FCC PART 22/24 TEST REPORT

for

Smart Home Alarm Systems

Model No.:

HSGWx-xxxxx-xxxxx Series (x=0~9, A~Z or blank)

FCC ID: GX9HSGW3G

of

Applicant: **CLIMAX TECHNOLOGY CO., LTD.**
Address: **No. 258, Sinhu 2nd Rd., Neihu District 114**
Taipei City Taiwan (R.O.C.)

Tested and Prepared
by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: TW1477, TW1111, TW1072, TW1110

Industry Canada filed test laboratory Reg. No. IC 5679A-1, IC 5107A-1

A2LA Accredited No.: 2732.01

Report No.: W6M21710-17467-P-2224

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.
TEL: 886-2-66068877 FAX: 886-2-66068879 E-mail: wts@wts-lab.com

Worldwide Testing Services(Taiwan) Co., Ltd.

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G

Certification of Test Report

Applicant : CLIMAX TECHNOLOGY CO., LTD.
No. 258, Sinhu 2nd Rd., Neihu District Taipei City 114
Taiwan (R.O.C.)

Manufacturer : CLIMAX TECHNOLOGY CO., LTD.
No. 258, Sinhu 2nd Rd., Neihu District Taipei City 114
Taiwan (R.O.C.)

Tested Equipment :

Type Description	: Smart Home Alarm Systems
Model Number	: HSGWx-xxxxx-xxxxx Series (x=0~9, A~Z or blank)
Brand Name	: ./.
Operation Frequency	: 824.2-848.8MHz / 1850.2 - 1909.8 MHz WCDMA BAND II: 1852.4 – 1907.6 MHz WCDMA BAND V : 826.4-846.6 MHz
RF Output Power	: 1) Band 850 MHz : 19.70 dBm (ERP) 2) Band 1900 MHz : 26.43 dBm (EIRP) 3) BAND II : 22.13 dBm (EIRP) 4) BAND V : 13.87 dBm (ERP)
Power Supply	: Adaptor: I/P: 100-240V, 50/60Hz, 0.4A O/P: 12V, 1A Battery: 1.2Vd.c.*6 (NI-MH 1100mAh*6 AA)

Regulation Applied : 47CFR Part 22 (2016-10) and Part 24 (2016-10)

Test Method : 47CFR Part 2 (2016), TIA/EIA-603C (2010) and ANSI C63.4 (2014)

I HEREBY CERTIFY THAT: The test results written in this report were derived conscientiously in accordance with the requirements and procedures of 47CFR Part 2(2016), TIA/EIA-603C (2010), and it was found that the device described above is in compliance with the applicable limits specified in 47CFR Part 22/24.

Note:

1. The result of this test report is valid only in connection to the sample has been tested at the laboratory of Worldwide Testing Services (Taiwan) Co. Ltd.
2. This test report shall always be duplicated in full pages unless the written approval of the testing laboratory is obtained.

Test Engineer:

Date	WTS-Lab.	Name	Signature
November 21, 2017		Rick Chen	Rick Chen.

Technical responsibility for area of testing:

Date	WTS	Name	Signature
November 21, 2017		Kevin Wang	Kevin Wang

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1. Summary

1.1 Description of tested equipment

This equipment under tested, HSGWx-xxxxx-xxxxx Series (x=0~9, A~Z or blank), is a Smart Home Alarm Systems with built-in GSM 850/PCS 1900 MHz and supporting HSDPA and WCDMA.

The operation frequency bands and rated RF output power are listed as follows:

824.2-848.8MHz (Cellular, Part 22), 19.70 dBm / 0.09333 W (ERP)
1850.2-1909.8MHz (Cellular, Part 24), 26.43 dBm / 0.43954 W (EIRP)
Band II (Cellular, Part 24), 22.13 dBm / 0.16331 W (EIRP)
Band V (Cellular, Part 22), 13.87 dBm / 0.02438 W (ERP)

This test report only contains test requirements specified in 47CFR Part 22 and Part 24 for GSM function and WCDMA function, for other functions; please refer to separate test report with respect to the relevant test standard and specification.

1.2 Date of testing processing

Test sample received: May 19, 2017

Test finished: from May 19, 2017 to November 20, 2017

Other Information: None

1.3 Modification Information

No modification was made during the all test items been performed.

1.4 Test standards

Technical standard: **FCC Part 2(2016), TIA/EIA-603C (2010), ANSI C63.4 (2014) 47CFR Part 22 (2016-10), and Part 24 (2016-10)**

Deviation from test standard: None

1.5 Summary of test result

Band: 850 MHz

Section in this Report	Test Item	FCC relevant Section	Verdict
3.2	RF Power Output (Effective radiated power)	2.1046(a), 22.913(a)	Pass
4.2	Modulation characteristics	2.1047	Not Required
5.2	Occupied bandwidth	2.1049(h)	Pass
6.2	Spurious emissions at antenna terminals	22.917(a), 2.1051	Pass
7.2	Field strength of spurious radiation	22.917(a), 2.1053	Pass
7.5	Band Edge emissions	22.917(a)	Pass
8.2	Frequency stability	2.1055 22.355	Pass

Band: 1900 MHz

Section in this Report	Test Item	FCC Relevant Section	Verdict
3.2	RF Power Output (Equivalent isotropically radiated power)	2.1046(a), 24.232	Pass
4.2	Modulation characteristics	2.1047	Not Required
5.2	Occupied bandwidth	2.1049(h) 24.238(b)	Pass
6.2	Spurious emissions at antenna terminals	24.238(a), 2.1051	Pass
7.2	Field strength of spurious radiation	24.238(a), 2.1053	Pass
7.5	Band Edge emissions	24.238(b)	Pass
8.2	Frequency stability	2.1055 24.235	Pass

2. General Information

2.1 Testing laboratory

2.1.1 Location

OATS
No.5-1, Shuang Sing Village,
LiShuei Rd., Wanli Township,
Taipei County 207, Taiwan (R.O.C.)
Company
Worldwide Testing Services (Taiwan) Co., Ltd.
6F, NO. 58, LANE 188, RUEY-KUANG RD.
NEIHU, TAIPEI 114, TAIWAN R.O.C.
Tel : 886-2-66068877
Fax : 886-2-66068879

2.1.2 Details of accreditation status

Accredited testing laboratory
A2LA-registration number: 2732.01
FCC filed test laboratory Reg. No. TW1477, TW1111, TW1072, TW1110
Industry Canada filed test laboratory Reg. No. IC 5679A-1**,** IC 5107A-1

2.1.3 Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd.

Name:	**./.**
Accredited number:	**./.**
Street:	**./.**
Town:	**./.**
Country:	**./.**
Telephone:	**./.**
Fax:	**./.**

2.2 Details of approval holder

Name:	CLIMAX TECHNOLOGY CO., LTD.
Street:	No. 258, Sinhu 2nd Rd., Neihu District
Town:	114 Taipei City
Country:	Taiwan (R.O.C.)
Telephone:	+886-2-2794-0001
Fax:	+886-2-2792-6618

Manufacturer: (if different from applicant)

Name:	./.
Street:	./.
Town:	./.
Country:	./.

2.3 Description of Tested System

The EUT was tested alone without the Accessories or Peripherals.

Equipment	Model No.	Series No.	Software	Cable information	Note
No accessories were used with this EUT.					

Frequencies Selected to be investigated:

Band: 850 MHz
Low Frequency (ch 128): 824.2 MHz
Mid Frequency (ch 188): 836.2 MHz
High Frequency (ch 251): 848.8 MHz

Band: 1900 MHz
Low Frequency (ch 512): 1850.2 MHz
Mid Frequency (ch 661): 1880.0 MHz
High Frequency (ch 810): 1909.8 MHz

WCDMA Band II
Low Frequency (ch 9262): 1852.4 MHz
Mid Frequency (ch 9400): 1880.0 MHz
High Frequency (ch 9538): 1907.6 MHz

WCDMA Band V
Low Frequency (ch 4132): 826.4 MHz
Mid Frequency (ch 4183): 836.6 MHz
High Frequency (ch 4233): 846.6 MHz

Antenna Type: PCB Antenna

Antenna Gain: Band 850MHz & WCDMA Band V: -5.17 dBi
Band 1900MHz & WCDMA Band II: 2.6 dBi

Power supply: Adaptor: I/P: 100-240V, 50/60Hz, 0.4A
O/P: 12V, 1A
Battery: 1.2Vd.c.*6 (NI-MH 1100mAh*6 AA)

2.4 Test environment

Temperature: 27 °C
Relative humidity content: 54 %
Air pressure: 86-103 Kpa

Special statement

1. This test report is valid in connection to the model has been tested, any modification to the product which is different from the test model will avoid the certification of the test report.
2. This test report shall always be duplicated in full pages unless the written approval of the testing laboratory is obtained.
3. The x in model number is representing different case shape, case colors, led mask color, and control ID. The model number of EUT is HSGW-G8-DT18.

2.5 General Test Requirement

Radiated Emission: For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100 kHz respectively with an appropriate sweep speed.

For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to the frequency specified as follows:

(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

(3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

For hand-held devices, a exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

2.6 Test Equipment List

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2017/5/26	2018/5/25
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2017/10/12	2018/10/11
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2017/8/22	2018/8/21
ETSTW-CE 008	HF-EICHLEITUNG RF STEP ATTENUATOR 139dB DPSP	334.6010.02	844581/024	R&S	Function Test	
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2017/7/14	2018/7/13
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2017/8/31	2018/8/30
ETSTW-CE 028	MXE EMI Receiver	N9038A	MY53220110	Agilent	2017/7/11	2018/7/10
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2017/5/26	2018/5/25
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2017/5/17	2018/5/16
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2017/8/25	2018/8/24
ETSTW-RE 012	TUNABLE BANDREJECT FILTER	D.C 0309	146	K&L	Function Test	
ETSTW-RE 013	TUNABLE BANDREJECT FILTER	D.C 0336	397	K&L	Function Test	
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2017/7/4	2018/7/3
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	ETS-Lindgren	2017/7/3	2018/7/2
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	ETS-Lindgren	2017/3/22	2018/3/21
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2017/2/7	2018/2/6
ETSTW-RE 043	Log-Periodic Dipole Antenna	HL223	100166	R&S	2017/4/10	2018/4/9
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2017/4/27	2018/4/26
ETSTW-RE 045	ESA-E SERIES SPECTRUM ANALYZER	E4404B	MY45111242	Agilent	Pre-test Use	
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2017/3/1	2018/2/28
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2017/3/1	2018/2/28
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2017/3/1	2018/2/28
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2017/3/1	2018/2/28
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2017/3/1	2018/2/28
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2017/4/12	2018/4/11
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	
ETSTW-RE 069	Double-Ridged Guide Horn Antenna	3117	00069377	ETS-Lindgren	Function Test	
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2017/9/11	2018/9/10
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2017/9/19	2018/9/18
ETSTW-RE 091	Match Pad	MDCS1500	None	WOKEN	2017/4/6	2018/4/5
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2017/3/1	2018/2/28

ETSTW-RE 112	AC POWER SOURCE	TFC-1005	T-0A023536	T-Power	Function test	
ETSTW-RE 115	2.4GHz Notch Filter	N0124411	473874	MICROWAVE CIRCUITS	2017/1/12	2018/1/11
ETSTW-RE 120	RF Player	MP9200	MP9210-111022	ADIVIC	Function test	
ETSTW-RE 122	SIGNAL GENERATOR	SMF100A	102149	R&S	2017/5/26	2018/5/25
ETSTW-RE 125	5GHz Notch filter	5NSL11-5200/E221.3-O/O	1	K&L Microwave	2017/8/9	2018/8/8
ETSTW-RE 126	5GHz Notch filter	5NSL12-5800/E221.3-O/O	1	K&L Microwave	2017/8/9	2018/8/8
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2017/3/1	2018/2/28
ETSTW-RE 128	5.3GHz Notch filter	N0153001	SN487233	Microwave Circuits	2017/8/9	2018/8/8
ETSTW-RE 129	5.5GHz Notch filter	N0555984	SN487234	Microwave Circuits	2017/8/9	2018/8/8
ETSTW-RE 130	Handheld RF Spectrum Analyzer	N9340A	CN0147000204	Agilent	Pre-test Use	
ETSTW-RE 142	Amplifier	8447D	2805A03378	Agilent	2017/4/12	2018/4/11
ETSTW-RE 147	Bi-log Hybrid Antenna	MCTD 2786B	BLB16M04005	ETC	2017/3/22	2018/3/21
ETSTW-RE 151	Thermohygrometer	608-h1	45104376	TESTO	2017/8/30	2018/8/29
ETSTW-EMI 011	USB Compact Modulator	SFC-U	101689	R&S	2017/5/10	2018/5/9
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2017/2/24	2018/2/23
ETSTW-GSM 003	Radio Communication Analyzer	MT8820C	6201342073	Anritsu	2017/2/10	2018/2/9
ETSTW-GSM 004	Wideband Radio Communication Tester	CMW500	128092	R&S	2016/12/15	2017/12/14
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849-822/851-40 /12+9SS	3	WI	2017/1/12	2018/1/11
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748-1743/1752-32/5SS	1	WI	2017/1/12	2018/1/11
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5-1875.5/1884.5-32/5SS	3	WI	2017/1/12	2018/1/11
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1-904.25-50/8SS	1	WI	2017/1/12	2018/1/11
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2017/9/13	2018/9/12
ETSTW-Cable 011	SMA to N type Cable	RGU-400	None	THERMAX	Pre-test Use NCR	
ETSTW-Cable 016	BNC Cable	Switch Box	B Cable 1	Schwarz beck	2017/2/23	2018/2/22
ETSTW-Cable 017	BNC Cable	X Cable	B Cable 2	Schwarz beck	2017/2/23	2018/2/22
ETSTW-Cable 018	BNC Cable	Y Cable	B Cable 3	Schwarz beck	2017/2/23	2018/2/22
ETSTW-Cable 019	BNC Cable	Z Cable	B Cable 4	Schwarz beck	2017/2/23	2018/2/22
ETSTW-Cable 020	N TYPE Cable	OATS Cable 1	N30N30-L335-15M	JYE BAO CO.,LTD.	2017/7/3	2018/7/2
ETSTW-Cable 022	N TYPE Cable	5006	0002	JYE BAO CO.,LTD.	2017/4/6	2018/4/5
ETSTW-Cable 026	Microwave Cable	SUCOFLEX 104	279075	HUBER+SUHNER	2017/3/1	2018/2/28
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2017/5/12	2018/5/11
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2017/9/7	2018/9/6
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2017/9/7	2018/9/6
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104（S_Cable 9）	279067	HUBER+SUHNER	2017/3/1	2018/2/28
ETSTW-Cable 031	Microwave Cable	SUCOFLEX 104（S_Cable 10）	238092	HUBER+SUHNER	2017/4/12	2018/4/11
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2017/4/12	2018/4/11

ETSTW-Cable 048	Microwave Cable	SUCOFLEX 104	325519	HUBER+SUHNER	2017/4/12	2018/4/11
ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2017/2/20	2018/2/19
ETSTW-Cable 064	Microwave Cable	SUCOFLEX 104	MY28891	HUBER+SUHNER	2017/4/12	2018/4/11
ETSTW-Cable 066	SMA type cable	32022	None	ASTROLAB	2017/8/31	2018/8/30
ETSTW-Cable 071	N TYPE CABLE	EMCCFD400-NM-NM-25000	170239	EMCI	2017/2/20	2018/2/19
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMC	None	Farad	Version ETS-03A1	
WTSTW-SW 006	EMI TEST SOFTWARE	e3	None	AUDIX	Version 9.161014	
WTSTW-SW 008	Signal studio	Agilent	None	AUDIX	Version 2.0.0.1	

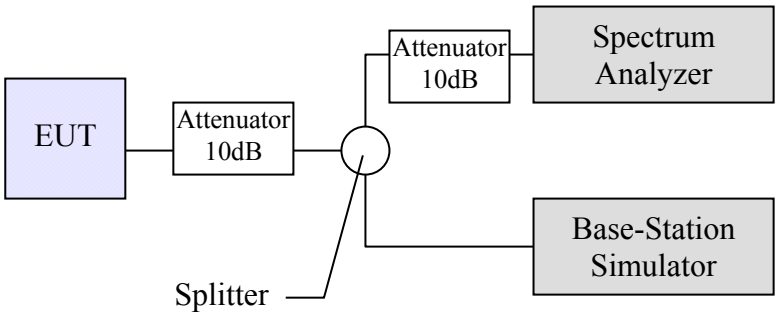
3. RF Power Output

3.1 Test procedure

3.1.1 Conducted Method

Per 47CFR Part 2.1046, the RF power output shall be measured at the RF output terminals and following procedure is employed:

The transmitter output was connected as the following figure:



The whole connection system is calibrated with a standard signal generator. Power on and make a link form simulator to EUT and then set the EUT to maximum output power.
Measure the RF power with the spectrum analyzer in accordance the following settings:

RBW: 300 kHz for Frequency below 1GHz and 1MHz for Frequency equal to and above 1GHz.
VBW: 300 kHz for Frequency below 1GHz and 1MHz for Frequency equal to and above 1GHz.
Span: 2MHz
Sweep: 3s

The power output at the transmitter antenna terminal is then determined by assign the value of the corrected factor to the spectrum analyzer reading.

Tests were performed at three frequencies (low, middle and high channels) and operation mode selected.

3.1.2 Radiated Method

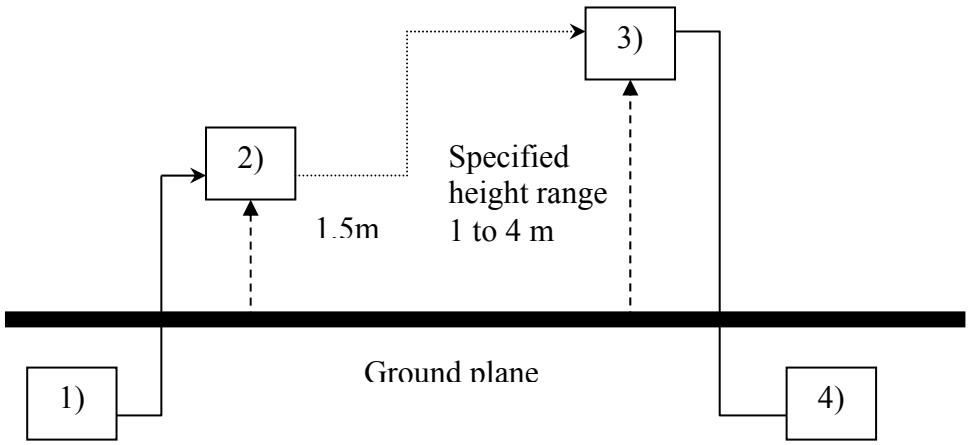
If the conducted measurement is not practical due to the integral antenna, the radiated measurement will be performed in accordance the following procedure:

The EUT was positioned on a non-conductive turntable, 0.8m above the ground on an open test site.
The radiated emission at the fundamental frequency was measured at 3m distance with a test antenna and spectrum analyzer.

Worst case emission was recorded with the rotation of the turntable and the raising and lowering of the test antenna.

Substitution RF power Measurement at WTS Taiwan
General:

The applied substitution method follows ANSI/TIA/EIA-603,ANSI/TIA/EIA-102.CAAA or the appropriate ETSI rules respectively.
The actual signal generated by the EUT can be determined by means of a substitution measurement in which a known signal source replaces the device to be measured.



1) Signal generator;
2) Substitution antenna;
3) Test antenna;
4) Spectrum analyzer or selective voltmeter.

The substitution antenna replaces the transmitter antenna at the same position and in vertical polarization. The frequency of the signal generator shall be adjusted to the measurement frequency.

The test antenna shall be raised or lowered, if necessary, to ensure that the maximum signal is still received. The input signal to the substitution antenna shall be adjusted in level until an equal or a known related level to that detected from the transmitter is obtained in the measurement receiver.
If a fully anechoic chamber is used as test site in order to provide free space conditions there is no need to change the height of the antenna.
The measurement will be repeated in horizontal position.
Calibration:
In order to make this kind of measurement more effective and to avoid subjective measurement faults ETS has installed automatic computer controlled measurement procedures.
With the above described substitution method a test site is calibrated over the full frequency range which is used in suitable frequency steps. For a certain power level on the substitution antenna the received power over the whole frequency range is documented. All necessary antenna gains, cable losses, filter losses and amplifications of preamplifiers are taken in

consideration. The summary of this calibration measurement performs a transducer factor that is related to the considered test site and a certain measurement distance. Differences of the radiated power levels of different test samples are determined by internal attenuation of measurement receiver. The proper function of such test site will be maintained by short term plausibility checks and periodical re-calibration.

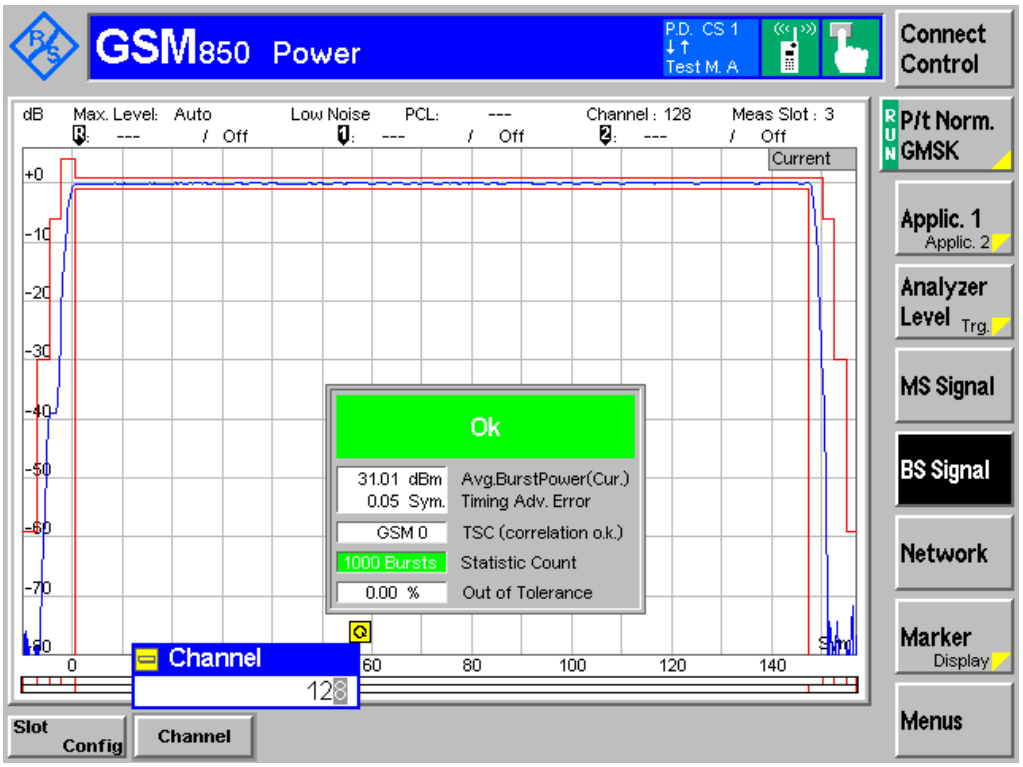
Testing:
The test sample will be putted on the table at the defined position and the radiated power will be receiver and documented by the measurement receiver.
On test sites with ground plane the measurement antenna will be lowered and raised to maximum values at significant frequencies.
For peak power measurements the sample is turned by the turntable over 360 degree in order to find the direction with the maximum radiation or to document the max reading with the MAXHOLD function during the rotation.

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G

3.2 Test Results

☑ Conducted Measurement
☐ Radiated Measurement

Band 850 MHz



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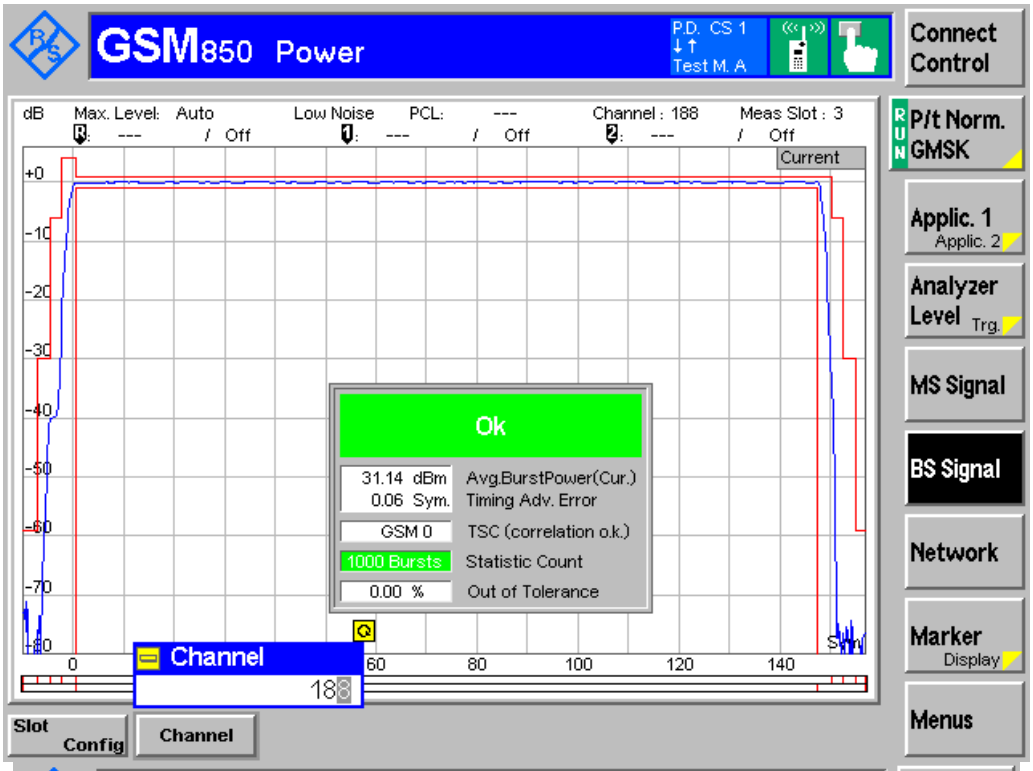

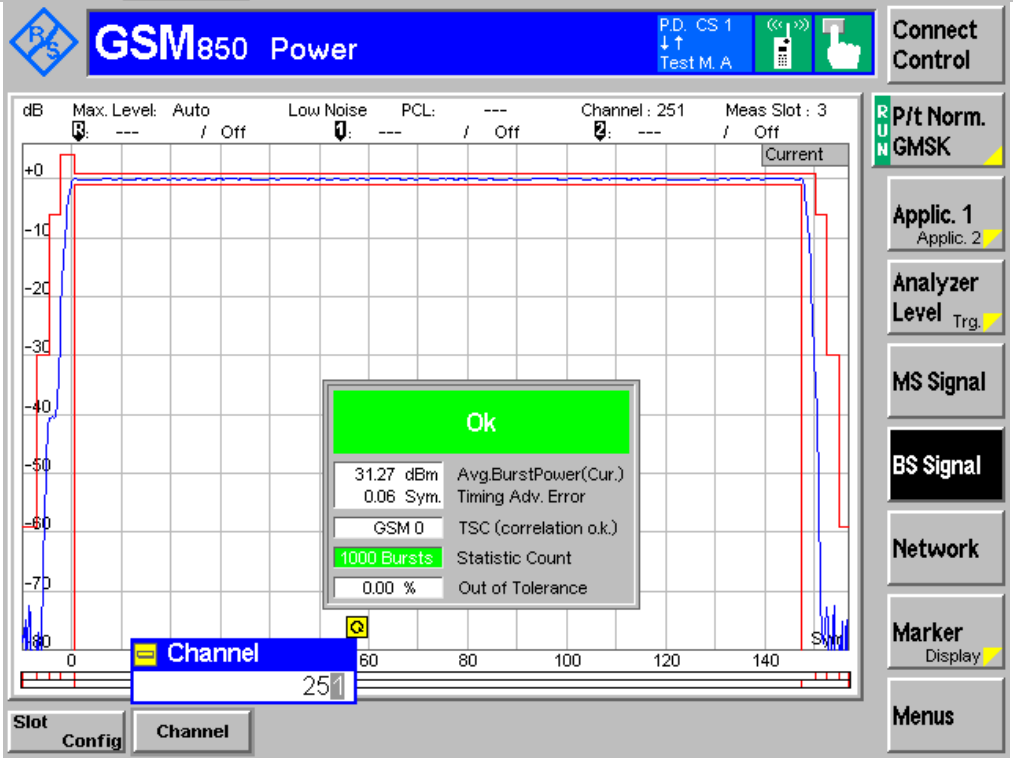

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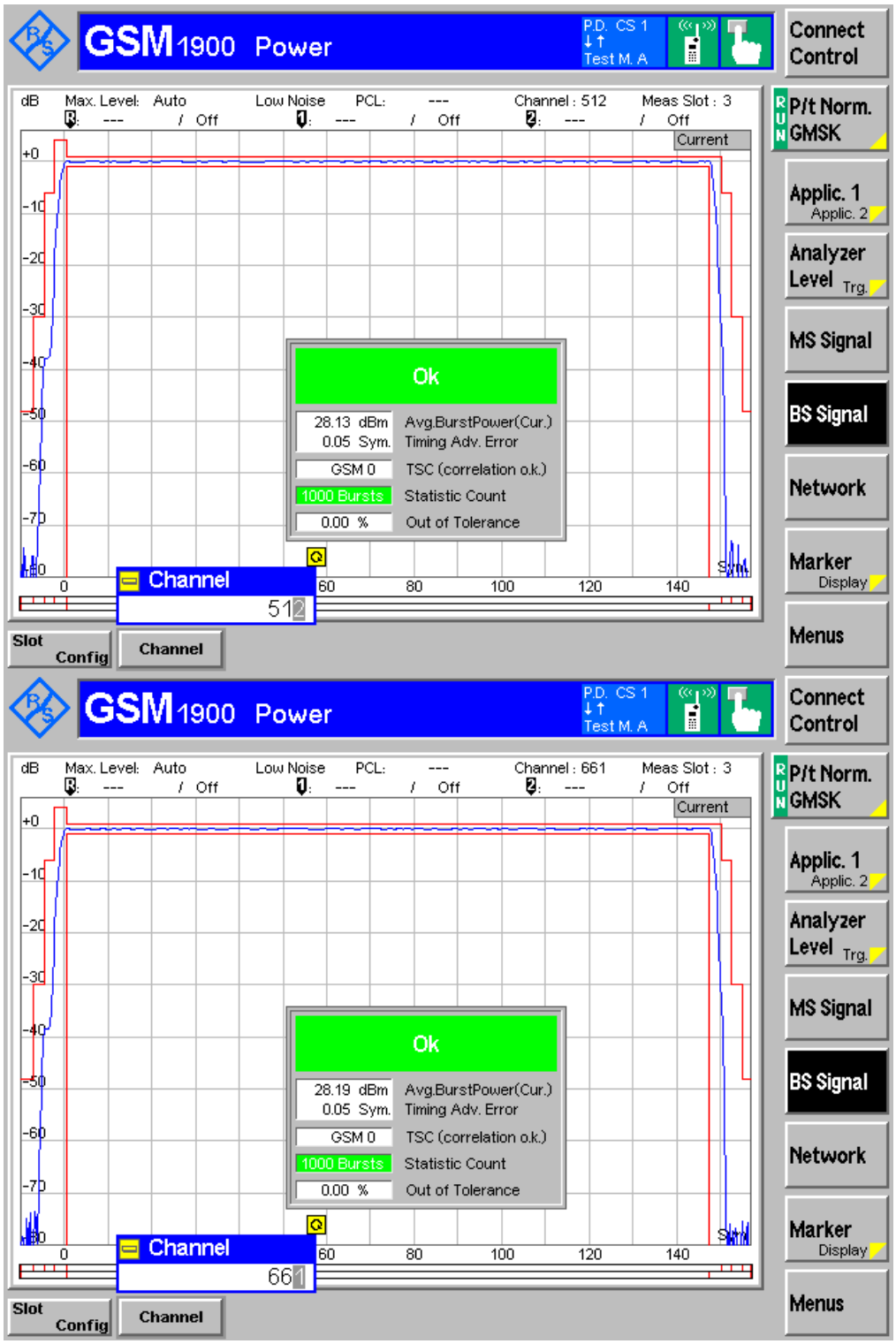
Band 1900MHz



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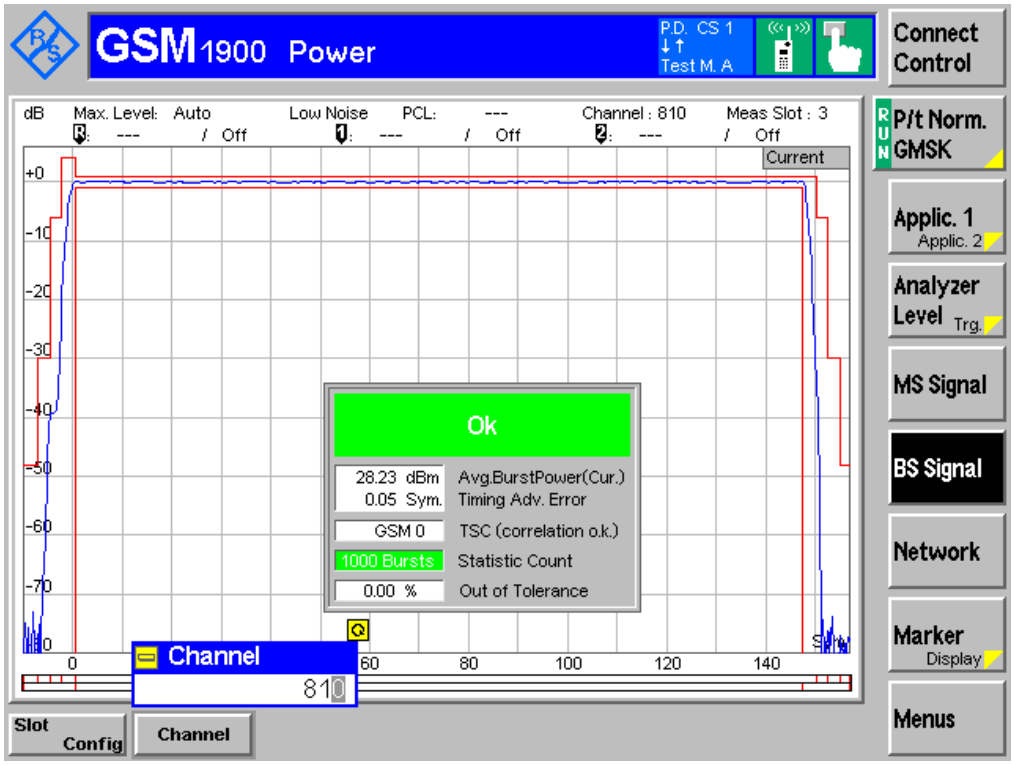
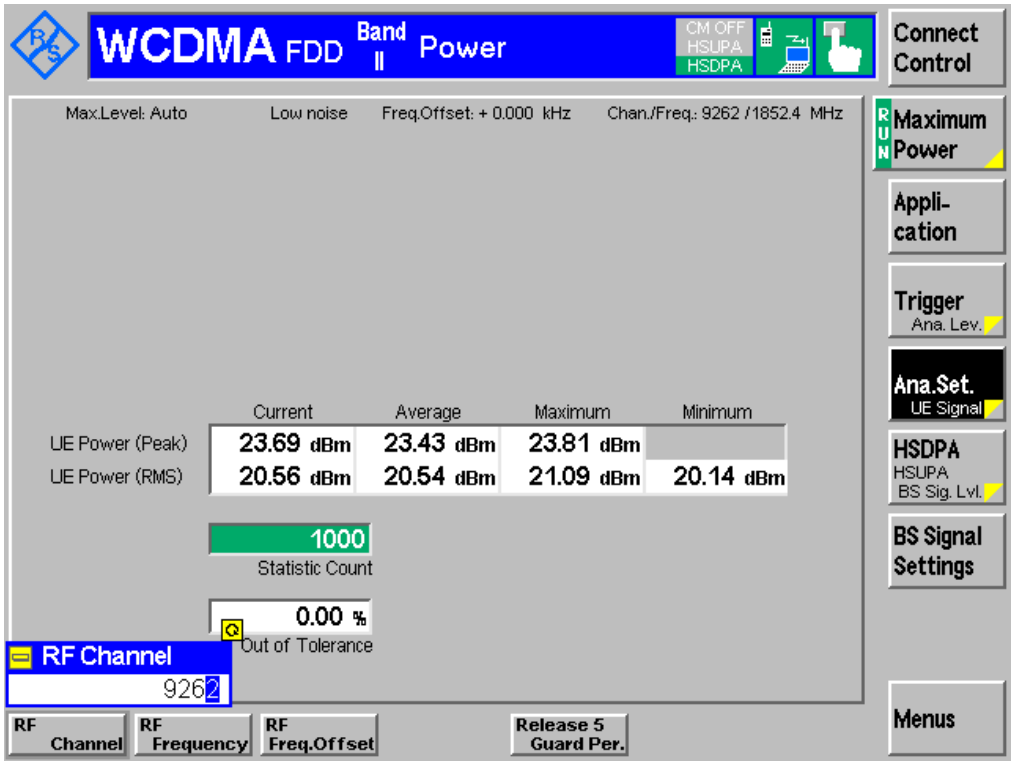
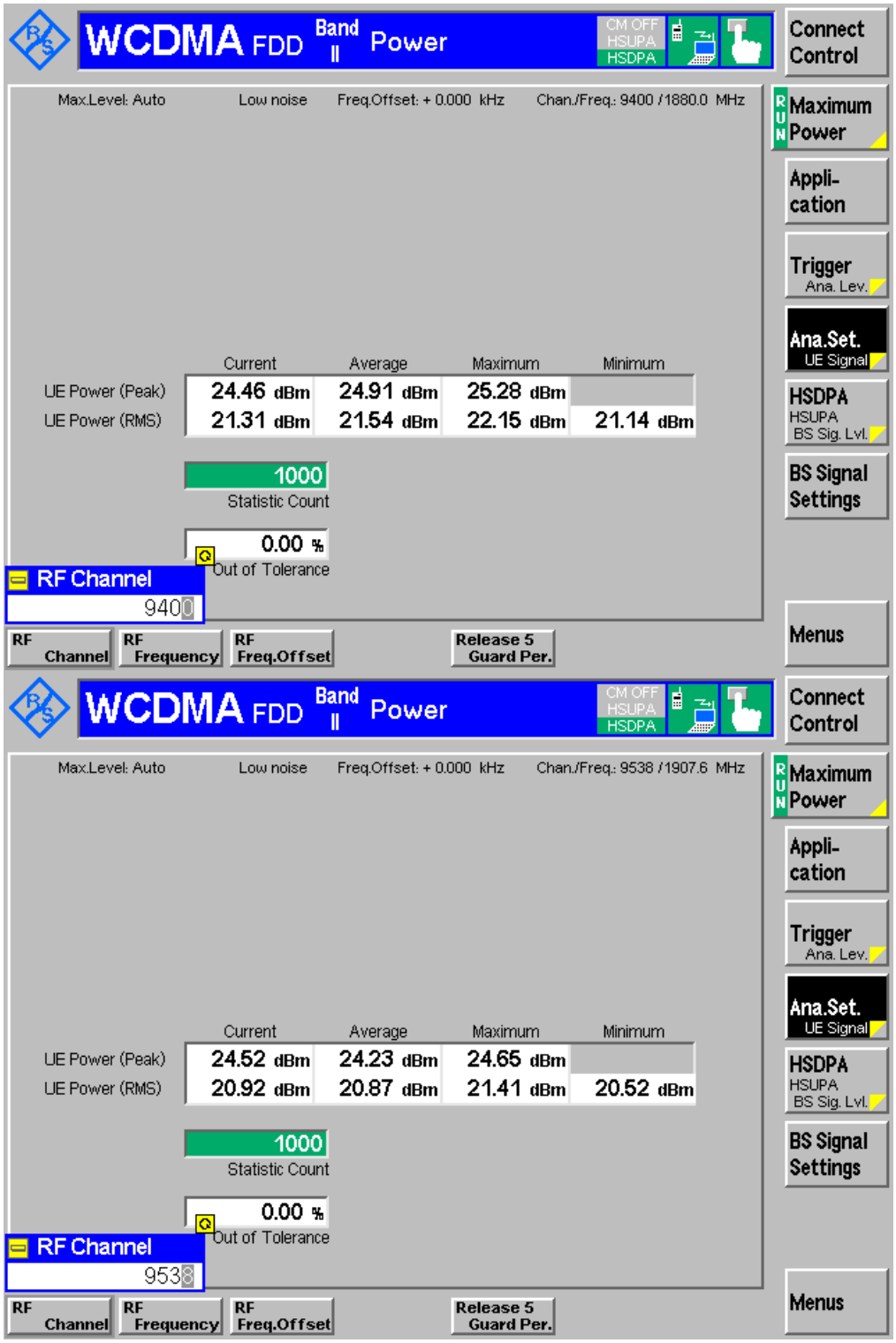


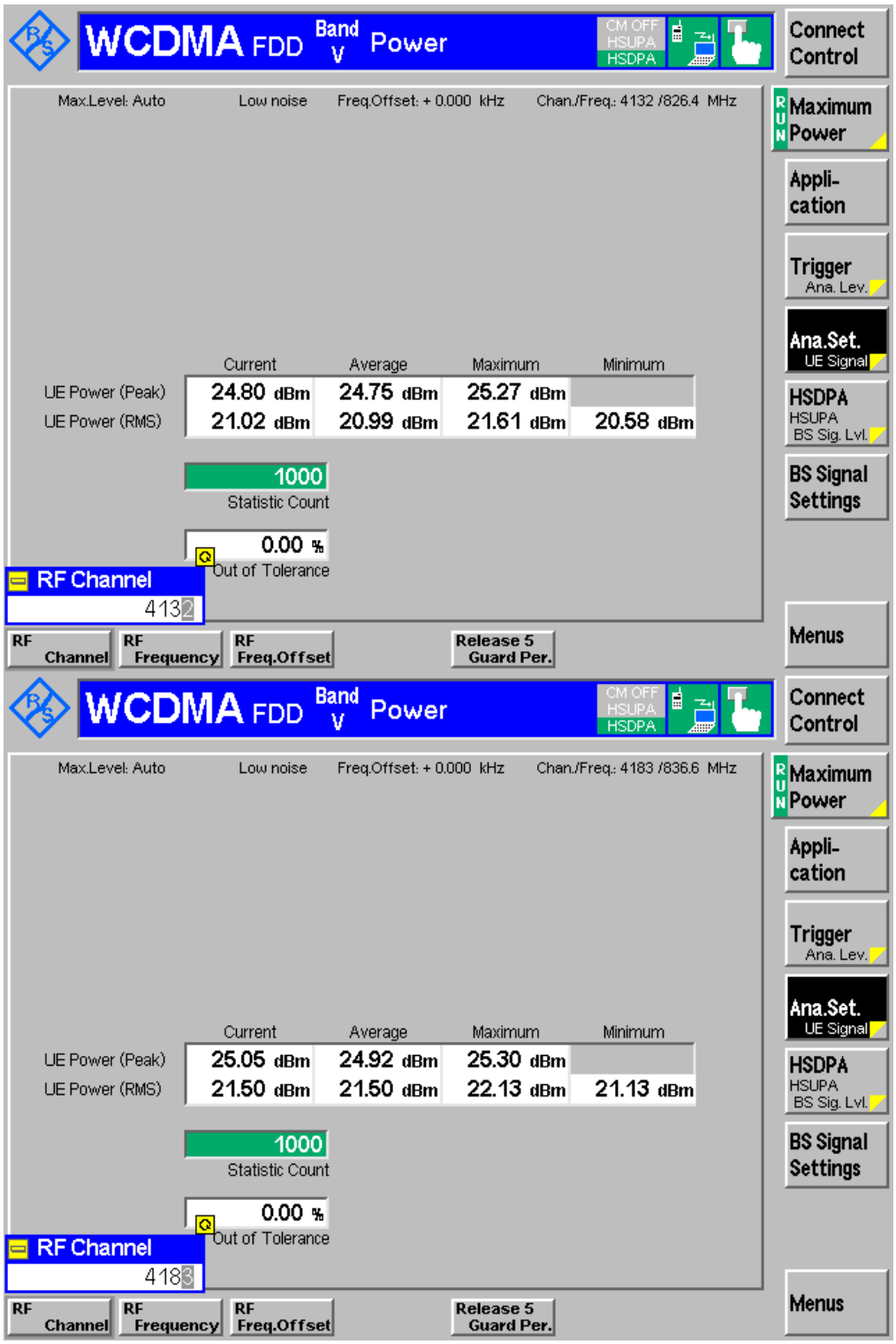
WCDMA Band II



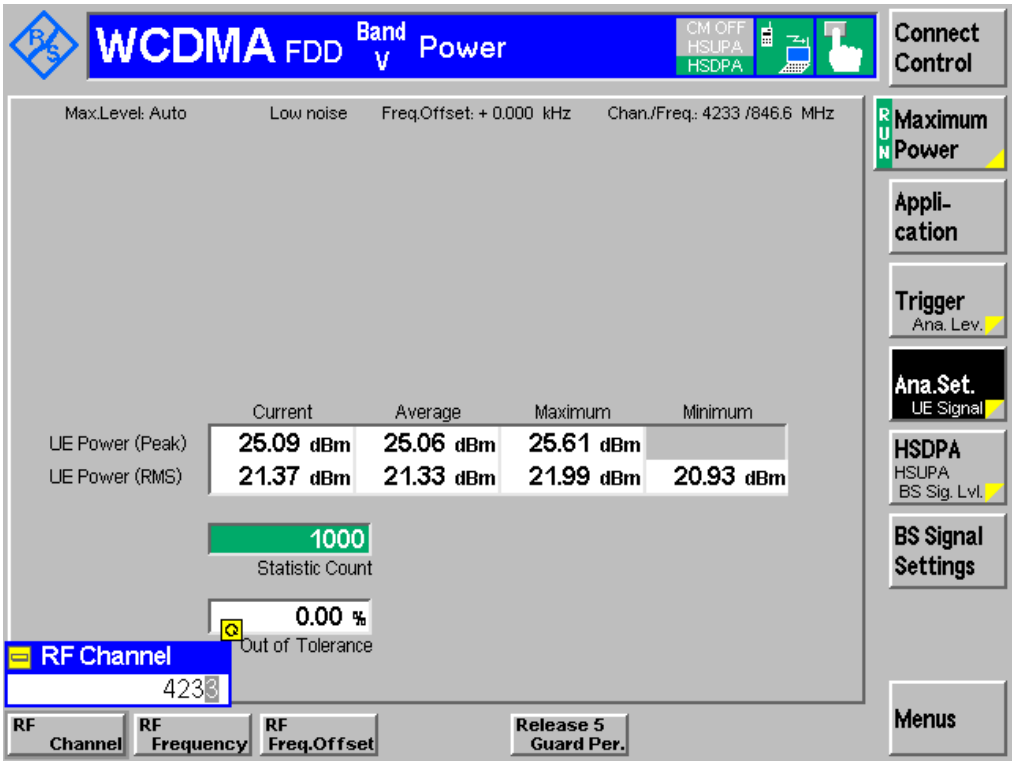

WCDMA FDD Band II Power
CM OFF
HSUPA
HSDPA
Connect Control
Max.Level: Auto
Low noise
Freq.Offset: + 0.000 kHz
Chan./Freq.: 9400 /1880.0 MHz
RUN Maximum Power
Appli-cation
Trigger Ana. Lev.
Ana.Set. UE Signal
HSDPA HSUPA BS Sig. Lvl.
BS Signal Settings
Current
Average
Maximum
Minimum
UE Power (Peak)
24.46 dBm
24.91 dBm
25.28 dBm
UE Power (RMS)
21.31 dBm
21.54 dBm
22.15 dBm
21.14 dBm
1000
Statistic Count
0.00 %
Out of Tolerance
RF Channel
9400
RF Channel
RF Frequency
RF Freq.Offset
Release 5 Guard Per.
Menus
WCDMA FDD Band II Power
CM OFF
HSUPA
HSDPA
Connect Control
Max.Level: Auto
Low noise
Freq.Offset: + 0.000 kHz
Chan./Freq.: 9538 /1907.6 MHz
RUN Maximum Power
Appli-cation
Trigger Ana. Lev.
Ana.Set. UE Signal
HSDPA HSUPA BS Sig. Lvl.
BS Signal Settings
Current
Average
Maximum
Minimum
UE Power (Peak)
24.52 dBm
24.23 dBm
24.65 dBm
UE Power (RMS)
20.92 dBm
20.87 dBm
21.41 dBm
20.52 dBm
1000
Statistic Count
0.00 %
Out of Tolerance
RF Channel
9538
RF Channel
RF Frequency
RF Freq.Offset
Release 5 Guard Per.
Menus

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G

WCDMA Band V



Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



☐ Conducted Measurement
☑ Radiated Measurement

Band 850 MHz & 1900 MHz

Frequency (MHz)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Result
824.2711	18.42	20.57	38.45	Pass
836.2631	19.70	21.85	38.45	Pass
848.8631	19.01	21.16	38.45	Pass
1850.118	24.01	26.16	33	Pass
1879.922	22.47	24.62	33	Pass
1909.862	24.28	26.43	33	Pass

Band II & Band V

Frequency (MHz)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Result
1851.298	19.98	22.13	33	Pass
1879.098	19.86	22.01	33	Pass
1906.618	19.86	22.01	33	Pass
826.0191	13.87	16.02	38.45	Pass
836.0188	13.93	16.08	38.45	Pass
846.0188	12.92	15.07	38.45	Pass

Test equipment: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 062, ETSTW-RE 142, ETSTW-RE 147, ETSTW-GSM 002

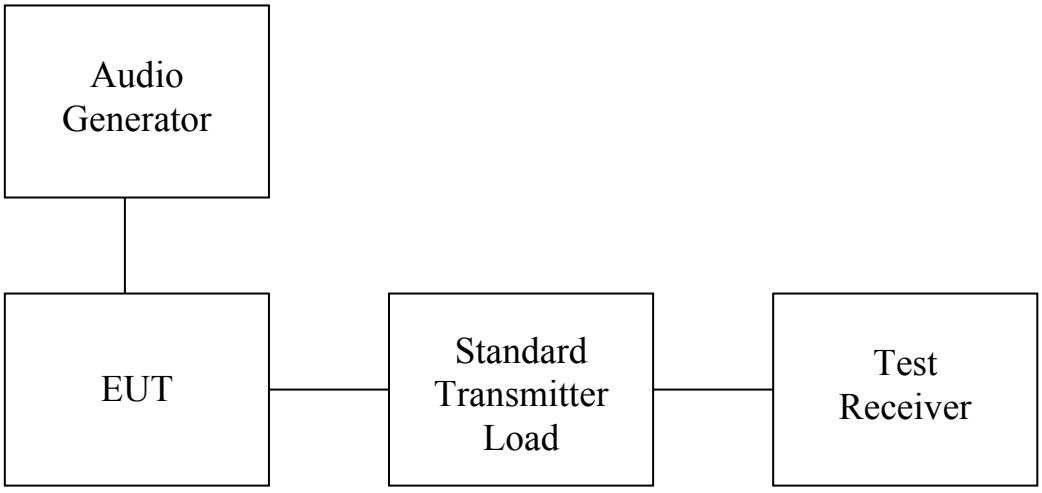
Note: Please refer to appendix for plot data.

4. Modulation Characteristics

4.1 Test procedure

☐ A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted.
The audio signal generator is connected to the audio input of the EUT with its full rating. The modulation response is measured at certain modulation frequencies, related to 1000Hz reference signal. Tests are performed for positive and negative modulation.

☐ 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 audio signal generator is connected to the audio input of the EUT with its full rating. The modulation limiting is measured at certain modulation frequencies from 100Hz to 15kHz.



4.2 Test Results

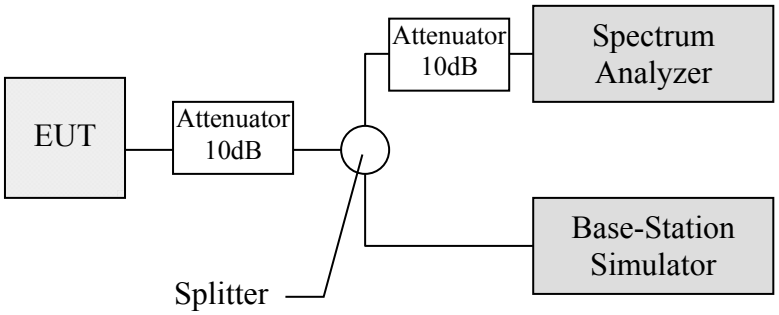
For digital modulation employed, this test item is not applicable.

5. Occupied Bandwidth

The occupied bandwidth, that 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. Near the carrier an Emission Mask is defined by the standard.

5.1 Test procedure

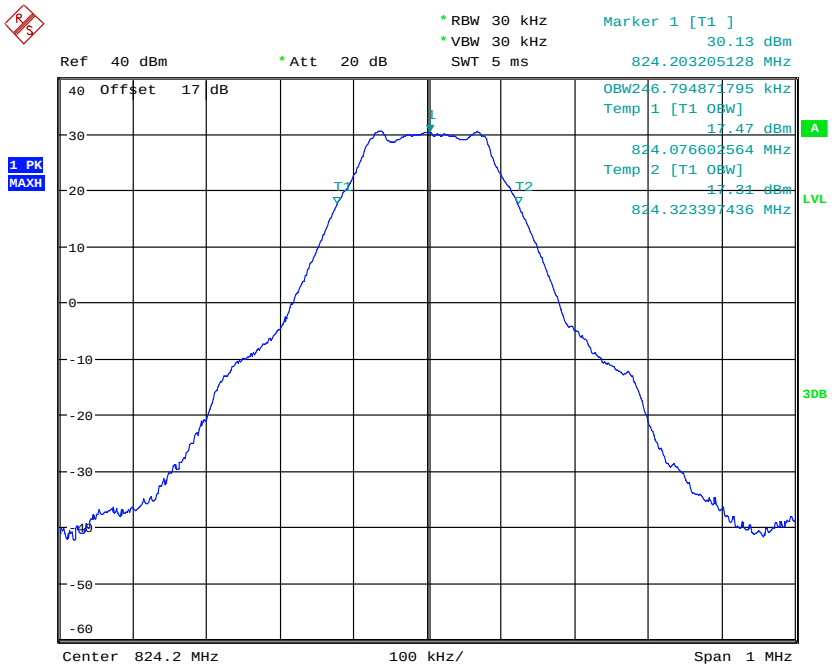
The RF output of the transceiver was connected as the following figure.
Occupied Bandwidth was measured with a occupied bandwidth function of the analyzer at 99% power was occupied. Then set the spectrum analyzer to cover the upper and lower band edges to measure emission mask.



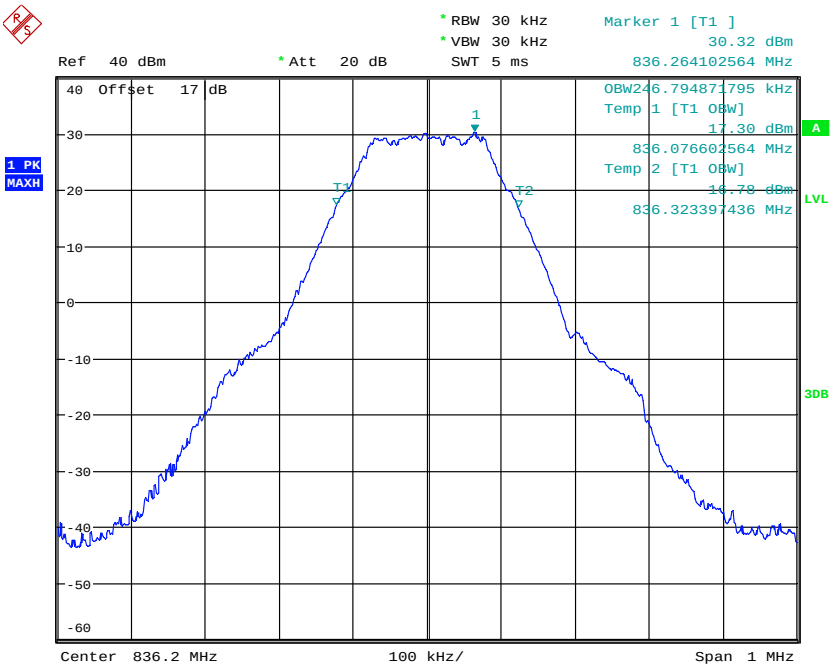
5.2 Test Results

Occupied Channel Bandwidth

Band 850 MHz

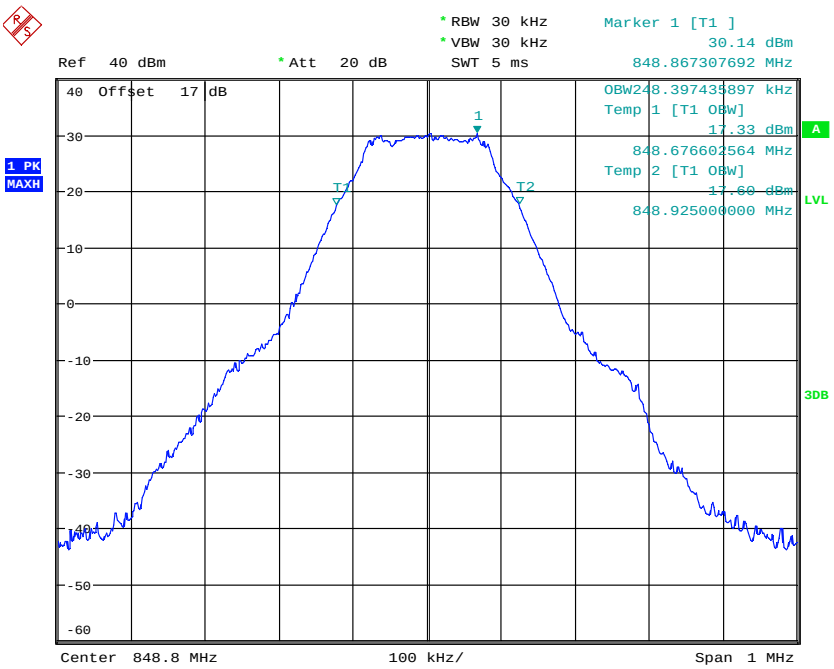


OCCUPIED BANDWIDTH GSM850 CH128
Date: 17.OCT.2017 13:33:08



OCCUPIED BANDWIDTH GSM850 CH188

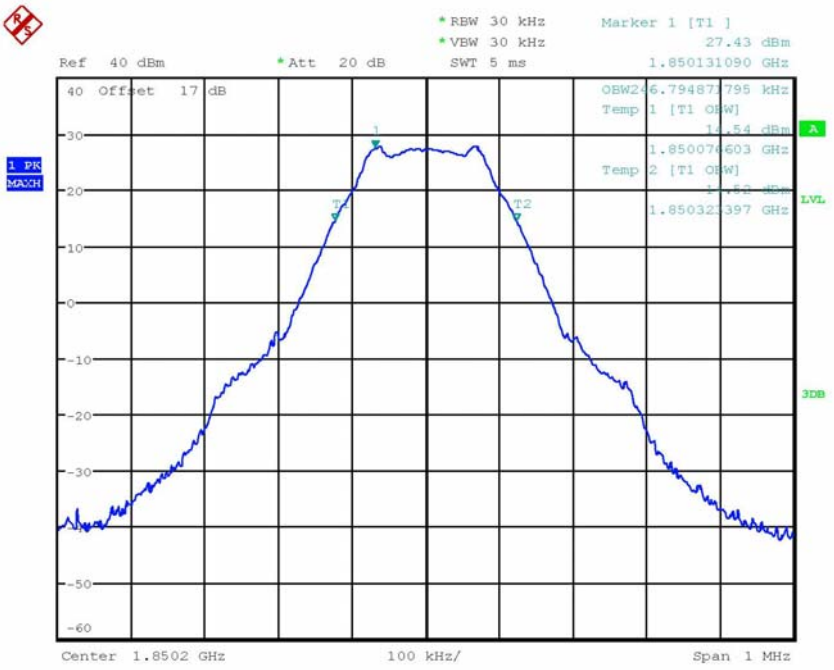
Date: 17.OCT.2017 13:34:09



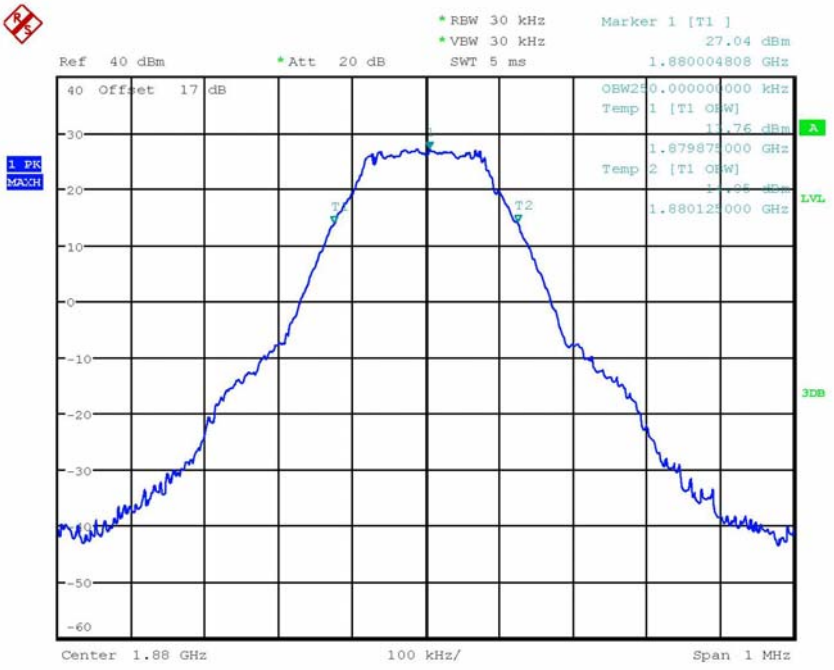
OCCUPIED BANDWIDTH GSM850 CH251

Date: 17.OCT.2017 13:35:10

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G
Band 1900 MHz

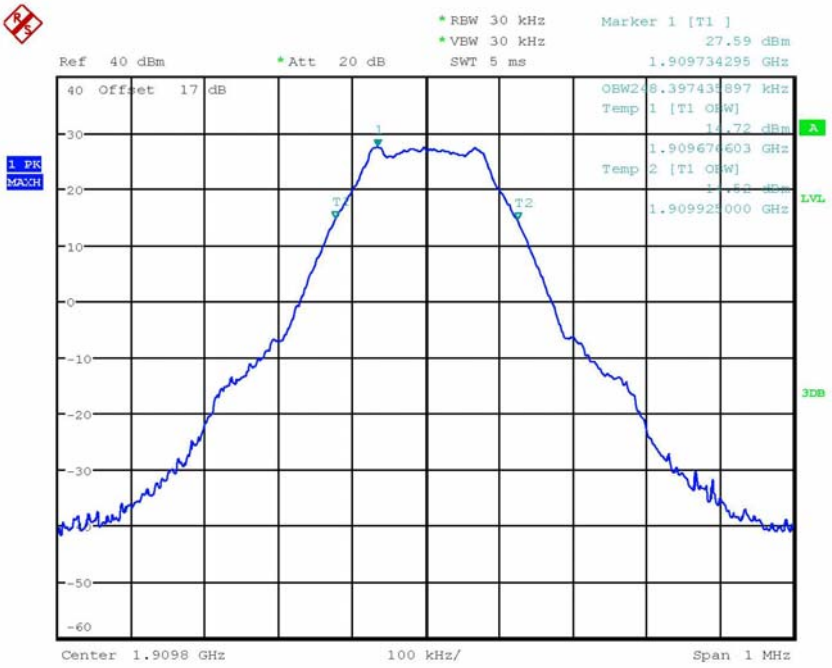


OCCUPIED BANDWIDTH PCS1900 CH512
Date: 17.OCT.2017 13:38:58



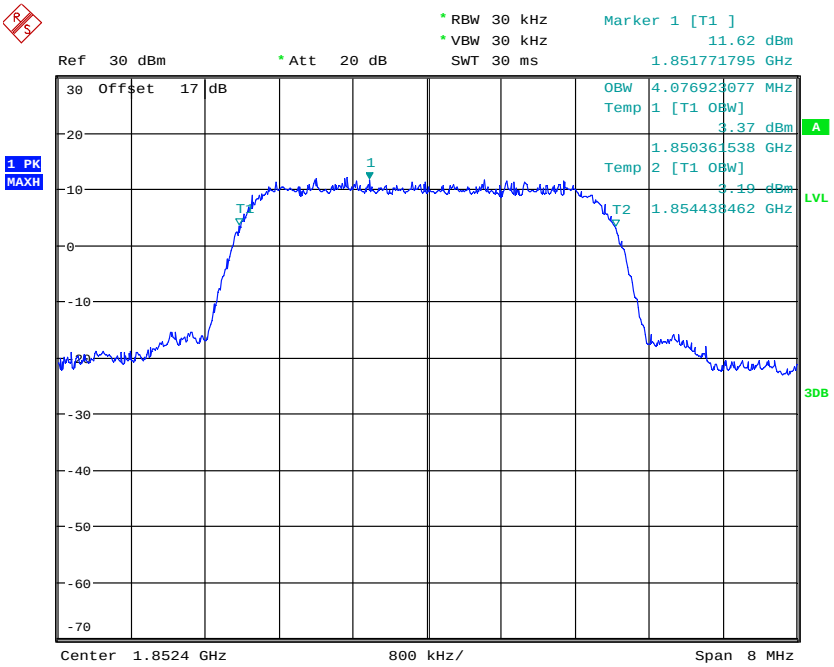
OCCUPIED BANDWIDTH PCS1900 CH661
Date: 17.OCT.2017 13:39:42

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G

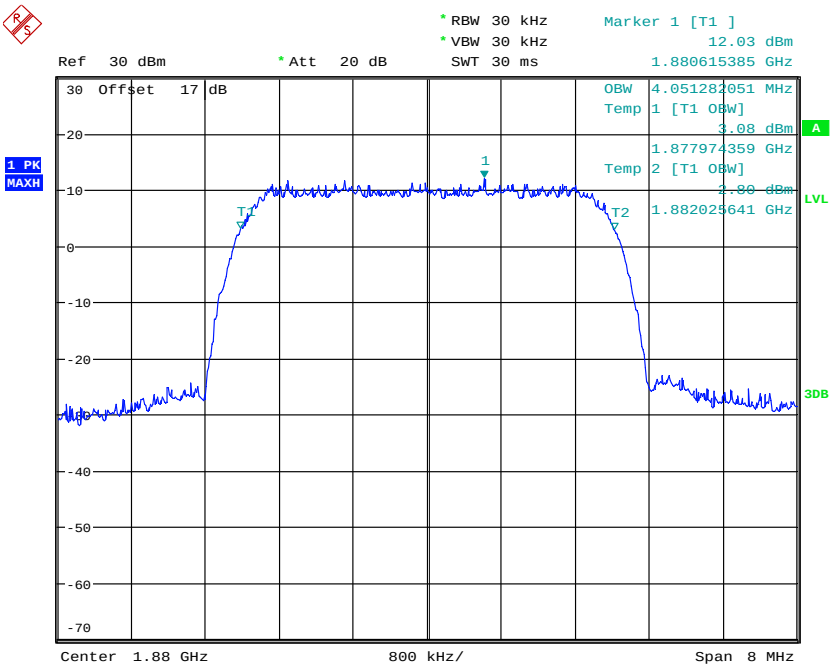


OCCUPIED BANDWIDTH PCS1900 CH810
Date: 17.OCT.2017 13:41:59

WCDMA Band II

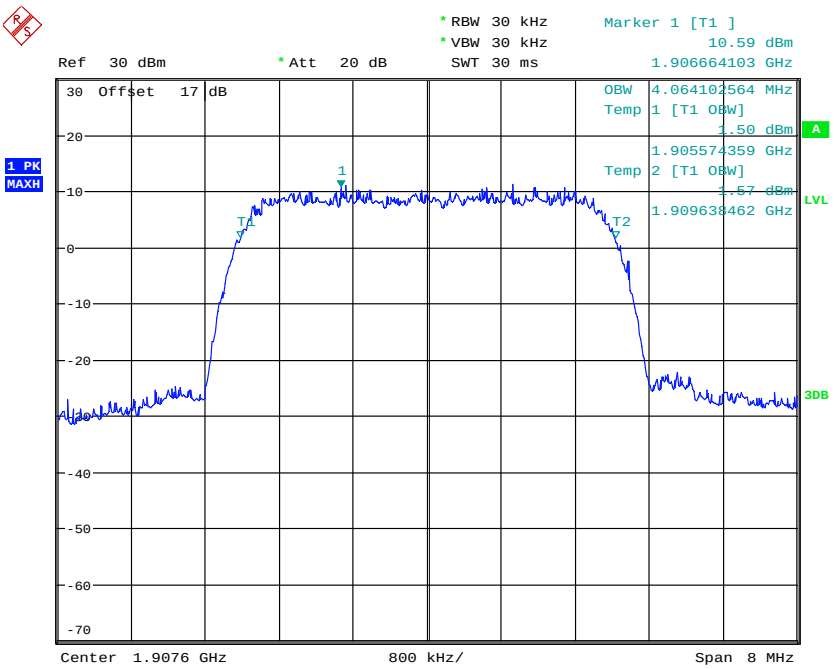


OCCUPIED BANDWIDTH WCDMA II CH9262
Date: 17.OCT.2017 13:48:34



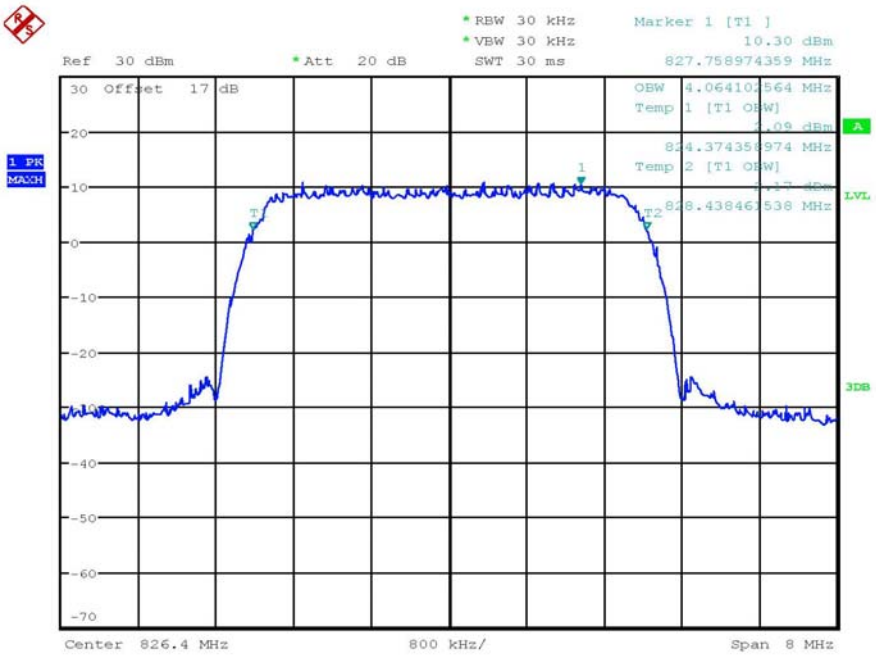
OCCUPIED BANDWIDTH WCDMA II CH9400

Date: 17.OCT.2017 13:49:29

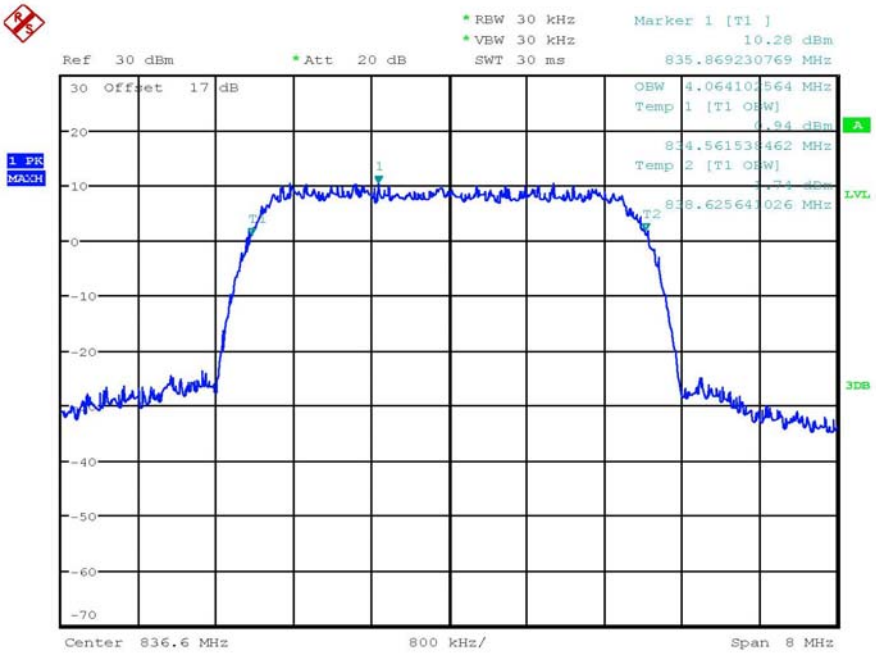


OCCUPIED BANDWIDTH WCDMA II CH9538

Date: 17.OCT.2017 13:50:24

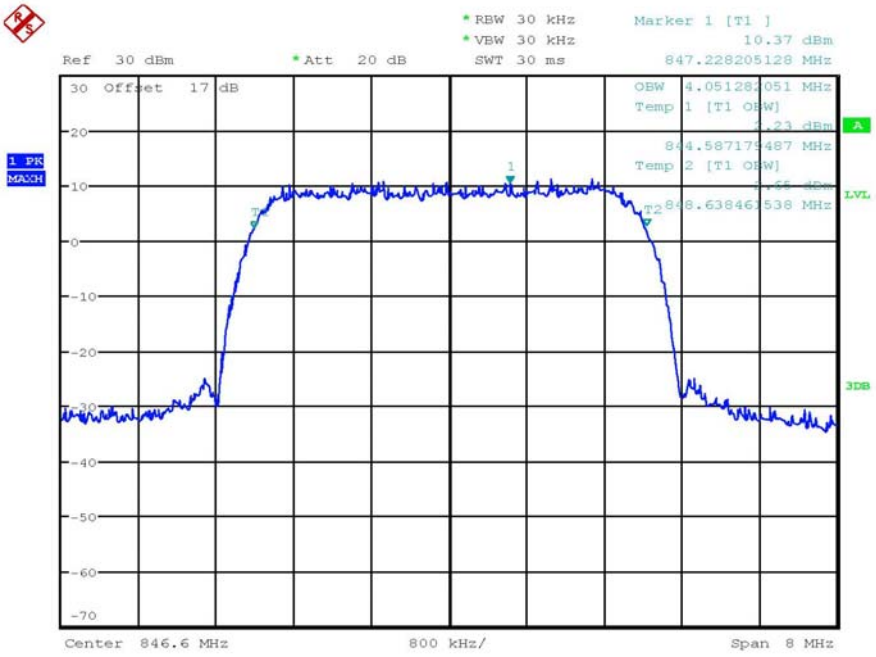


OCCUPIED BANDWIDTH WCDMA V CH4132
Date: 17.OCT.2017 13:53:57



OCCUPIED BANDWIDTH WCDMA V CH4183
Date: 17.OCT.2017 13:54:42

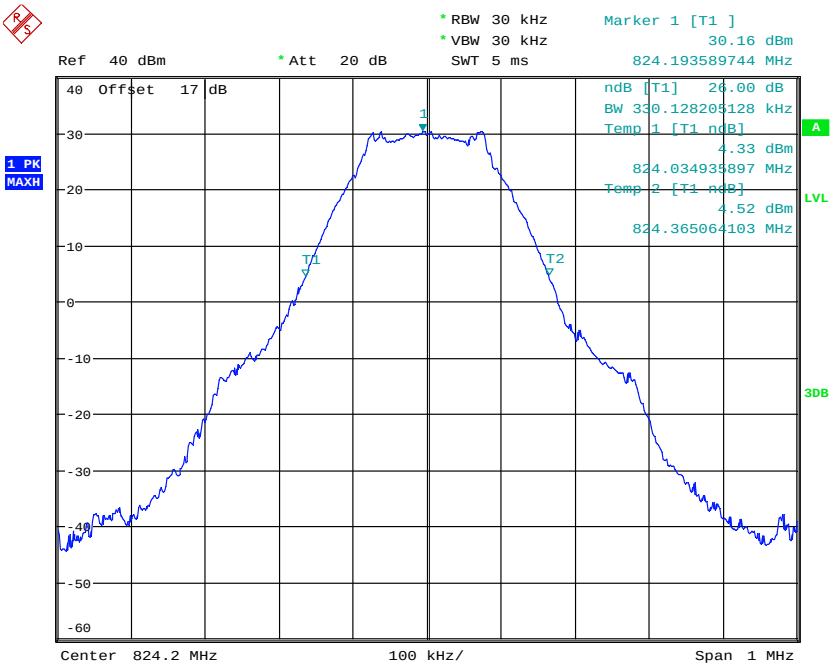
Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



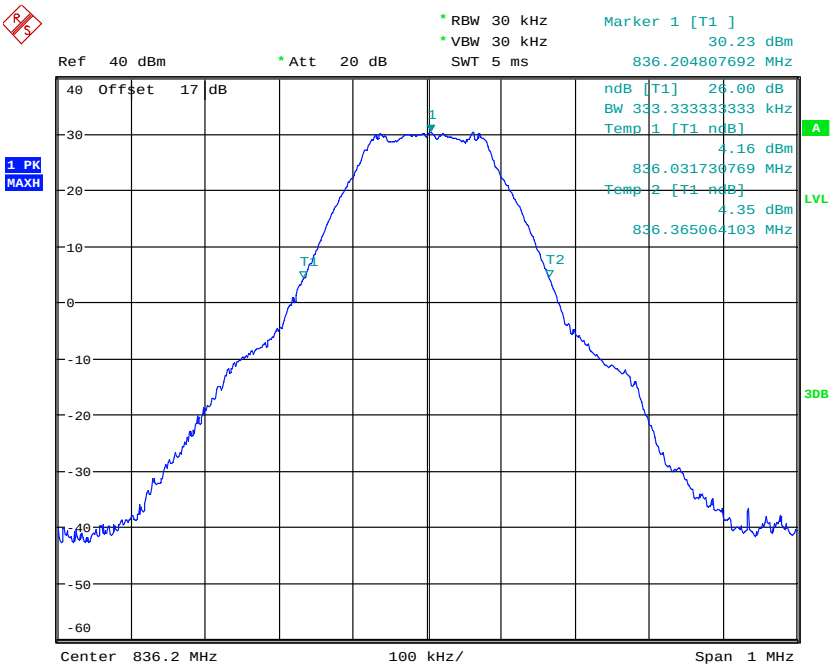
OCCUPIED BANDWIDTH WCDMA V CH4233
Date: 17.OCT.2017 13:55:36

26dB Channel Bandwidth

Band 850 MHz

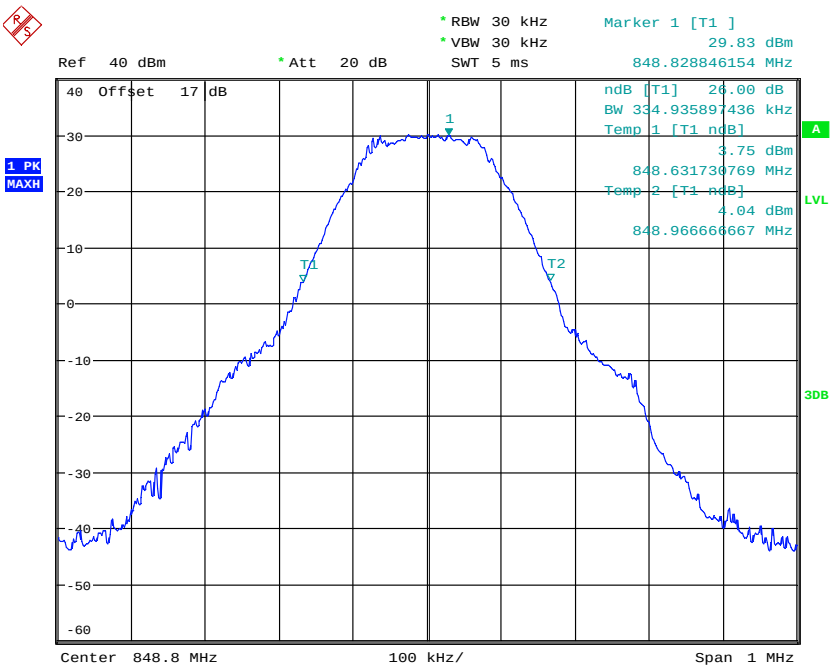


26DB BANDWIDTH GSM850 CH128
Date: 17.OCT.2017 14:45:58



26DB BANDWIDTH GSM850 CH188

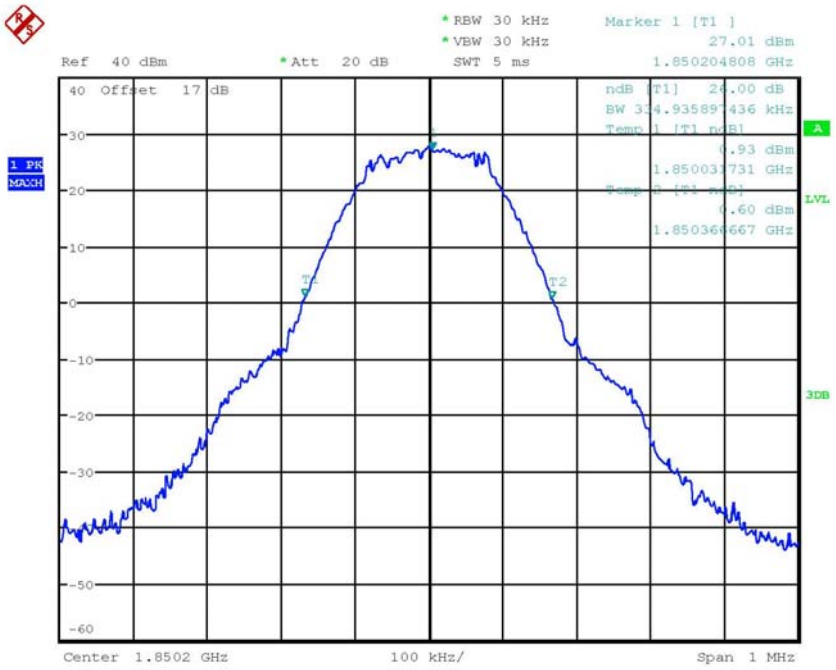
Date: 17.OCT.2017 14:44:22



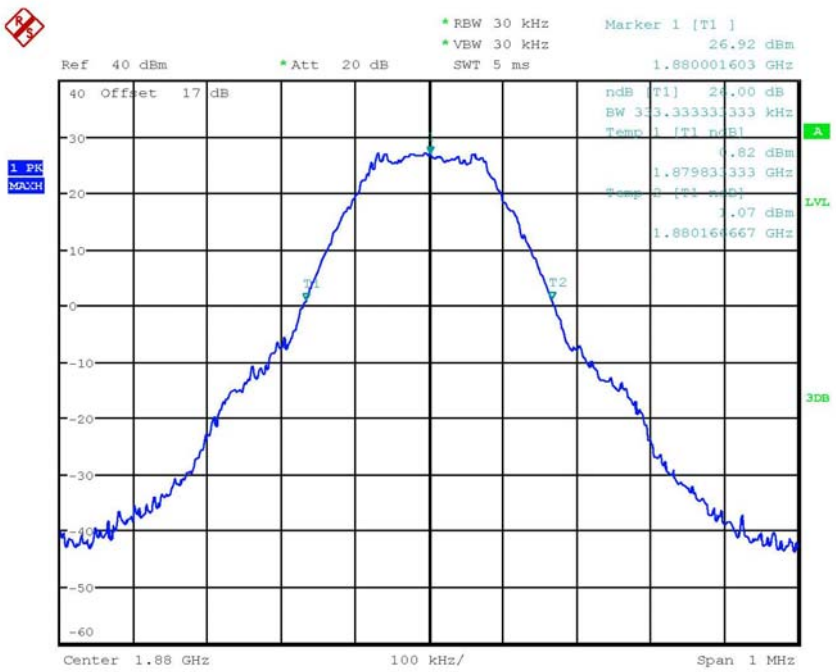
26DB BANDWIDTH GSM850 CH251

Date: 17.OCT.2017 14:45:14

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G
Band 1900 MHz

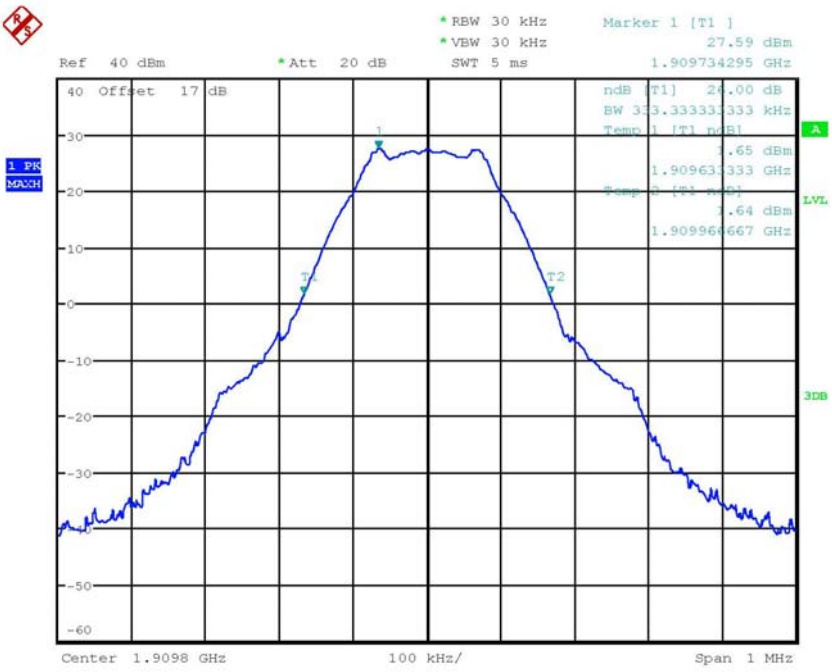


26DB BANDWIDTH PCS1900 CH512
Date: 17.OCT.2017 14:33:27



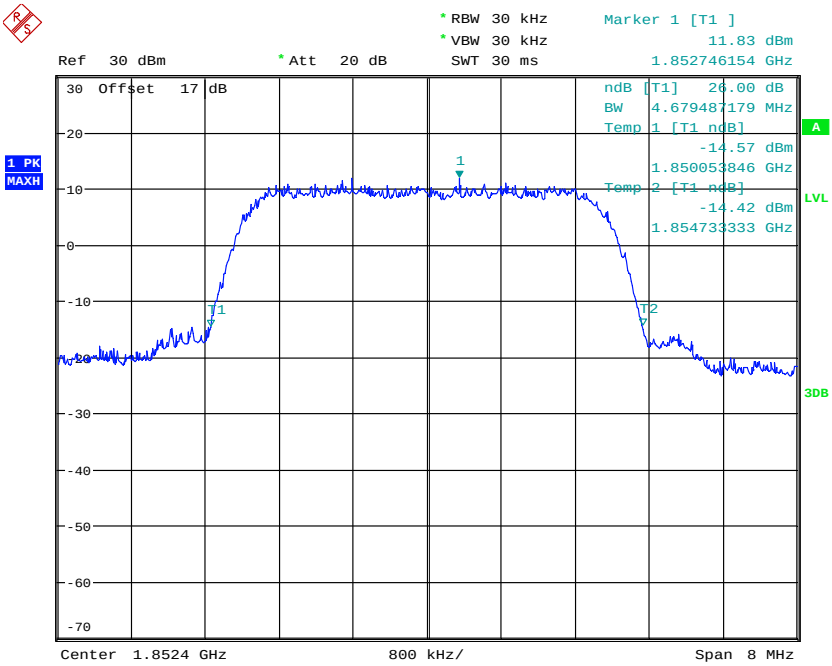
26DB BANDWIDTH PCS1900 CH661
Date: 17.OCT.2017 14:32:38

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



26DB BANDWIDTH PCS1900 CH810
Date: 17.OCT.2017 14:31:57

WCDMA Band II



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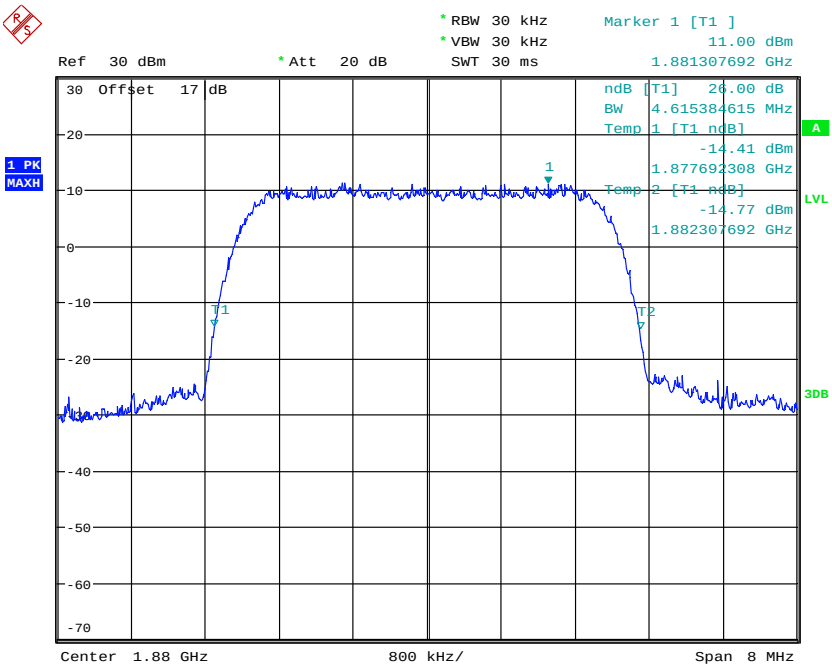
Date: 17.OCT.2017 14:26:35



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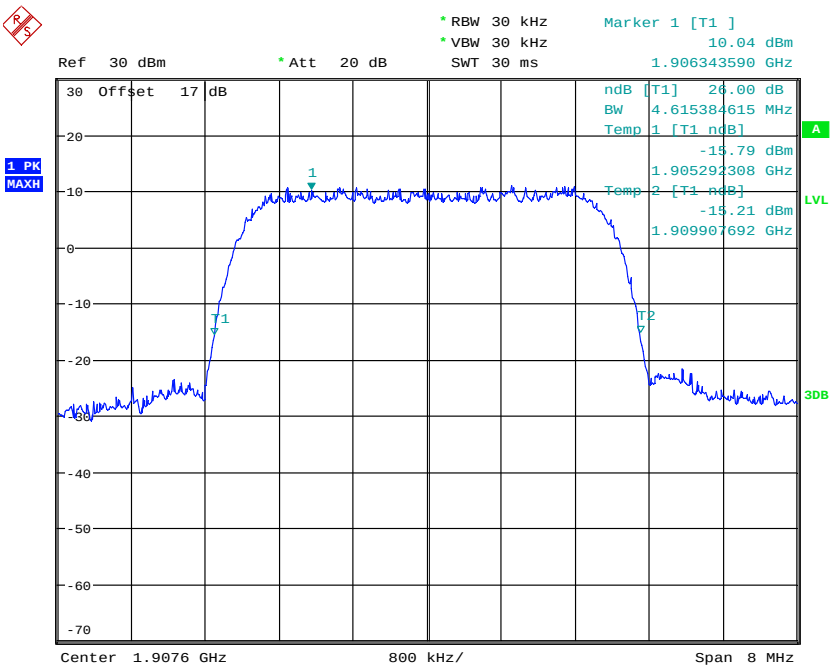
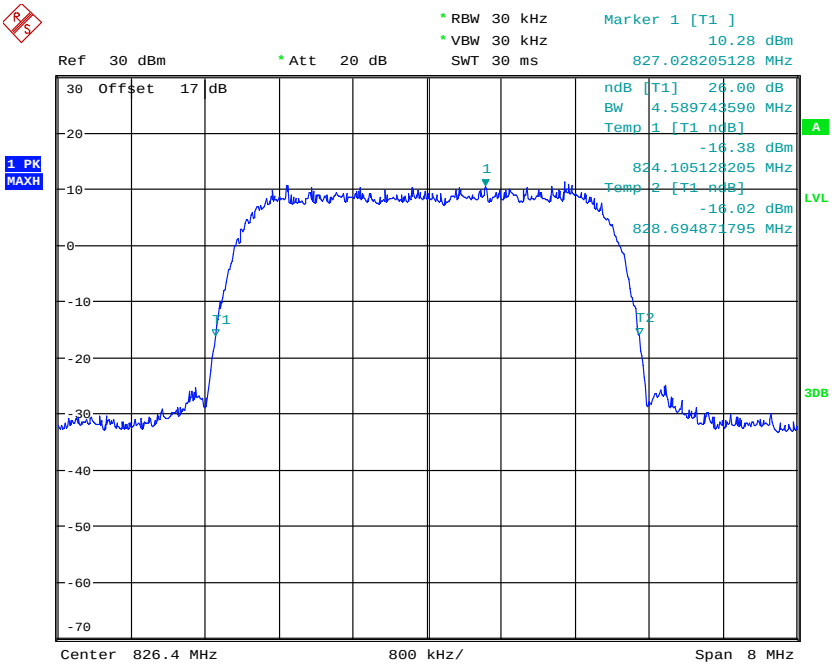
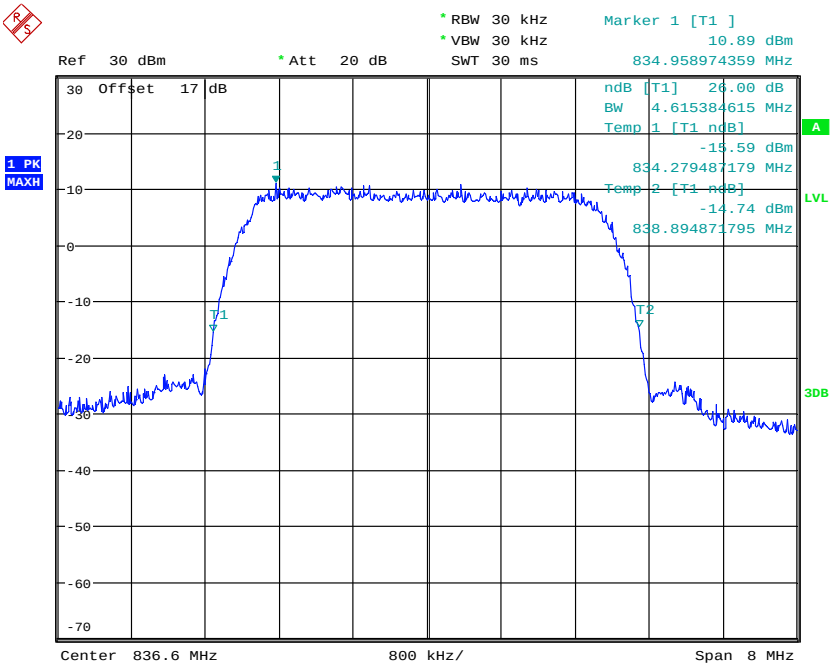


26DB BANDWIDTH WCDMA II CH9538

Date: 17.OCT.2017 14:02:05

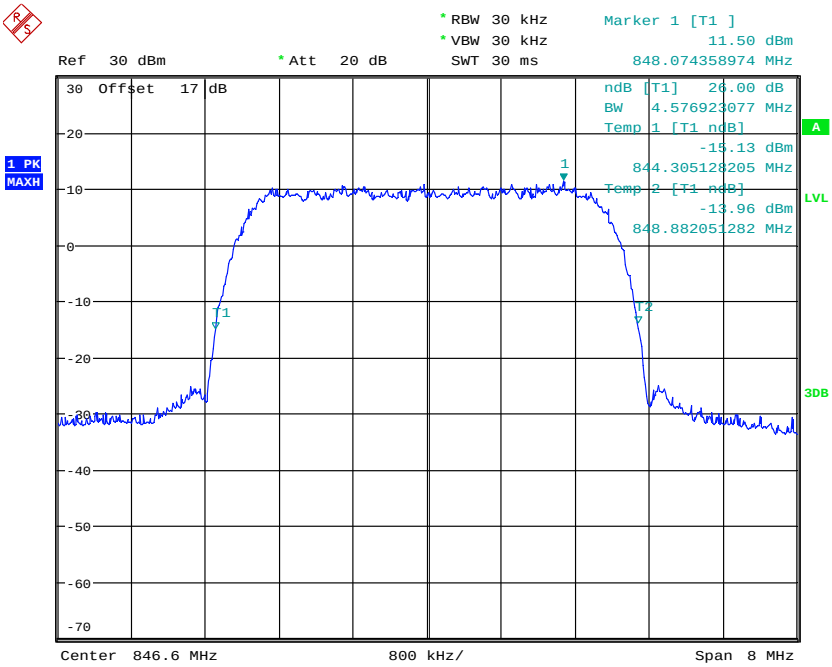


26DB BANDWIDTH WCDMA V CH4132
Date: 17.OCT.2017 13:59:30



26DB BANDWIDTH WCDMA V CH4183
Date: 17.OCT.2017 13:58:47

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



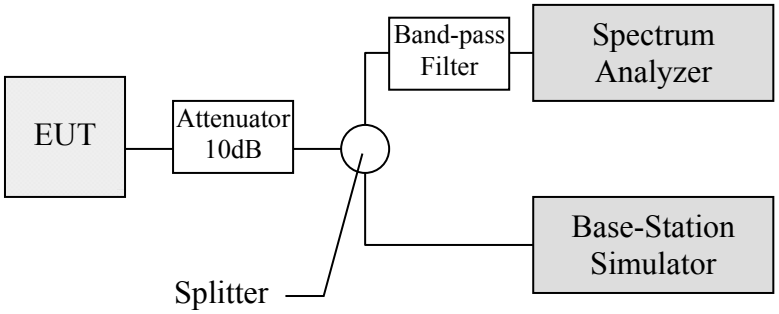
26DB BANDWIDTH WCDMA V CH4233
Date: 17.OCT.2017 13:57:17

Test equipment: ETSTW-RE 055, ETSTW-GSM 002

6. Spurious Emissions at Antenna Terminals

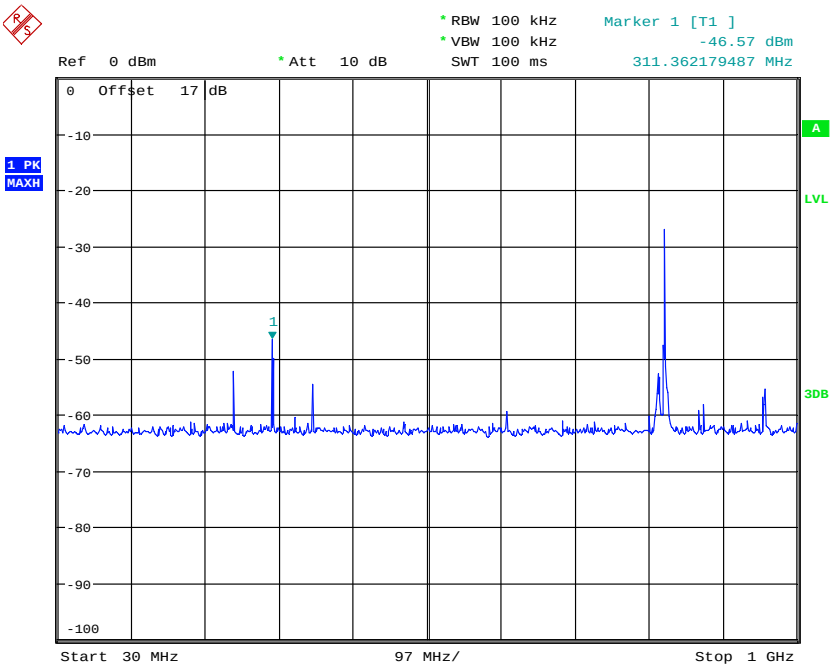
6.1 Test procedure

This transmitter output was connected to a calibrated coaxial attenuator, the other end of which was connected to a spectrum analyzer via a three-port splitter. Please refer to the following figure. Transmitter output was derived with the spectrum analyzer in dBm.
The Spurious Emissions at Antenna Terminals was measured by the spectrum analyzer with a suitable notch filter and/or Band-pass filter.
Tests were performed with an unmodulated carrier at three frequencies (low, middle and high channels) and on all power levels , which can be set-up on the transmitters.

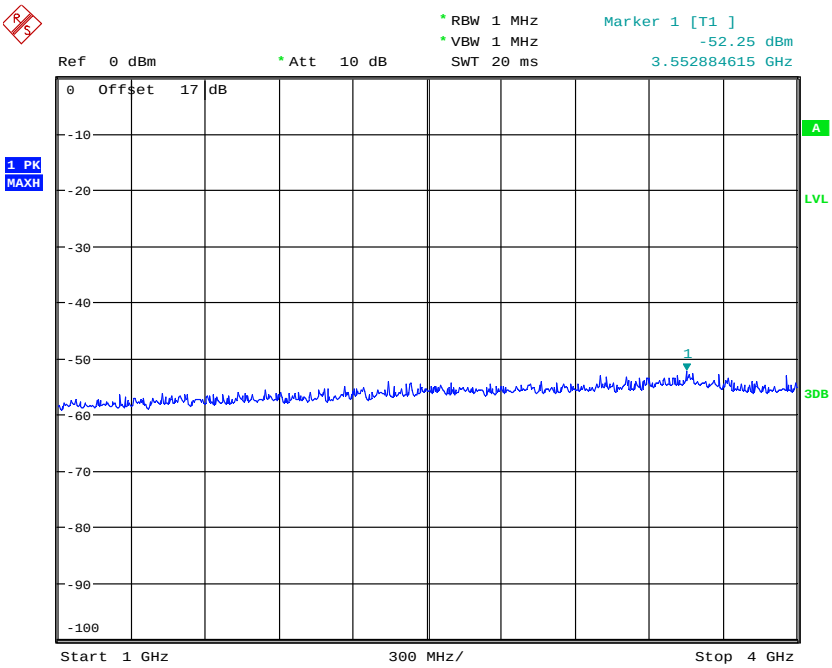


6.2 Test Results

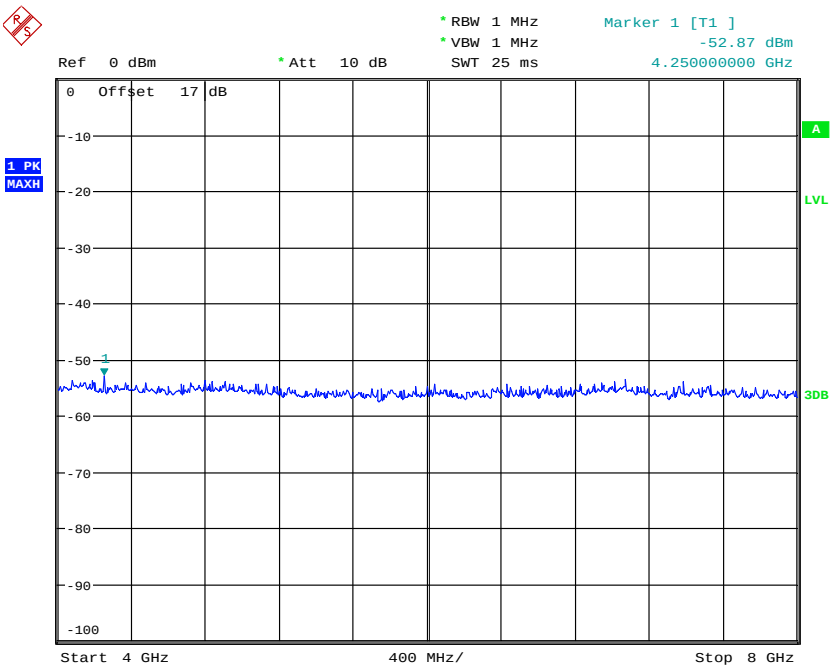
Band 850 MHz
CH128



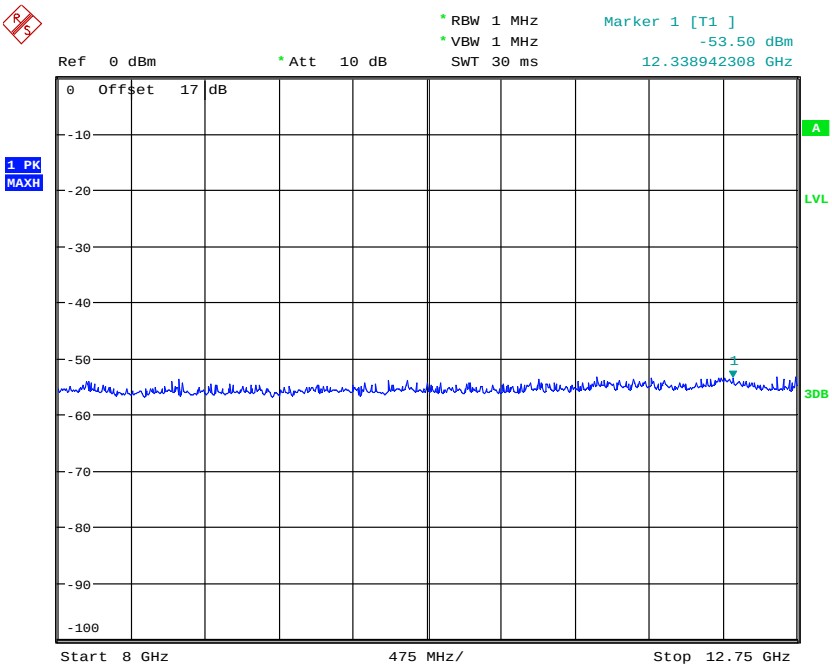
CONDUCTED SPURIOUS EMISSION GSM850 CH128
Date: 17.OCT.2017 14:55:21



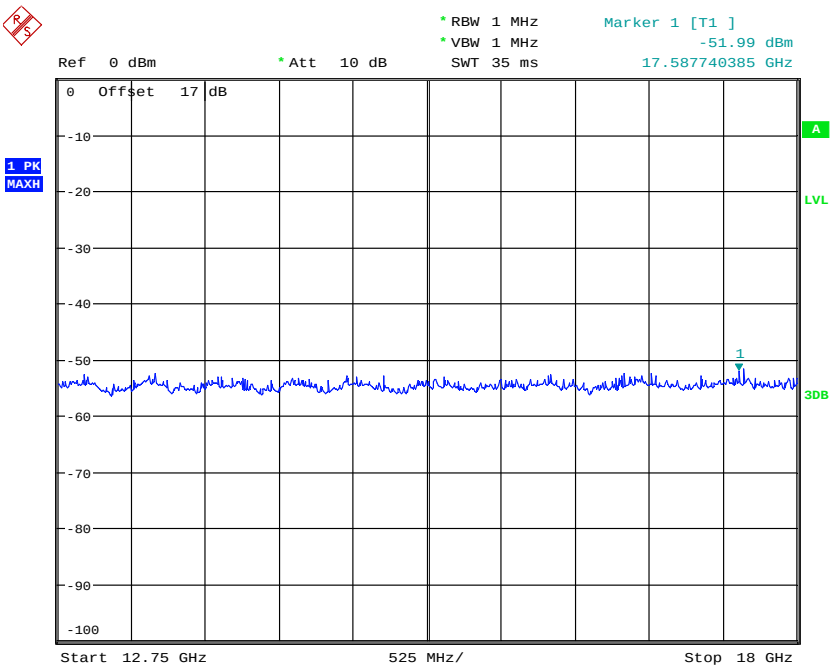
CONDUCTED SPURIOUS EMISSION GSM850 CH128
Date: 17.OCT.2017 15:08:21



CONDUCTED SPURIOUS EMISSION GSM850 CH128
Date: 17.OCT.2017 15:09:17

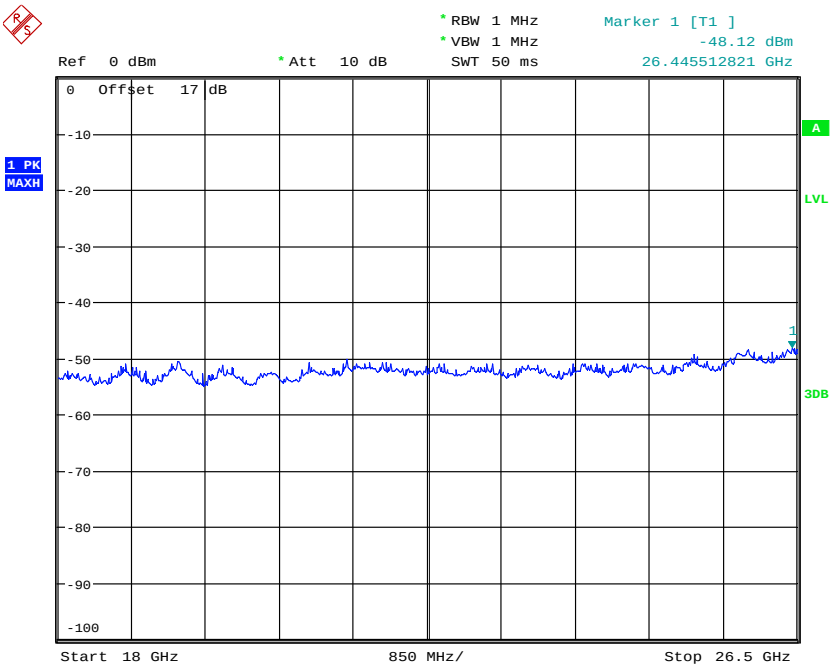


CONDUCTED SPURIOUS EMISSION GSM850 CH128
Date: 17.OCT.2017 15:12:17



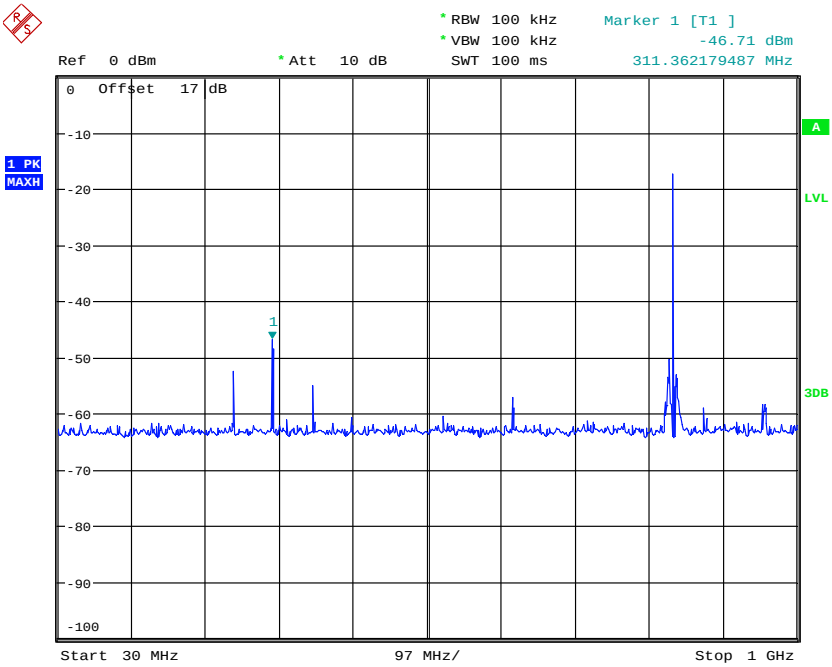
CONDUCTED SPURIOUS EMISSION GSM850 CH128
Date: 17.OCT.2017 15:12:56

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G

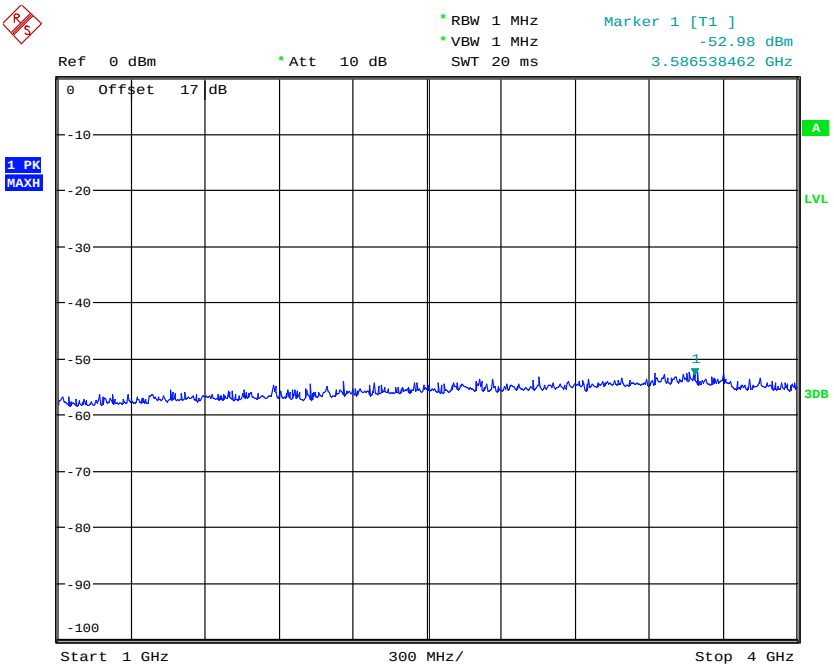


CONDUCTED SPURIOUS EMISSION GSM850 CH128
Date: 17.OCT.2017 15:15:49

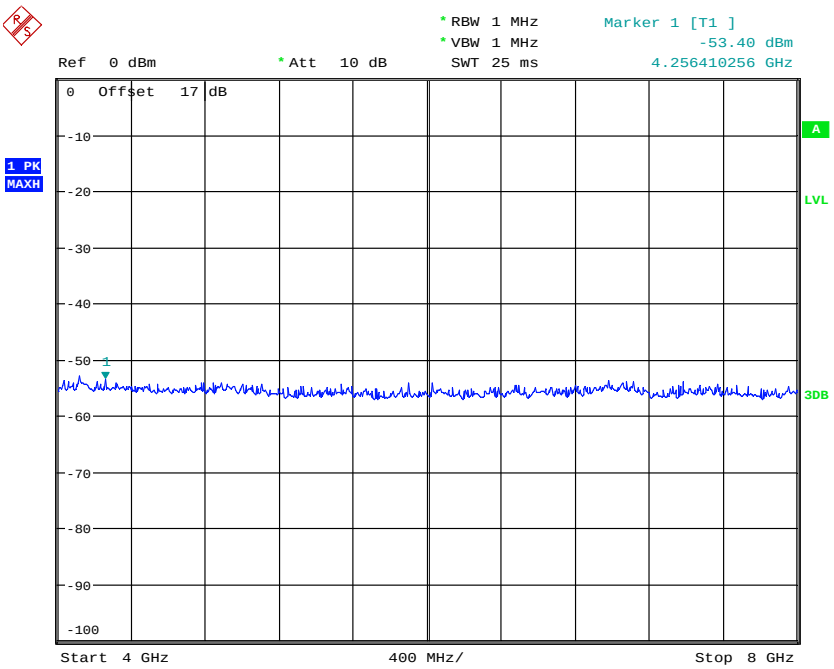
CH188



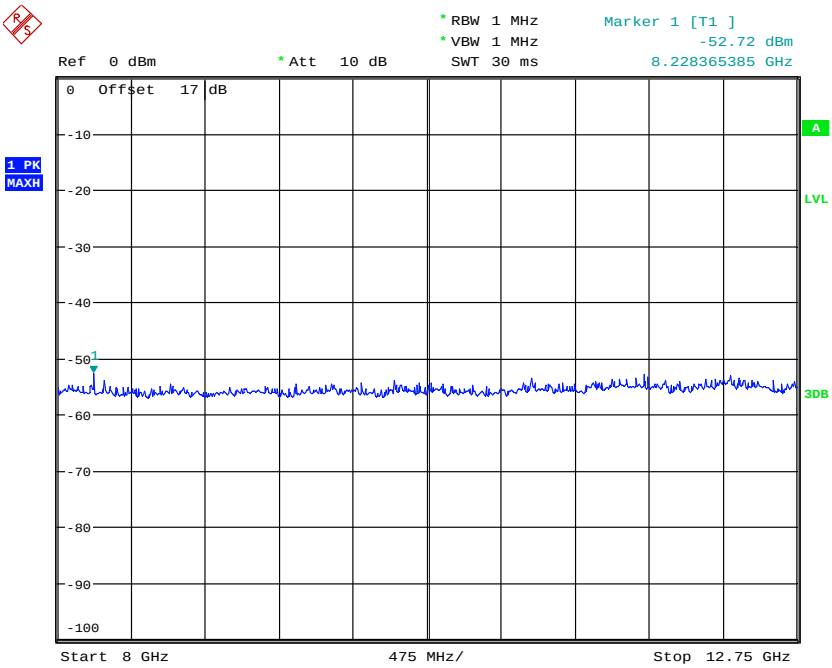
CONDUCTED SPURIOUS EMISSION GSM850 CH188
Date: 17.OCT.2017 15:01:27



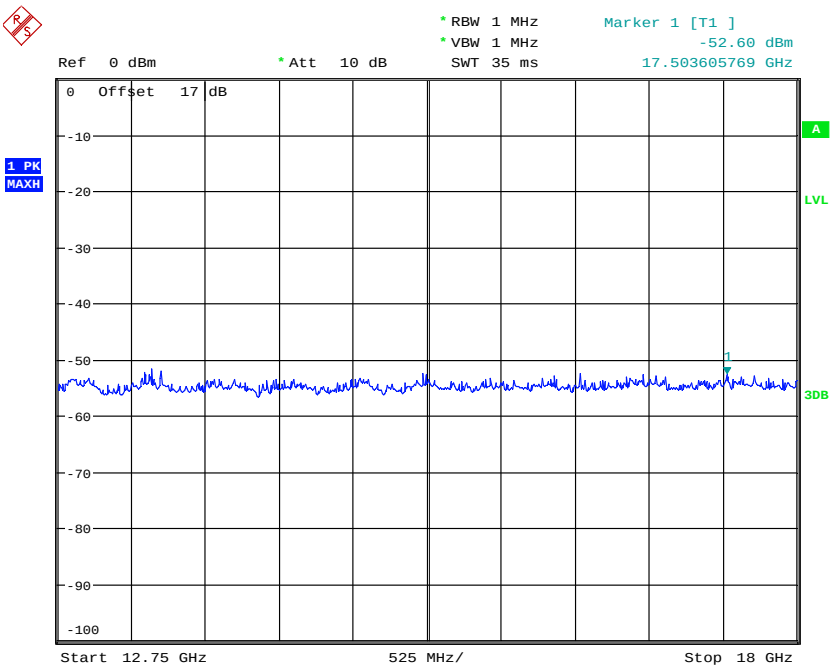
CONDUCTED SPURIOUS EMISSION GSM850 CH188
Date: 17.OCT.2017 15:07:50



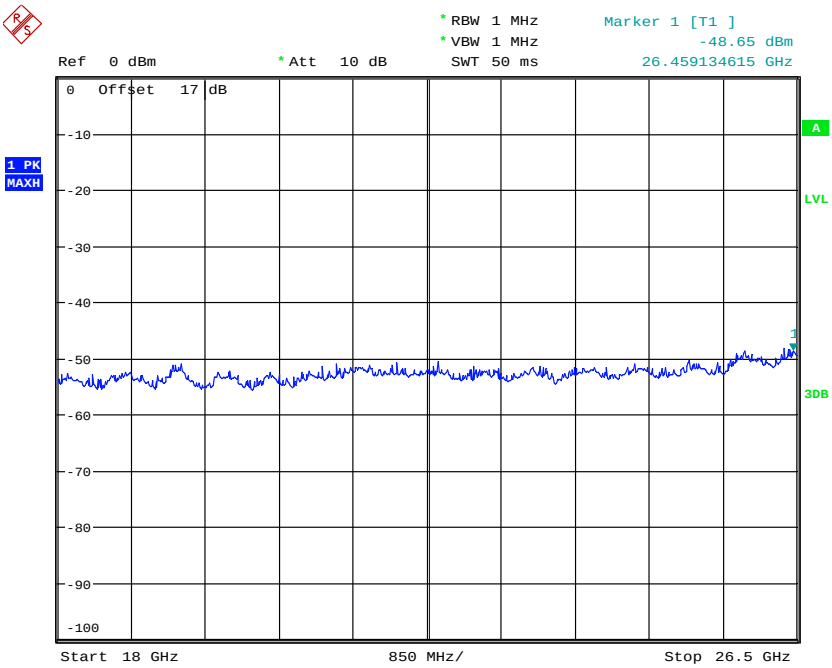
CONDUCTED SPURIOUS EMISSION GSM850 CH188
Date: 17.OCT.2017 15:09:46



CONDUCTED SPURIOUS EMISSION GSM850 CH188
Date: 17.OCT.2017 15:11:40

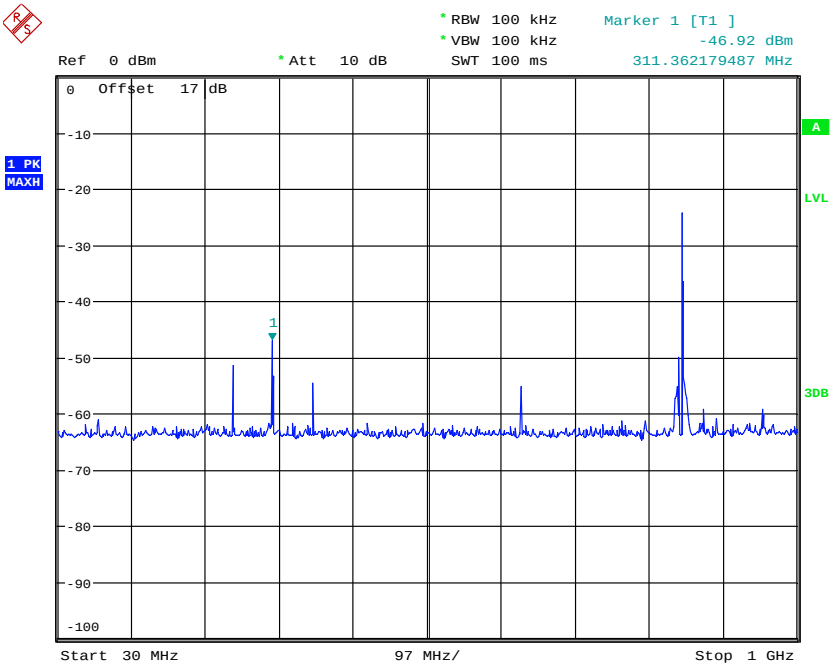


CONDUCTED SPURIOUS EMISSION GSM850 CH188
Date: 17.OCT.2017 15:13:17



CONDUCTED SPURIOUS EMISSION GSM850 CH188
Date: 17.OCT.2017 15:14:34

CH251



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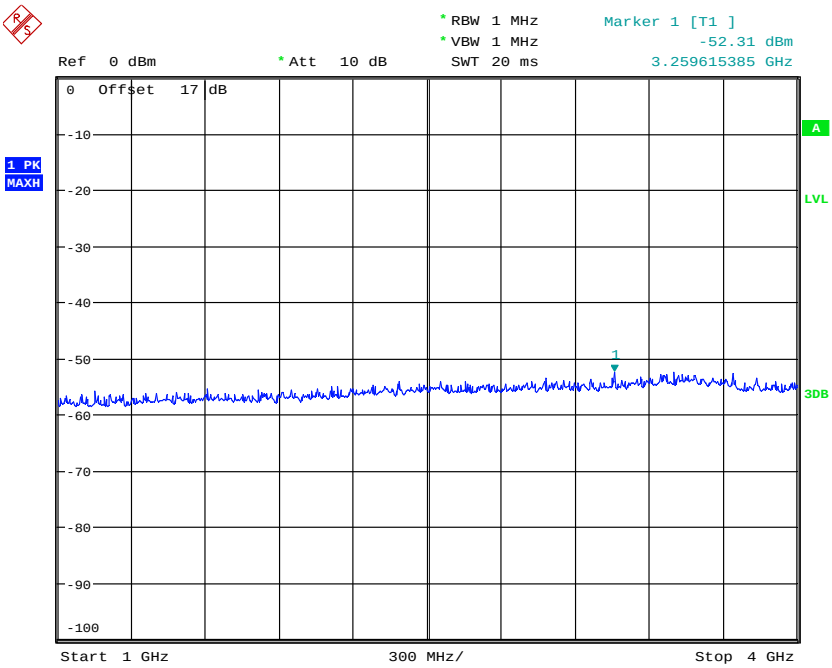
Date: 17.OCT.2017 15:02:23



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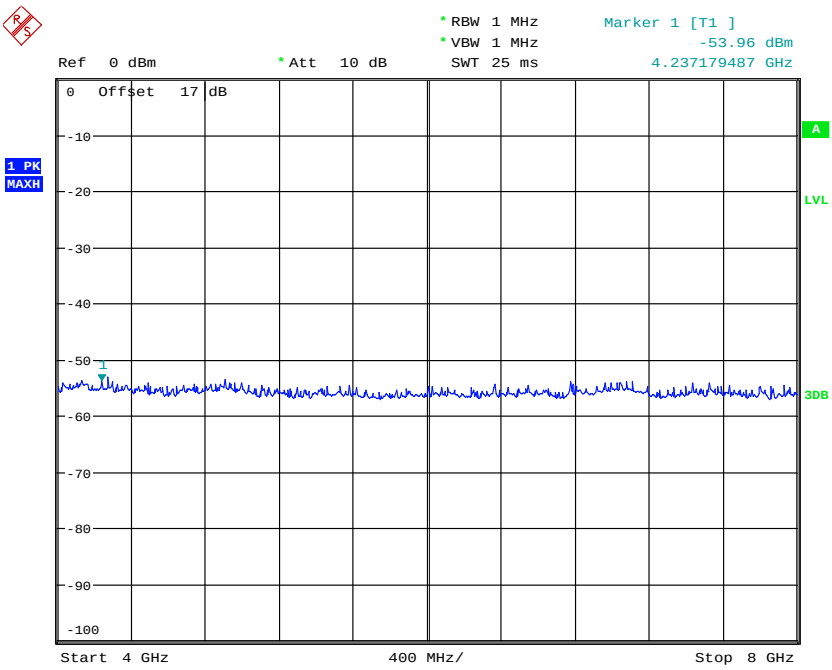
Date: 17.OCT.2017 15:06:49



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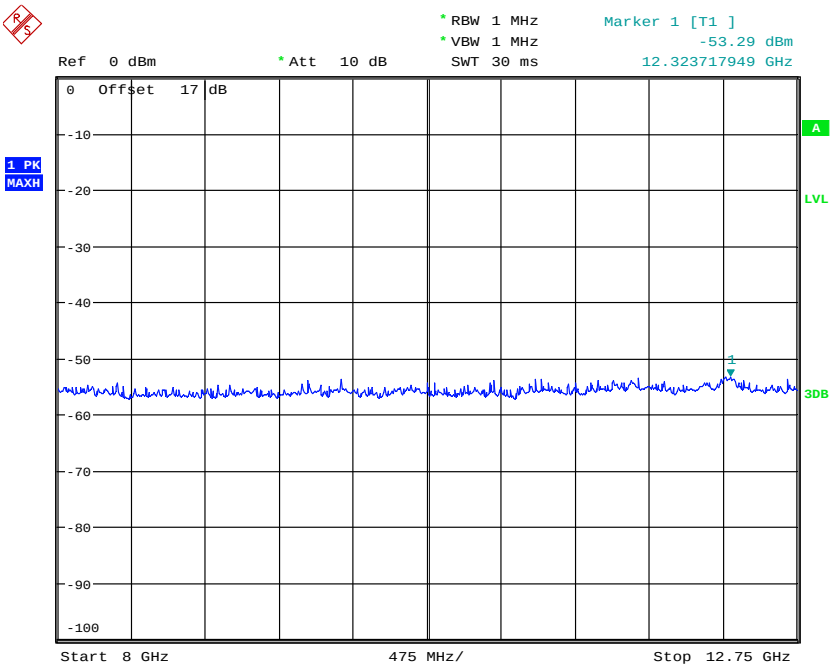
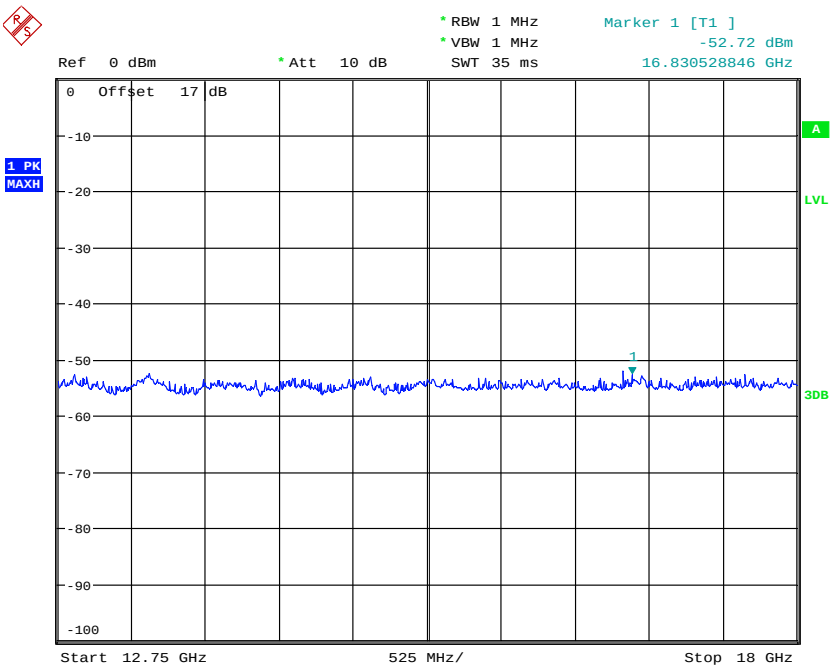
Date: 17.OCT.2017 15:10:39

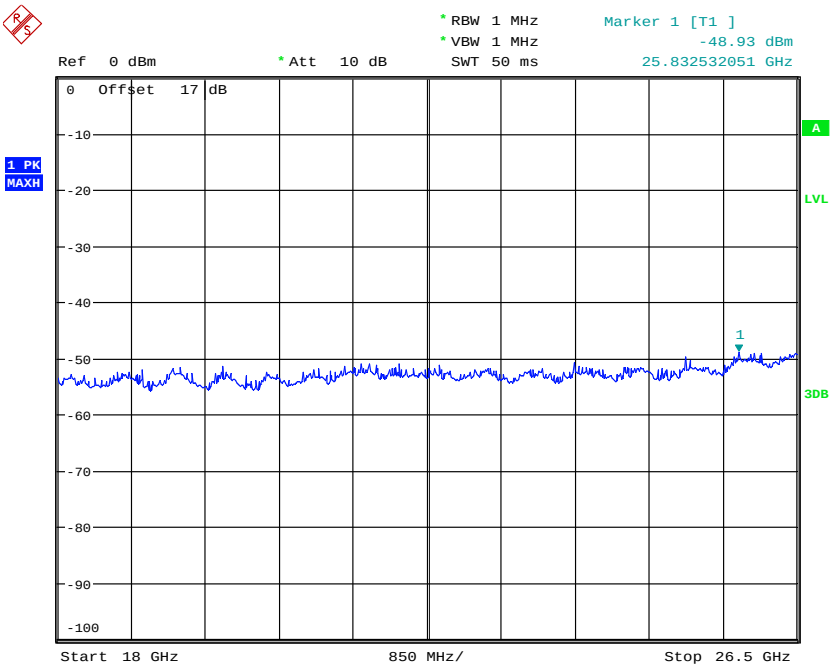


CONDUCTED SPURIOUS EMISSION GSM850 CH251
Date: 17.OCT.2017 15:11:14



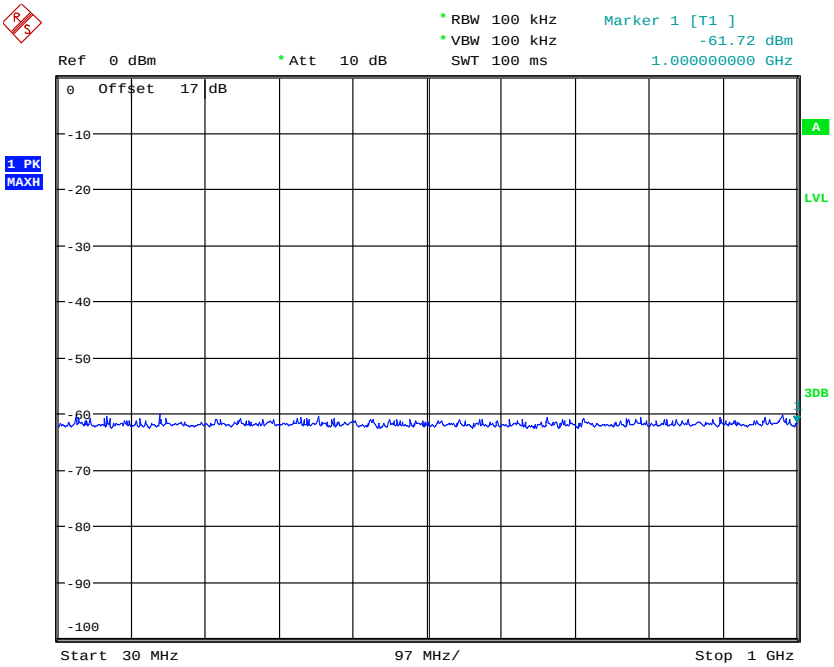
CONDUCTED SPURIOUS EMISSION GSM850 CH251
Date: 17.OCT.2017 15:13:37

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



CONDUCTED SPURIOUS EMISSION GSM850 CH251
Date: 17.OCT.2017 15:14:11

850 Band Idle



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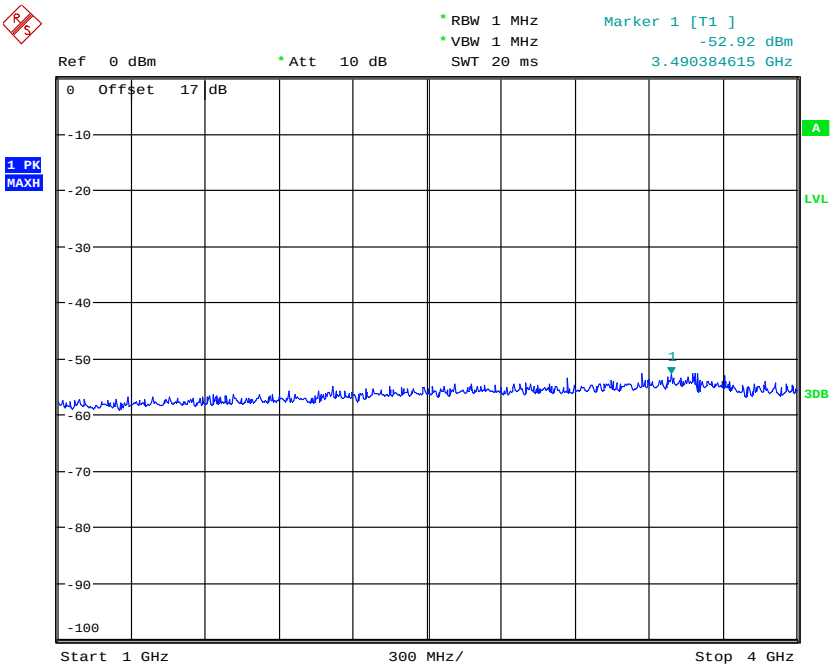

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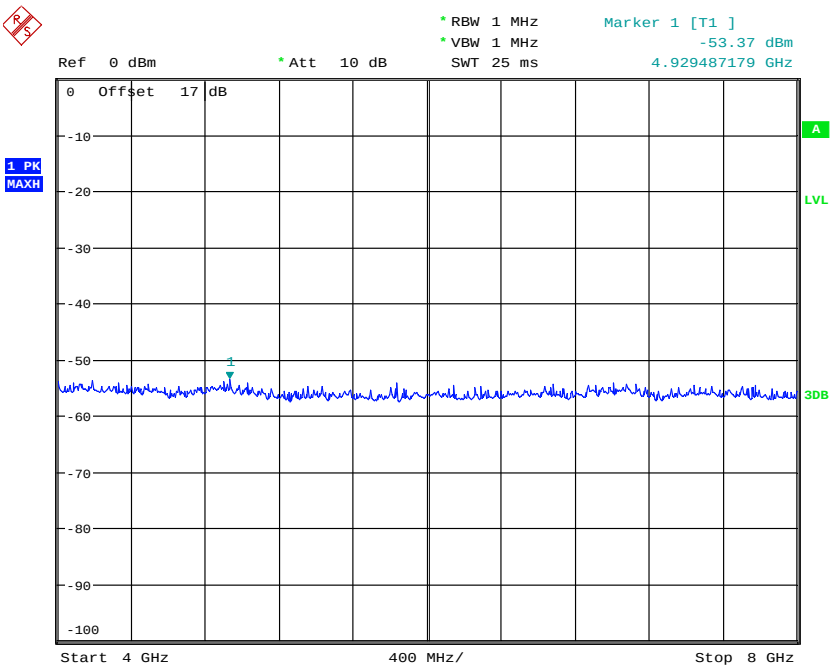
Date: 17.OCT.2017 16:12:25



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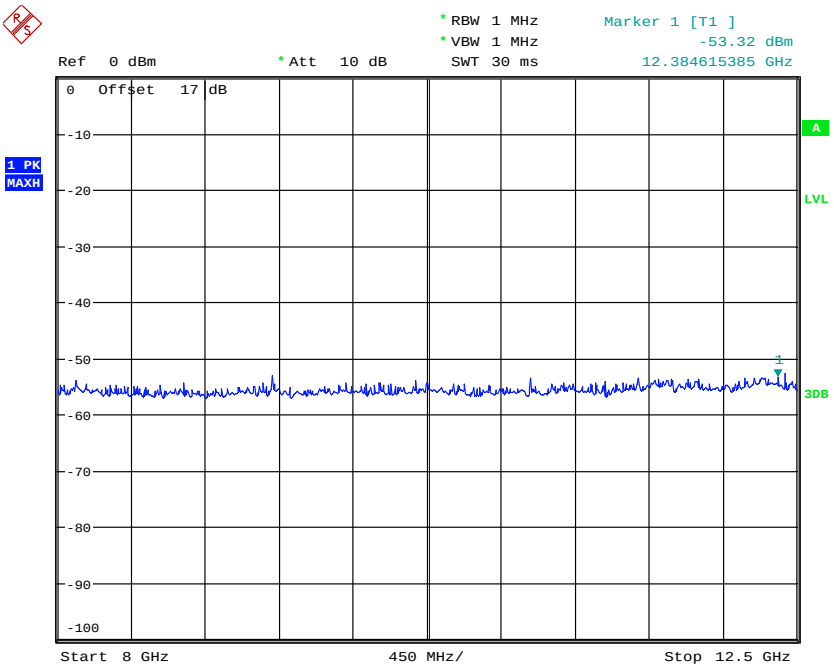

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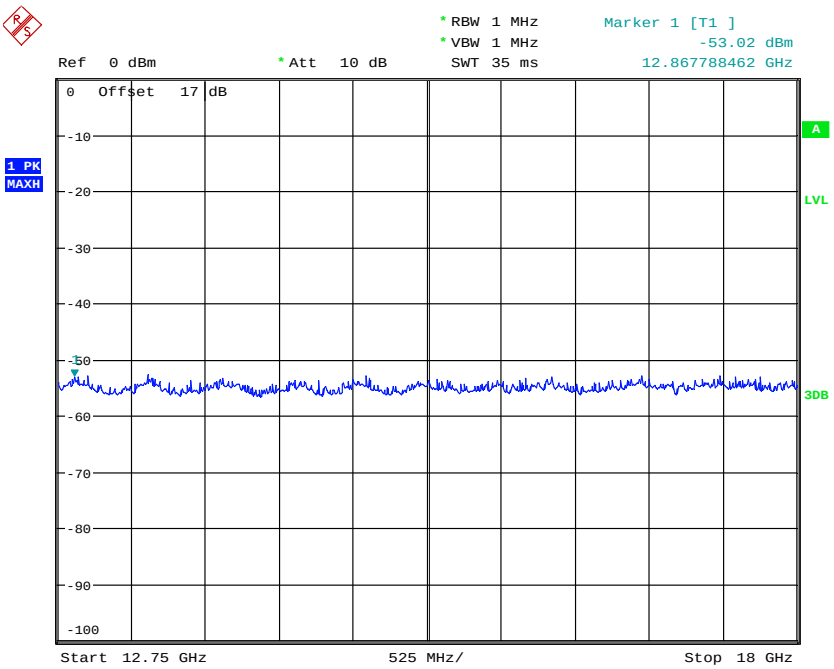
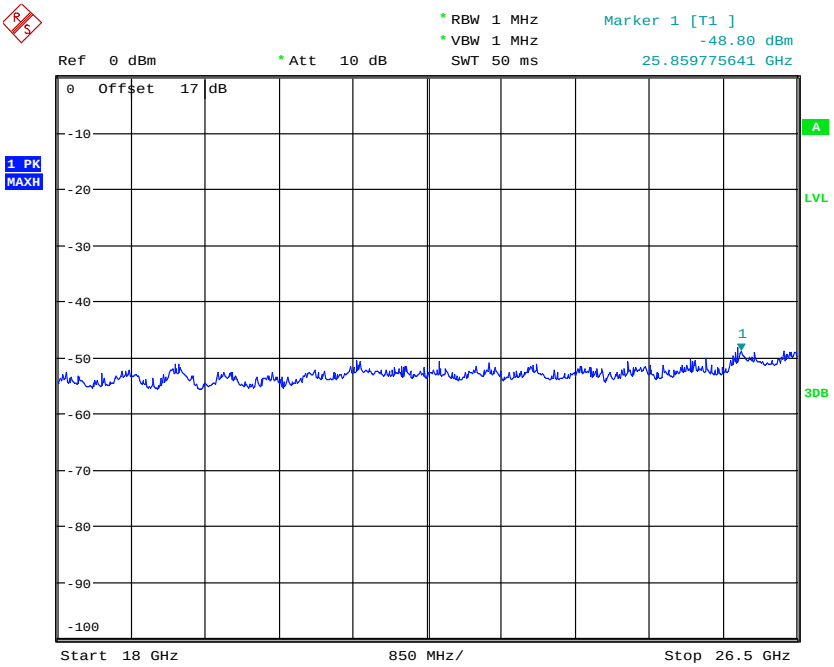


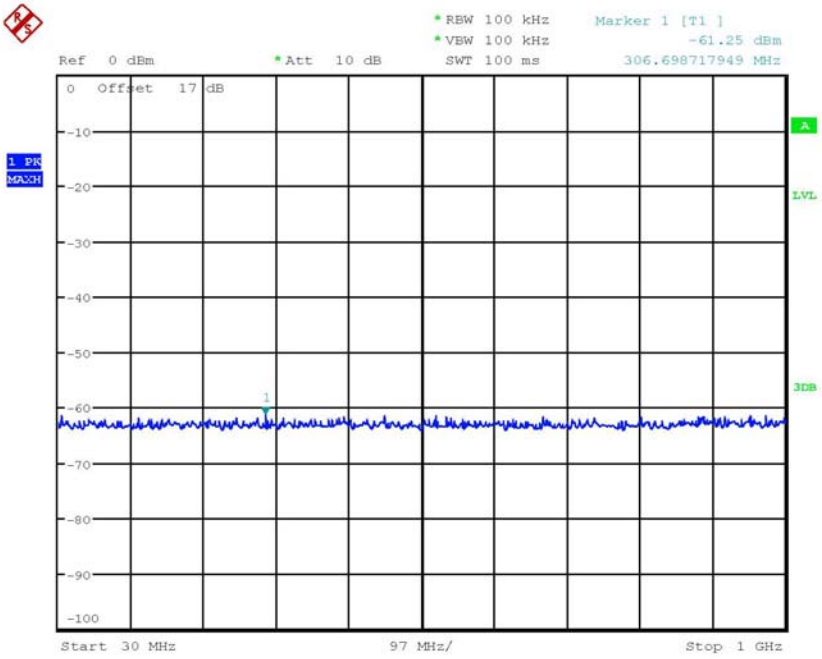
CONDUCTED SPURIOUS EMISSION GSM850 IDLE
Date: 17.OCT.2017 16:13:30

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G

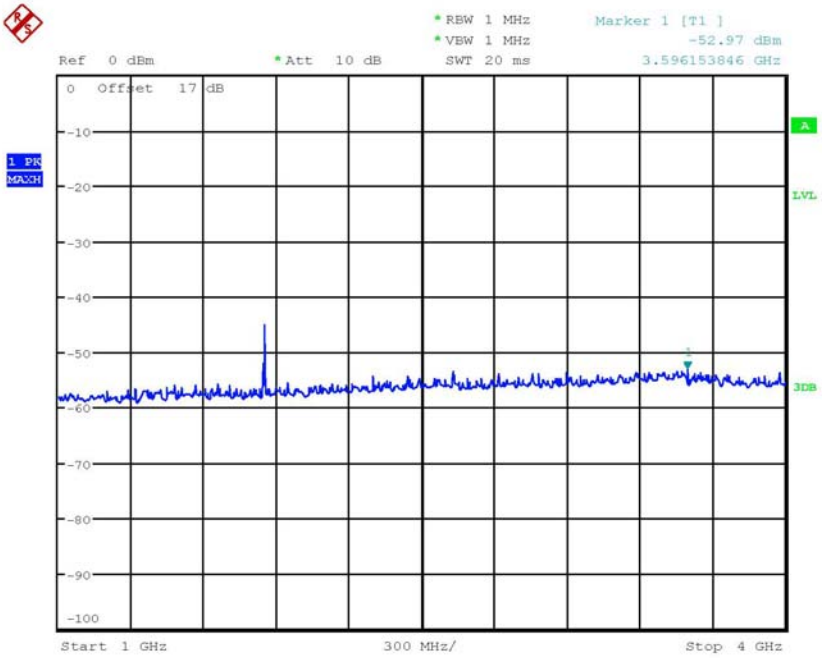


CONDUCTED SPURIOUS EMISSION GSM850 IDLE
Date: 17.OCT.2017 16:13:54

Band 1900 MHz
CH512



CONDUCTED SPURIOUS EMISSION PCS1900 CH512
Date: 17.OCT.2017 16:17:00



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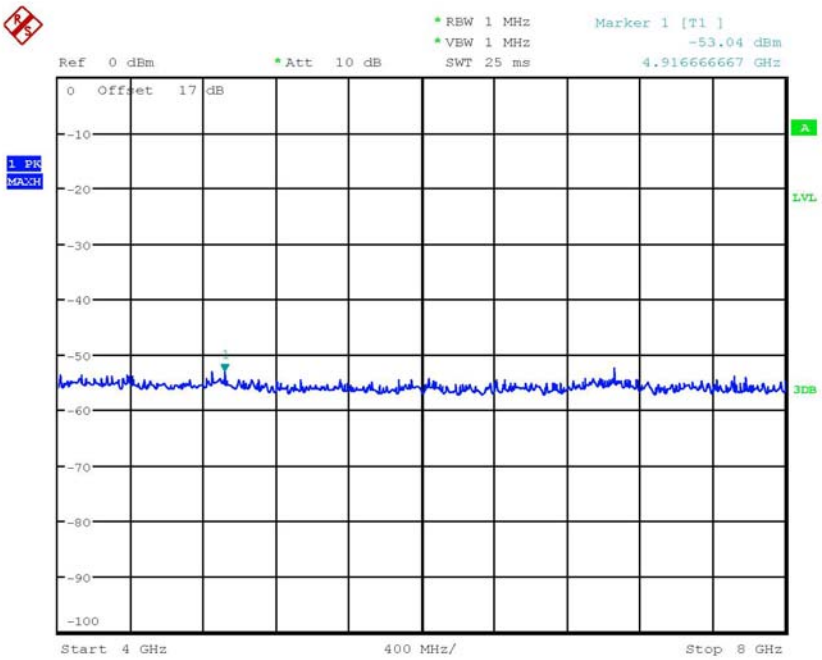

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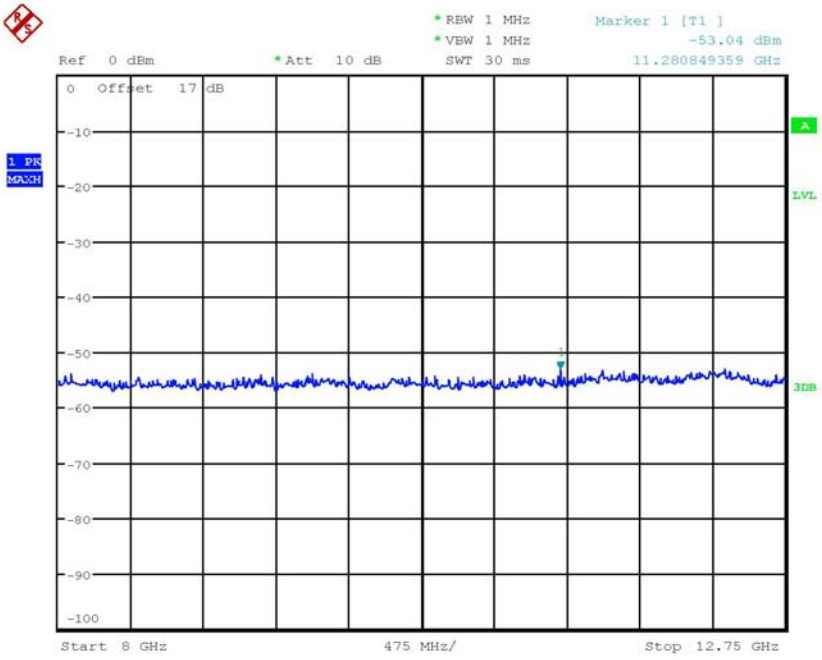

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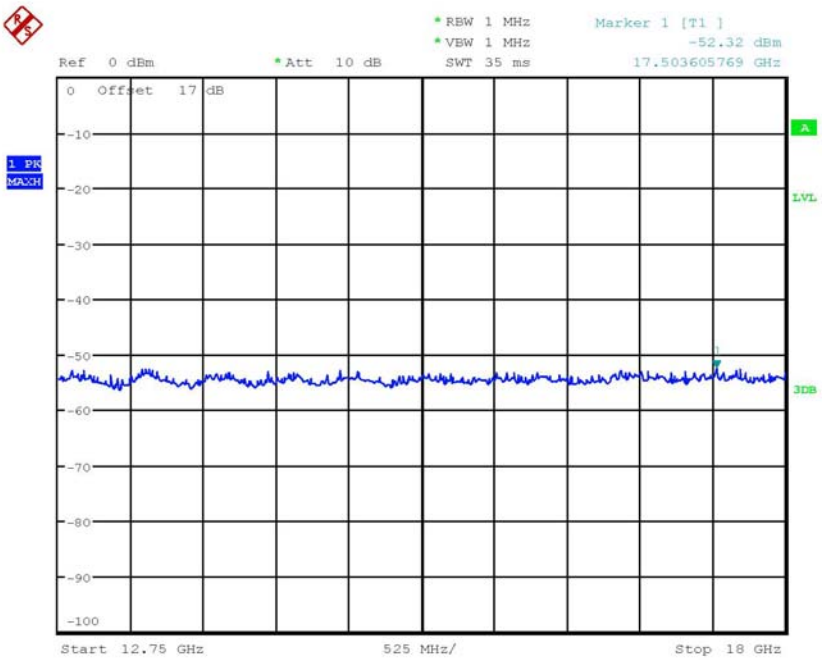

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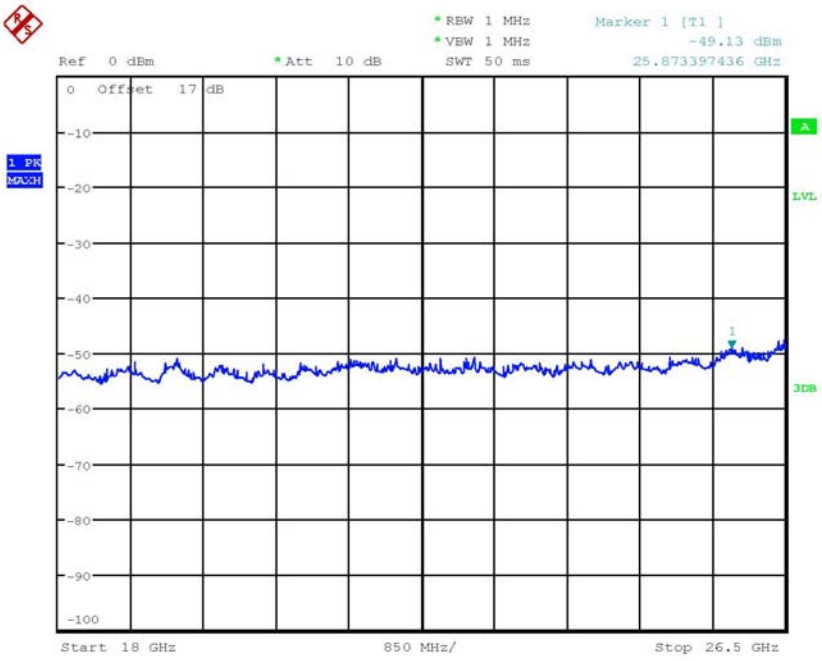

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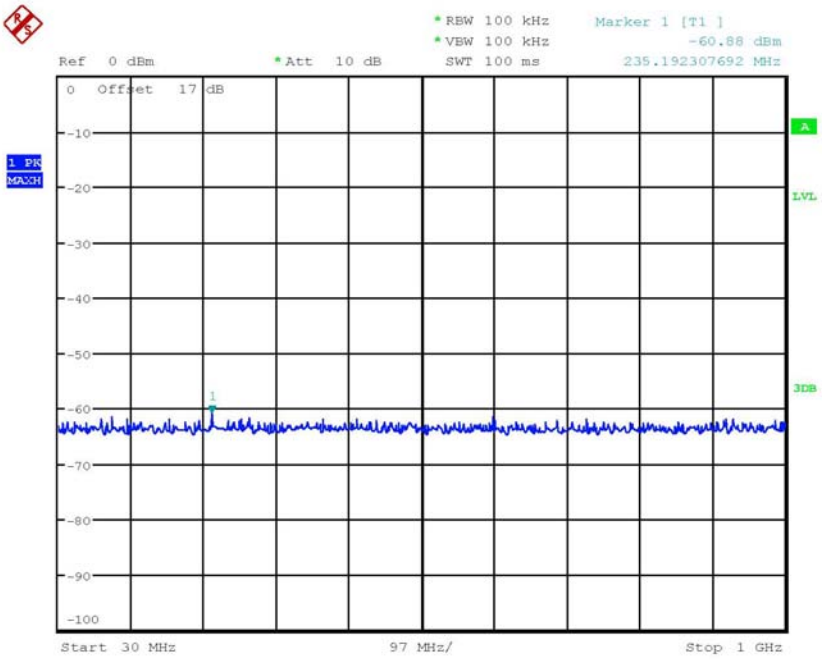
Date: 17.OCT.2017 16:25:44

CH661



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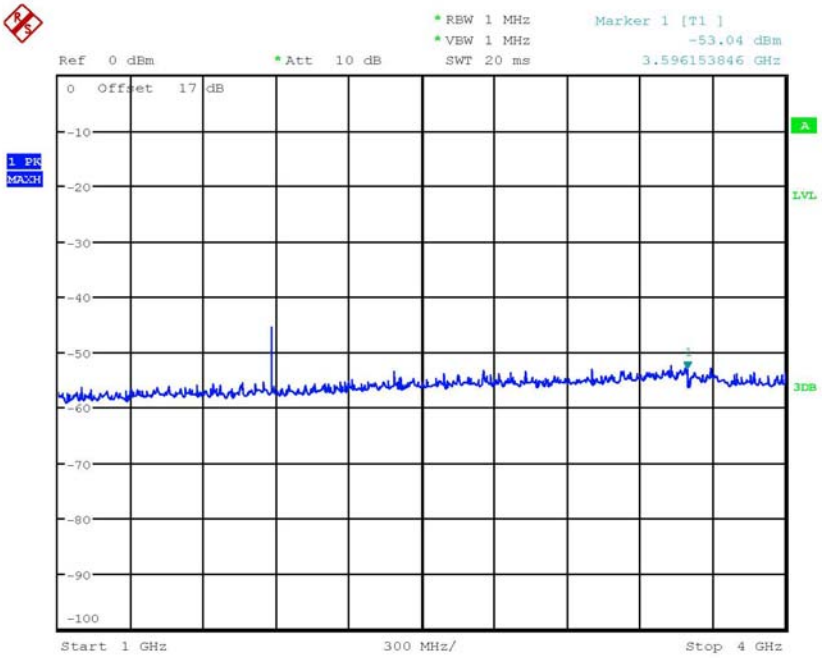

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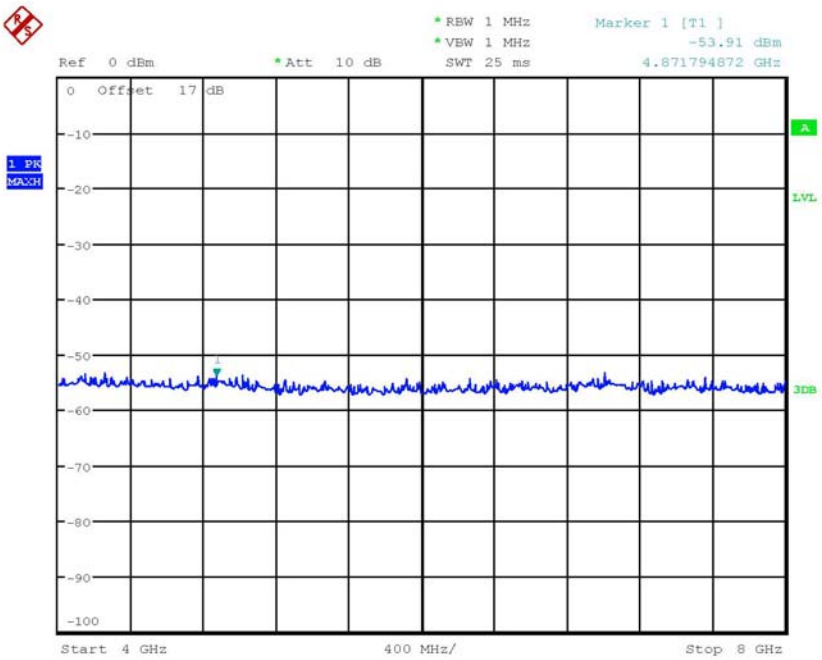

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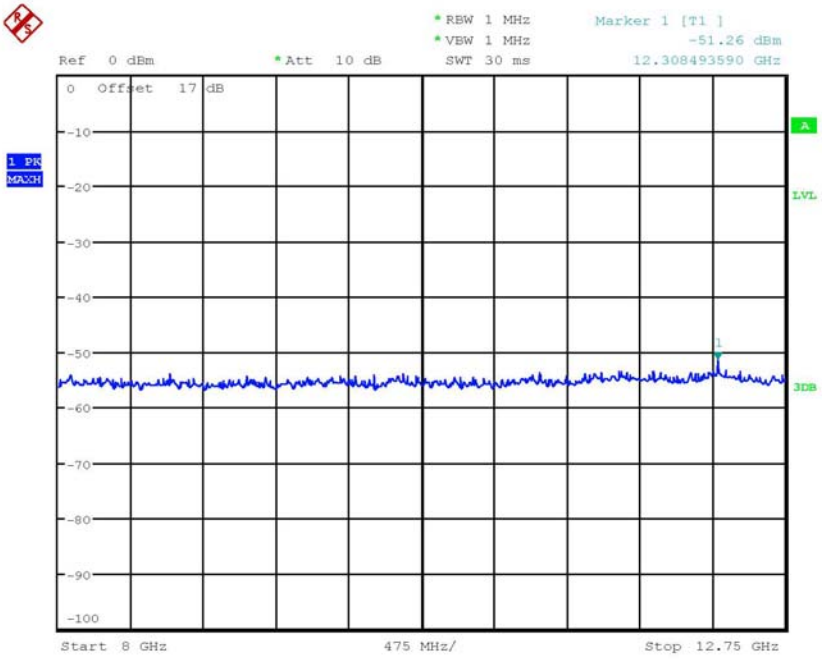

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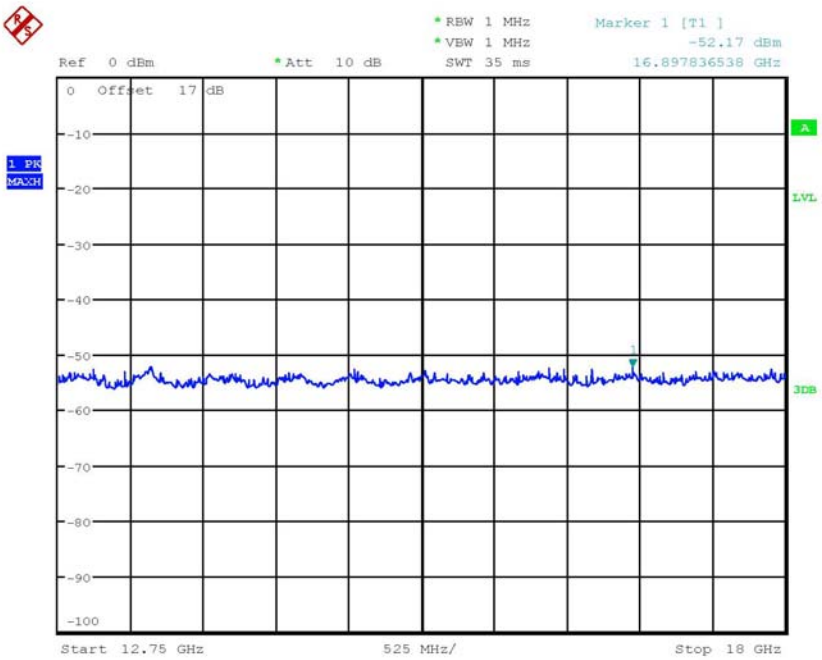

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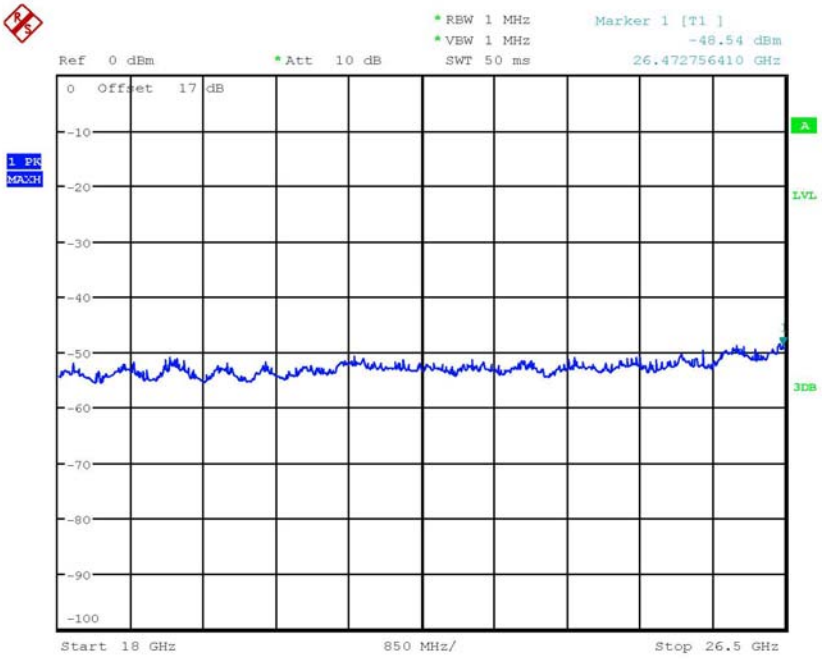
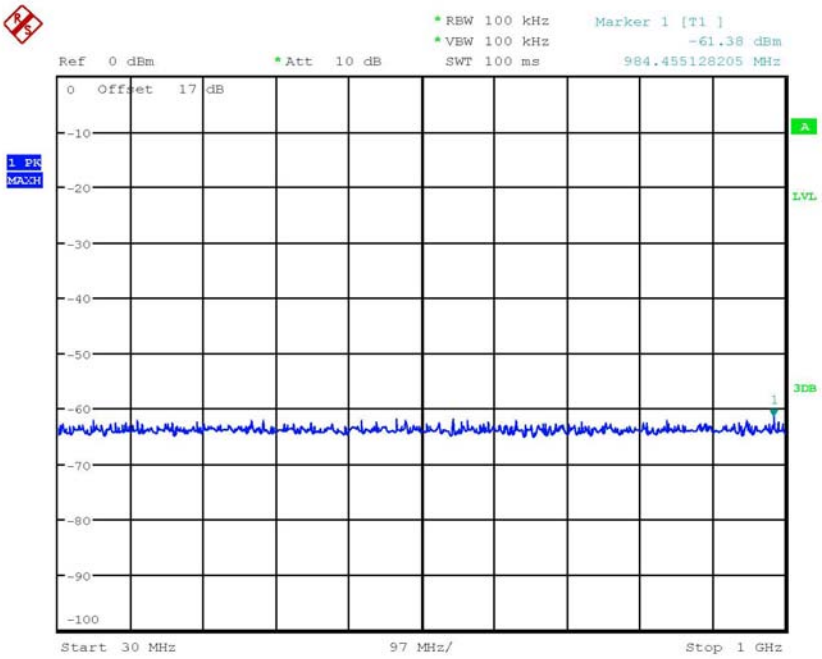


CONDUCTED SPURIOUS EMISSION PCS1900 CH661
Date: 17.OCT.2017 16:26:01

CH810



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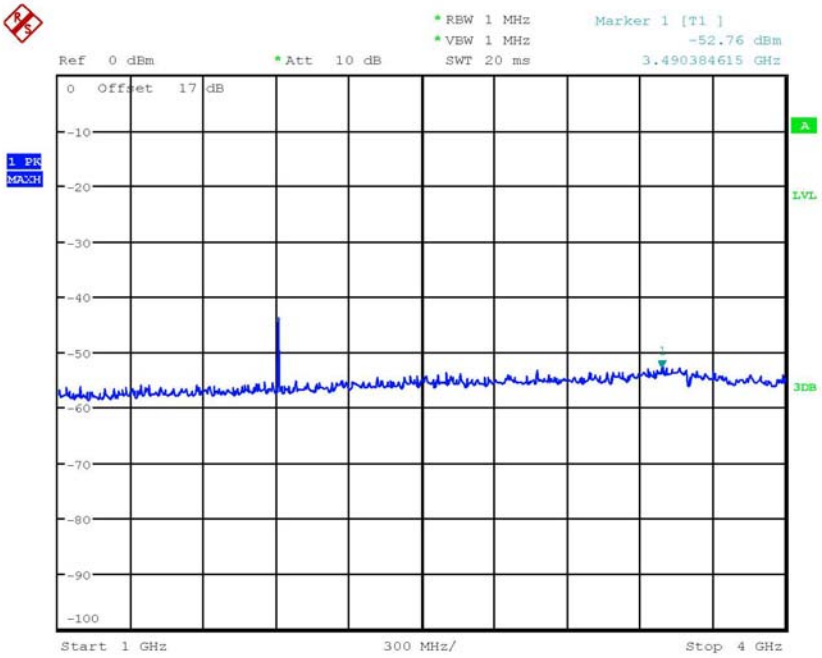

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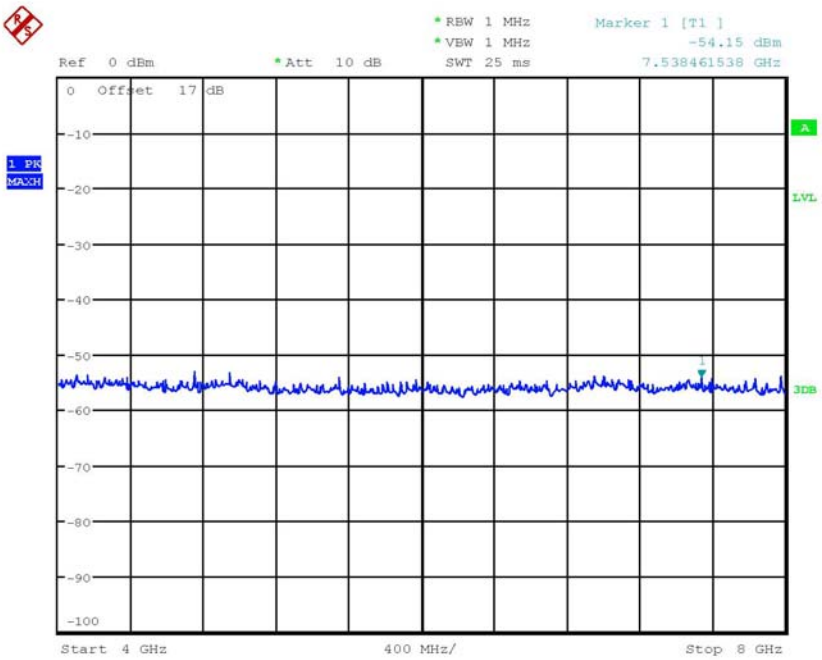

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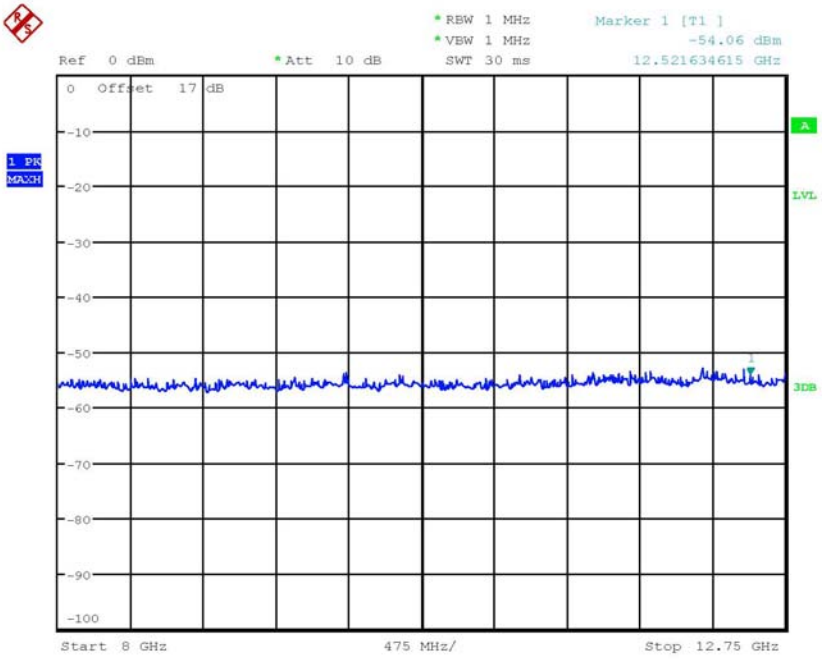

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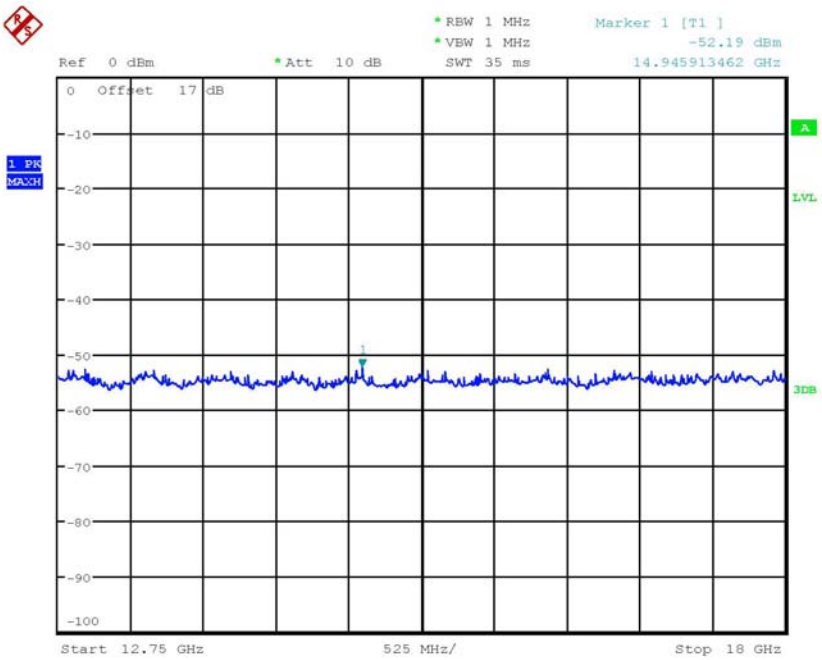

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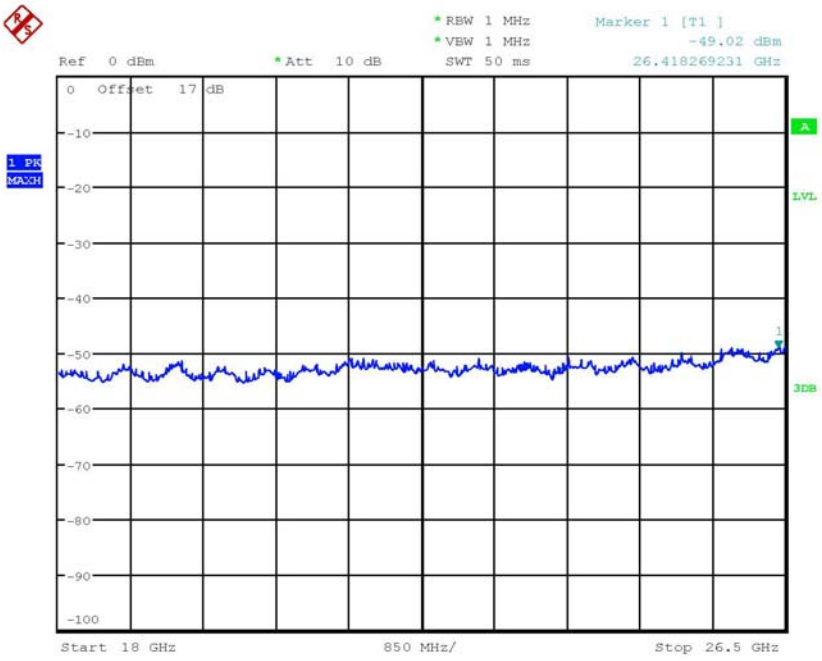
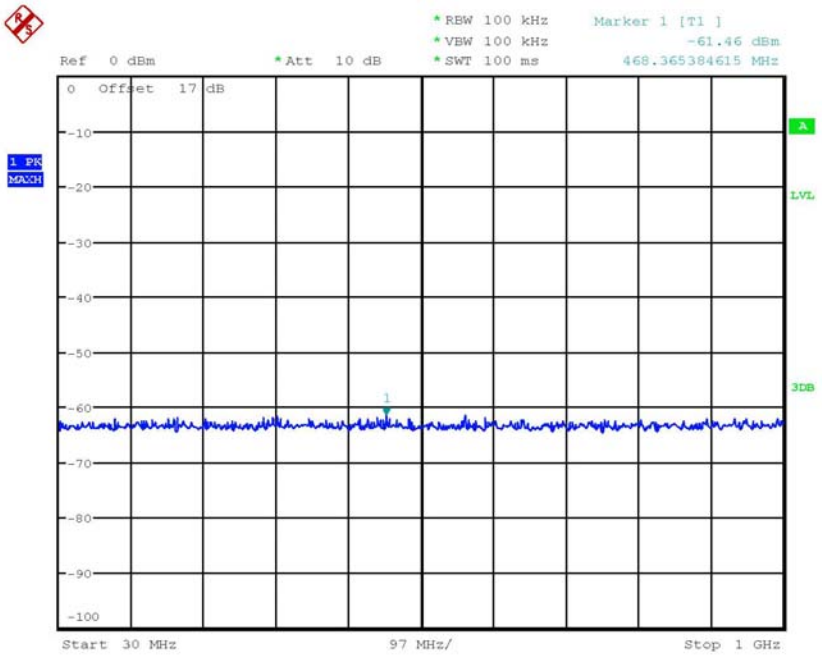


CONDUCTED SPURIOUS EMISSION PCS1900 CH810
Date: 17.OCT.2017 16:26:21

1900 Band Idle



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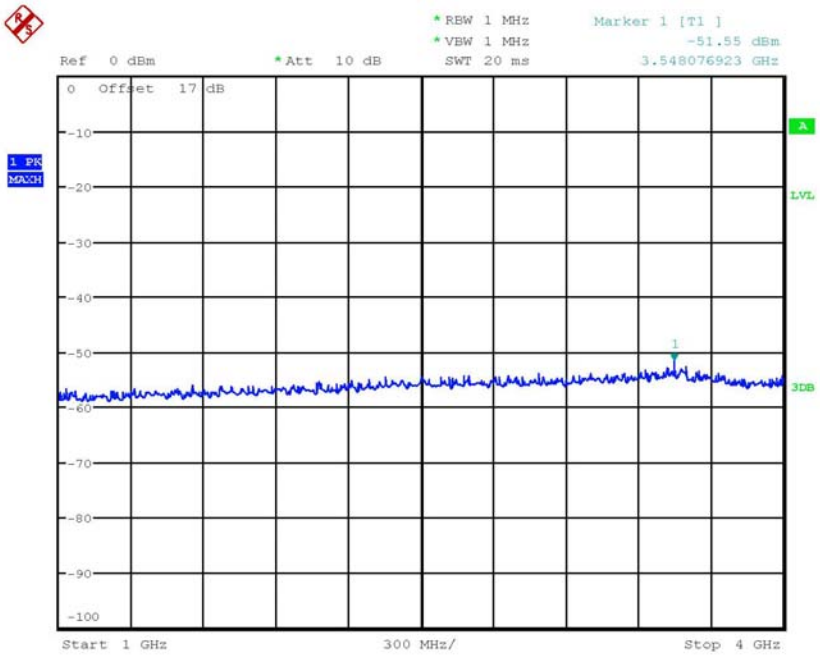

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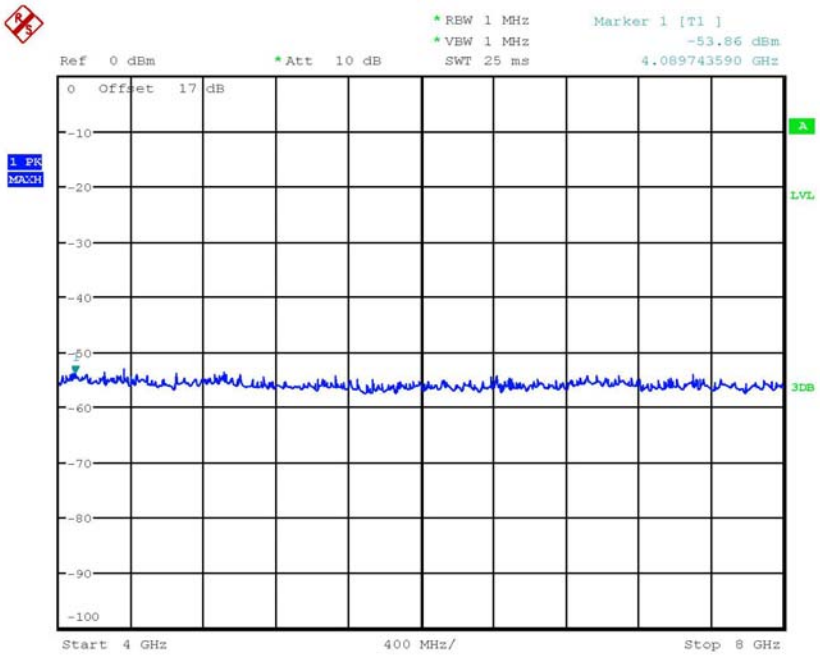

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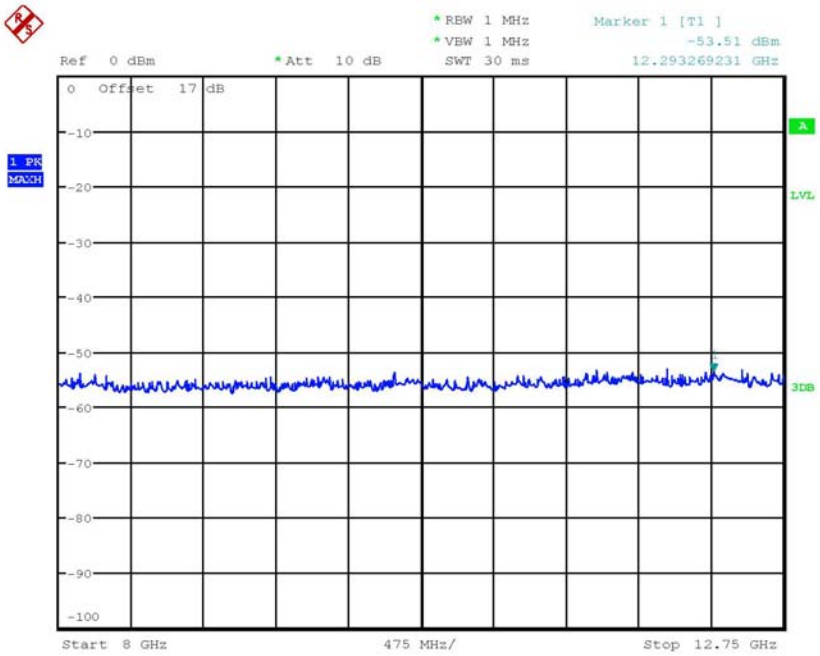

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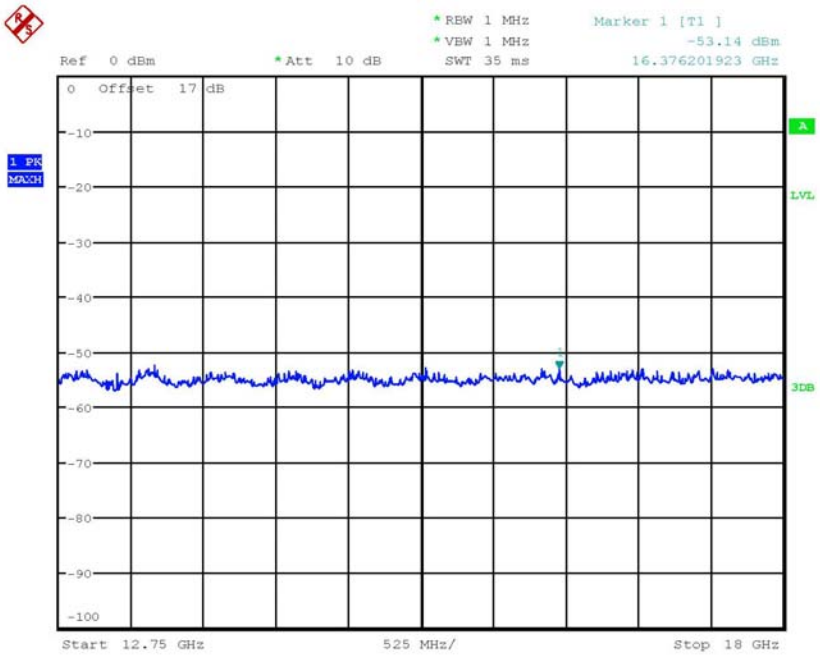
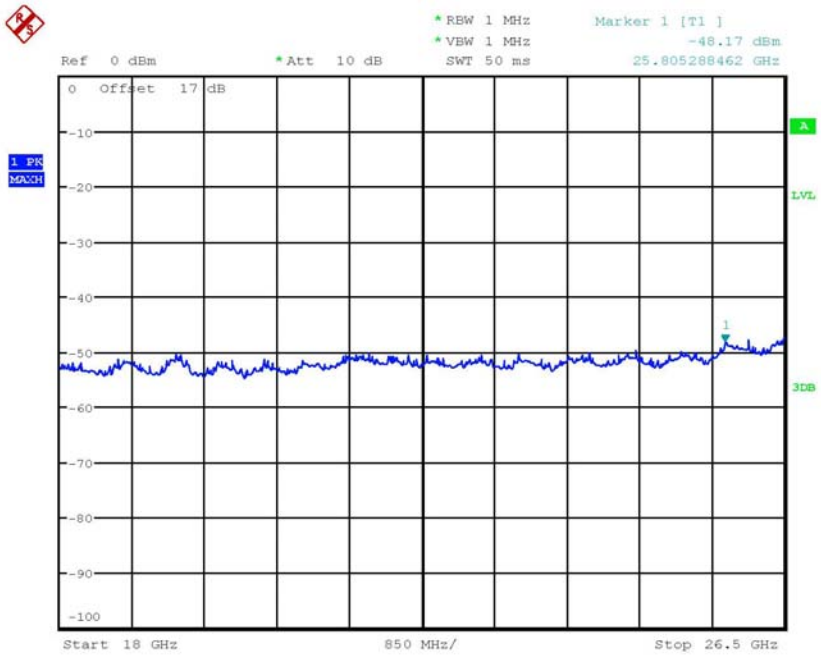


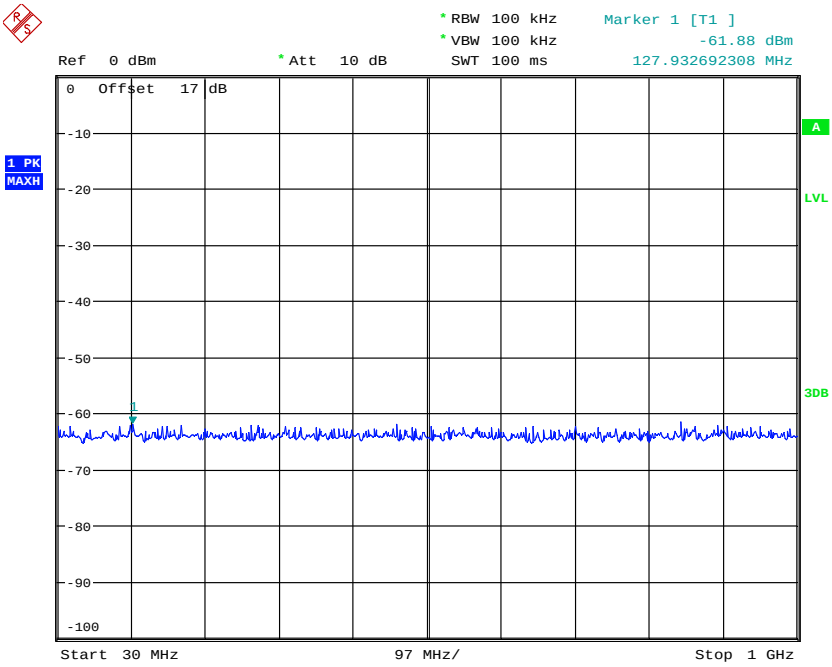
CONDUCTED SPURIOUS EMISSION PCS1900 IDLE
Date: 17.OCT.2017 16:31:13

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G

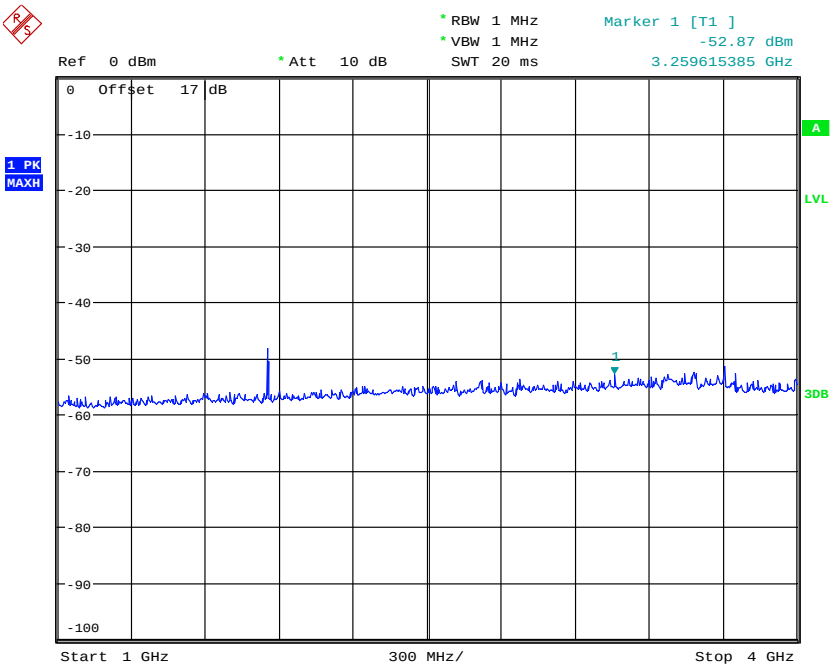


CONDUCTED SPURIOUS EMISSION PCS1900 IDLE
Date: 17.OCT.2017 16:28:10

WCDMA Band II
CH9262



CONDUCTED SPURIOUS EMISSION WCDMA II CH9262
Date: 17.OCT.2017 16:44:14



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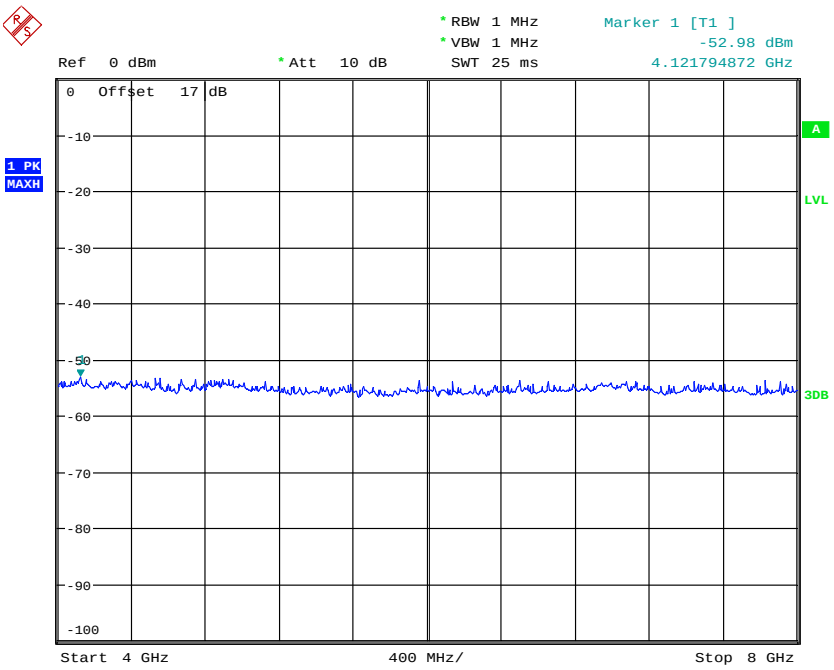
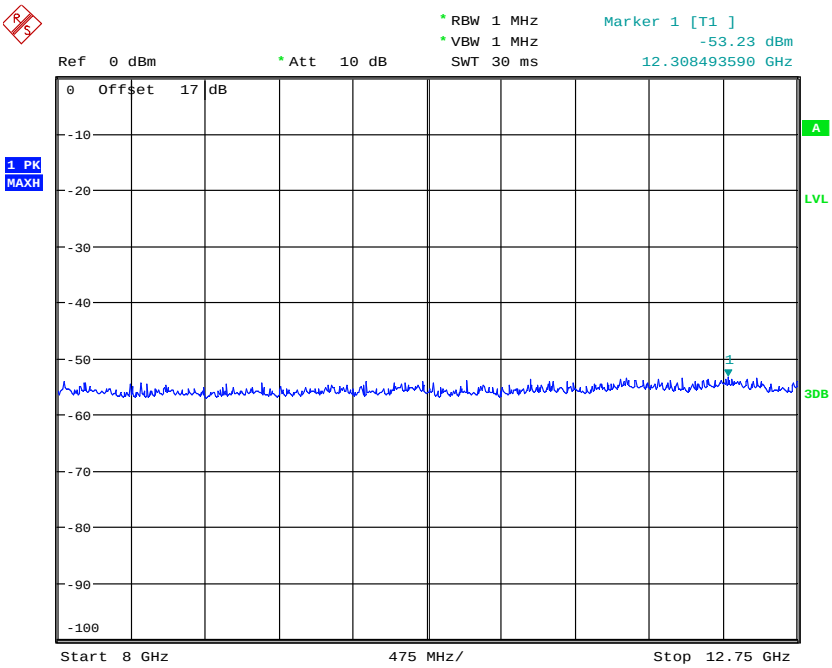


CONDUCTED SPURIOUS EMISSION WCDMA II CH9262
Date: 17.OCT.2017 16:49:17



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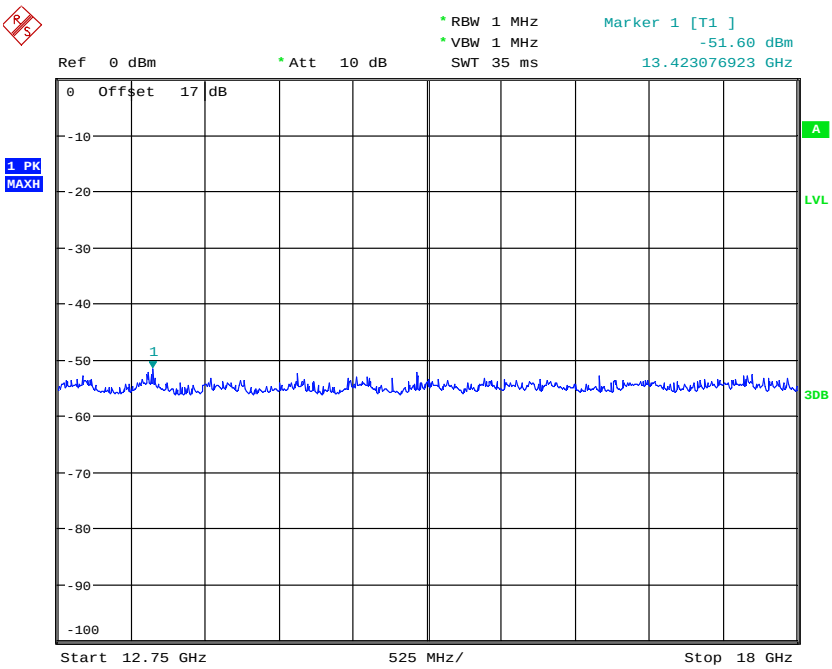
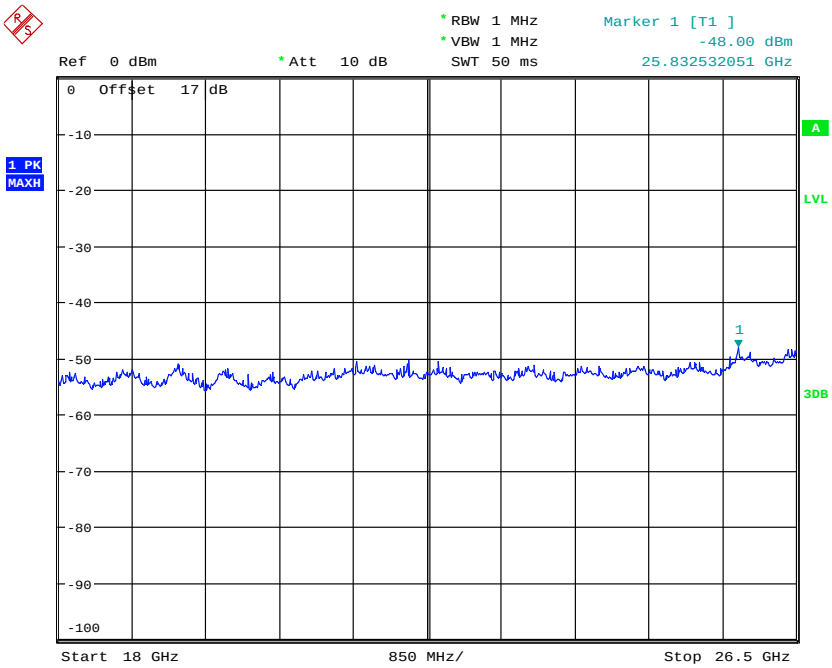
Date: 17.OCT.2017 16:51:22

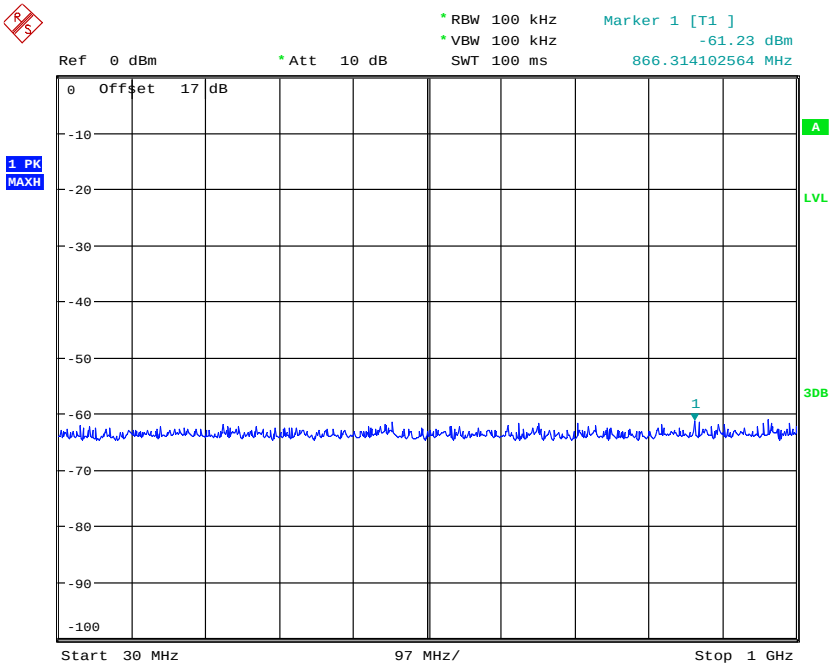


CONDUCTED SPURIOUS EMISSION WCDMA II CH9262
Date: 17.OCT.2017 16:51:41

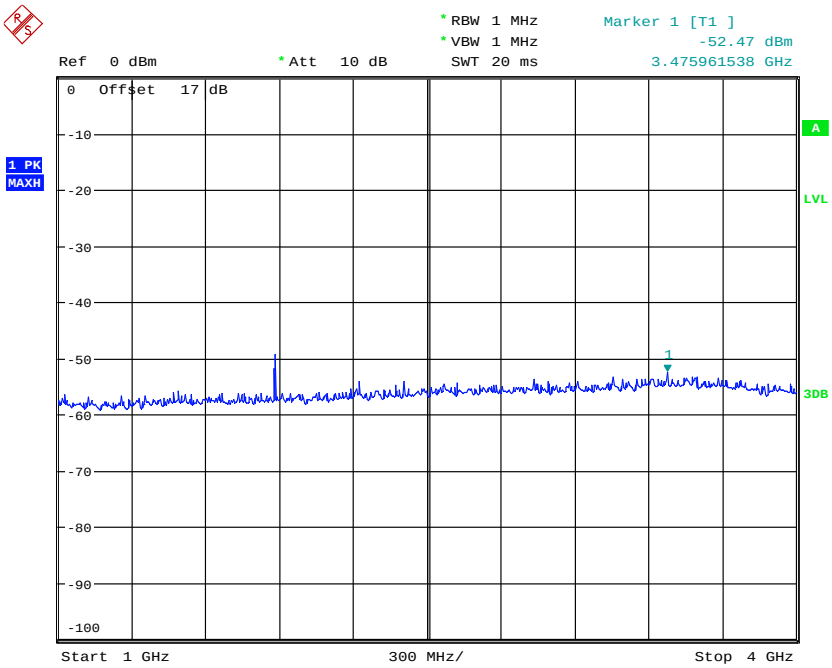


CONDUCTED SPURIOUS EMISSION WCDMA II CH9262
Date: 17.OCT.2017 16:53:18

CH 9400



CONDUCTED SPURIOUS EMISSION WCDMA II CH9400
Date: 17.OCT.2017 16:44:36



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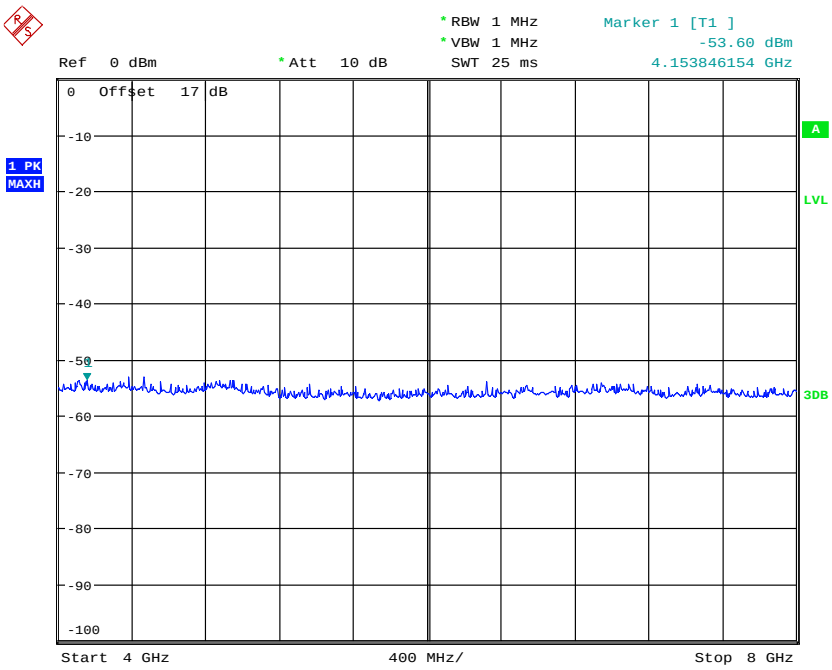
Date: 17.OCT.2017 16:46:23



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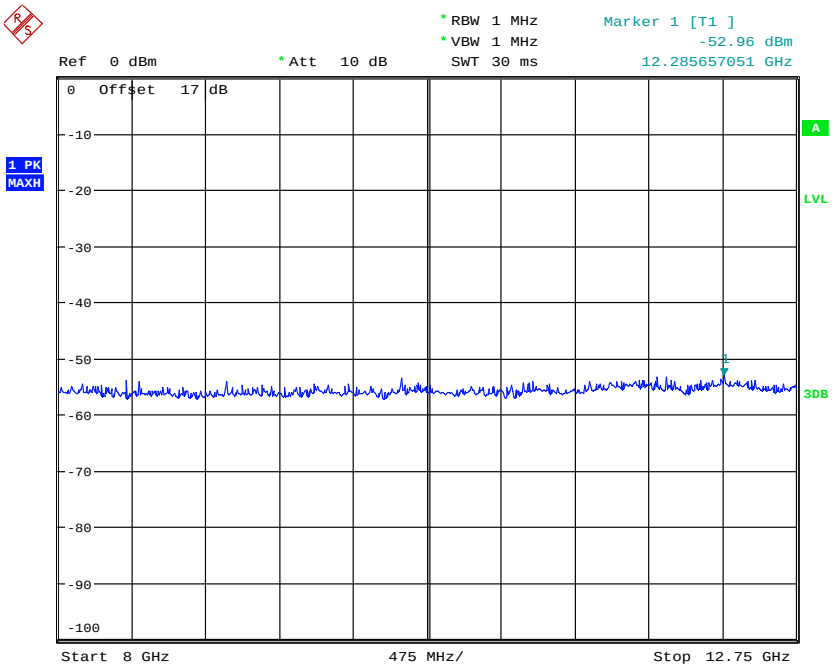

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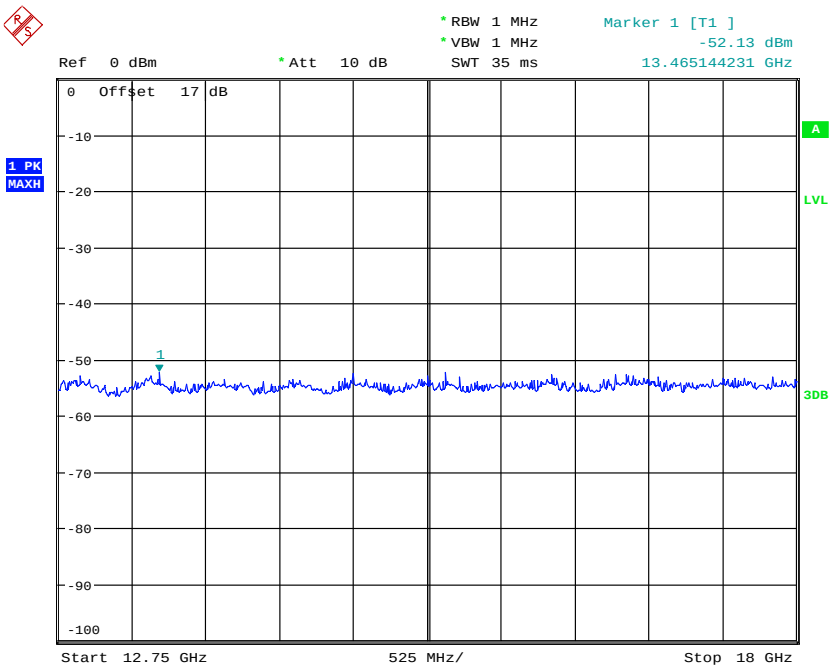

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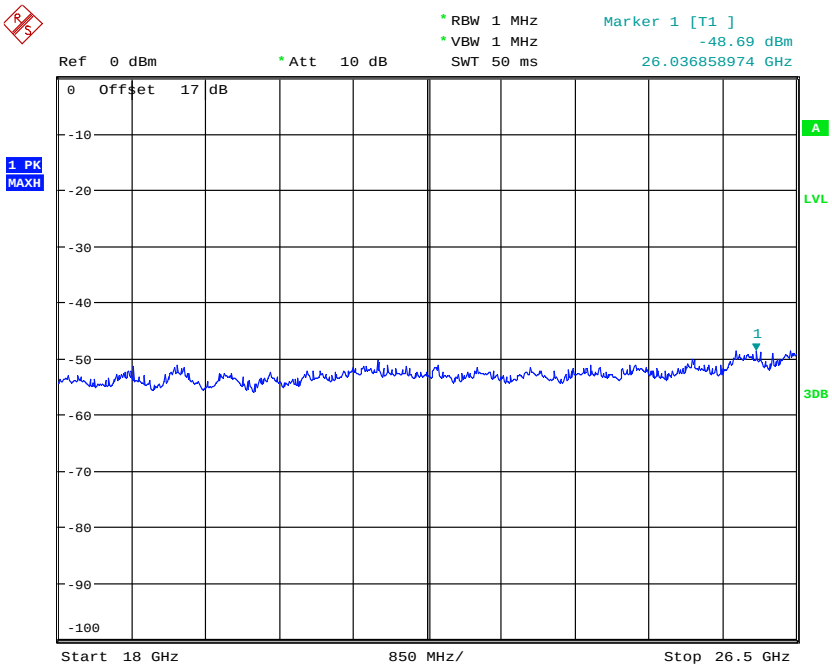
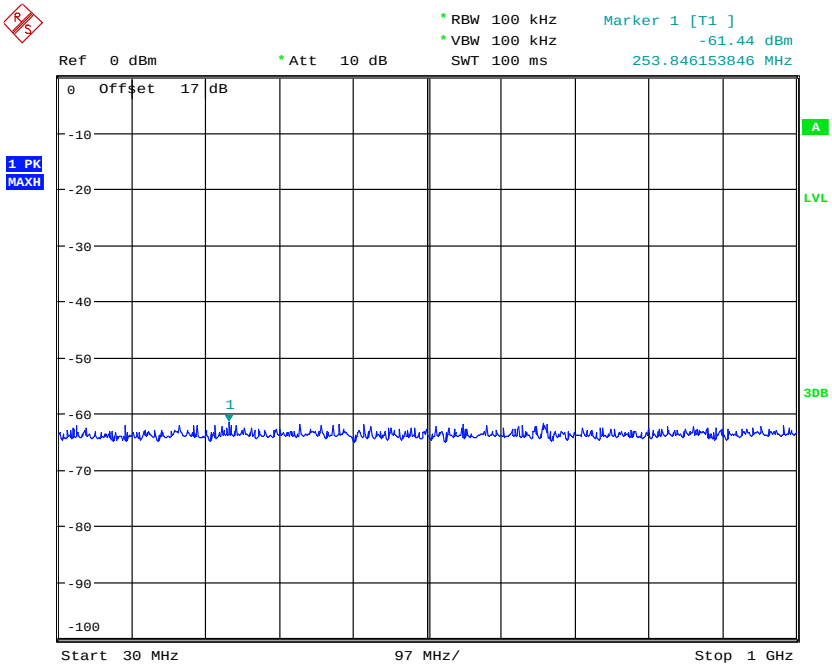


CONDUCTED SPURIOUS EMISSION WCDMA II CH9400
Date: 17.OCT.2017 16:53:00

CH 9538



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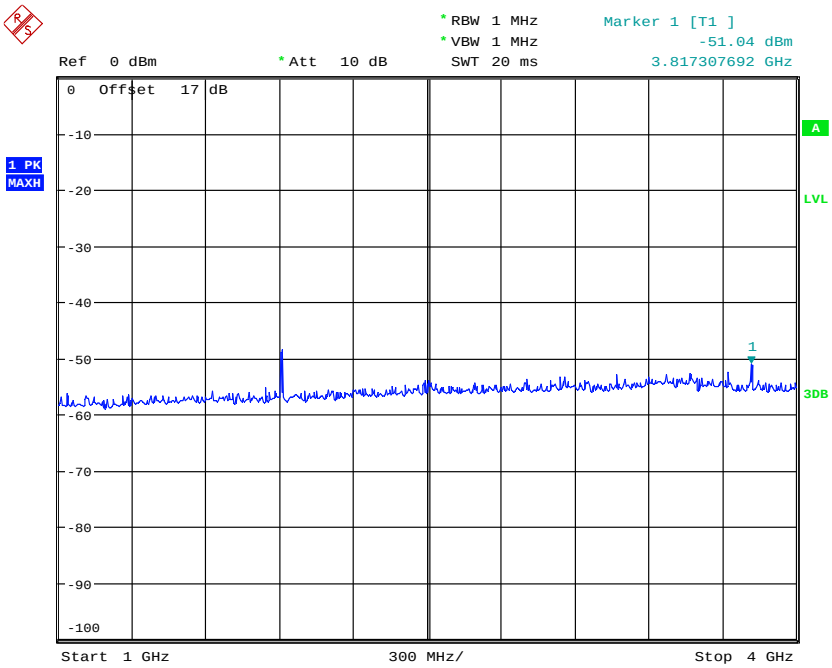
Date: 17.OCT.2017 16:44:58



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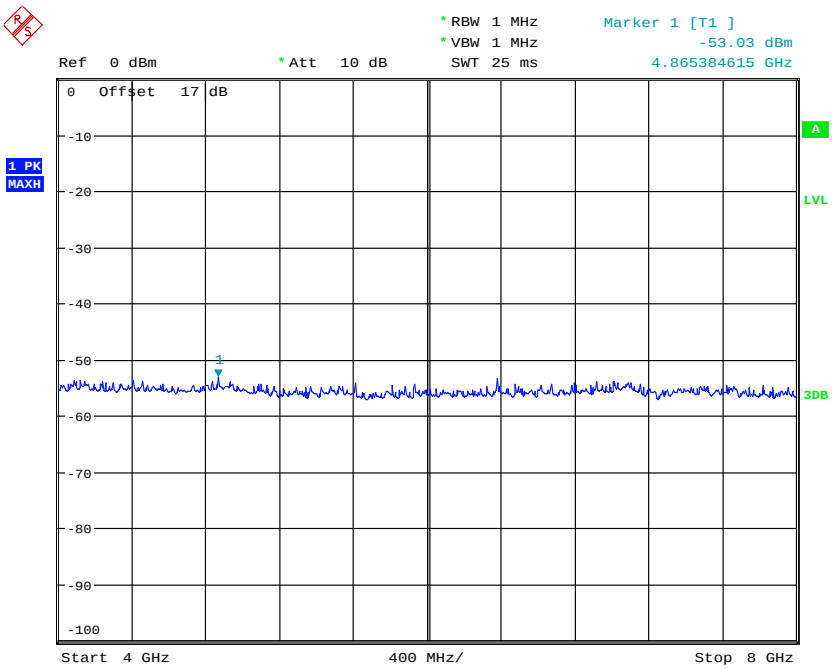

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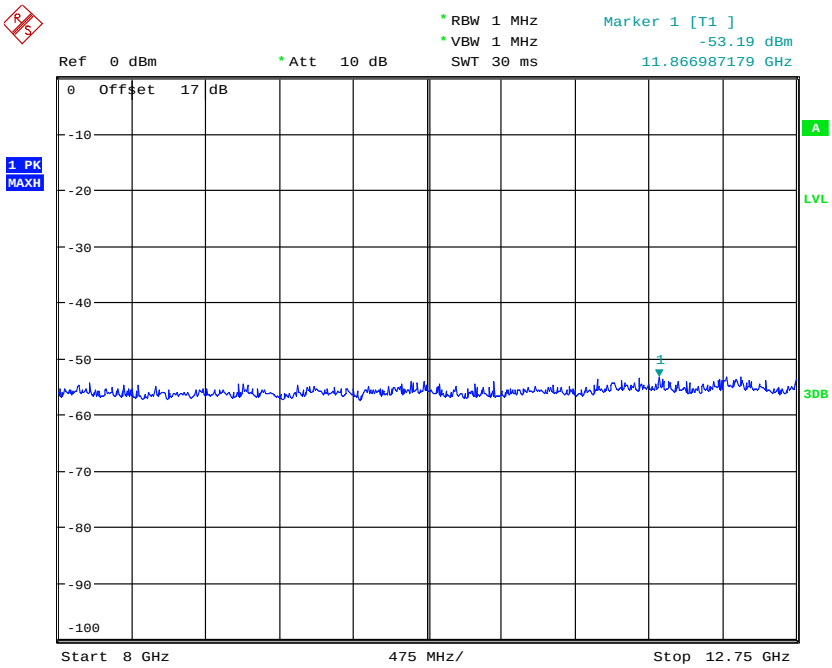

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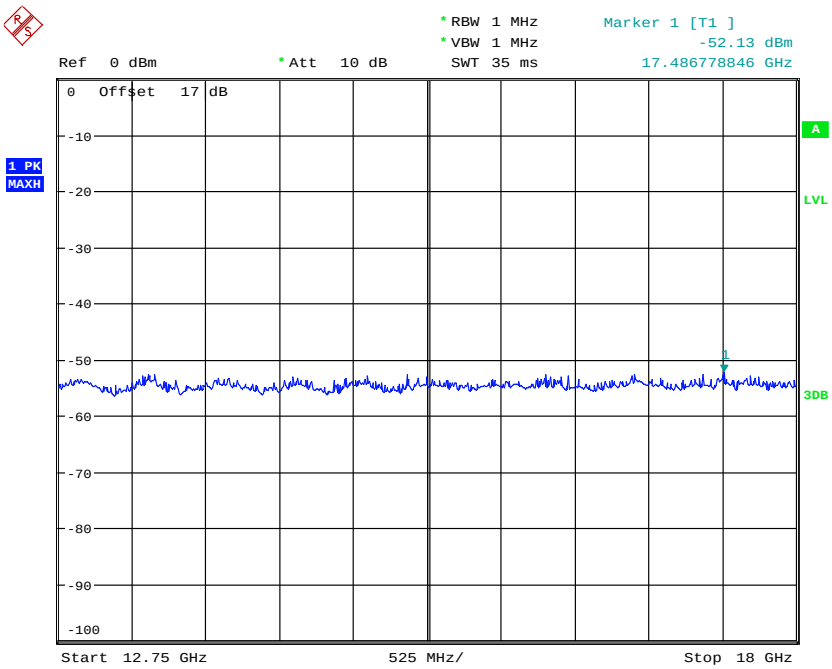
Date: 17.OCT.2017 16:50:43



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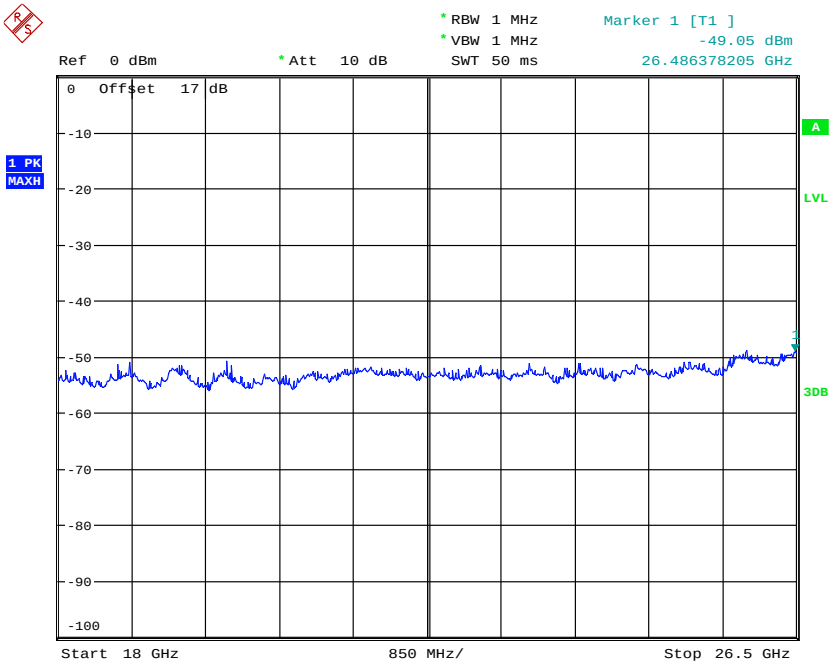
Date: 17.OCT.2017 16:52:24

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



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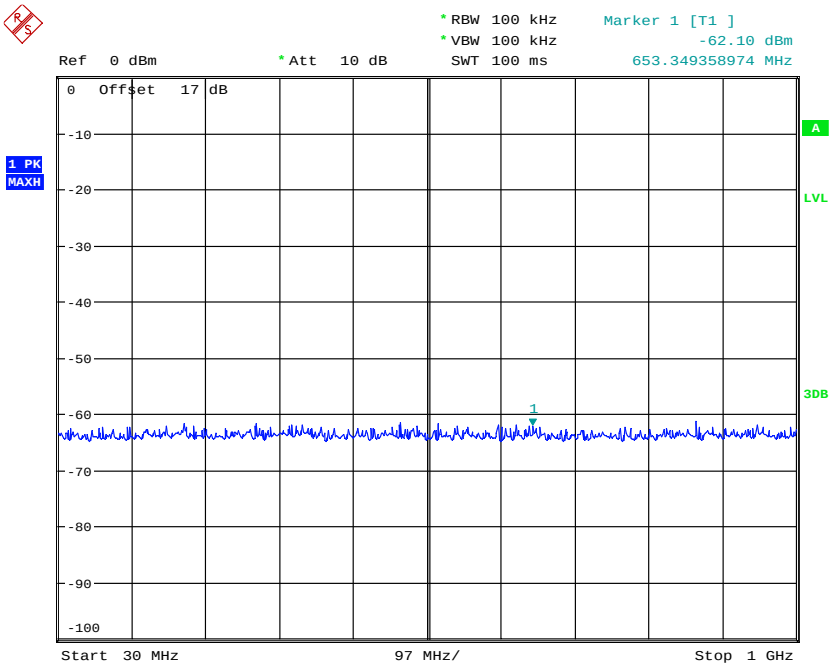
Date: 17.OCT.2017 16:52:43

WCDMA Band II Idle



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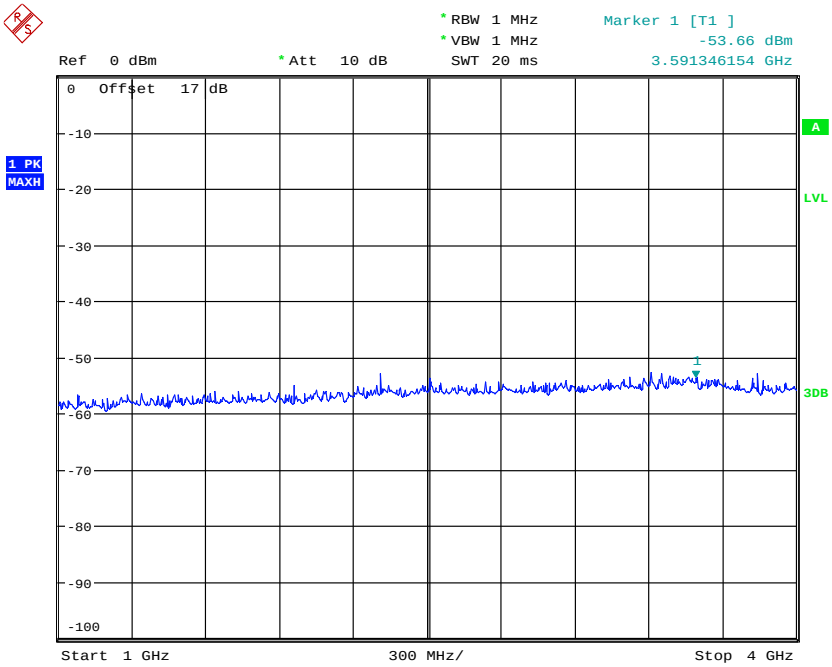

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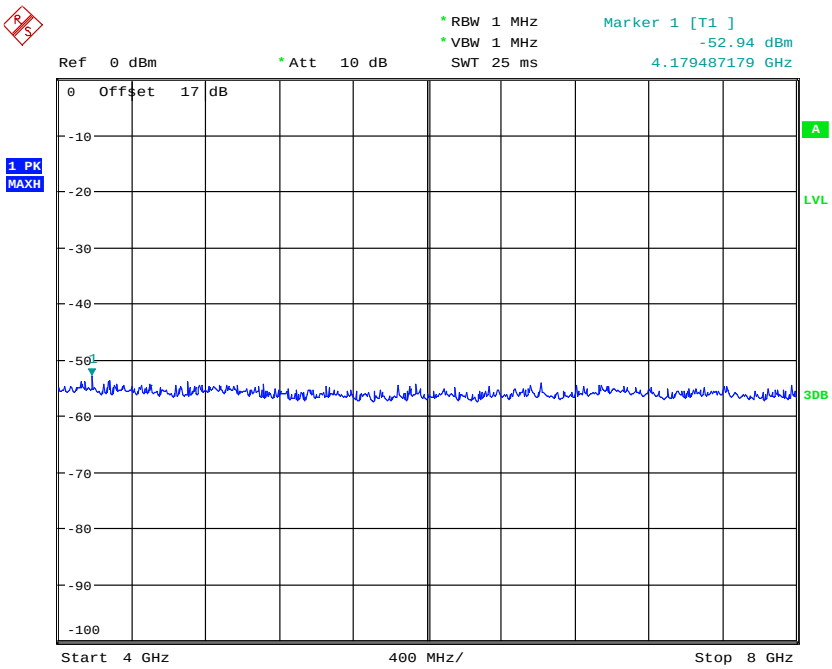

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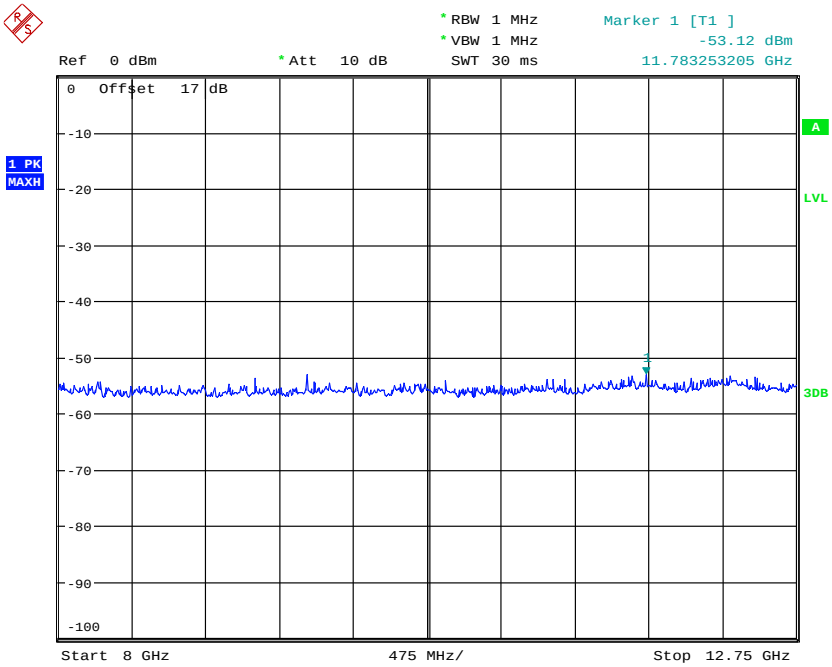

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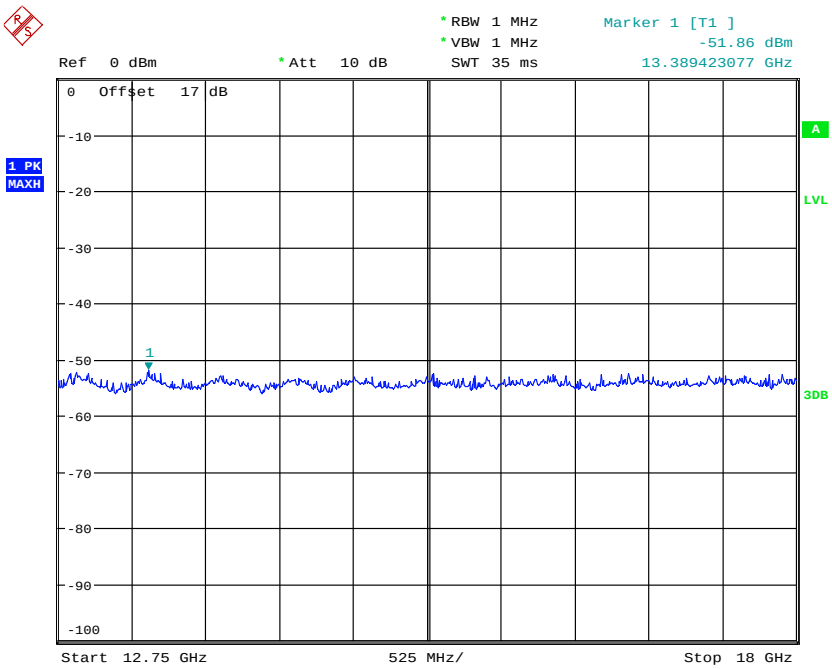

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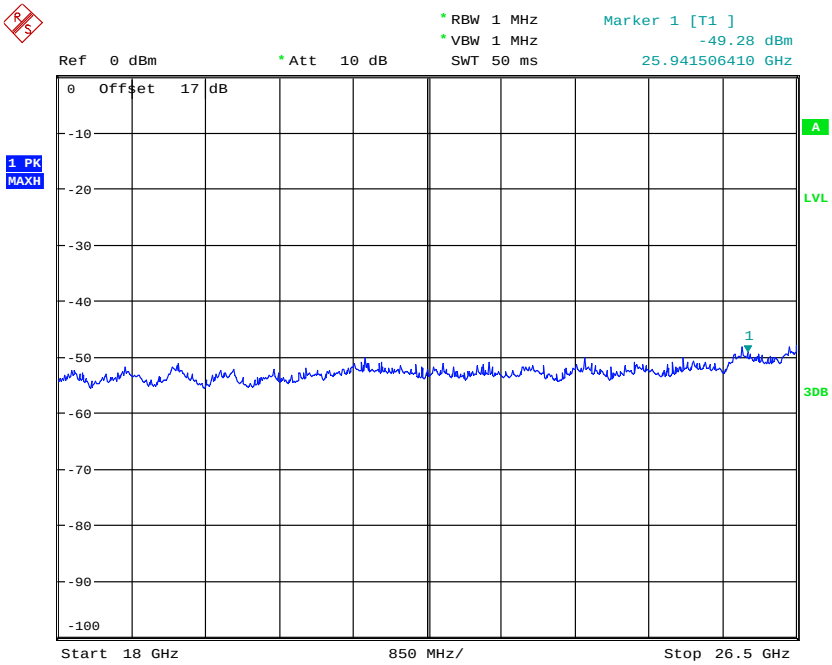
Date: 17.OCT.2017 16:37:13

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



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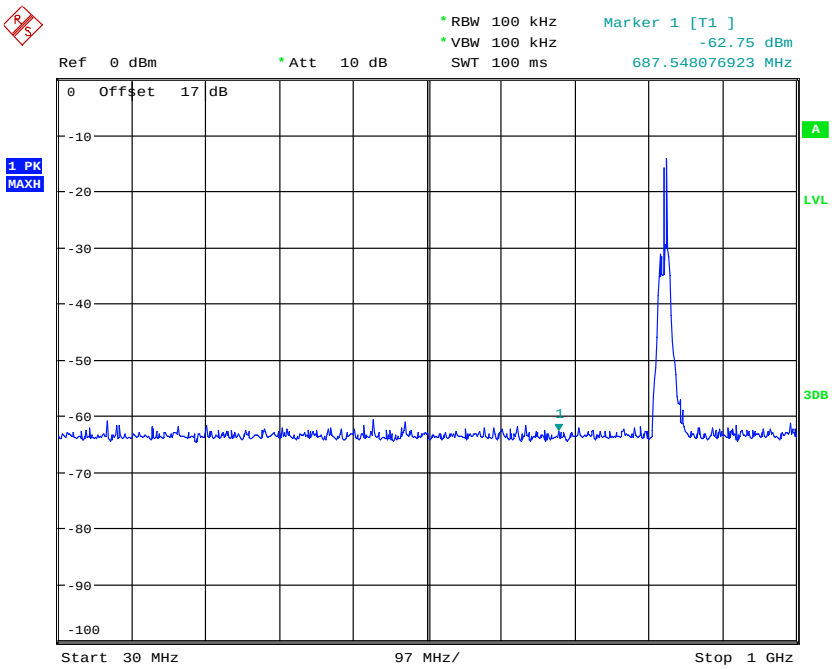
Date: 17.OCT.2017 16:38:16

WCDMA Band V
CH 4132



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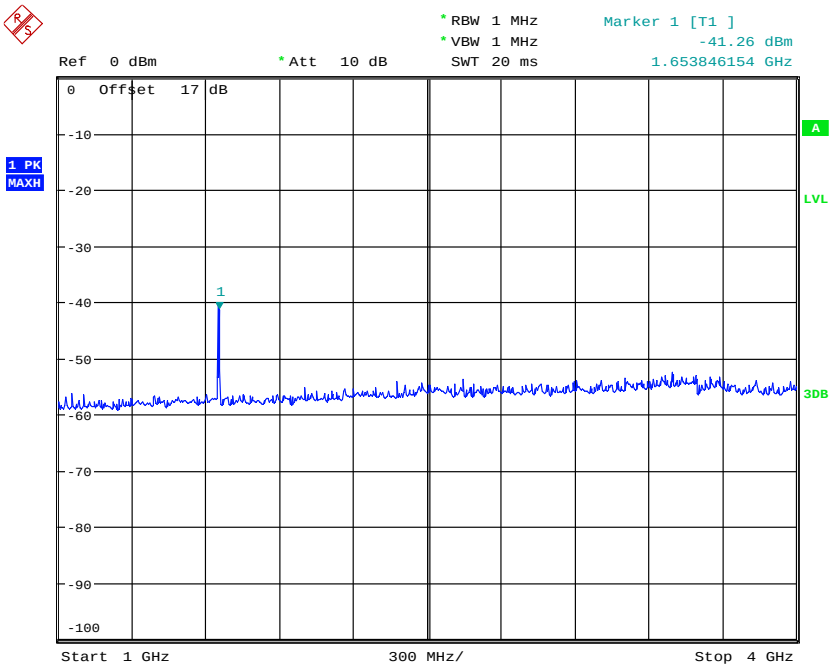
Date: 17.OCT.2017 17:02:11



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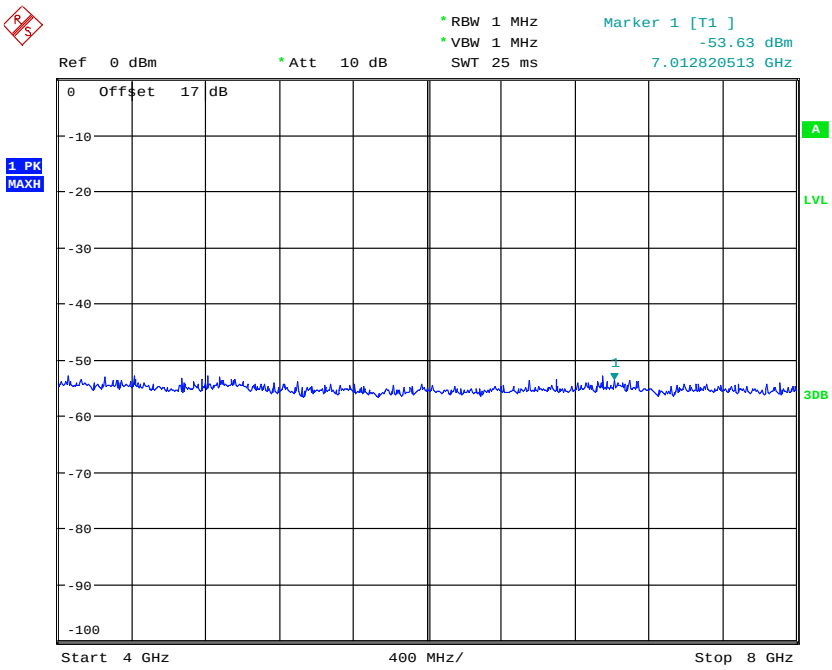

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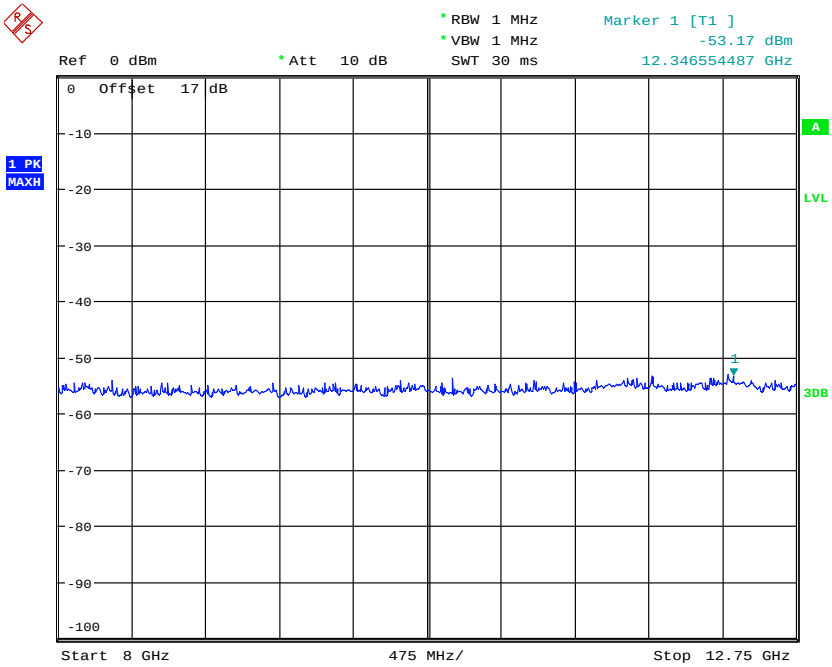

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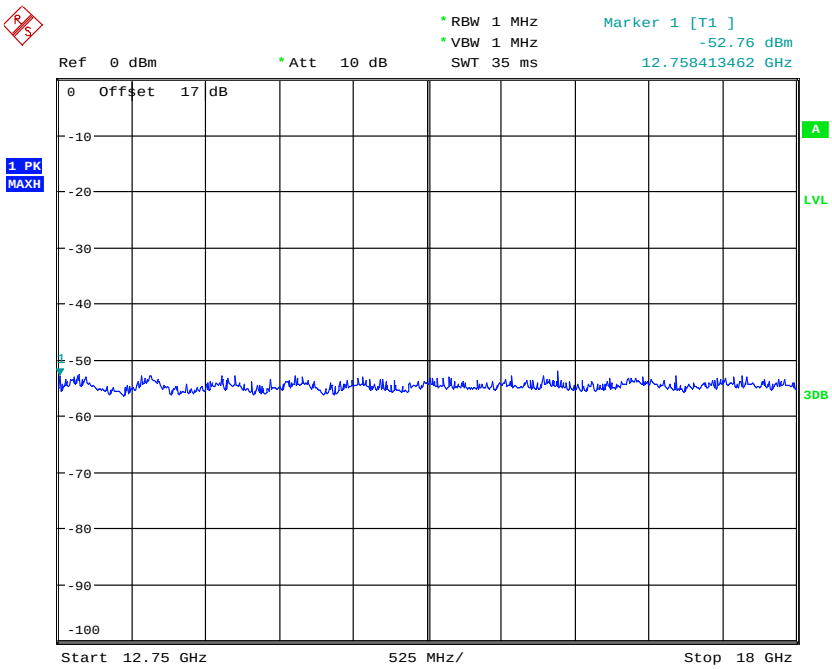
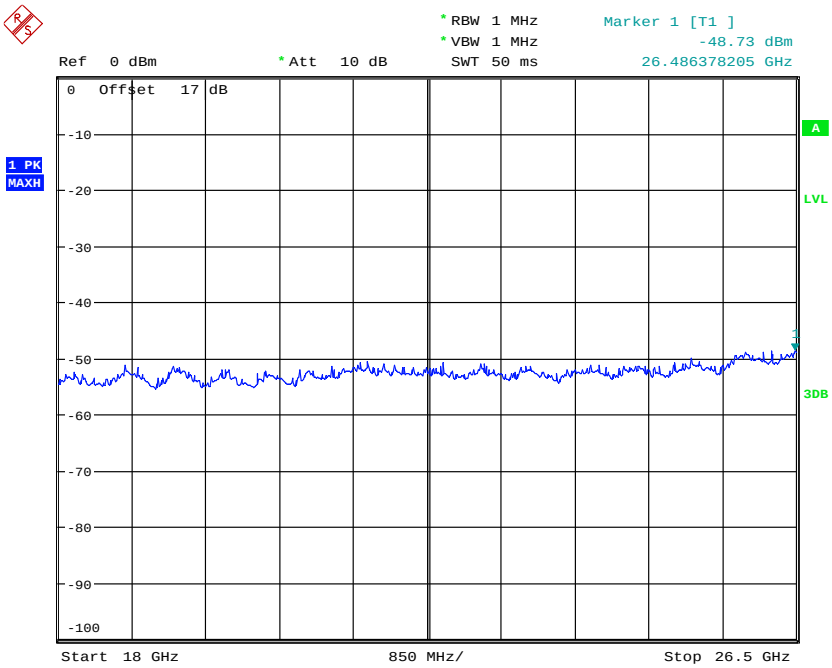


CONDUCTED SPURIOUS EMISSION WCDMA V CH4132
Date: 17.OCT.2017 17:13:45

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



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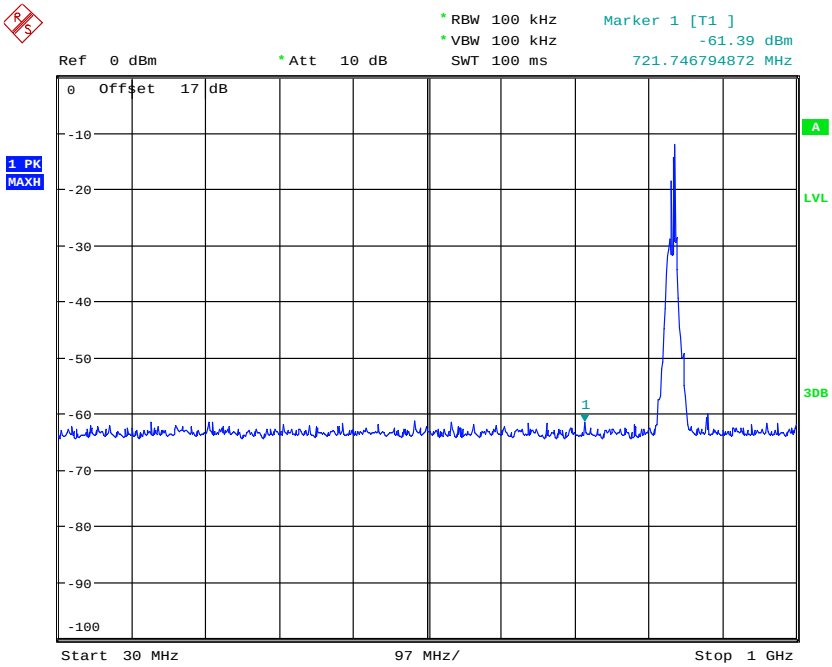
Date: 17.OCT.2017 17:16:38

CH 4183



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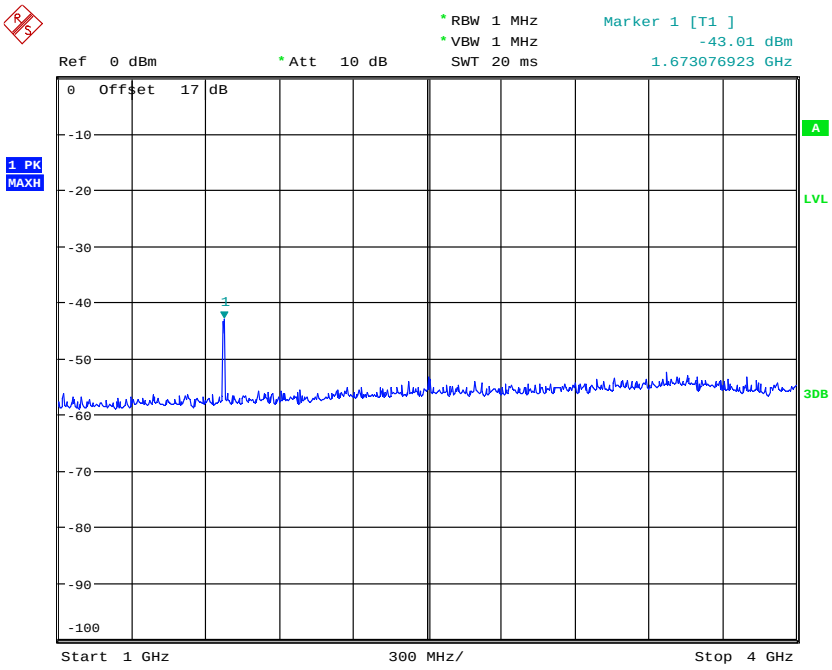

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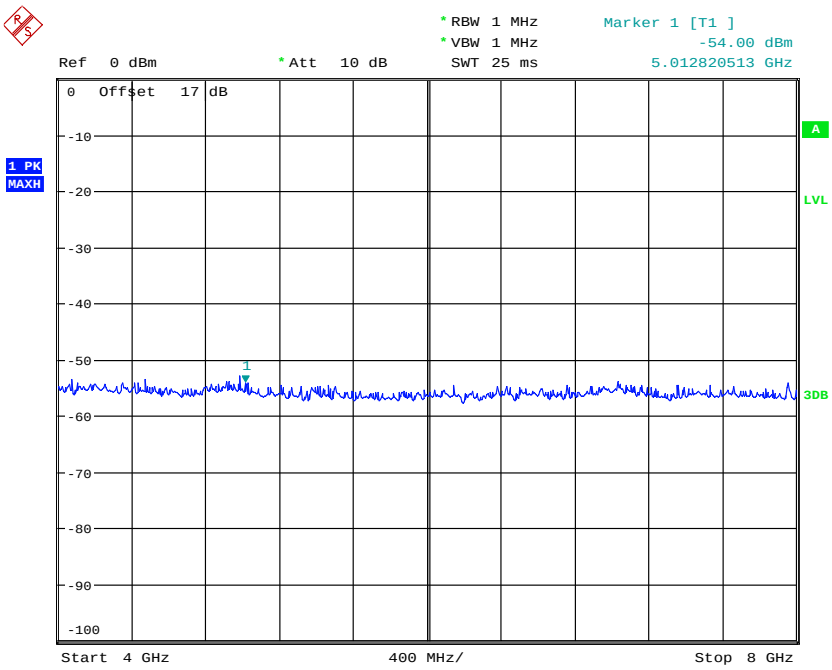

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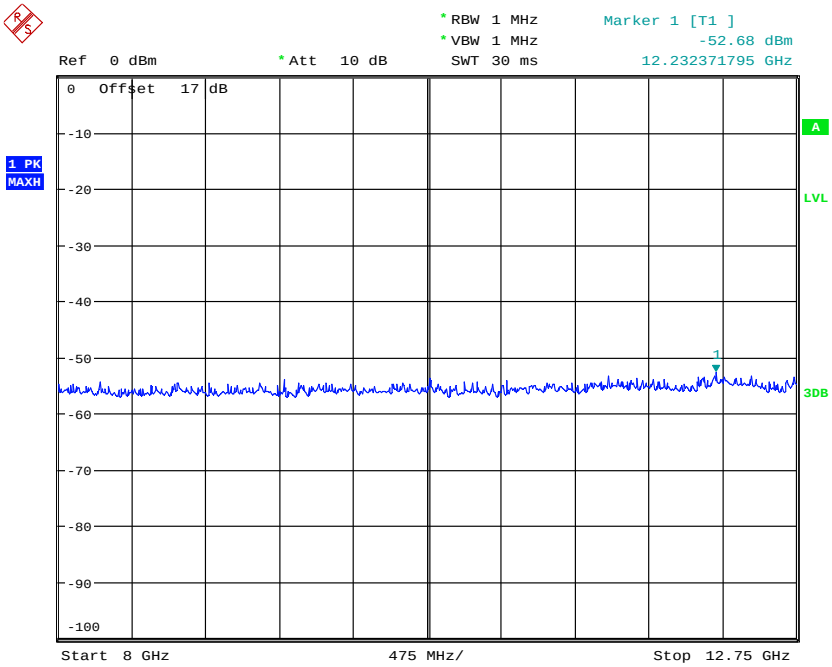

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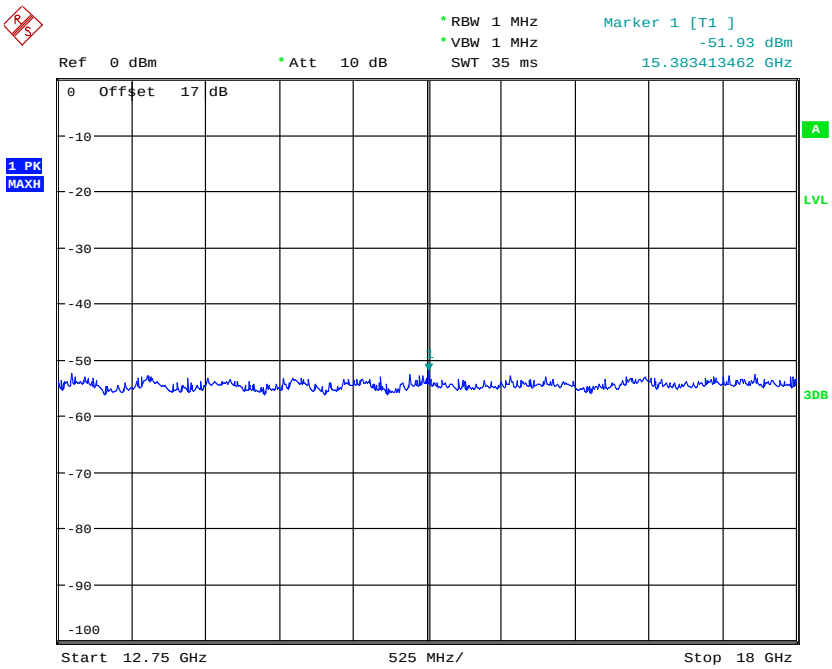

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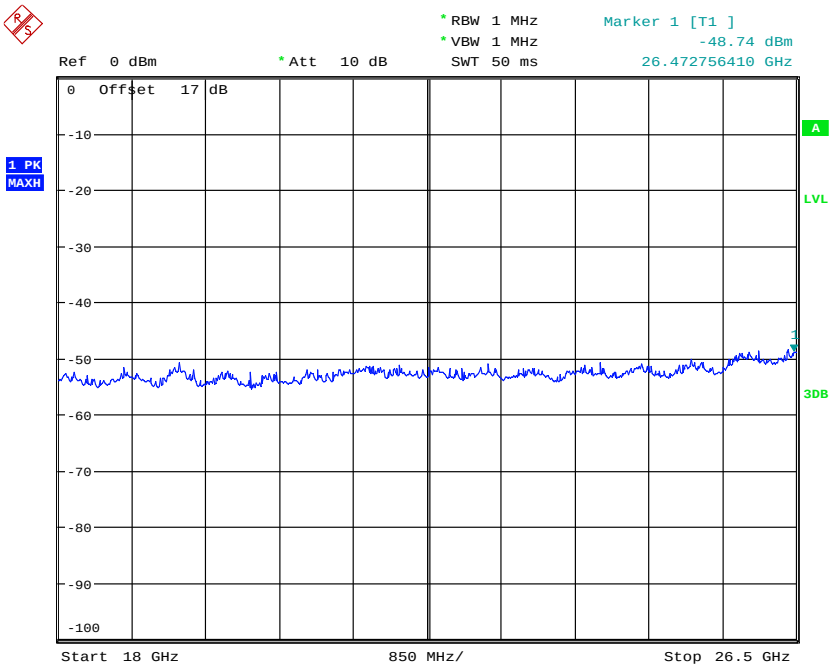
Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



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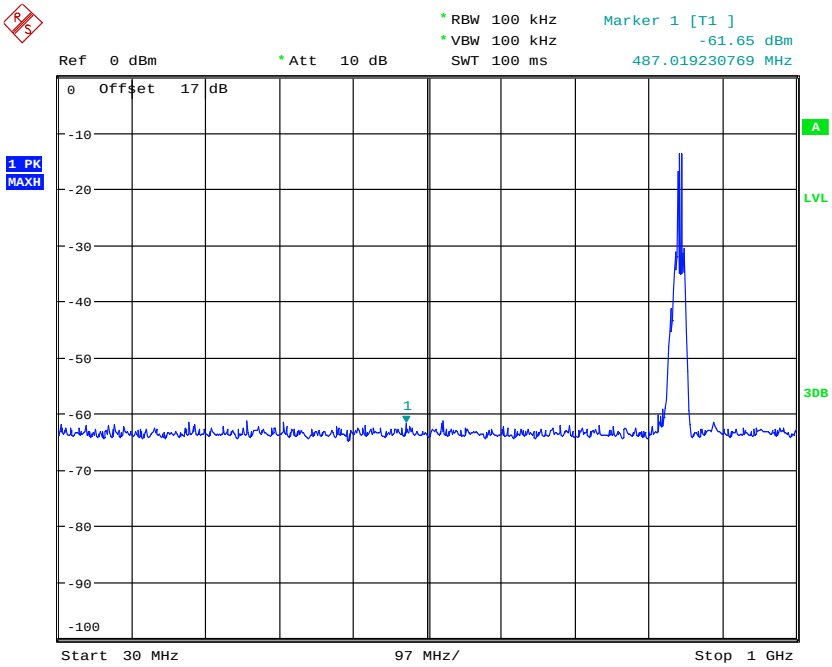
Date: 17.OCT.2017 17:16:10

CH 4233



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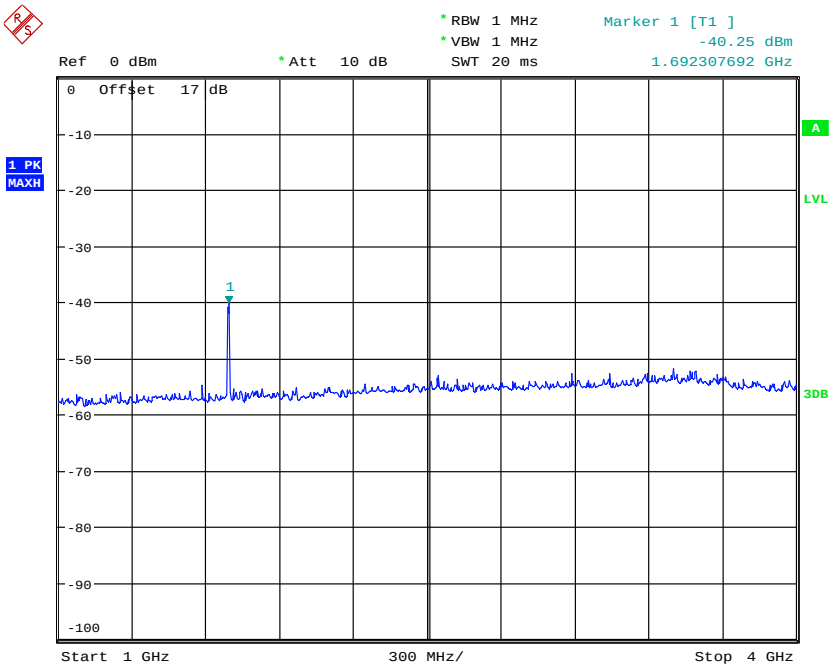

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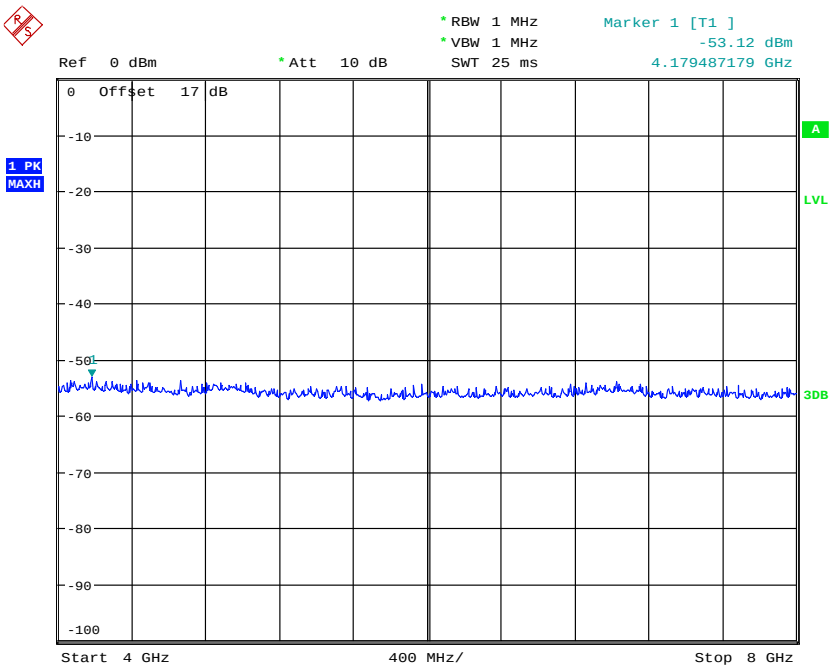

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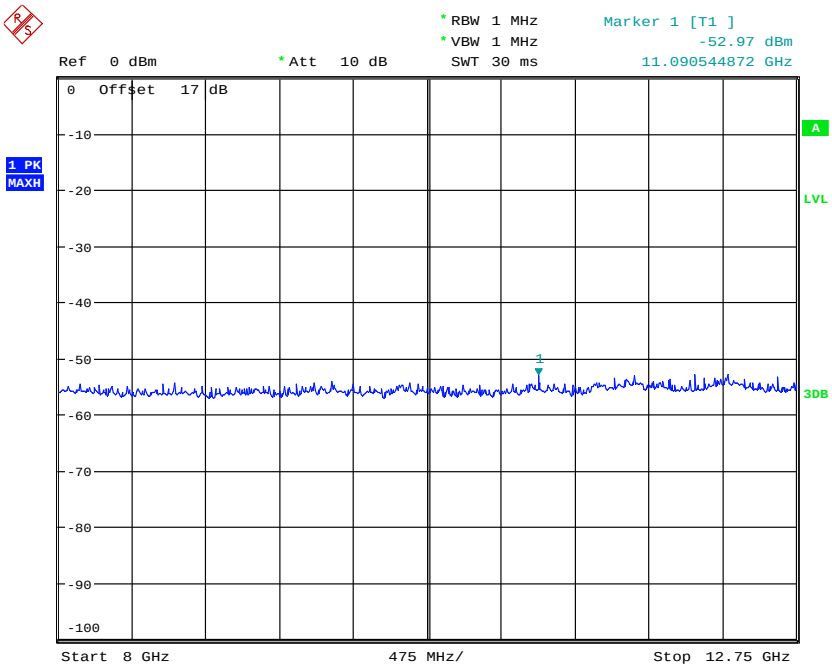
Date: 17.OCT.2017 17:12:17



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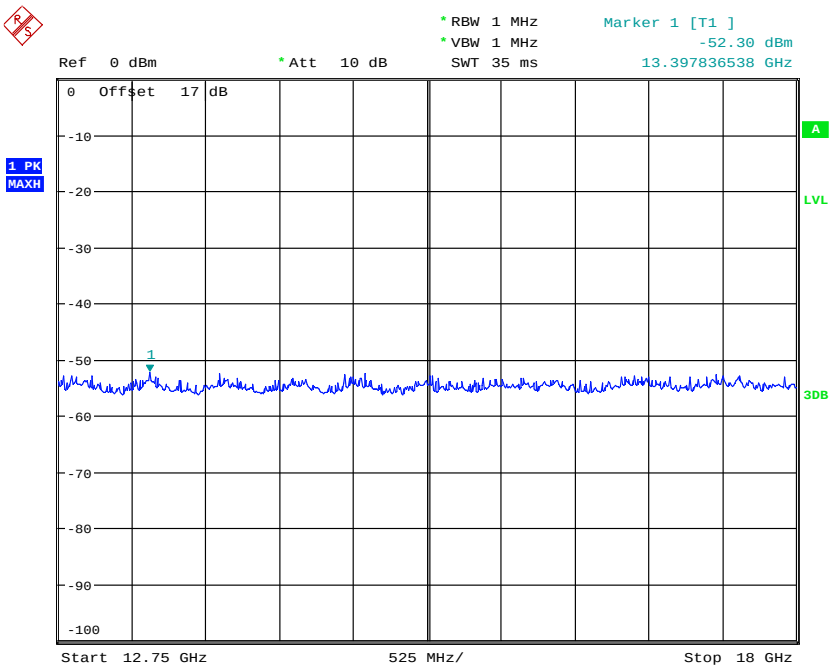
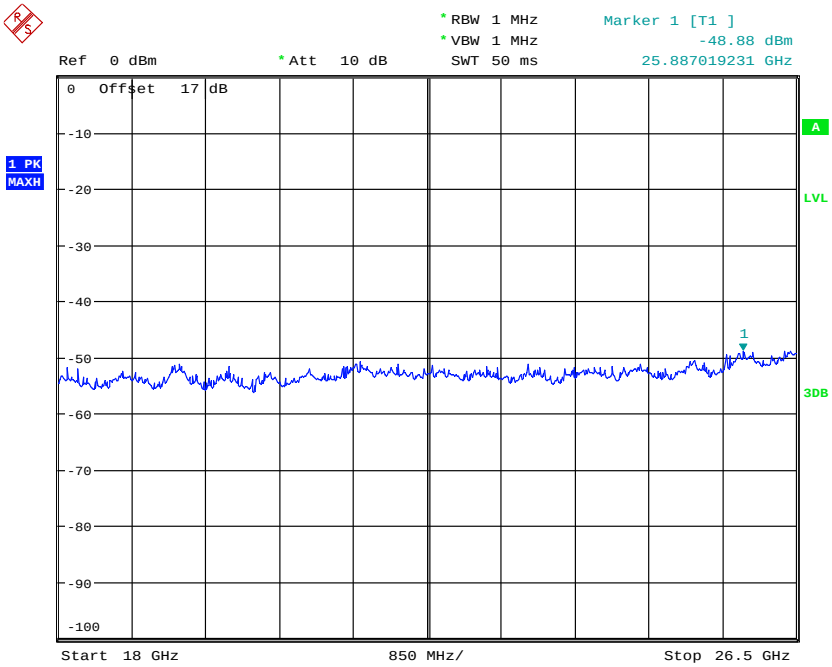


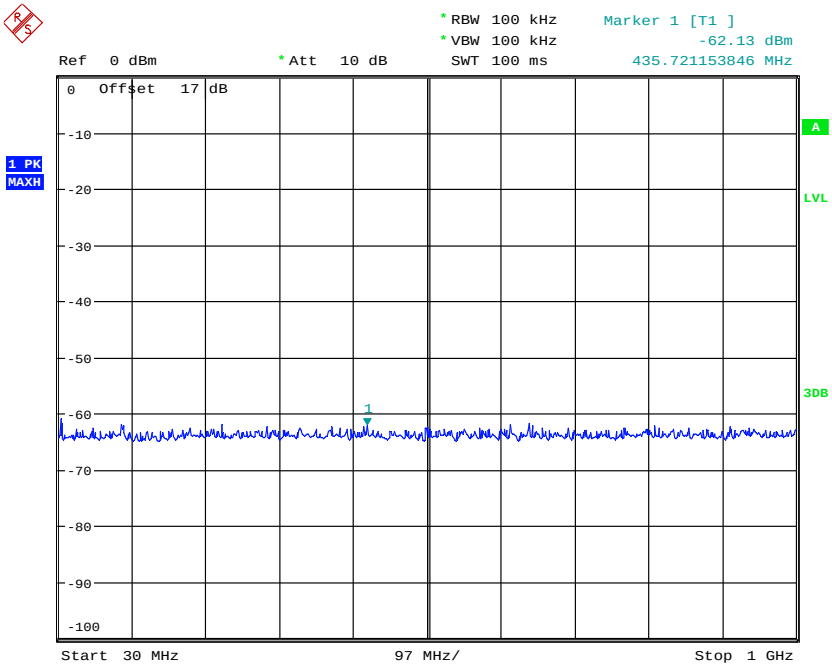
CONDUCTED SPURIOUS EMISSION WCDMA V CH4233
Date: 17.OCT.2017 17:15:22

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



CONDUCTED SPURIOUS EMISSION WCDMA V CH4233
Date: 17.OCT.2017 17:15:45

WCDMA Band V Idle



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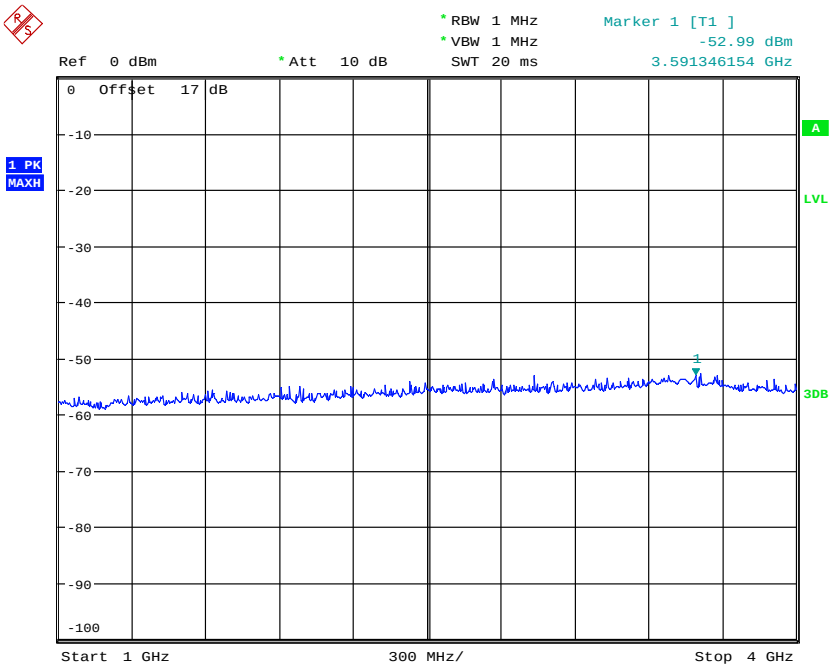
Date: 17.OCT.2017 16:39:50



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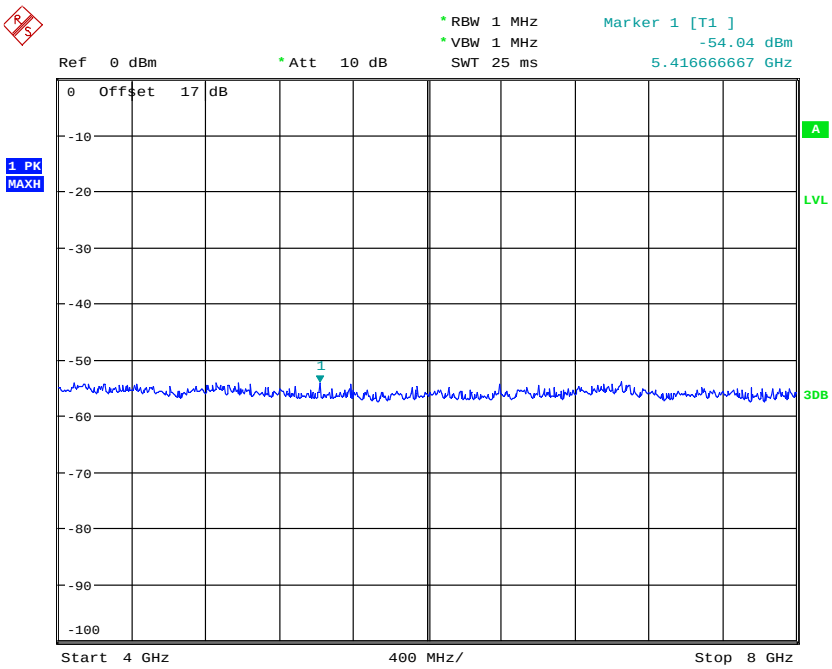
Date: 17.OCT.2017 16:40:29



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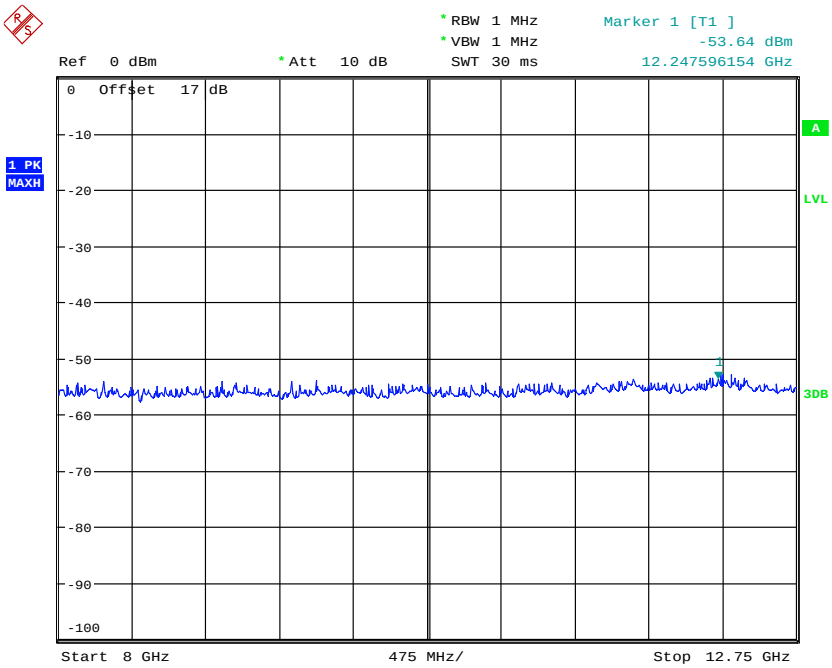
Date: 17.OCT.2017 16:41:31



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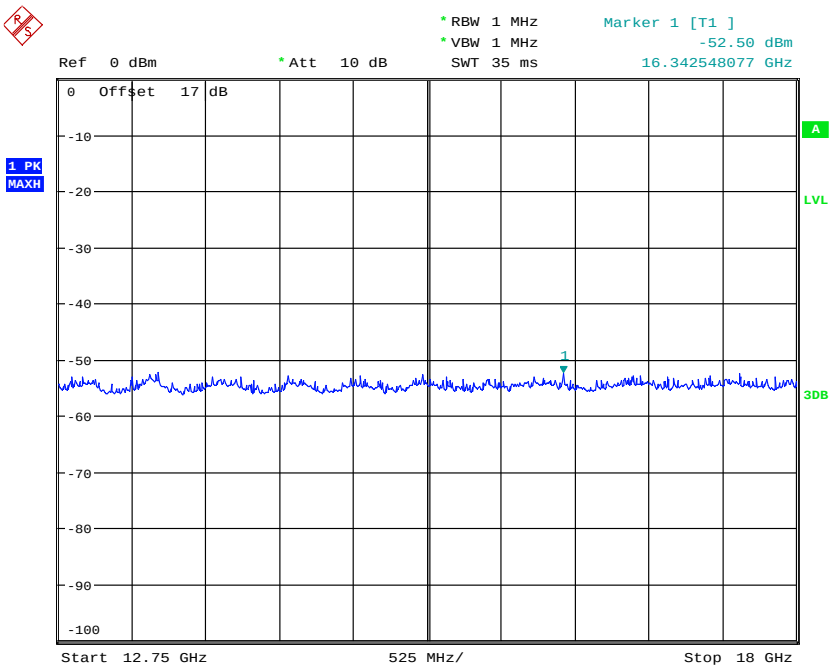

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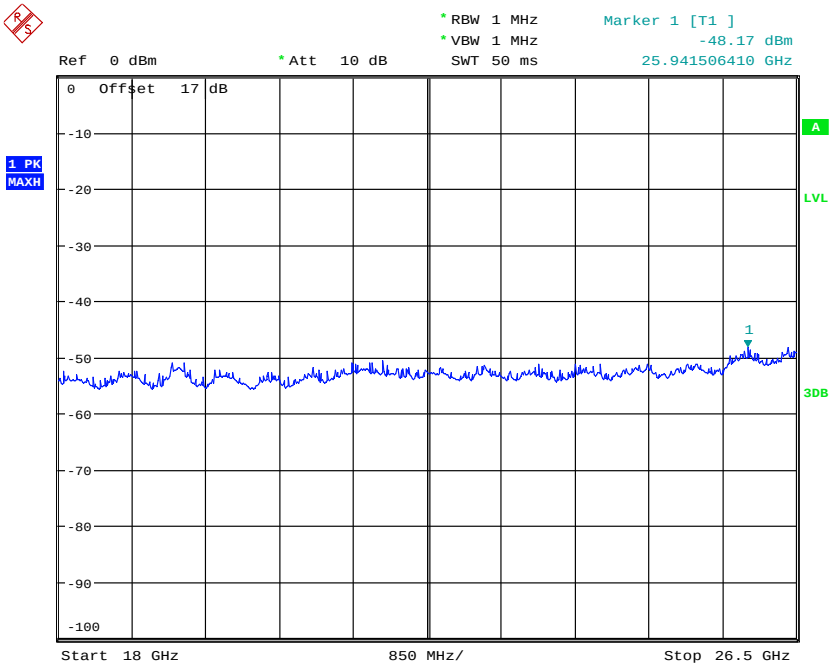


Test equipment: ETSTW-RE 055, ETSTW-GSM 002

6.3 Explanation of test result

All factors like cable loss and external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

6.4 Calculation of Limit for Spurious at Antenna Terminals

Compliance with § 22.917(a) requires that any emission be attenuated below the transmitter power at least 43 + 10 log P (P = transmitter power in Watts).
Limit for Spurious Emissions at Antenna Terminals: L=P-A=-13dBm

7. Field Strength of Spurious Radiation

7.1 Test procedure

The test procedure for filed strength measurement is same as radiated power except for a notch filter or band pass filter is used to avoid the influence of fundamental to the pre-amplifier.
The measurements below 1GHz were performed with a measurement bandwidth of 100kHz, above 1GHz with a bandwidth of 1 MHz.

7.2 Test Results

The measurements of the spurious emission are at the upper, center and lower channel.

Model:	HSGWx-xxxxx-xxxxx Series (x=0~9, A~Z or blank)	Date:	- -		
Mode:	- -	Temperature:	- -	°C	Engineer: - -
Polarization:	Horizontal	Humidity:	- -	%	

Frequency (MHz)	Reading (dBm) Peak	Factor (dB) Corr.	Result (dBm)	Limit (dBm)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
- -	- -	- -	- -	- -	- -	- -	- -
- -	- -	- -	- -	- -	- -	- -	- -

Polarization: Vertical

Frequency (MHz)	Reading (dBm) Peak	Factor (dB) Corr.	Result (dBm)	Limit (dBm)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
- -	- -	- -	- -	- -	- -	- -	- -
- -	- -	- -	- -	- -	- -	- -	- -

Note
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Reading + Correction Factor**
3. **Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**
5. **Measurement uncertainty 30-1000 MHz = ± 3.30 dB, 1-18 GHz = ± 2.28 dB, 18-40 GHz = ± 2.19 dB ; Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.**
6. **See attached diagrams in appendix.**

7.3 Explanation of test result

Result Level = Reading Level + Corrected Factor
Corrected Factor = SG level – Received level-Cable loss + substitution antenna gain

7.4 Calculation of Limit for Field Strength of Spurious

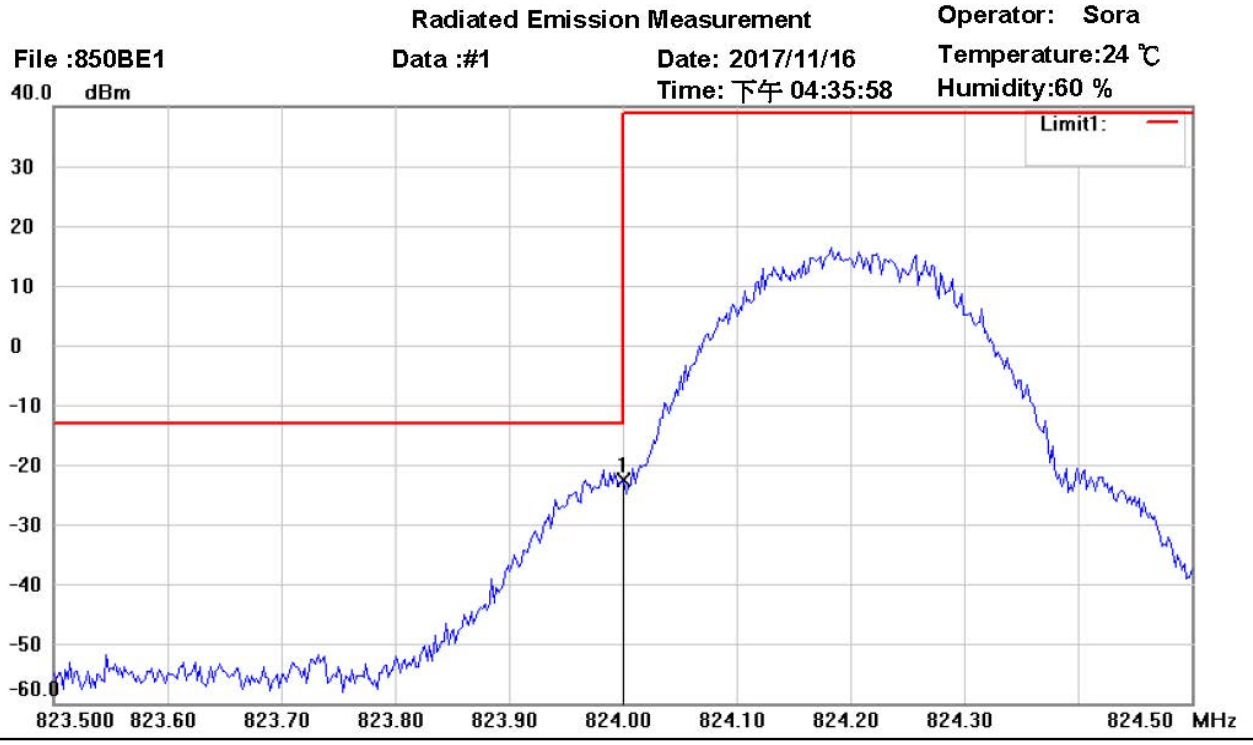
Compliance with § 24.238(a) requires that any emission be attenuated below the transmitter power at least 43 + 10 log P (P = transmitter power in Watts).
Limit for Spurious Emissions at Antenna Terminals: L=P-A=-13dBm

Test equipment: ETSTW-RE 004, ETSTW-RE 018, ETSTW-RE 030, ETSTW-RE 062, ETSTW-RE 142, ETSTW-RE 147, ETSTW-GSM 002

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G

7.5 Test result of band edge emissions

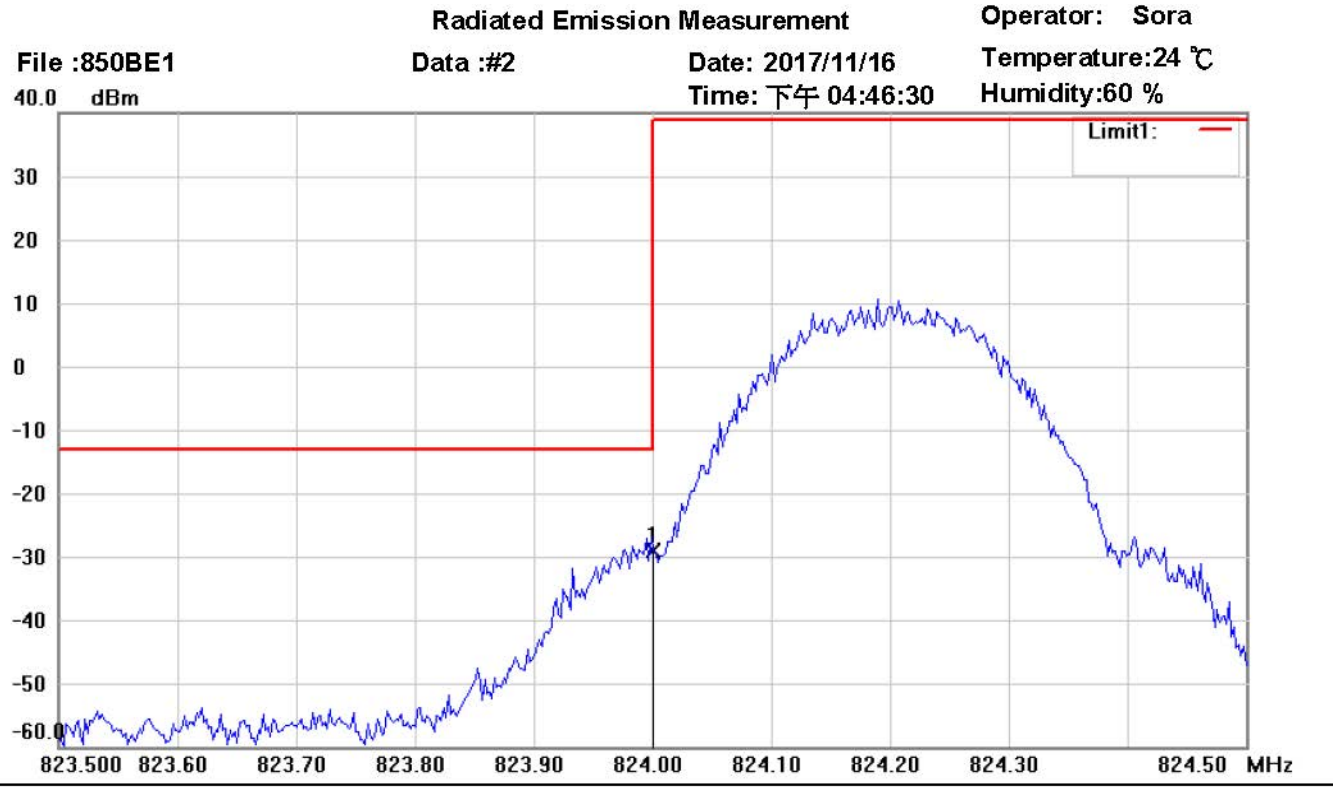
Band 850 MHz



Site : Chamber
Condition : FCC_part 22 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : GSM850 CH128
Note :

Polarization: *Horizontal*
Power : 120Va.c.
Distance: 3m

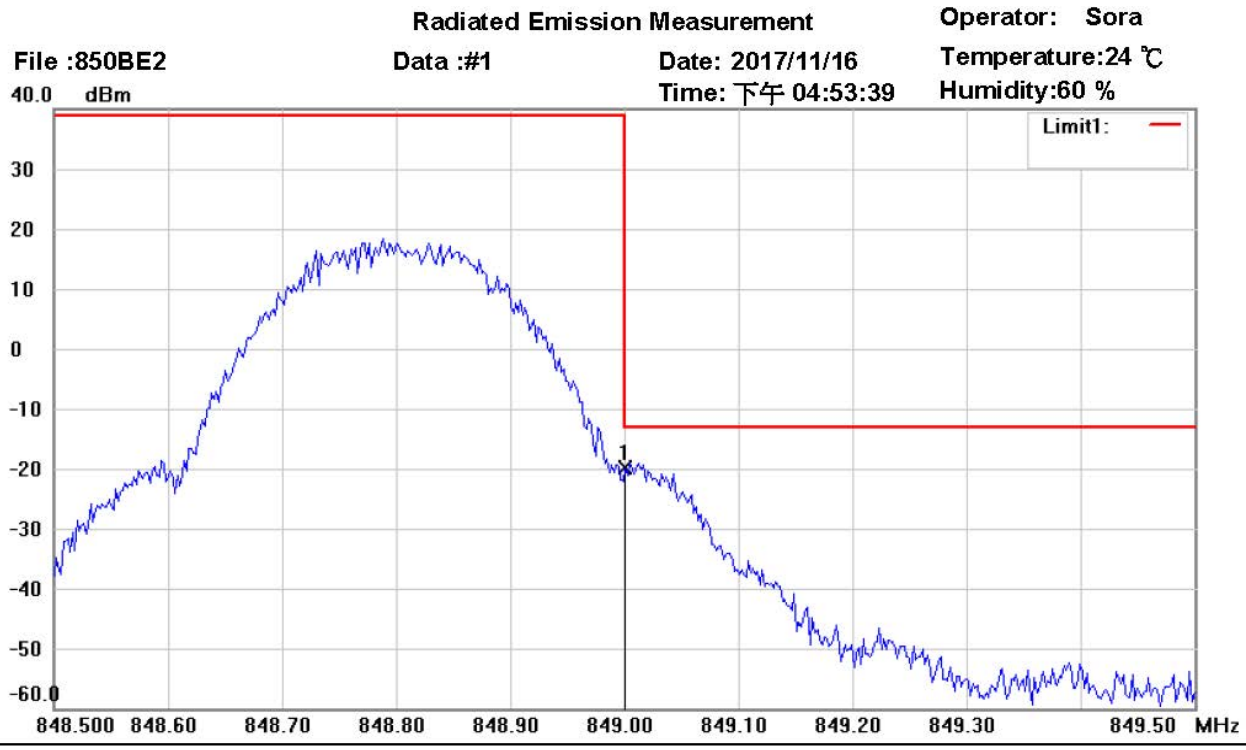
Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	824.0000	-56.03	peak	33.48	-22.55	-13.00	150	155	-9.55	



Site : Chamber
Condition : FCC_part 22 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : GSM850 CH128
Note :

Polarization: *Vertical*
Power : 120Va.c.
Distance: 3m

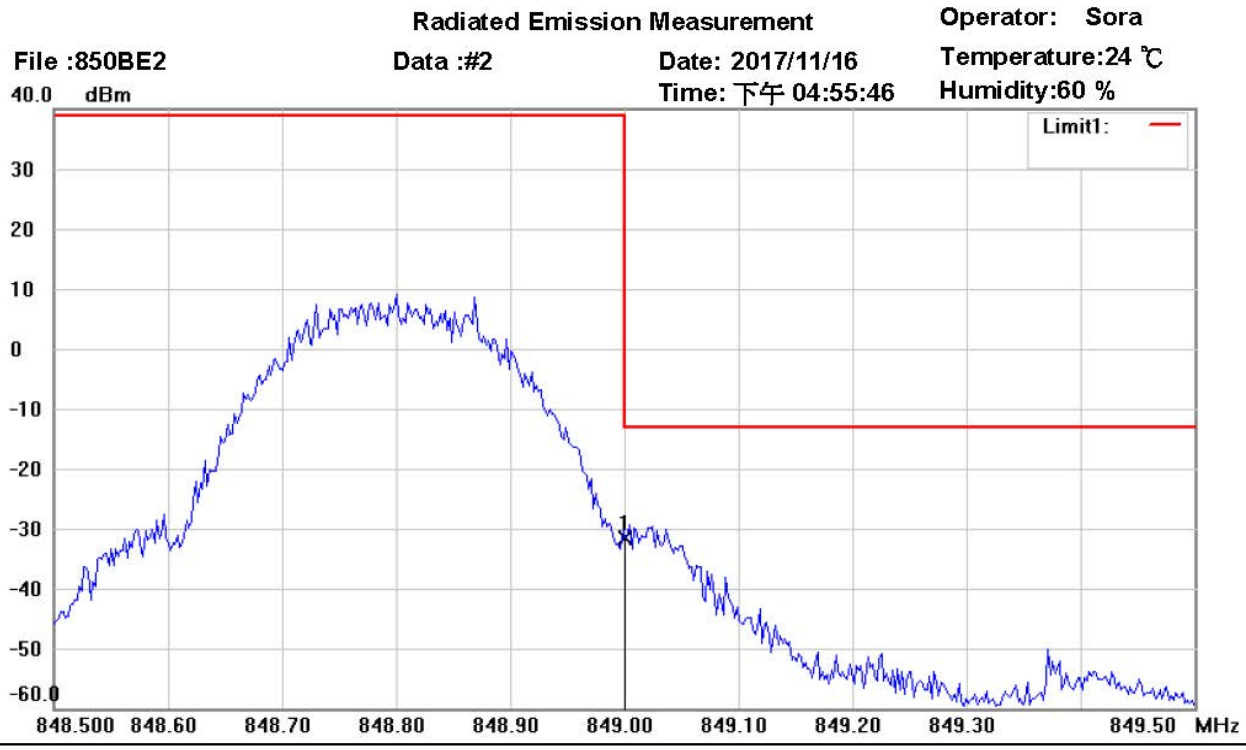
Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	824.0000	-62.53	peak	33.48	-29.05	-13.00	150	55	-16.05	



Site : Chamber
Condition : FCC_part 22 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : GSM850 CH251
Note :

Polarization: *Horizontal*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	849.0000	-54.22	peak	34.34	-19.88	-13.00	150	205	-6.88	

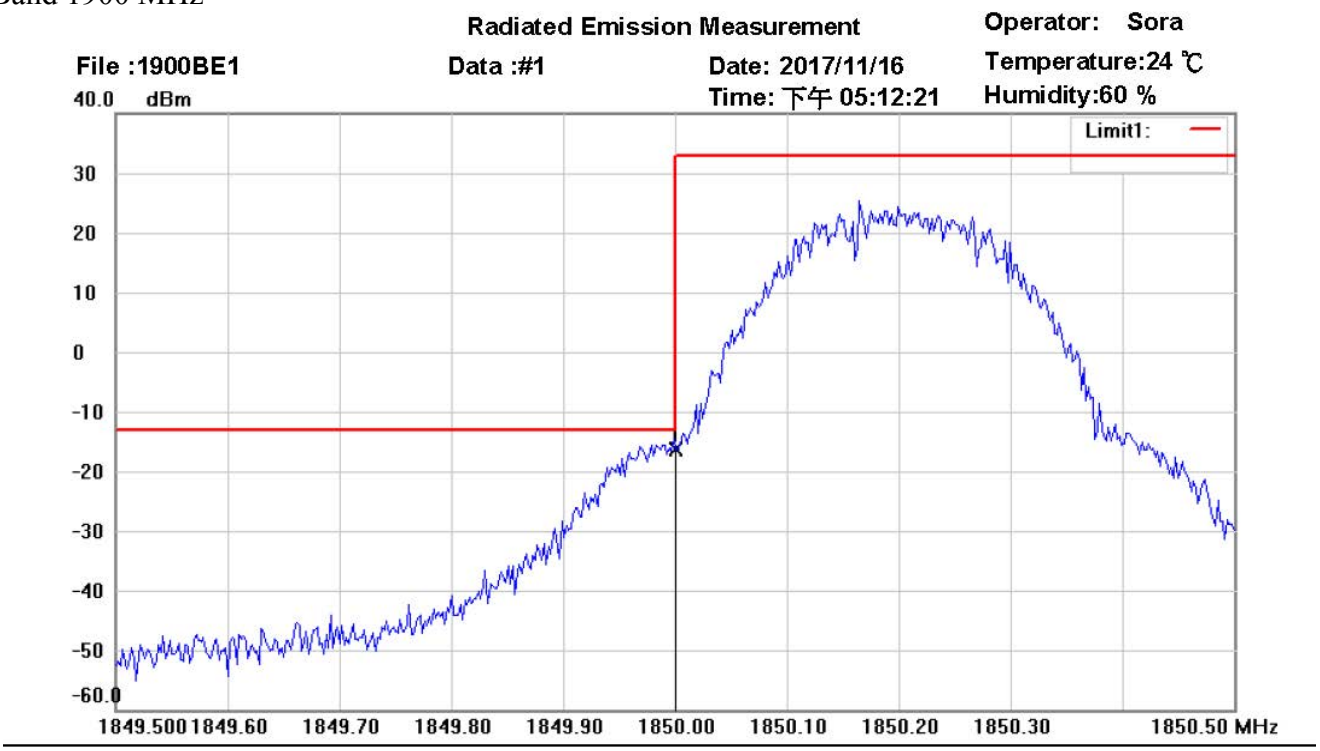


Site : Chamber
Condition : FCC_part 22 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : GSM850 CH251
Note :

Polarization: *Vertical*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	849.0000	-65.91	peak	34.18	-31.73	-13.00	150	310	-18.73	

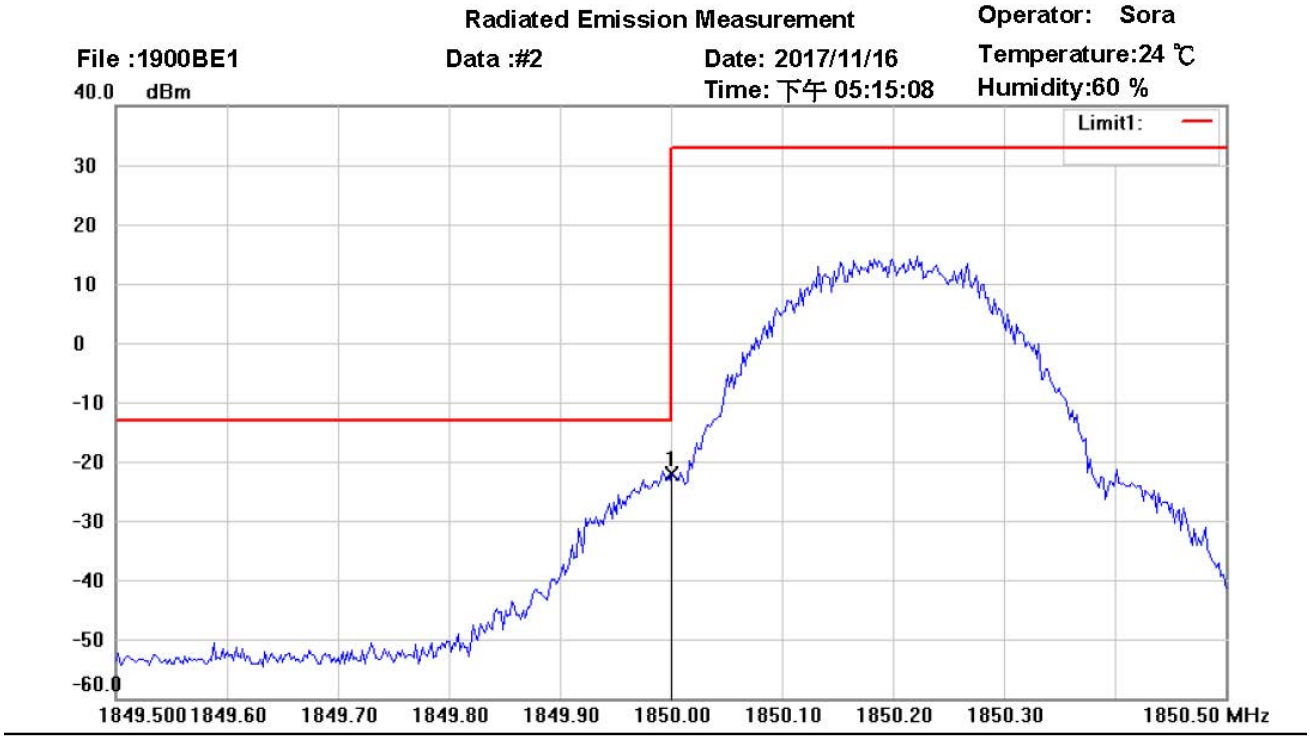
Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G
Band 1900 MHz



Site : Chamber
Condition : FCC_part 24 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : PCS1900 CH512
Note :

Polarization: *Horizontal*
Power : 120Va.c.
Distance: 3m

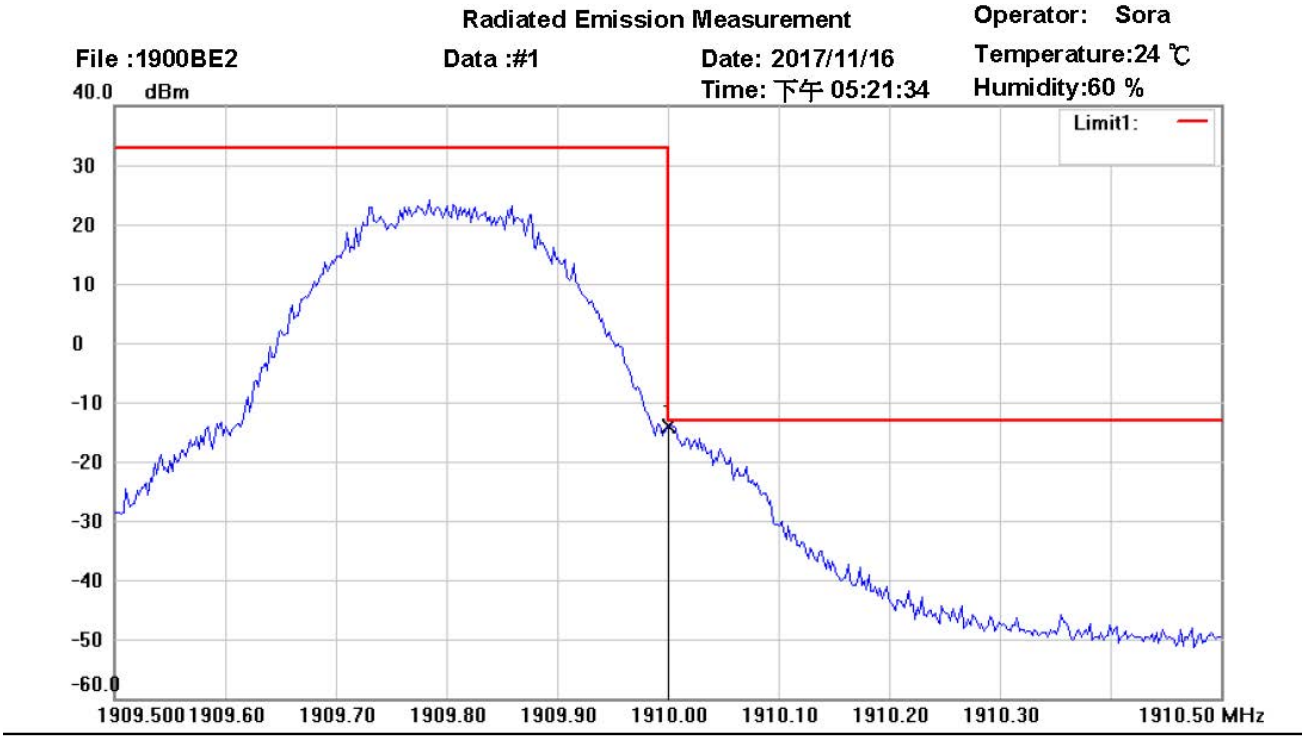
Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1850.000	-60.49	peak	44.16	-16.33	-13.00	150	315	-3.33	



Site : Chamber
Condition : FCC_part 24 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : PCS1900 CH512
Note :

Polarization: *Vertical*
Power : 120Va.c.
Distance: 3m

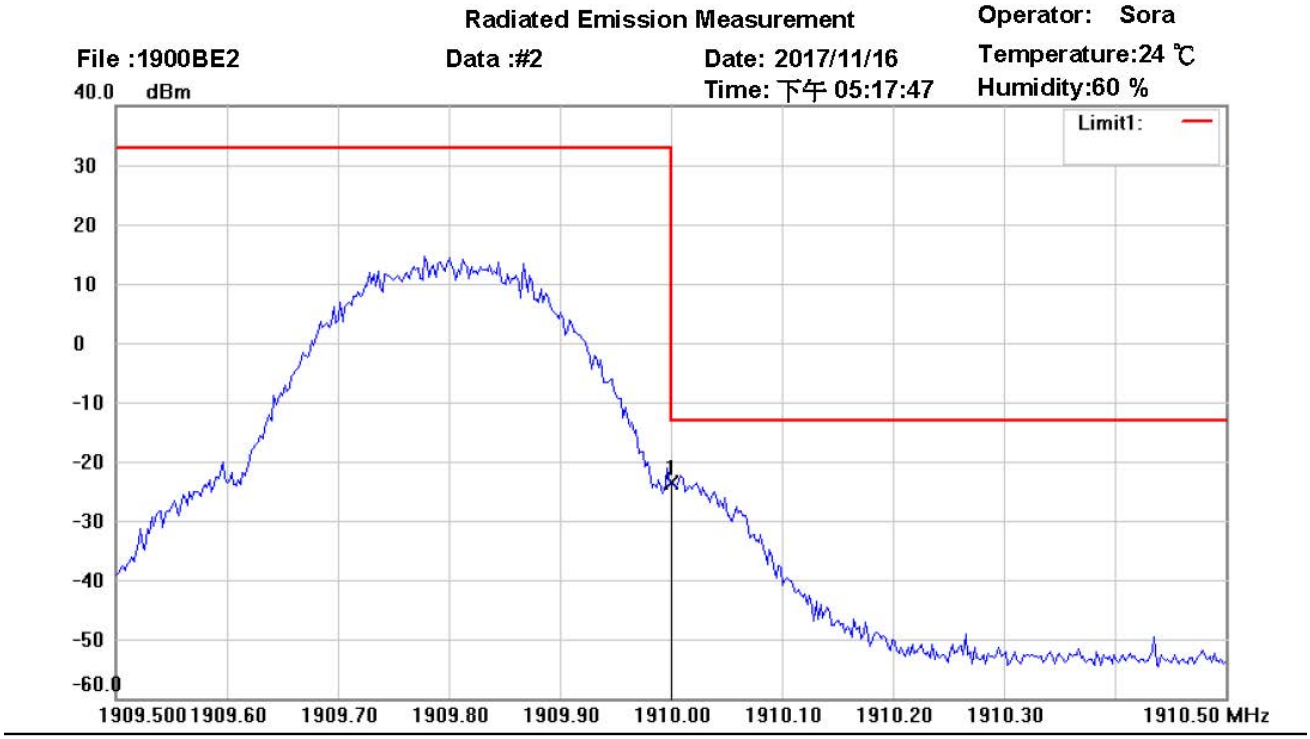
Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1850.000	-67.55	peak	45.39	-22.16	-13.00	150	105	-9.16	



Site : Chamber
Condition : FCC_part 24 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : PCS1900 CH810
Note :

Polarization: *Horizontal*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1910.000	-58.60	peak	44.40	-14.20	-13.00	150	345	-1.20	

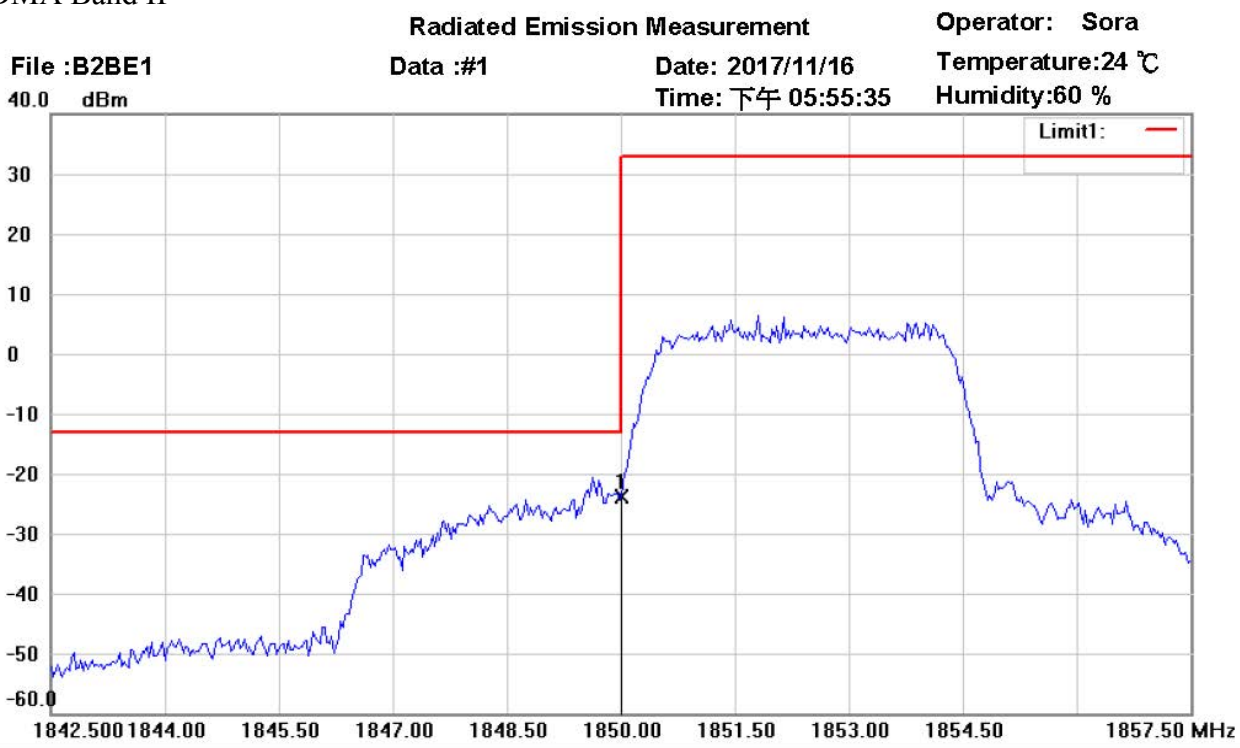


Site : Chamber
Condition : FCC_part 24 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : PCS1900 CH810
Note :

Polarization: *Vertical*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1910.000	-69.48	peak	45.86	-23.62	-13.00	150	225	-10.62	

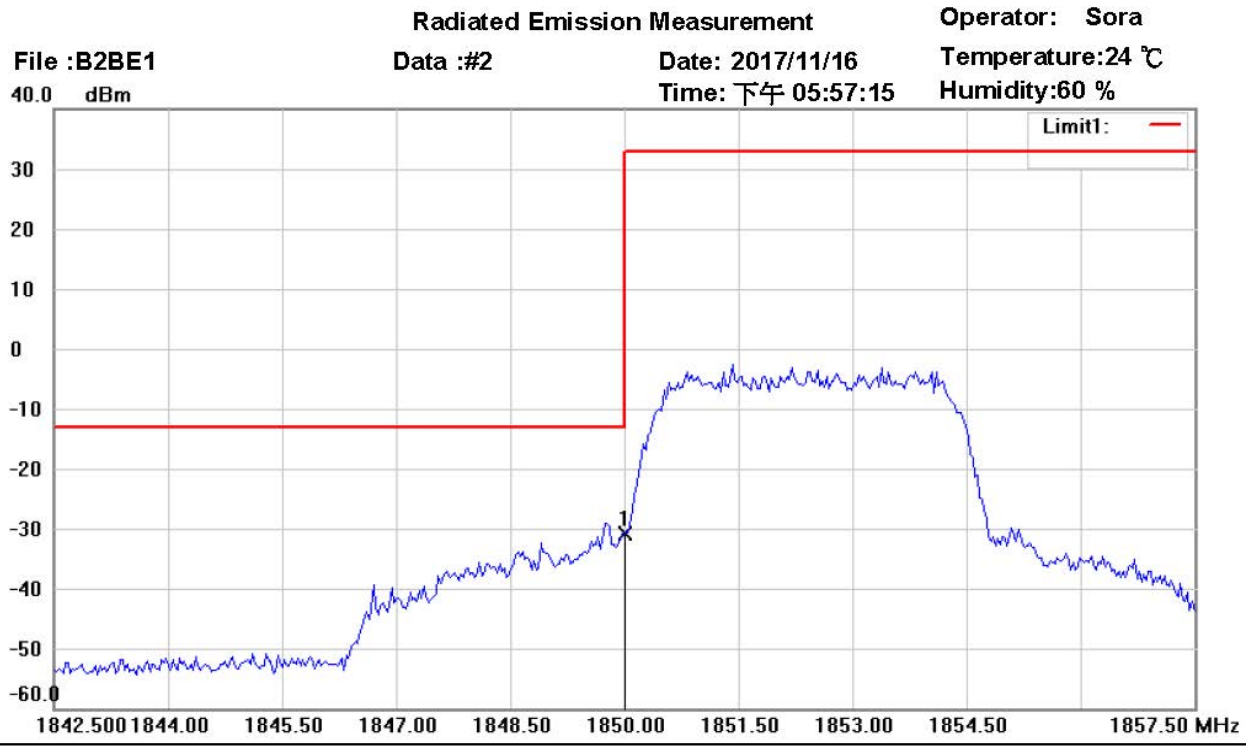
Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G
WCDMA Band II



Site : Chamber
Condition : FCC_part 24 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : WCDMA Band2 CH9262
Note :

Polarization: *Horizontal*
Power : 120Va.c.
Distance: 3m

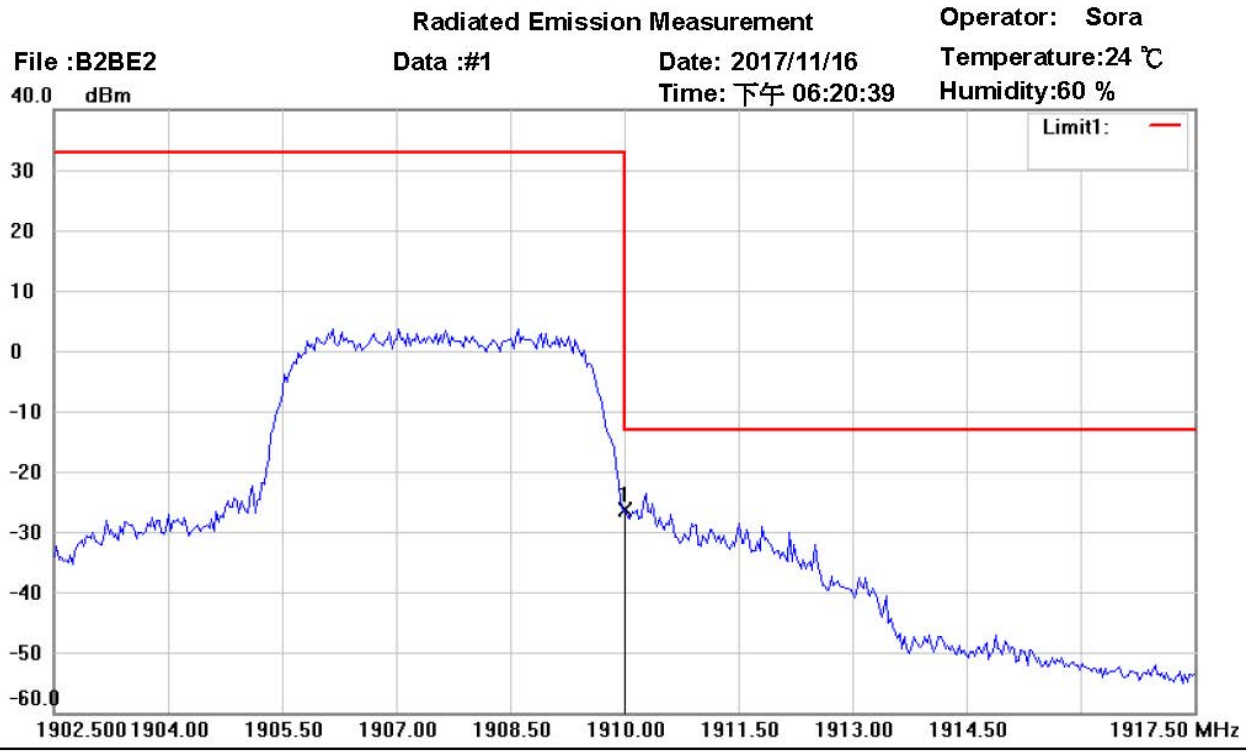
Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1850.000	-68.10	peak	44.16	-23.94	-13.00	150	205	-10.94	



Site : Chamber
Condition : FCC_part 24 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : WCDMA Band2 CH9262
Note :

Polarization: *Vertical*
Power : 120Va.c.
Distance: 3m

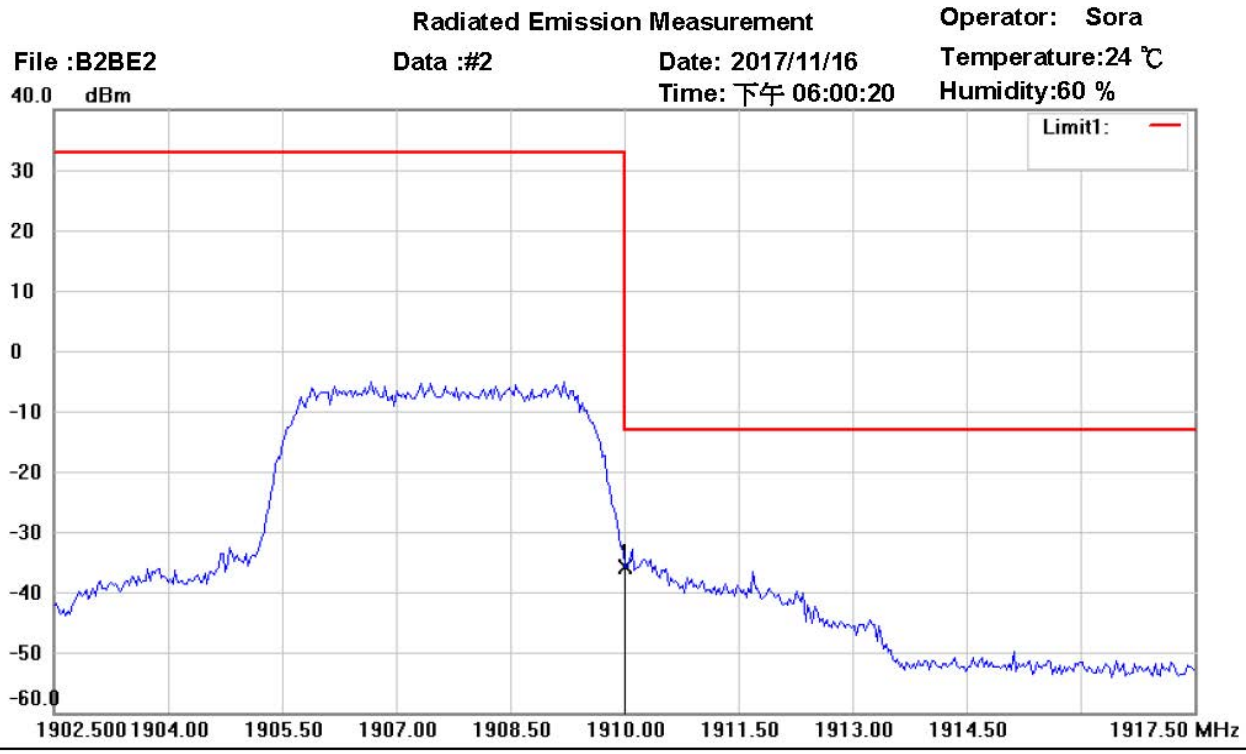
Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1850.000	-76.36	peak	45.39	-30.97	-13.00	150	310	-17.97	



Site : Chamber
Condition : FCC_part 24 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : WCDMA Band2 CH9538
Note :

Polarization: *Horizontal*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1910.000	-70.84	peak	44.40	-26.44	-13.00	150	295	-13.44	

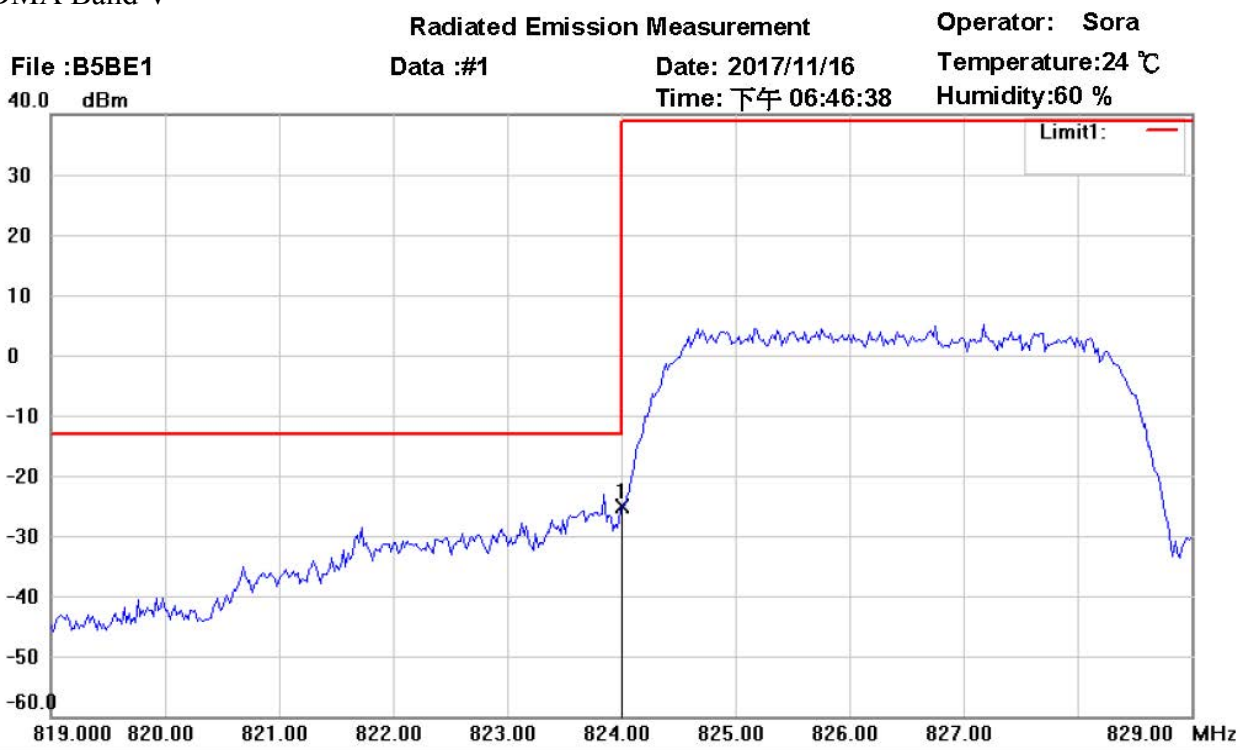


Site : Chamber
Condition : FCC_part 24 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : WCDMA Band2 CH9538
Note :

Polarization: *Vertical*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1910.000	-81.73	peak	45.86	-35.87	-13.00	150	245	-22.87	

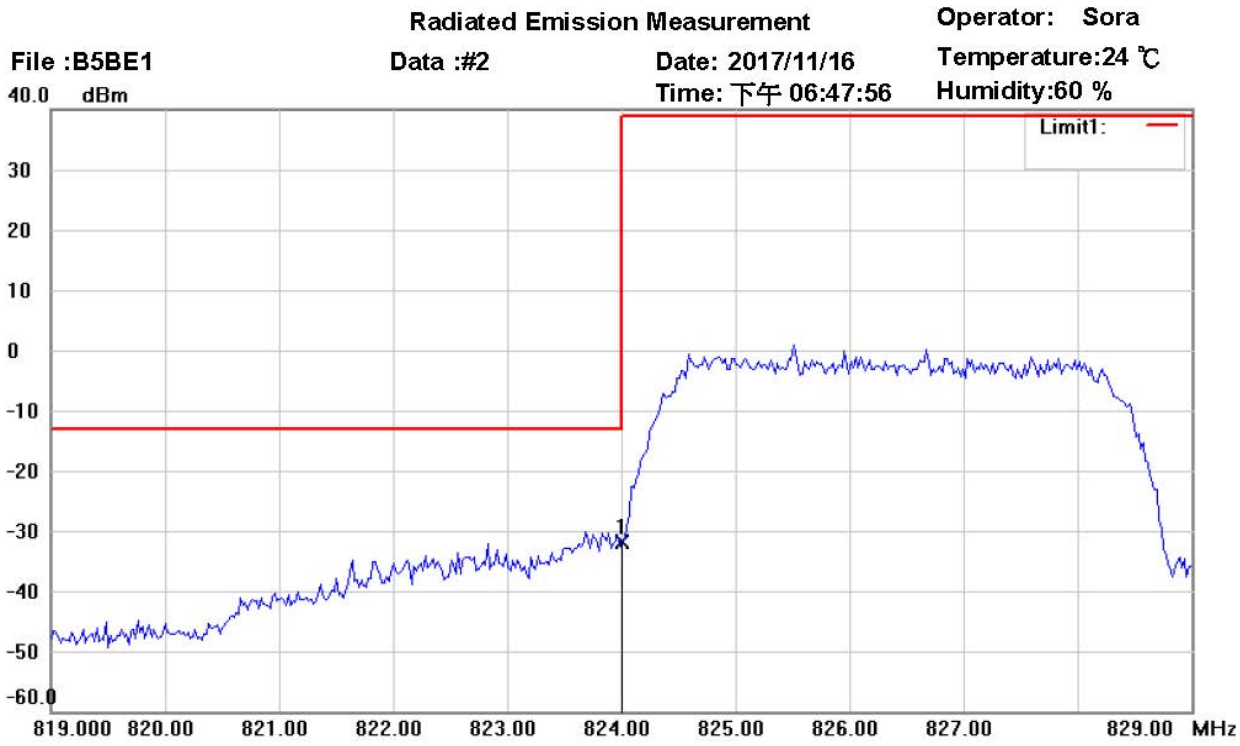
Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G
WCDMA Band V



Site : Chamber
Condition : FCC_part 22 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : WCDMA Band5 CH4132
Note :

Polarization: *Horizontal*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	824.0000	-60.77	peak	35.63	-25.14	-13.00	150	180	-12.14	

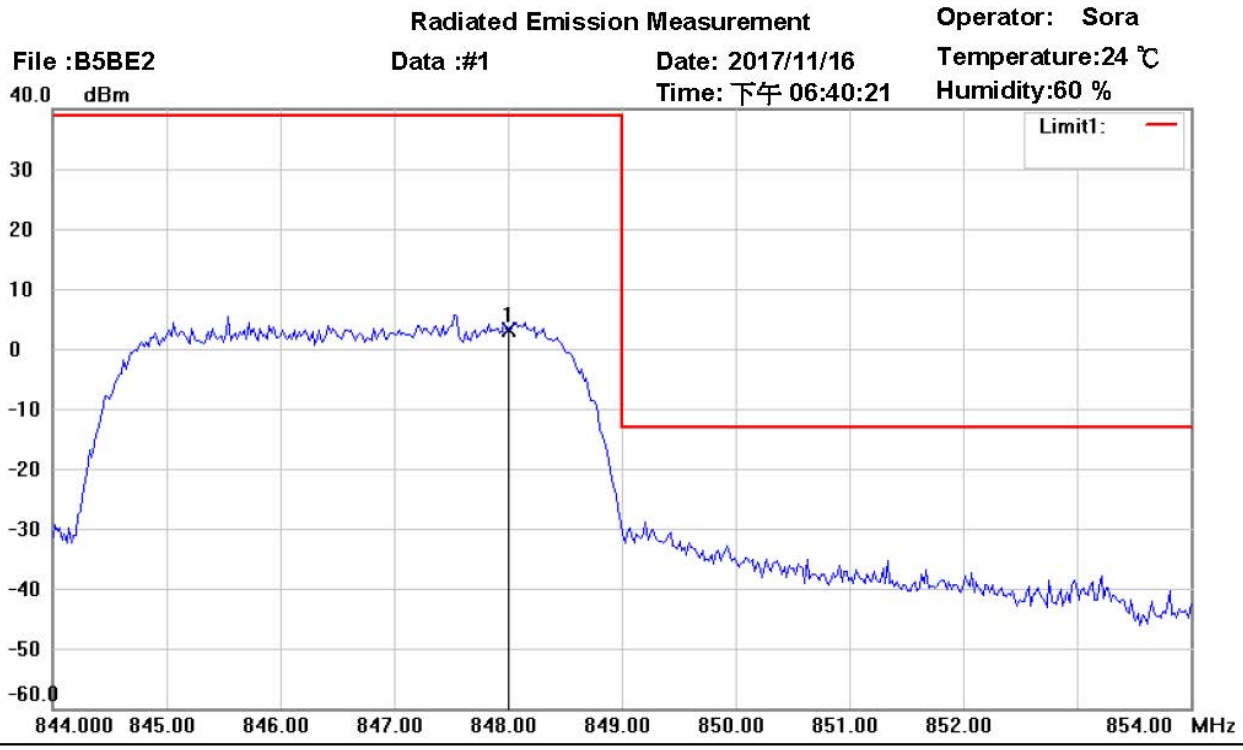


Site : Chamber
Condition : FCC_part 22 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : WCDMA Band5 CH4132
Note :

Polarization: *Vertical*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	824.0000	-67.50	peak	35.56	-31.94	-13.00	150	275	-18.94	

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G

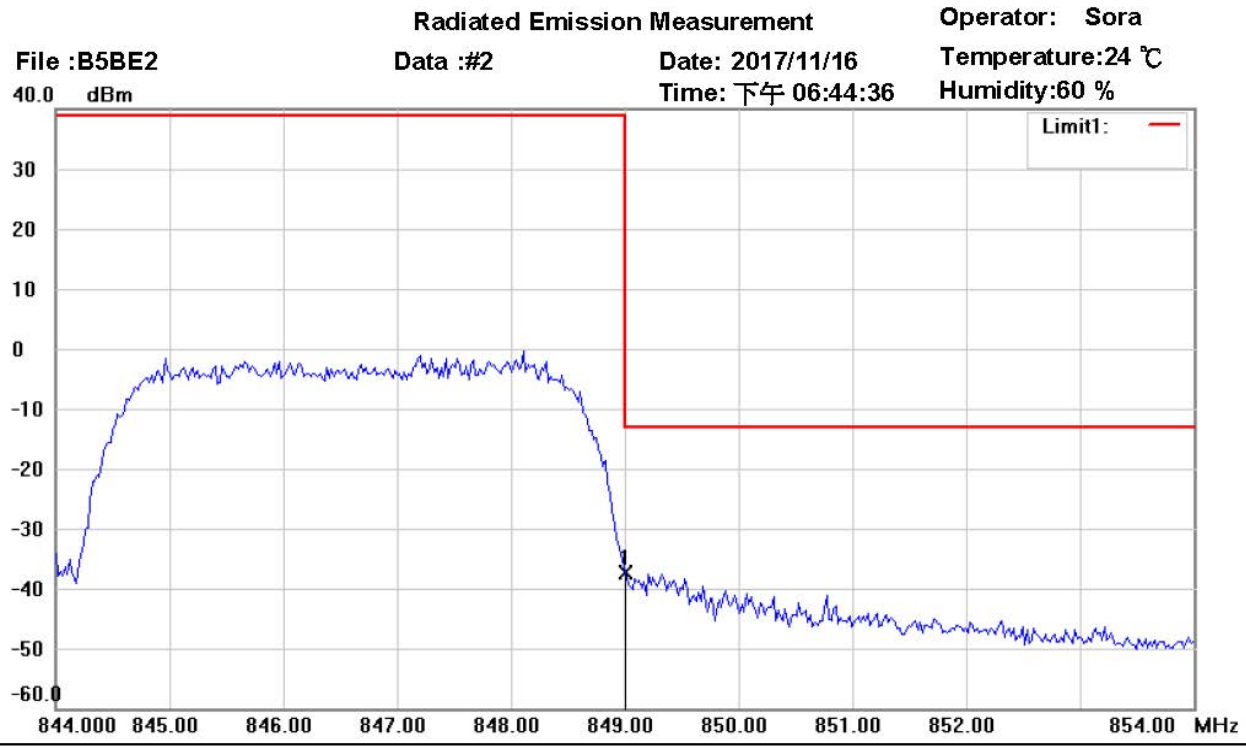


Site : Chamber
Condition : FCC_part 22 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : WCDMA Band5 CH4233
Note :

Polarization: *Horizontal*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	848.0000	-33.40	peak	36.45	3.05	39.00	150	275	-35.95	

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G



Site : Chamber
Condition : FCC_part 22 Bandedge
EUT : W6M21710-17467
M/N:
Test Mode : WCDMA Band5 CH4233
Note :

Polarization: *Vertical*
Power : 120Va.c.
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	849.0000	-73.64	peak	36.33	-37.31	-13.00	150	110	-24.31	

Test equipment: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 062, ETSTW-RE 142, ETSTW-RE 147, ETSTW-GSM 002

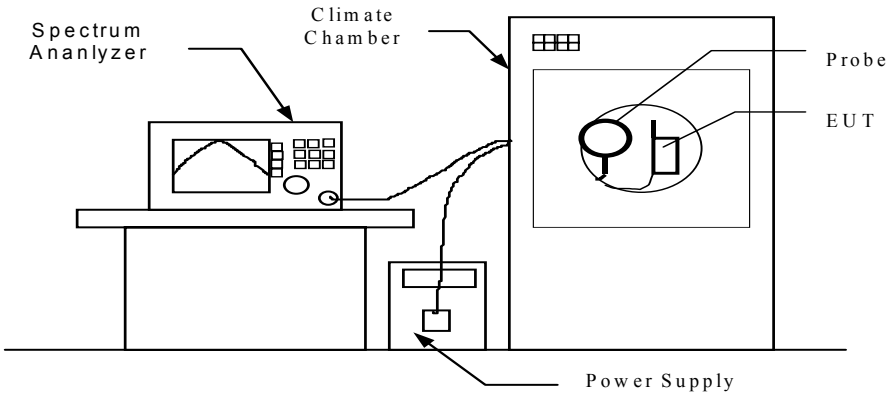
8. Frequency Stability

8.1 Test procedure

☑ The equipment under test was supplied with rated power supply and the RF output was connected to a frequency counter via feed through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable, exited the chamber through an opening made for that purpose.
After the temperature stabilized the frequency output was recorded from the counter.

☐ An external variable power supply was used to supply nominal voltage and 85% to 115% of nominal voltage to the EUT under room temperature. Record the frequencies measured from the counter.

☑ End point voltage: For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer. Then record the frequencies measured from the counter.



8.2 Test Results

8.2.1 Frequency Stability vs. Temperature

Band 850 MHz & Band 1900 MHz

CH128	Temp	Frequency drift(Hz)	Frequency drift(ppm)	Limit (ppm)	CH512	Temp	Frequency drift(Hz)	Frequency drift(ppm)	Limit (ppm)
7.2Vdc	-20	16.000	0.009	±2.5	7.2Vdc	-20	30.000	0.016	±2.5
	-10	16.000	0.019			-10	28.000	0.015	
	0	16.000	0.019			0	27.000	0.015	
	10	17.000	0.021			10	27.000	0.015	
	20	15.000	0.018			20	24.000	0.013	
	30	15.000	0.018			30	20.000	0.024	
	40	16.000	0.019			40	21.000	0.025	
	50	19.000	0.023			50	18.000	0.010	
7.92Vdc	25	15.000	0.018		7.92Vdc	25	21.000	0.011	
6.48Vdc	25	15.000	0.018		6.48Vdc	25	21.000	0.011	
CH188	**Temp**	**Frequency drift(Hz)**	**Frequency drift(ppm)**	**Limit (ppm)**	**CH661**	**Temp**	**Frequency drift(Hz)**	**Frequency drift(ppm)**	**Limit (ppm)**
7.2Vdc	-20	18.000	0.022	±2.5	7.2Vdc	-20	22.000	0.027	±2.5
	-10	17.000	0.020			-10	22.000	0.012	
	0	17.000	0.020			0	21.000	0.011	
	10	17.000	0.020			10	21.000	0.011	
	20	16.000	0.019			20	19.000	0.010	
	30	15.000	0.018			30	16.000	0.019	
	40	14.000	0.017			40	16.000	0.019	
	50	13.000	0.016			50	14.000	0.007	
7.92Vdc	25	16.000	0.019		7.92Vdc	25	20.000	0.011	
6.48Vdc	25	16.000	0.019		6.48Vdc	25	18.000	0.010	
CH251	**Temp**	**Frequency drift(Hz)**	**Frequency drift(ppm)**	**Limit (ppm)**	**CH810**	**Temp**	**Frequency drift(Hz)**	**Frequency drift(ppm)**	**Limit (ppm)**
7.2Vdc	-20	17.000	0.020	±2.5	7.2Vdc	-20	20.000	0.010	±2.5
	-10	17.000	0.020			-10	20.000	0.010	
	0	160.000	0.189			0	18.000	0.009	
	10	16.000	0.019			10	18.000	0.009	
	20	14.000	0.016			20	18.000	0.009	
	30	14.000	0.016			30	17.000	0.009	
	40	13.000	0.015			40	16.000	0.008	
	50	14.000	0.016			50	15.000	0.008	
7.92Vdc	25	14.000	0.016		7.92Vdc	25	17.000	0.009	
6.48Vdc	25	15.000	0.018		6.48Vdc	25	17.000	0.009	

Report Number: W6M21710-17467-P-2224
FCC ID: GX9HSGW3G
WCDMA Band II & Band V

CH9262	Temp	Frequency drift(Hz)	Frequency drift(ppm)	Limit (ppm)	CH4132	Temp	Frequency drift(Hz)	Frequency drift(ppm)	Limit (ppm)
7.2Vdc	-20	-18.000	-0.022	±2.5	7.2Vdc	-20	-15.000	-0.008	±2.5
	-10	-18.000	-0.022			-10	-15.000	-0.008	
	0	-17.000	-0.021			0	-13.000	-0.007	
	10	-16.000	-0.019			10	-13.000	-0.007	
	20	-14.000	-0.017			20	-10.000	-0.005	
	30	-13.000	-0.016			30	-10.000	-0.005	
	40	-13.000	-0.016			40	-8.000	-0.004	
	50	-12.000	-0.015			50	-8.000	-0.004	
7.92Vdc	25	-13.000	-0.016		7.92Vdc	25	-8.000	-0.004	
6.48Vdc	25	-13.000	-0.016		6.48Vdc	25	-10.000	-0.005	
CH9400	**Temp**	**Frequency drift(Hz)**	**Frequency drift(ppm)**	**Limit (ppm)**	**CH4183**	**Temp**	**Frequency drift(Hz)**	**Frequency drift(ppm)**	**Limit (ppm)**
7.2Vdc	-20	-22.000	-0.026	±2.5	7.2Vdc	-20	-11.000	-0.006	±2.5
	-10	-22.000	-0.026			-10	-11.000	-0.006	
	0	-12.000	-0.014			0	-10.000	-0.005	
	10	-17.000	-0.020			10	-10.000	-0.005	
	20	-13.000	-0.016			20	-9.000	-0.005	
	30	-13.000	-0.016			30	-8.000	-0.004	
	40	-11.000	-0.013			40	8.000	0.004	
	50	-18.000	-0.022			50	-10.000	-0.005	
7.92Vdc	25	-13.000	-0.016		7.92Vdc	25	-9.000	-0.005	
6.48Vdc	25	-12.000	-0.014		6.48Vdc	25	-8.000	-0.004	
CH9538	**Temp**	**Frequency drift(Hz)**	**Frequency drift(ppm)**	**Limit (ppm)**	**CH4233**	**Temp**	**Frequency drift(Hz)**	**Frequency drift(ppm)**	**Limit (ppm)**
7.2Vdc	-20	-17.000	-0.020	±2.5	7.2Vdc	-20	-13.000	-0.007	±2.5
	-10	-17.000	-0.020			-10	-13.000	-0.007	
	0	-14.000	-0.016			0	-11.000	-0.006	
	10	-12.000	-0.014			10	-10.000	-0.005	
	20	-14.000	-0.016			20	-10.000	-0.005	
	30	-14.000	-0.016			30	-9.000	-0.005	
	40	-13.000	-0.015			40	-7.000	-0.004	
	50	-16.000	-0.019			50	-8.000	-0.004	
7.92Vdc	25	-14.000	-0.016		7.92Vdc	25	-8.000	-0.004	
6.48Vdc	25	-13.000	-0.015		6.48Vdc	25	-10.000	-0.005	

Test equipment: ETSTW-CE 009, ETSTW-RE 055, ETSTW-GSM 002

9 Maximum Permissible Exposure

9.1 Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.7 m normally can be maintained between the user and the device.

9.2 MPE Calculation Method

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

$$E\ (V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd\ (W/m^2) = \frac{E^2}{377}$$

E = Electric field (V/m) P = output power (W) G = EUT Antenna numeric gain (numeric)
d = Separation distance between radiator and human body (m)
The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

Frequency	Max output power (dBm)	/ (W)	Antenna Gain	Power Density(S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Test Result
GSM 850	31.27	1.33968	-5.17	0.154	1.0	Pass
PCS 1900	28.23	0.66527	2.6	0.83	1.0	Pass
WCDMA Band II	22.15	0.16406	2.6	0.655	1.0	Pass
WCDMA Band V	22.13	0.16331	-5.17	0.109	1.0	Pass

From the peak EUT RF output power, the minimum mobile separation distance, d= 0.7 m, as well as the gain of the used antenna, the RF power density can be obtained.