

TEST REPORT

Reference No...... : WTX22X04081956W001
FCC ID..... : YHLBLUJ6S
Applicant : BLU Products, Inc.
Address : 10814 NW 33rd St # 100 Doral, FL 33172,USA
Manufacturer : The same as Applicant
Address : The same as Applicant
Product Name : Smart Phone
Model No...... : J6S
Standards : FCC Part 22H, FCC Part 24E
Date of Receipt sample : 2022-04-27
Date of Test..... : 2022-04-27 to 2022-05-23
Date of Issue : 2022-05-23
Test Report Form No. : WTX_Part 22_ Part 24W
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

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Report version

Version No.	Date of issue	Description
Rev.00	2022-05-23	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT:	
Product Name:	Smart Phone
Trade Name:	BLU
Model No.:	J6S
Adding Model(s):	/
Rated Voltage:	DC3.8V
Battery:	3000mAh(C635849300L)
Adapter Model:	US-CR-1000 Input:AC100-240V, 50/60Hz, 0.2A Output:DC5.0V, 1000mA
<i>Note: The Antenna Gain is provided by the customer and can affect the validity of results. The test data is gathered from a production sample provided by the manufacturer.</i>	

Technical Characteristics of EUT:	
2G	
Support Networks:	GSM, GPRS, EDGE
Support Band:	GSM850/PCS1900
Uplink Frequency:	GSM/GPRS/EDGE 850: 824~849MHz GSM/GPRS/EDGE 1900: 1850~1910MHz
Downlink Frequency:	GSM/GPRS/EDGE 850: 869~894MHz GSM/GPRS/EDGE 1900: 1930~1990MHz
Max RF Output Power:	GSM850: 32.71dBm, GSM1900: 30.26dBm EDGE850: 26.53dBm, EDGE1900: 26.08dBm
Type of Emission:	GSM850: 249KGXW, GSM1900: 252KGXW EDGE850: 248KG7W, EDGE1900: 248KG7W
Type of Modulation:	GMSK, 8PSK
Type of Antenna:	Integral Antenna
Antenna Gain:	GSM850: -1.68dBi; GSM1900: -1.12dBi
GPRS/EDGE Class:	Class 12
3G	
Support Networks:	WCDMA, HSDPA, HSUPA
Support Band:	WCDMA Band 2, WCDMA Band 5
Uplink Frequency:	WCDMA Band 2: 1850~1910MHz WCDMA Band 5: 824~849MHz
Downlink Frequency:	WCDMA Band 2: 1930~1990MHz WCDMA Band 5: 869~894MHz
RF Output Power:	WCDMA Band 2: 23.86dBm, WCDMA Band 5: 24.36dBm
Type of Emission:	WCDMA Band 2: 4M17F9W WCDMA Band 5: 4M16F9W
Type of Modulation:	BPSK
Antenna Type:	Integral Antenna
Antenna Gain:	WCDMA Band 2: -1.86dBi, WCDMA Band 5: -1.67dBi

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 2: Frequency Allocations and Radio Treaty Matters; General Rules and Regulations.

FCC Rules Part 22: Private Land Mobile Radio Services.

FCC Rules Part 24: Public Mobile Services.

TIA/EIA 603 E March 2016: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services.

KDB 971168 D01 Power Measurement License Digital Systems v03r01: Measurement Guidance for Certification of Licensed Digital Transmitters.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with TIA/EIA 603 E/ KDB 971168/ ANSI C63.26. The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Test Facility

Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	GSM 850	Low, Middle, High Channels
TM2	GPRS 850	Low, Middle, High Channels
TM3	GSM 1900	Low, Middle, High Channels
TM4	GPRS 1900	Low, Middle, High Channels
TM5	WCDMA Band 5	Low, Middle, High Channels
TM6	HSDPA Band 5	Low, Middle, High Channels
TM7	HSUPA Band 5	Low, Middle, High Channels
TM8	WCDMA Band 2	Low, Middle, High Channels
TM9	HSDPA Band 2	Low, Middle, High Channels
TM10	HSUPA Band 2	Low, Middle, High Channels

Testing Configure			
Support Band	Support Standard	Channel Frequency(MHz)	Channel Number
GSM 850	GSM/GPRS/EDGE	824.2	128
		836.6	190
		848.8	251
PCS 1900	GSM/GPRS/EDGE	1850.2	512
		1880.0	661
		1909.8	810
WCDMA Band 5	WCDMA/HSDPA/HSUPA	826.4	4132
		836.6	4183
		846.6	4233
WCDMA Band 2	WCDMA/HSDPA/HSUPA	1852.4	9262
		1880.0	9400
		1907.6	9538

Note: the transmitter has been tested on the communications mode of GSM, GPRS, EDGE, WCDMA, HSDPA, HSUPA compliance test and record the worst case.

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	50~55 %.
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	1.0	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
Earphone Cable	1.0	Unshielded	Without Ferrite

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	ASUS	FA5061C	M8NRCX057996349

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	$\pm 0.42\text{dB}$
Occupied Bandwidth	Conducted	$\pm 1.5\%$
Frequency Stability	Conducted	2.3%
Transmitter Spurious Emissions	Conducted	$\pm 0.42\text{dB}$
Transmitter Spurious Emissions	Radiated	30-200MHz $\pm 4.52\text{dB}$
		0.2-1GHz $\pm 5.56\text{dB}$
		1-6GHz $\pm 3.84\text{dB}$
		6-18GHz $\pm 3.92\text{dB}$

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1075	Communication Tester	Rohde & Schwarz	CMW500	148650	2022-03-22	2023-03-21
SEMT-1063	GSM Tester	Rohde & Schwarz	CMU200	114403	2022-03-22	2023-03-21
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2022-03-25	2023-03-24
SEMT-1079	Spectrum Analyzer	Agilent	N9020A	US47140102	2022-03-22	2023-03-21
SEMT-1080	Signal Generator	Agilent	83752A	3610A01453	2022-03-22	2023-03-21
SEMT-1081	Vector Signal Generator	Agilent	N5182A	MY47070202	2022-03-22	2023-03-21
SEMT-1028	Power Divider	Weinschel	1506A	PM204	2022-03-22	2023-03-21
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	/	/
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	/	/
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	/	/
SEMT-C004	Cable	Zheng DI	2M0RFC	/	/	/
SEMT-C005	Cable	Zheng DI	1M0RFC	/	/	/
SEMT-C006	Cable	Zheng DI	1M0RFC	/	/	/
<input checked="" type="checkbox"/> Chamber A: Below 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2022-01-07	2023-01-06
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2023-03-19
SEMT-1068	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-20	2023-03-19
<input checked="" type="checkbox"/> Chamber A: Above 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2022-03-22	2023-03-21
SEMT-1042	Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2021-04-27	2023-04-26
SEMT-1216	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2022-03-25	2023-03-24
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2022-03-22	2023-03-21

<input type="checkbox"/> Chamber B: Below 1GHz						
SEMT-1068	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
SEMT-1067	Amplifier	Agilent	8447D	2944A10179	2022-03-22	2023-03-21
SEMT-1066	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2022-03-22	2023-03-21
<input type="checkbox"/> Chamber C: Below 1GHz						
SEMT-1319	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2022-01-07	2023-01-06
SEMT-1343	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2023-05-27
SEMT-1333	Amplifier	HP	8447F	2944A03869	2022-03-22	2023-03-21

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§22.913(a), §24.232(c)	RF Output Power	Compliant
§24.51	Peak-to-average Ratio (PAR) of Transmitter	Compliant
§22.917(b), §24.238(b)	Emission Bandwidth	Compliant
§22.917(a), §24.238(a)	Spurious Emissions at Antenna Terminal	Compliant
§22.917(a), §24.238(a)	Spurious Radiation Emissions	Compliant
§22.917(a), §24.238(a)	Out of Band Emissions	Compliant
§22.355, §24.235	Frequency Stability	Compliant
§2.1047	Modulation characteristics	Compliant

N/A: Not applicable.

3. RF Output Power

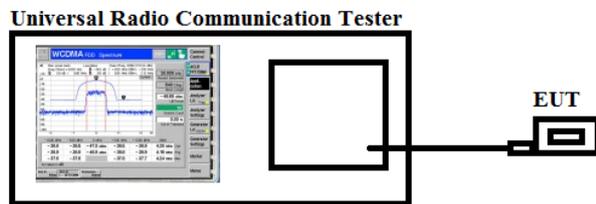
3.1 Standard Applicable

According to §22.913(a)(2), the ERP of mobile and portable stations transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to §24.232 (c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

3.2 Test Procedure

- Conducted output power test method:



- Radiated power test method:

1. The setup of EUT is according with per ANSI/TIA Standard 603E and ANSI C63.26 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. 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.

3.3 Summary of Test Results/Plots

➤ **Max. Radiated Power**

Mode	Channel	Antenna Polar	ERP (dBm)	Limit (dBm)	Result
GSM850	128	V	28.62	<38.45	Pass
		H	24.31		
	190	V	28.54		
		H	24.26		
	251	V	28.49		
		H	24.17		
GPRS850	128	V	28.57	<38.45	Pass
		H	24.33		
	190	V	28.60		
		H	24.36		
	251	V	28.51		
		H	24.27		
EGPRS850	128	V	24.13	<38.45	Pass
		H	20.25		
	190	V	24.05		
		H	19.47		
	251	V	24.31		
		H	19.45		

Mode	Channel	Antenna Polar	EIRP (dBm)	Limit (dBm)	Result
PCS1900	512	V	27.34	<33.00	Pass
		H	24.36		
	661	V	27.41		
		H	24.28		
	810	V	27.37		
		H	24.13		
GPRS1900	512	V	27.24	<33.00	Pass
		H	24.19		
	661	V	27.26		
		H	24.21		
	810	V	27.16		
		H	24.12		
EGPRS1900	512	V	22.51	<33.00	Pass
		H	16.57		
	661	V	22.46		
		H	16.78		
	810	V	22.21		
		H	16.57		

Mode	Channel	Antenna Polar	ERP	Limit (dBm)	Result
WCDMA Band V	4132	V	21.32	<38.45	Pass
		H	16.78		
	4183	V	21.11		
		H	16.65		
	4233	V	21.37		
		H	16.82		

Mode	Channel	Antenna Polar	EIRP	Limit (dBm)	Result
WCDMA Band II	9262	V	20.86	<33.00	Pass
		H	16.65		
	9400	V	20.74		
		H	16.43		
	9538	V	20.81		
		H	16.57		

Note: Pre-scan mode WCDMA/HSDPA/HSUPA find the worst case at WCDMA mode and recorded in the test report.

➤ **Max. Conducted Power (Average power)**

Please refer to Appendix A

4. Peak-to-average Ratio (PAR) of Transmitter

4.1 Standard Applicable

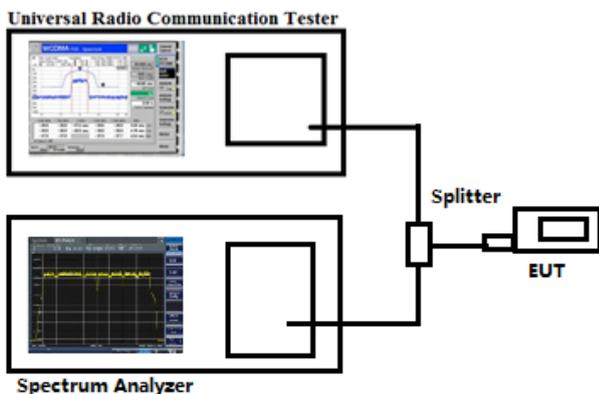
According to §24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51, in measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

4.2 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 the transmitter is operating at maximum power.

Test Configuration for the emission bandwidth testing:



4.3 Summary of Test Results

Please refer to Appendix B.

5. Emission Bandwidth

5.1 Standard Applicable

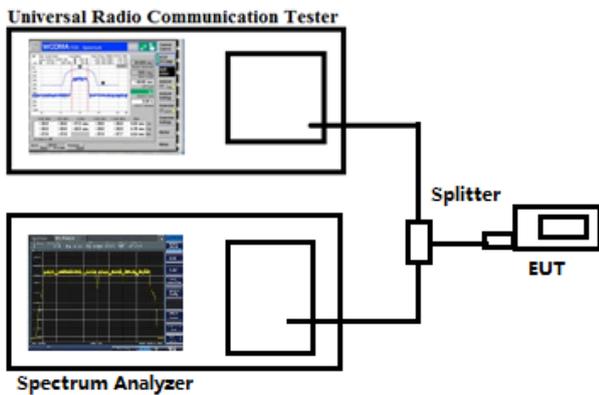
According to §22.917(b), the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.

According to §24.238(b), the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.

5.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 10kHz for GSM mode and 100kHz for WCDMA mode, VBW shall be at least 3 times the RBW, and the 26dB bandwidth was recorded.

Test Configuration for the emission bandwidth testing:



5.3 Summary of Test Results/Plots

Please refer to Appendix C

6. Out of Band Emissions at Antenna Terminal

6.1 Standard Applicable

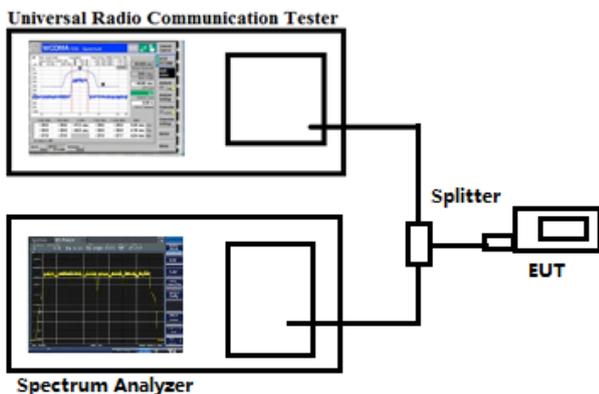
According to §22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to §24.238(a), the power of any emissions 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.

6.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 100kHz and 1MHz for the scan frequency from 30MHz to 1GHz and the scan frequency from 1GHz to up to 10th harmonic.

Test Configuration for the out of band emissions testing:



6.3 Summary of Test Results/Plots

Note: Pre-scan mode WCDMA/HSDPA/HSUPA find the worst case at WCDMA mode and recorded in the test report.

Please refer to Appendix D

7. Spurious Radiated Emissions

7.1 Standard Applicable

According to §22.917(a), the power of any emissions 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.

According to §24.238(a), the power of any emissions 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.

7.2 Test Procedure

1. The setup of EUT is according with per ANSI/TIA Standard 603E and ANSI C63.26 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. 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.

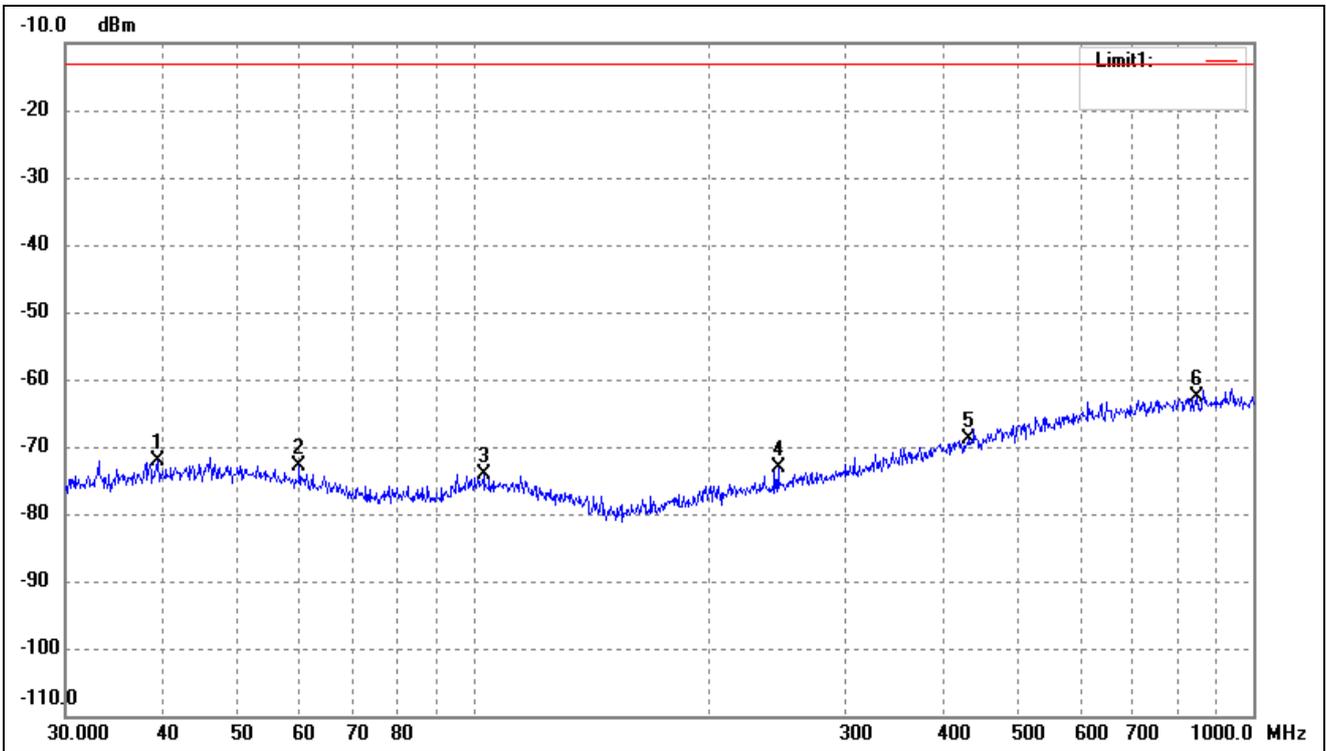
Spurious attenuation limit in dB = $43 + 10 \log_{10}$ (power out in Watts)

7.3 Summary of Test Results/Plots

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

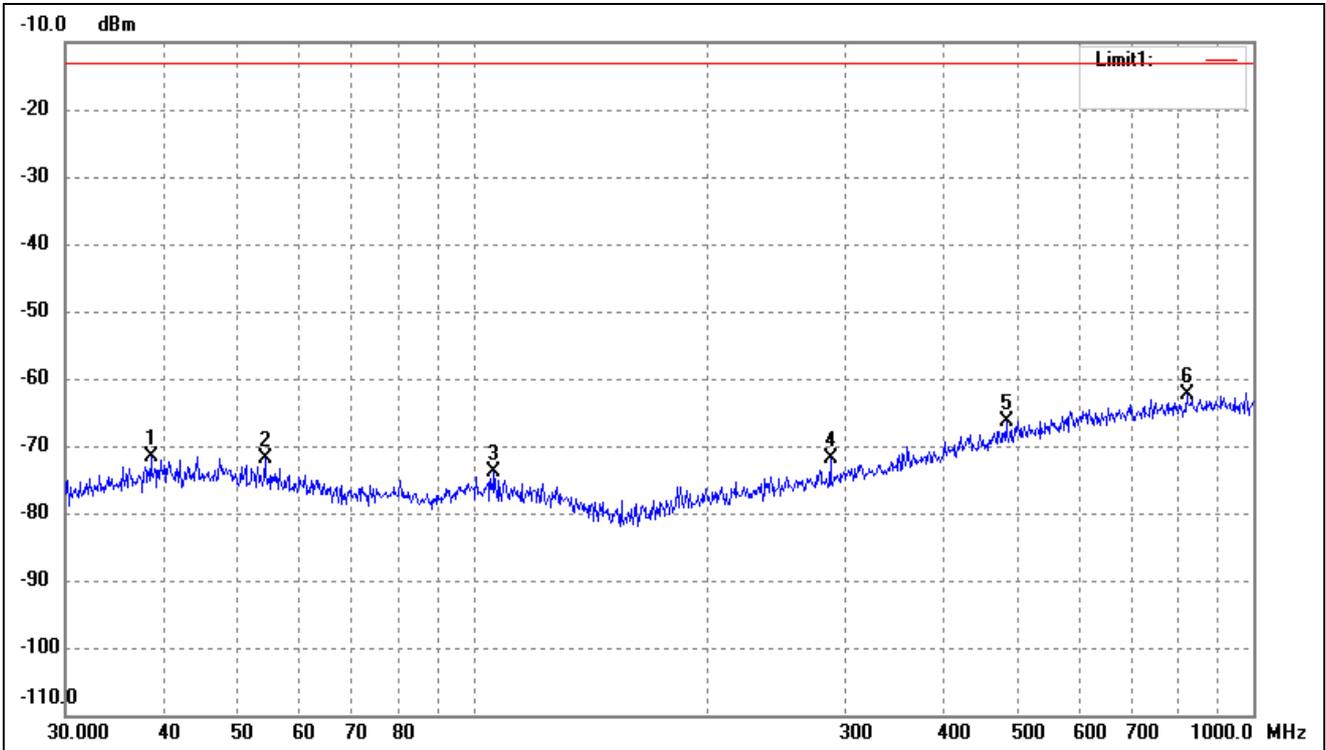
➤ Spurious Emissions Below 1GHz

For Cellular Band			
Test Channel	GSM850	Polarity:	Horizontal



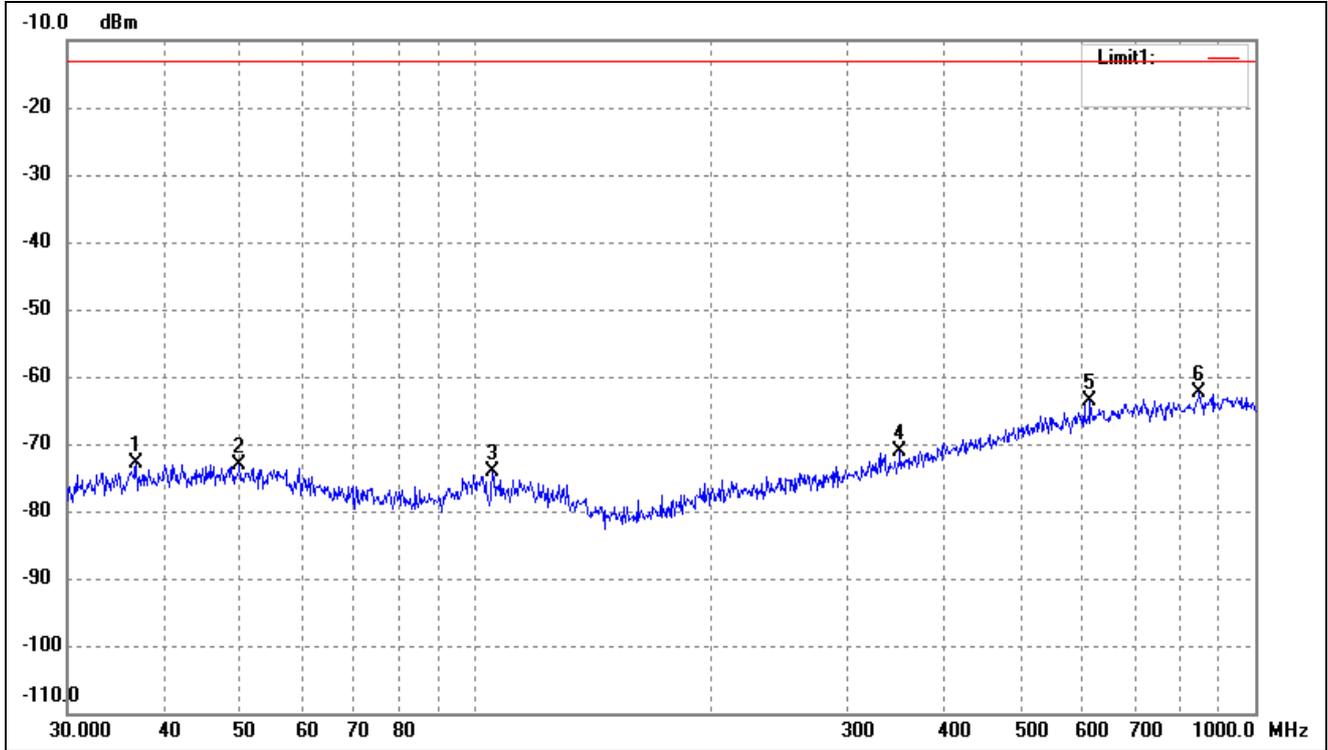
No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.4372	-76.88	4.66	-72.22	-13.00	-59.22	-	-	peak
2	59.8588	-76.38	3.40	-72.98	-13.00	-59.98	-	-	peak
3	103.0800	-77.24	3.03	-74.21	-13.00	-61.21	-	-	peak
4	245.9509	-76.56	3.37	-73.19	-13.00	-60.19	-	-	peak
5	431.0316	-77.64	8.74	-68.90	-13.00	-55.90	-	-	peak
6	848.0563	-76.82	14.16	-62.66	-13.00	-49.66	-	-	peak

For Cellular Band			
Test Channel	GSM850	Polarity:	Vertical



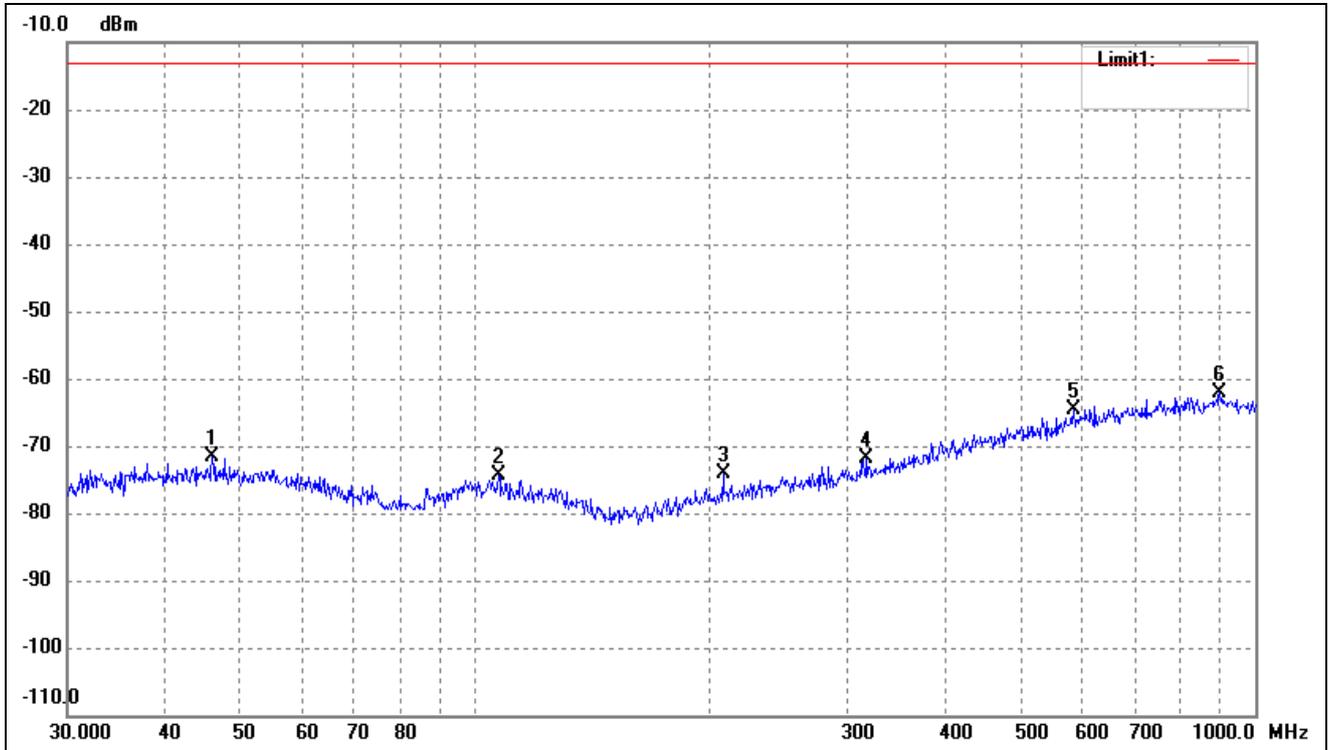
No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Degree ()	Height (cm)	Remark
1	38.6161	-76.04	4.46	-71.58	-13.00	-58.58	-	-	peak
2	54.0711	-76.19	4.24	-71.95	-13.00	-58.95	-	-	peak
3	106.3850	-76.83	2.98	-73.85	-13.00	-60.85	-	-	peak
4	286.9823	-76.30	4.49	-71.81	-13.00	-58.81	-	-	peak
5	482.2156	-76.37	10.05	-66.32	-13.00	-53.32	-	-	peak
6	821.7104	-76.40	14.02	-62.38	-13.00	-49.38	-	-	peak

For Cellular Band			
Test Channel	GSM1900	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Degree ()	Height (cm)	Remark
1	36.7662	-76.97	4.01	-72.96	-13.00	-59.96	-	-	peak
2	49.8814	-77.85	4.84	-73.01	-13.00	-60.01	-	-	peak
3	105.2718	-77.20	3.00	-74.20	-13.00	-61.20	-	-	peak
4	350.4768	-77.50	6.41	-71.09	-13.00	-58.09	-	-	peak
5	614.2142	-76.06	12.33	-63.73	-13.00	-50.73	-	-	peak
6	848.0563	-76.42	14.16	-62.26	-13.00	-49.26	-	-	peak

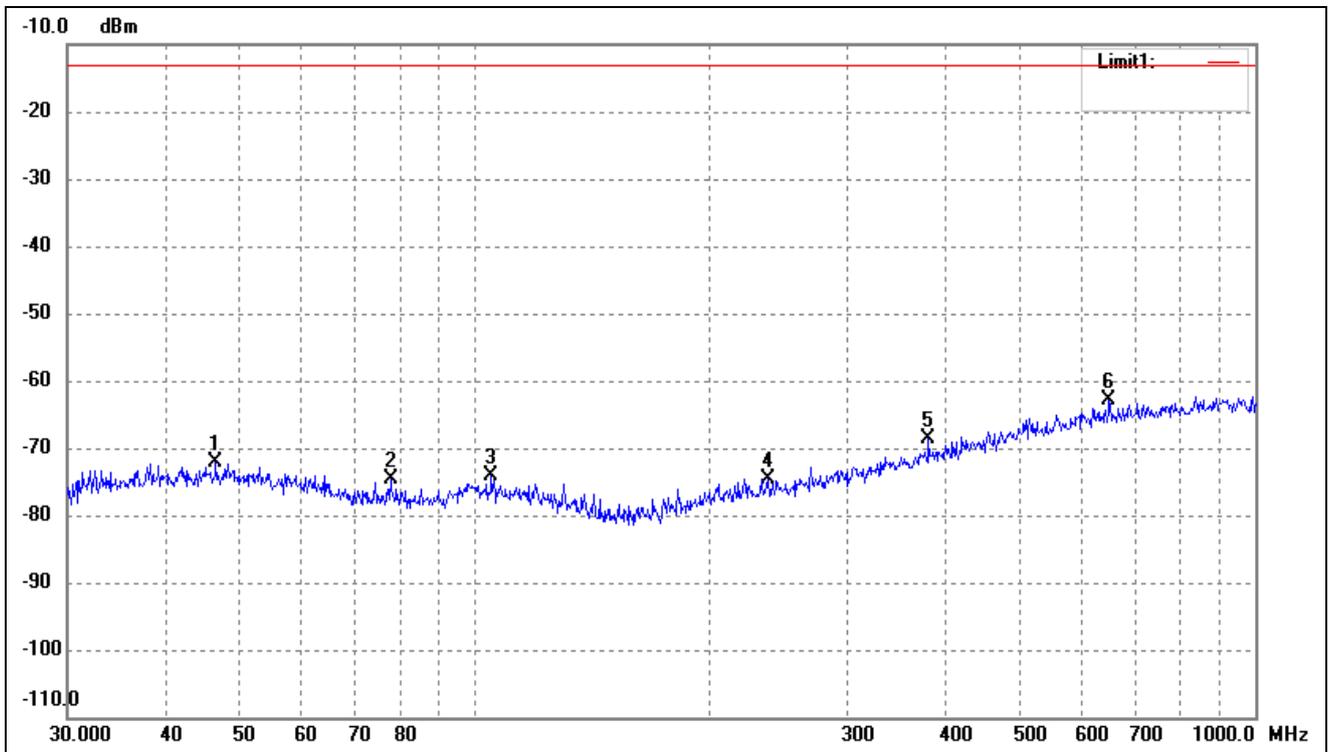
For Cellular Band			
Test Channel	GSM1900	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.0164	-76.41	4.82	-71.59	-13.00	-58.59	-	-	peak
2	107.1337	-77.44	2.97	-74.47	-13.00	-61.47	-	-	peak
3	207.8501	-76.33	2.32	-74.01	-13.00	-61.01	-	-	peak
4	317.7011	-77.37	5.39	-71.98	-13.00	-58.98	-	-	peak
5	584.7895	-76.65	11.91	-64.74	-13.00	-51.74	-	-	peak
6	900.1474	-76.57	14.55	-62.02	-13.00	-49.02	-	-	peak

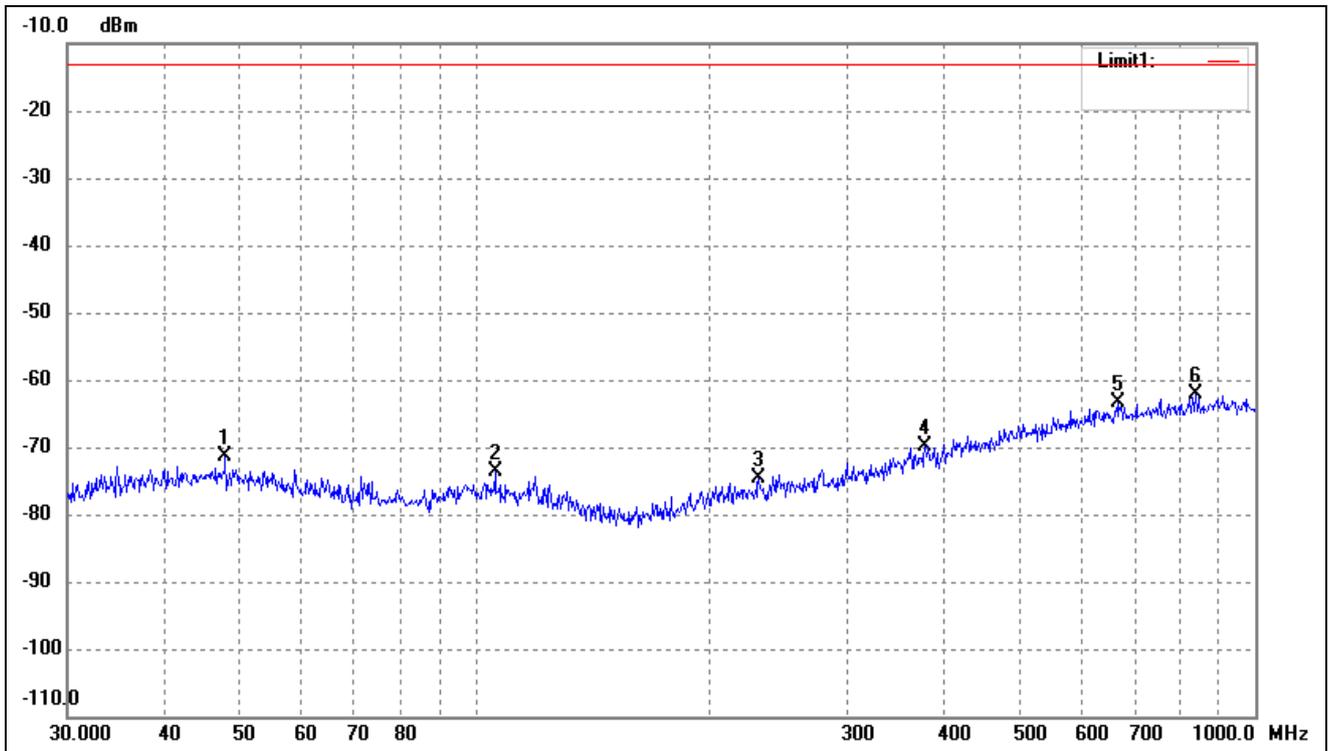
Note: Margin= (Reading+ Correct)- Limit

Test Channel	band 5	Polarity:	Horizontal
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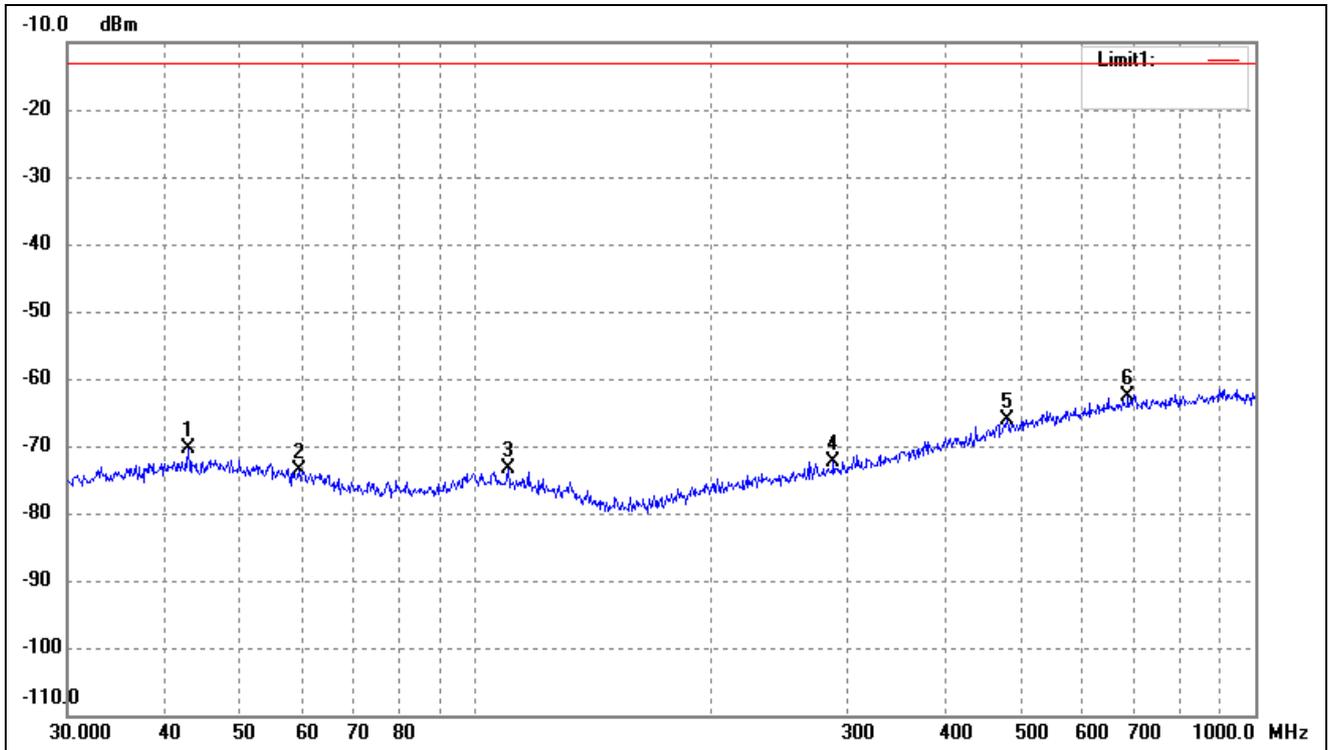
No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.5030	-76.85	4.82	-72.03	-13.00	-59.03	-	-	peak
2	77.8654	-75.90	1.19	-74.71	-13.00	-61.71	-	-	peak
3	104.9033	-77.09	3.00	-74.09	-13.00	-61.09	-	-	peak
4	237.4760	-77.72	3.14	-74.58	-13.00	-61.58	-	-	peak
5	381.2487	-75.95	7.34	-68.61	-13.00	-55.61	-	-	peak
6	649.6597	-75.55	12.72	-62.83	-13.00	-49.83	-	-	peak

Test Channel	band 5	Polarity:	Vertical
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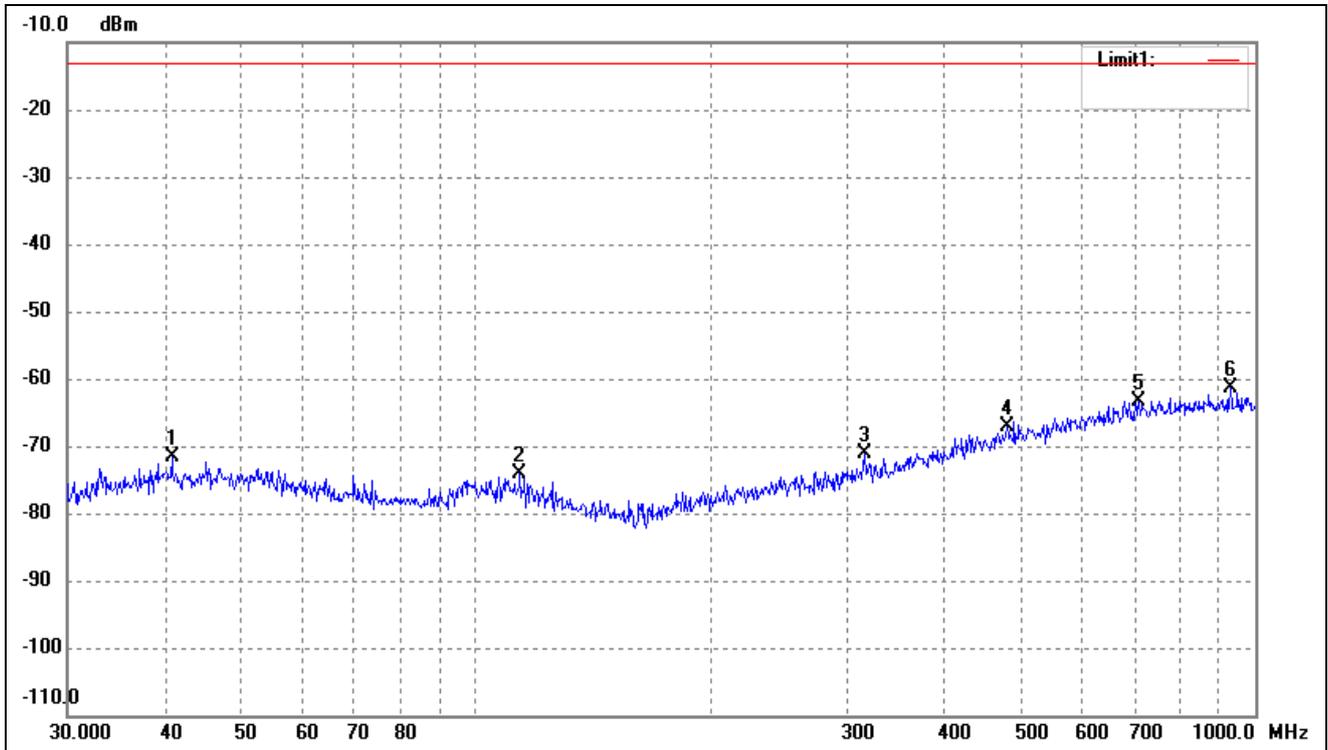
No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Degree ()	Height (cm)	Remark
1	47.8260	-76.31	4.84	-71.47	-13.00	-58.47	-	-	peak
2	106.0126	-76.72	2.98	-73.74	-13.00	-60.74	-	-	peak
3	230.9068	-77.55	2.95	-74.60	-13.00	-61.60	-	-	peak
4	377.2591	-77.02	7.22	-69.80	-13.00	-56.80	-	-	peak
5	668.1423	-76.31	12.91	-63.40	-13.00	-50.40	-	-	peak
6	839.1818	-76.27	14.12	-62.15	-13.00	-49.15	-	-	peak

Test Channel	band 2	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.8998	-75.07	4.81	-70.26	-13.00	-57.26	-	-	peak
2	59.4405	-77.16	3.45	-73.71	-13.00	-60.71	-	-	peak
3	110.1816	-76.32	2.92	-73.40	-13.00	-60.40	-	-	peak
4	287.9904	-76.82	4.52	-72.30	-13.00	-59.30	-	-	peak
5	480.5276	-76.01	10.01	-66.00	-13.00	-53.00	-	-	peak
6	687.1507	-75.73	13.10	-62.63	-13.00	-49.63	-	-	peak

Test Channel	band 2	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Degree ()	Height (cm)	Remark
1	40.8446	-76.50	4.80	-71.70	-13.00	-58.70	-	-	peak
2	114.1138	-76.69	2.63	-74.06	-13.00	-61.06	-	-	peak
3	315.4808	-76.53	5.32	-71.21	-13.00	-58.21	-	-	peak
4	480.5276	-77.06	10.01	-67.05	-13.00	-54.05	-	-	peak
5	709.1823	-76.62	13.28	-63.34	-13.00	-50.34	-	-	peak
6	929.0082	-75.85	14.46	-61.39	-13.00	-48.39	-	-	peak

Note: $Margin = (Reading + Correct) - Limit$

Remark: '-' Means the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

- Spurious Emissions Above 1GHz
- For Cellular Band_GSM850 Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (824.2MHz)						
1648.4	-34.23	4.94	-29.29	-13	-16.29	H
2472.6	-43.13	8.46	-34.67	-13	-21.67	H
1648.4	-36.7	4.94	-31.76	-13	-18.76	V
2472.6	-44.08	8.46	-35.62	-13	-22.62	V
Middle Channel (836.6MHz)						
1673.2	-34.58	5.11	-29.47	-13	-16.47	H
2509.8	-41.72	8.54	-33.18	-13	-20.18	H
1673.2	-37.45	5.11	-32.34	-13	-19.34	V
2509.8	-41.03	8.54	-32.49	-13	-19.49	V
High Channel (848.8MHz)						
1697.6	-37.58	5.25	-32.33	-13	-19.33	H
2546.4	-43.91	8.57	-35.34	-13	-22.34	H
1697.6	-36.93	5.25	-31.68	-13	-18.68	V
2546.4	-42.63	8.57	-34.06	-13	-21.06	V

- For PCS Band_GSM1900 Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (1850.2MHz)						
3700.4	-41.86	10.54	-31.32	-13	-18.32	H
5550.6	-48.88	13.37	-35.51	-13	-22.51	H
3700.4	-43	10.54	-32.46	-13	-19.46	V
5550.6	-47.1	13.37	-33.73	-13	-20.73	V
Middle Channel (1880MHz)						
3760.0	-42.25	10.64	-31.61	-13	-18.61	H
5640.0	-48.79	13.54	-35.25	-13	-22.25	H
3760.0	-39.94	10.64	-29.3	-13	-16.3	V
5640.0	-48.15	13.54	-34.61	-13	-21.61	V
High Channel (1909.8MHz)						
3819.6	-40.9	10.74	-30.16	-13	-17.16	H
5729.4	-48.51	13.71	-34.8	-13	-21.8	H
3819.6	-41.33	10.74	-30.59	-13	-17.59	V
5729.4	-48.11	13.71	-34.4	-13	-21.4	V

➤ For WCDMA Band V Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (826.4MHz)						
1652.8	-35.87	4.94	-30.93	-13	-17.93	H
2479.2	-42.11	8.46	-33.65	-13	-20.65	H
1652.8	-35.8	4.94	-30.86	-13	-17.86	V
2479.2	-42.83	8.46	-34.37	-13	-21.37	V
Middle Channel (836.6MHz)						
1672.8	-34.14	5.11	-29.03	-13	-16.03	H
2509.2	-39.12	8.54	-30.58	-13	-17.58	H
1672.8	-33.33	5.11	-28.22	-13	-15.22	V
2509.2	-41.66	8.54	-33.12	-13	-20.12	V
High Channel (846.6MHz)						
1693.2	-34.23	5.25	-28.98	-13	-15.98	H
2539.8	-41.5	8.57	-32.93	-13	-19.93	H
1693.2	-33.96	5.25	-28.71	-13	-15.71	V
2539.8	-41.5	8.57	-32.93	-13	-19.93	V

➤ For WCDMA Band II Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (1852.4MHz)						
3704.8	-35.45	10.54	-24.91	-13	-11.91	H
5557.2	-42.77	13.37	-29.4	-13	-16.4	H
3704.8	-37.42	10.54	-26.88	-13	-13.88	V
5557.2	-44.57	13.37	-31.2	-13	-18.2	V
Middle Channel (1880MHz)						
3760.8	-37.76	10.64	-27.12	-13	-14.12	H
5640.0	-44.82	13.54	-31.28	-13	-18.28	H
3760.8	-37.8	10.64	-27.16	-13	-14.16	V
5640.0	-44.84	13.54	-31.3	-13	-18.3	V
High Channel (1907.6MHz)						
3815.2	-34.69	10.74	-23.95	-13	-10.95	H
5722.8	-41.96	13.71	-28.25	-13	-15.25	H
3815.2	-35.61	10.74	-24.87	-13	-11.87	V
5722.8	-44.26	13.71	-30.55	-13	-17.55	H

Note: Result=Reading+ Correct, Margin= Result- Limit

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

8. Frequency Stability

8.1 Standard Applicable

According to §22.355, §24.235 the limit is 2.5ppm.

8.2 Test Procedure

According to §2.1055, the following test procedure was performed.

The Frequency Stability is measured directly with a Frequency Domain Analyzer. Frequency Deviation in ppm is calculated from the measured peak to peak value.

The Carrier Frequency Stability over Power Supply Voltage and over Temperature is measured with a Frequency Domain Analyzer in histogram mode.

8.3 Summary of Test Results/Plots

Please refer to Appendix E

9. Modulation characteristics

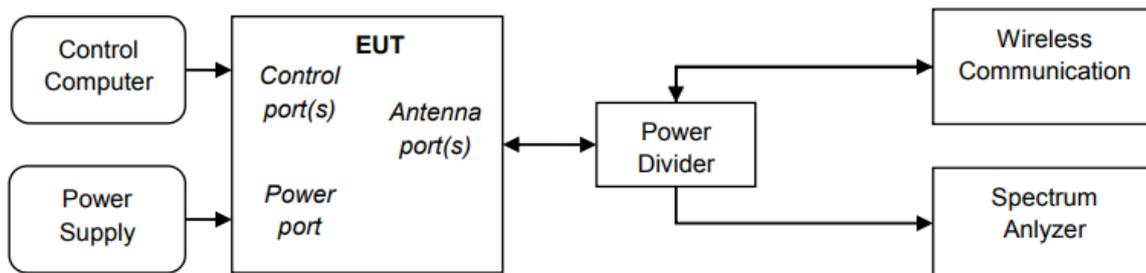
9.1 Standard Applicable

According to §2.1047, measurements required: Modulation characteristics is given below:

- (a) Voice modulated communication equipment. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000Hz shall be submitted. For equipment required to have an audio low-pass filter, a curve showing the frequency response of the filter, or of all circuitry installed between the modulation limiter and the modulated stage shall be submitted.
- (b) Equipment which employs modulation limiting. A curve or family of curves showing the percentage of modulation versus the modulation input voltage shall be supplied. The information submitted shall be sufficient to show modulation limiting capability throughout the range of modulating frequencies and input modulating signal levels employed.
- (c) Single sideband and independent sideband radiotelephone transmitters which employ a device or circuit to limit peak envelope power. A curve showing the peak envelope power output versus the modulation input voltage shall be supplied. The modulating signals shall be the same in frequency as specified in paragraph (c) of §2.1049 for the occupied bandwidth tests.
- (d) Other types of equipment. A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.

9.2 Test Procedure

According to ANSI C63.26-2015 section 5.3.2, the following test setup was performed.



9.3 Summary of Test Results/Plots

Only the worst case was selected to record.

Please refer to Appendix F

APPENDIX SUMMARY

Project No.	WTX22X04081956W	Test Engineer	Dashan
Start date	2022/05/07	Finish date	2022/05/10
Temperature	24.6°C	Humidity	47%
RF specifications	GSM/WCDMA		

APPENDIX	Description of Test Item	Result
A	RF Output Power	Compliant
B	Peak-to-average Ratio (PAR) of Transmitter	Compliant
C	Emission Bandwidth	Compliant
D	Out of Band Emissions at Antenna Terminal	Compliant
E	Frequency Stability	Compliant
F	Modulation characteristics	Compliant

APPENDIX A**Conducted Average power**

Conducted Average power (dBm)						
Band	GSM850			PCS1900		
Channel	128	190	251	512	661	810
Frequency(MHz)	824.20	836.60	848.80	1850.20	1880.00	1909.80
GSM	32.71	32.61	32.59	30.21	30.23	30.25
GPRS(1Slot)	32.63	32.65	32.64	30.26	30.26	30.25
EGPRS(1Slot)	26.34	26.53	26.21	25.81	26.08	25.96

Conducted Average power (dBm)						
Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4183	4233	9262	9400	9538
Frequency(MHz)	826.4	836.6	846.6	1852.4	1880.0	1907.6
RMC 12.2k	24.34	24.00	24.36	23.86	23.73	23.79
HSDPA Subtest-1	23.18	22.94	23.26	22.60	22.84	22.71
HSDPA Subtest-2	23.15	22.90	23.23	22.56	22.8	22.66
HSDPA Subtest-3	23.17	22.93	23.25	22.58	22.82	22.69
HSDPA Subtest-4	23.16	22.91	23.24	22.55	22.79	22.68
HSUPA Subtest-1	23.15	22.98	23.25	22.61	22.84	22.77
HSUPA Subtest-2	23.11	22.95	23.20	22.57	22.78	22.74
HSUPA Subtest-3	23.13	22.97	23.24	22.60	22.80	22.76
HSUPA Subtest-4	23.12	22.94	23.22	22.56	22.79	22.75
HSUPA Subtest-5	23.11	22.96	23.23	22.58	22.82	22.74

APPENDIX B**Peak-to-average Ratio (PAR) of Transmitter**

PCS1900				
Test Mode	Channel	Frequency (MHz)	PAR (dB)	Limit (dB)
GSM	661	1850.2	4.95	13
GPRS(1 Slot)	661	1850.2	4.02	13
EDGE(1 Slot)	661	1850.2	4.35	13

WCDMA Band II				
Test Mode	Channel	Frequency (MHz)	PAR (dB)	Limit (dB)
WCDMA	9262	1852.4	5.13	13
	9400	1880.0	5.64	13
	9538	1907.6	5.12	13

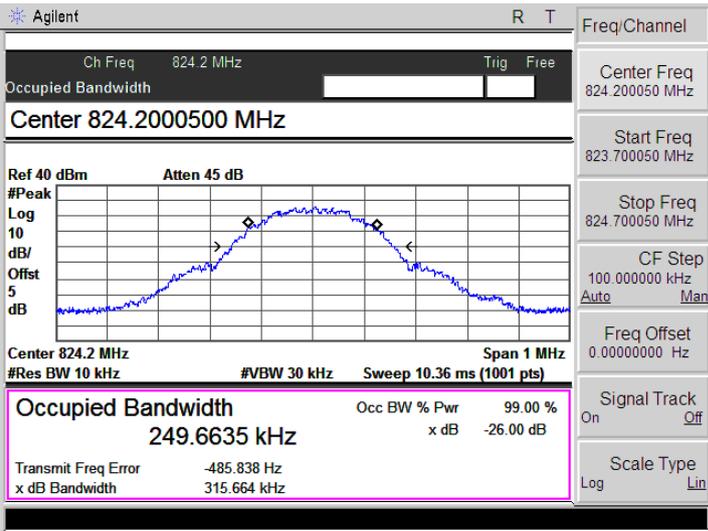
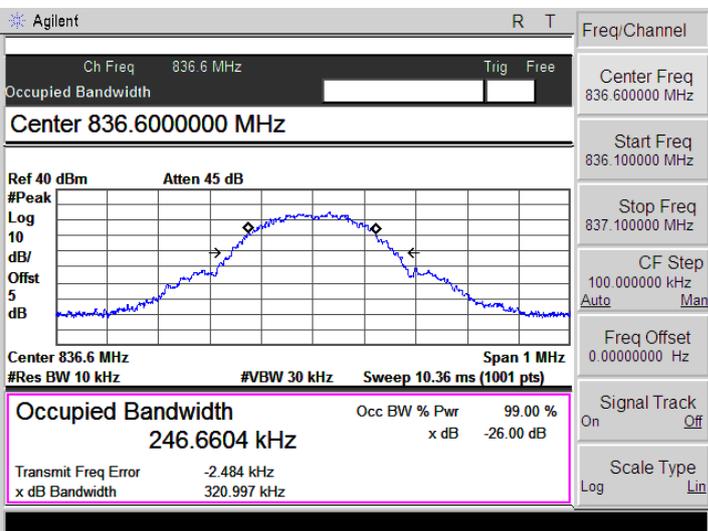
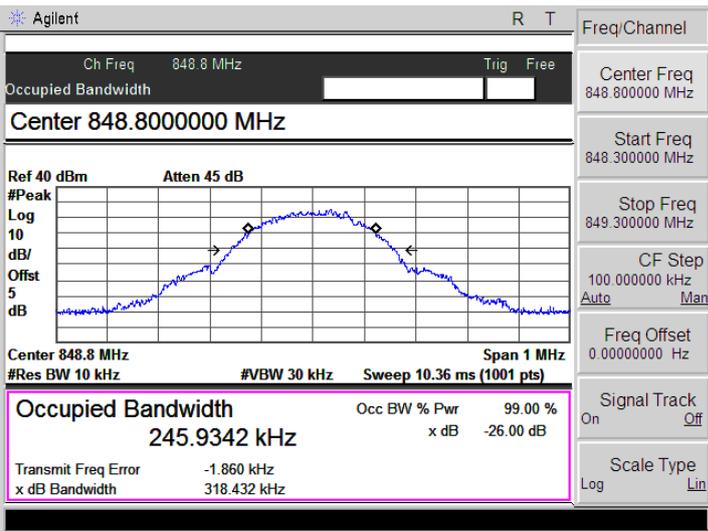
Note: Only the worst case was selected to record.

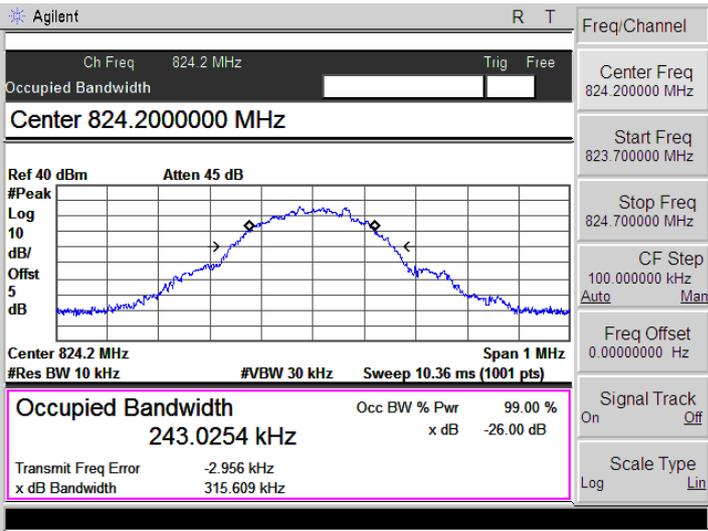
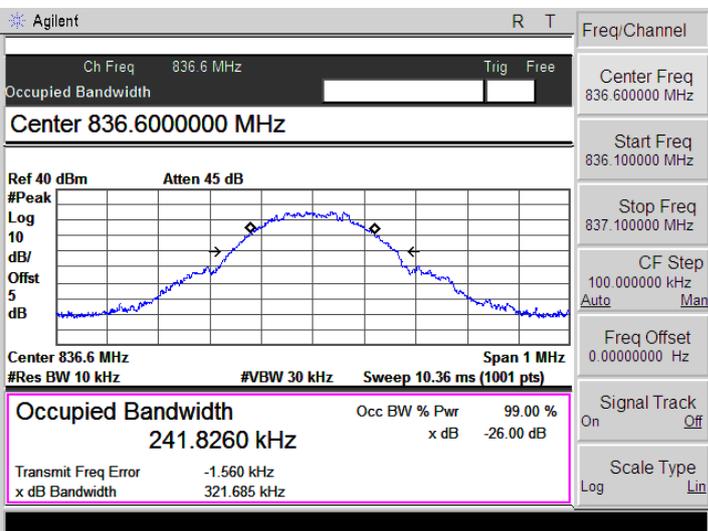
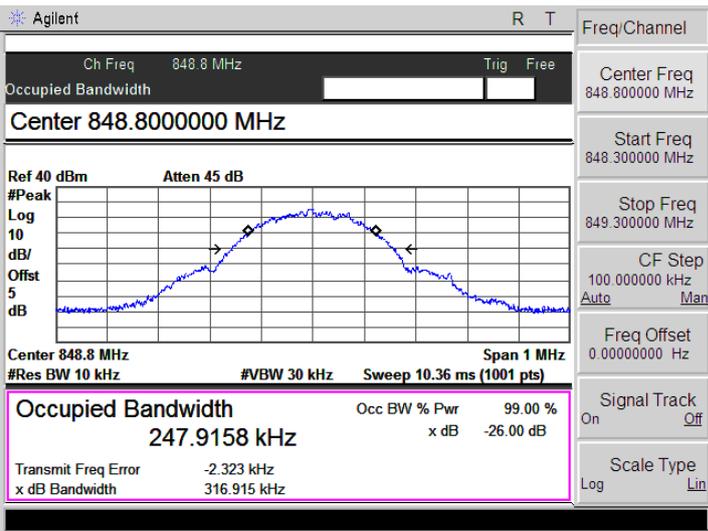
APPENDIX C

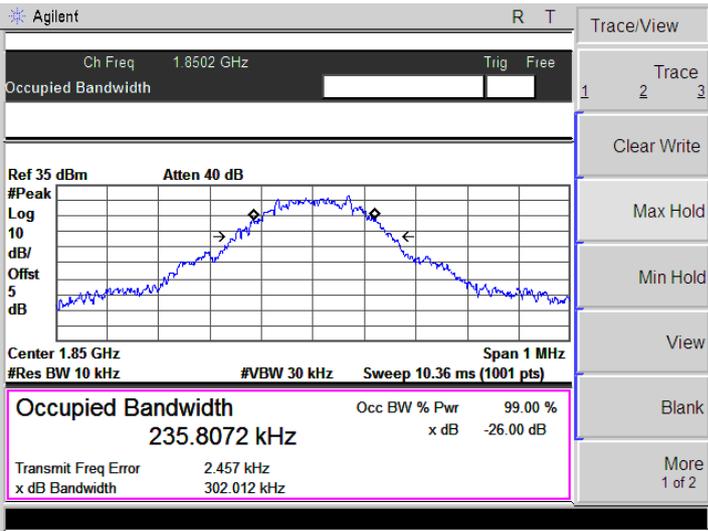
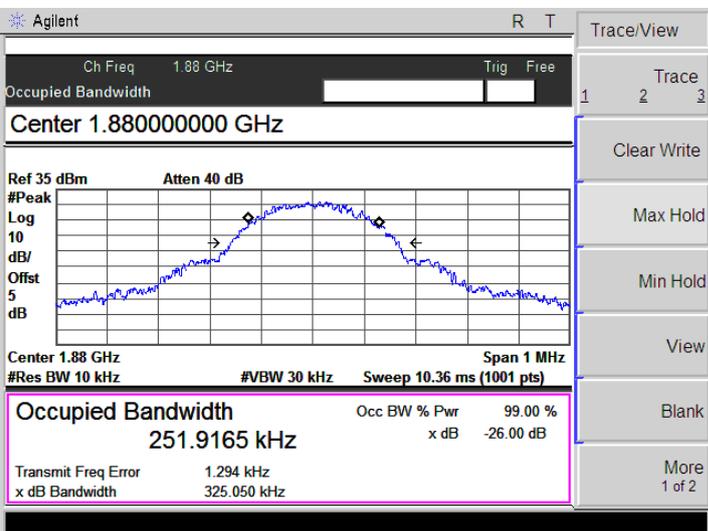
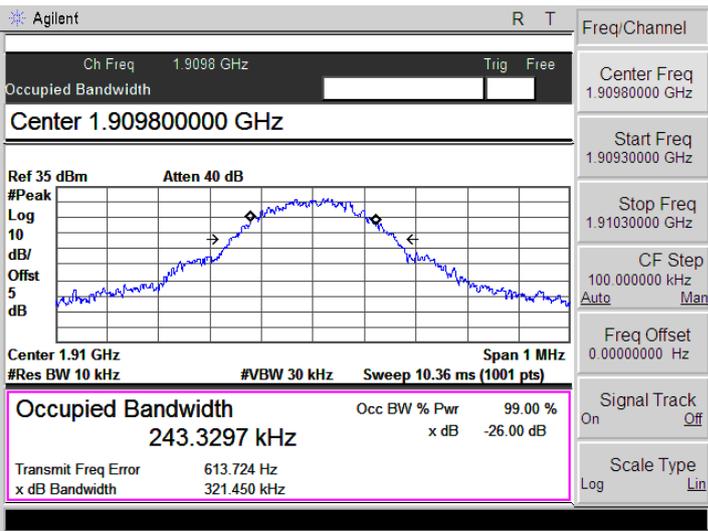
EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (kHz)	-26dB bandwidth (kHz)
GSM 850 (GMSK)	128	824.20	245.9022	316.394
	190	836.60	246.6498	316.007
	251	848.80	244.2698	313.339
GPRS850 (GMSK,1Slot)	128	824.20	249.6635	315.664
	190	836.60	246.6604	320.997
	251	848.80	245.9342	318.432
EGPRS850 (8PSK,1Slot)	128	824.20	243.0254	315.609
	190	836.60	241.8260	321.685
	251	848.80	247.9158	316.915
PCS1900 (GMSK)	512	1850.20	235.8072	302.012
	661	1880.00	251.9165	325.050
	810	1909.80	243.3297	321.450
GPRS1900 (GMSK,1Slot)	512	1850.20	245.8147	285.942
	661	1880.00	250.6393	321.179
	810	1909.80	239.8251	296.126
EGPRS1900 (8PSK,1Slot)	512	1850.20	244.9918	308.574
	661	1880.00	248.5326	308.769
	810	1909.80	240.7113	303.821

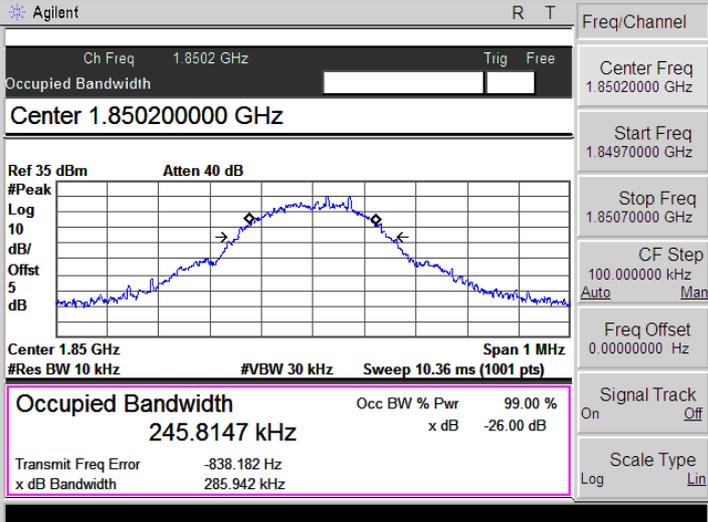
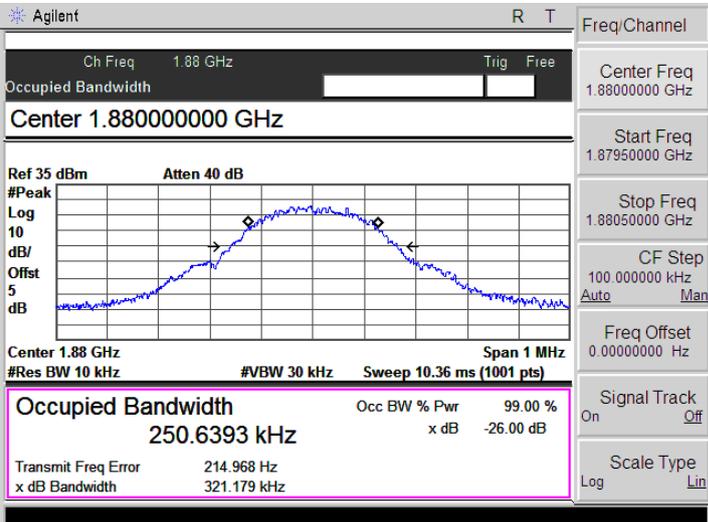
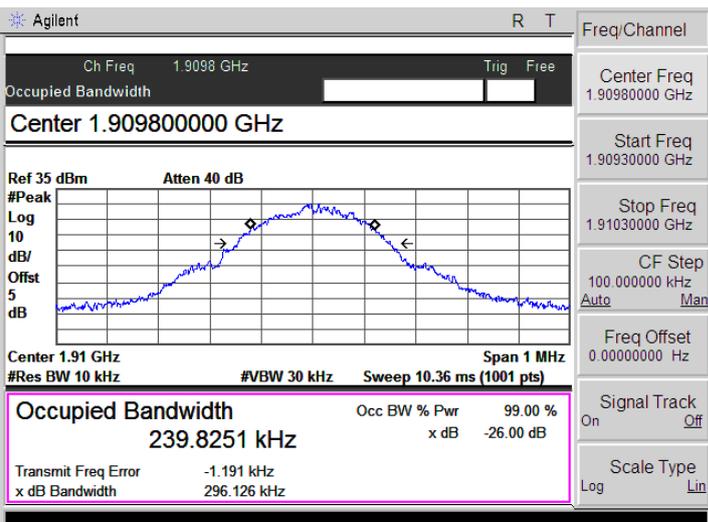
EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (kHz)	-26dB bandwidth (kHz)
WCDMA Band V	4132	826.40	4147.1	4700
	4183	836.60	4133.8	4663
	4233	846.60	4146.6	4664
HSDPA	4132	826.40	4153.9	4676
	4183	836.60	4142.7	4664
	4233	846.60	4149.6	4677
HSUPA	4132	826.40	4144.3	4693
	4183	836.60	4164.4	4694
	4233	846.60	4143.3	4661
WCDMA Band II	9262	1852.40	4149.3	4691
	9400	1880.00	4174.9	4695
	9538	1907.60	4156.9	4661
HSDPA	9262	1852.40	4139.9	4679
	9400	1880.00	4149.8	4698
	9538	1907.60	4162.8	4690
HSUPA	9262	1852.40	4151.8	4683
	9400	1880.00	4159.1	4684
	9538	1907.60	4155.6	4685

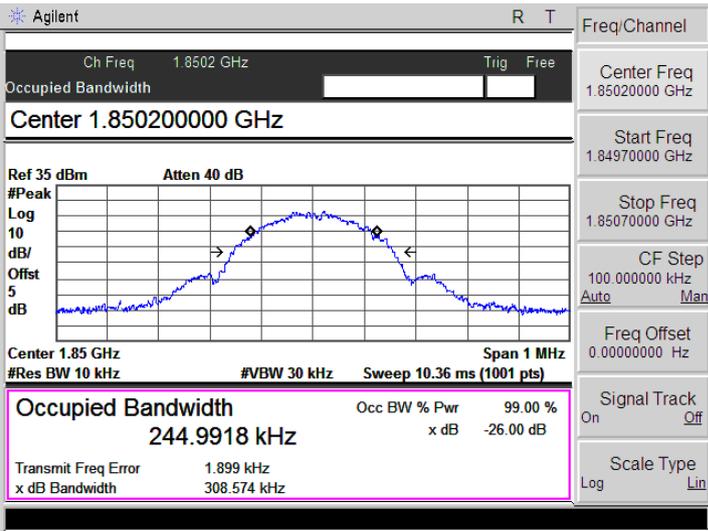
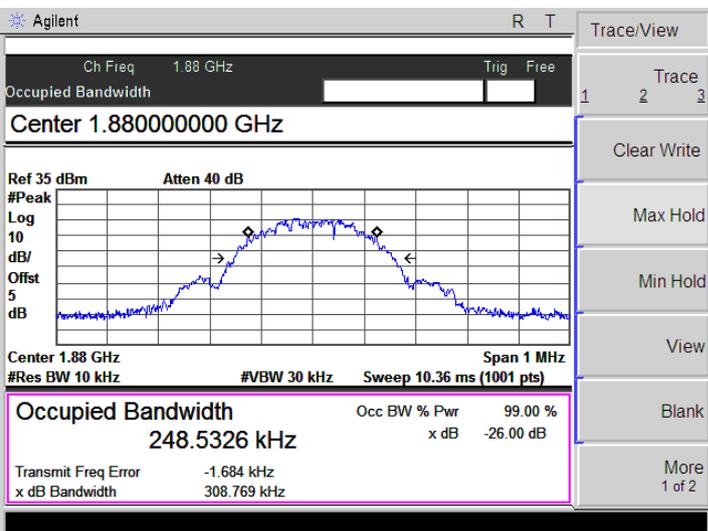
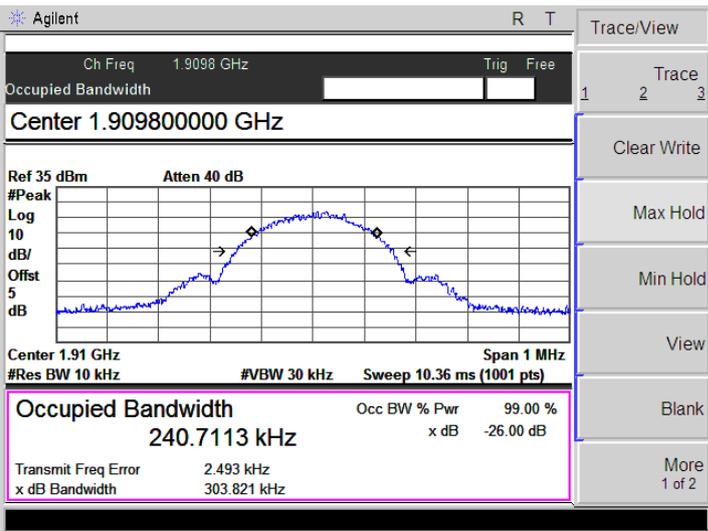
<p>GSM 850 (GMSK)-Low</p>	<p>Agilent R T</p> <p>Ch Freq 824.2 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 824.200000 MHz</p> <p>Ref 40 dBm #Atten 45 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 824.2 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 245.9022 kHz x dB -26.00 dB</p> <p>Transmit Freq Error -1.271 kHz x dB Bandwidth 316.394 kHz</p> <p>Freq/Channel</p> <p>Center Freq 824.200000 MHz</p> <p>Start Freq 823.700000 MHz</p> <p>Stop Freq 824.700000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>GSM 850 (GMSK)-Middle</p>	<p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 836.600000 MHz</p> <p>Ref 40 dBm #Atten 45 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 836.6 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 246.6498 kHz x dB -26.00 dB</p> <p>Transmit Freq Error -479.631 Hz x dB Bandwidth 316.007 kHz</p> <p>Freq/Channel</p> <p>Center Freq 836.600000 MHz</p> <p>Start Freq 836.100000 MHz</p> <p>Stop Freq 837.100000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>GSM 850 (GMSK)-High</p>	<p>Agilent R T</p> <p>Ch Freq 848.8 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 848.800000 MHz</p> <p>Ref 40 dBm #Atten 45 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 848.8 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 244.2698 kHz x dB -26.00 dB</p> <p>Transmit Freq Error -2.511 kHz x dB Bandwidth 313.339 kHz</p> <p>Freq/Channel</p> <p>Center Freq 848.800000 MHz</p> <p>Start Freq 848.300000 MHz</p> <p>Stop Freq 849.300000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

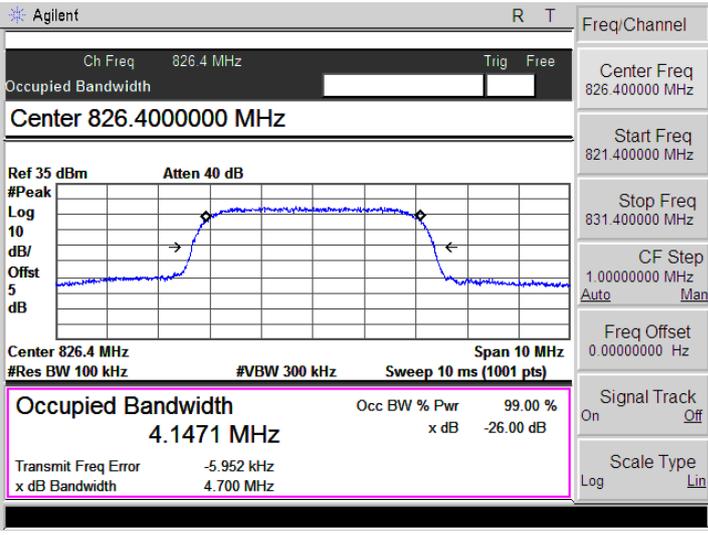
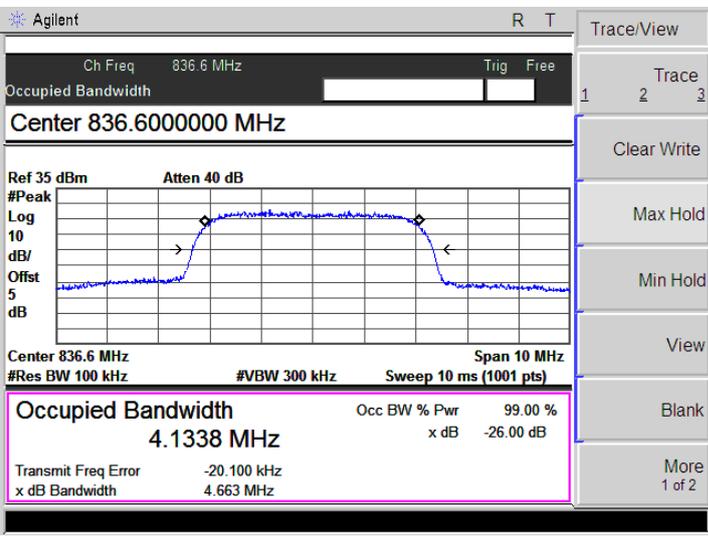
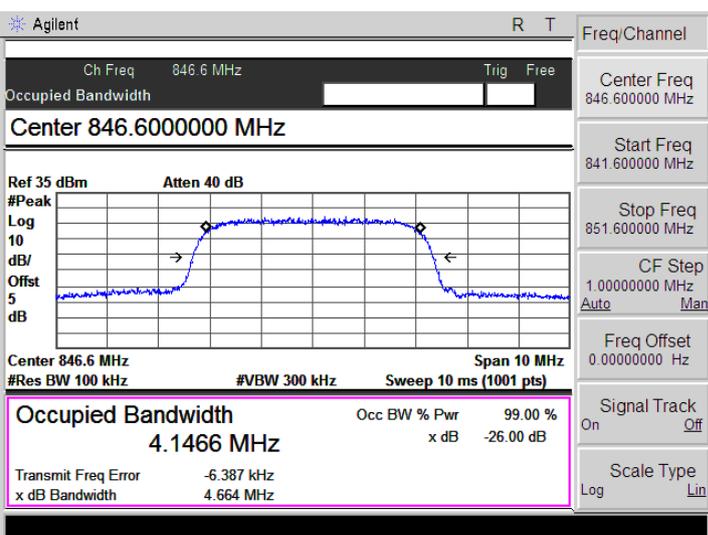
<p>GPRS850 (GMSK,1Slot)-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 824.2 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 824.200050 MHz</p> <p>Ref 40 dBm Atten 45 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 824.2 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>249.6635 kHz x dB -26.00 dB</p> <p>Transmit Freq Error -485.838 Hz</p> <p>x dB Bandwidth 315.664 kHz</p> <p>Freq/Channel</p> <p>Center Freq 824.200050 MHz</p> <p>Start Freq 823.700050 MHz</p> <p>Stop Freq 824.700050 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>GPRS850 (GMSK,1Slot)-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 836.600000 MHz</p> <p>Ref 40 dBm Atten 45 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 836.6 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>246.6604 kHz x dB -26.00 dB</p> <p>Transmit Freq Error -2.484 kHz</p> <p>x dB Bandwidth 320.997 kHz</p> <p>Freq/Channel</p> <p>Center Freq 836.600000 MHz</p> <p>Start Freq 836.100000 MHz</p> <p>Stop Freq 837.100000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>GPRS850 (GMSK,1Slot)-High</p>	 <p>Agilent R T</p> <p>Ch Freq 848.8 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 848.800000 MHz</p> <p>Ref 40 dBm Atten 45 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 848.8 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>245.9342 kHz x dB -26.00 dB</p> <p>Transmit Freq Error -1.860 kHz</p> <p>x dB Bandwidth 318.432 kHz</p> <p>Freq/Channel</p> <p>Center Freq 848.800000 MHz</p> <p>Start Freq 848.300000 MHz</p> <p>Stop Freq 849.300000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

<p>EGPRS850 (8PSK,1Slot)-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 824.2 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 824.200000 MHz</p> <p>Ref 40 dBm Atten 45 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 824.2 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 243.0254 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -2.956 kHz x dB Bandwidth 315.609 kHz</p> <p>Freq/Channel</p> <p>Center Freq 824.200000 MHz</p> <p>Start Freq 823.700000 MHz</p> <p>Stop Freq 824.700000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>EGPRS850 (8PSK,1Slot)-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 836.600000 MHz</p> <p>Ref 40 dBm Atten 45 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 836.6 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 241.8260 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -1.560 kHz x dB Bandwidth 321.685 kHz</p> <p>Freq/Channel</p> <p>Center Freq 836.600000 MHz</p> <p>Start Freq 836.100000 MHz</p> <p>Stop Freq 837.100000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>EGPRS850 (8PSK,1Slot)-High</p>	 <p>Agilent R T</p> <p>Ch Freq 848.8 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 848.800000 MHz</p> <p>Ref 40 dBm Atten 45 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 848.8 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 247.9158 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -2.323 kHz x dB Bandwidth 316.915 kHz</p> <p>Freq/Channel</p> <p>Center Freq 848.800000 MHz</p> <p>Start Freq 848.300000 MHz</p> <p>Stop Freq 849.300000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

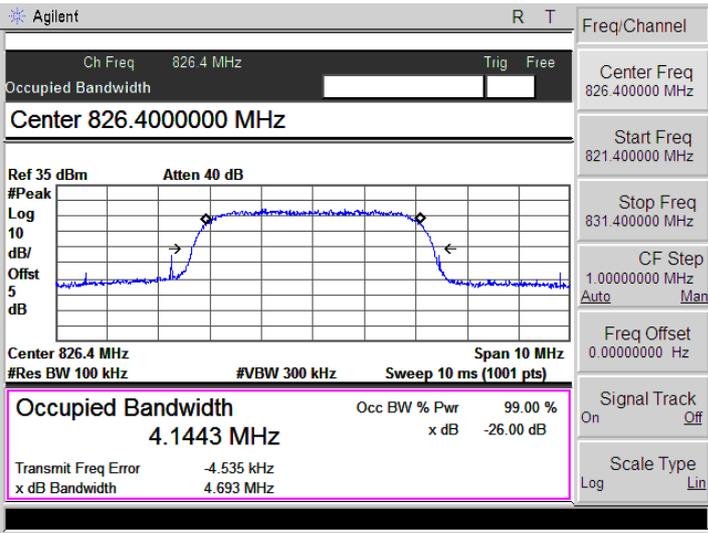
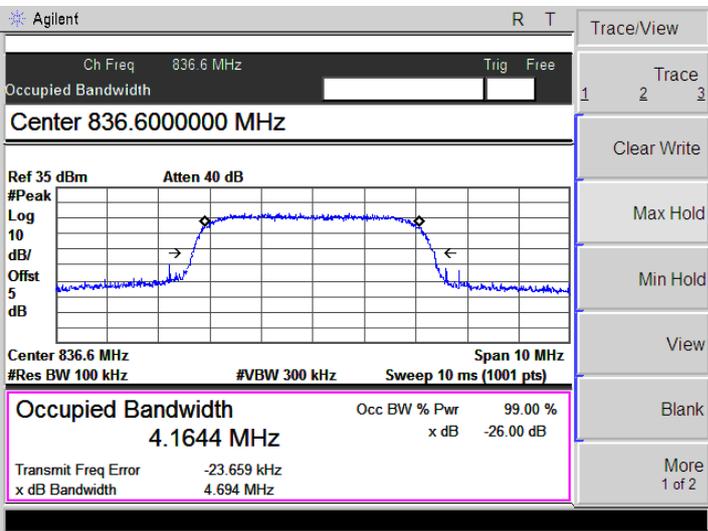
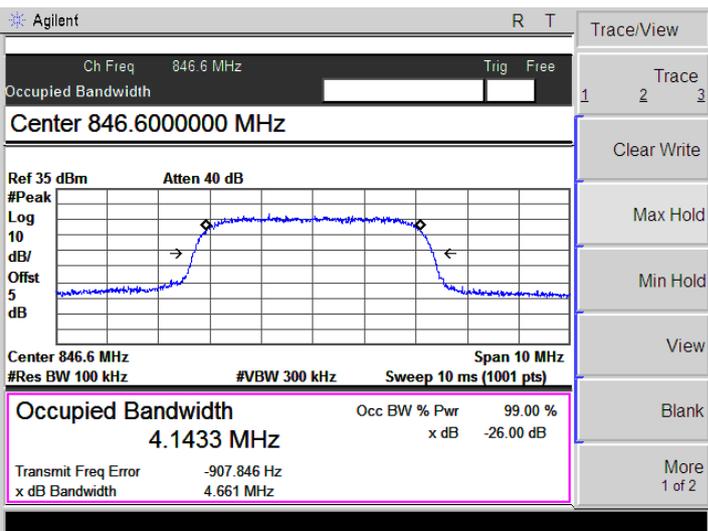
<p>PCS1900 (GMSK)-Low</p>	
<p>PCS1900 (GMSK)-Middle</p>	
<p>PCS1900 (GMSK)-High</p>	

<p>GPRS1900 (GMSK,1Slot)-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 1.8502 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.85020000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 1.85 GHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 245.8147 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -838.182 Hz x dB Bandwidth 285.942 kHz</p> <p>Freq/Channel</p> <p>Center Freq 1.85020000 GHz</p> <p>Start Freq 1.84970000 GHz</p> <p>Stop Freq 1.85070000 GHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>GPRS1900 (GMSK,1Slot)-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 1.88 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.88000000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 1.88 GHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 250.6393 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 214.968 Hz x dB Bandwidth 321.179 kHz</p> <p>Freq/Channel</p> <p>Center Freq 1.88000000 GHz</p> <p>Start Freq 1.87950000 GHz</p> <p>Stop Freq 1.88050000 GHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>GPRS1900 (GMSK,1Slot)-High</p>	 <p>Agilent R T</p> <p>Ch Freq 1.9098 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.90980000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 1.91 GHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 239.8251 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -1.191 kHz x dB Bandwidth 296.126 kHz</p> <p>Freq/Channel</p> <p>Center Freq 1.90980000 GHz</p> <p>Start Freq 1.90930000 GHz</p> <p>Stop Freq 1.91030000 GHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

<p>EGPRS1900 (8PSK,1Slot)-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 1.8502 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.85020000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 1.85 GHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 244.9918 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 1.899 kHz</p> <p>x dB Bandwidth 308.574 kHz</p> <p>Freq/Channel</p> <p>Center Freq 1.85020000 GHz</p> <p>Start Freq 1.84970000 GHz</p> <p>Stop Freq 1.85070000 GHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>EGPRS1900 (8PSK,1Slot)-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 1.88 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.88000000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 1.88 GHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 248.5326 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -1.684 kHz</p> <p>x dB Bandwidth 308.769 kHz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>EGPRS1900 (8PSK,1Slot)-High</p>	 <p>Agilent R T</p> <p>Ch Freq 1.9098 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.90980000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 1.91 GHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 240.7113 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 2.493 kHz</p> <p>x dB Bandwidth 303.821 kHz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

<p>WCDMA Band V-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 826.4 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 826.400000 MHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 826.4 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1471 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -5.952 kHz x dB Bandwidth 4.700 MHz</p> <p>Freq/Channel</p> <p>Center Freq 826.400000 MHz</p> <p>Start Freq 821.400000 MHz</p> <p>Stop Freq 831.400000 MHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>WCDMA Band V-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 836.600000 MHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 836.6 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1338 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -20.100 kHz x dB Bandwidth 4.663 MHz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>WCDMA Band V-High</p>	 <p>Agilent R T</p> <p>Ch Freq 846.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 846.600000 MHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 846.6 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1466 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -6.387 kHz x dB Bandwidth 4.664 MHz</p> <p>Freq/Channel</p> <p>Center Freq 846.600000 MHz</p> <p>Start Freq 841.600000 MHz</p> <p>Stop Freq 851.600000 MHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

<p>HSDPA-Low</p>	<p>Agilent R T</p> <p>Ch Freq 826.4 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 826.4 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1539 MHz</p> <p>Occ BW % Pwr 99.00% x dB -26.00 dB</p> <p>Transmit Freq Error -4.578 kHz</p> <p>x dB Bandwidth 4.676 MHz</p> <p>Freq/Channel</p> <p>Center Freq 826.400000 MHz</p> <p>Start Freq 821.400000 MHz</p> <p>Stop Freq 831.400000 MHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>HSDPA-Middle</p>	<p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 836.600000 MHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 836.6 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1427 MHz</p> <p>Occ BW % Pwr 99.00% x dB -26.00 dB</p> <p>Transmit Freq Error -18.662 kHz</p> <p>x dB Bandwidth 4.664 MHz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>HSDPA-High</p>	<p>Agilent R T</p> <p>Ch Freq 846.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 846.600000 MHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 846.6 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1496 MHz</p> <p>Occ BW % Pwr 99.00% x dB -26.00 dB</p> <p>Transmit Freq Error -9.058 kHz</p> <p>x dB Bandwidth 4.677 MHz</p> <p>Freq/Channel</p> <p>Center Freq 846.600000 MHz</p> <p>Start Freq 841.600000 MHz</p> <p>Stop Freq 851.600000 MHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

<p>HSUPA-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 826.4 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 826.400000 MHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 826.4 MHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 4.1443 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -4.535 kHz x dB Bandwidth 4.693 MHz</p> <p>Freq/Channel</p> <p>Center Freq 826.400000 MHz</p> <p>Start Freq 821.400000 MHz</p> <p>Stop Freq 831.400000 MHz</p> <p>CF Step 1.0000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>HSUPA-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 836.600000 MHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 836.6 MHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 4.1644 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -23.659 kHz x dB Bandwidth 4.694 MHz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>HSUPA-High</p>	 <p>Agilent R T</p> <p>Ch Freq 846.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 846.600000 MHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 846.6 MHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 4.1433 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -907.846 Hz x dB Bandwidth 4.661 MHz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

<p>WCDMA Band II-Low</p>	<p>Agilent R T</p> <p>Ch Freq 1.8524 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.85240000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 1.852 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Occ BW % Pwr</td> <td>99.00 %</td> </tr> <tr> <td>4.1493 MHz</td> <td>x dB</td> <td>-26.00 dB</td> </tr> <tr> <td>Transmit Freq Error</td> <td></td> <td>-896.579 Hz</td> </tr> <tr> <td>x dB Bandwidth</td> <td></td> <td>4.691 MHz</td> </tr> </table> <p>Freq/Channel</p> <p>Center Freq 1.85240000 GHz</p> <p>Start Freq 1.84740000 GHz</p> <p>Stop Freq 1.85740000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	Occupied Bandwidth	Occ BW % Pwr	99.00 %	4.1493 MHz	x dB	-26.00 dB	Transmit Freq Error		-896.579 Hz	x dB Bandwidth		4.691 MHz
Occupied Bandwidth	Occ BW % Pwr	99.00 %											
4.1493 MHz	x dB	-26.00 dB											
Transmit Freq Error		-896.579 Hz											
x dB Bandwidth		4.691 MHz											
<p>WCDMA Band II-Middle</p>	<p>Agilent R T</p> <p>Ch Freq 1.88 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.88000000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 1.88 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Occ BW % Pwr</td> <td>99.00 %</td> </tr> <tr> <td>4.1749 MHz</td> <td>x dB</td> <td>-26.00 dB</td> </tr> <tr> <td>Transmit Freq Error</td> <td></td> <td>-4.602 kHz</td> </tr> <tr> <td>x dB Bandwidth</td> <td></td> <td>4.695 MHz</td> </tr> </table> <p>Freq/Channel</p> <p>Center Freq 1.88000000 GHz</p> <p>Start Freq 1.87500000 GHz</p> <p>Stop Freq 1.88500000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	Occupied Bandwidth	Occ BW % Pwr	99.00 %	4.1749 MHz	x dB	-26.00 dB	Transmit Freq Error		-4.602 kHz	x dB Bandwidth		4.695 MHz
Occupied Bandwidth	Occ BW % Pwr	99.00 %											
4.1749 MHz	x dB	-26.00 dB											
Transmit Freq Error		-4.602 kHz											
x dB Bandwidth		4.695 MHz											
<p>WCDMA Band II-High</p>	<p>Agilent R T</p> <p>Ch Freq 1.9076 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.90760000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/Offst 5 dB</p> <p>Center 1.908 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Occ BW % Pwr</td> <td>99.00 %</td> </tr> <tr> <td>4.1569 MHz</td> <td>x dB</td> <td>-26.00 dB</td> </tr> <tr> <td>Transmit Freq Error</td> <td></td> <td>8.177 kHz</td> </tr> <tr> <td>x dB Bandwidth</td> <td></td> <td>4.661 MHz</td> </tr> </table> <p>Freq/Channel</p> <p>Center Freq 1.90760000 GHz</p> <p>Start Freq 1.90260000 GHz</p> <p>Stop Freq 1.91260000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	Occupied Bandwidth	Occ BW % Pwr	99.00 %	4.1569 MHz	x dB	-26.00 dB	Transmit Freq Error		8.177 kHz	x dB Bandwidth		4.661 MHz
Occupied Bandwidth	Occ BW % Pwr	99.00 %											
4.1569 MHz	x dB	-26.00 dB											
Transmit Freq Error		8.177 kHz											
x dB Bandwidth		4.661 MHz											

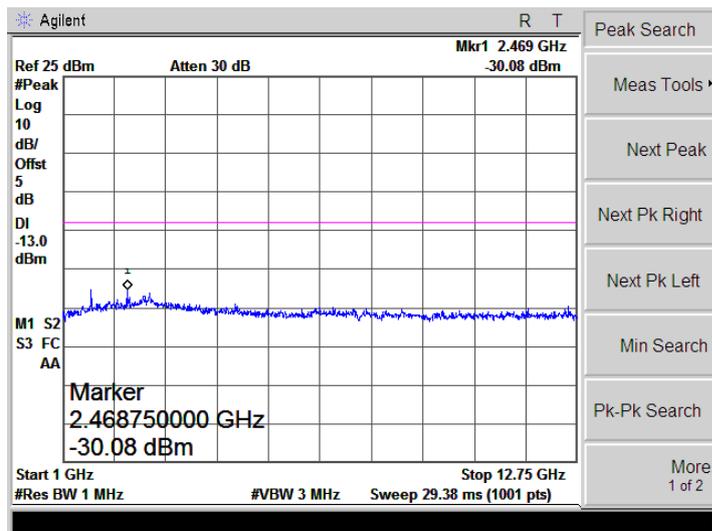
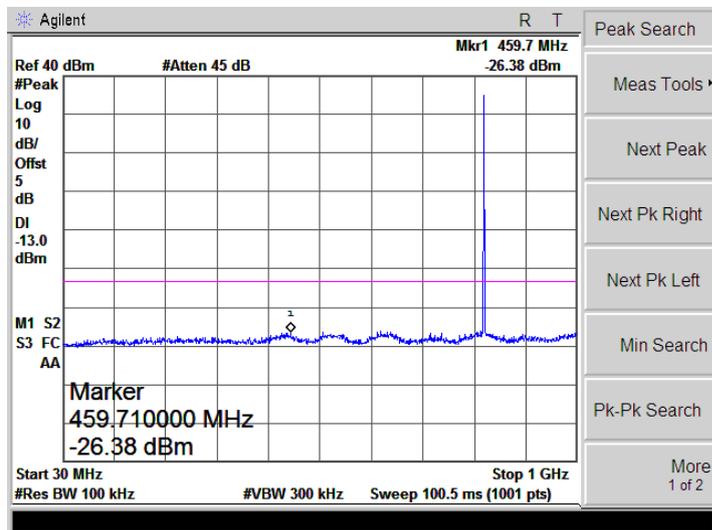
<p>HSDPA-Low</p>	<p>Agilent R T</p> <p>Ch Freq 1.8524 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.85240000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 1.852 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1399 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -4.110 kHz x dB Bandwidth 4.679 MHz</p> <p>Freq/Channel</p> <p>Center Freq 1.85240000 GHz</p> <p>Start Freq 1.84740000 GHz</p> <p>Stop Freq 1.85740000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>HSDPA-Middle</p>	<p>Agilent R T</p> <p>Ch Freq 1.88 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.88000000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 1.88 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1498 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -4.131 kHz x dB Bandwidth 4.698 MHz</p> <p>Freq/Channel</p> <p>Center Freq 1.88000000 GHz</p> <p>Start Freq 1.87500000 GHz</p> <p>Stop Freq 1.88500000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>HSDPA-High</p>	<p>Agilent R T</p> <p>Ch Freq 1.9076 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 1.90760000 GHz</p> <p>Ref 35 dBm Atten 40 dB</p> <p>#Peak Log 10 dB/ Offst 5 dB</p> <p>Center 1.908 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1628 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 9.243 kHz x dB Bandwidth 4.690 MHz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

<p>HSUPA-Low</p>	
<p>HSUPA-Middle</p>	
<p>HSUPA-High</p>	

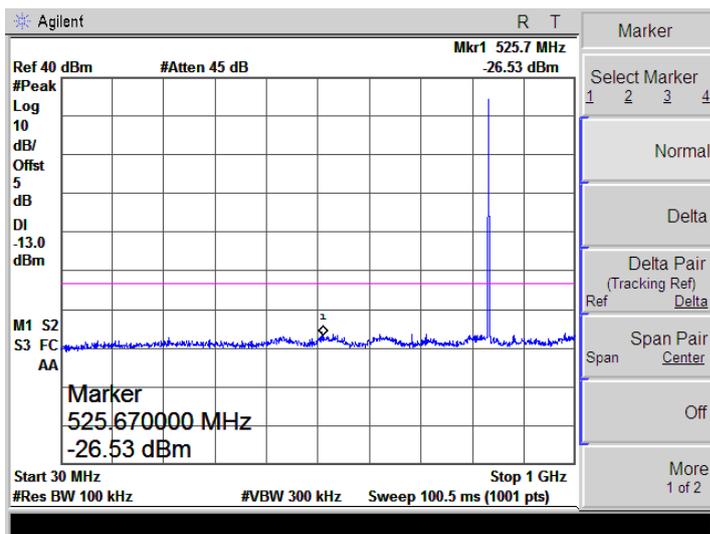
APPENDIX D

Out of Band Emissions at Antenna Terminal

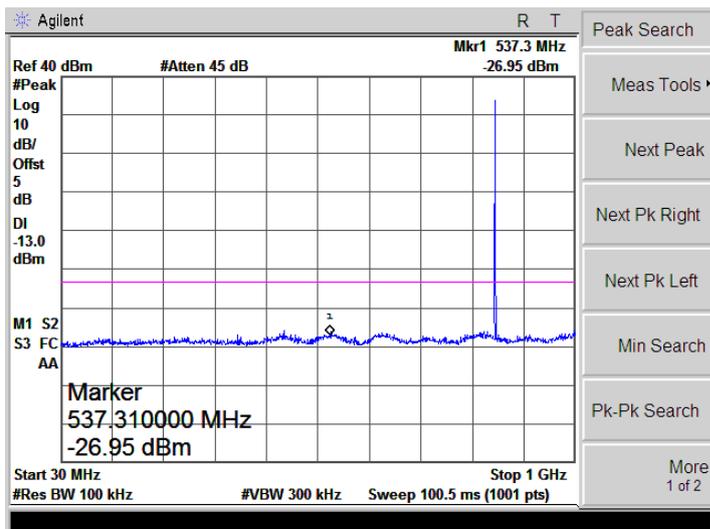
GSM 850
(GMSK)-Low

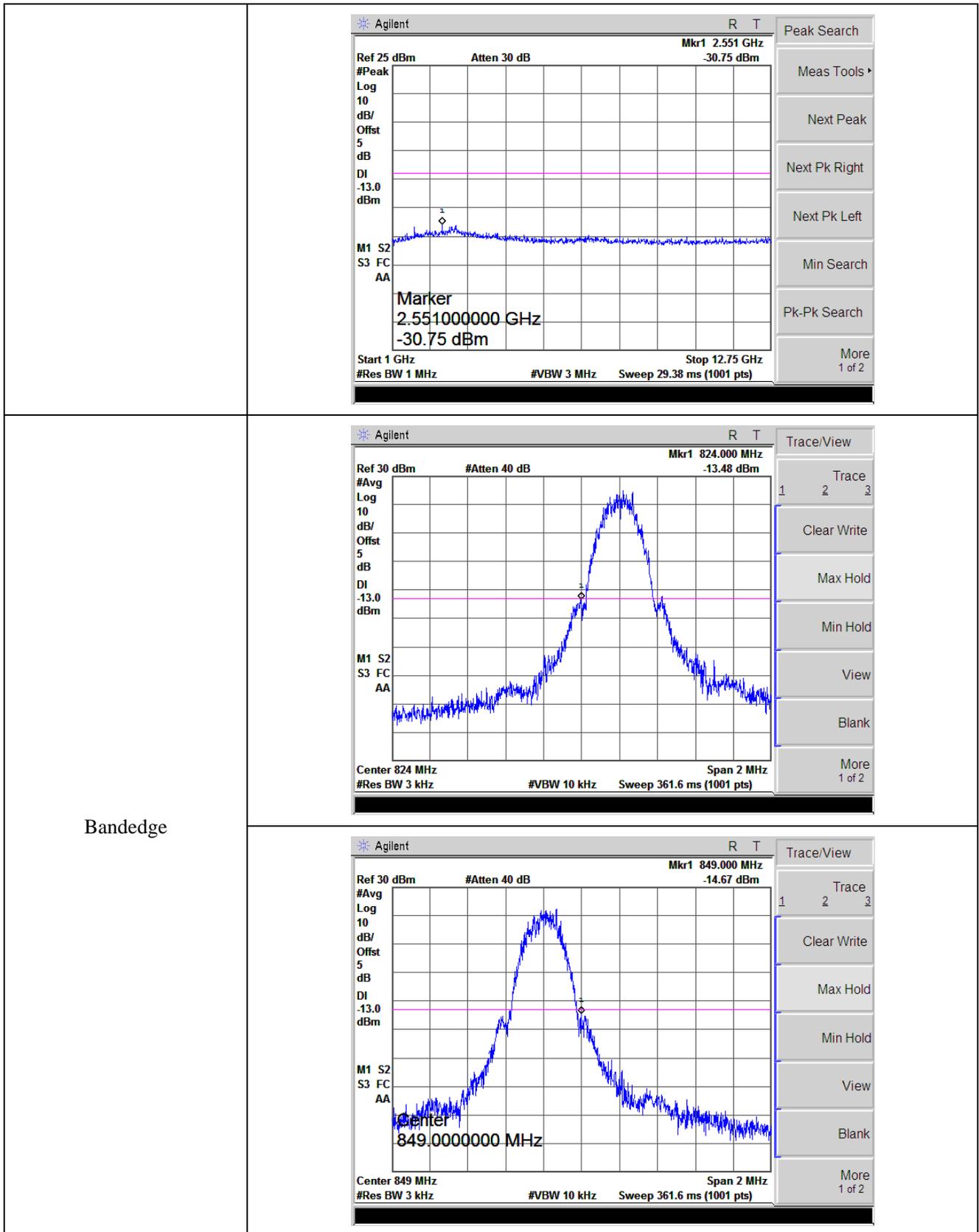


GSM 850
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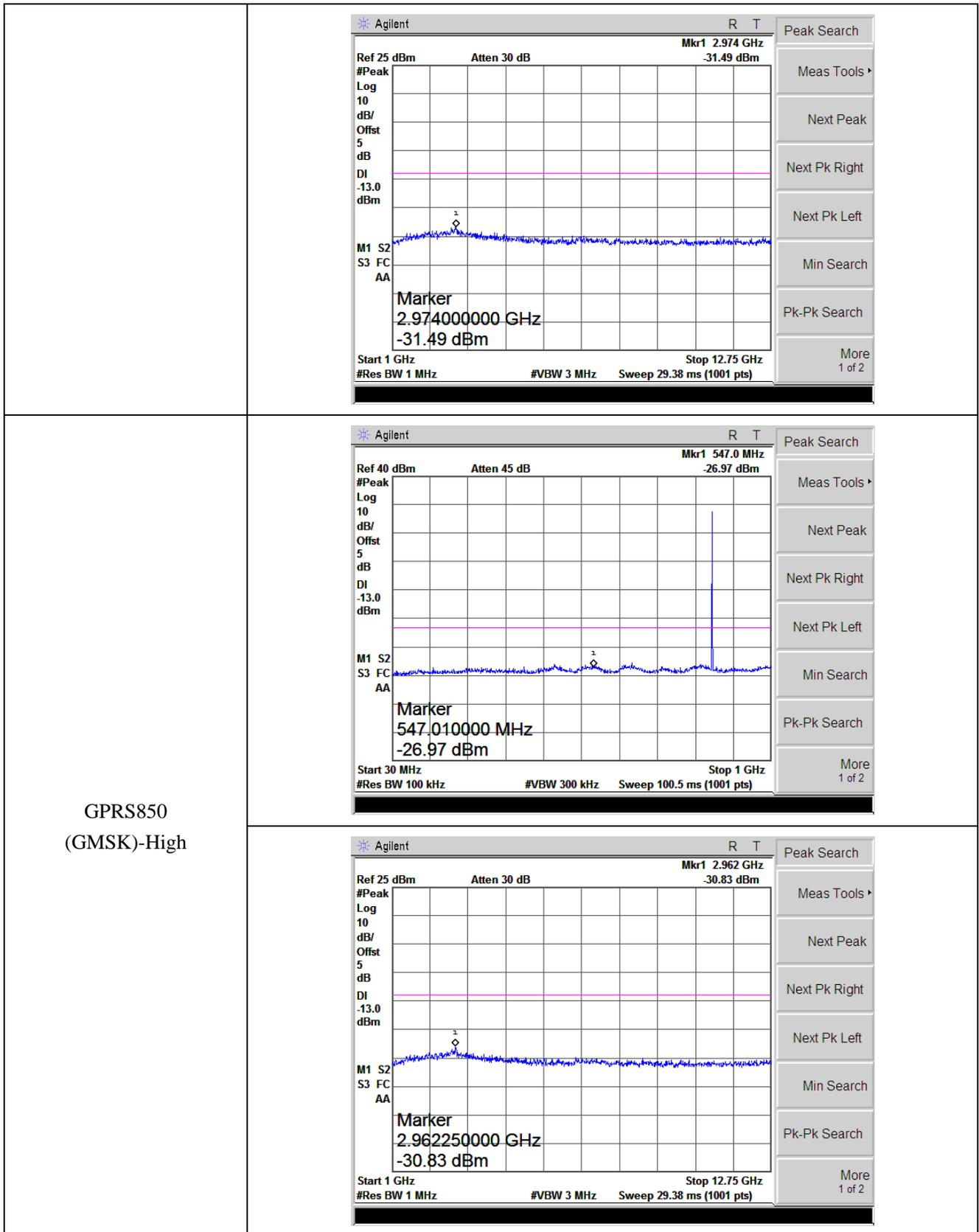


GSM 850
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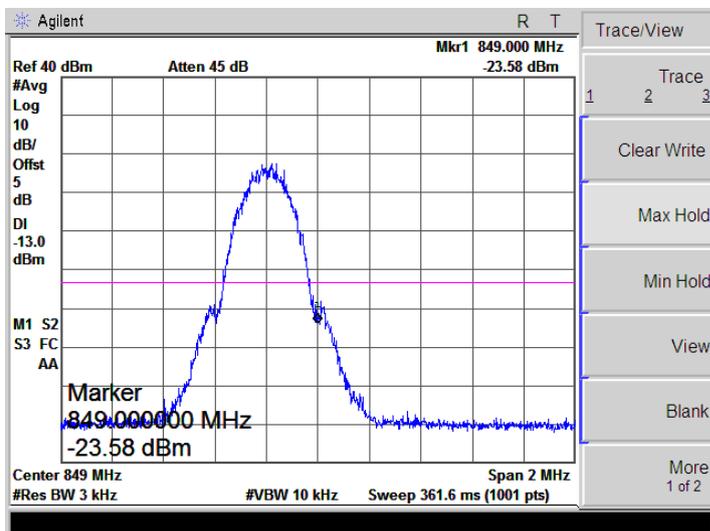
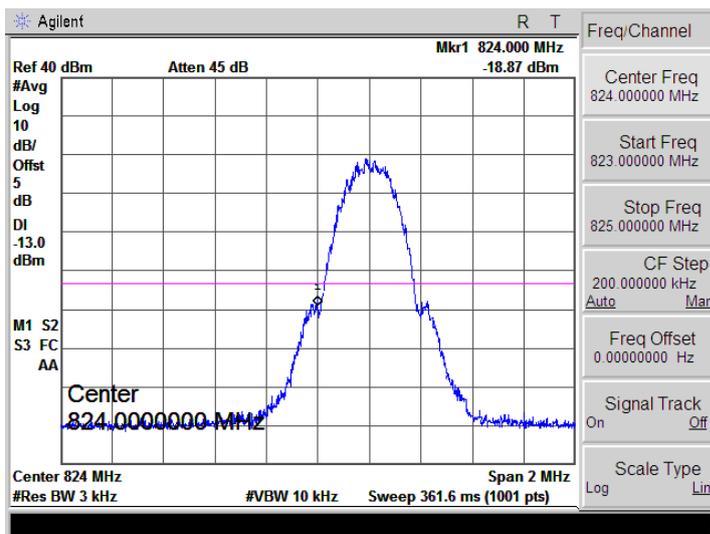




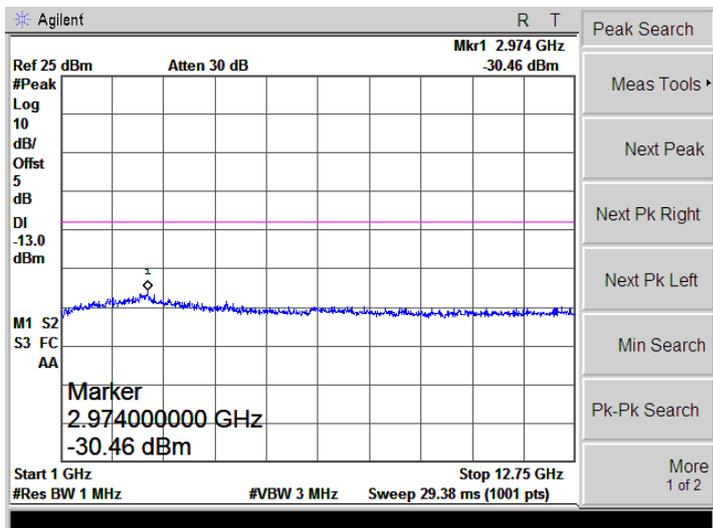
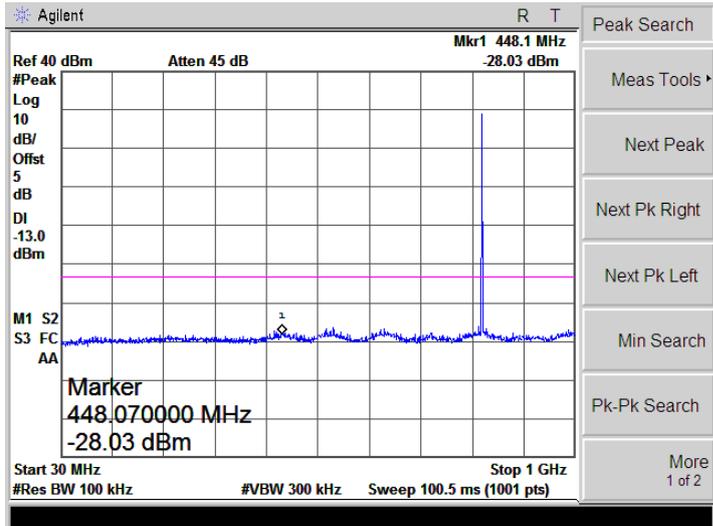
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<p>GPRS850 (GMSK,1Slot)-Middle</p>	



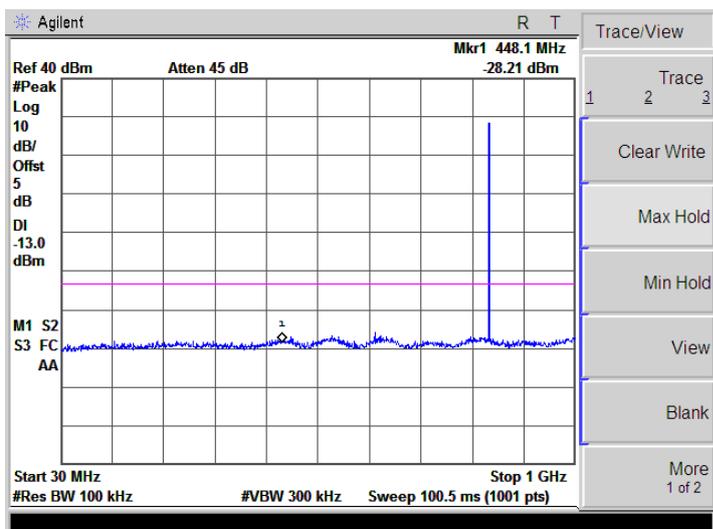
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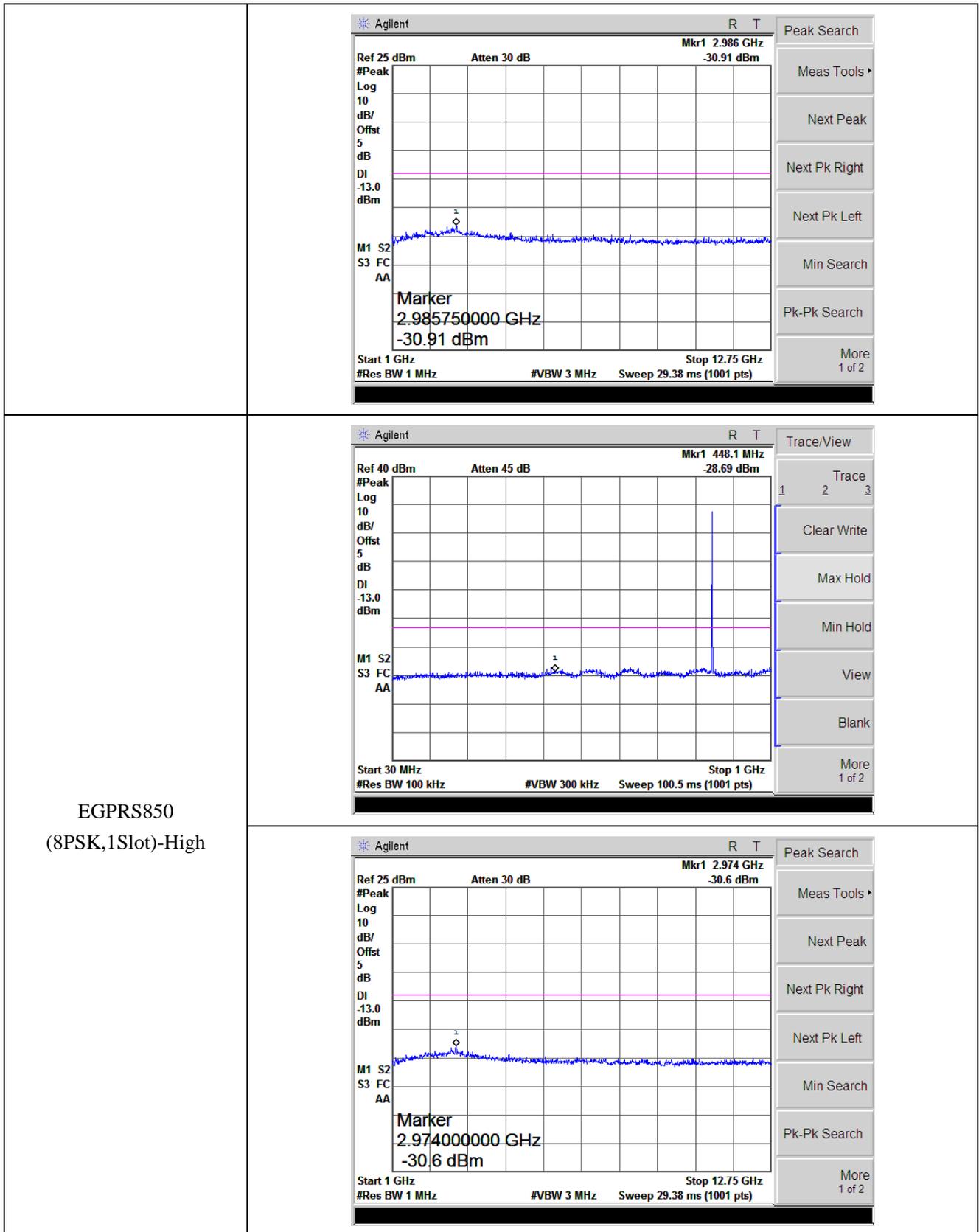


EGPRS850
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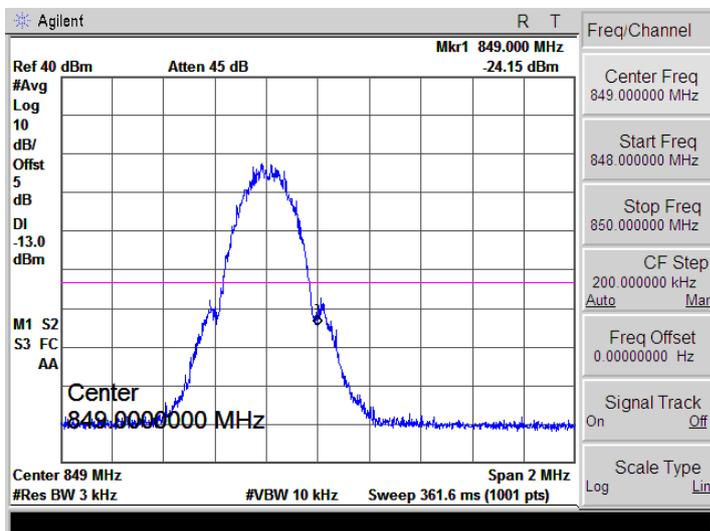
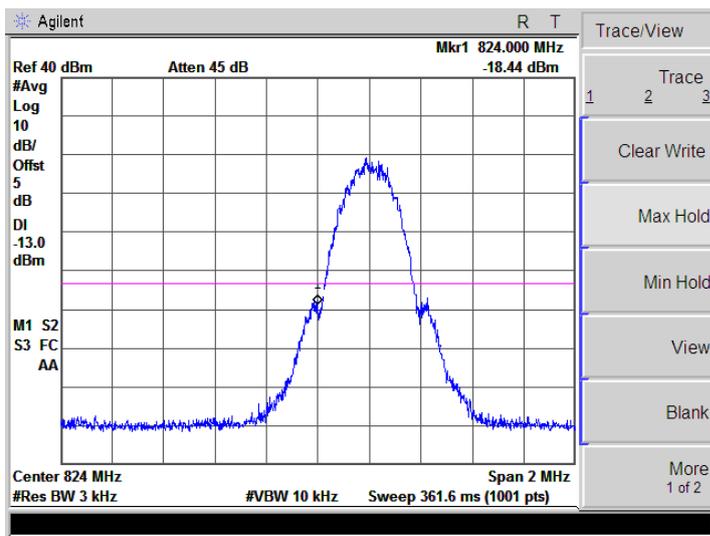


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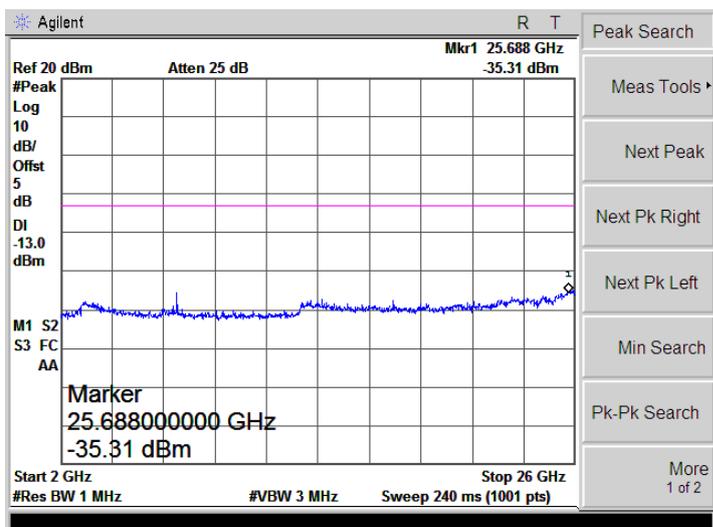
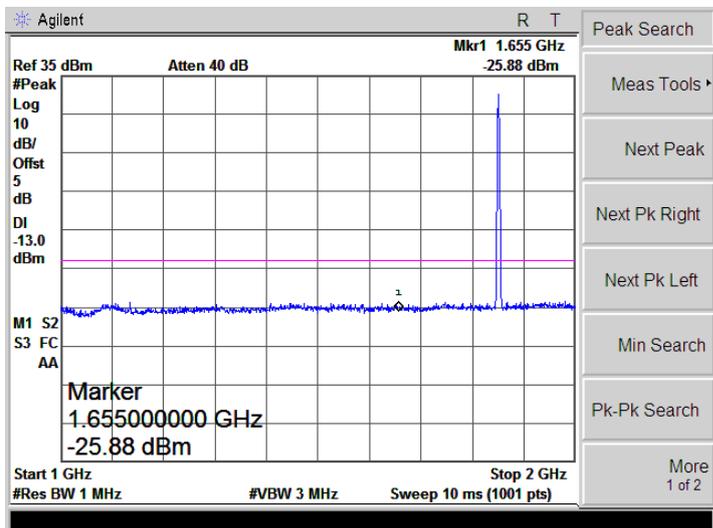
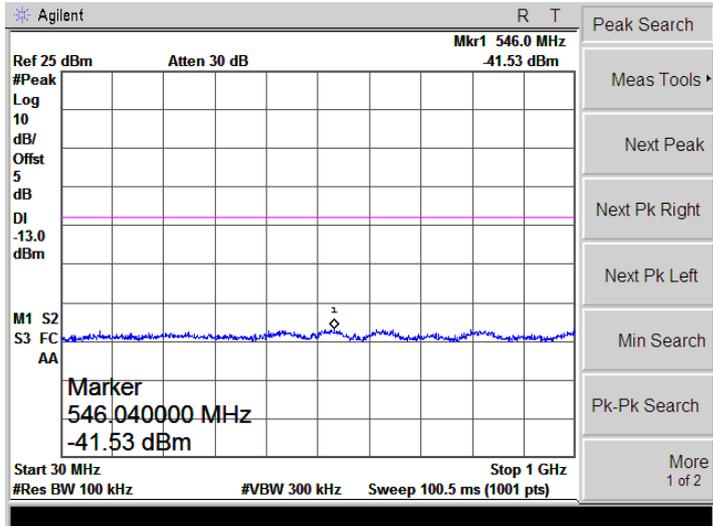




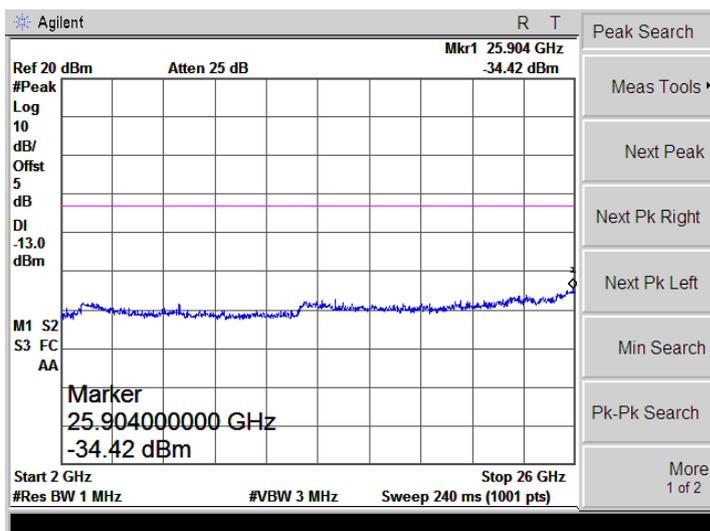
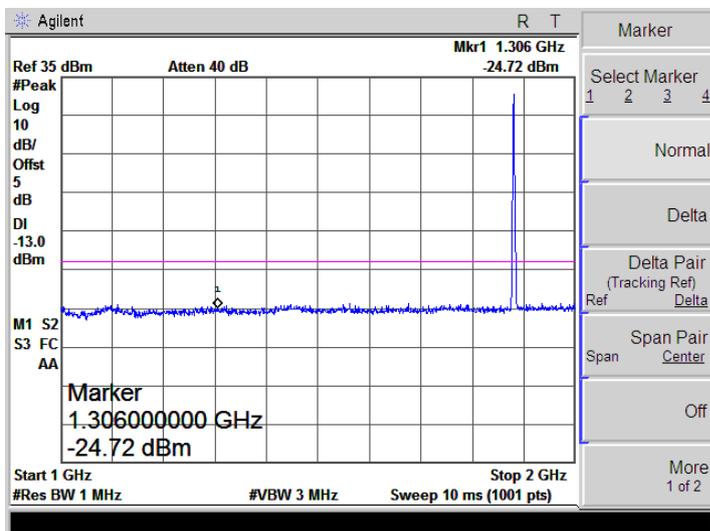
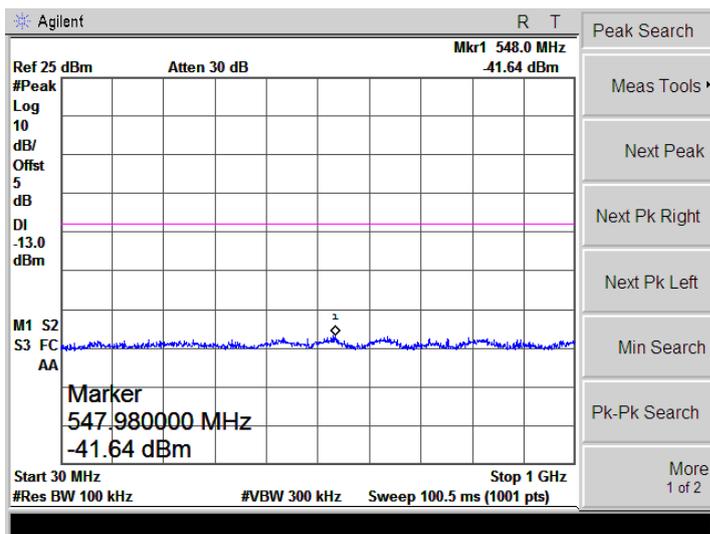
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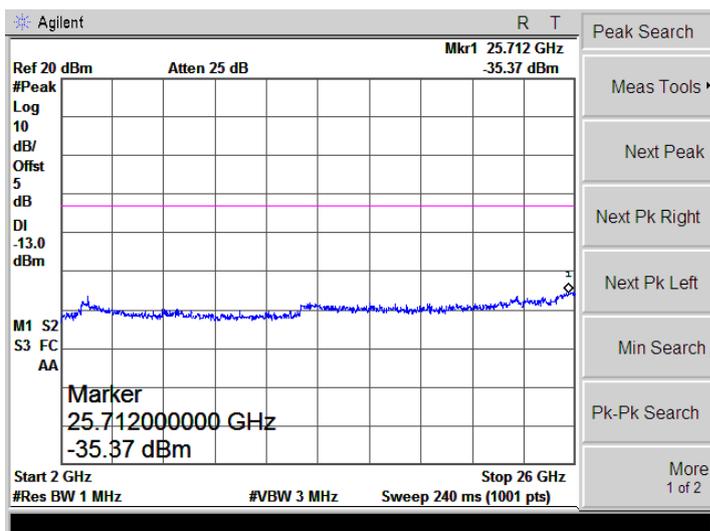
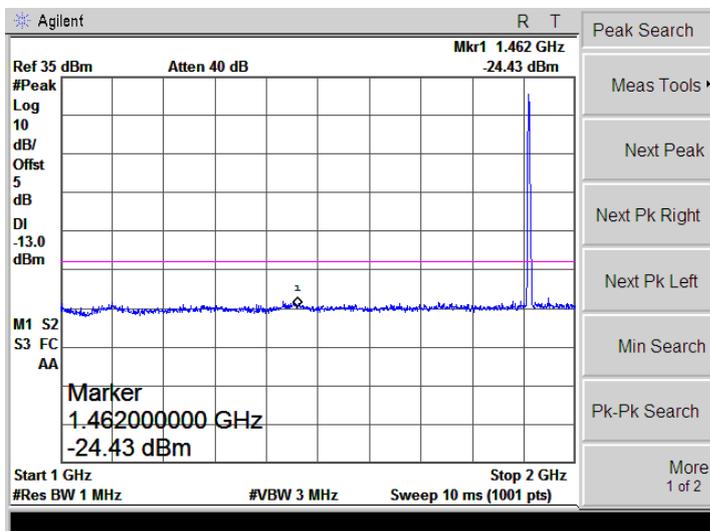
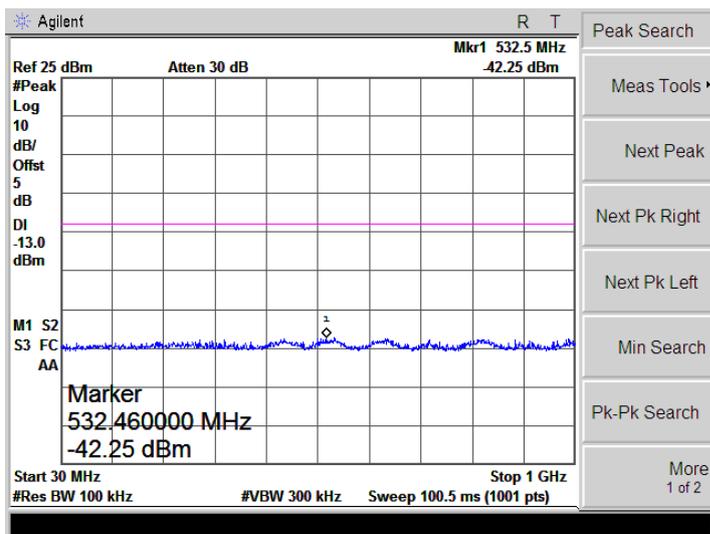
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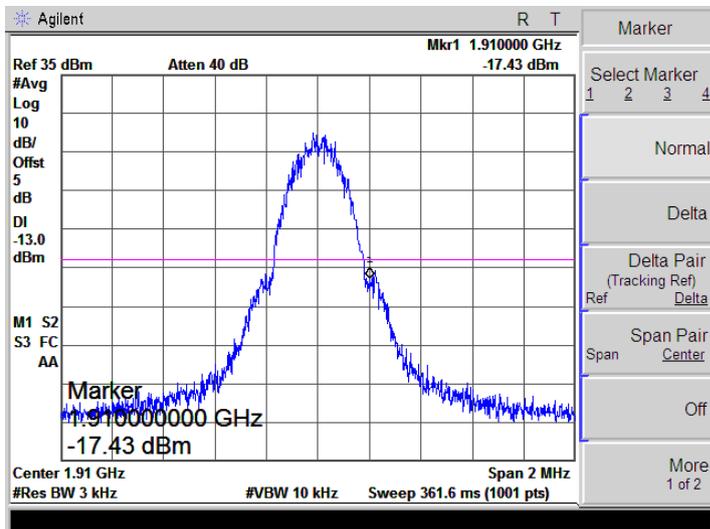
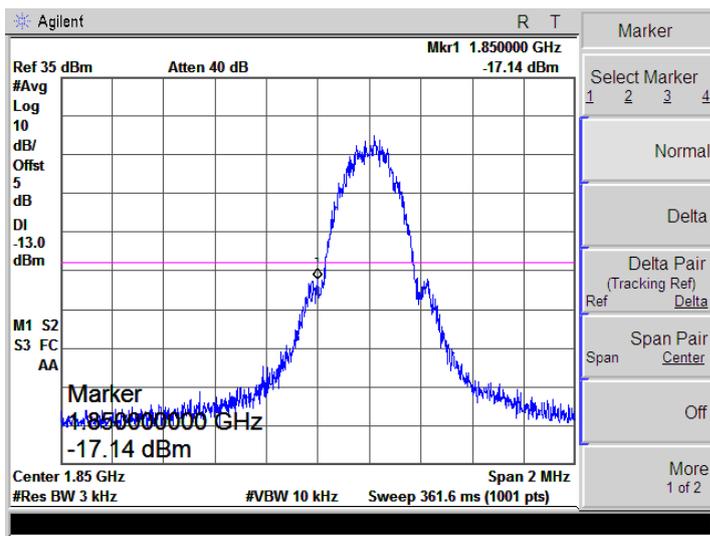
PCS1900
(GMSK)-Middle



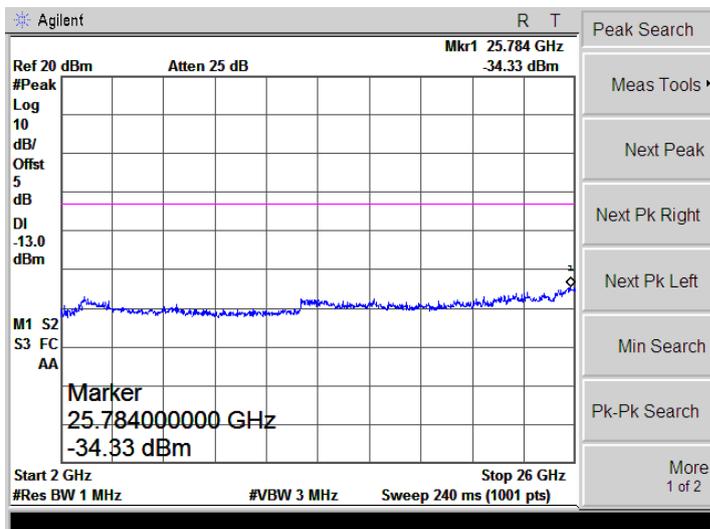
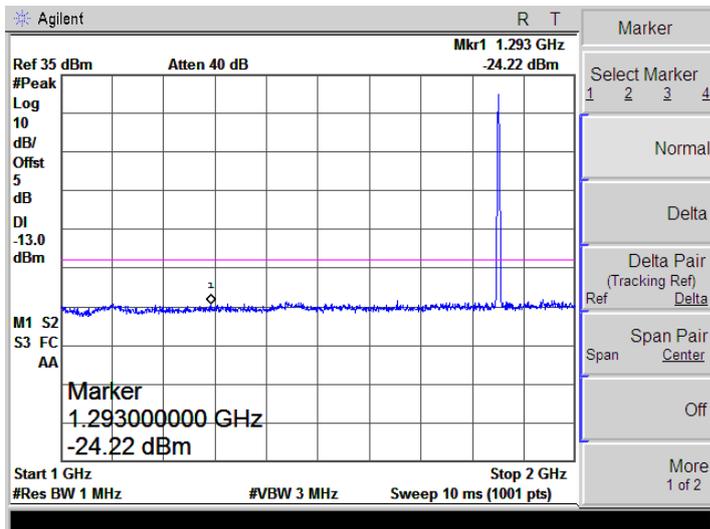
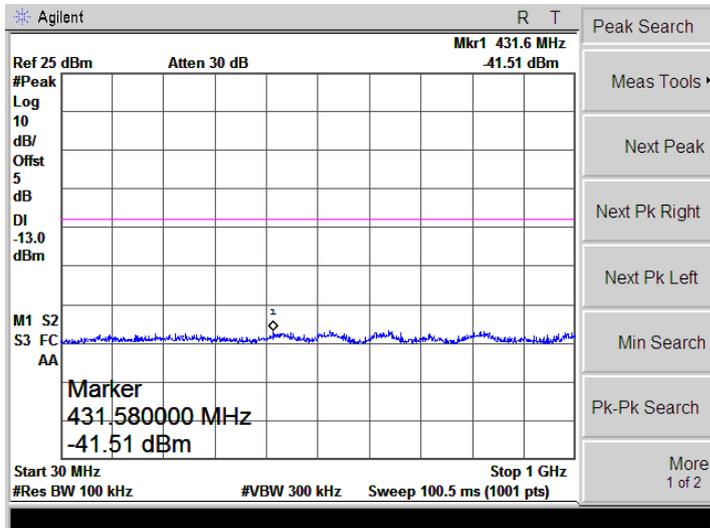
PCS1900
(GMSK)-High



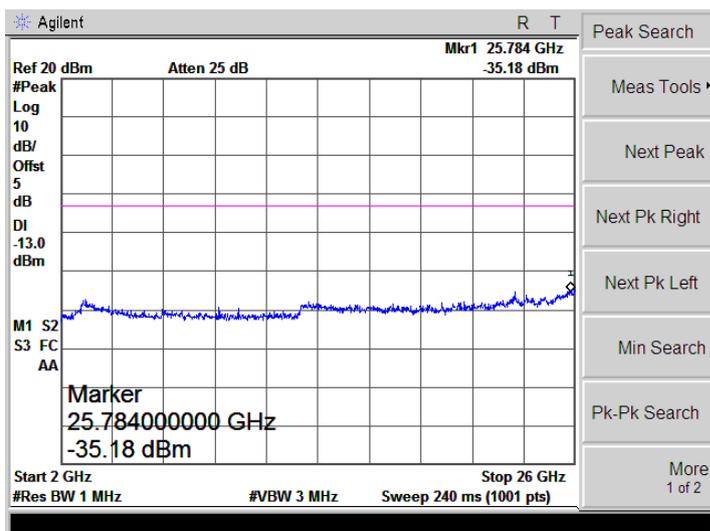
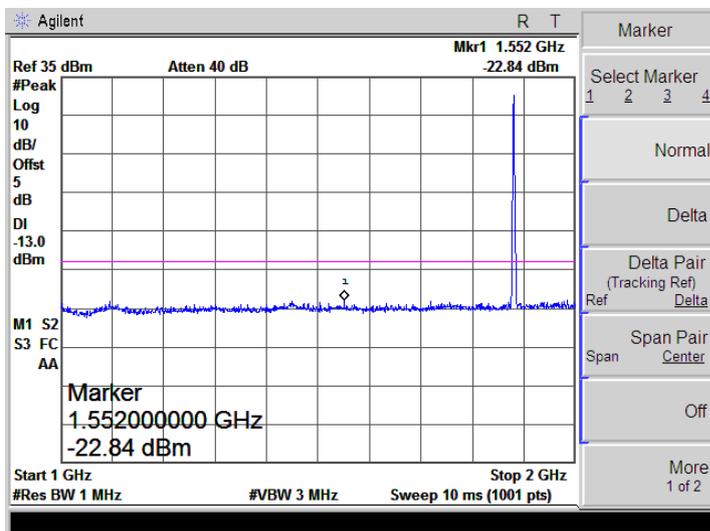
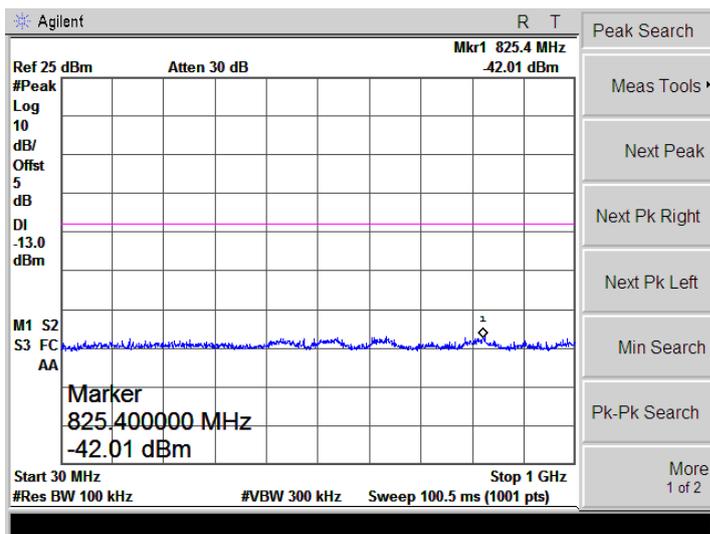
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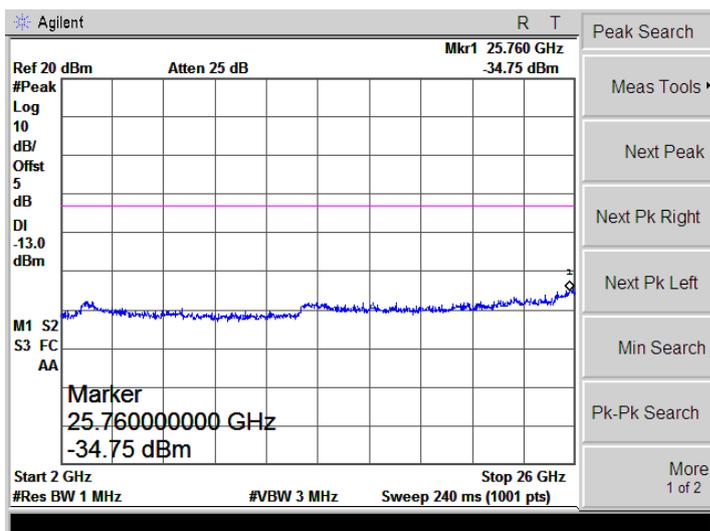
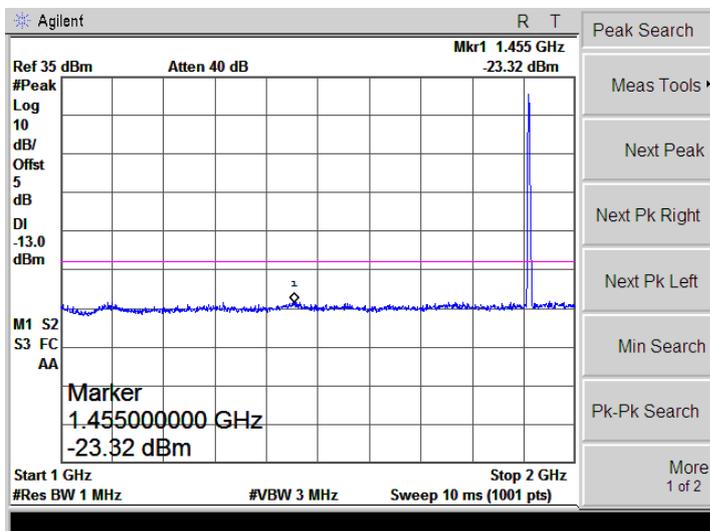
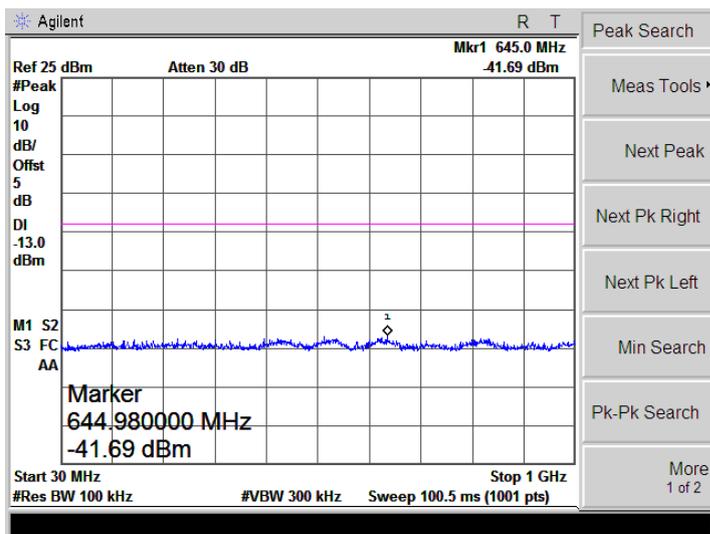
GPRS1900
(GMSK,1Slot)-Low



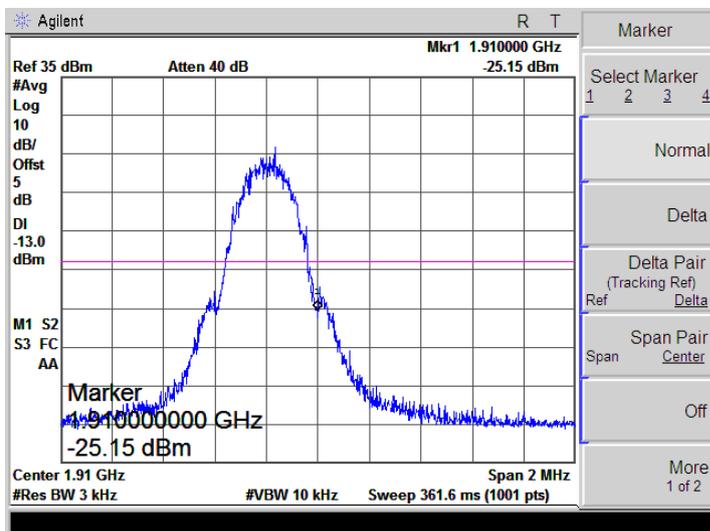
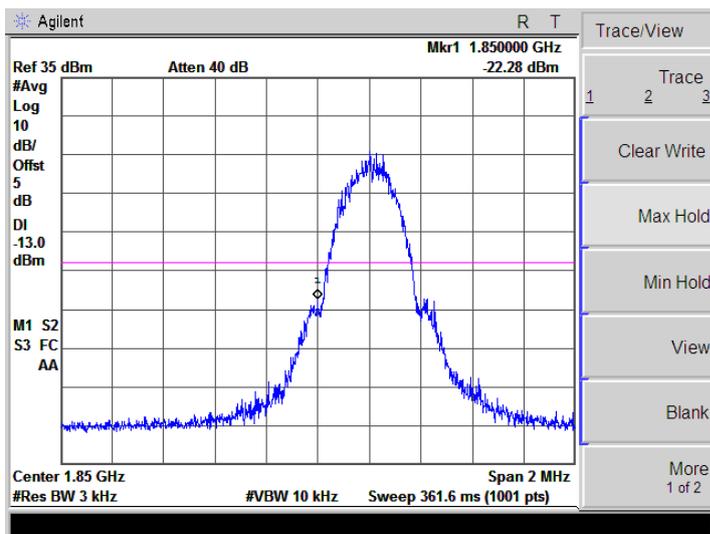
GPRS1900
(GMSK,1Slot)-Middle



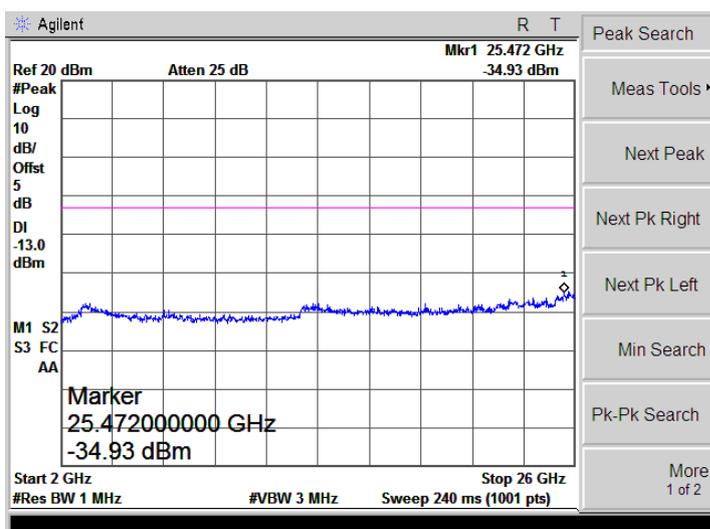
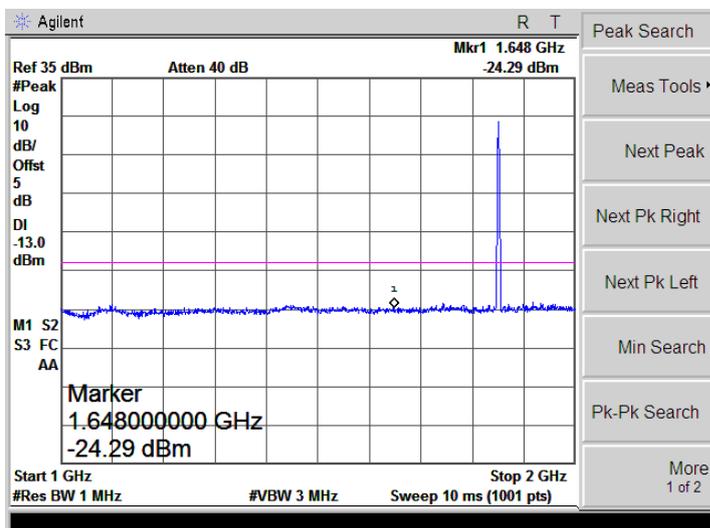
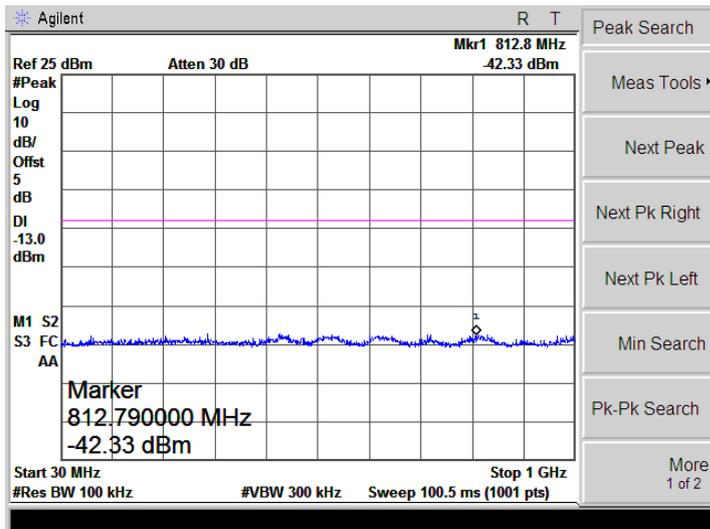
GPRS1900
(GMSK, 1Slot)-High



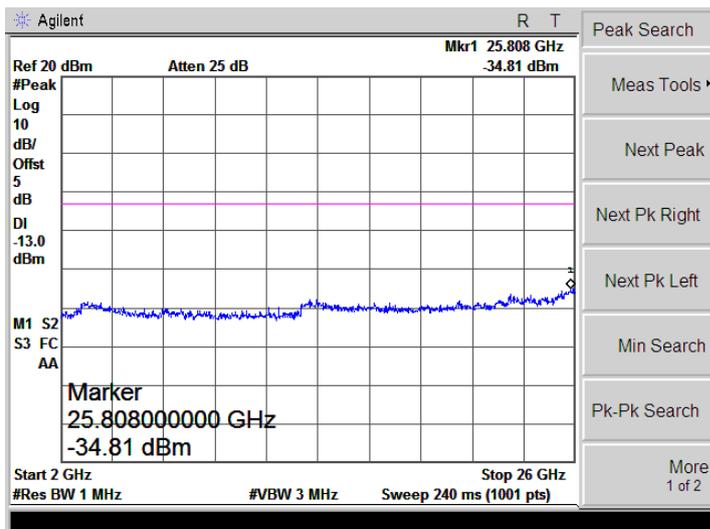
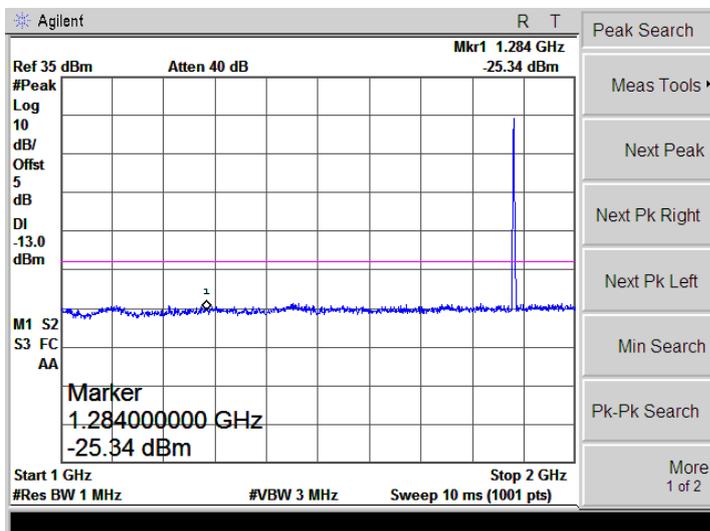
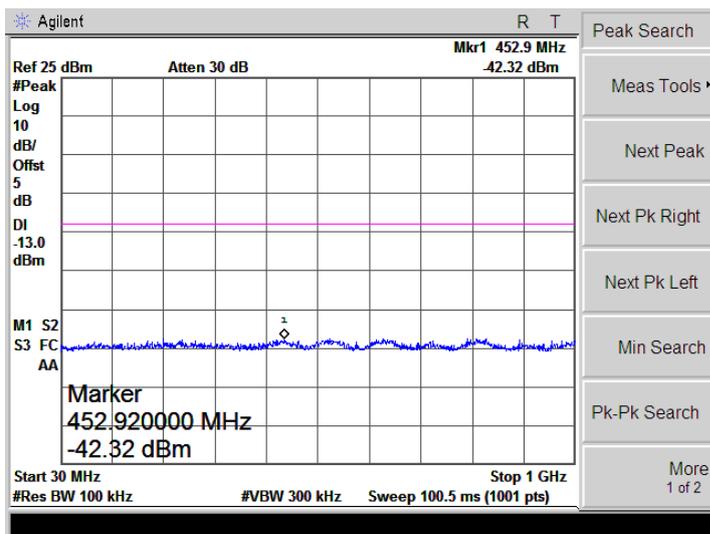
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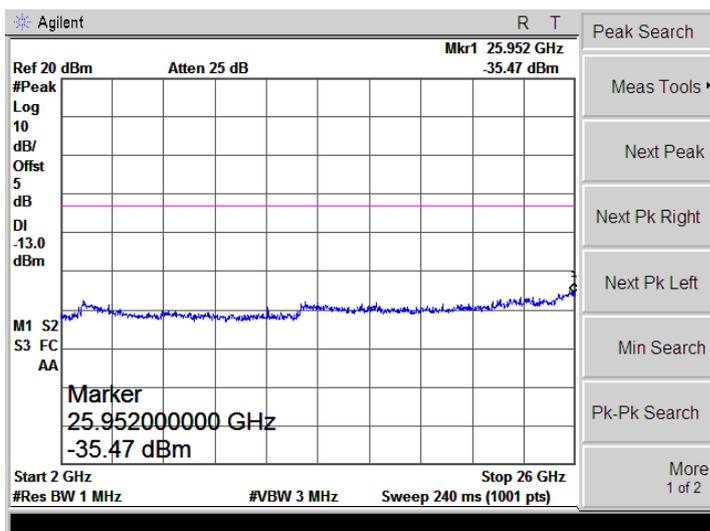
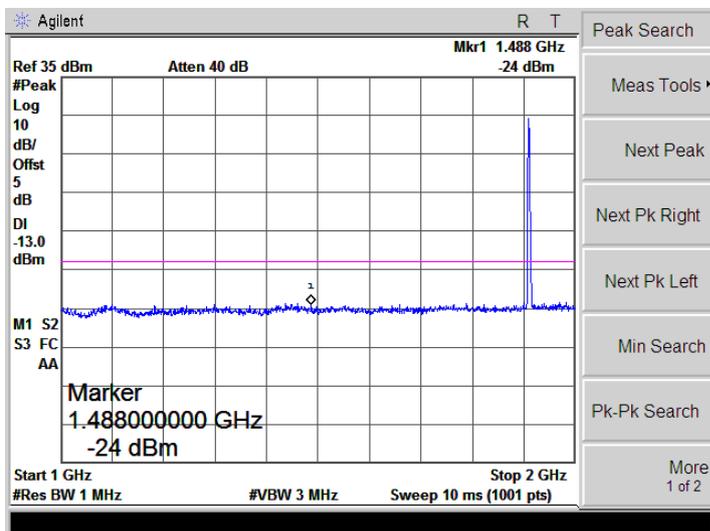
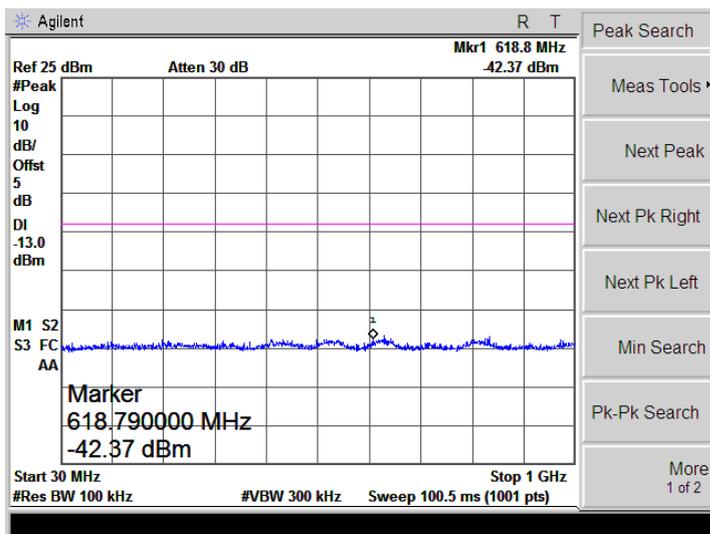
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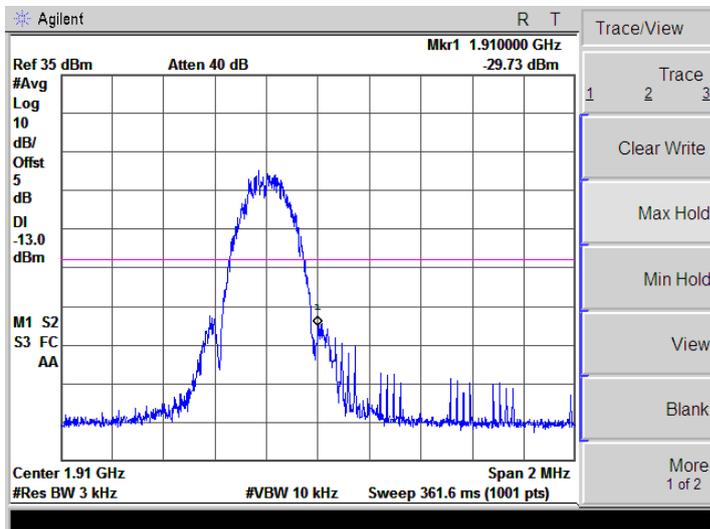
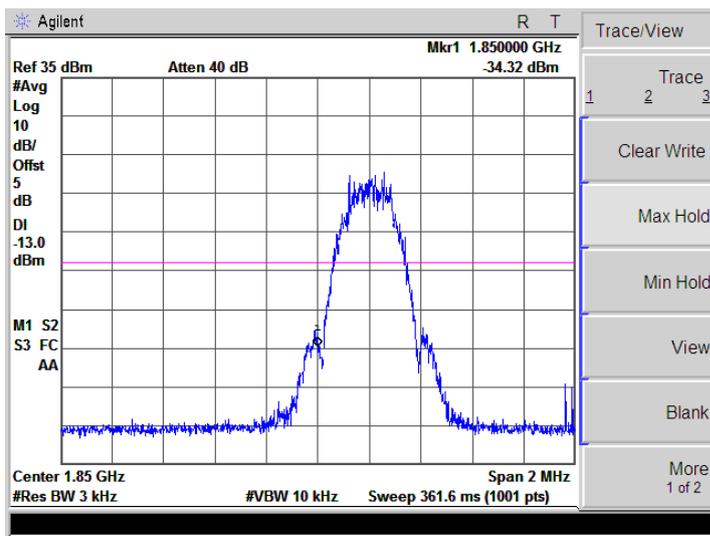
EGPRS1900
(8PSK,1Slot)-Middle

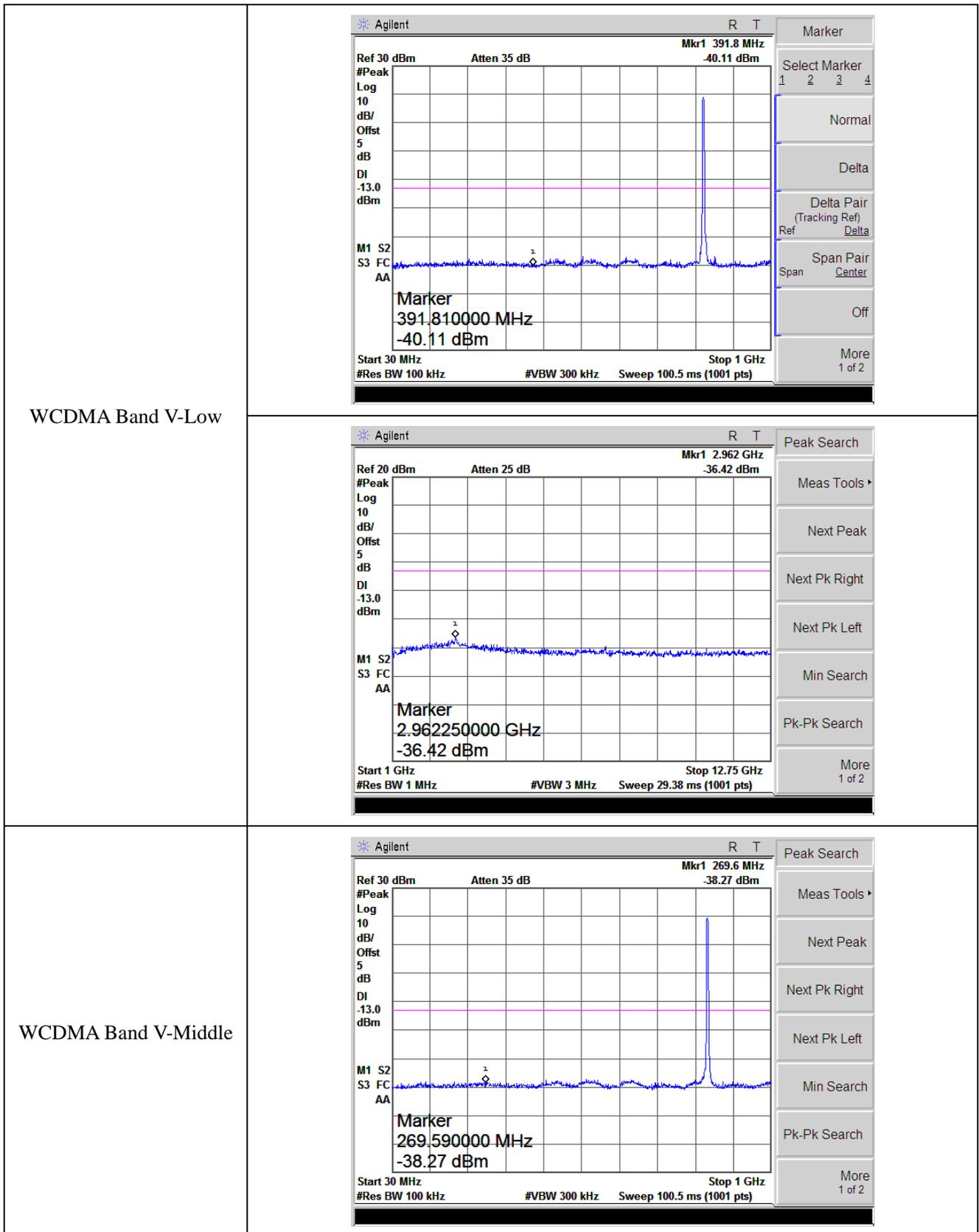


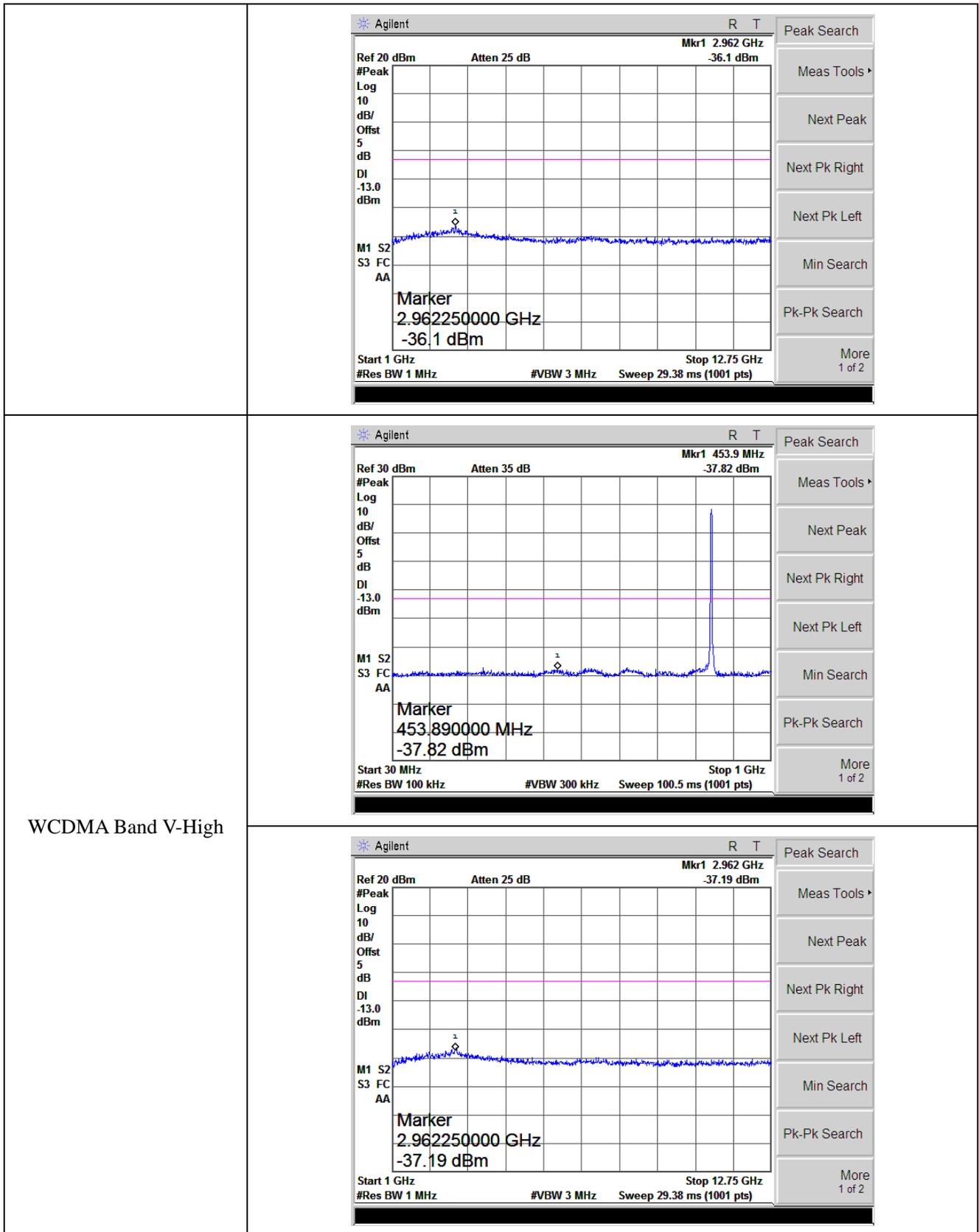
EGPRS1900
(8PSK,1Slot)-High



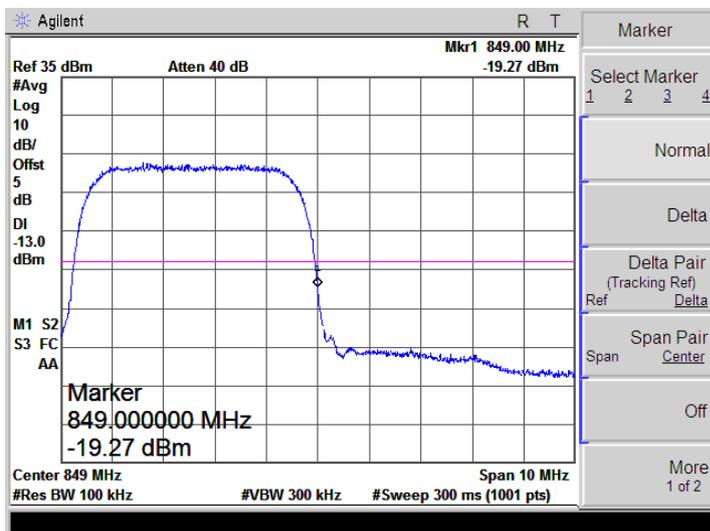
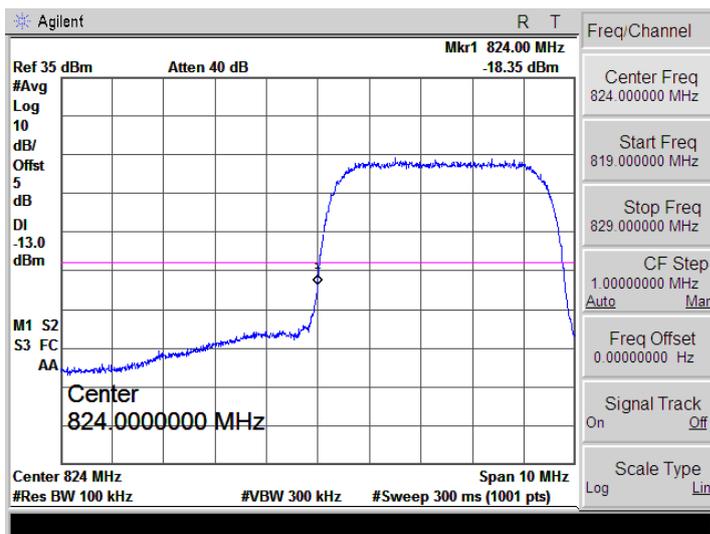
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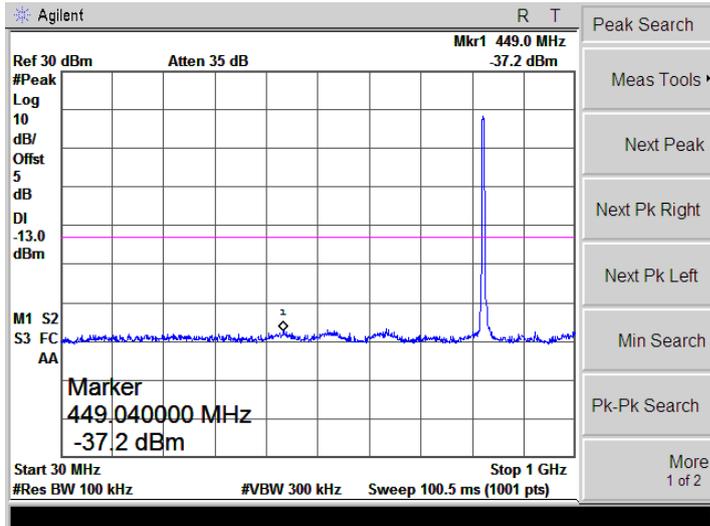




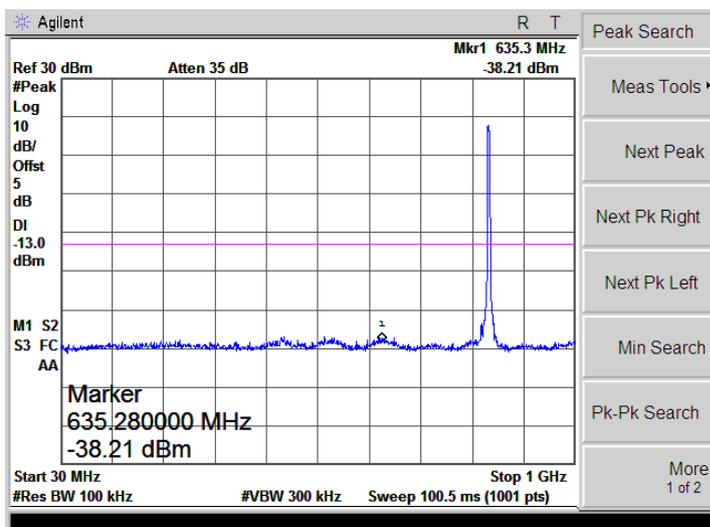
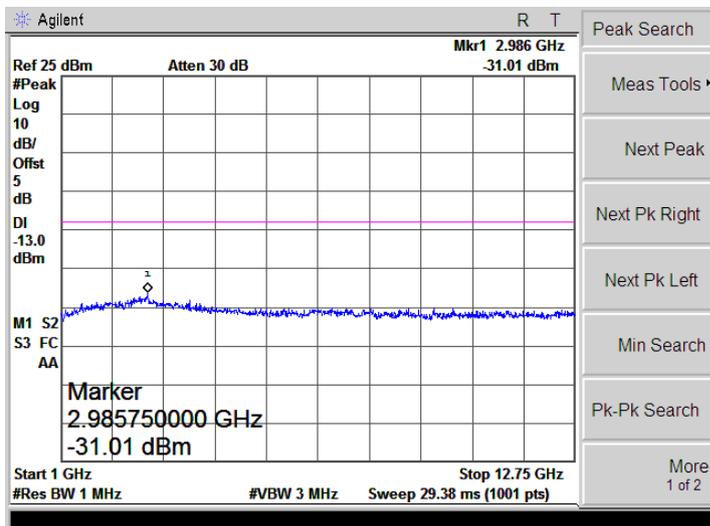
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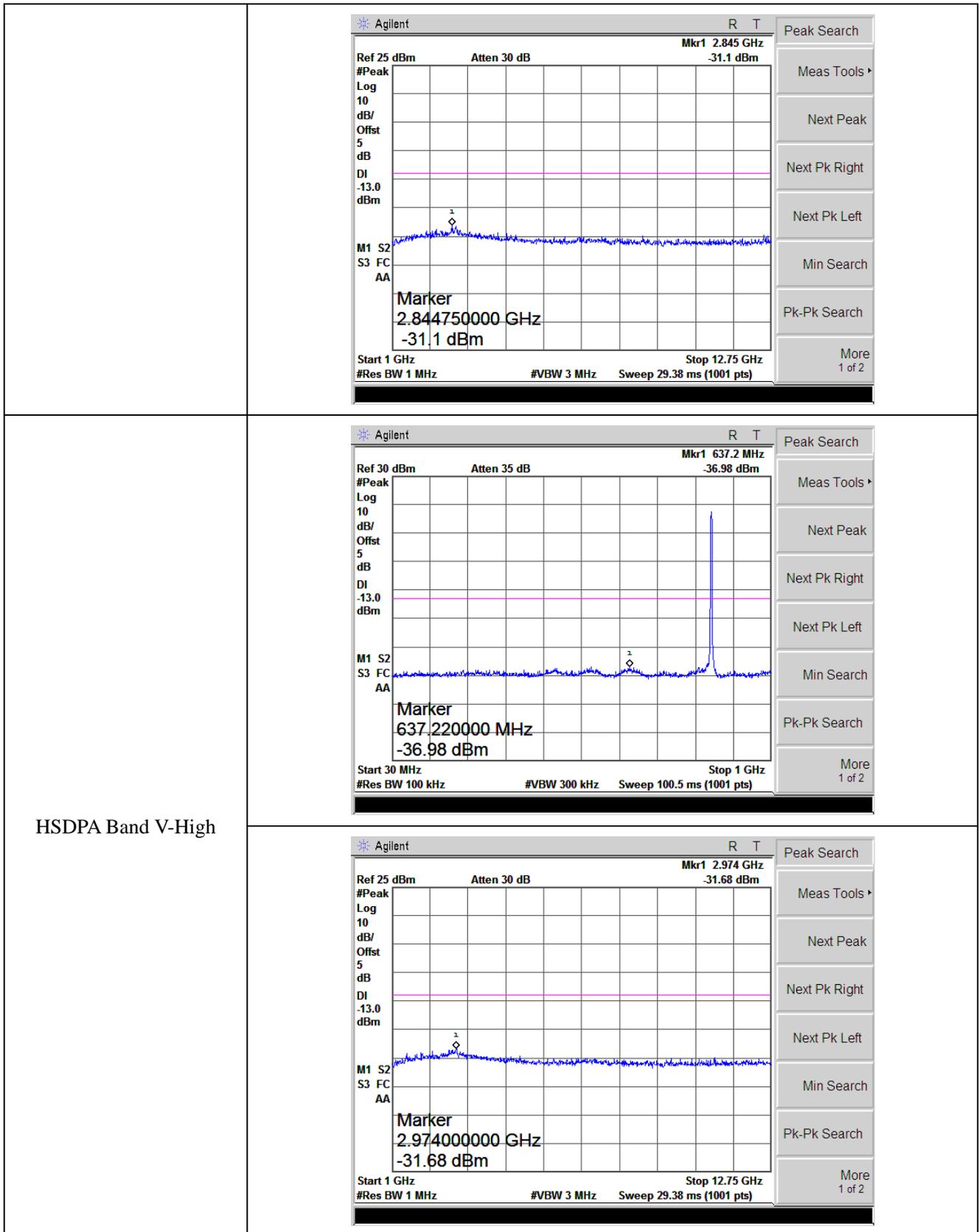


HSDPA Band V-Low

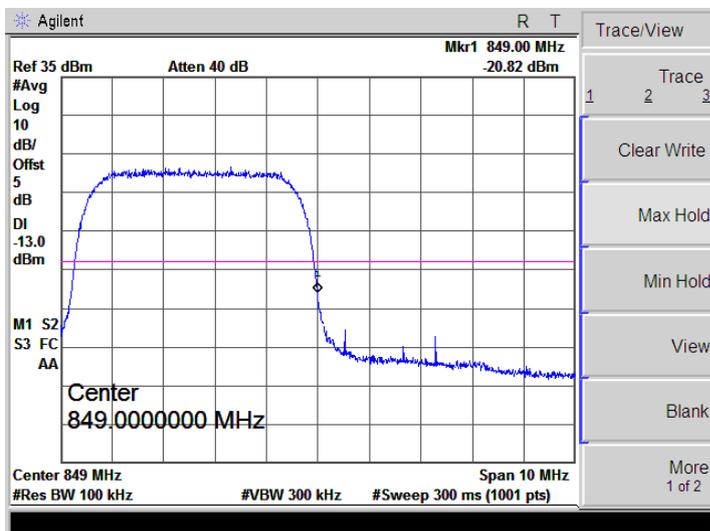
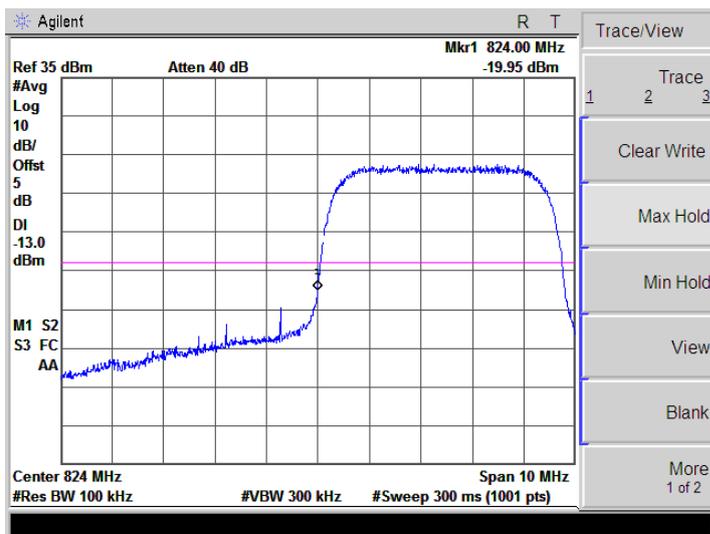


HSDPA Band V-Middle

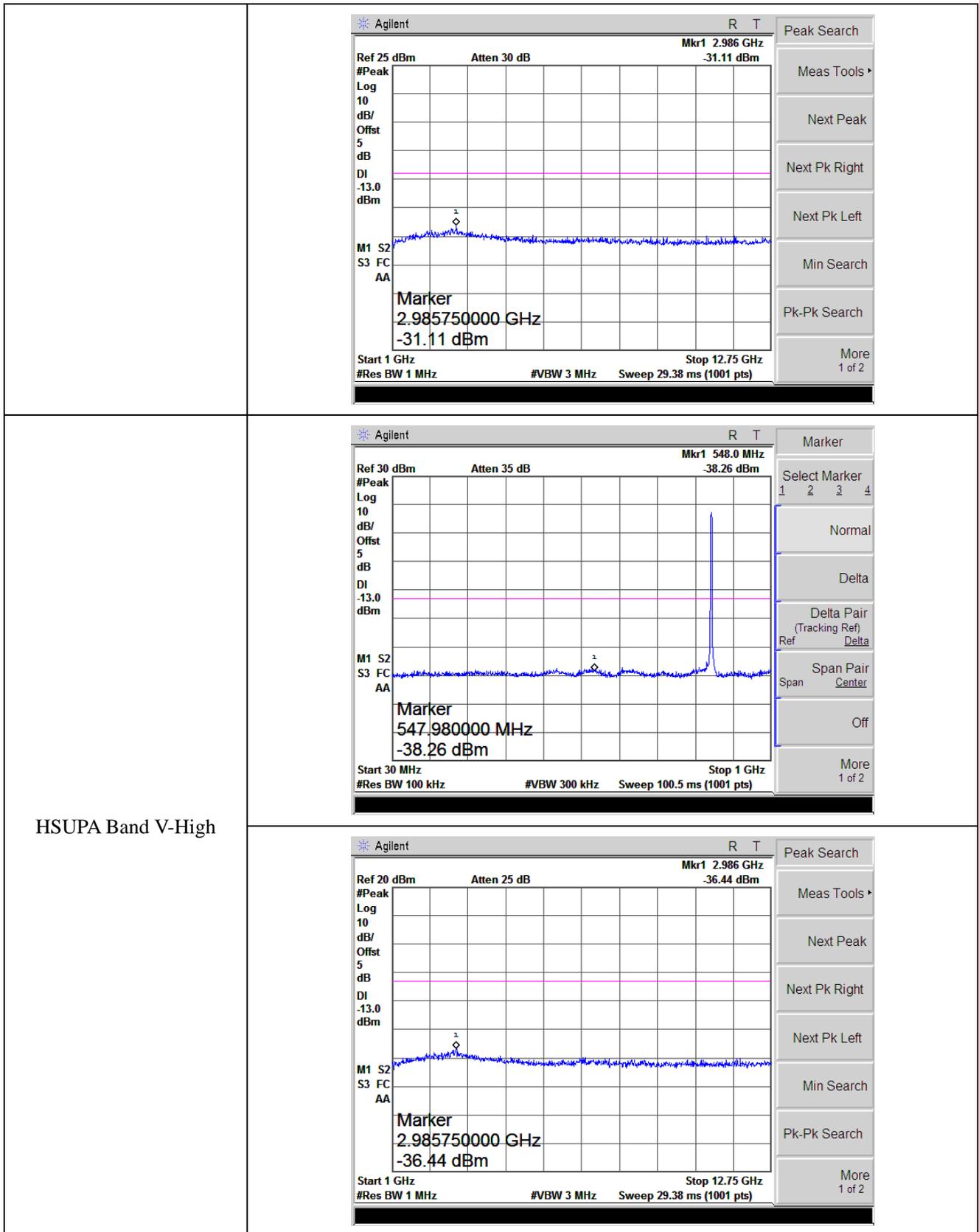




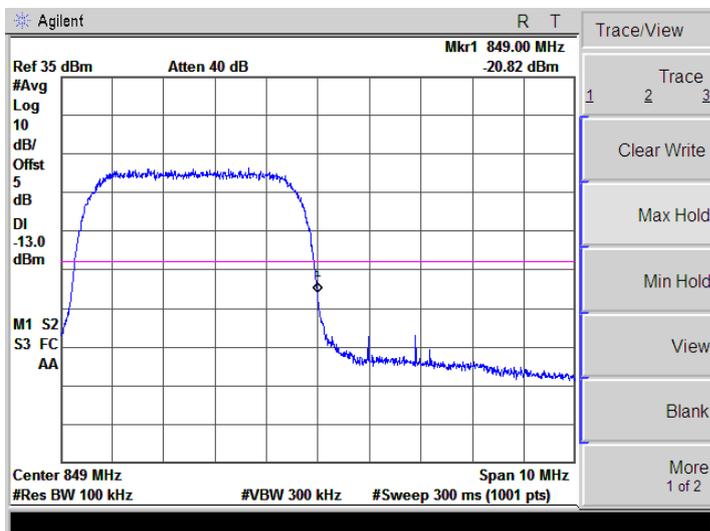
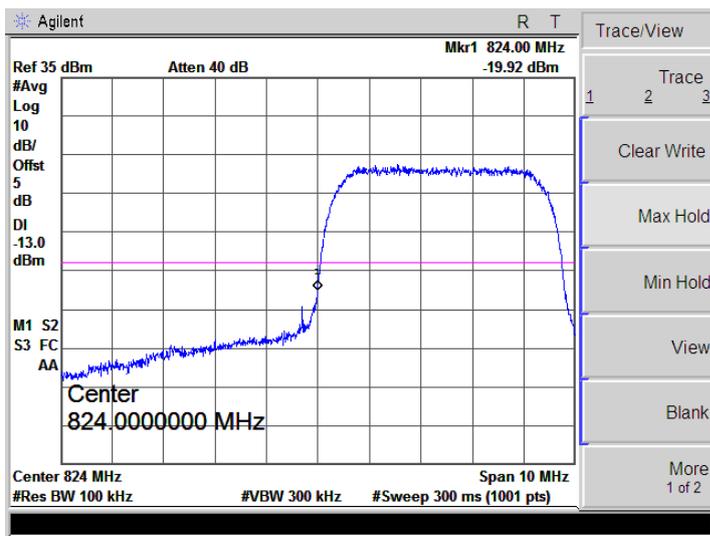
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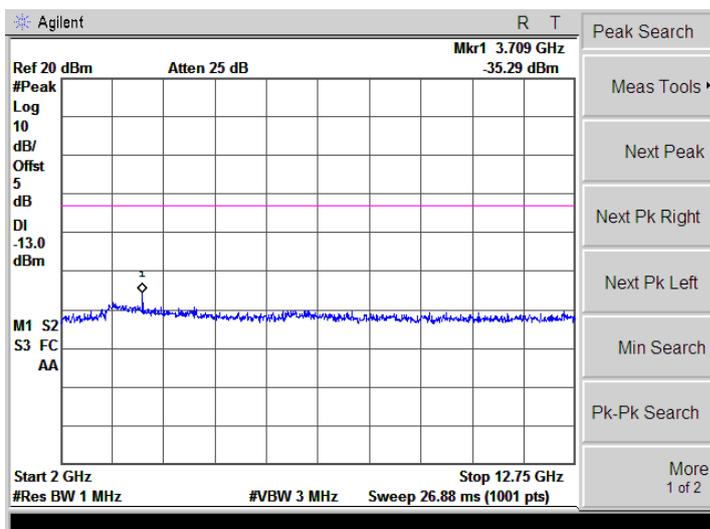
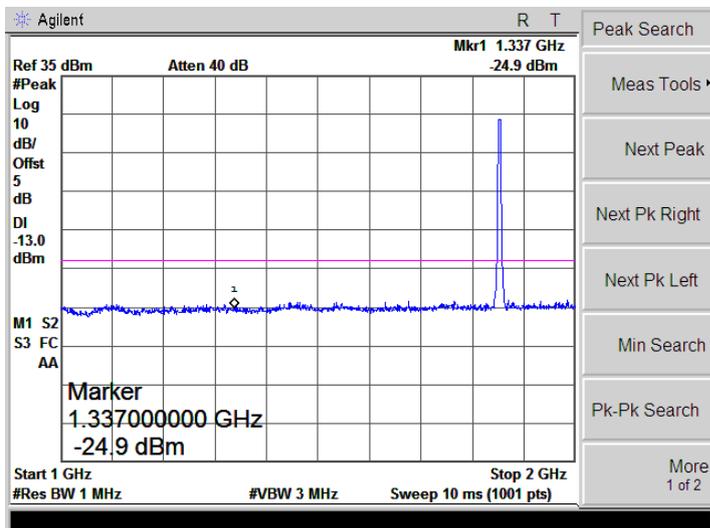
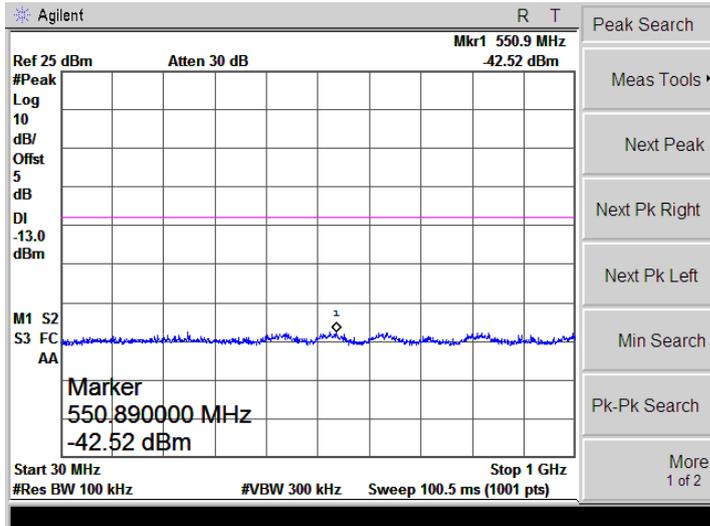
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<p>HSUPA Band V-Middle</p>	
<p>HSUPA Band V-Middle</p>	



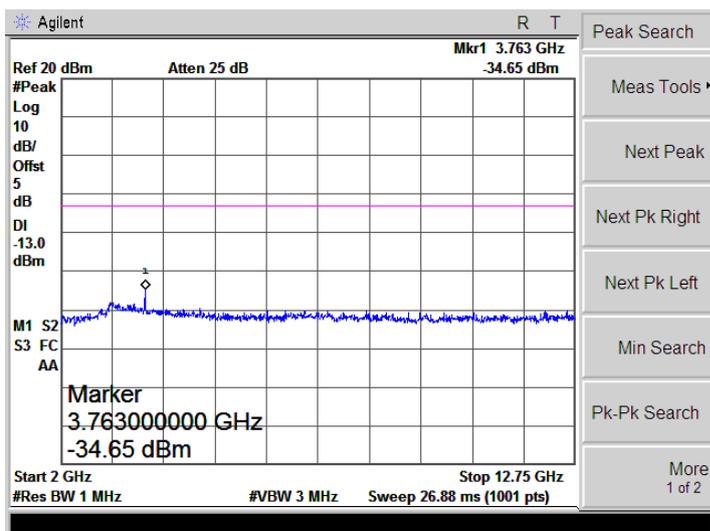
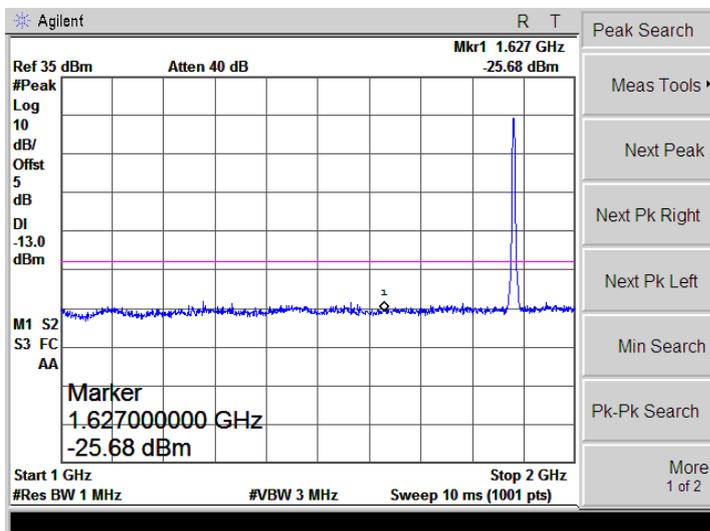
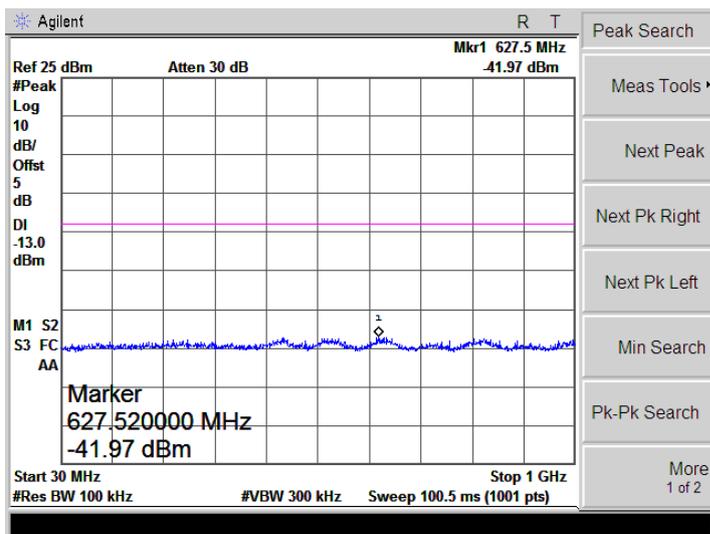
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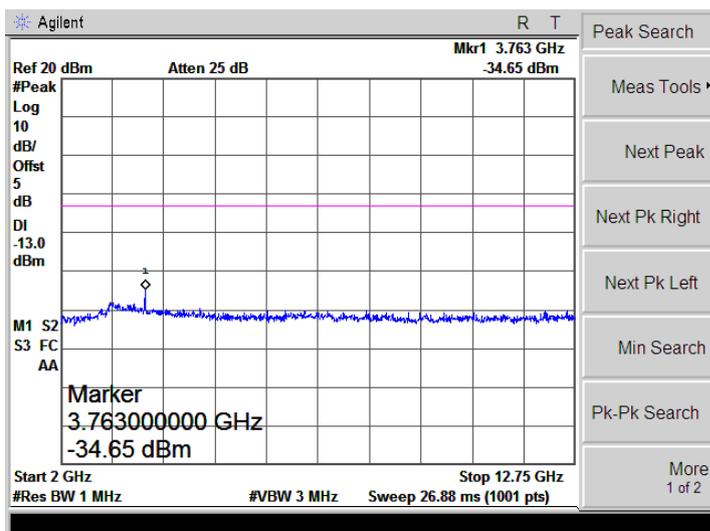
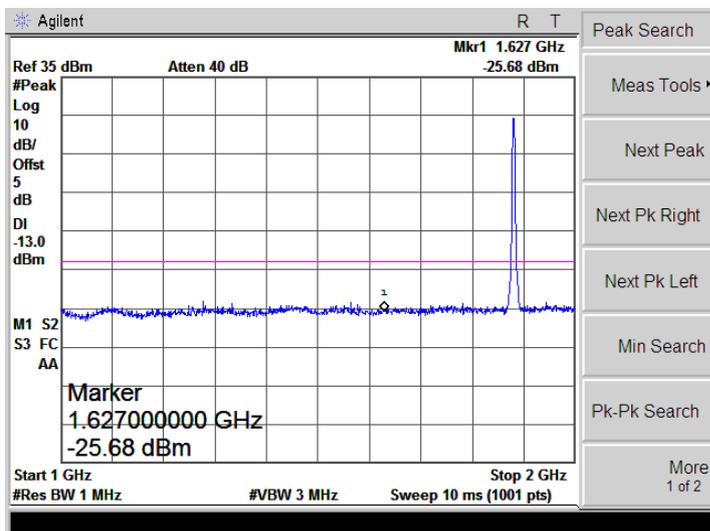
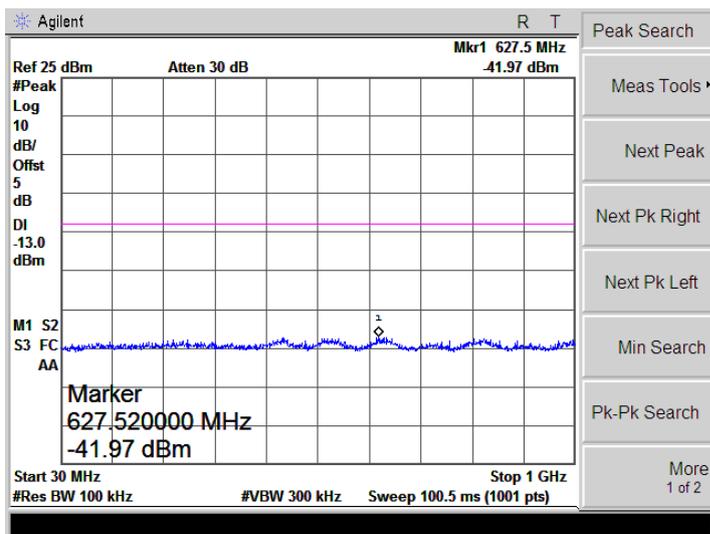
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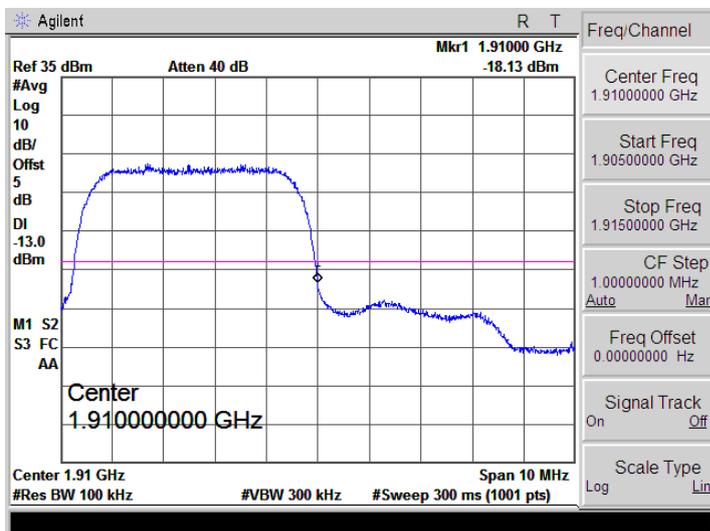
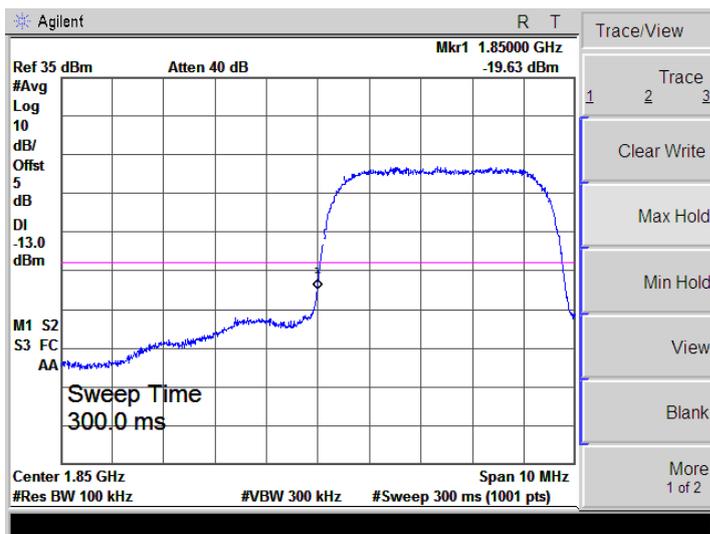
WCDMA Band II-Low



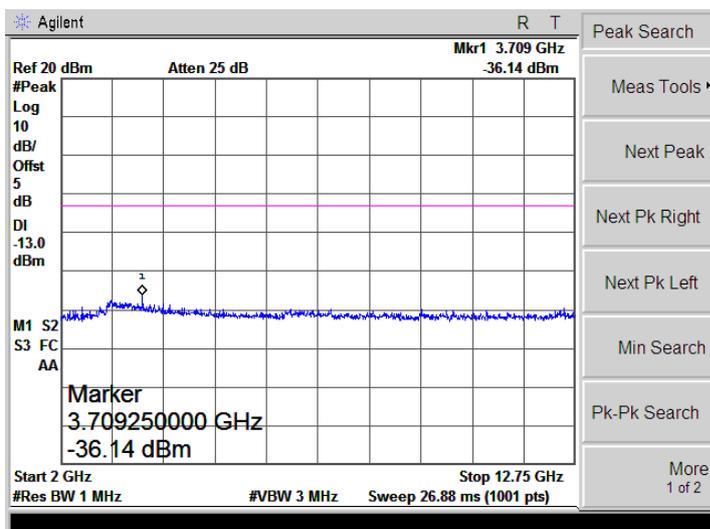
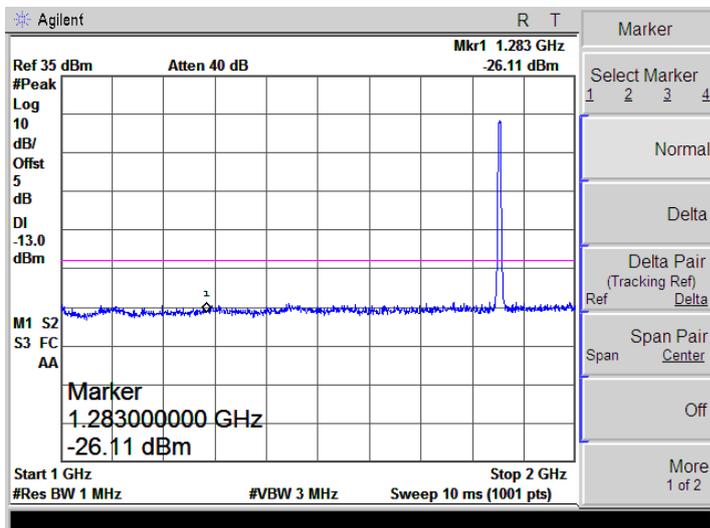
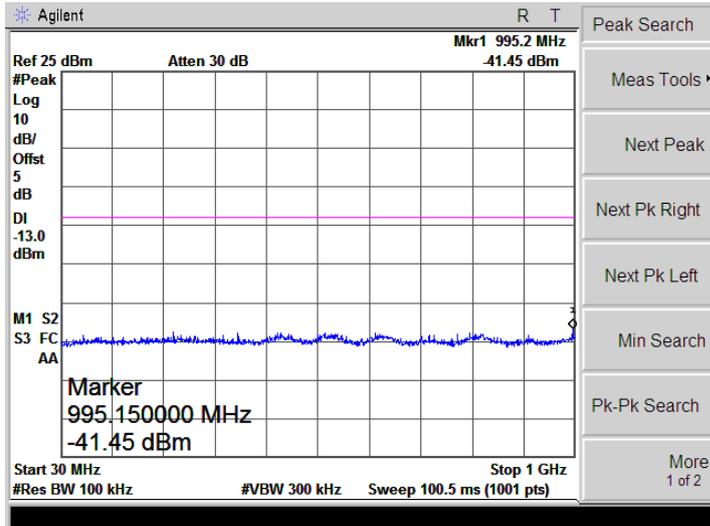
WCDMA Band II-Low



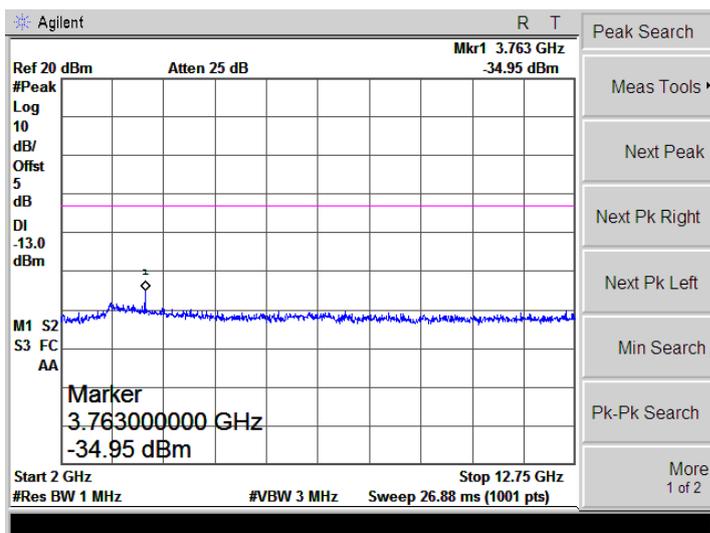
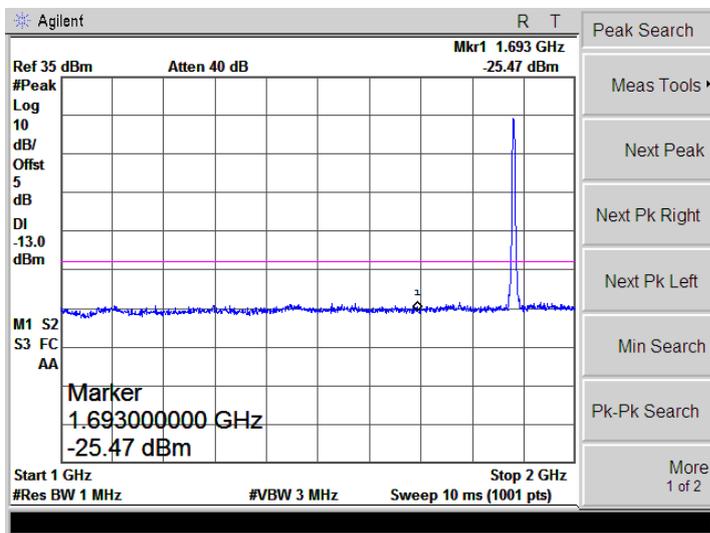
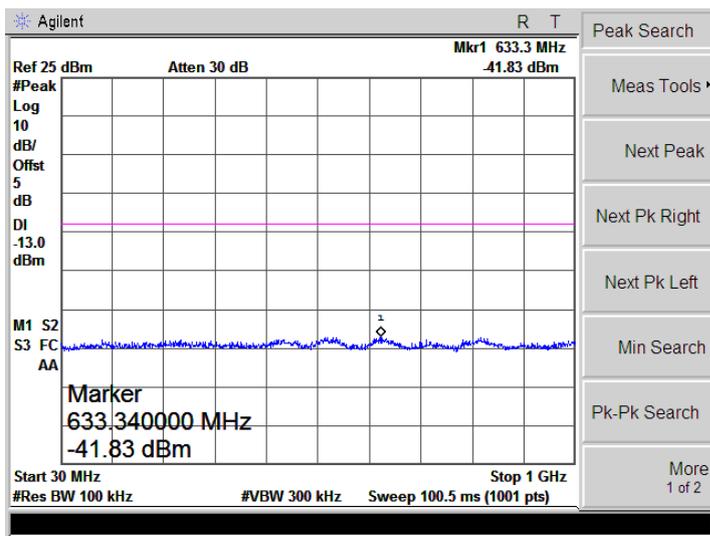
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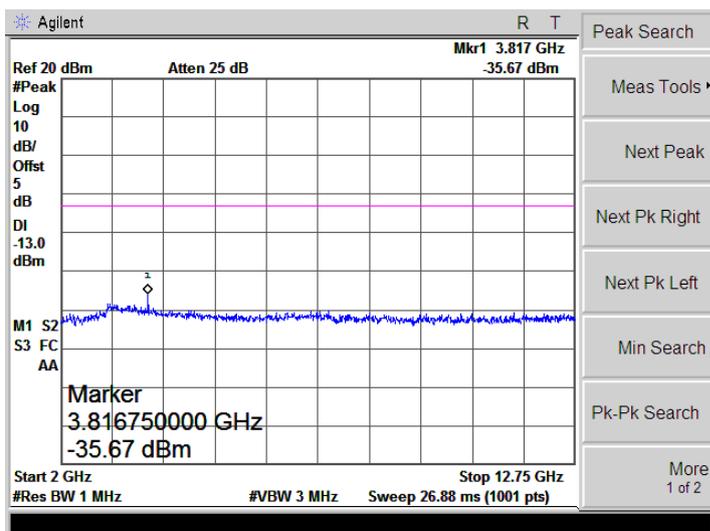
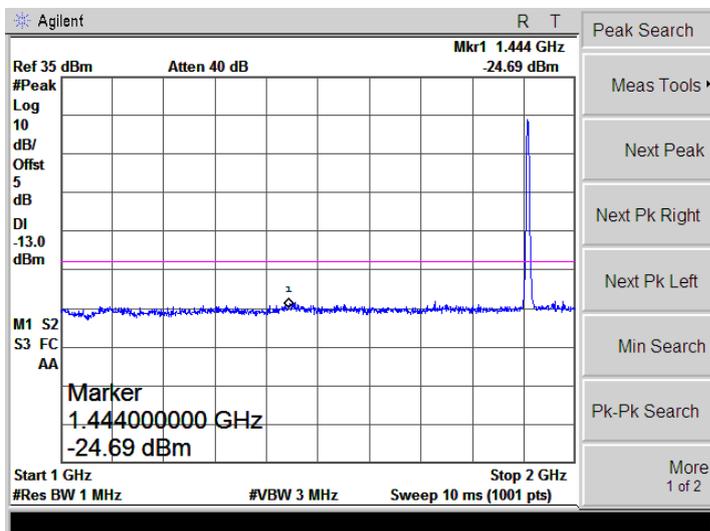
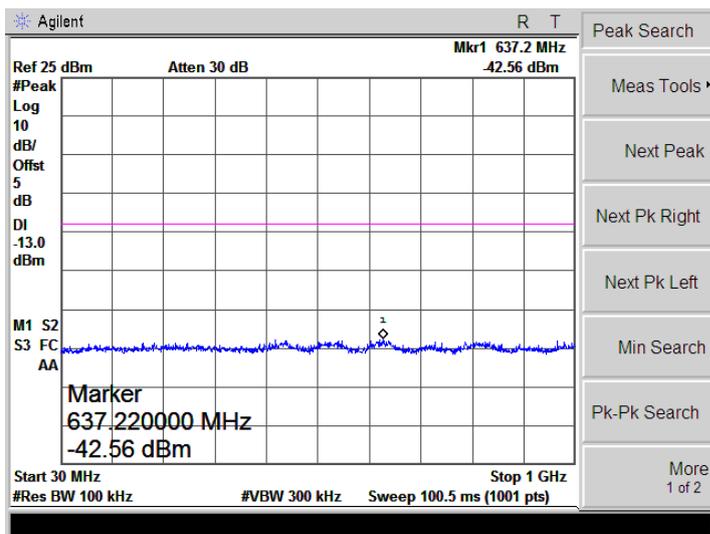
HSDPA Band II-Low



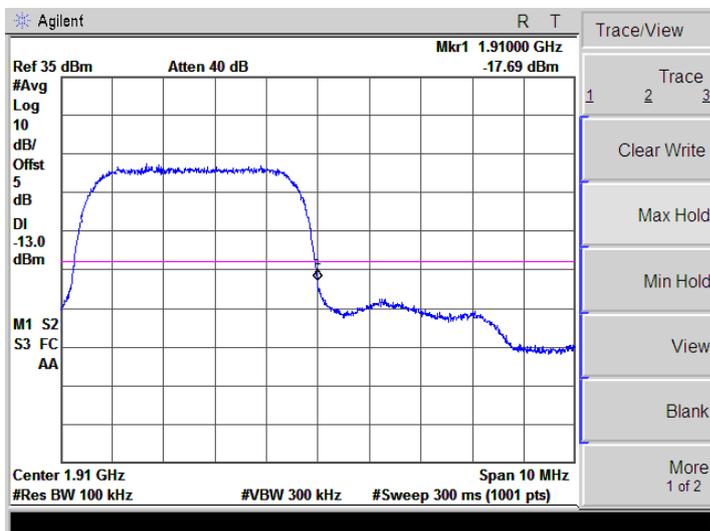
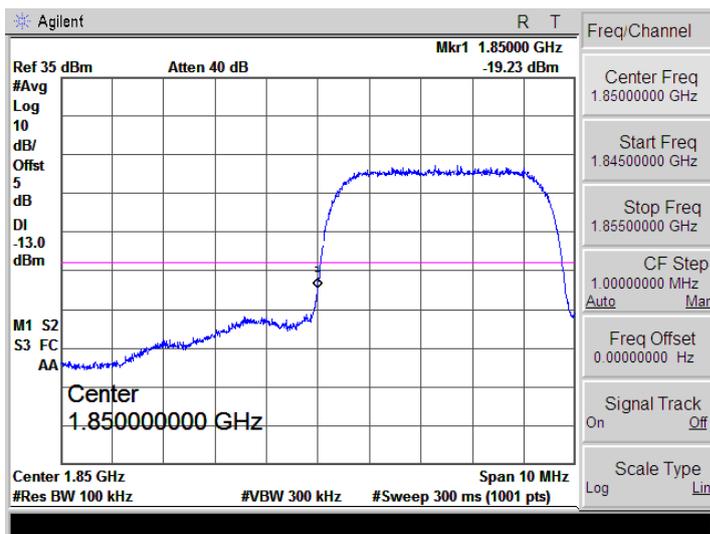
HSDPA Band II-Low



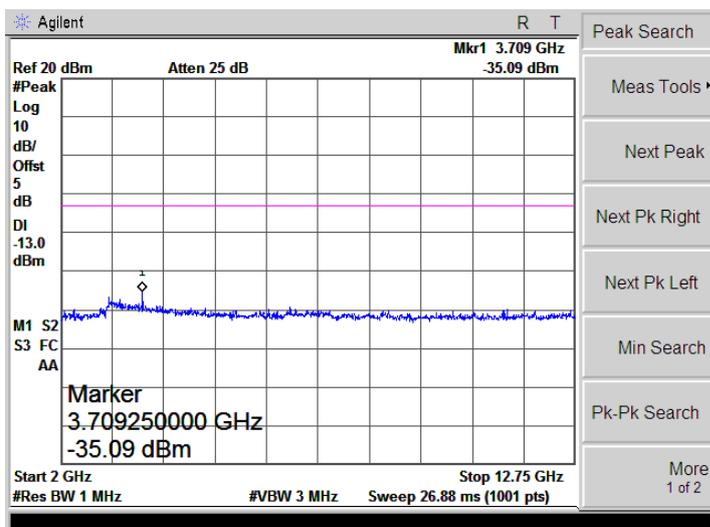
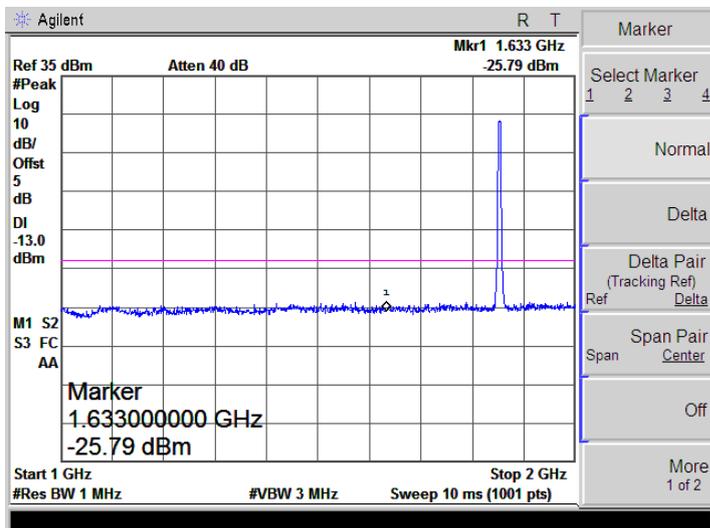
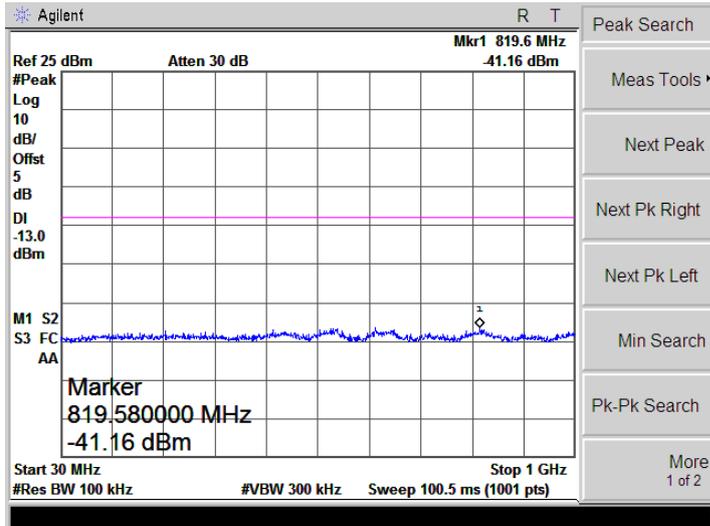
HSDPA Band II-Low



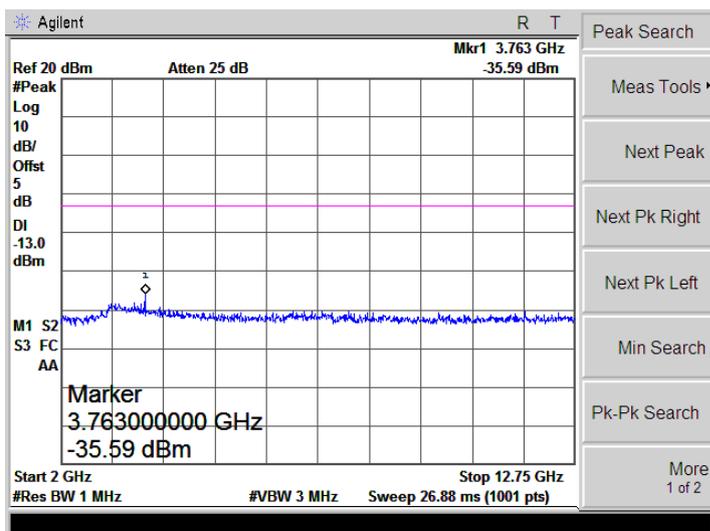
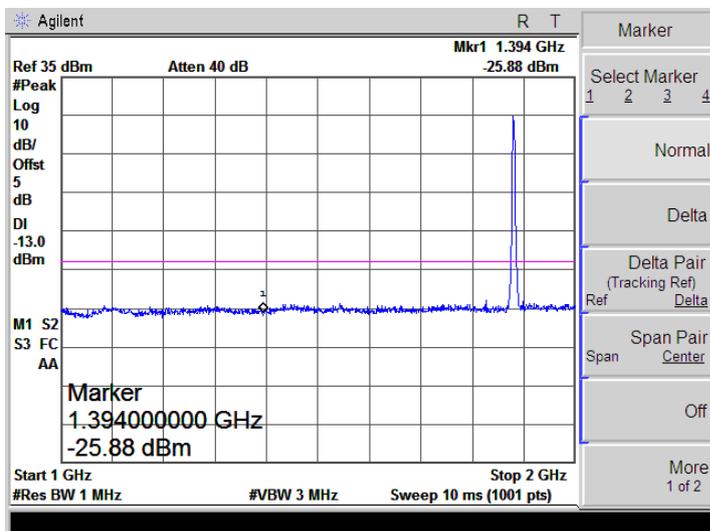
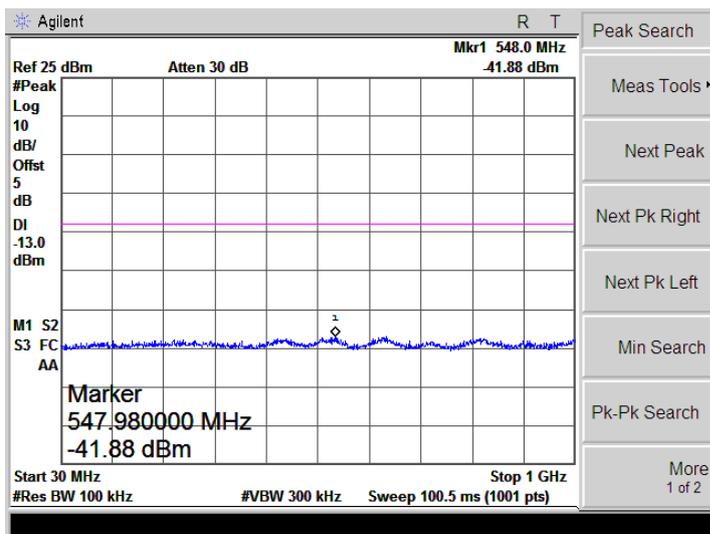
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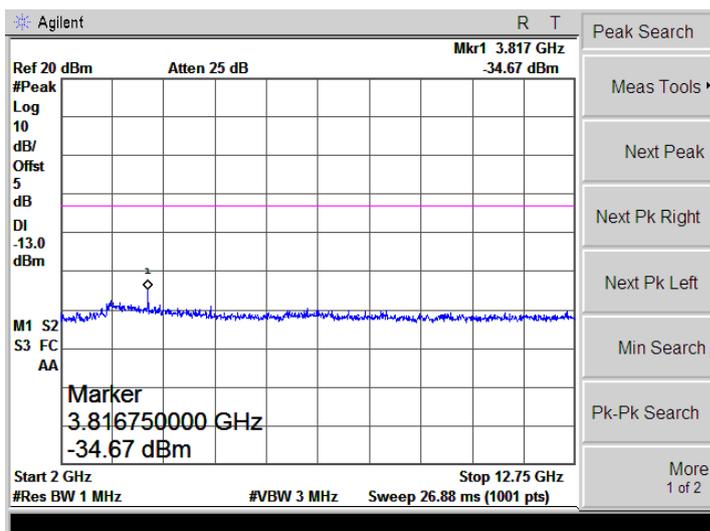
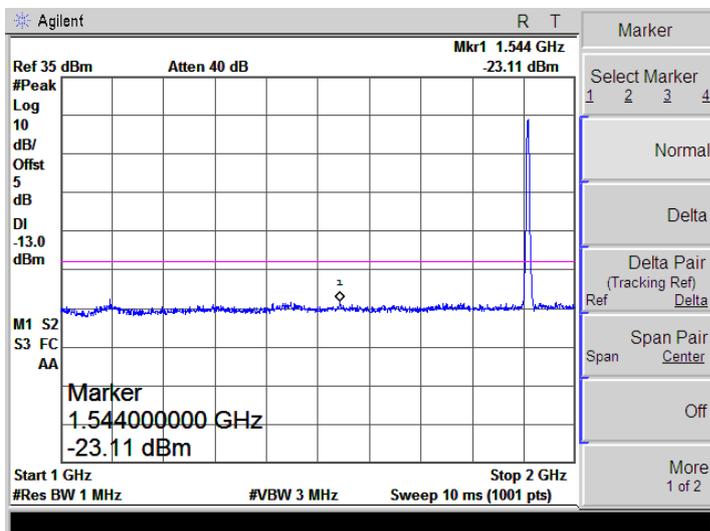
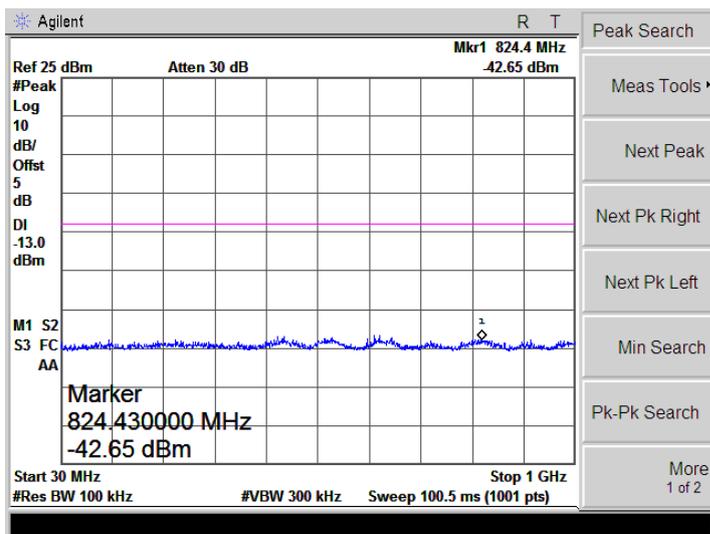
HSUPA Band II-Low



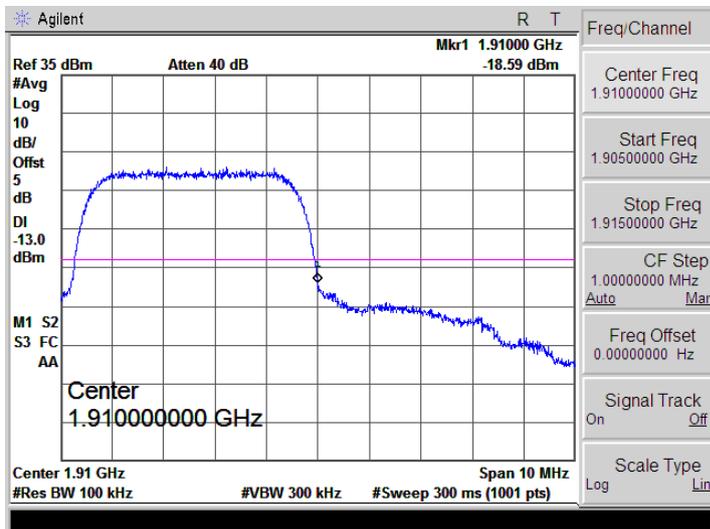
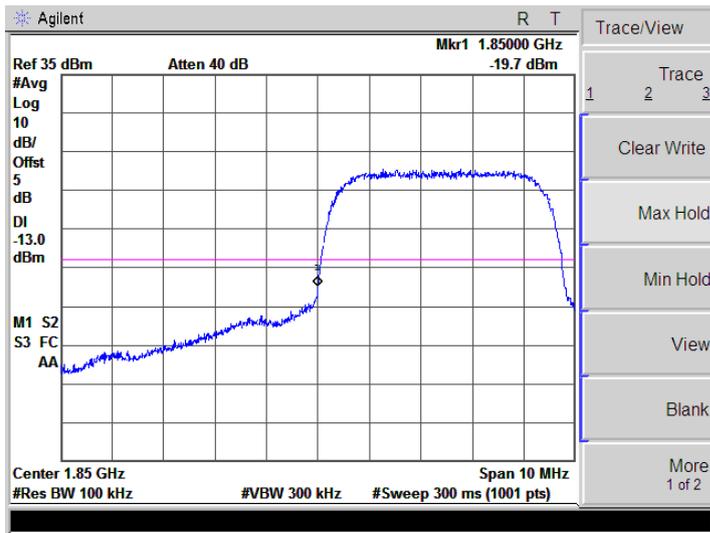
HSUPA Band II-Low



HSUPA Band II-Low



Bandedge



APPENDIX E**Frequency Stability**

Note: 1. Worst case at GSM850/PCS1900/WCDMA B2/B5 middle channel

2. Normal Voltage NV=DC3.8V; Low Voltage LV=DC3.5V;High Voltage HV=DC4.35V

➤ Frequency stability V.S. Temperature measurement

Reference Frequency: GSM850 Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
NV	-30	64	0.0763	2.50	Pass
	-20	57	0.0680		
	-10	51	0.0607		
	0	45	0.0542		
	10	38	0.0460		
	20	31	0.0368		
	30	38	0.0460		
	40	43	0.0515		
50	48	0.0570			
Reference Frequency: PCS1900 Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
NV	-30	49	0.0262	2.50	Pass
	-20	45	0.0241		
	-10	41	0.0217		
	0	33	0.0176		
	10	27	0.0143		
	20	22	0.0119		
	30	28	0.0151		
	40	32	0.0172		
	50	38	0.0200		

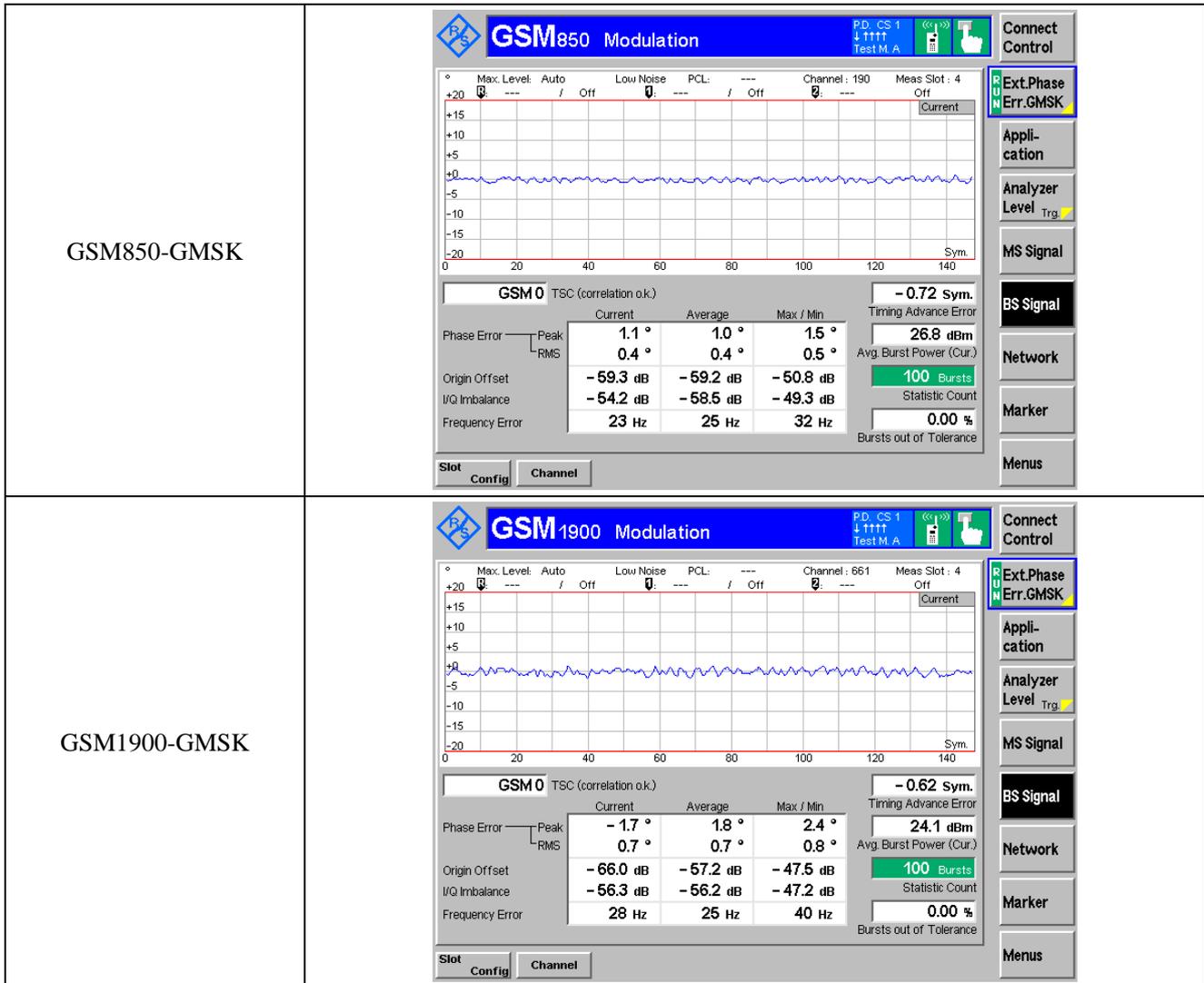
Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
NV	-30	55	0.0653	2.50	Pass
	-20	46	0.0552		
	-10	38	0.0460		
	0	31	0.0368		
	10	25	0.0303		
	20	18	0.0221		
	30	25	0.0303		
	40	32	0.0377		
	50	37	0.0441		
Reference Frequency: WCDMA Band II Middle channel=9400 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
NV	-30	68	0.0364	2.50	Pass
	-20	54	0.0286		
	-10	42	0.0225		
	0	38	0.0200		
	10	31	0.0164		
	20	23	0.0123		
	30	30	0.0160		
	40	35	0.0188		
	50	41	0.0217		

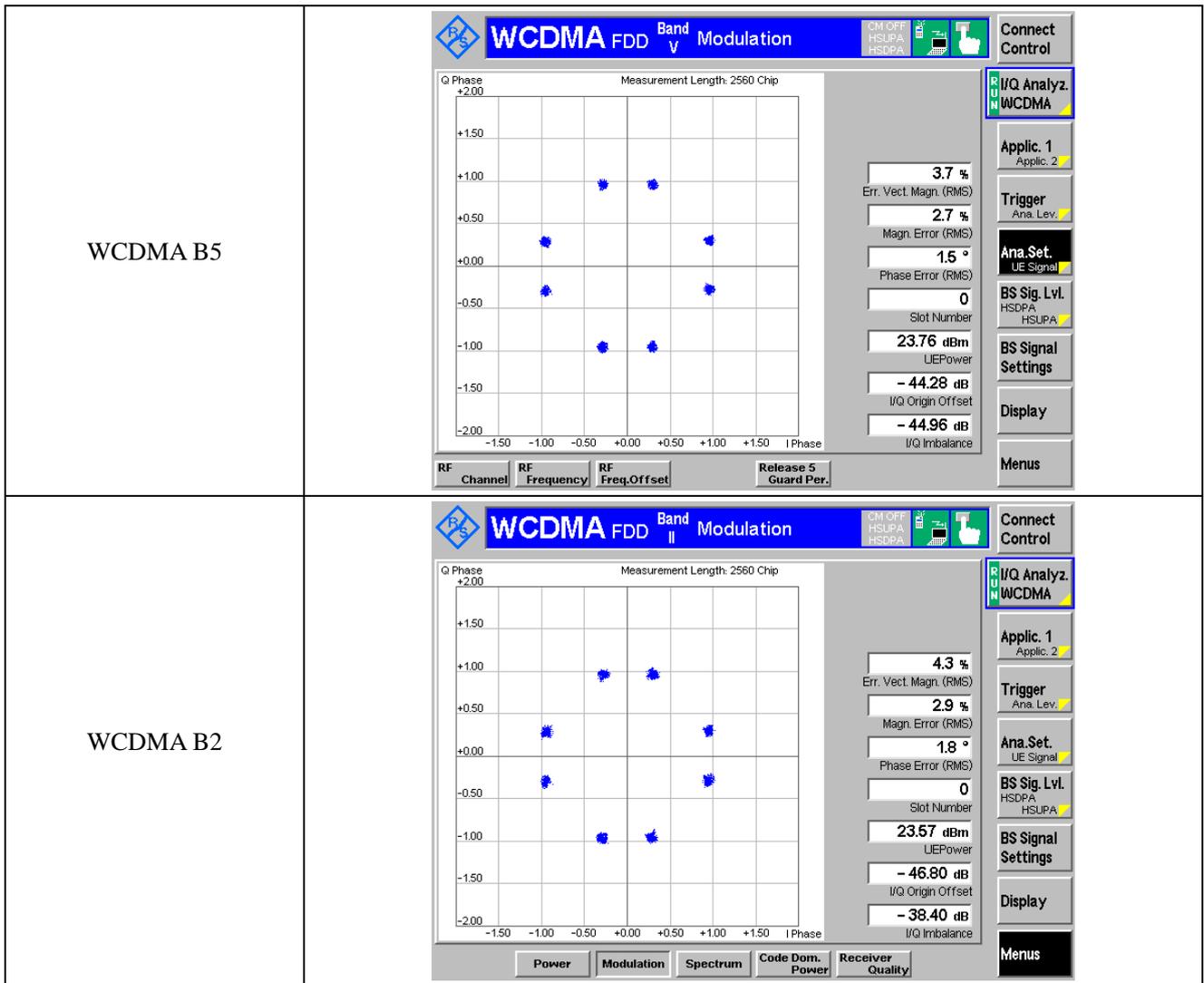
➤ Frequency stability V.S. Voltage measurement

Reference Frequency: GSM850 (GSM link) Middle channel=190 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	HV	45	0.0542	2.50	Pass
	NV	42	0.0497		
	LV	31	0.0368		
Reference Frequency: PCS1900 (GSM link) Middle channel=661 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	HV	70	0.0372	2.50	Pass
	NV	55	0.0295		
	LV	44	0.0233		
Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	HV	26	0.0313	2.50	Pass
	NV	21	0.0248		
	LV	17	0.0202		
Reference Frequency: WCDMA Band II Middle channel=9400 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	HV	38	0.0205	2.50	Pass
	NV	35	0.0184		
	LV	27	0.0143		

APPENDIX F

Modulation characteristics





APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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