

FCC Radio Test Report

FCC ID: YXK-S400

Original Grant

Report No. : TB-FCC144562
Applicant : Shenzhen Huaruian Technology Co.,Ltd
Equipment Under Test (EUT)
EUT Name : Mobile phone
Model No. : S400
Brand Name : N/A
Receipt Date : 2015-09-21
Test Date : 2015-09-22 to 2015-10-12
Issue Date : 2015-10-13
Standards : FCC Part 2
FCC Part 22 Subpart H, FCC Part 24 Subpart E, 2015
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 :

IWAN SU

Approved& Authorized :

Long Li



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 : Shenzhen Huaruian Technology Co.,Ltd
Address : 4th Floor of Yuxing, Sanwei Science and Technology,
Park, Hangcheng Road, Bao'an District, Shenzhen, China
Manufacturer : Shenzhen Huaruian Technology Co.,Ltd
Address : 4th Floor of Yuxing, Sanwei Science and Technology,
Park, Hangcheng Road, Bao'an District, Shenzhen, China

1.2 General Description of EUT (Equipment Under Test)

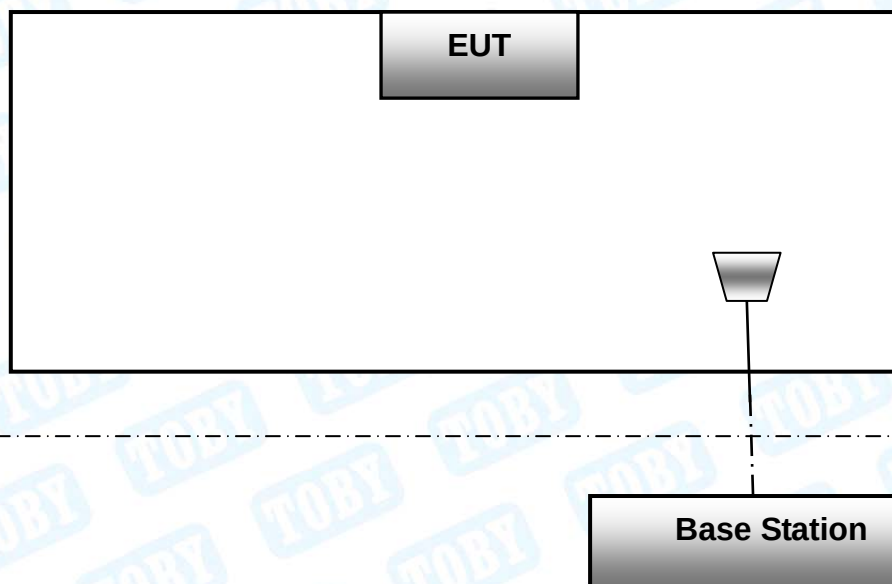
EUT Name	:	Mobile phone
Model No.	:	S400
Product Description	:	Frequency Bands: GSM850; PCS1900; UMTS FDD Band II; UMTS FDD Band V
		GSM 850 Power : Cond:32.32 dBm ERP:31.85 dBm
		PCS 1900 Power : Cond:29.68 dBm EIRP:32.51 dBm
		UMTS Band II Power: Cond:23.10 dBm EIRP:22.14 dBm
		UMTS Band V Power: Cond:22.97 dBm ERP:21.55 dBm
		Antenna Gain: GSM 850: -1.66 dBi PCS 1900: 2.22 dBi WCDMA Band V: -1.66 dBi WCDMA Band II: 2.22 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: 245KGXW, PCS 1900: 253KGXW GPRS 850: 249KG7W, GPRS 1900: 251KG7W EGPRS 850: 247KG7W, EGPRS 1900: 248KG7W UMTS Band V: 4M08F9W, UMTS Band II: 4M10F9W
Power Supply	:	DC power supplied by AC/DC Adapter. DC Voltage supplied from Li-ion battery.
Power Rating	:	Input: AC 100~240V 50/60Hz 0.3A Output: 5V/1A

		DC 3.7V from 2600mA Li-ion 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.
- (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	± 3.42 dB
	150kHz to 30MHz	± 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	Mar. 28, 2015	Mar. 27, 2016
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 28, 2015	Mar. 27, 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	Jun. 24, 2015	Jun. 23, 2016
Power Divider	HP	11636A	07669	Aug. 07, 2015	Aug. 06, 2016
Temp. & Humidity Chamber	ZHONG ZHI	CZ-A-225D	HW08053	Aug. 07, 2015	Aug. 06, 2016
DC Power Supply	MATRIX	MPS-3005L-3	D806050W	Aug. 07, 2015	Aug. 06, 2016
AC Power Supply	Heng Jie	HPC-1110	2010007	Aug. 07, 2015	Aug. 06, 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:

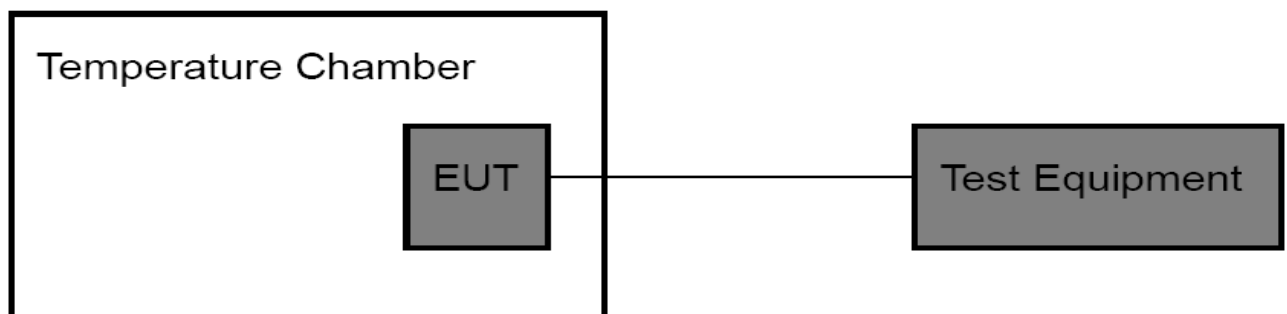
The temperature is varied from -30°C to $+50^{\circ}\text{C}$ at intervals of not more than 10°C .

(2) Primary Supply Voltage:

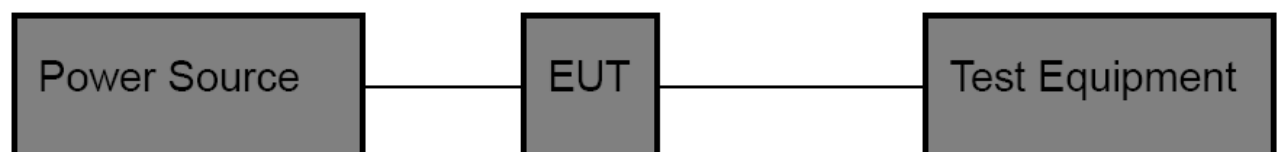
For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at input to the cable normally provide with the equipment, or at the power supply terminals if cables 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	-17	-0.020	-10	-0.012	-11	-0.013
-20	-15	-0.018	-8	-0.010	-12	-0.014
-10	-16	-0.019	-11	-0.013	-9	-0.011
0	-18	-0.022	-12	-0.014	-8	-0.010
10	-19	-0.023	-9	-0.011	-12	-0.014
20	-17	-0.020	-10	-0.012	-11	-0.013
30	-18	-0.022	-12	-0.014	-13	-0.016
40	-15	-0.018	-11	-0.013	-12	-0.014
50	-18	-0.022	-13	-0.016	-10	-0.012
60	-17	-0.020	-12	-0.014	-12	-0.014
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	-20	-0.030	-27	-0.041	-21	-0.032
-20	-18	-0.027	-26	-0.039	-23	-0.035
-10	-21	-0.032	-28	-0.042	-20	-0.030
0	-17	-0.026	-26	-0.039	-22	-0.033
10	-19	-0.029	-25	-0.038	-19	-0.029
20	-20	-0.030	-27	-0.041	-20	-0.030
30	-19	-0.029	-28	-0.042	-19	-0.029
40	-17	-0.026	-29	-0.044	-24	-0.036
50	-19	-0.029	-24	-0.036	-22	-0.033
60	-18	-0.027	-29	-0.044	-20	-0.030
Limit	2.5 (ppm)					
Result	PASS					

Temperature Variation UMTS Band V (CH 4182)		
Temperature (°C)	RMC Mode	
	Freq. Dev. (Hz)	Deviation (ppm)
-30	17	0.020
-20	16	0.019
-10	18	0.022
0	17	0.020
10	18	0.022
20	16	0.019
30	18	0.022
40	17	0.020
50	19	0.023
60	16	0.019
Limit	2.5 (ppm)	
Result	PASS	

Temperature Variation UMTS Band II (CH 9400)		
Temperature (°C)	RMC Mode	
	Freq. Dev. (Hz)	Deviation (ppm)
-30	-54	-0.029
-20	-52	-0.028
-10	-55	-0.029
0	-53	-0.028
10	-54	-0.029
20	-52	-0.028
30	-53	-0.028
40	-55	-0.029
50	-53	-0.028
60	-52	-0.028
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	-12	-0.014	-11	-0.013
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	-25	-0.038	-19	-0.029
3.70	-21	-0.032	-26	-0.039	-22	-0.033
4.26	-20	-0.030	-28	-0.042	-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	16	0.019
3.70	18	0.022
4.26	19	0.023
Limit	2.5 (ppm)	
Result	PASS	

Voltage Variation UMTS Band II (CH 9400)		
Voltage (V)	RMC Mode	
	Freq. Dev. (Hz)	Deviation (ppm)
3.15	-48	-0.026
3.70	-51	-0.027
4.26	-53	-0.028
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

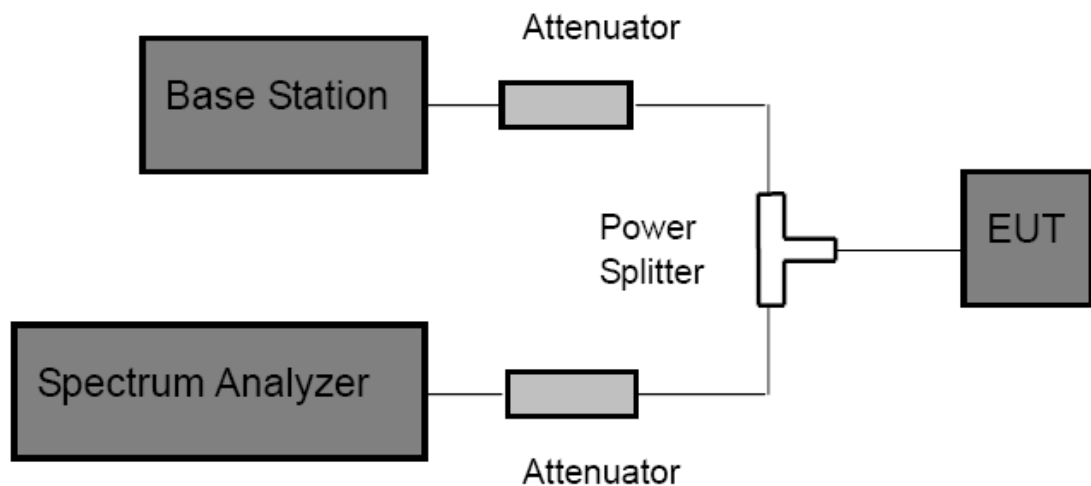
FCC Part 22H : 22.913 (a)

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	32.32	1.706
	190	836.6	32.21	1.663
	251	848.8	32.18	1.652
GPRS 850 (1 Slot)	128	824.2	31.78	1.507
	190	836.6	31.67	1.469
	251	848.8	31.56	1.432
GPRS 850 (2 Slot)	128	824.2	31.69	1.476
	190	836.6	31.54	1.426
	251	848.8	31.45	1.396
GPRS 850 (3 Slot)	128	824.2	31.86	1.535
	190	836.6	31.64	1.459
	251	848.8	31.51	1.416
GPRS 850 (4 Slot)	128	824.2	31.55	1.429
	190	836.6	31.49	1.409
	251	848.8	31.65	1.462
EDGE 850 (1 Slot)	128	824.2	30.45	1.109
	190	836.6	30.42	1.102
	251	848.8	30.47	1.114
EDGE 850 (2 Slot)	128	824.2	30.43	1.104
	190	836.6	30.3	1.072
	251	848.8	30.28	1.067
EDGE 850 (3 Slot)	128	824.2	30.5	1.122
	190	836.6	30.41	1.099
	251	848.8	30.44	1.107
EDGE 850 (4 Slot)	128	824.2	30.48	1.117
	190	836.6	30.38	1.091
	251	848.8	30.36	1.086

PCS 1900				
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)
GSM 1900	512	1850.2	29.68	0.929
	661	1880.0	29.58	0.908
	810	1909.8	29.49	0.889
GPRS 1900 (1 Slot)	512	1850.2	28.65	0.733
	661	1880.0	28.55	0.716
	810	1909.8	28.47	0.703
GPRS 1900 (2 Slot)	512	1850.2	28.54	0.714
	661	1880.0	28.48	0.705
	810	1909.8	28.39	0.690
GPRS 1900 (3 Slot)	512	1850.2	28.46	0.701
	661	1880.0	28.43	0.697
	810	1909.8	28.56	0.718
GPRS 1900 (4 Slot)	512	1850.2	28.44	0.698
	661	1880.0	28.36	0.685
	810	1909.8	28.51	0.710
EDGE 1900 (1 Slot)	512	1850.2	27.52	0.565
	661	1880.0	27.46	0.557
	810	1909.8	27.48	0.560
EDGE 1900 (2 Slot)	512	1850.2	27.39	0.548
	661	1880.0	27.33	0.541
	810	1909.8	27.30	0.537
EDGE 1900 (3 Slot)	512	1850.2	27.61	0.577
	661	1880.0	27.55	0.569
	810	1909.8	27.51	0.564
EDGE 1900 (4 Slot)	512	1850.2	27.53	0.566
	661	1880.0	27.35	0.543
	810	1909.8	27.43	0.553

UMTS Band V				
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)
Band V RMC	4132	826.4	22.62	0.285
	4175	835.0	22.79	0.258
	4233	846.6	22.97	0.243
HSDPA Subtest 1	4132	826.4	21.61	0.221
	4175	835.0	21.82	0.204
	4233	846.6	21.96	0.211
HSDPA Subtest 2	4132	826.4	21.73	0.164
	4175	835.0	21.71	0.191
	4233	846.6	21.68	0.192
HSDPA Subtest 3	4132	826.4	20.96	0.165
	4175	835.0	20.52	0.193
	4233	846.6	20.36	0.198
HSDPA Subtest 4	4132	826.4	20.78	0.159
	4175	835.0	20.16	0.187
	4233	846.6	20.51	0.195
HSUPA Subtest 1	4132	826.4	21.14	0.167
	4175	835.0	21.68	0.163
	4233	846.6	21.32	0.161
HSUPA Subtest 2	4132	826.4	19.61	0.171
	4175	835.0	19.98	0.151
	4233	846.6	20.03	0.133
HSUPA Subtest 3	4132	826.4	20.6	0.177
	4175	835.0	20.78	0.170
	4233	846.6	20.91	0.167
HSUPA Subtest 4	4132	826.4	20.95	0.171
	4175	835.0	20.37	0.152
	4233	846.6	20.17	0.129
HSUPA Subtest 5	4132	826.4	19.95	0.130
	4175	835.0	20.22	0.157
	4233	846.6	20.44	0.129

UMTS Band II				
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)
Band II RMC	9262	1852.4	23.10	0.227
	9400	1880.0	22.72	0.221
	9538	1907.6	22.91	0.206
HSDPA Subtest 1	9262	1852.4	22.77	0.181
	9400	1880.0	21.48	0.129
	9538	1907.6	21.97	0.114
HSDPA Subtest 2	9262	1852.4	21.67	0.170
	9400	1880.0	21.77	0.121
	9538	1907.6	21.91	0.109
HSDPA Subtest 3	9262	1852.4	21.18	0.169
	9400	1880.0	20.75	0.117
	9538	1907.6	21.54	0.110
HSDPA Subtest 4	9262	1852.4	21.20	0.167
	9400	1880.0	20.40	0.116
	9538	1907.6	21.64	0.110
HSUPA Subtest 1	9262	1852.4	21.11	0.180
	9400	1880.0	21.35	0.118
	9538	1907.6	21.23	0.102
HSUPA Subtest 2	9262	1852.4	19.83	0.171
	9400	1880.0	20.55	0.121
	9538	1907.6	20.52	0.110
HSUPA Subtest 3	9262	1852.4	20.04	0.187
	9400	1880.0	20.56	0.129
	9538	1907.6	19.98	0.111
HSUPA Subtest 4	9262	1852.4	20.11	0.178
	9400	1880.0	20.09	0.123
	9538	1907.6	20.45	0.108
HSUPA Subtest 5	9262	1852.4	20.63	0.181
	9400	1880.0	20.33	0.127
	9538	1907.6	20.13	0.116

6. Peak-Average Ratio

6.1 Test Standard and Limit

6.1.1 Test Standard

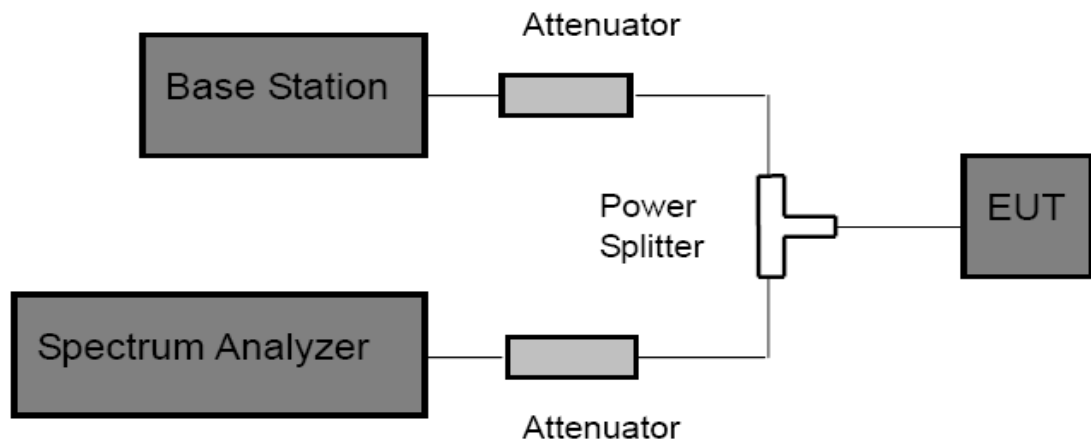
FCC Part 24E: 24.232 (d)

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	33.55	32.64	0.91
	661	1880.0	33.44	32.56	0.88
	810	1909.8	33.41	32.47	0.94

UMTS Band II					
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)		Peak-Average Ratio (PAR)
			Peak	Average	
UMTS Band II	9262	1852.4	25.66	23.56	2.10
	9400	1880.0	25.53	23.44	2.09
	9538	1907.6	25.24	23.14	2.10

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)

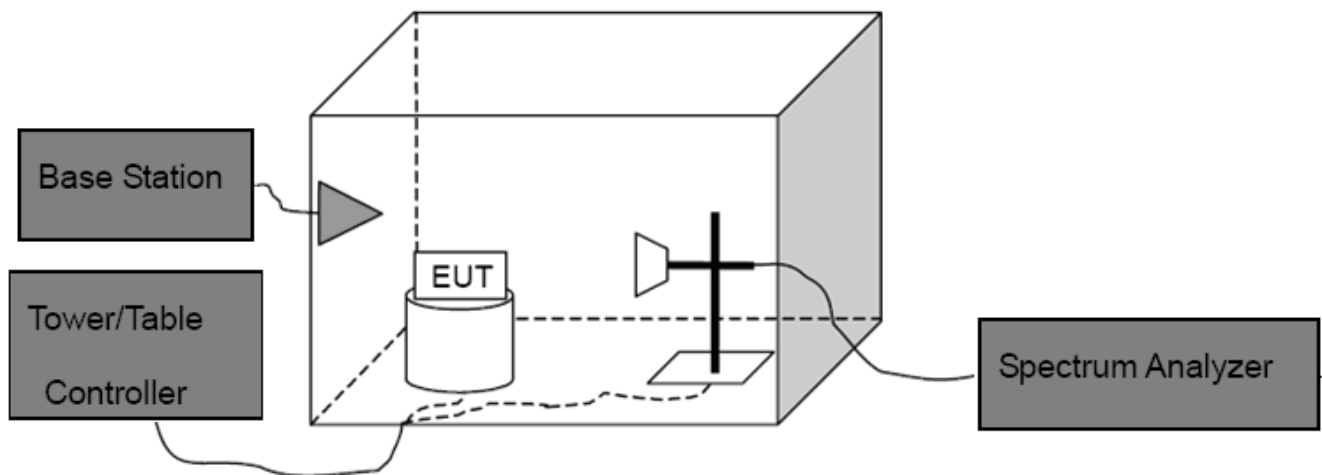
7.1.2 Test Limit

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	31.85	1.531
			V	31.02	1.265
	190	836.6	H	31.63	1.455
			V	30.75	1.189
	251	848.8	H	31.57	1.435
			V	30.70	1.175
GPRS 850 (1 Slot)	128	824.2	H	30.82	1.208
			V	29.44	0.879
	190	836.6	H	30.63	1.156
			V	29.51	0.893
	251	848.8	H	30.52	1.127
			V	30.32	1.076
EDGE 850 (1 Slot)	128	824.2	H	29.55	0.902
			V	28.47	0.703
	190	836.6	H	29.43	0.877
			V	28.26	0.670
	251	848.8	H	29.30	0.851
			V	28.16	0.655
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	32.51	1.782
			V	31.25	1.334
	661	1880.0	H	32.41	1.742
			V	31.02	1.265
	810	1909.8	H	32.05	1.603
			V	30.89	1.227
GPRS 1900 (1 Slot)	512	1850.2	H	30.57	1.140
			V	29.34	0.859
	661	1880.0	H	29.47	0.885
			V	28.69	0.740
	810	1909.8	H	29.41	0.873
			V	28.50	0.708
EDGE 1900 (1 Slot)	512	1850.2	H	29.31	0.853
			V	28.49	0.706
	661	1880.0	H	29.14	0.820
			V	28.12	0.649
	810	1909.8	H	29.03	0.800
			V	27.94	0.622
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	21.55	0.143
			V	19.74	0.094
	4175	835.0	H	21.36	0.137
			V	19.55	0.090
	4233	846.6	H	21.25	0.133
			V	19.40	0.087
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	22.14	0.164
			V	20.30	0.107
	9400	1880.0	H	22.06	0.161
			V	20.15	0.104
	9538	1907.6	H	21.98	0.158
			V	20.06	0.101
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)

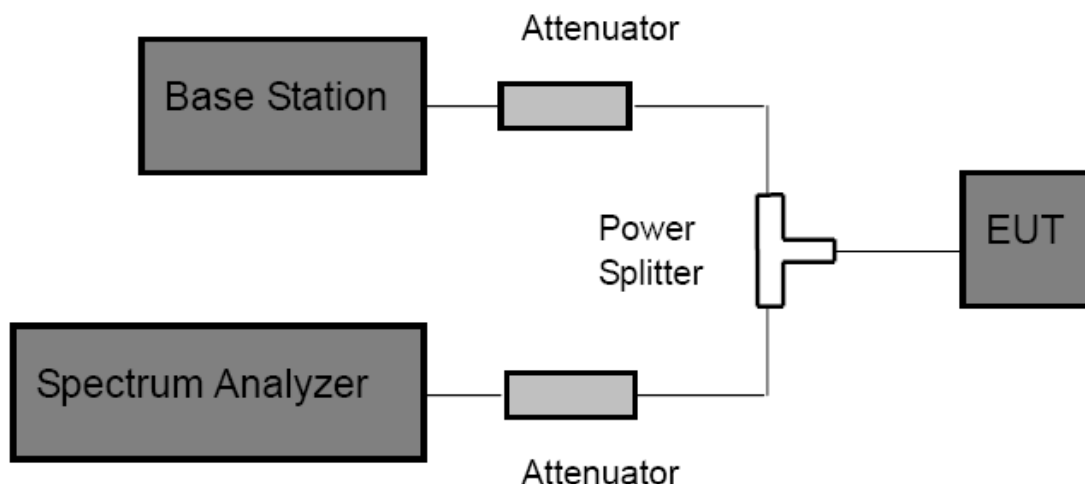
FCC Part 24E: 24.232 (c)

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

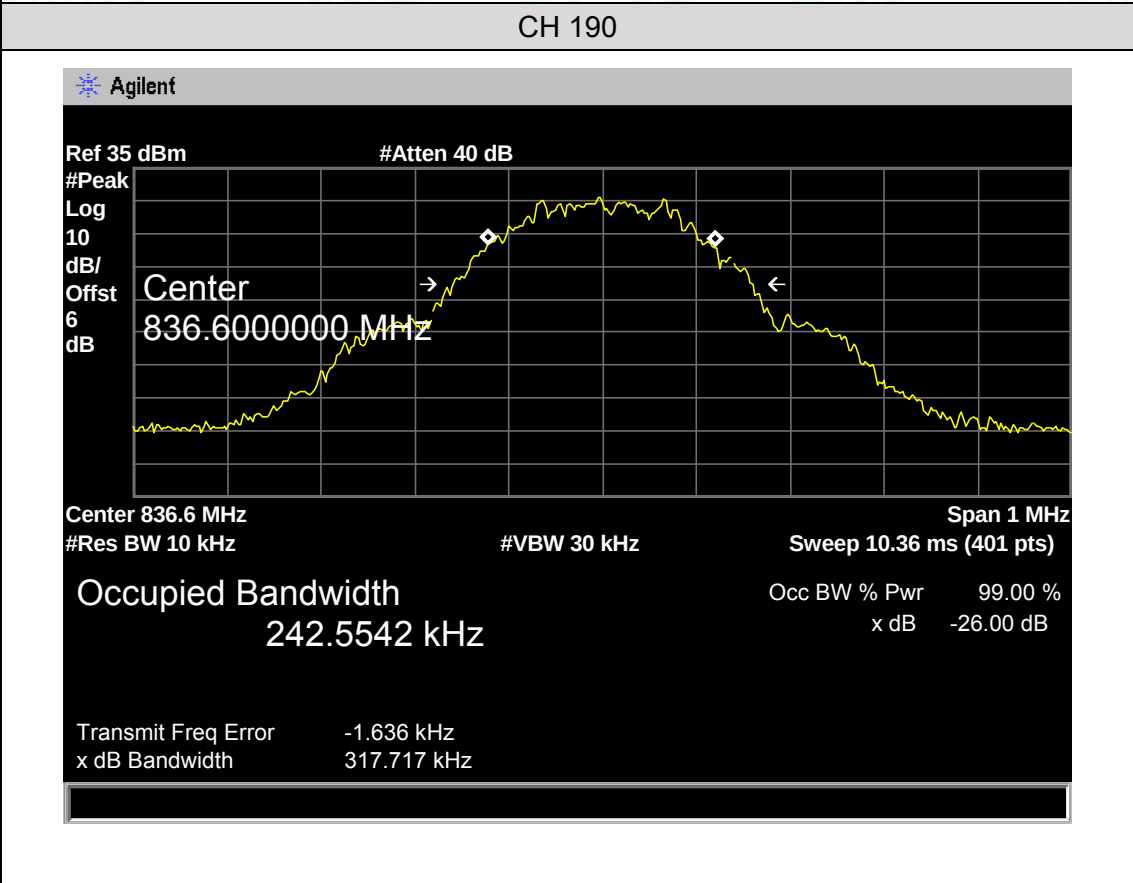
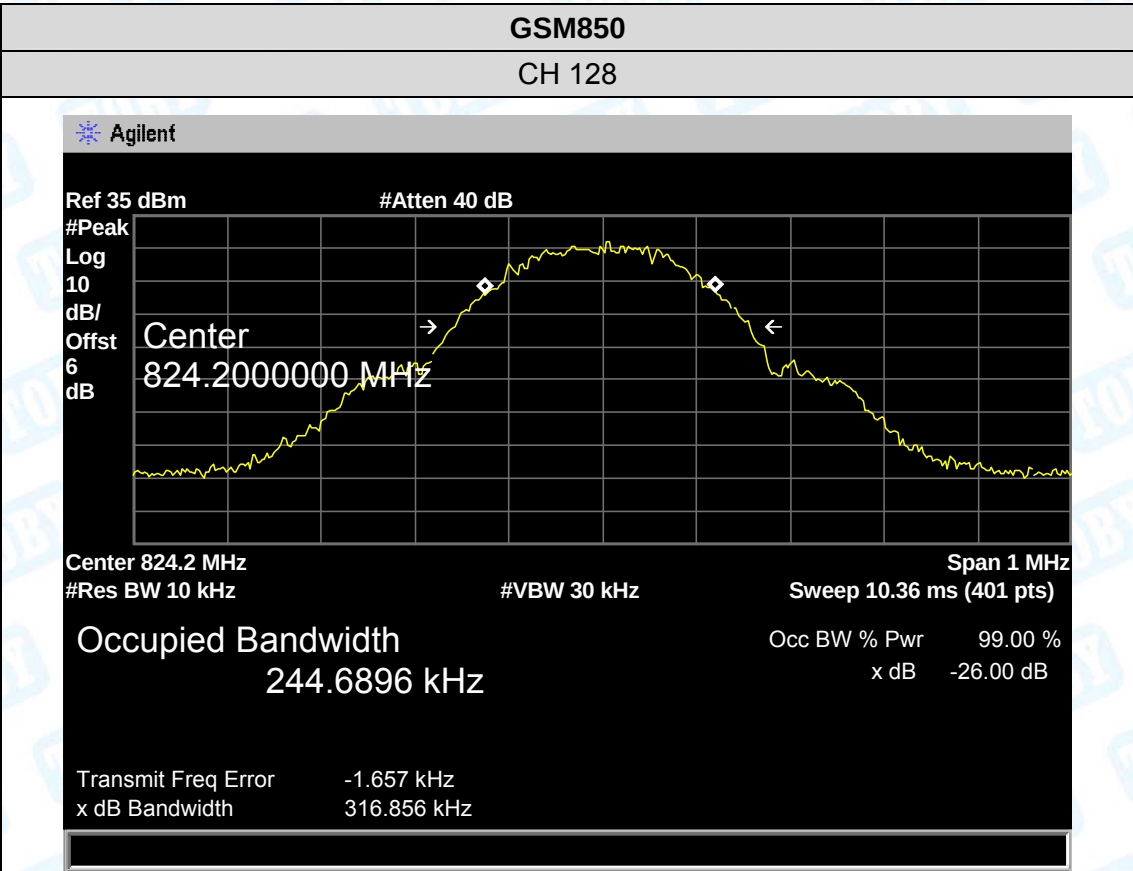
The EUT was continuously connected with the Base station and transmitting in the max power during the test.

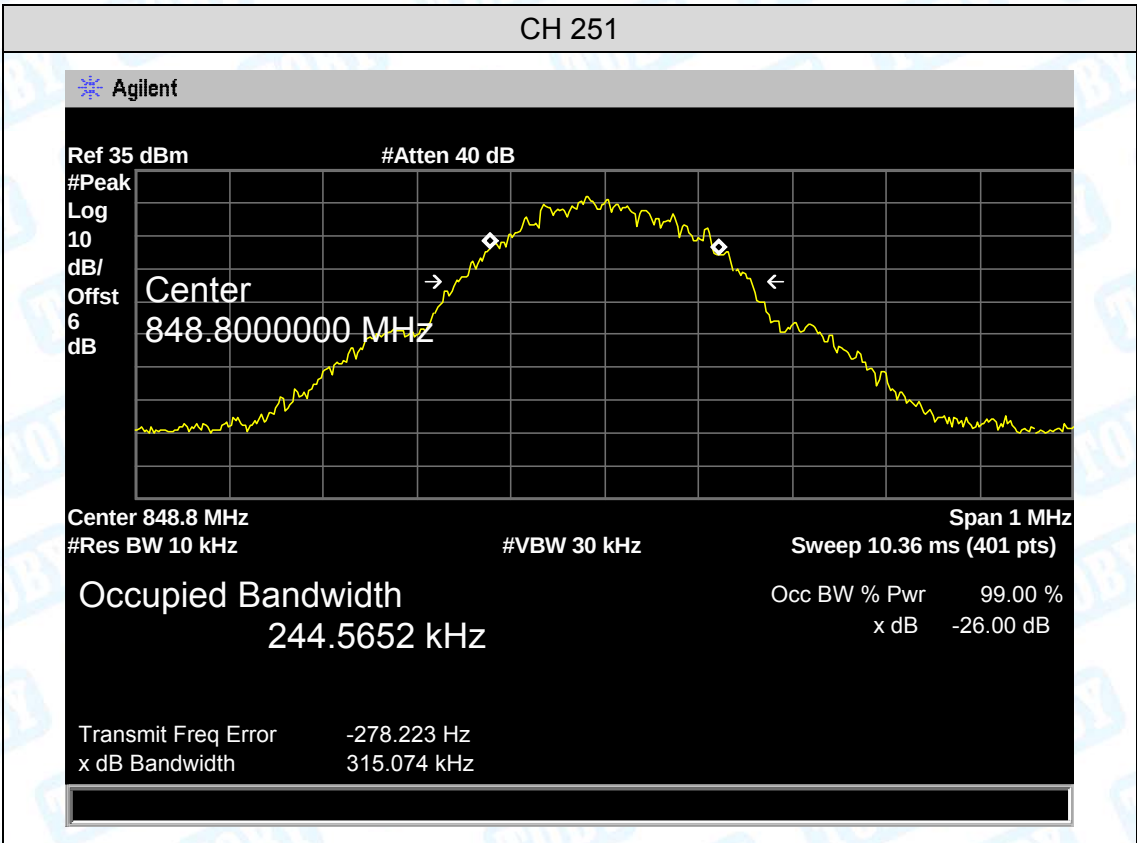
8.5 Test Data

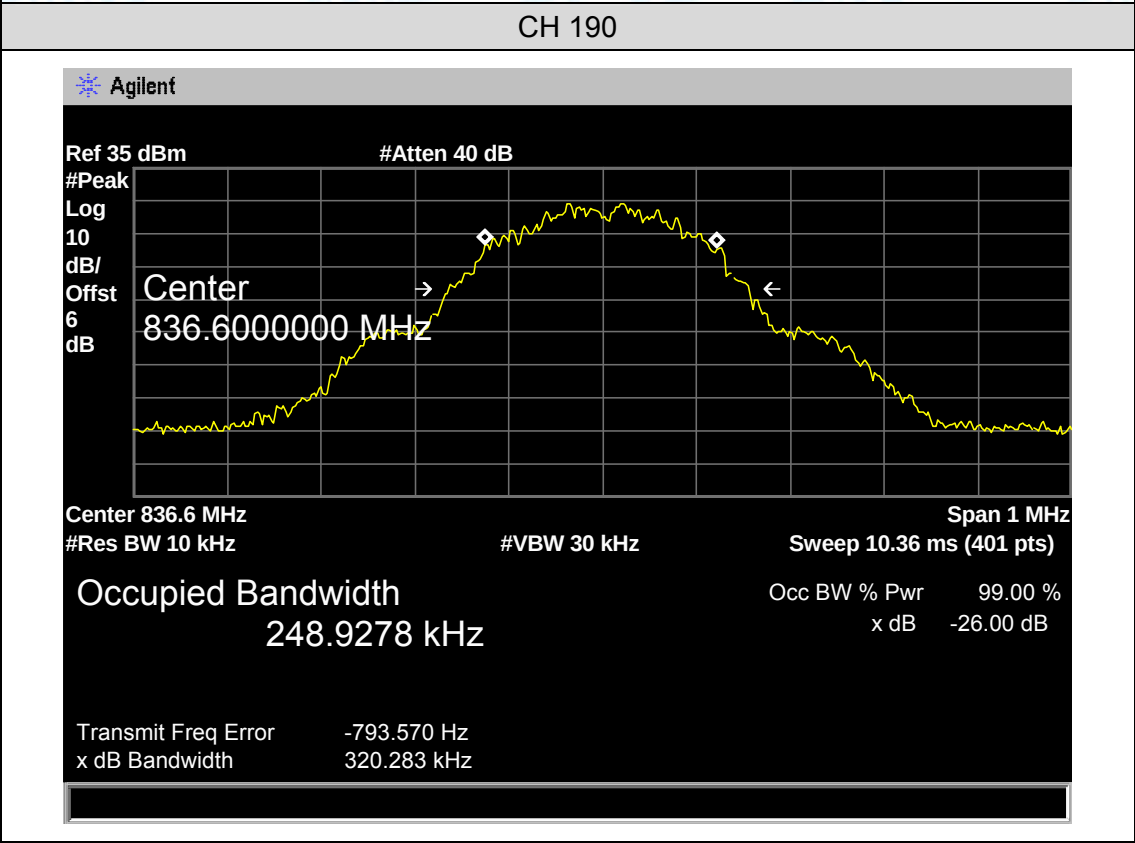
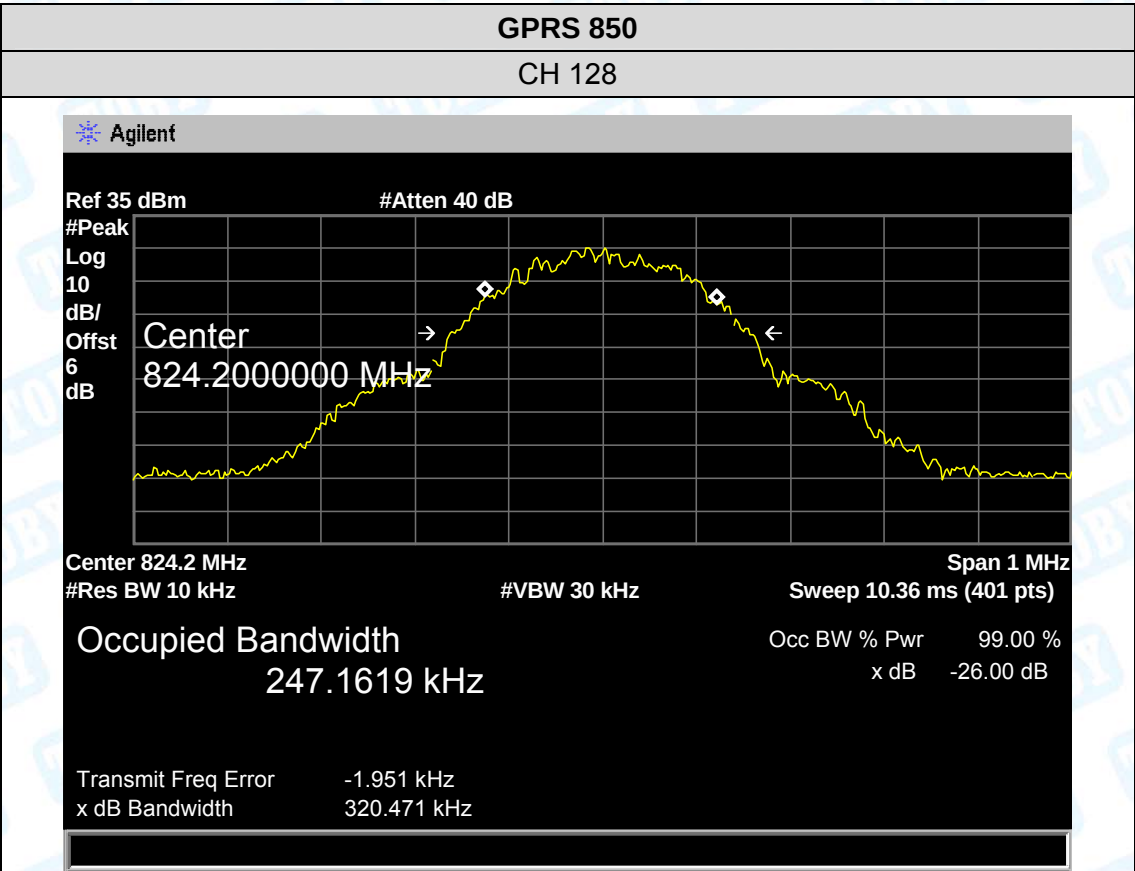
Please refer following pages.

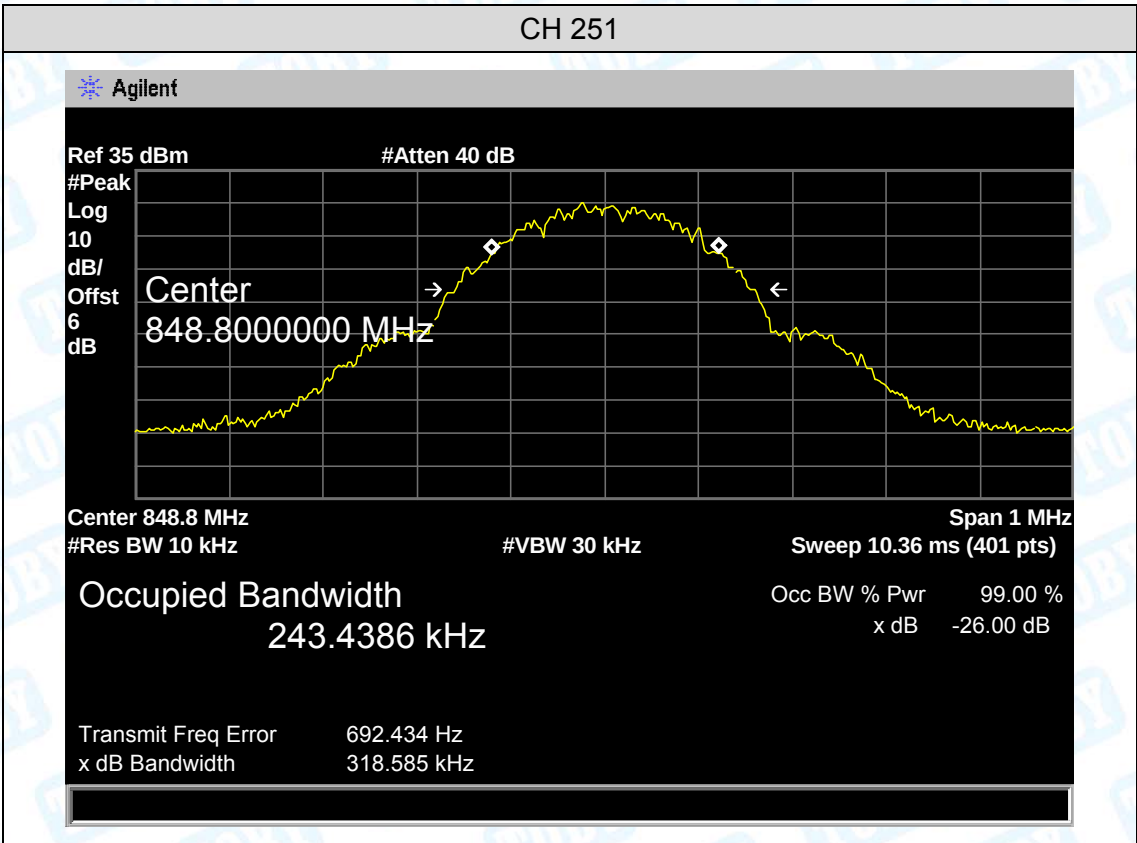
GSM 850				
Mode	Channel	Frequency (MHz)	99% OBW (kHz)	-26dB Bandwidth (kHz)
GSM 850	128	824.2	244.6896	316.856
	190	836.6	242.5542	317.717
	251	848.8	244.5652	315.074
GPRS 850 (1 Slot)	128	824.2	247.1619	320.471
	190	836.6	248.9278	320.283
	251	848.8	243.4386	318.585
EDGE 850 (1 Slot)	128	824.2	243.8087	303.086
	190	836.6	245.5018	312.75
	251	848.8	247.0552	311.402
PCS 1900				
Mode	Channel	Frequency (MHz)	99% OBW (kHz)	-26dB Bandwidth (kHz)
GSM 1900	512	1850.2	245.4273	322.009
	661	1880.0	252.8108	315.358
	810	1909.8	248.6089	315.897
GPRS 1900 (1 Slot)	512	1850.2	245.808	308.109
	661	1880.0	250.8466	318.408
	810	1909.8	243.8249	315.968
EDGE 1900 (1 Slot)	512	1850.2	240.4758	317.92
	661	1880.0	245.6923	314.423
	810	1909.8	248.0089	319.58

UMTS Band V				
Mode	Channel	Frequency (MHz)	99% OBW (MHz)	-26dB Bandwidth (MHz)
Band V RMC	4132	826.4	4.057	4.59
	4175	835.0	4.0762	4.715
	4233	846.6	4.0552	4.593
Band V HSDPA	4132	826.4	4.0733	4.66
	4175	835.0	4.0448	4.632
	4233	846.6	4.0647	4.638
Band V HSUPA	4132	826.4	4.0586	4.615
	4175	835.0	4.0679	4.637
	4233	846.6	4.062	4.612
UMTS Band II				
Mode	Channel	Frequency (MHz)	99% OBW (MHz)	-26dB Bandwidth (MHz)
Band II RMC	9262	1852.4	4.0775	4.656
	9400	1880.0	4.0679	4.684
	9538	1907.6	4.1036	4.719
Band II HSDPA	9262	1852.4	4.0818	4.674
	9400	1880.0	4.078	4.699
	9538	1907.6	4.0858	4.698
Band II HSUPA	9262	1852.4	4.061	4.63
	9400	1880.0	4.0662	4.619
	9538	1907.6	4.093	4.632

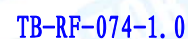
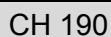


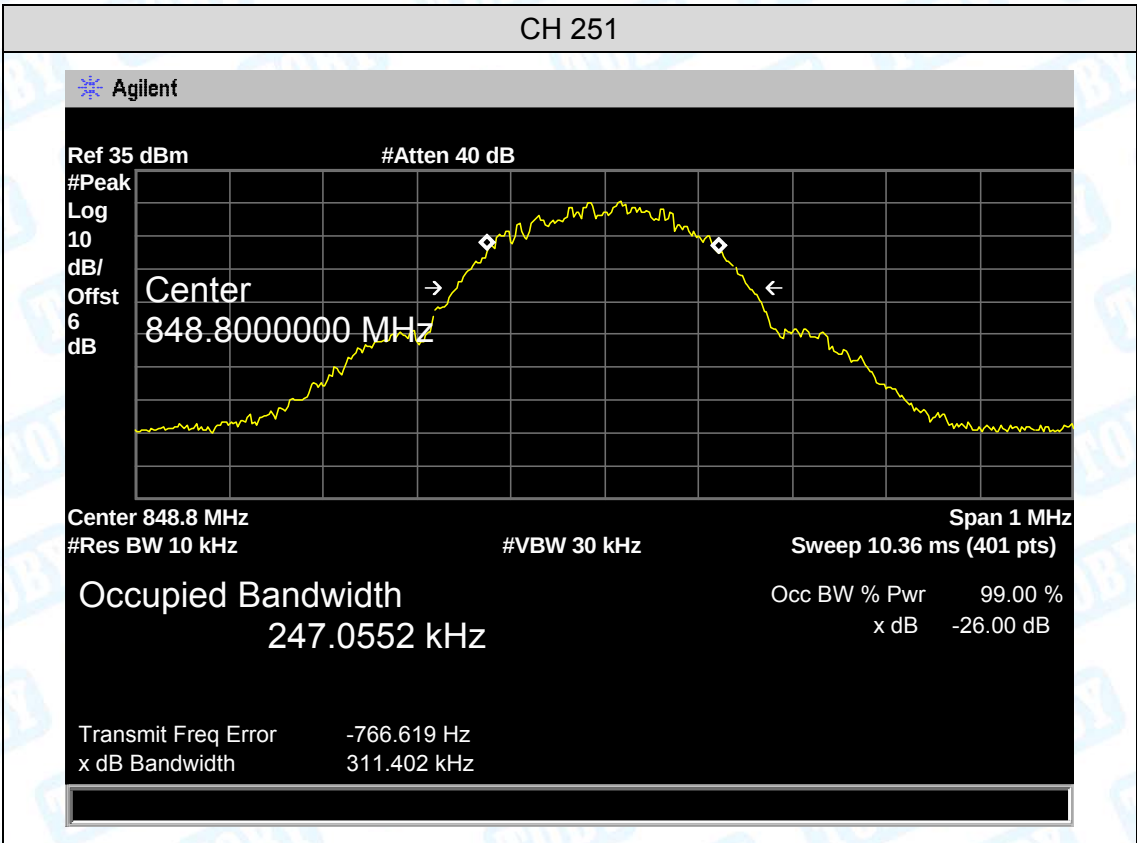




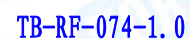
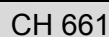


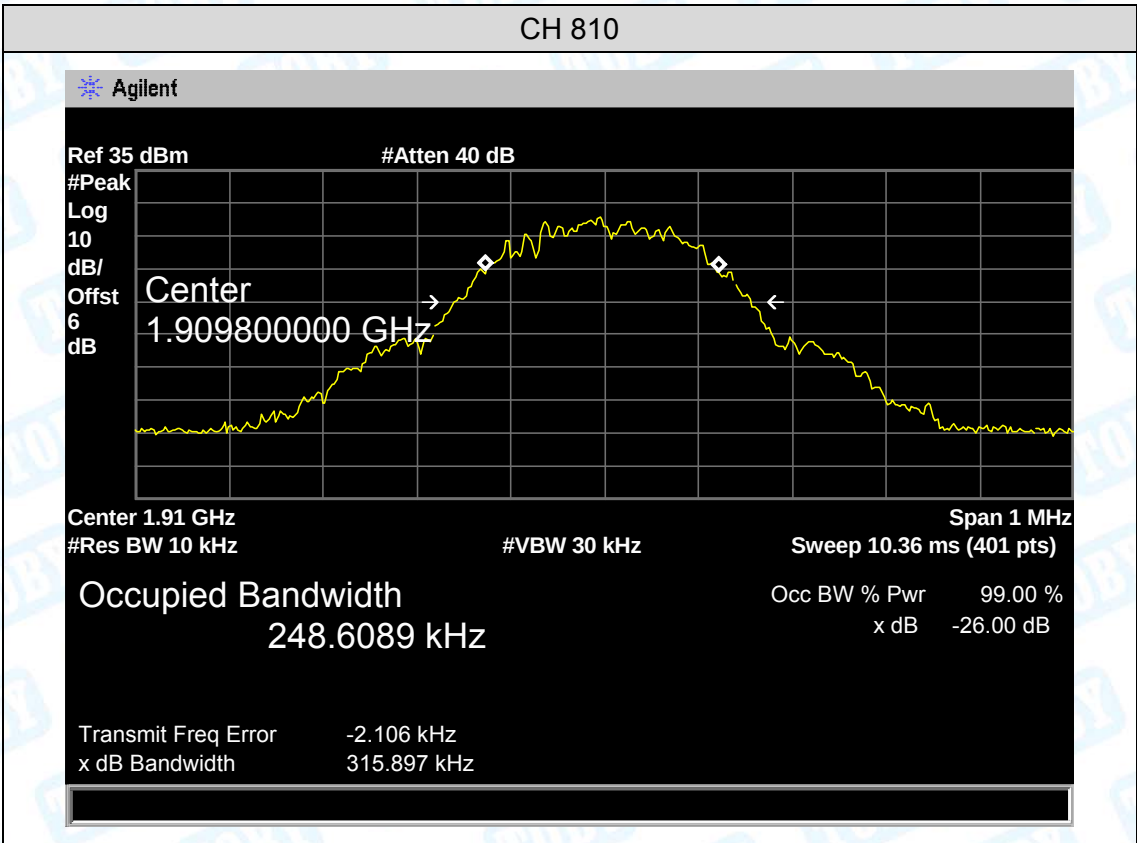
CH 128

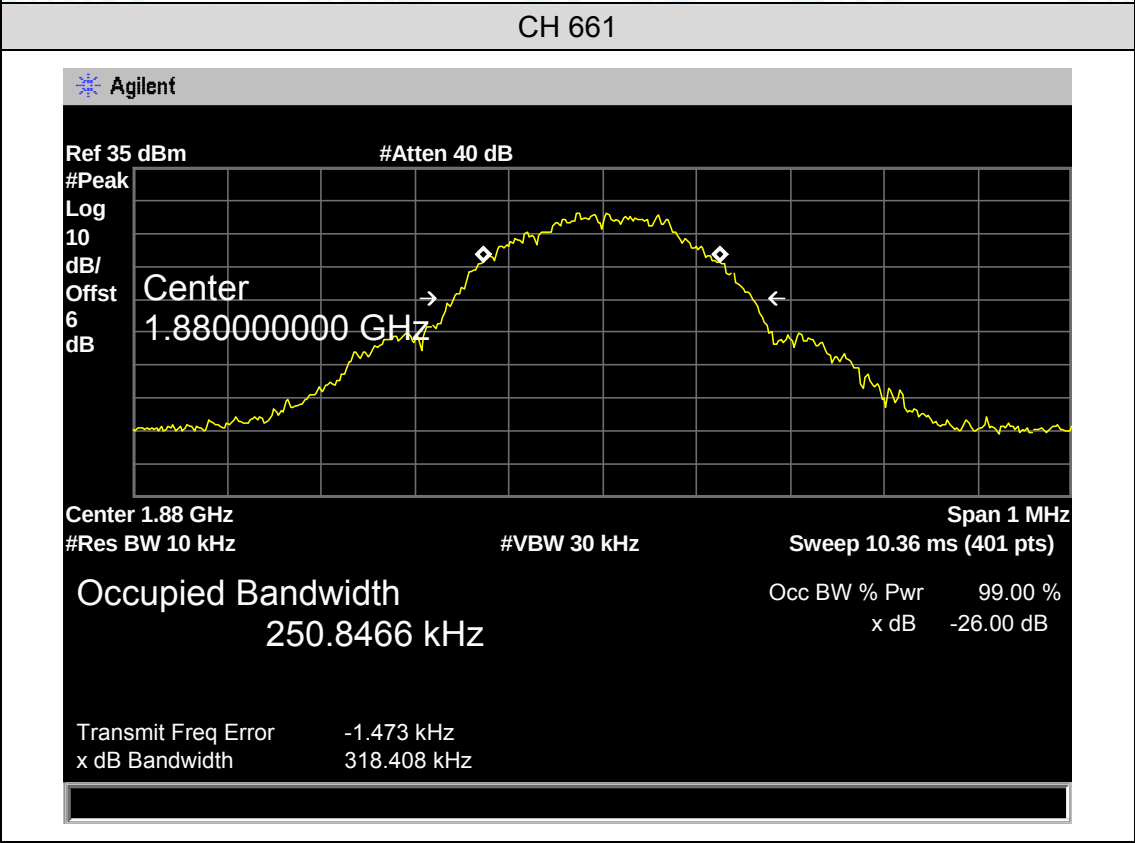
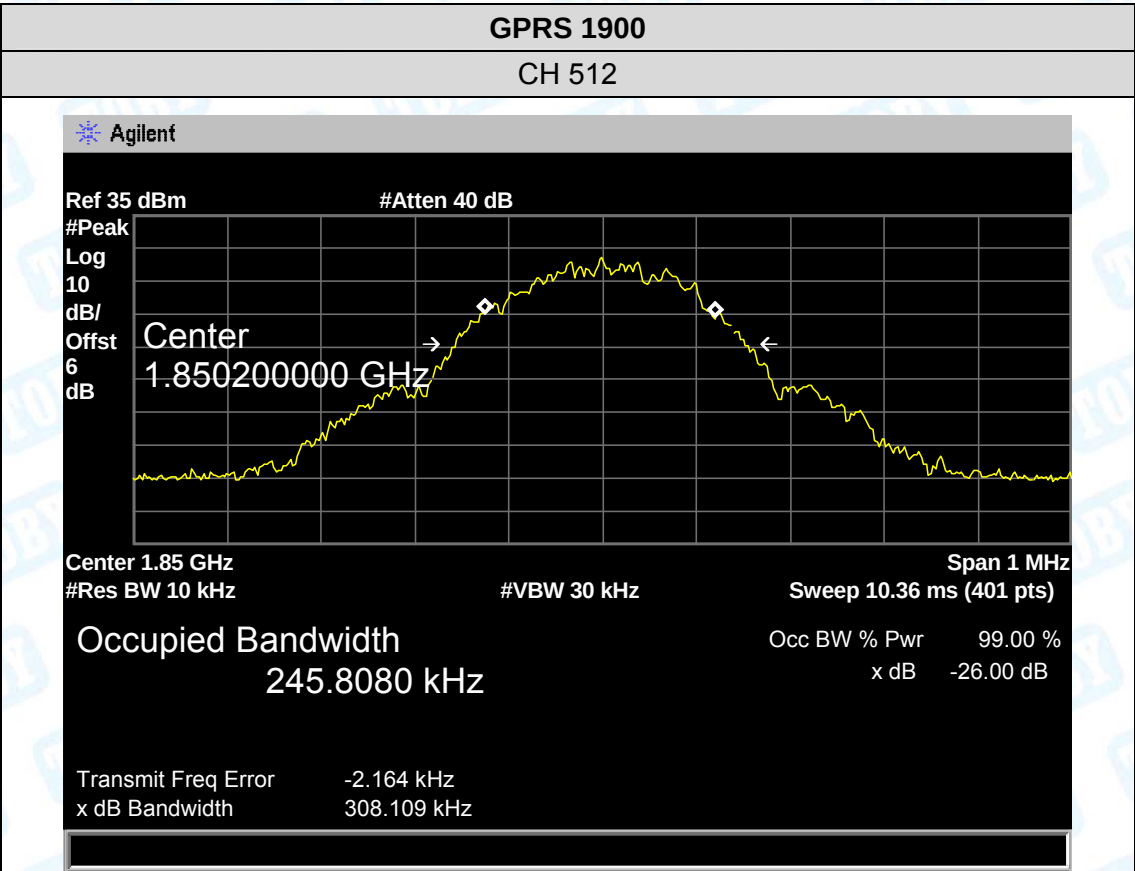


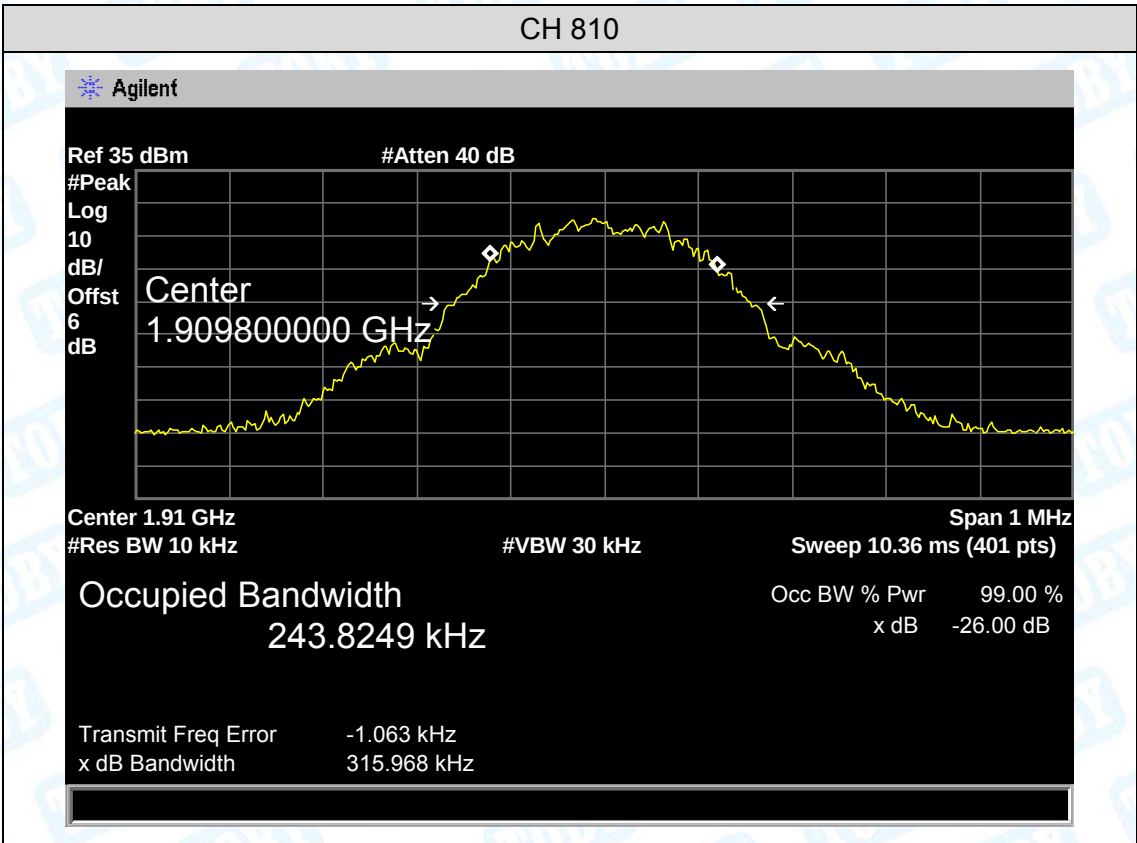


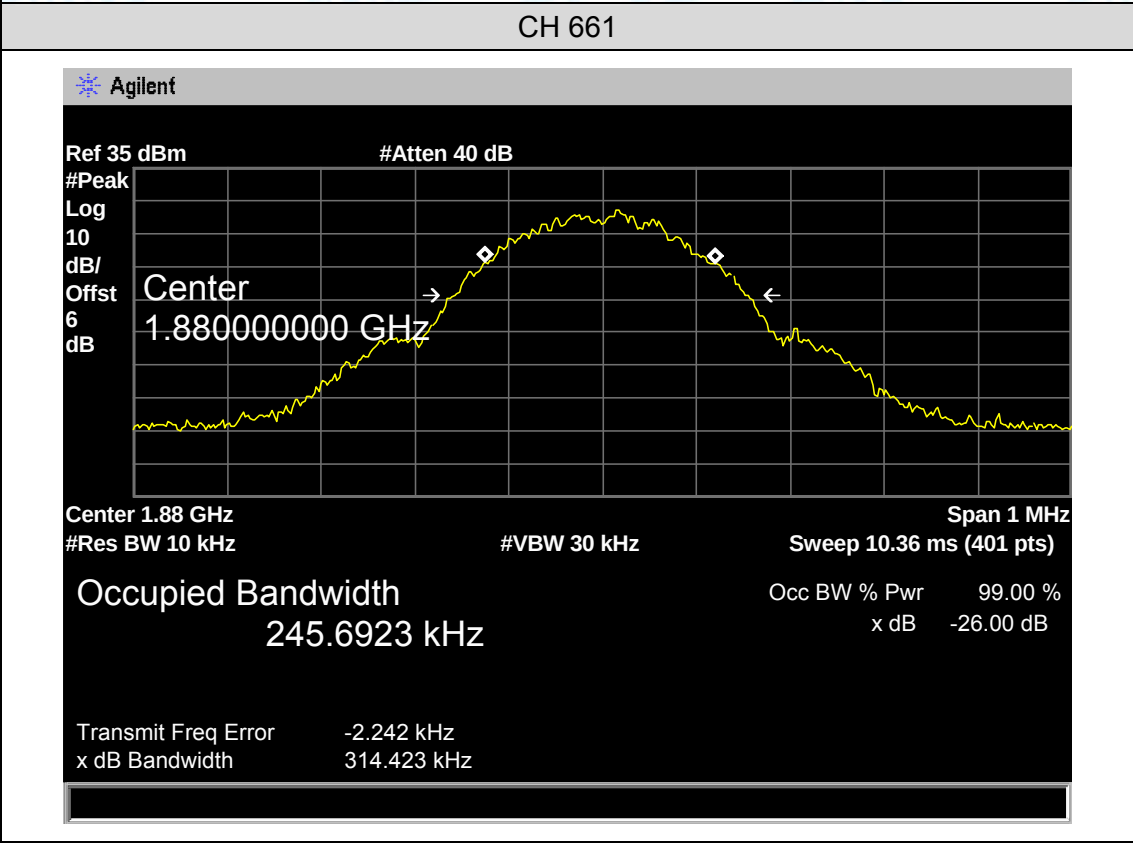
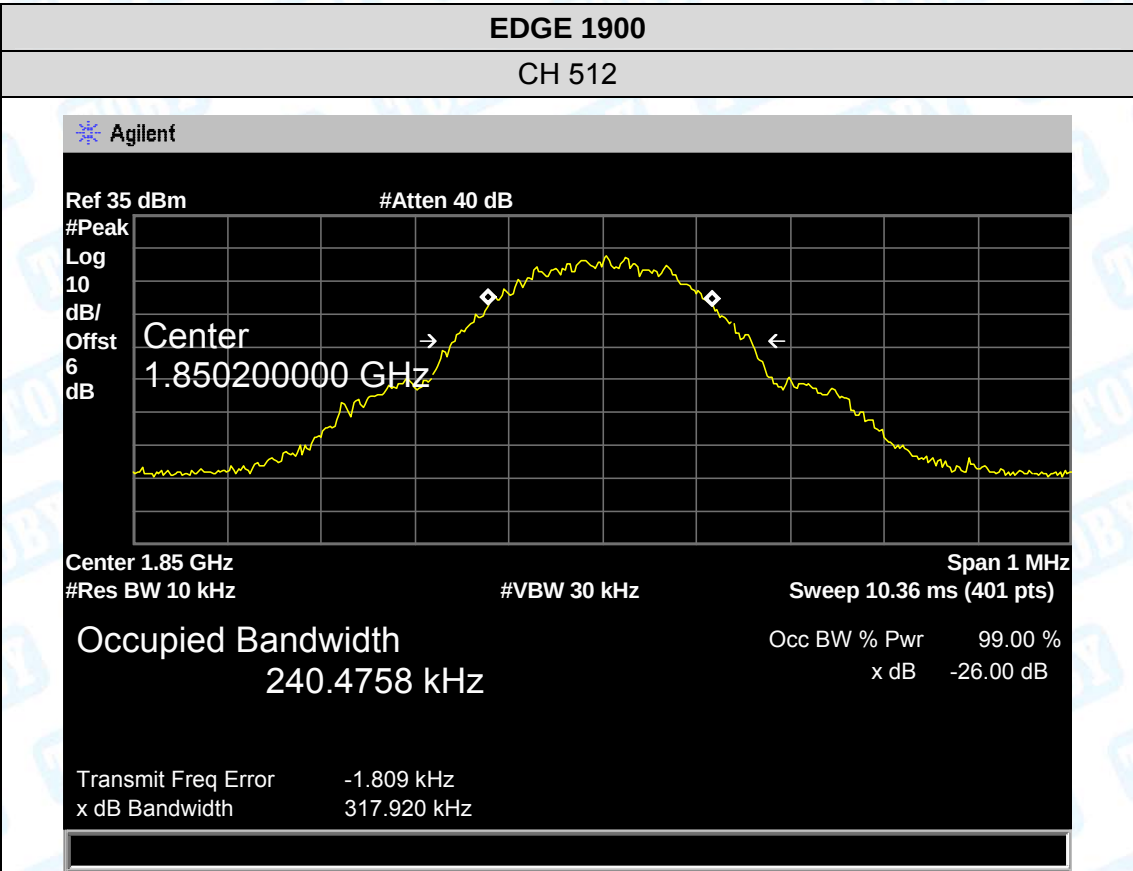
CH 512

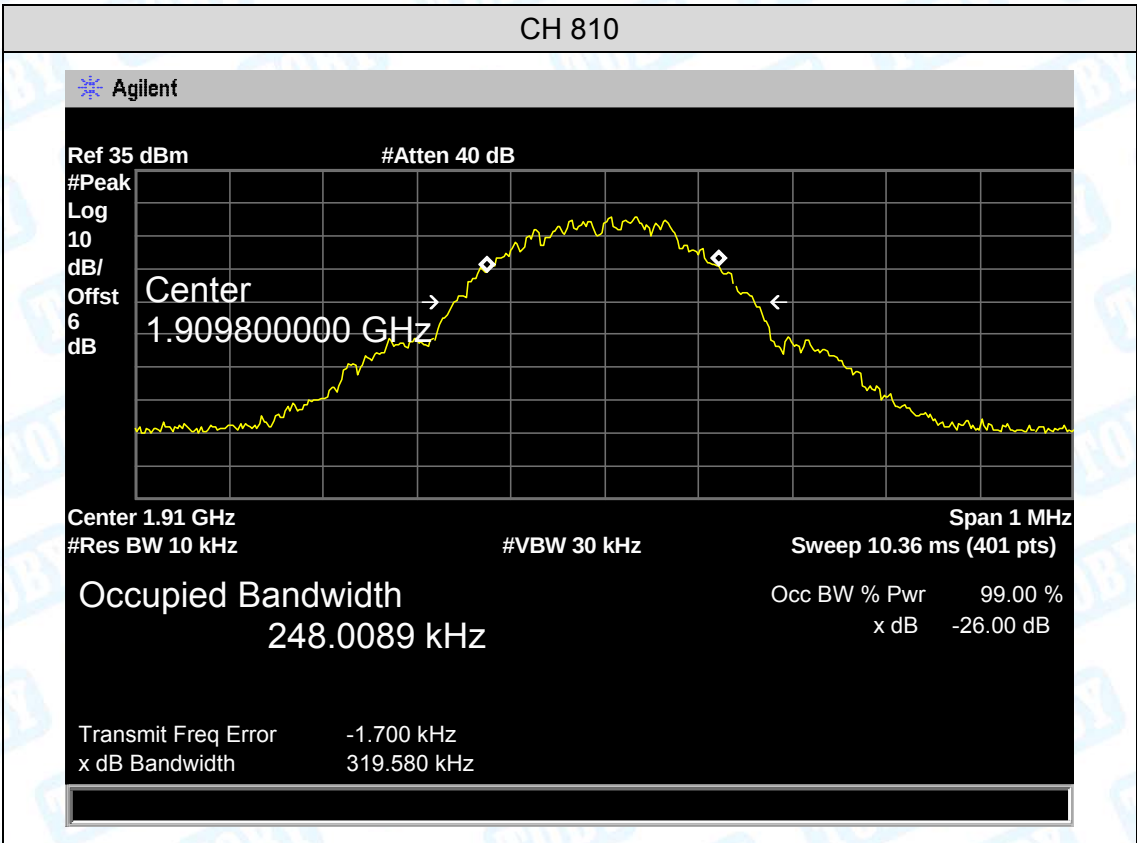


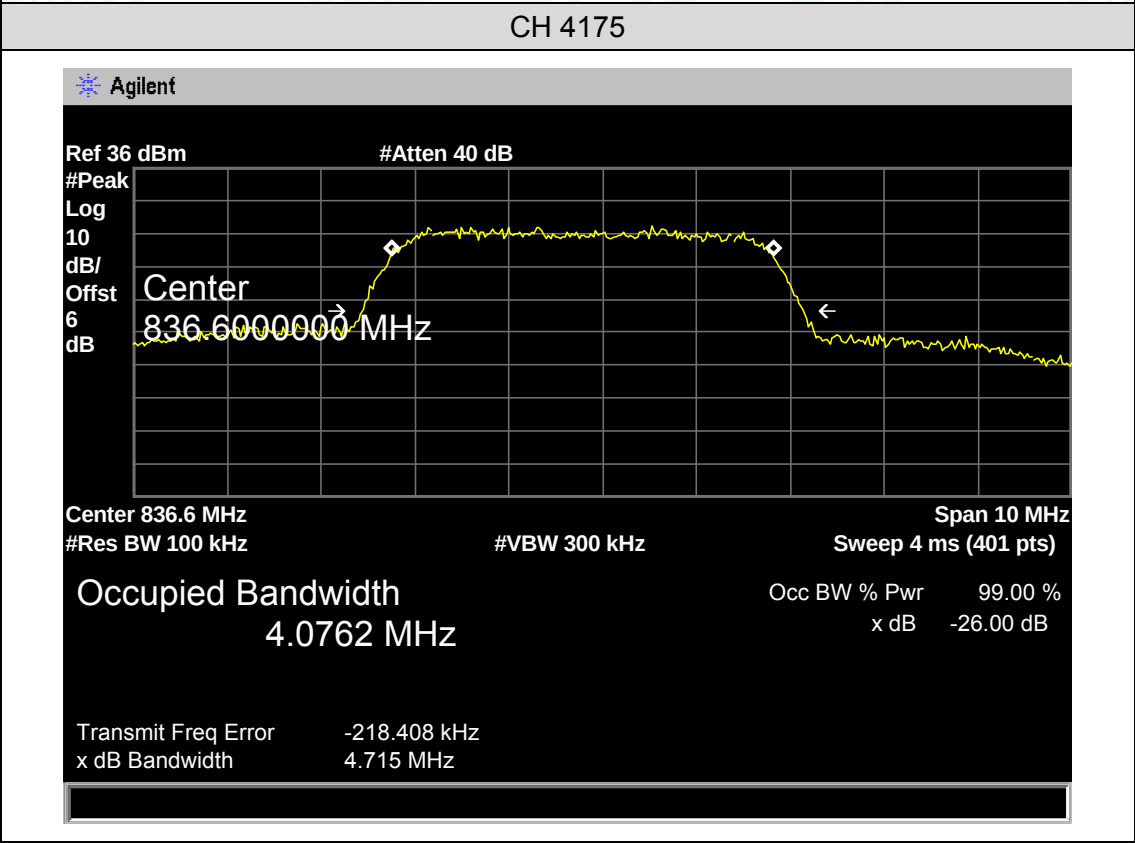
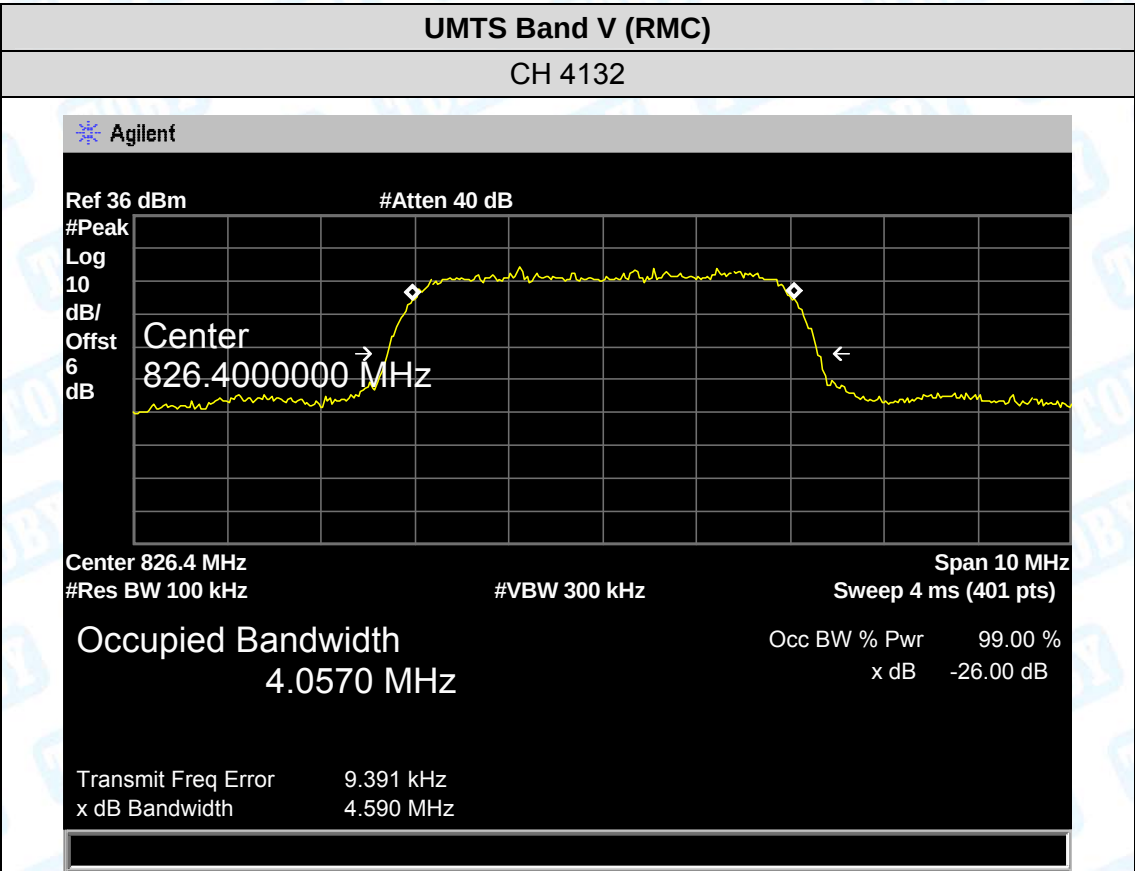


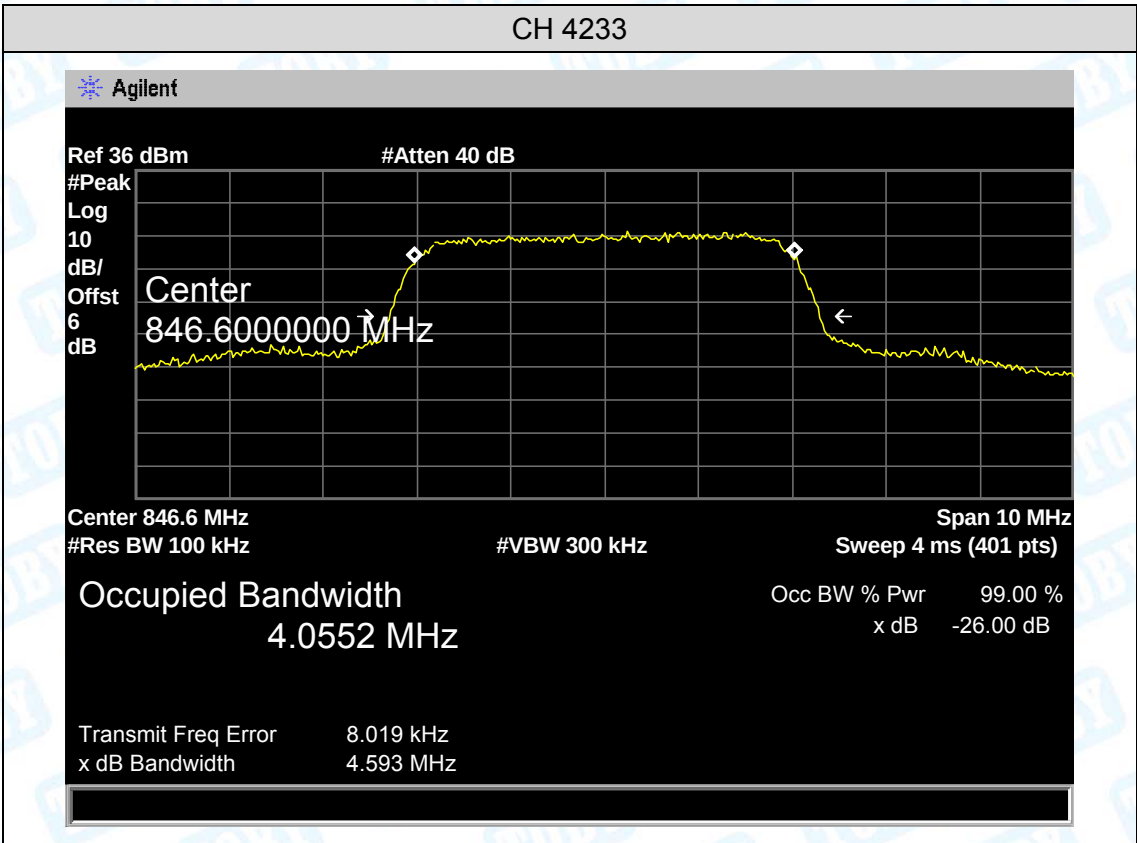












UMTS Band V (HSDPA)

CH 4132

Agilent

Ref 36 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6
dB

Center
826.4000000 MHz

Center 826.4 MHz

#Res BW 100 kHz

#VBW 300 kHz

Span 10 MHz

Sweep 4 ms (401 pts)

Occupied Bandwidth
4.0733 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 12.348 kHz
x dB Bandwidth 4.660 MHz

CH 4175

Agilent

Ref 36 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6
dB

Center
836.6000000 MHz

Center 836.6 MHz

#Res BW 100 kHz

#VBW 300 kHz

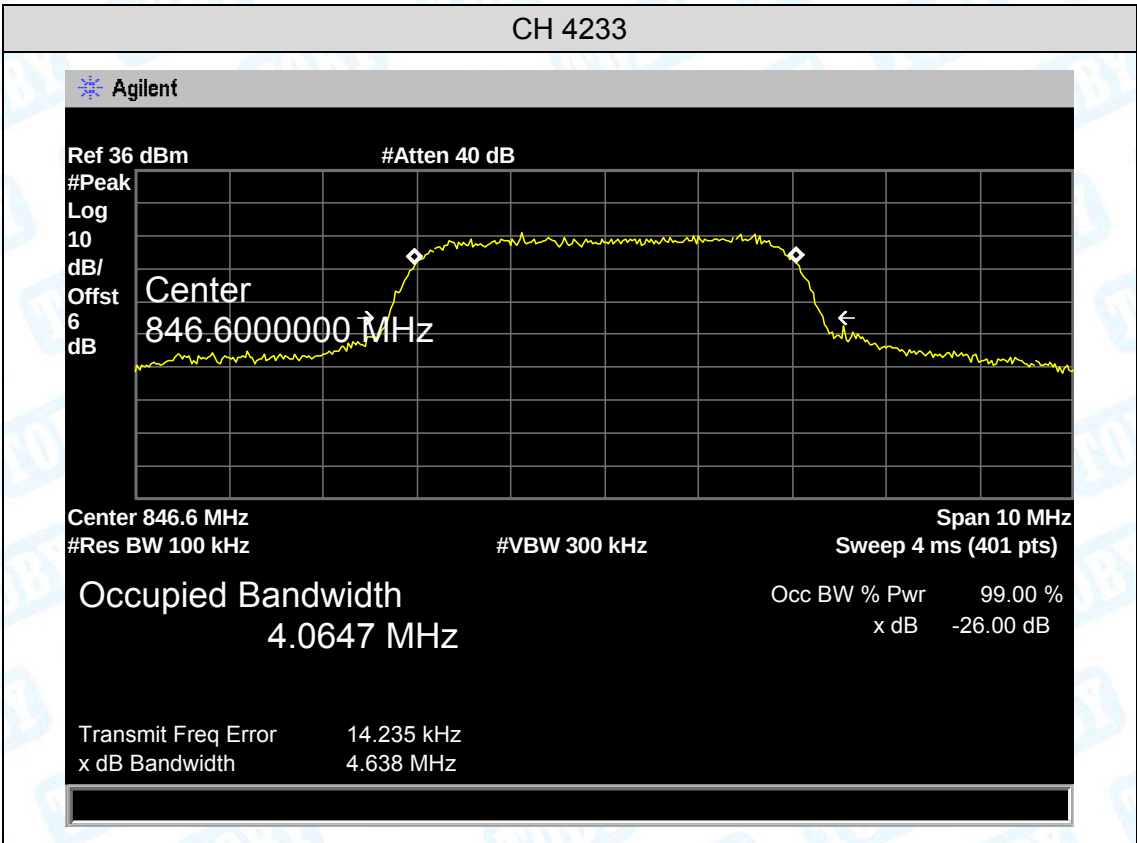
Span 10 MHz

Sweep 4 ms (401 pts)

Occupied Bandwidth
4.0448 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -221.202 kHz
x dB Bandwidth 4.632 MHz



UMTS Band V (HSUPA)

CH 4132

Agilent

Ref 36 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6
dB

Center
826.400000 MHz

Center 826.4 MHz

#Res BW 100 kHz

#VBW 300 kHz

Span 10 MHz

Sweep 4 ms (401 pts)

Occupied Bandwidth
4.0586 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 8.390 kHz
x dB Bandwidth 4.615 MHz

CH 4175

Agilent

Ref 36 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6
dB

Center
836.600000 MHz

Center 836.6 MHz

#Res BW 100 kHz

#VBW 300 kHz

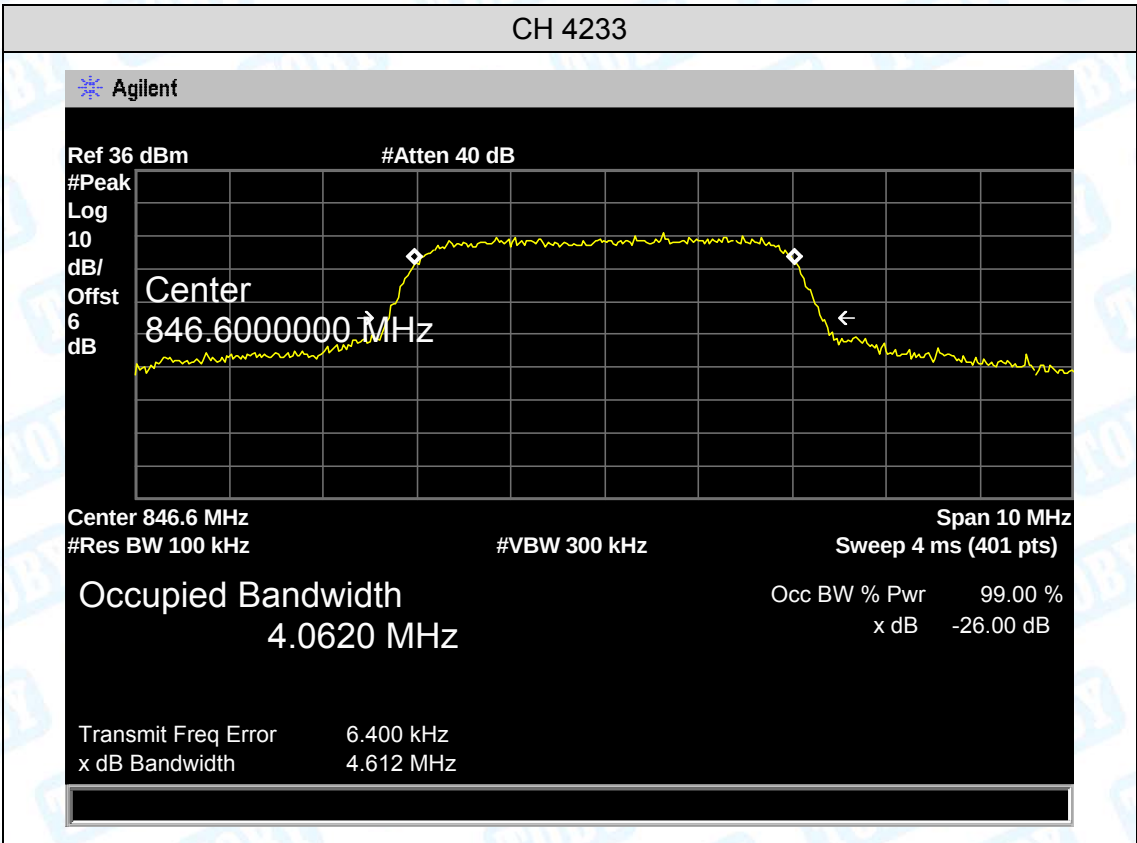
Span 10 MHz

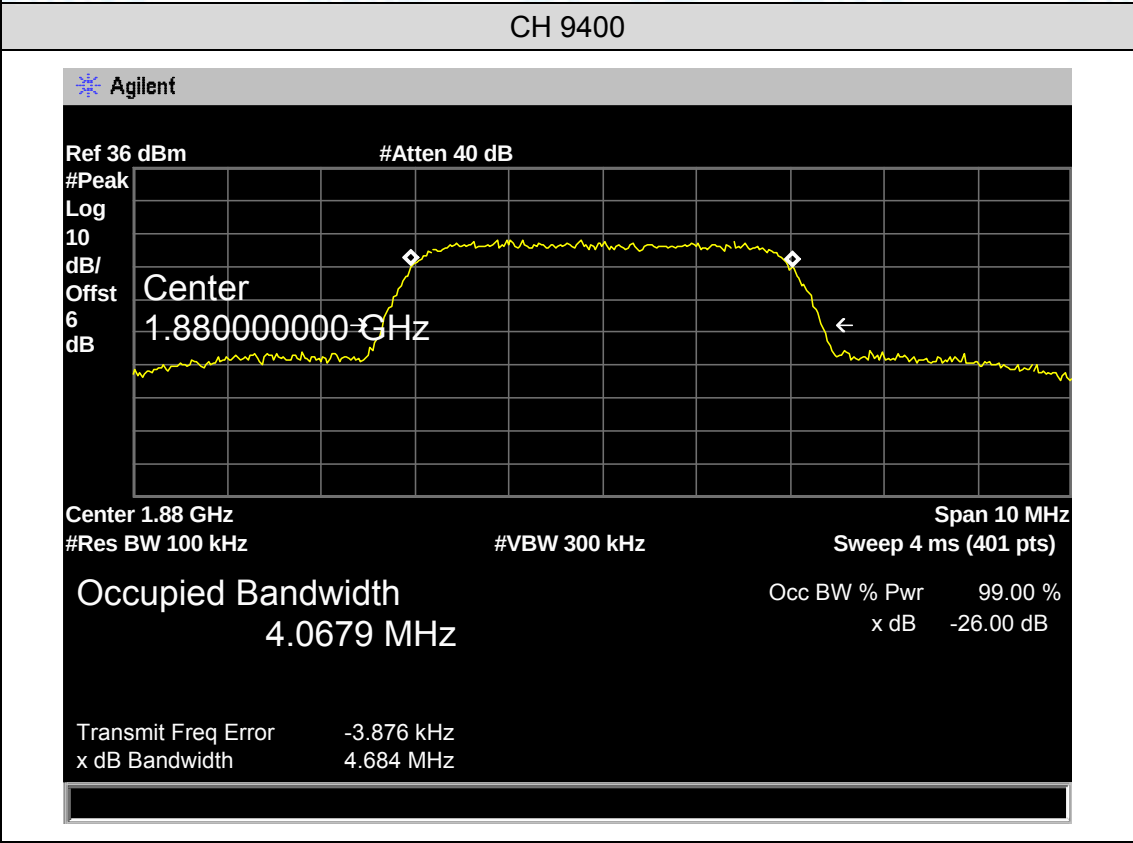
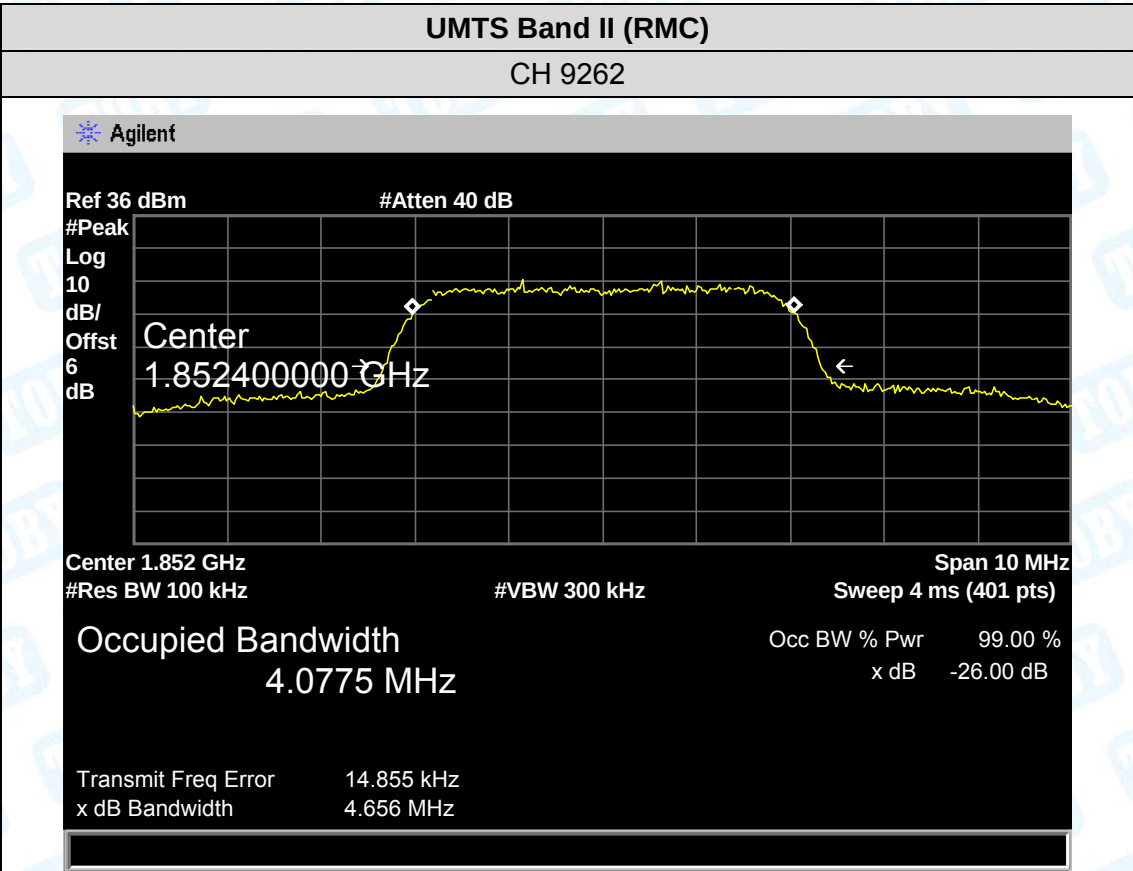
Sweep 4 ms (401 pts)

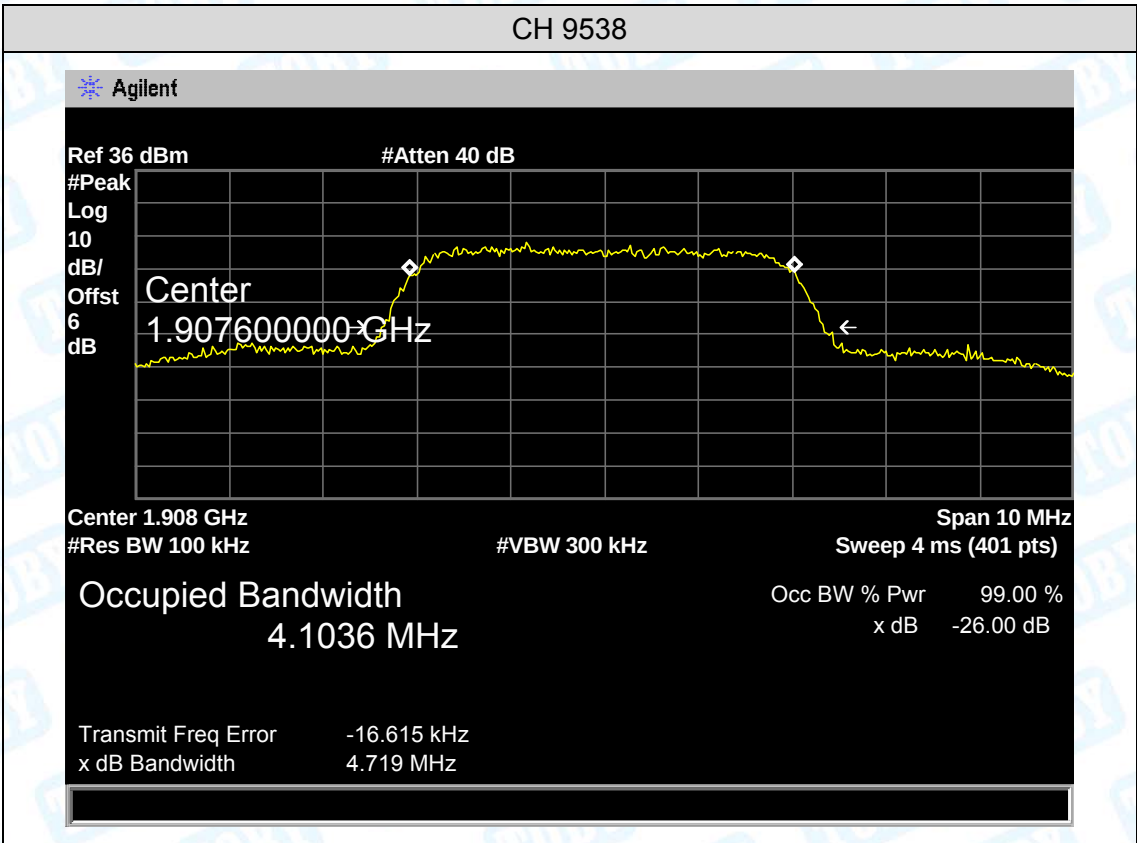
Occupied Bandwidth
4.0679 MHz

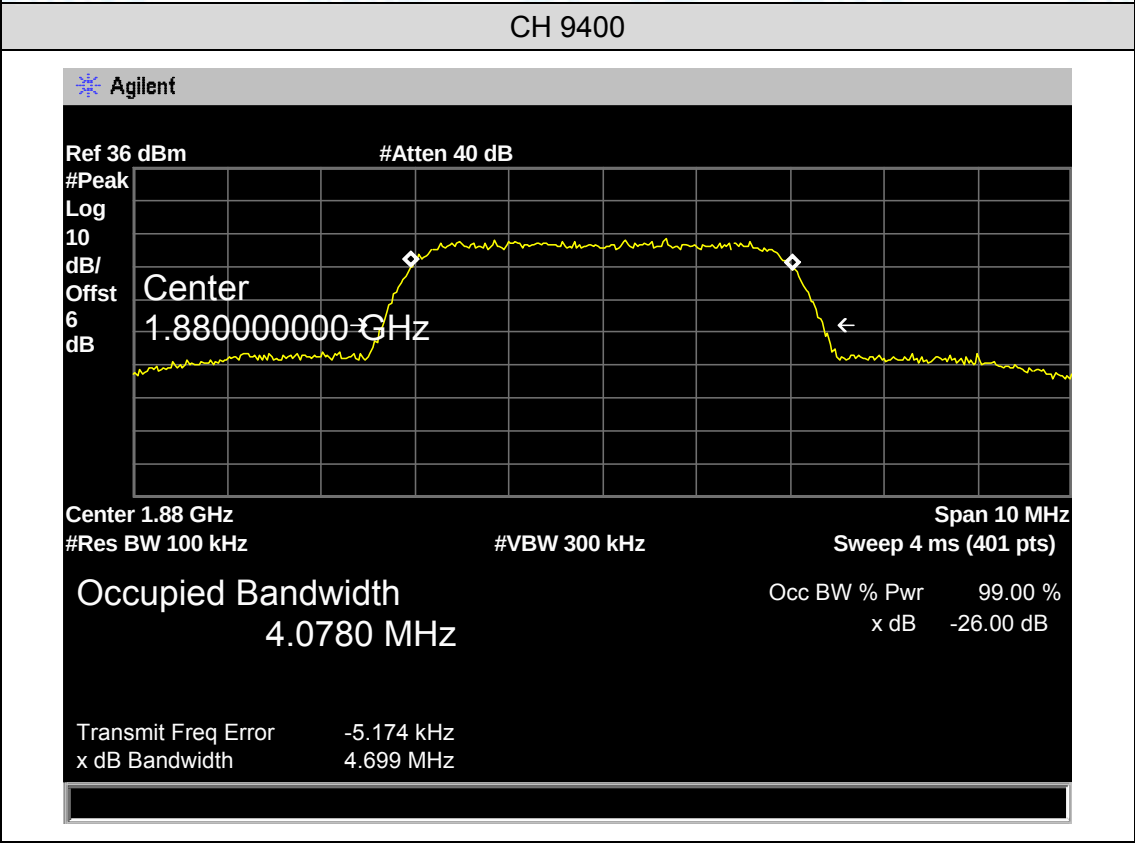
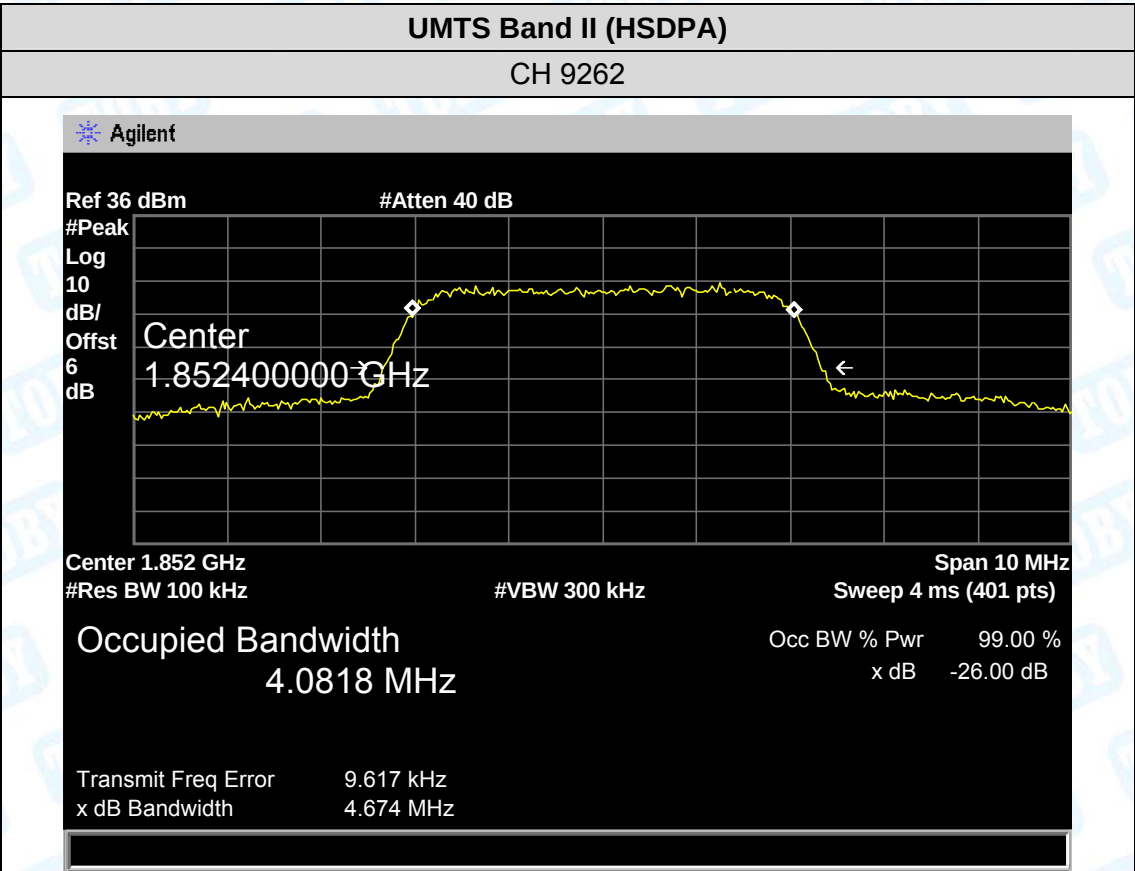
Occ BW % Pwr 99.00 %
x dB -26.00 dB

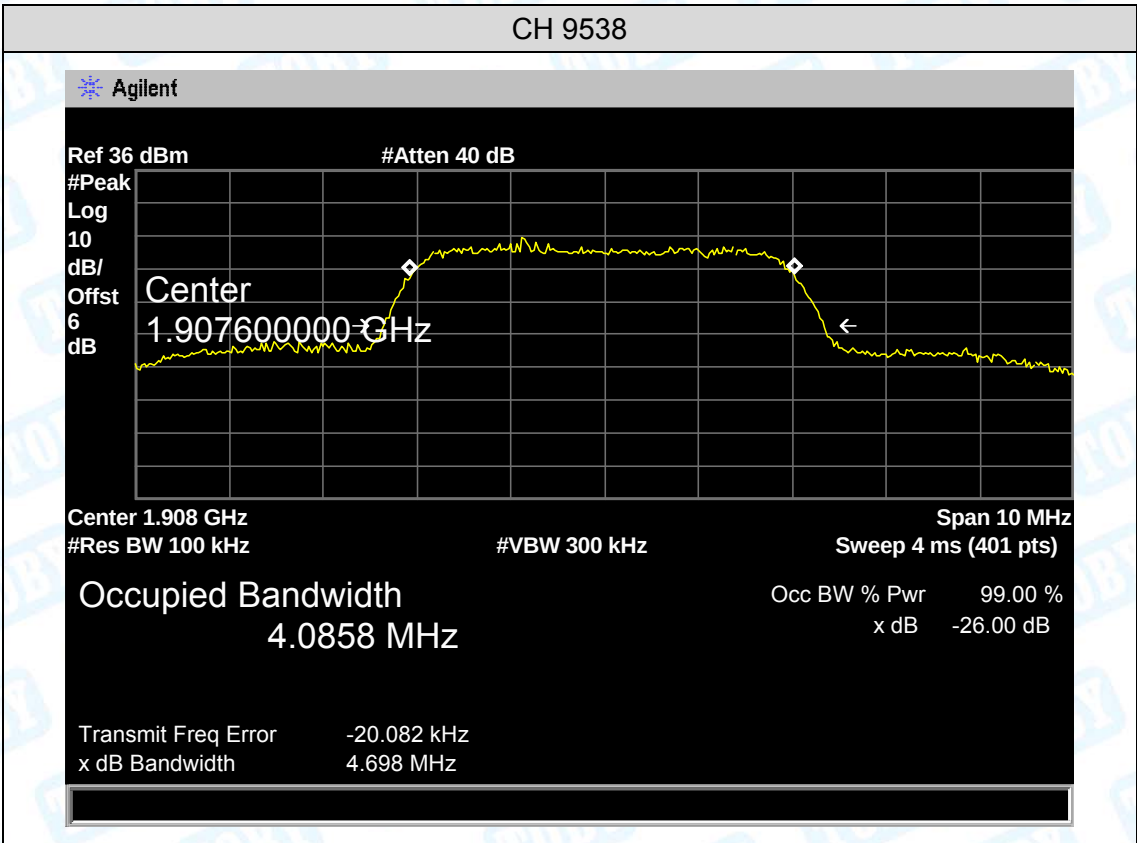
Transmit Freq Error -222.546 kHz
x dB Bandwidth 4.637 MHz











UMTS Band II (HSUPA)

CH 9262

Agilent

Ref 36 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6
dB

Center
1.852400000 GHz

Center 1.852 GHz

#Res BW 100 kHz

#VBW 300 kHz

Span 10 MHz

Sweep 4 ms (401 pts)

Occupied Bandwidth
4.0610 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 6.406 kHz
x dB Bandwidth 4.630 MHz

CH 9400

Agilent

Ref 36 dBm

#Atten 40 dB

#Peak
Log
10
dB/
Offst
6
dB

Center
1.880000000 GHz

Center 1.88 GHz

#Res BW 100 kHz

#VBW 300 kHz

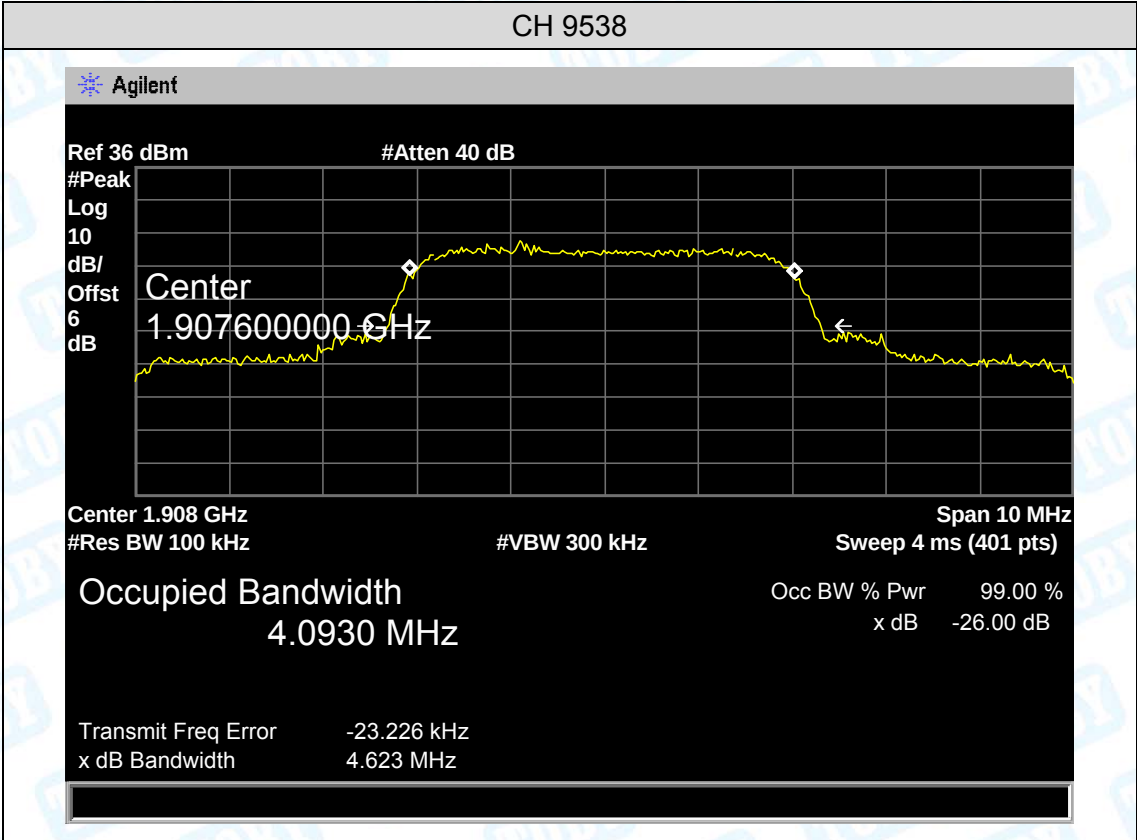
Span 10 MHz

Sweep 4 ms (401 pts)

Occupied Bandwidth
4.0662 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -10.352 kHz
x dB Bandwidth 4.619 MHz



9. Conducted Out of Band Emissions

9.1 Test Standard and Limit

9.1.1 Test Standard

FCC Part 2: 2.1051, 2.1057

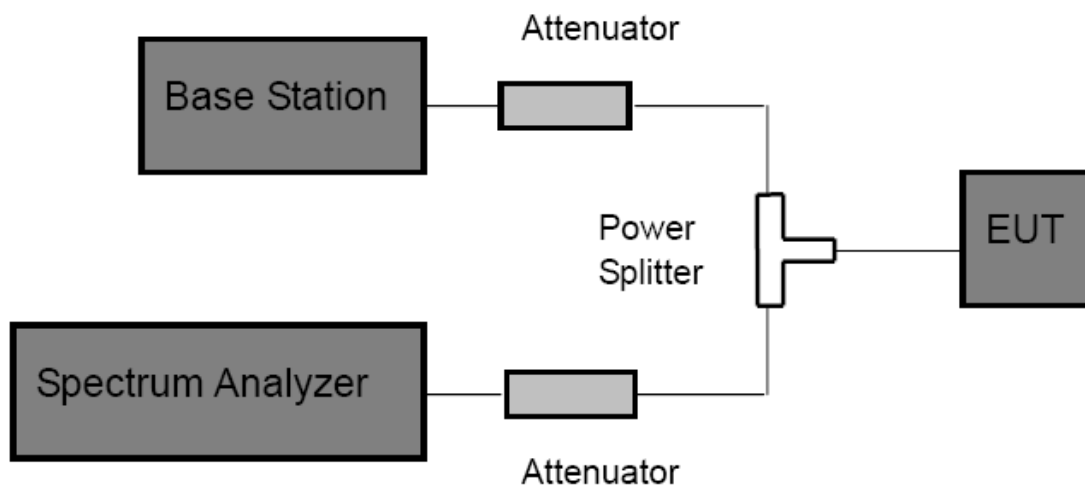
FCC Part 22H: 22.917(a)

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

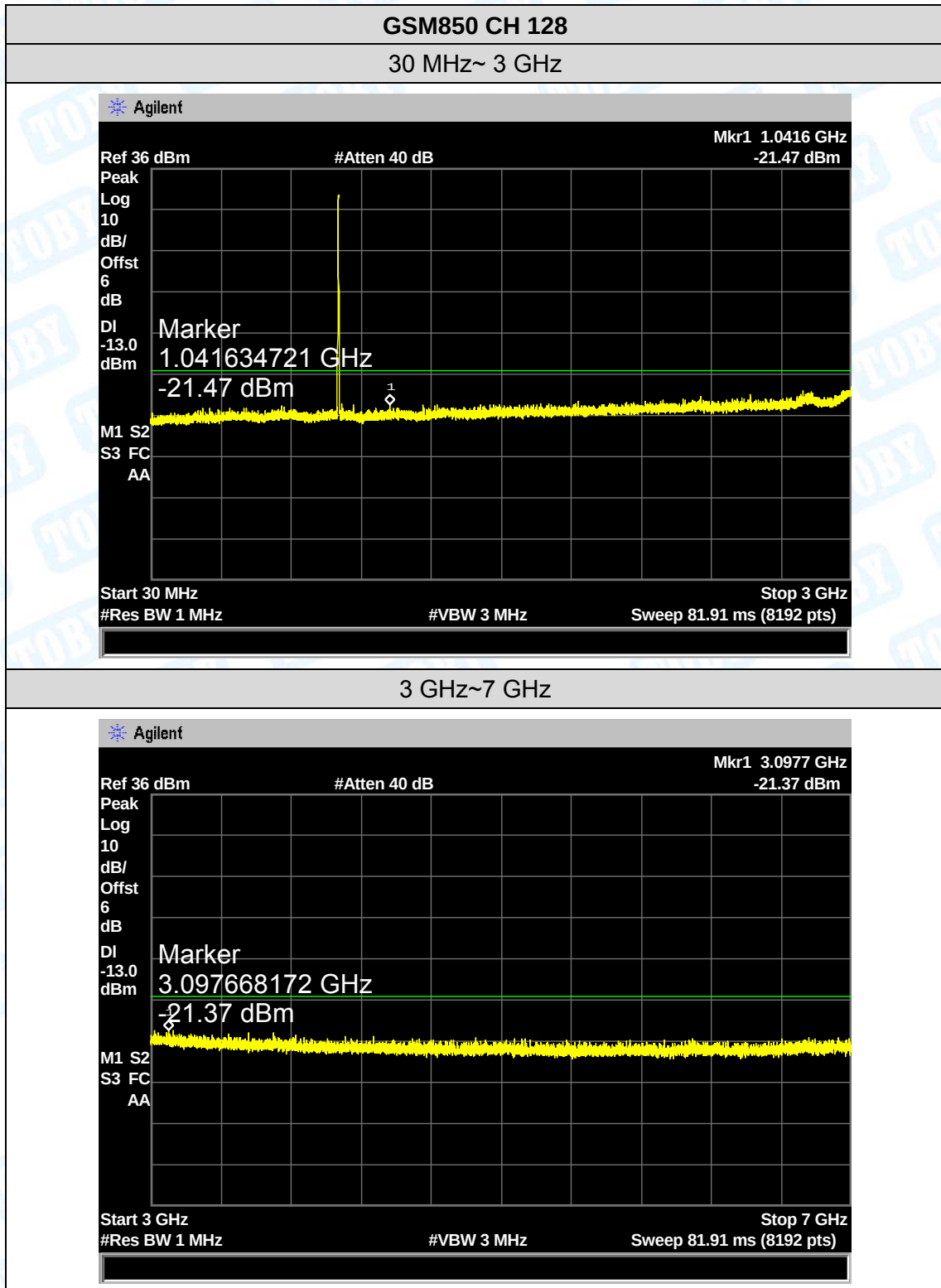
- (1) The EUT was directly connected to the spectrum analyzer and Base station via power splitter as show in the block diagram above.
- (2) Spectrum Setting:
Frequency bellow 1 GHz: RBW=100 kHz, VBW=300 kHz.
Frequency above 1 GHz: RBW=1 MHz, VBW=3 MHz.
- (3) The low, middle and high channels of each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

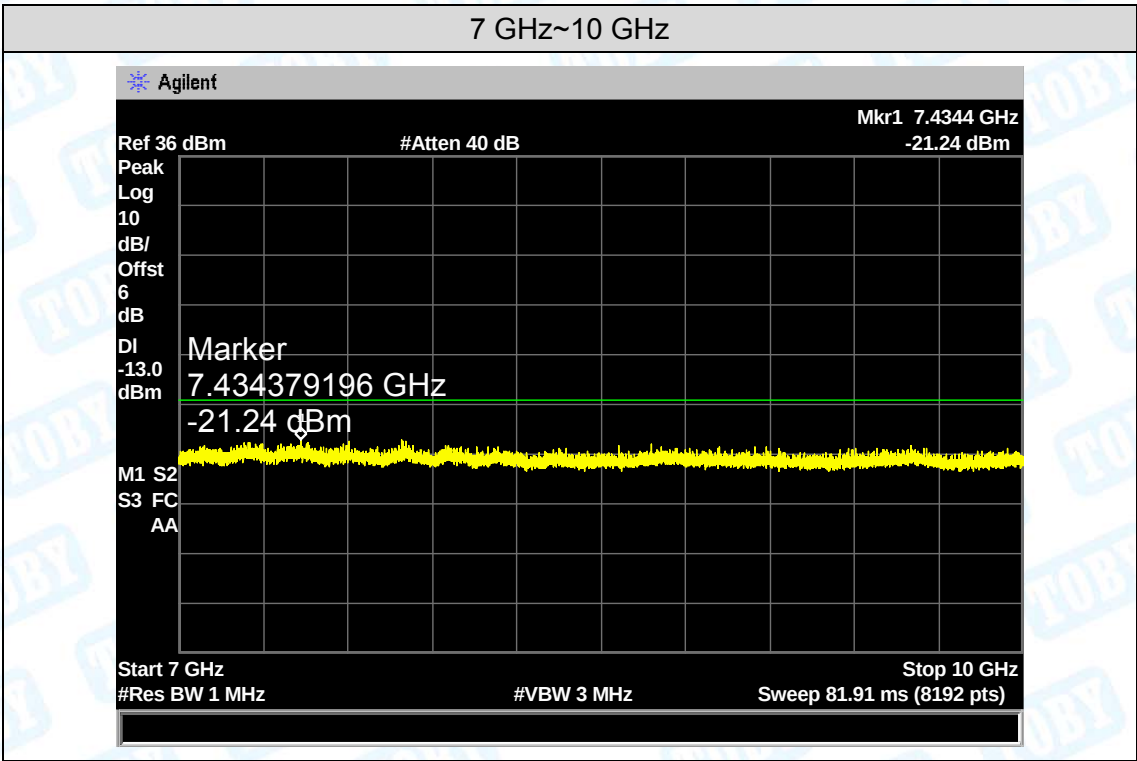
9.4 EUT Operating Condition

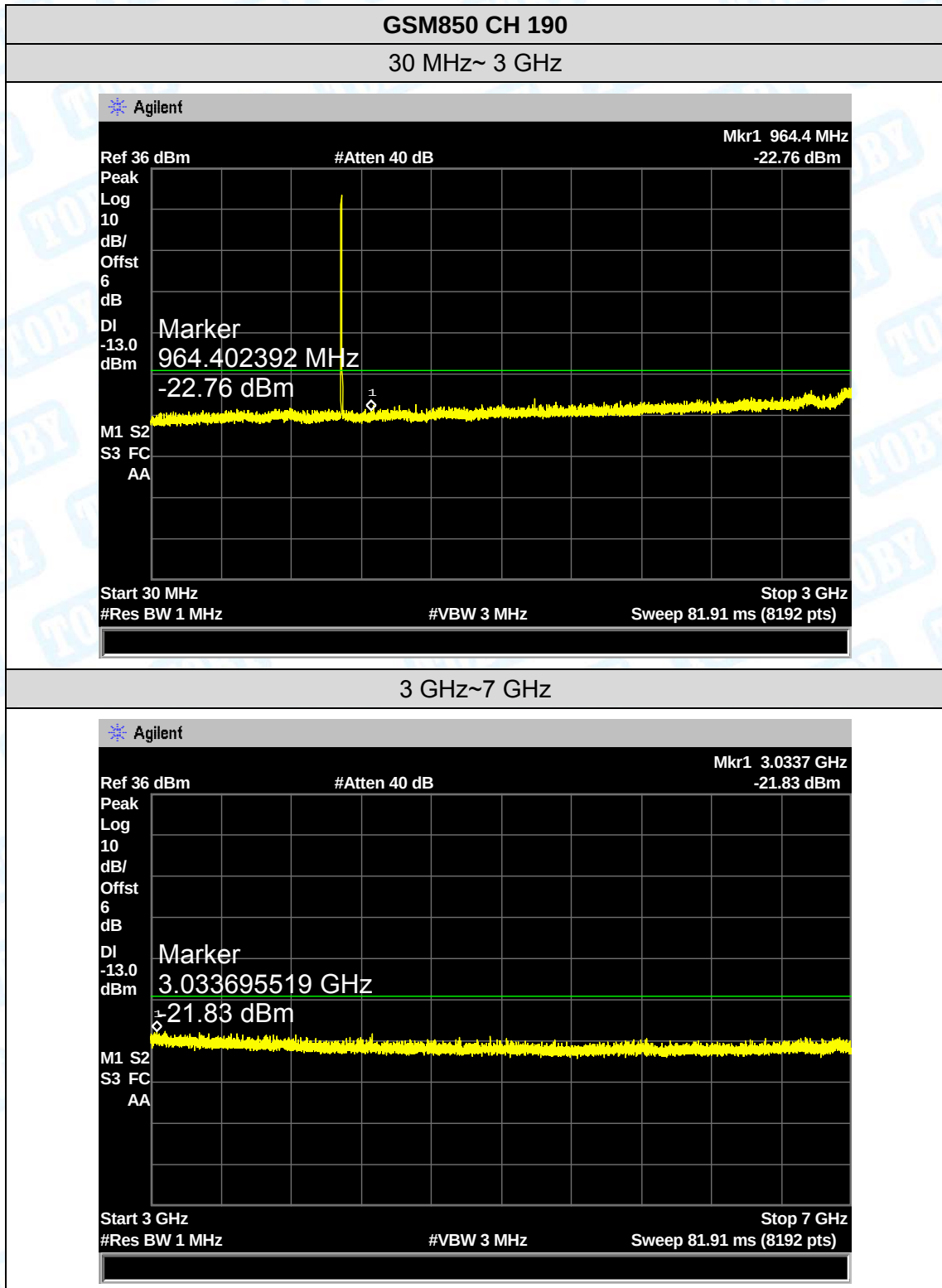
The EUT was continuously connected with the Base station and transmitting in the max power during the test.

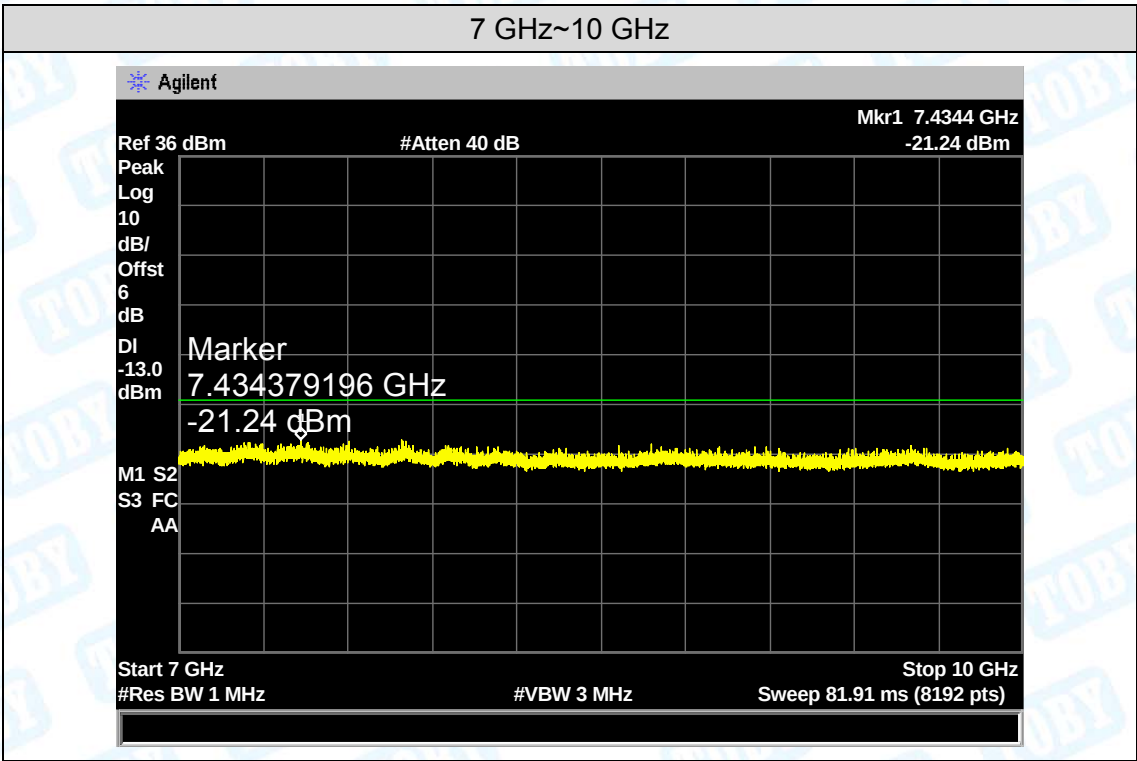
9.5 Test Data

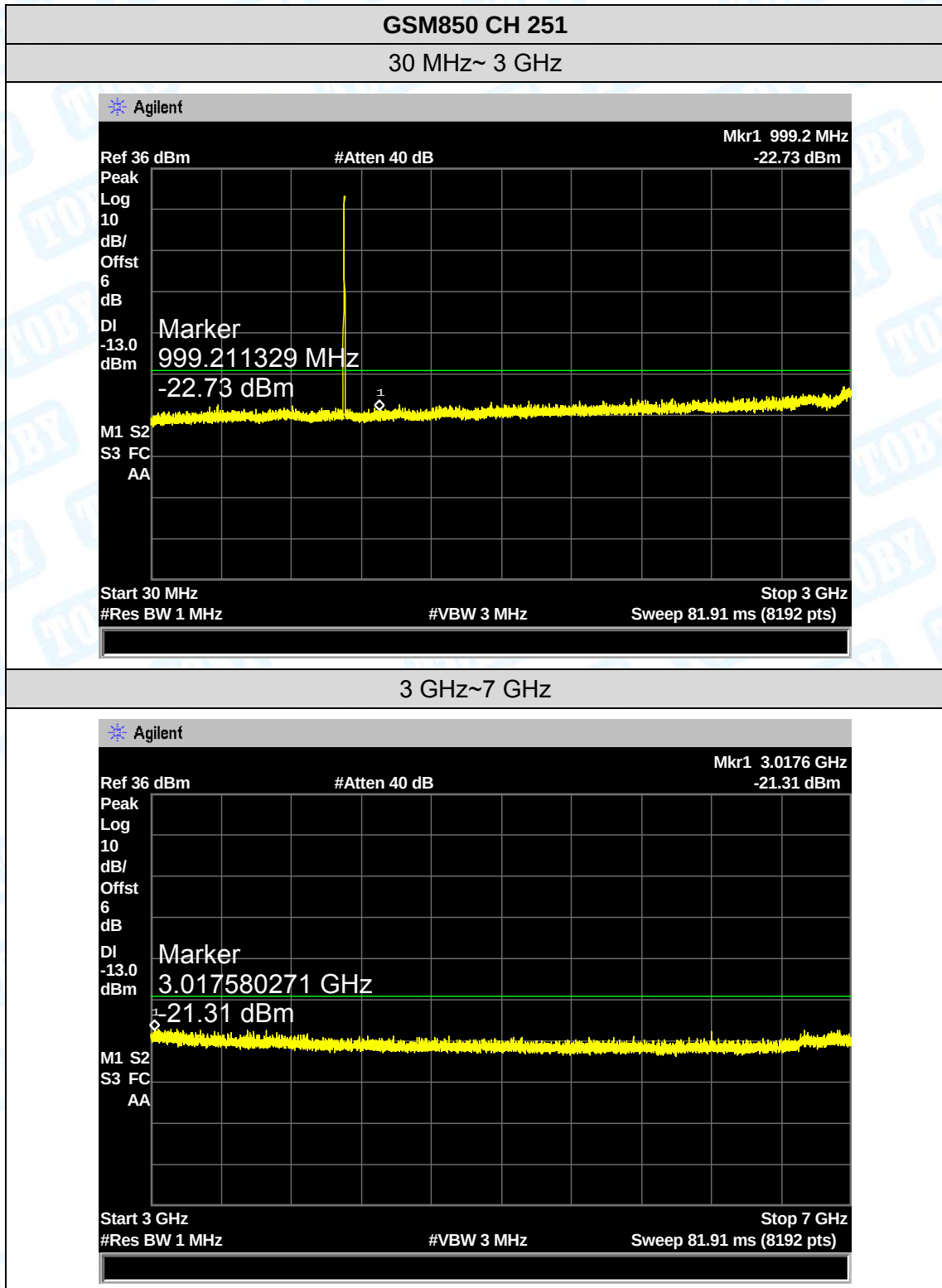
Please refer following plots:

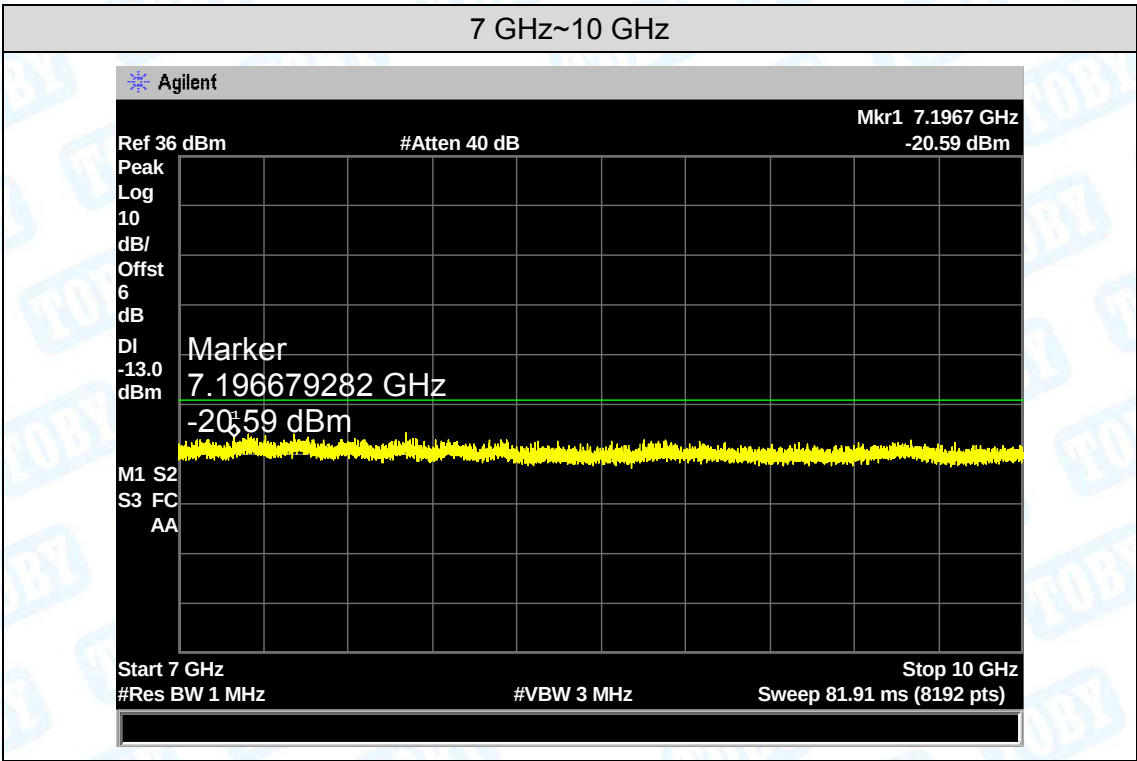


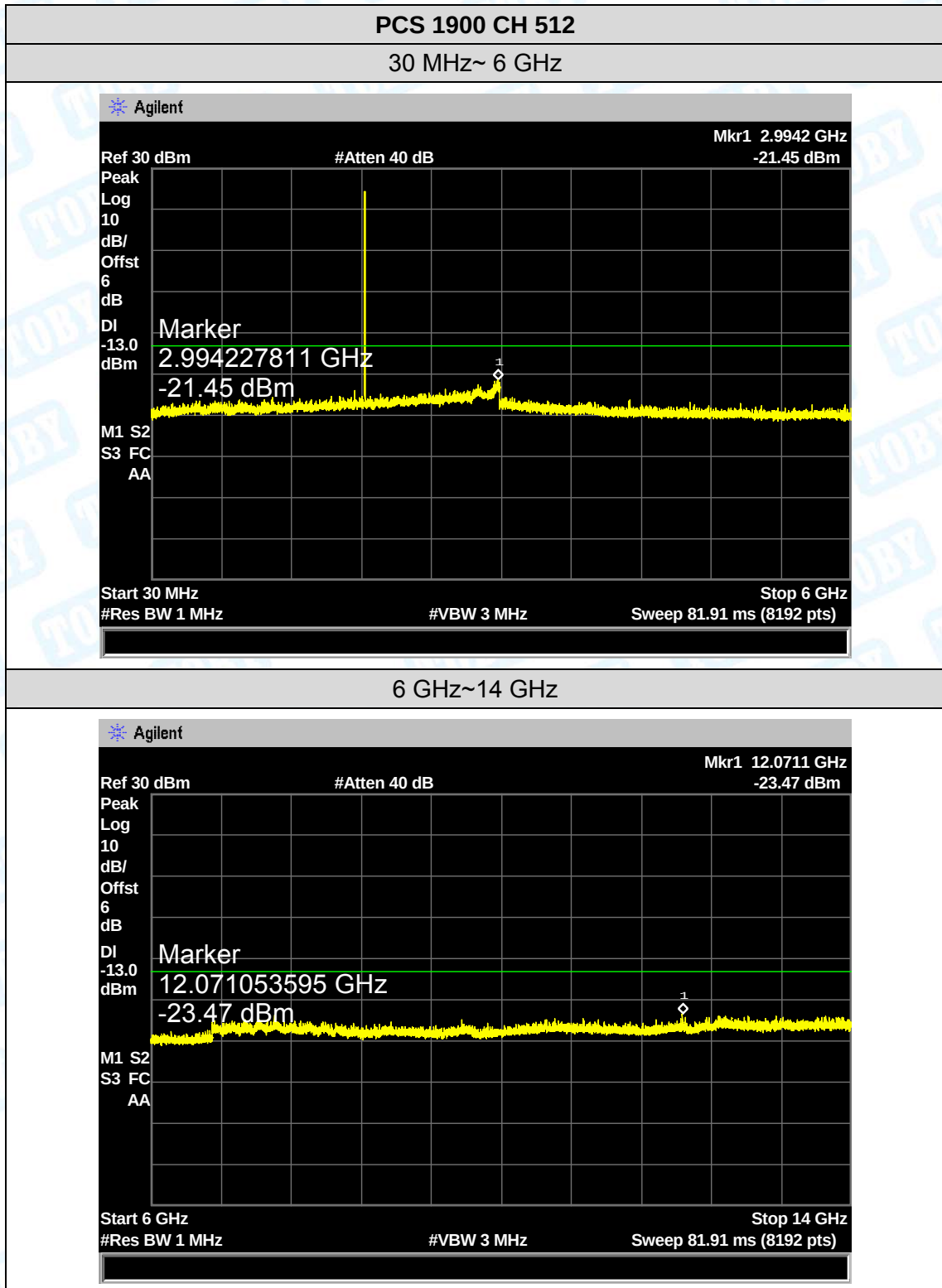


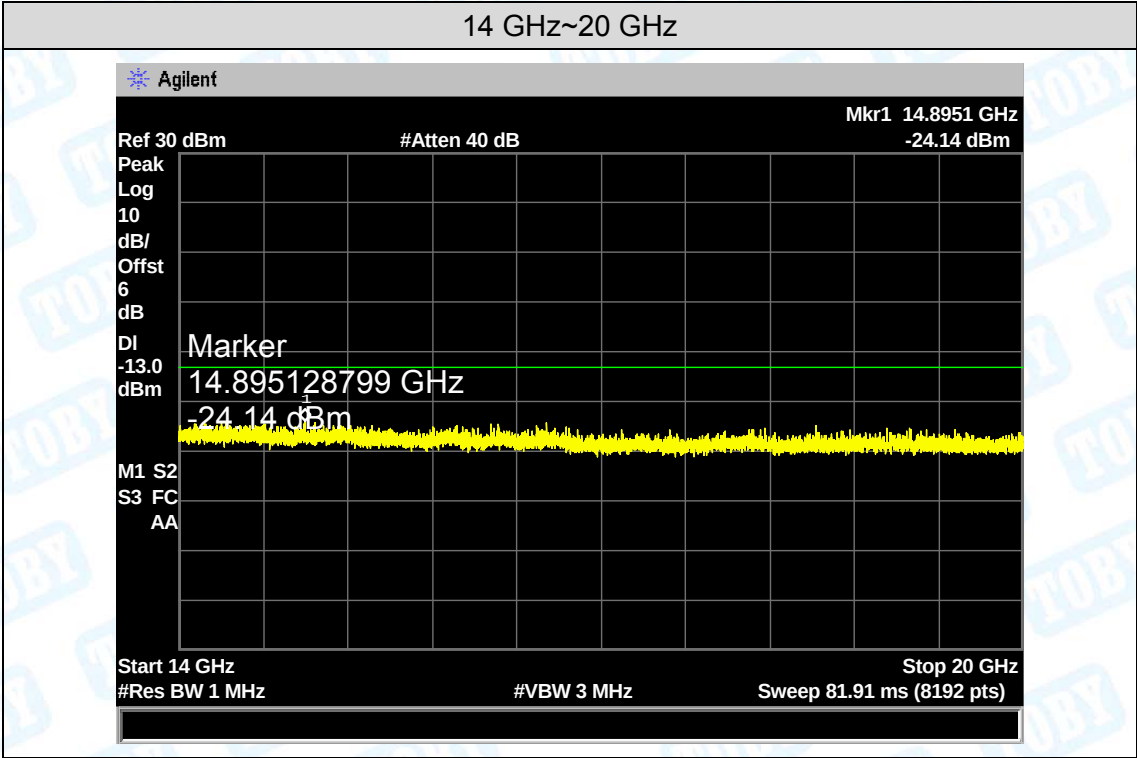


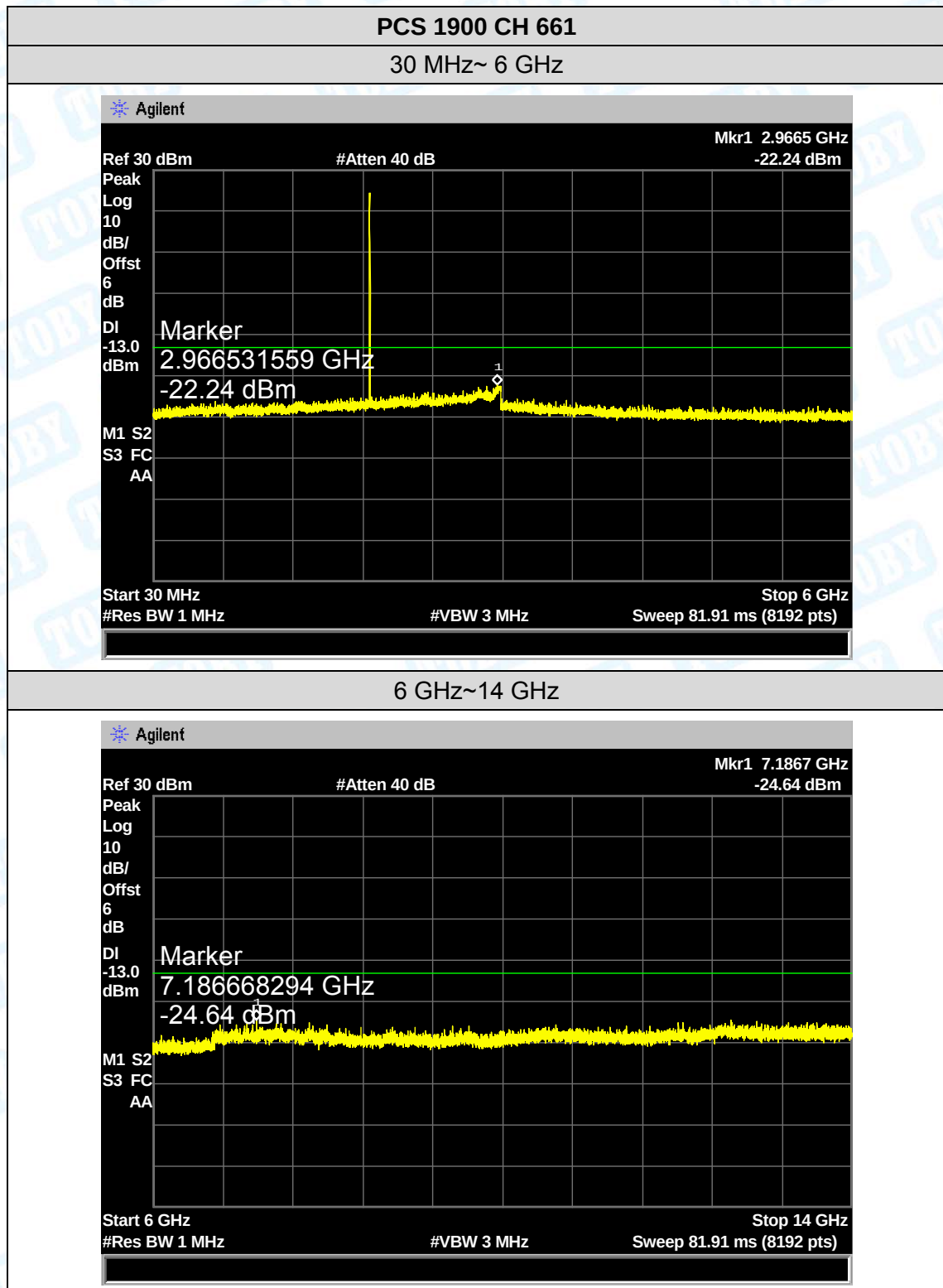


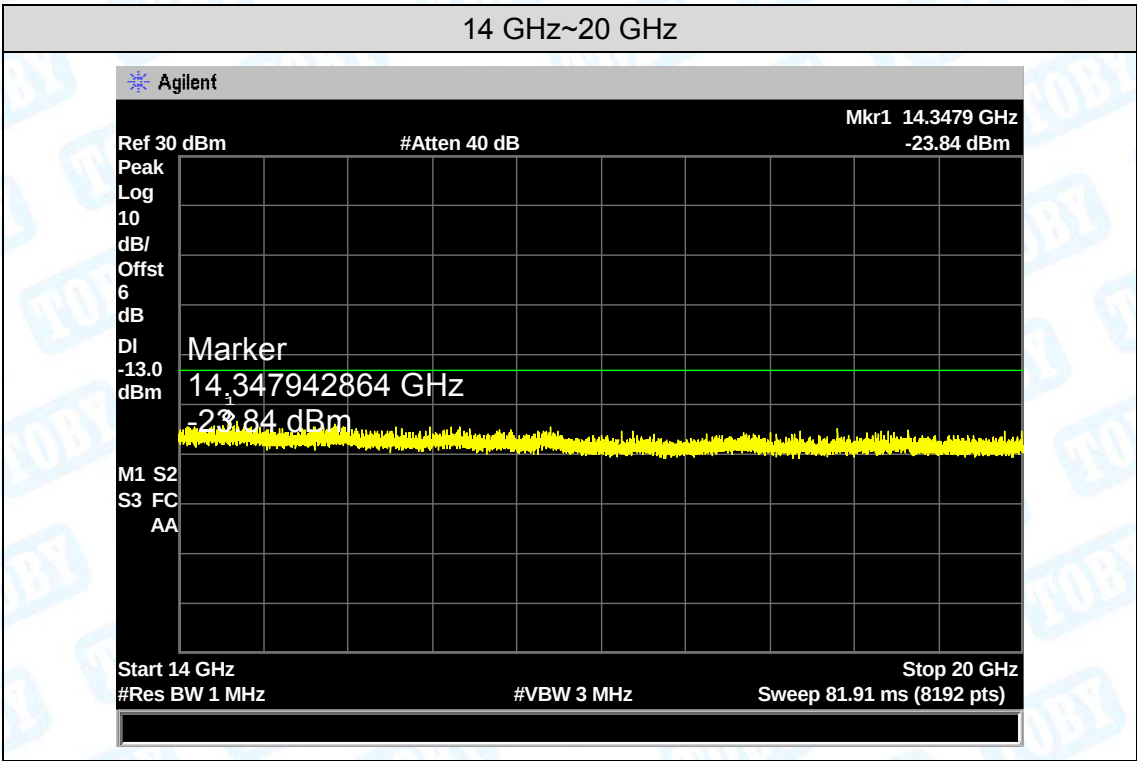


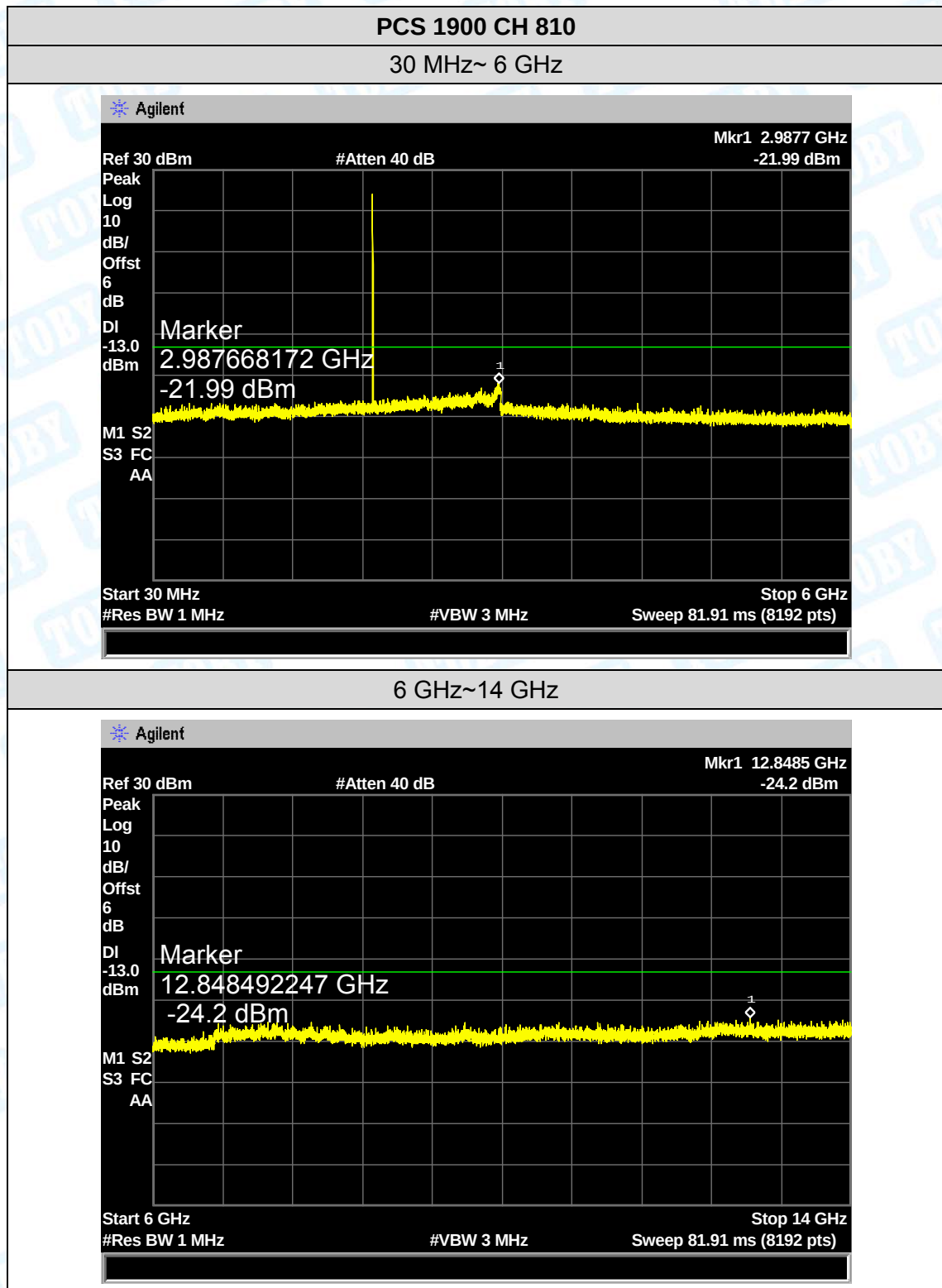


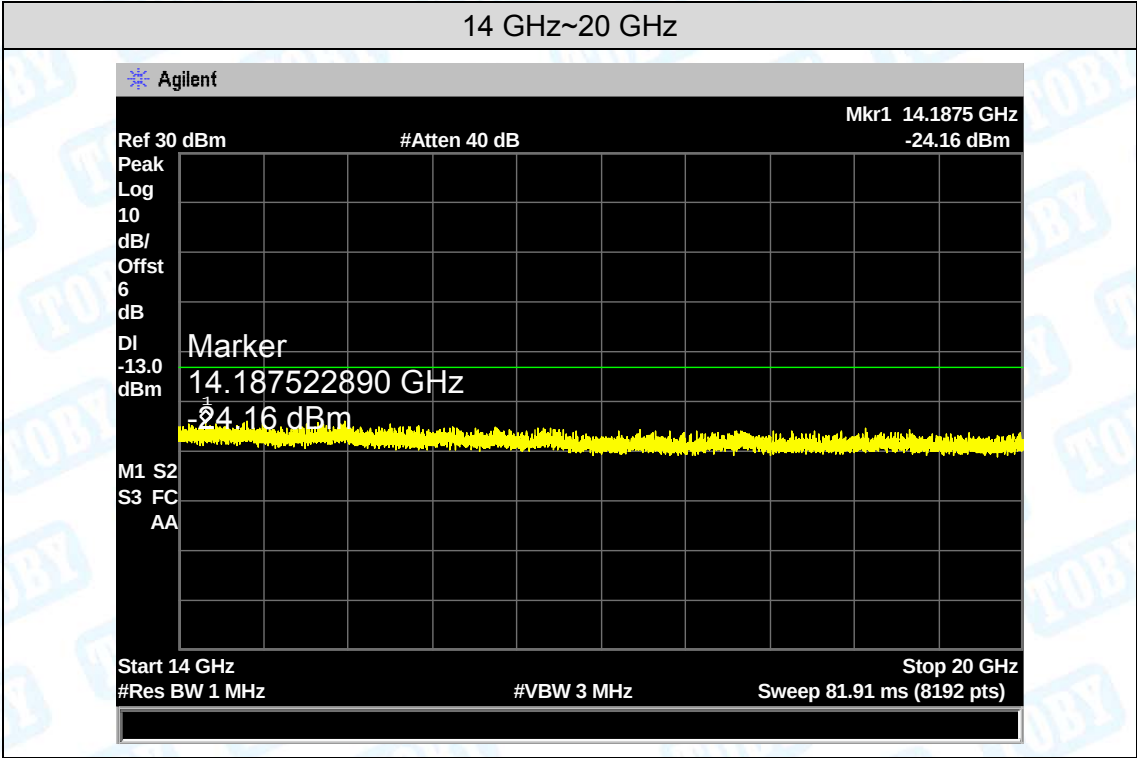






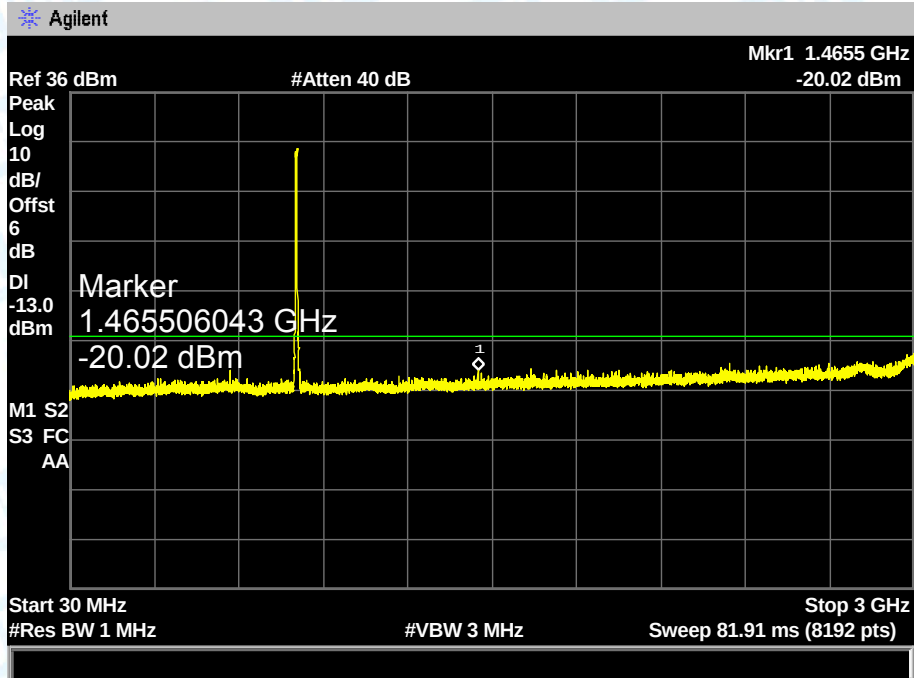




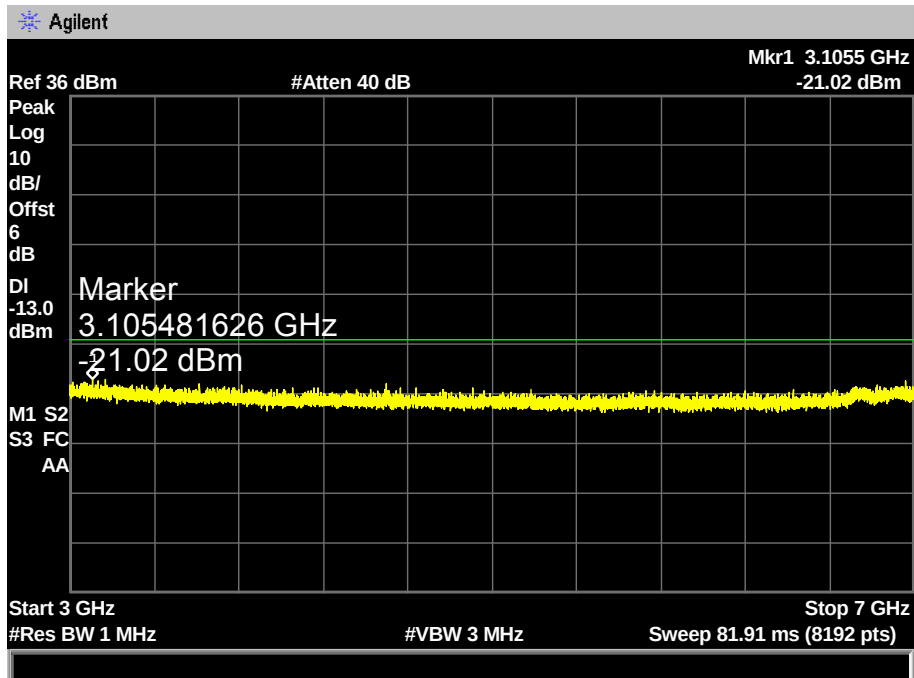


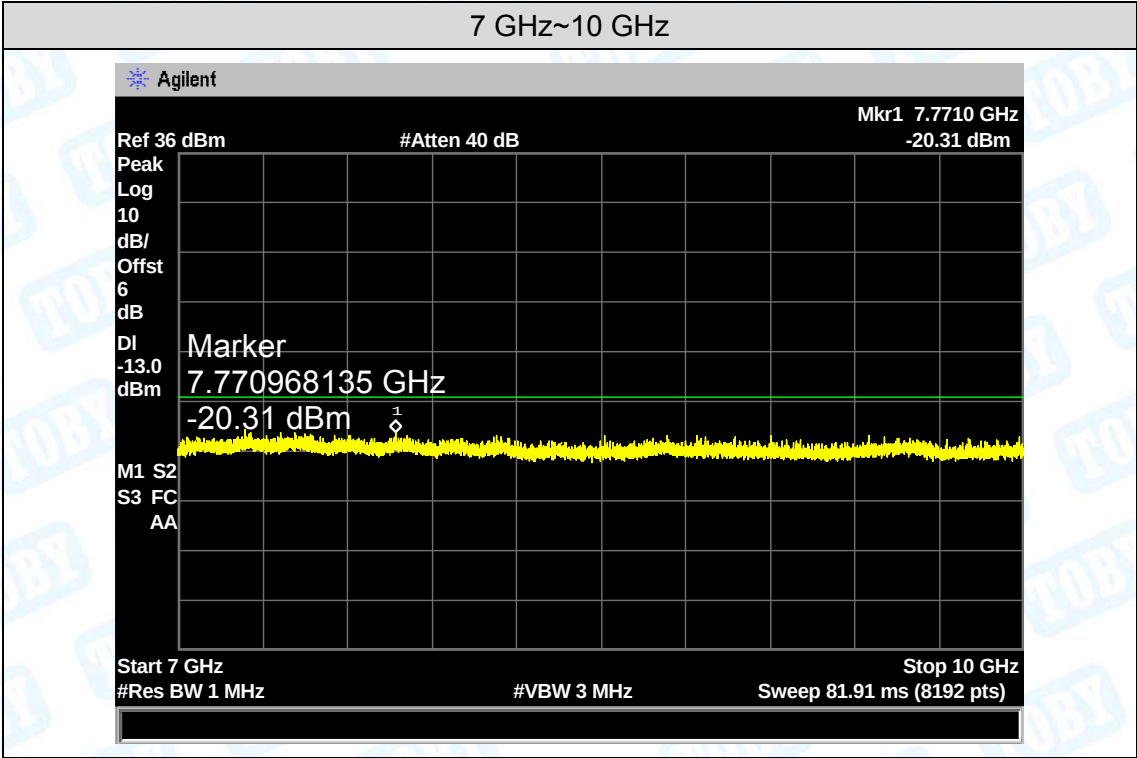
UMTS Band V CH 4132

30 MHz~ 3 GHz



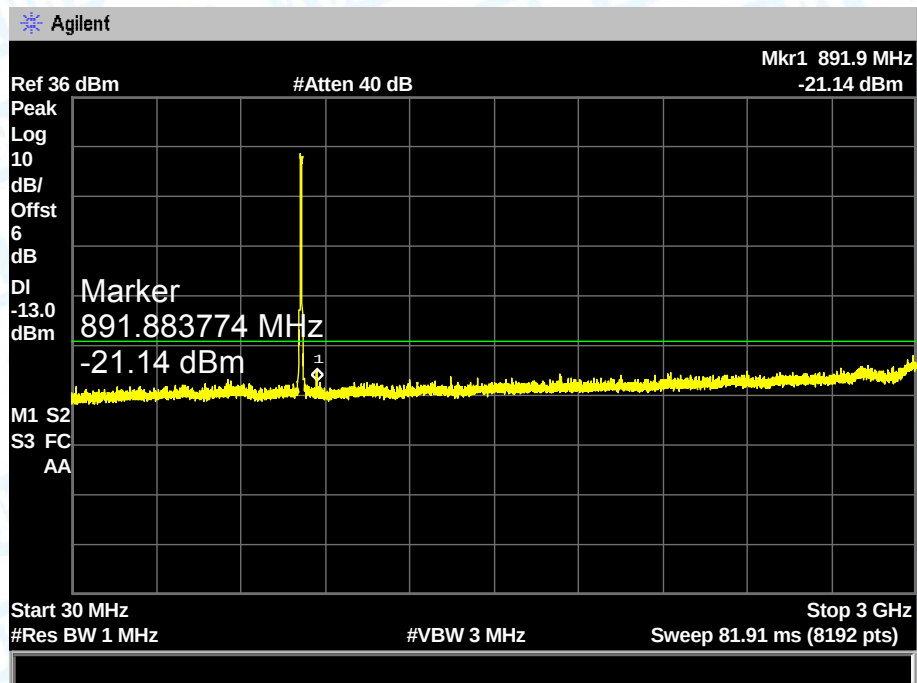
3 GHz~7 GHz



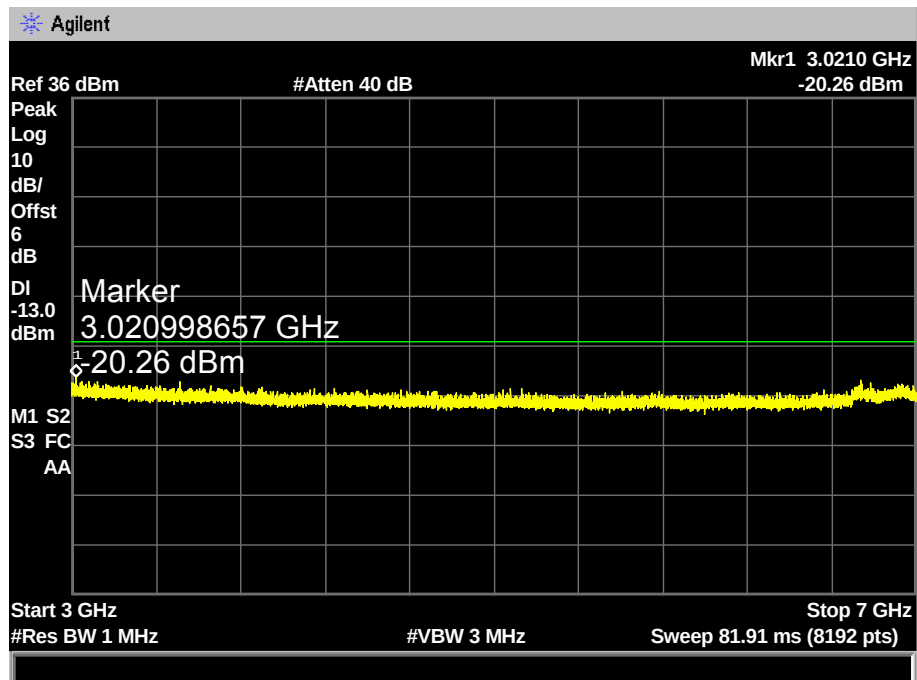


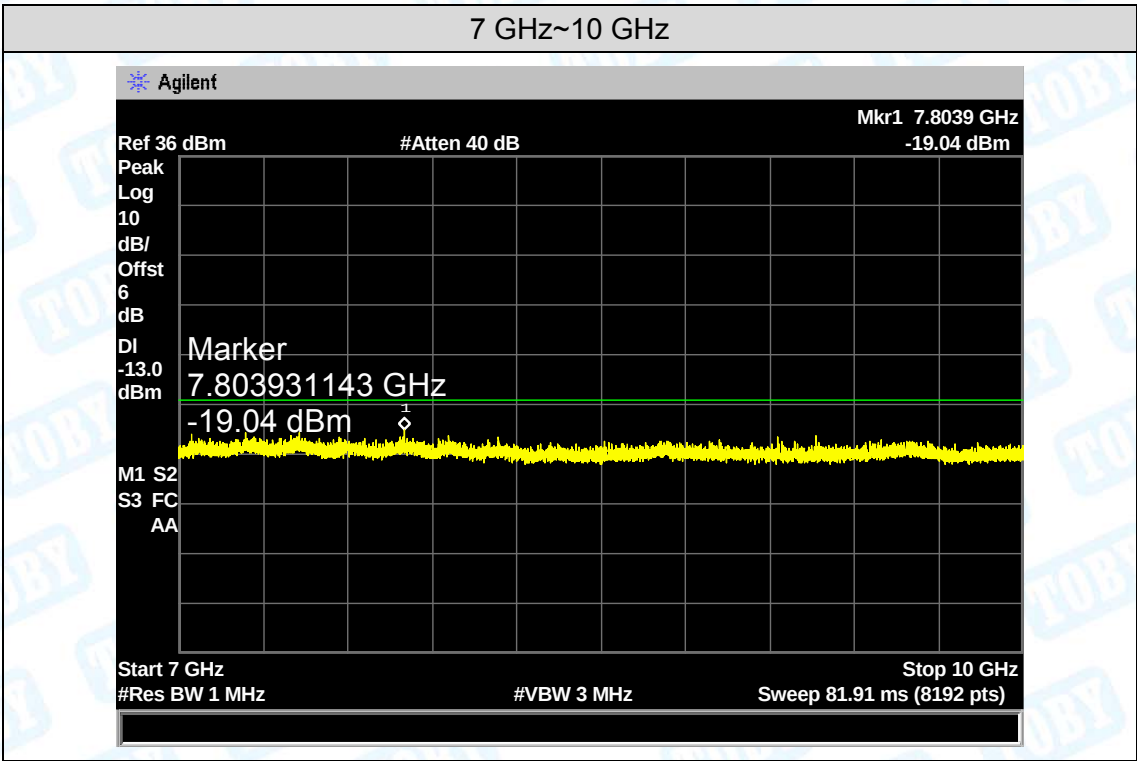
UMTS Band V CH 4175

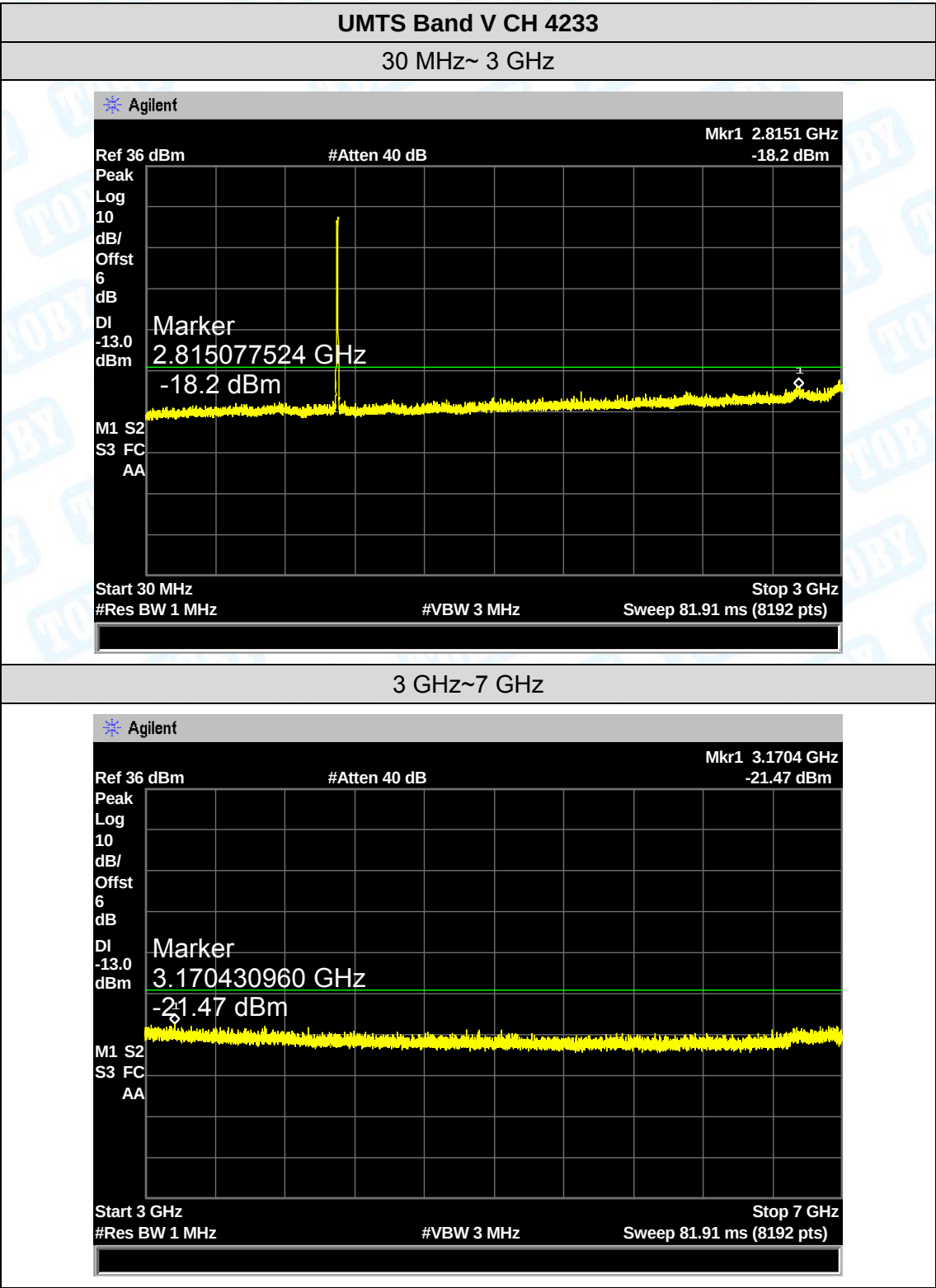
30 MHz~ 3 GHz

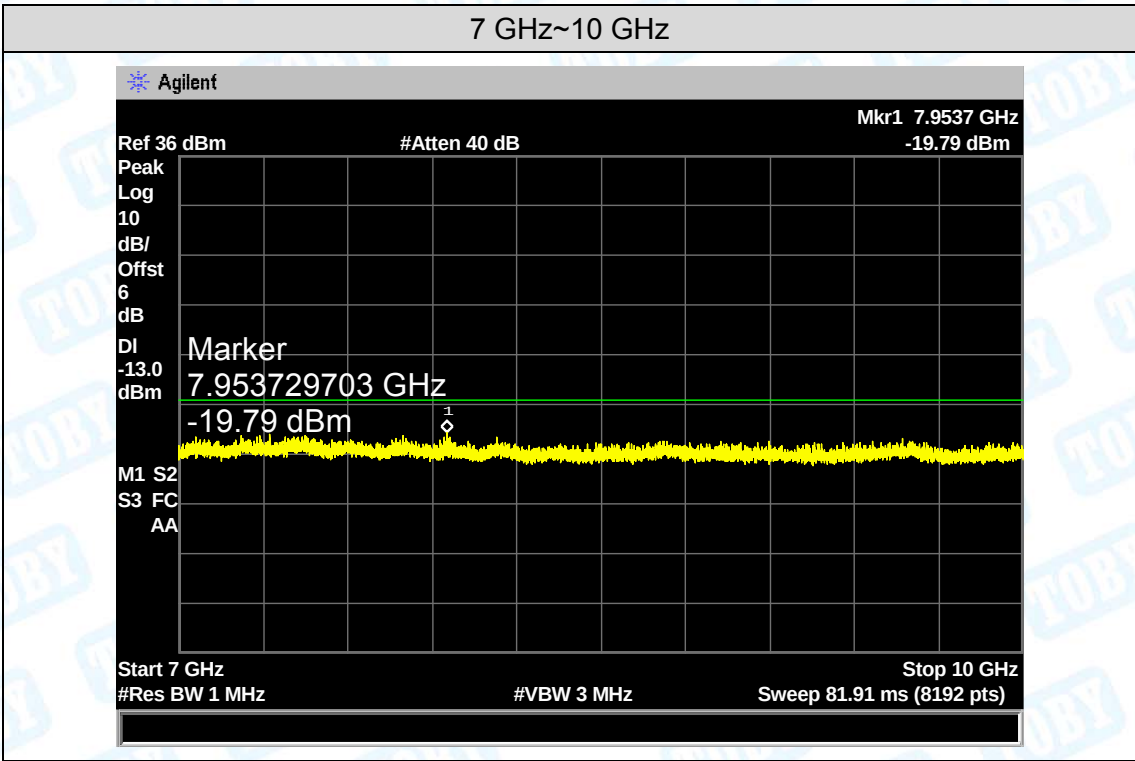


3 GHz~7 GHz



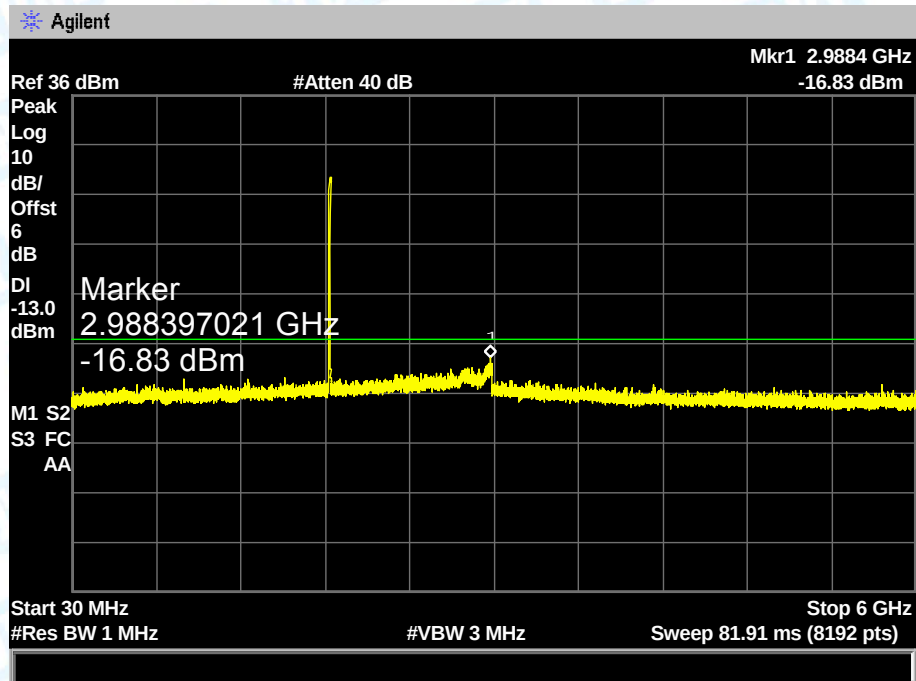




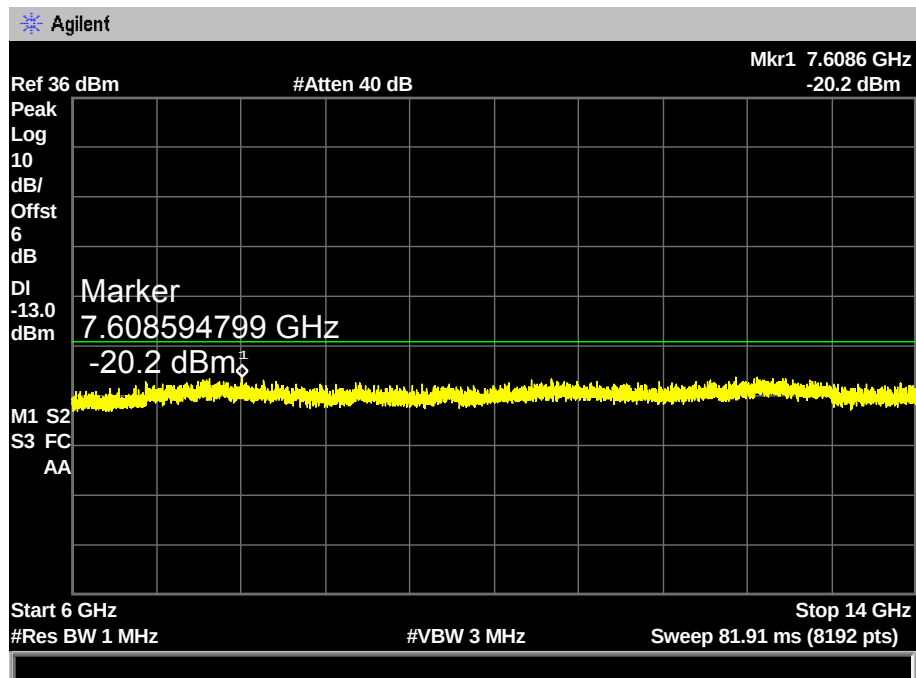


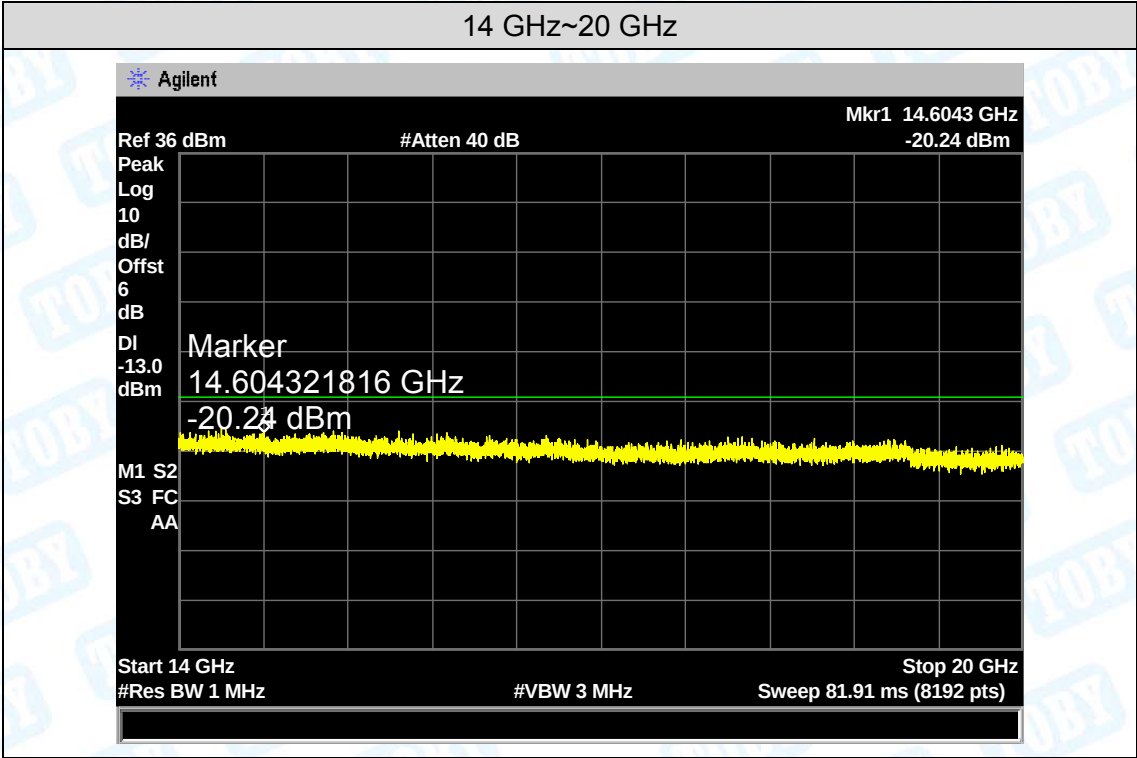
UMTS Band II CH 9262

30 MHz~ 6 GHz



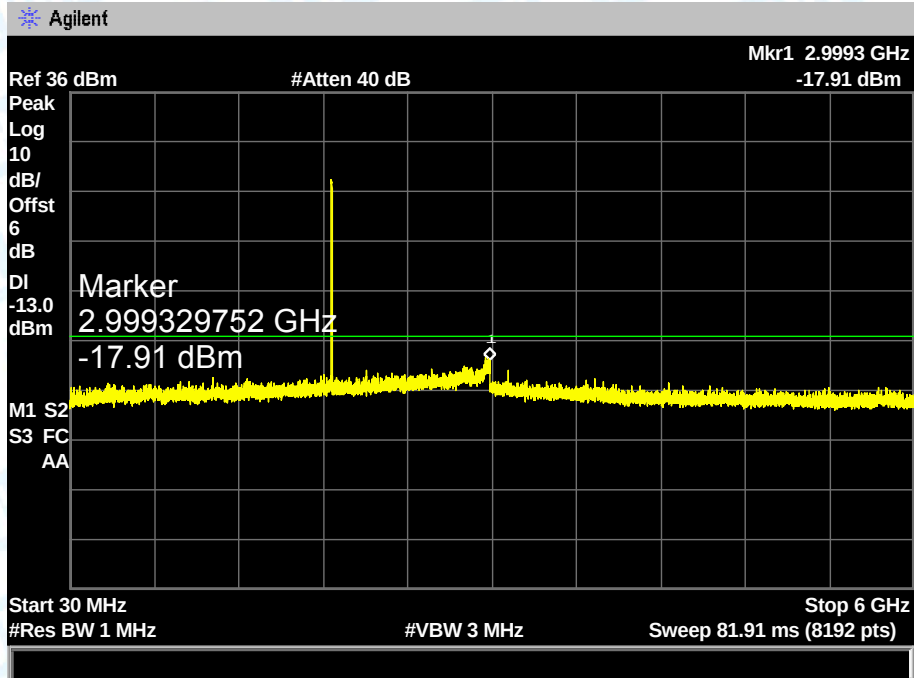
6 GHz~14 GHz



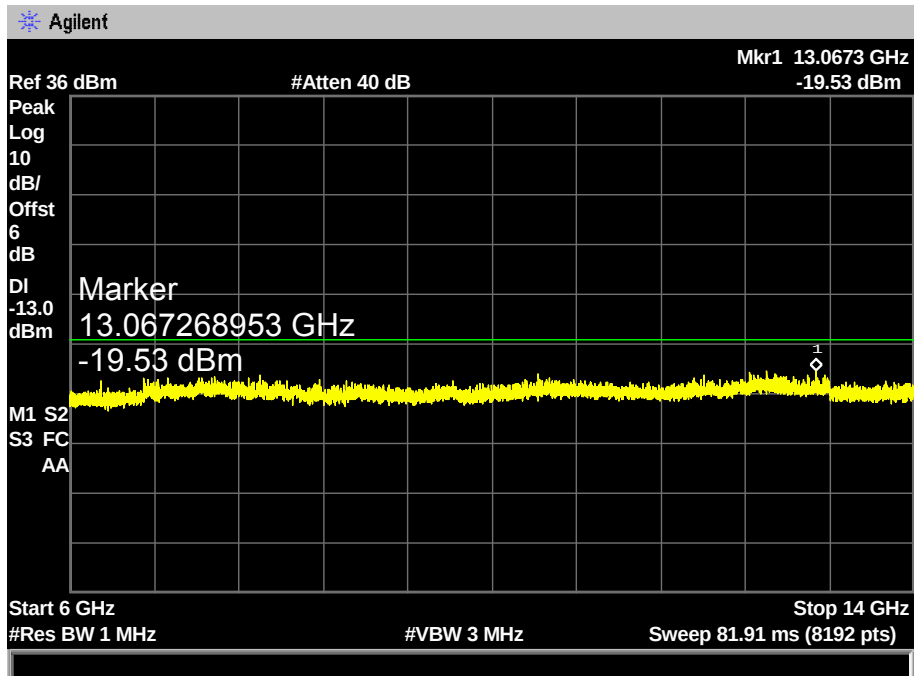


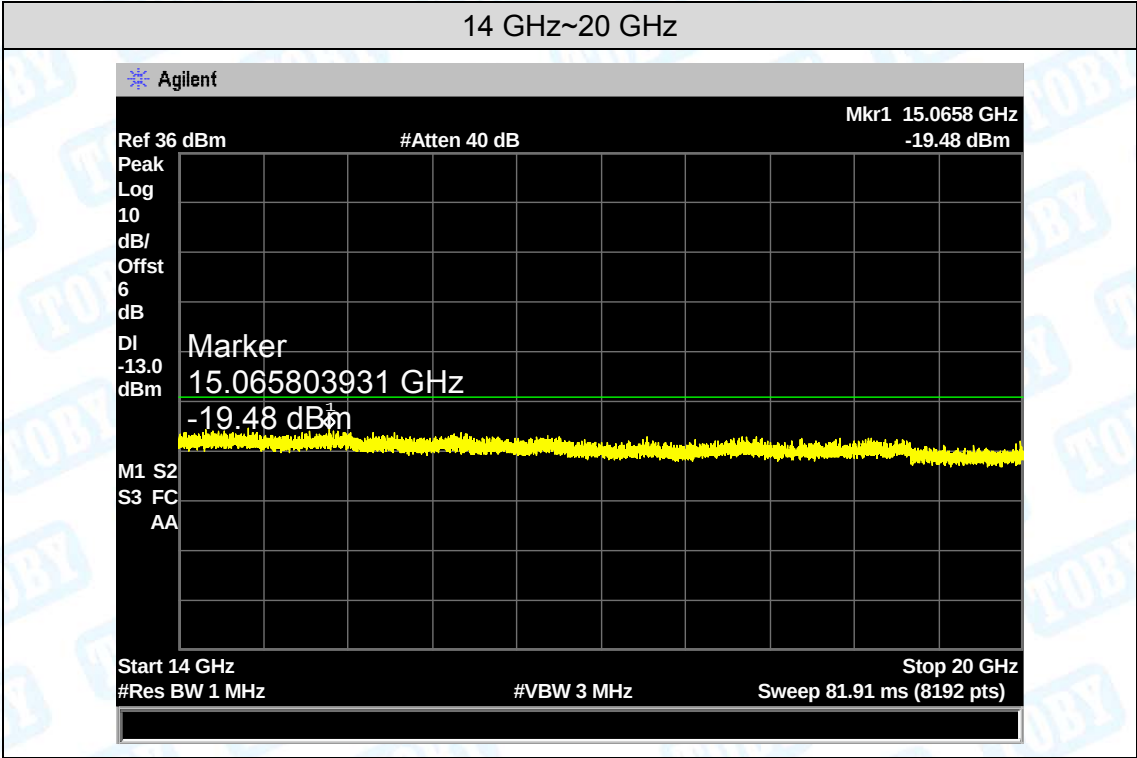
UMTS Band II CH 9400

30 MHz~ 6 GHz



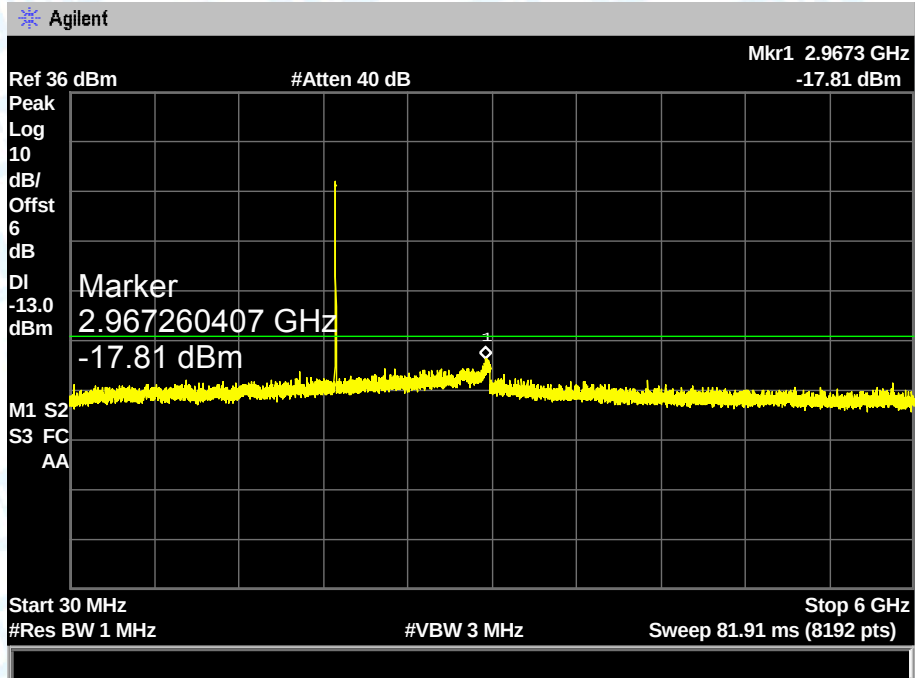
6 GHz~14 GHz



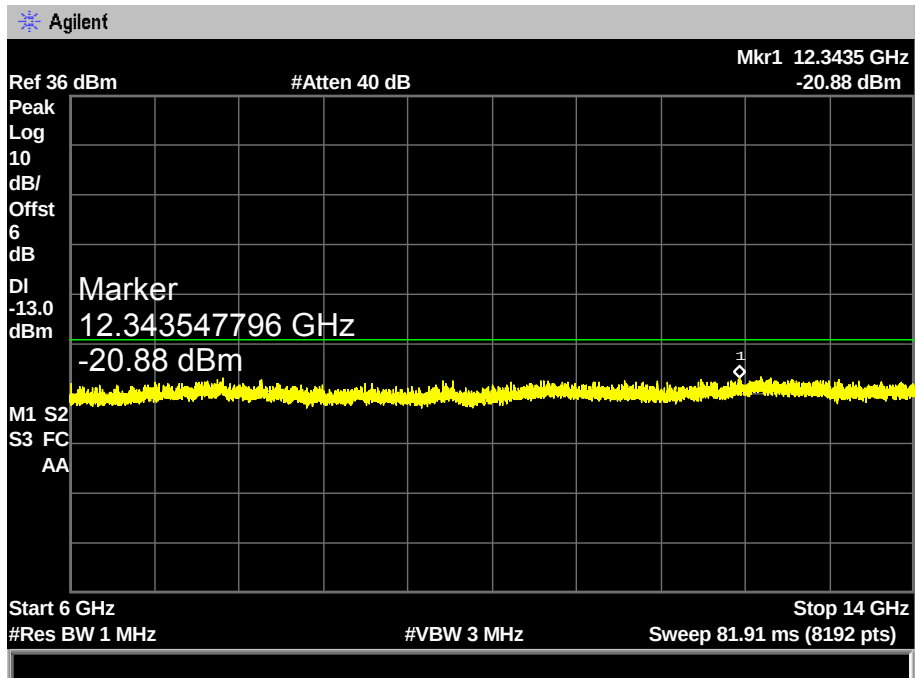


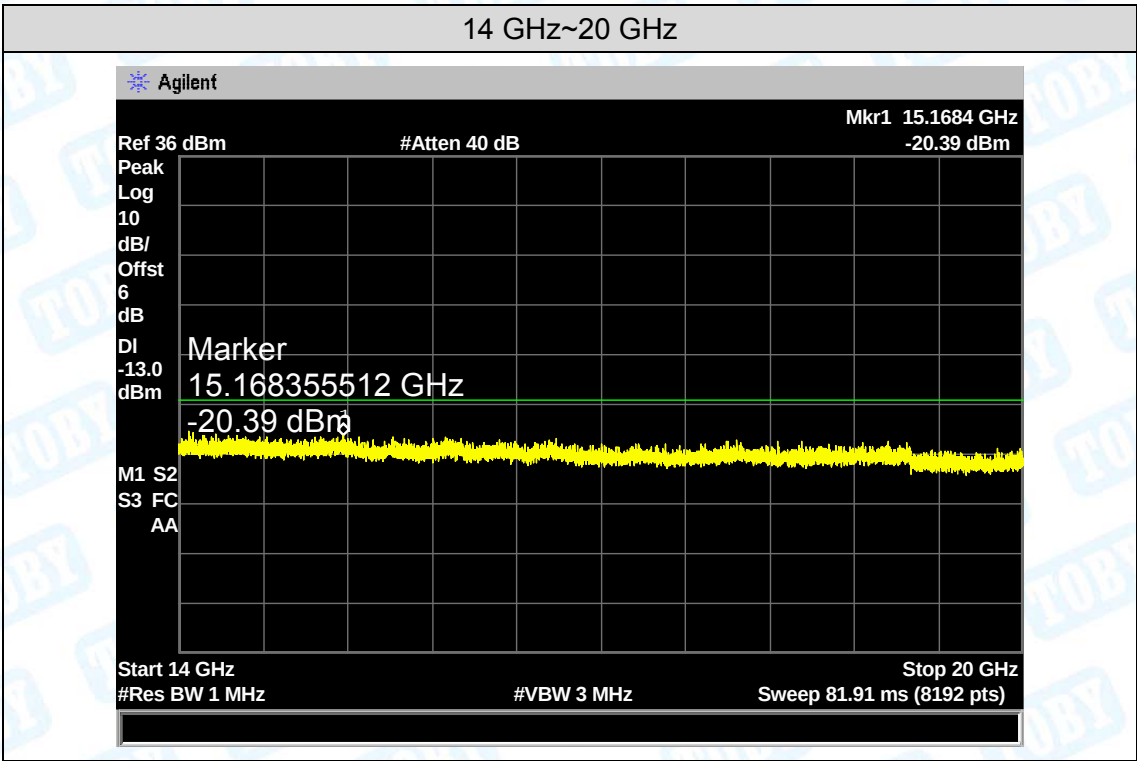
UMTS Band II CH 9538

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

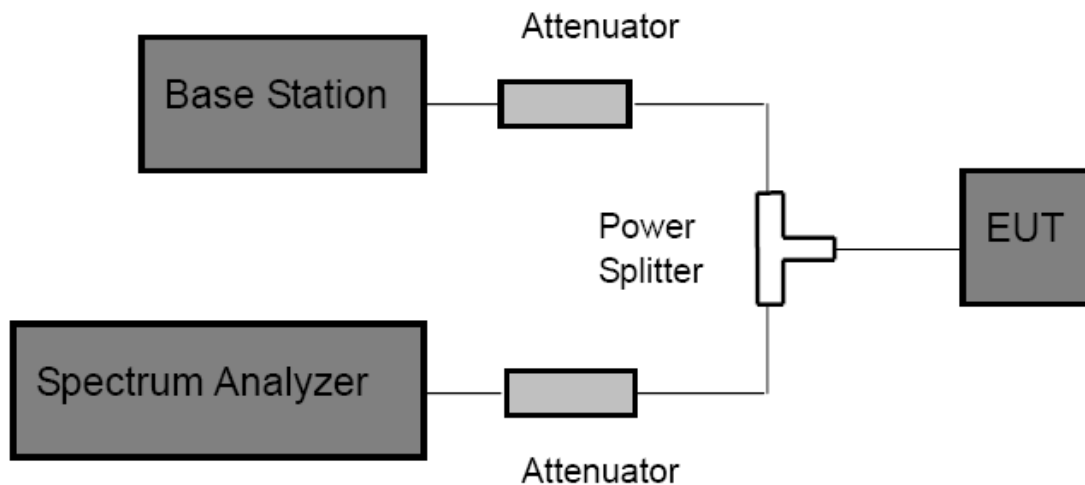
FCC Part 22H: 22.917(a)

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

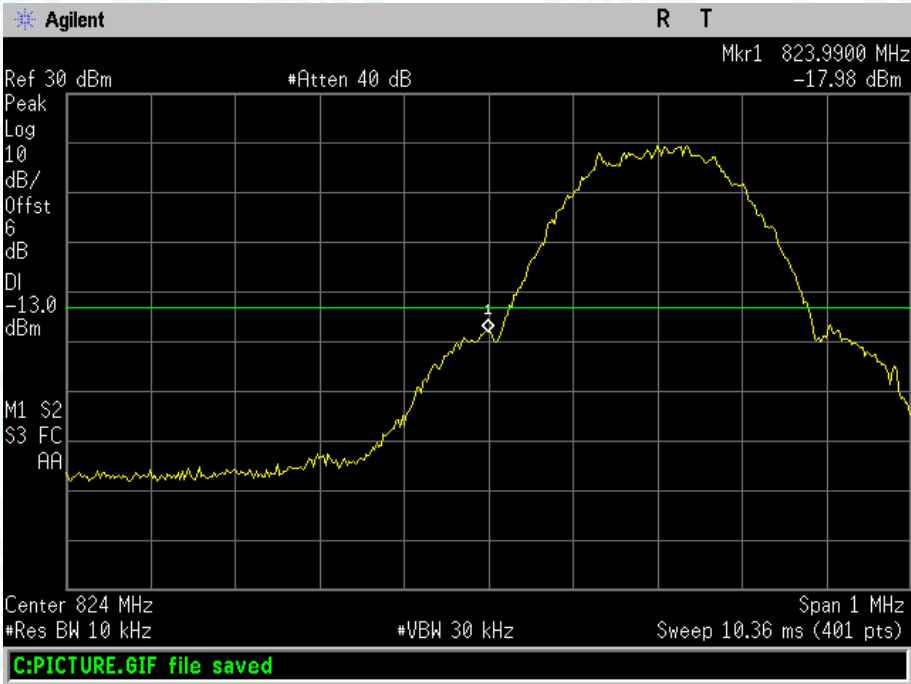
The EUT was continuously connected with the Base station and transmitting in the max power during the test.

10.5 Test Data

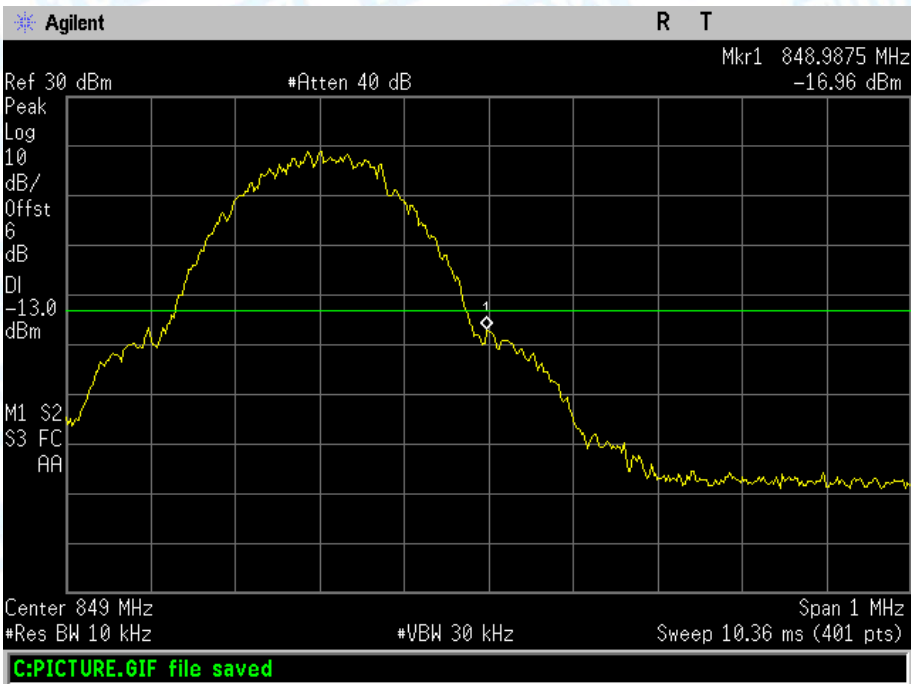
Please refer the following plots:

Band edge emission:

Test Mode:	GSM850
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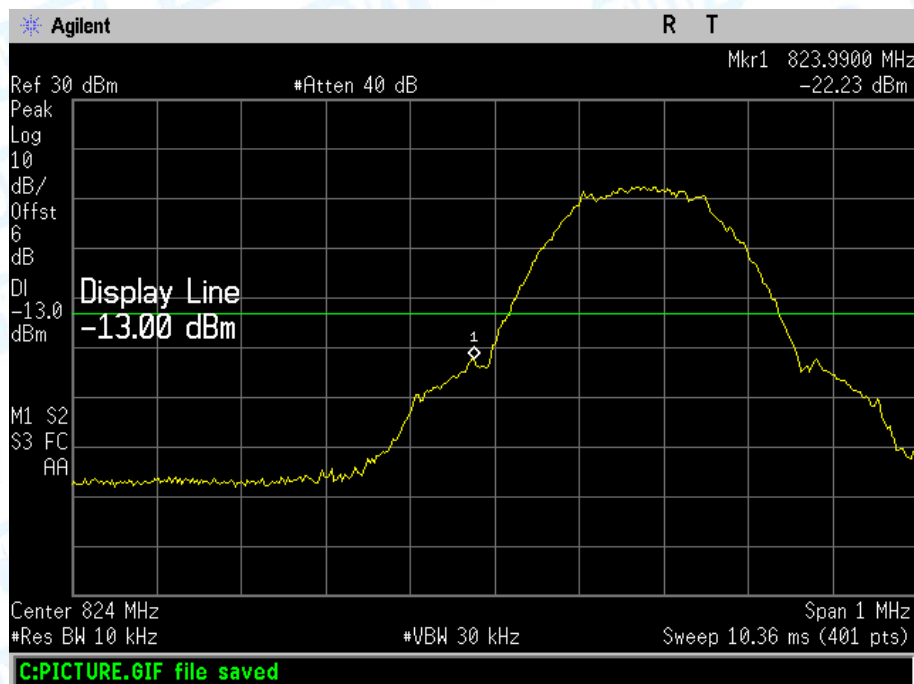
Lowest channel



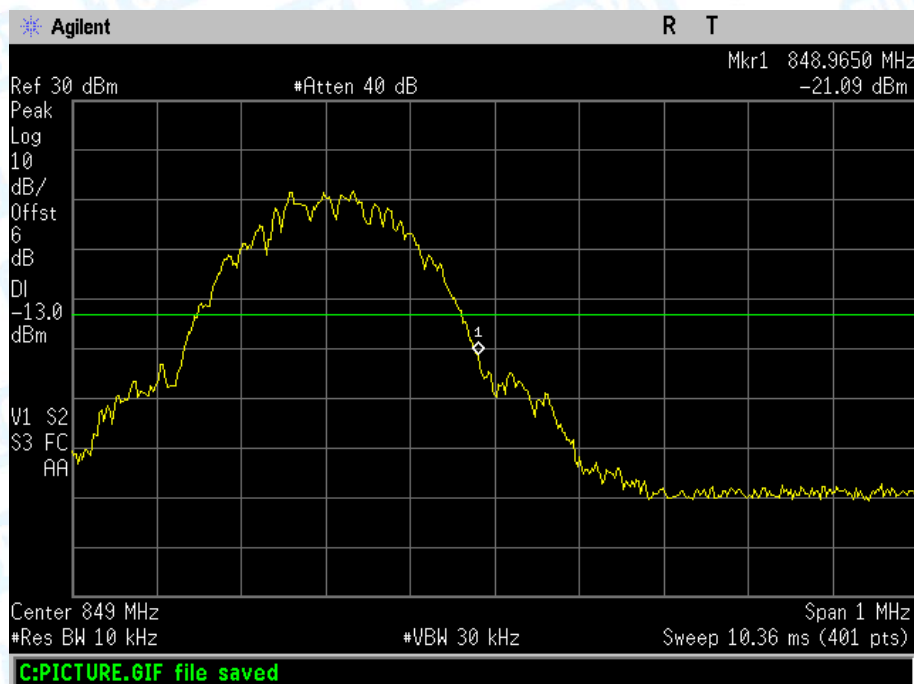
Highest channel

Test Mode:

GPRS850



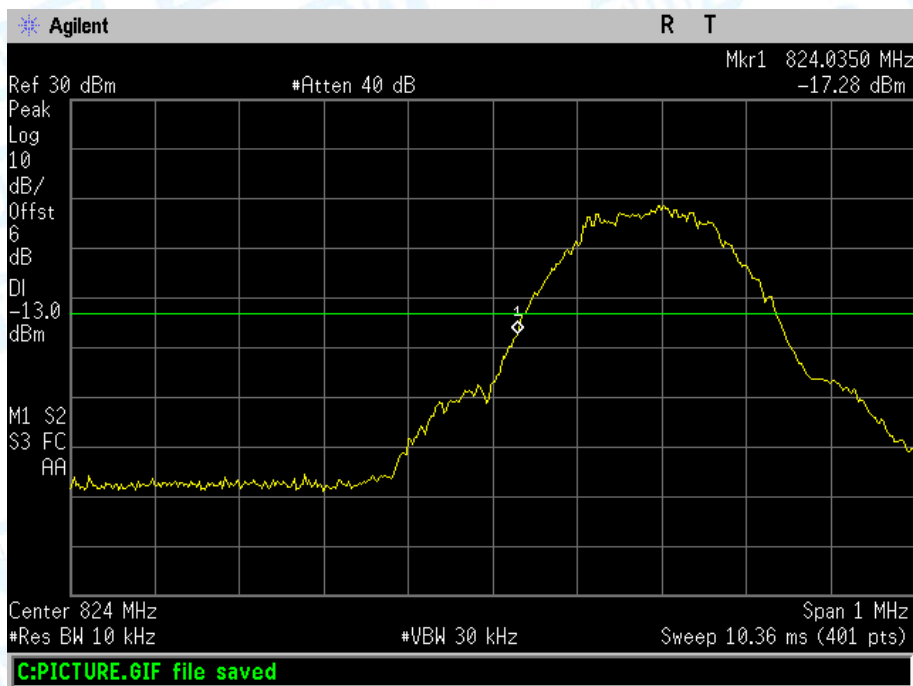
Lowest channel



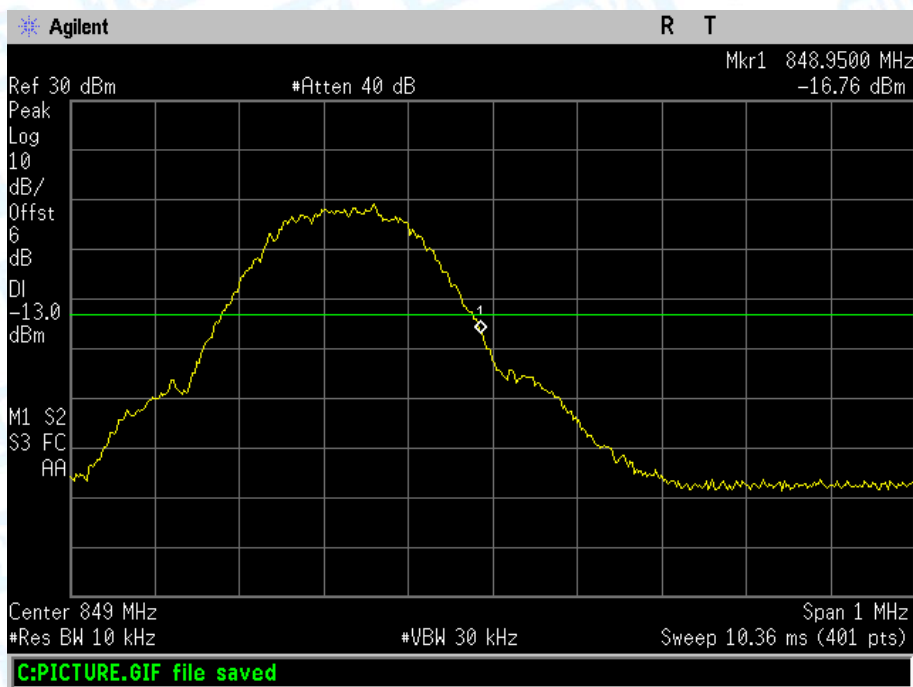
Highest channel

Test Mode:

EGPRS850



Lowest channel

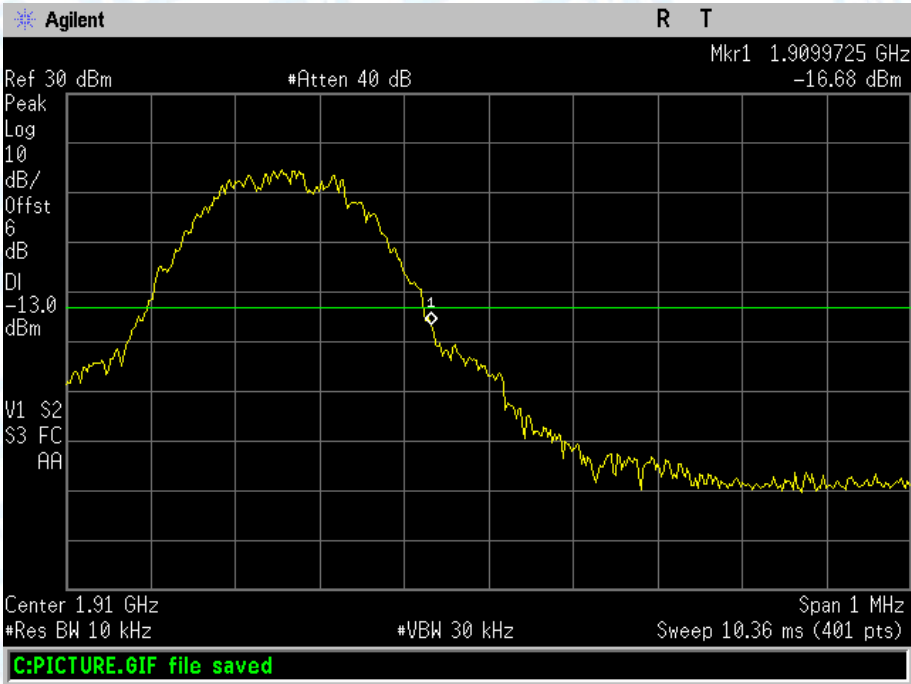


Highest channel

Test Mode:	PCS1900
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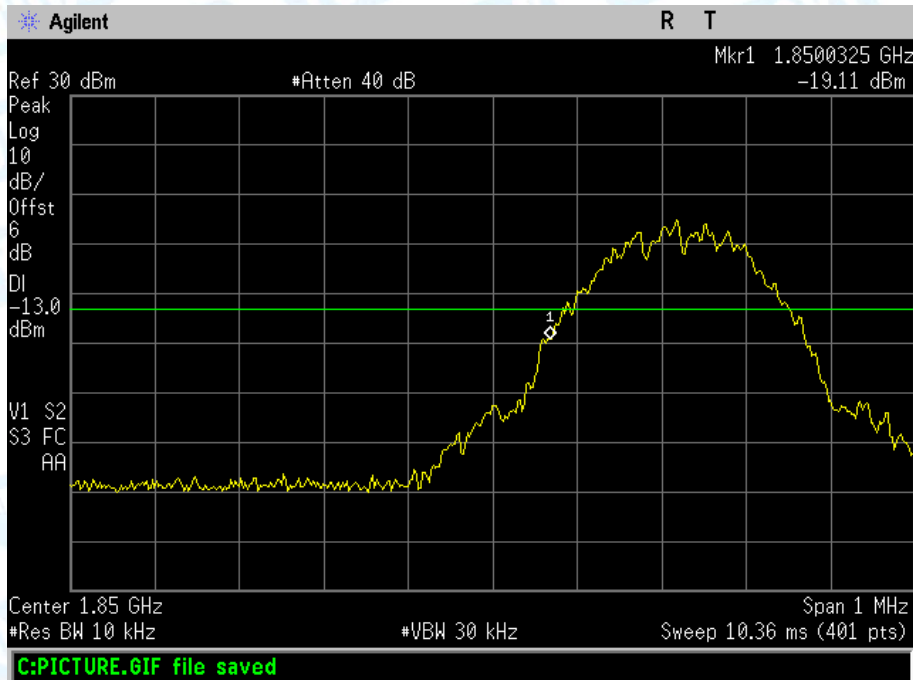
Lowest channel



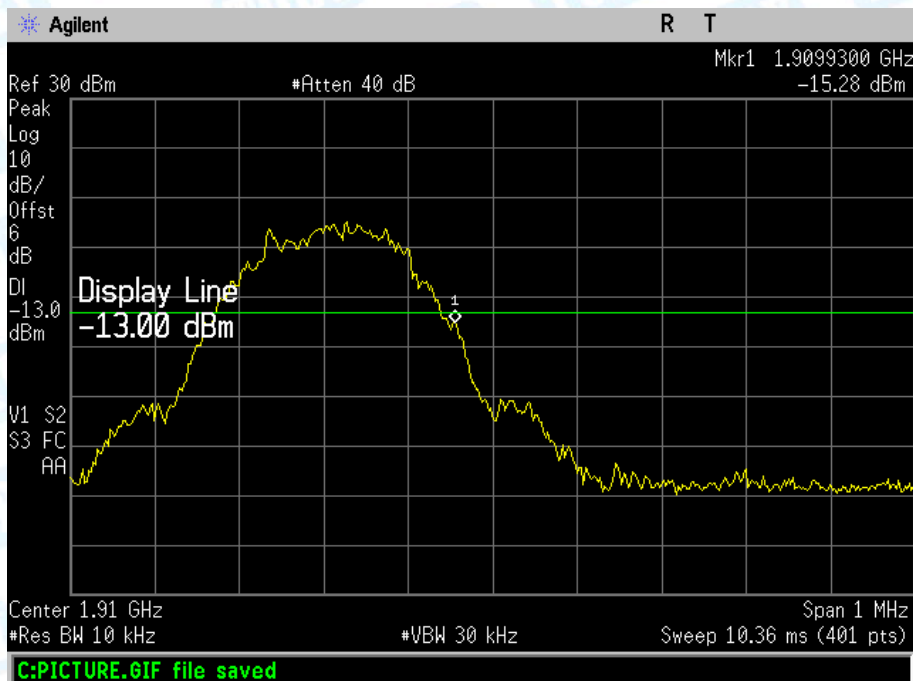
Highest channel

Test Mode:

GPRS1900



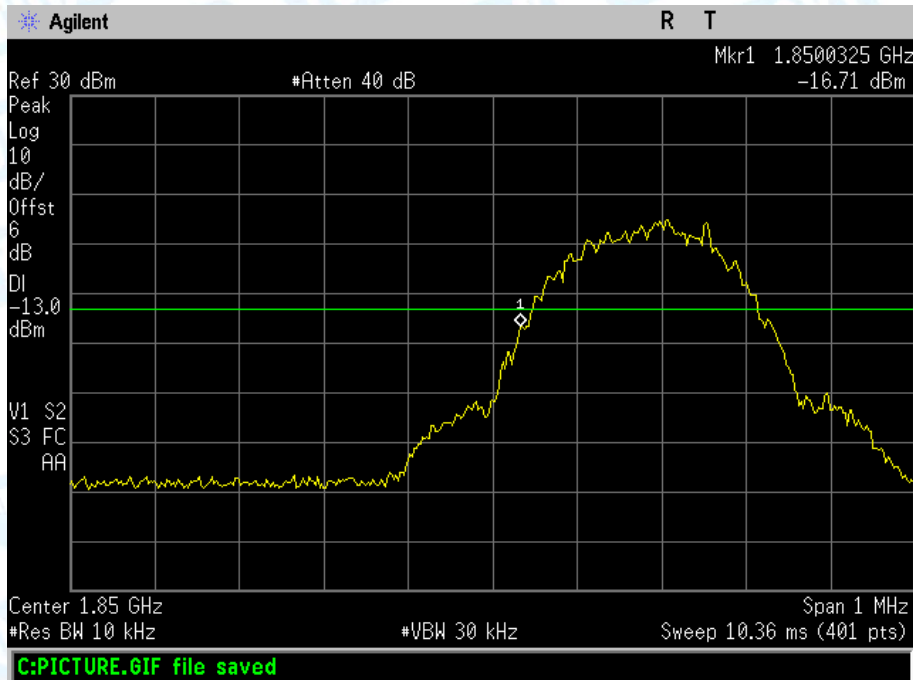
Lowest channel



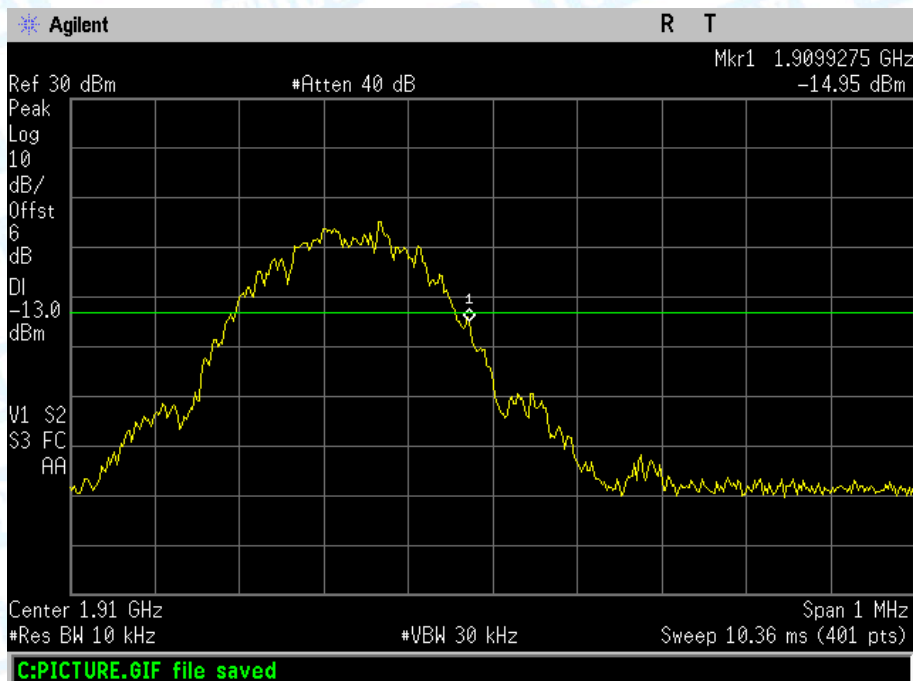
Highest channel

Test Mode:

EGPRS1900



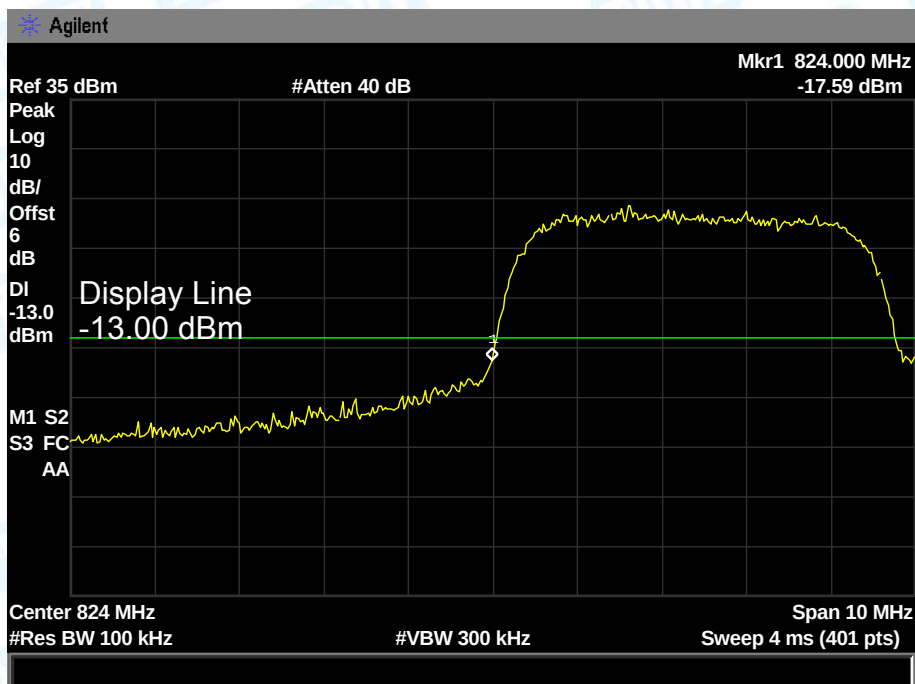
Lowest channel



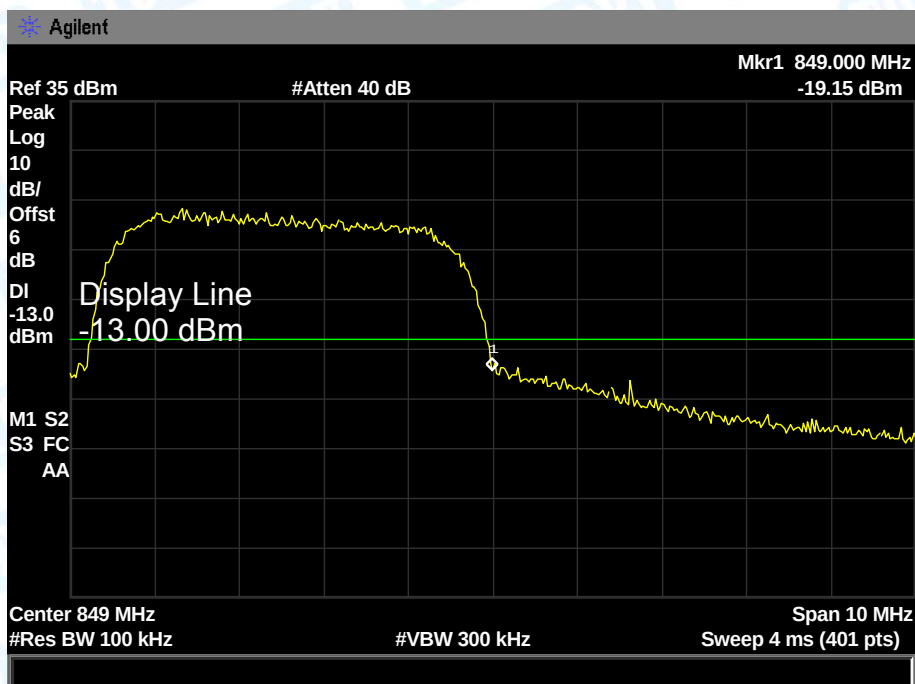
Highest channel

Test Mode:

UMTS Band V 12.2k RMC



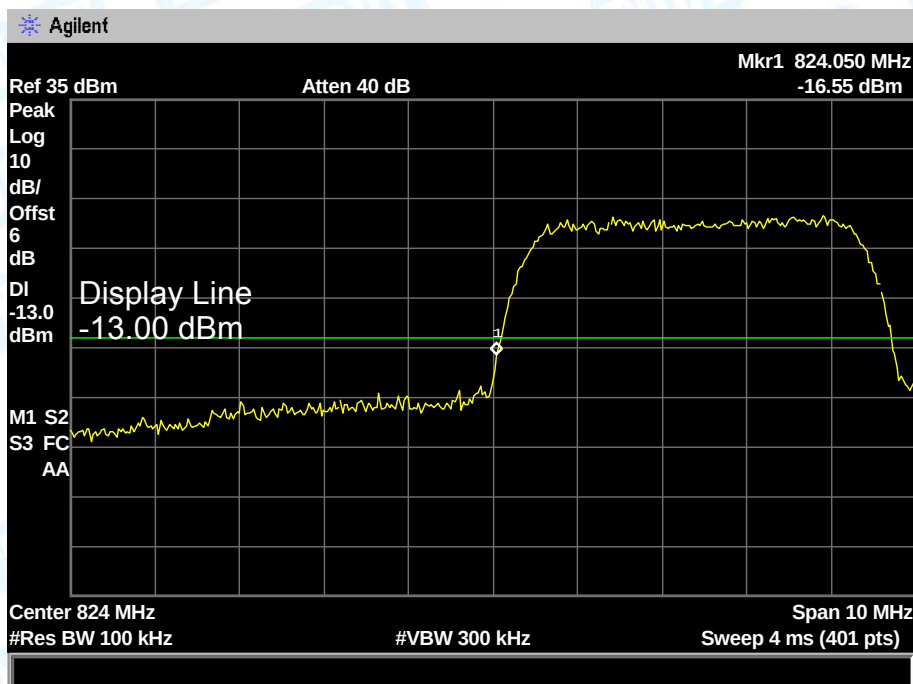
Lowest channel



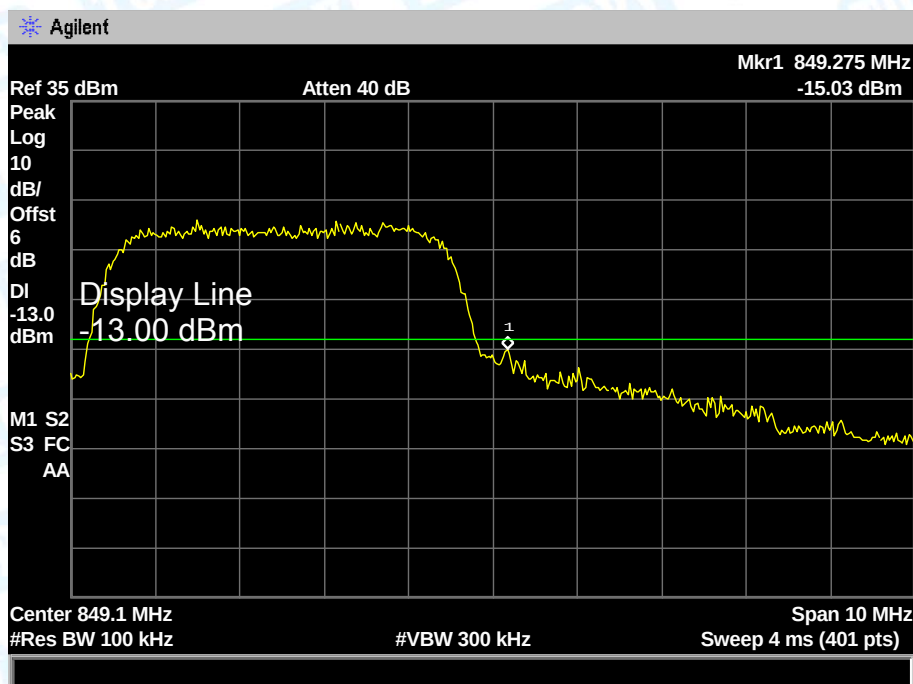
Highest channel

Test Mode:

UMTS Band V HSDPA



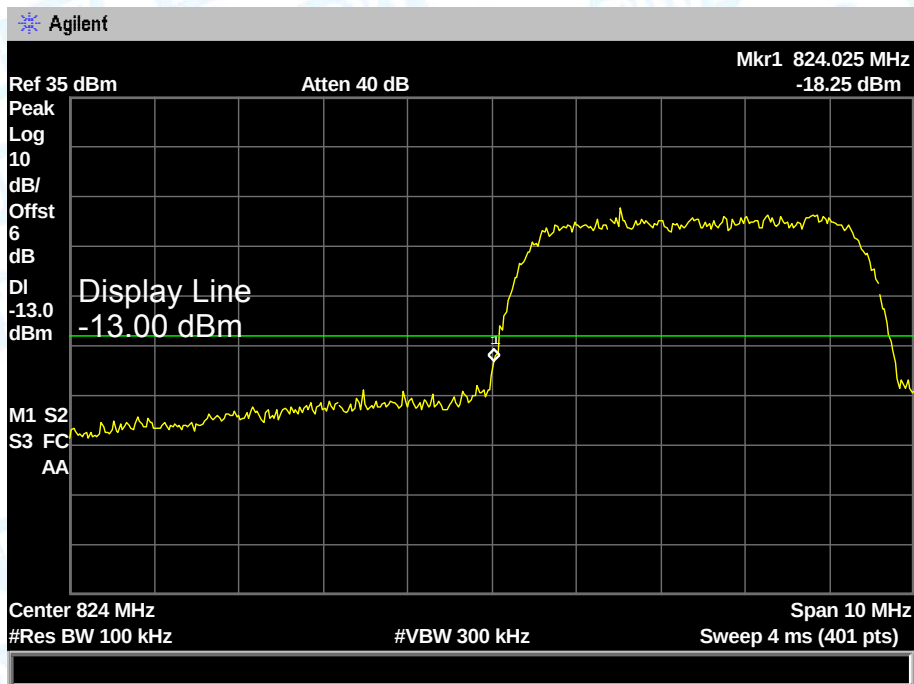
Lowest channel



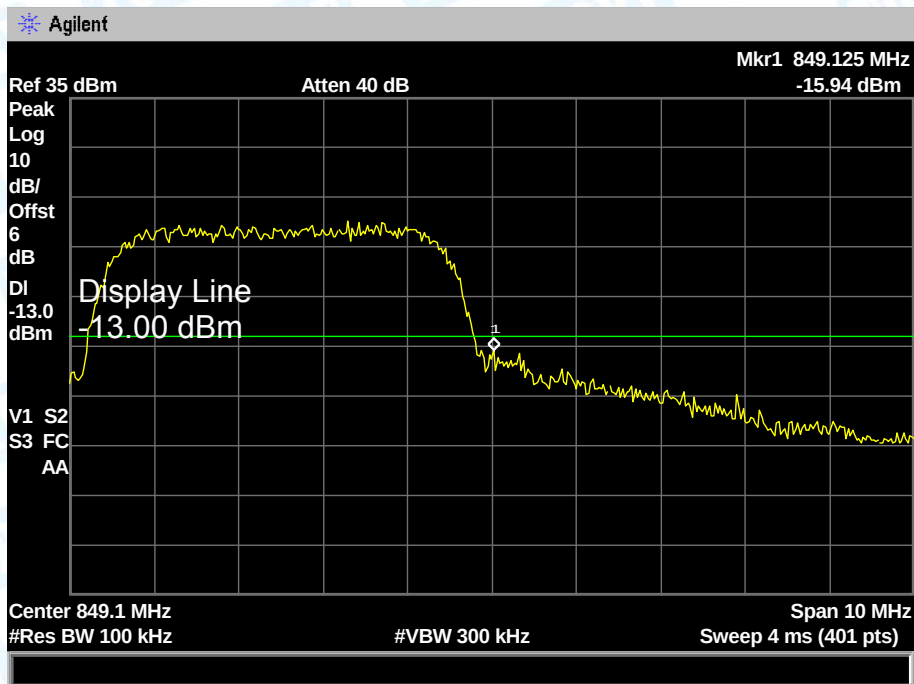
Highest channel

Test Mode:

UMTS Band V HSUPA



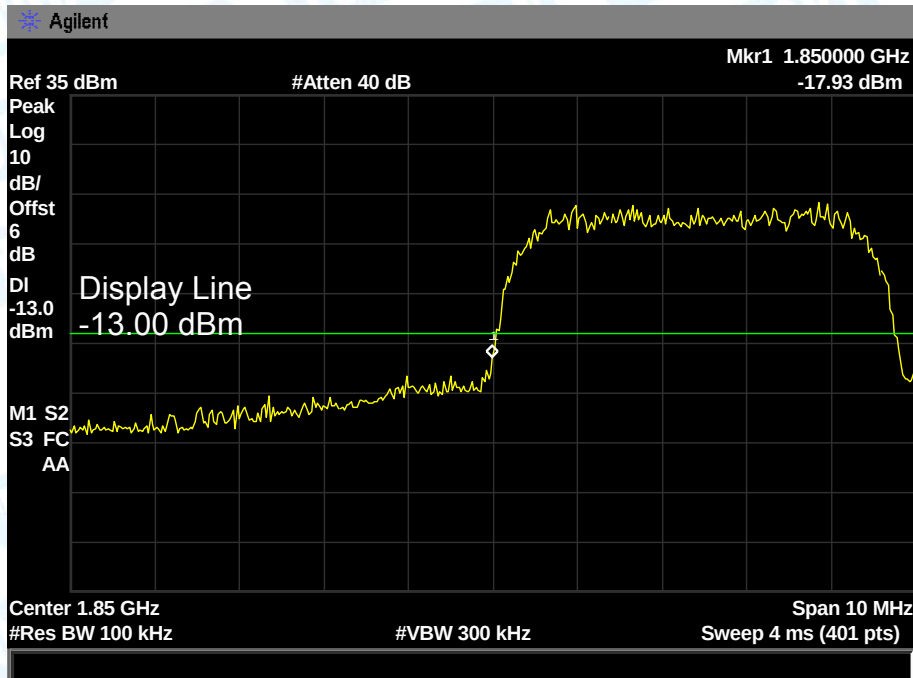
Lowest channel



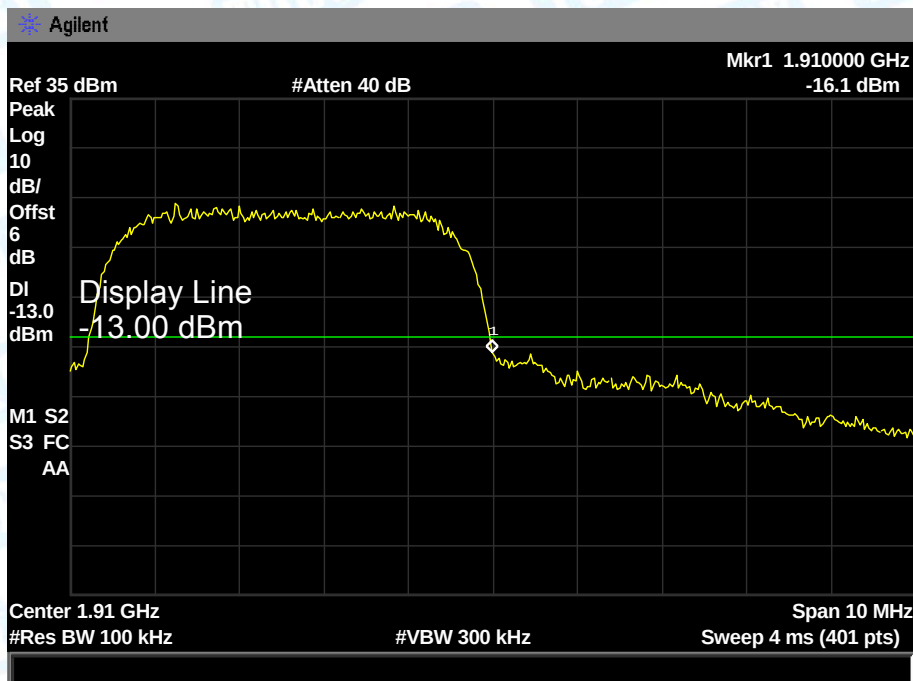
Highest channel

Test Mode:

UMTS Band II 12.2k RMC

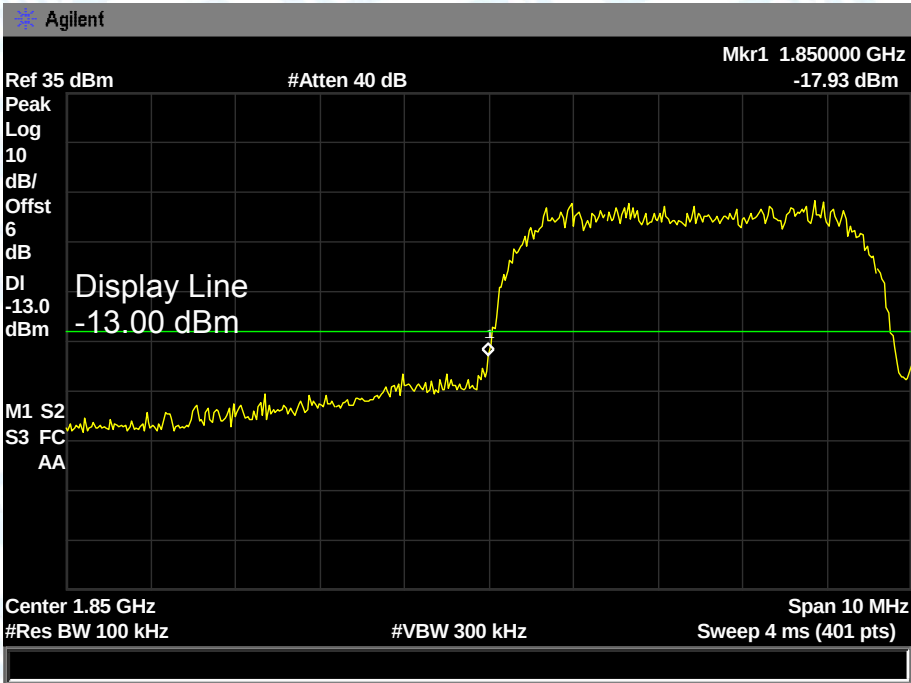


Lowest channel

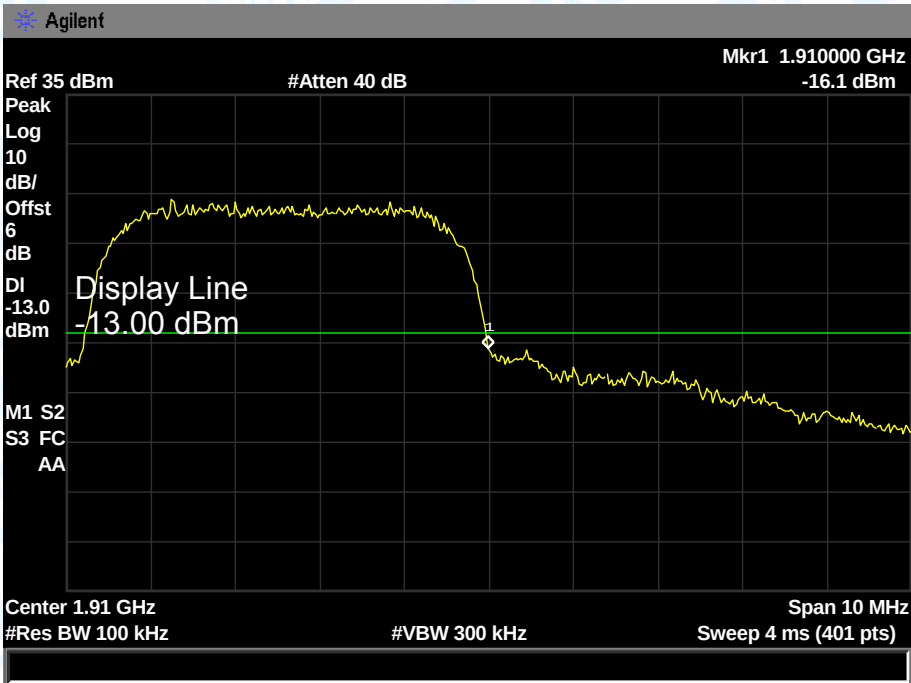


Highest channel

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

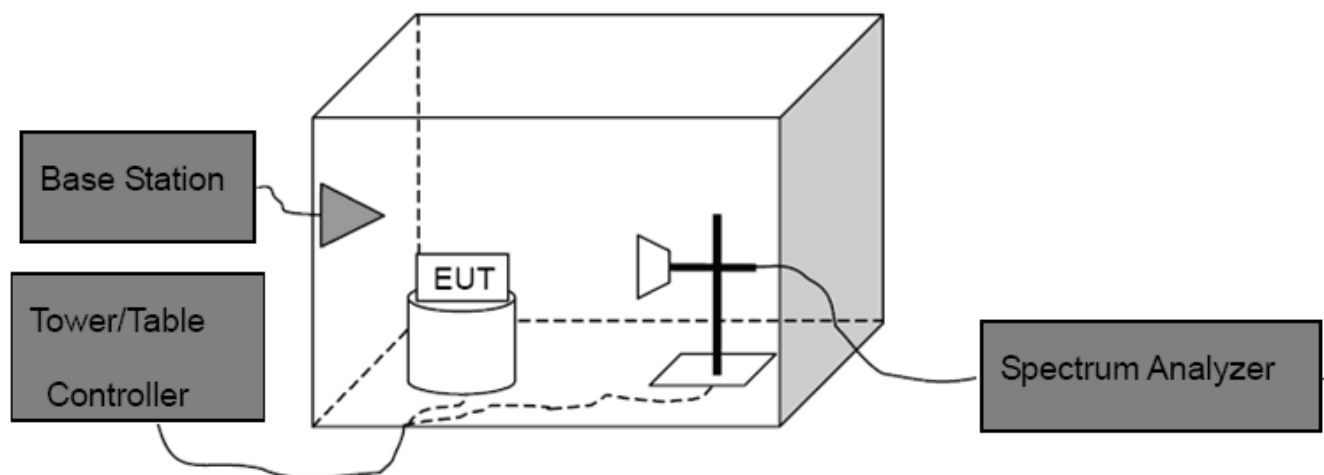
FCC Part 22H: 22.917

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	-24.05	-13.00	Pass
2472.60	V	-36.57		
3297.00	V	-37.41		
4121.00	V	---		
4945.20	V	---		
5769.40	V	---		
1648.40	Horizontal	-20.63	-13.00	Pass
2472.60	H	-31.54		
3297.00	H	-36.28		
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	-26.24	-13.00	Pass
2509.80	V	-34.56		
3346.40	V	-35.17		
4183.00	V	---		
5019.60	V	---		
5856.20	V	---		
1673.20	Horizontal	-21.62	-13.00	Pass
2509.80	H	-31.39		
3346.40	H	-34.18		
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	-22.04	-13.00	Pass
2546.40	V	-33.35		
3395.20	V	-36.44		
4244.00	V	---		
5092.80	V	---		
5941.60	V	---		
1697.60	Horizontal	-20.41	-13.00	Pass
2546.40	H	-35.06		
3395.20	H	-37.05		
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	-26.51	-13.00	Pass
5550.60	V	-21.33		
7400.80	V	-29.62		
9251.00	V	---		
11101.20	V	---		
12951.40	V	---		
3700.40	Horizontal	-22.71	-13.00	Pass
5550.60	H	-24.67		
7400.80	H	-28.62		
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	-25.08	-13.00	Pass
5640.00	V	-20.36		
7520.00	V	-29.41		
9400.00	V	---		
11280.00	V	---		
13160.00	V	---		
3760.00	Horizontal	-23.71	-13.00	Pass
5640.00	H	-18.22		
7520.00	H	-27.08		
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	-25.36	-13.00	Pass
5729.40	V	-23.01		
7639.20	V	-26.38		
9549.00	V	---		
11458.80	V	---		
13368.60	V	---		
3819.60	Horizontal	-21.57	-13.00	Pass
5729.40	H	-19.42		
7639.20	H	-22.06		
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	-32.05	-13.00	Pass
2479.20	V	-36.11		
3305.60	V	---		
4132.00	V	---		
4958.40	V	---		
5784.80	V	---		
1652.80	Horizontal	-30.14	-13.00	Pass
2479.20	H	-33.71		
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	-31.88	-13.00	Pass
2508.00	V	-35.47		
3344.00	V	---		
4180.00	V	---		
5016.00	V	---		
5852.00	V	---		
1672.00	Horizontal	-29.17	-13.00	Pass
2508.00	H	-33.06		
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	-32.06	-13.00	Pass
2539.80	V	-36.59		
3386.40	V	---		
4233.00	V	---		
5079.60	V	---		
5926.20	V	---		
1693.20	Horizontal	-30.12	-13.00	Pass
2539.80	H	-34.28		
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	-31.06	-13.00	Pass
2539.80	V	-20.05		
3386.40	V	---		
4233.00	V	---		
5079.60	V	---		
5926.20	V	---		
1693.20	Horizontal	-27.55	-13.00	Pass
2539.80	H	-16.17		
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	-32.30	-13.00	Pass
2539.80	V	-21.32		
3386.40	V	---		
4233.00	V	---		
5079.60	V	---		
5926.20	V	---		
1693.20	Horizontal	-27.89	-13.00	Pass
2539.80	H	-17.05		
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	-33.02	-13.00	Pass
2539.80	V	-22.36		
3386.40	V	---		
4233.00	V	---		
5079.60	V	---		
5926.20	V	---		
1693.20	Horizontal	-27.15	-13.00	Pass
2539.80	H	-18.10		
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-----