LTE Band 26 (814 – 824 MHz) Uplink – 5 MHz BW-Middle Channel 819 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
120	-30	0	0	± 1.5
	-20	0	0	± 1.5
	-10	0	0	± 1.5
	0	0	0	± 1.5
	+10	0	0	± 1.5
	+20	0	0	± 1.5
	+30	0	0	± 1.5
	+40	0	0	± 1.5
	+50	0	0	± 1.5
102	+20	0	0	± 1.5
138		0	0	± 1.5

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

LTE Band 41 Downlink – 5 MHz BW-Middle Channel 2593 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
120	-30	0	0	± 1.5
	-20	0	0	± 1.5
	-10	0	0	± 1.5
	0	0	0	± 1.5
	+10	0	0	± 1.5
	+20	0	0	± 1.5
	+30	0	0	± 1.5
	+40	0	0	± 1.5
	+50	0	0	± 1.5
102	+20	0	0	± 1.5
138		0	0	± 1.5

LTE Band 41 Downlink Frequency Range – 5 MHz BW					
Channel	**Temperature (°C)**	**Voltage (VAC)**	**F_L (MHz)**	**F_H (MHz)**	**Limit (MHz)**
Low Channel	-30	120	2496.1878	-	>2496
	+20	102	2496.1848	-	
		120	2496.1653	-	
		138	2496.1803	-	
	+50	120	2496.1758	-	
High Channel	-30	120	-	2689.8089	<2690
	+20	102	-	2689.7995	
		120	-	2689.7815	
		138	-	2689.7785	
	+50	120	-	2689.7725	

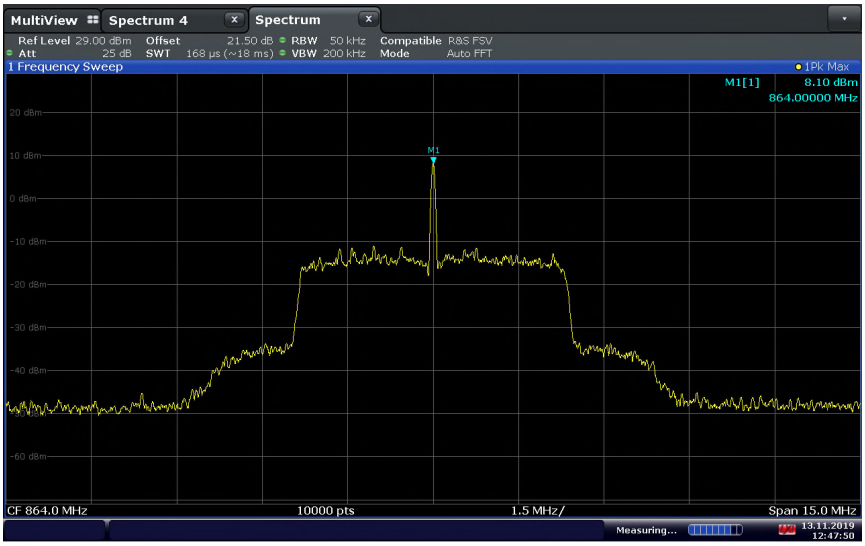
The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

LTE Band 41 Uplink – 5 MHz BW-Middle Channel 2593 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
120	-30	0	0	± 1.5
	-20	0	0	± 1.5
	-10	0	0	± 1.5
	0	0	0	± 1.5
	+10	0	0	± 1.5
	+20	0	0	± 1.5
	+30	0	0	± 1.5
	+40	0	0	± 1.5
	+50	0	0	± 1.5
102	+20	0	0	± 1.5
138		0	0	± 1.5

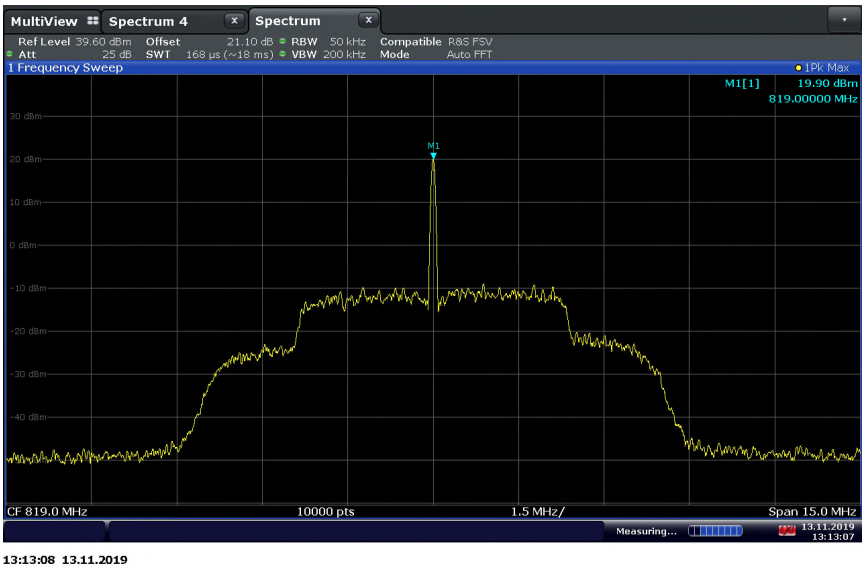
LTE Band 41 Uplink Frequency Range – 5 MHz BW					
Channel	**Temperature (°C)**	**Voltage (VAC)**	**F_L (MHz)**	**F_H (MHz)**	**Limit (MHz)**
Low Channel	-30	120	2496.1323	-	>2496
	+20	102	2496.0573	-	
		120	2496.1233	-	
		138	2496.1323	-	
	+50	120	2496.1293	-	
High Channel	-30	120	-	2689.8858	<2690
	+20	102	-	2689.8813	
		120	-	2689.8738	
		138	-	2689.8708	
	+50	120	-	2689.8633	

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

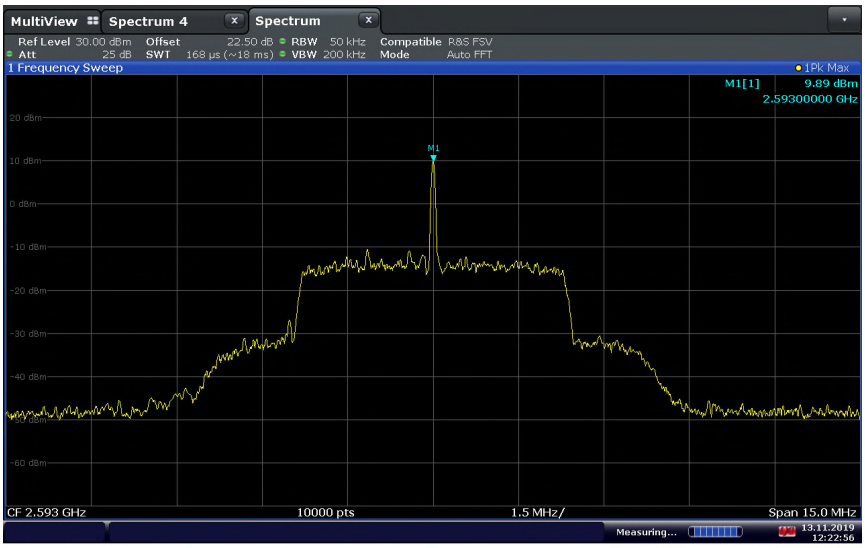
2.8.9 Sample Test plots



LTE Band 26 (859 – 869 MHz) Downlink 120VAC @ 20°C

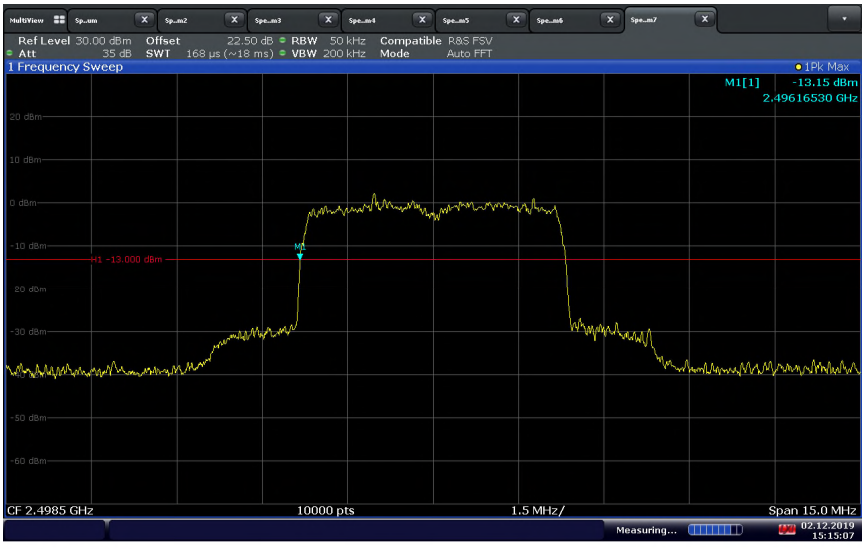


LTE Band 26 (814 – 849 MHz) Uplink 120VAC @ 20°C



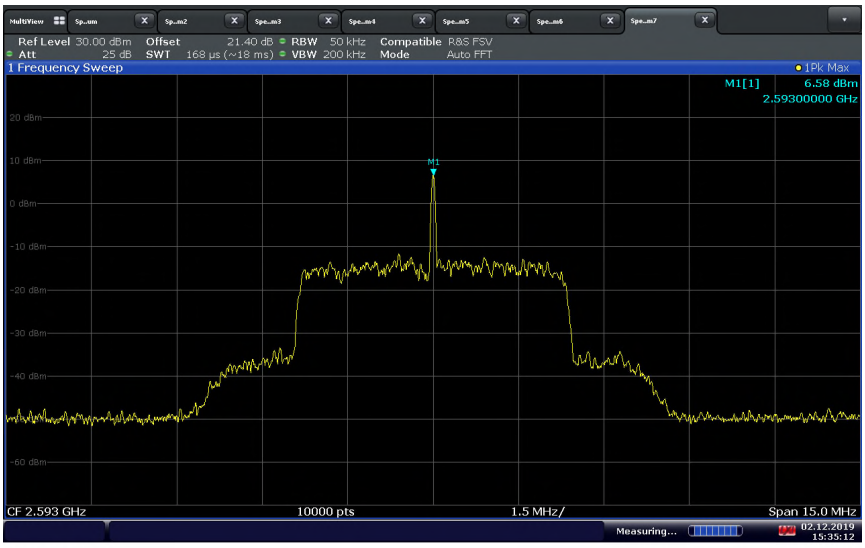
12:22:56 13.11.2019

LTE Band 41 Downlink 120VAC @ 20°C



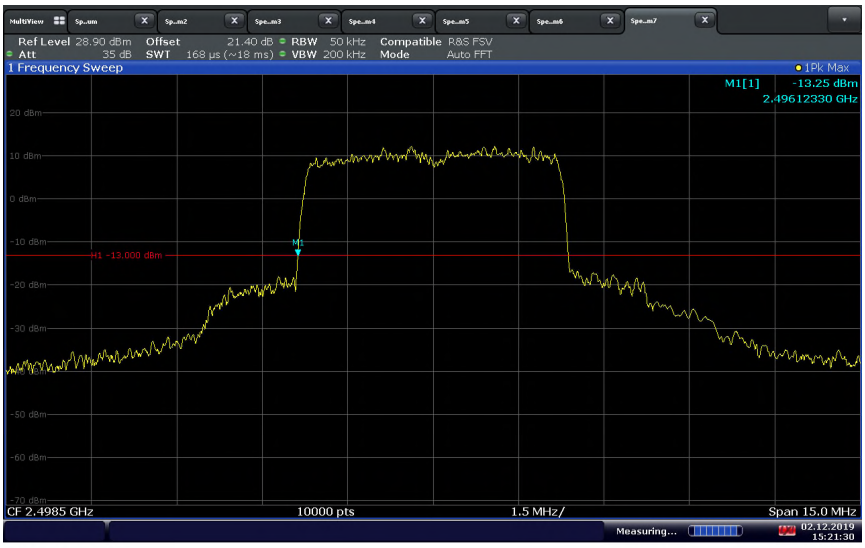
15:15:07 02.12.2019

LTE Band 41 Downlink F_L 120VAC @ 20°C



15:35:12 02.12.2019

LTE Band 41 Uplink 120VAC @ 20°C



15:21:30 02.12.2019

LTE Band 41 Uplink F_L 120VAC @ 20°C

2.9 POWER LINE CONDUCTED EMISSIONS

2.9.1 Specification Reference

RSS-Gen, Section 8.8

2.9.2 Standard Applicable

An intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN).

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

**Decreases with the logarithm of the frequency.*

2.9.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU) and 371929000156 (CU) /Test Configuration B

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

August 30, 2019/XYZ

2.9.5 Test Equipment Used

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

2.9.6 Environmental Conditions

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility.

Ambient Temperature	25.2 °C
Relative Humidity	47.3 %
ATM Pressure	98.9 kPa

2.9.7 Additional Observations

- EUT verified using input voltage of 120VAC 60Hz.
- There are no significant variations in test results between each operating modes. Only the worst operation mode is presented.
- Measurement was done using EMC32 automated software. Reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only. See Section 2.9.8 for sample computation.

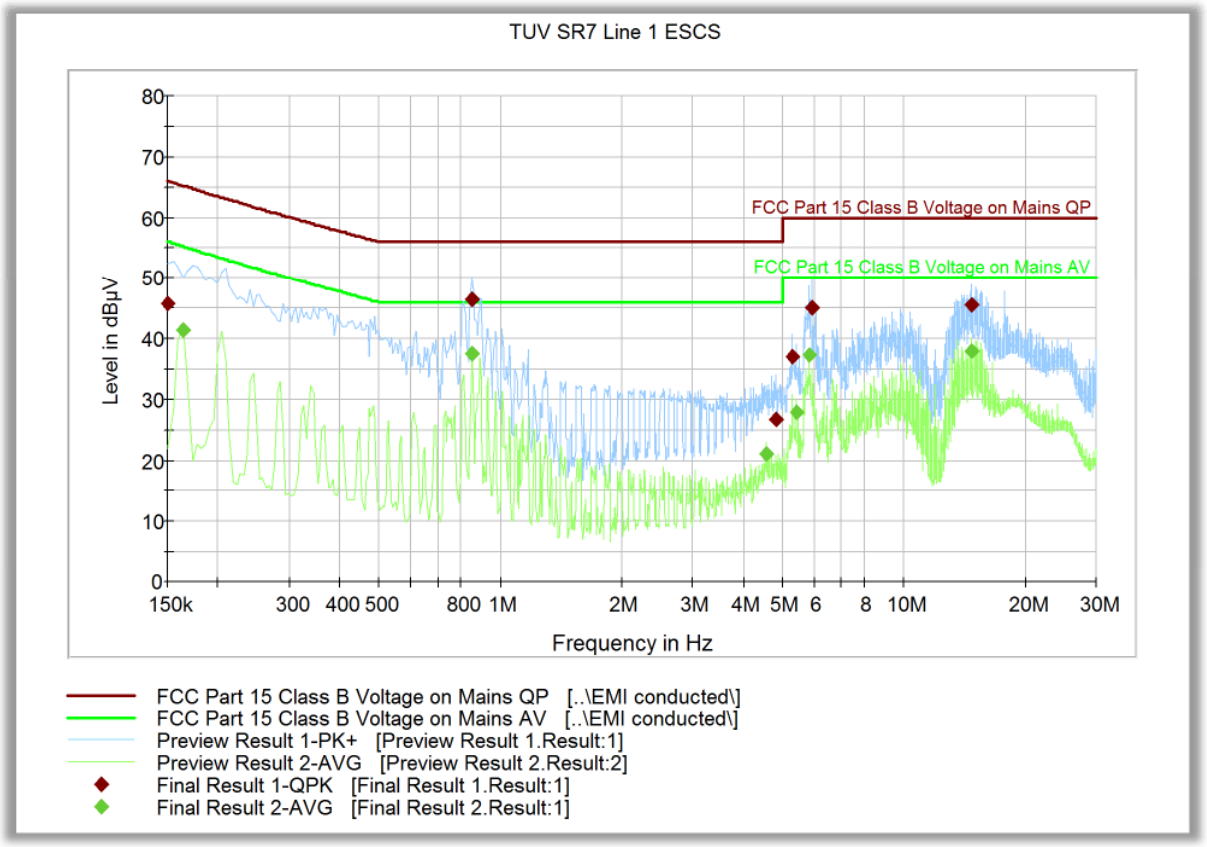
2.9.8 Sample Computation (Conducted Emission – Quasi Peak)

Measuring equipment raw measurement (dbµV) @ 150kHz			5.5
Correction Factor (dB)	Asset# 8607 (20 dB attenuator)	19.9	20.7
	Asset# 1177 (cable)	0.15	
	Asset# 1176 (cable)	0.35	
	Asset# 7568 (LISN)	0.30	
Reported QuasiPeak Final Measurement (dbµV) @ 150kHz			**26.2**

2.9.9 Test Results

Compliant. See attached plots and tables.

2.9.10 Test Results - Conducted Emissions Line 1 – Hot (worst case LTE Band)



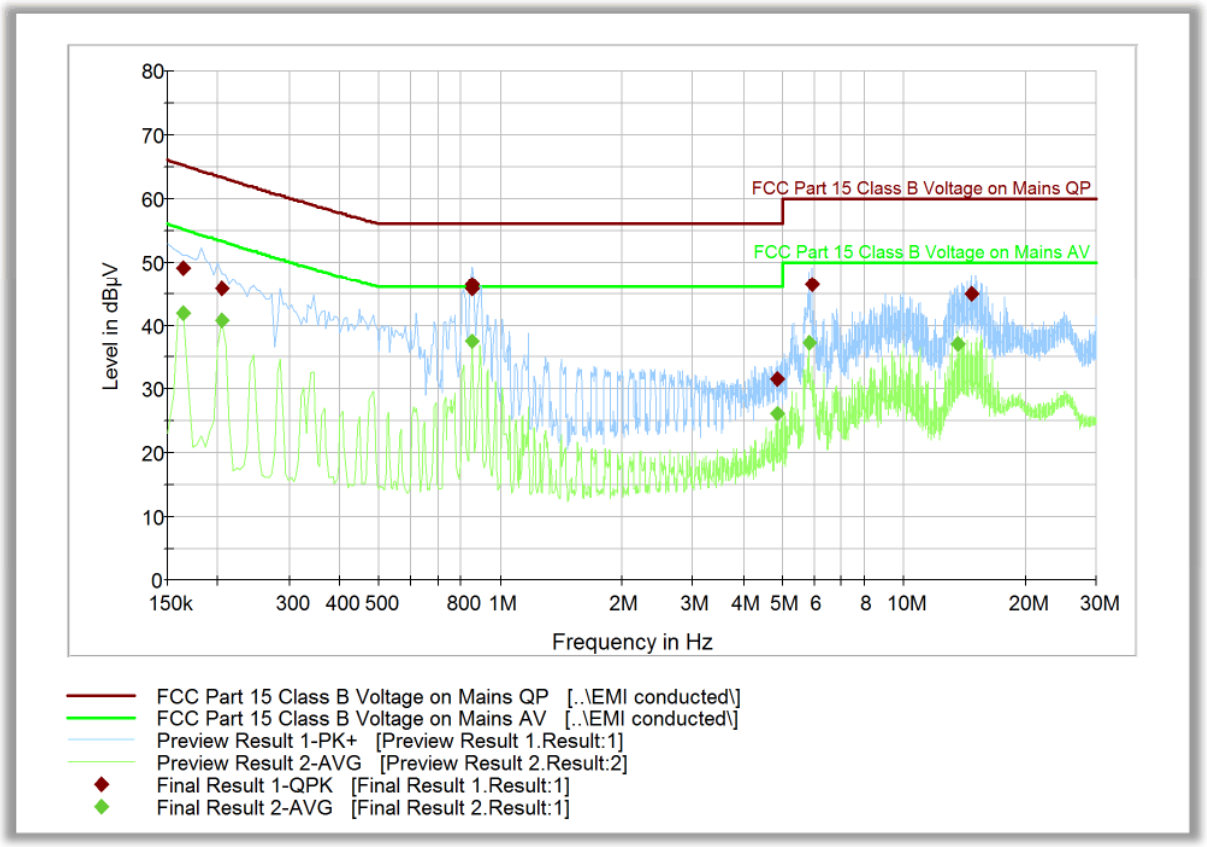
Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV)
0.150000	45.8	1000.0	9.000	Off	L1	20.1	20.2	66.0
0.852000	46.3	1000.0	9.000	Off	L1	19.9	9.7	56.0
4.812000	26.6	1000.0	9.000	Off	L1	20.5	29.4	56.0
5.311500	37.0	1000.0	9.000	Off	L1	20.4	23.0	60.0
5.905500	45.1	1000.0	9.000	Off	L1	20.4	14.9	60.0
14.653500	45.4	1000.0	9.000	Off	L1	20.5	14.6	60.0

Average

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin - Ave (dB)	Limit - Ave (dBµV)
0.163500	41.4	1000.0	9.000	Off	L1	20.1	13.8	55.2
0.852000	37.5	1000.0	9.000	Off	L1	19.9	8.5	46.0
4.551000	21.0	1000.0	9.000	Off	L1	20.4	25.0	46.0
5.415000	27.9	1000.0	9.000	Off	L1	20.4	22.1	50.0
5.824500	37.2	1000.0	9.000	Off	L1	20.4	12.8	50.0
14.653500	38.0	1000.0	9.000	Off	L1	20.5	12.0	50.0

2.9.11 Test Result - Conducted Emissions Line 2 – Neutral (worst case LTE Band)



Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV)
0.163500	49.0	1000.0	9.000	Off	N	20.0	16.2	65.2
0.204000	45.8	1000.0	9.000	Off	N	19.9	17.5	63.3
0.852000	46.4	1000.0	9.000	Off	N	19.8	9.6	56.0
4.857000	31.6	1000.0	9.000	Off	N	20.5	24.4	56.0
5.905500	46.4	1000.0	9.000	Off	N	20.3	13.6	60.0
14.658000	44.9	1000.0	9.000	Off	N	20.6	15.1	60.0

Average

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin - Ave (dB)	Limit - Ave (dBµV)
0.163500	41.9	1000.0	9.000	Off	N	20.0	13.3	55.2
0.204000	40.7	1000.0	9.000	Off	N	19.9	12.5	53.3
0.852000	37.5	1000.0	9.000	Off	N	19.8	8.5	46.0
4.857000	26.1	1000.0	9.000	Off	N	20.5	19.9	46.0
5.820000	37.2	1000.0	9.000	Off	N	20.3	12.8	50.0
13.636500	37.0	1000.0	9.000	Off	N	20.6	13.0	50.0

2.10 AGC THRESHOLD LEVEL

2.10.1 Specification Reference

KDB 935210 D05, Clause 3.2 and 4.2

2.10.2 Standard Applicable

LTE Band 41: AGC Threshold Level is tested according to KDB 935210 D05, Clause 3.2:

The AGC threshold shall be determined by applying the procedure of 3.2 (of the current KDB), and with the signal generator configured to produce representative broadband band-limited AWGN signal.

LTE Band 26 862-869/817-824 MHz: AGC Threshold Level is tested according to KDB 935210 D05, Clause 4.2:

The AGC threshold shall be determined by applying the procedure of 3.2 (of the current KDB), but with the signal generator configured to produce a test signal defined in Table 1, a CW input signal or a digitally modulated signal, consistent with the discussion about signal type in 4.1.

Devices intended for used in 700 MHz Public Safety Broadband spectrum shall be tested using representative band-limited AWGN signal (99% OBW of 4.1 MHz) or the applicable signal type (e.g., LTE)

2.10.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU) and 371929000156, 443935000064 (CU) / Test Configuration A and B

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

November 13 and December 03, 2019 / ZXY

2.10.5 Test Equipment Used

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

2.10.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	23.2 - 24.3°C
Relative Humidity	41.9 - 45.5%
ATM Pressure	99.1 - 99.3kPa

2.10.7 Additional Observations

- This is a conducted test.
- For LTE Band 41 AWGN 4.1 MHz Signal was used as the applicable test signal type. When testing output power of the EUT, a power meter was used according to method 3.5.4 of this KDB, and a spectrum analyser was used according to method 3.5.3 when testing input power of the EUT.
- For LTE Band 26 862-869/817-824 MHz LTE 5 MHz Signal was used as the applicable test signal type. When testing output power of the EUT, a power meter was used according to method 4.5.4 of this KDB, and a spectrum analyser was used according to method 4.5.3 when testing input power of the EUT.
- The AGC threshold level was recorded when increase the input level until a 1 dB increase in the input signal power no longer causes a 1 dB increase in the output signal power.
- Both downlink and uplink are tested.

2.10.8 Test Results

LTE Band 41 according to KDB 935210 D05 Clause 3.2						
Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	Average Power		AGC Threshold Level (dBm)
				(dBm)	(W)	
Downlink	5	40620	2593	8.86	0.008	-89.65
Uplink	5	40620	2593	17.98	0.063	-78.06

LTE Band 26 (862-869/817-824 MHz) according to KDB 935210 D05 Clause 4.2						
Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	Average Power		AGC Threshold Level (dBm)
				(dBm)	(W)	
Downlink	5	8755	865.5	11.28	0.013	-87.56
Uplink	5	26755	820.5	23.53	0.225	-78.90

2.11 OUT-OF-BAND REJECTION

2.11.1 Specification Reference

RSS-131, Clause 5.2.1
KDB 935210 D05, Clause 3.3 and 4.3

2.11.2 Standard Applicable

RSS-131, Clause 5.2.1:
The gain-versus-frequency response and the 20 dB bandwidth of the zone enhancer shall be reported. The zone enhancer shall reject amplification of other signals outside the passband of the zone enhancer

For LTE Band 41, Out-of-Band Rejection is tested according to KDB 935210 D05, Clause 3.3.

For LTE Band 26 862-869/817-824 MHz, Out-of-Band Rejection is tested according to KDB 935210 D05, Clause 4.3.

2.11.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU) and 371929000156, 443935000064 (CU) / Test Configuration A and B

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

November 14 and December 03, 2019 / ZXY

2.11.5 Test Equipment Used

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

2.11.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	25.0°C
Relative Humidity	45.3%
ATM Pressure	99.3kPa

2.11.7 Additional Observations

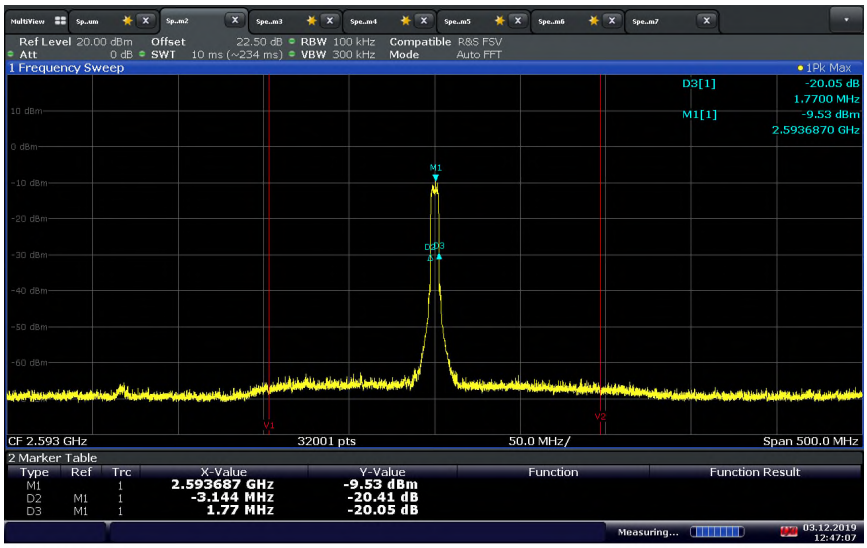
- This is a conducted test.
- The path loss was measured and entered as an offset.
- A swept CW signal whose frequency range is ±250% of the manufacturer's specified pass band is configured for the testing.
- The internal gain control of the EUT is set to the maximum gain. The input signal type is set to tones (CW).
- The CW is 3 dB below the ACG threshold (determined according to section 3.2 and 4.2 of the current KDB), and doesn't activate the AGC threshold throughout the test.
- Dwell time is 10 ms.
- Frequency Step is 50 kHz.
- RBW is between 1% and 5% of the manufacturer's rated pass band.
- VBW is 3 x RBW.
- Detector is peak and trace is max hold.
- The peak amplitude frequency f_0 is determined and two additional -20 dB markers are determined using the marker-delta method).
- The 20dB Bandwidth plot is recorded as the out-of-band rejection frequency response.
- Both downlink and uplink are tested.

2.11.8 Test Results

LTE Band 41 according to KDB 935210 D05 Clause 4.3						
Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	-20 dBc Point		20 dB BW (MHz)
				T1 (MHz)	T2 (MHz)	
Downlink	5	40620	2593	2590.53	2595.47	4.94
Uplink	5	40620	2593	2590.54	2595.46	4.91

LTE Band 26 862-869/817-824 MHz according to KDB 935210 D05 Clause 3.3						
Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	-20 dBc Point		20 dB BW (MHz)
				T1 (MHz)	T2 (MHz)	
Downlink	5	8755	865.5	863.03	867.96	4.93
Uplink	5	26755	820.5	818.03	822.97	4.94

LTE Band 41 Downlink (5 MHz BW) M Channel / Out-of-Band Rejection



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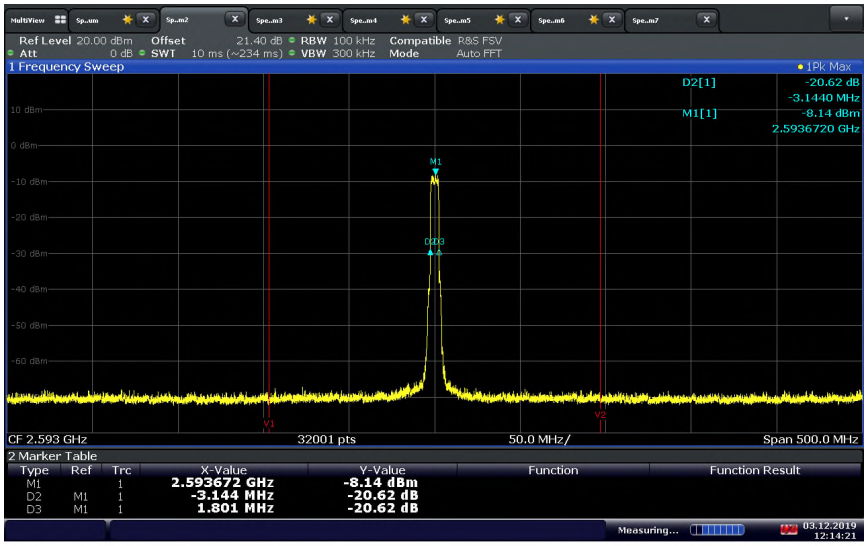
LTE Band 41 Uplink (5 MHz BW) M Channel / Out-of-Band Rejection



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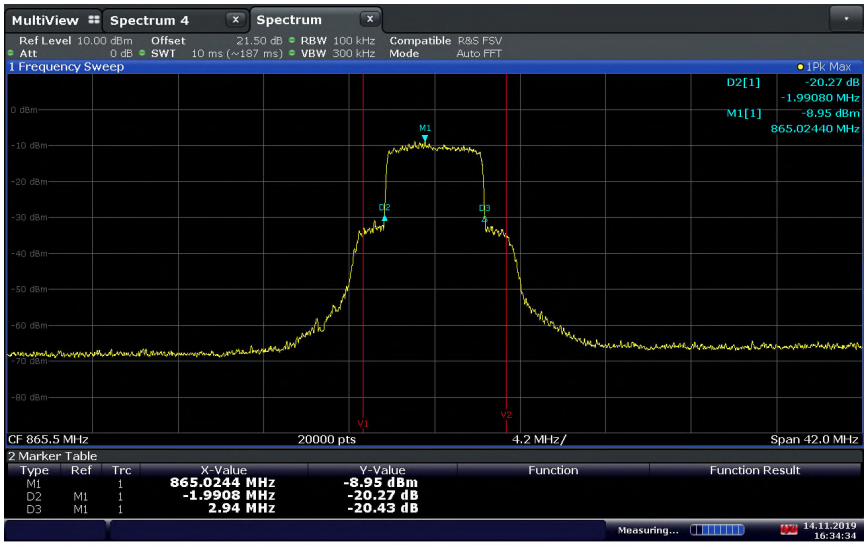
LTE Band 26 862 – 869 MHz Downlink (5 MHz BW) M Channel / Out-of-Band Rejection



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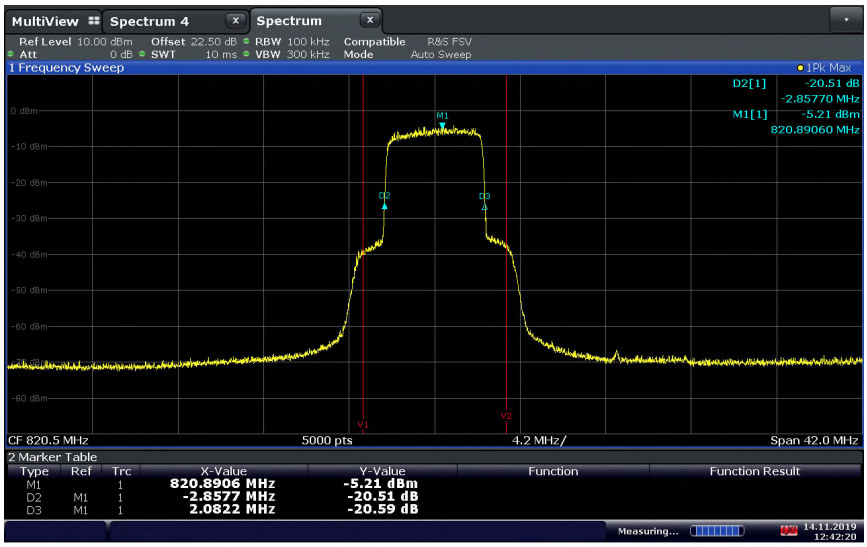
LTE Band 26 817 – 824 MHz Uplink (5 MHz BW) M Channel / Out-of-Band Rejection



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2.12 INPUT-VERSUS-OUTPUT SIGNAL COMPARISON

2.12.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.219 (e)(4)(ii)
KDB 935210 D05, Clause 3.4 and 4.4
RSS-131, Clause 5.2.2

2.12.2 Standard Applicable

FCC 47 CFR Part 90, Clause 90.219 (e)(4):
(ii) There is no change in the occupied bandwidth of the retransmitted signals.

RSS-131, Clause 5.2.2:
The spectral growth of the 26 dB bandwidth of the output signal shall be less than 5% of the input signal spectrum.

For LTE Band 41, Input-versus-Output Signal Comparison is tested according to KDB 935210 D05, Clause 3.4.

For LTE Band 26 862-869/817-824 MHz, Input-versus-Output Signal Comparison is tested according to KDB 935210 D05, Clause 4.4.

2.12.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU) and 371929000156, 443935000064 (CU) / Test Configuration A and B

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

November 15, December 03 and 04, 2019 / ZXY

2.12.5 Test Equipment Used

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

2.12.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	23.2 - 25.2°C
Relative Humidity	41.9 - 51.8%
ATM Pressure	98.9 - 99.3kPa

2.12.7 Additional Observations

- The path loss was measured and entered as an offset.
- The signal generator is configured to transmit LTE 5 MHz Bandwidth signal.
- The signal amplitude is just below the ACG threshold (determined according to section 3.2 and 4.2 of the current KDB), and not more than 0.5 dB below.
- Span is between 2 times to 5 times the emission bandwidth (EBW) or alternatively, the OBW.
- RBW is 1% to 5% of the anticipated OBW, VBW is > 3 x RBW.
- Set the reference level of spectrum analyser to accommodate the maximum input amplitude level.
- The noise floor of the spectrum analyser is at least 36 dB below the reference level.
- Detector is positive peak and trace is max hold.
- The peak amplitude frequency f_0 is determined and the 99% occupied bandwidth was measured with the OBW function of spectrum analyser.
- Repeat the testing with the input signal connected directly to the spectrum analyser.
- Compare the spectral plot of the input signal to the output signal.
- Repeat the testing with input signal amplitude set to 3 dB above AGC threshold.
- Both downlink and uplink are tested.

2.12.8 Test Results

Compliant. There is no spectral growth of 26 dB bandwidth and it is deem to be less than 5% of the input signal spectrum.

LTE Band 41 Downlink							
Signal Level	Bandwidth (MHz)	Channel	Frequency (MHz)	99% OBW (MHz)		-26 dB BW (MHz)	
				Output	Input*	Output	Input*
AGC Threshold Level	5	40620	2593	4.47	4.49	4.79	4.98
AGC + 3 dB Level				4.46	4.49	4.80	4.98

* Since the AGC Threshold level and AGC + 3 dB level for downlink are as low as -80 dBm, which is about the noise floor, the input levels are adjusted in order to get the right input 99% OBW and -26 dB BW when testing.

LTE Band 41 Uplink							
Signal Level	Bandwidth (MHz)	Channel	Frequency (MHz)	99% OBW (MHz)		-26 dB BW (MHz)	
				Output	Input*	Output	Input*
AGC Threshold Level	5	40620	2593	4.45	4.49	4.76	4.98
AGC + 3 dB Level				4.45	4.49	4.76	4.98

* Since the AGC Threshold level and AGC + 3 dB level for Uplink are as low as -70 dBm, which is close to the noise floor, the input levels are adjusted in order to get the right input 99% OBW and -26 dB BW when testing.

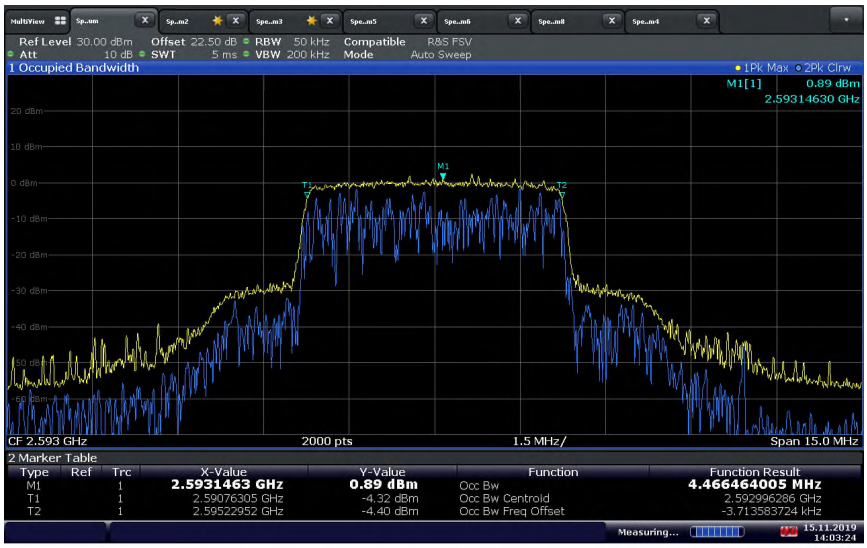
LTE Band 26 862-869 MHz Downlink							
Signal Level	Bandwidth (MHz)	Channel	Frequency (MHz)	99% OBW (MHz)		-26 dB BW (MHz)	
				Output	Input*	Output	Input*
AGC Threshold Level	5	8755	865.5	4.47	4.48	4.79	4.94
AGC + 3 dB Level				4.46	4.48	4.79	4.94

* Since the AGC Threshold level and AGC + 3 dB level for downlink are as low as -80 dBm, which is about the noise floor, the input levels are adjusted in order to get the right input 99% OBW and -26 dB BW when testing.

LTE Band 26 817-824 MHz Uplink							
Signal Level	Bandwidth (MHz)	Channel	Frequency (MHz)	99% OBW (MHz)		-26 dB BW (MHz)	
				Output	Input*	Output	Input*
AGC Threshold Level	5	26755	820.5	4.43	4.49	4.75	4.97
AGC + 3 dB Level				4.43	4.49	4.75	4.97

* Since the AGC Threshold level and AGC + 3 dB level for Uplink are as low as -70 dBm, which is close to the noise floor, the input levels are adjusted in order to get the right input 99% OBW and -26 dB BW when testing.

LTE Band 41 Downlink (5 MHz BW) Mid Channel / 99% OBW at Output port with Input signal at AGC Threshold Level

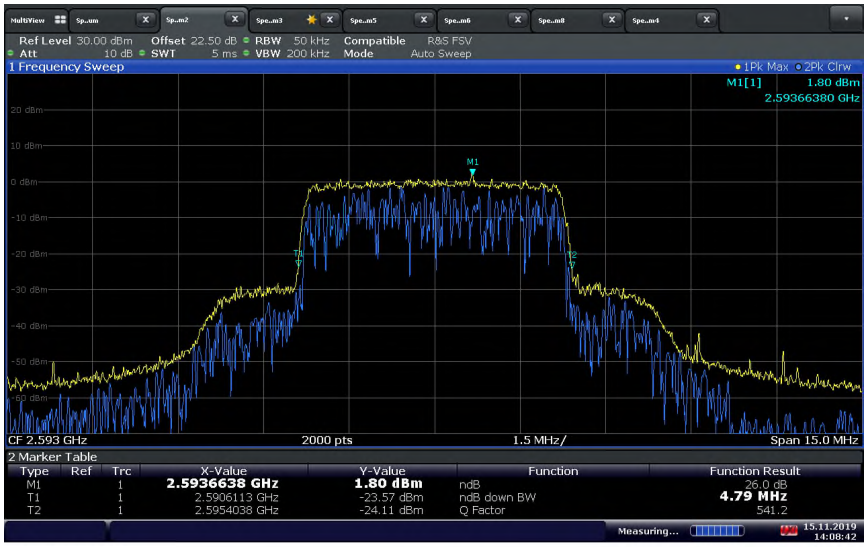


14:03:24 15.11.2019

LTE Band 41 Downlink (5 MHz BW) Mid Channel / 99% OBW at Input port (Adjusted Level)

15:32:55 15.11.2019

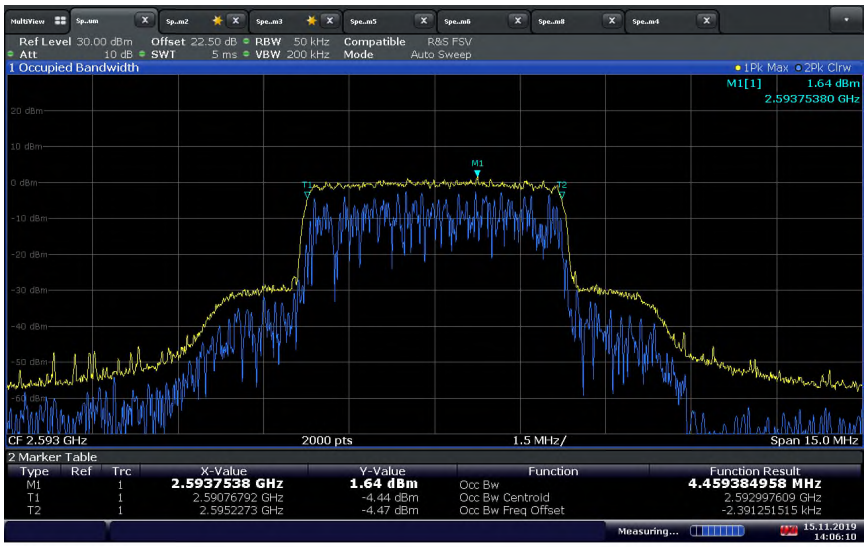
LTE Band 41 Downlink (5 MHz BW) Mid Channel / 26 dB BW at Output port with Input signal at AGC Threshold Level



14:08:43 15.11.2019

LTE Band 41 Downlink (5 MHz BW) Mid Channel / 26 dB BW at Input port (Adjusted Level)

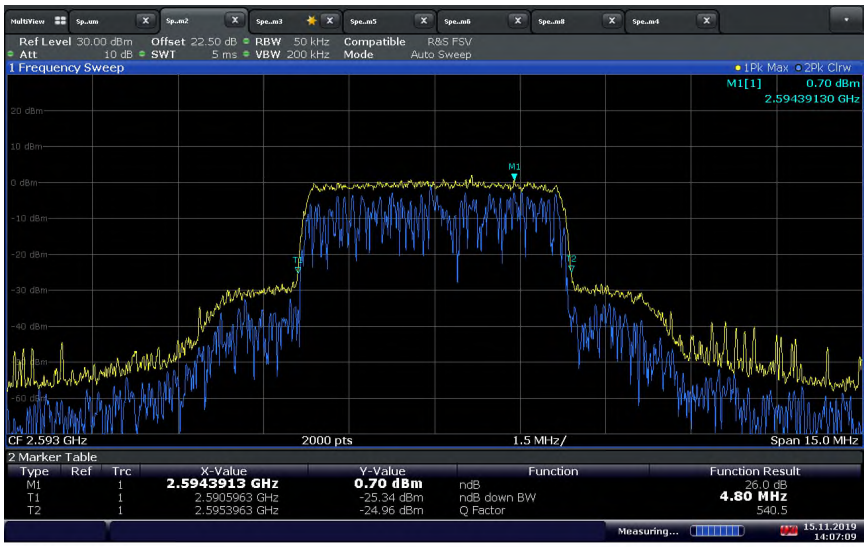
15:34:07 15.11.2019

LTE Band 41 Downlink (5 MHz BW) Mid Channel / 99% OBW at Output port with Input signal at AGC + 3 dB Level


14:06:10 15.11.2019

LTE Band 41 Downlink (5 MHz BW) Mid Channel / 99% OBW at Input port (Adjusted Level)

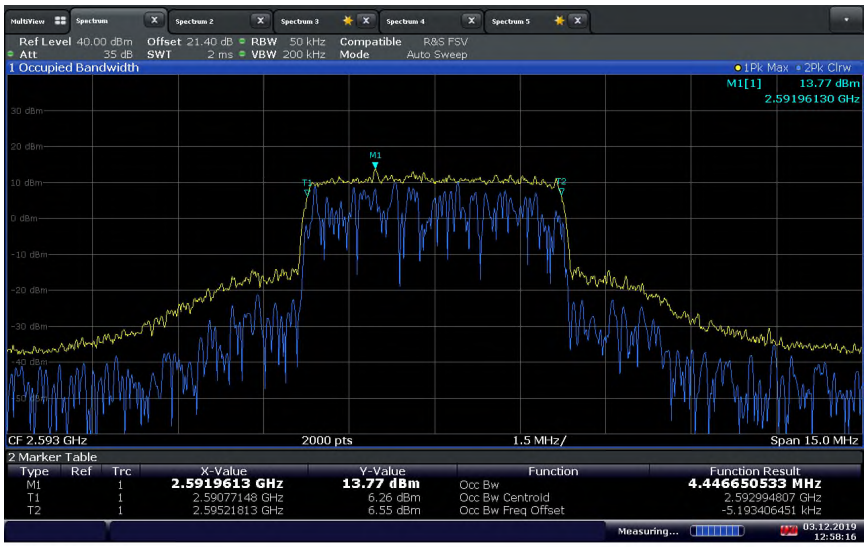

15:32:55 15.11.2019

LTE Band 41 Downlink (5 MHz BW) Mid Channel / 26 dB BW at Output port with Input signal at AGC + 3 dB Level


14:07:09 15.11.2019

LTE Band 41 Downlink (5 MHz BW) Mid Channel / 26 dB BW at Input port (Adjusted Level)

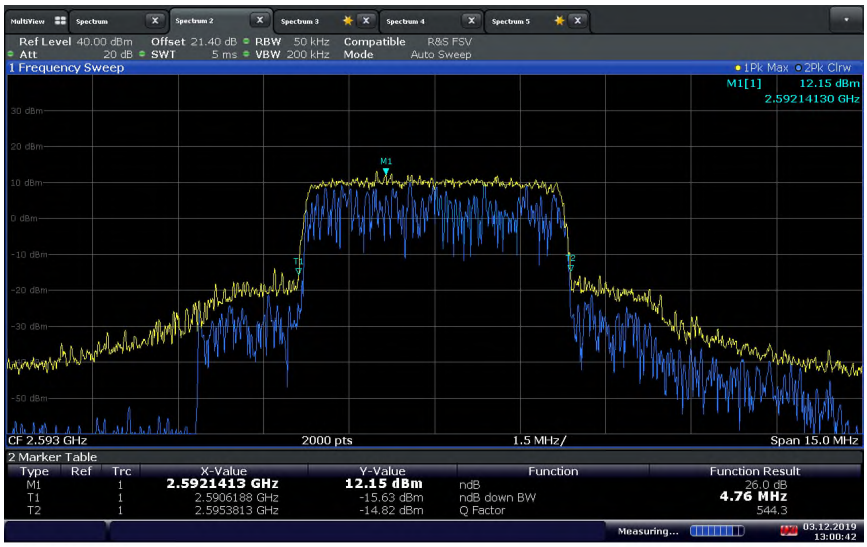

15:34:07 15.11.2019

LTE Band 41 Uplink (5 MHz BW) Mid Channel / 99% OBW at Output port with Input signal at AGC Threshold Level


12:58:16 03.12.2019

LTE Band 41 Uplink (5 MHz BW) Mid Channel / 99% OBW at Input port (Adjusted Level)

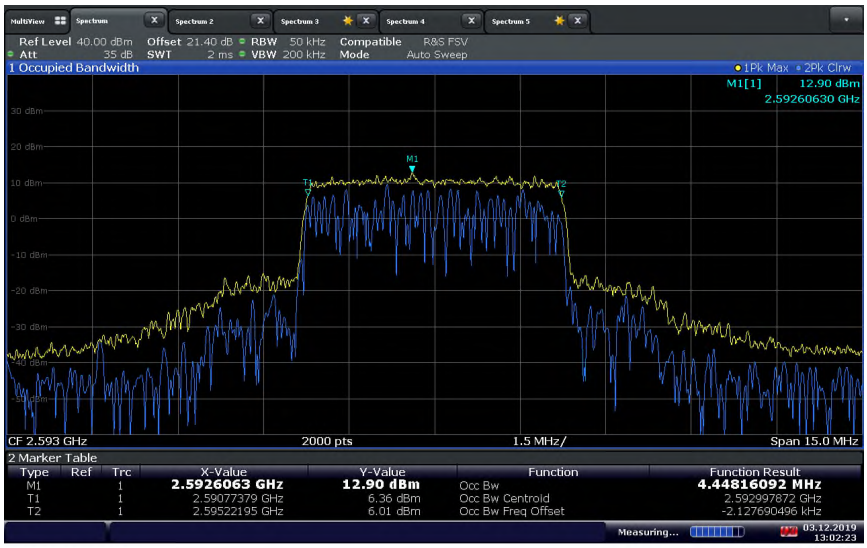

15:32:55 15.11.2019

LTE Band 41 Uplink (5 MHz BW) Mid Channel / 26 dB BW at Output port with Input signal at AGC Threshold Level


13:00:42 03.12.2019

LTE Band 41 Uplink (5 MHz BW) Mid Channel / 26 dB BW at Input port (Adjusted Level)

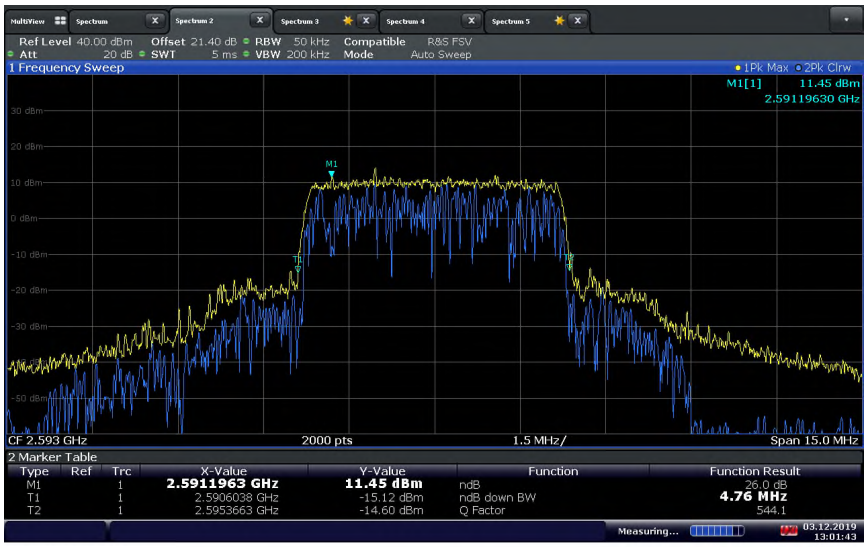

15:34:07 15.11.2019

LTE Band 41 Uplink (5 MHz BW) Mid Channel / 99% OBW at Output port with Input signal at AGC + 3 dB Level


13:02:24 03.12.2019

LTE Band 41 Uplink (5 MHz BW) Mid Channel / 99% OBW at Input port (Adjusted Level)


15:32:55 15.11.2019

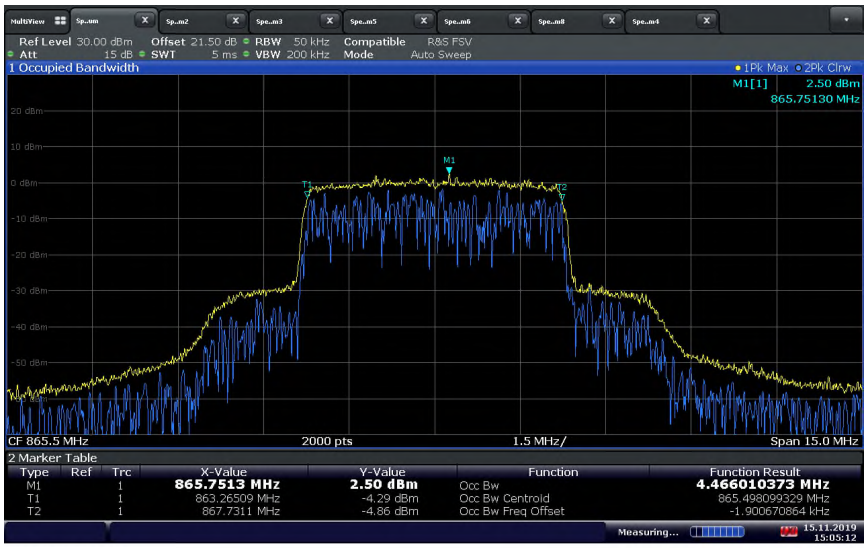
LTE Band 41 Uplink (5 MHz BW) Mid Channel / 26 dB BW at Output port with Input signal at AGC + 3 dB Level


13:01:44 03.12.2019

LTE Band 41 Uplink (5 MHz BW) Mid Channel / 26 dB BW at Input port (Adjusted Level)


15:34:07 15.11.2019

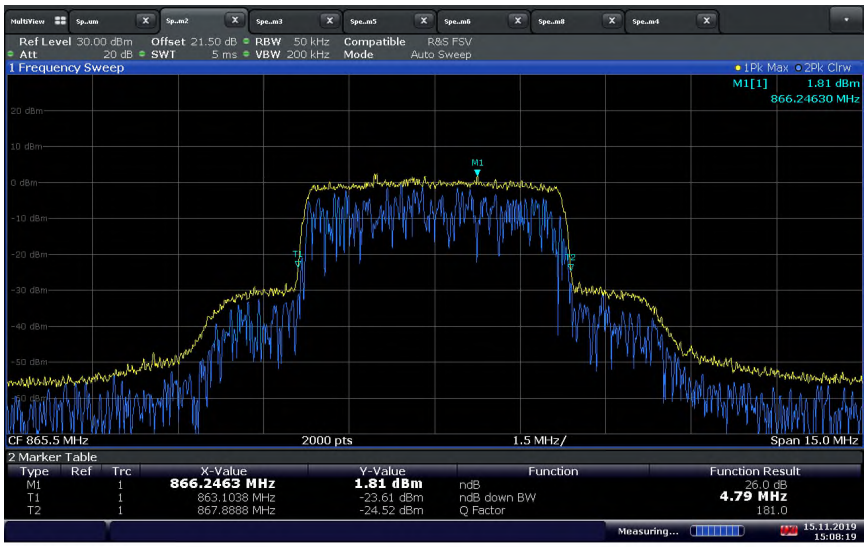
LTE Band 26 862 - 869 MHz Downlink (5 MHz BW) Mid Channel / 99% OBW at Output port with Input signal at AGC Threshold Level

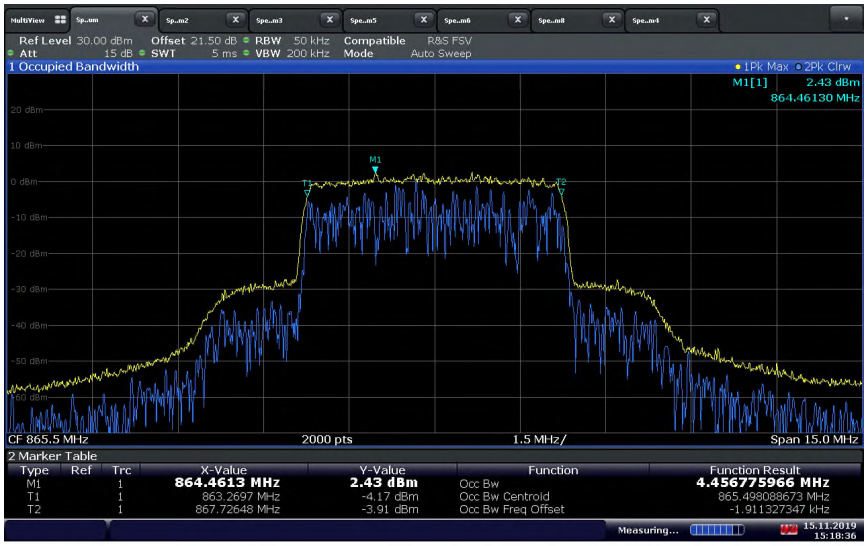


15:05:13 15.11.2019

LTE Band 26 862 - 869 MHz Downlink (5 MHz BW) Mid Channel / 99% OBW at Input port (Adjusted Level)

15:26:33 15.11.2019

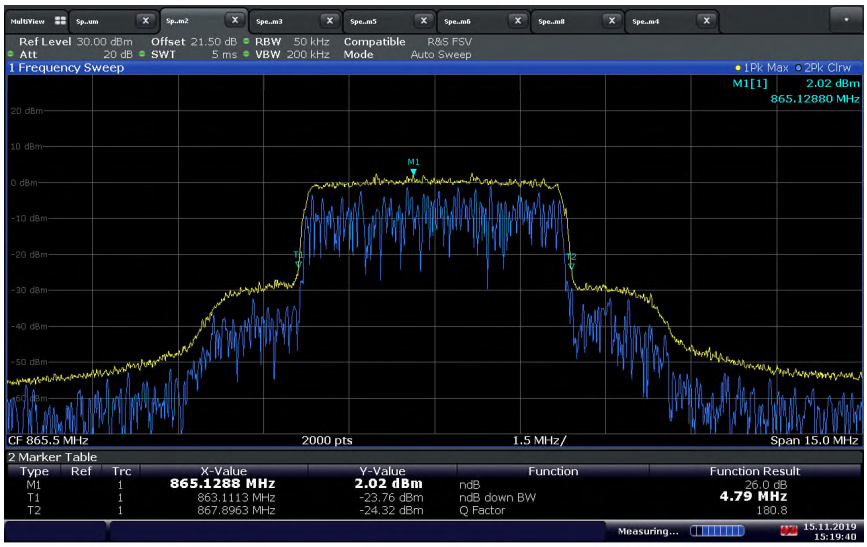
LTE Band 26 862 - 869 MHz Downlink (5 MHz BW) Mid Channel / 26 dB BW at Output port with Input signal at AGC Threshold Level
 15:08:20 15.11.2019
LTE Band 26 862 - 869 MHz Downlink (5 MHz BW) Mid Channel / 26 dB BW at Input port (Adjusted Level)
 15:25:15 15.11.2019

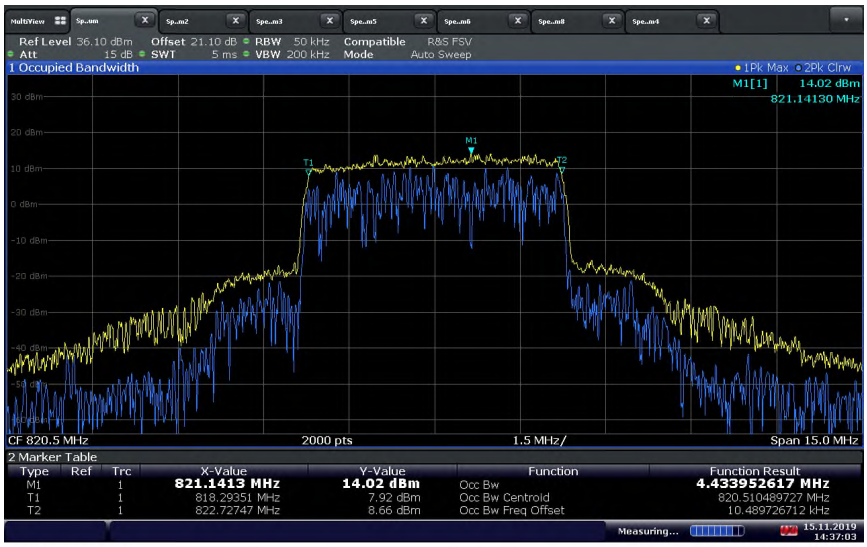
LTE Band 26 862 - 869 MHz Downlink (5 MHz BW) Mid Channel / 99% OBW at Output port with Input signal at AGC + 3 dB Level


15:18:37 15.11.2019

LTE Band 26 862 - 869 MHz Downlink (5 MHz BW) Mid Channel / 99% OBW at Input port (Adjusted Level)


15:26:33 15.11.2019

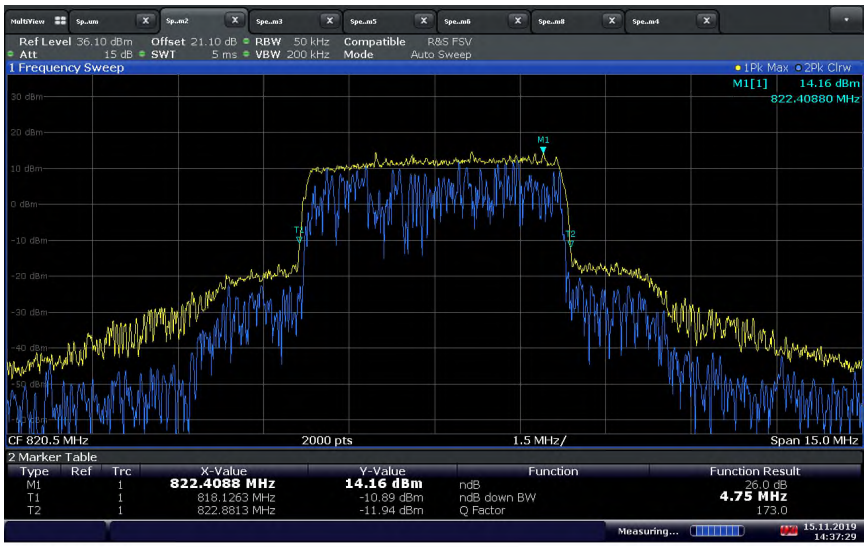
LTE Band 26 862 - 869 MHz Downlink (5 MHz BW) Mid Channel / 26 dB BW at Output port with Input signal at AGC + 3 dB Level
 15:19:40 15.11.2019
LTE Band 26 862 - 869 MHz Downlink (5 MHz BW) Mid Channel / 26 dB BW at Input port (Adjusted Level)
 15:25:15 15.11.2019

LTE Band 26 817 - 824 MHz Uplink (5 MHz BW) Mid Channel / 99% OBW at Output port with Input signal at AGC Threshold Level


14:37:04 15.11.2019

LTE Band 26 817 - 824 MHz Uplink (5 MHz BW) Mid Channel / 99% OBW at Input port (Adjusted Level)

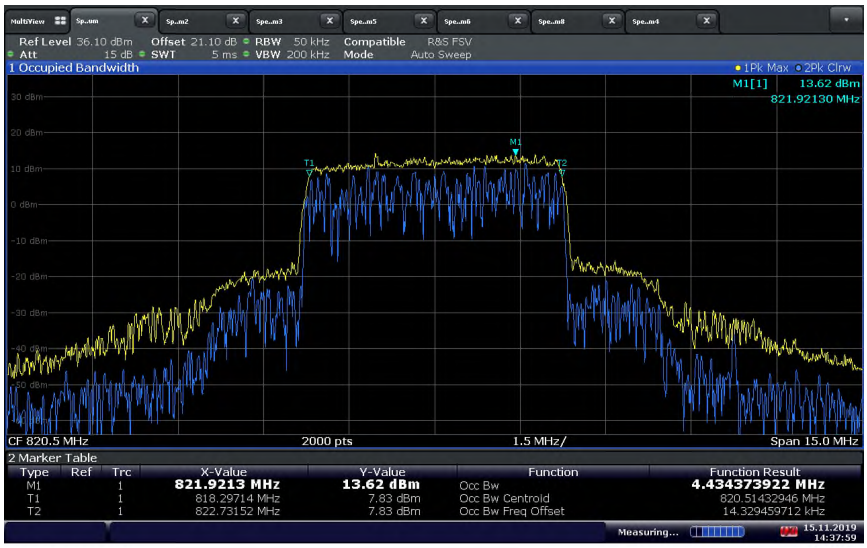

15:30:23 15.11.2019

LTE Band 26 817 - 824 MHz Uplink (5 MHz BW) Mid Channel / 26 dB BW at Output port with Input signal at AGC Threshold Level


14:37:30 15.11.2019

LTE Band 26 817 - 824 MHz Uplink (5 MHz BW) Mid Channel / 26 dB BW at Input port (Adjusted Level)


15:31:10 15.11.2019

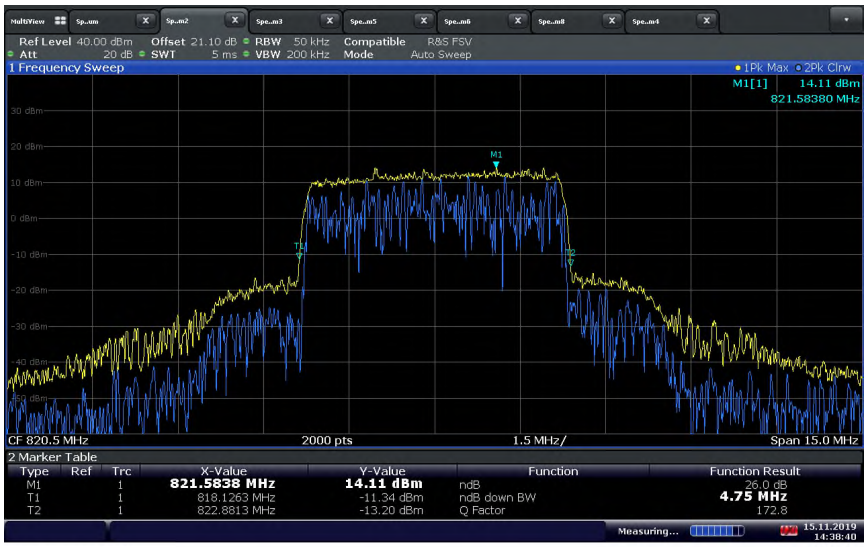
LTE Band 26 817 - 824 MHz Uplink (5 MHz BW) Mid Channel / 99% OBW at Output port with Input signal at AGC + 3 dB Level


14:38:00 15.11.2019

LTE Band 26 817 - 824 MHz Uplink (5 MHz BW) Mid Channel / 99% OBW at Input port (Adjusted Level)


15:30:23 15.11.2019

LTE Band 26 817 - 824 MHz Uplink (5 MHz BW) Mid Channel / 26 dB BW at Output port with Input signal at AGC + 3 dB Level



14:38:41 15.11.2019

LTE Band 26 817 - 824 MHz Uplink (5 MHz BW) Mid Channel / 26 dB BW at Input port (Adjusted Level)

15:31:10 15.11.2019

2.13 EMISSION MASK

2.13.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.219 (e)(4)(iii) and 90.210
KDB 935210 D05, Clause 4.4

2.13.2 Standard Applicable

FCC Part 90.219 (e)(4):
(iii) The retransmitted signals continue to meet the unwanted emissions limits of § 90.210 applicable to the corresponding received signals (assuming that these received signals meet the applicable unwanted emissions limits by a reasonable margin).

FCC Part 90.210:

APPLICABLE EMISSION MASKS

Frequency band (MHz)	Mask for equipment with audio low pass filter	Mask for equipment without audio low pass filter
Below 25[1]	A or B	A or C
25–50	B	C
72–76	B	C
150–174[2]	B, D, or E	C, D or E
150 paging only	B	C
220–222	F	F
421–512[2 5]	B, D, or E	C, D, or E
450 paging only	B	G
806–809/851–854[6]	B	H
809–824/854–869[3 5]	B	G
896–901/935–940	I	J
902–928	K	K
929–930	B	G
4940–4990 MHz	L or M	L or M
5850–5925[4].		
All other bands	B	C

Emission Mask G. For transmitters that are not equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier output power (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 10 kHz, but not more than 250 percent of the authorized bandwidth: At least 116 log (f_d/6.1) dB, or 50 + 10 log (P) dB, or 70 dB, whichever is the lesser attenuation;

(2) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

Emission Mask should be tested according to KDB 935210 D05, Clause 4.4.

2.13.3 Justificaiton

For LTE Band 26 859-862 / 817-824 MHz:

According to FCC Part 90.219 (e)(4)(iii), the retransmitted signals continue to meet the unwanted emissions limits of § 90.210 applicable to the corresponding received signals (assuming that these received signals meet the applicable unwanted emissions limits by a reasonable margin). As a equipment without audio low pass filter, Emission Mask G applies.

However, since the received signals are wideband LTE 5 MHz and 10 MHz signals which does not meet the unwanted Emission Mask G limits of § 90.210 which is for narrow band. Therefore, emission mask is not applicable to the retransmitted output signals.

2.14 INPUT AND OUTPUT POWER AND AMPLIFIER/BOOSTER GAIN

2.14.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.219(e)(1)
KDB 935210 D05, Clause 3.5 and 4.5
RSS-131, Clause 5.2.3

2.14.2 Standard Applicable

FCC 47 CFR Part 90, Clause 90.219(e):
(1) The output power capability of a signal booster must be designed for deployments providing a radiated power not exceeding 5 Watts ERP for each retransmitted channel.

For LTE Band 41, Input and Output Power and Amplifier/Booster Gain should be tested according to KDB 935210 D05, Clause 3.5.

For LTE Band 26 862-869/817-824 MHz, , Input and Output Power and Amplifier/Booster Gain should be tested according to KDB 935210 D05, Clause 4.5.

RSS-131, Clause 5.2.3:
The zone enhancer gain shall not exceed the nominal gain by more than 1.0 dB.

2.14.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU) and 371929000156, 443935000064 (CU) / Test Configuration A and B

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

November 18 and December 04, 2019 / ZXY

2.14.5 Test Equipment Used

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

2.14.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	23.7 - 26.1°C
Relative Humidity	25.0 - 51.8%
ATM Pressure	98.7 - 98.9kPa

2.14.7 Additional Observations

- This is a conducted test.
- The path loss was measured and entered as an offset.
- The internal gain control of the EUT is adjusted to the maximum gain (100 dB for LTE B41 and 95dB for LTE B26 862-869/817-824 MHz).
- The input power levels (uplink and downlink) are set to maximum input ratings, and confirm the device is not capable of operating in saturation (non-linear mode) during the test.
- For LTE B41, the signal generator is configured for 4.1 MHz AWGN signal. A spectrum analyser was used to measure the power according to KDB 935210 D05 clause 3.5.3.
- For LTE B26 862-869/817-824, the signal generator is configured for CW operation. A spectrum analyser was used to measure the power according to KDB 935210 D05 clause 4.5.3.
  - Frequency span is at least 1 MHz.
  - RBW is 100 kHz.
  - VBW is ≥ 3 x RBW.
  - Detector is positive peak and trace is max hold.
  - Record the peak value of the signal as the maximum power.
  - The input power is tested with the signal generator connect to the spectrum analyser directly.
  - The output power is tested with the EUT in place.
- Both downlink and uplink are tested.

2.14.8 Test Results

Compliant. The booster gain does not exceed the nominal gain (100 dB for LTE B41 and 95dB for LTE B26 862-869/817-824) by more than 1.0 dB.

LTE Band 41 Input and Output Power and Gain according KDB 935210 D05 Clause 3.5						
Mode	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**AGC Threshold Input (dBm)**	**Output Power (dBm)**	**Booster Gain (dB)**
Downlink	5	40620	2593	-89.65	8.86	98.51
Uplink	5	40620	2593	-77.83	18.23	96.06

LTE Band 41 Input and Output Power and Gain according KDB 935210 D05 Clause 3.5						
Mode	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**AGC Threshold + 3dB Input (dBm)**	**Output Power (dBm)**	**Booster Gain (dB)**
Downlink	5	40620	2593	-86.73	8.73	95.46
Uplink	5	40620	2593	-75.10	18.22	93.32

LTE Band 26 862-869/817-824 MHz Input and Output Power and Gain according KDB 935210 D05 Clause 4.5						
Mode	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**CW Input Power (dBm)**	**Output Power (dBm)**	**Booster Gain (dB)**
Downlink	5	8755	865.5	-82.26	12.49	94.75
Uplink	5	26755	820.5	-84.17	7.07	91.24

2.15 NOISE FIGURE

2.15.1 Specification Reference

FCC 47 CFR Part 90, Clause 90.219 (e)(2)
KDB 935210 D05, Clause 4.6

2.15.2 Standard Applicable

FCC Part 90.219 (e)(2):
The noise figure of a signal booster must not exceed 9 dB in either direction.

Noise Figure for LTE Band 26 B26 862-869/817-824 MHz is tested according to KDB 935210 D05, Clause 4.6.

2.15.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU) and 371929000156, 443935000064 (CU) / Test Configuration A and B

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

December 03, 2019 / ZXY

2.15.5 Test Equipment Used

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

2.15.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	23.2°C
Relative Humidity	41.9%
ATM Pressure	99.3kPa

2.15.7 Additional Observations

- The path loss was measured and entered as an offset.
- 5 MHz Bandwidth was tested as representative configuration.
- The Downlink and Uplink Gains are measured with a LTE signal injected to the device under test.
- The input of the EUT is terminated when measuring the noise output.
- The spectrum analyser was set to 100 trace average in RMS mode.
- RBW is 1 MHz, VBW is > 3 x RBW.
- Channel power was recorded.
- The noise figure was calculated using the following formula:

  Noise Figure (NF) = N – Gain + 174 dB – $10\lg_{10}$(B)

  - N = Noise Power Output in dBm/MHz
  - Gain = Gain of the device under test
  - B = Resolution Bandwidth of spectrum analyzer in Hz
  - 174 = Thermal noise for 1 Hz RBW at room temperature

- Both Downlink and Uplink are tested.

2.15.8 Test Results

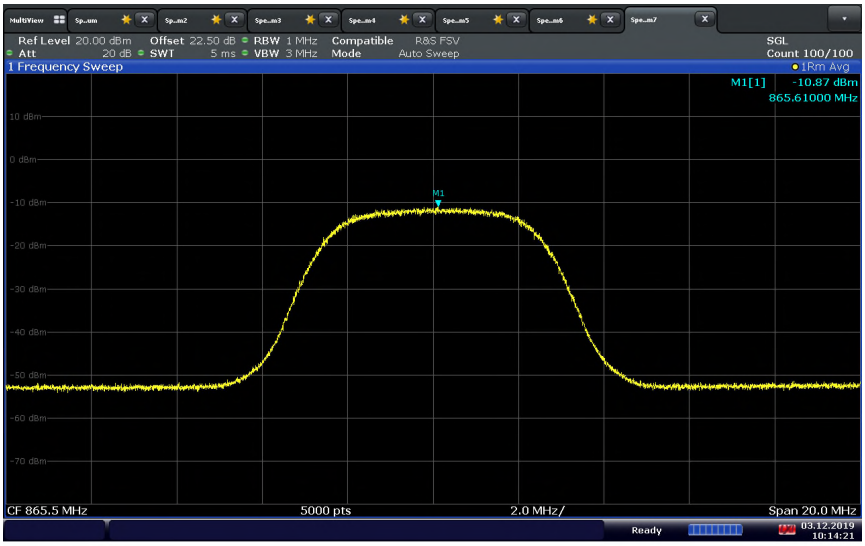
LTE Band 26 862-869/817-824 MHz Booster Gain					
Mode	**Bandwidth (MHz)**	**Frequency (MHz)**	**Input Power (dBm)**	**Output Power (dBm/MHz)**	**Gain (dB)**
Downlink	5	865.5	-87.50	9.28	96.78
Uplink	5	820.5	-79.01	20.92	99.93

LTE Band 26 862-869/817-824 MHz Noise Figure							
Mode	**Bandwidth (MHz)**	**Frequency (MHz)**	**RBW (MHz)**	**Noise Output (dBm/MHz)**	**Booster Gain (dB)**	**Noise Figure (dB)**	**Limit (dB)**
Downlink	5	865.5	1	-10.87	96.78	6.35	9
Uplink	5	820.5	1	-6.57	99.93	7.50	9

Downlink Noise Figure = N – Gain + 174 dB – $10\lg_{10}$(B)
= -10.87 – 96.78 + 174 – $10\lg_{10}$(1000000) dB
= 6.35 dB

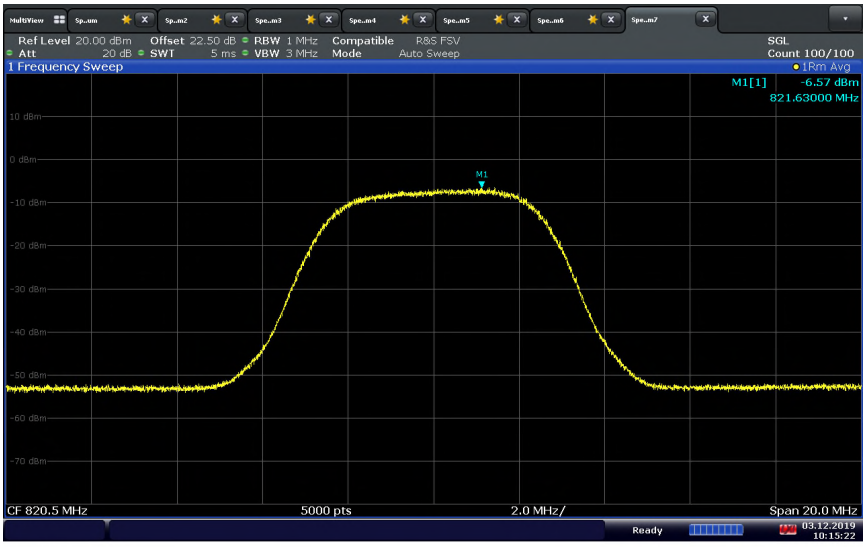
Uplink Noise Figure = N – Gain + 174 dB – $10\lg_{10}$(B)
= -6.57 – 99.93 + 174 – $10\lg_{10}$(1000000) dB
= 7.5 dB

LTE Band 26 (862 – 869 MHz) Downlink (5 MHz BW) M Channel / Noise Output



10:14:22 03.12.2019

LTE Band 26 (817– 824 MHz) Uplink (5 MHz BW) M Channel / Noise Output



10:15:22 03.12.2019

2.16 OUT-OF-BAND/OUT-OF-BLOCK (INTERMODULATION) AND SPURIOUS EMISSIONS

2.16.1 Specification Reference

FCC 47 CFR Part 2, Clause 2.1051
FCC 47 CFR Part 27, Clause 27.53(m)(2)(v) and (4)
FCC 47 CFR Part 90, Clause 90.691 (a)
RSS-199, Clause 4.5
KDB 935210 D05, Clause 3.6 and 4.7

2.16.2 Standard Applicable

FCC 47 CFR Part 27.53(m)(2):
(v) For all fixed digital user stations, the attenuation factor shall be not less than 43 + 10 log (P) dB at the channel edge.

(4) For mobile digital stations, the attenudation factor shall be not less than 40+ 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

FCC 47 CFR Part 90.691(a):
(1) 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 Log10(f/6.1) decibels or 50 + 10 Log10(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.
(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(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 37.5 kHz.

RSS-199, Clause 4.5:
In the 1 MHz band immediately outside and adjacent to the channel edge, the unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth for base station and fixed subscriber equipment, and 2% for mobile subscriber equipment. Beyond the 1 MHz band, a resolution bandwidth of 1 MHz shall be used. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz, or 1% or 2% of the occupied bandwidth, as applicable.

Equipment shall comply with the following unwanted emission limits:

(a) for base station and fixed subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least 43 + 10 log10 p.

(b) for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:

(i) 40 + 10 log10 p from the channel edges to 5 MHz away
(ii) 43 + 10 log10 p between 5 MHz and X MHz from the channel edges, and
(iii) 55 + 10 log10 p at X MHz and beyond from the channel edges

In addition, the attenuation shall not be less than 43 + 10 log10 p on all frequencies between 2490.5 MHz and 2496 MHz, and 55 + 10 log10 p at or below 2490.5 MHz.

In (a) and (b), p is the transmitter power measured in watts and X is 6 MHz or the equipment occupied bandwidth, whichever is greater.

For LTE Band 41, out-of-Band/Out-of-Block and spurious emissions is tested according to KDB 935210 D05, Clause 3.6.

For LTE Band 26 862-869/817-824 MHz, out-of-Band/Out-of-Block and spurious emissions is tested according to KDB 935210 D05, Clause 4.7.

2.16.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU) and 371929000156, 443935000064 (CU) / Test Configuration A and B

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

December 05, 2019 / ZXY

2.16.5 Test Equipment Used

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

2.16.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

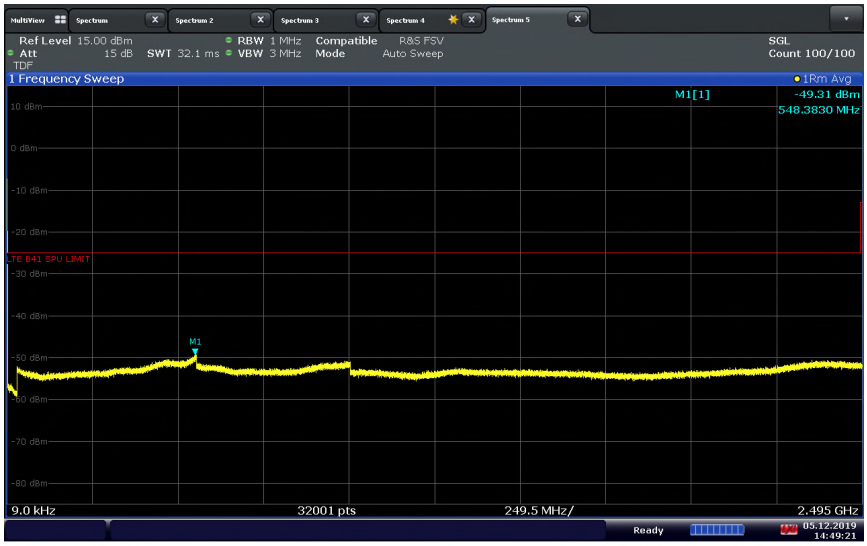
Ambient Temperature	23.6°C
Relative Humidity	49.4%
ATM Pressure	99.4kPa

2.16.7 Additional Observations

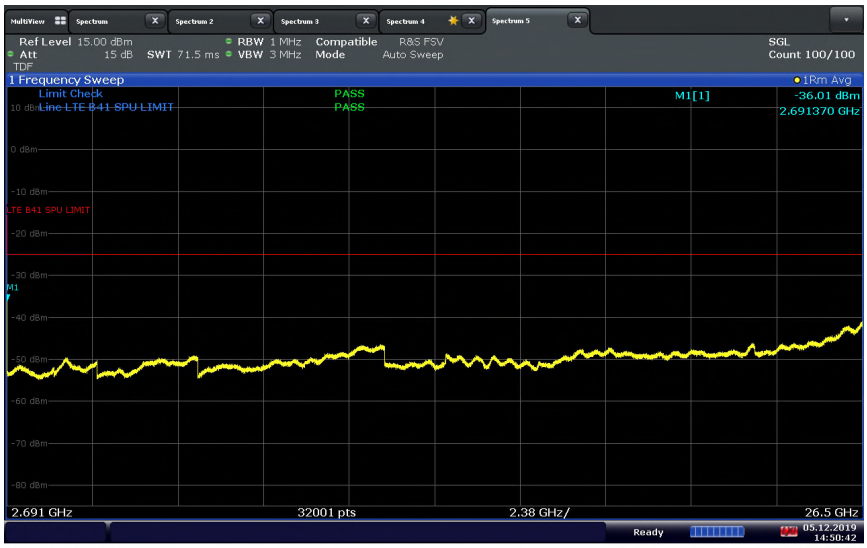
- The path loss was measured and entered as an offset.
- 5 MHz Bandwidth was tested as representative configuration.
- The Downlink and Uplink Gains are measured with a LTE signal injected to the device under test.
- For LTE Band 41, the signal generator is configured for 4.1 MHz AWGN signal. For LTE B26 862-869/817-824 MHz, the signal generator is configured for CW operation.
- The spectrum analyser was set to peak detector and trace is max hold.
- RBW is 1 MHz, VBW is > 3 x RBW.
- The spectrum analyser was set to RMS detector and trace average is 100 traces.
- For LTE Band 26 817-824/862-869 MHz, CW signal is injected to the input of the EUT.
- The spectrum analyser was set to peak detector and trace is max hold.
- RBW is 100 kHz, VBW is > 3 x RBW.
- Both Downlink and Uplink are tested.
- Intermodulation-product spurious emission measurements are not required for single-channel boosters that can't accommodate two simultaneous signals within the pass band.

2.16.8 Test Results

LTE Band 41 Downlink (5 MHz BW) Low Channel / Spurious Emissions

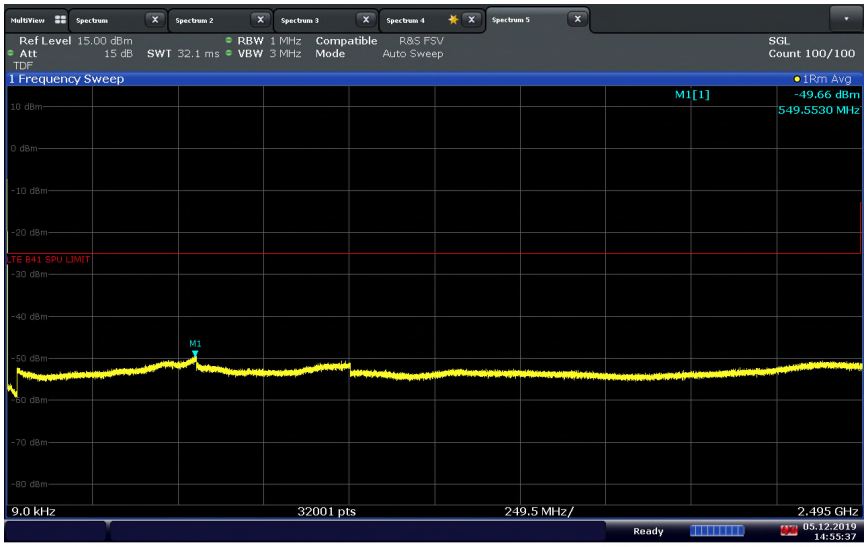


14:49:21 05.12.2019

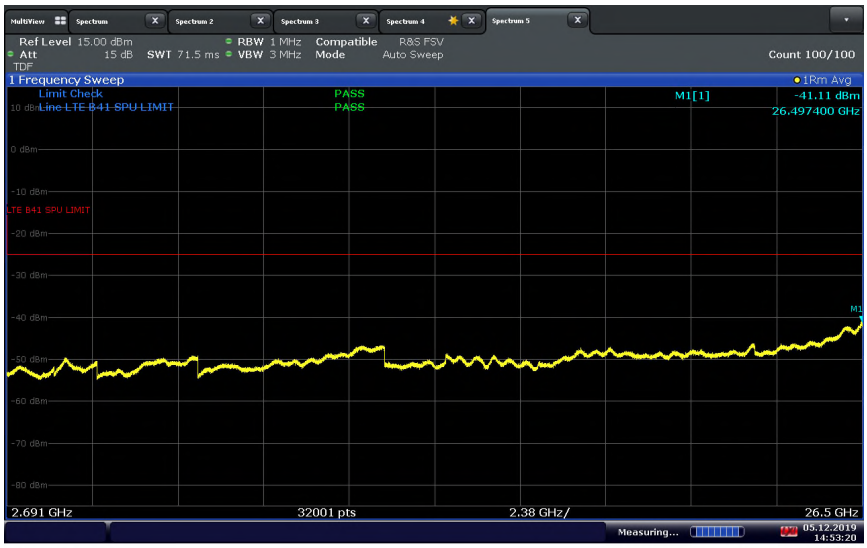


14:50:43 05.12.2019

LTE Band 41 Downlink (5 MHz BW) Mid Channel / Spurious Emissions

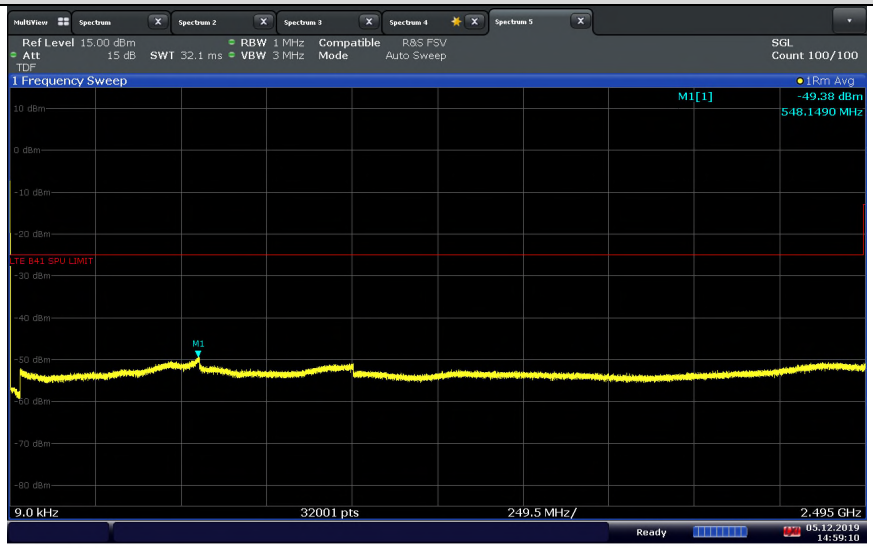


14:55:37 05.12.2019

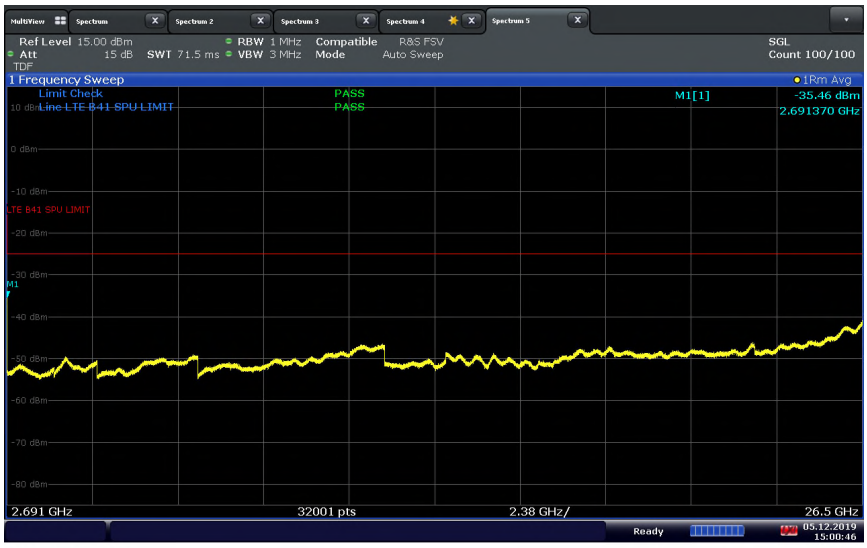


14:53:21 05.12.2019

LTE Band 41 Downlink (5 MHz BW) High Channel / Spurious Emissions

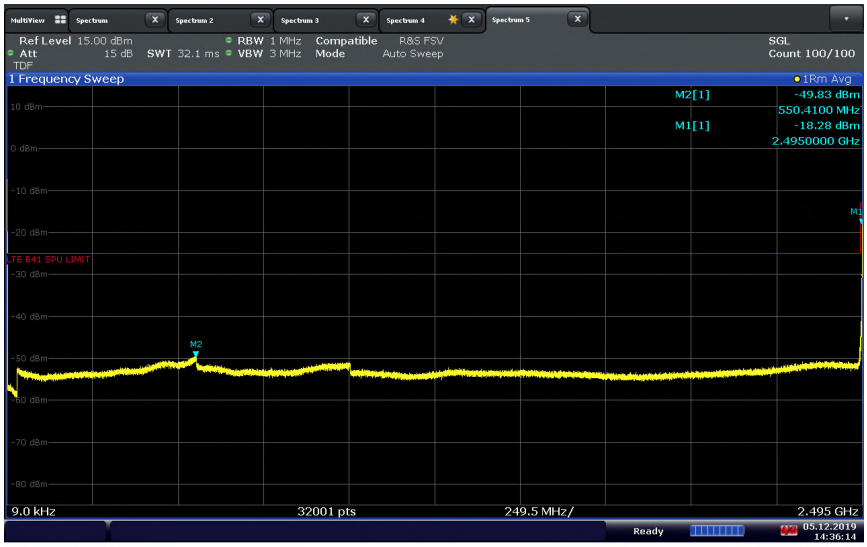


14:59:11 05.12.2019

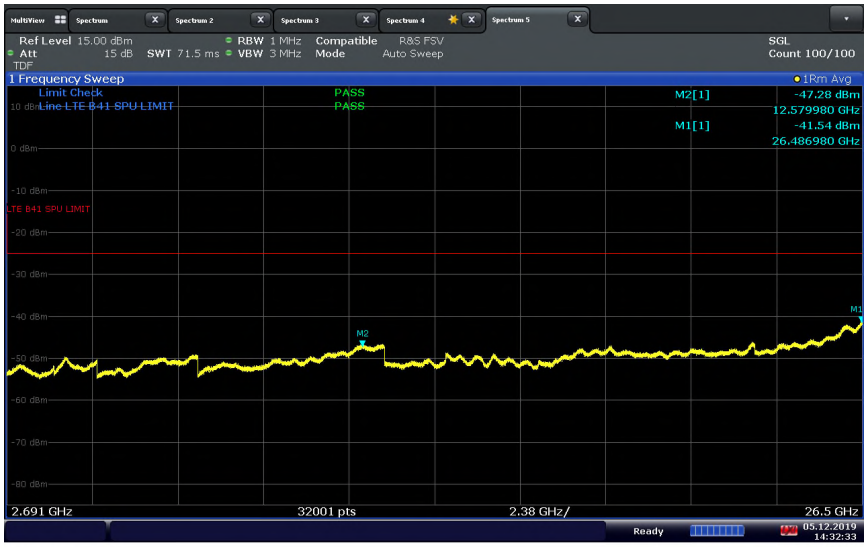


15:00:47 05.12.2019

LTE Band 41 Uplink (5 MHz BW) Low Channel / Spurious Emissions

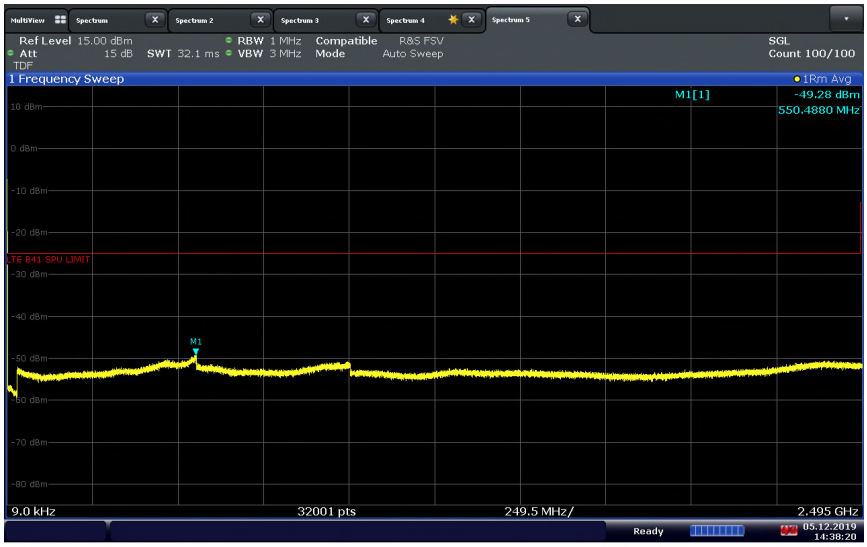


14:36:14 05.12.2019



14:32:33 05.12.2019

LTE Band 41 Uplink (5 MHz BW) Mid Channel / Spurious Emissions



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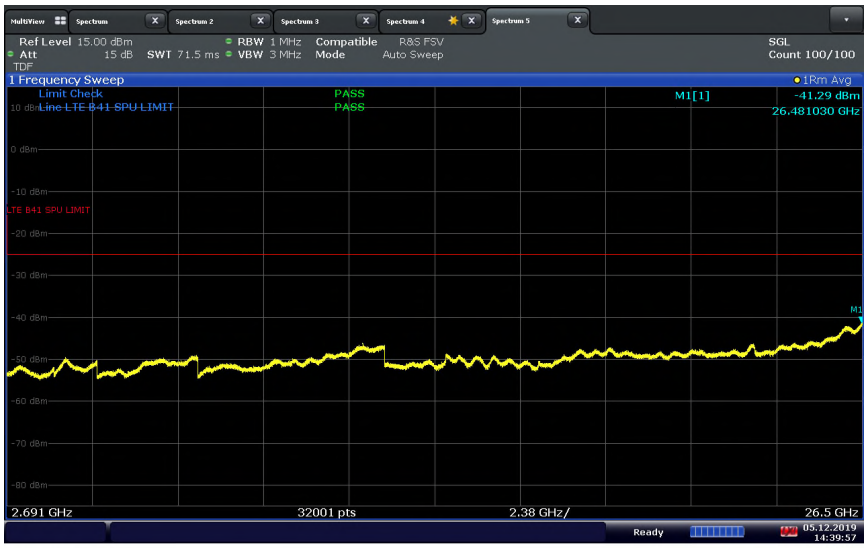
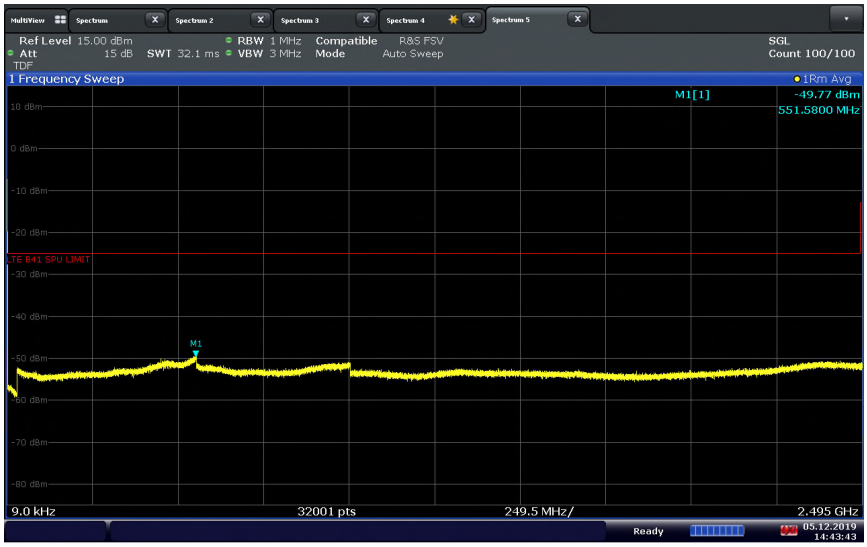
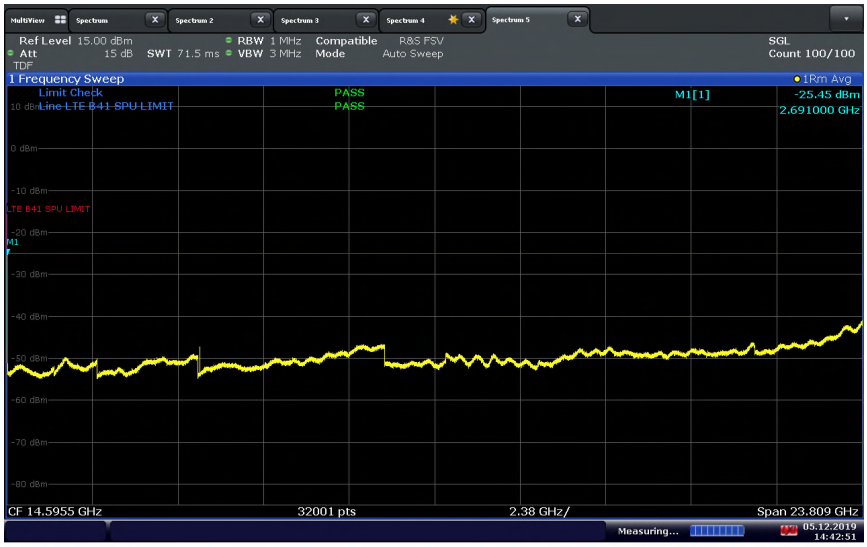


14:39:58 05.12.2019

LTE Band 41 Uplink (5 MHz BW) High Channel / Spurious Emissions

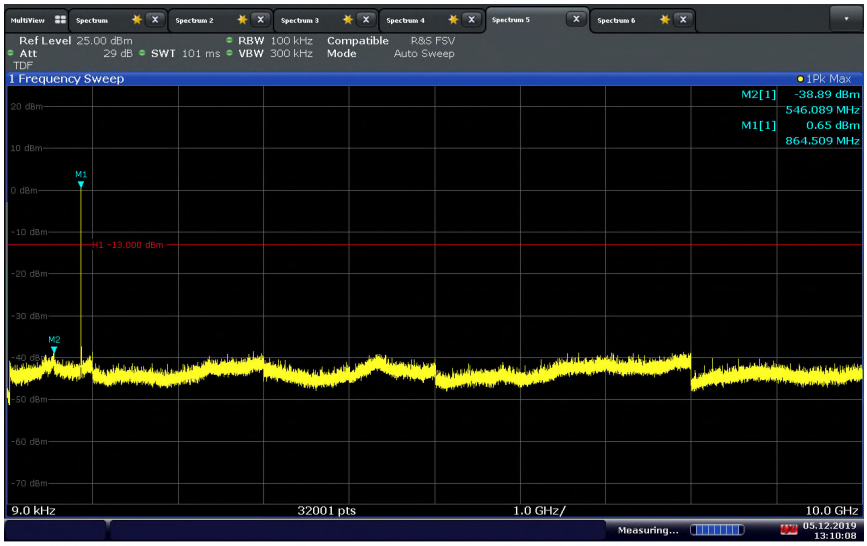


14:43:44 05.12.2019



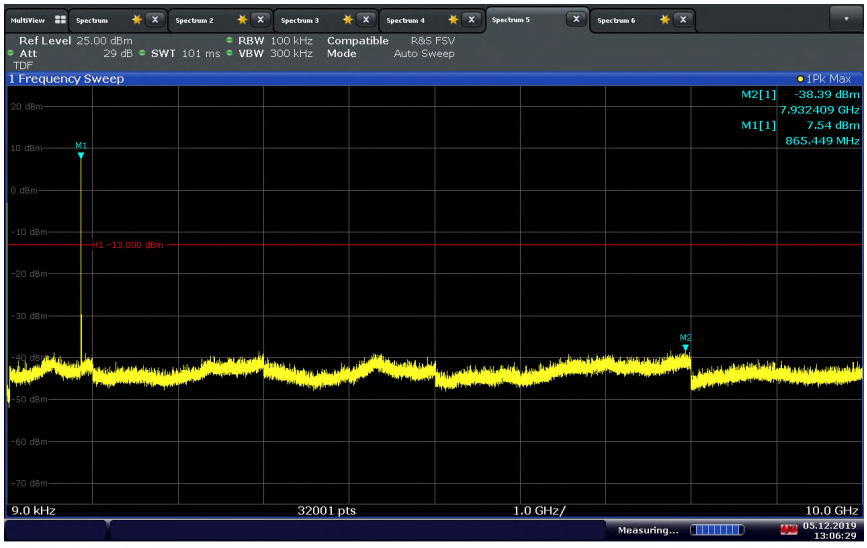
14:42:51 05.12.2019

LTE Band 26 (862 – 869 MHz) Downlink (5 MHz BW) Low Channel / Spurious Emissions



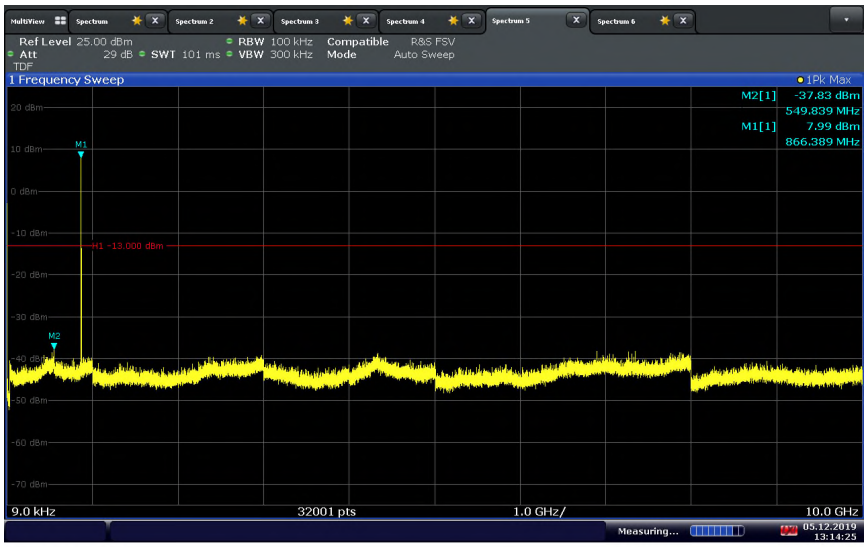
13:10:08 05.12.2019

LTE Band 26 (862 – 869 MHz) Downlink (5 MHz BW) Mid Channel / Spurious Emissions



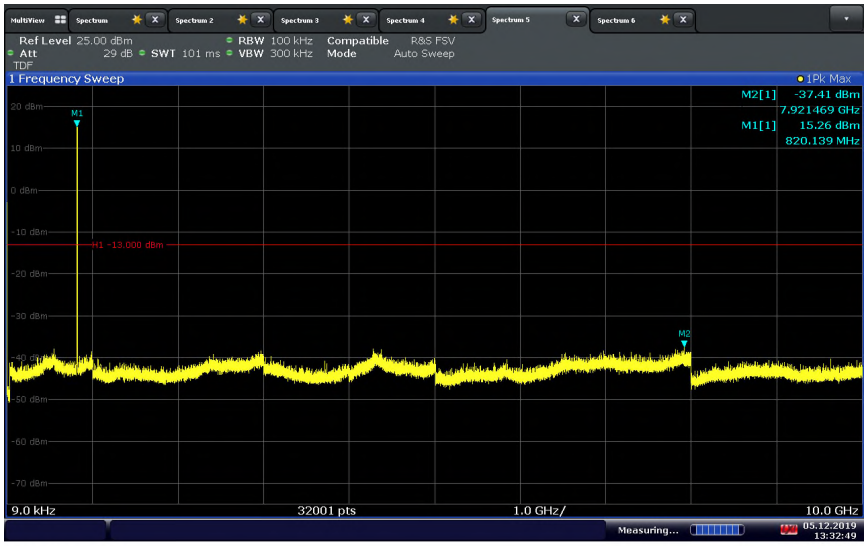
13:06:29 05.12.2019

LTE Band 26 (862 – 869 MHz) Downlink (5 MHz BW) High Channel / Spurious Emissions



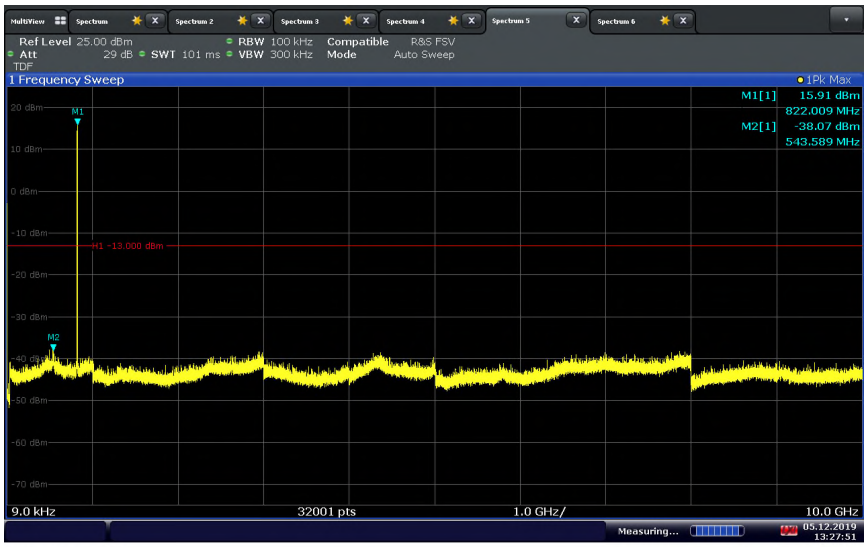
13:14:25 05.12.2019

LTE Band 26 (817 – 824 MHz) Uplink (5 MHz BW) Low Channel / Spurious Emissions



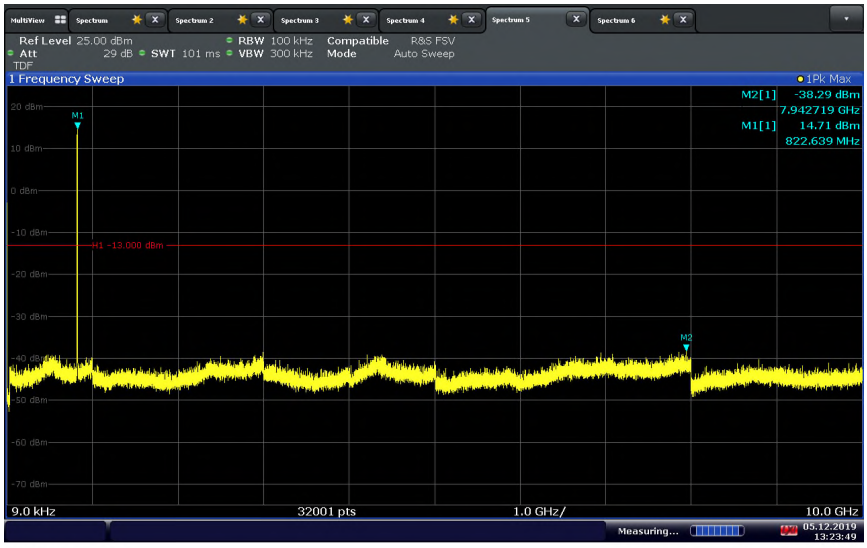
13:32:50 05.12.2019

LTE Band 26 (817 – 824 MHz) Uplink (5 MHz BW) Mid Channel / Spurious Emissions



13:27:52 05.12.2019

LTE Band 26 (817 – 824 MHz) Uplink (5 MHz BW) High Channel / Spurious Emissions



13:23:50 05.12.2019

SECTION 3

TEST EQUIPMENT USED

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

ID Number (SDGE/SDRB)	Test Equipment	Type	Serial Number	Manufacturer	Cal Date	Cal Due Date
Antenna Conducted Port Setup						
7662	P-Series Power Meter	N1911A	MY45100951	Agilent	06/28/19	06/28/20
7661	50MHz-18GHz Wideband Power Sensor	N1921A	MY45241383	Agilent	07/24/19	07/24/20
7608	Vector Signal Generator	SMBV100A	259021	Rhode & Schwarz	10/10/19	10/10/21
7582	Signal/Spectrum Analyzer	FSW26	101614	Rhode & Schwarz	01/07/19	01/07/20
8825	20dB Attenuator	46-20-34	BK5773	Weinschel Corp.	Verified by 7608 and 7582	
-	10dB Attenuator	VAT-10W2+2W	N/A	MCL	Verified by 7608 and 7582	
Radiated Test Setup						
1033	Bilog Antenna	3142C	00044556	EMCO	09/05/19	09/05/21
7575	Double-ridged waveguide horn antenna	3117	00155511	EMCO	06/16/18	06/16/20
8628	Pre-amplifier	QLJ 01182835-JO	8986002	QuinStar Technologies Inc.	03/07/19	03/07/20
1040	EMI Test Receiver	ESIB40	100292	Rhode & Schwarz	10/11/19	10/11/20
7620	EMI Test Receiver	ESU	100399	Rhode & Schwarz	10/18/19	10/18/20
1016	Pre-amplifier	PAM-0202	187	A.H. Systems, Inc.	03/08/19	03/08/20
Conducted Emissions						
7620	EMI Test Receiver	ESU	100399	Rhode & Schwarz	10/18/19	10/18/20
7567	LISN	FCC-LISN-50-25-2	120304	Fischer Custom Comm.	12/14/17	12/14/19
8822	20dB Attenuator	34-20-34	N/A	MCE / Weinschel	03/05/19	03/06/20
8824	20dB Attenuator	34-20-34	N/A	MCE / Weinschel	03/05/19	03/05/20
Miscellaneous						
43003	True RMS Multimeter	85 III	96880143	Fluke	10/07/19	10/07/20
7579	Temperature Chamber	115	151617	TestQuity	09/09/19	09/09/20
7619	Temp & Humidity Sensor	iBTHX-W	15050268	Omega	06/18/19	06/18/20
	Test Software	EMC32	V8.53	Rhode & Schwarz	N/A	

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:

3.2.1 Conducted Antenna Port Measurement

	Input Quantity (Contribution) X_i	Value	Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10 dB	Normal, k=1	1.000	0.10	0.01
2	Cable attenuation	1.00 dB	Normal, k=2	2.000	0.50	0.25
3	Received sinewave accuracy	0.07 dB	Normal, k=2	2.000	0.04	0.00
4	Receiver pulse amplitude	0.00 dB	Rectangular	1.732	0.00	0.00
5	Receiver pulse repetition rate	0.00 dB	Rectangular	1.732	0.00	0.00
6	Noise floor proximity	0.00 dB	Rectangular	1.732	0.00	0.00
7	Frequency interpolation	0.10 dB	Rectangular	1.732	0.06	0.00
8	Mismatch	0.07 dB	U-shaped	1.414	0.05	0.00
	Combined standard uncertainty		Normal	0.52	dB	
	Expanded uncertainty		Normal, k=2	**1.03**	**dB**	

3.2.2 Radiated Emission Measurements (Below 1GHz)

	Input Quantity (Contribution) X_i	Value	Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10 dB	Normal, k=1	1.000	0.10	0.01
2	Attenuation: antenna-receiver	0.20 dB	Normal, k=2	2.000	0.10	0.01
3	Antenna factor AF	0.75 dB	Normal, k=2	2.000	0.38	0.14
4	Receiver sinewave accuracy	1.10 dB	Normal, k=2	2.000	0.55	0.30
5	Receiver pulse amplitude	1.50 dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50 dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.50 dB	Rectangular	1.732	0.29	0.08
8	Mismatch: antenna-receiver	0.95 dB	U-shaped	1.414	0.67	0.45
9	AF frequency interpolation	0.30 dB	Rectangular	1.732	0.17	0.03
10	AF height deviations	0.10 dB	Rectangular	1.732	0.06	0.00
11	Directivity difference at 3 m	3.12 dB	Rectangular	1.732	1.80	3.24
12	Phase center location at 3 m	1.00 dB	Rectangular	1.732	0.58	0.33
13	Cross-polarisation	0.90 dB	Rectangular	1.732	0.52	0.27
14	Balance	0.00 dB	Rectangular	1.732	0.00	0.00
15	Site imperfections	3.91 dB	Triangular	2.449	1.60	2.55
16	Separation distance at 3 m	0.30 dB	Rectangular	1.732	0.17	0.03
17	Effect of setup table material	0.40 dB	Rectangular	1.732	0.23	0.05
18	Table height at 3 m	0.10 dB	Normal, k=2	2.000	0.05	0.00
19	Near-field effects	0.00 dB	Triangular	2.449	0.00	0.00
20	Effect of ambient noise on OATS	0.00 dB				0.00
	Combined standard uncertainty		Normal	3.00	dB	
	Expanded uncertainty		**Normal, k=2**	**6.00**	**dB**	

3.2.3 Radiated Emission Measurements (Above 1GHz)

	Input Quantity (Contribution) X_i	Value		Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10	dB	Normal, k=1	1.000	0.10	0.01
2	Attenuation: antenna-receiver	0.30	dB	Normal, k=2	2.000	0.15	0.02
3	Preamplifier Gain	0.20	dB	Normal, k=2	2.000	0.10	0.01
4	Antenna factor AF	0.37	dB	Normal, k=2	2.000	0.19	0.03
5	Sinewave accuracy	0.57	dB	Normal, k=2	2.000	0.29	0.08
6	Instability of preamp gain	1.21	dB	Rectangular	1.732	0.70	0.49
7	Noise floor proximity	0.70	dB	Rectangular	1.732	0.40	0.16
8	Mismatch: antenna-preamplifier	1.41	dB	U-shaped	1.414	1.00	0.99
9	Mismatch: preamplifier-receiver	1.30	dB	U-shaped	1.414	0.92	0.85
10	AF frequency interpolation	0.30	dB	Rectangular	1.732	0.17	0.03
11	Directivity difference at 3 m	1.50	dB	Rectangular	1.732	0.87	0.75
12	Phase center location at 3 m	0.30	dB	Rectangular	1.732	0.17	0.03
13	Cross-polarisation	0.90	dB	Rectangular	1.732	0.52	0.27
14	Site imperfections VSWR (Method 2)	5.30	dB	Triangular	2.449	2.16	4.68
15	Effect of setup table material	1.15	dB	Rectangular	1.732	0.66	0.44
16	Separation distance at 3 m	0.30	dB	Rectangular	1.732	0.17	0.03
17	Table height at 3 m	0.00	dB	Normal, k=2	2.000	0.00	0.00
	Combined standard uncertainty			Normal		2.98	dB
	Expanded uncertainty			**Normal, k=2**		**5.96**	**dB**

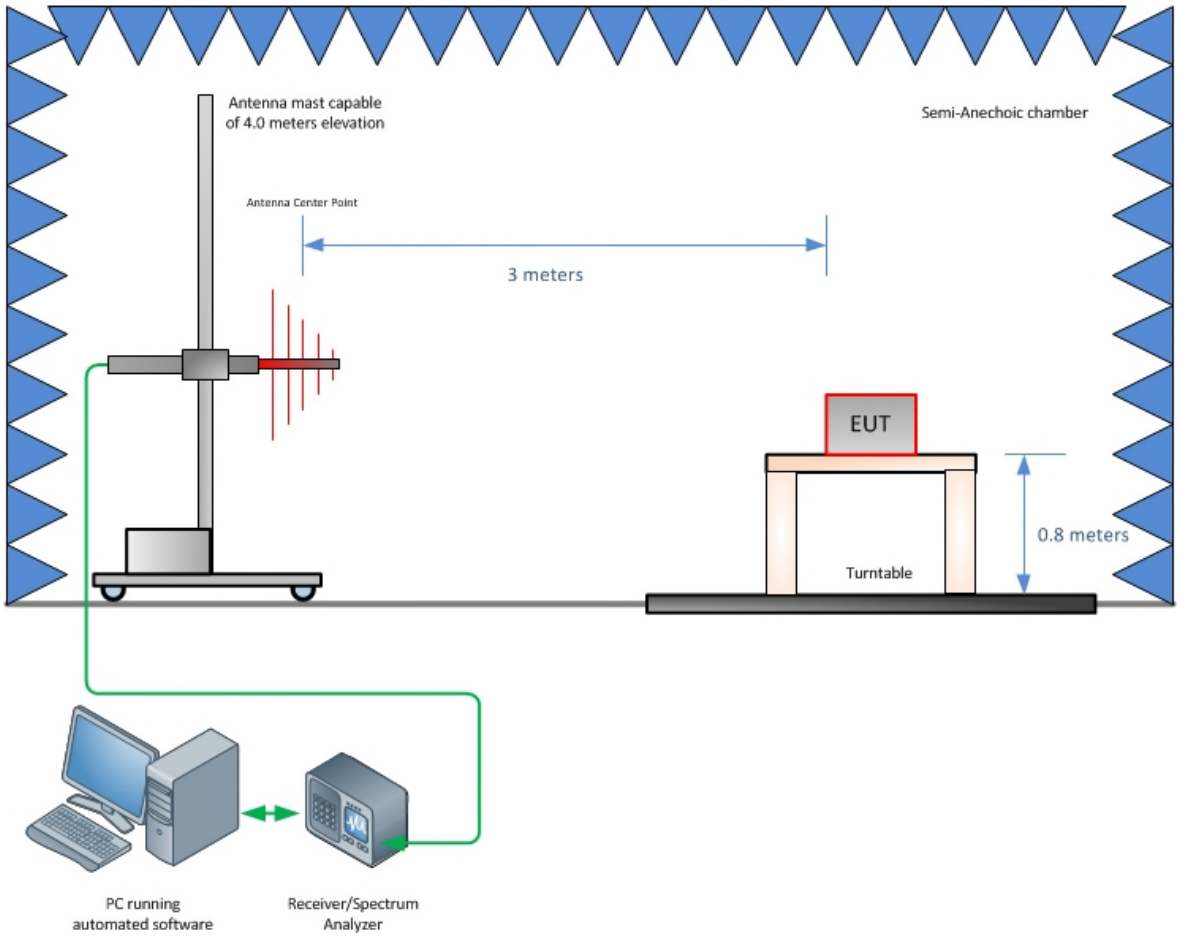
3.2.4 Conducted Measurements

	Input Quantity (Contribution) X_i	Value		Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10	dB	Normal, k=1	1.000	0.10	0.01
2	LISN-receiver attenuation	0.10	dB	Normal, k=2	2.000	0.05	0.00
3	LISN voltage division factor	0.30	dB	Normal, k=2	2.000	0.15	0.02
4	Receiver sinewave accuracy	0.36	dB	Normal, k=2	2.000	0.18	0.03
5	Receiver pulse amplitude	1.50	dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50	dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.00	dB	Rectangular	1.732	0.00	0.00
8	AMN VDF frequency interpolation	0.10	dB	Rectangular	1.732	0.06	0.00
9	Mismatch	0.07	dB	U-shaped	1.414	0.05	0.00
10	LISN impedance	2.65	dB	Triangular	2.449	1.08	1.17
11	Effect of mains disturbance	0.00	dB			0.00	0.00
12	Effect of the environment						
	Combined standard uncertainty			Normal		1.66	dB
	Expanded uncertainty			**Normal, k=2**		**3.31**	**dB**

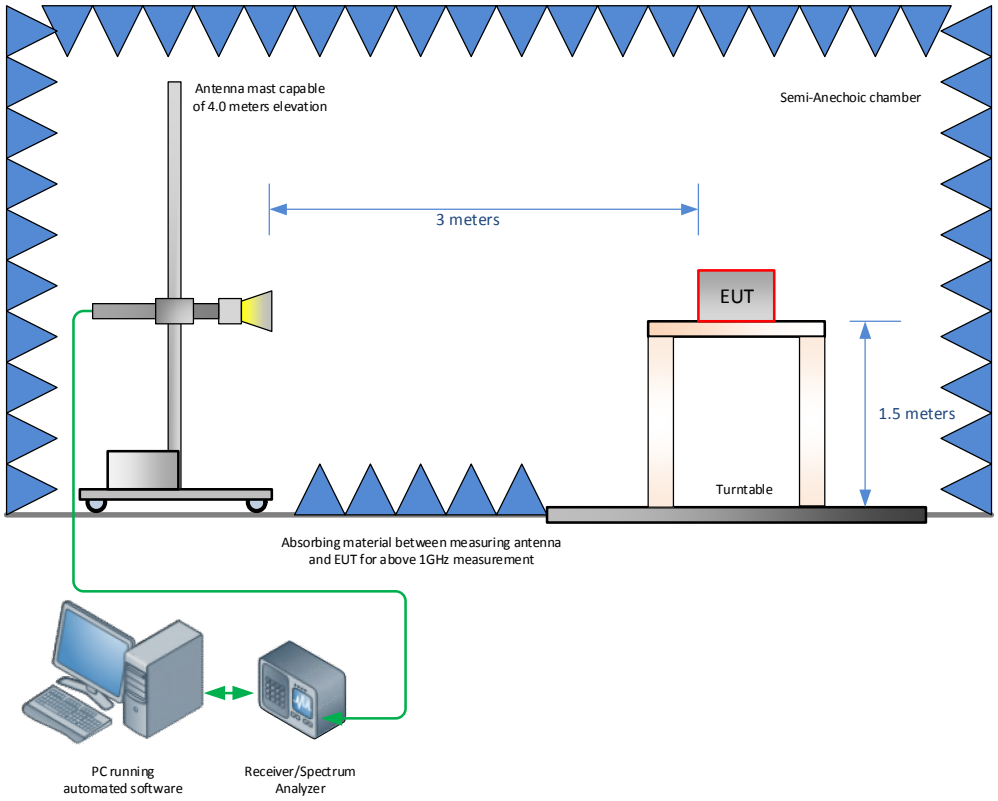
SECTION 4

DIAGRAM OF TEST SETUP

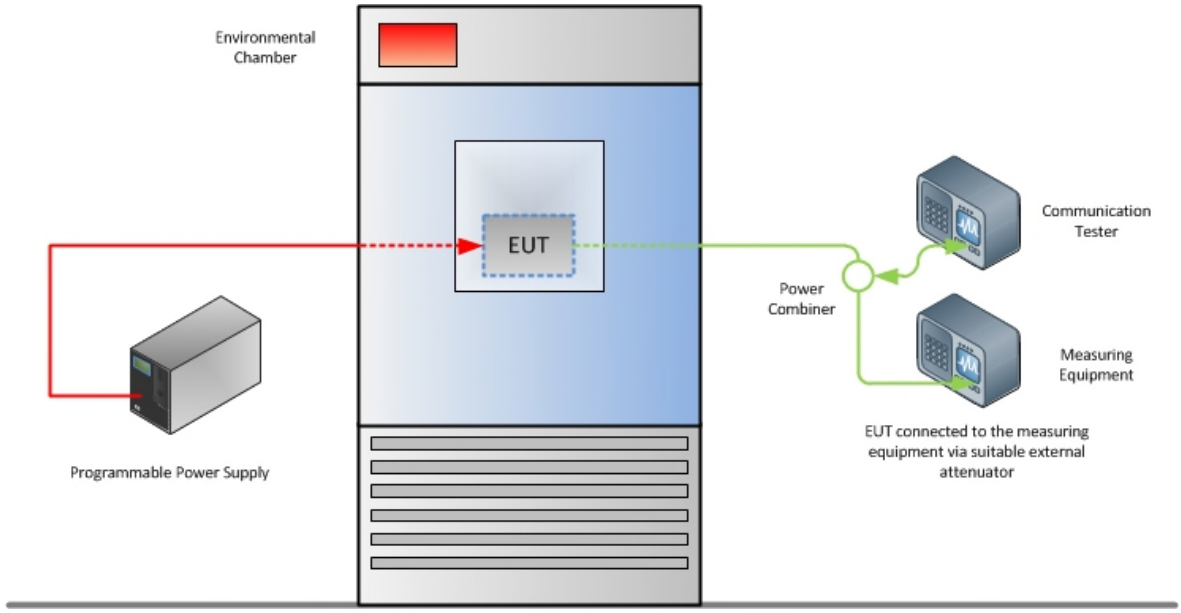
4.1 TEST SETUP DIAGRAM



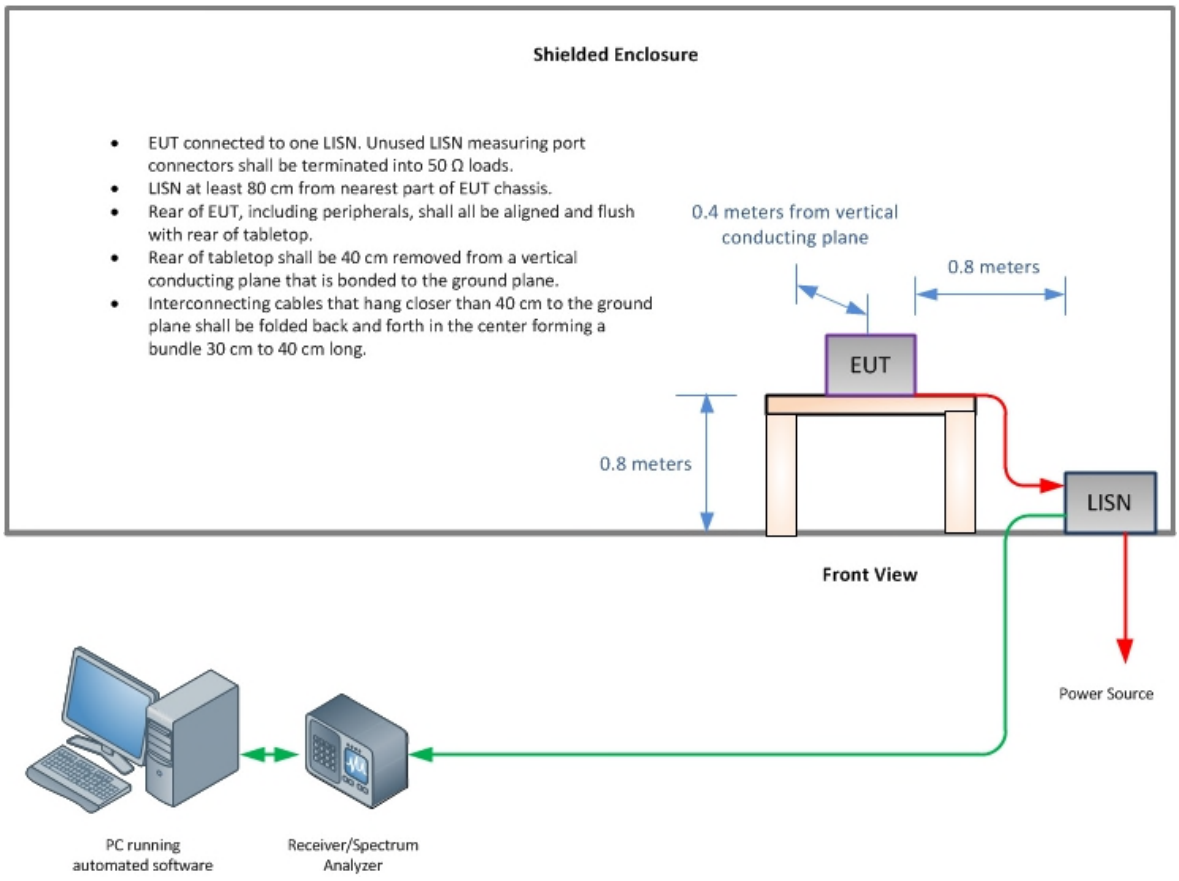
Radiated Emission Test Setup (Below 1GHz)



Radiated Emission Test Setup (Above 1GHz)



Frequency Stability Test Comfiguration



Conducted Emissions Test Configuration (if applicable)

SECTION 5

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

5.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

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