TEST REPORT

No. I15Z41643-GTE01

for

ZTE CORPORATION

WCDMA/GSM（GPRS） Dual-Mode Digital Mobile Phone

Model Name: ZTE Blade C340/ ZTE T220/ ZTE V812/ ZTE Blade Q2

3G/ZTE Open C2

FCC ID: SRQ-ZTEBLADEC340

with

Hardware Version: W59_MB_B

Software Version: ZTE_CN_QD_P172R12V1.0.0

Issued Date: 2015-07-31

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

FCC 2.948 Listed: No. 525429

CTTL,Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

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Email: cttl_terminals@catr.cn, website: www.chinattl.com

REPORT HISTORY

Report Number	Revision	Description	Issue Date
I15Z41643-GTE01	Rev.0	1st edition	2015-07-31

CONTENTS

1. Test Laboratory

1.1. Testing Location

Company Name:	CTTL,Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT
Address:	No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.
Postal Code:	100191
Telephone:	00861062304633
Fax:	00861062304793

1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	20-75%

1.3. Project data

Testing Start Date:	2015-06-25
Testing End Date:	2015-07-31

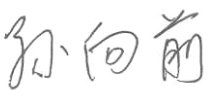
1.4. Signature

Shen Yi

(Prepared this test report)

Zhong Nan

(Reviewed this test report)



Sun Xiang Qian

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	ZTE CORPORATION
Address /Post:	ZTE Plaza, Keji Road South, Shenzhen, China
Contact Person:	Min Zhang
Contact Email	zhang.min13@zte.com.cn
Telephone:	0086-18616587757
Fax:	0086-021-50801070

2.2. Manufacturer Information

Company Name:	ZTE CORPORATION
Address /Post:	ZTE Plaza, Keji Road South, Shenzhen, China
Contact Person:	Min Zhang
Contact Email	zhang.min13@zte.com.cn
Telephone:	0086-18616587757
Fax:	0086-021-50801070

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	WCDMA/GSM（GPRS） Dual-Mode Digital Mobile Phone
Model Name	ZTE Blade C340/ ZTE T220/ ZTE V812/ ZTE Blade Q2 3G/ZTE Open C2
Marketing Name	ZTE
FCC ID	SRQ-ZTEBLADEC340
Antenna	Integrated
Output power	31.10dBm maximum EIRP measured for PCS1900
Extreme vol. Limits	3.5VDC to 4.2VDC (nominal: 3.7VDC)
Extreme temp. Tolerance	-30°C to +50°C

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version
S01	867157022011696	W59_MB_B	ZTE_CN_QD_P172R12V1.0.0

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description
AE1	Battery

AE1

Model	Li3714T42P3h765039
Manufacturer	/
Capacitance	/

*AE ID: is used to identify the test sample in the lab internally.

3.4. Normal Accessory setting

Fully charged battery was used during the test.

3.5. General Description

The Equipment Under Test (EUT) is a model HSDPA/HSUPA/UMTS quad band / GSM quad band /LTE hexa band mobile phone with integrated antenna. Manual and specifications of the EUT were provided to fulfil the test.

4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-14 Edition
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-14 Edition
ANSI/TIA-603-C	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2004
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2009
KDB 971168 D01	Measurement Guidance for Certification of Licensed Digital Transmitters	v02r02

5. LABORATORY ENVIRONMENT

Control room / conducted chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ˚C, Max. = 35 ˚C
Relative humidity	Min. =20 %, Max. = 80 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber 2 (8.6 meters×6.1 meters×3.85 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ˚C**,** Max. = 30 ˚C
Relative humidity	Min. = 35 %**,** Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 1 Ω
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 4000 MHz

Semi-anechoic chamber 2 / Fully-anechoic chamber 3 (10 meters×6.7 meters×6.15 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ˚C**,** Max. = 30 ˚C
Relative humidity	Min. = 35 %**,** Max. = 60 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	**<** ±3.5 dB, 3 m distance
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

6. SUMMARY OF TEST RESULTS

Items	List	Clause in FCC rules	Verdict
1	Output Power	22.913(a)/24.232(c)	P
2	Frequency Stability	2.1055/24.235	P
3	Occupied Bandwidth	2.1049(h)(i)	P
4	Emission Bandwidth	22.917(b)/24.238(b)	P
5	Band Edge Compliance	22.917(b)/24.238(b)	P
6	Conducted Spurious Emission	2.1057/22.917/24.238	P

7. Test Equipments Utilized

NO.	Description	TYPE	series number	MANUFACTURE	CAL DUE DATE	Calibration interval
1	Test Receiver	ESU26	100235	R&S	2016/3/2	1 year
2	Test Receiver	ESU26	100376	R&S	2015-10-29	1 year
3	EMI Antenna	VULB 9163	302	Schwarzbeck	2017-1-3	3 year
4	EMI Antenna	3117	00119024	ETS-Lindgren	2016-01-20	3 year
5	LISN	ENV216	101200	R&S	2016-07-07	1 year
6	Universal Radio Communication Tester	CMU200	113312	R&S	2015-07-23	1 year
7	Universal Radio Communication Tester	E5515C	MY48361083	Agilent	2016-02-27	1 year
8	Spectrum Analyzer	FSU26	200030	R&S	2016-07-11	1 year
9	EMI Antenna	9117	167	Schwarzbeck	2016-04-01	3 year
10	EMI Antenna	VULB9163	9163-234	Schwarzbeck	2016-09-15	3 year
11	EMI Antenna	3117	00119024	ETS-Lindgren	2016-01-20	3 year
12	Signal Generator	N5183A	MY49060052	Agilent	2016-03-02	1 year
13	Climate chamber	SH-241	92007454	ESPEC	2015-12-14	2 year
14	Loop Antenna	HFH2-Z2	829324/007	R&S	2017-12-10	3 year

ANNEX A: MEASUREMENT RESULTS

A.1 OUTPUT POWER

A.1.1 Summary

During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication tester (CMU-200) to ensure max power transmission and proper modulation.
This result contains output power and EIRP measurements for the EUT. In all cases, output power is within the specified limits.

A.1.2 Conducted

A.1.2.1 Method of Measurements

The EUT was set up for the max output power with pseudo random data modulation.
These measurements were done at 3 frequencies, 1850.2 MHz, 1880.0MHz and 1909.8MHz for PCS1900 band; 824.2MHz, 836.6MHz and 848.8MHz for GSM850 band. (bottom, middle and top of operational frequency range).

GSM850

	Power step	Nominal Peak output power (dBm)
GSM	5	33dBm(2W)
GPRS	3	33dBm(2W)
EGPRS	6	27dBm(0.5W)

Measurement result

GSM(GMSK)

Frequency(MHz)	Power Step	Output power(dBm)
824.2	5	32.88
836.6	5	32.85
848.8	5	33.06

GPRS(GMSK,1Slot)

Frequency(MHz)	Power Step	Output power(dBm)
824.2	3	32.48
836.6	3	32.51
848.8	3	32.64

EGPRS(8PSK,1Slot)

Frequency(MHz)	Power Step	Output power(dBm)
824.2	6	26.49
836.6	6	26.67
848.8	6	26.75

PCS1900

	Power step	Nominal Peak output power (dBm)
GSM	0	30dBm(1W)
GPRS	3	30dBm(1W)
EGPRS	5	26dBm(0.4W)

Measurement result

GSM(GMSK)

Frequency(MHz)	Power Step	Output power(dBm)
1850.2	0	29.56
1880.0	0	29.32
1909.8	0	29.48

GPRS(GMSK,1Slot)

Frequency(MHz)	Power Step	Output power(dBm)
1850.2	3	29.51
1880.0	3	29.28
1909.8	3	29.41

EGPRS(8PSK,1Slot)

Frequency(MHz)	Power Step	Output power(dBm)
1850.2	5	25.92
1880.0	5	25.70
1909.8	5	25.56

A.2 FREQUENCY STABILITY

A.2.1 Method of Measurement

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of R&S CMU200 DIGITAL RADIO COMMUNICATION TESTER.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30℃.
3. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on mid channel of PCS 1900 and GSM850, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10℃ increments from -30℃ to +50℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
5. Remeasure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments remeasuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50℃.
7. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 C increments from +50℃ to -30℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

A.2.2 Measurement Limit

A.2.2.1 For Hand carried battery powered equipment

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 3.5VDC and 4.2VDC, with a nominal voltage of 3.8VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. These voltages represent a tolerance of -10 % and +12.5 %. For the purposes of measuring frequency stability these voltage limits are to be used.

A.2.2.2 For equipment powered by primary supply voltage

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the

fundamental emission stays within the authorized frequency block. For this EUT section 2.1055(d)(1) applies. This requires varying primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

A.2.3 Measurement results

GSM 850

Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	15	0.018
3.7	14	0.017
4.2	21	0.025

Frequency Error vs Temperature

temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	11	0.013
-20	23	0.027
-10	22	0.026
0	17	0.020
10	12	0.014
20	13	0.016
30	16	0.019
40	17	0.020
50	22	0.026

EGPRS 850 - 8PSK

Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	19	0.023
3.7	10	0.012
4.2	9	0.011

Frequency Error vs Temperature

temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	13	0.016
-20	6	0.007
-10	18	0.022
0	11	0.013
10	12	0.014
20	9	0.011
30	15	0.018
40	12	0.014
50	11	0.013

PCS 1900

Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	33	0.018
3.7	19	0.010
4.2	28	0.015

Frequency Error vs Temperature

temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	33	0.018
-20	36	0.019
-10	25	0.013
0	23	0.012
10	21	0.011
20	17	0.009
30	19	0.010
40	39	0.021
50	22	0.012

EGPRS 1900 - 8PSK

Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	20	0.011
3.7	19	0.010
4.2	22	0.012

Frequency Error vs Temperature

temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	11	0.006
-20	6	0.003
-10	3	0.002
0	5	0.003
10	2	0.001
20	8	0.004
30	2	0.001
40	12	0.006
50	8	0.004

A.3 OCCUPIED BANDWIDTH

Reference

FCC: CFR Part 2.1049(h)(i)

A.3.1 Occupied Bandwidth Results

Occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the US Cellular/PCS frequency bands. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.

The measurement method is from KDB 971168 4.2:

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

e) Set the detection mode to peak, and the trace mode to max hold.

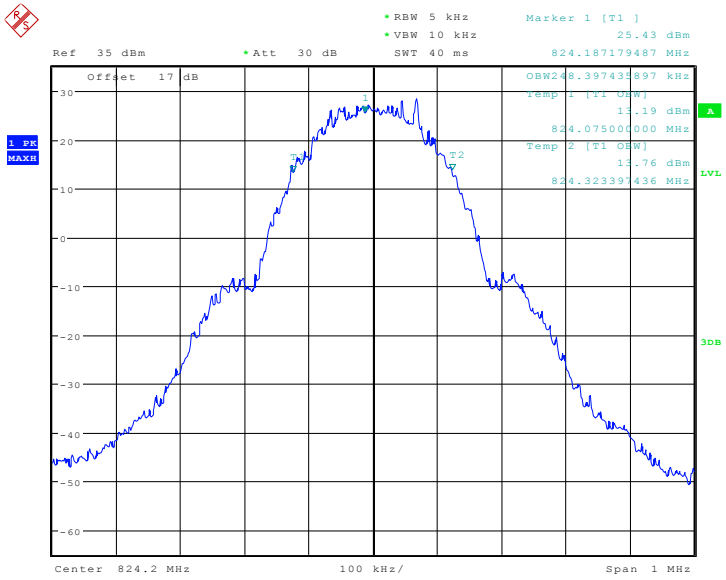
d) Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

GSM 850(99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)
824.2	248.39
836.6	245.19
848.8	245.19

GSM 850

Channel 128-Occupied Bandwidth (99% BW)



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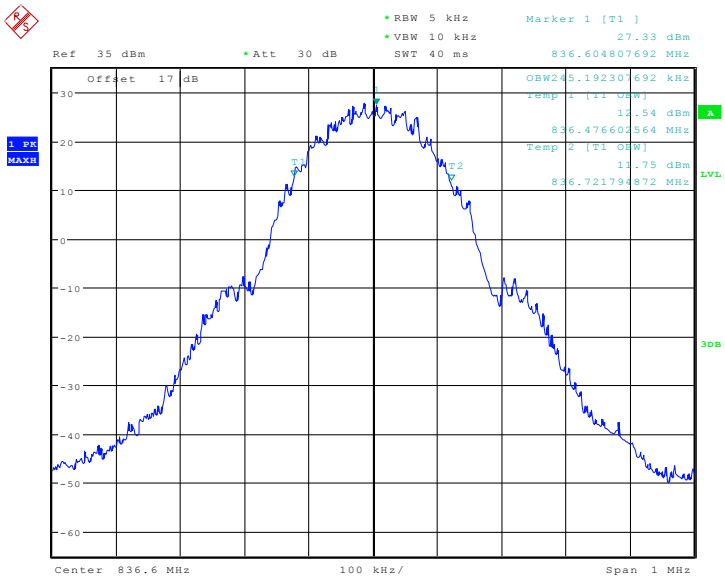
Channel 190-Occupied Bandwidth (99% BW)



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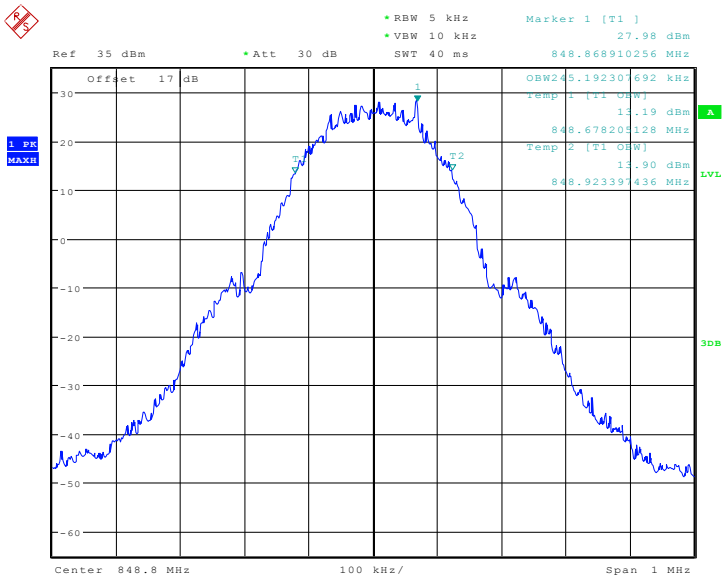

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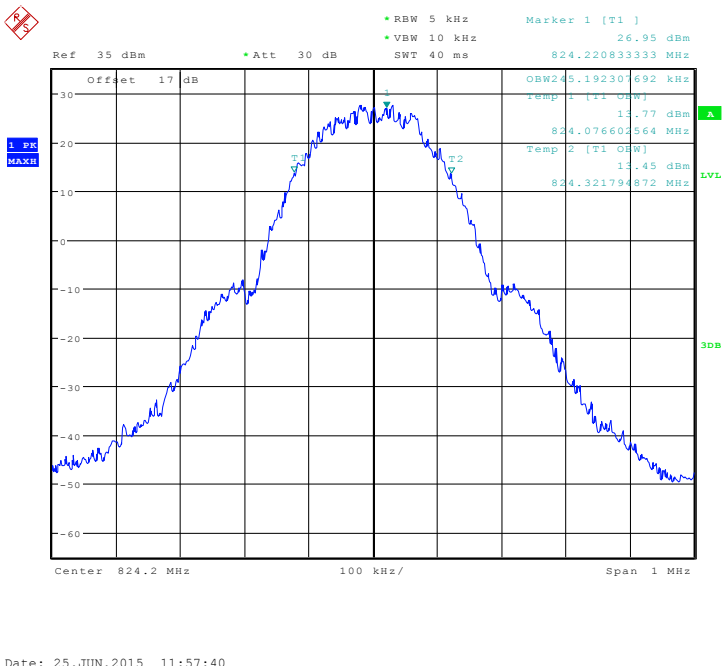
GPRS 850(99% BW)

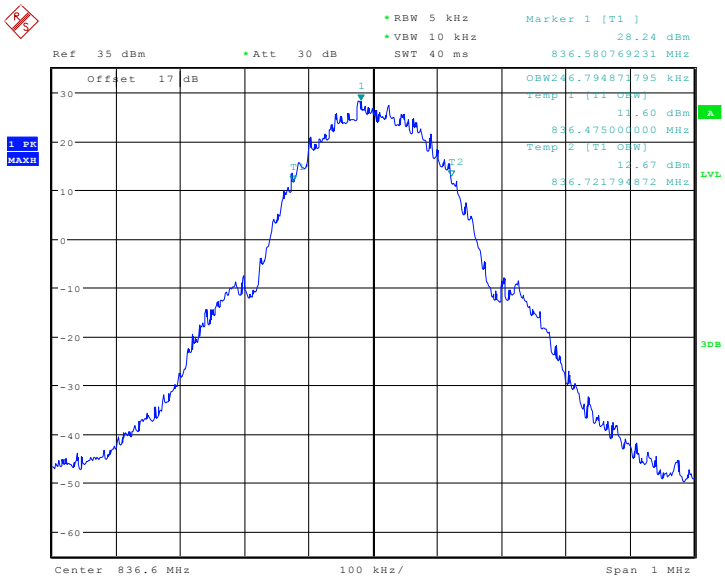
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)
824.2	245.19
836.6	246.79
848.8	245.19

GPRS 850

Channel 128-Occupied Bandwidth (99% BW)



Channel 190-Occupied Bandwidth (99% BW)



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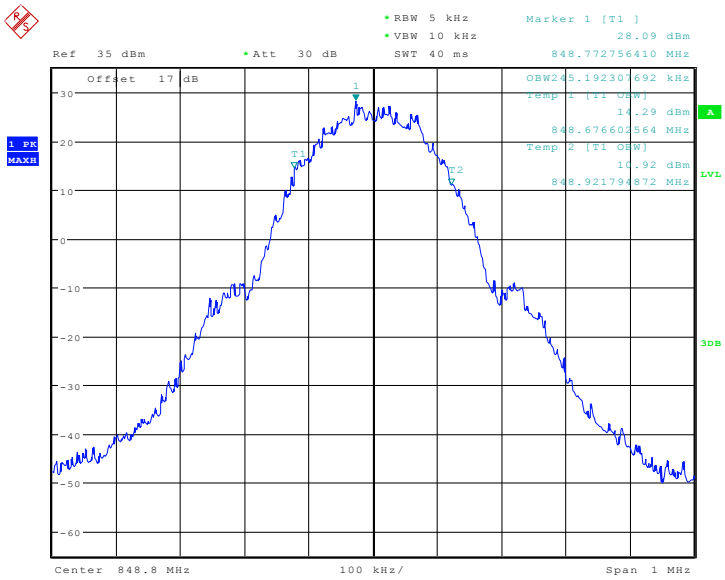

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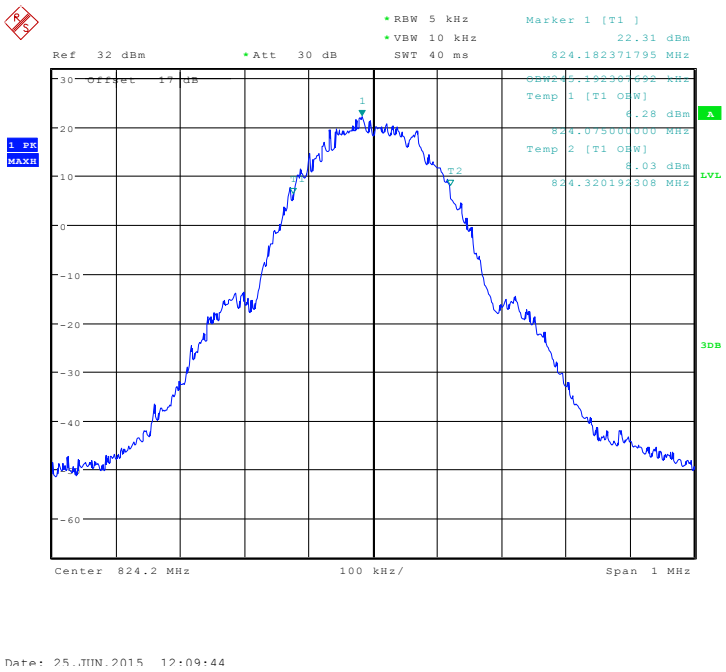
EGPRS 850-8PSK(99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)
824.2	245.19
836.6	245.19
848.8	248.39

EGPRS 850-8PSK

Channel 128-Occupied Bandwidth (99% BW)



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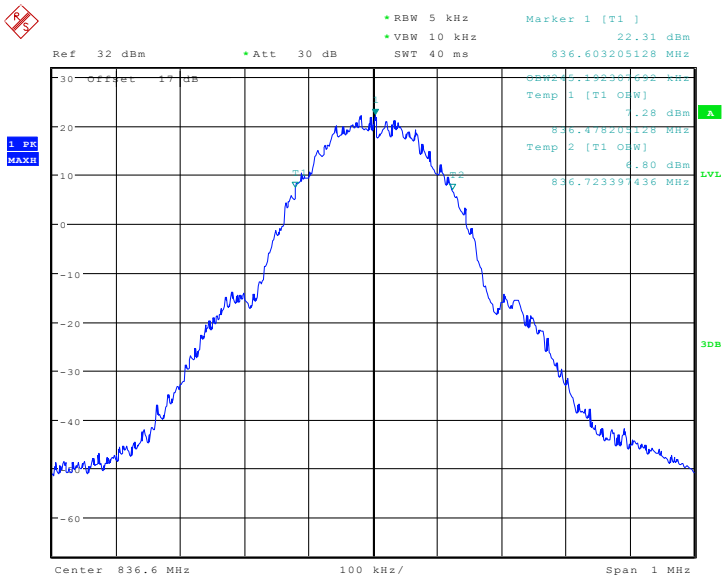
Channel 190-Occupied Bandwidth (99% BW)



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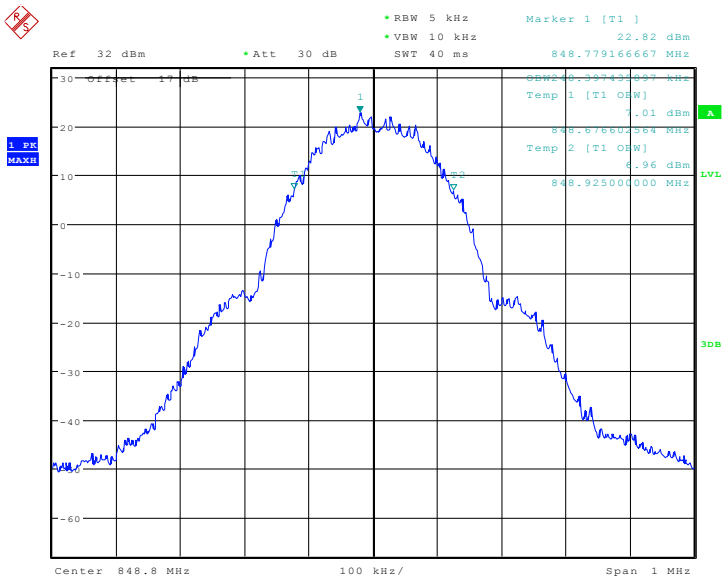
Channel 251-Occupied Bandwidth (99% BW)



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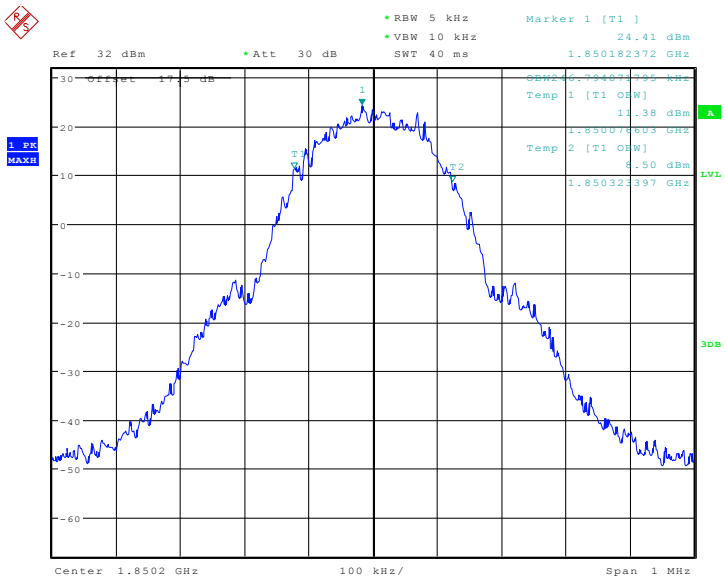
PCS 1900(99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)
1850.2	246.79
1880.0	245.19
1909.8	245.19

PCS 1900

Channel 512-Occupied Bandwidth (99% BW)



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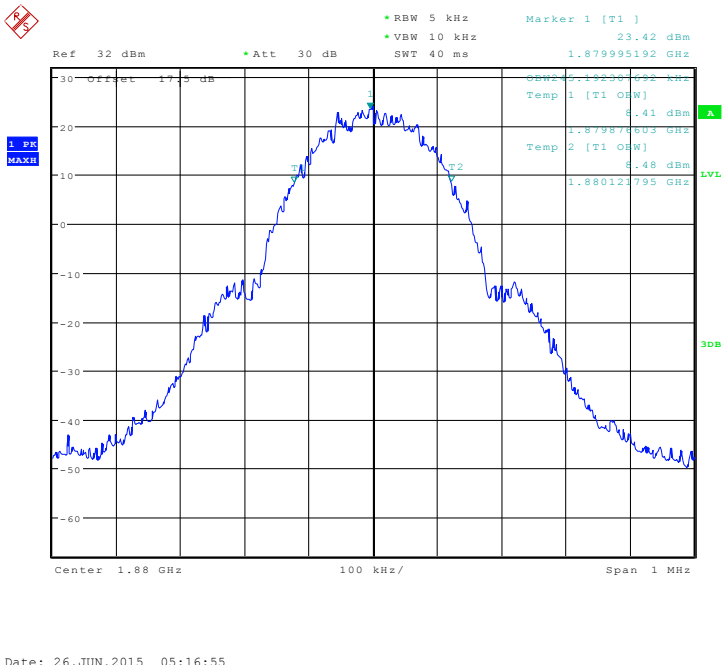
Channel 661-Occupied Bandwidth (99% BW)



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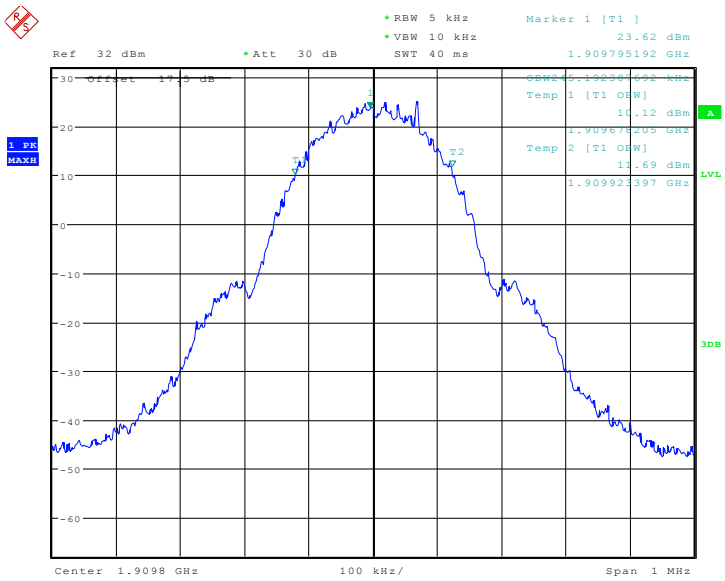
Channel 810-Occupied Bandwidth (99% BW)



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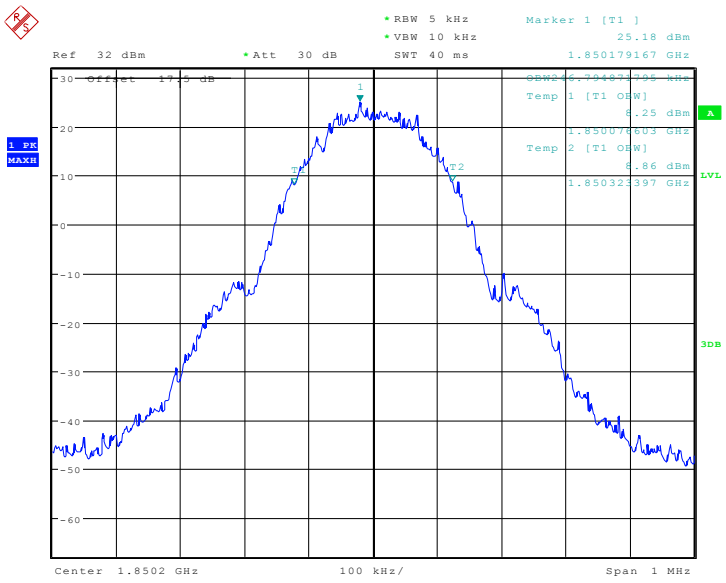
GPRS 1900(99% BW)

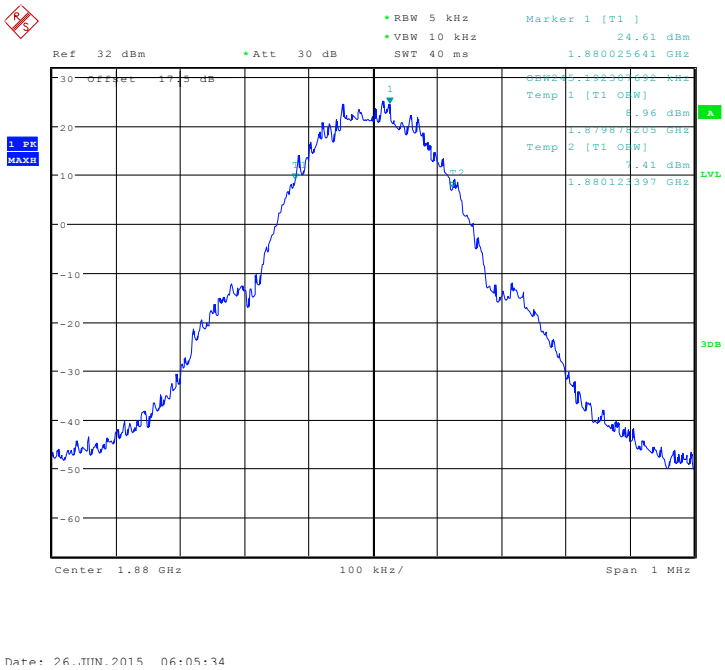
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)
1850.2	246.79
1880.0	245.19
1909.8	246.79

GPRS 1900

Channel 512-Occupied Bandwidth (99% BW)



Channel 661-Occupied Bandwidth (99% BW)



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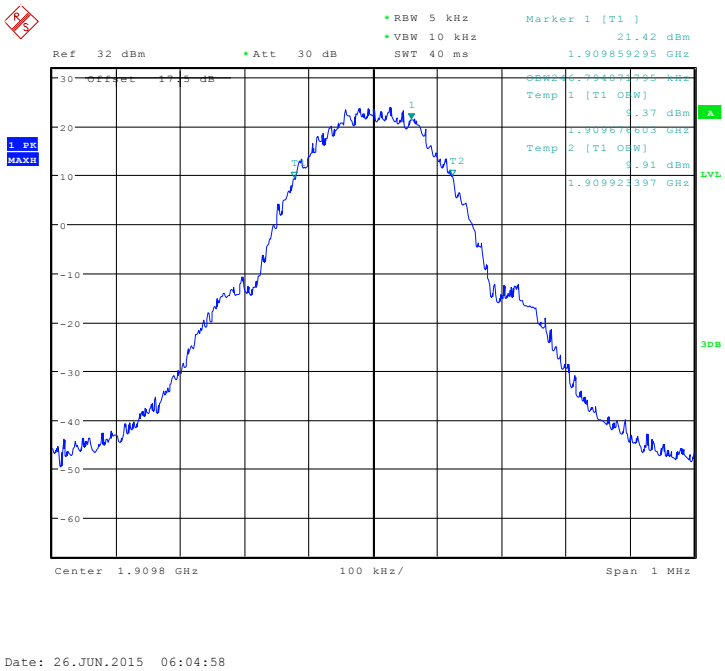
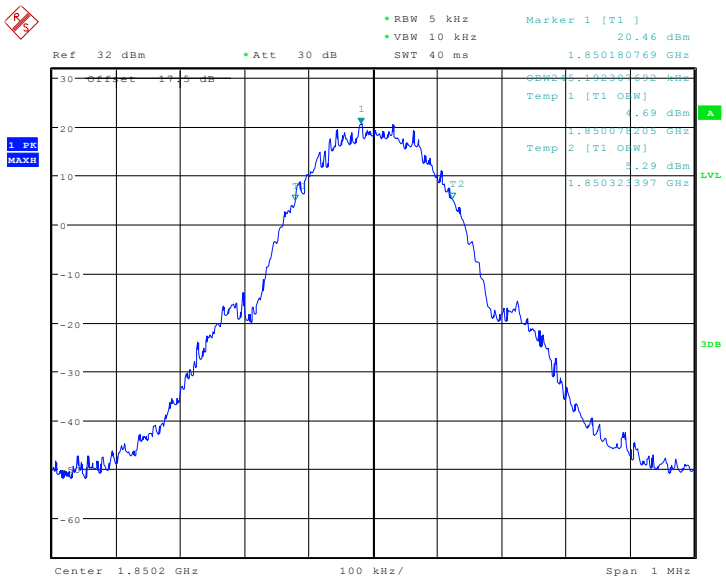


EGPRS 1900-8PSK(99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)
1850.2	245.19
1880.0	246.79
1909.8	245.19

EGPRS 1900-8PSK

Channel 512-Occupied Bandwidth (99% BW)



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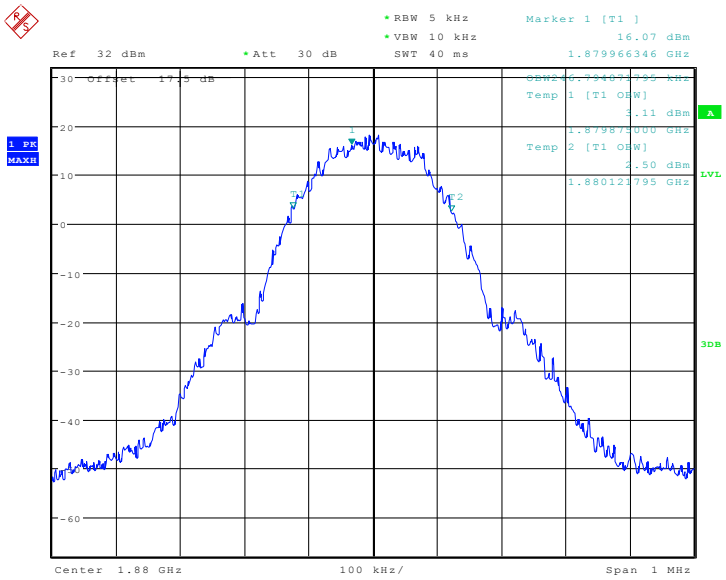
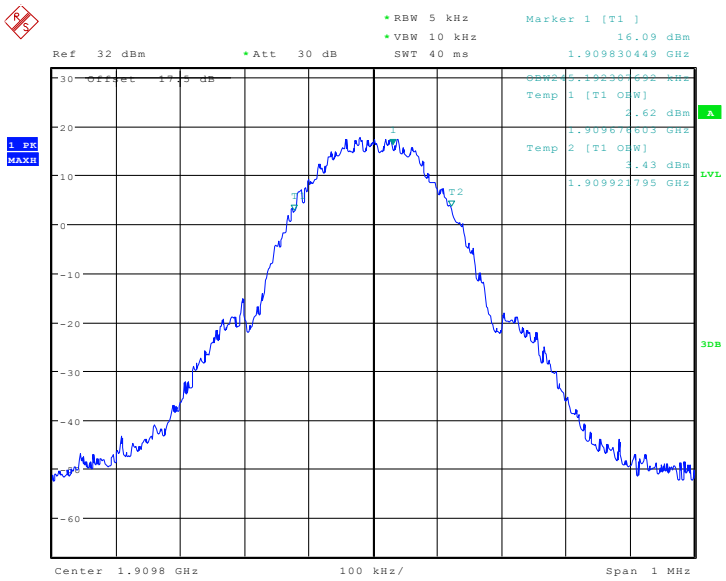
Channel 661-Occupied Bandwidth (99% BW)



Date: 26.JUN.2015 06:16:12

Channel 810-Occupied Bandwidth (99% BW)



Date: 26.JUN.2015 06:15:41

A.4 EMISSION BANDWIDTH

Reference

FCC: CFR Part 22.917(b), 24.238(a)

A.4.1Emission Bandwidth Results

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 26 dB below the transmitter power.

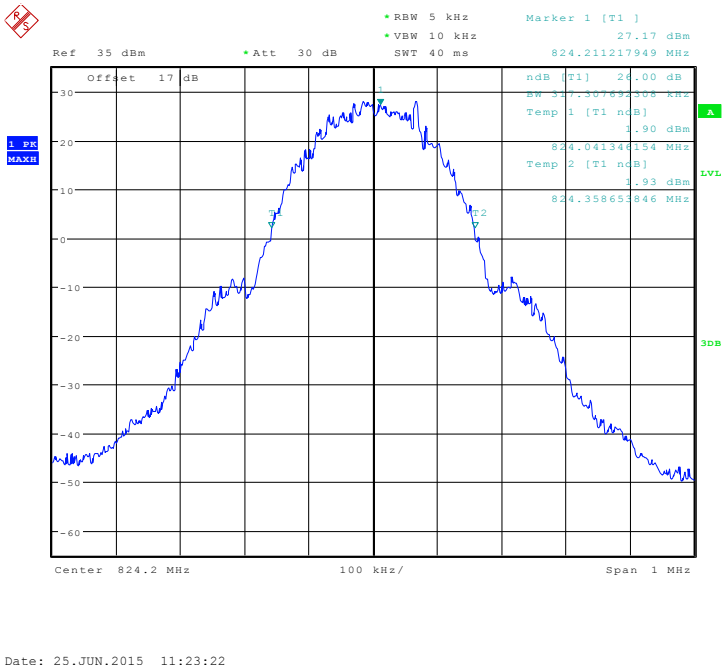
Similar to conducted emissions; Emission bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of PCS1900 band and GSM850 band. Table below lists the measured -26dB BW. Spectrum analyzer plots are included on the following pages.

GSM 850(-26dB BW)

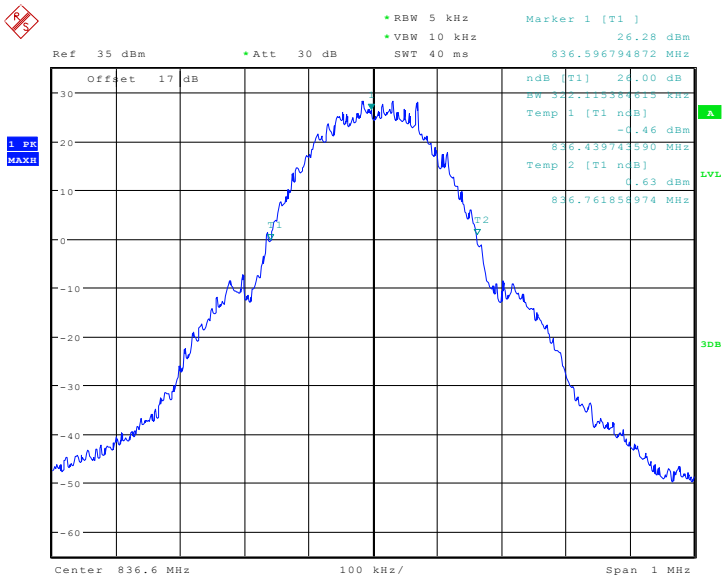
Frequency(MHz)	Emission Bandwidth (-26dB BW)(kHz)
824.2	317.31
836.6	322.12
848.8	315.71

GSM 850

Channel 128-Emission Bandwidth (-26dB BW)

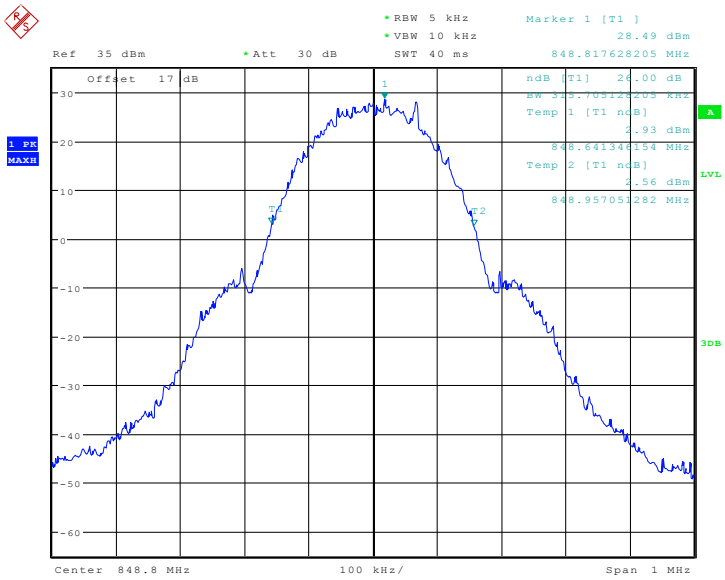


Channel 190-Emission Bandwidth (-26dB BW)



Date: 25.JUN.2015 11:22:34

Channel 251-Emission Bandwidth (-26dB BW)



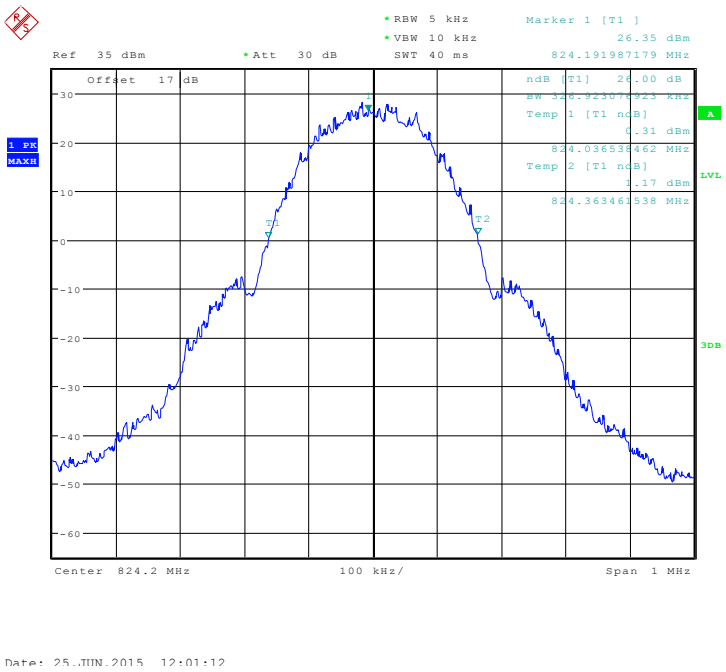
Date: 25.JUN.2015 11:21:40

GPRS 850(-26dB BW)

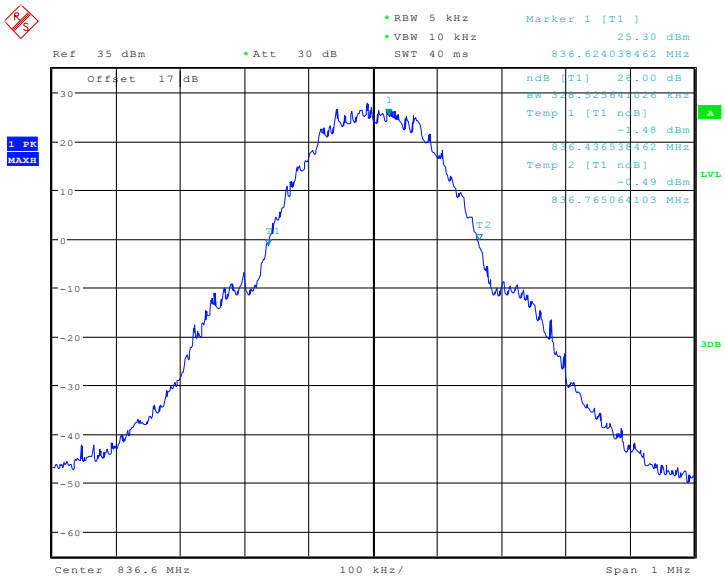
Frequency(MHz)	Emission Bandwidth (-26dB BW)(kHz)
824.2	326.92
836.6	320.53
848.8	317.31

GPRS 850

Channel 128-Emission Bandwidth (-26dB BW)

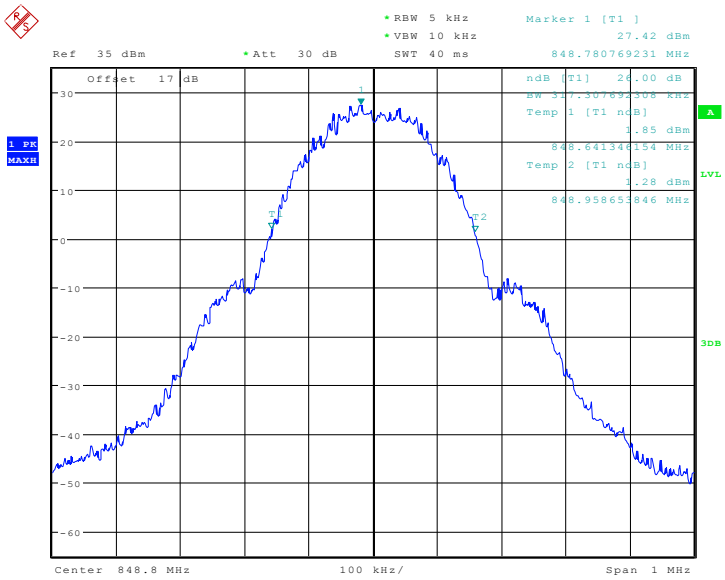


Channel 190-Emission Bandwidth (-26dB BW)



Date: 25.JUN.2015 12:00:15

Channel 251-Emission Bandwidth (-26dB BW)



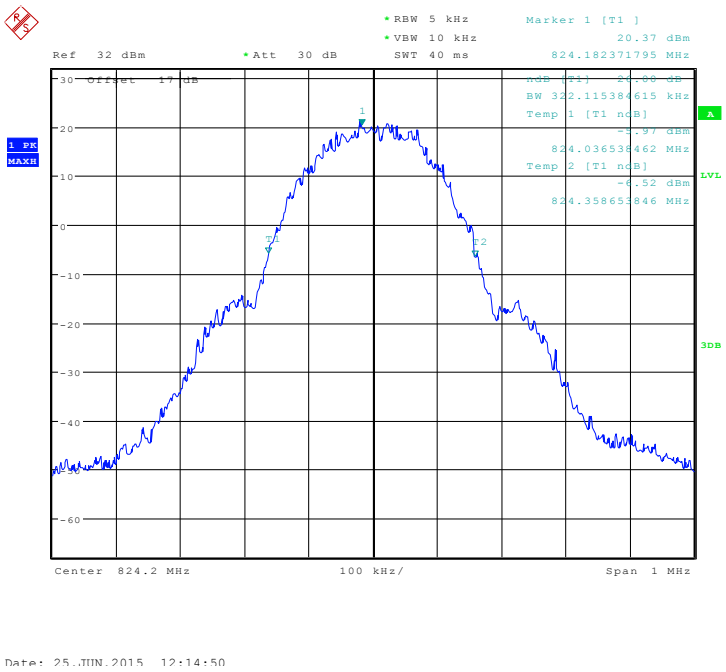
Date: 25.JUN.2015 11:59:30

EGPRS 850-8PSK(-26dB BW)

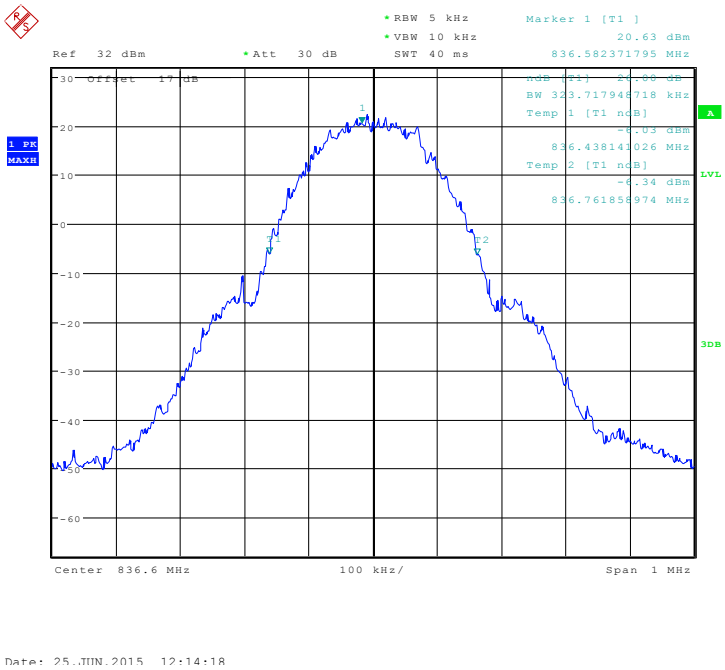
Frequency(MHz)	Emission Bandwidth (-26dB BW)(kHz)
824.2	322.12
836.6	323.72
848.8	322.12

EGPRS 850-8PSK

Channel 128-Emission Bandwidth (-26dB BW)

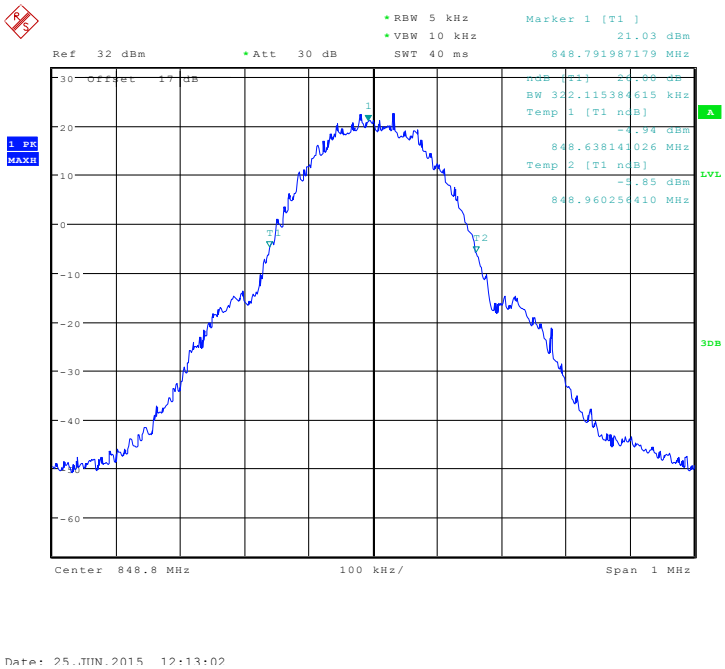


Channel 190-Emission Bandwidth (-26dB BW)



Date: 25.JUN.2015 12:14:18

Channel 251-Emission Bandwidth (-26dB BW)



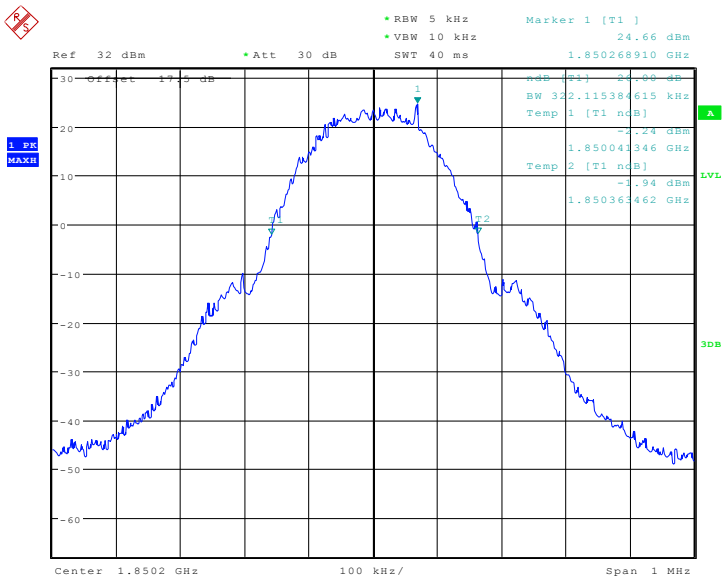
Date: 25.JUN.2015 12:13:02

PCS 1900(-26dB BW)

Frequency(MHz)	Emission Bandwidth (-26dB BW)(kHz)
1850.2	322.12
1880.0	331.73
1909.8	322.12

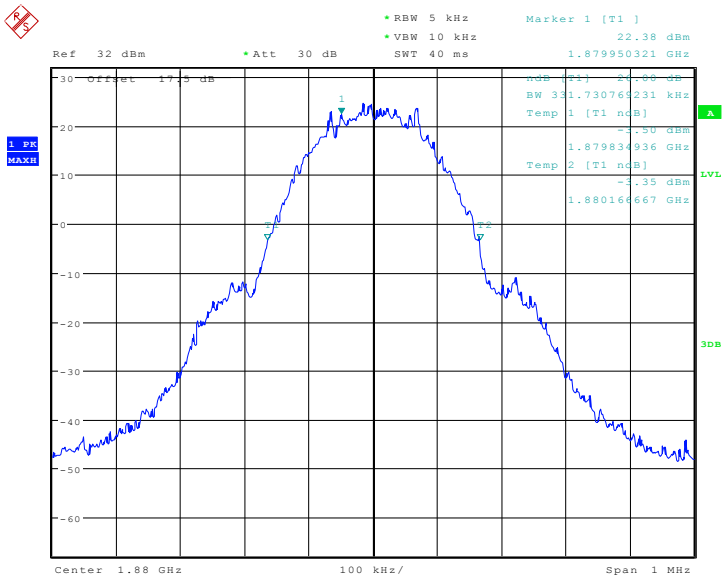
PCS 1900

Channel 512-Emission Bandwidth (-26dB BW)



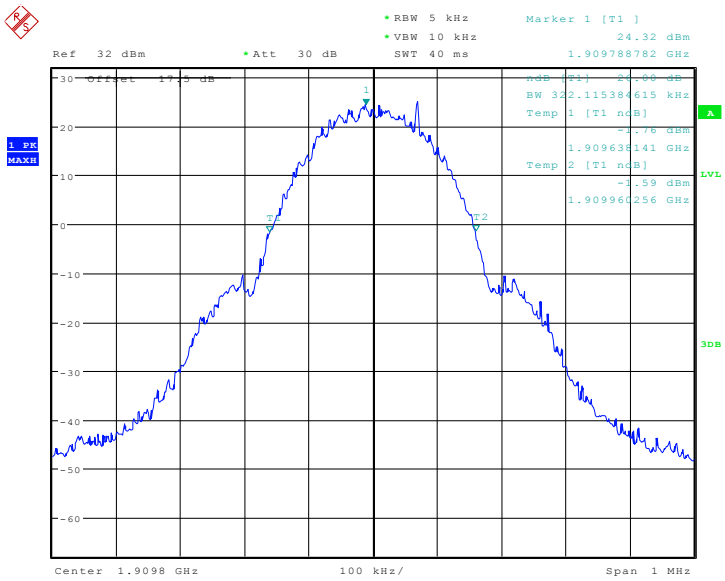
Date: 26.JUN.2015 05:19:15

Channel 661-Emission Bandwidth (-26dB BW)



Date: 26.JUN.2015 05:20:47

Channel 810-Emission Bandwidth (-26dB BW)



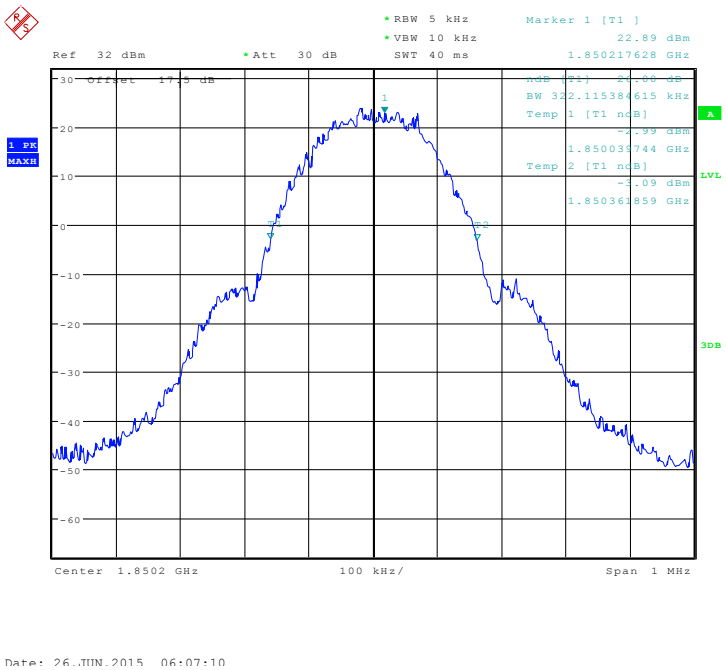
Date: 26.JUN.2015 05:22:08

GPRS 1900(-26dB BW)

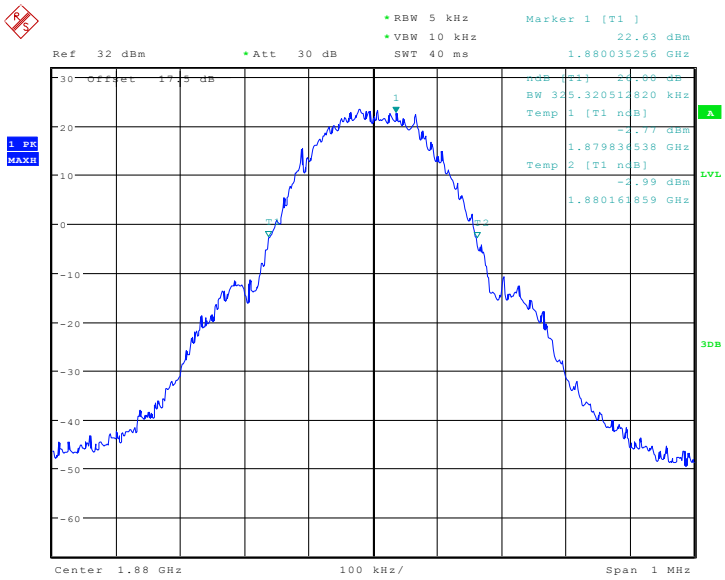
Frequency(MHz)	Emission Bandwidth (-26dB BW)(kHz)
1850.2	322.12
1880.0	325.32
1909.8	323.72

GPRS 1900

Channel 512-Emission Bandwidth (-26dB BW)

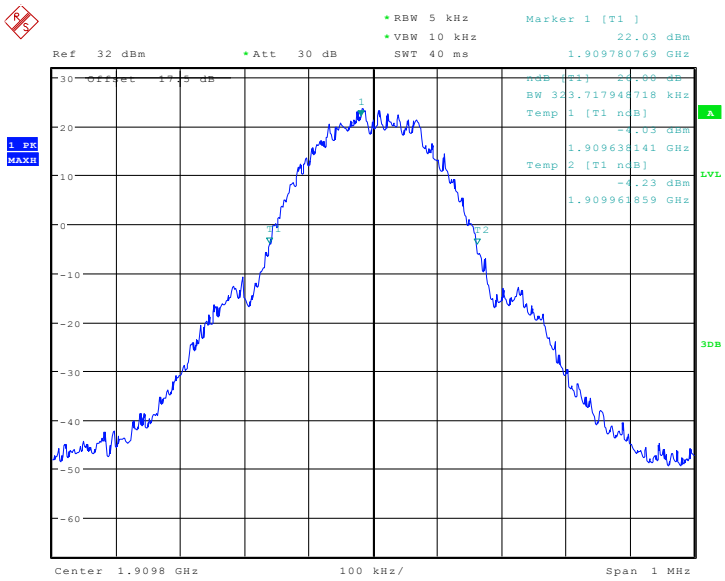


Channel 661-Emission Bandwidth (-26dB BW)



Date: 26.JUN.2015 06:07:56

Channel 810-Emission Bandwidth (-26dB BW)



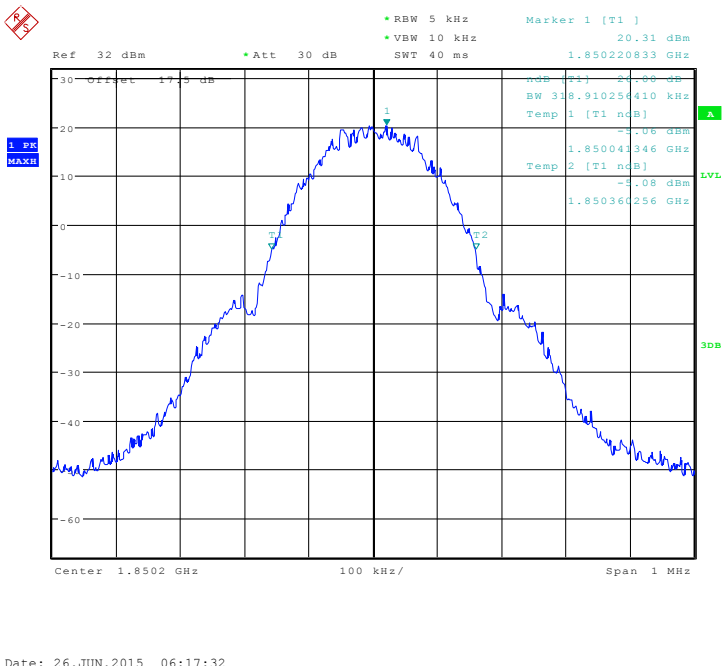
Date: 26.JUN.2015 06:08:25

EGPRS 1900-8PSK(-26dB BW)

Frequency(MHz)	Emission Bandwidth (-26dB BW)(kHz)
1850.2	318.91
1880.0	317.31
1909.8	315.71

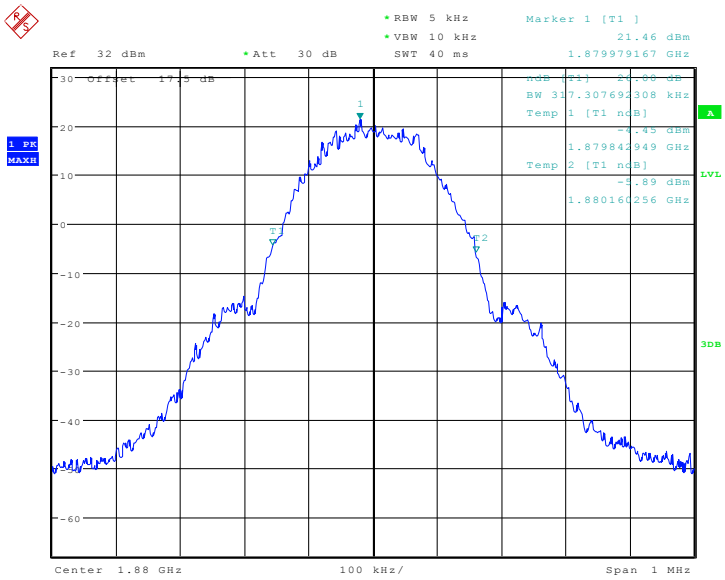
EGPRS 1900-8PSK

Channel 512-Emission Bandwidth (-26dB BW)



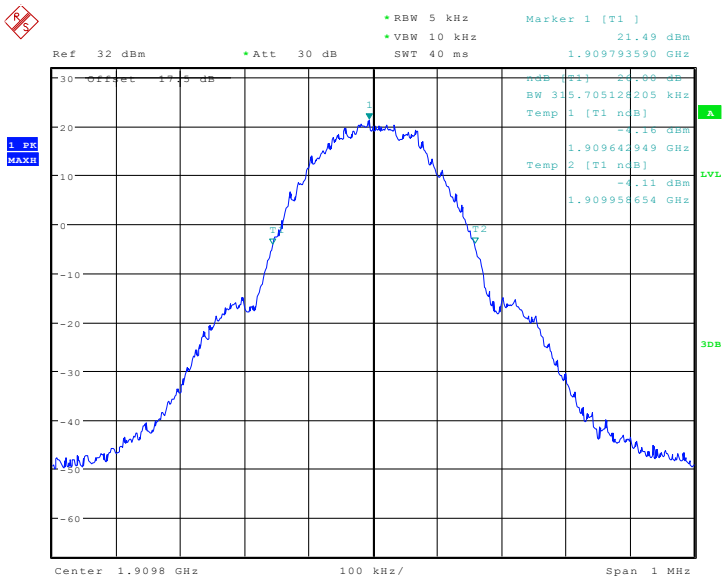
Date: 26.JUN.2015 06:17:32

Channel 661-Emission Bandwidth (-26dB BW)



Date: 26.JUN.2015 06:18:22

Channel 810-Emission Bandwidth (-26dB BW)



Date: 26.JUN.2015 06:21:12

A.5 BAND EDGE COMPLIANCE

Reference

FCC: CFR Part 22.917(b), 24.238(a)

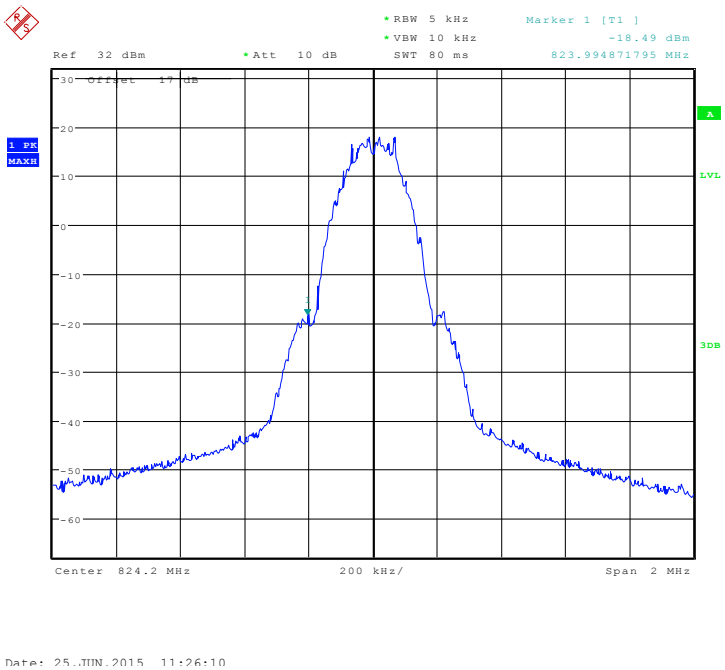
Measurement limit

On any frequency outside frequency band of the US Cellular/PCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log (P) dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

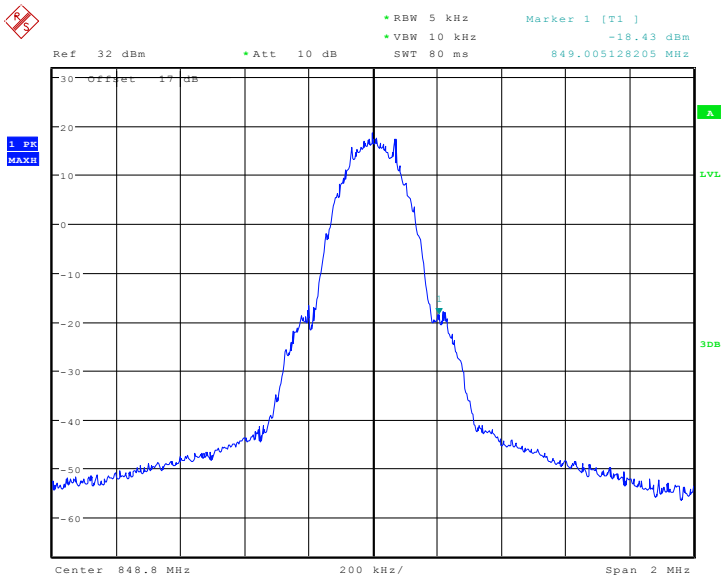
According to KDB 971168 6.0, a relaxation of the reference bandwidth is often provided for measurements within a specified frequency range at the edge of the authorized frequency block/band. This is often implemented by permitting the use of a narrower RBW (typically limited to a minimum RBW of 1% of the OBW) for measuring the out-of-band emissions without a requirement to integrate the result over the full reference bandwidth.

GSM 850

LOW BAND EDGE BLOCK-A (GSM850)-Channel 128



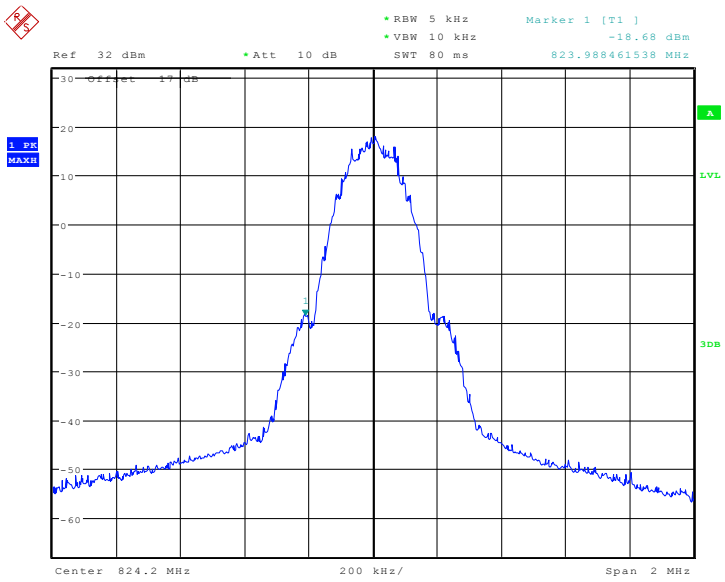
HIGH BAND EDGE BLOCK-C (GSM850) –Channel 251



Date: 25.JUN.2015 11:27:36

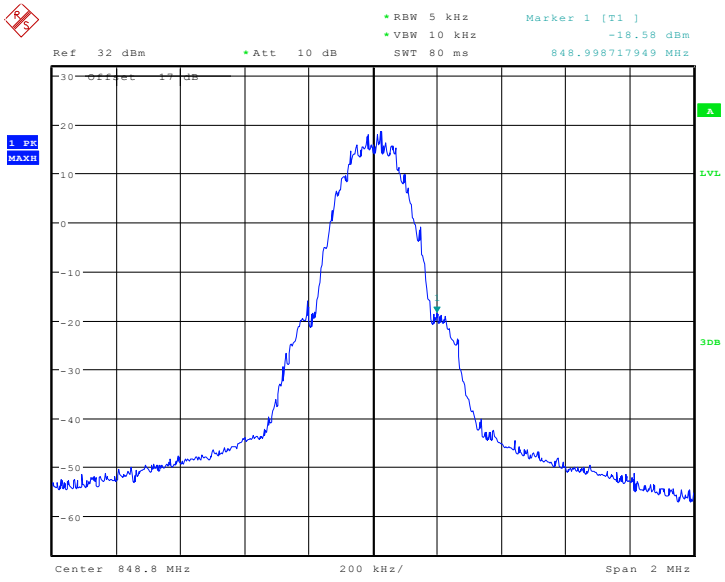
GPRS 850

LOW BAND EDGE BLOCK-A (GSM850)-Channel 128



Date: 25.JUN.2015 12:02:57

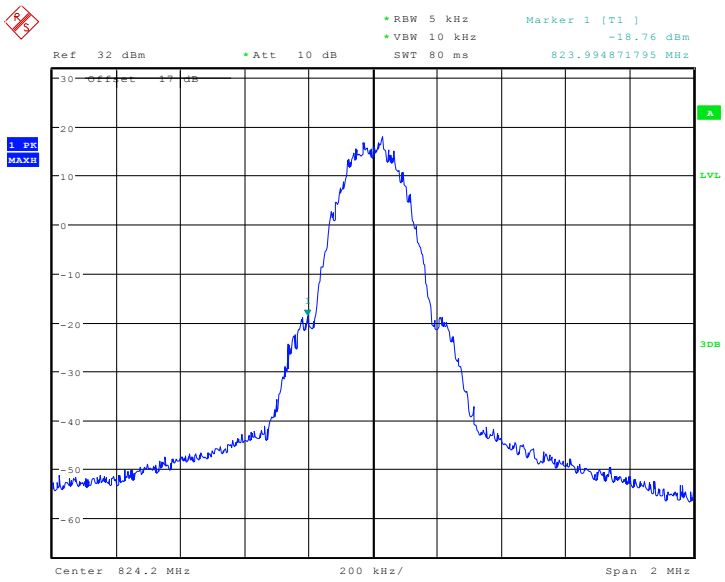
HIGH BAND EDGE BLOCK-C (GSM850) –Channel 251



Date: 25.JUN.2015 12:04:03

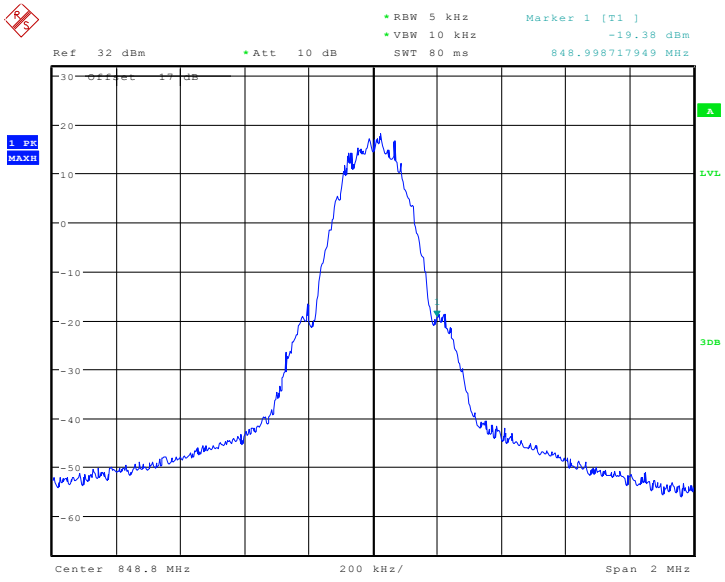
EGPRS 850-8PSK

LOW BAND EDGE BLOCK-A (GSM850)-Channel 128



Date: 25.JUN.2015 12:08:26

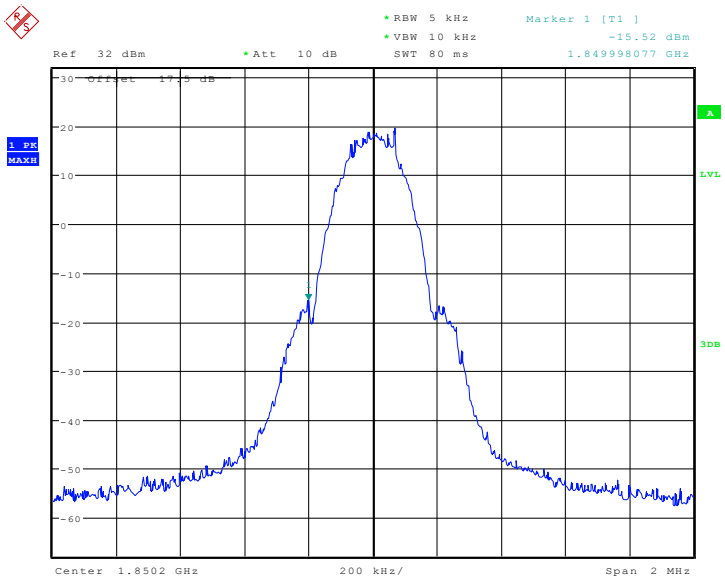
HIGH BAND EDGE BLOCK-C (GSM850) –Channel 251



Date: 25.JUN.2015 12:07:39

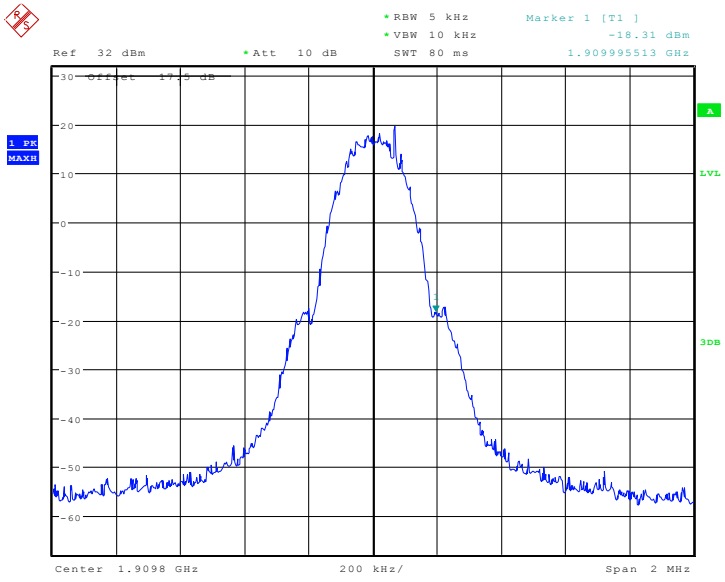
PCS 1900

LOW BAND EDGE BLOCK-A (PCS-1900)-Channel 512



Date: 26.JUN.2015 05:31:08

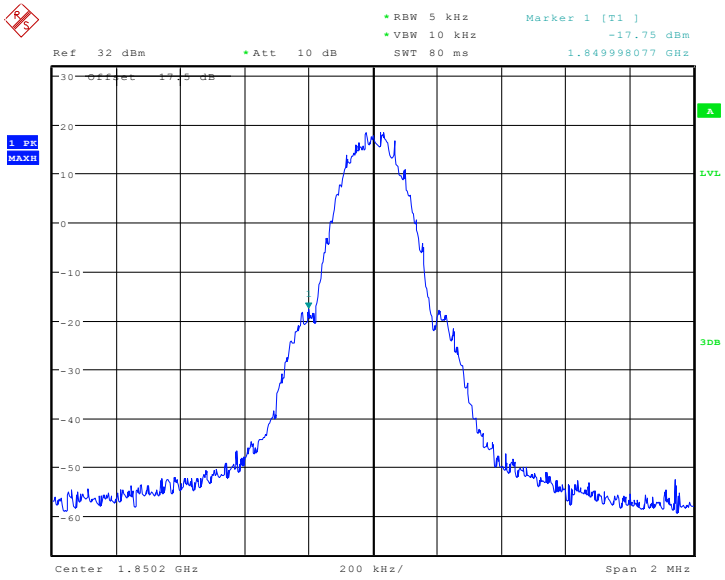
HIGH BAND EDGE BLOCK-C (PCS-1900) –Channel 810



Date: 26.JUN.2015 05:27:46

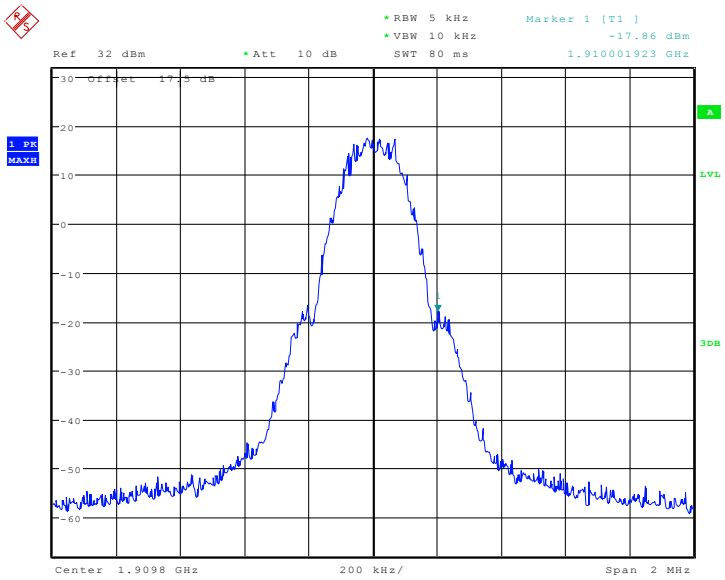
GPRS 1900

LOW BAND EDGE BLOCK-A (PCS-1900)-Channel 512



Date: 26.JUN.2015 06:10:44

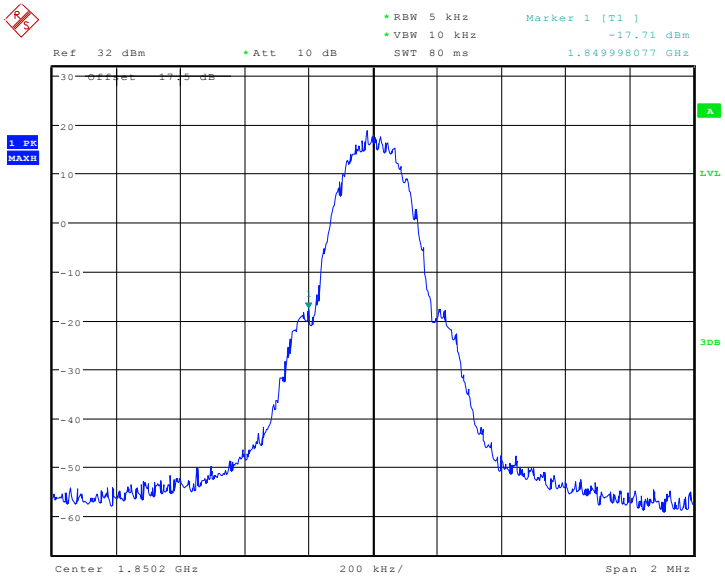
HIGH BAND EDGE BLOCK-C (PCS-1900) –Channel 810



Date: 26.JUN.2015 06:10:09

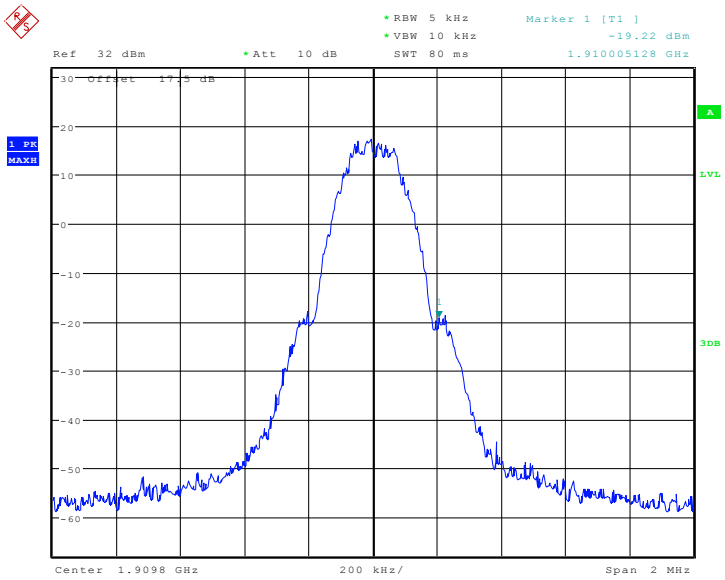
EGPRS 1900-8PSK

LOW BAND EDGE BLOCK-A (PCS-1900)-Channel 512



Date: 26.JUN.2015 06:14:07

HIGH BAND EDGE BLOCK-C (PCS-1900) –Channel 810



Date: 26.JUN.2015 06:14:52

A.6 CONDUCTED SPURIOUS EMISSION

Reference

FCC: CFR Part 2.1057, 22.917, 24.238.

A.6.1 Measurement Method

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the mobile station equipment tested, this equates to a frequency range of 13 MHz to 9 GHz, data taken from 10 MHz to 25 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.
3. According to KDB 971168 6.0, the applicable rule part specifies the reference bandwidth for measuring unwanted emission levels (typically, 100 kHz if the authorized frequency band/block is at or below 1 GHz and 1 MHz if the authorized frequency band/block is above 1 GHz)

GSM850 Transmitter

Channel	Frequency (MHz)
128	824.2
190	836.6
251	848.8

PCS1900 Transmitter

Channel	Frequency (MHz)
512	1850.2
661	1880.0
810	1909.8

A. 6.2 Measurement Limit

Part 24.238 and Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

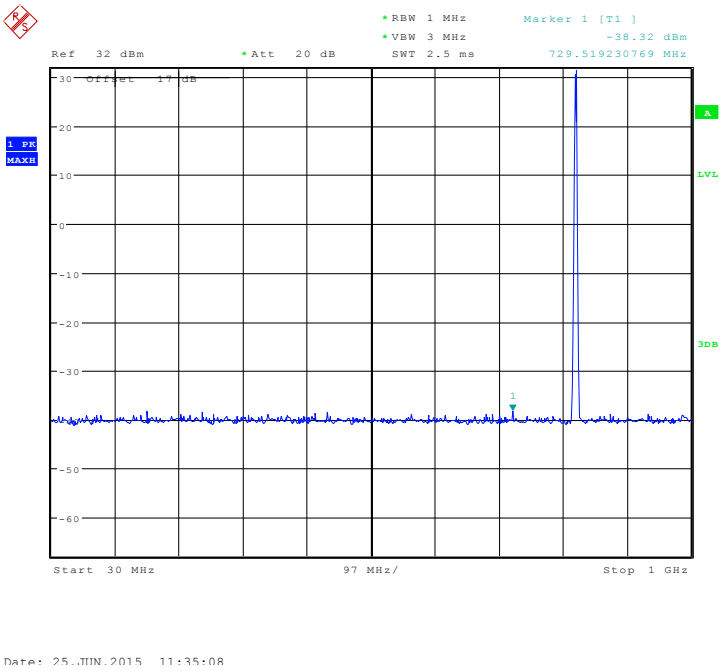
A.6.3 Measurement result

GSM850

Channel 128: 30MHz – 1GHz

Spurious emission limit –13dBm.

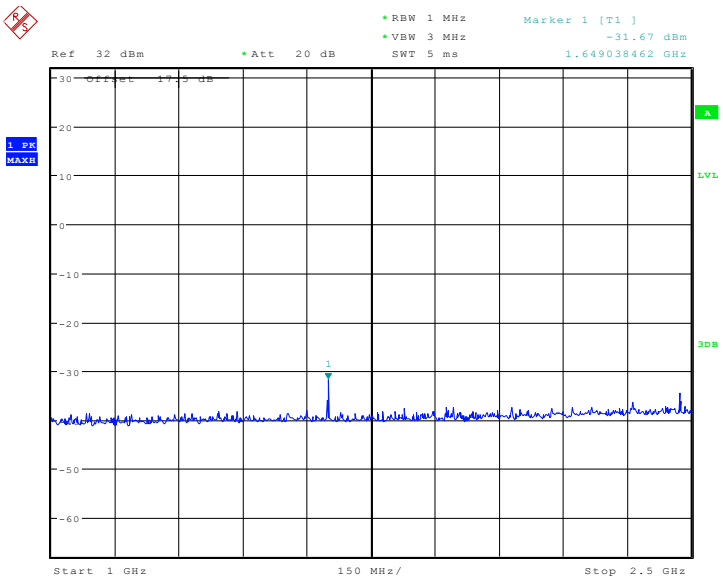
NOTE: peak above the limit line is the carrier frequency.



Date: 25.JUN.2015 11:35:08

Channel 128: 1GHz – 2.5GHz

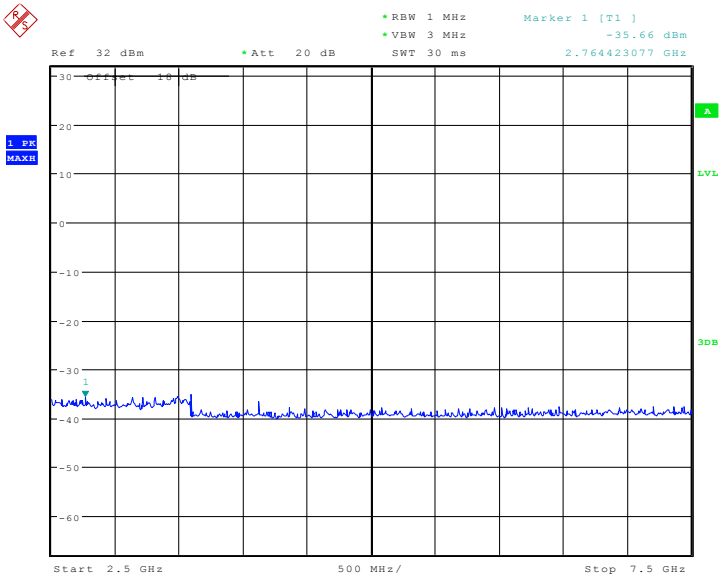
Spurious emission limit –13dBm.



Date: 25.JUN.2015 11:39:38

Channel 128: 2.5GHz – 7.5GHz

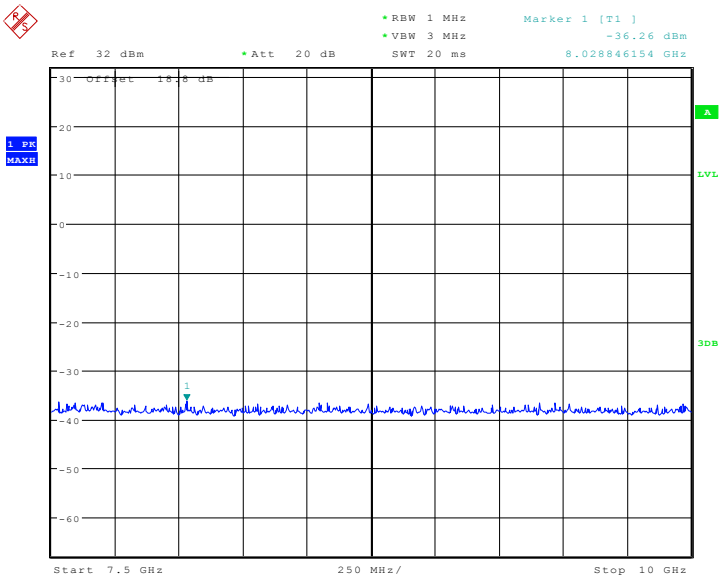
Spurious emission limit –13dBm.



Date: 25.JUN.2015 11:40:40

Channel 128: 7.5GHz –10GHz

Spurious emission limit –13dBm.

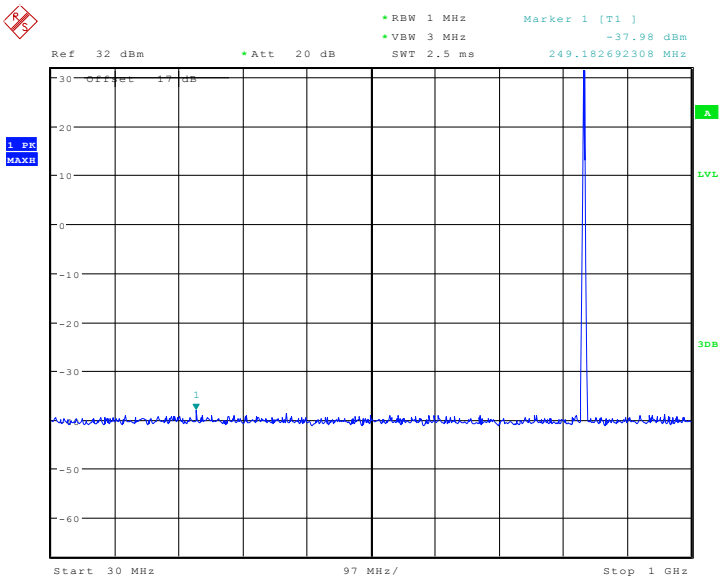


Date: 25.JUN.2015 11:45:20

Channel 190: 30MHz – 1GHz

Spurious emission limit –13dBm

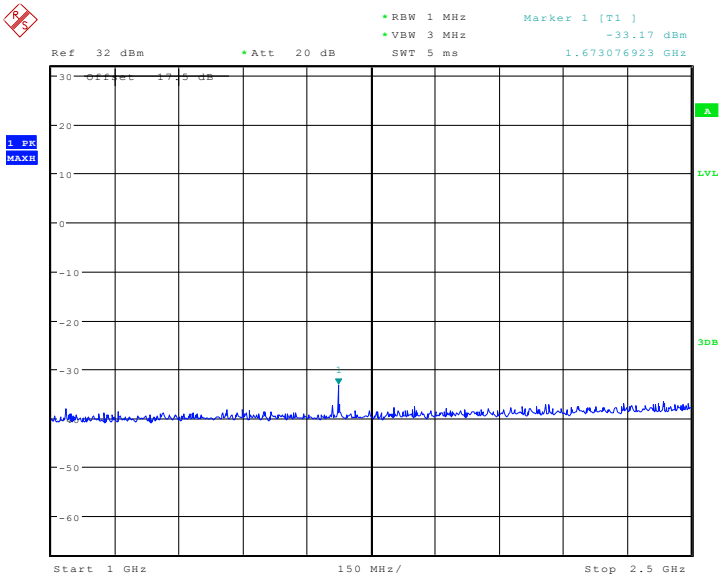
NOTE: peak above the limit line is the carrier frequency.



Date: 25.JUN.2015 11:36:17

Channel 190: 1GHz –2.5GHz

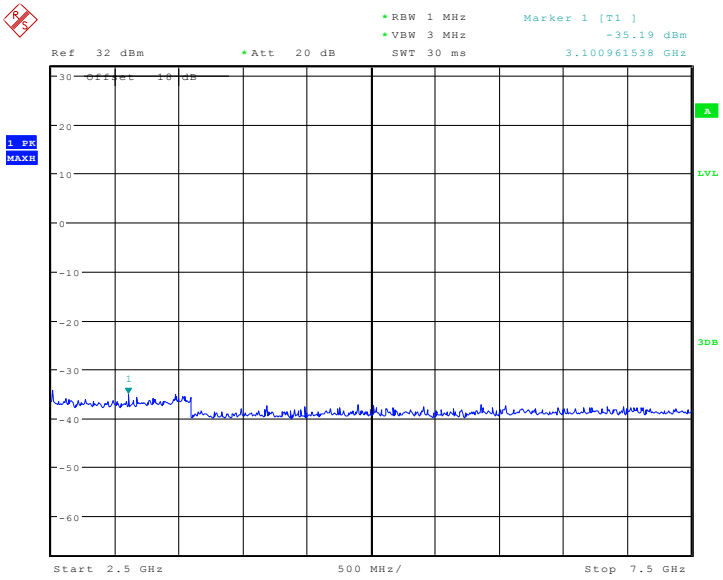
Spurious emission limit –13dBm



Date: 25.JUN.2015 11:39:11

Channel 190: 2.5GHz –7.5GHz

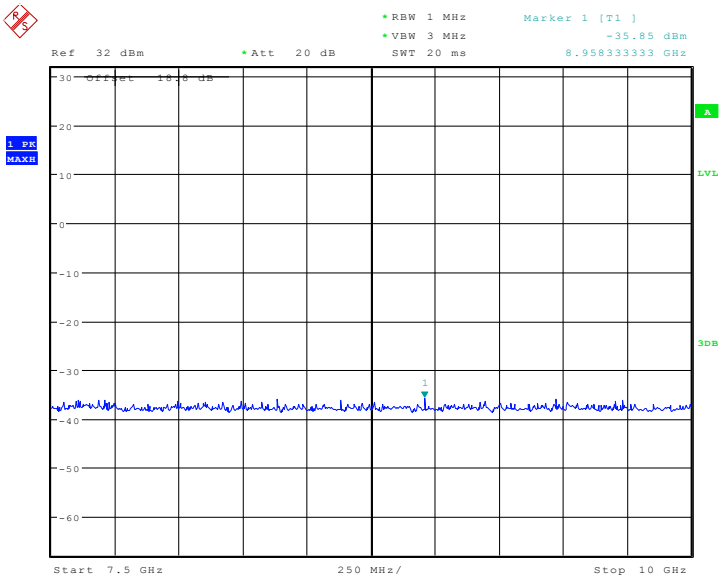
Spurious emission limit –13dBm



Date: 25.JUN.2015 11:41:38

Channel 190: 7.5GHz –10GHz

Spurious emission limit –13dBm

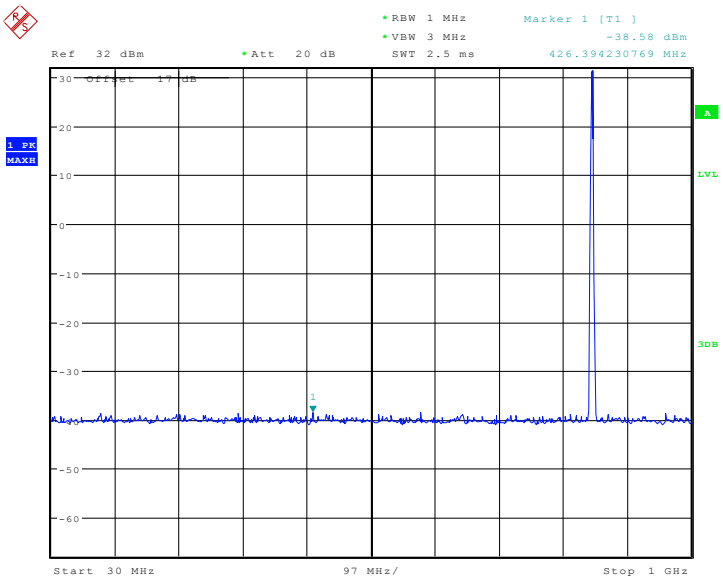


Date: 25.JUN.2015 11:44:50

Channel 251: 30MHz – 1GHz

Spurious emission limit –13dBm.

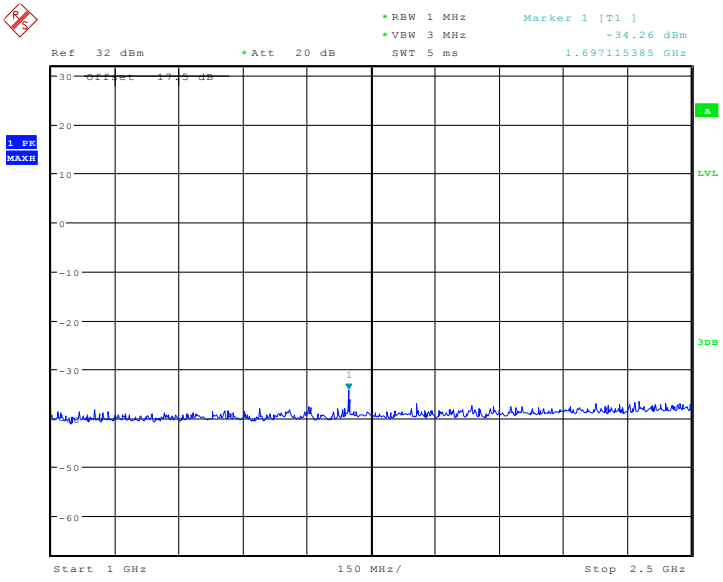
NOTE: peak above the limit line is the carrier frequency.



Date: 25.JUN.2015 11:37:22

Channel 251: 1GHz – 2.5GHz

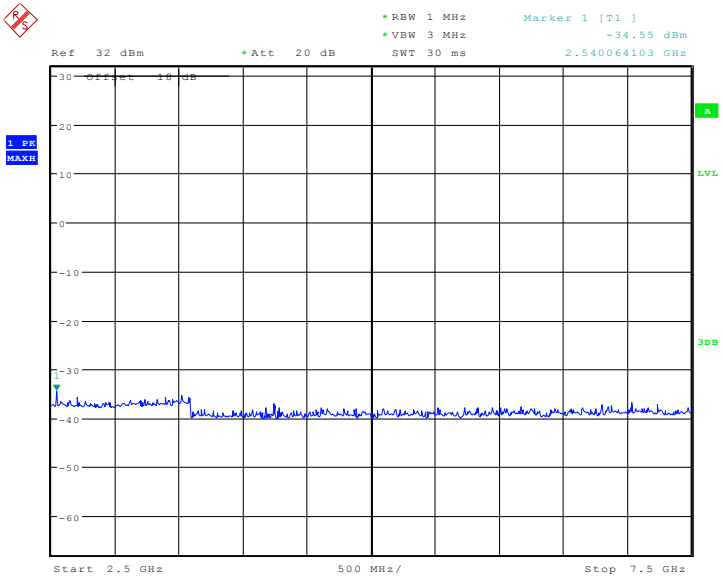
Spurious emission limit –13dBm.



Date: 25.JUN.2015 11:38:30

Channel 251:2.5GHz – 7.5GHz

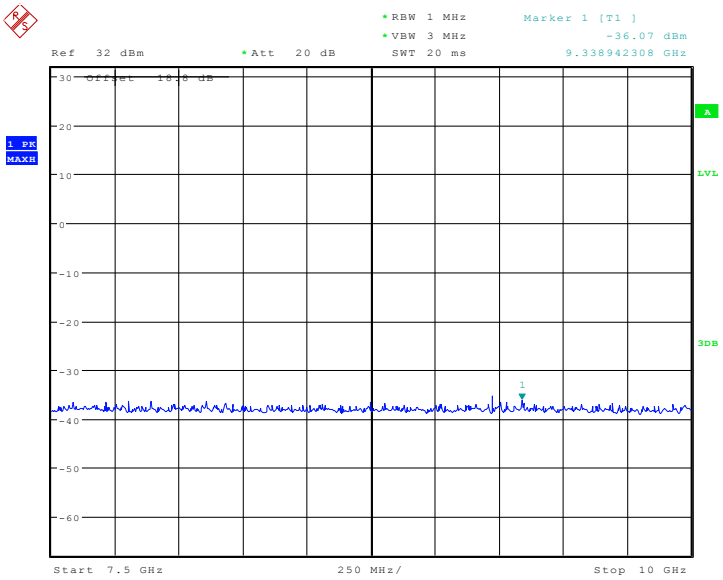
Spurious emission limit –13dBm.



Date: 25.JUN.2015 11:42:22

Channel 251: 7.5GHz – 10GHz

Spurious emission limit –13dBm.

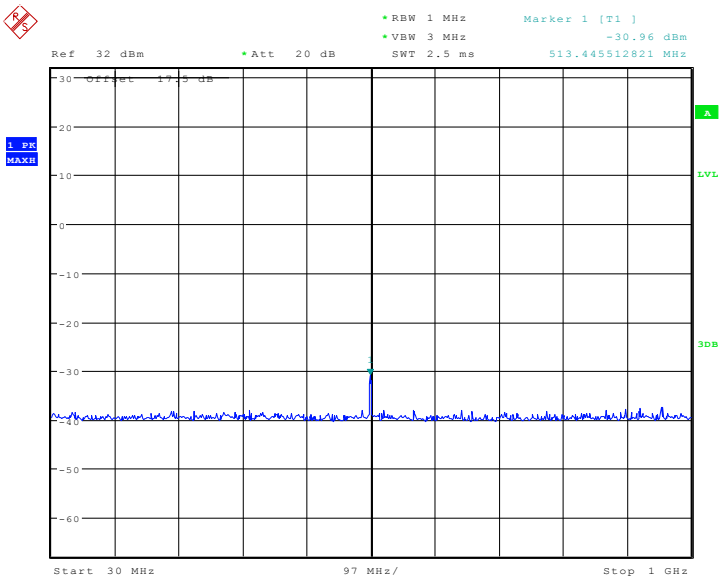


Date: 25.JUN.2015 11:43:35

PCS1900

Channel 512: 30MHz – 1GHz

Spurious emission limit –13dBm.

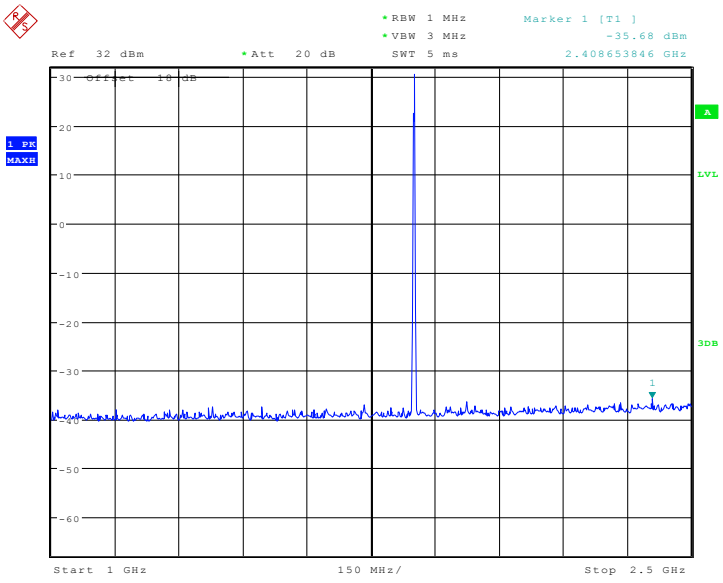


Date: 26.JUN.2015 05:35:46

Channel 512: 1GHz – 2.5GHz

Spurious emission limit –13dBm.

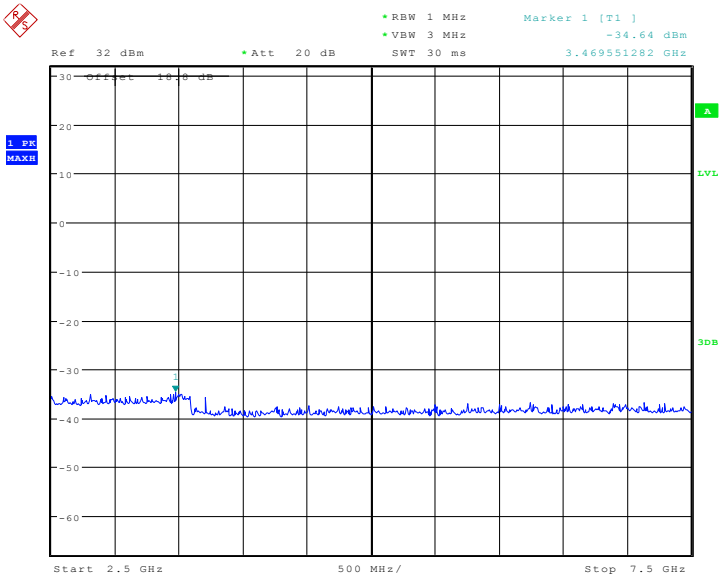
NOTE: peak above the limit line is the carrier frequency.



Date: 26.JUN.2015 05:43:43

Channel 512: 2.5GHz – 7.5GHz

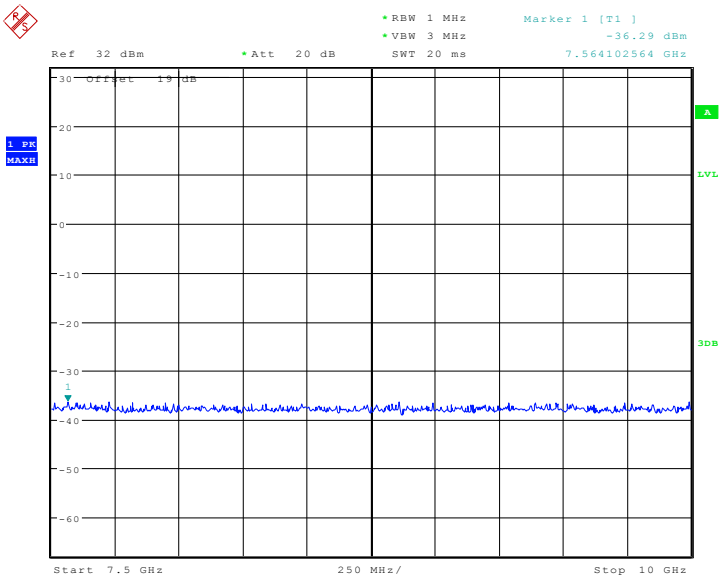
Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:47:04

Channel 512: 7.5GHz –10GHz

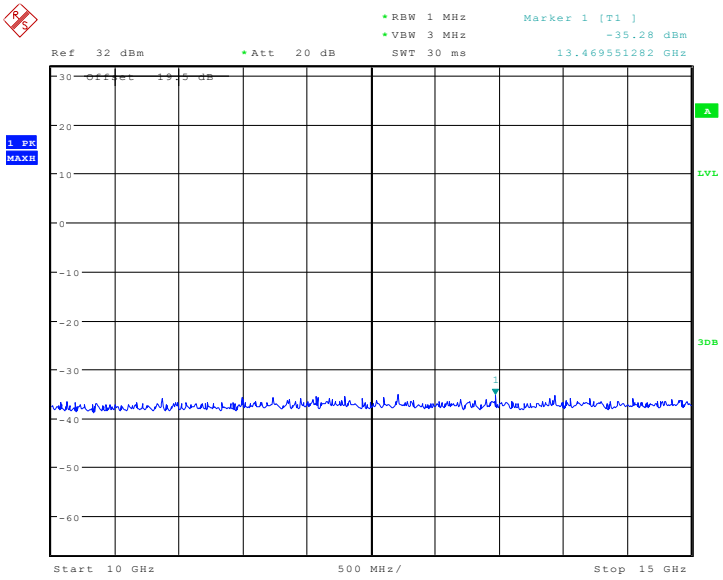
Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:48:14

Channel 512: 10GHz –15GHz

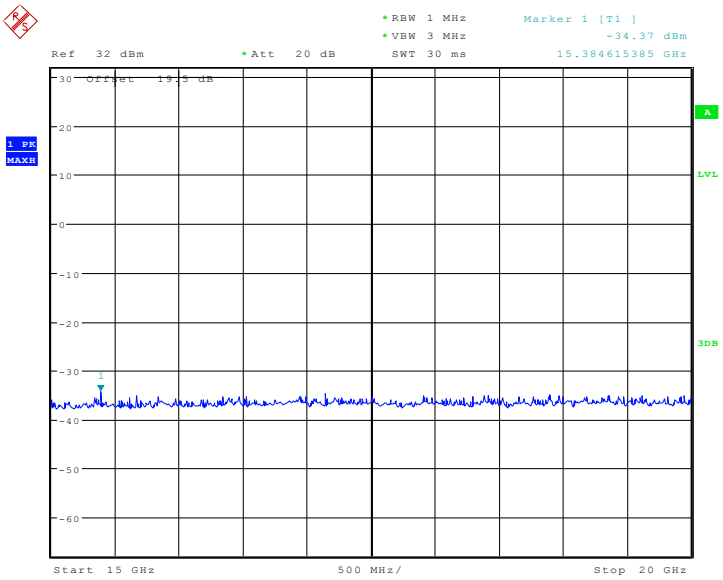
Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:51:30

Channel 512: 15GHz –20GHz

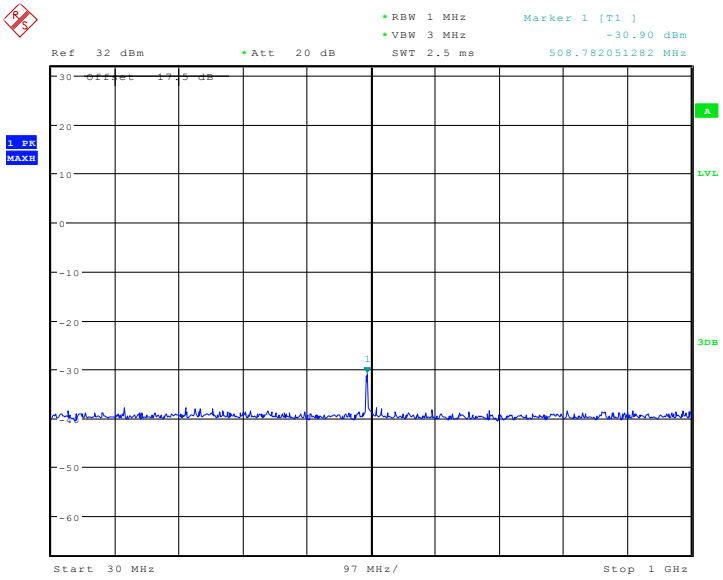
Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:52:18

Channel 661: 30MHz – 1GHz

Spurious emission limit –13dBm

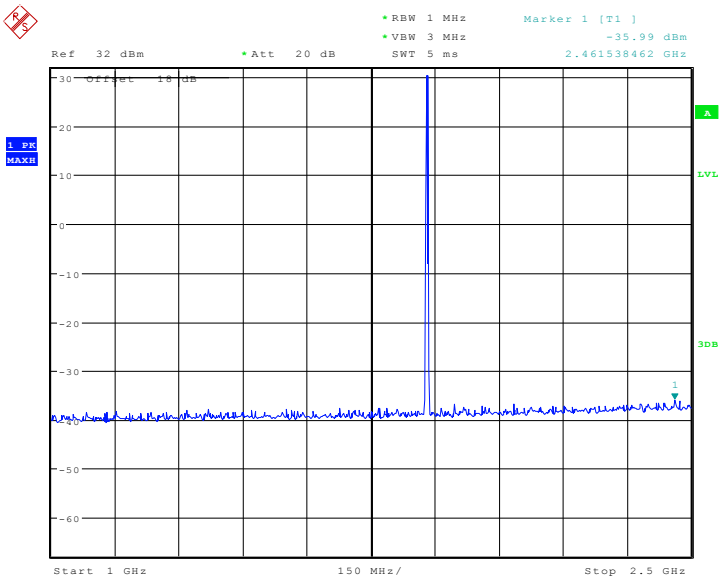


Date: 26.JUN.2015 10:15:22

Channel 661: 1GHz –2.5GHz

Spurious emission limit –13dBm

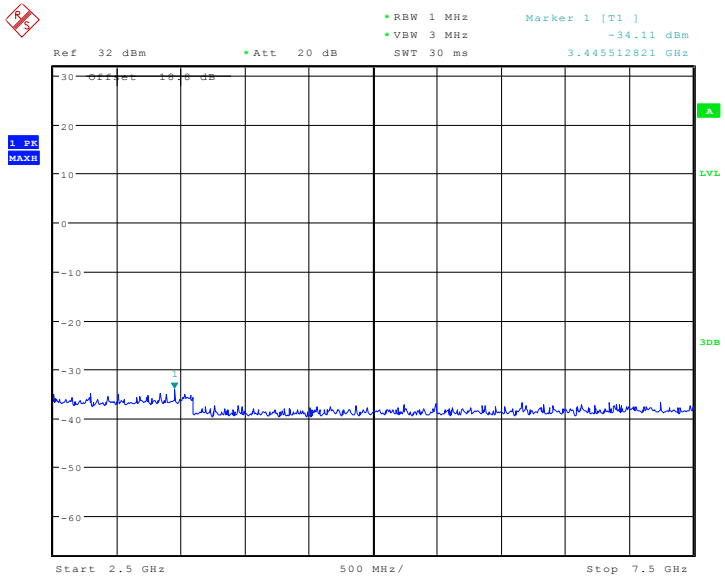
NOTE: peak above the limit line is the carrier frequency.



Date: 26.JUN.2015 05:44:29

Channel 661: 2.5GHz –7.5GHz

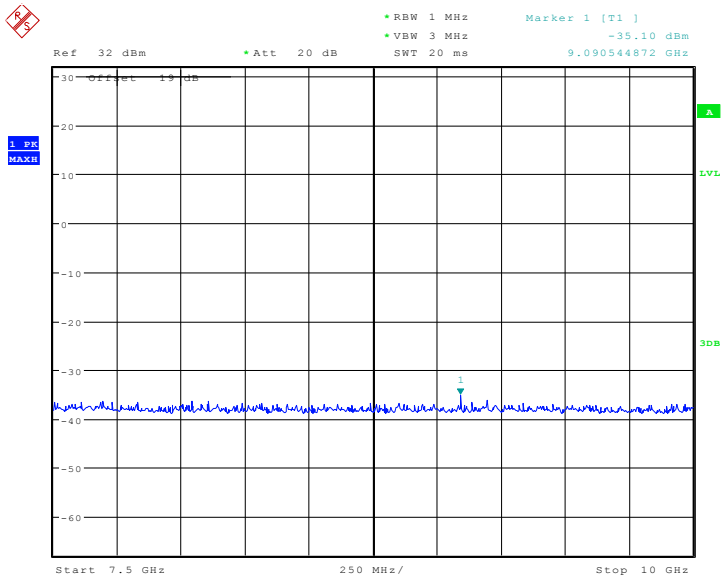
Spurious emission limit –13dBm



Date: 26.JUN.2015 05:46:31

Channel 661: 7.5GHz –10GHz

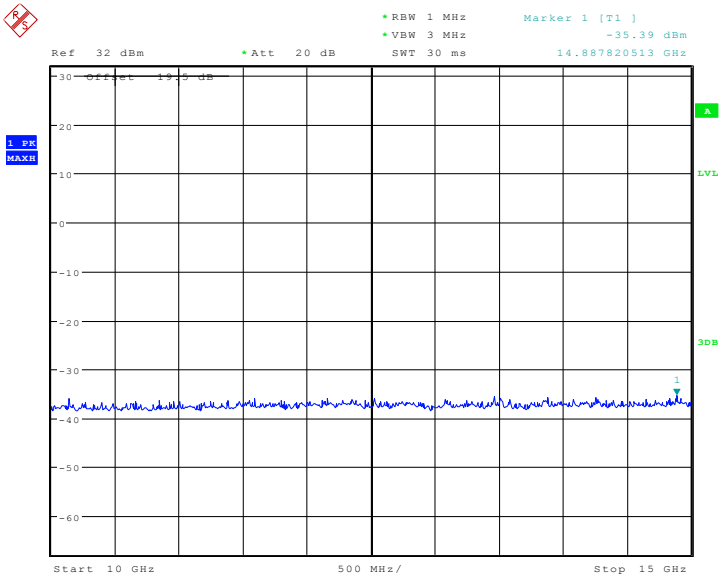
Spurious emission limit –13dBm



Date: 26.JUN.2015 05:48:46

Channel 661: 10GHz –15GHz

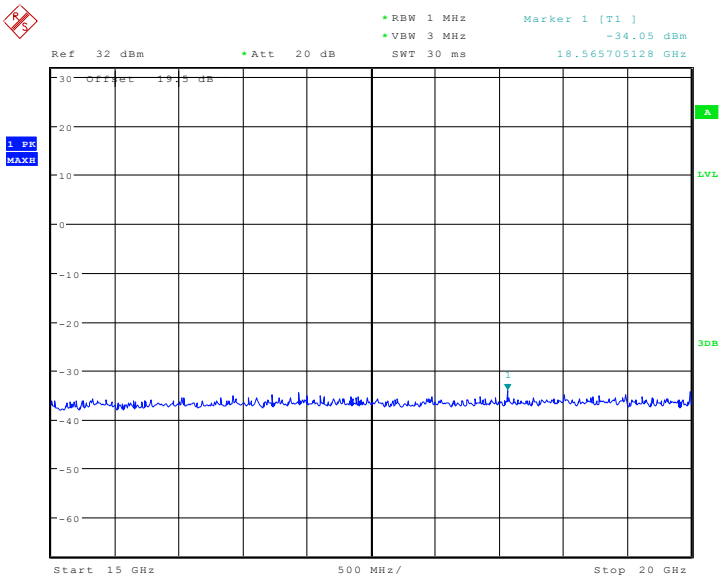
Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:51:06

Channel 661: 15GHz –20GHz

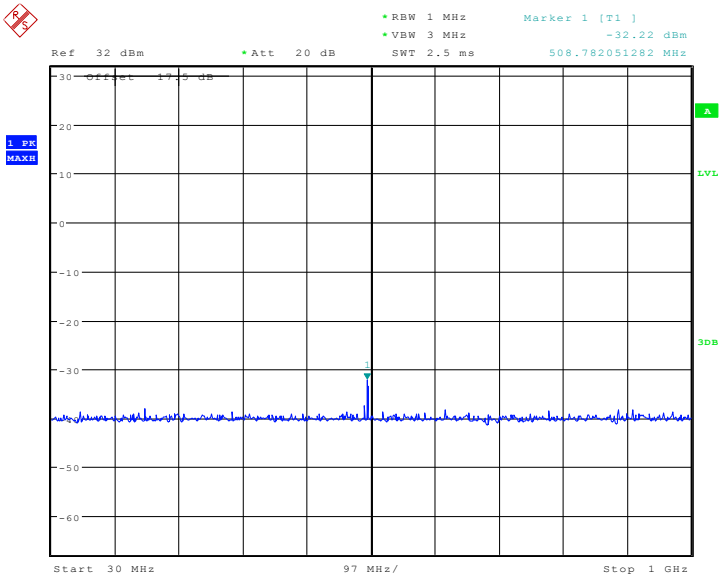
Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:52:43

Channel 810: 30MHz – 1GHz

Spurious emission limit –13dBm.

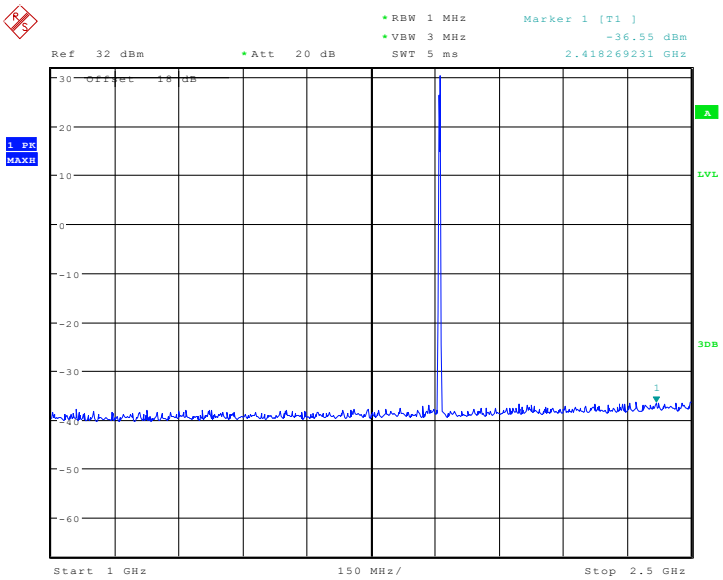


Date: 26.JUN.2015 10:19:10

Channel 810: 1GHz – 2.5GHz

Spurious emission limit –13dBm.

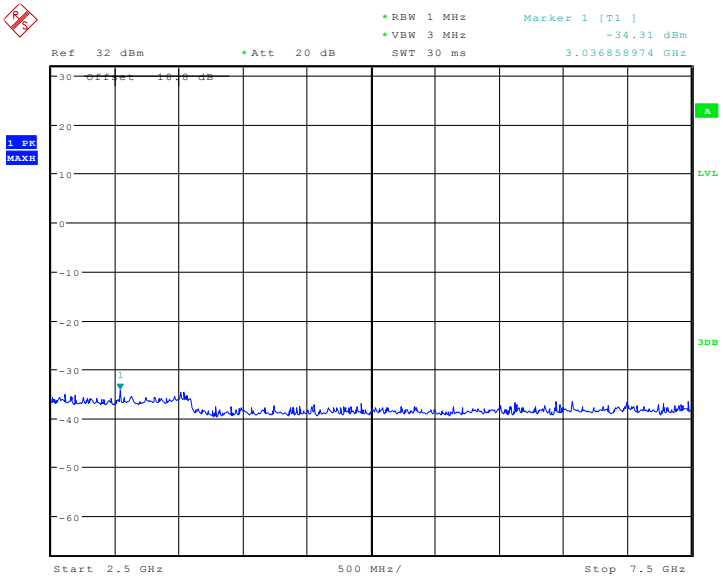
NOTE: peak above the limit line is the carrier frequency.



Date: 26.JUN.2015 05:45:14

Channel 810:2.5GHz – 7.5GHz

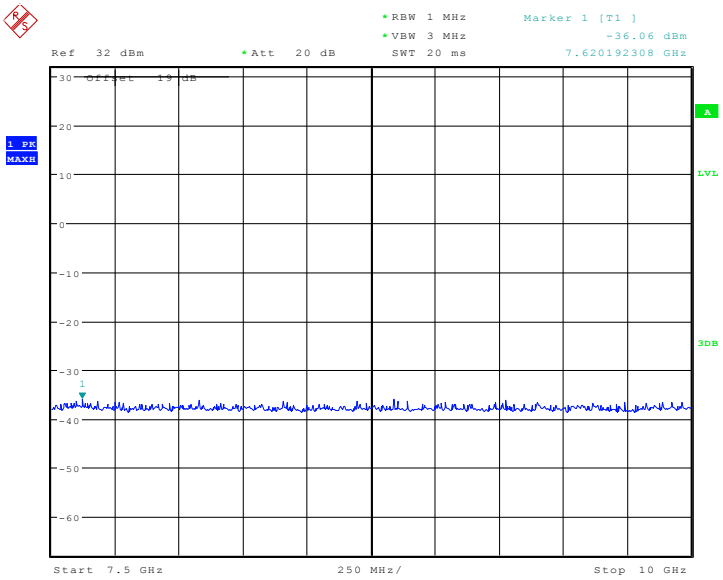
Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:46:06

Channel 810: 7.5GHz – 10GHz

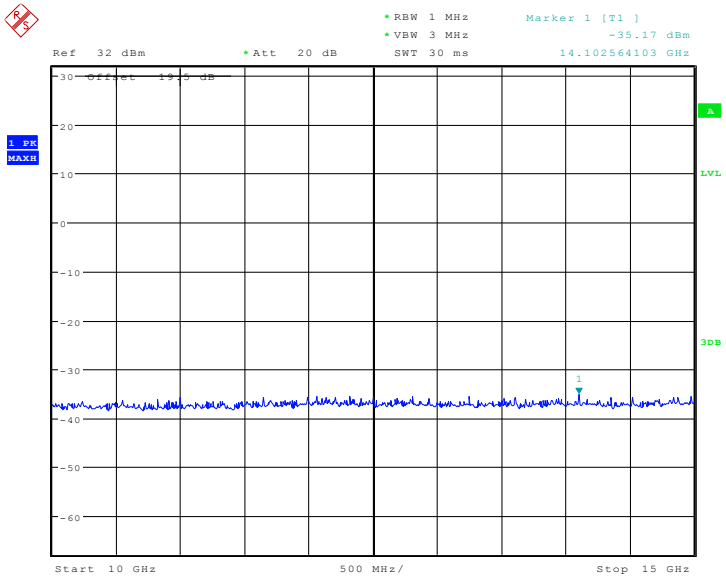
Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:49:40

Channel 810: 10GHz –15GHz

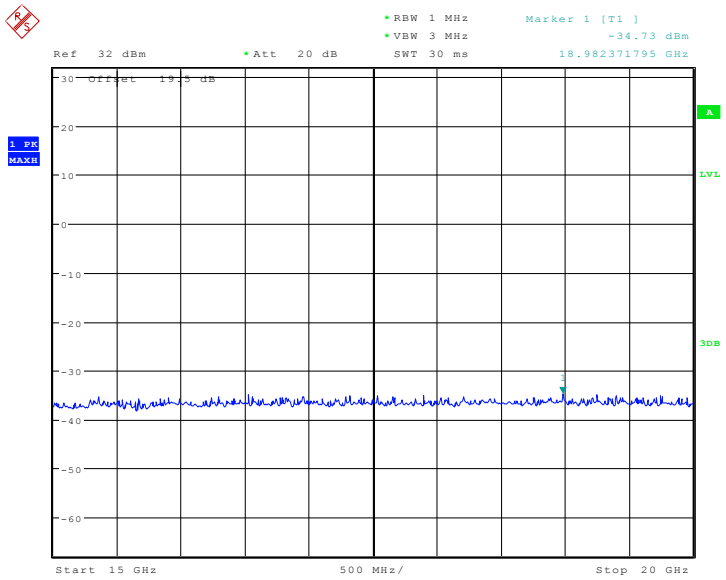
Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:50:36

Channel 810: 15GHz –20GHz

Spurious emission limit –13dBm.



Date: 26.JUN.2015 05:53:07

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