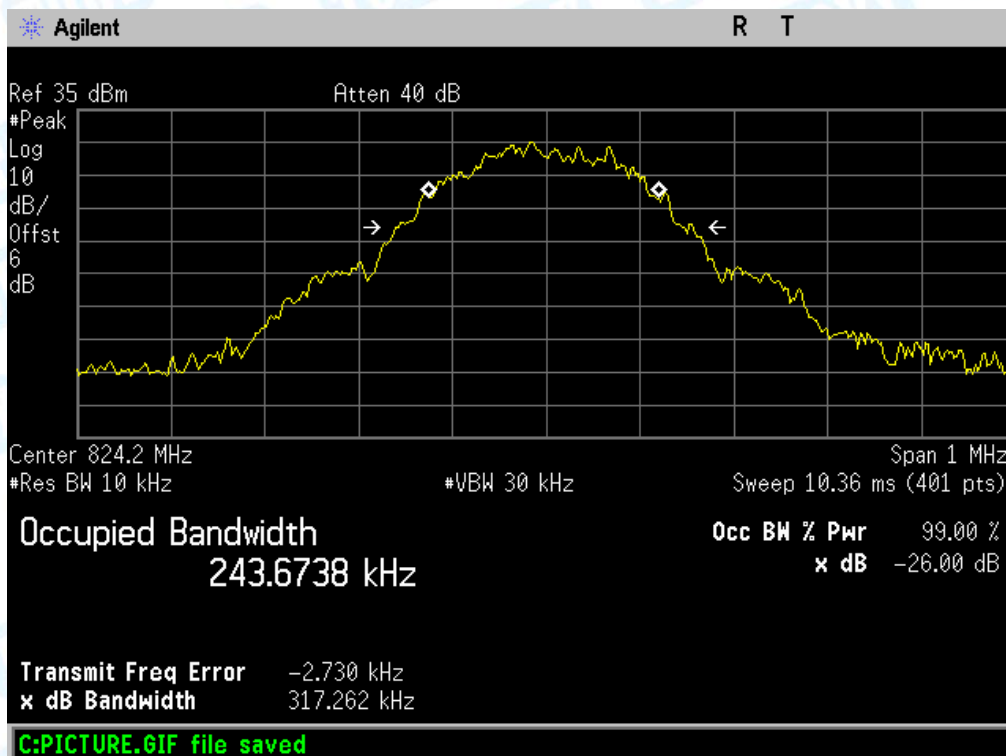
CH 190



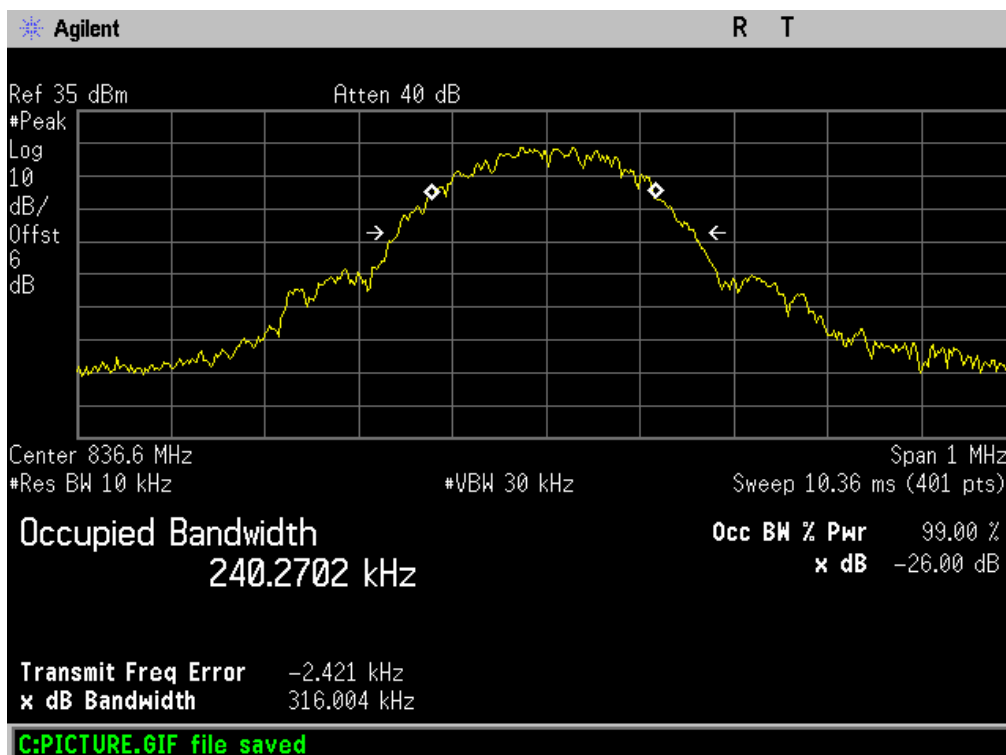


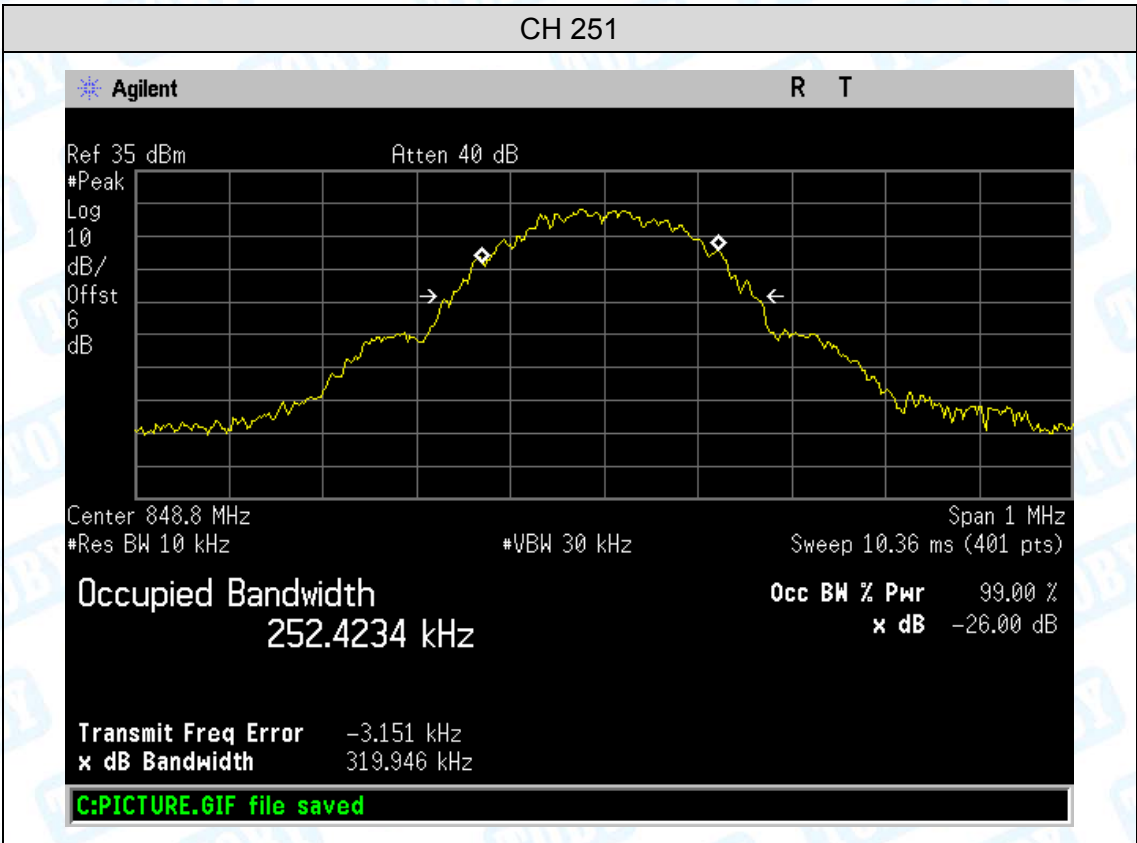
EDGE 850

CH 128



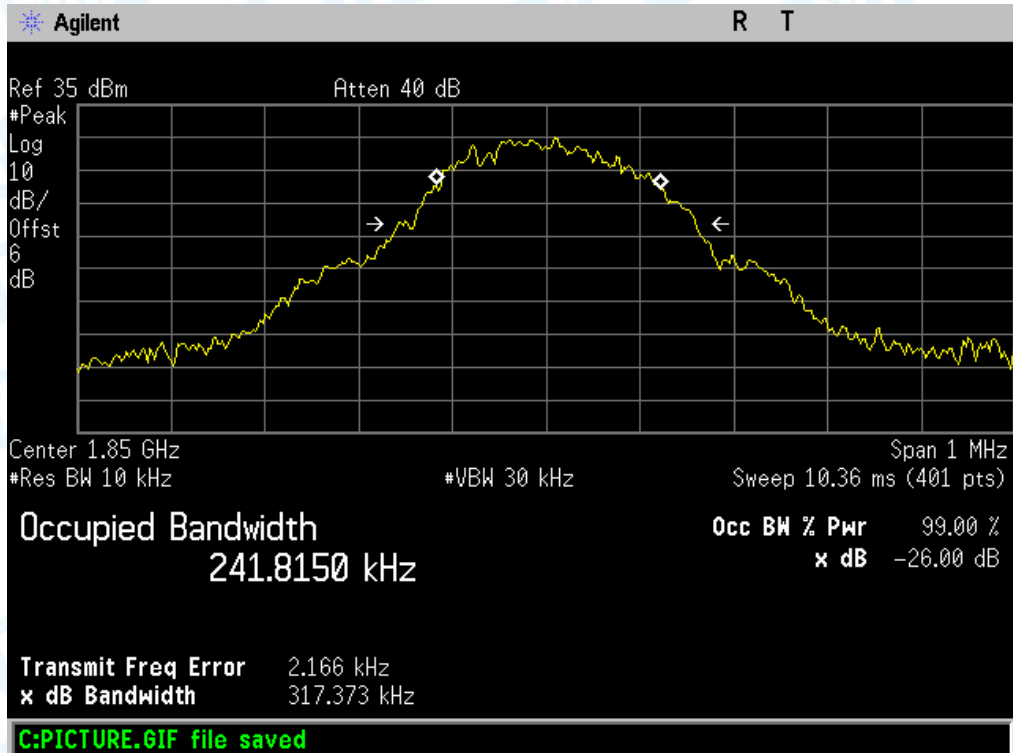
CH 190



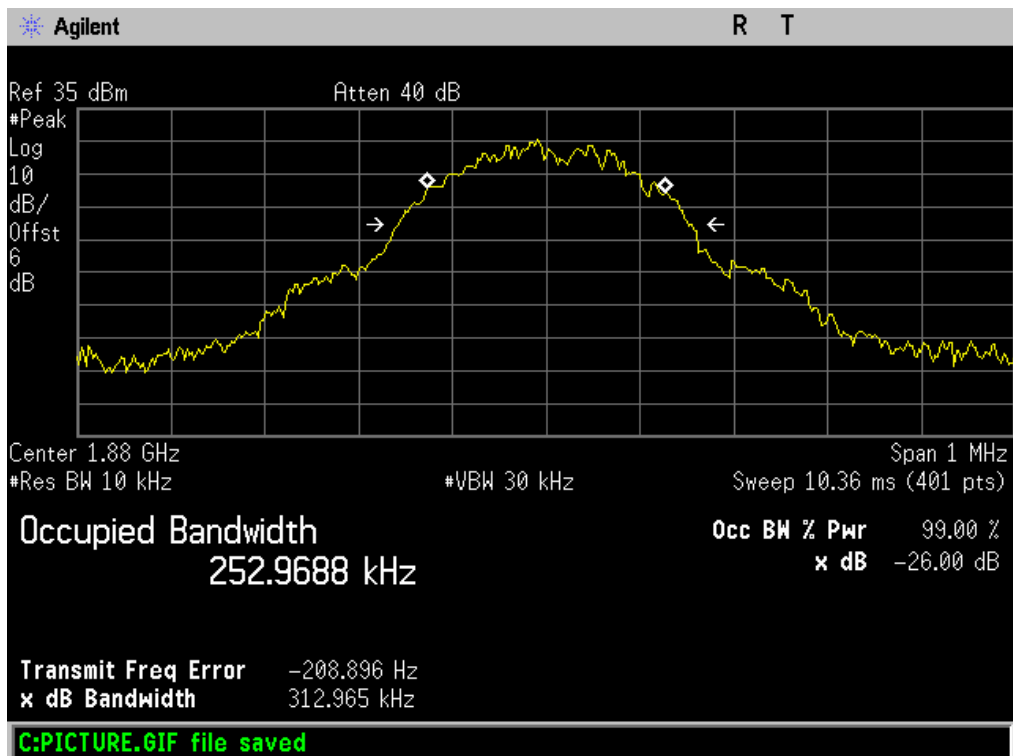


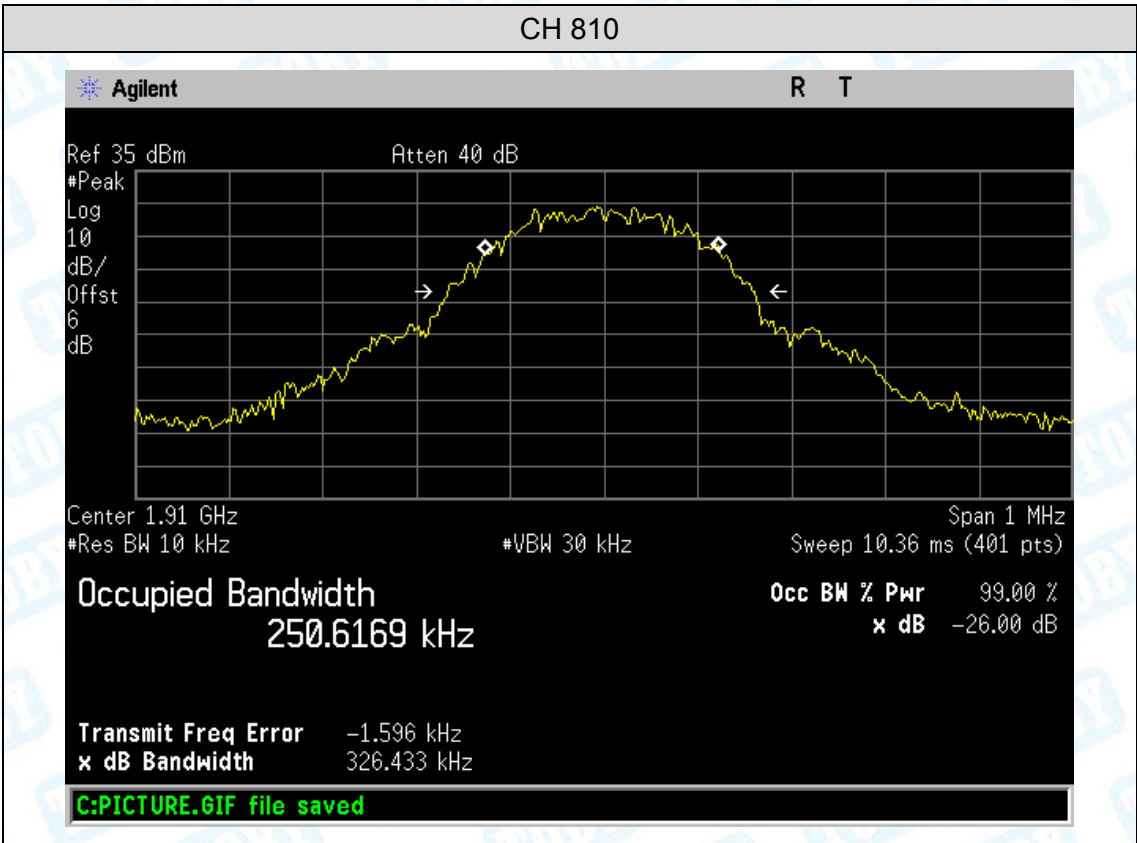
PCS 1900

CH 512



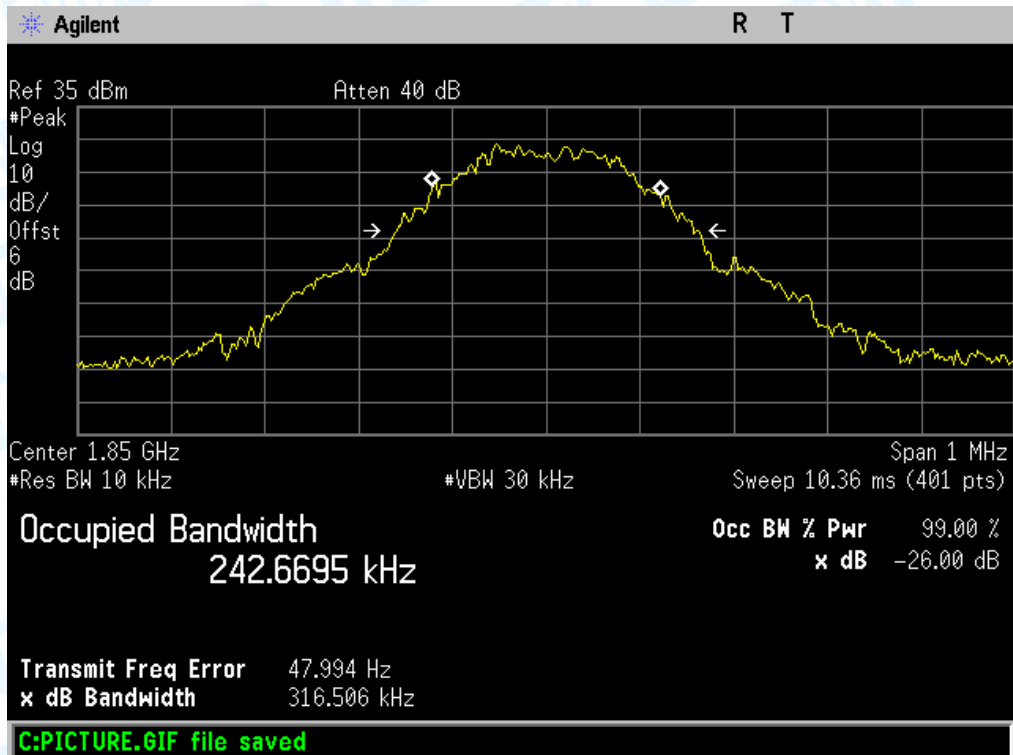
CH 661



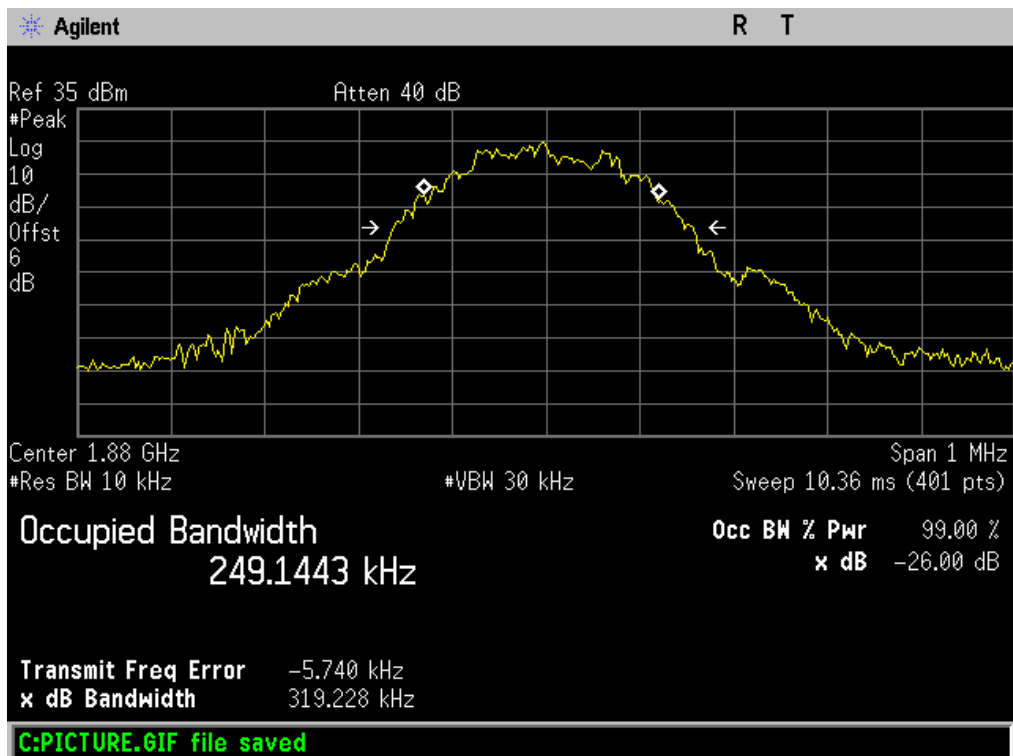


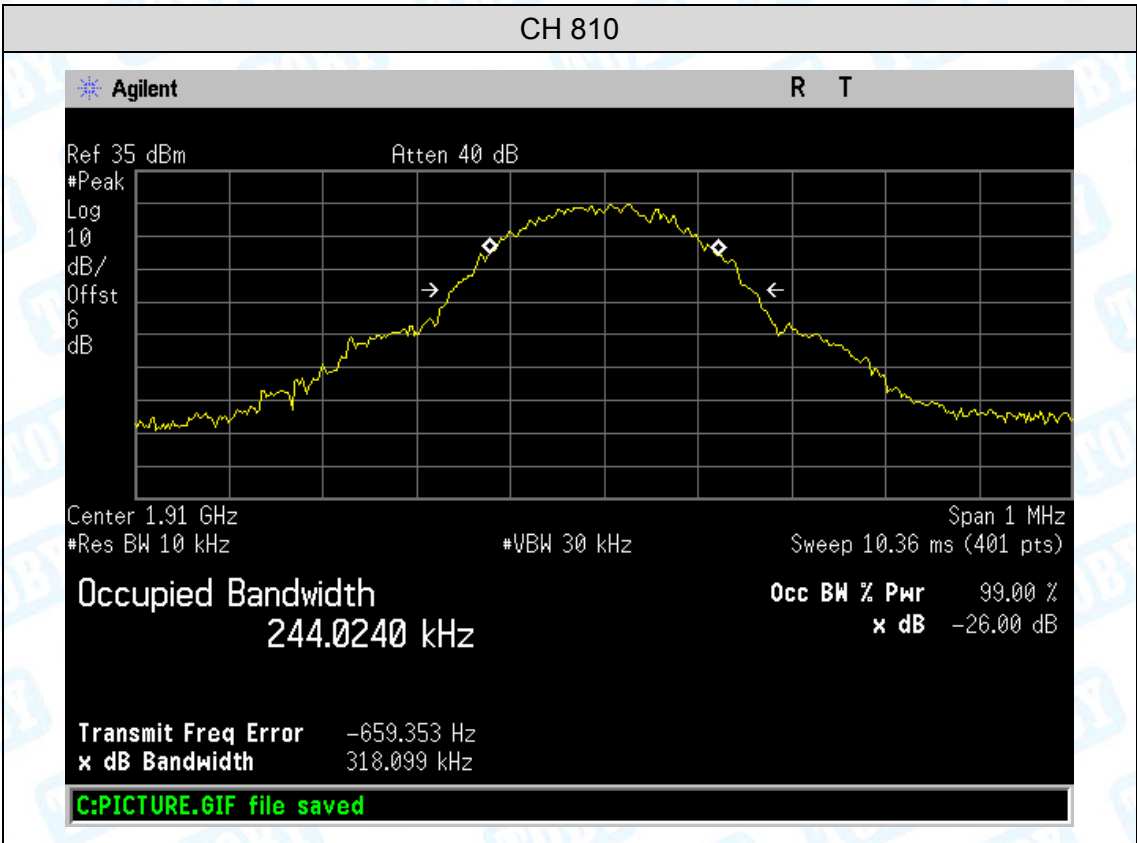
GPRS 1900

CH 512



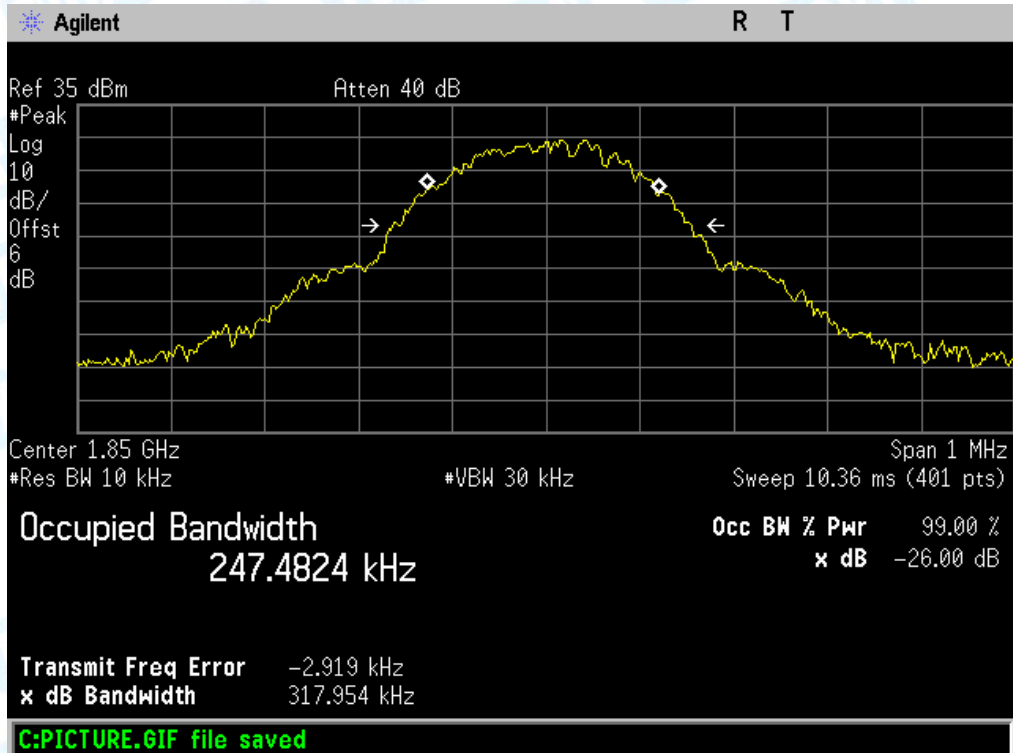
CH 661



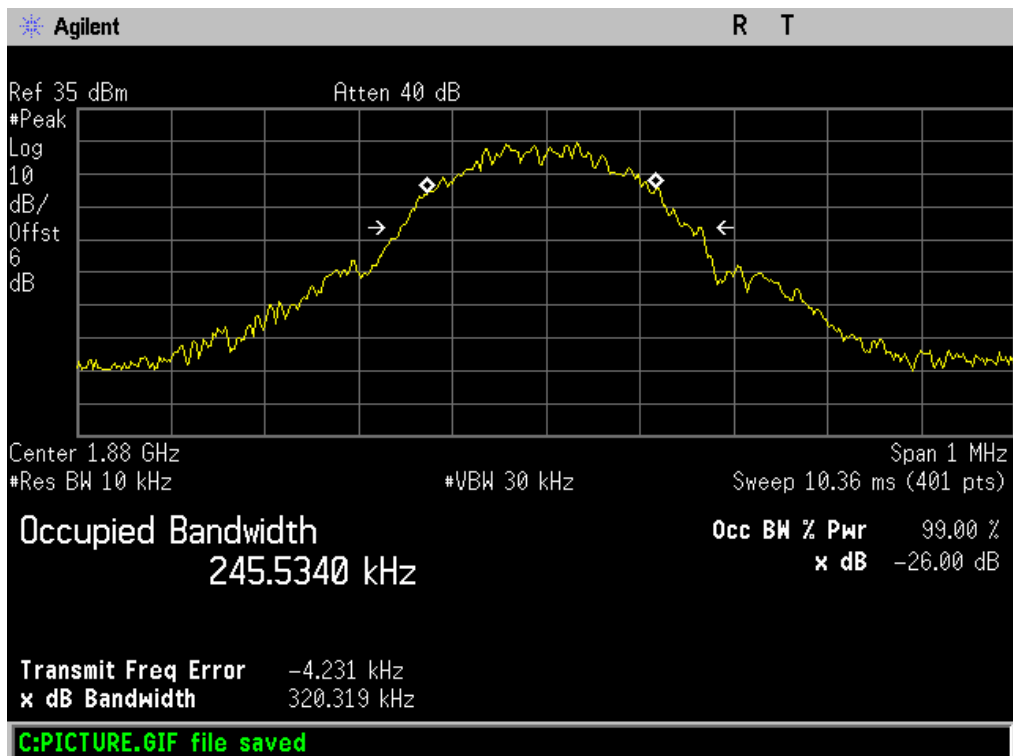


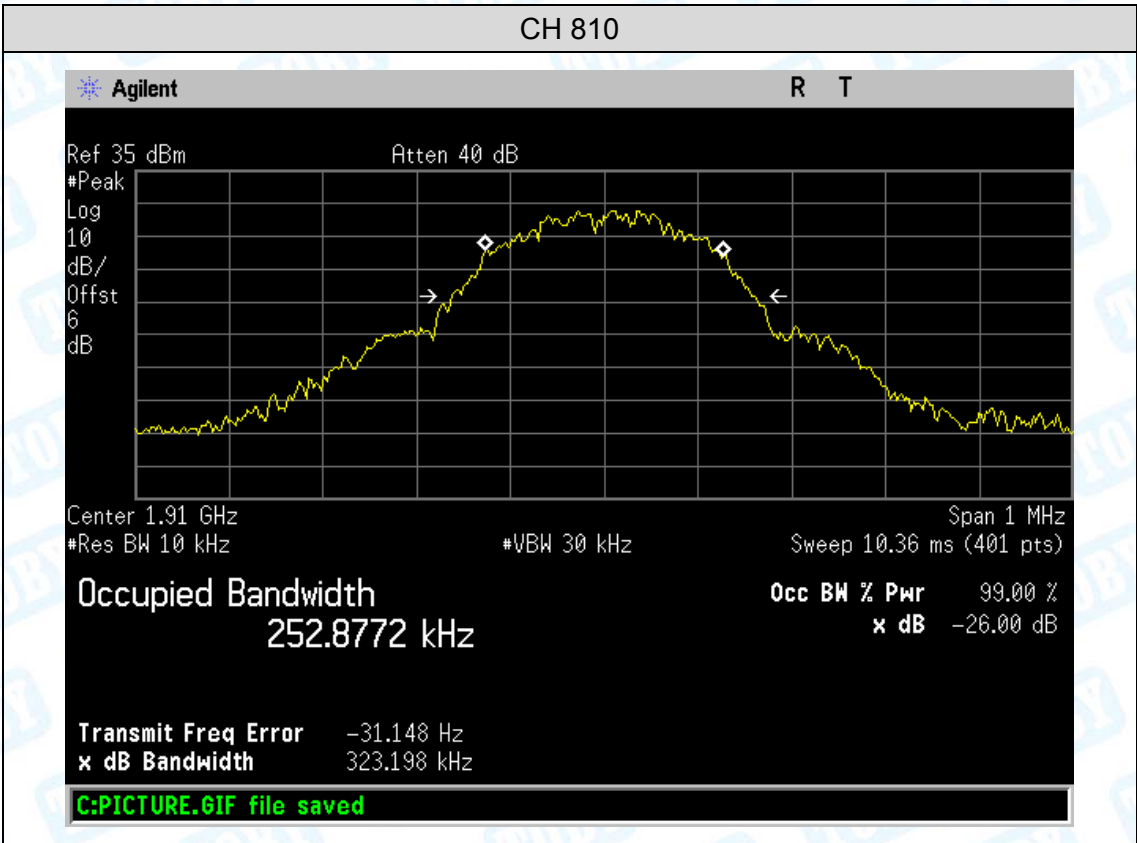
EDGE 1900

CH 512



CH 661





Occupied Bandwidth

252.8772 kHz

Occ BW % Pwr

99.00 %

x dB

-26.00 dB

Transmit Freq Error

-31.148 Hz

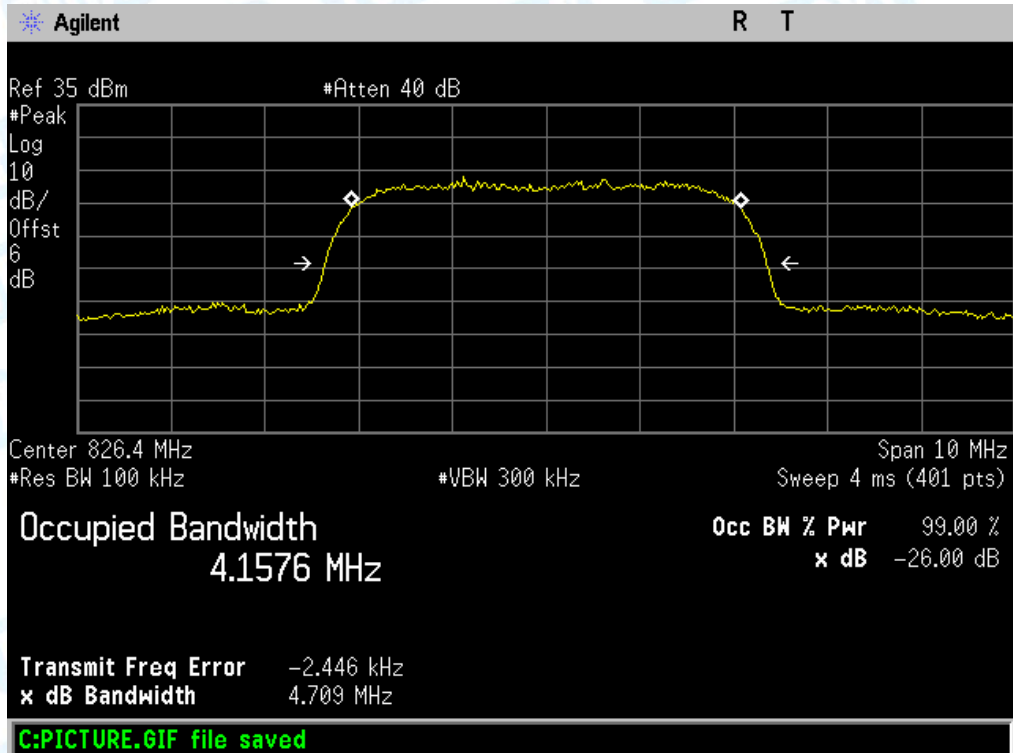
x dB Bandwidth

323.198 kHz

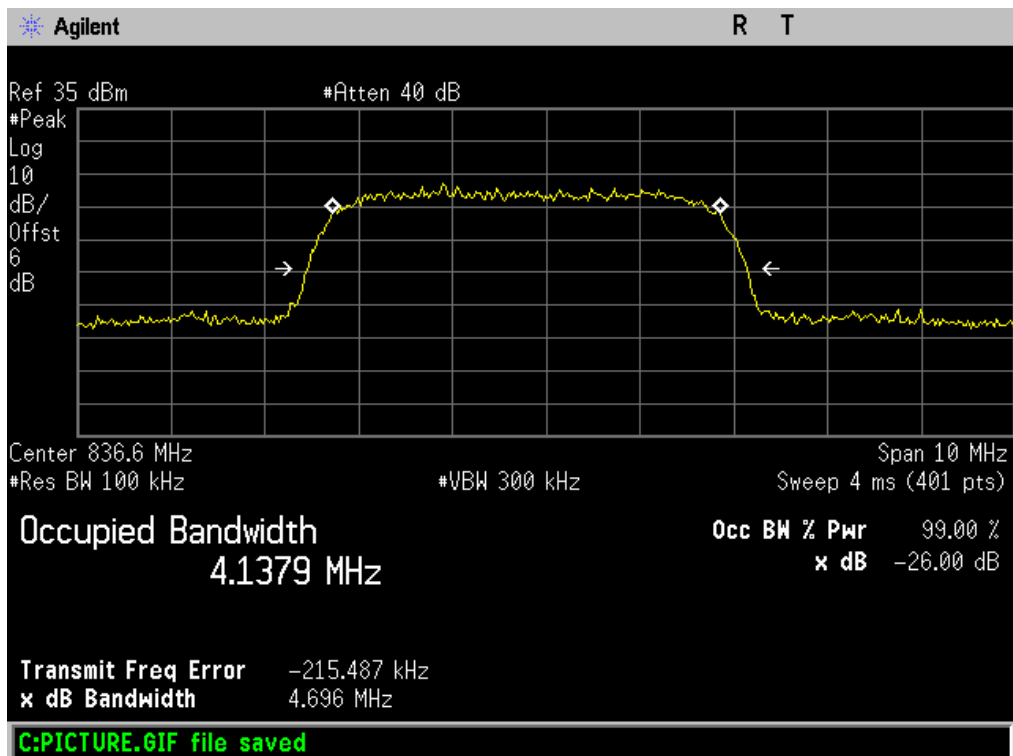
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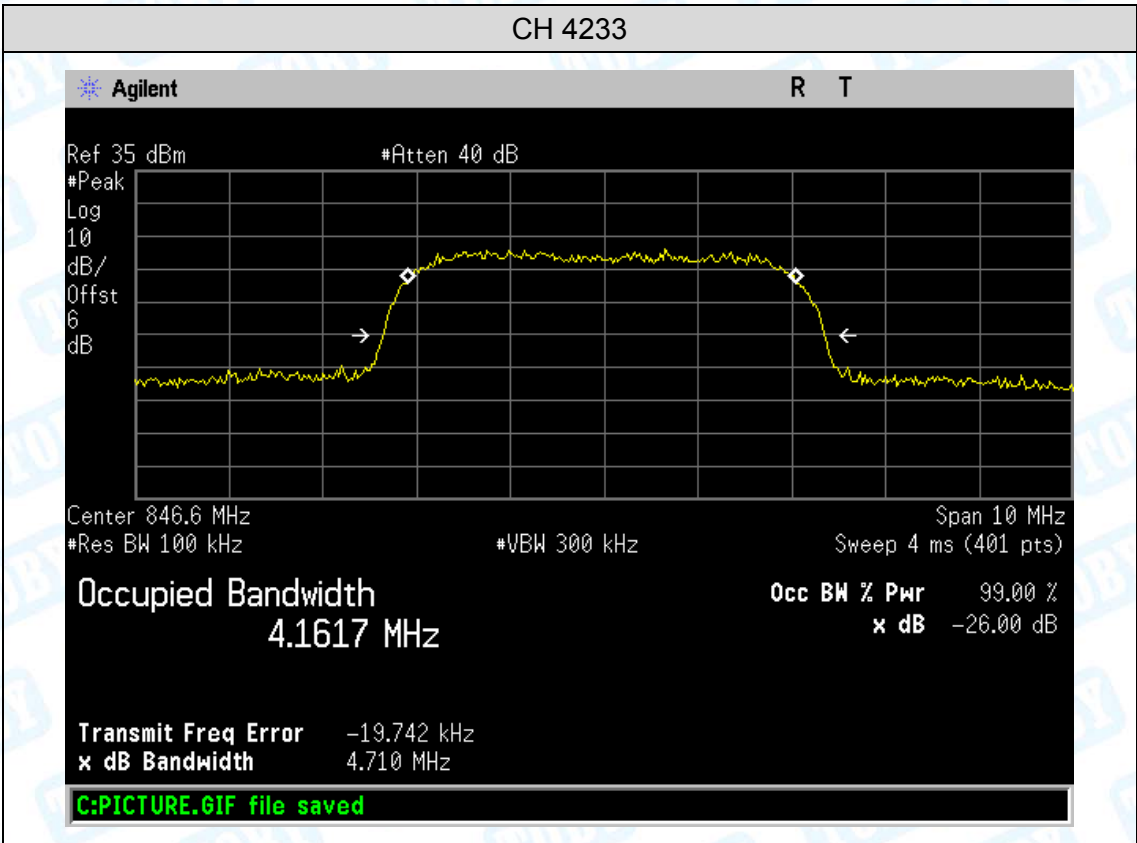
UMTS Band V (RMC)

CH 4132



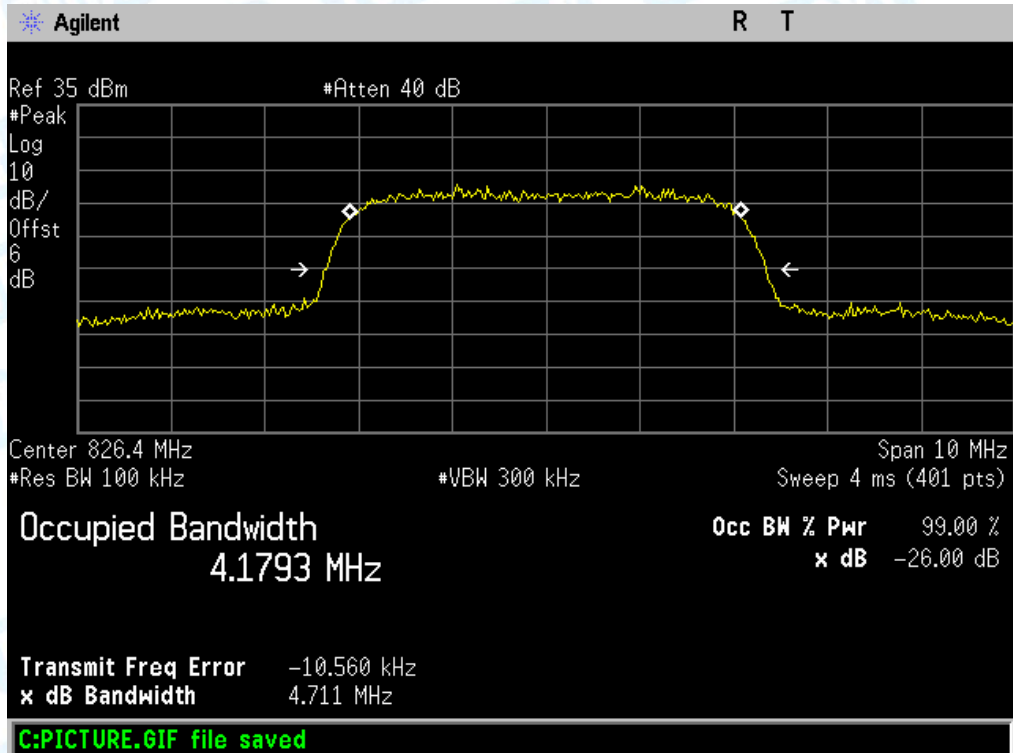
CH 4175



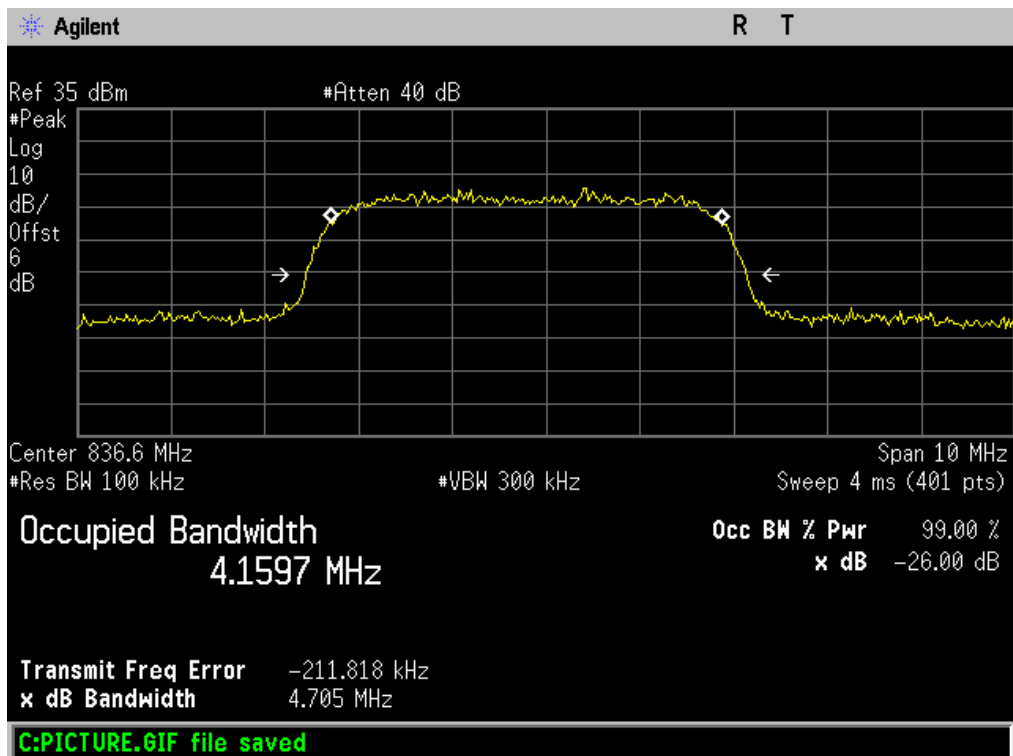


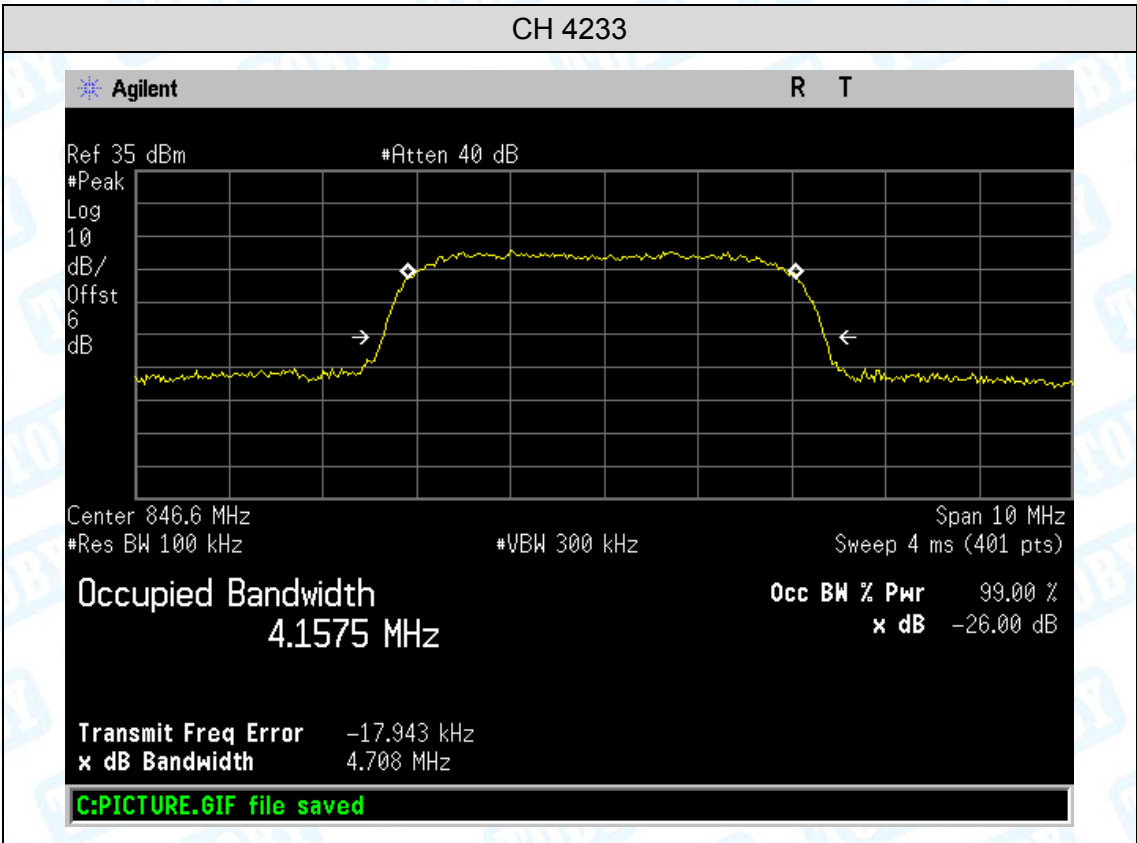
UMTS Band V (HSDPA)

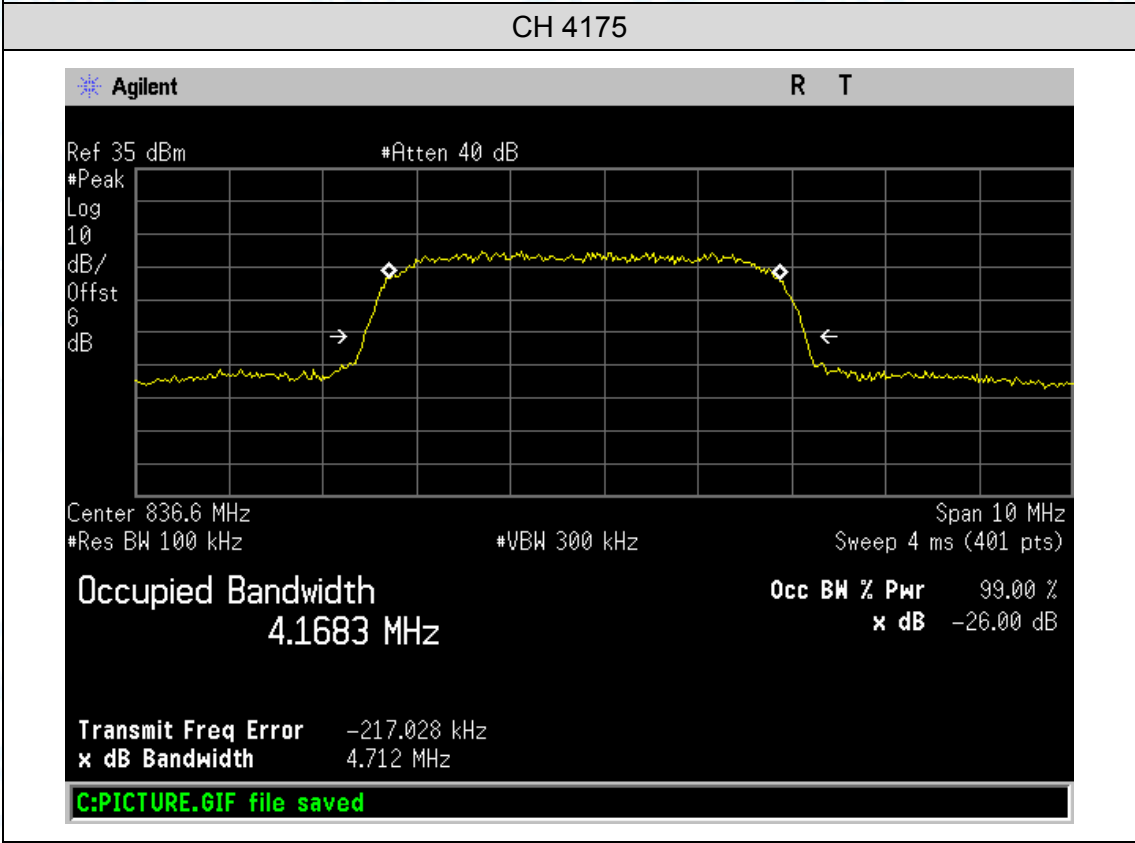
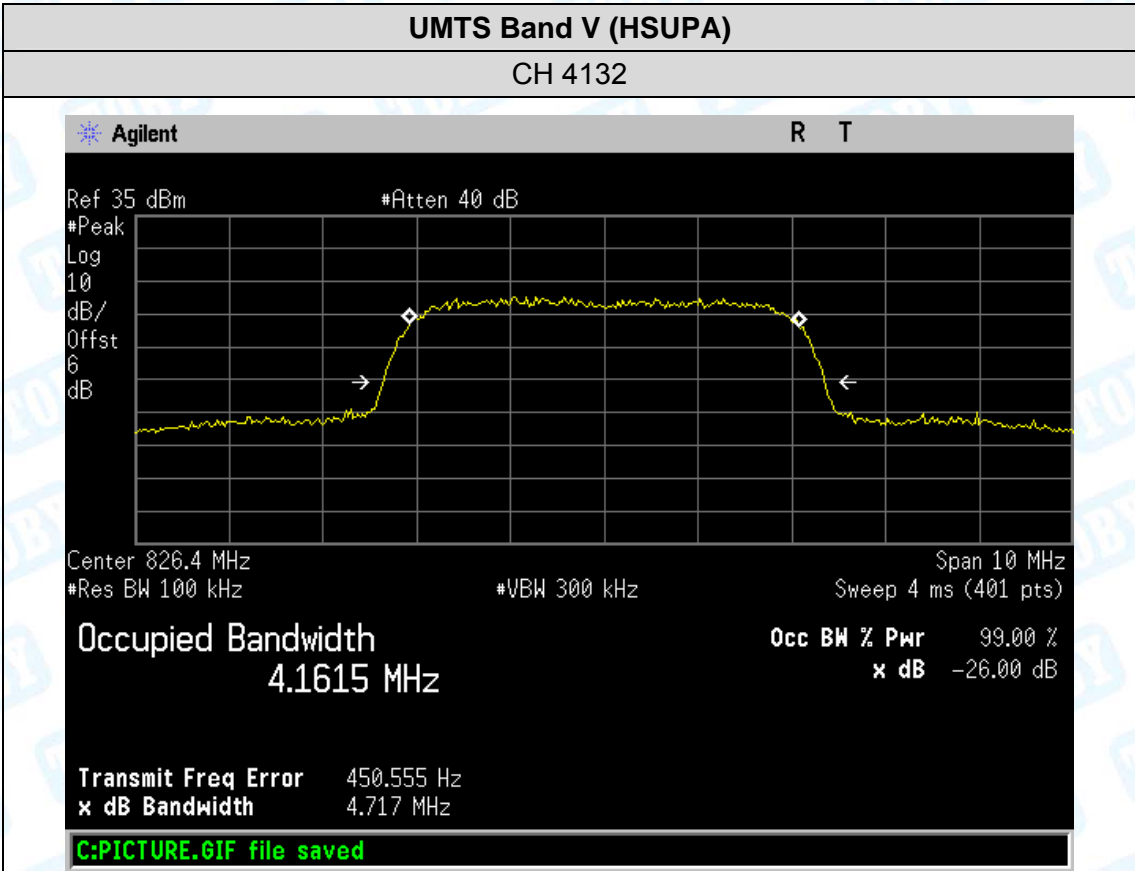
CH 4132

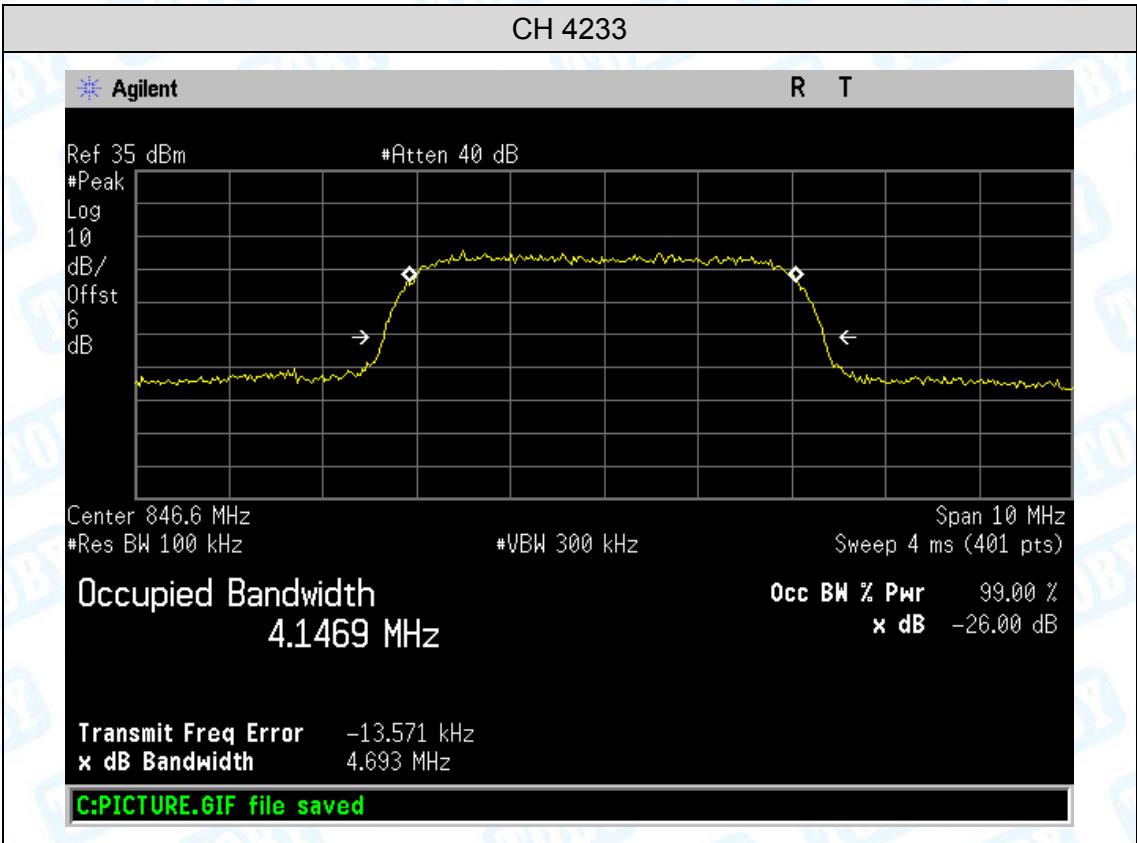


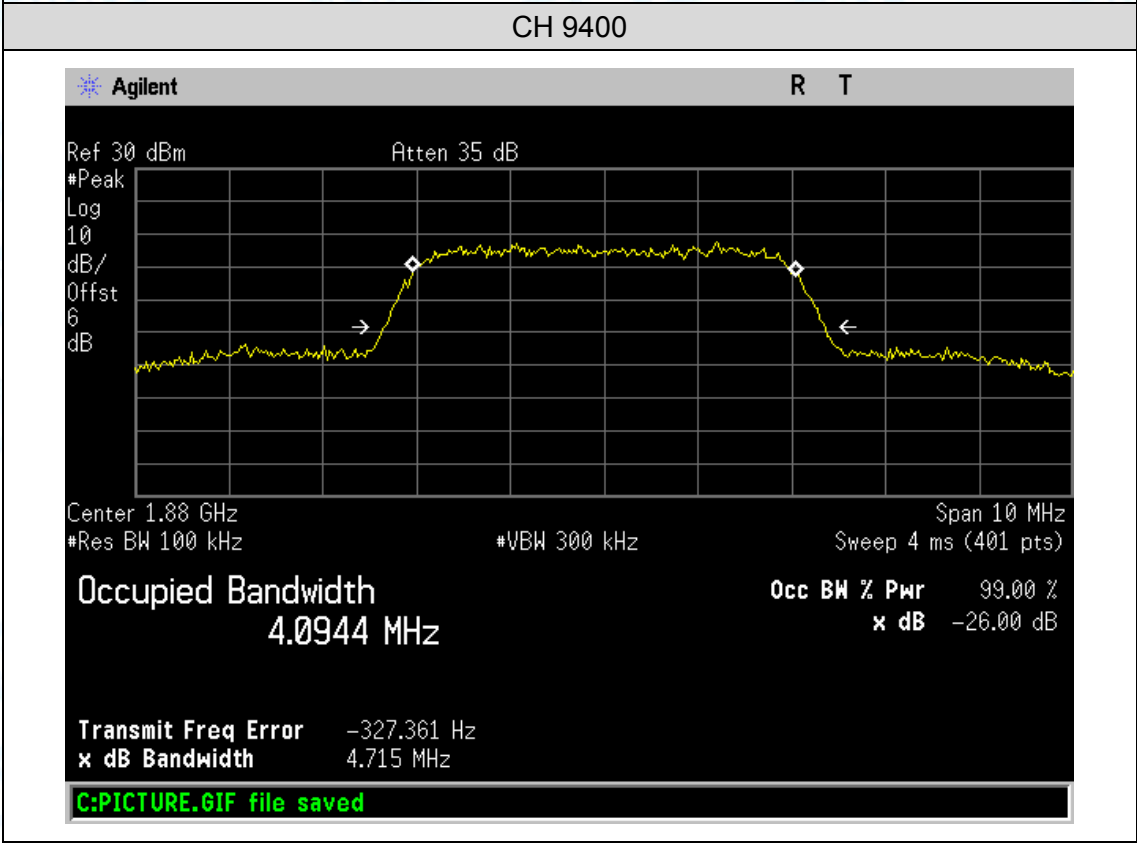
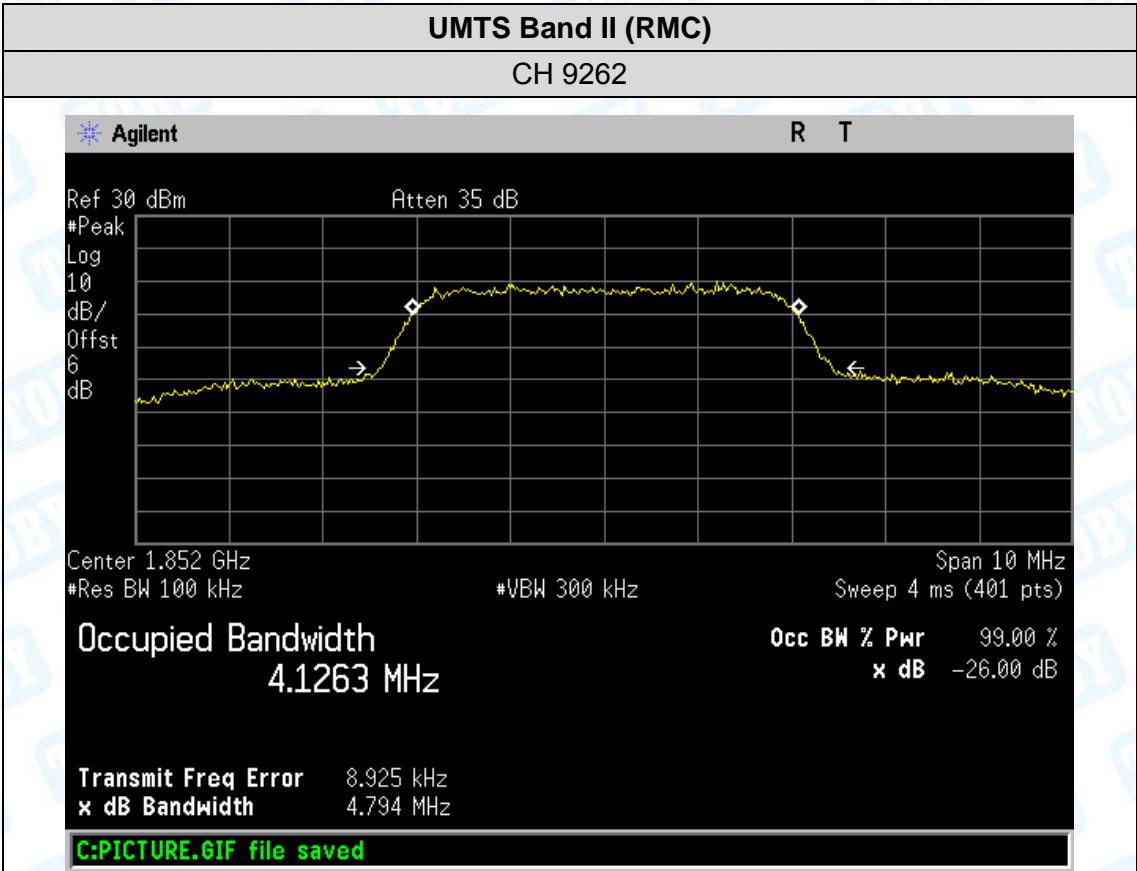
CH 4175

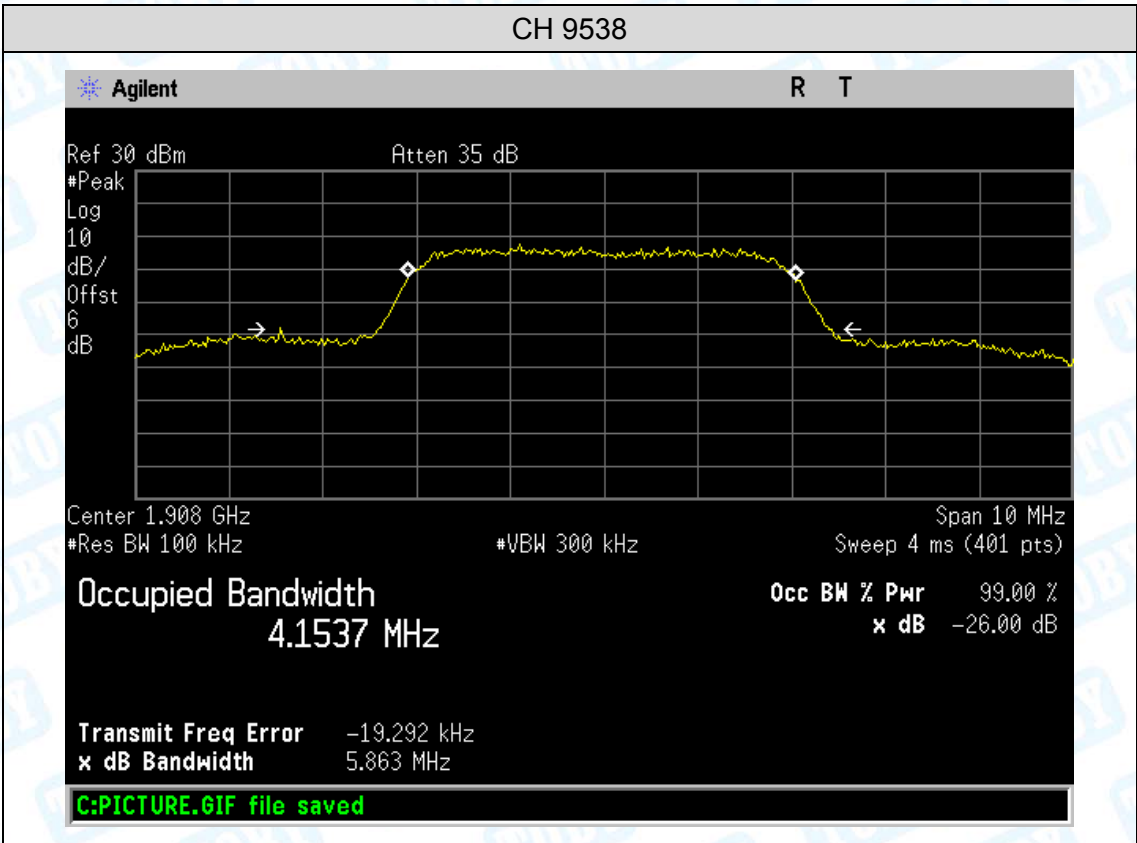






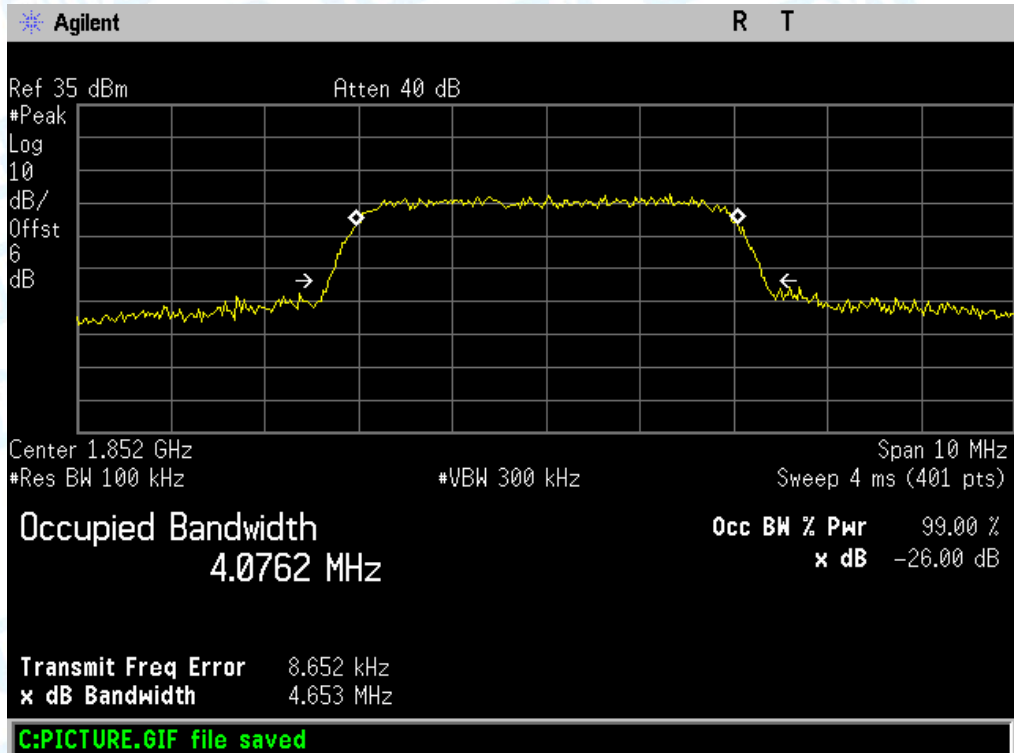




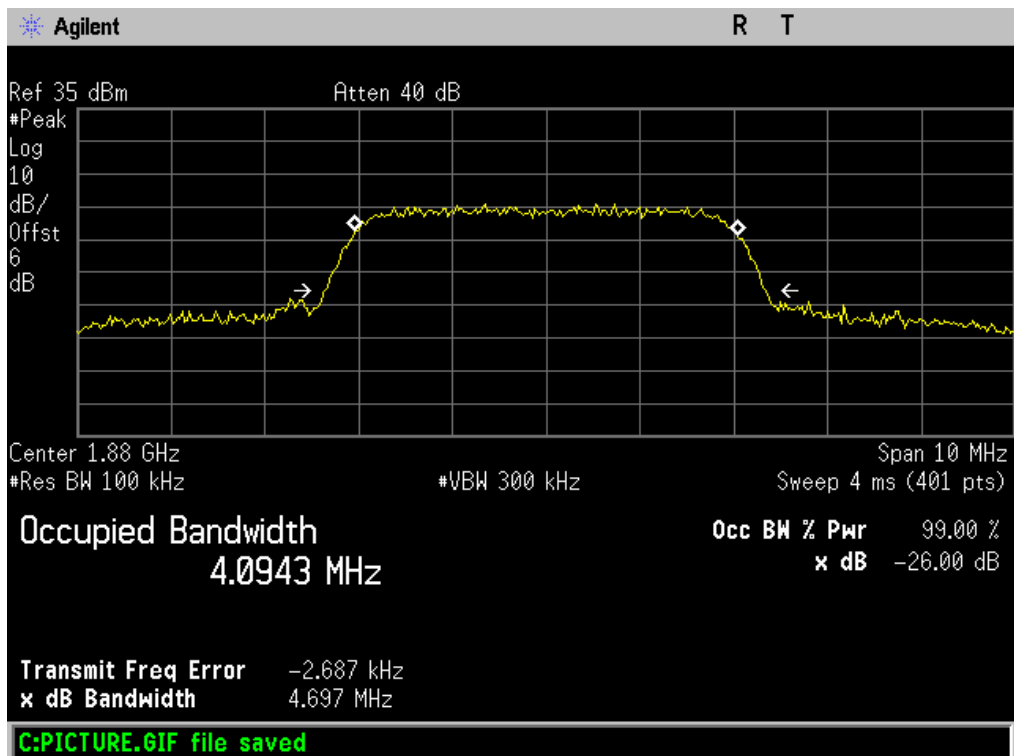


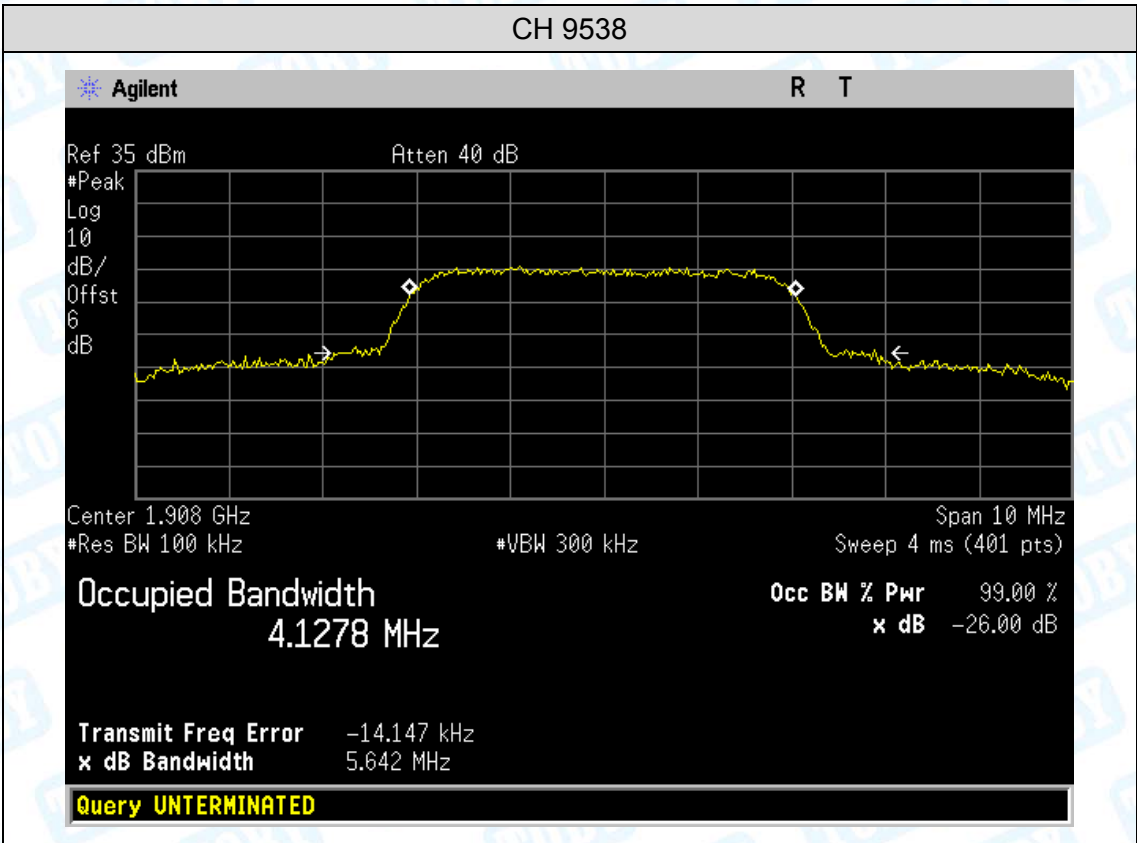
UMTS Band II (HSDPA)

CH 9262



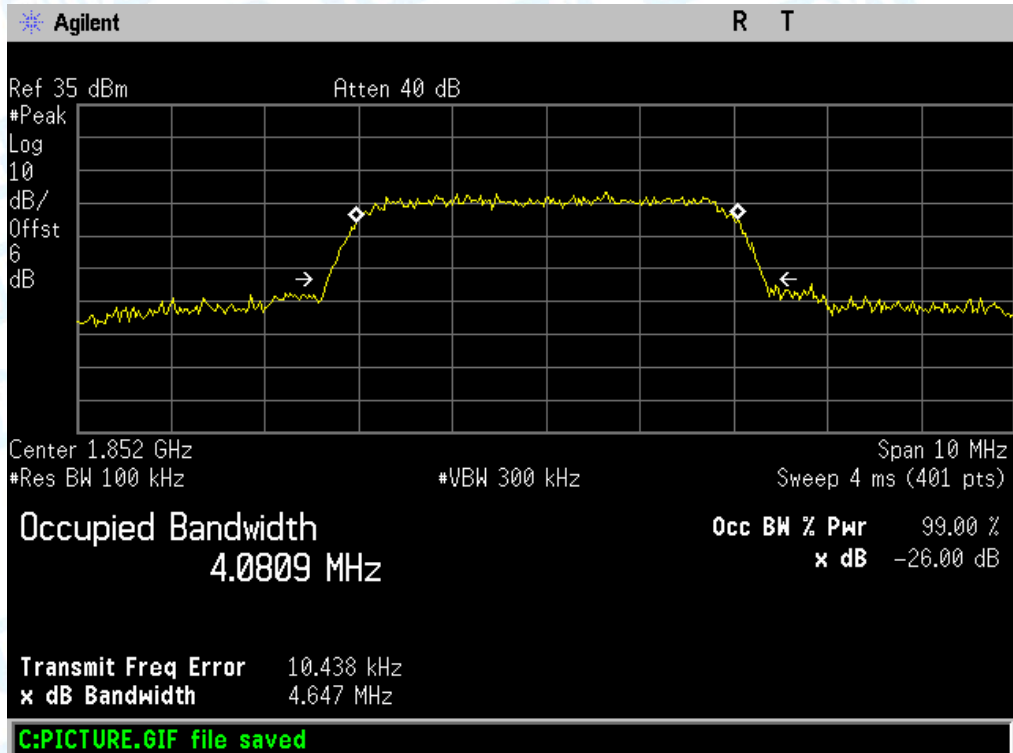
CH 9400



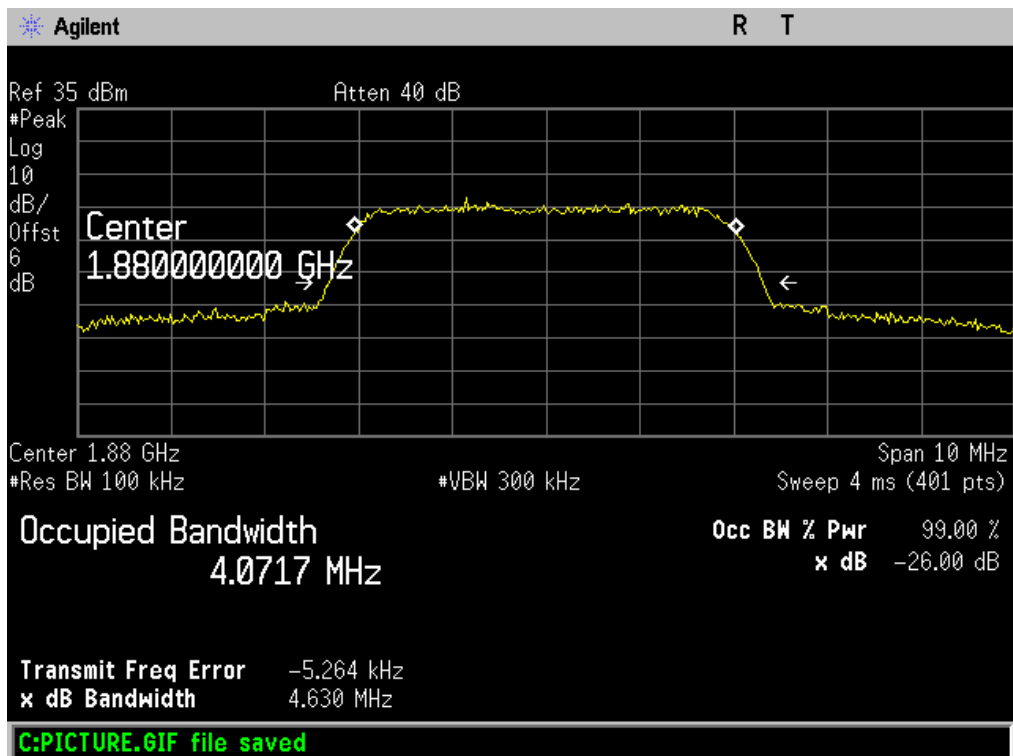


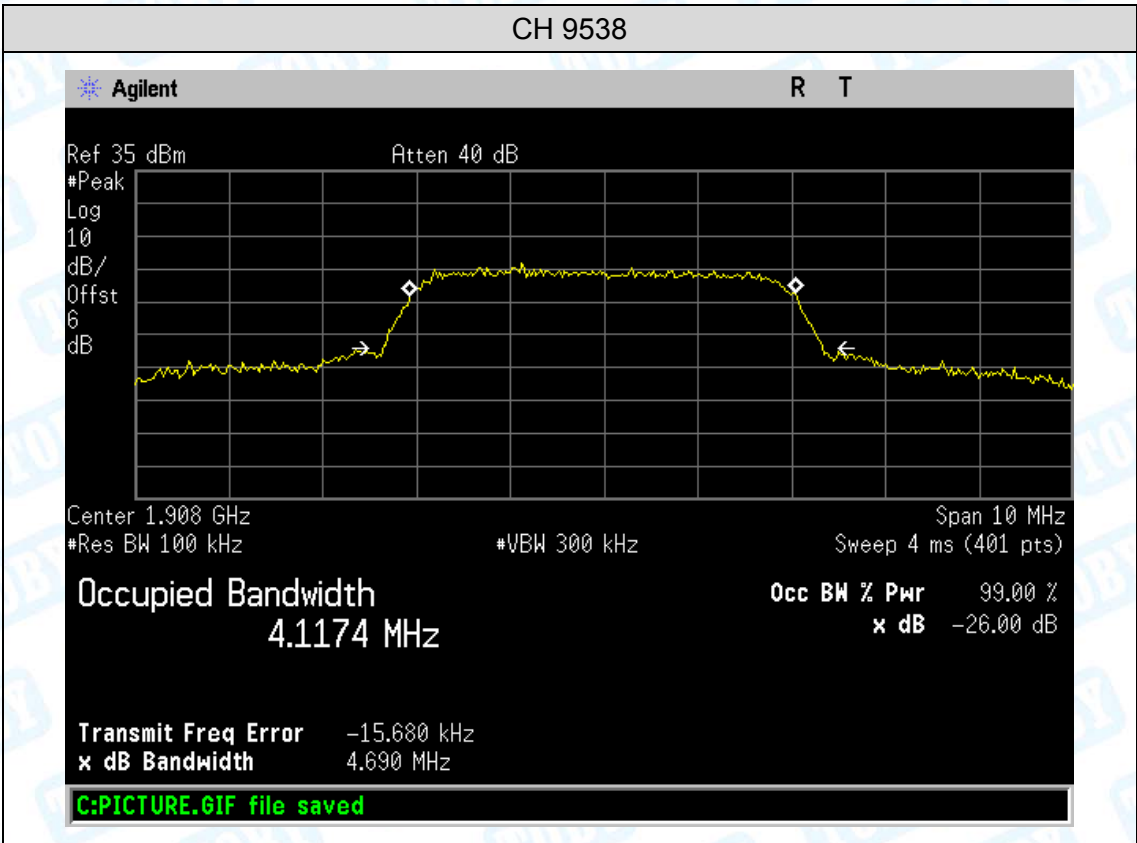
UMTS Band II (HSUPA)

CH 9262



CH 9400





9. Conducted Out of Band Emissions

9.1 Test Standard and Limit

9.1.1 Test Standard

FCC Part 2: 2.1051, 2.1057

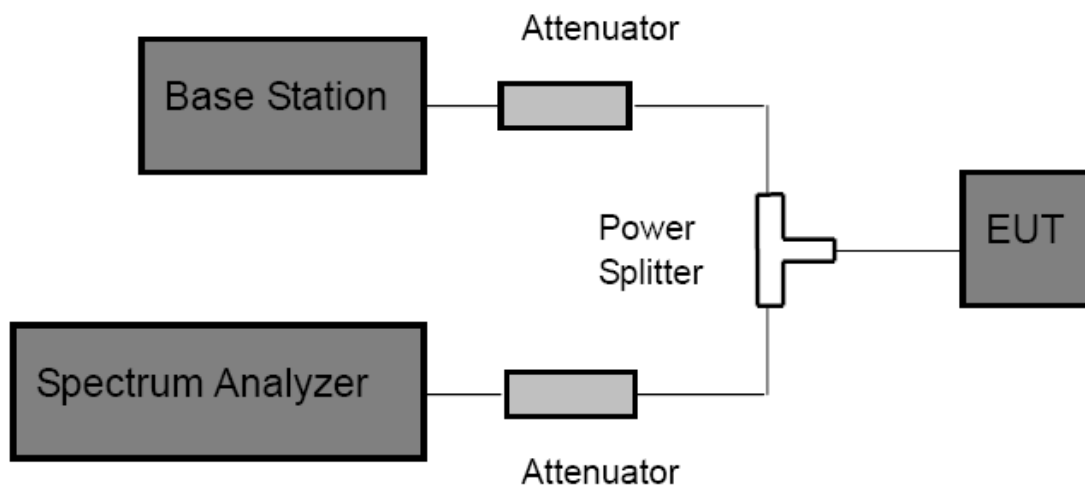
FCC Part 22H: 22.917(a)

FCC Part 24E: 24.238(a)

9.1.2 Test Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power(P) by a factor of at least $43+10\log(P)$ dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

9.2 Test Setup



9.3 Test Procedure

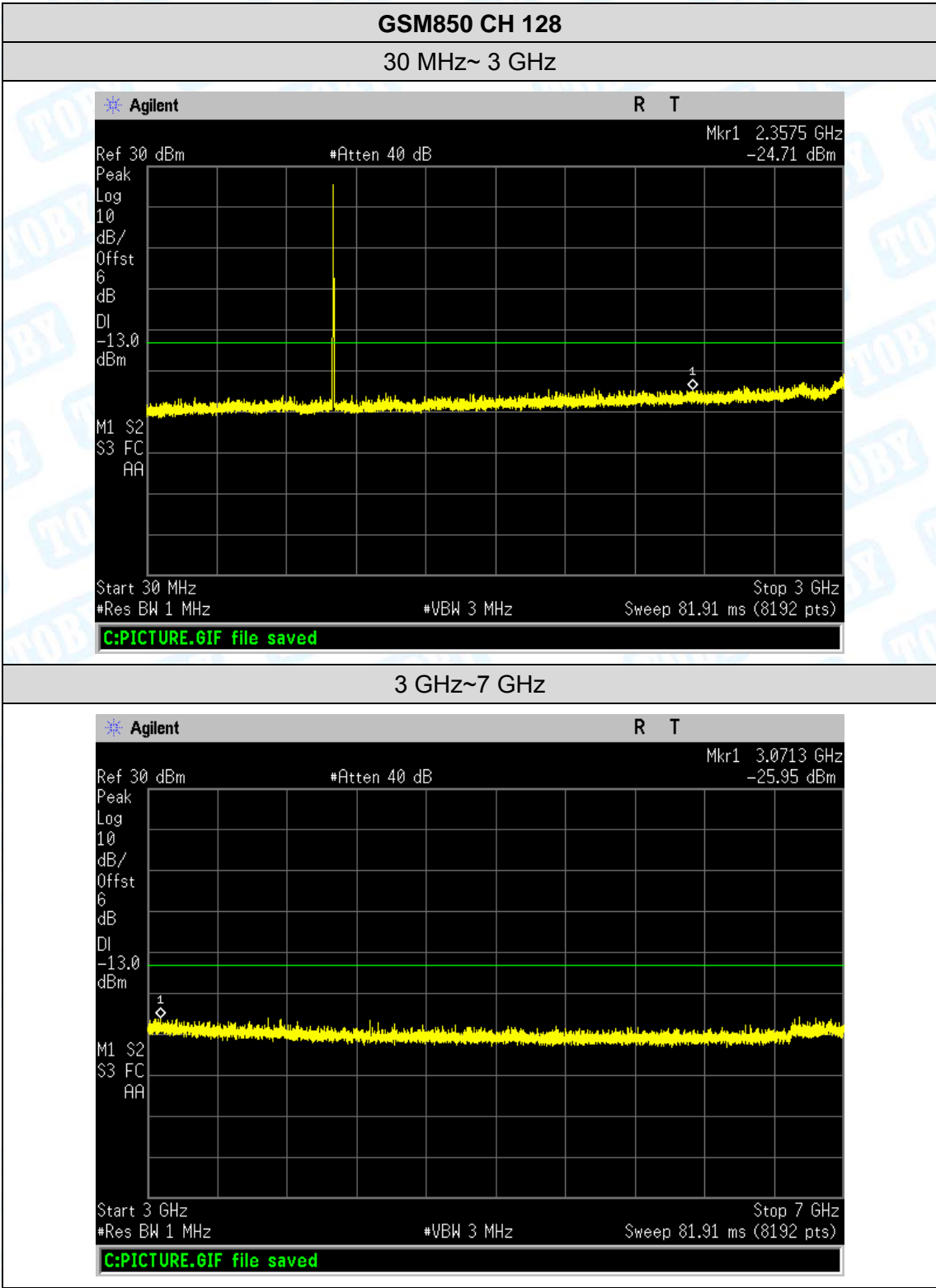
- (1) The EUT was directly connected to the spectrum analyzer and Base station via power splitter as show in the block diagram above.
- (2) Spectrum Setting:
Frequency bellow 1 GHz: RBW=100 kHz, VBW=300 kHz.
Frequency above 1 GHz: RBW=1 MHz, VBW=3 MHz.
- (3) The low, middle and high channels of each band and mode's spurious emissions for 30 MHz to 10th Harmonic were measured by Spectrum analyzer.

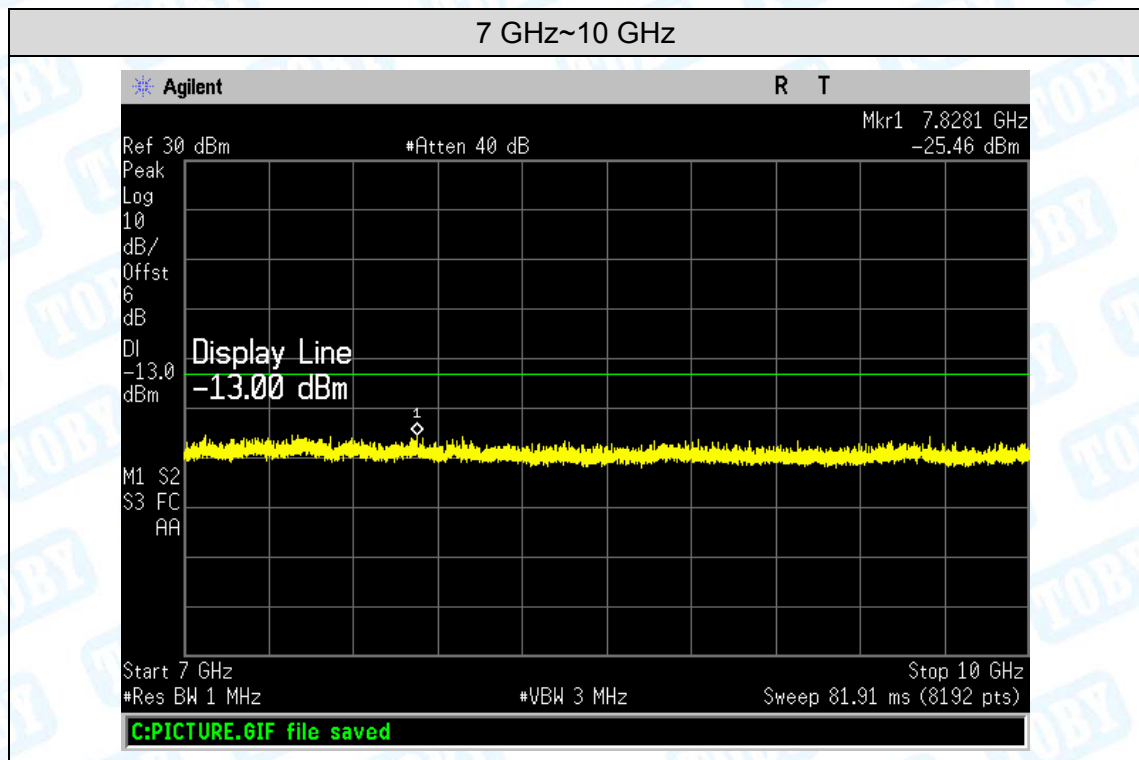
9.4 EUT Operating Condition

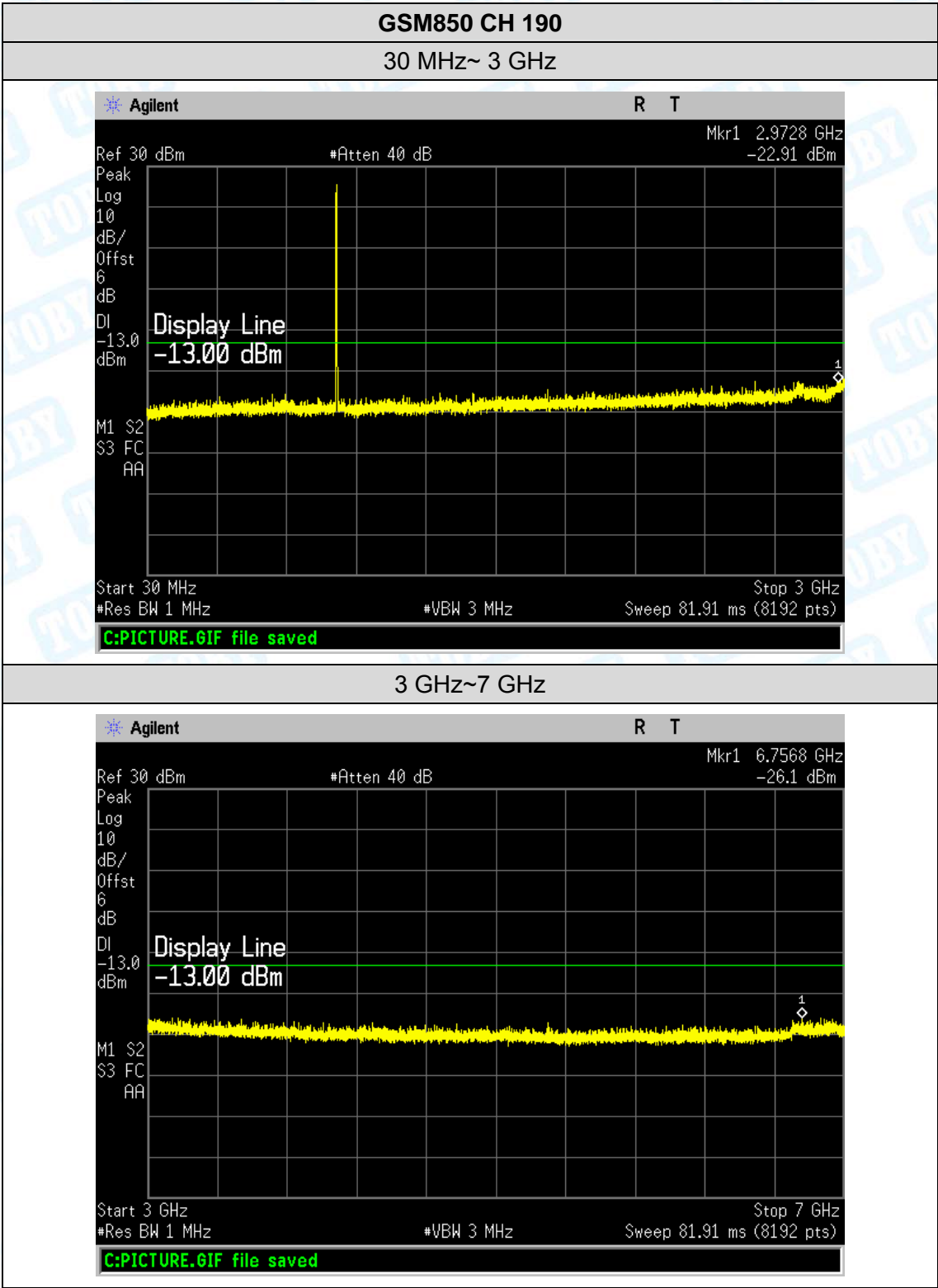
The EUT was continuously connected with the Base station and transmitting in the max power during the test.

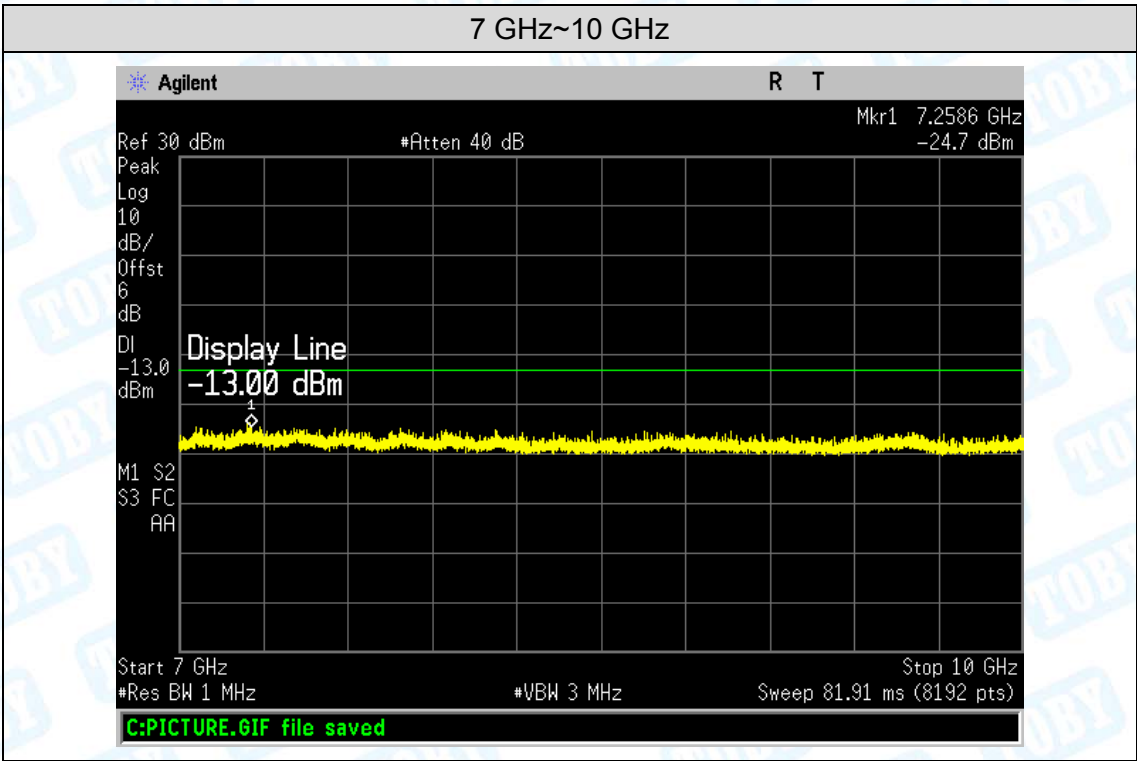
9.5 Test Data

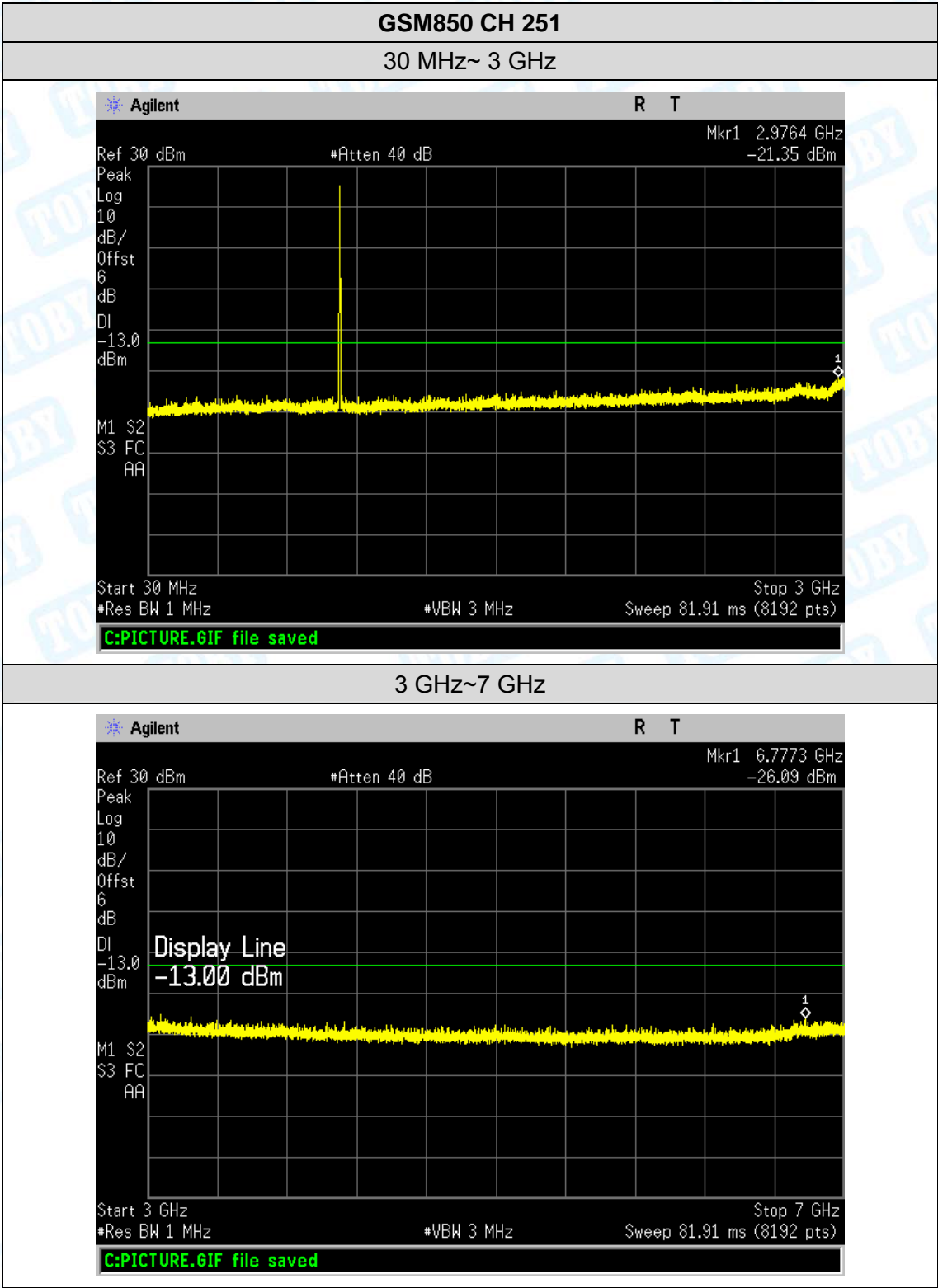
Please refer following plots:

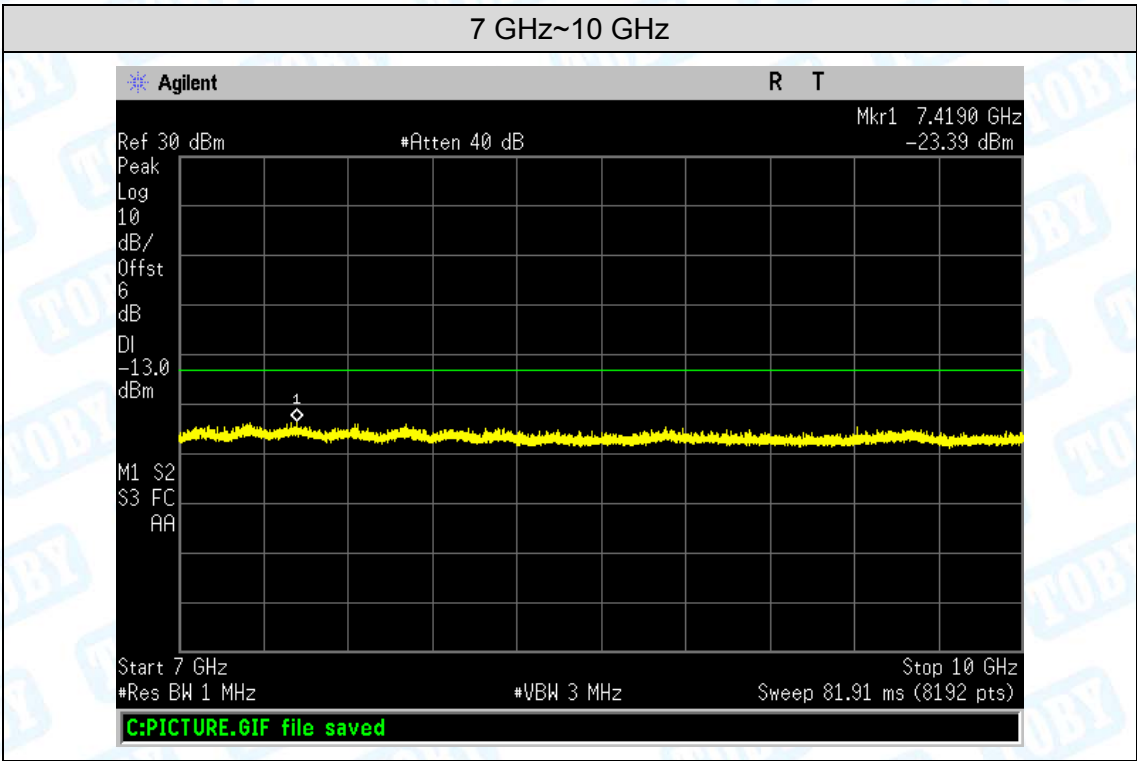


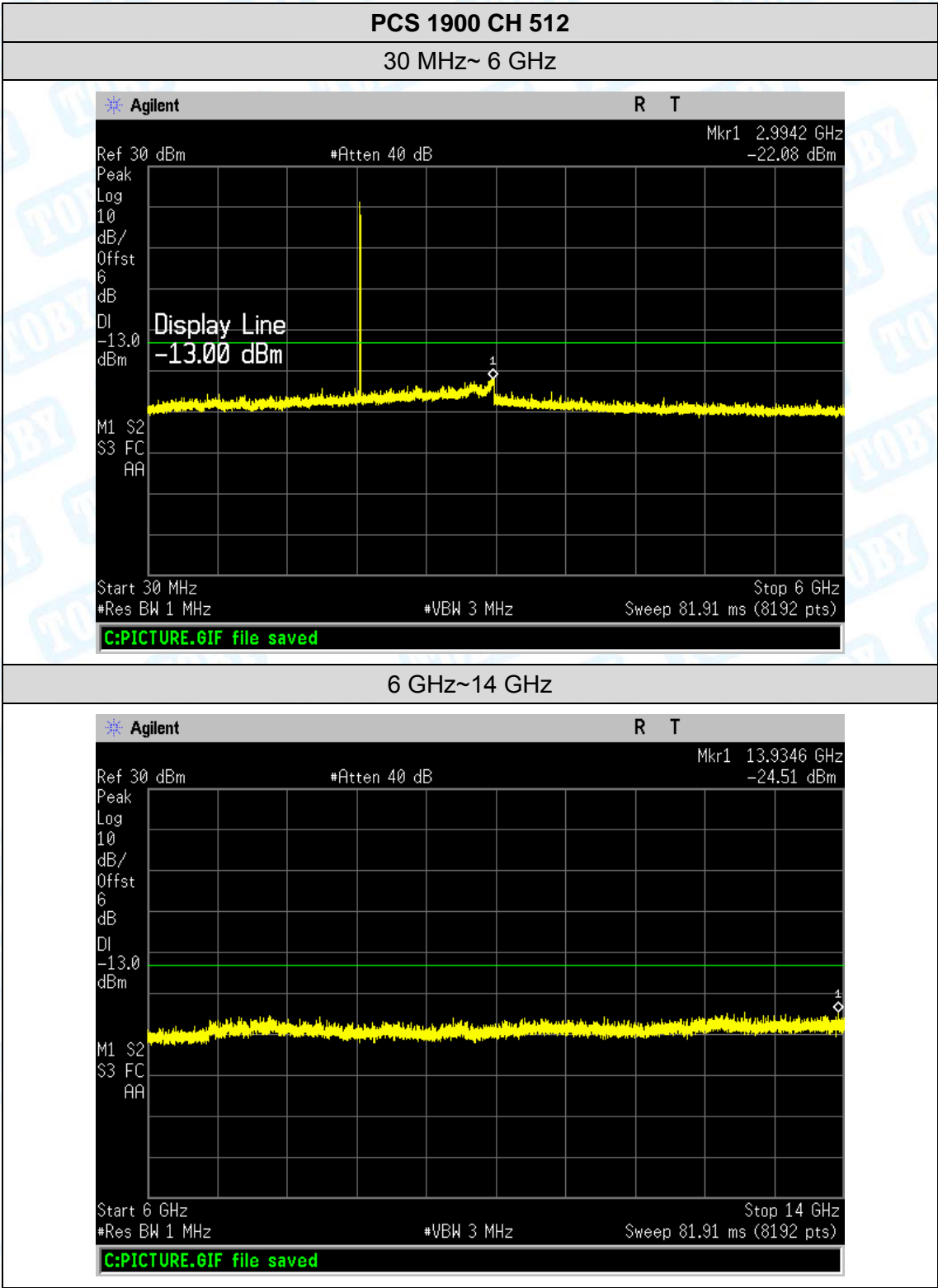


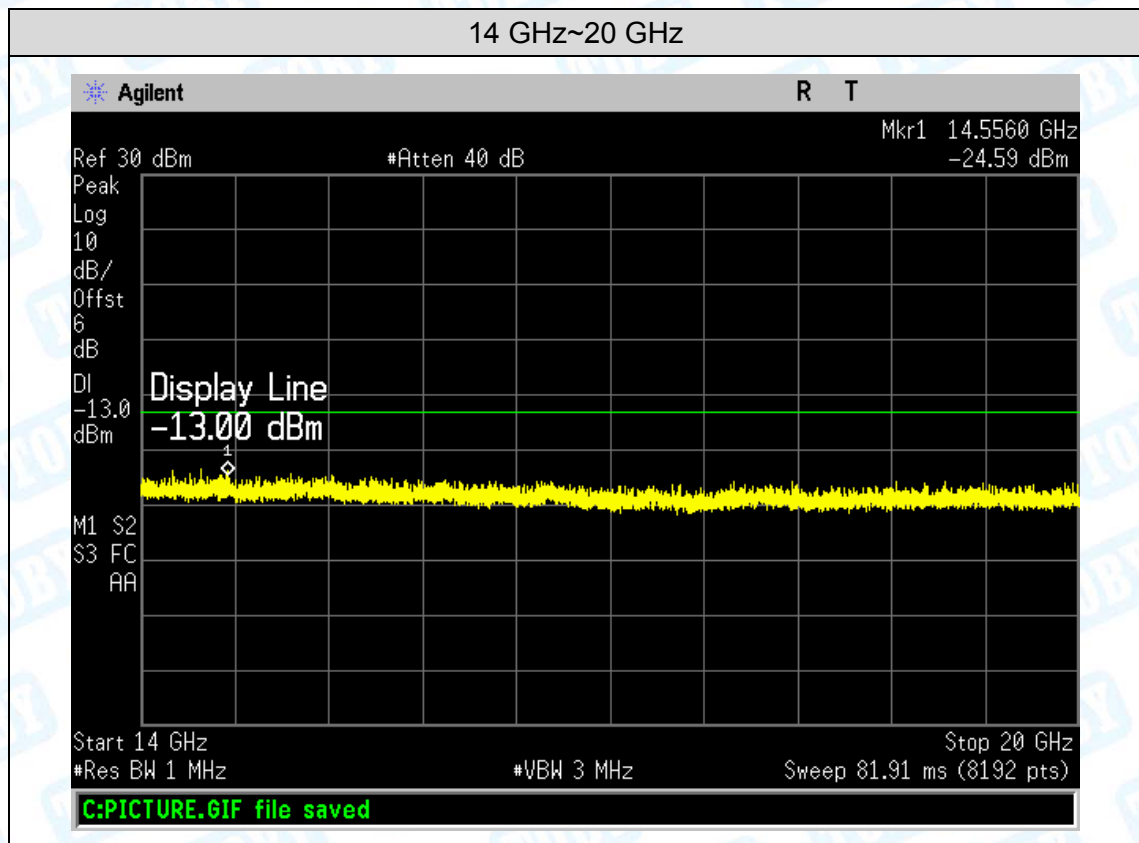


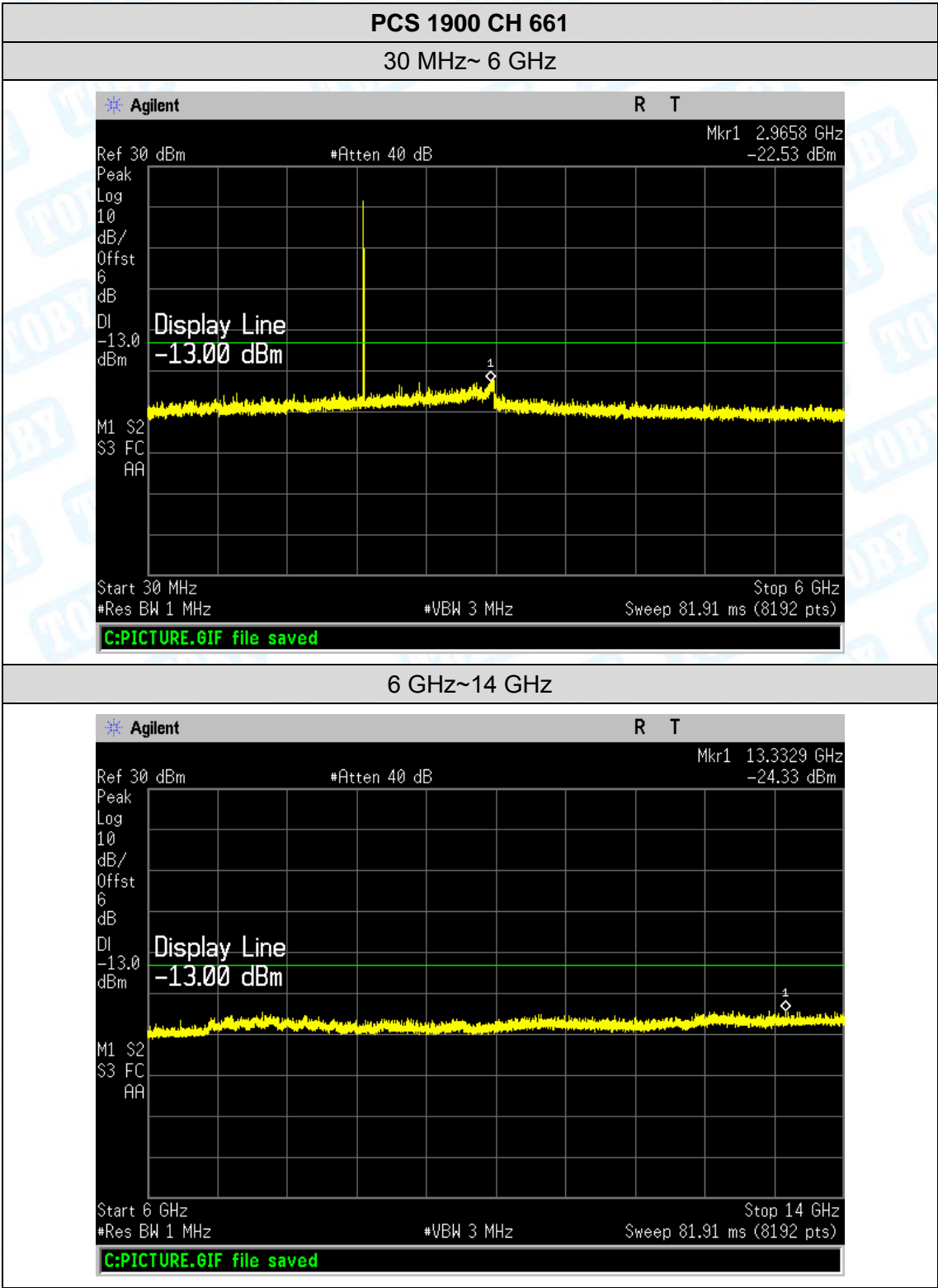


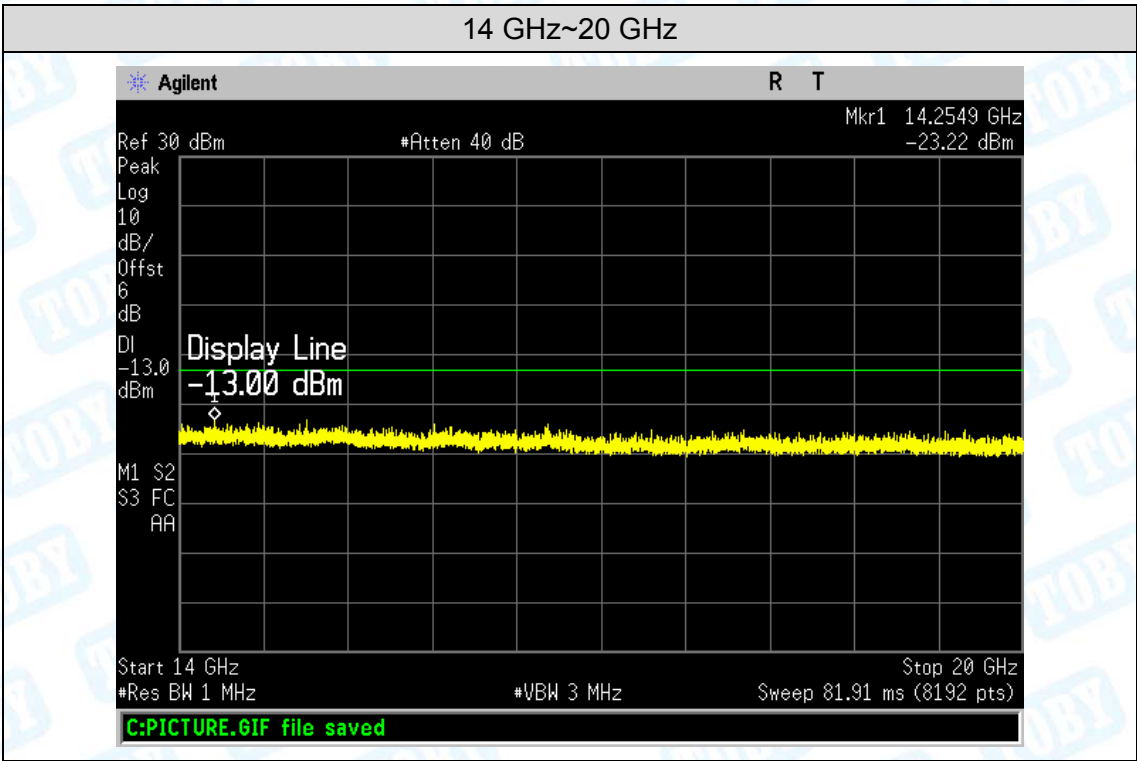


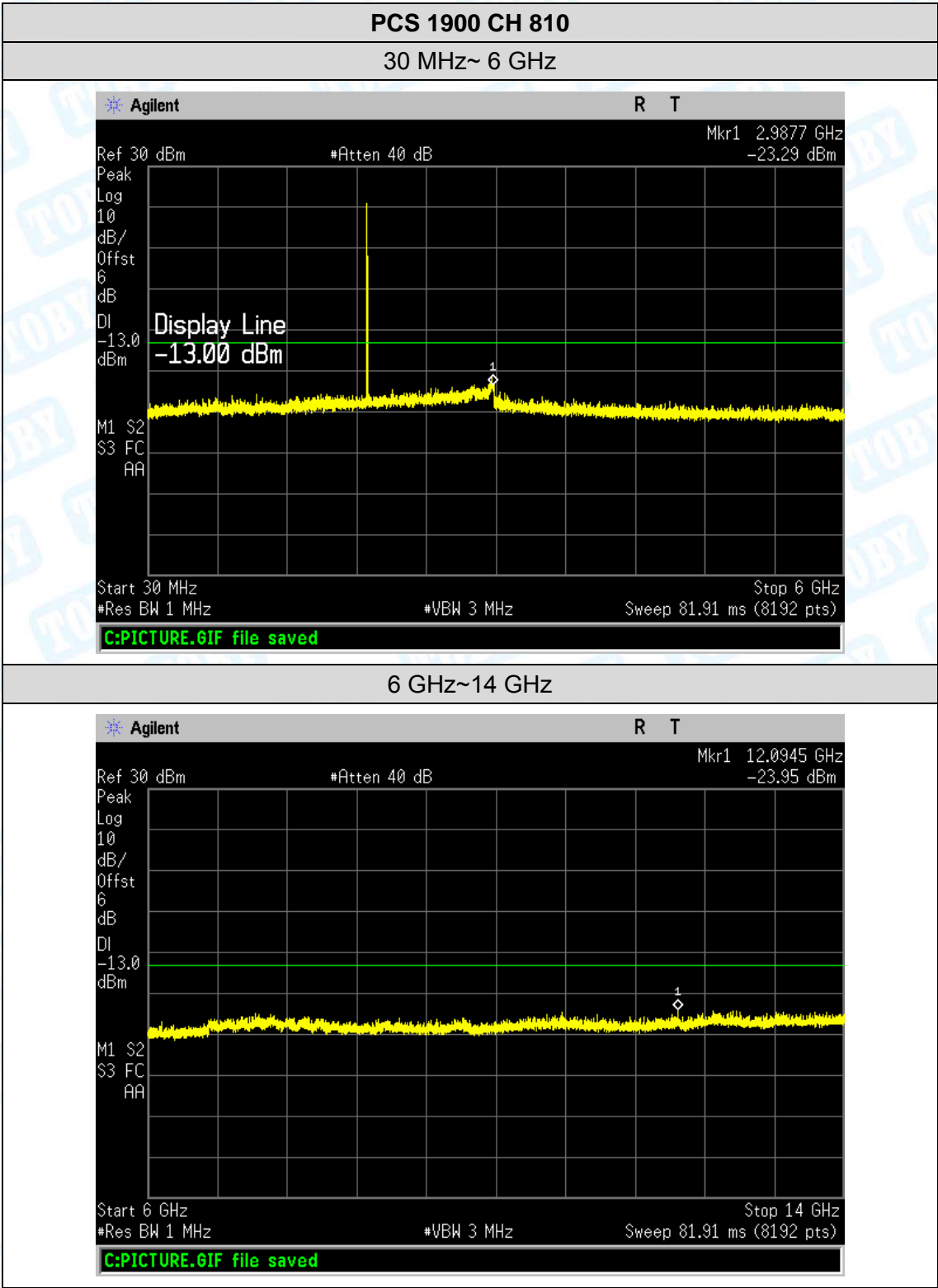


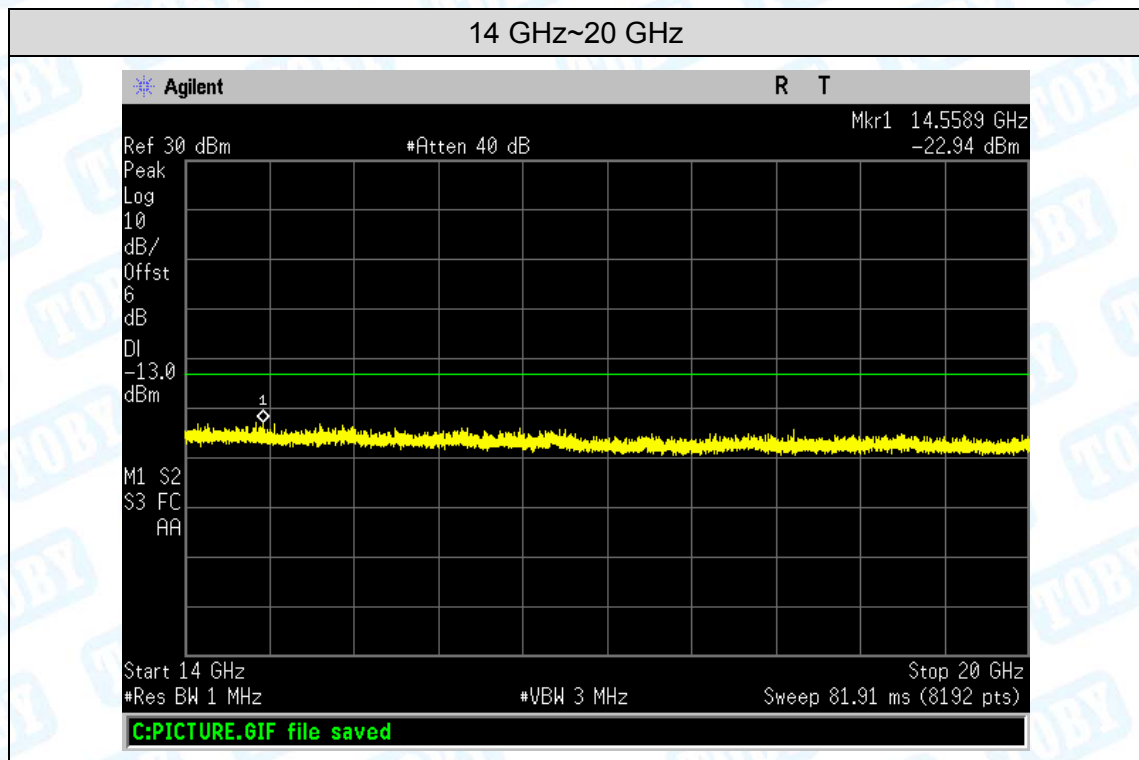


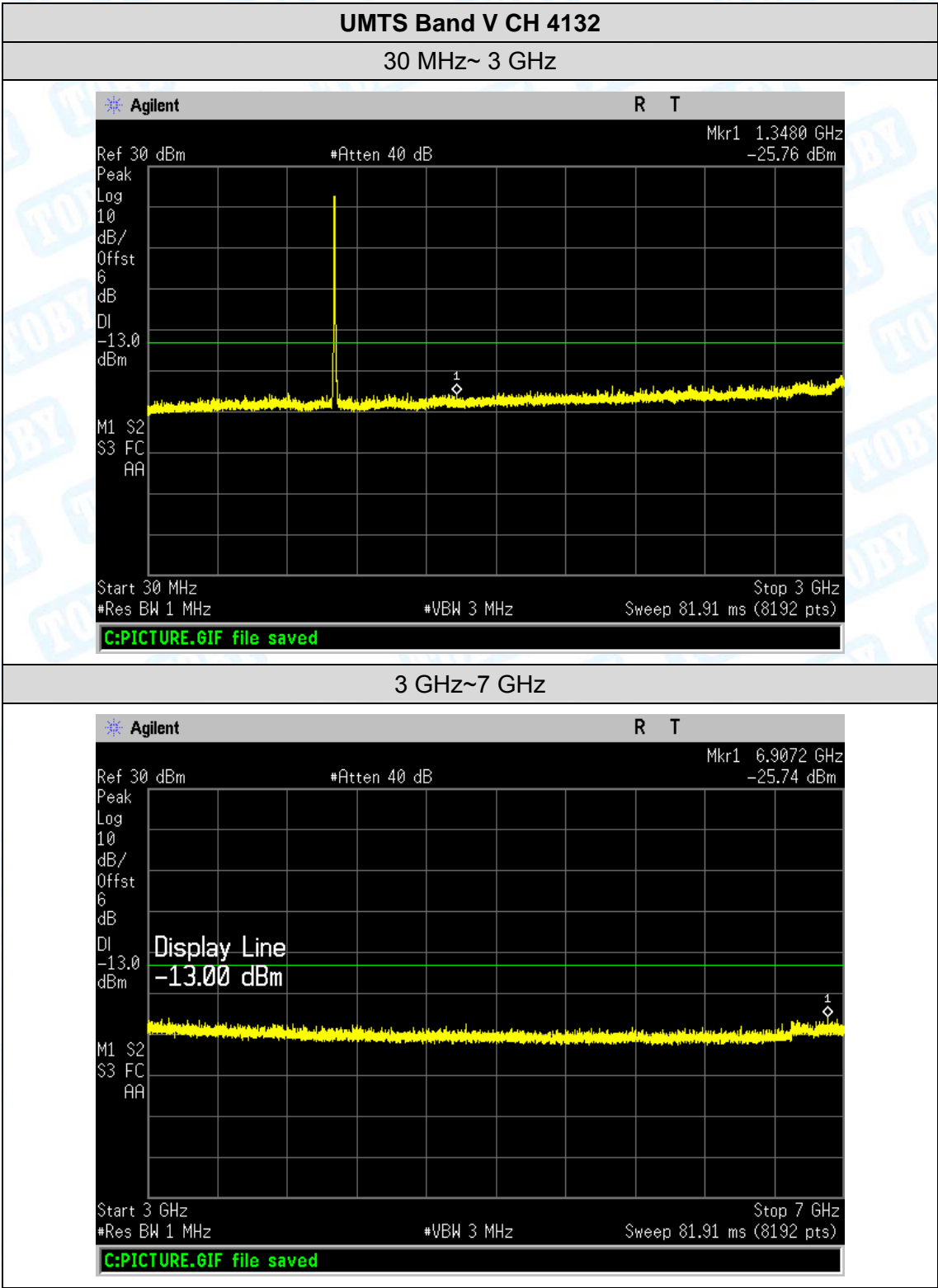


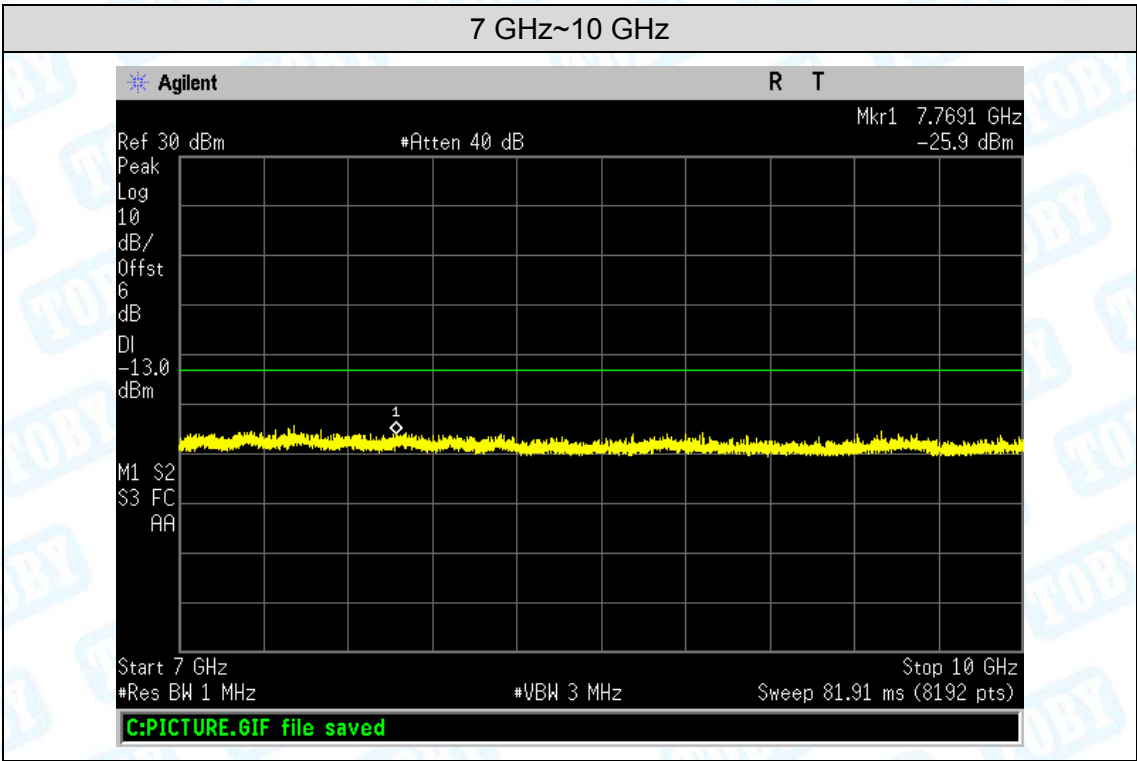






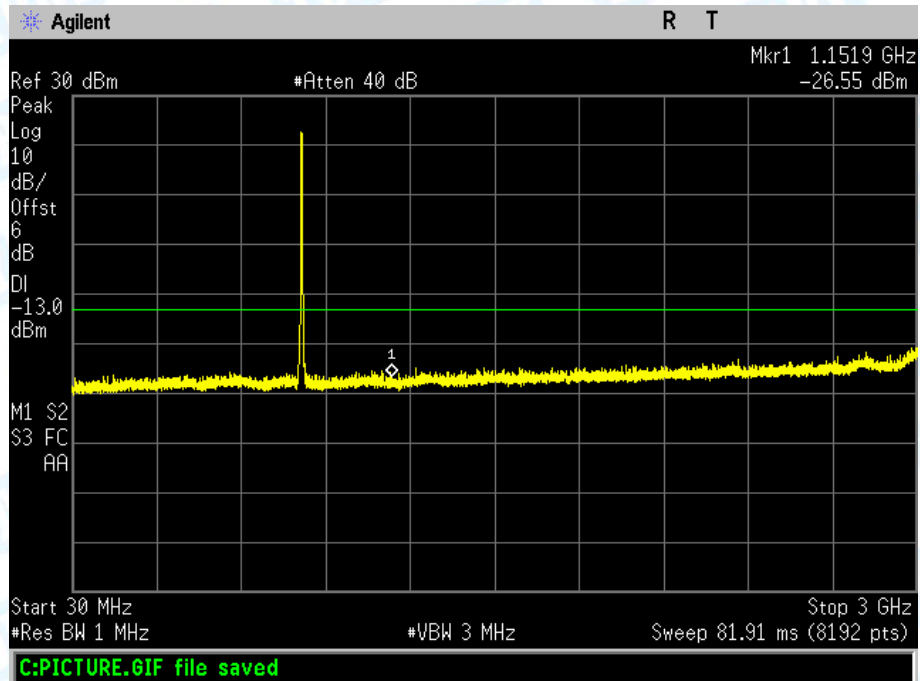




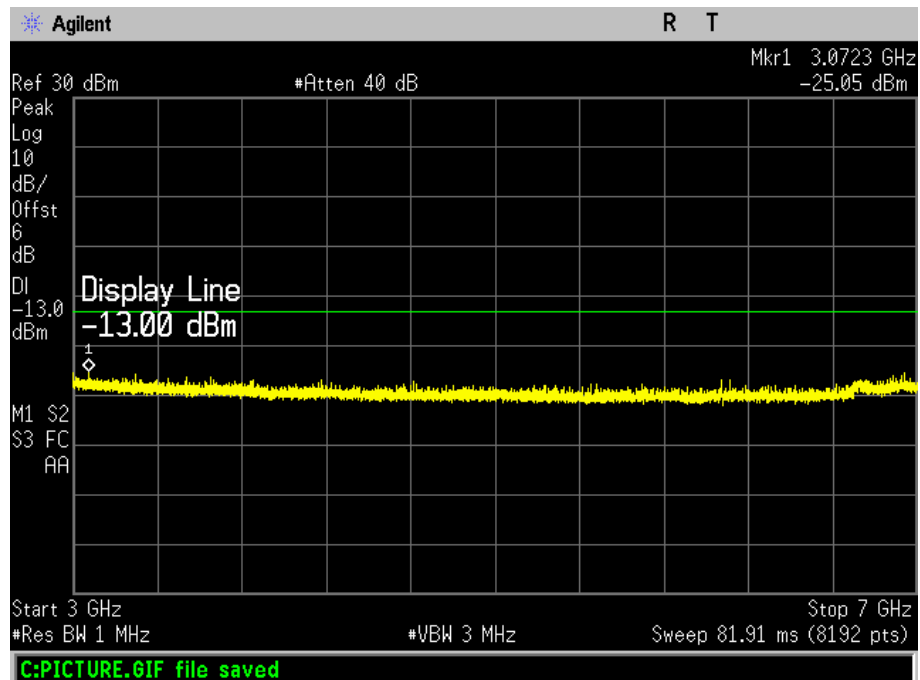


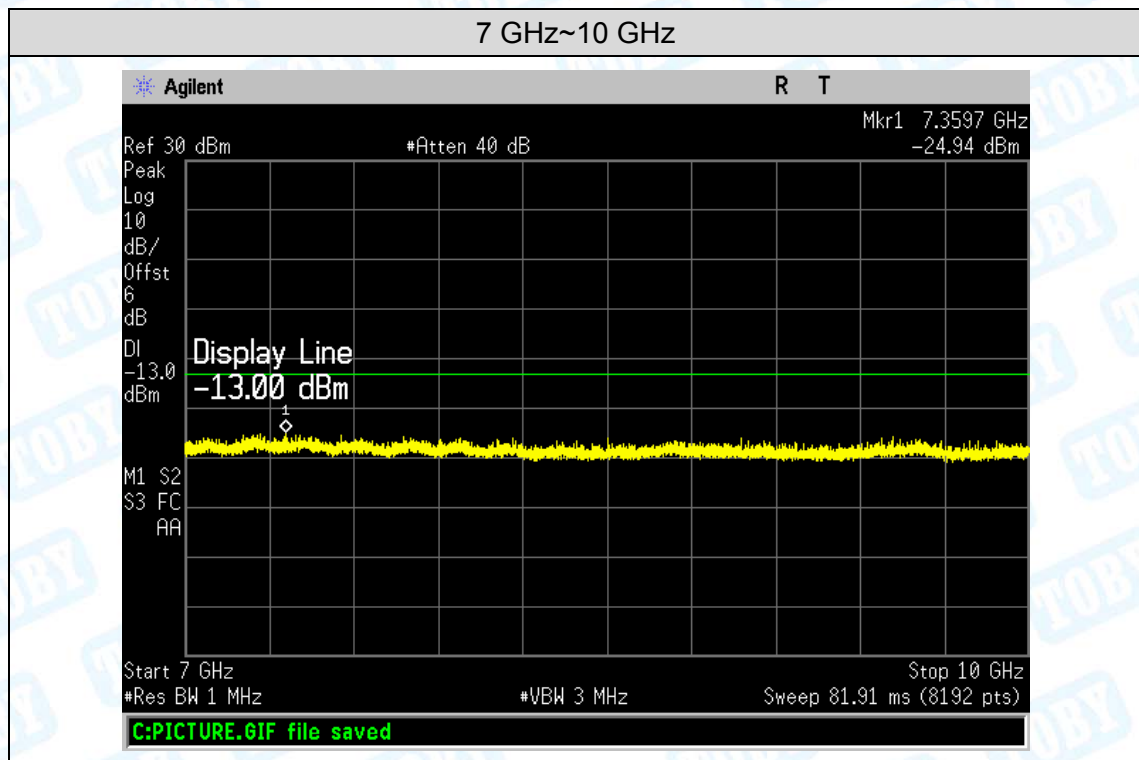
UMTS Band V CH 4175

30 MHz~ 3 GHz



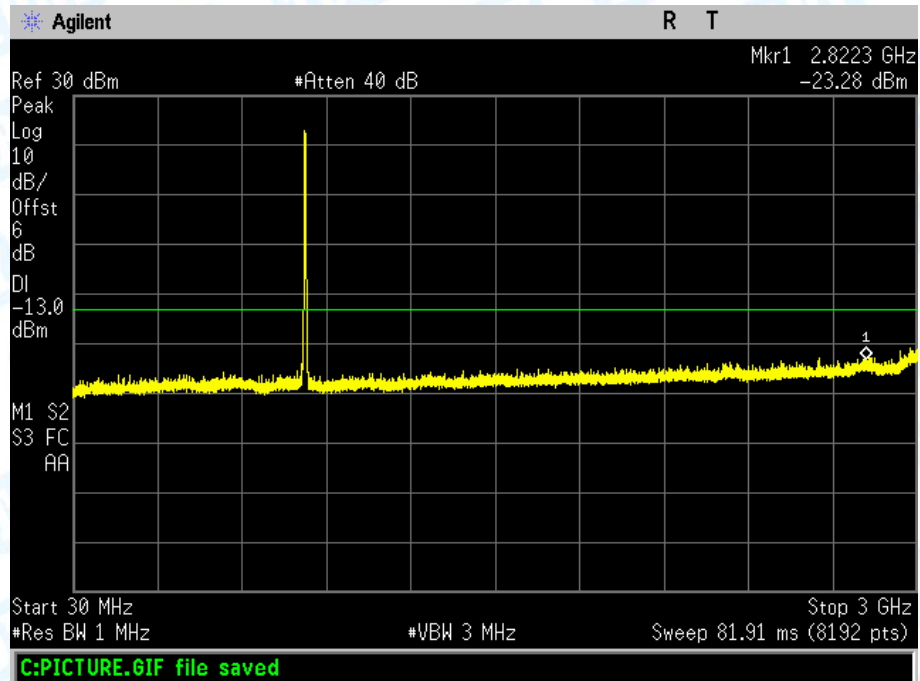
3 GHz~7 GHz



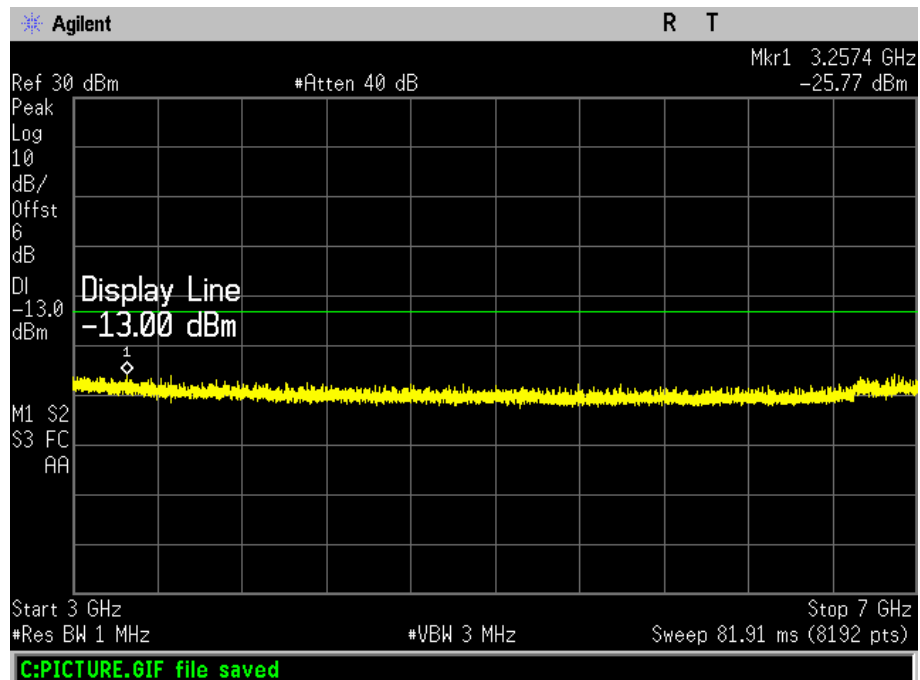


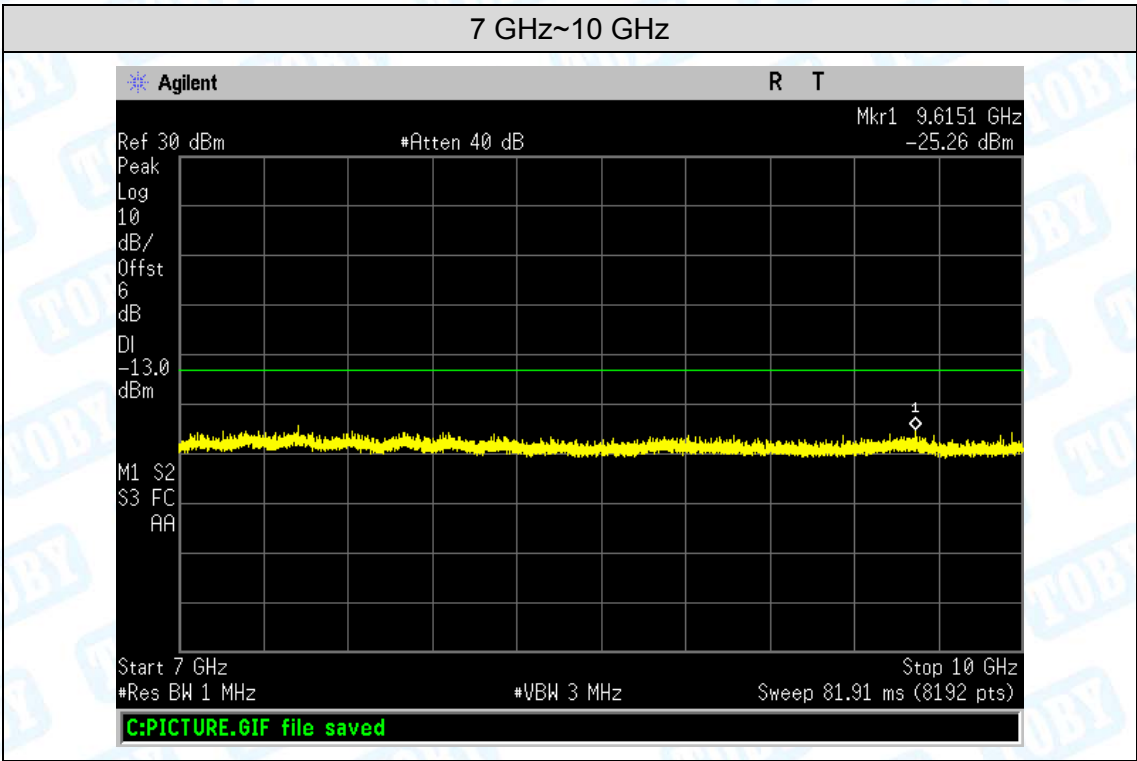
UMTS Band V CH 4233

30 MHz~ 3 GHz



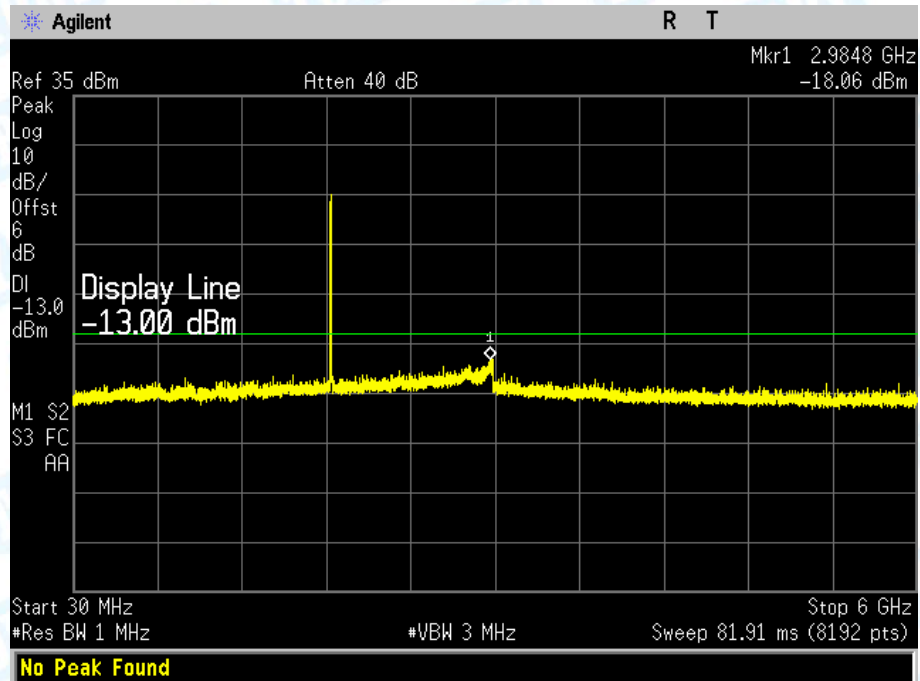
3 GHz~7 GHz



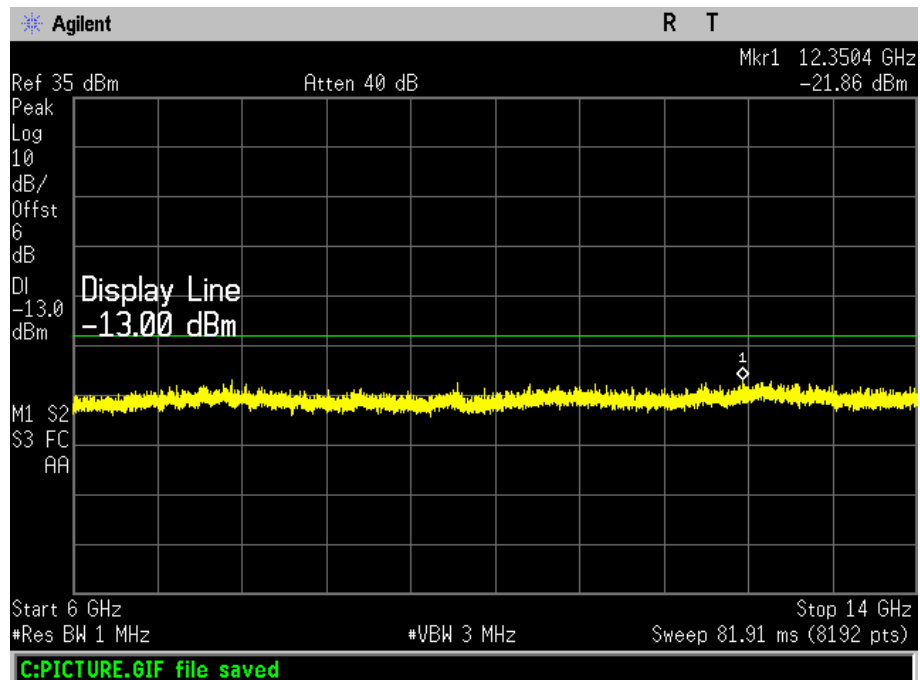


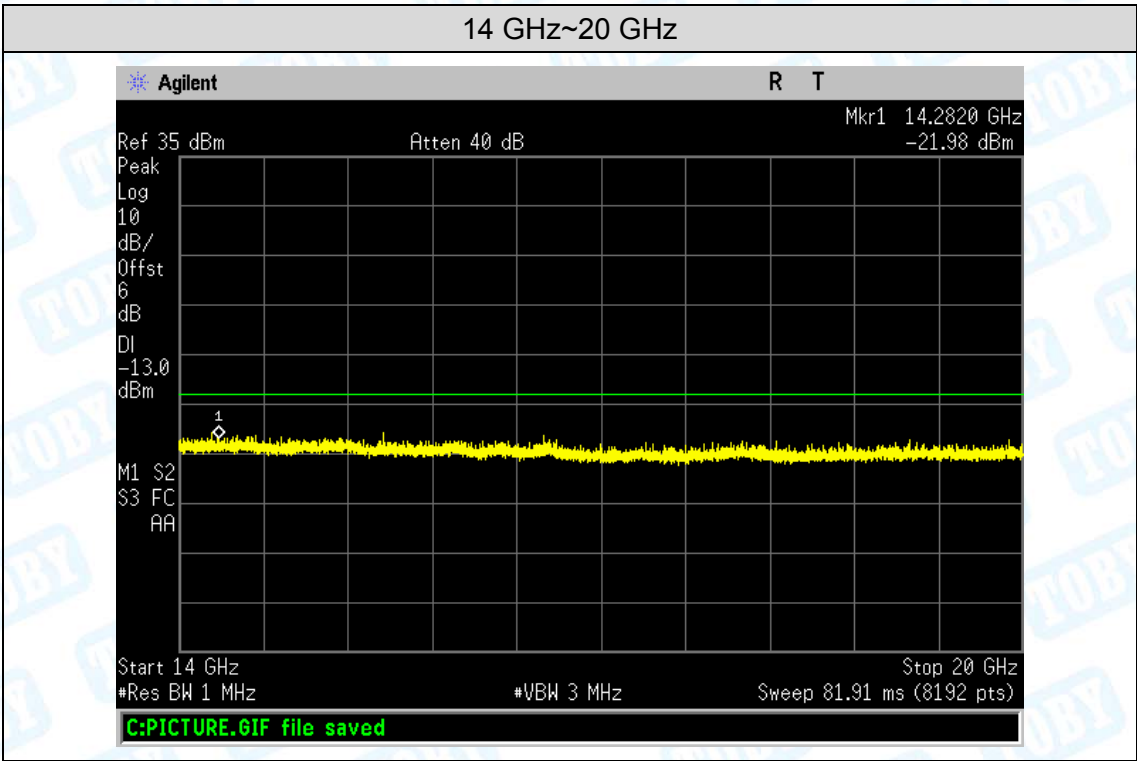
UMTS Band II CH 9262

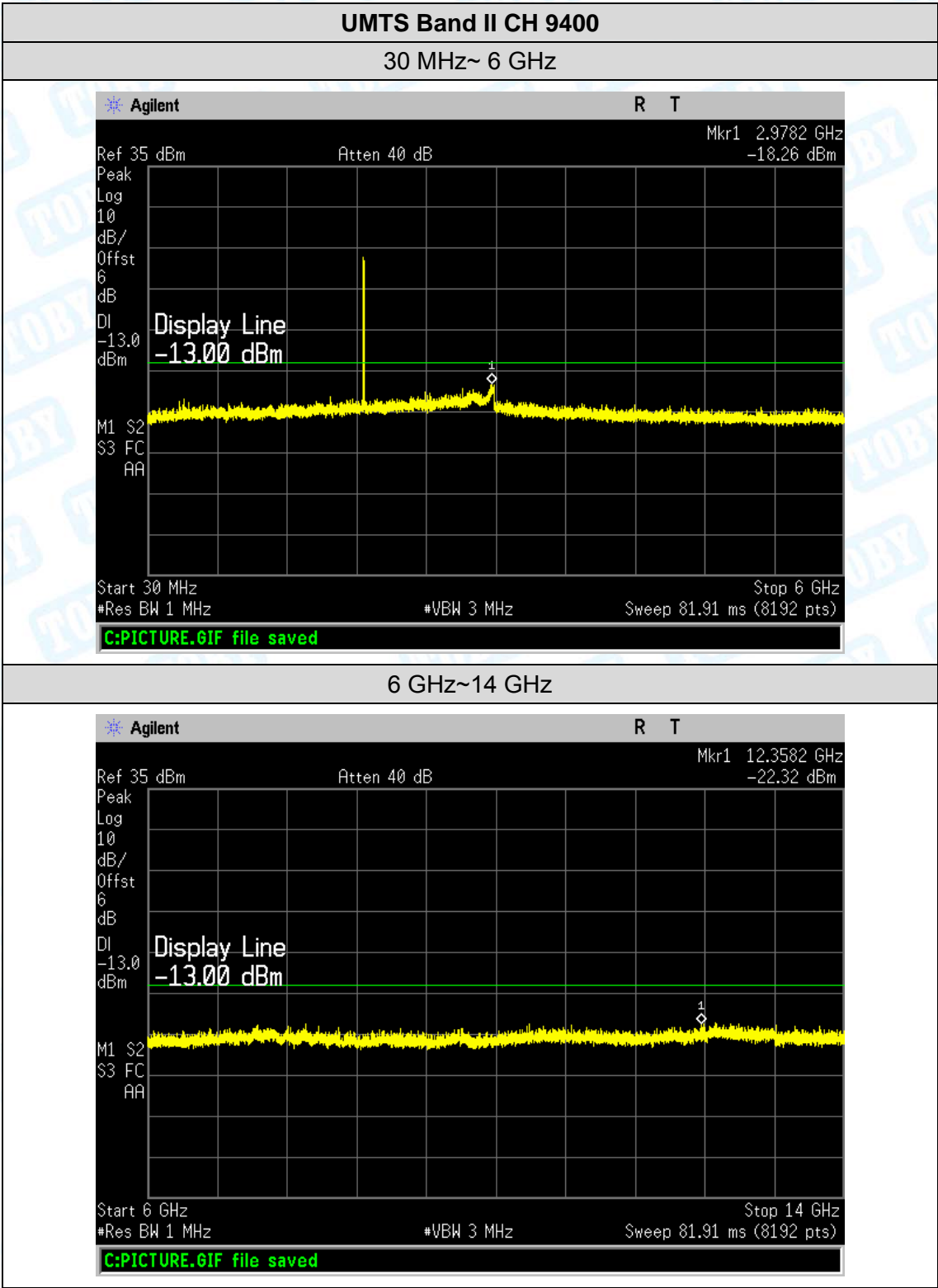
30 MHz~ 6 GHz

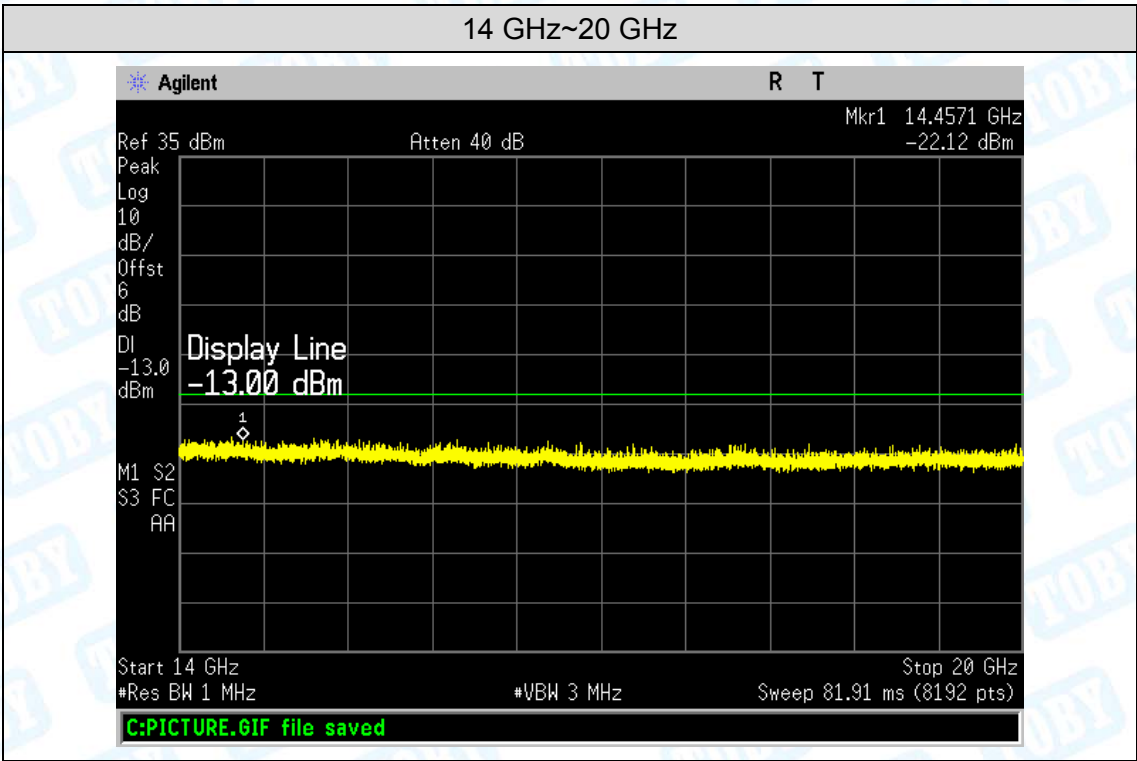


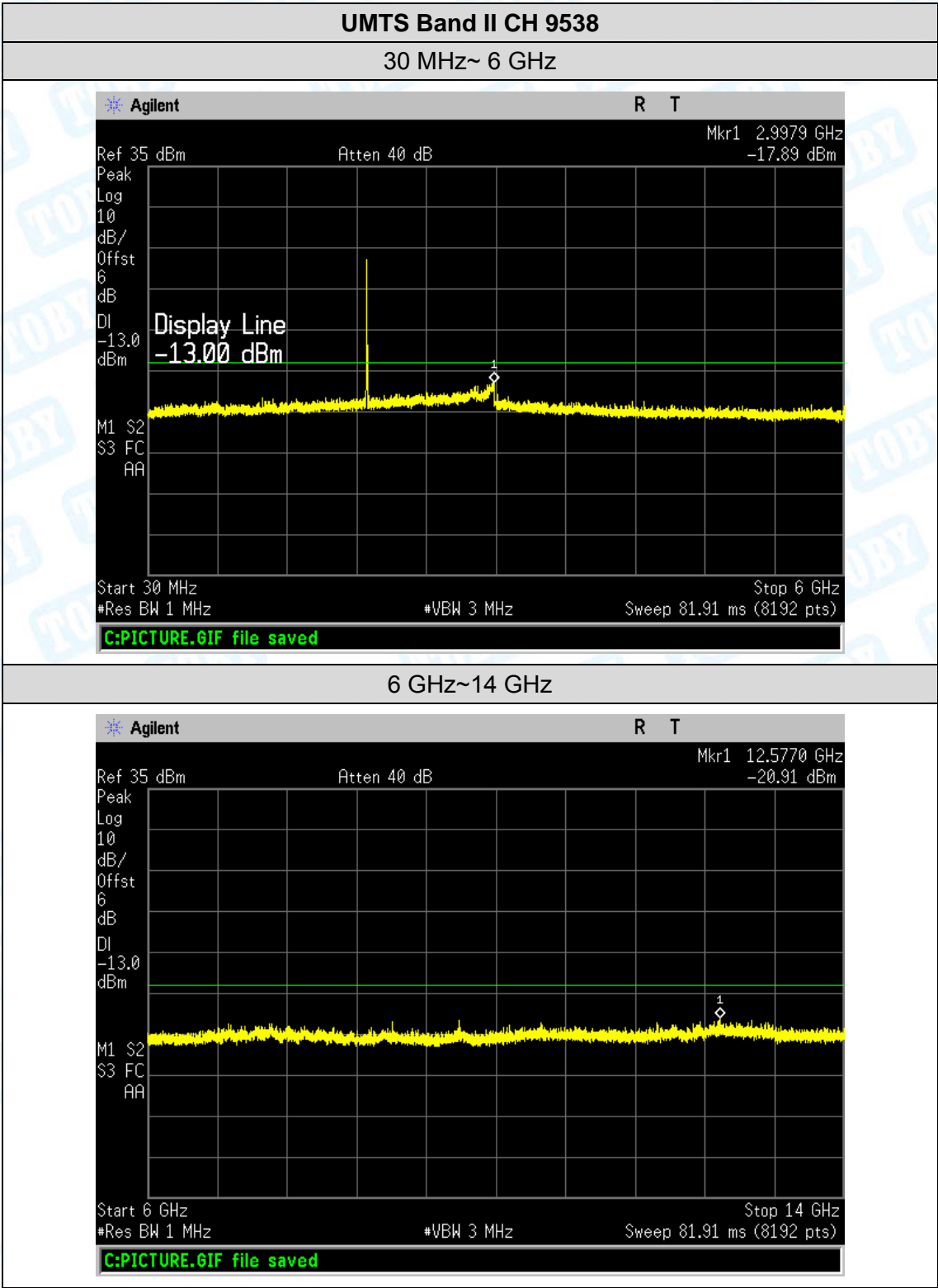
6 GHz~14 GHz

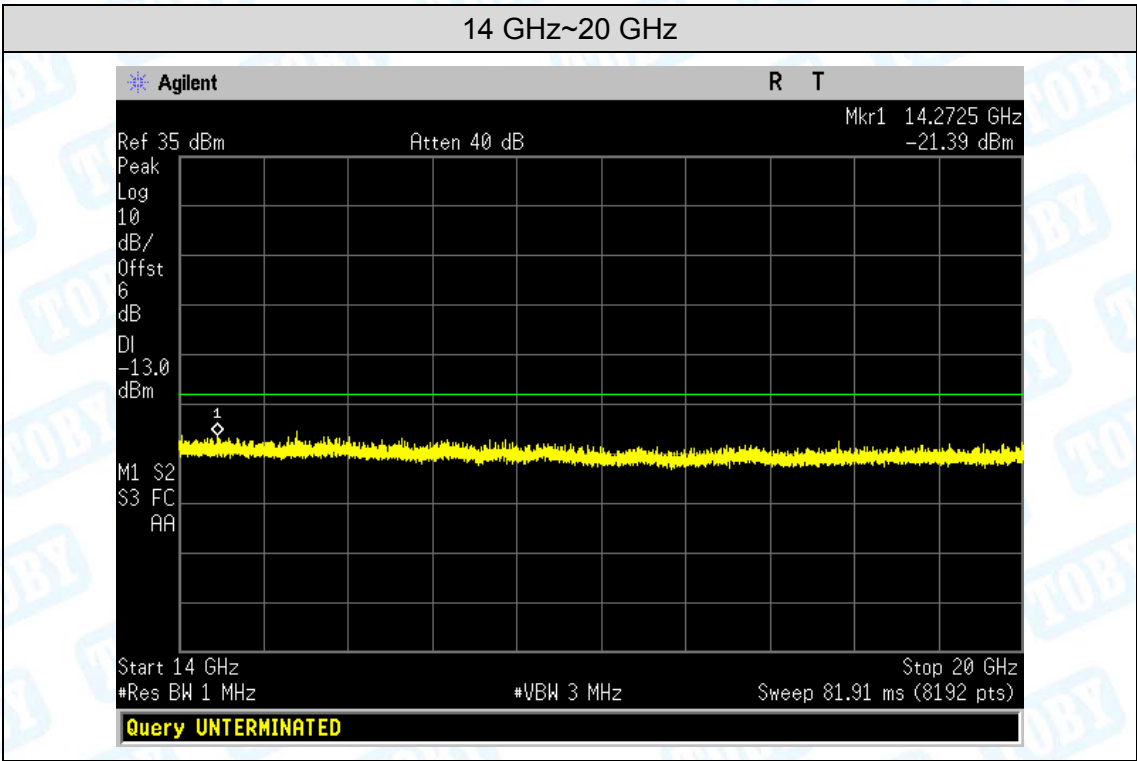












10. Band Edge Test

10.1 Test Standard and Limit

10.1.1 Test Standard

FCC Part 2: 2.1051, 2.1057

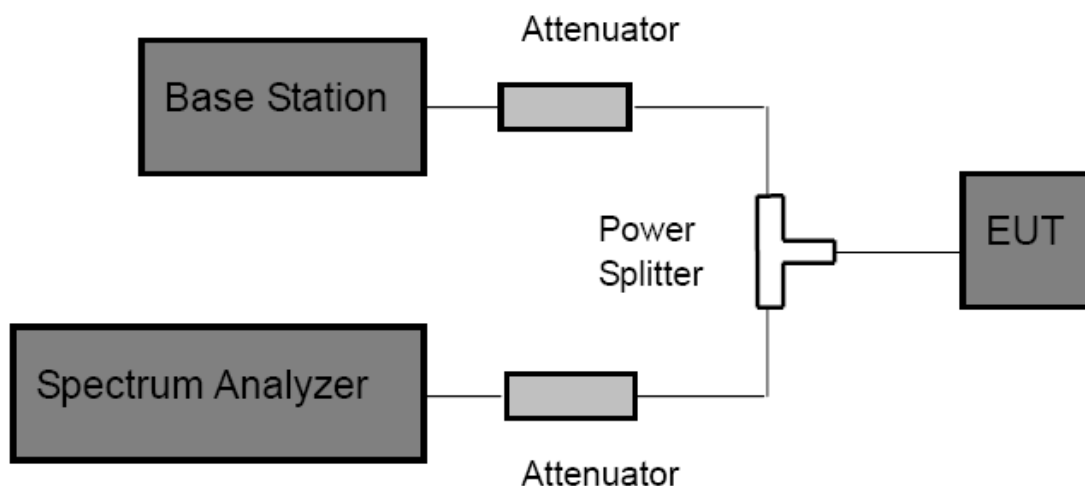
FCC Part 22H: 22.917(a)

FCC Part 24E: 24.238(a)

10.1.2 Test Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power(P) by a factor of at least $43+10\log(P)$ dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

10.2 Test Setup



10.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and Base station via power splitter as show in the block diagram above.
- (2) Spectrum Setting:
GSM and PCS: RBW=3 kHz, VBW=10 kHz, Span 1 MHz, Detector: Peak Mode.
WCDMA: RBW=100 kHz, VBW=300 kHz, Span 5 MHz, Detector: Peak Mode.
- (3) The band edges of low and high channels for the highest RF powers were measured.

10.4 EUT Operating Condition

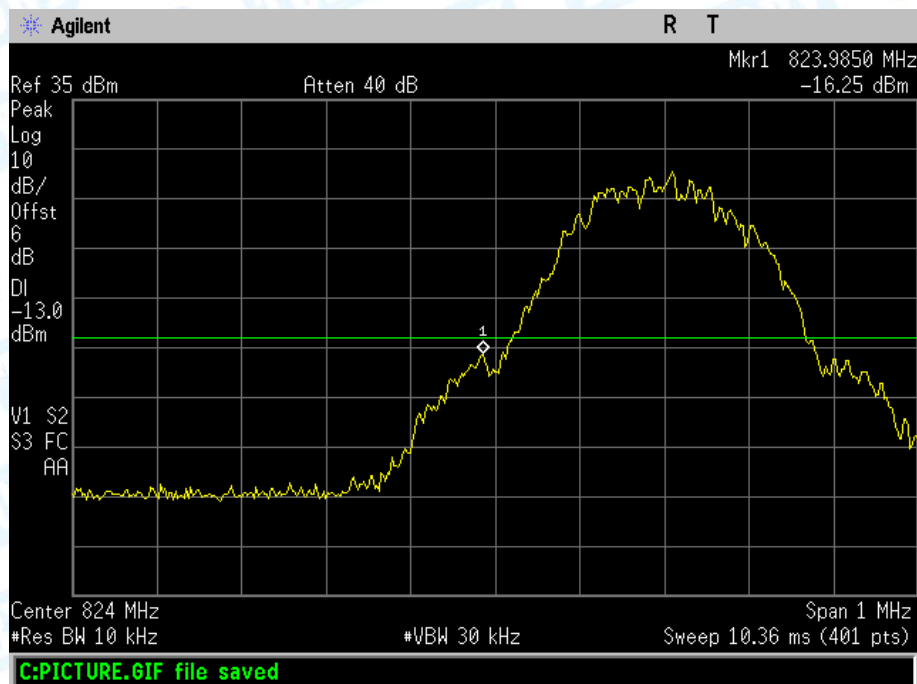
The EUT was continuously connected with the Base station and transmitting in the max power during the test.

10.5 Test Data

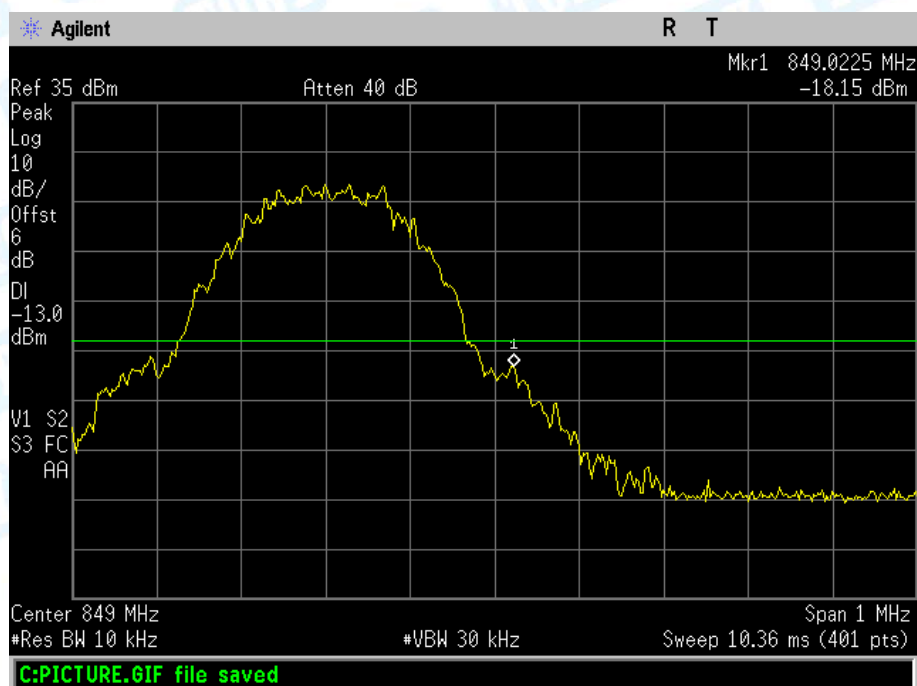
Please refer the following plots:

Band edge emission:

Test Mode:	GSM850
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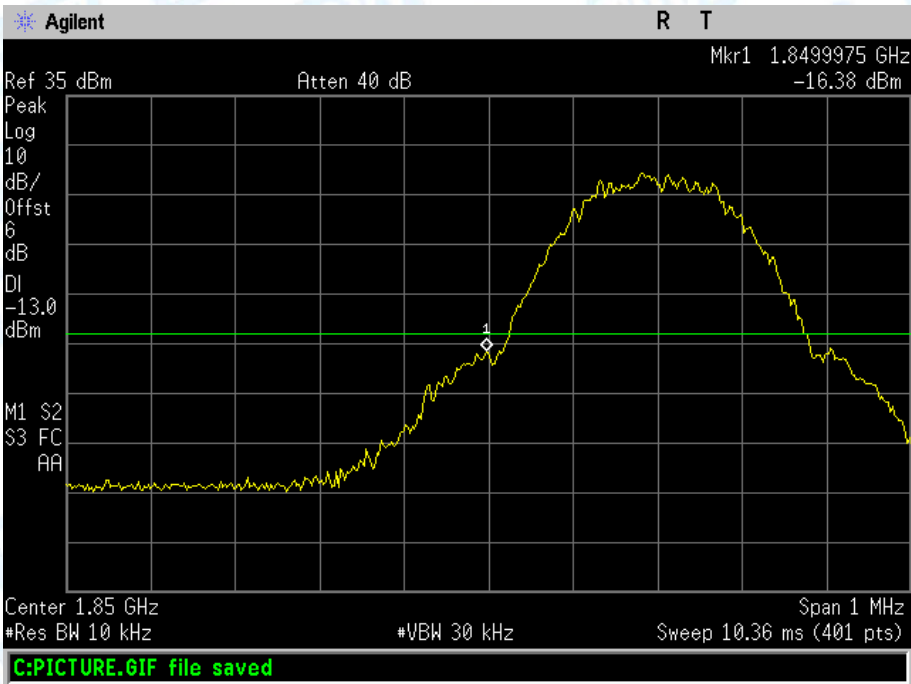


Lowest channel

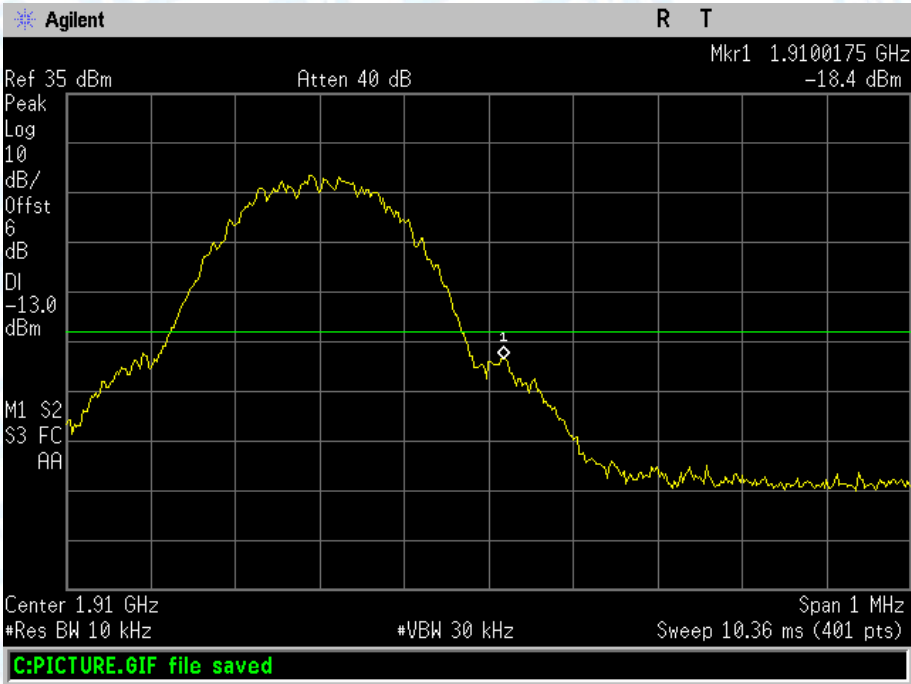


Highest channel

Test Mode:	PCS1900
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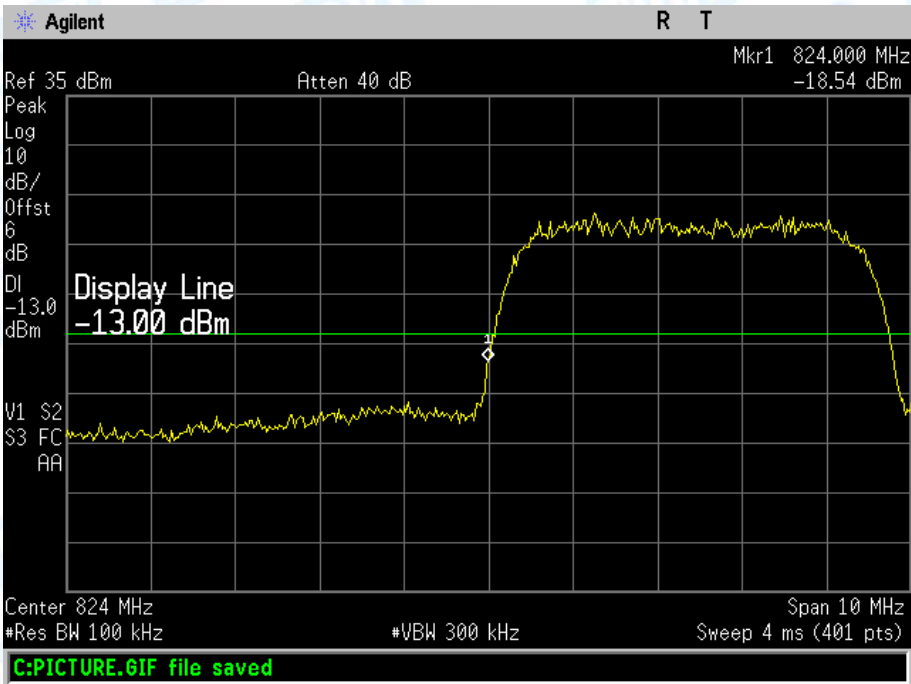


Lowest channel

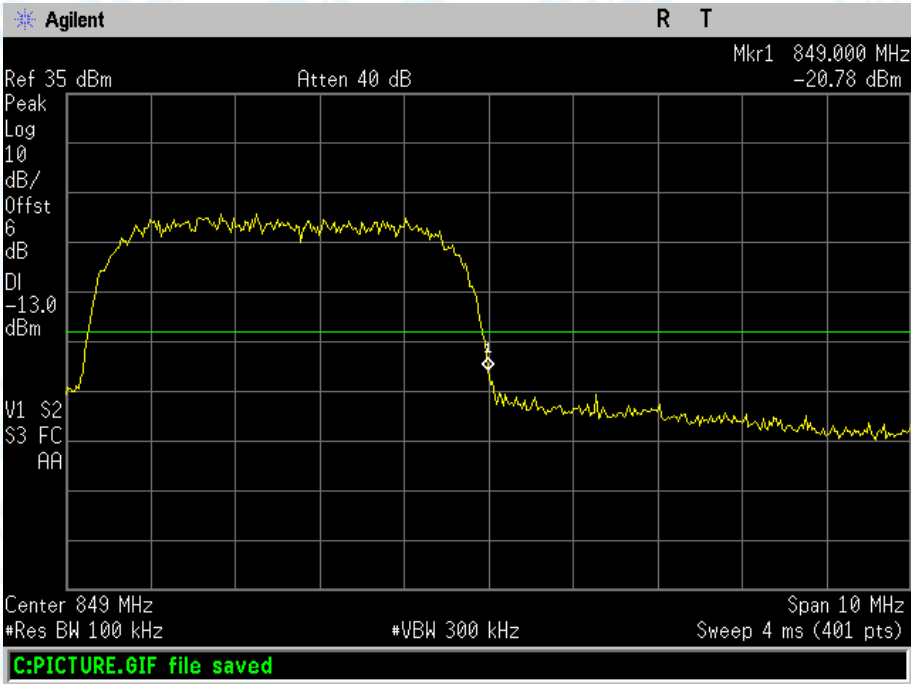


Highest channel

Test Mode:	UMTS Band V 12.2k RMC
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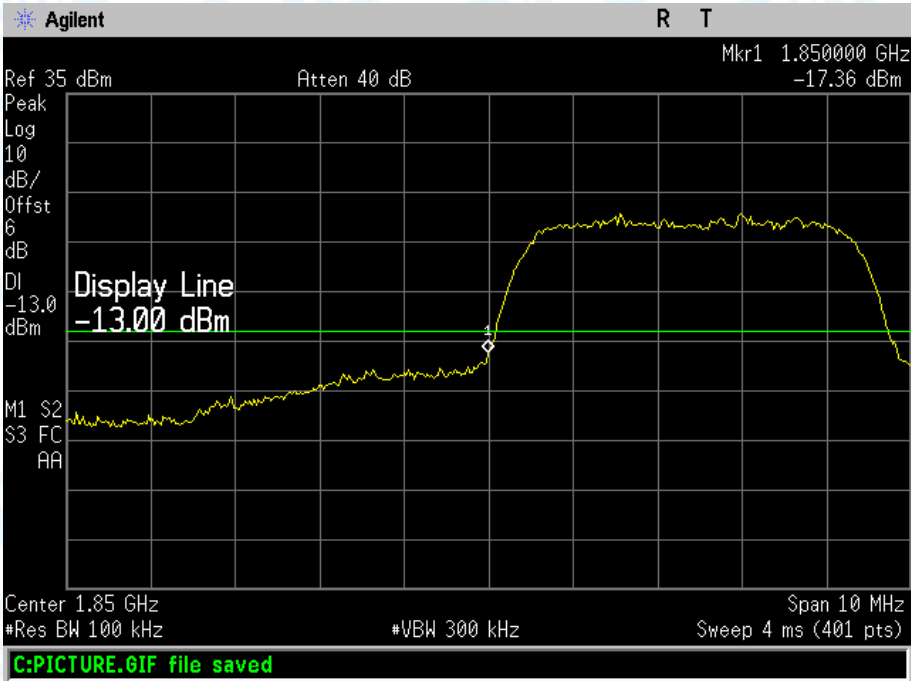


Lowest channel

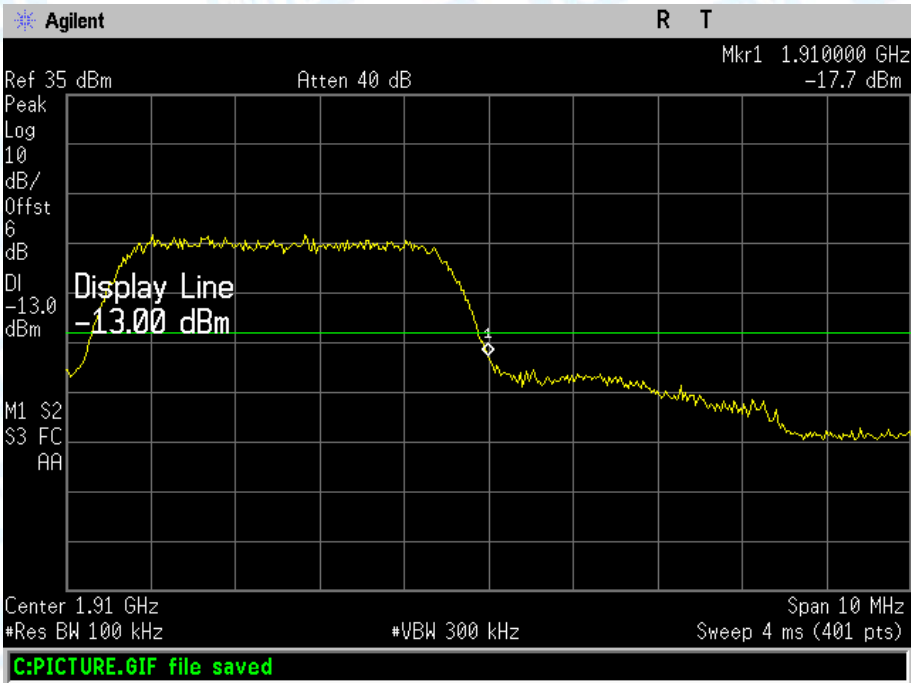


Highest channel

Test Mode:	UMTS Band II 12.2k RMC
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Lowest channel



Highest channel

11. Radiated Out Band of Emissions

11.1 Test Standard and Limit

11.1.1 Test Standard

FCC Part 2: 2.1053, 2.1057

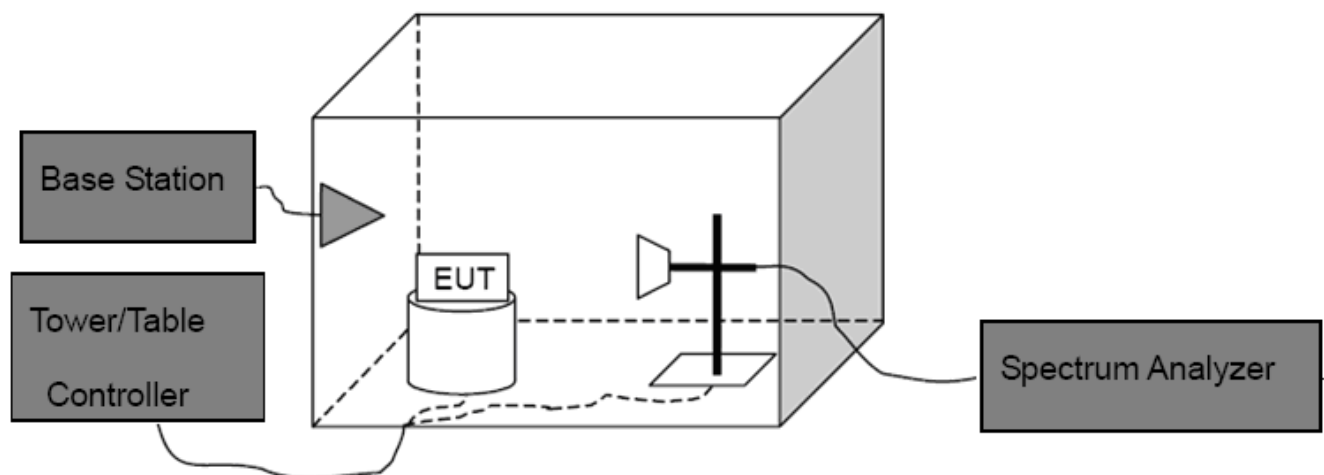
FCC Part 22H: 22.917

FCC Part 24E: 24.238

11.1.2 Test Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power(P) by a factor of at least $43+10\log(P)$ dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

11.2 Test Setup



11.3 Test Procedure

- (1) The test system setup as show in the block diagram above.
- (2) The EUT was placed on an non-conductive rotating platform in an anechoic chamber. The radiated spurious emissions from 30MHz to 10^{th} harmonious of fundamental frequency were measured at 3 m with a test antenna and a spectrum analyzer with RBW=1 MHz, VBW=1 MHz, peak detector settings.
- (3) During the measurement, the EUT was enforced in maximum power and linked with a base station. All the spurious emissions at 3m were measured by rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
- (4) When found the maximum level of emissions from the EUT. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB=10 log(TX power in Watts/0.001)-the absolute level
Spurious attenuation limit in dB=43+10 log(power out in Watts)

11.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

11.5 Test Data

Please refer the following pages.

Measurement Data (worst case)

Test mode:	GSM850		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1648.40	Vertical	-43.57	-13.00	Pass
2472.60	V	-38.24		
3297.00	V	-26.32		
4121.00	V	---		
4945.20	V	---		
5769.40	V	---		
1648.40	Horizontal	-35.24	-13.00	Pass
2472.60	H	-34.85		
3297.00	H	-29.65		
4121.00	H	---		
4945.20	H	---		
5769.40	H	---		
Test mode:	GSM850		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1673.20	Vertical	-28.14	-13.00	Pass
2509.80	V	-32.39		
3346.40	V	-26.35		
4183.00	V	---		
5019.60	V	---		
5856.20	V	---		
1673.20	Horizontal	-28.69	-13.00	Pass
2509.80	H	-37.23		
3346.40	H	-29.25		
4183.00	H	---		
5019.60	H	---		
5856.20	H	---		

Remark :

1. The emission behavior belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	GSM850		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1696.60	Vertical	-27.68	-13.00	Pass
2546.40	V	-34.68		
3395.20	V	-28.66		
4244.00	V	---		
5092.80	V	---		
5941.60	V	---		
1697.60	Horizontal	-31.25	-13.00	Pass
2546.40	H	-35.85		
3395.20	H	-28.78		
4244.00	H	---		
5092.80	H	---		
5941.60	H	---		
Test mode:	PCS1900		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3700.40	Vertical	-29.58	-13.00	Pass
5550.60	V	-24.75		
7400.80	V	-21.68		
9251.00	V	---		
11101.20	V	---		
12951.40	V	---		
3700.40	Horizontal	-32.47	-13.00	Pass
5550.60	H	-28.68		
7400.80	H	-25.35		
9251.00	H	---		
11101.20	H	---		
12951.40	H	---		

Remark :

1. The emission behavior belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	PCS1900		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-29.14	-13.00	Pass
5640.00	V	-20.86		
7520.00	V	-18.78		
9400.00	V	---		
11280.00	V	---		
13160.00	V	---		
3760.00	Horizontal	-24.68	-13.00	Pass
5640.00	H	-22.35		
7520.00	H	-21.22		
9400.00	H	---		
11280.00	H	---		
13160.00	H	---		
Test mode:	PCS1900		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3819.60	Vertical	-26.68	-13.00	Pass
5729.40	V	-19.38		
7639.20	V	-20.68		
9549.00	V	---		
11458.80	V	---		
13368.60	V	---		
3819.60	Horizontal	-30.58	-13.00	Pass
5729.40	H	-18.69		
7639.20	H	-20.47		
9549.00	H	---		
11458.80	H	---		
13368.60	H	---		

Remark :

1. The emission behavior belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	UMTS Band V 12.2k RMC		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1652.80	Vertical	-31.21	-13.00	Pass
2479.20	V	-32.33		
3305.60	V	---		
4132.00	V	---		
4958.40	V	---		
5784.80	V	---		
1652.80	Horizontal	-30.58	-13.00	Pass
2479.20	H	-31.24		
3305.60	H	---		
4132.00	H	---		
4958.40	H	---		
5784.80	H	---		
Test mode:	UMTS Band V 12.2k RMC		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1672.00	Vertical	-32.85	-13.00	Pass
2508.00	V	-31.55		
3344.00	V	---		
4180.00	V	---		
5016.00	V	---		
5852.00	V	---		
1672.00	Horizontal	-34.35	-13.00	Pass
2508.00	H	-32.33		
3344.00	H	---		
4180.00	H	---		
5016.00	H	---		
5852.00	H	---		

Remark :

- The emission behavior belongs to narrowband spurious emission.
- Remark"---" means that the emission level is too low to be measured
- The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	UMTS Band V 12.2k RMC		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1693.20	Vertical	-34.56	-13.00	Pass
2539.80	V	-33.24		
3386.40	V	---		
4233.00	V	---		
5079.60	V	---		
5926.20	V	---		
1693.20	Horizontal	-33.02	-13.00	Pass
2539.80	H	-34.77		
3386.40	H	---		
4233.00	H	---		
5079.60	H	---		
5926.20	H	---		
Test mode:	UMTS Band II 12.2k RMC		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1693.20	Vertical	-29.38	-13.00	Pass
2539.80	V	-22.38		
3386.40	V	---		
4233.00	V	---		
5079.60	V	---		
5926.20	V	---		
1693.20	Horizontal	-28.69	-13.00	Pass
2539.80	H	-20.33		
3386.40	H	---		
4233.00	H	---		
5079.60	H	---		
5926.20	H	---		

Remark :

1. The emission behavior belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	UMTS Band II 12.2k RMC		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1693.20	Vertical	-29.30	-13.00	Pass
2539.80	V	-19.24		
3386.40	V	---		
4233.00	V	---		
5079.60	V	---		
5926.20	V	---		
1693.20	Horizontal	-29.35	-13.00	Pass
2539.80	H	-18.54		
3386.40	H	---		
4233.00	H	---		
5079.60	H	---		
5926.20	H	---		
Test mode:	UMTS Band II 12.2k RMC		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1693.20	Vertical	-26.58	-13.00	Pass
2539.80	V	-19.25		
3386.40	V	---		
4233.00	V	---		
5079.60	V	---		
5926.20	V	---		
1693.20	Horizontal	-27.24	-13.00	Pass
2539.80	H	-18.66		
3386.40	H	---		
4233.00	H	---		
5079.60	H	---		
5926.20	H	---		

Remark :

- The emission behavior belongs to narrowband spurious emission.
- Remark"---" means that the emission level is too low to be measured
- The emission levels of below 1 GHz are very lower than the limit and not show in test report.

-----End of report-----