



2.6 BAND EDGE/CONDUCTED SPURIOUS EMISSIONS

2.6.1 Specification Reference

Part 22 Subpart H §22.917(a) and Part 24 Subpart E §24.238(a)

2.6.2 Standard Applicable

Out of band emissions. 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.

2.6.3 Equipment Under Test and Modification State

Serial No: SS220414800535 / Test Configuration A

2.6.4 Date of Test/Initial of test personnel who performed the test

June 04-July 09, 2014 / AC

2.6.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.6.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	23.5-24.9°C
Relative Humidity	49.9-51.7%
ATM Pressure	98.7-100.1 kPa

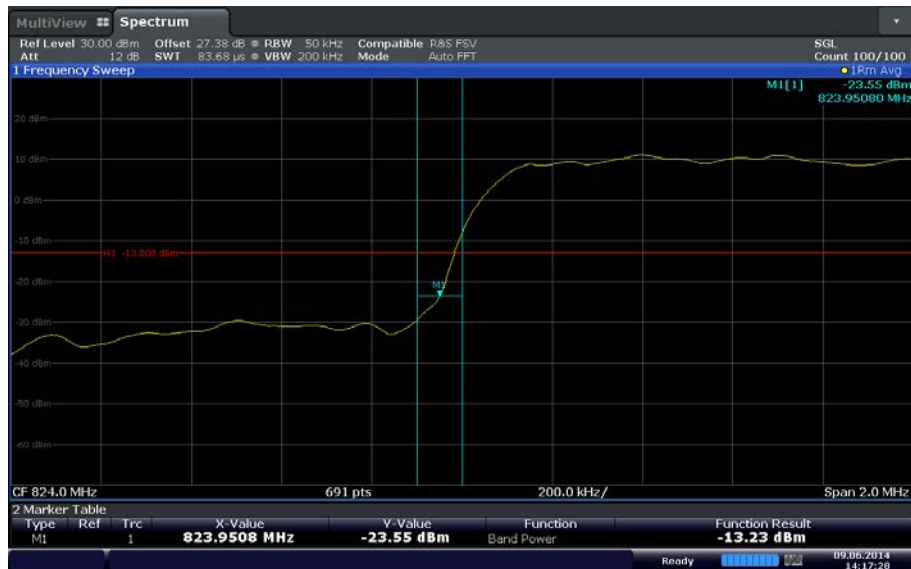
2.6.7 Additional Observations

- This is a conducted test.
- The 27.38dB Cell Band (CDMA/EV-DO/GSM850) and WCDMA Band 5; 27.93dB PCS Band (CDMA/EV-DO/GSM1900) and WCDMA Band 2; 27.75dB (LTE Band 2) offset on the power meter was used for the power splitter, external attenuator and cable used.
- For band edge measurements, set RBW to 1% of the span.
- For both band edge and out of band emissions, set the limit to -13dBm.
- All RB size available verified and the worst case size for band edge verification presented in this test report.
- Only worst case configuration for all technologies presented in this test report.
- For PCS band edge measurements, set RBW to 1% of the span or greater.
- Band power was integrated over 1% of EBW for cellular band edge measurements.

2.6.8 Test Results

See attached plots.

CDMA 2000 – 1xRTT/Low Channel (1013)/Cell BC0 Band Edge @ 824 MHz



Date: 9 JUN 2014 14:17:28

CDMA 2000 – 1xRTT/High Channel (777)/Cell BC0 Band Edge @ 849 MHz



Date: 9 JUN 2014 14:18:41

CDMA 2000 – 1xRTT/Low Channel (25)/PCS BC1 Band Edge @ 1850 MHz



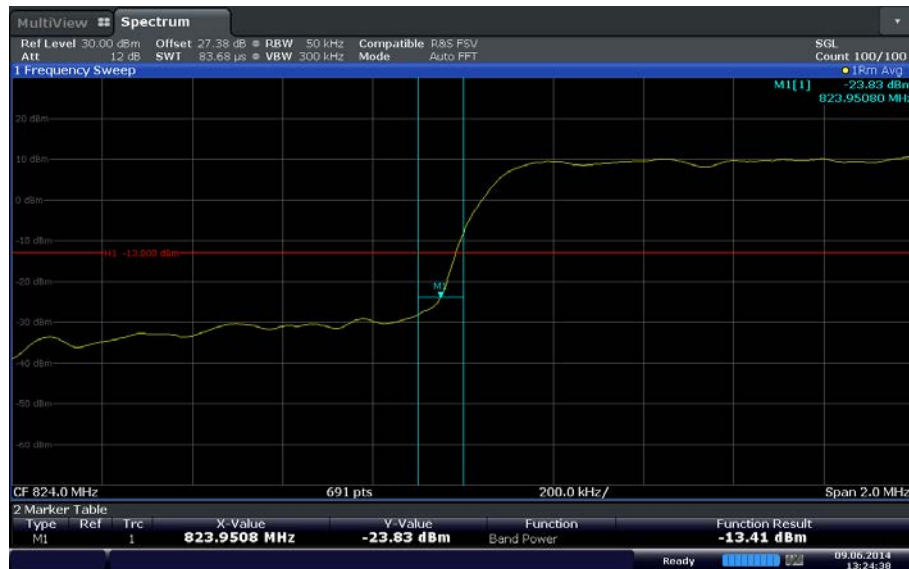
Date: 9 JUN 2014 14:58:01

CDMA 2000 – 1xRTT/High Channel (1175)/PCS BC1 Band Edge @ 1910 MHz



Date: 9 JUN 2014 14:48:14

CDMA 2000 – 1xEV-DO Release 0/Low Channel (1013)/Cell BC0 Band Edge @ 824 MHz



Date: 9 JUN 2014 13:24:38

CDMA 2000 – 1xEV-DO Release 0/High Channel (777)/Cell BC0 Band Edge @ 849 MHz



Date: 9 JUN 2014 13:35:35

CDMA 2000 – 1xEV-DO Release 0/Low Channel (25)/PCS BC1 Band Edge @ 1850 MHz



Date: 9 JUN 2014 14:53:50

CDMA 2000 – 1xEV-DO Release 0/High Channel (1175)/PCS BC1 Band Edge @ 1910 MHz



Date: 9 JUN 2014 14:57:24

CDMA 2000 – 1xEV-DO Release A/Low Channel (1013)/Cell BC0 Band Edge @ 824 MHz



Date: 9 JUN 2014 14:07:33

CDMA 2000 – 1xEV-DO Release A/High Channel (777)/Cell BC0 Band Edge @ 849 MHz



Date: 9 JUN 2014 14:04:59

CDMA 2000 – 1xEV-DO Release A/Low Channel (25)/PCS BC1 Band Edge @ 1850 MHz



Date: 9 JUL 2014 11:41:18

CDMA 2000 – 1xEV-DO Release A/High Channel (1175)/PCS BC1 Band Edge @ 1910 MHz



Date: 9 JUN 2014 15:19:01

GSM850/GPRS/Low Channel (128)/Cell BC0 Band Edge @ 824 MHz



Date: 9 JUL 2014 10:49:21

GSM850/GPRS/High Channel (251)/Cell BC0 Band Edge @ 849 MHz



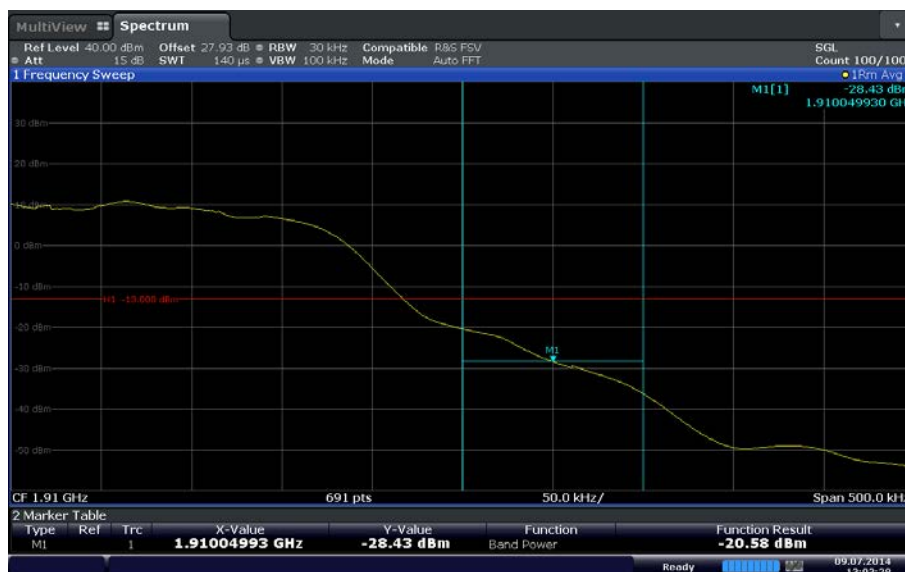
Date: 9 JUL 2014 10:50:05

GSM1900/GPRS/Low Channel (512)/PCS BC1 Band Edge @ 1850 MHz



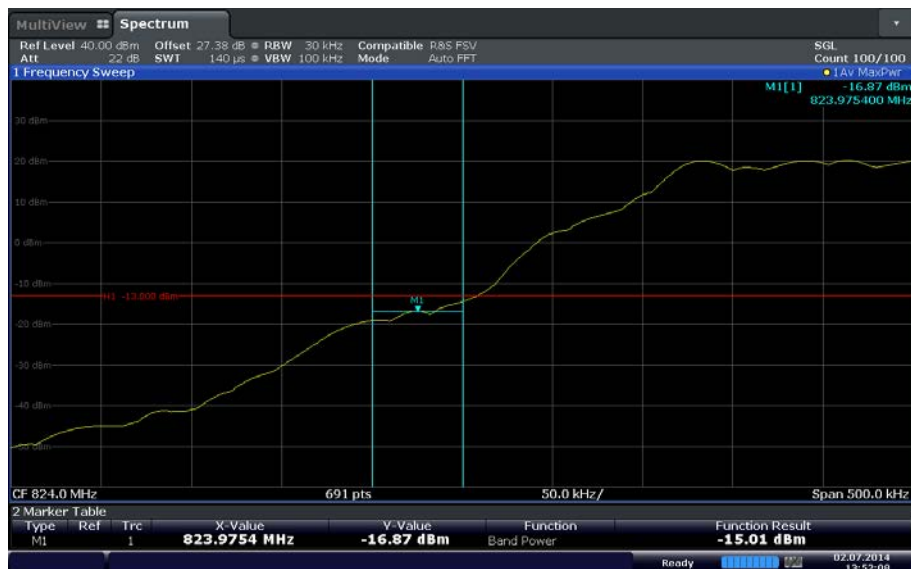
Date: 9 JUL 2014 10:45:57

GSM1900/GPRS/High Channel (810)/PCS BC1 Band Edge @ 1910 MHz



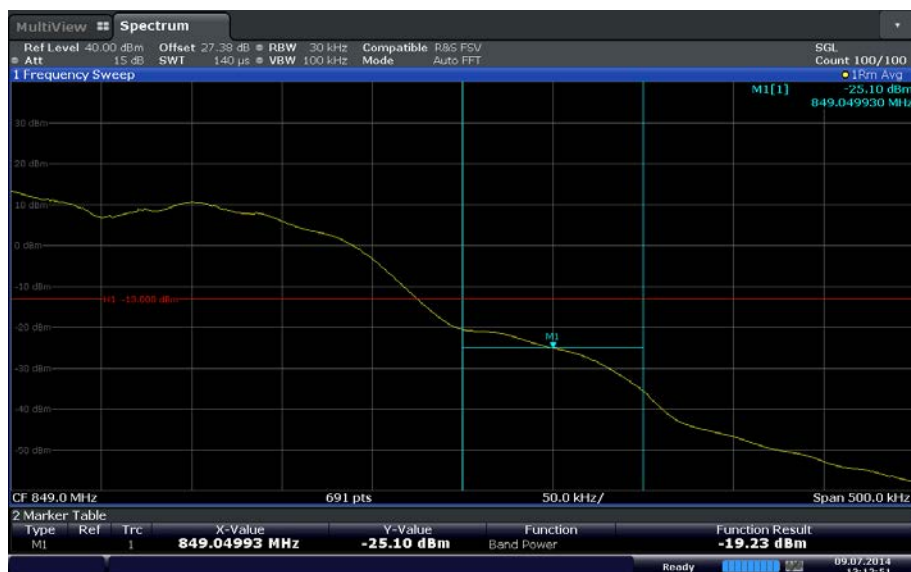
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GSM850/EGPRS/Low Channel (128)/Cell BC0 Band Edge @ 824 MHz



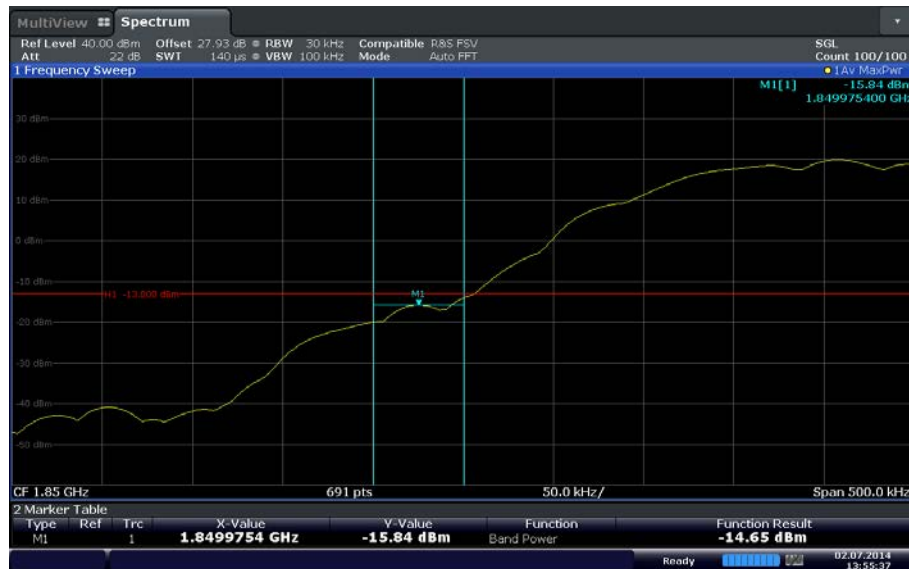
Date: 2 JUL 2014 13:52:08

GSM850/EGPRS/High Channel (251)/Cell BC0 Band Edge @ 849 MHz



Date: 9 JUL 2014 13:12:51

GSM1900/EGPRS/Low Channel (512)/PCS BC1 Band Edge @ 1850 MHz



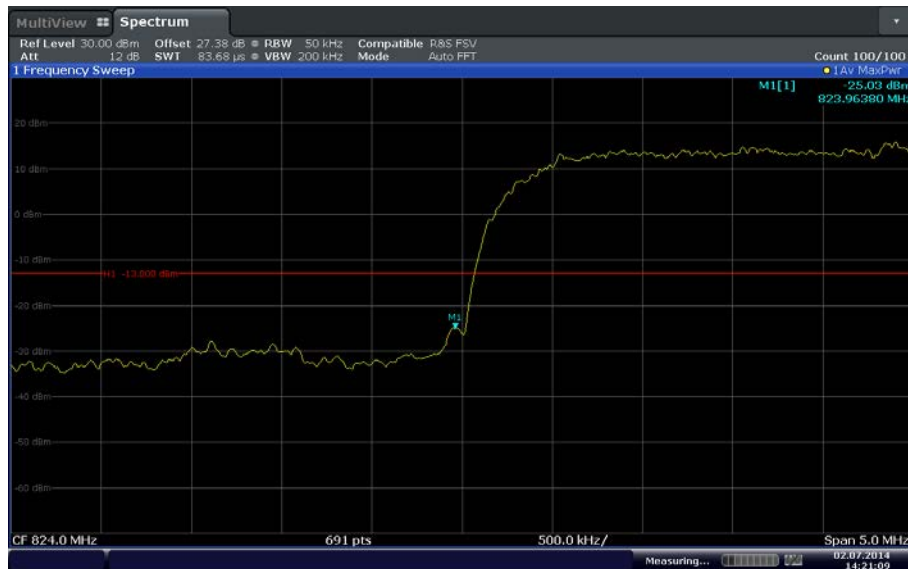
Date: 2.JUL.2014 13:55:36

GSM1900/EGPRS/High Channel (810)/PCS BC1 Band Edge @ 1910 MHz



Date: 2.JUL.2014 13:56:49

WCDMA/Low Channel (4132)/Cell Band 5 Band Edge @ 824 MHz



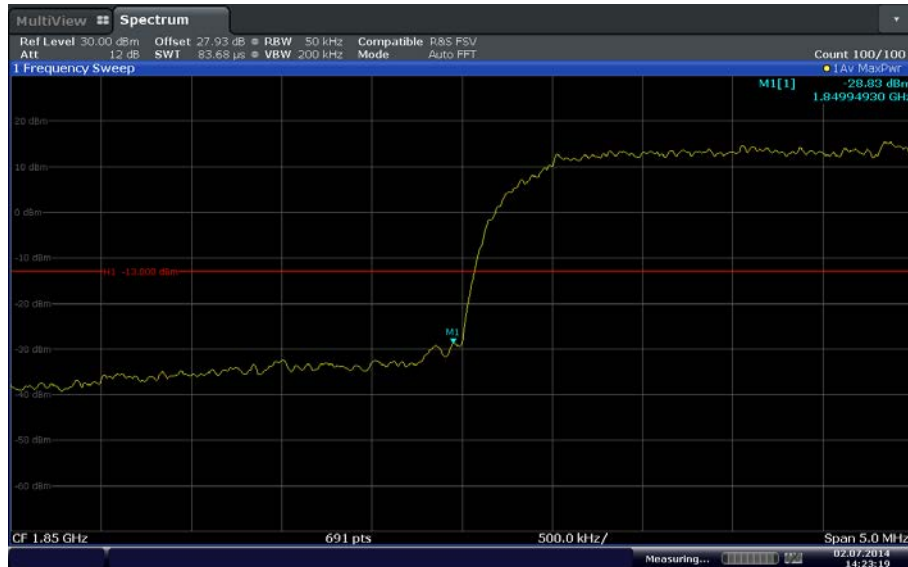
Date: 2.JUL.2014 14:21:09

WCDMA/High Channel (4233)/Cell Band 5 Band Edge @ 849 MHz



Date: 2.JUL.2014 14:22:04

WCDMA/Low Channel (9262)/PCS Band 2 Band Edge @ 1850 MHz



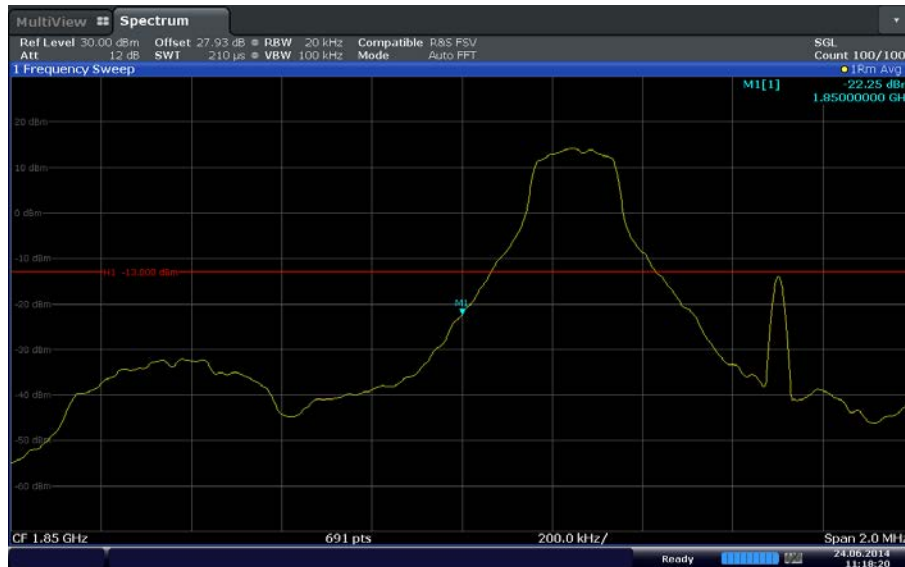
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WCDMA/High Channel (9538)/PCS Band 2 Band Edge @ 1910 MHz



Date: 2.JUL.2014 14:24:16

LTE Band 2 (1.4 MHz BW)/Low Channel (18607) Band Edge @ 1850 MHz



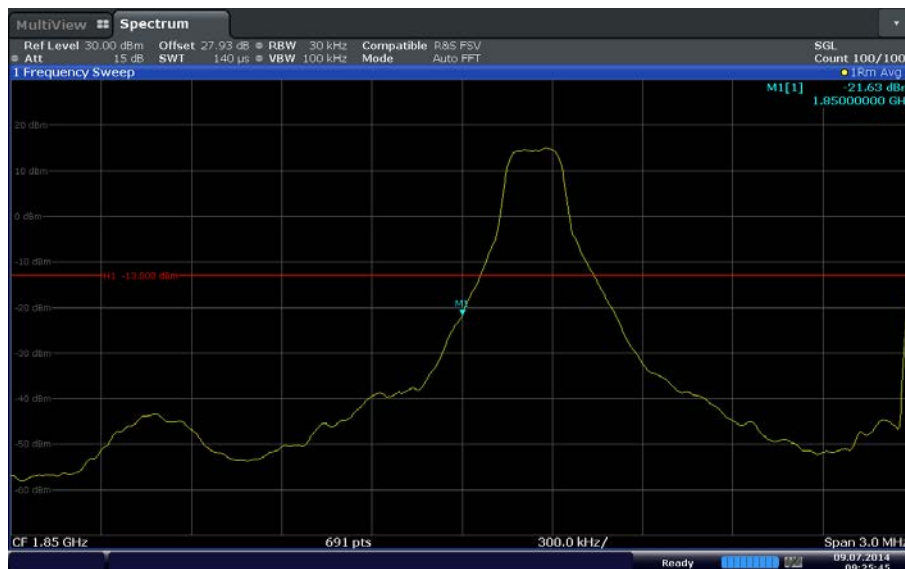
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LTE Band 2 (1.4 MHz BW)/High Channel (19193) Band Edge @ 1910 MHz



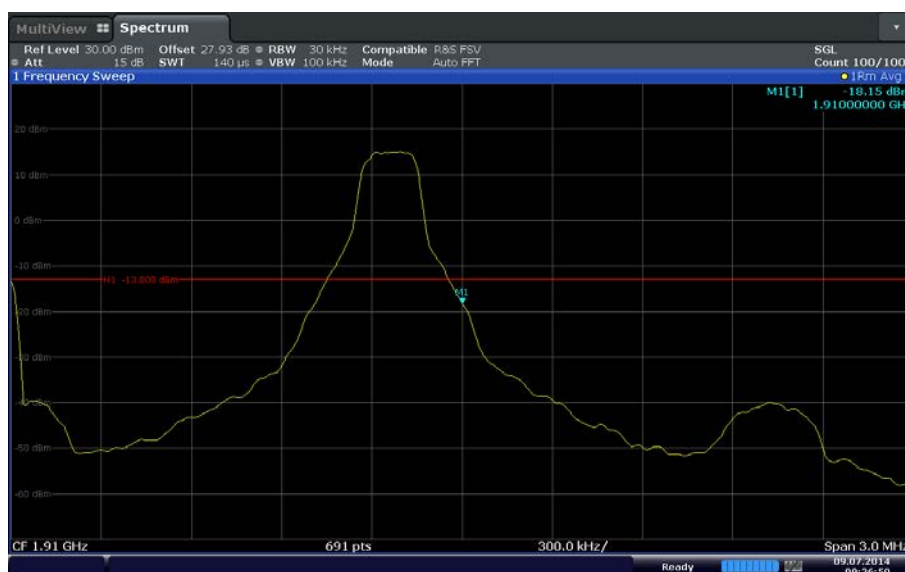
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LTE Band 2 (3 MHz BW)/Low Channel (18615) Band Edge @ 1850 MHz



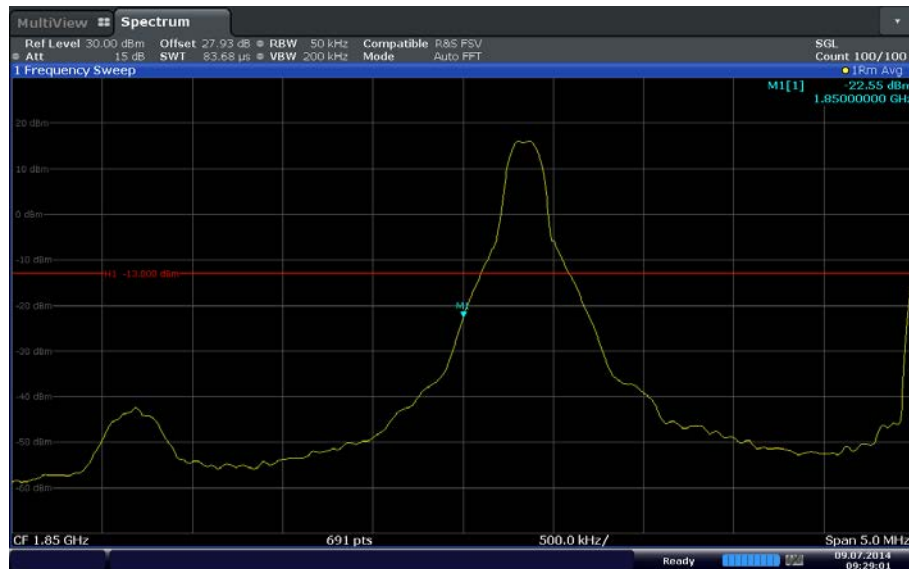
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LTE Band 2 (3 MHz BW)/High Channel (19185) Band Edge @ 1910 MHz



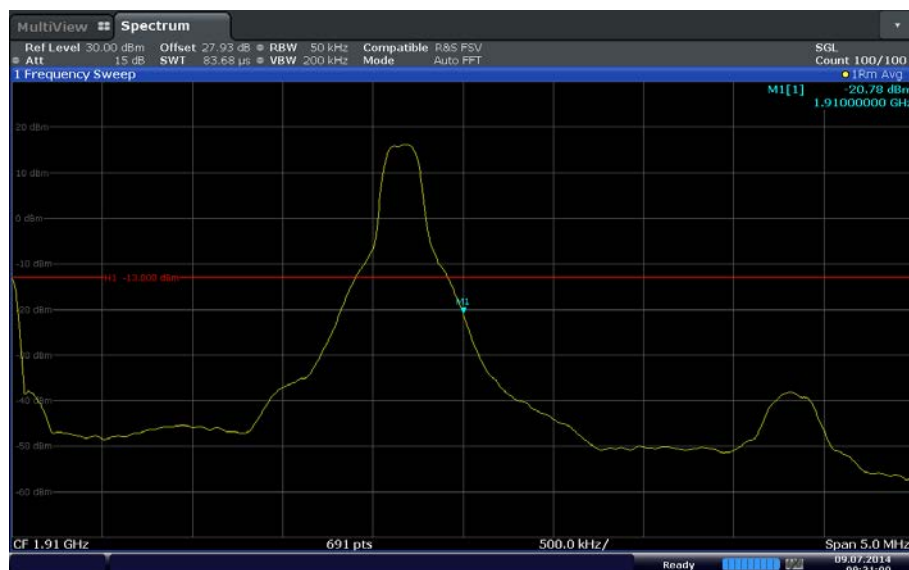
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LTE Band 2 (5 MHz BW)/Low Channel (18625) Band Edge @ 1850 MHz



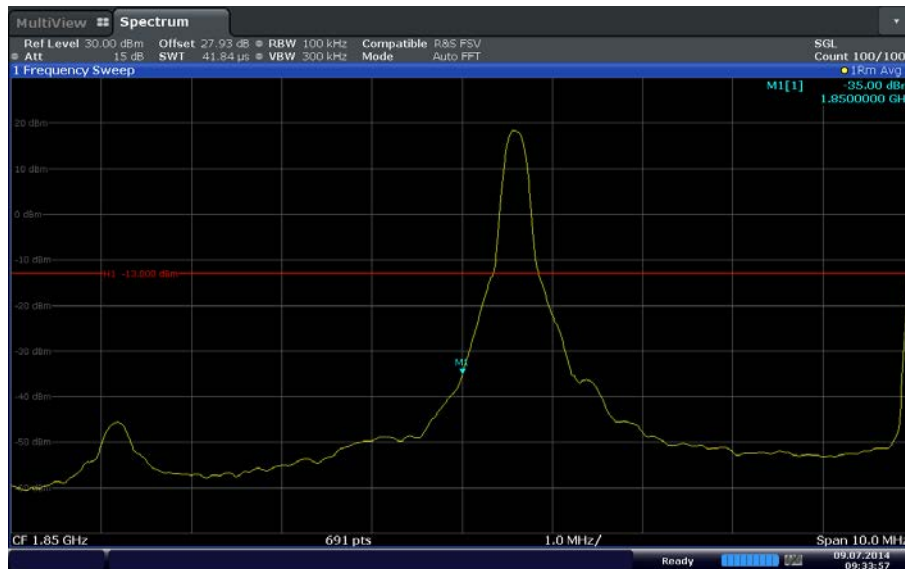
Date: 9 JUL 2014 09:29:01

LTE Band 2 (5 MHz BW)/High Channel (19175) Band Edge @ 1910 MHz



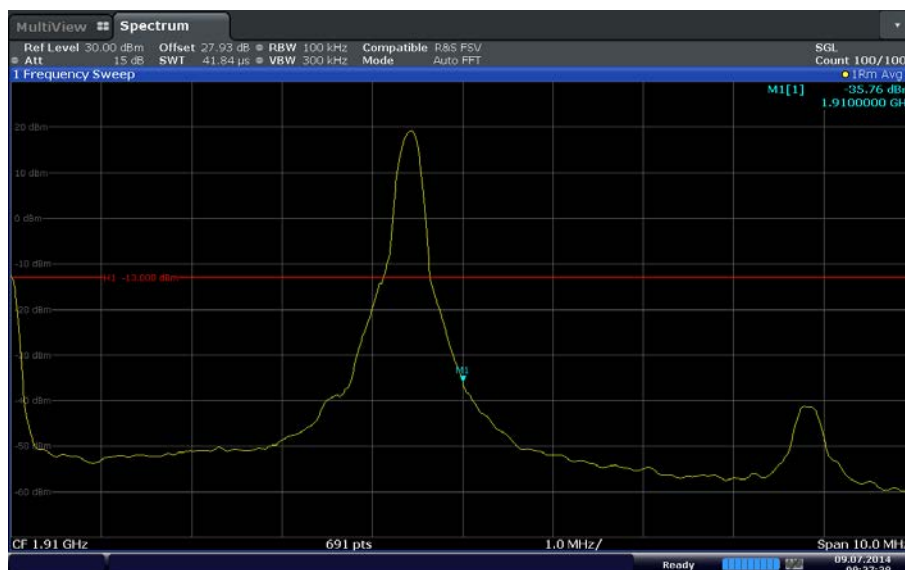
Date: 9 JUL 2014 09:31:00

LTE Band 2 (10 MHz BW)/Low Channel (18650) Band Edge @ 1850 MHz



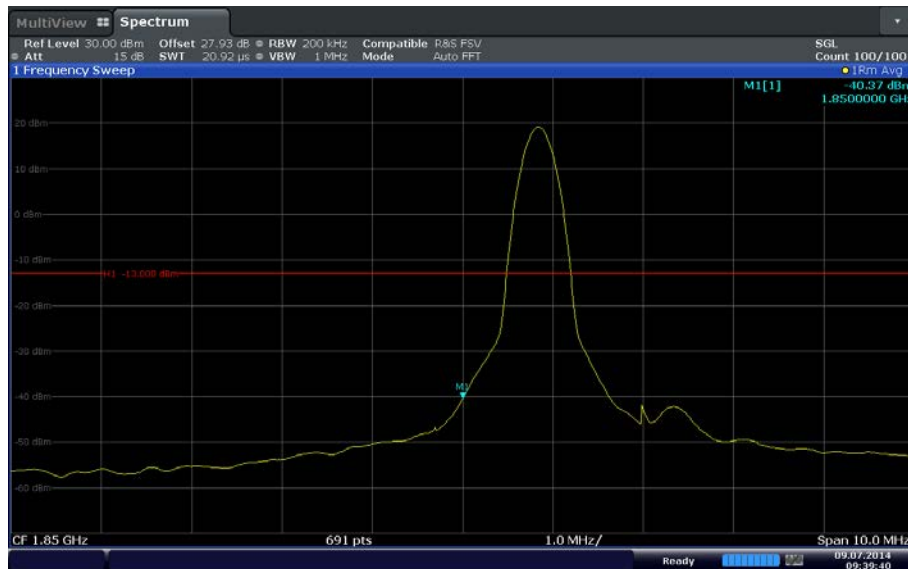
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LTE Band 2 (10 MHz BW)/High Channel (19150) Band Edge @ 1910 MHz



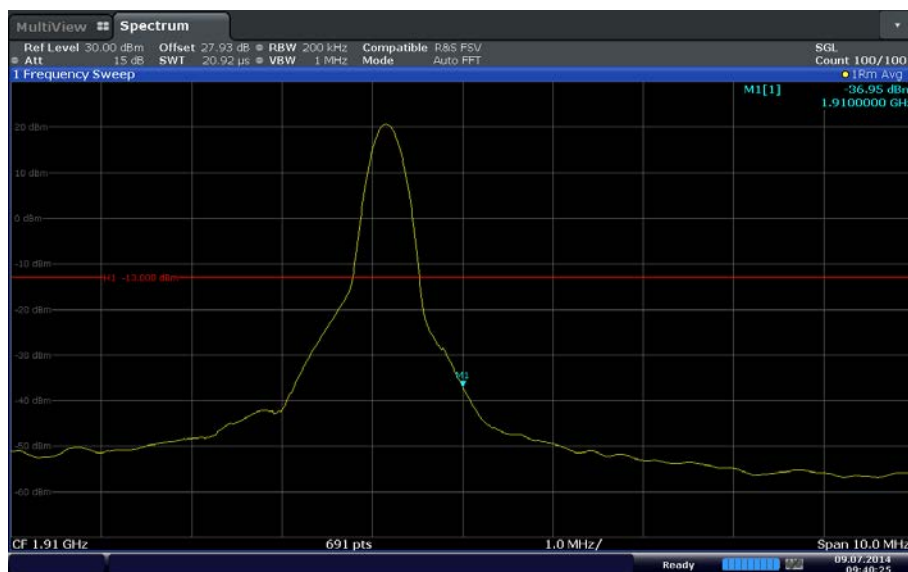
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LTE Band 2 (15 MHz BW)/Low Channel (18675) Band Edge @ 1850 MHz



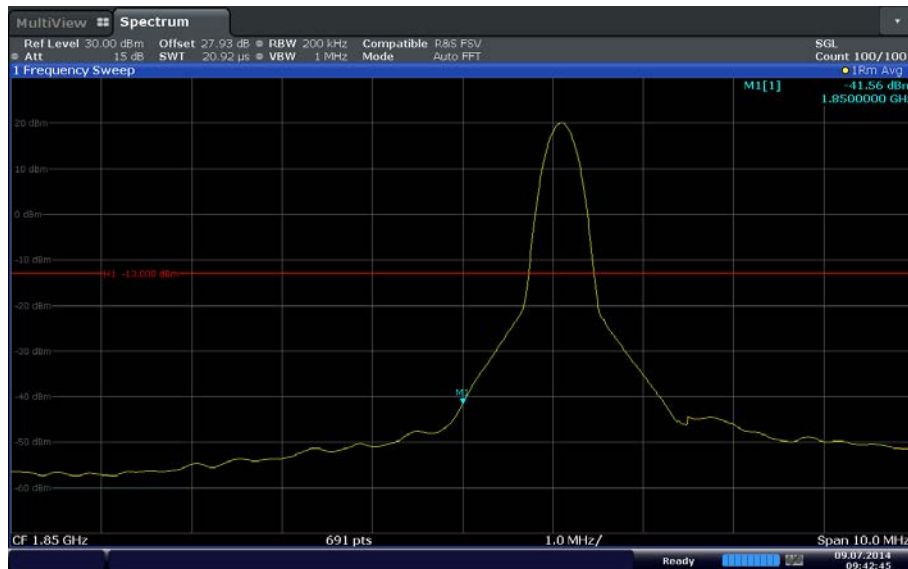
Date: 9 JUL 2014 09:39:40

LTE Band 2 (15 MHz BW)/High Channel (19125) Band Edge @ 1910 MHz



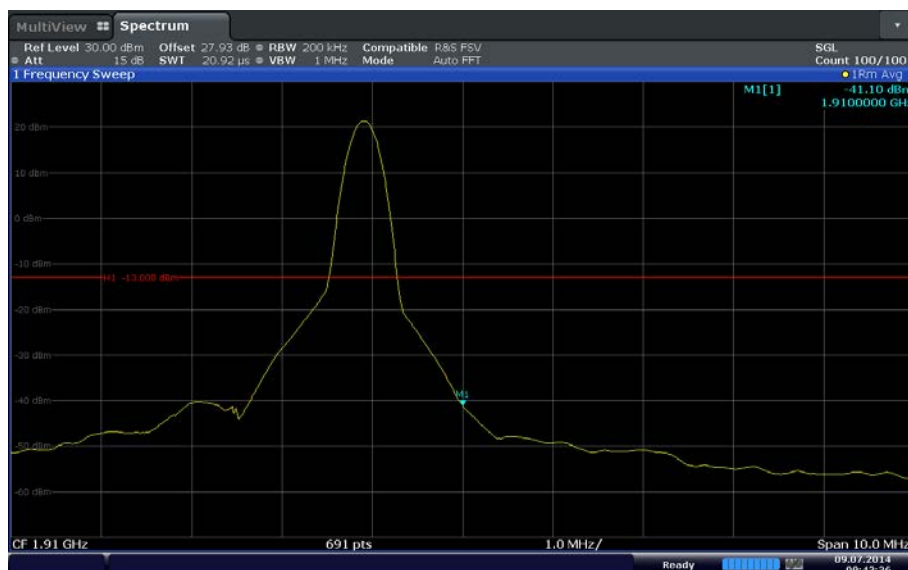
Date: 9 JUL 2014 09:40:25

LTE Band 2 (20 MHz BW)/Low Channel (18700) Band Edge @ 1850 MHz



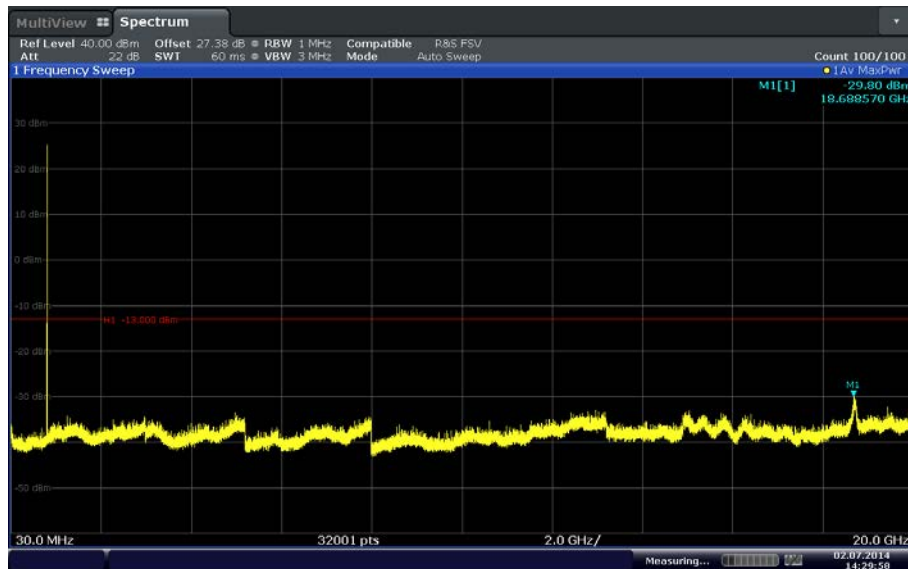
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LTE Band 2 (20 MHz BW)/High Channel (19100) Band Edge @ 1910 MHz



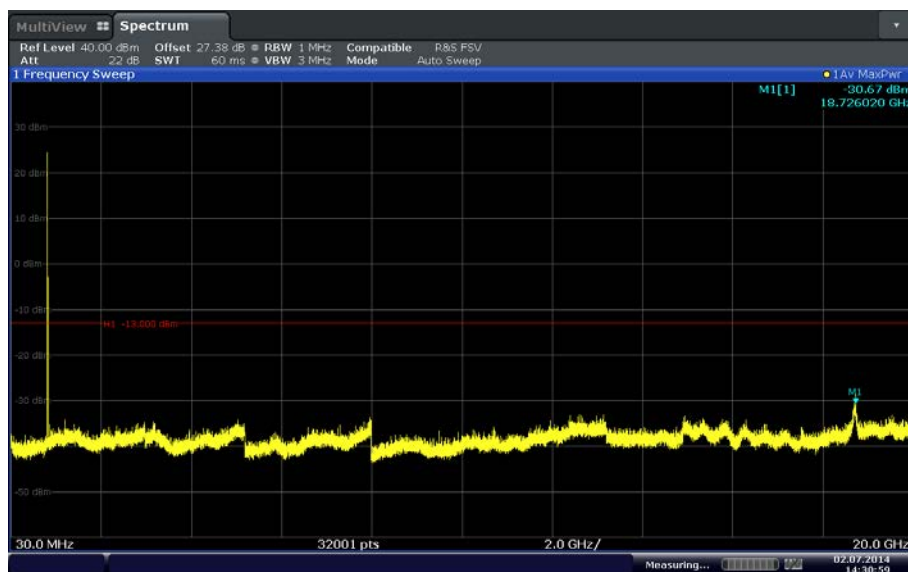
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CDMA 2000 – 1xRTT/Cell BC0/Low Channel (1013)



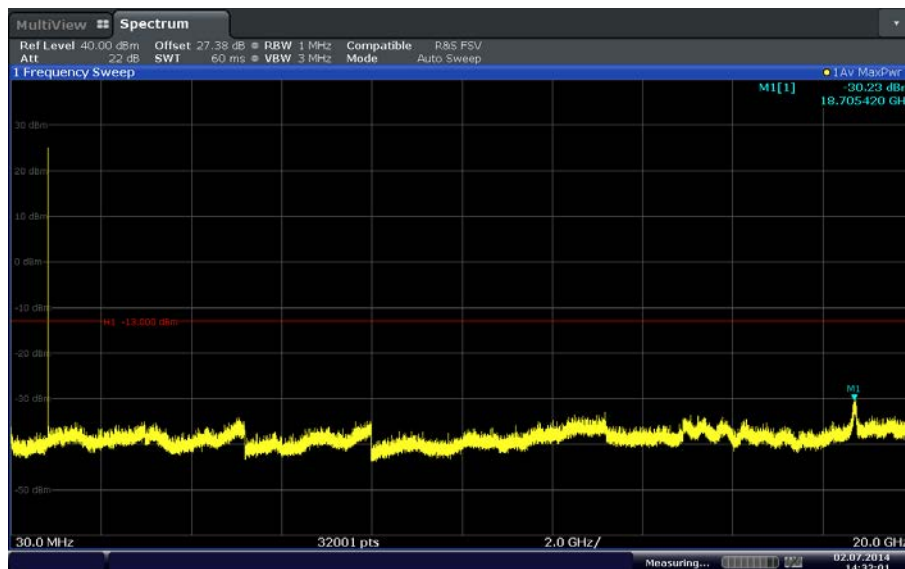
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CDMA 2000 – 1xRTT/Cell BC0/Mid Channel (384)



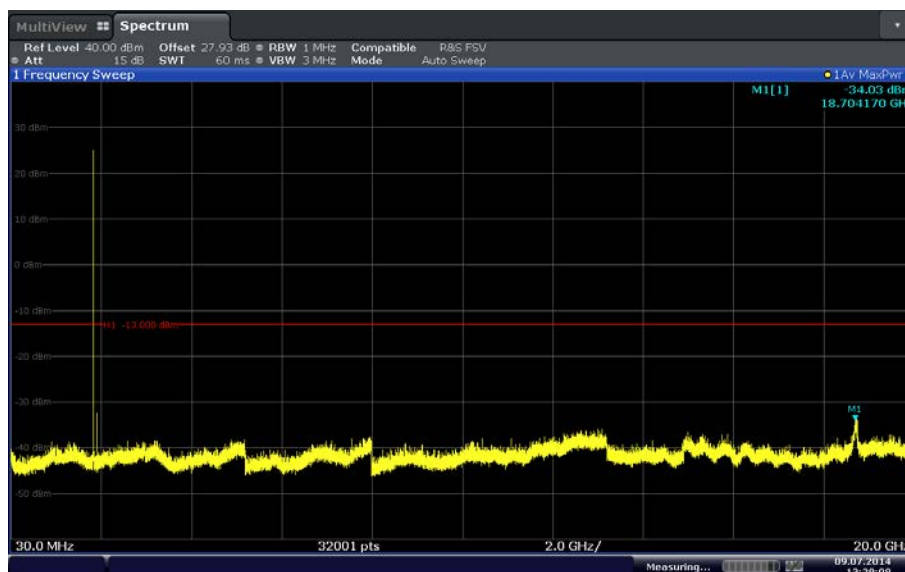
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CDMA 2000 – 1xRTT/Cell BC0/High Channel (777)



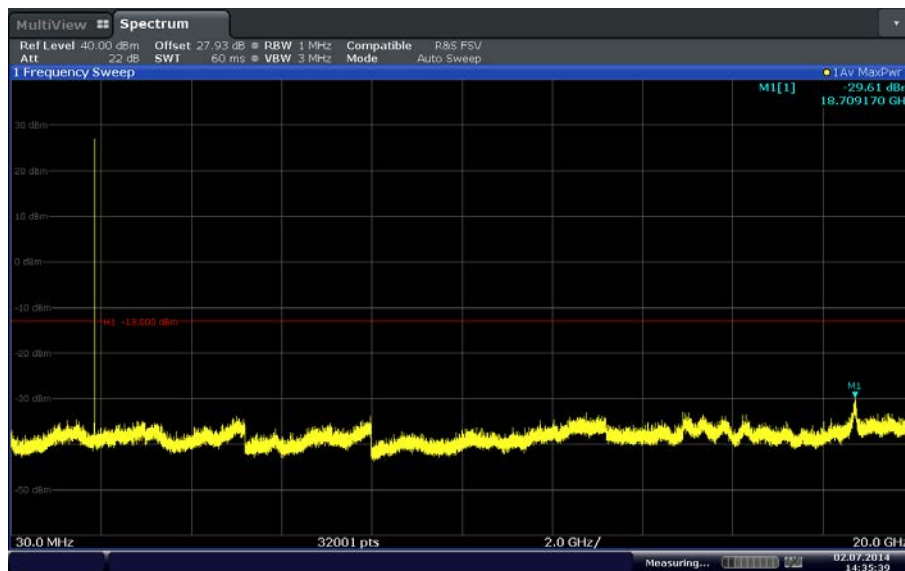
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CDMA 2000 – 1xRTT/PCS BC1/Low Channel (25)



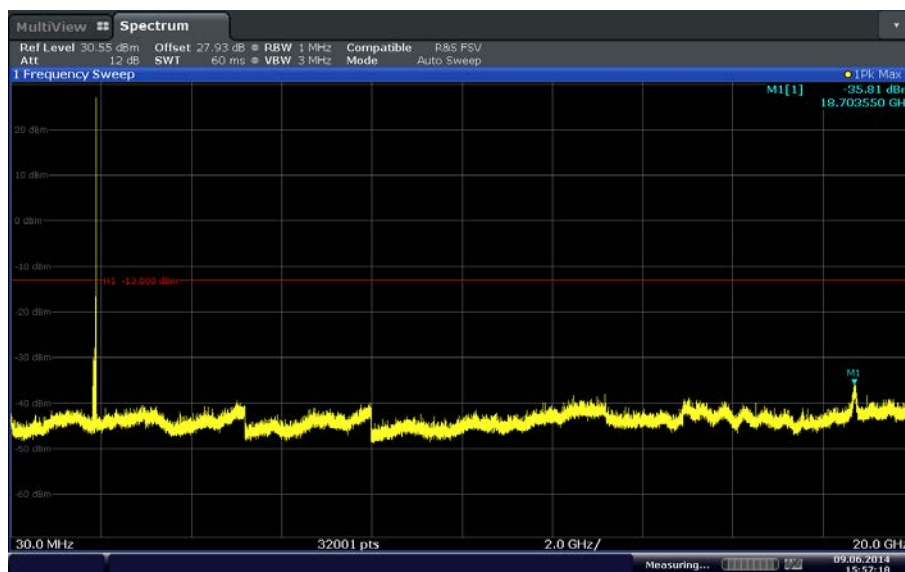
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CDMA 2000 – 1xRTT/PCS BC1/Mid Channel (600)



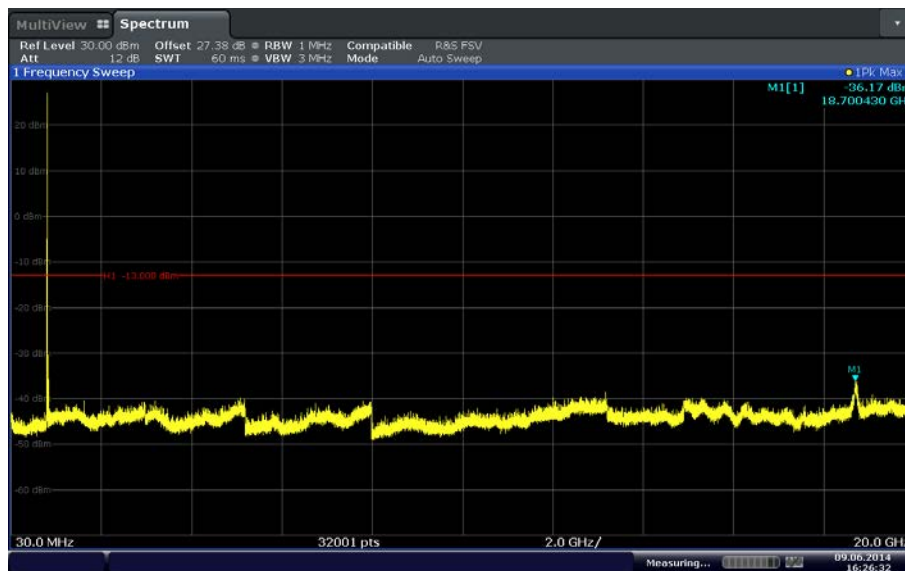
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CDMA 2000 – 1xRTT/PCS BC1/High Channel (1175)



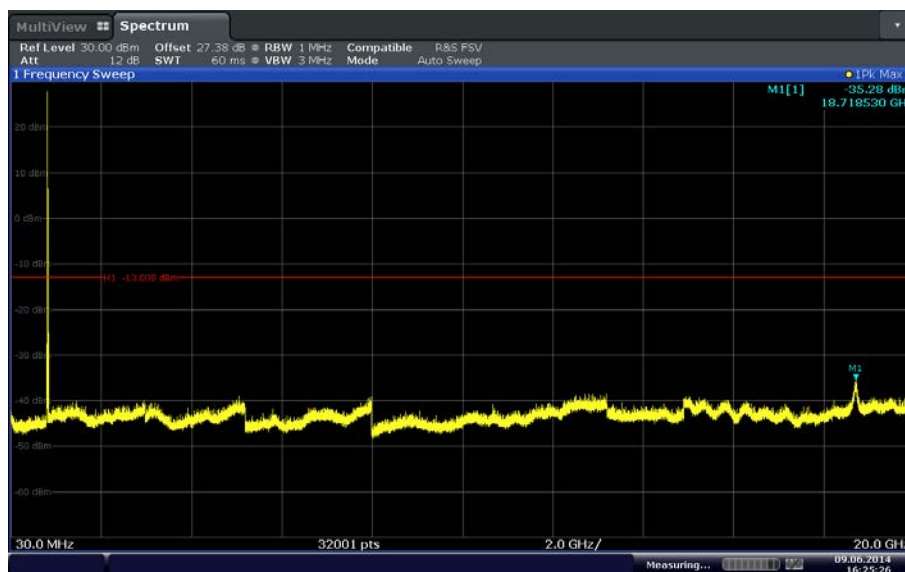
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CDMA 2000 – 1xDV-DO Release 0/Cell BC0/Low Channel (1013)



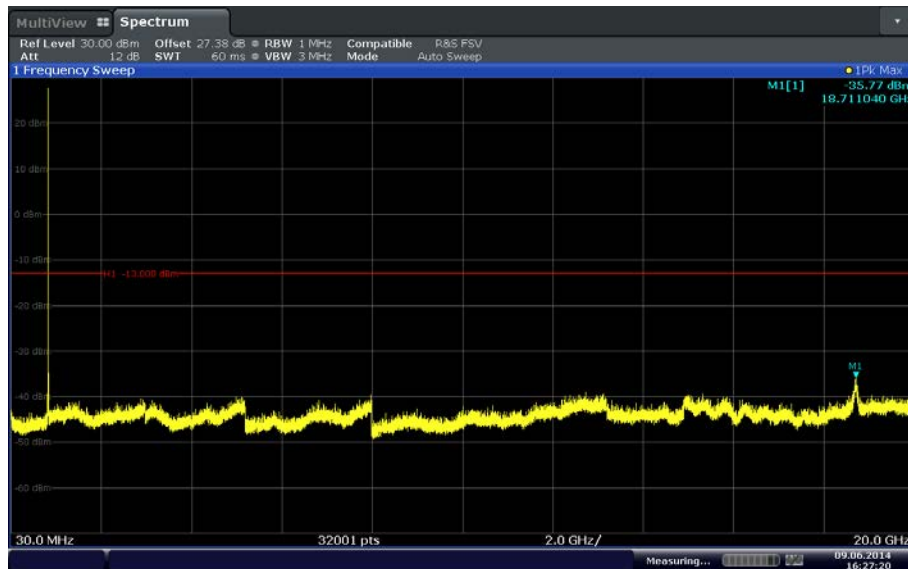
Date: 9 JUN 2014 16:26:33

CDMA 2000 – 1xDV-DO Release 0/Cell BC0/Mid Channel (384)



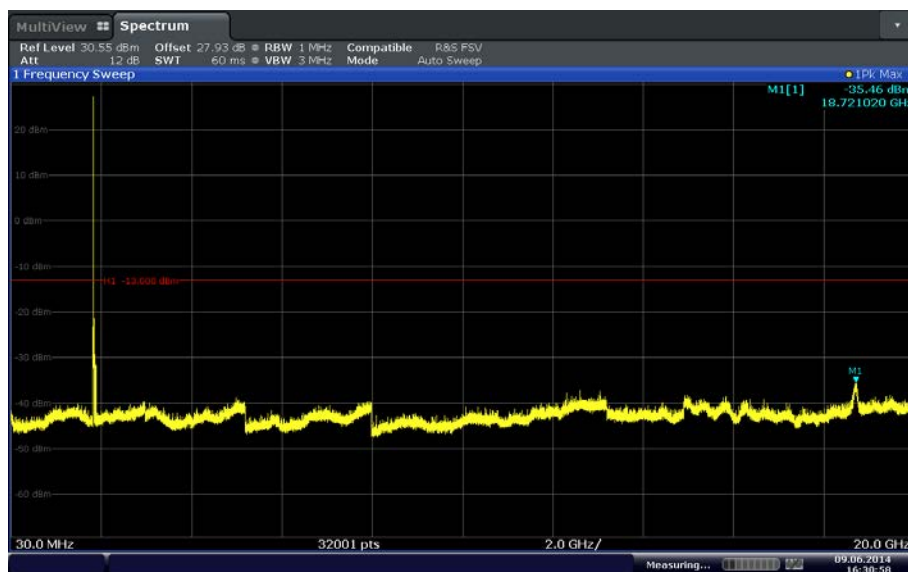
Date: 9 JUN 2014 16:25:26

CDMA 2000 – 1xDV-DO Release 0/Cell BC0/High Channel (777)



Date: 9 JUN 2014 16:27:20

CDMA 2000 – 1xDV-DO Release 0/PCS BC1/Low Channel (25)



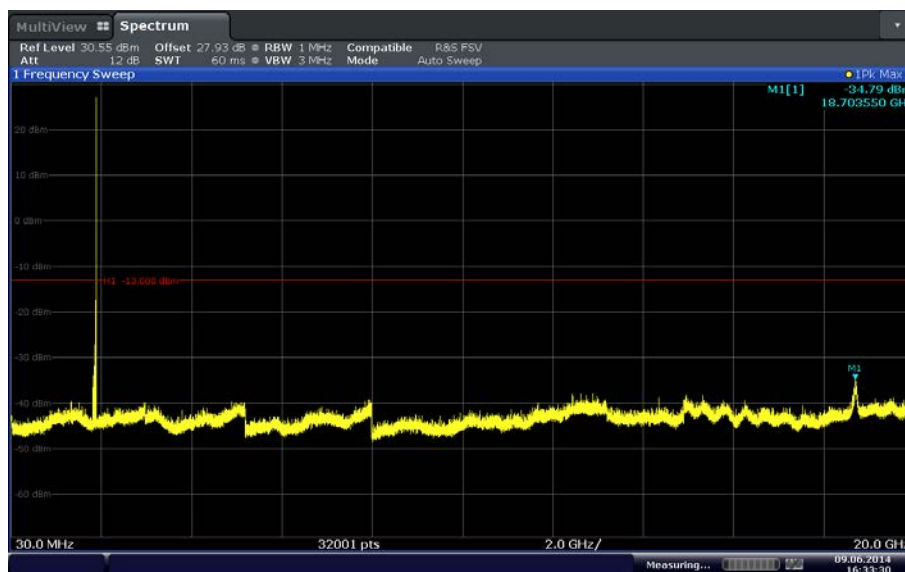
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CDMA 2000 – 1xEV-DO Release 0/PCS BC1/Mid Channel (600)



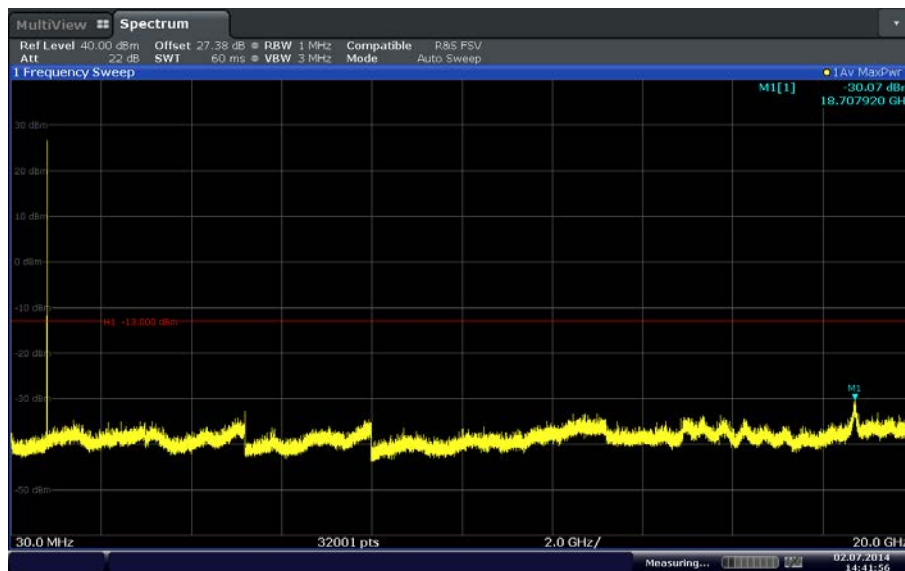
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CDMA 2000 – 1xEV-DO Release 0/PCS BC1/High Channel (1175)



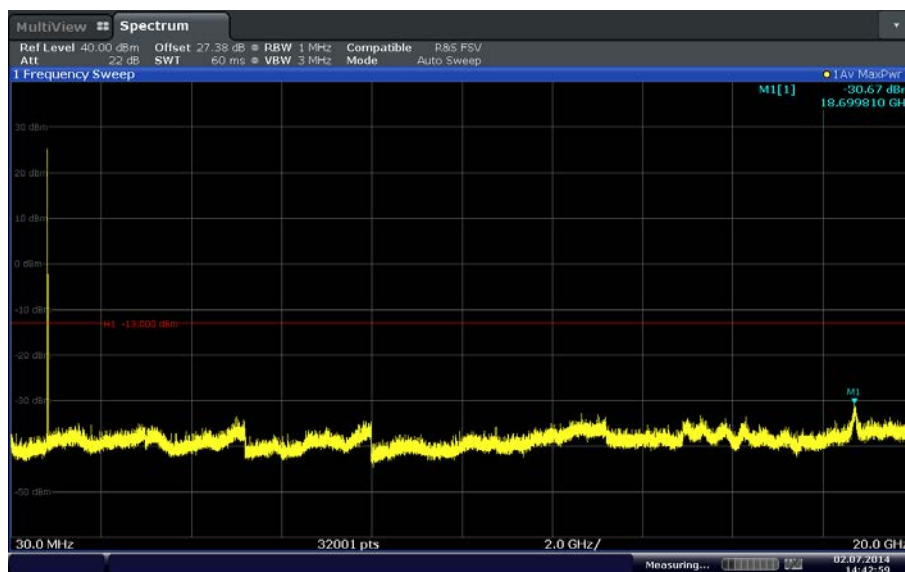
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CDMA 2000 – 1xDV-DO Release A/Cell BC0/Low Channel (1013)



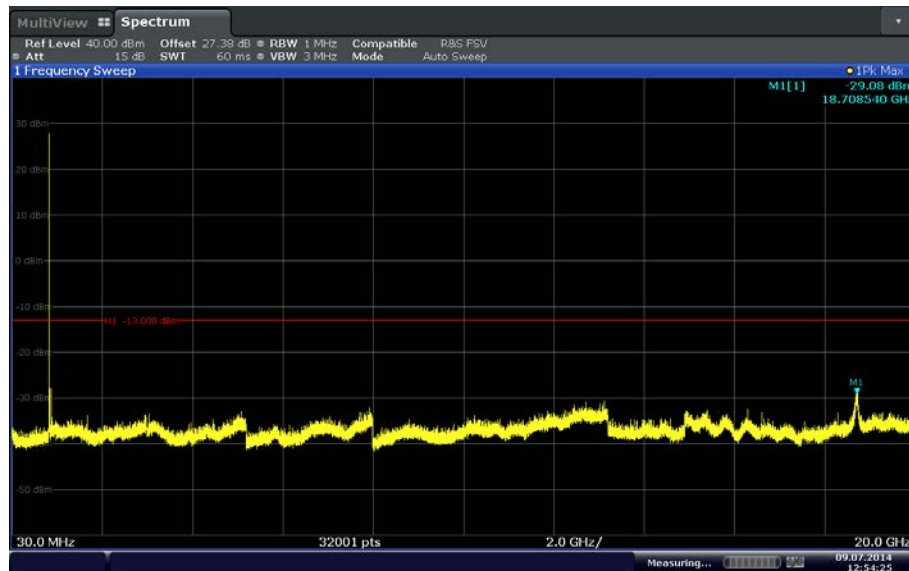
Date: 2.JUL.2014 14:41:56

CDMA 2000 – 1xDV-DO Release A/Cell BC0/Mid Channel (384)



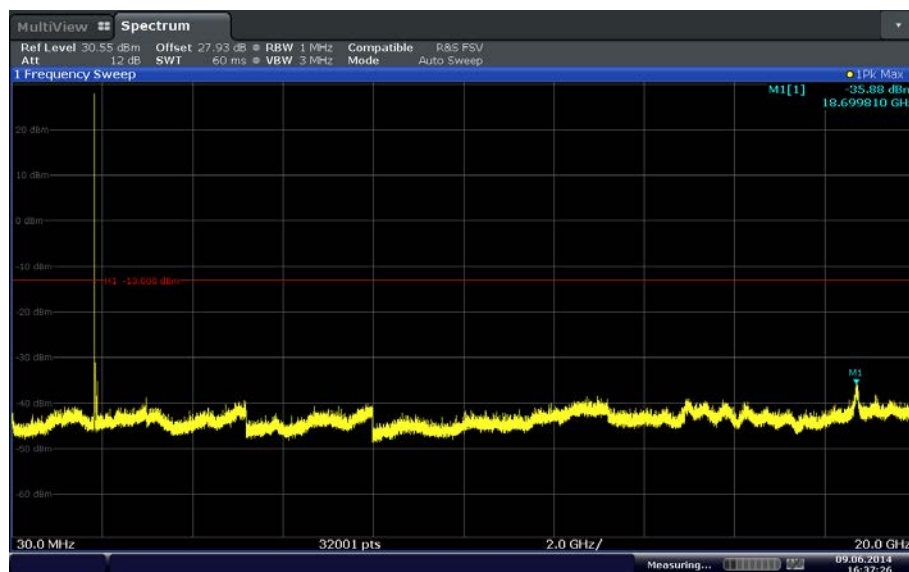
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CDMA 2000 – 1xDV-DO Release A/Cell BC0/High Channel (777)



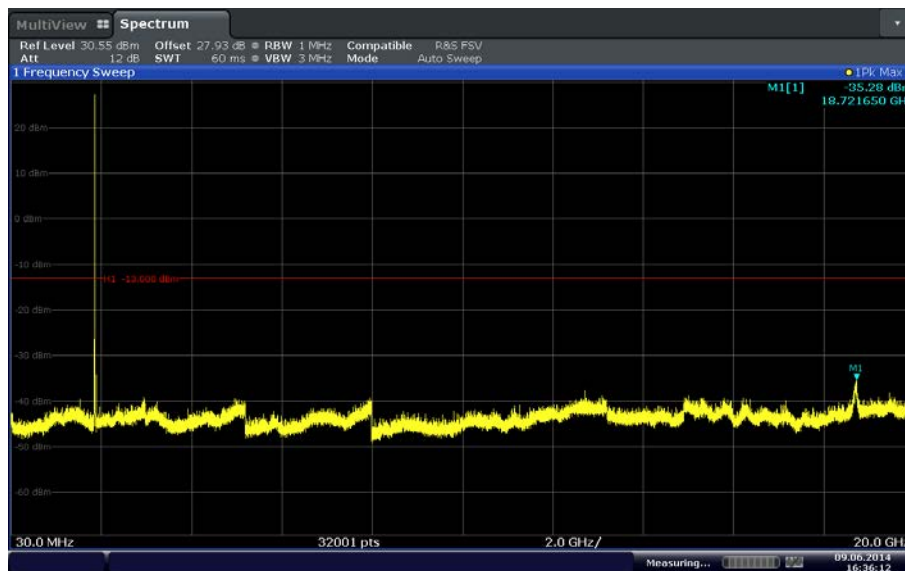
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CDMA 2000 – 1xDV-DO Release A/PCS BC1/Low Channel (25)



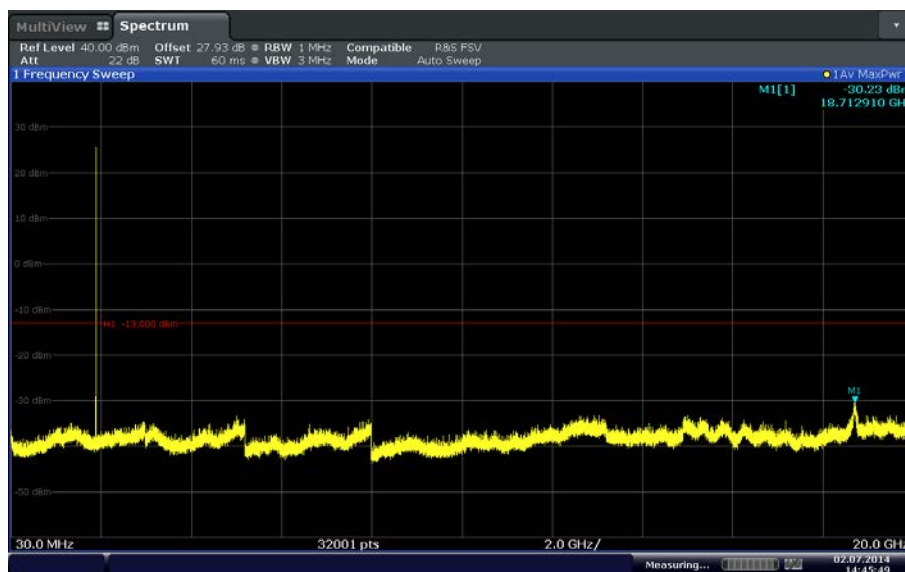
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CDMA 2000 – 1xEV-DO Release A/PCS BC1/Mid Channel (600)



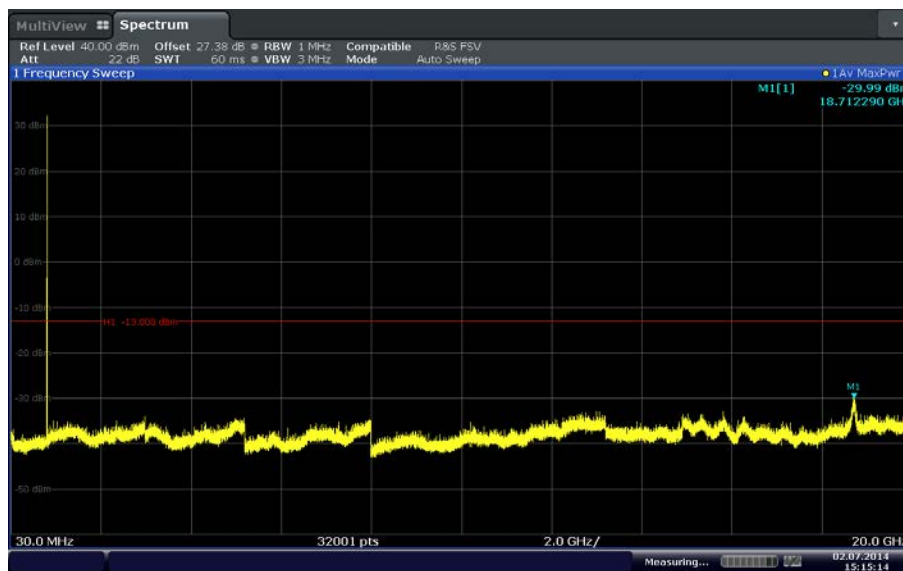
Date: 9 JUN 2014 16:36:12

CDMA 2000 – 1xEV-DO Release A/PCS BC1/High Channel (1175)



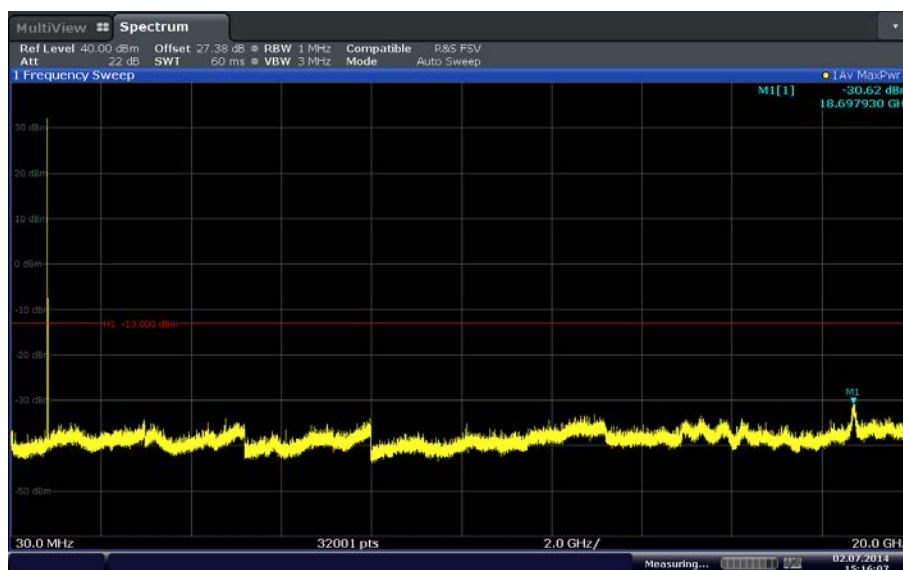
Date: 2 JUL 2014 14:45:49

GSM850/GPRS/Cell/Low Channel (128)



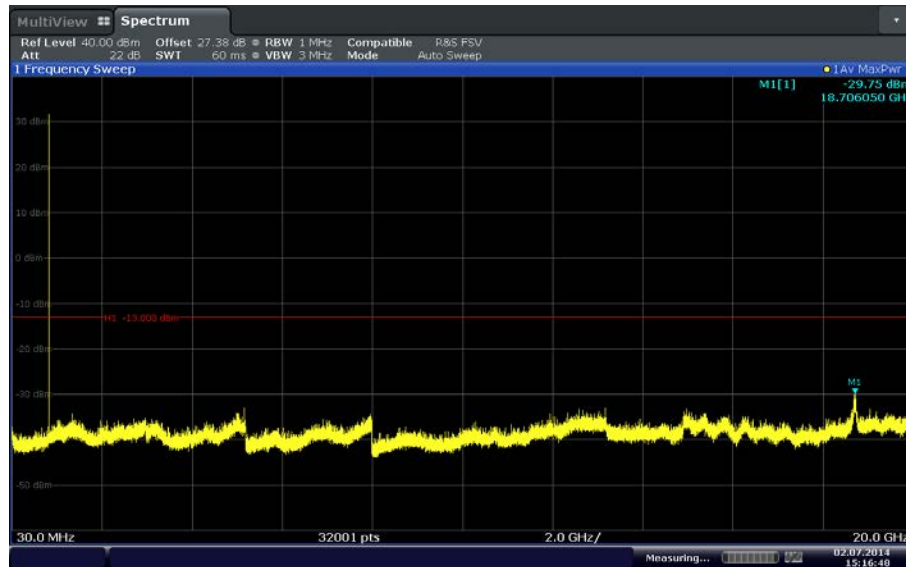
Date: 2 JUL 2014 15:15:14

GSM850/GPRS/Cell/Mid Channel (190)



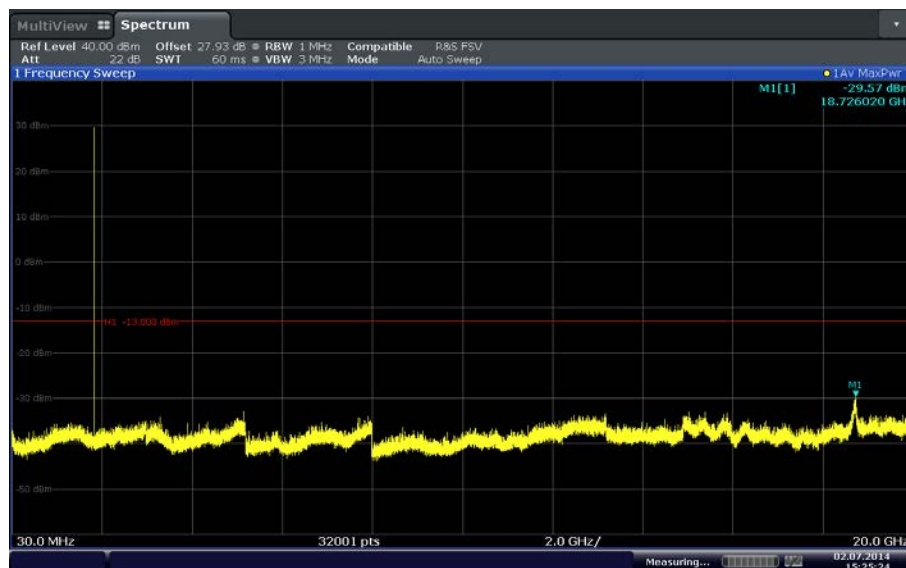
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GSM850/GPRS/Cell/H Channel (251)



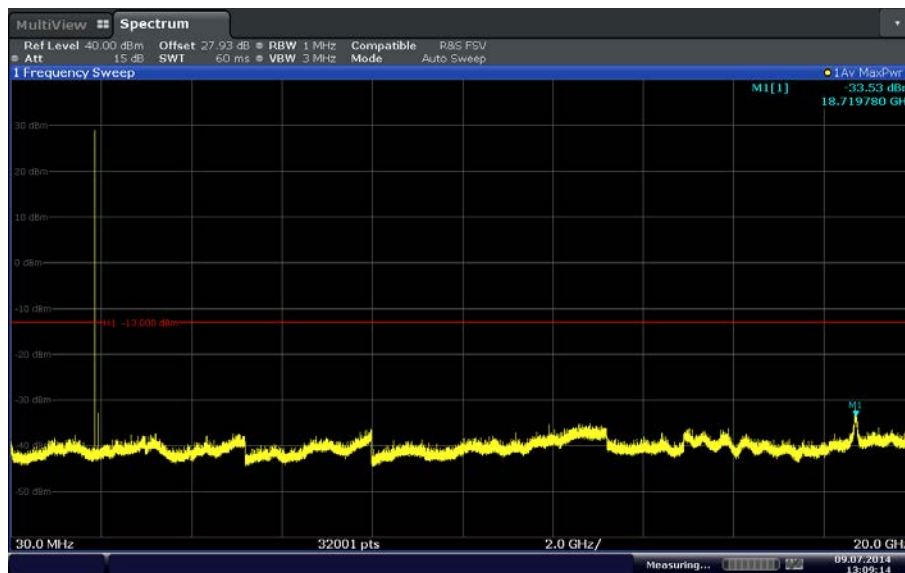
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GSM1900/GPRS/PCS/Low Channel (512)



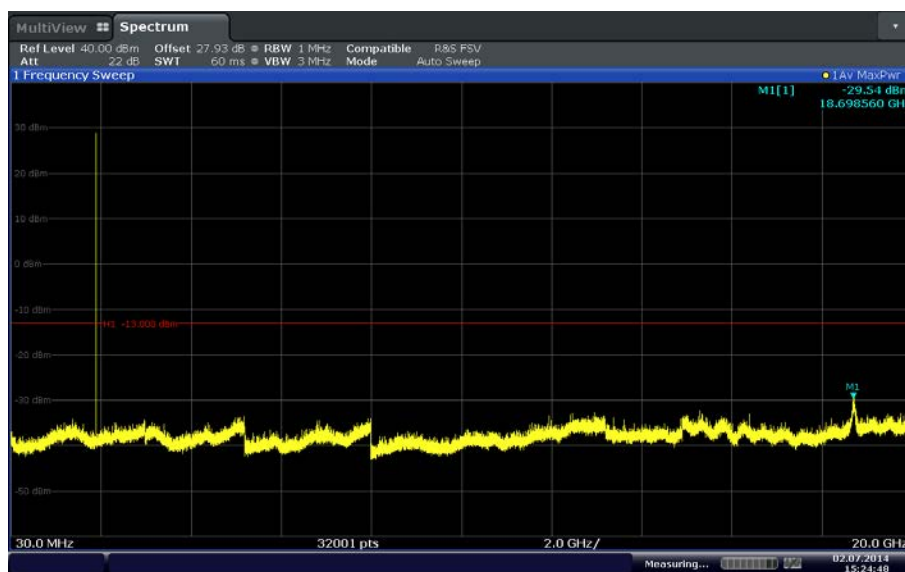
Date: 2.JUL 2014 15:25:24

GSM1900/GPRS/PCS/Mid Channel (661)



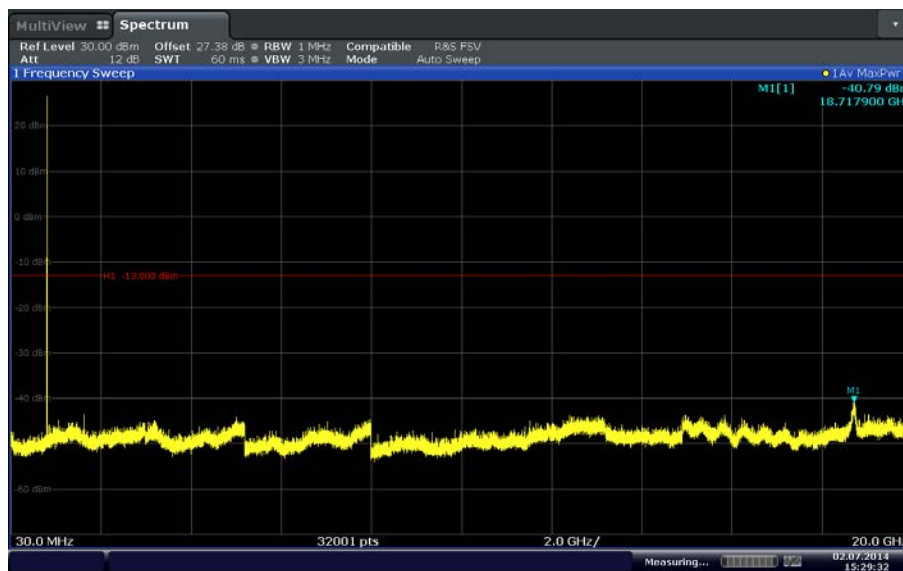
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GSM1900/GPRS/PCS/High Channel (810)



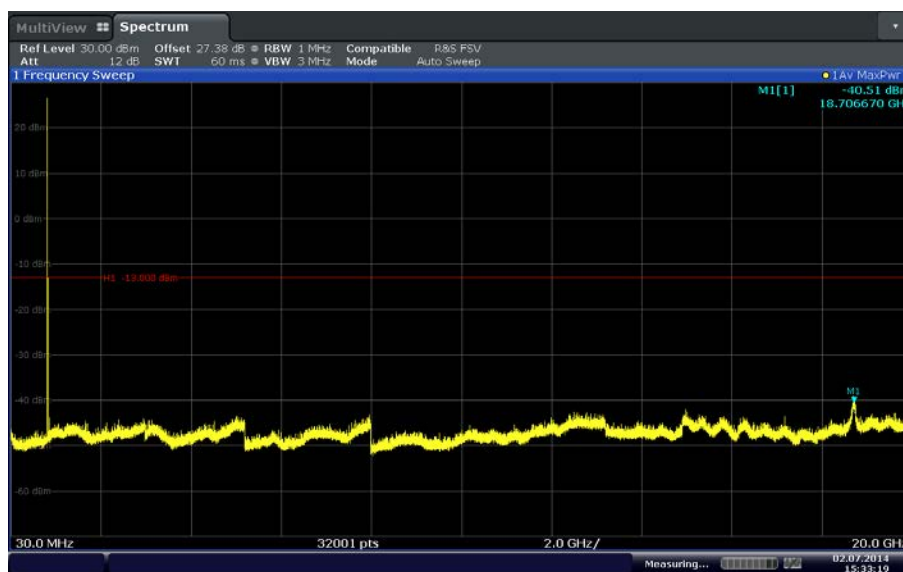
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GSM850/EGPRS/Cell/Low Channel (128)



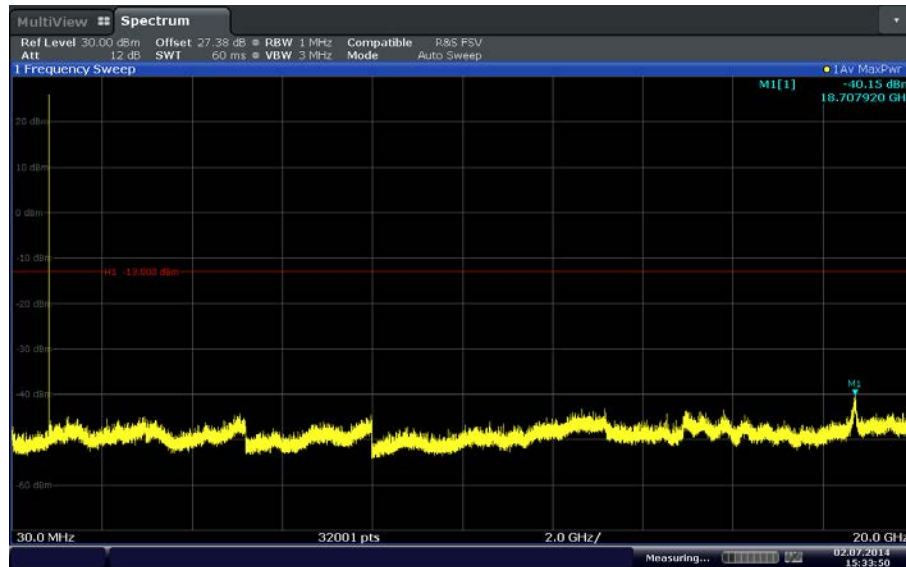
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GSM850/EGPRS/Cell/Mid Channel (190)



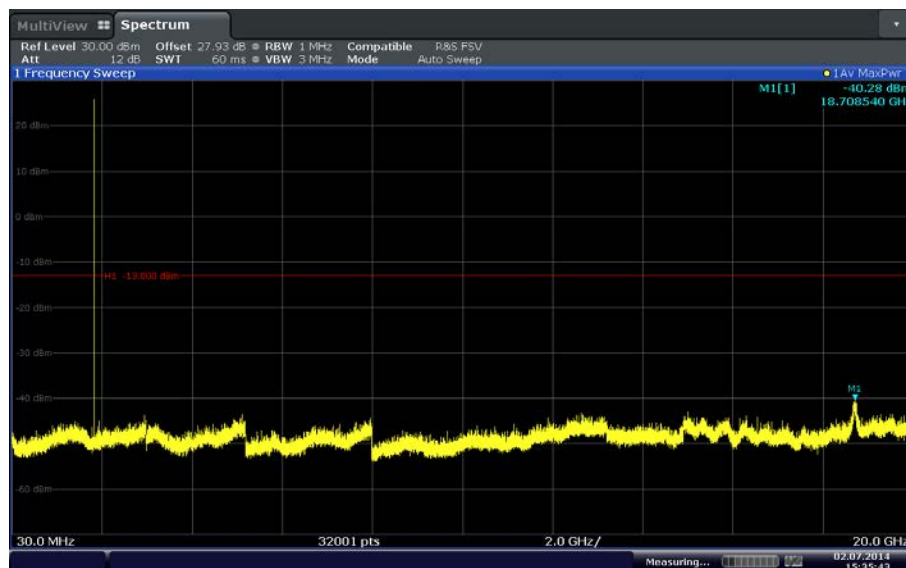
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GSM850/EGPRS/Cell/HIGH Channel (251)



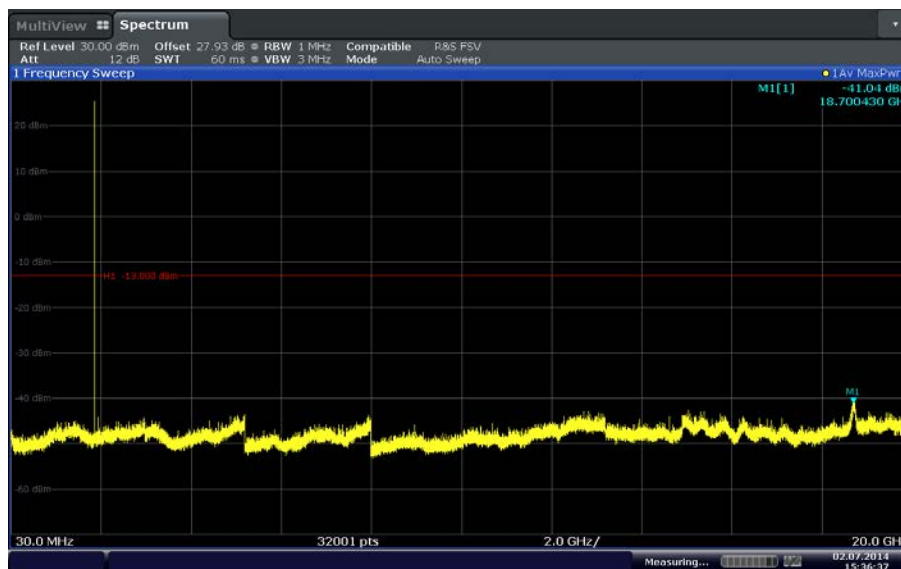
Date: 2 JUL 2014 15:33:50

GSM1900/EGPRS/PCSI/LOW Channel (512)



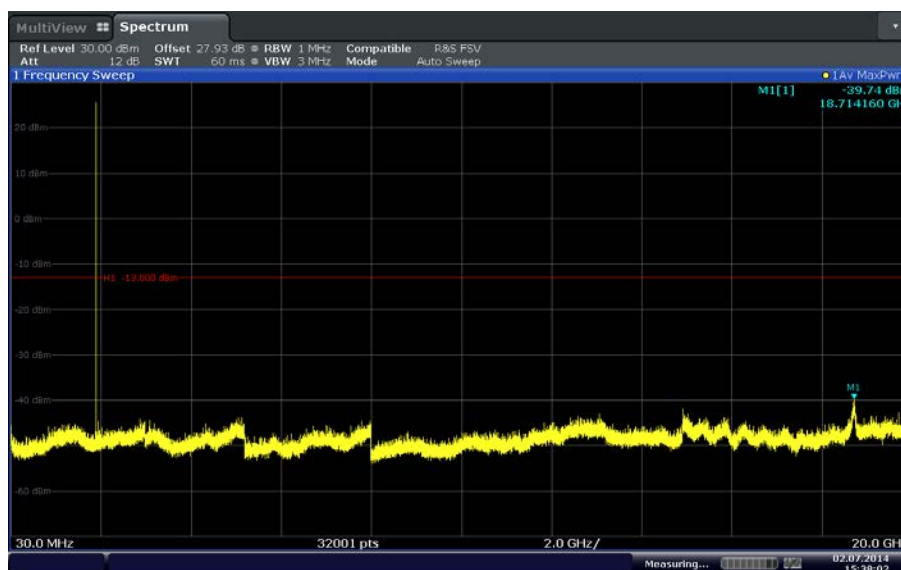
Date: 2 JUL 2014 15:35:43

GSM850/EGPRS/PCS/Mid Channel (661)



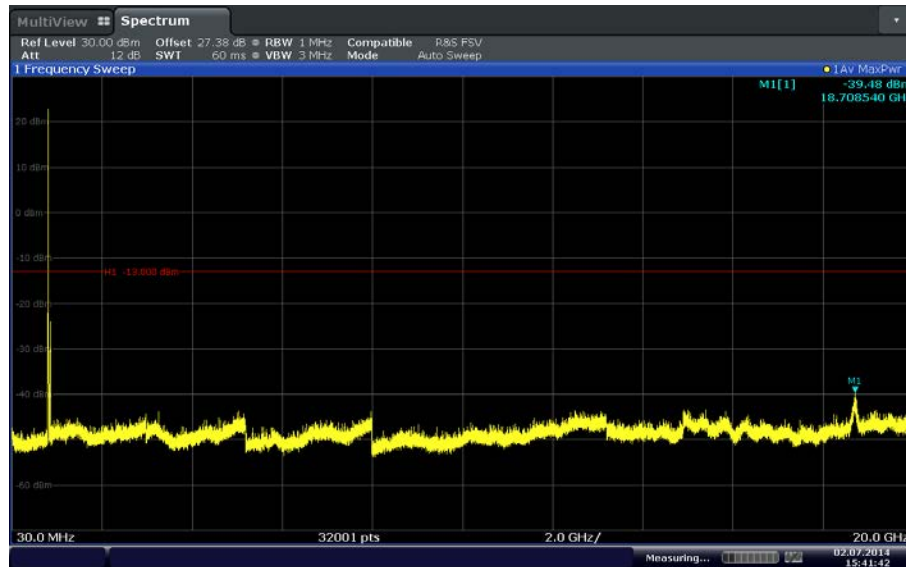
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GSM1900/EGPRS/PCSI/High Channel (810)



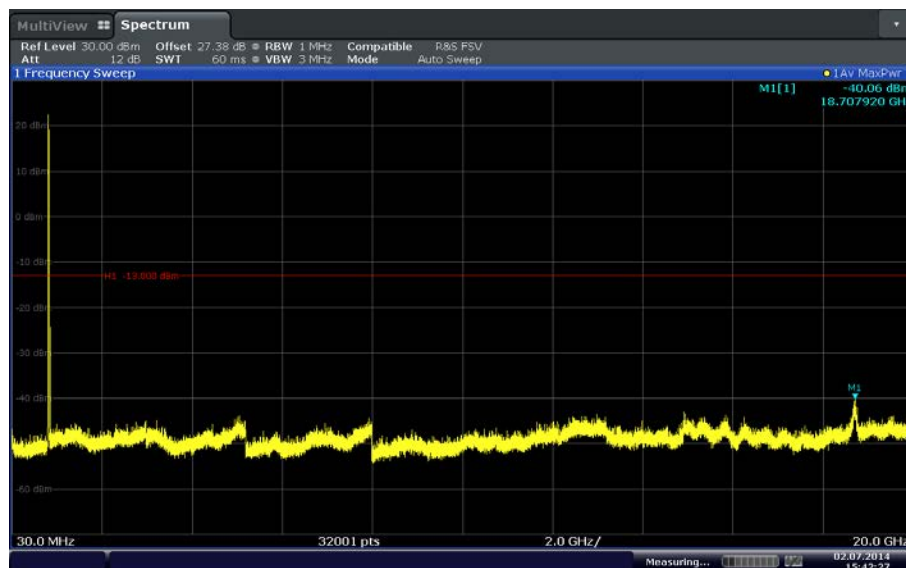
Date: 2 JUL 2014 15:38:02

WCDMA/Cell Band 5/Low Channel (4132)



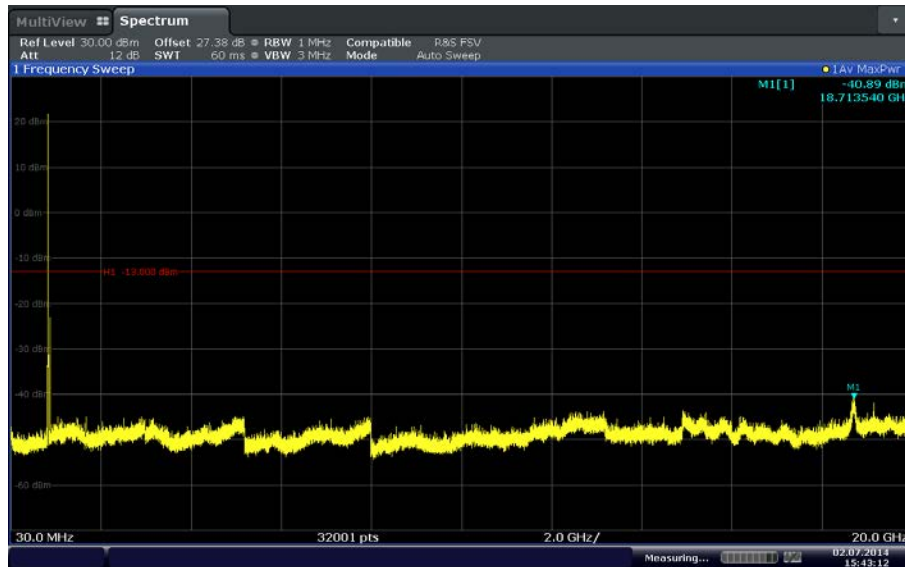
Date: 2 JUL 2014 15:41:42

WCDMA/Cell Band 5/Mid Channel (4183)



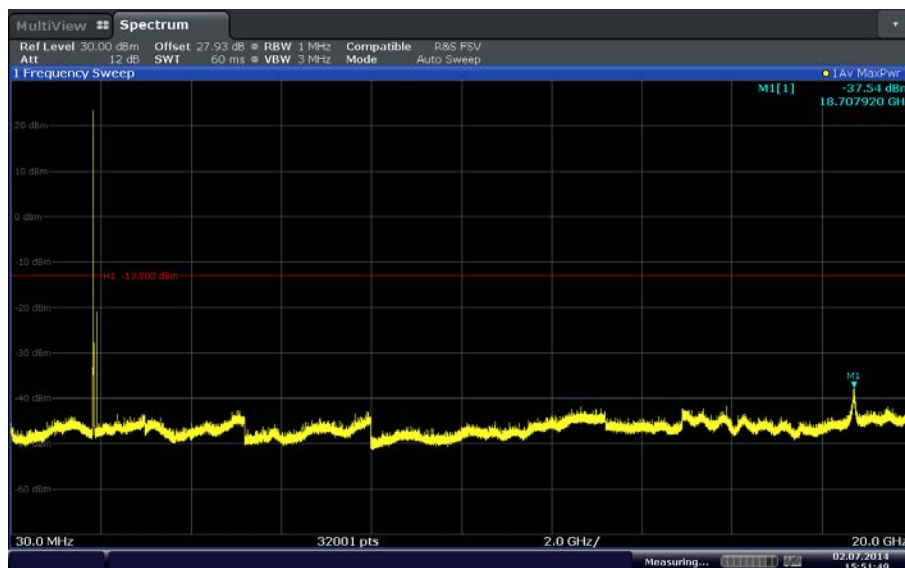
Date: 2 JUL 2014 15:42:28

WCDMA/Cell Band 5/High Channel (4233)



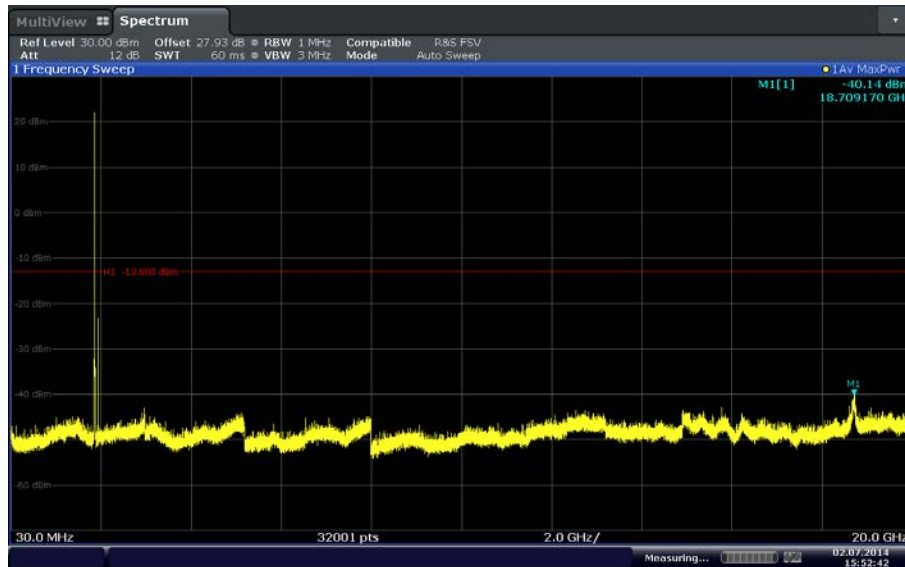
Date: 2 JUL 2014 15:43:12

WCDMA/PCS Band 2/Low Channel (9262)



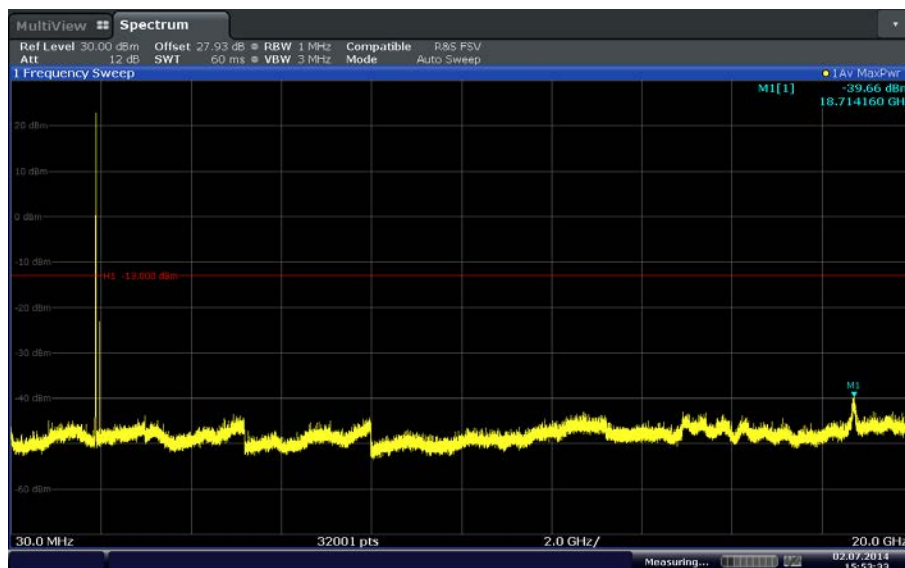
Date: 2 JUL 2014 15:51:49

WCDMA/PCS Band 2/Mid Channel (9400)



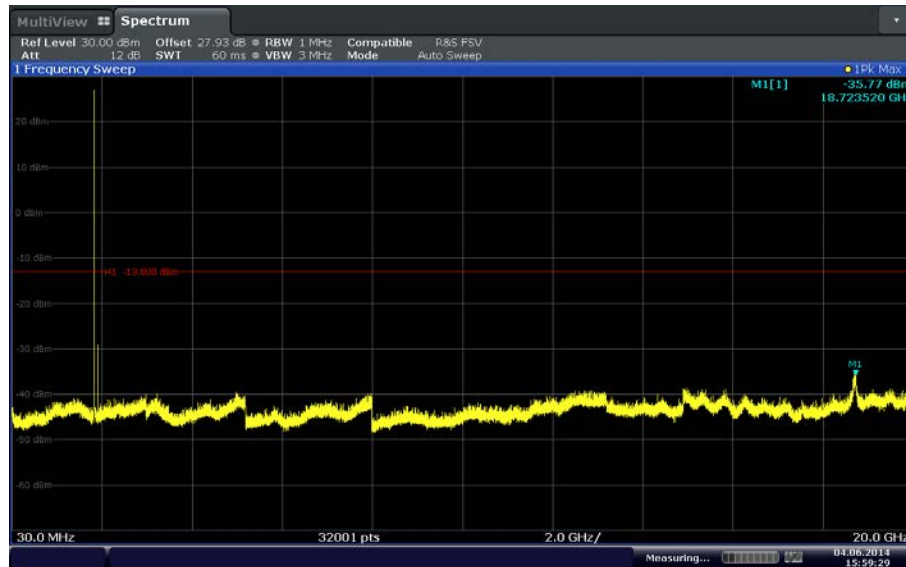
Date: 2.JUL 2014 15:52:42

WCDMA/PCS Band 2/High Channel (9538)



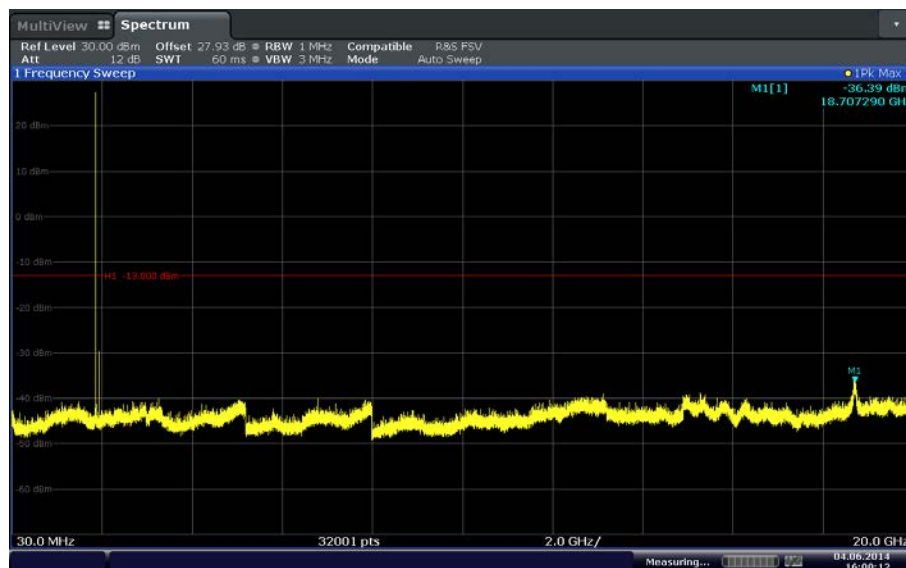
Date: 2.JUL 2014 15:53:34

LTE Band 2 (1.4 MHz BW) Low Channel (18607)



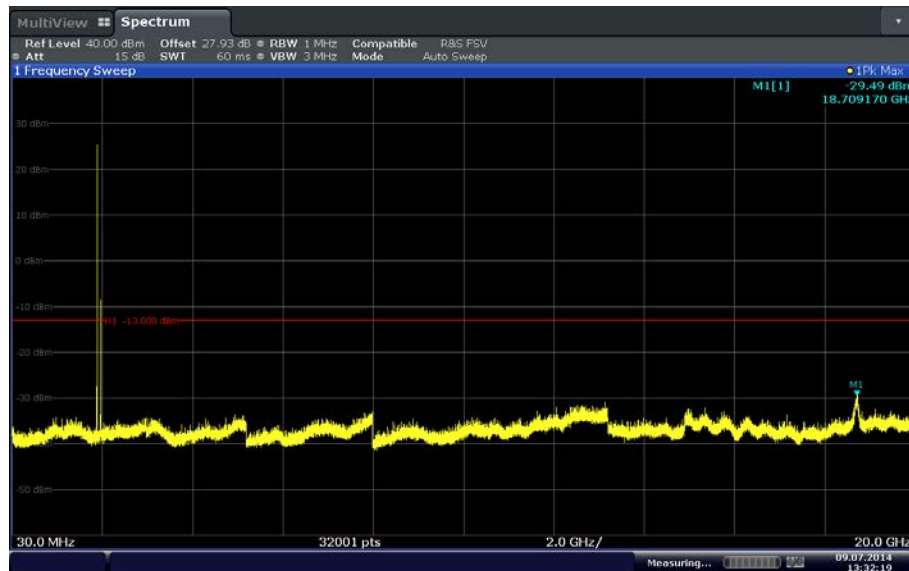
Date: 4 JUN 2014 15:59:29

LTE Band 2 (1.4 MHz BW) Mid Channel (18900)



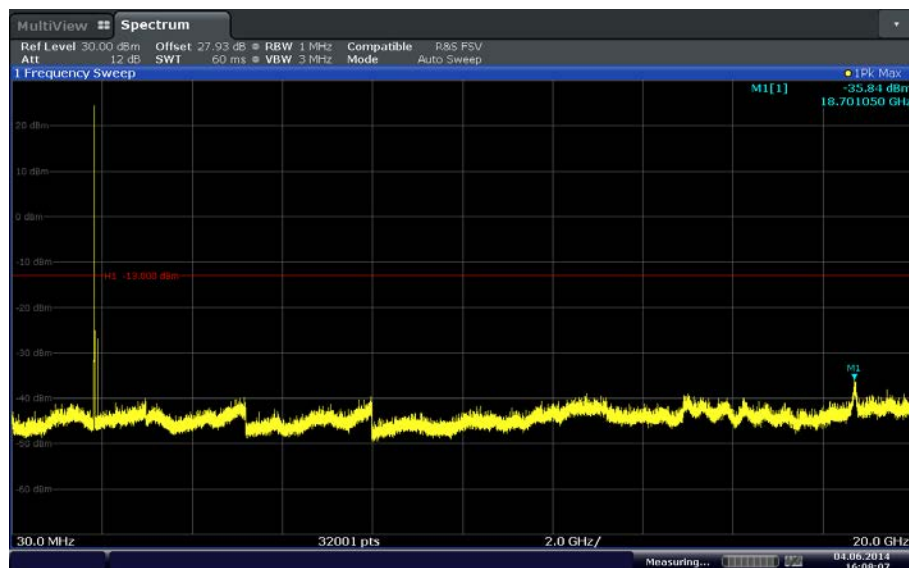
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LTE Band 2 (1.4 MHz BW) High Channel (19193)



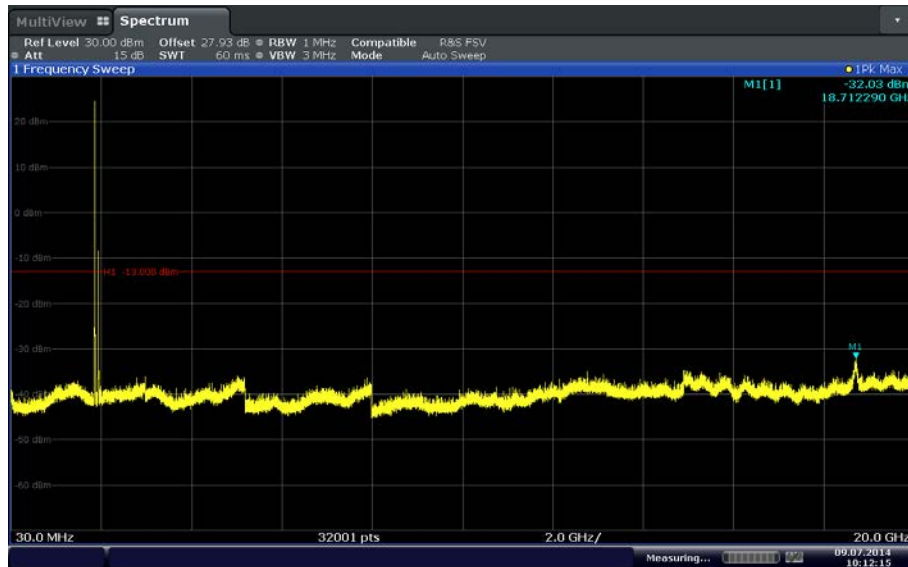
Date: 9 JUL 2014 13:32:19

LTE Band 2 (3 MHz BW) Low Channel (18615)



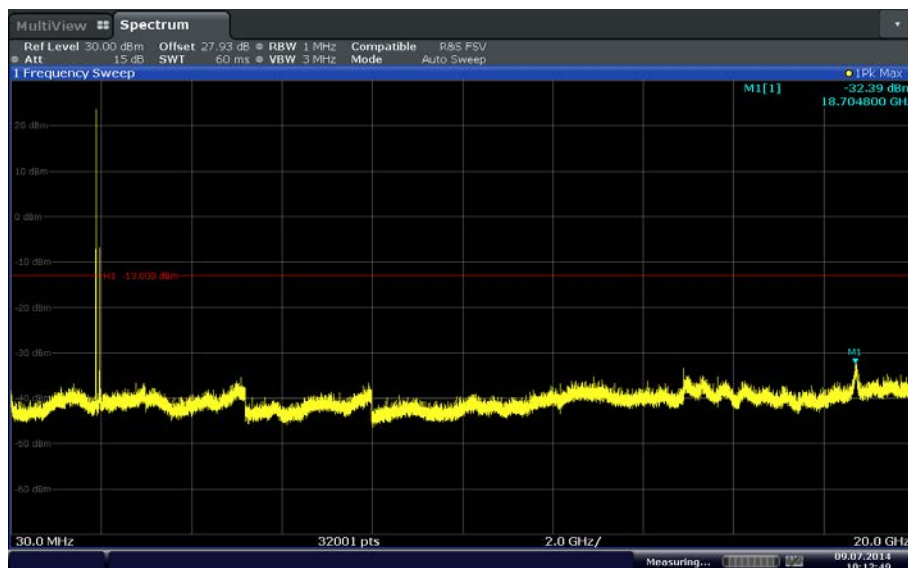
Date: 4 JUN 2014 16:08:07

LTE Band 2 (3 MHz BW) Mid Channel (18900)



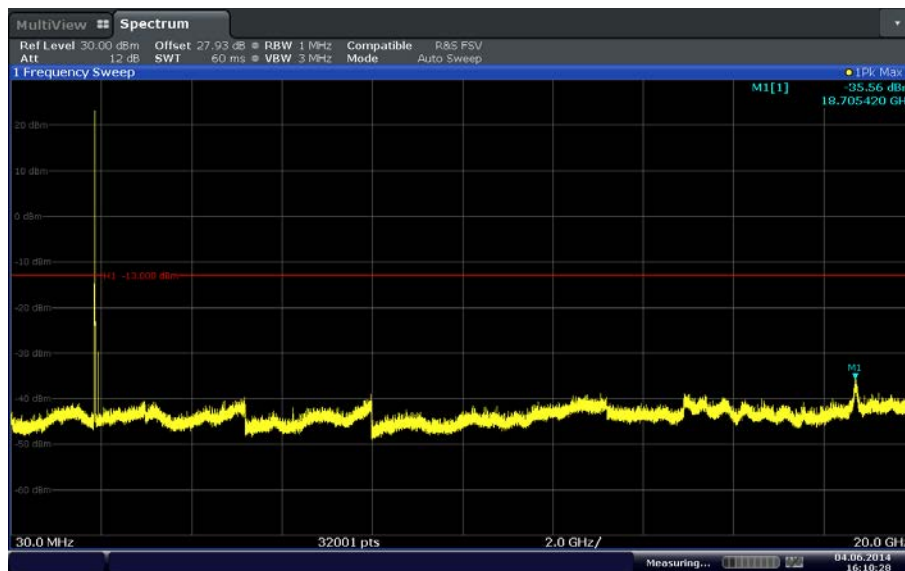
Date: 9 JUL 2014 10:12:15

LTE Band 2 (3 MHz BW) High Channel (19185)



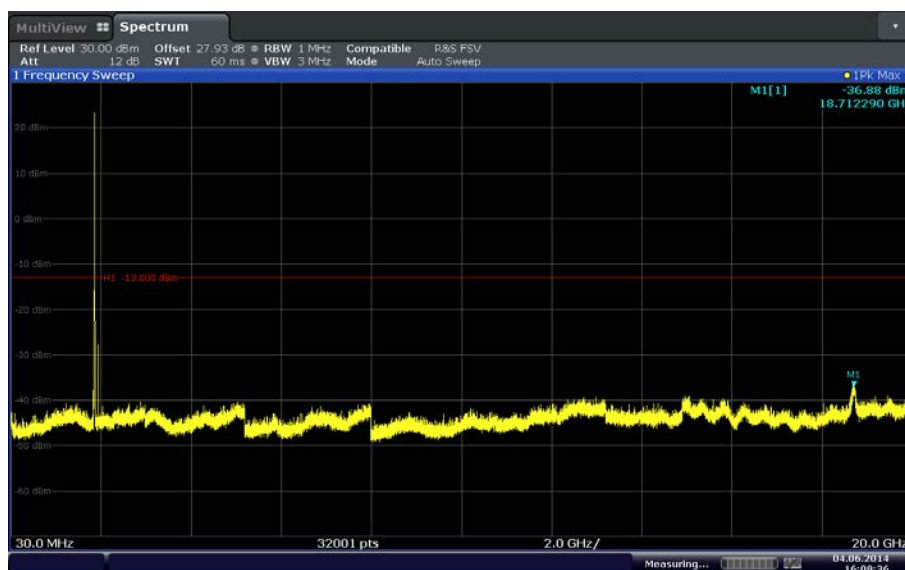
Date: 9 JUL 2014 10:12:49

LTE Band 2 (5 MHz BW) Low Channel (18625)



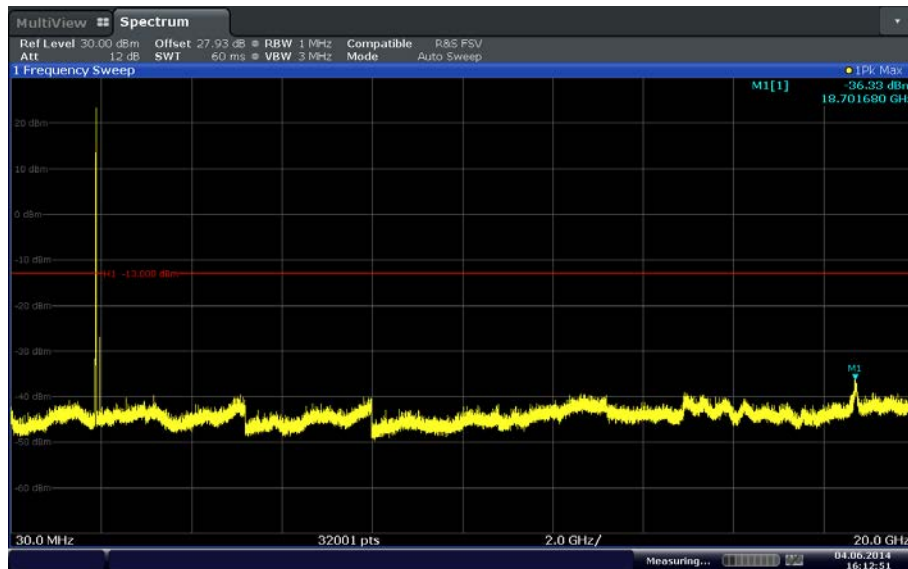
Date: 4 JUN 2014 16:18:28

LTE Band 2 (5 MHz BW) Mid Channel (18900)



Date: 4 JUN 2014 16:09:36

LTE Band 2 (5 MHz BW) High Channel (19175)



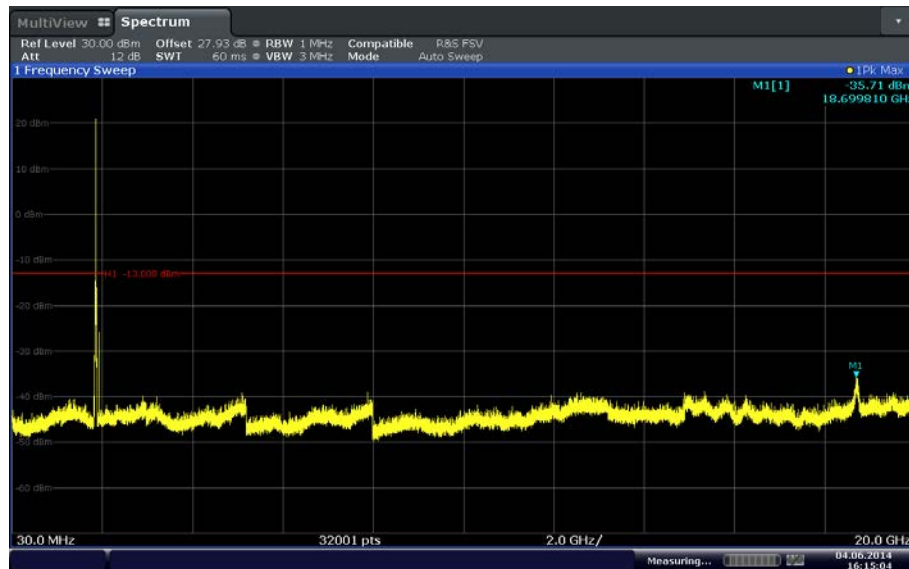
Date: 4 JUN 2014 16:12:52

LTE Band 2 (10 MHz BW) Low Channel (18650)



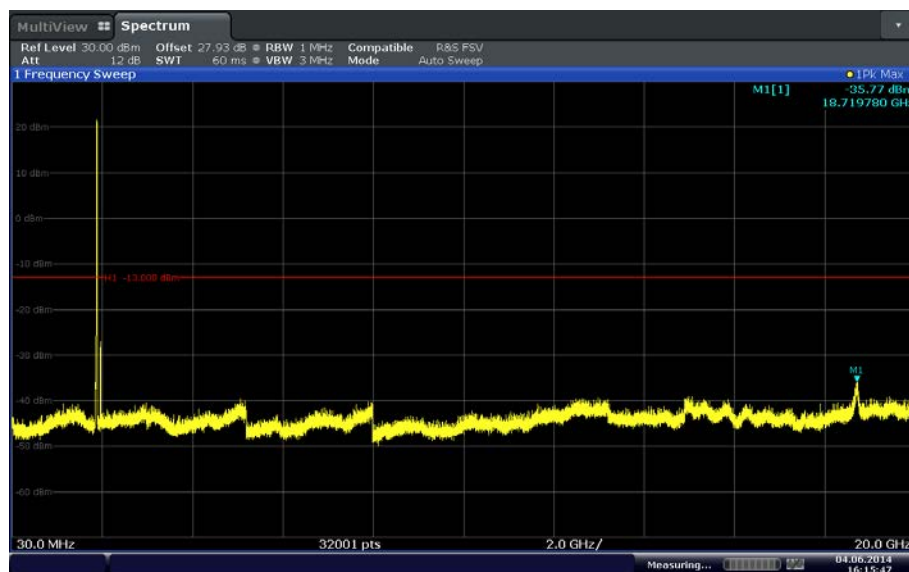
Date: 9 JUL 2014 09:53:00

LTE Band 2 (10 MHz BW) Mid Channel (18900)



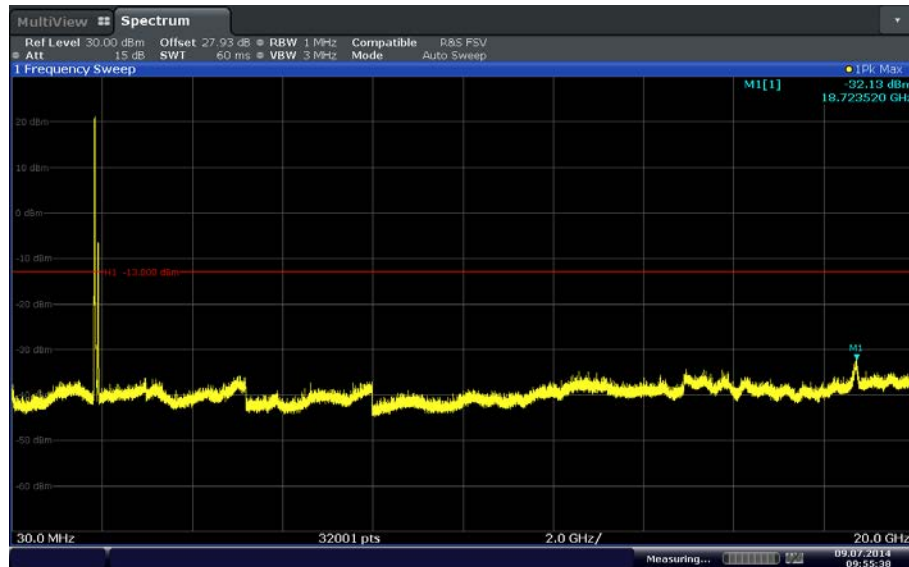
Date: 4 JUN 2014 16:15:05

LTE Band 2 (10 MHz BW) High Channel (19150)



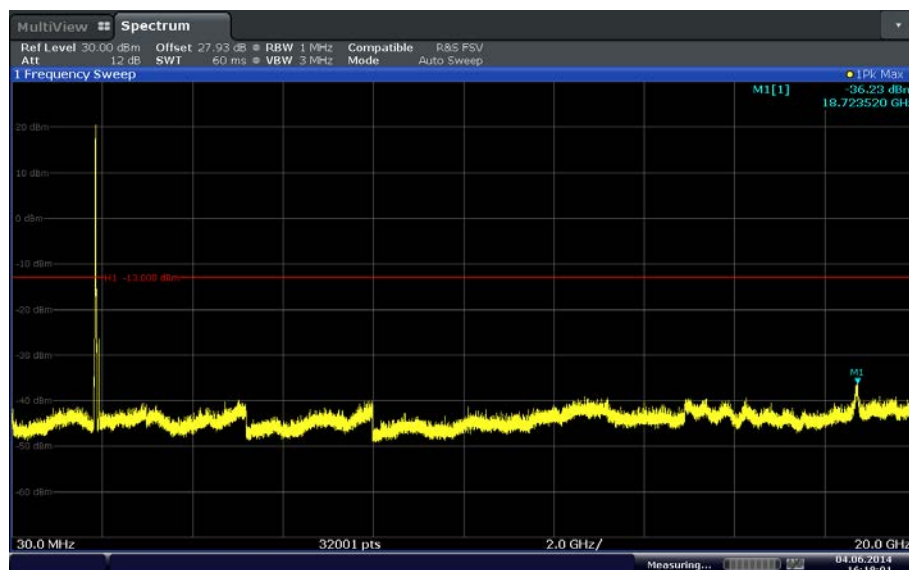
Date: 4 JUN 2014 16:15:47

LTE Band 2 (15 MHz BW) Low Channel (18675)



Date: 9 JUL 2014 09:55:38

LTE Band 2 (15 MHz BW) Mid Channel (18900)



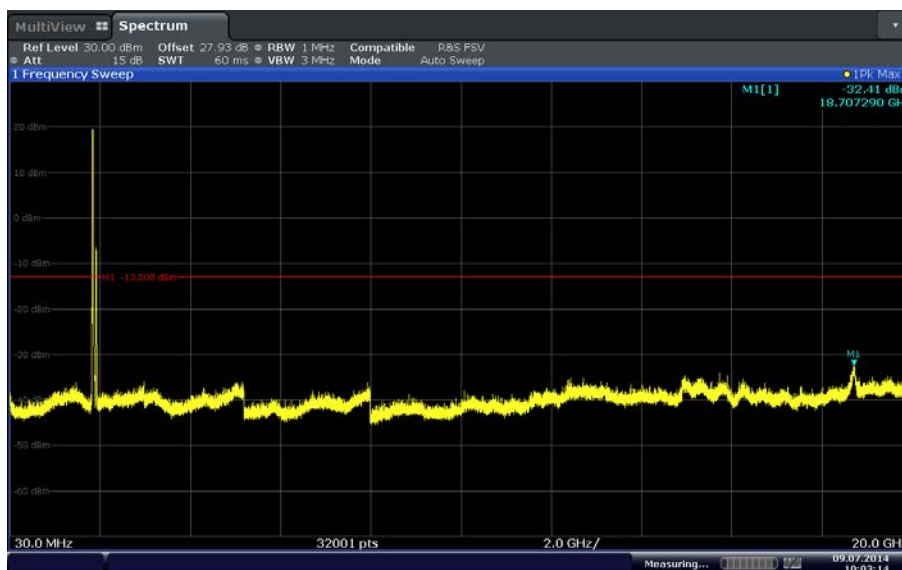
Date: 4 JUN 2014 16:18:01

LTE Band 2 (15 MHz BW) High Channel (19125)



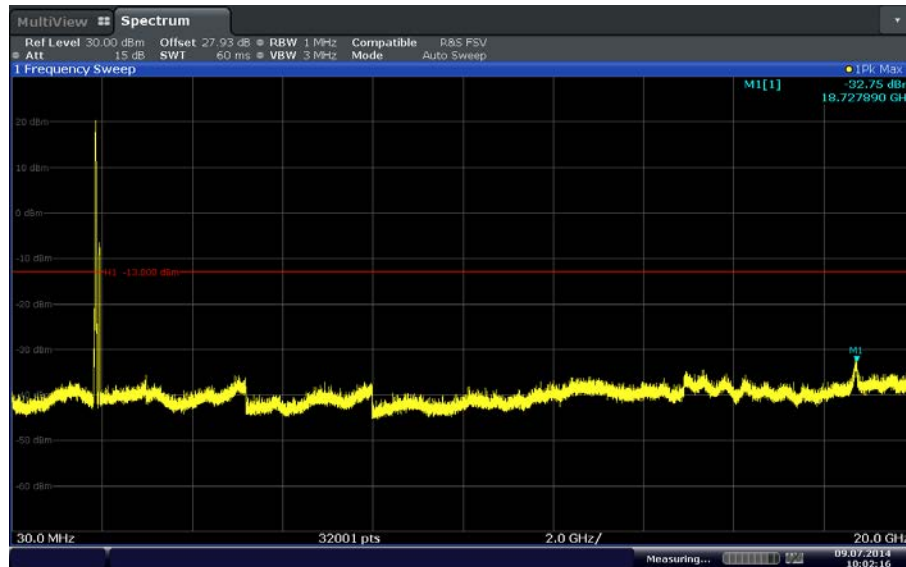
Date: 9 JUL 2014 10:00:29

LTE Band 2 (20 MHz BW) Low Channel (18700)



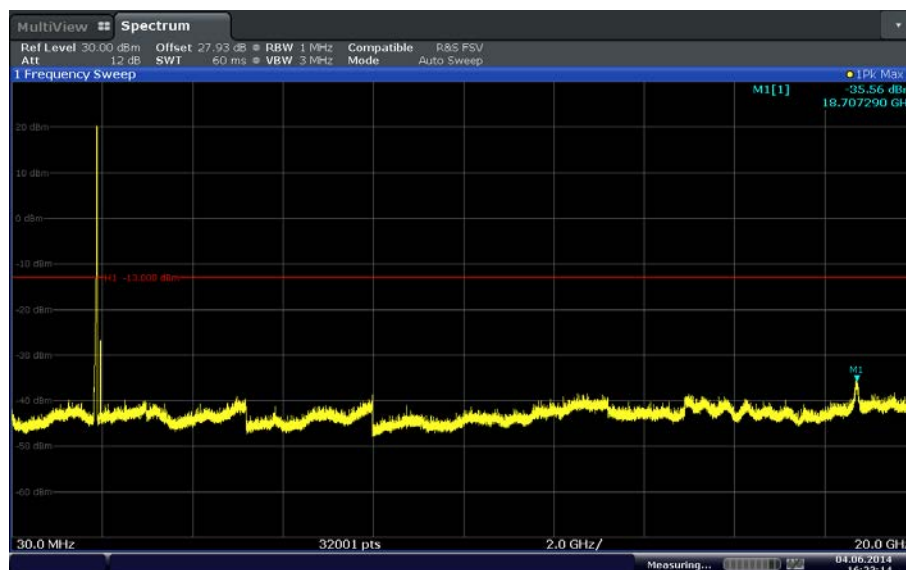
Date: 9 JUL 2014 10:03:14

LTE Band 2 (20 MHz BW) Mid Channel (18900)



Date: 9 JUL 2014 10:02:16

LTE Band 2 (20 MHz BW) High Channel (19100)



Date: 4 JUN 2014 16:23:15