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FCC TEST REPORT

Manufacturer: SAMSUNG Electronics Co., Ltd.

Model: SM-G9287

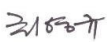
FCC ID: A3LSMG9287

Application Type: Certification

EUT Type: Portable Handset

All measurements reported here are in accordance with FCC Rules,
47CFR Part2 and Part90.

Prepared By  Date 2015.07.13
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Checked By  Date 2015.07.13
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WT Jang
Technical Manager



Revision History

Rev. #	Issue Date	Revisions	Revised By
1	2015.07.13	▪ Initial issue	Jooha Bek

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**§2.1033 General Information**

APPLICANT: Samsung Electronics Co., Ltd.

APPLICANT ADDRESS: 129 Samsung-ro,
Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742, Korea

TEST SITE: Samsung Electronics Co., Ltd.

TEST SITE ADDRESS: 129 Samsung-ro,
Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742, Korea

FCC RULE PART(S): §2, §90.

TEST PROCEDURE(S): ANSI/TIA603-C-2004, KDB971168 v02r02

BASE MODEL: SM-G9287

FCC ID: A3LSMG9287

FCC CLASSIFICATION: PCS Licensed Transmitter Held to Ear (PCE)

MODE: LTE

EMISSION DESIGNATOR: See Table 0-1

TX FREQUENCY BLOCK 814 – 824MHz

RX FREQUENCY BLOCK 859 – 869MHz

TEST DEVICE SERIAL NO.: FCM-019-A , FCM-019-B

DATE(S) OF TEST: June 19 – July 9, 2015

Mode	Modulation	Tx Frequency (MHz)	Emission Designator	Tx Frequency (MHz)	Emission Designator
LTE Band 26	QPSK	814.7 – 823.3	1M10G7W	816.5 – 821.5	4M50G7W
LTE Band 26	16QAM	814.7 – 823.3	1M09D7W	816.5 – 821.5	4M49D7W
LTE Band 26	QPSK	815.5 – 822.5	2M69G7W	819.0	8M95G7W
LTE Band 26	16QAM	815.5 – 822.5	2M69D7W	819.0	8M95D7W

Table 0-1. Emission Designator



1. INTRODUCTION

1.1. General

These measurement tests were conducted at SAMSUNG ELECTRONICS CO., LTD. (SUWON). The site address is 129 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742, Korea.

2. PRODUCT INFORMATION

2.1. Equipment Description

The Equipment Under Test (EUT) is the Samsung Portable Handset FCC ID: A3LSMG9287. The test data contained in this report pertains only to the emissions due to the EUT's LTE function.

2.2. Device Capabilities

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1900 WCDMA/HSPA, Multi-band LTE, 802.11a/b/g/n/ac WLAN, Bluetooth (1x, EDR, LE, HS), NFC, ANT+.

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3. DESCRIPTION OF TESTS

3.1. Evaluation Procedure

The measurement procedures described in the document titled "Land Mobile FM or PM - Communications Equipment- Measurements and Performance Standards" (ANSI/TIA-603-C-2004) and "Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1MHz) Digital Transmission System" (KDB 971168) were used in the measurement of the Samsung Portable Handset FCC ID: A3LSMG9287.

3.2. Measurement Procedure for Radiated Power and Radiated Spurious Emissions

The radiated and spurious measurements were made at the full anechoic chamber. The equipment under test was placed on the Turn Device at the same height and a distance of 3-meters from the measuring antenna.

The turn device is designed for mobile device measurements. Different sized devices can be mounted on the mounting bracket made of Rohacell.

The turn device is mounted onto a turntable to have both 360° vertical and horizontal rotation. The measurement was made for each horizontal/vertical position in combination with horizontally and vertically polarized measuring antenna.

The substitution antenna will replace the EUT antenna at the same position. The frequency of the signal generator shall be set to the frequencies that were measured on the EUT. The output level of the signal generator shall be adjusted until an equal or a known related level that was measured from the EUT. This level was recorded. For emissions above 1 GHz, the above procedure is repeated by using horn antennas and dBi gain is taken into consideration.

The power of the emission is calculated using the following formula:

$$P_{d[dBm]} = P_{g[dBm]} - \text{cable loss}_{[dB]} + \text{antenna gain}_{[dBd, dBi]}$$

Where P_d is the dipole equivalent power, P_g is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole(dBd) or an isotropic source(dBi). The cable connects the generator to the substitute antenna.

Radiated power levels and radiated spurious emissions levels are investigated per ANSI/TIA-603-C-2004.

3.3. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

4. TEST EQUIPMENT LIST

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

Description	Model	Serial No.	Manufacturer	Cal. Date	Cal. Due
Wideband Radio Communication Tester	CMW500	140748	R&S	2014-10-28	2015-10-28
Wideband Radio Communication Tester	CMW500	100697	R&S	2014-11-03	2015-11-03
Signal & Spectrum Analyzer	FSW	100656	R&S	2014-11-04	2015-11-04
PXA Signal Analyzer	N9030A	MY52350977	Agilent	2014-10-24	2015-10-24
PSG Analog Signal Generator	E8257D	MY51501209	Agilent	2014-11-07	2015-11-07
EPM Series Power Meter	E4419B	GB41293846	Agilent	2014-09-22	2015-09-22
POWER SENSOR	E9300H	MY41495838	Agilent	2014-09-23	2015-09-23
DC Power Supply	E3642A	MY40022438	Agilent	2015-02-23	2016-02-23
Temperature Humidity Chamber	SH-641	92009178	Espec	2015-03-19	2016-03-19
Loop Antenna	HFH2-Z2	100276	R&S	2014-05-19	2016-05-19
DIPOLE ANTENNA	UHA 9105	9105-2412	Schwarzbeck	2013-10-16	2015-10-16
LOG PERIODIC DIPOLE ANTENNA	HL040	353255/019	R&S	2013-09-06	2015-09-06
HORN Antenna	3115	00156245	ETS LINDGREN	2015-05-07	2017-05-07
HORN Antenna	BBHA 9120	9120D-637	Schwarzbeck	2013-09-05	2015-09-05
PRE-AMPLIFIER	8449B	3008A00691	Agilent	2014-11-25	2015-11-25
RF Power Amplifier	5S1G4	304866	AR	2015-02-09	2016-02-09
Hygrothermograph Data Logger	SK-L200TH2a	005077	SATO	2014-10-31	2015-10-31
Hygrothermograph Data Logger	SK-L200TH2a	005078	SATO	2014-10-31	2015-10-31
Power Divider	11636B	58456	Agilent	2015-04-27	2016-04-27
Highpass Filter	WHVX1.0/15G-10SS	39	Wainwright	2015-01-07	2016-01-07
Attenuator 10dB	8491B	MY39264180	Agilent	2015-06-23	2016-06-23
Attenuator 20dB	8493C	74158	Agilent	2014-08-21	2015-08-21

Table 4-1. Test Equipment

Note

- For equipment listed above that has calibration dates that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

5. SAMPLE CALCULATIONS

5.1. QPSK Modulation

Emission Designator = 8M62G7W

LTE BW = 8.62 MHz

G = Phase Modulation

7 = Quantized/Digital Info

W = Combination

5.2. 16QAM Modulation

Emission Designator = 8M45D7W

LTE BW = 8.45 MHz

D = Amplitude/Angle Modulation

7 = Quantized/Digital Info

W = Combiantion

5.3. Spurious Radiated Emission

Example: Spurious emission at 3700.40MHz

The receive spectrum analyzer reading at 3 meters with the EUT on the turn device was -81.0dBm. The gain of the substituted antenna is 8.1dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0dBm on the spectrum analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0dB at 3700.40MHz. So 6.1dB is added to the signal generator reading of -30.9dBm yielding -24.80dBm. The fundamental EIRP was 25.50dBm so this harmonic was 25.50dBm - (-24.80) = 50.3dBc.

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6. TEST RESULTS

6.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (TX)					
2.1046 90.635	Conducted Output Power	< 100 Watts	CONDUCTED	PASS	Section 6.2
2.1049	Occupied Bandwidth	N/A		PASS	Section 6.3
2.1051 90.691	Conducted Band Edge / Spurious Emissions	> 43 + 10log ₁₀ (P[Watts]) for all out-of-band emissions except > 50 + 10log ₁₀ (P[Watts]) at Band Edge and for all out-of-band emissions within 37.5kHz of Block Edge		PASS	Section 6.4
2.1055 90.213	Frequency Stability	< 2.5 ppm		PASS	Section 6.5
2.1051 90.691	Radiated Spurious Emissions	> 43 + 10log ₁₀ (P[Watts]) for all out-of-band emissions except > 50 + 10log ₁₀ (P[Watts]) at Band Edge and for all out-of-band emissions within 37.5kHz of Block Edge	RADIATED	PASS	Section 6.6

Table 6-1. Summary of Test Results

Test Note

1. All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
2. The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, couplers, and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
3. All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and couplers.
4. The automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Rohde & Schwarz and SAMSUNG Electronics "CMWrun", Version 1.8.1.

6.2. Conducted Output Power

§90.635

Channel	Channel BW [MHz]	Mod.	RB Size	RB Offset	Cond. Power [dBm]	Cond. Power [Watt]	Limit [dBm]	Margin [dB]
26697	1.4	QPSK	1	5	22.92	0.196	50	27.08
26697	1.4	16QAM	1	3	22.09	0.162	50	27.91
26783	1.4	QPSK	1	3	23.01	0.200	50	26.99
26783	1.4	16QAM	1	5	22.13	0.163	50	27.87
26705	3.0	QPSK	1	14	22.94	0.197	50	27.06
26705	3.0	16QAM	1	14	21.73	0.149	50	28.27
26775	3.0	QPSK	1	14	23.10	0.204	50	26.90
26775	3.0	16QAM	1	7	21.90	0.155	50	28.10
26715	5.0	QPSK	1	24	22.78	0.190	50	27.22
26715	5.0	16QAM	1	0	21.91	0.155	50	28.09
26765	5.0	QPSK	1	0	22.91	0.195	50	27.09
26765	5.0	16QAM	1	0	21.96	0.157	50	28.04
26740	10.0	QPSK	1	0	22.88	0.194	50	27.12
26740	10.0	16QAM	1	0	22.04	0.160	50	27.96

Table 6-2. LTE Band 26 Conducted Output Power Data

Test Note

1. The device was tested under all modulations, RB sizes and offsets, and channel bandwidth configurations and the worst case emissions are reported in the table above.

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6.3. Occupied Bandwidth

§2.1049

Test Overview

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 radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedure Used

KDB 971168 v02r02 – Section 4.2

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% Occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1~5% of the expected OBW
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2~7 were repeated after changing the RBW such that it would be within 1~5% of the 99% occupied bandwidth observed in Step 7

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

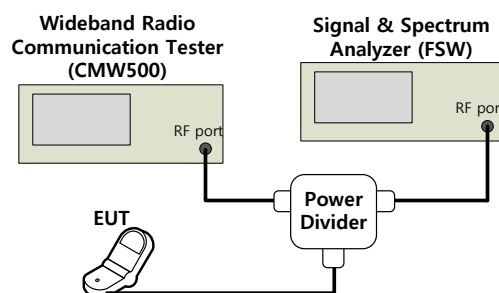
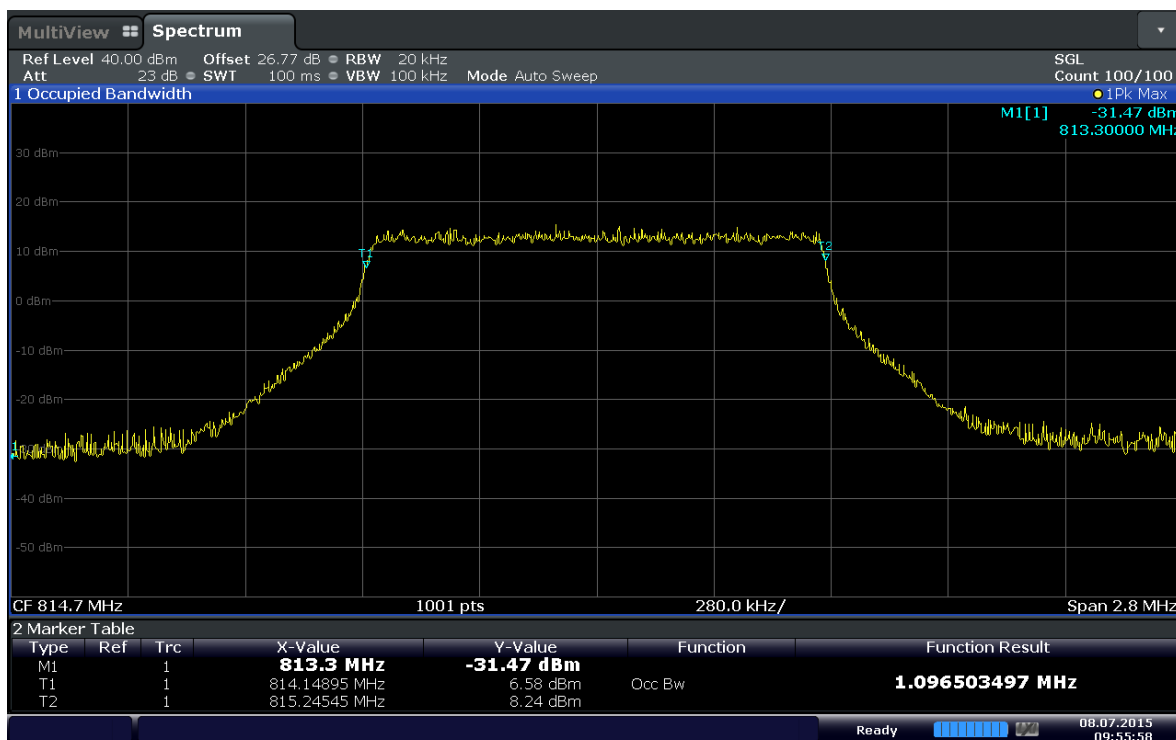


Figure 6-1. Test Instruments & Measurement Setup

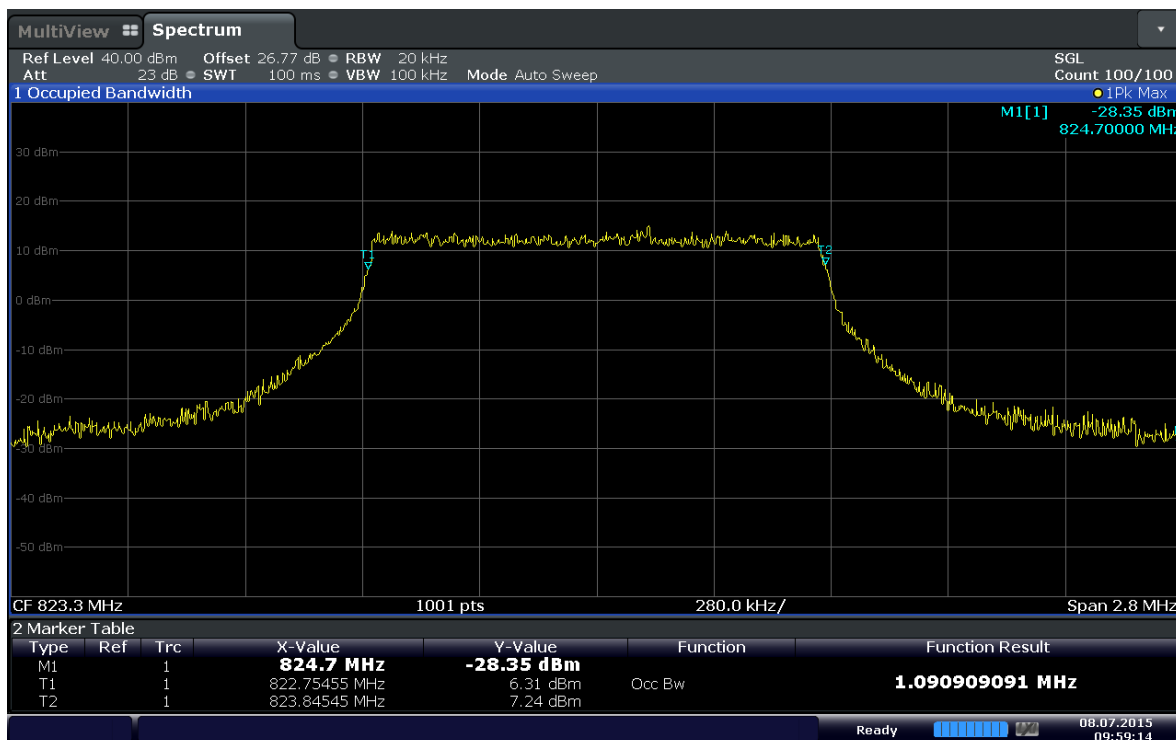


Test Plots



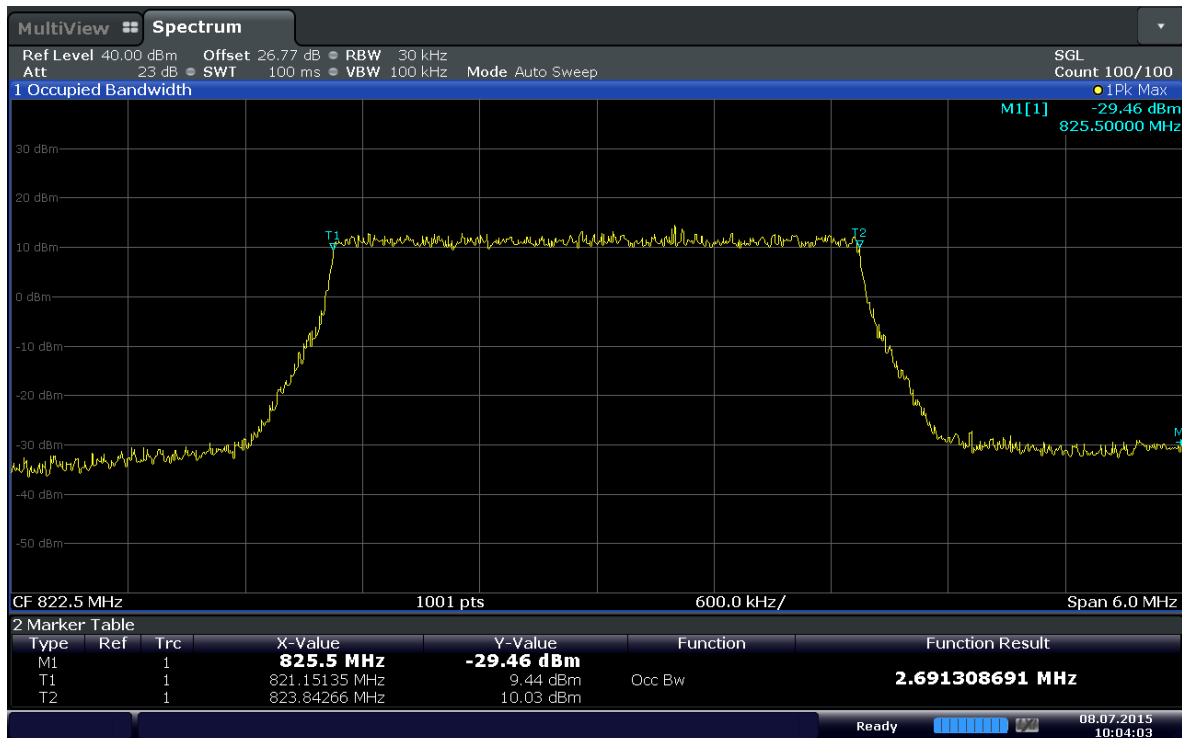
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Plot 6-1. Occupied Bandwidth Plot (Band 26 – 1.4MHz QPSK - RB Size 6)



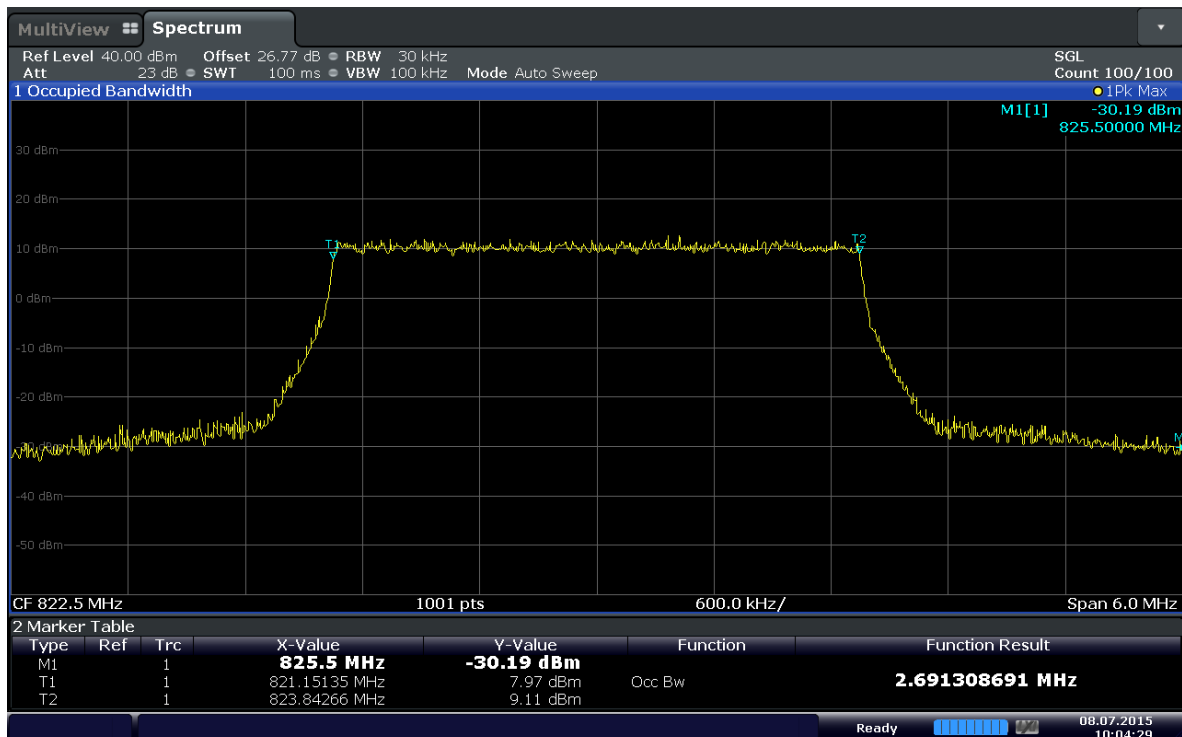
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Plot 6-2. Occupied Bandwidth Plot (Band 26 – 1.4MHz 16QAM - RB Size 6)



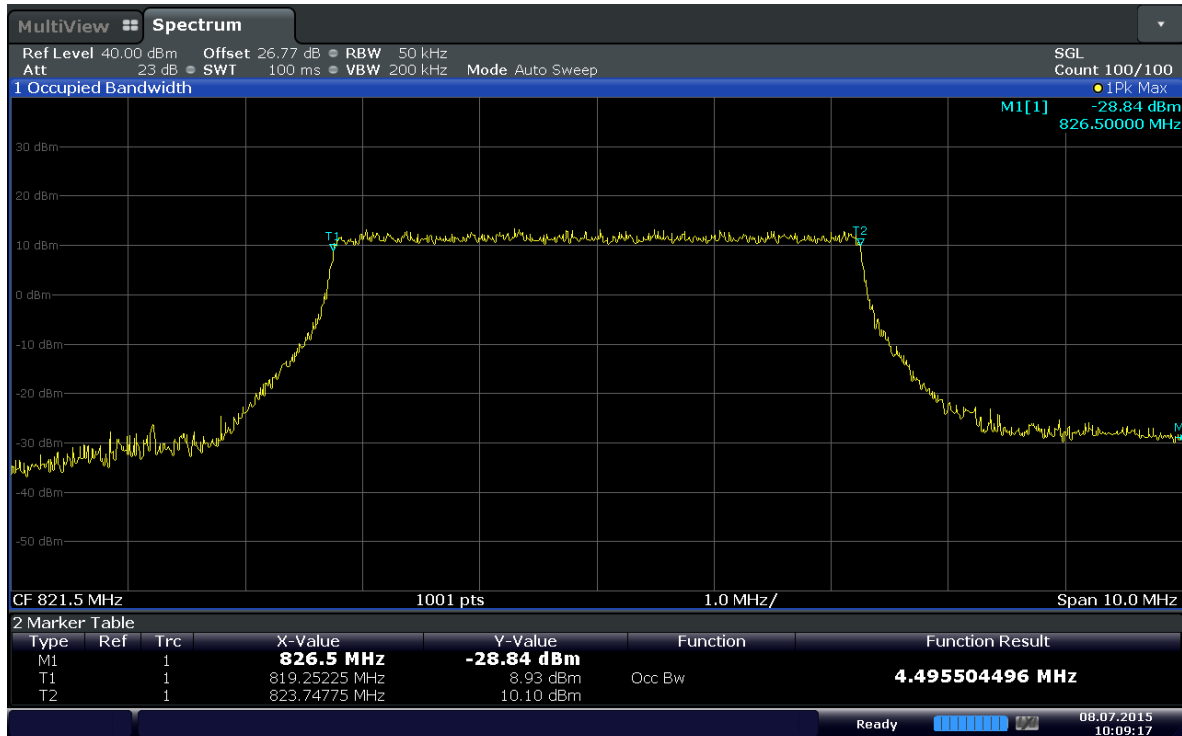
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Plot 6-3. Occupied Bandwidth Plot (Band 26 – 3.0MHz QPSK - RB Size 15)



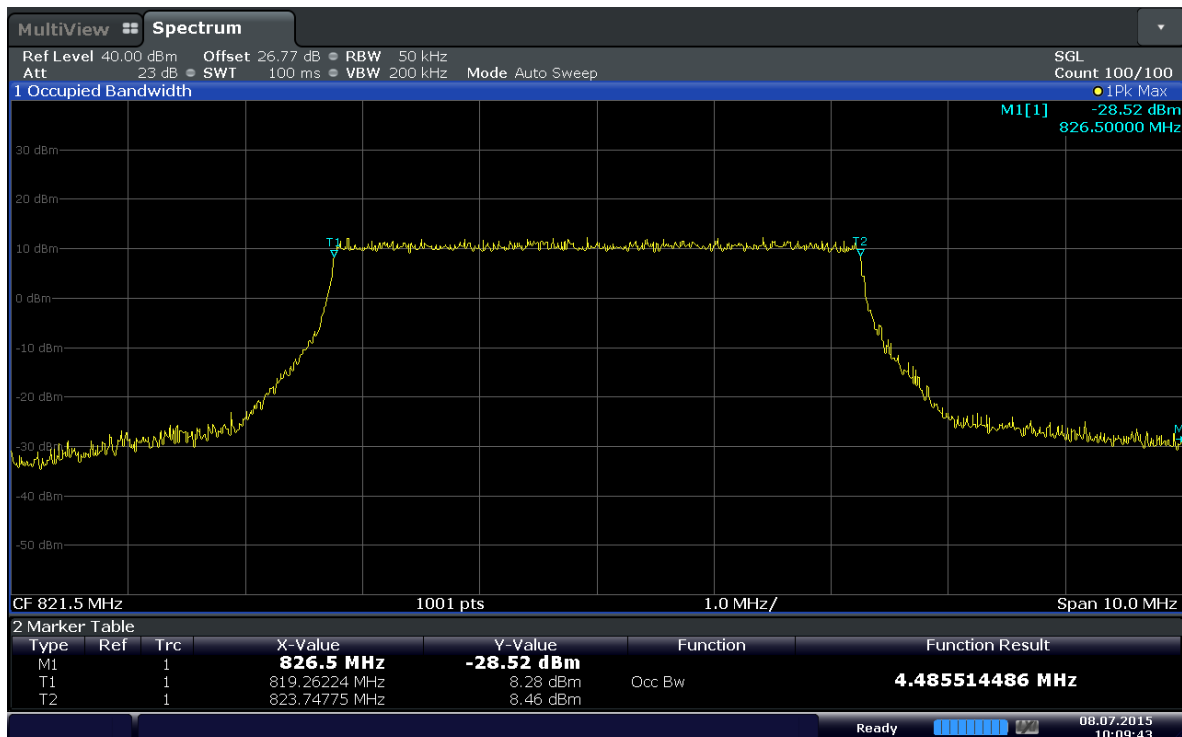
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Plot 6-4. Occupied Bandwidth Plot (Band 26 – 3.0MHz 16QAM - RB Size 15)



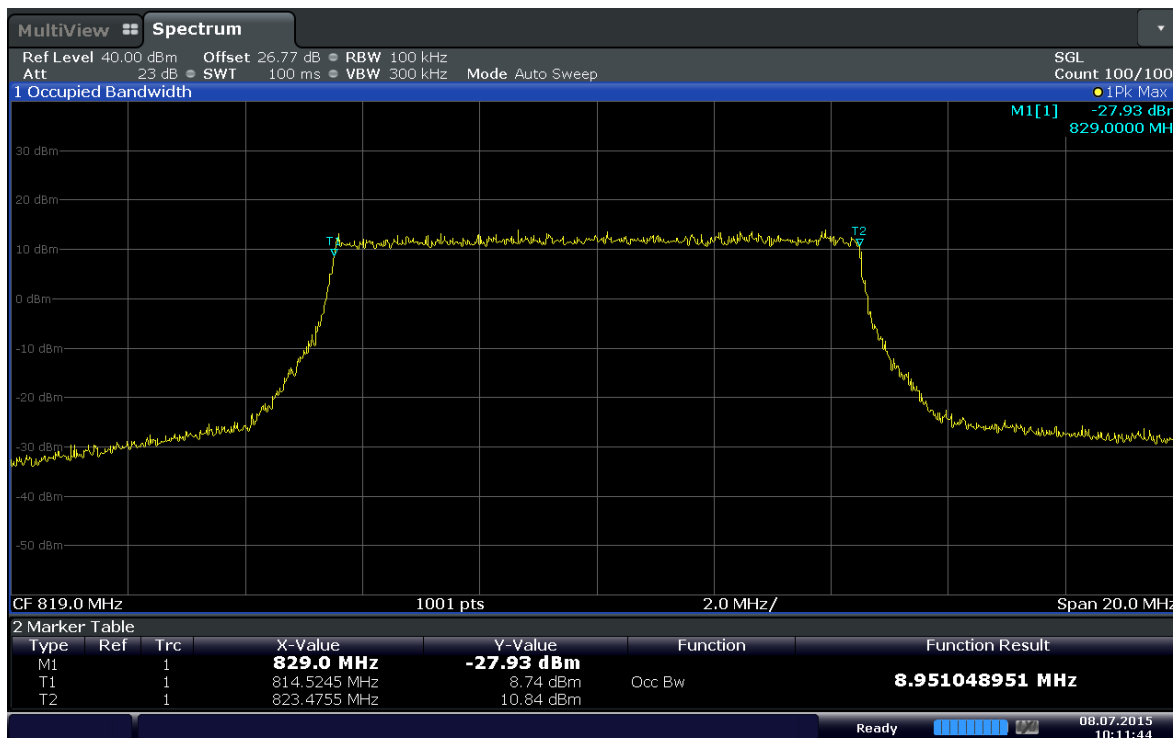
Date: 8.JUL.2015 10:09:17

Plot 6-5. Occupied Bandwidth Plot (Band 26 – 5.0MHz QPSK - RB Size 25)



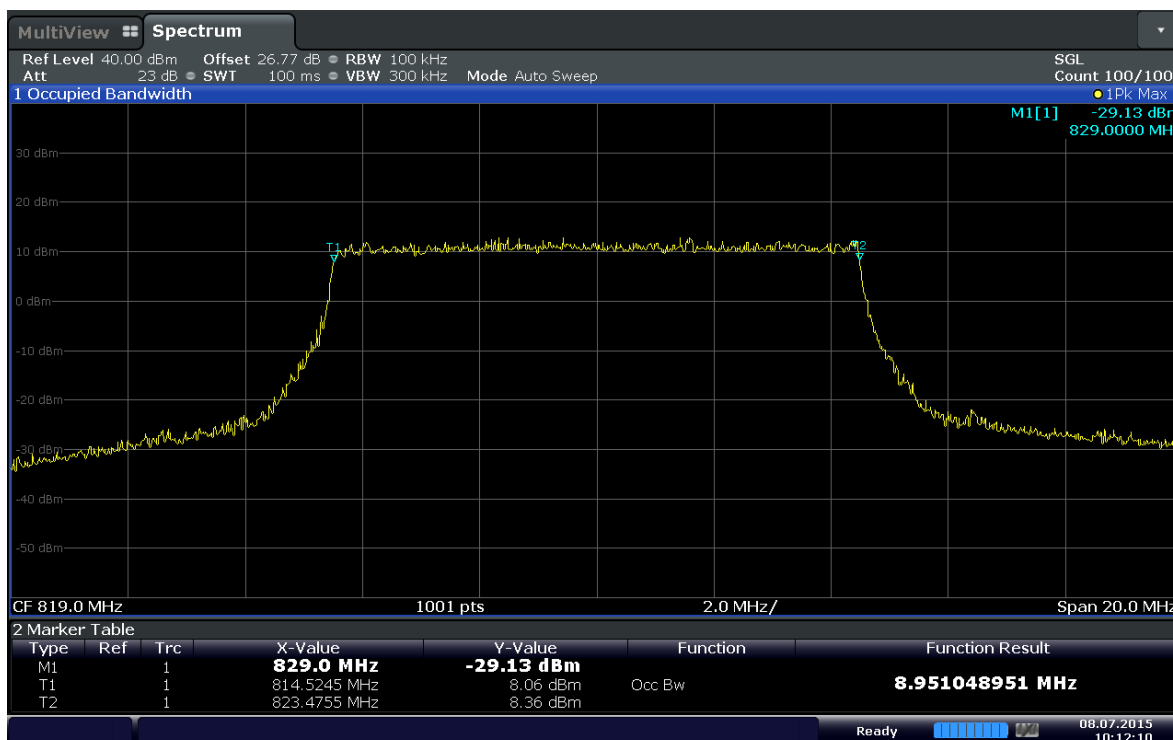
Date: 8.JUL.2015 10:09:43

Plot 6-6. Occupied Bandwidth Plot (Band 26 – 5.0MHz 16QAM - RB Size 25)



Date: 8.JUL.2015 10:11:45

Plot 6-7. Occupied Bandwidth Plot (Band 26 - 10.0MHz QPSK - RB Size 50)



Date: 8.JUL.2015 10:12:11

Plot 6-8. Occupied Bandwidth Plot (Band 26 - 10.0MHz 16QAM - RB Size 50)



6.4. Spurious and Harmonic Emissions at Antenna Terminal §2.1051 §90.691

Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is $43 + 10 \log_{10}(P_{\text{[Watts]}})$, where P is the transmitter power in Watts. Limit equivalent to -13dBm, calculation shown below.

$$\begin{aligned}43 + 10 \log_{10}(1.567\text{W}) &= 44.95 \text{ dB} \\1.567\text{W} &= 31.95 \text{ dBm} \\31.95 \text{ dBm} - 44.95 \text{ dB} &= -13 \text{ dBm}\end{aligned}$$

For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

Test Procedure Used

KDB 971168 v02r02 – Section 6.0

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 10GHz (separated into two plots per channel)
2. RBW $\geq$ 1MHz
3. VBW $\geq$ 3 x RBW
4. Detector = RMS
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

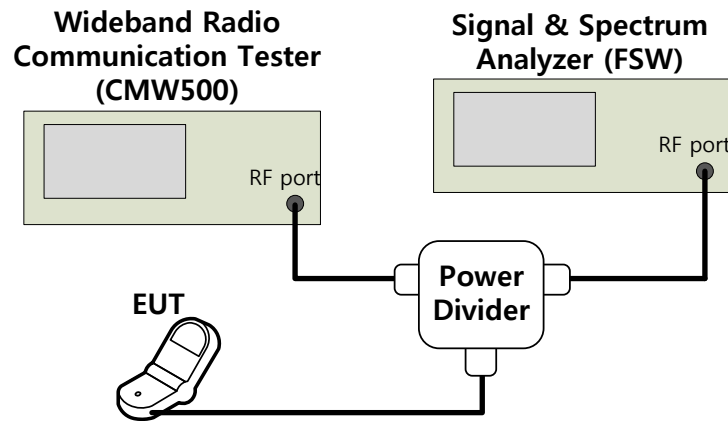


Figure 6-2. Test Instruments & Measurement Setup

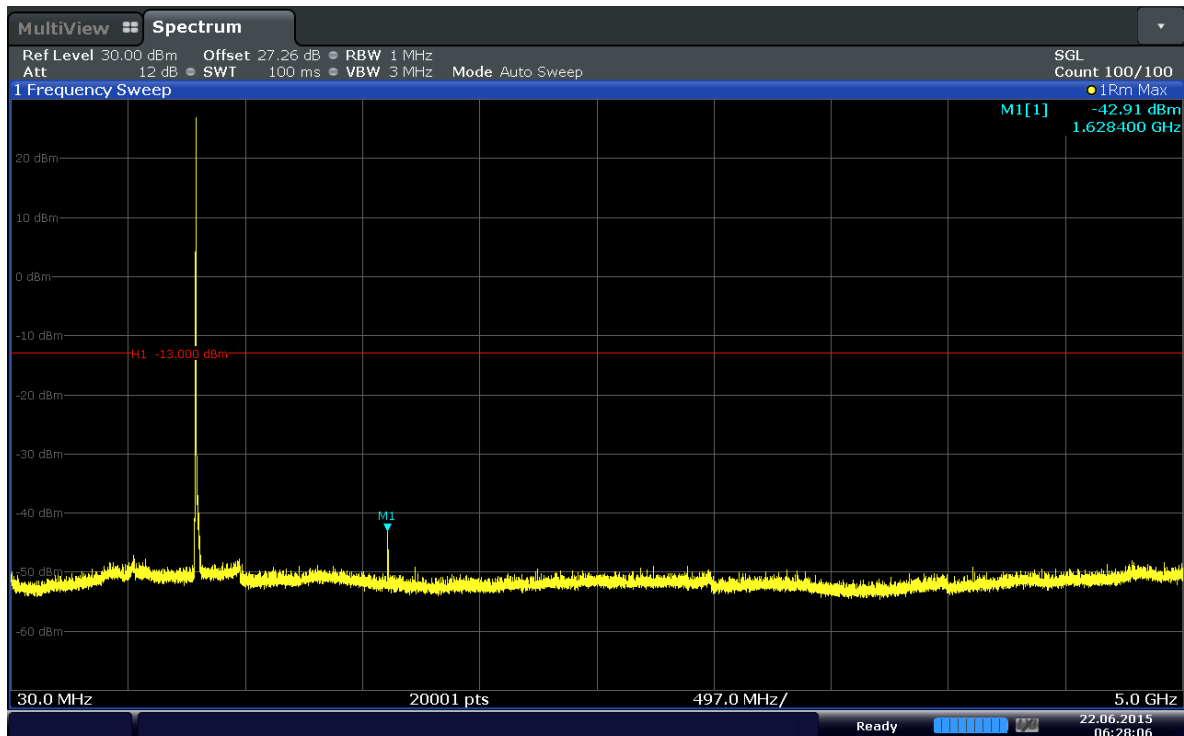
Test Note

1. For channel edge emissions, signal analyzer's "Channel power ACLR" measurement capability is used.

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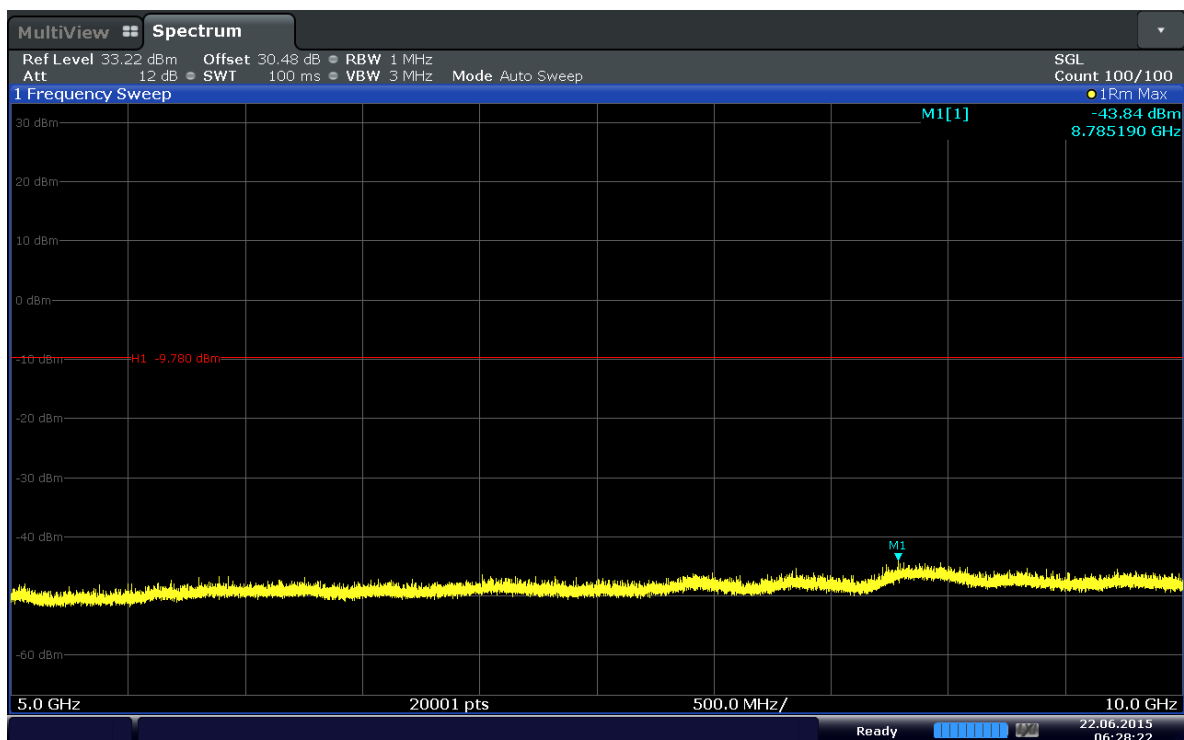


Test Plots



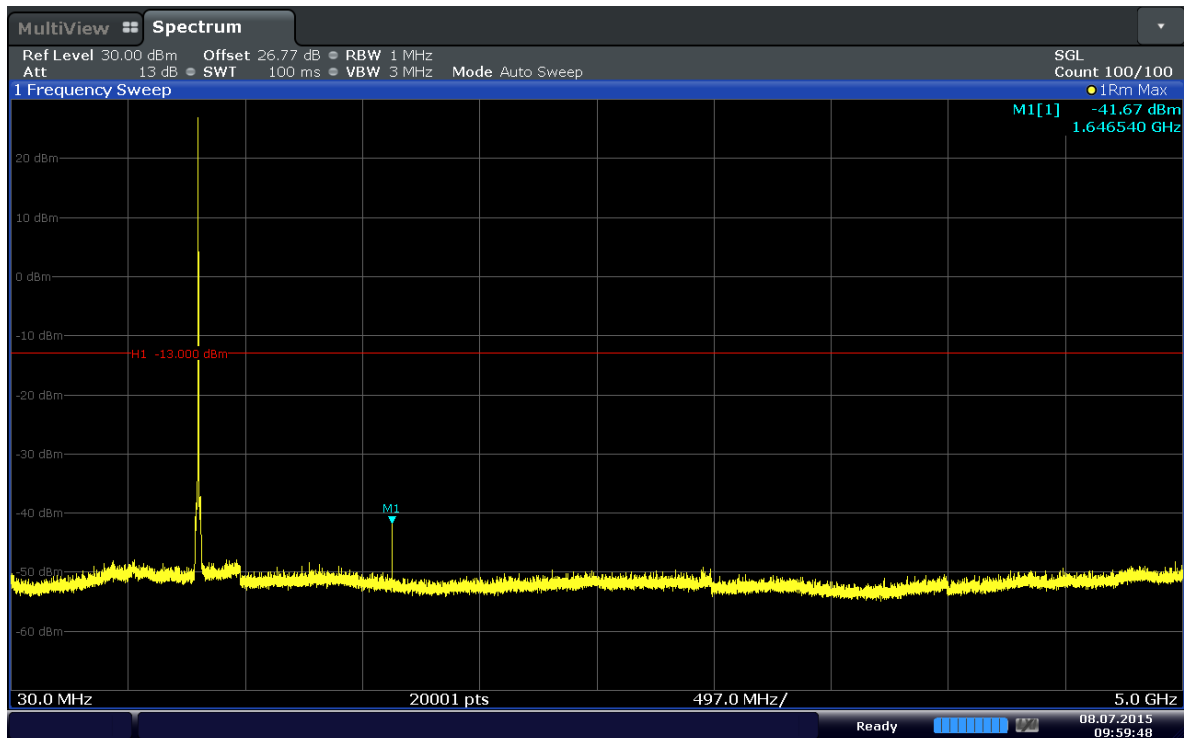
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Plot 6-9. Conducted Spurious Plot (Band 26–1.4MHz–QPSK–RB Size 1–RB Offset 0–Ch.26697)



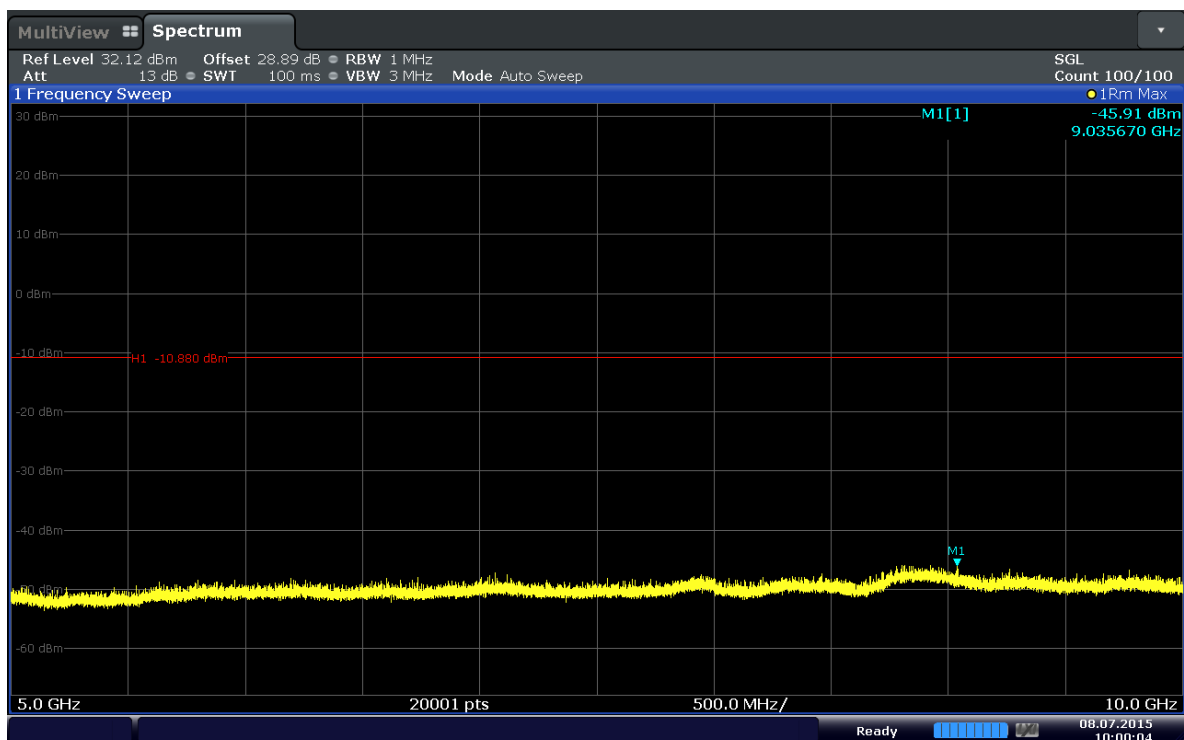
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Plot 6-10. Conducted Spurious Plot (Band 26–1.4MHz–QPSK–RB Size 1–RB Offset 0–Ch.26697)



Date: 8.JUL.2015 09:59:48

Plot 6-11. Conducted Spurious Plot (Band 26–1.4MHz–QPSK–RB Size 1–RB Offset 3–Ch.26783)



Date: 8.JUL.2015 10:00:05

Plot 6-12. Conducted Spurious Plot (Band 26–1.4MHz–QPSK–RB Size 1–RB Offset 3–Ch.26783)



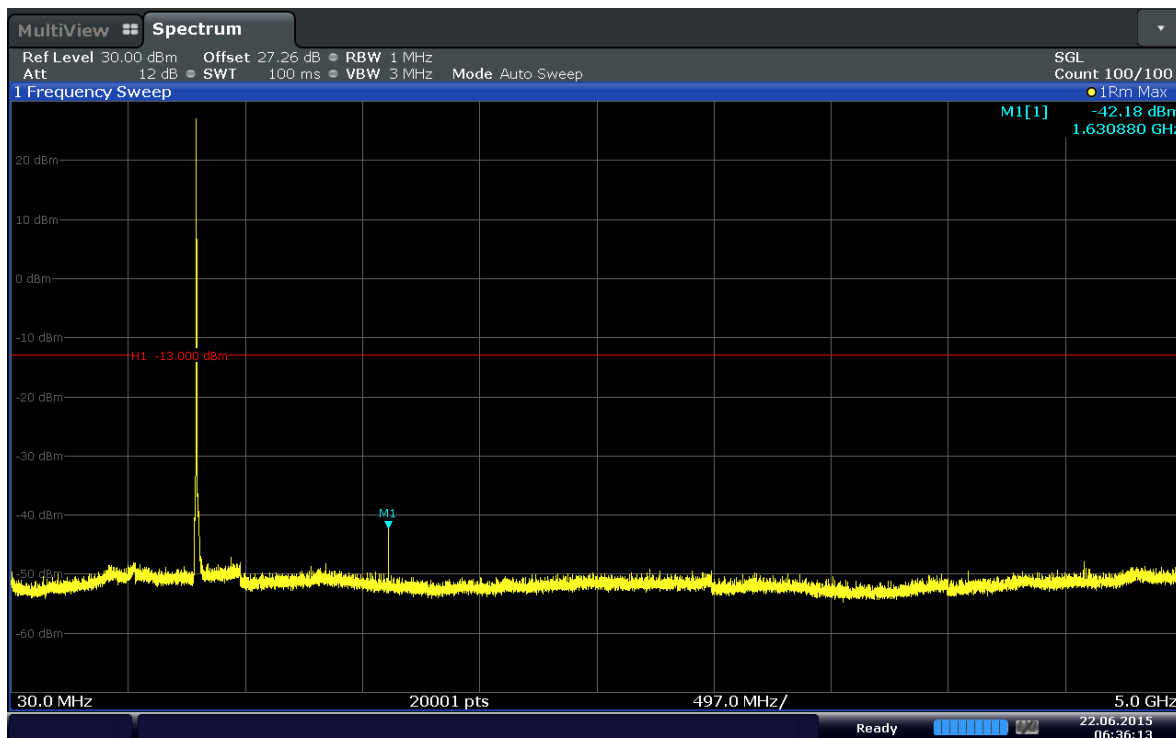
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Plot 6-13. Low Channel Emission Mask Plot (Band26 – 1.4MHz – QPSK – RB Size 6)



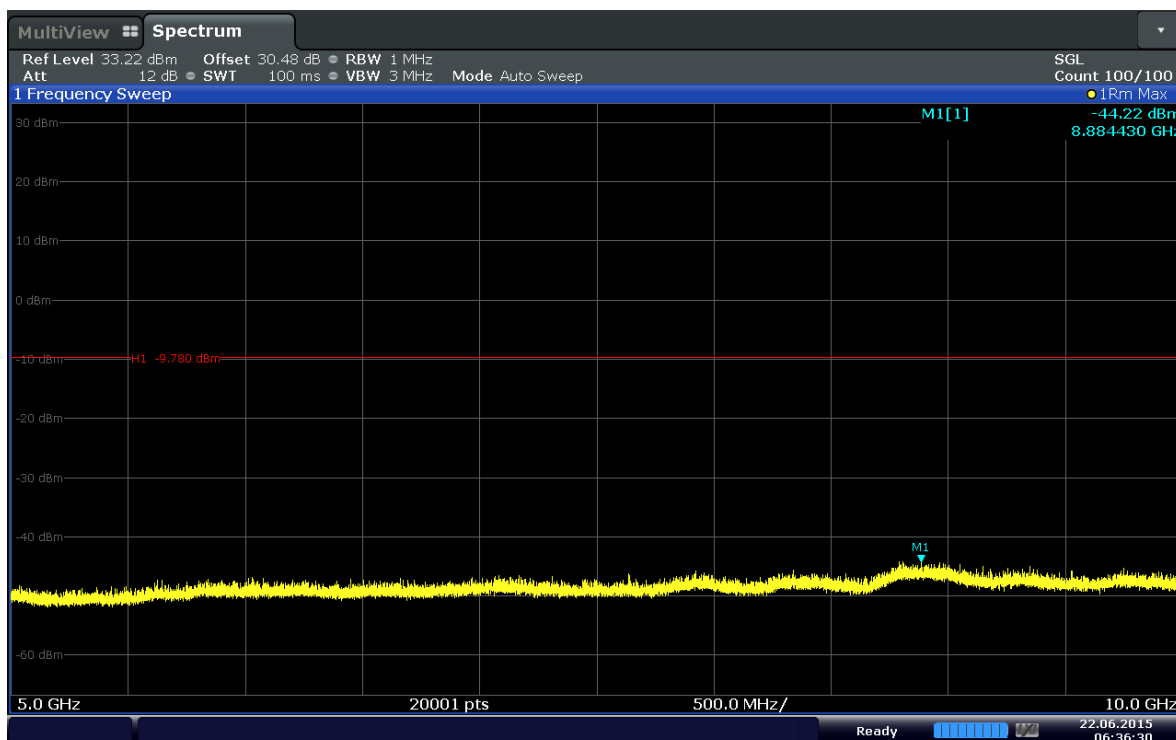
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Plot 6-14. High Channel Emission Mask Plot (Band26 – 1.4MHz – QPSK – RB Size 6)



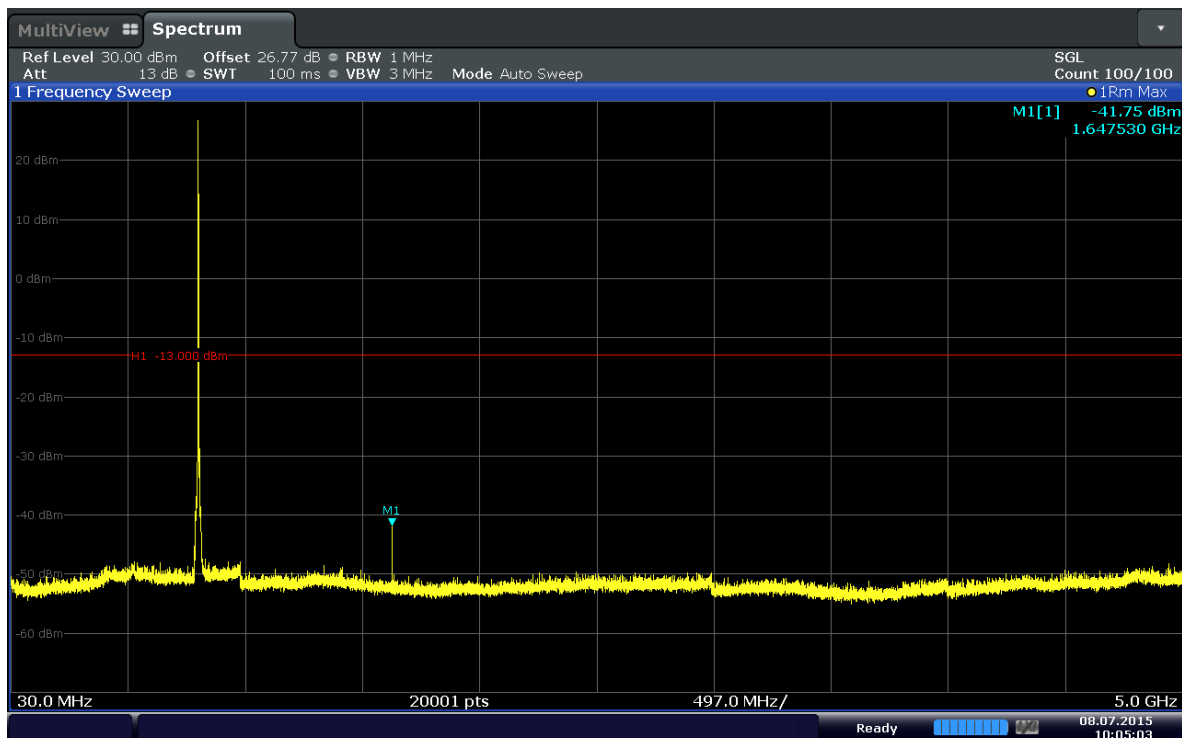
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Plot 6-15. Conducted Spurious Plot (Band 26–3.0MHz–QPSK–RB Size 1–RB Offset 7–Ch.26705)



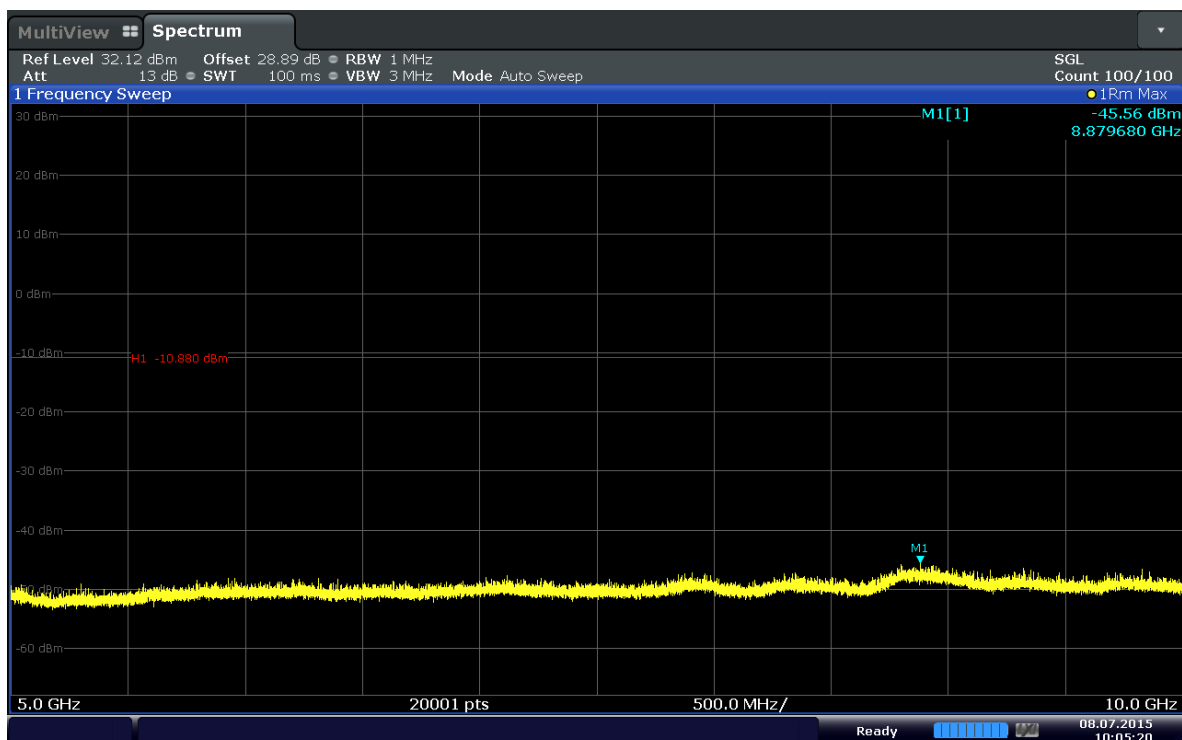
Date: 22.JUN.2015 06:36:31

Plot 6-16. Conducted Spurious Plot (Band 26–3.0MHz–QPSK–RB Size 1–RB Offset 7–Ch.26705)



Date: 8.JUL.2015 10:05:03

Plot 6-17. Conducted Spurious Plot (Band 26–3.0MHz–QPSK–RB Size 1–RB Offset 14–Ch.26775)



Date: 8.JUL.2015 10:05:20

Plot 6-18. Conducted Spurious Plot (Band 26–3.0MHz–QPSK–RB Size 1–RB Offset 14–Ch.26775)



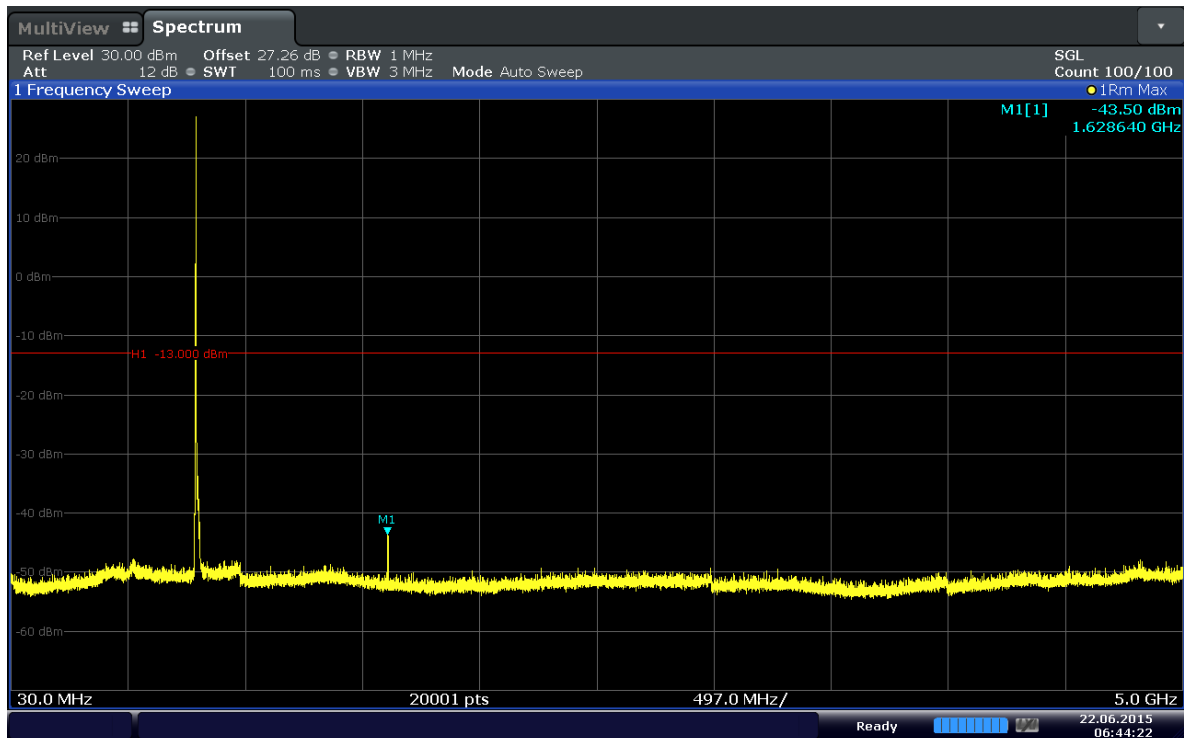
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Plot 6-19. Low Channel Emission Mask Plot (Band26 – 3.0MHz – QPSK – RB Size 15)



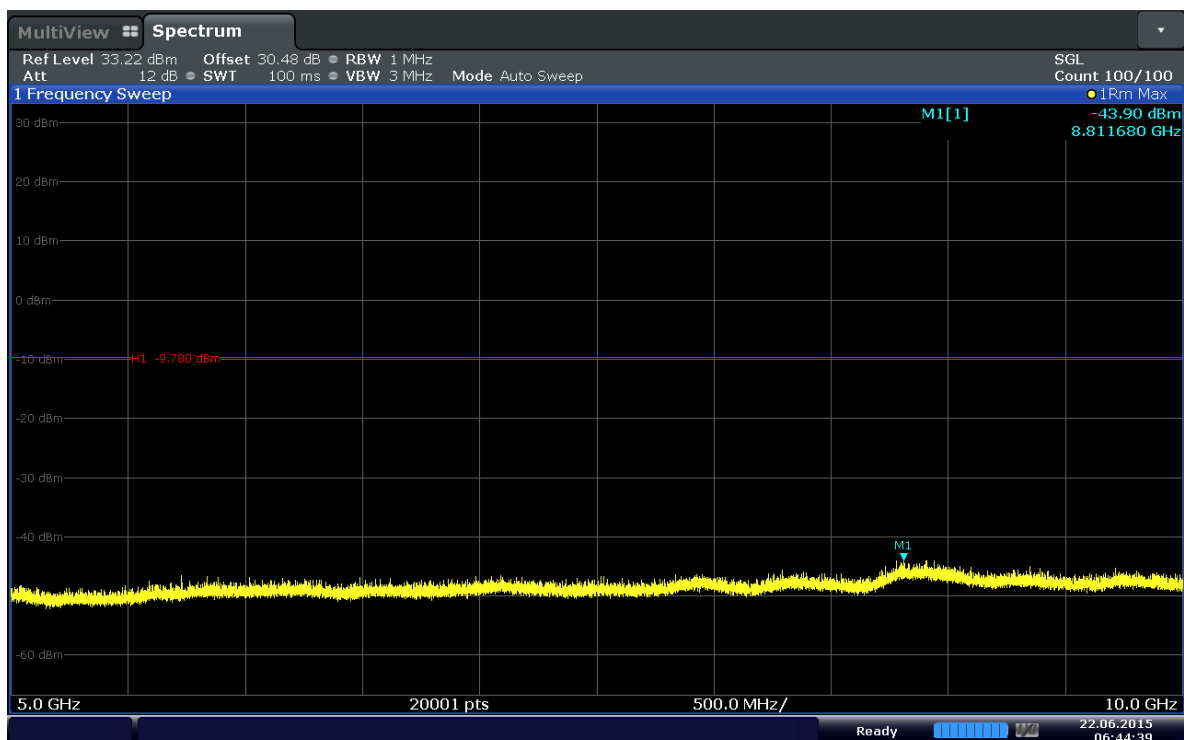
Date: 8 JUL 2015 13:05:15

Plot 6-20. High Channel Emission Mask Plot (Band26 – 3.0MHz – QPSK – RB Size 15)



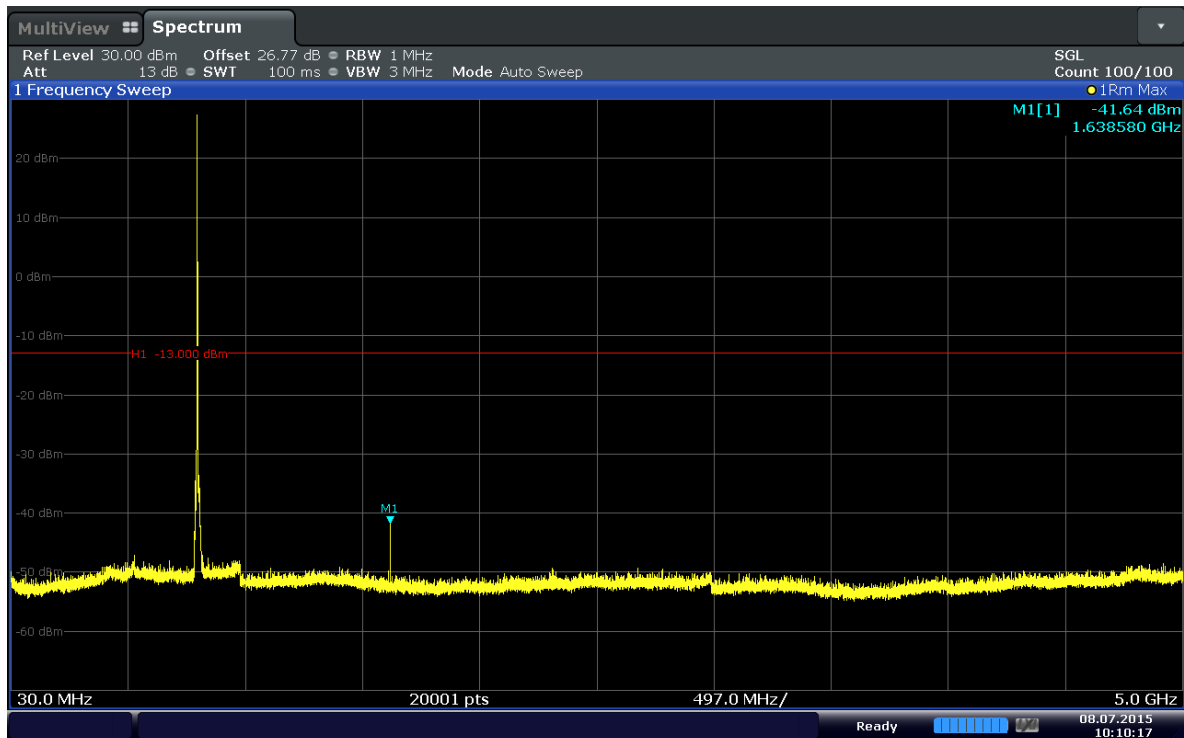
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Plot 6-21. Conducted Spurious Plot (Band 26–5.0MHz–QPSK–RB Size 1–RB Offset 0–Ch.26715)



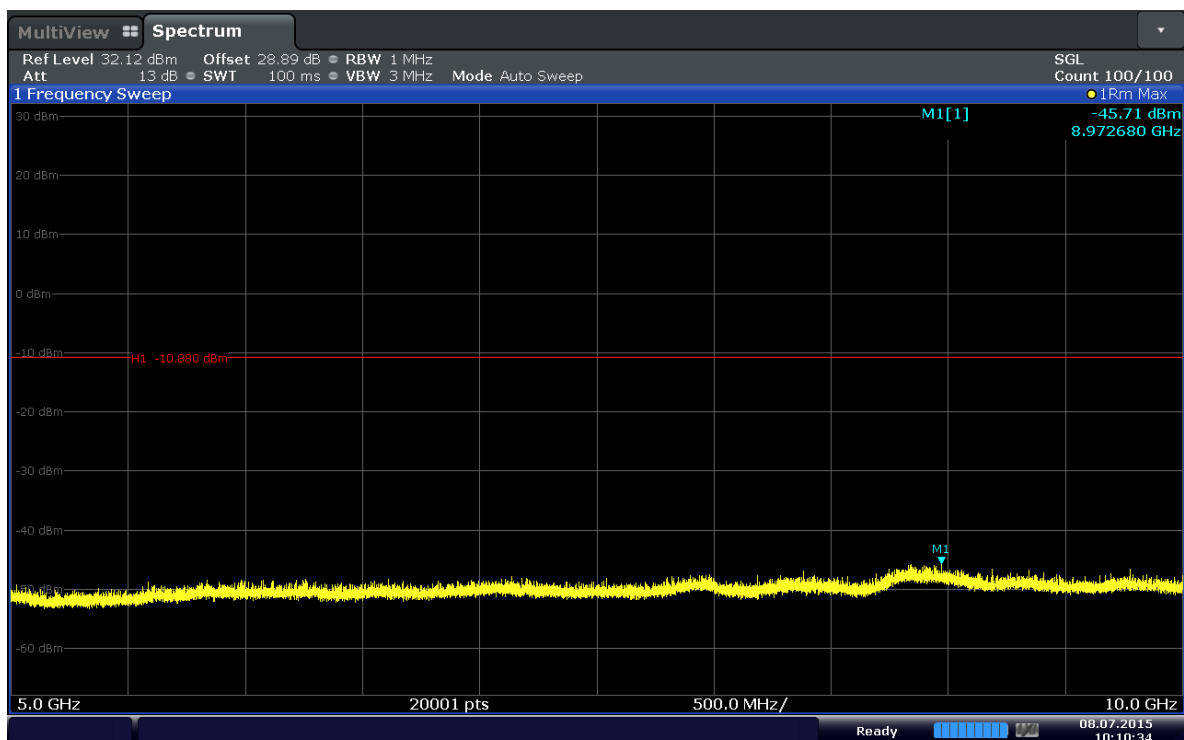
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Plot 6-22. Conducted Spurious Plot (Band 26–5.0MHz–QPSK–RB Size 1–RB Offset 0–Ch.26715)



Date: 8.JUL.2015 10:10:17

Plot 6-23. Conducted Spurious Plot (Band 26–5.0MHz–QPSK–RB Size 1–RB Offset 0–Ch.26765)



Date: 8.JUL.2015 10:10:34

Plot 6-24. Conducted Spurious Plot (Band 26–5.0MHz–QPSK–RB Size 1–RB Offset 0–Ch.26765)



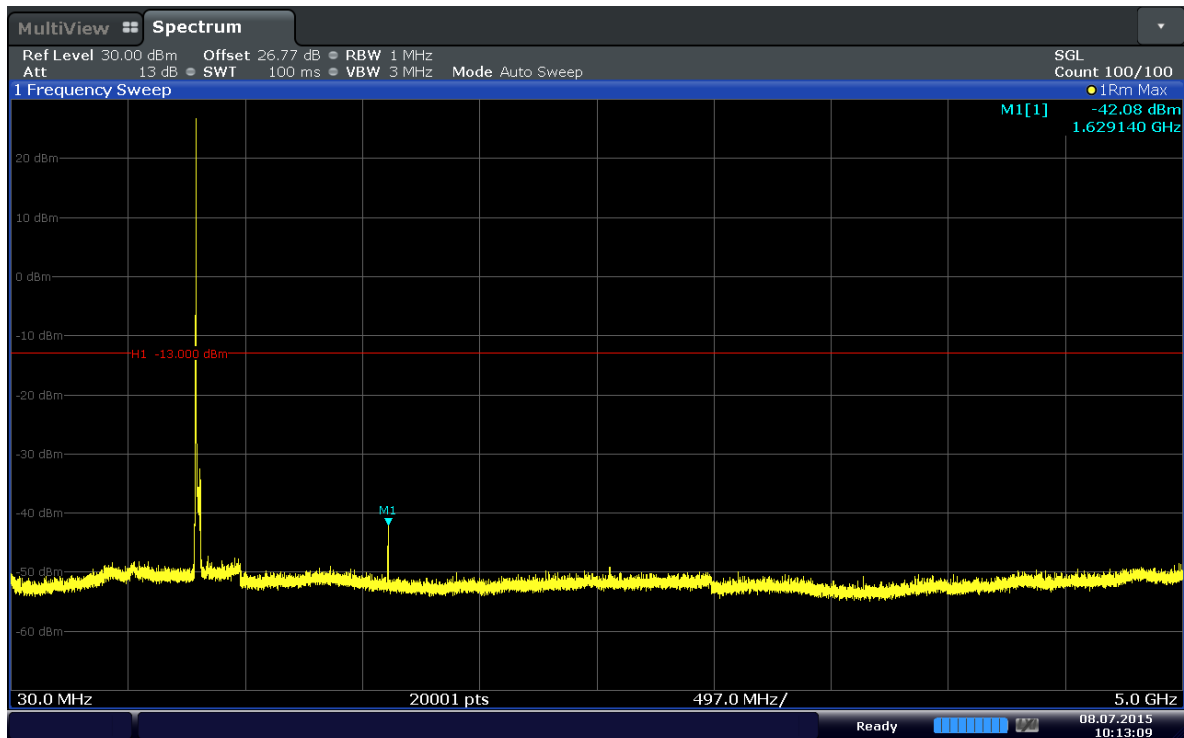
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Plot 6-25. Low Channel Emission Mask Plot (Band26 – 5.0MHz – QPSK – RB Size 25)



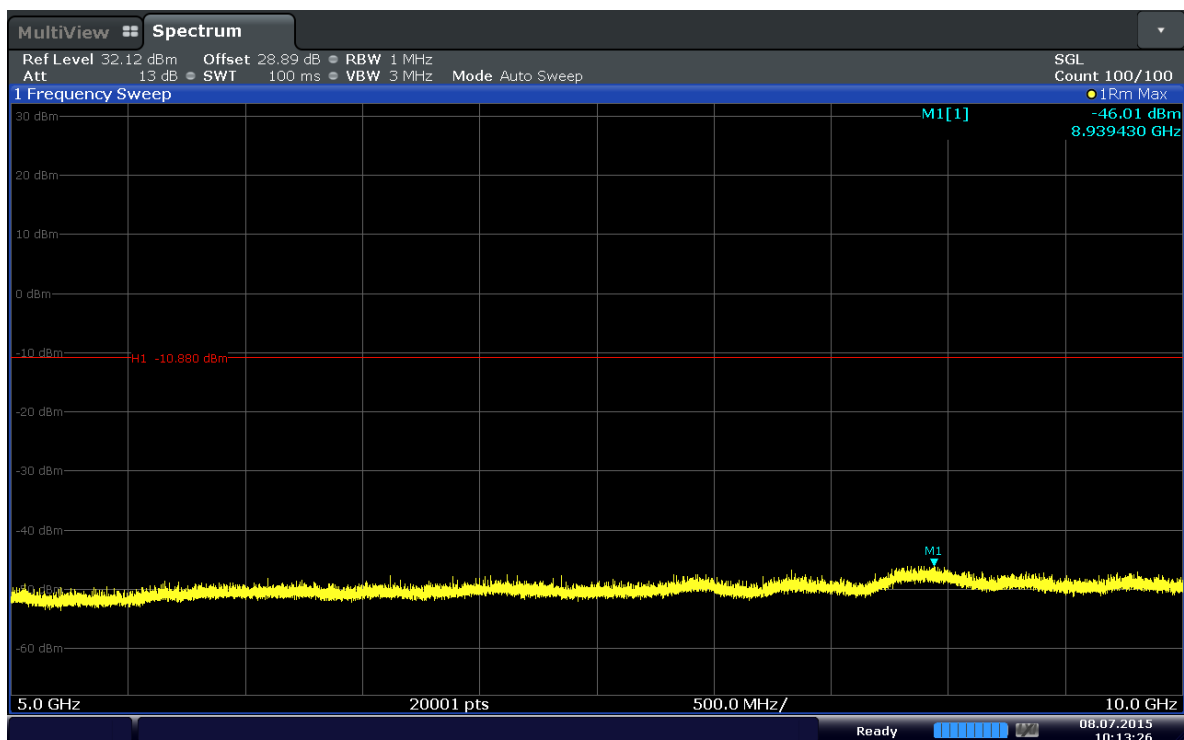
Date: 8 JUL 2015 13:09:35

Plot 6-26. High Channel Emission Mask Plot (Band26 – 5.0MHz – QPSK – RB Size 25)



Date: 8.JUL.2015 10:13:10

Plot 6-27. Conducted Spurious Plot (Band 26–10.0MHz–QPSK–RB Size 1–RB Offset 0–Ch.26740)



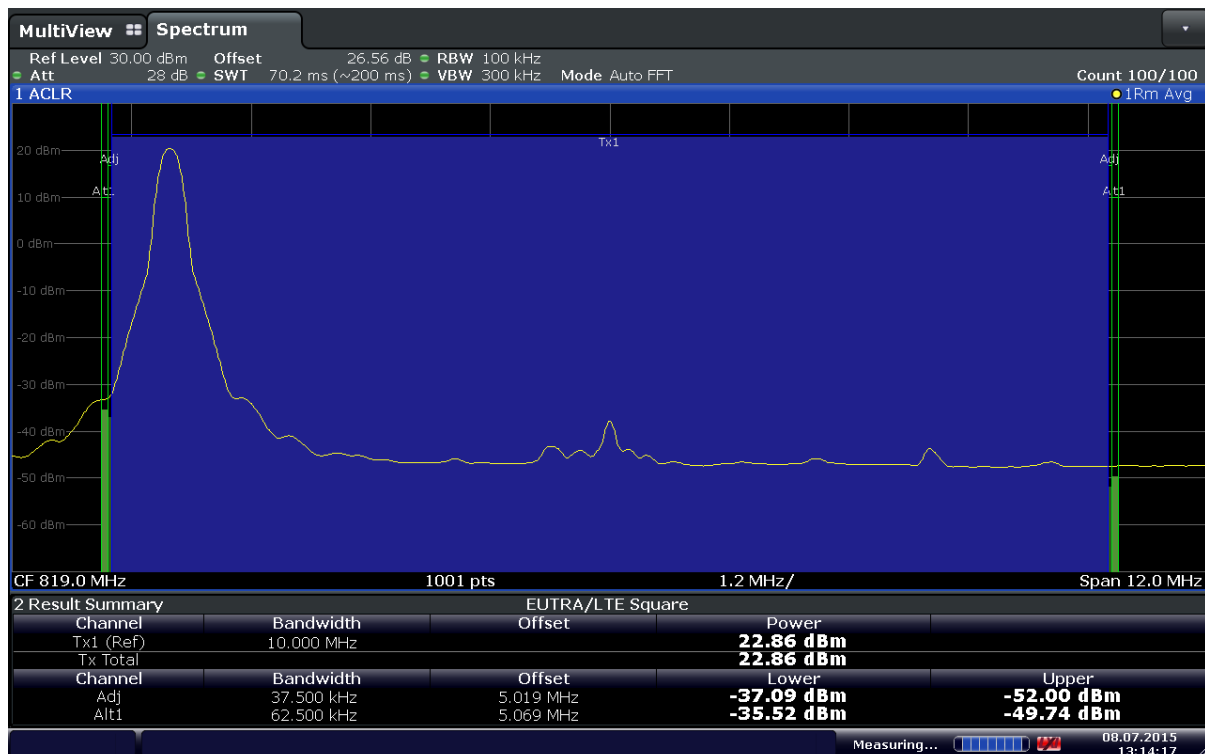
Date: 8.JUL.2015 10:13:27

Plot 6-28. Conducted Spurious Plot (Band 26–10.0MHz–QPSK–RB Size 1–RB Offset 0–Ch.26740)



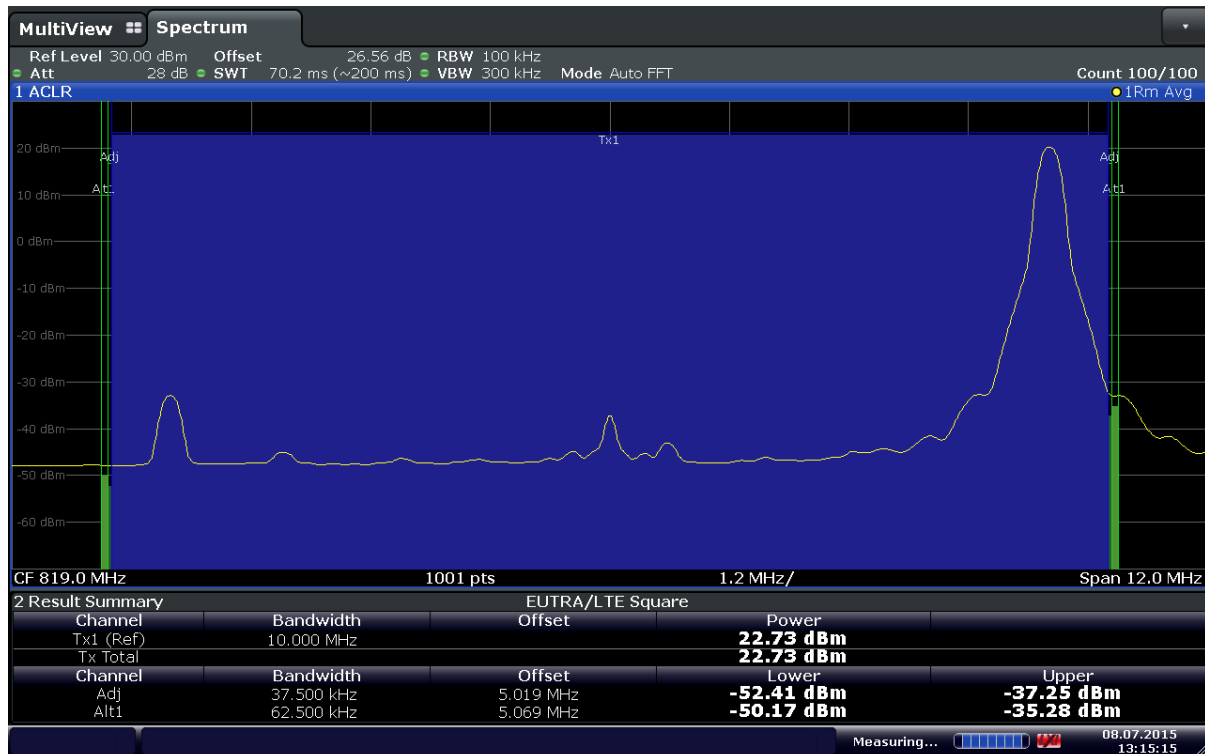
Date: 8 JUL 2015 13:12:41

Plot 6-29. Low/High Channel Emission Mask Plot (Band26 – 10.0MHz – QPSK – RB Size 50)



Date: 8 JUL 2015 13:14:17

Plot 6-30. Low Channel Emission Mask Plot (Band26 – 10.0MHz – QPSK – RB Size 1 – RB Offset 0)



Date: 8 JUL 2015 13:15:15

Plot 6-31. High Channel Emission Mask Plot (Band26 – 10.0MHz – QPSK – RB Size 1–RB Offset 49)

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6.5. Frequency Stability / Temperature Variation
§2.1055 §90.213

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-C-2004. The frequency stability of the transmitter is measured by:

1. Temperature: The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
2. Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for other than hand carried battery equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point(=Batt.End) which shall be specified by the manufacturer.

The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

Test Procedure Used

ANSI/TIA-603-C-2004

Test Settings

1. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
2. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of time sufficient to stabilize EUT at each temperature level shall be allowed prior to frequency measurement.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

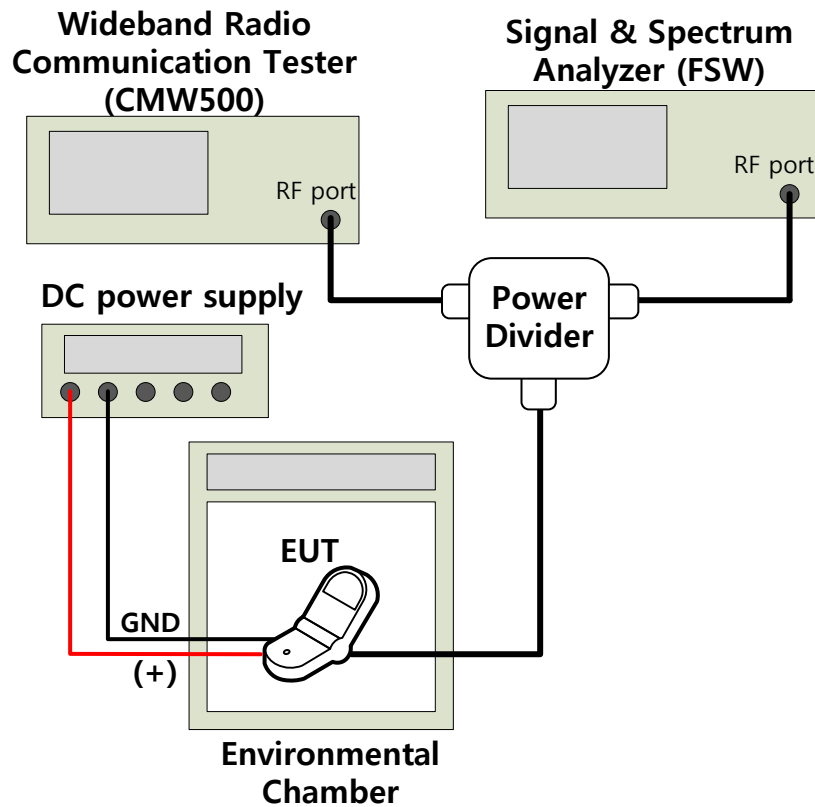


Figure 6-3. Test Instruments & Measurement Setup

Test Notes

1. MCF is the Measured Carrier Frequency
ACF is the Assigned Carrier Frequency
2. Calculate the ppm frequency error by the following:

$$\text{ppm error} = \left(\frac{\text{MCF}_{[\text{MHz}]}}{\text{ACF}_{[\text{MHz}]}} - 1 \right) \times 10^6$$

Mode : LTE Band 26
Channel : 26740
Operating Frequency : 819.0 MHz
Reference Voltage : 3.85 VDC

Voltage [%]	Power [VDC]	Temp [°C]	ACF [MHz]	MCF [MHz]	Freq. Dev. [Hz]	ppm error	Limit [ppm]
100 %	3.85	-30	819.0	818.999995	-4.51	-0.006	±2.5
		-20	819.0	819.000005	4.59	0.006	
		-10	819.0	819.000004	3.98	0.005	
		0	819.0	819.000004	4.46	0.005	
		+10	819.0	819.000005	4.76	0.006	
		+20	819.0	819.000004	4.41	0.005	
		+30	819.0	819.000004	3.92	0.005	
		+40	819.0	818.999996	-4.48	-0.005	
		+50	819.0	818.999994	-6.41	-0.008	
Batt.End	3.40	+20	819.0	819.000005	5.38	0.007	

Table 6-3. Frequency Stability Data

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6.6. Radiated Spurious Emissions Measurements §2.1051 §90.691

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-C-2004 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using dipole antennas. Measurements on signals operating above 1GHz are performed using broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedure Used

KDB 971168 v02r02 – Section 5.8

ANSI/TIA-603-C-2004 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW $\geq 3 \times$ RBW
3. Span = 1.5 times the OBW
4. No. of sweep points $\geq 2 \times$ span / RBW
5. Detector = Max Peak
6. Trace mode = max hold
7. The trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

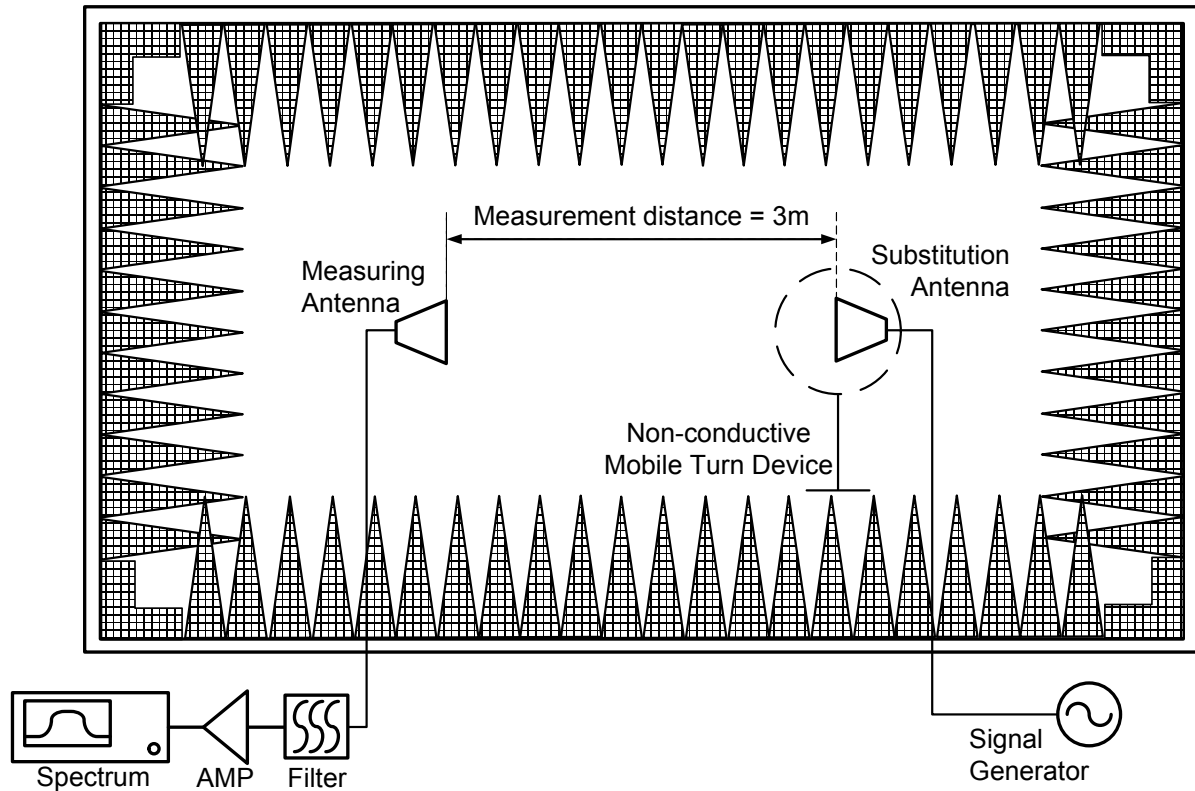


Figure 6-8. Test Instruments & Measurement Setup

Test Notes

1. The EUT was tested with Turn Device and the worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
2. This EUT was tested with its embedded battery.
3. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.

Test Results

Operating Frequency : 815.5 MHz
 Channel : 26705
 Modulation Signal : QPSK
 Band Width : 3.0 MHz
 RB Size / Offset : 1 / 14
 Distance : 3 Meters
 RSE Limit : -13 dBm

Freq. [MHz]	Ant Pol (H/V)	EUT Pol [degree]		S/A reading [dBm]	S/G Lev. [dBm]	Tx C/L [dB]	Ant. Gain [dBd]	RSE Level [dBm]
		Azimuth	Elevation					
1631.0	V	199	100	-42.88	-41.76	4.45	7.39	-38.82
2446.5	V	230	100	-70.33	-64.52	5.52	8.31	-61.73
3262.0	H	136	355	-72.20	-62.65	6.46	9.96	-59.15
4077.5	H	315	360	-76.25	-62.24	7.27	10.50	-59.01

Table 6-4. Radiated Spurious Data (LTE Band 26 – Low Channel)

Operating Frequency : 823.3 MHz
 Channel : 26783
 Modulation Signal : QPSK
 Band Width : 1.4 MHz
 RB Size / Offset : 1 / 3
 Distance : 3 Meters
 RSE Limit : -13 dBm

Freq. [MHz]	Ant Pol (H/V)	EUT Pol [degree]		S/A reading [dBm]	S/G Lev. [dBm]	Tx C/L [dB]	Ant. Gain [dBd]	RSE Level [dBm]
		Azimuth	Elevation					
1646.6	H	0	360	-44.17	-42.50	4.47	7.46	-39.52
2469.9	H	11	287	-68.42	-62.10	5.55	8.34	-59.31
3293.2	H	10	276	-73.20	-63.75	6.49	10.18	-60.06
4116.5	H	70	345	-75.88	-61.72	7.28	10.51	-58.49

Table 6-5. Radiated Spurious Data (LTE Band 26 – High Channel)

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7. CONCLUSION

The data collected relate only the item(s) tested and show that the Samsung Portable Handset FCC ID: A3LSMG9287 compliance with all the requirements of Parts 2 and 90 of the FCC rules.

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