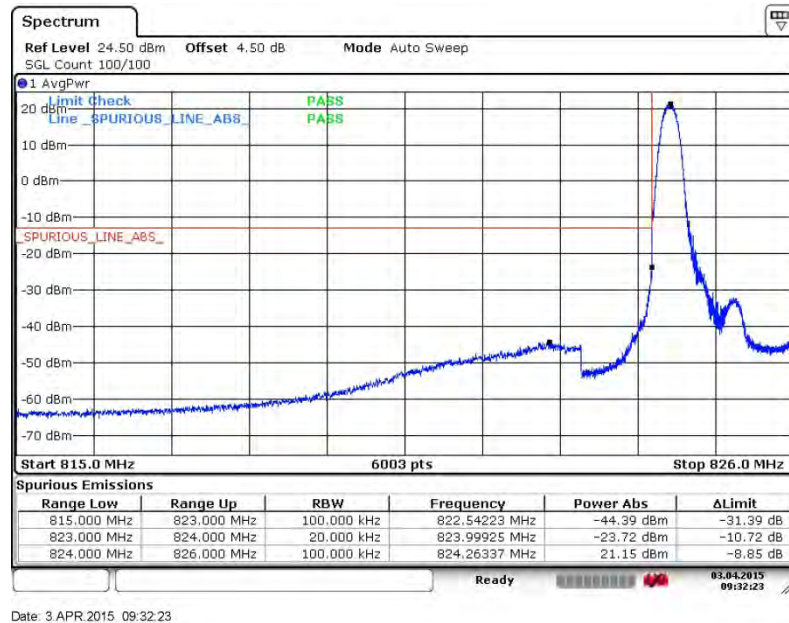


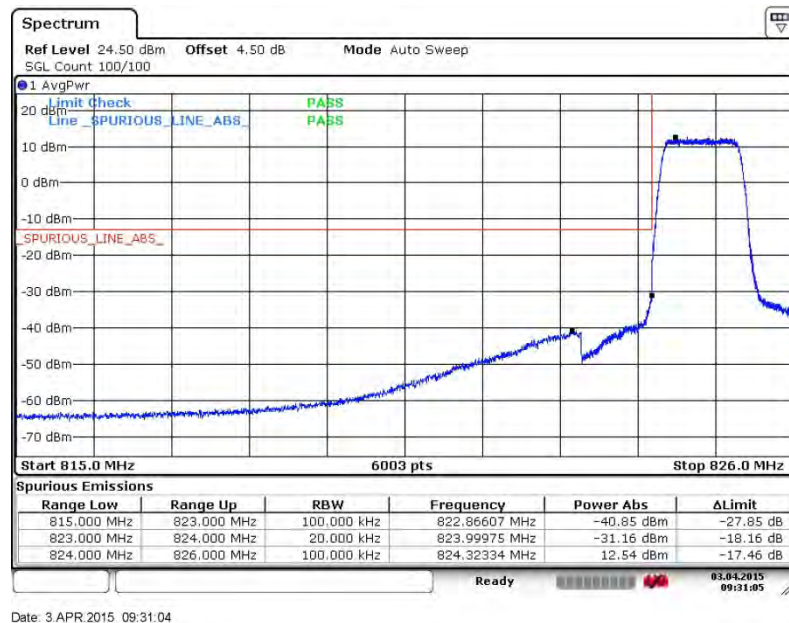


Band :	LTE Band 26	Band Width :	1.4MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0

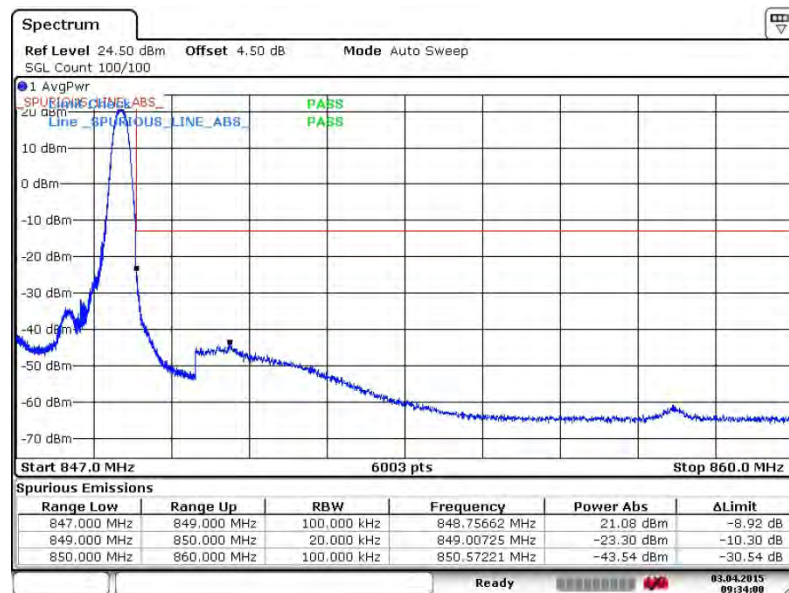


Lower Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



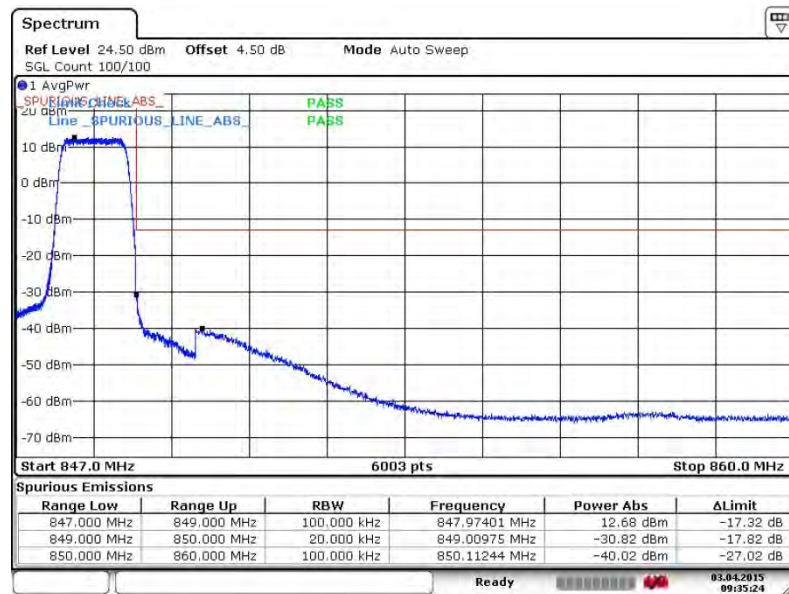


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 5



Date: 3 APR 2015 09:34:00

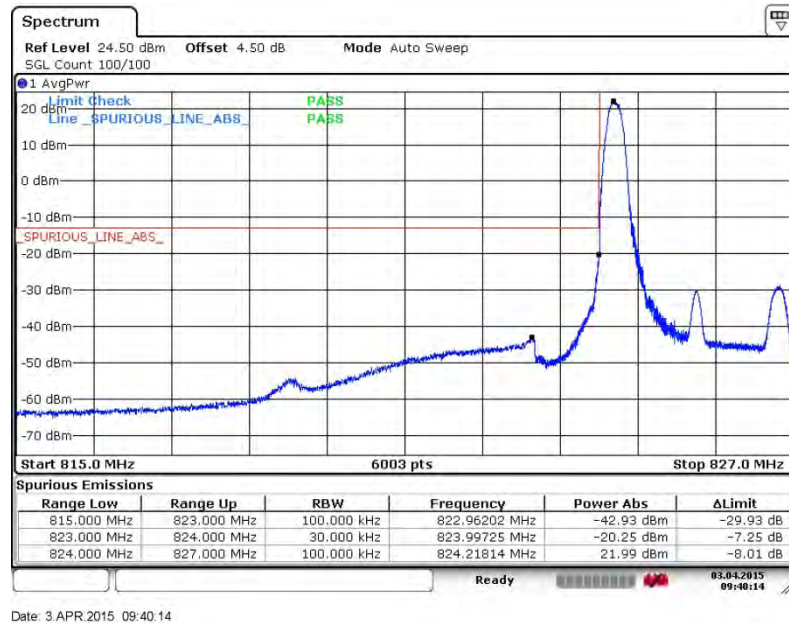
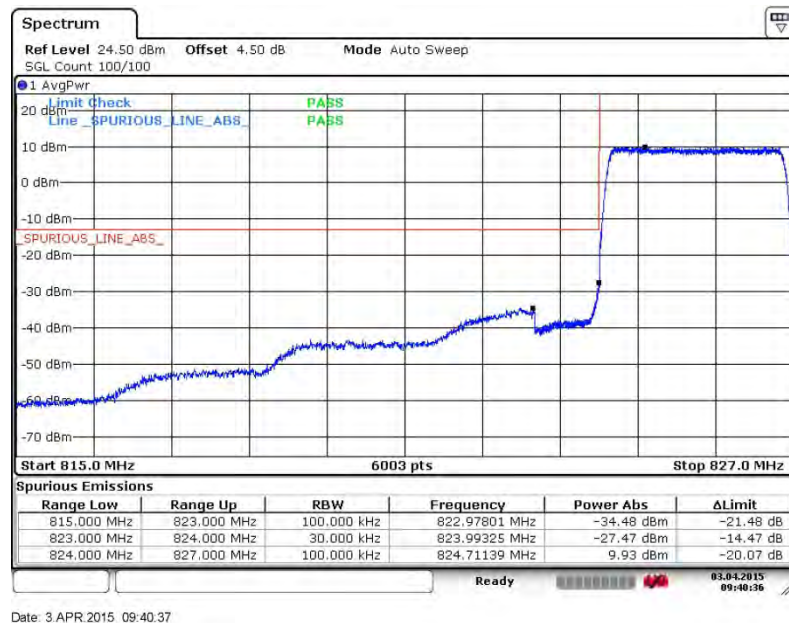
Higher Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



Date: 3 APR 2015 09:35:24

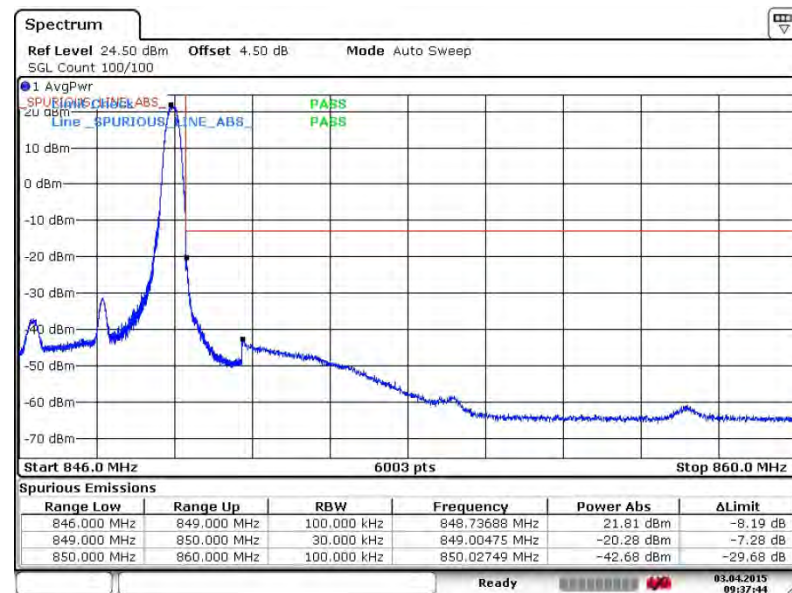


Band :	LTE Band 26	Band Width :	3MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0**Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0**

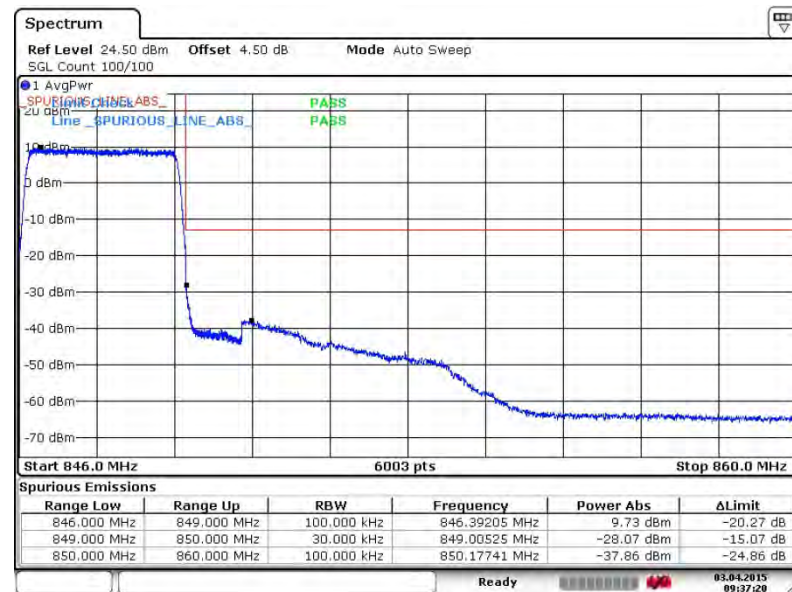


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 3 APR 2015 09:37:45

Higher Band Edge Plot for QPSK-RB Size 15, RB Offset 0

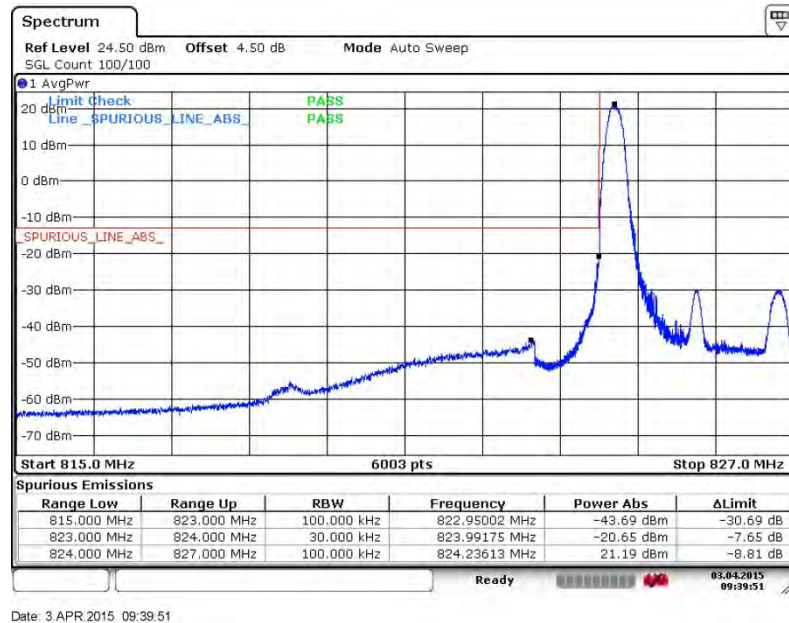


Date: 3 APR 2015 09:37:19

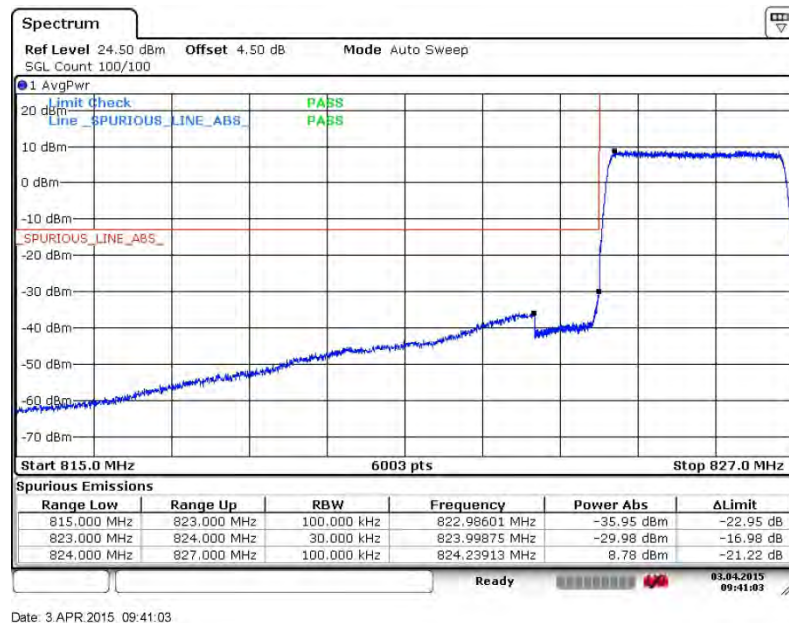


Band :	LTE Band 26	Band Width :	3MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0

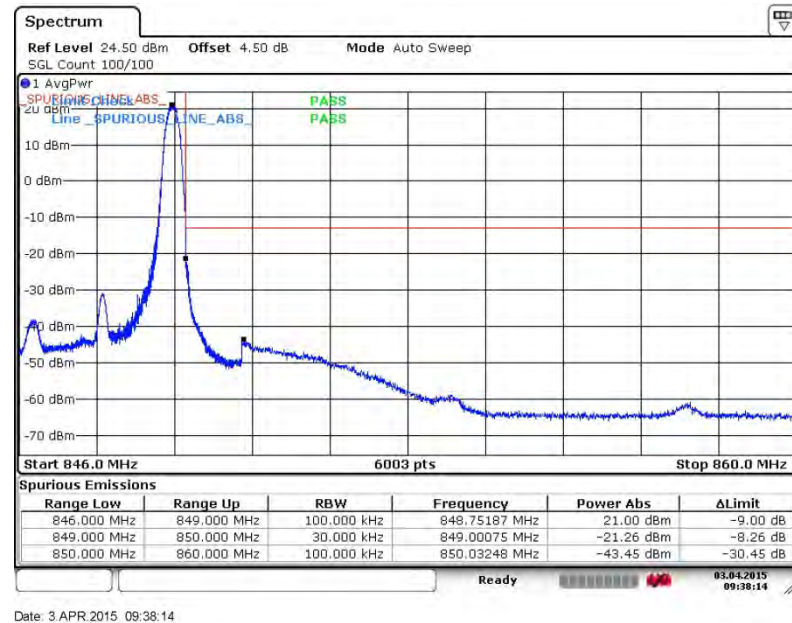


Lower Band Edge Plot for 16QAM-RB Size 15, RB Offset 0

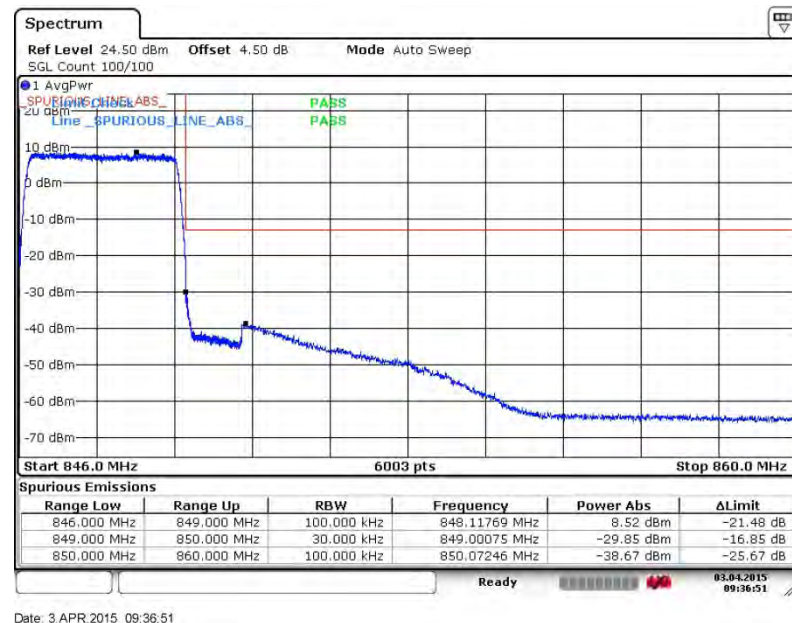




Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 14



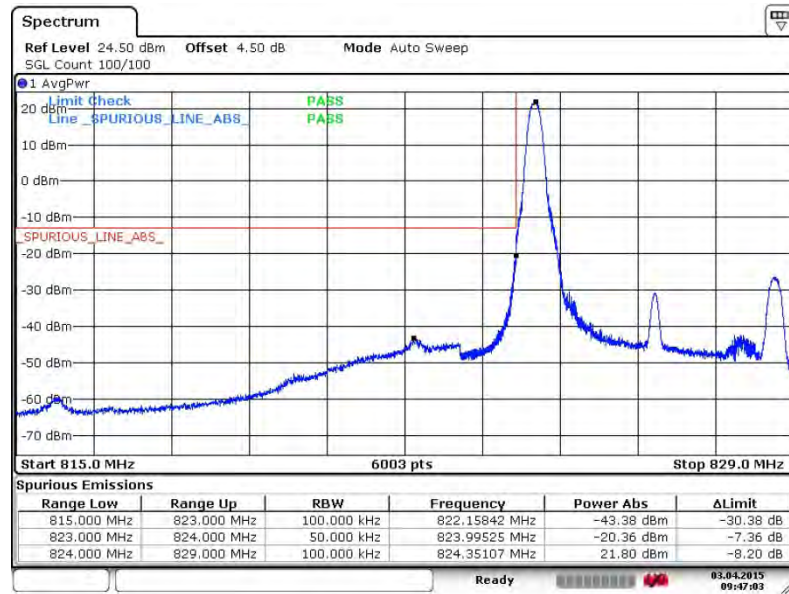
Higher Band Edge Plot for 16QAM-RB Size 15, RB Offset 0





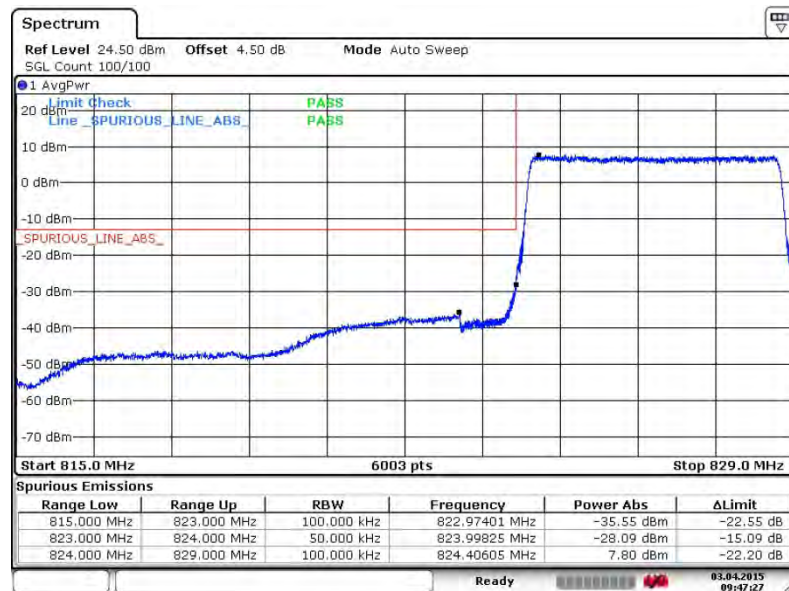
Band :	LTE Band 26	Band Width :	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 3 APR 2015 09:47:03

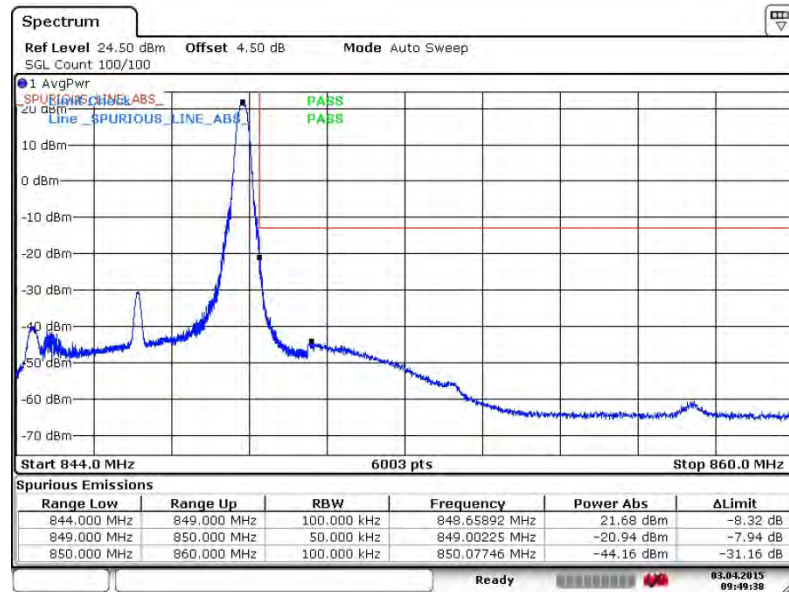
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 3 APR 2015 09:47:27

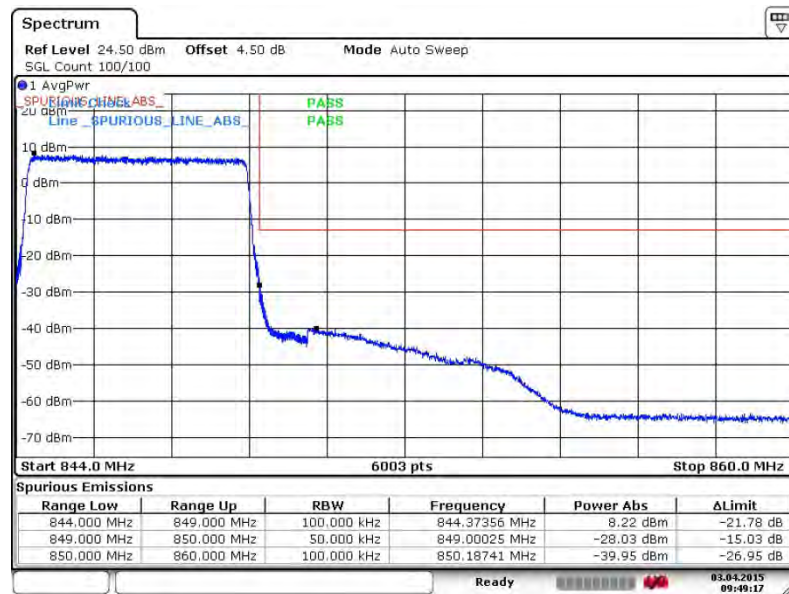


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 3 APR 2015 09:49:38

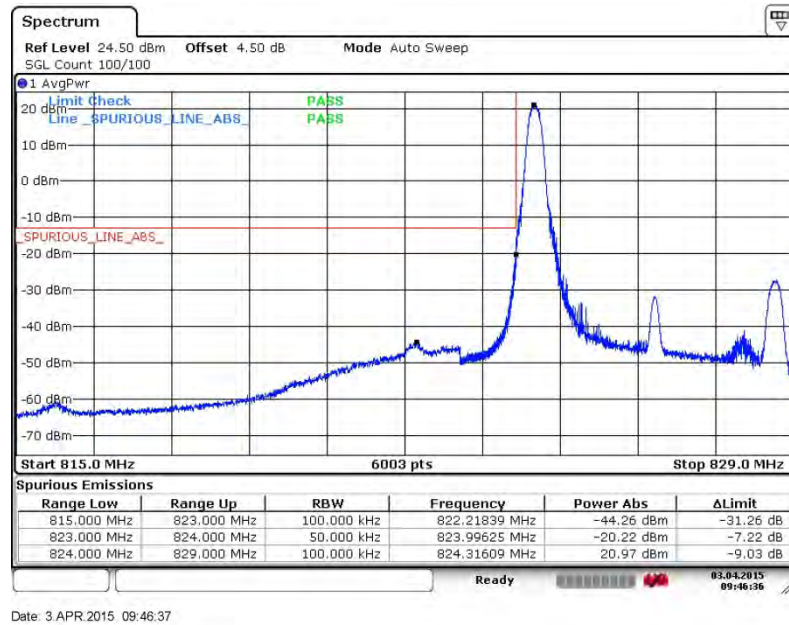
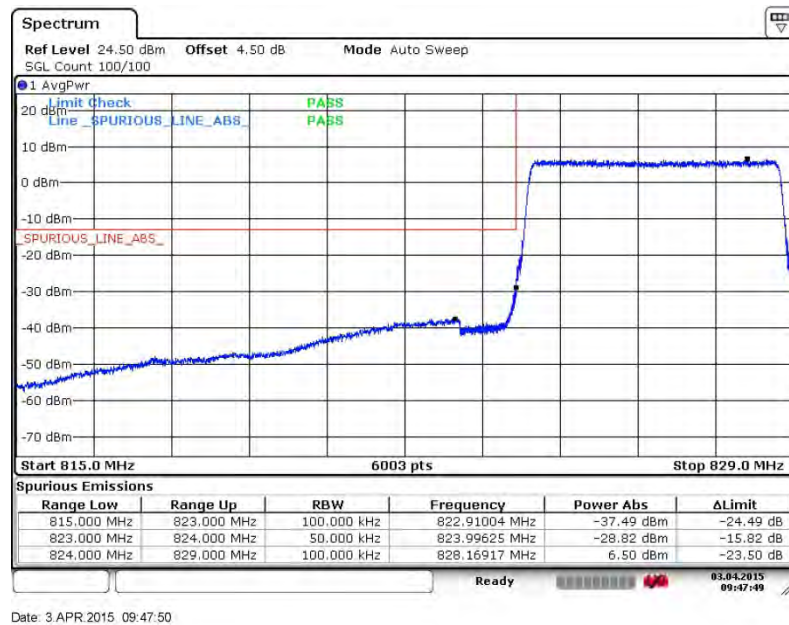
Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 3 APR 2015 09:49:17

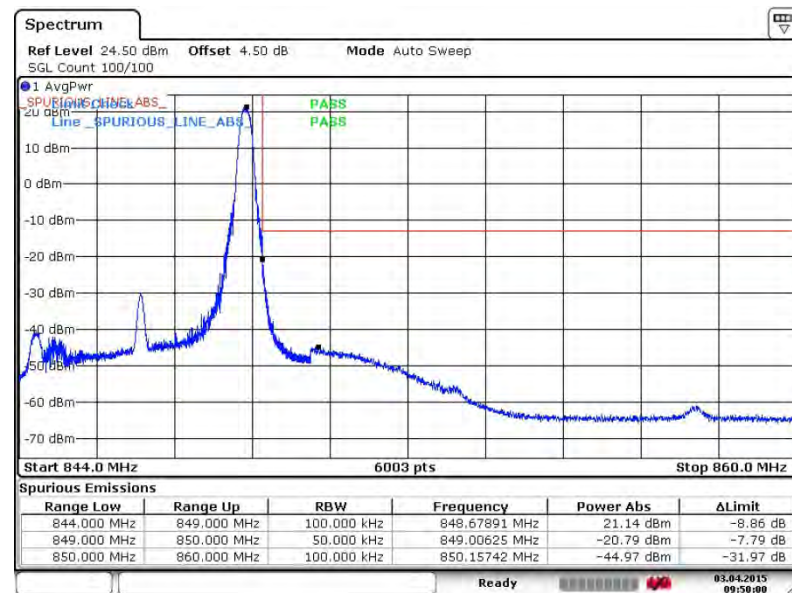


Band :	LTE Band 26	Band Width :	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0**Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0**

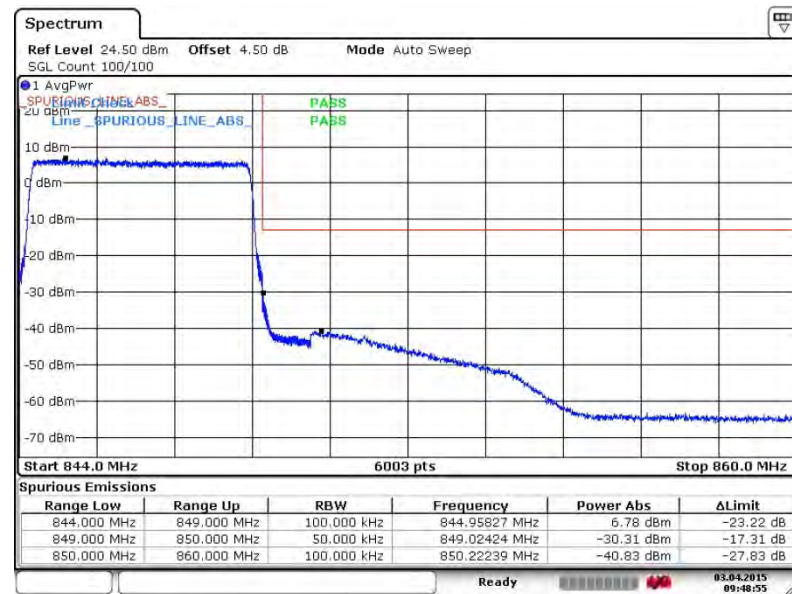


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 3 APR 2015 09:50:00

Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

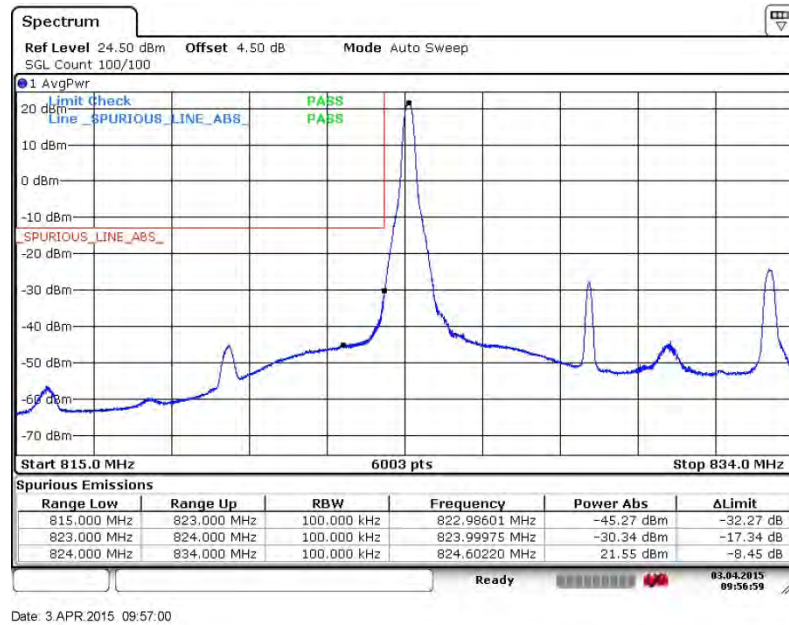


Date: 3 APR 2015 09:48:55

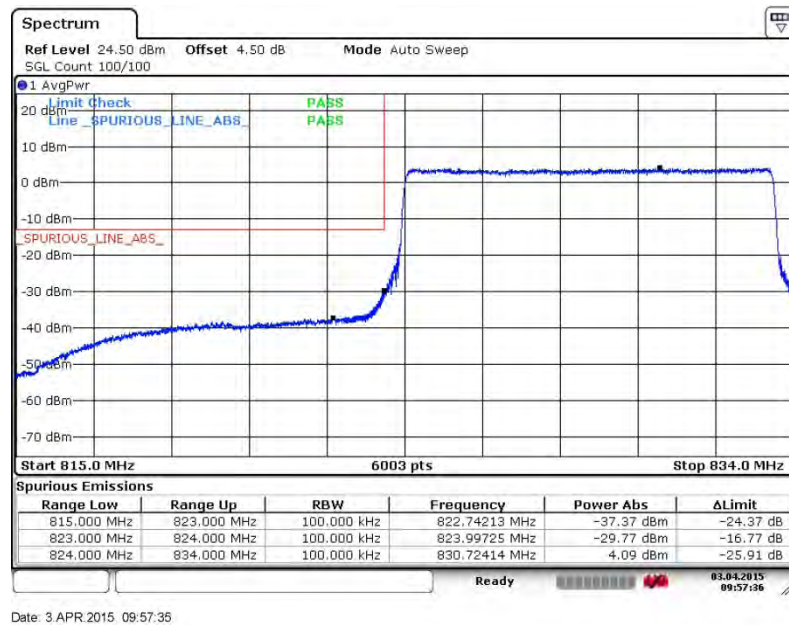


Band :	LTE Band 26	Band Width :	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

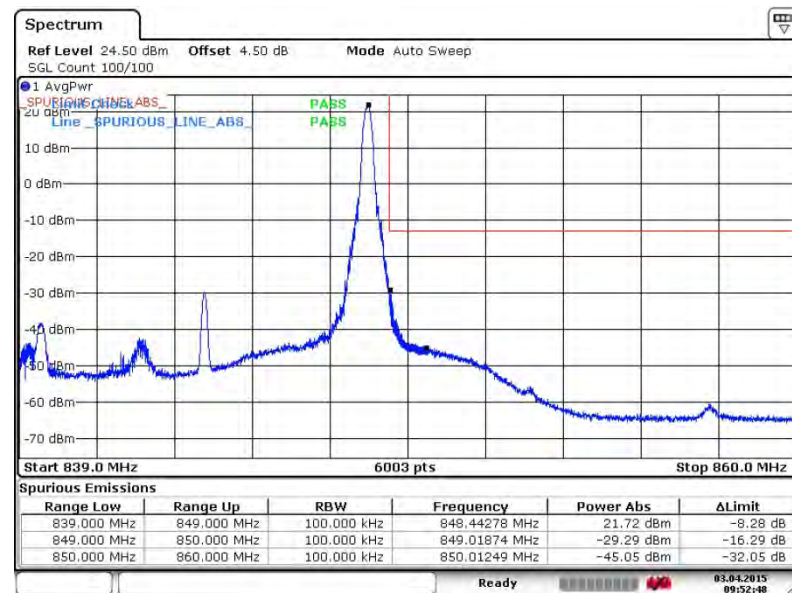


Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



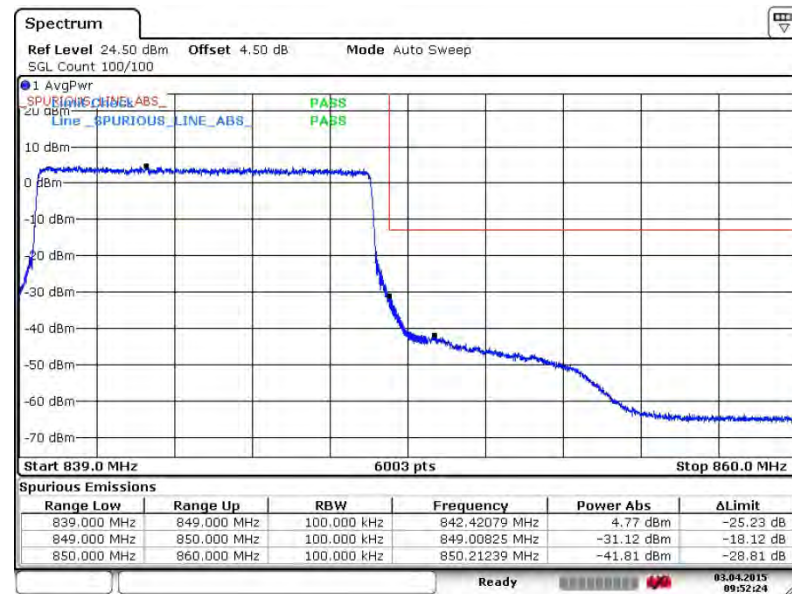


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 3 APR 2015 09:52:48

Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0

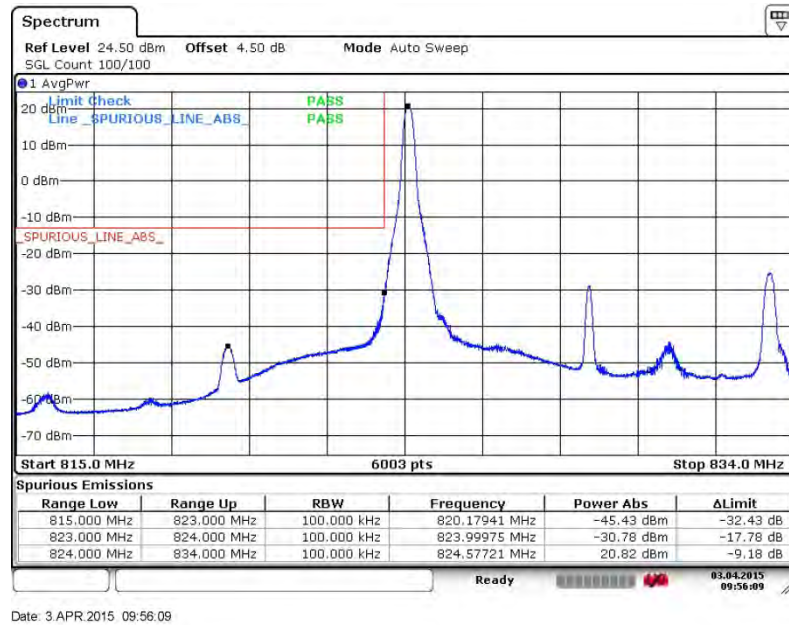


Date: 3 APR 2015 09:52:24

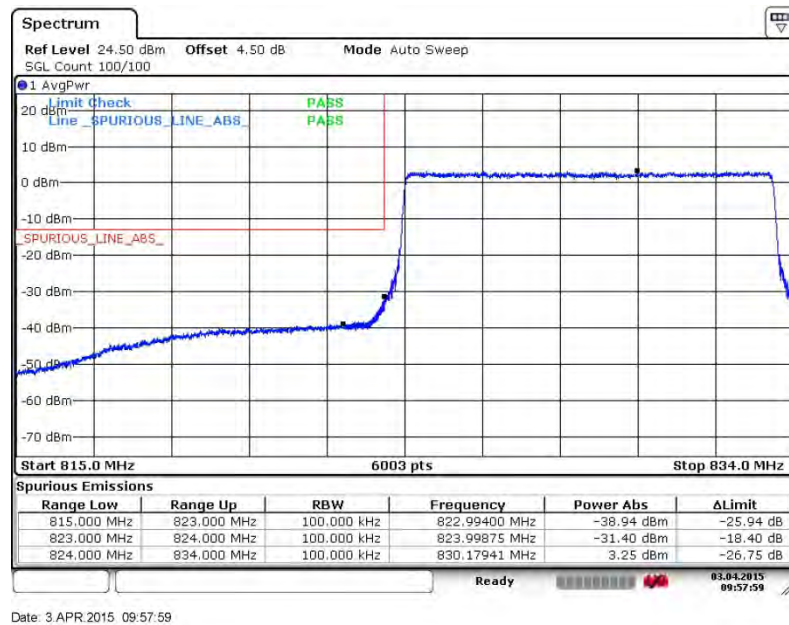


Band :	LTE Band 26	Band Width :	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0

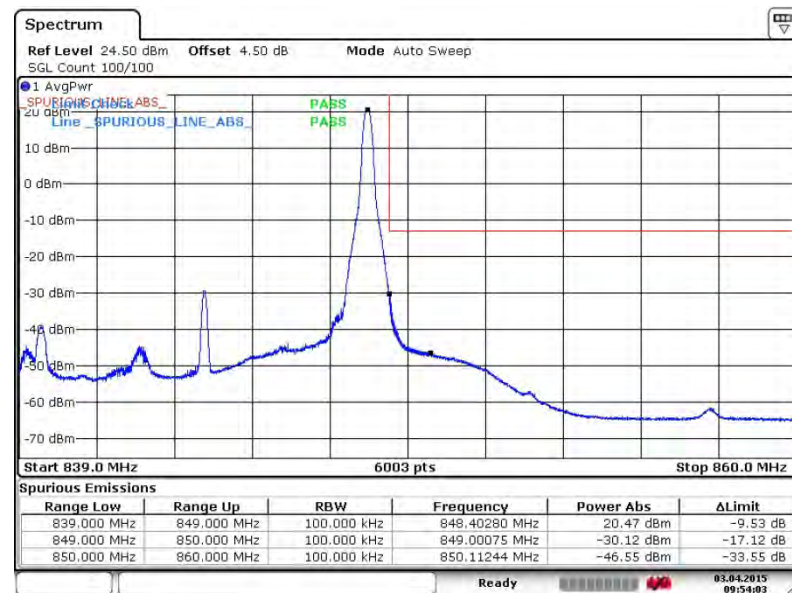


Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



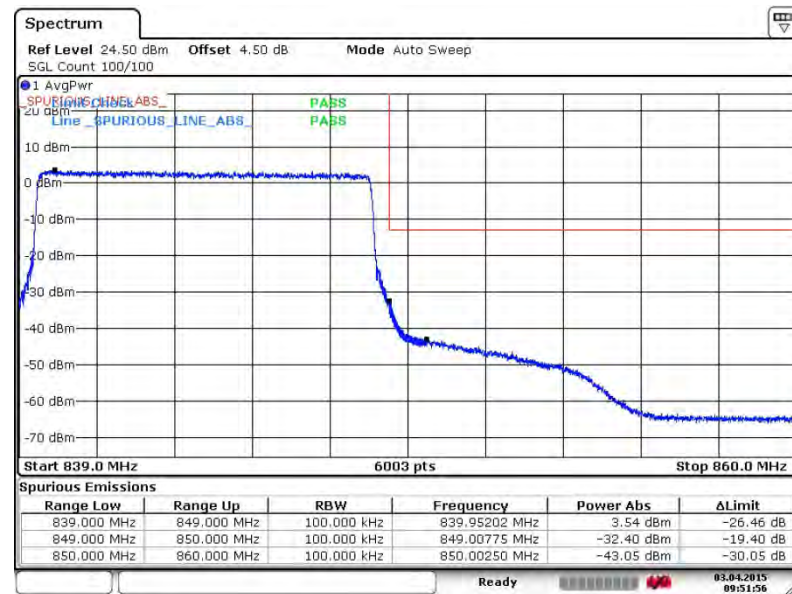


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 3 APR 2015 09:54:02

Higher Band Edge Plot for 16QAM-RB Size 50, RB Offset 0

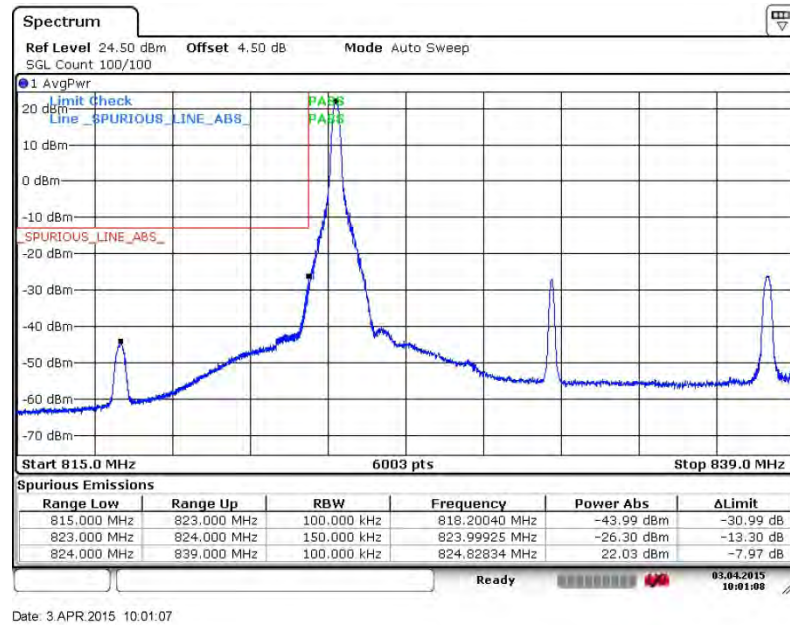


Date: 3 APR 2015 09:51:56

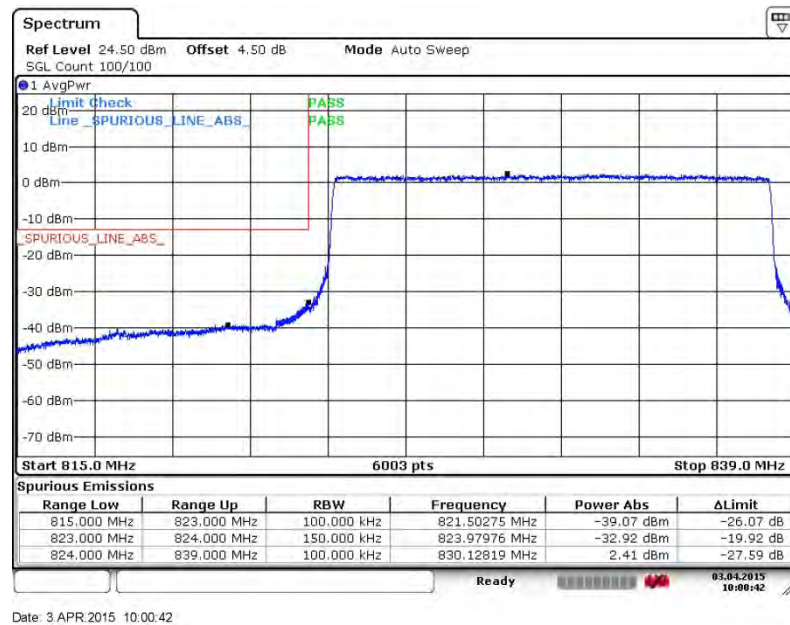


Band :	LTE Band 26	Band Width :	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

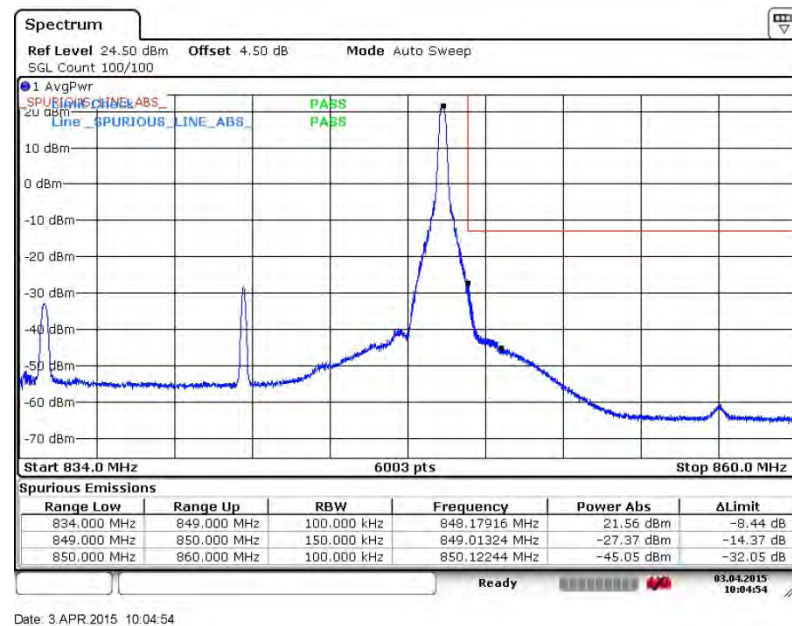


Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0

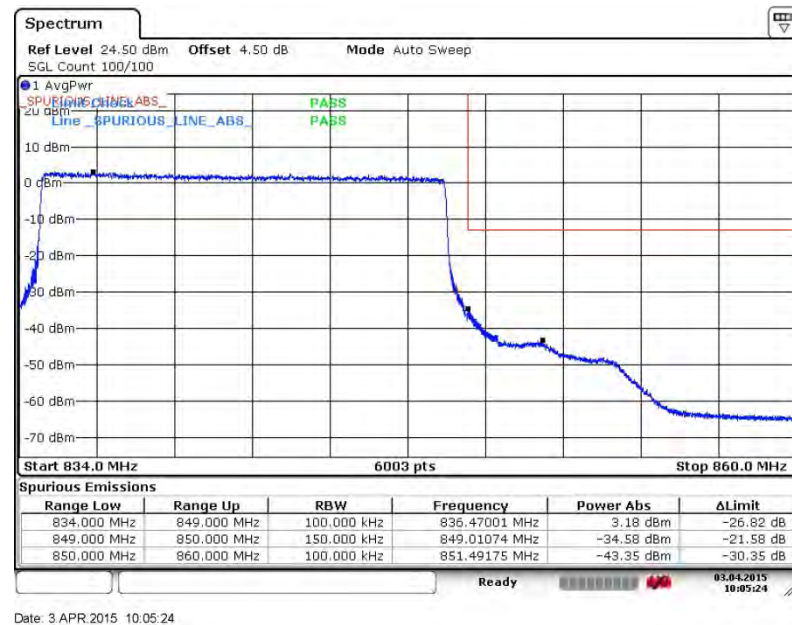




Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



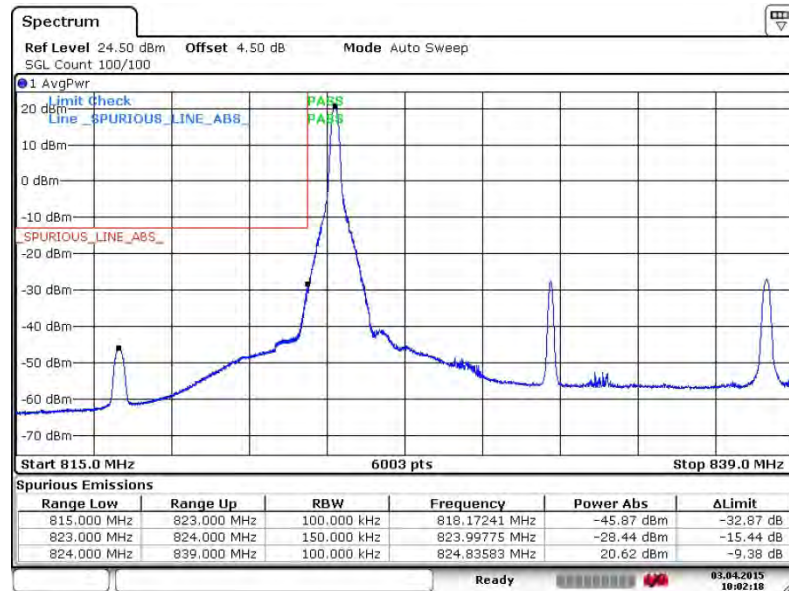
Higher Band Edge Plot for QPSK-RB Size 75, RB Offset 0





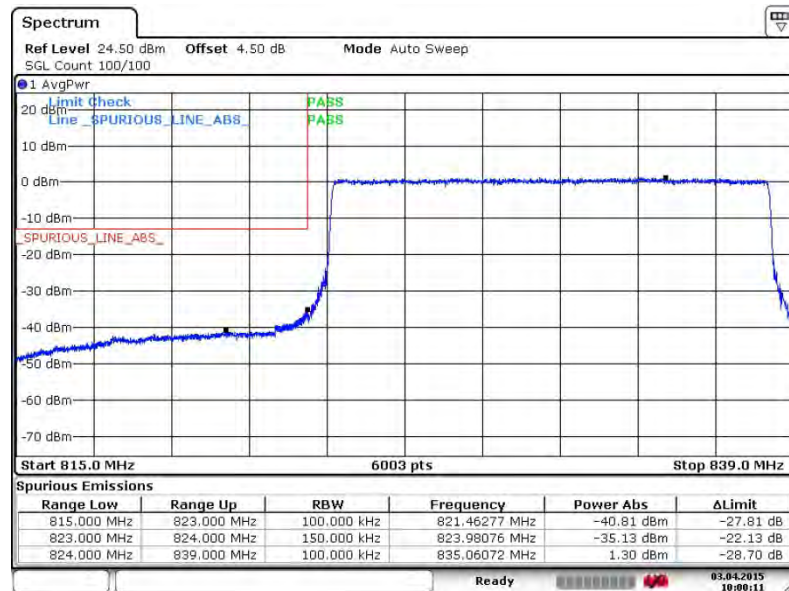
Band :	LTE Band 26	Band Width :	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 3 APR 2015 10:02:18

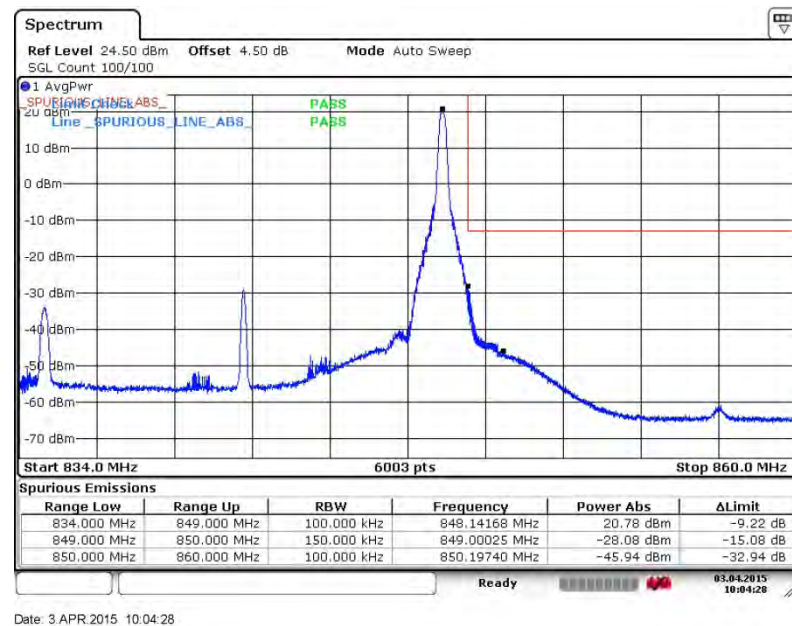
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



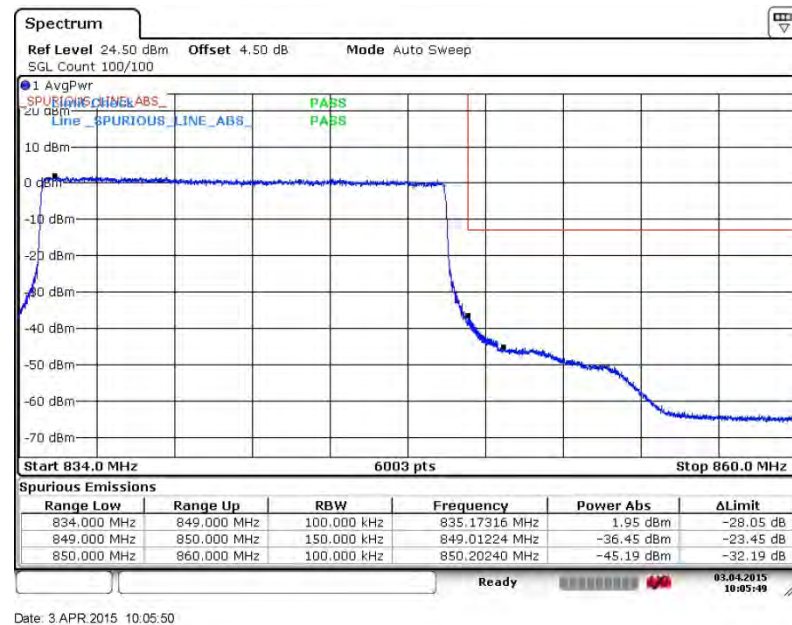
Date: 3 APR 2015 10:00:11



Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



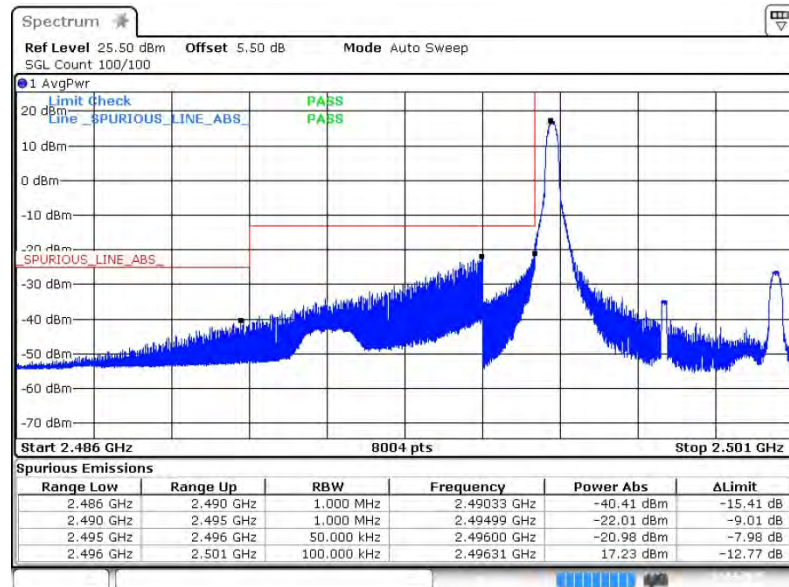
Higher Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



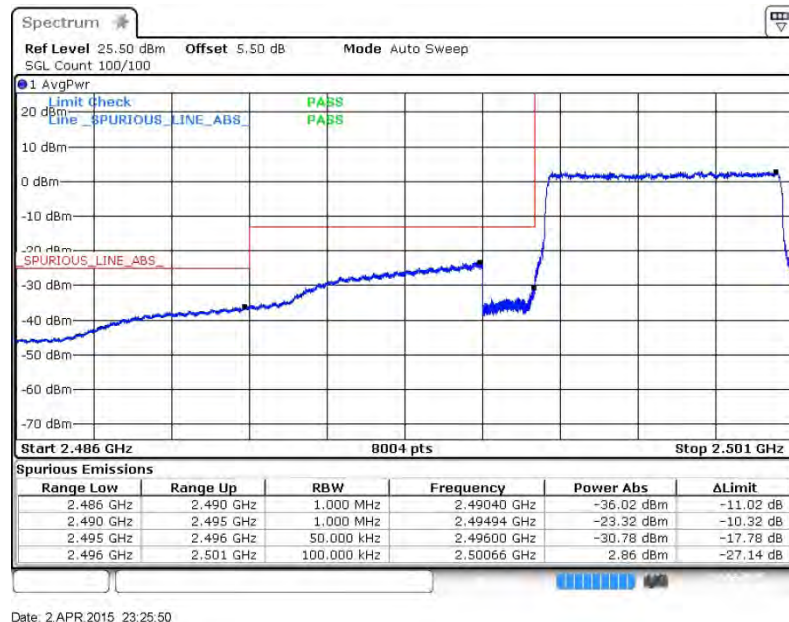


Band :	LTE Band 41	Band Width :	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

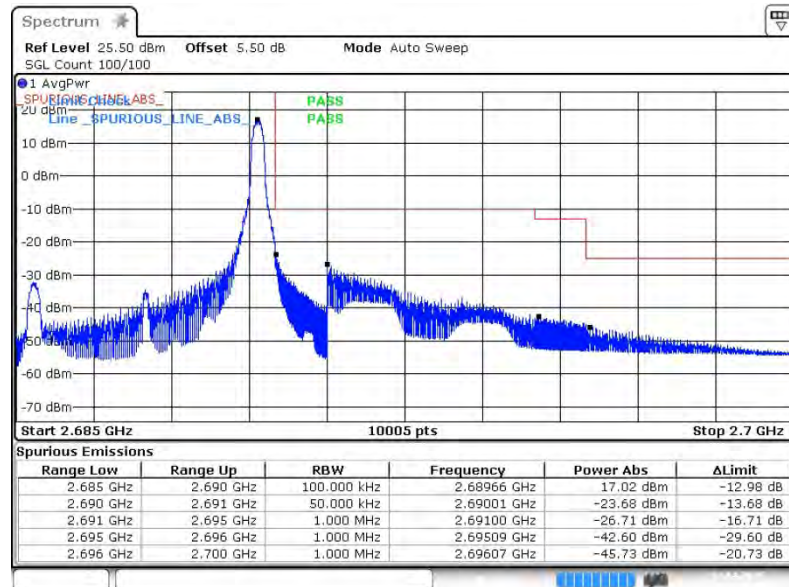


Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



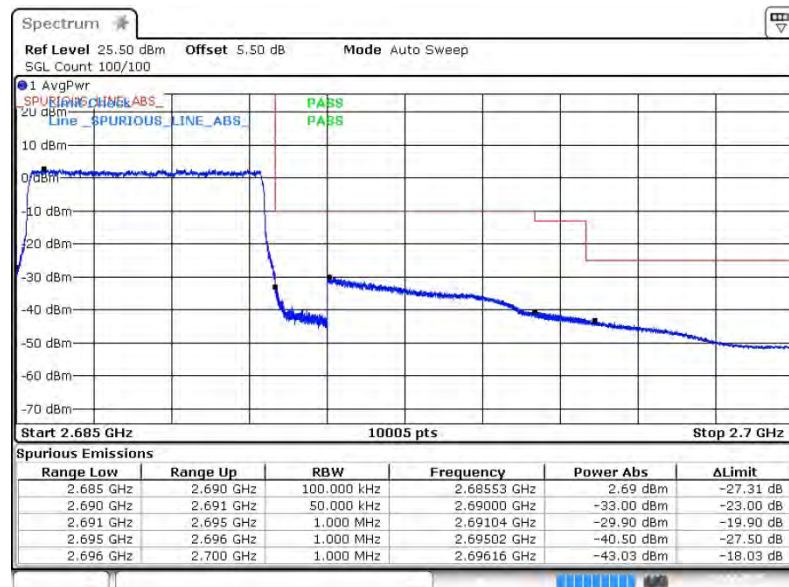


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 2 APR 2015 23:01:14

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

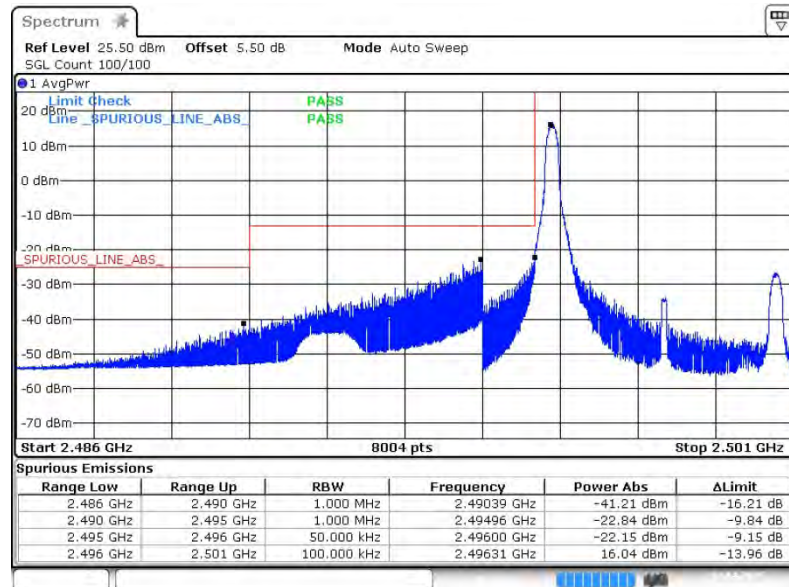


Date: 2 APR 2015 23:16:01

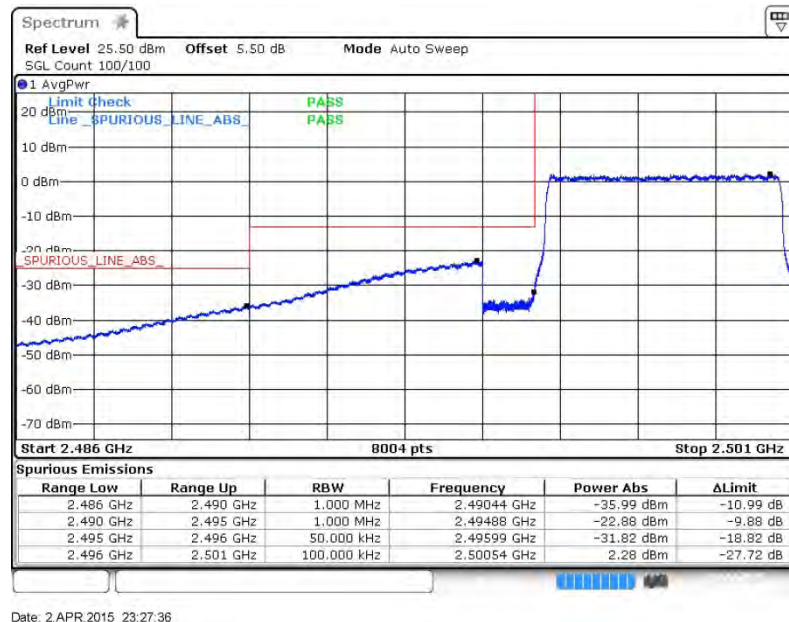


Band :	LTE Band 41	Band Width :	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0

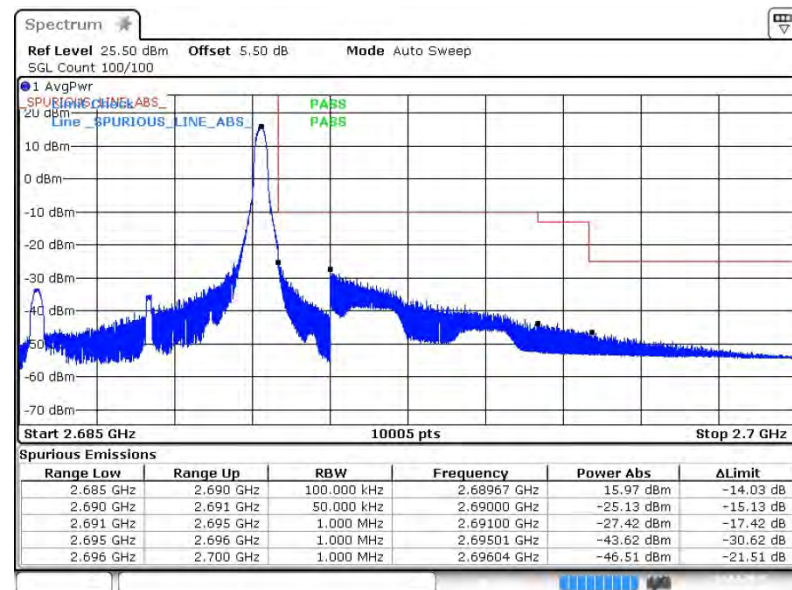


Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

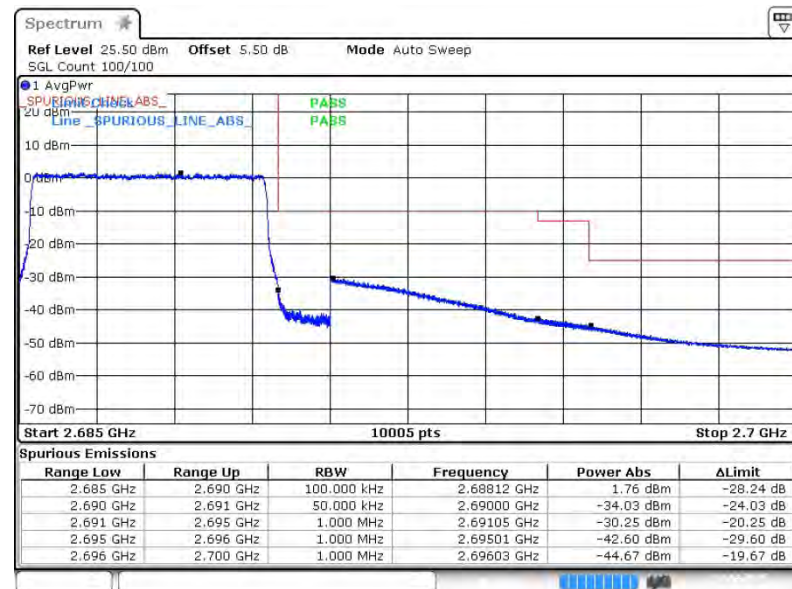




Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

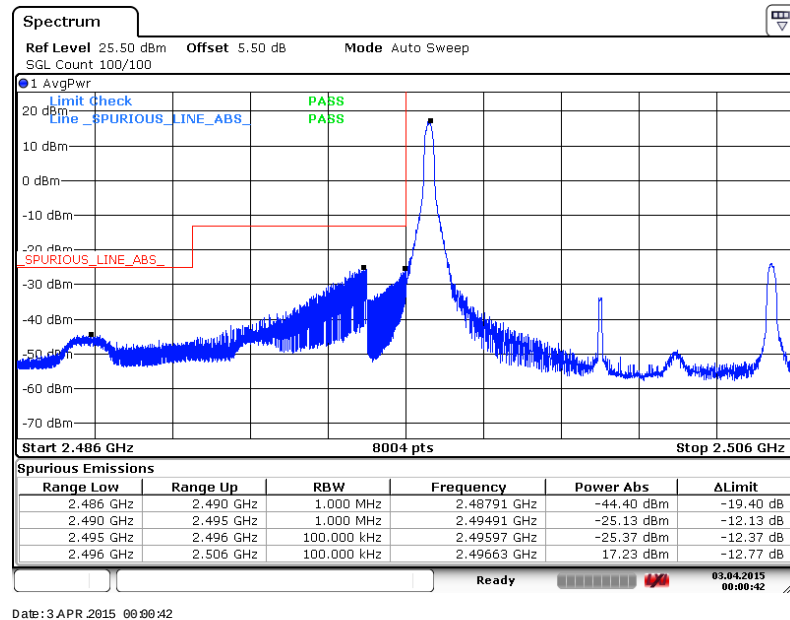




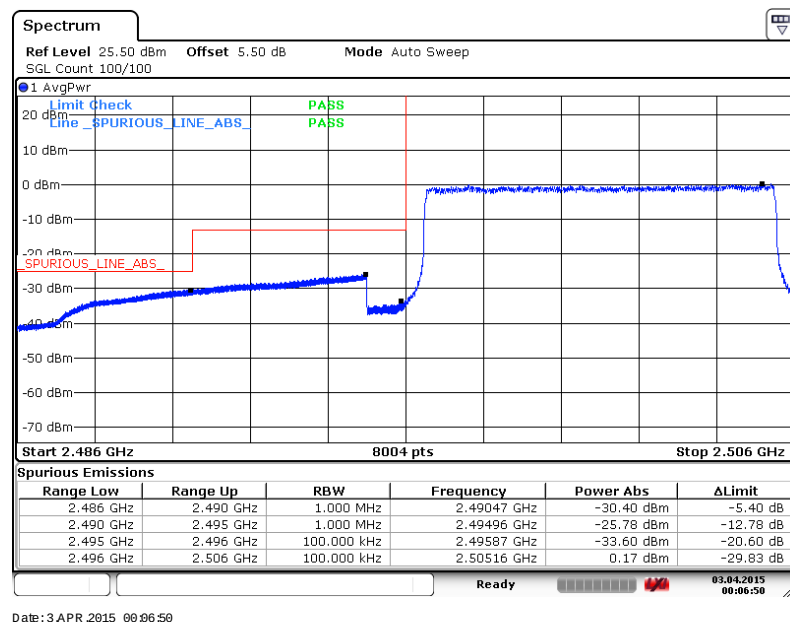
Band : LTE Band 41

Band Width : 10MHz / QPSK

Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

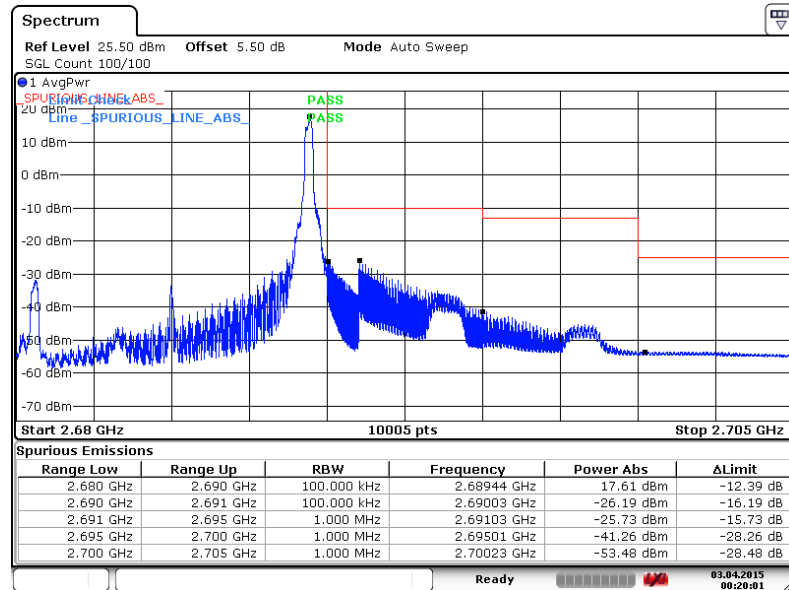


Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



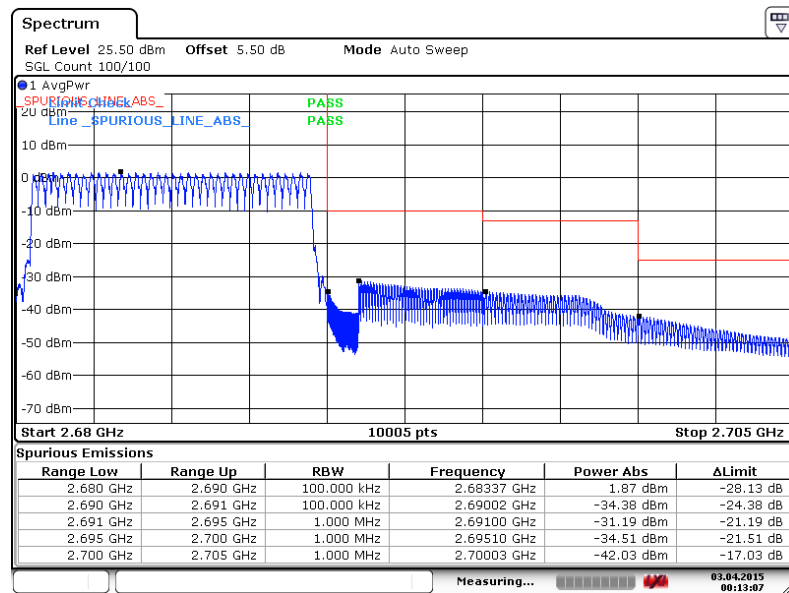


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 3 APR 2015 00:20:01

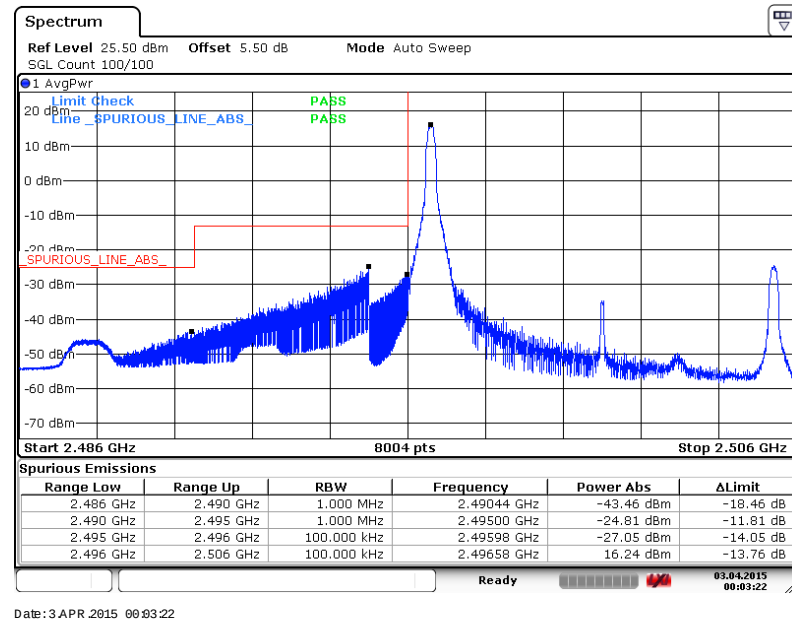
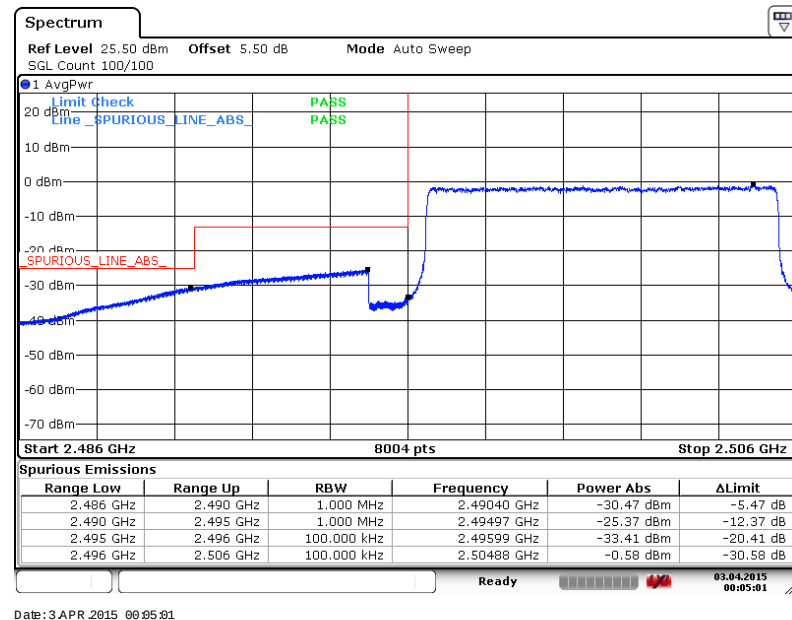
Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 3 APR 2015 00:13:07

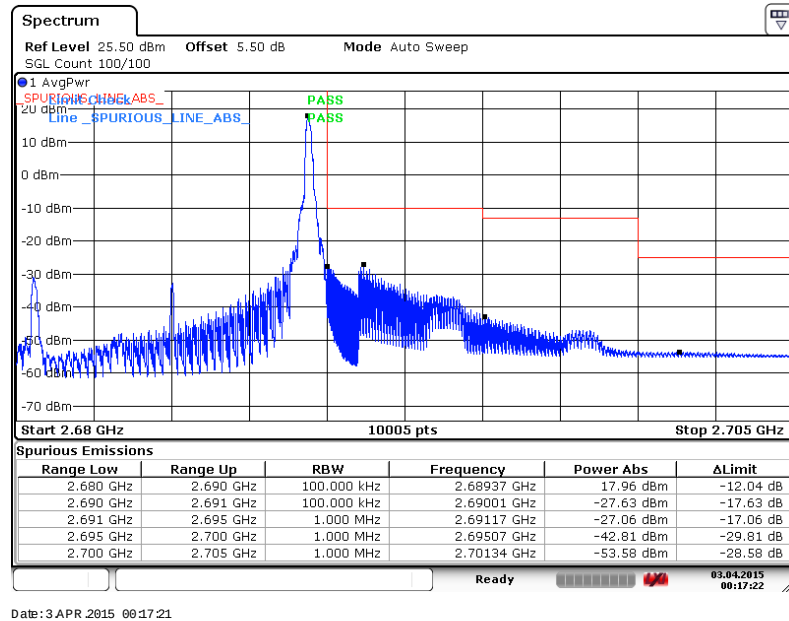


Band :	LTE Band 41	Band Width :	10MHz / 16QAM
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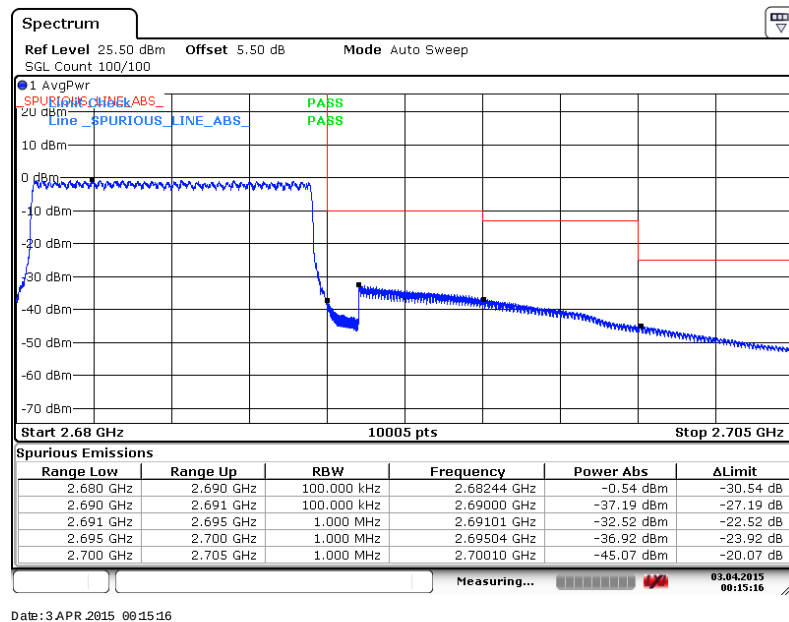
Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0**Lower Band Edge Plot for 16QAM -RB Size 50, RB Offset 0**



Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 49



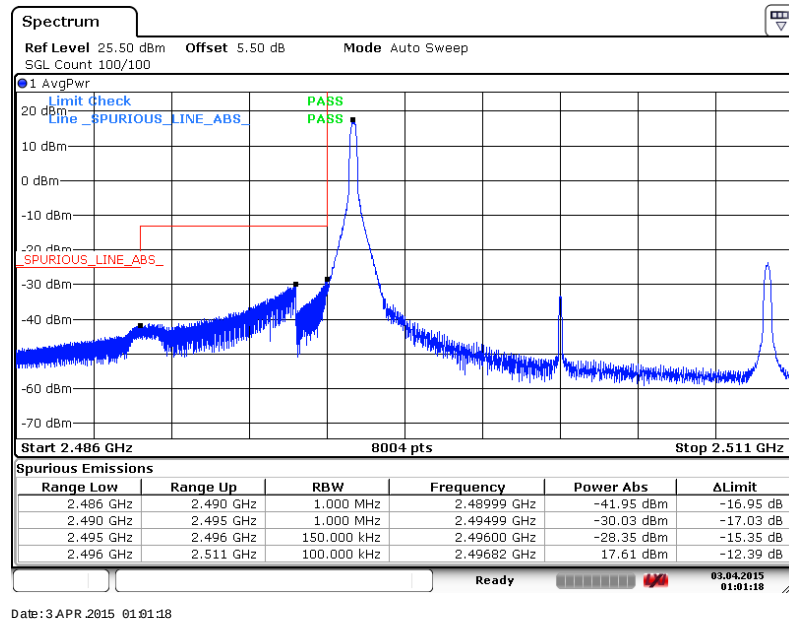
Higher Band Edge Plot for 16QAM -RB Size 50, RB Offset 0



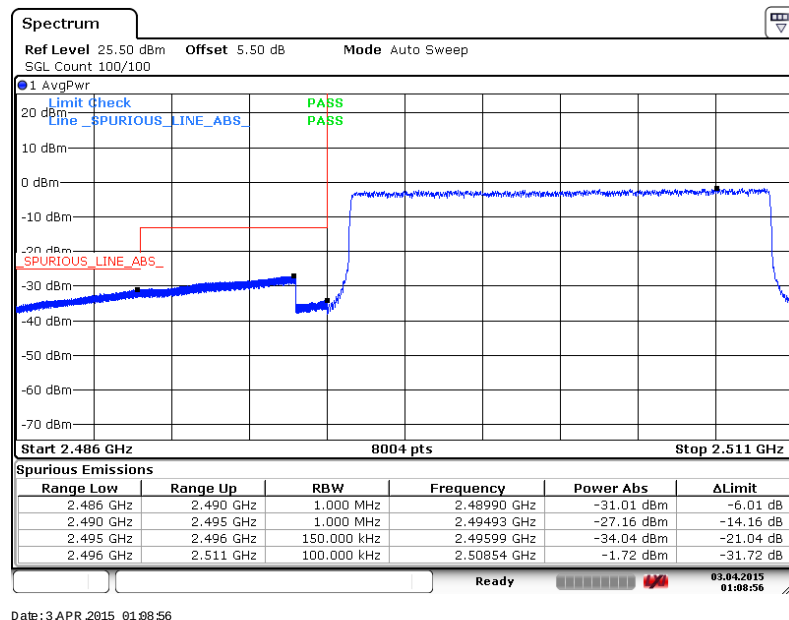


Band :	LTE Band 41	Band Width :	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

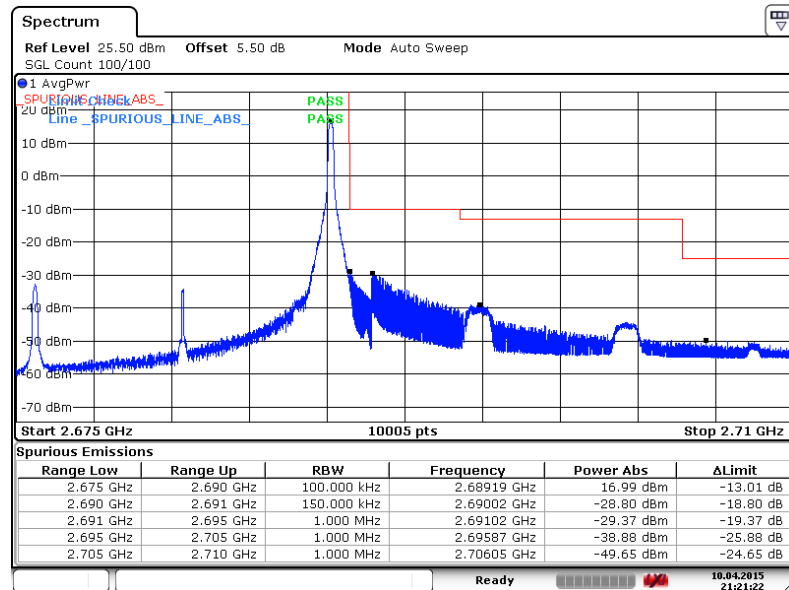


Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



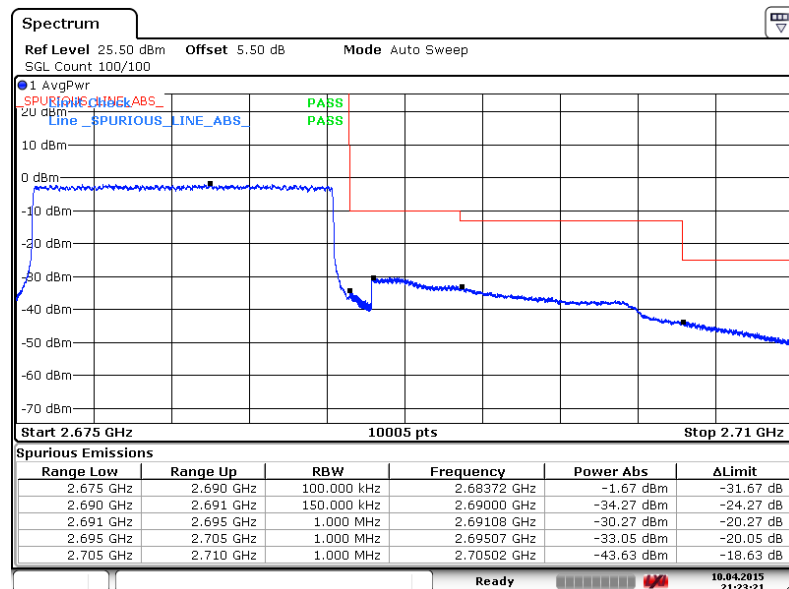


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 10 APR 2015 21:21:22

Higher Band Edge Plot for QPSK-RB Size 75, RB Offset 0

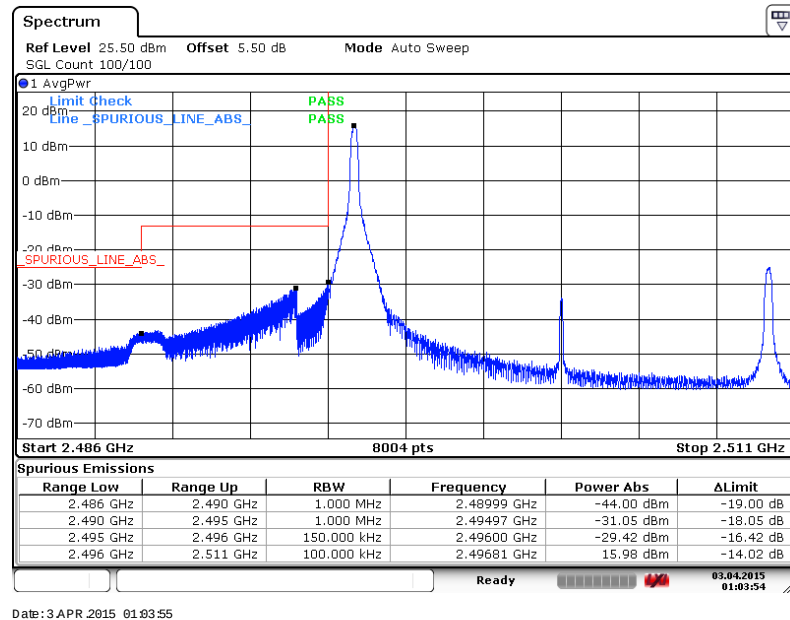


Date: 10 APR 2015 21:23:21

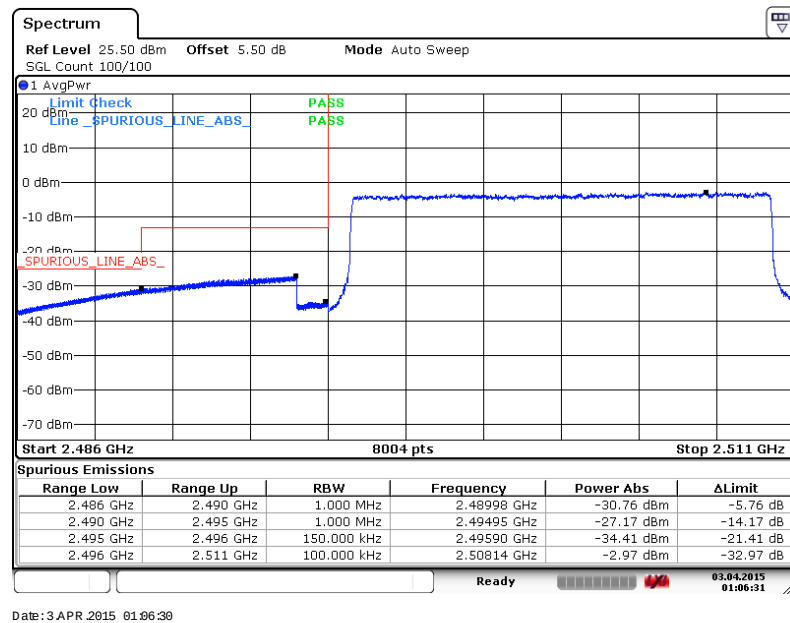


Band :	LTE Band 41	Band Width :	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0

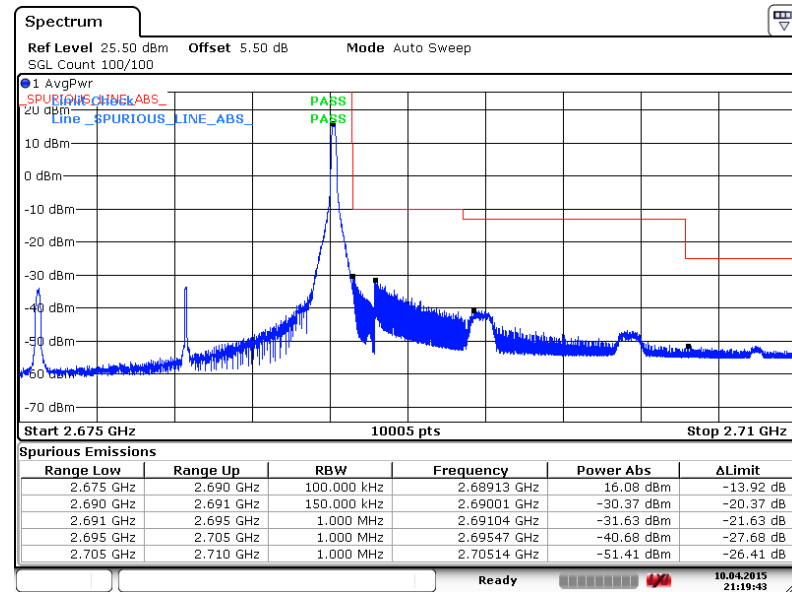


Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



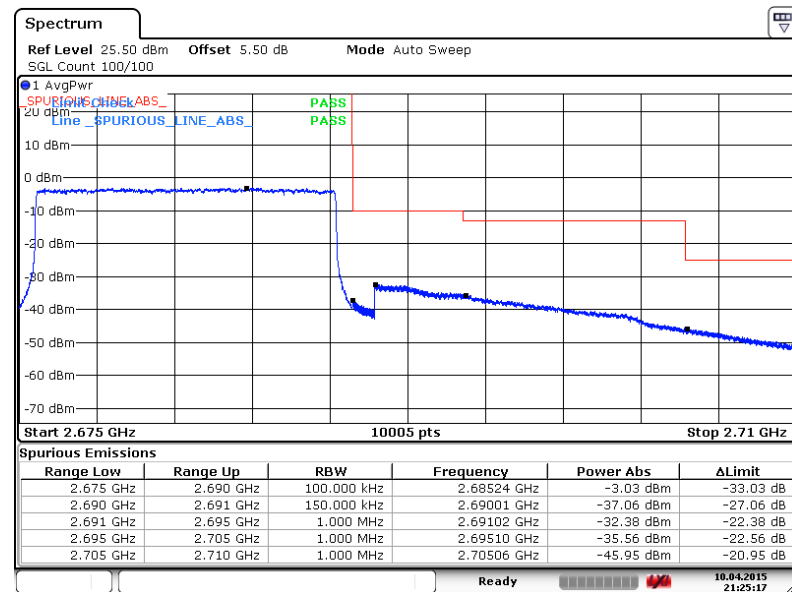


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 10 APR 2015 21:19:43

Higher Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



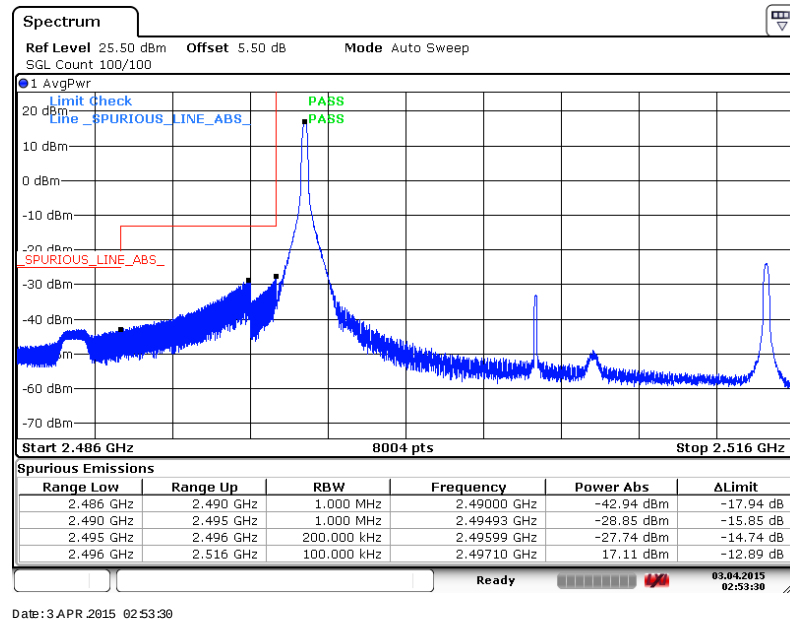
Date: 10 APR 2015 21:25:18



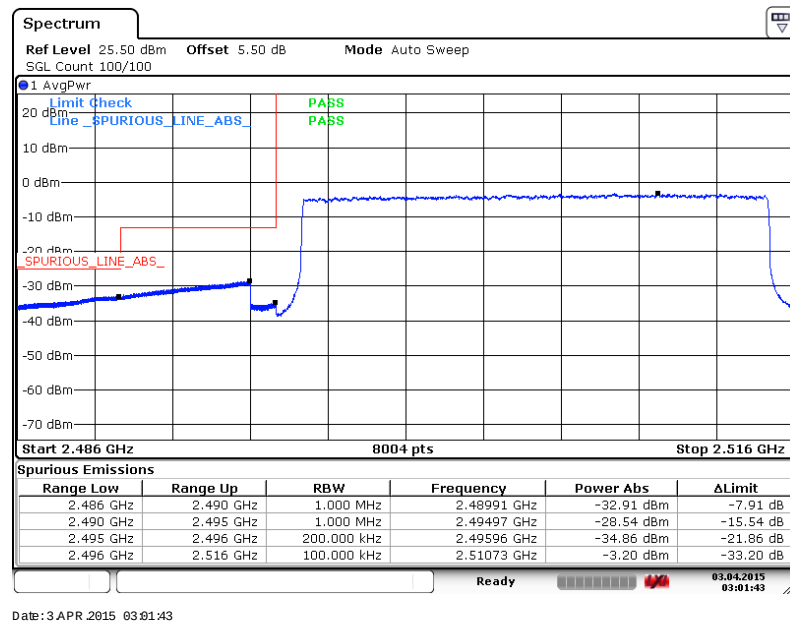
Band : LTE Band 41

Band Width : 20MHz / QPSK

Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

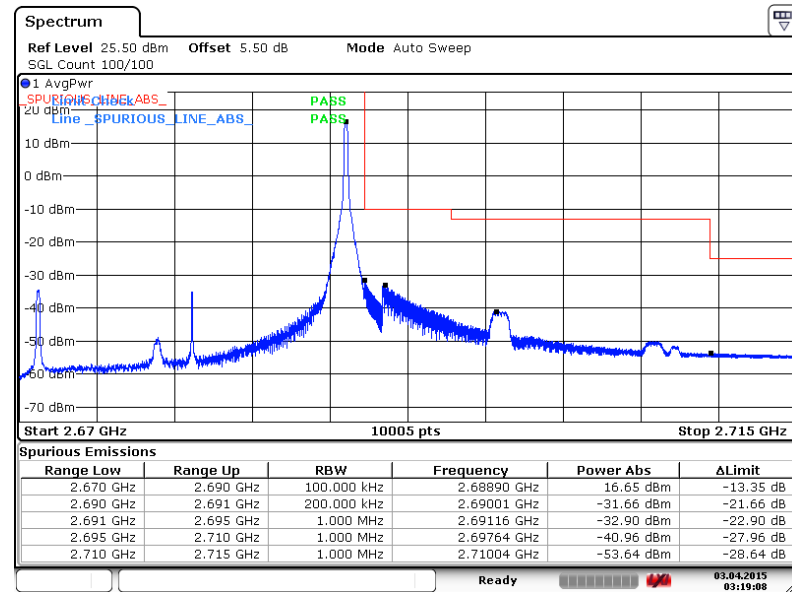


Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



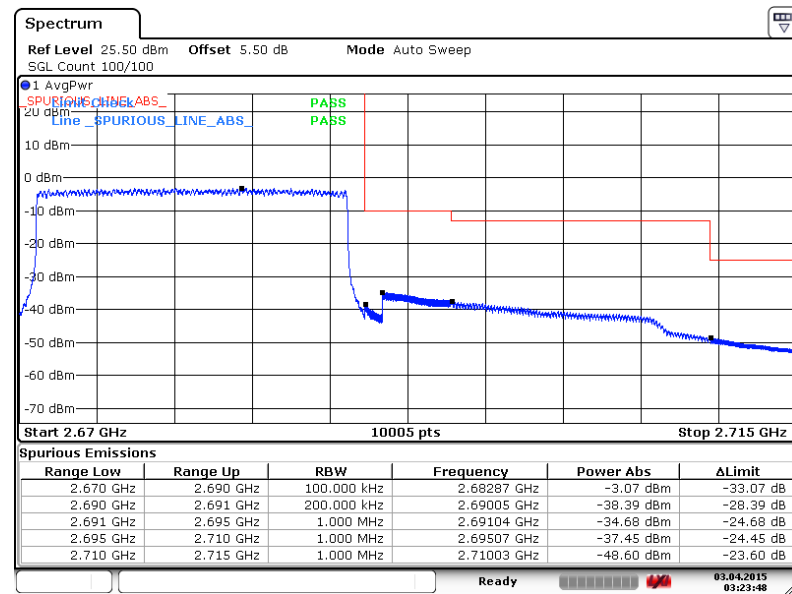


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99



Date: 3 APR 2015 03:19:08

Higher Band Edge Plot for QPSK-RB Size 100, RB Offset 0

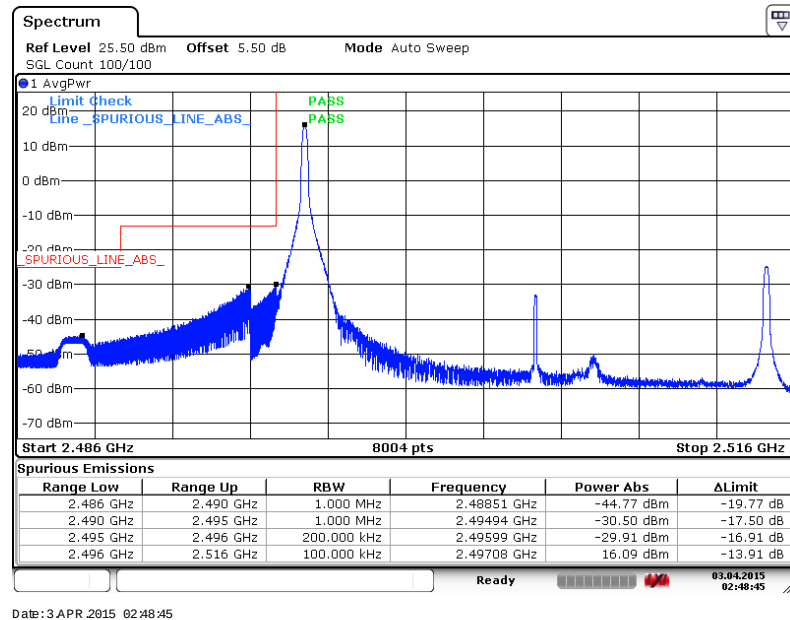


Date: 3 APR 2015 03:23:49

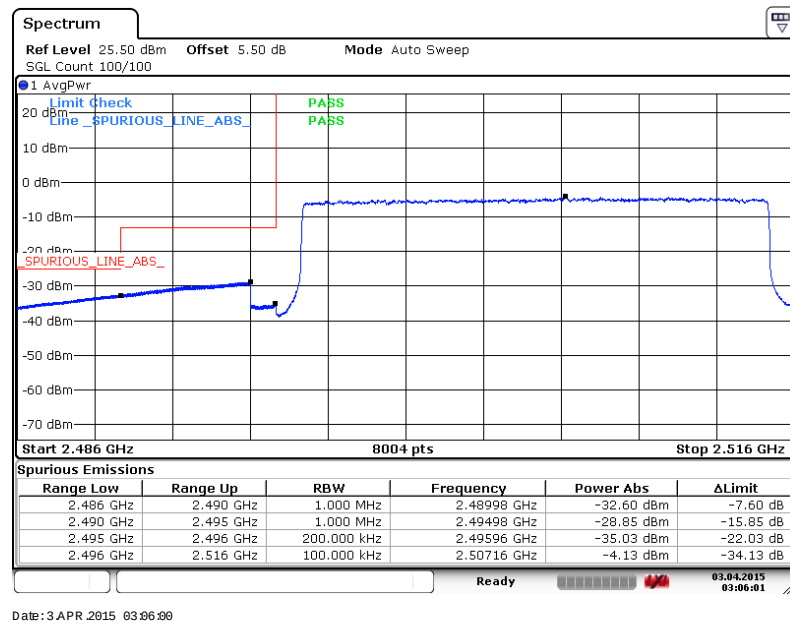


Band :	LTE Band 41	Band Width :	20MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0

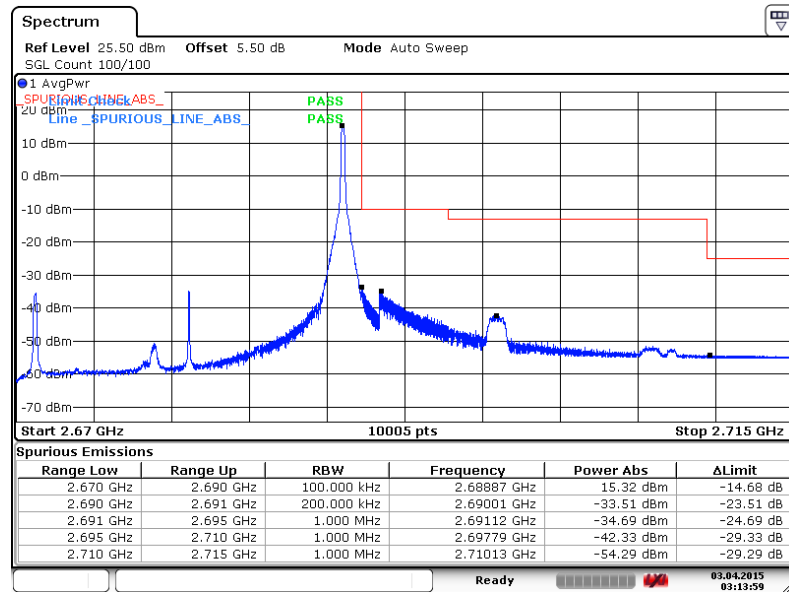


Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



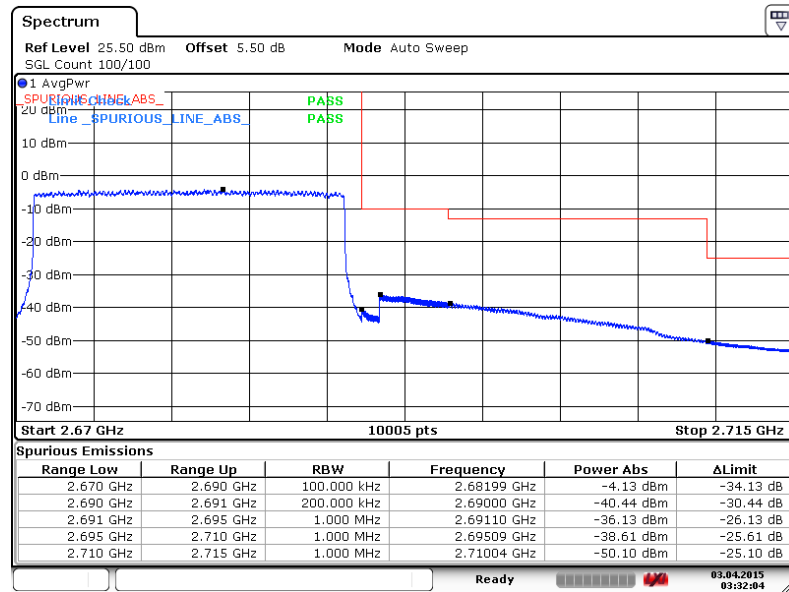


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



Date: 3 APR 2015 03:13:59

Higher Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 3 APR 2015 03:32:04

3.6 Conducted Spurious Emission Measurement

3.6.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 41

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30MHz up to a frequency including its 10th harmonic.

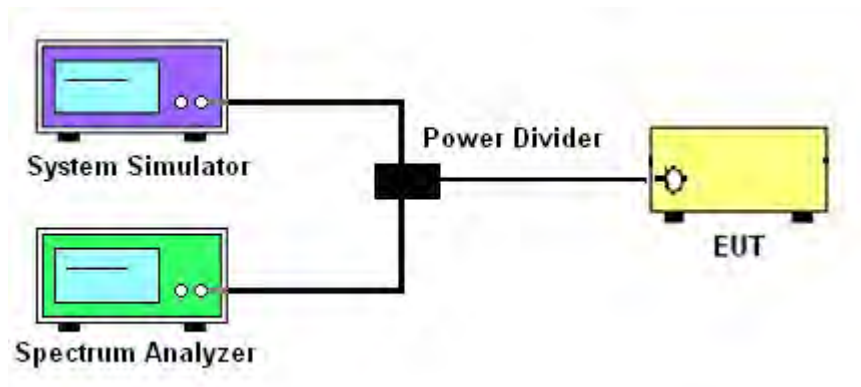
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm.
8. For Band 41
The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)

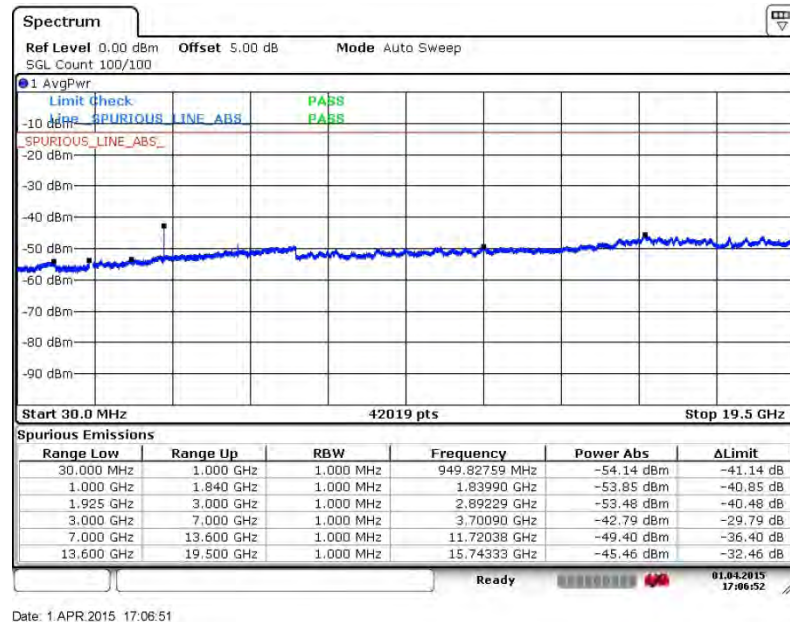
3.6.4 Test Setup



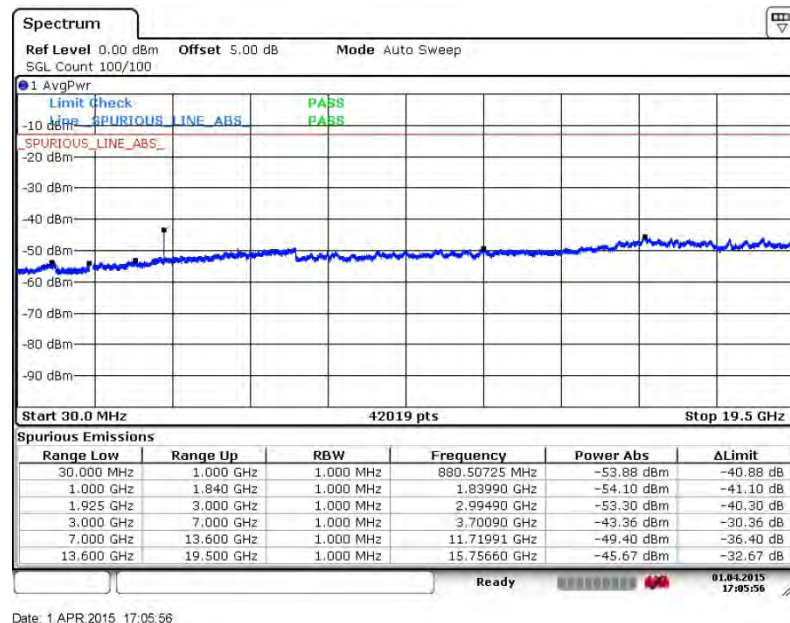
3.6.5 Test Result (Plots) of Conducted Spurious Emission

Band :	LTE Band 25	Channel :	CH26047 (Low)
Band Width :	1.4MHz		

QPSK (RB Size 3, RB Offset 2)

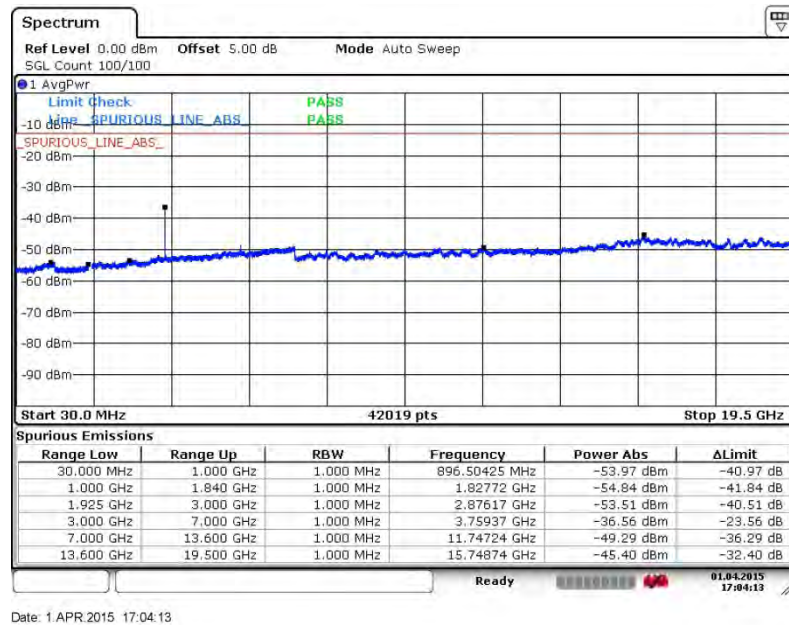
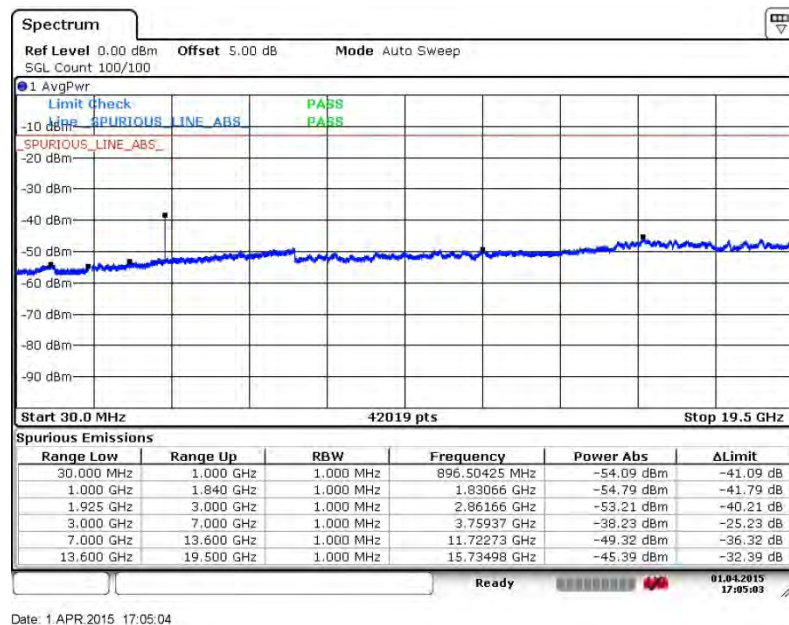


16QAM (RB Size 1, RB Offset 5)



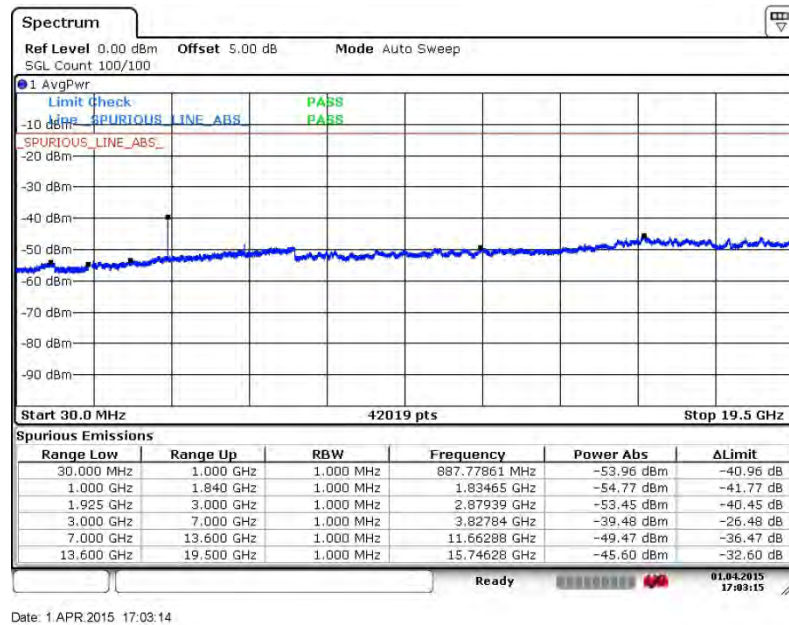


Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	1.4MHz		

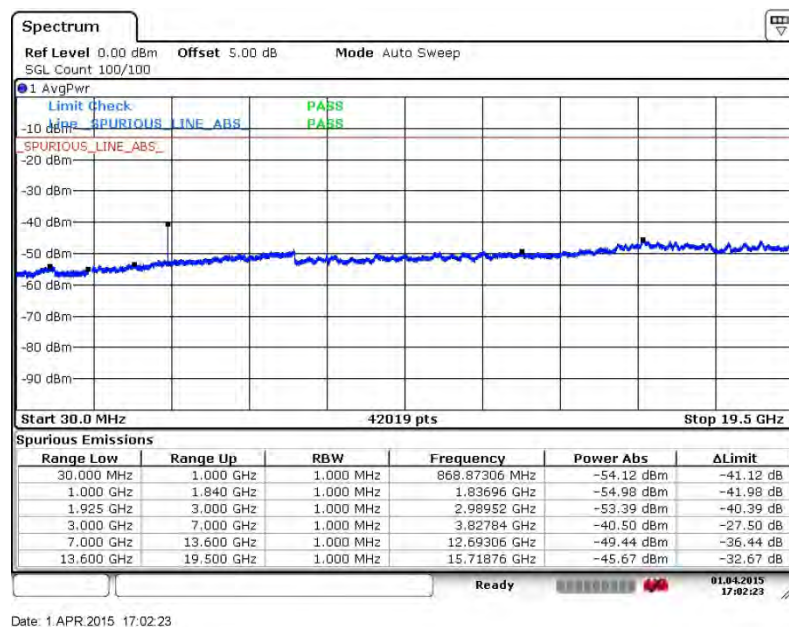
QPSK (RB Size 1, RB Offset 2)**16QAM (RB Size 1, RB Offset 2)**

Band :	LTE Band 25	Channel :	CH26683 (High)
Band Width :	1.4MHz		

QPSK (RB Size 3, RB Offset 2)

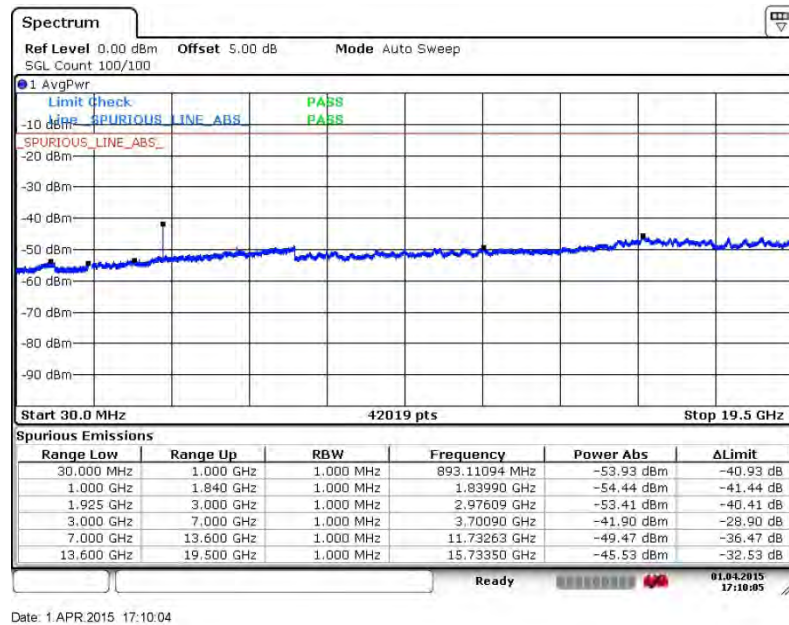
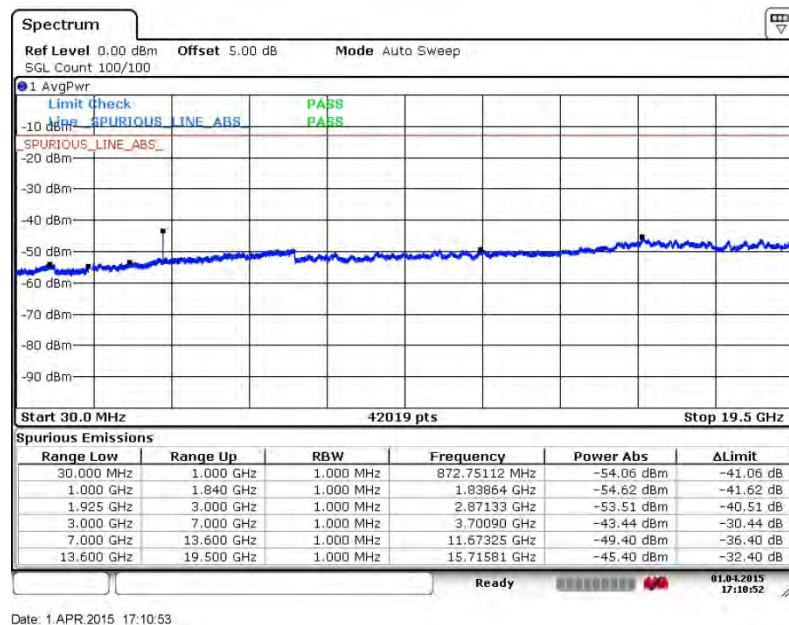


16QAM (RB Size 1, RB Offset 2)



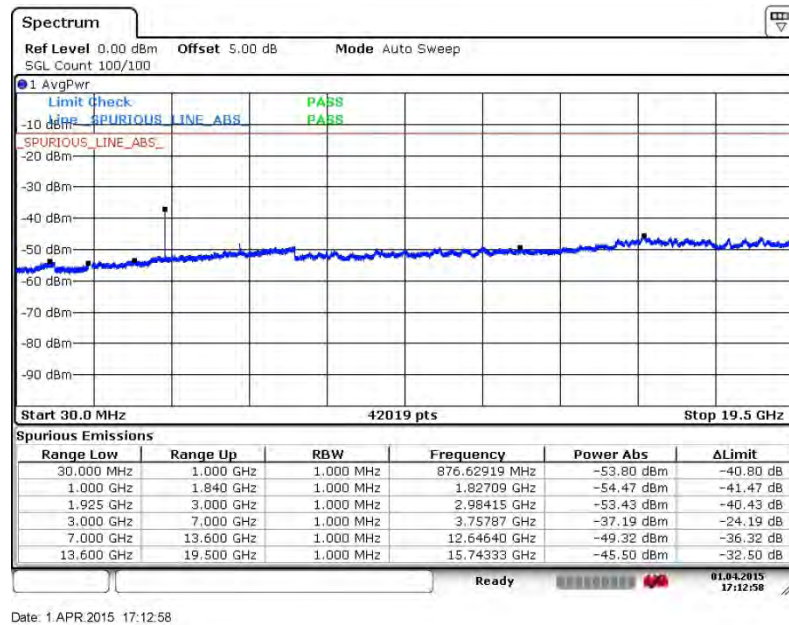
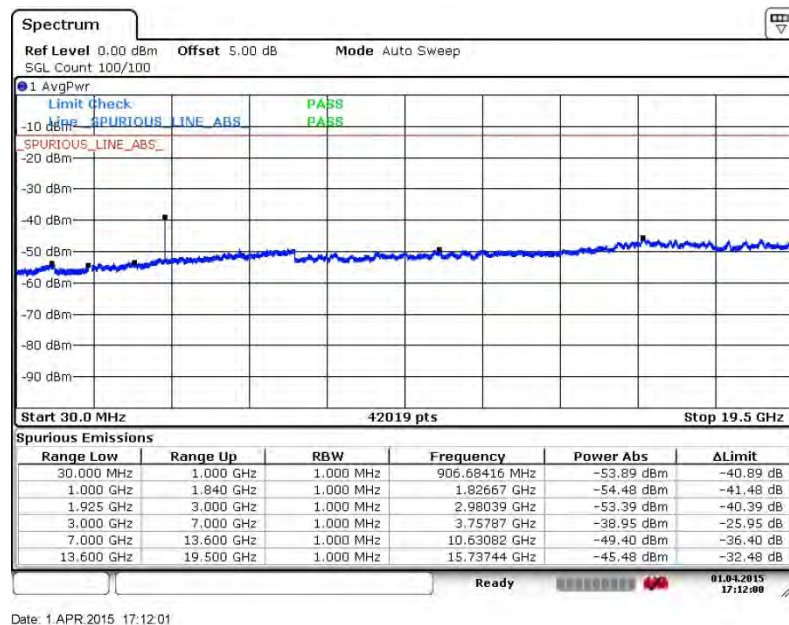


Band :	LTE Band 25	Channel :	CH26055 (Low)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 0)**16QAM (RB Size 1, RB Offset 0)**

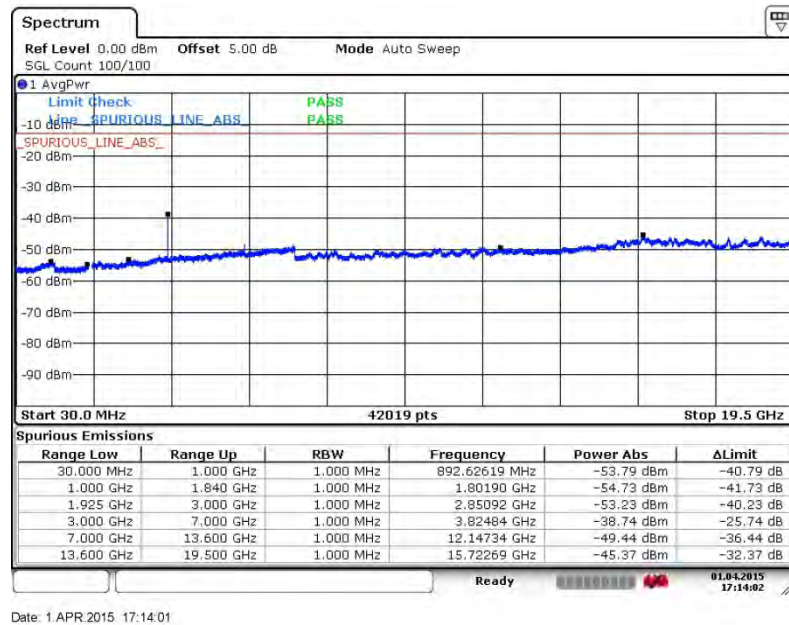
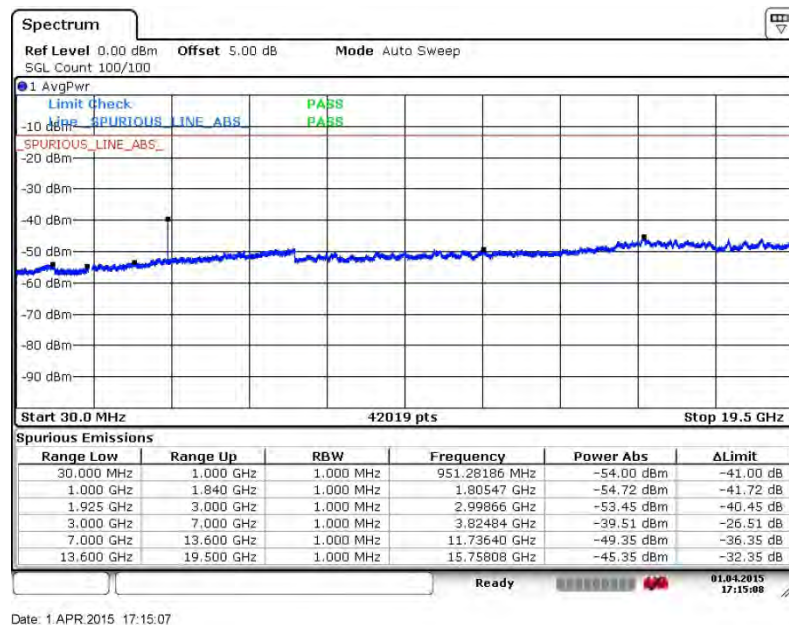


Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)**16QAM (RB Size 1, RB Offset 7)**



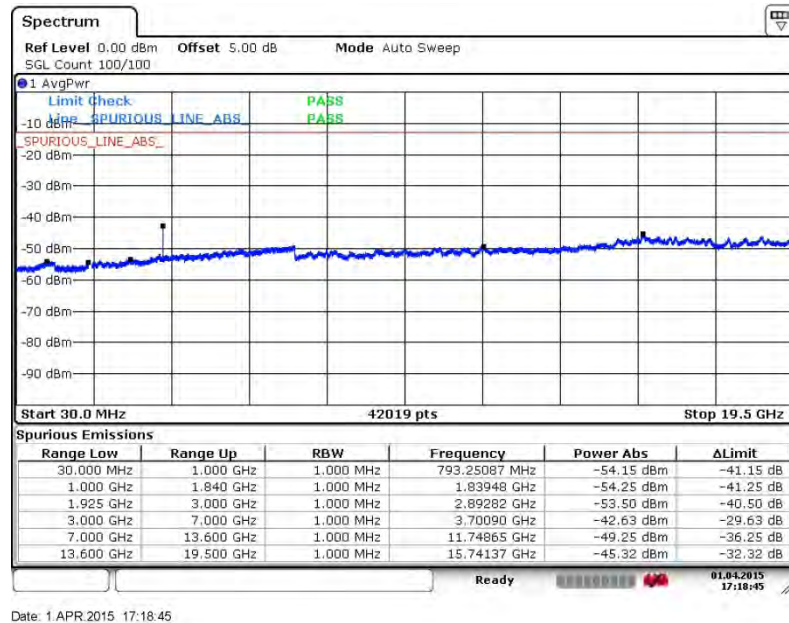
Band :	LTE Band 25	Channel :	CH26675 (High)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 0)**16QAM (RB Size 1, RB Offset 0)**

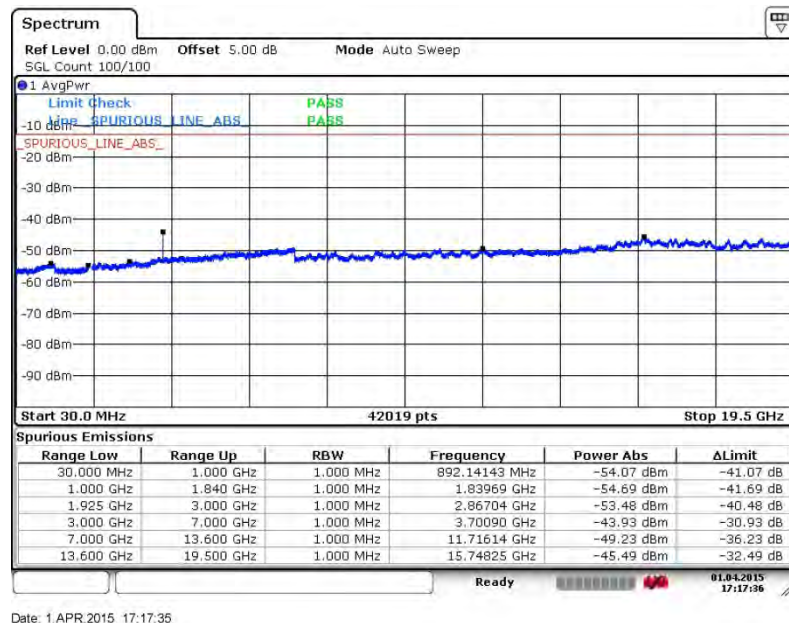


Band :	LTE Band 25	Channel :	CH26065 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)

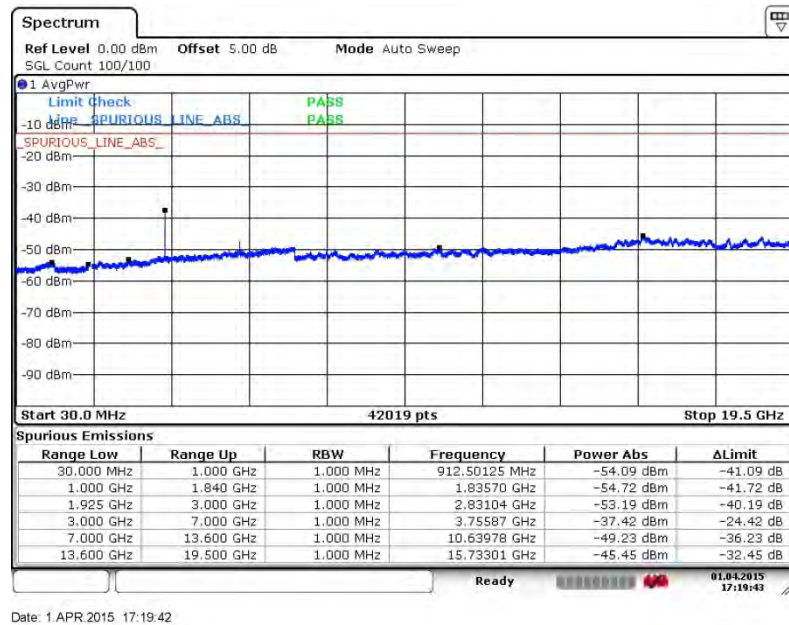


16QAM (RB Size 1, RB Offset 0)

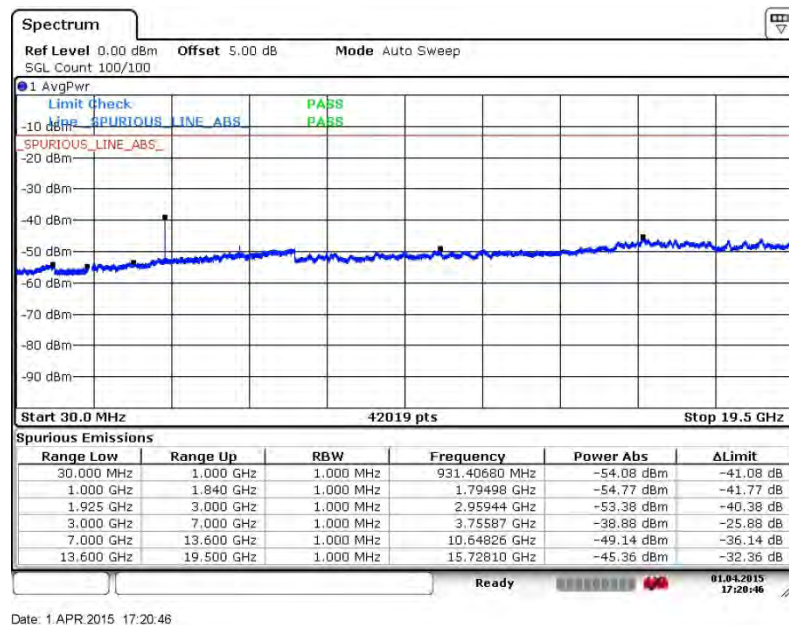


Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)

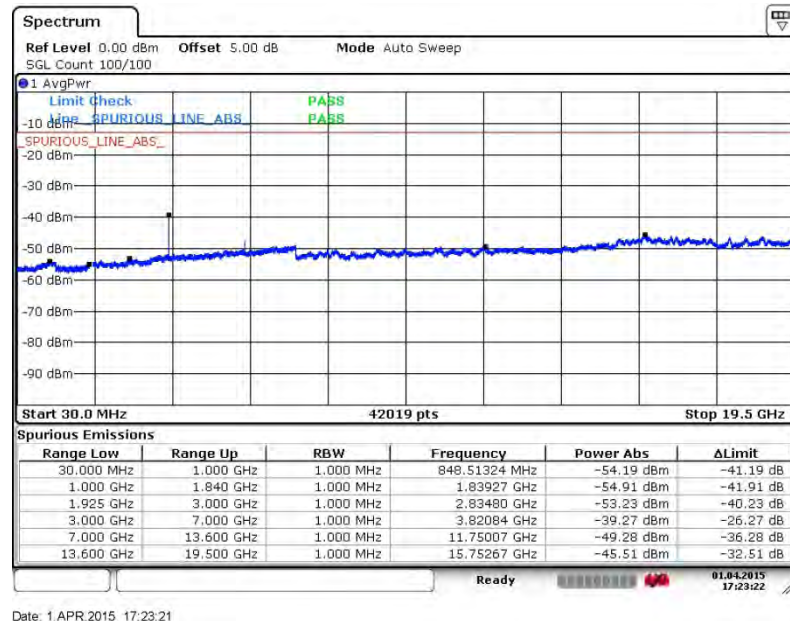


16QAM (RB Size 1, RB Offset 12)

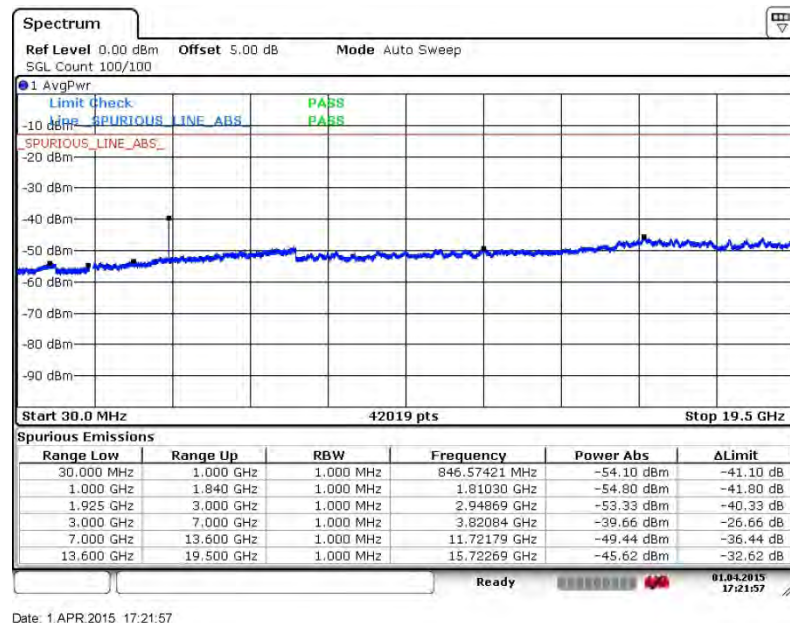


Band :	LTE Band 25	Channel :	CH26665 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



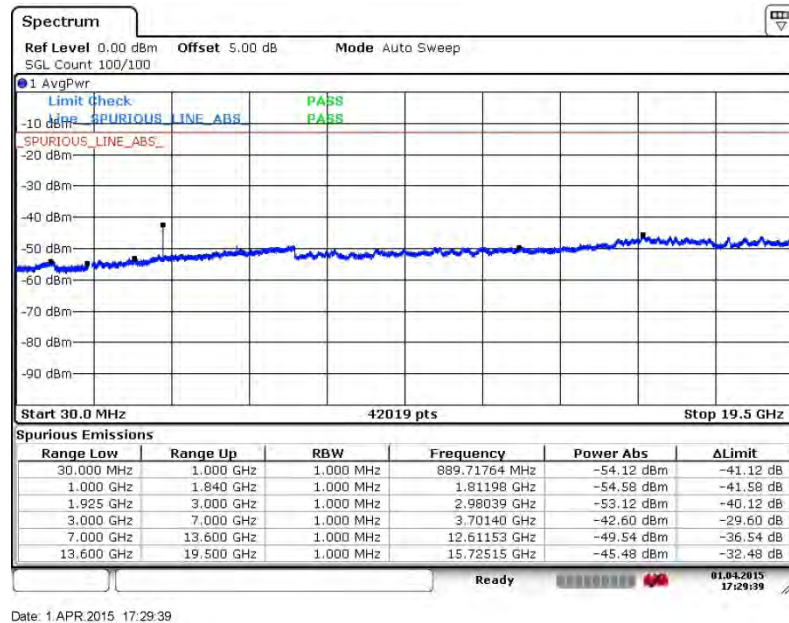
16QAM (RB Size 1, RB Offset 0)



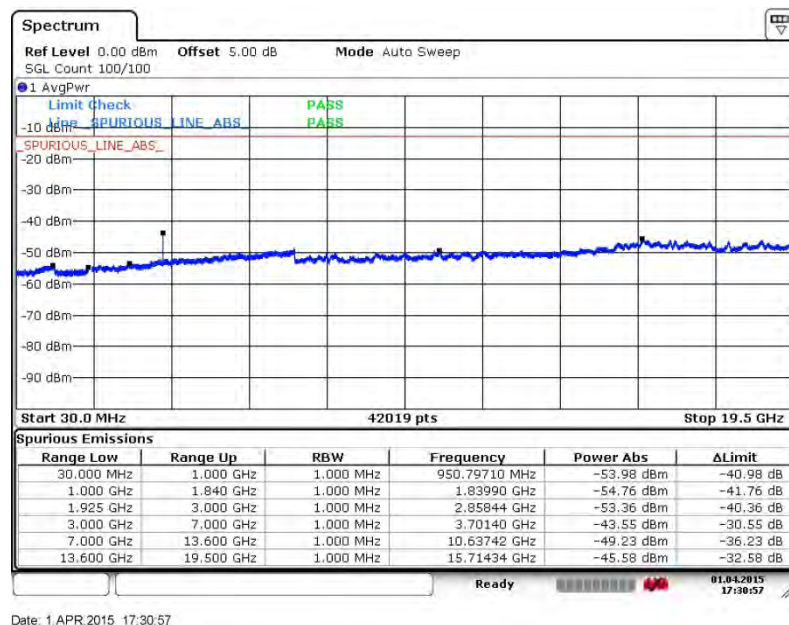


Band :	LTE Band 25	Channel :	CH26090 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)

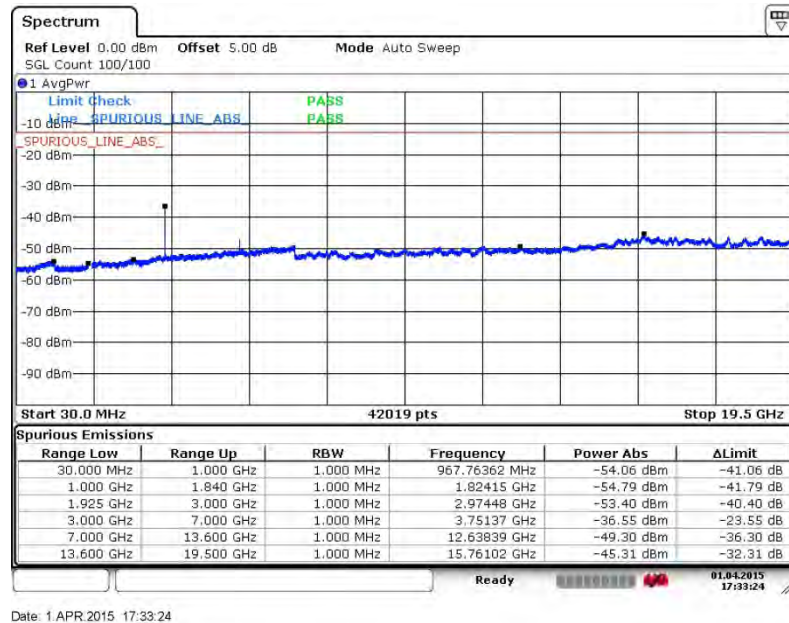


16QAM (RB Size 1, RB Offset 24)

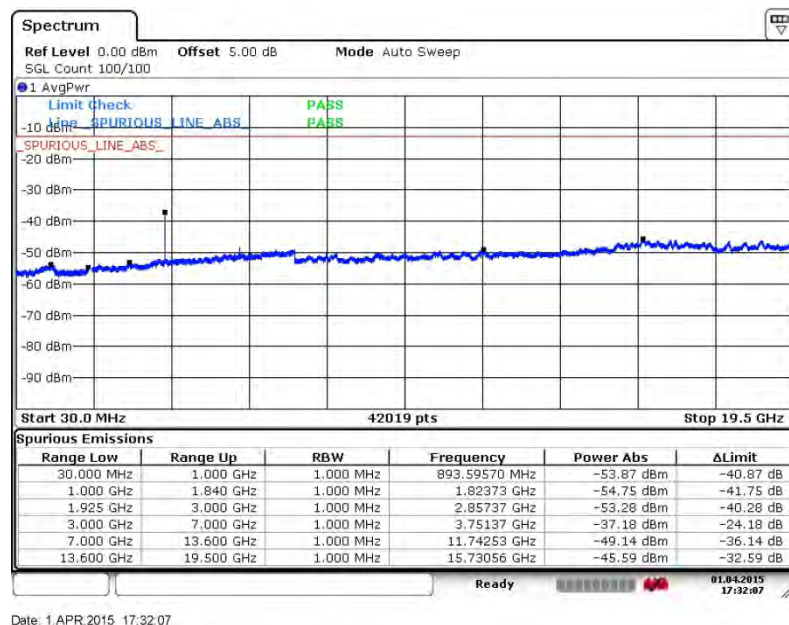


Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



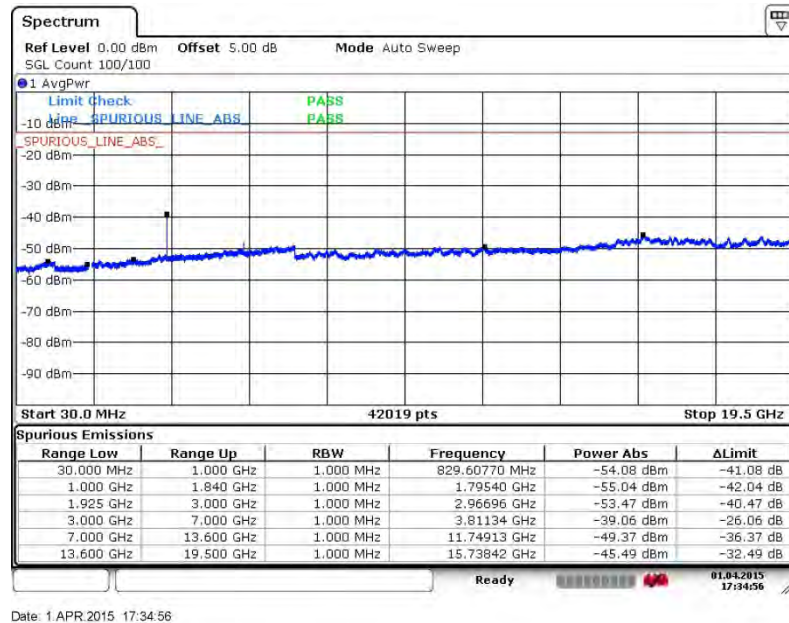
16QAM (RB Size 1, RB Offset 0)



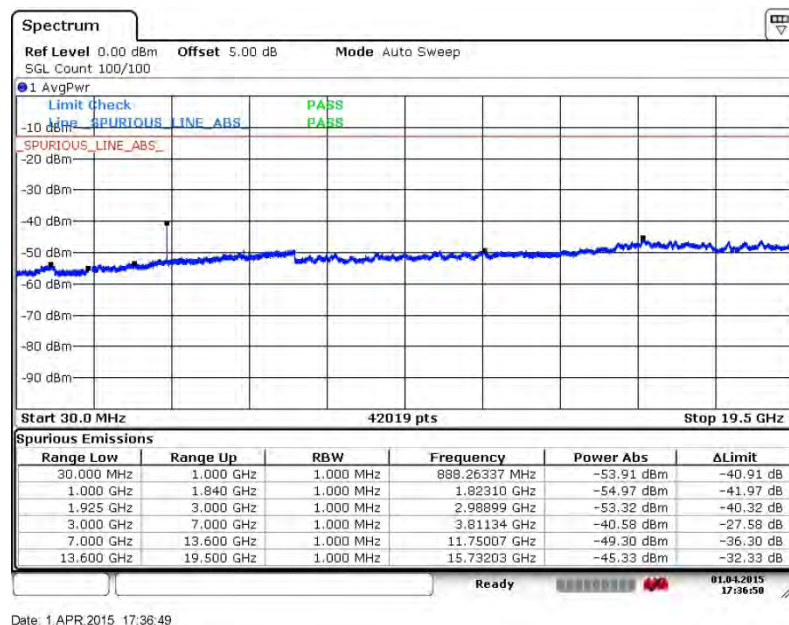


Band :	LTE Band 25	Channel :	CH26640 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



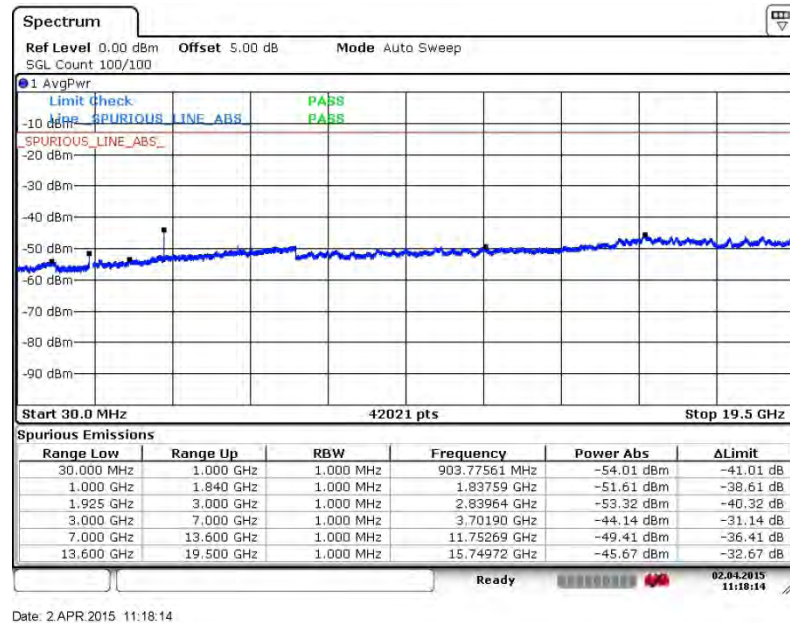
16QAM (RB Size 1, RB Offset 24)



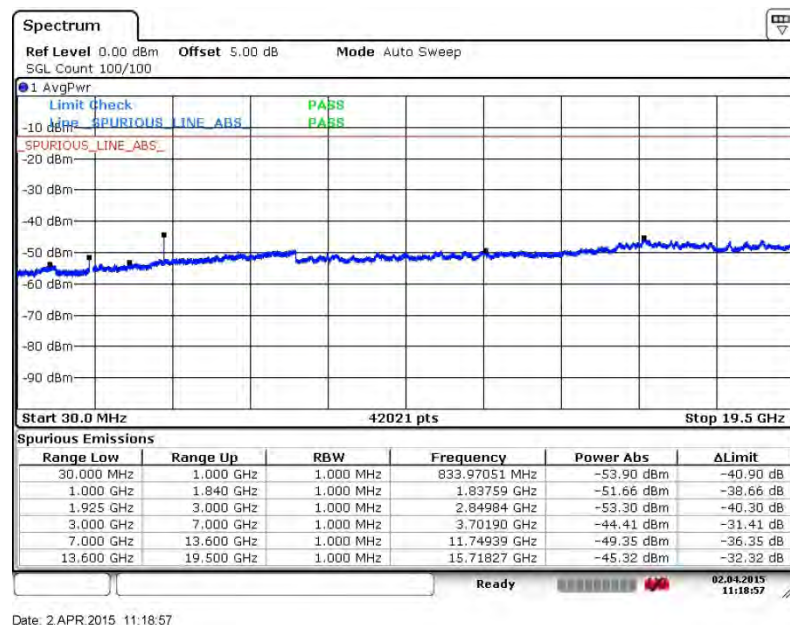


Band :	LTE Band 25	Channel :	CH26115 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



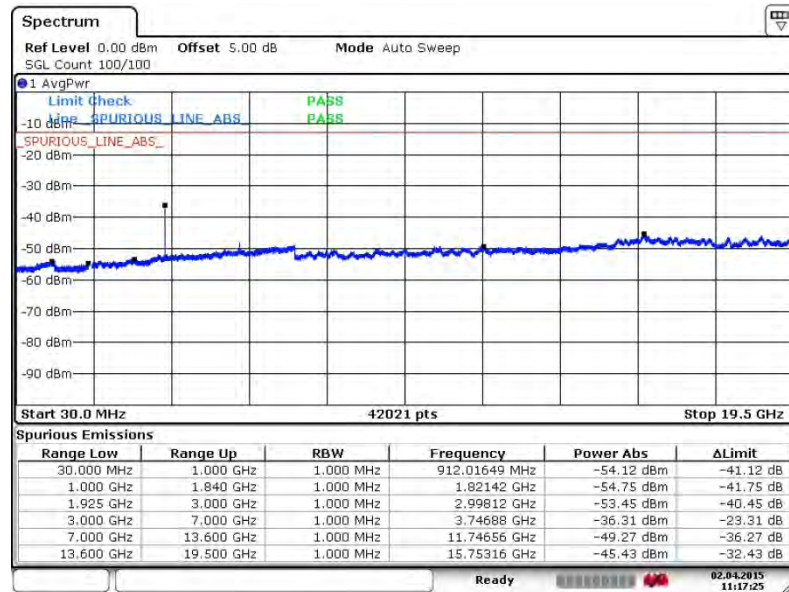
16QAM (RB Size 1, RB Offset 0)





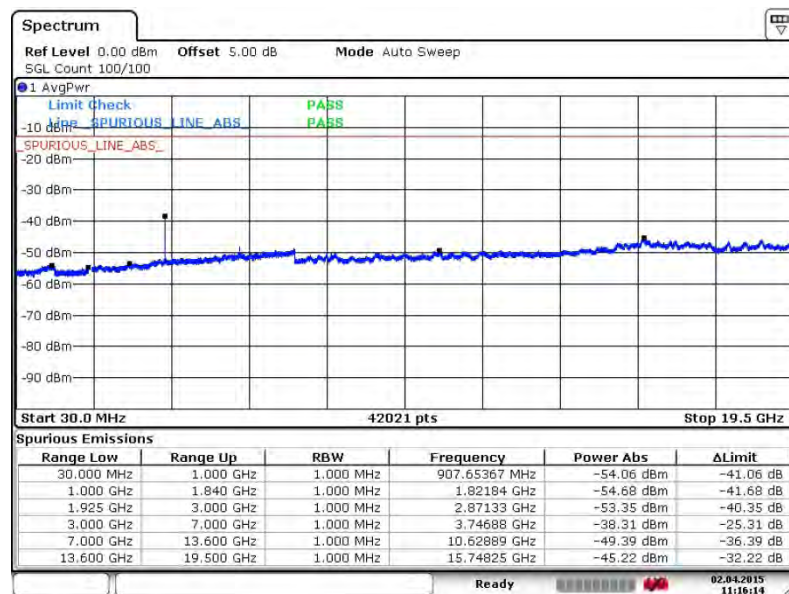
Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 2 APR 2015 11:17:25

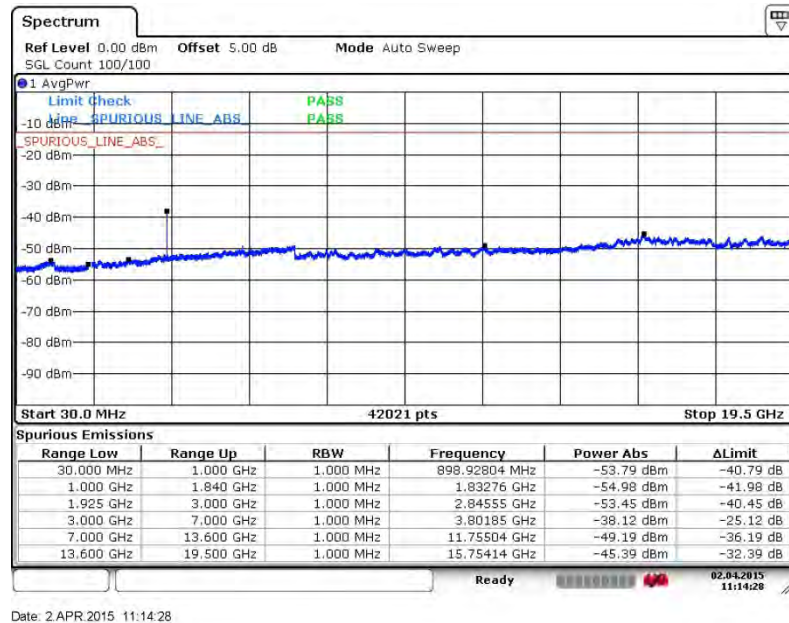
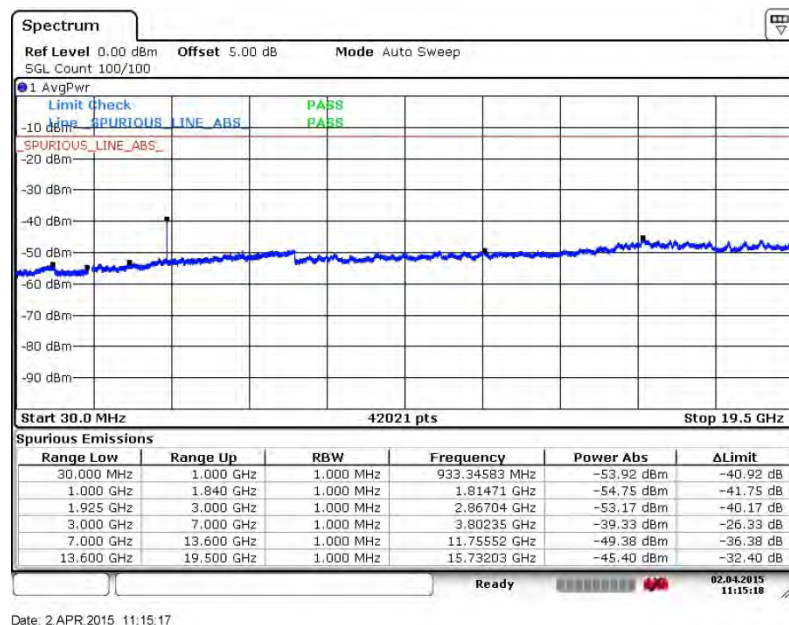
16QAM (RB Size 1, RB Offset 0)



Date: 2 APR 2015 11:16:14



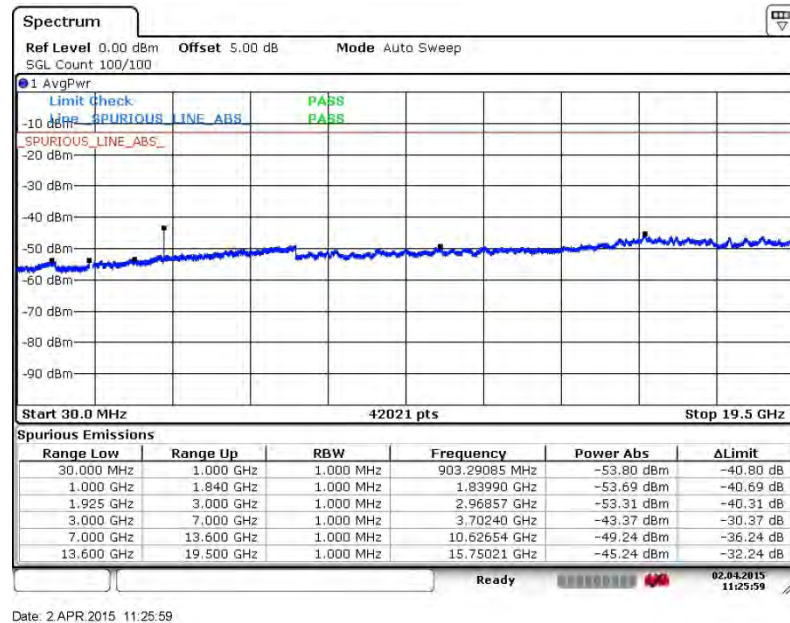
Band :	LTE Band 25	Channel :	CH26615 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)**16QAM (RB Size 1, RB Offset 74)**

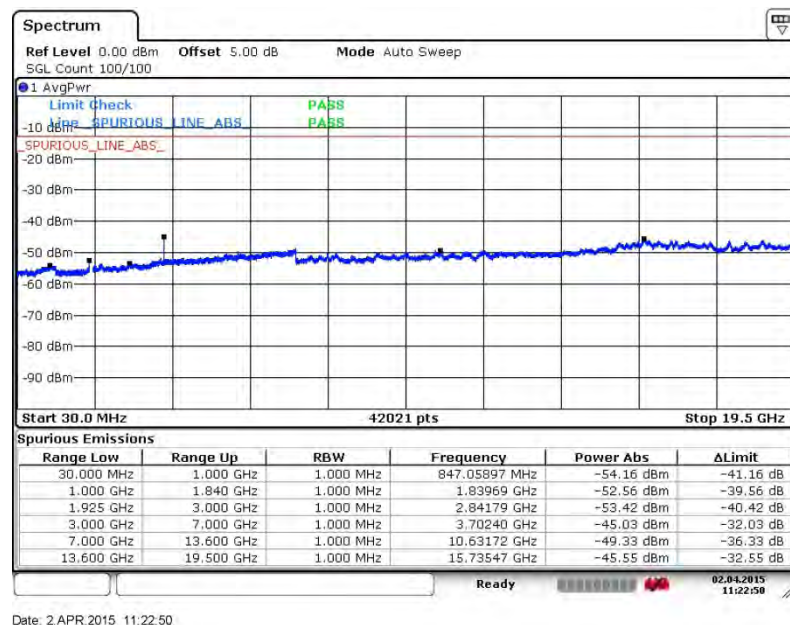


Band :	LTE Band 25	Channel :	CH26140 (Low)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



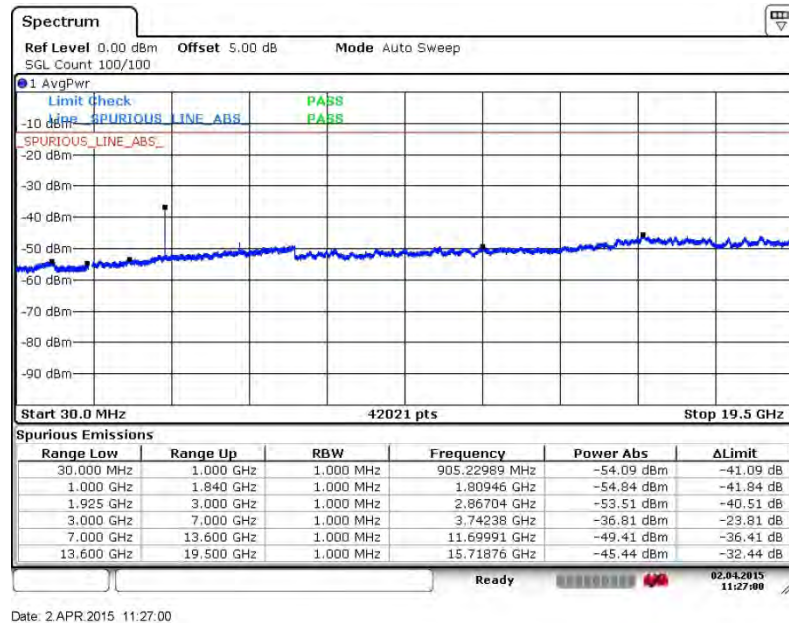
16QAM (RB Size 1, RB Offset 0)



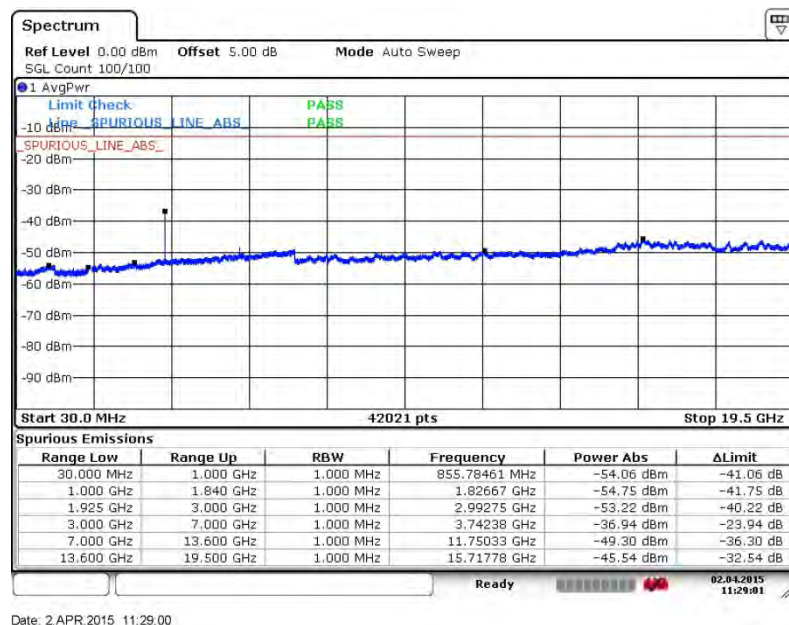


Band :	LTE Band 25	Channel :	CH26340 (Middle)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)

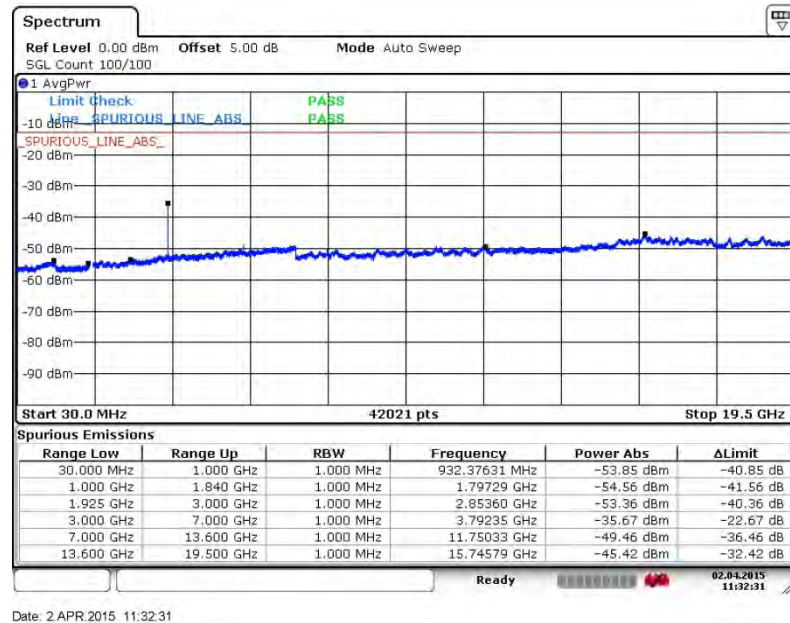


16QAM (RB Size 1, RB Offset 99)

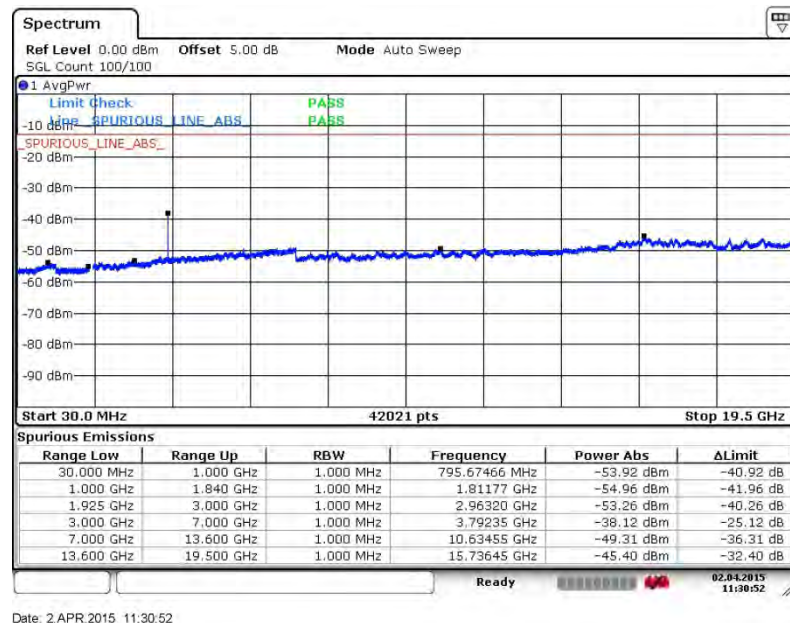


Band :	LTE Band 25	Channel :	CH26590 (High)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)

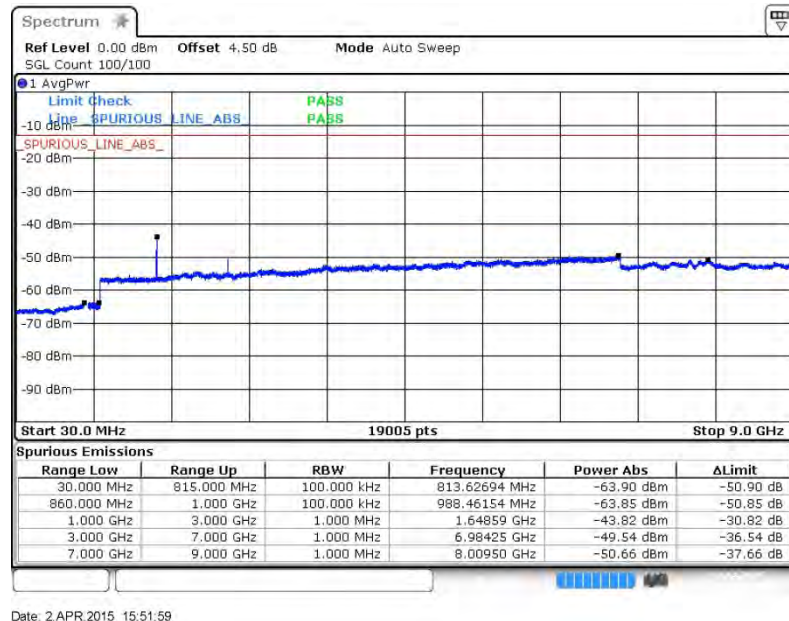
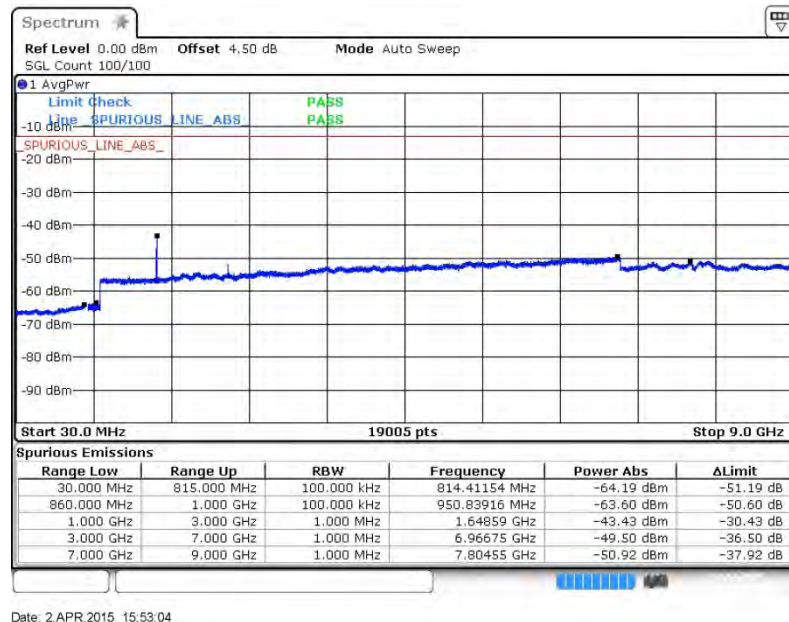


16QAM (RB Size 1, RB Offset 0)





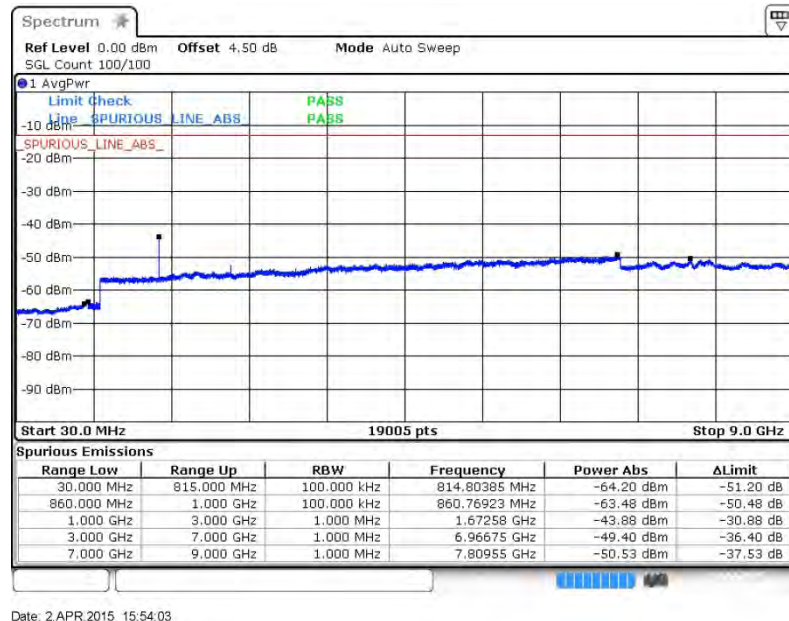
Band :	LTE Band 26	Channel :	CH26797 (Low)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 0)**16QAM (RB Size 1, RB Offset 0)**

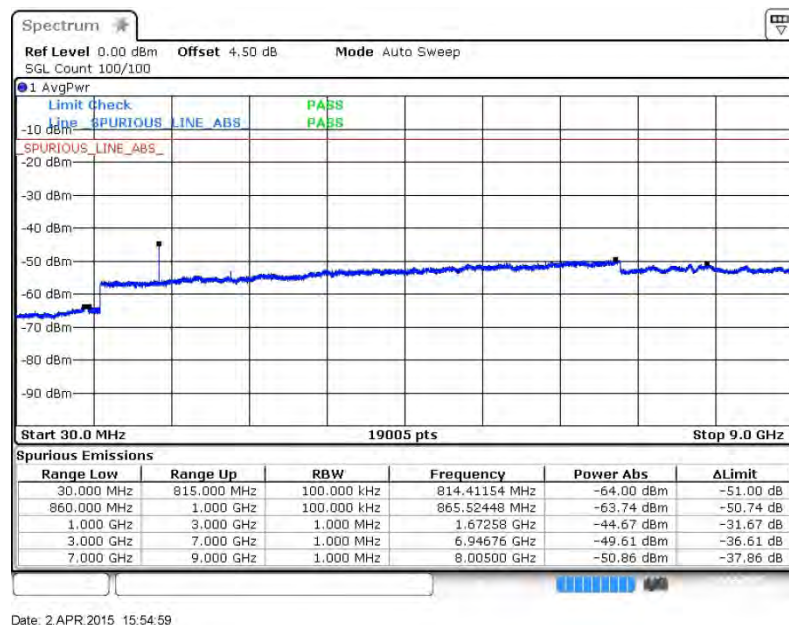


Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)

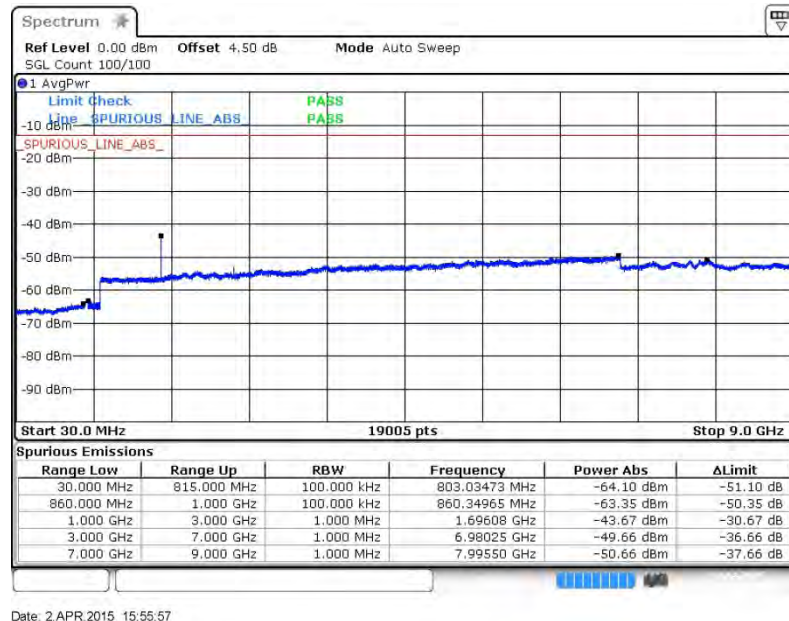


16QAM (RB Size 1, RB Offset 5)

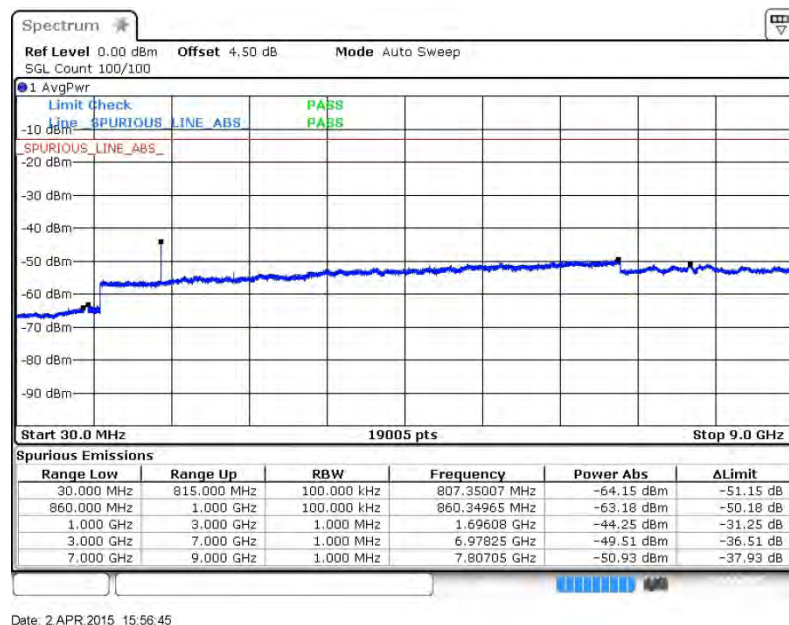


Band :	LTE Band 26	Channel :	CH27033 (High)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



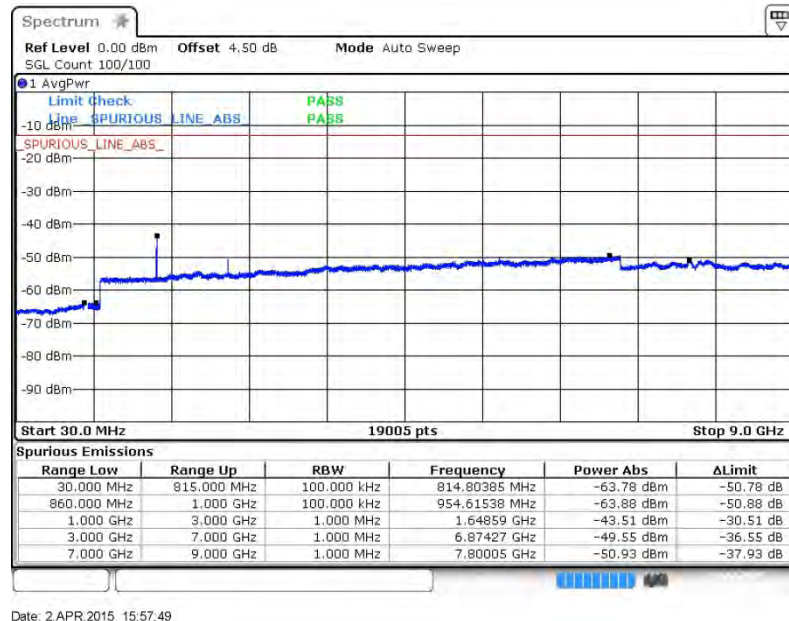
16QAM (RB Size 1, RB Offset 2)



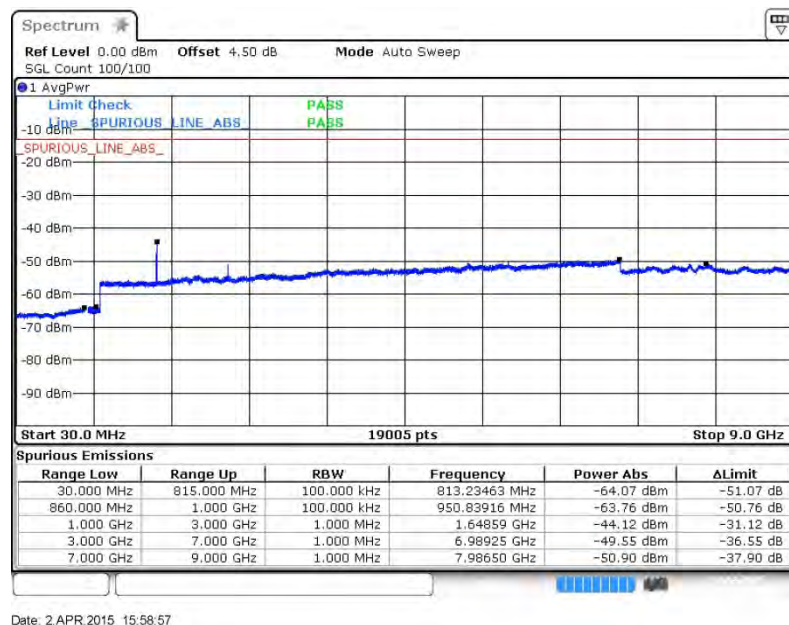


Band :	LTE Band 26	Channel :	CH26805 (Low)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)



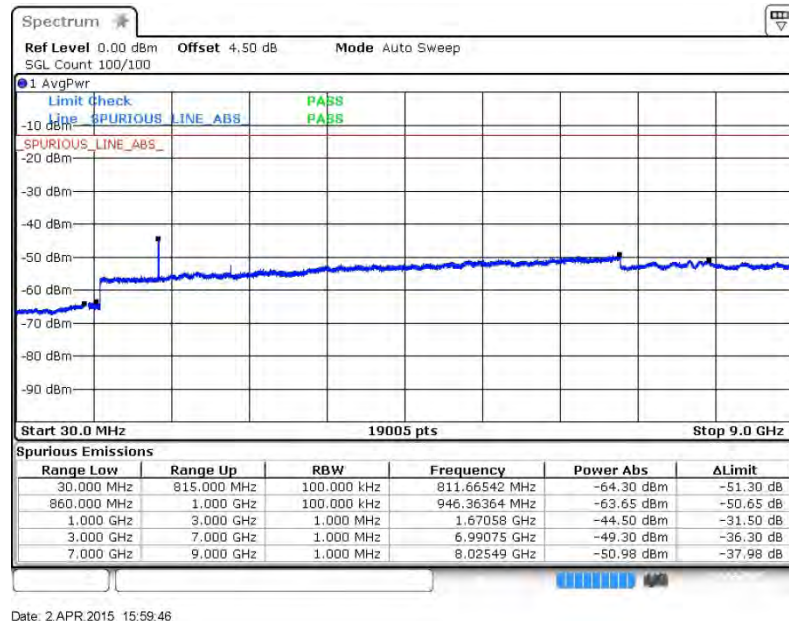
16QAM (RB Size 1, RB Offset 0)



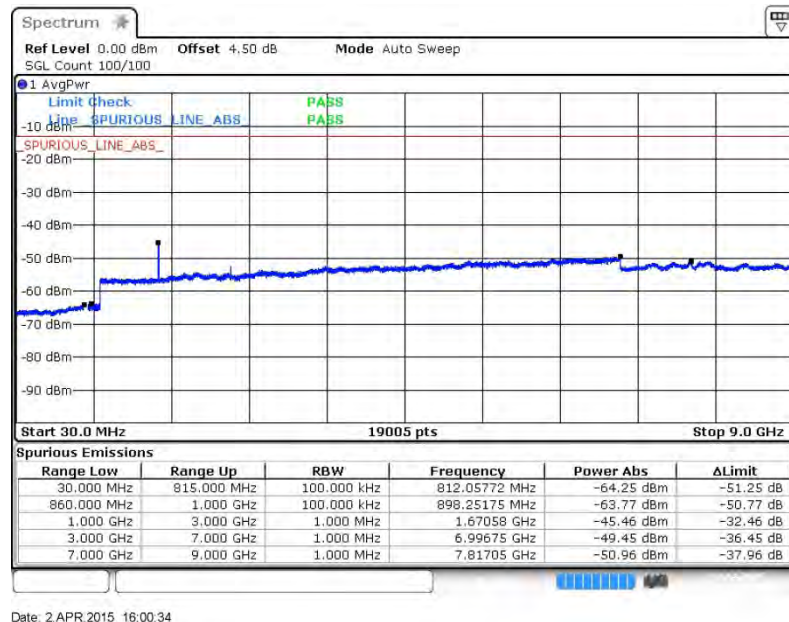


Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 0)



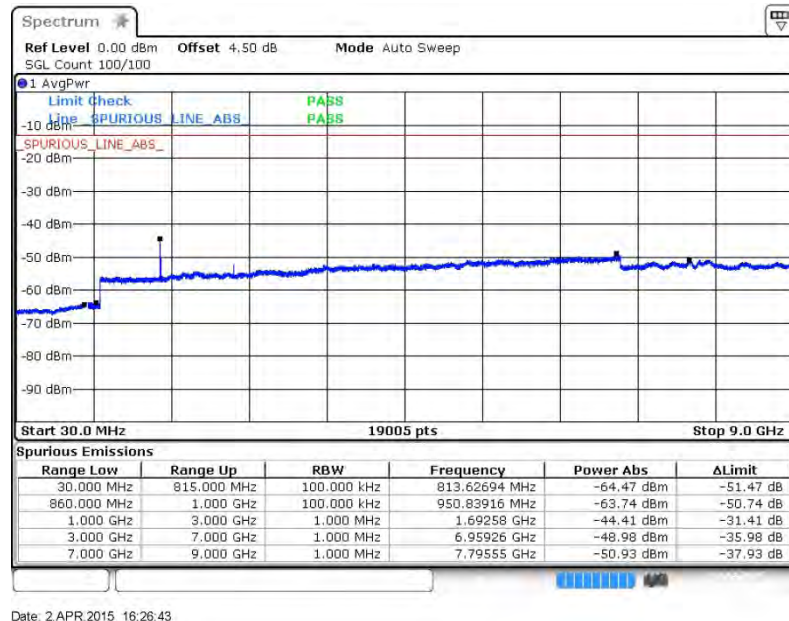
16QAM (RB Size 1, RB Offset 0)



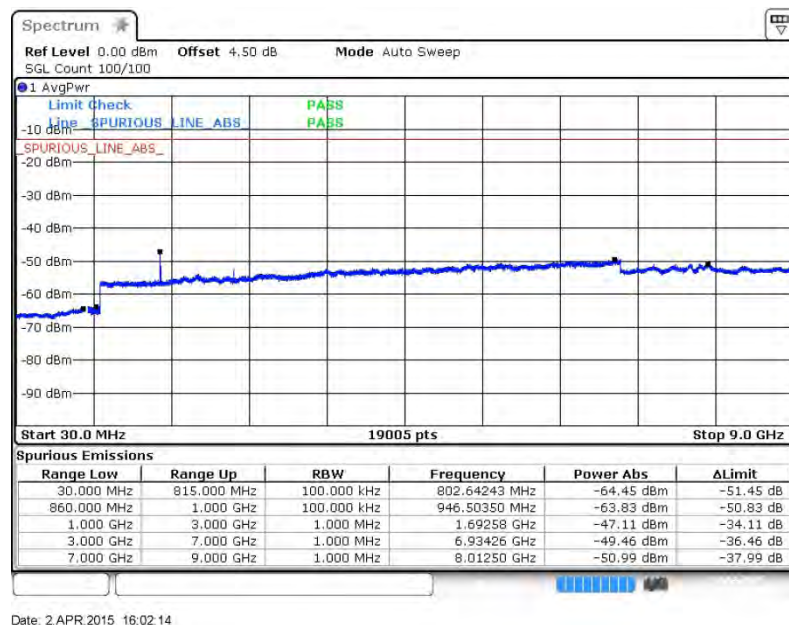


Band :	LTE Band 26	Channel :	CH27025 (High)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)



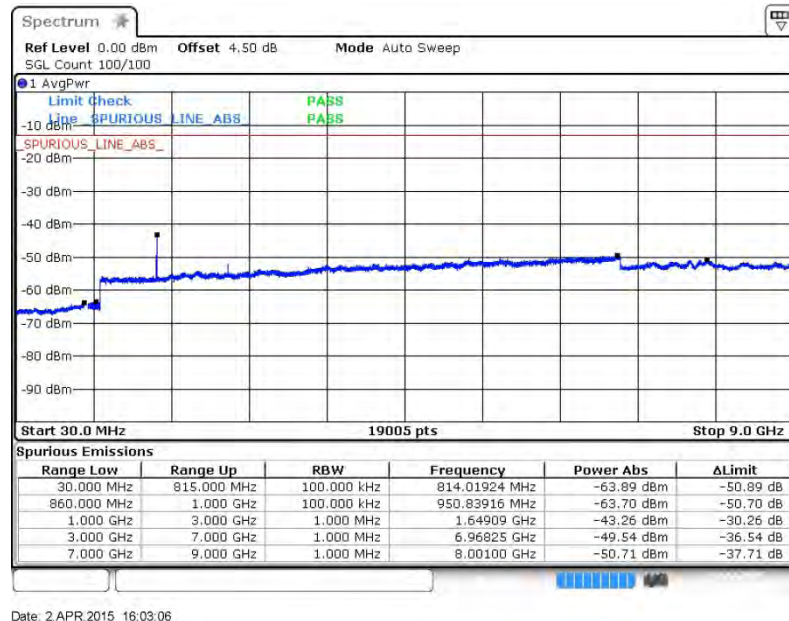
16QAM (RB Size 1, RB Offset 0)



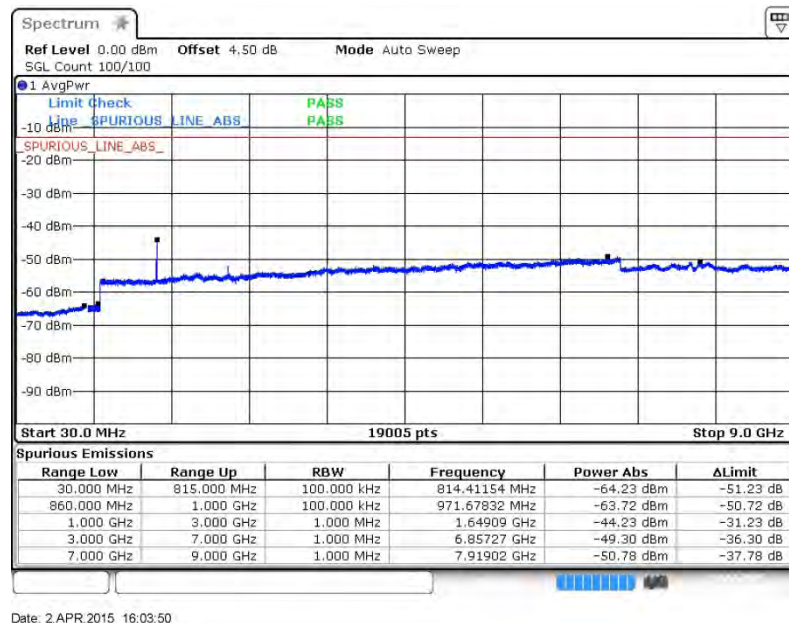


Band :	LTE Band 26	Channel :	CH26815 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)

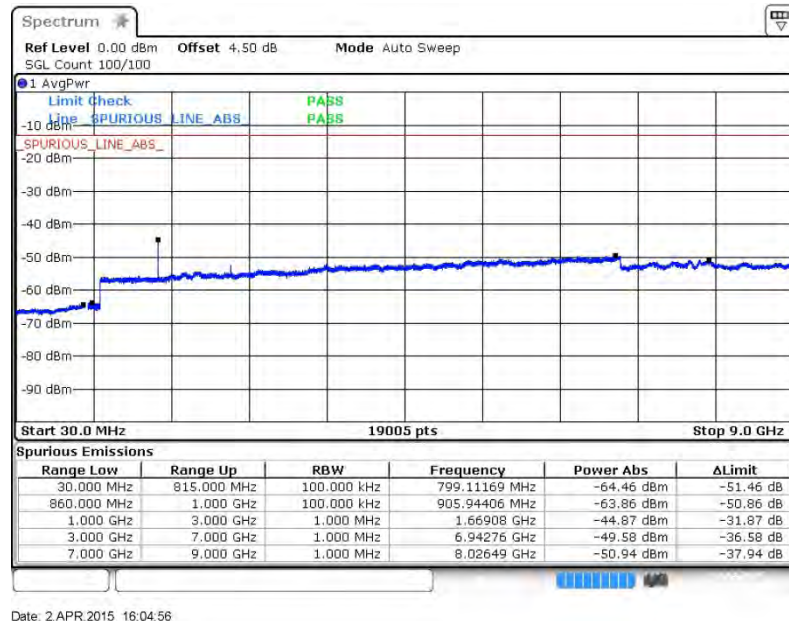
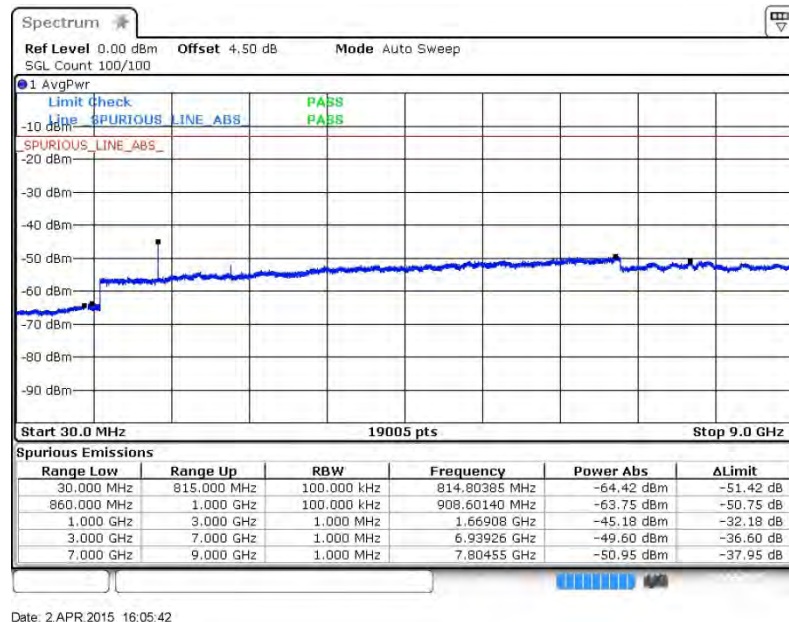


16QAM (RB Size 1, RB Offset 0)



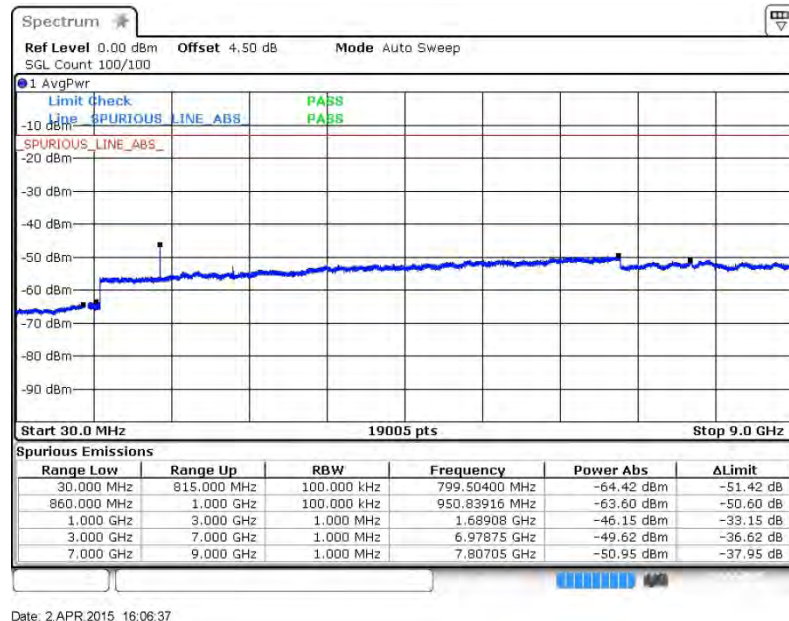
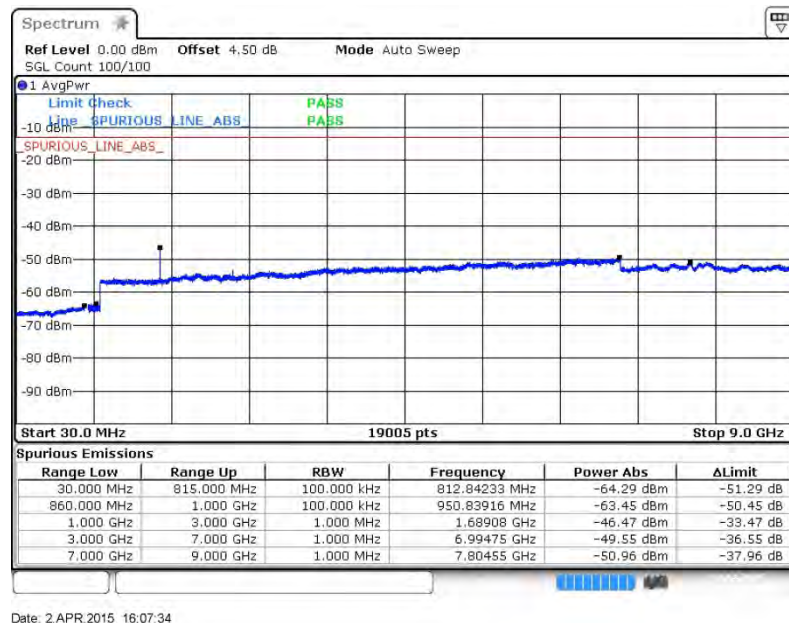


Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)**16QAM (RB Size 1, RB Offset 0)**



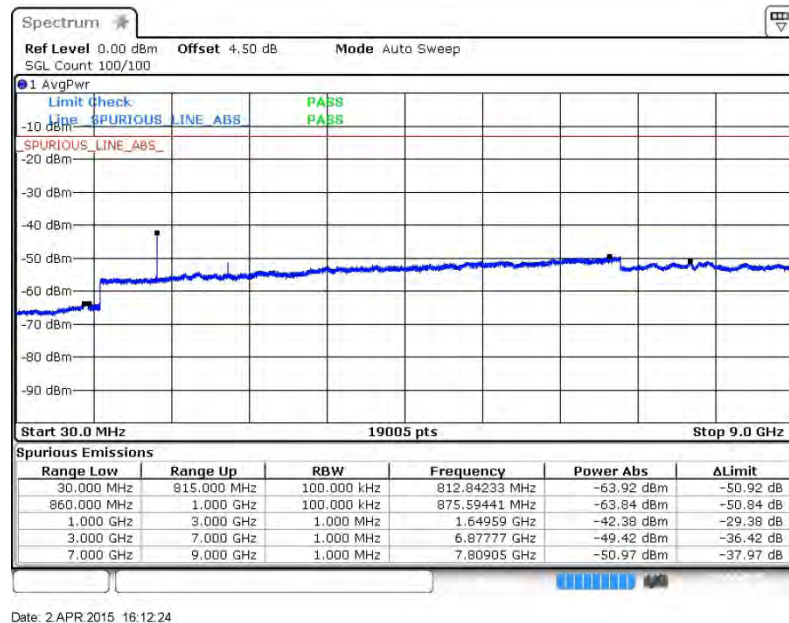
Band :	LTE Band 26	Channel :	CH27015 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)**16QAM (RB Size 1, RB Offset 0)**

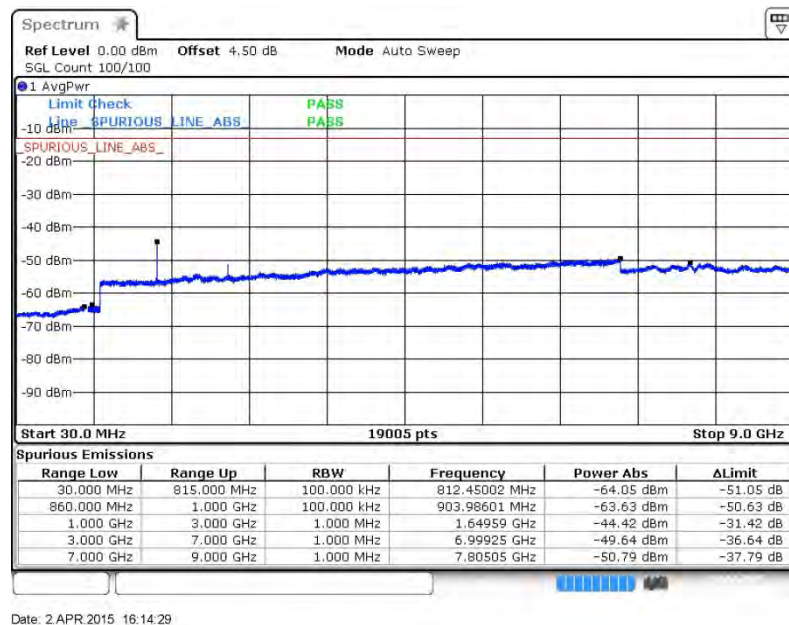


Band :	LTE Band 26	Channel :	CH26840 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 49)



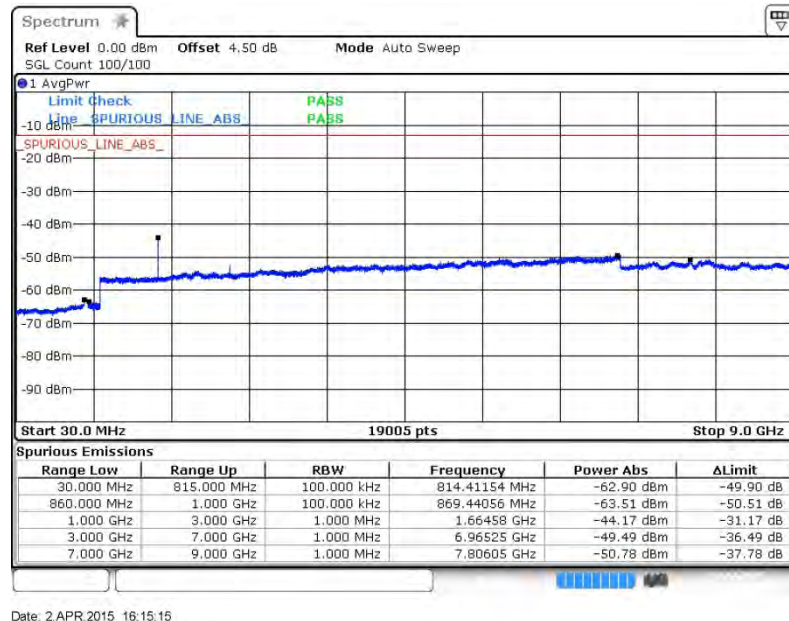
16QAM (RB Size 1, RB Offset 49)



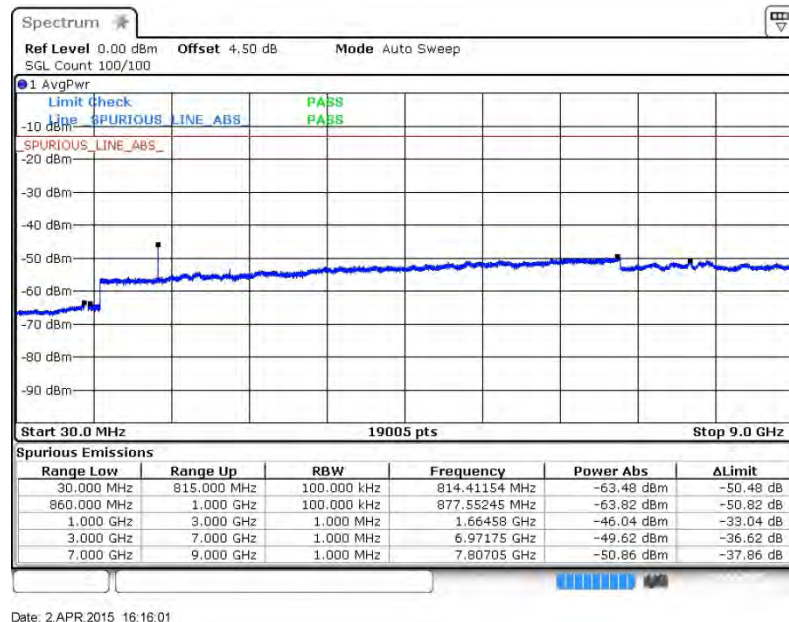


Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 49)

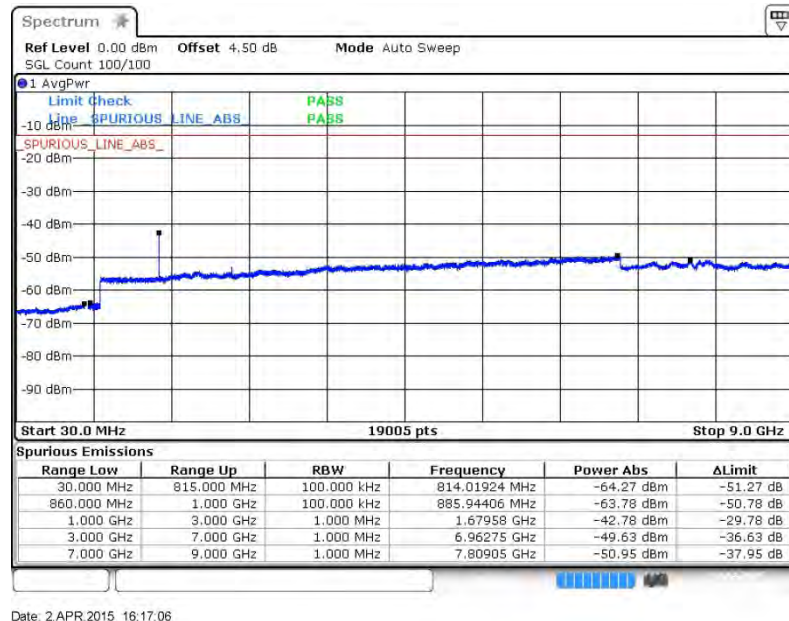
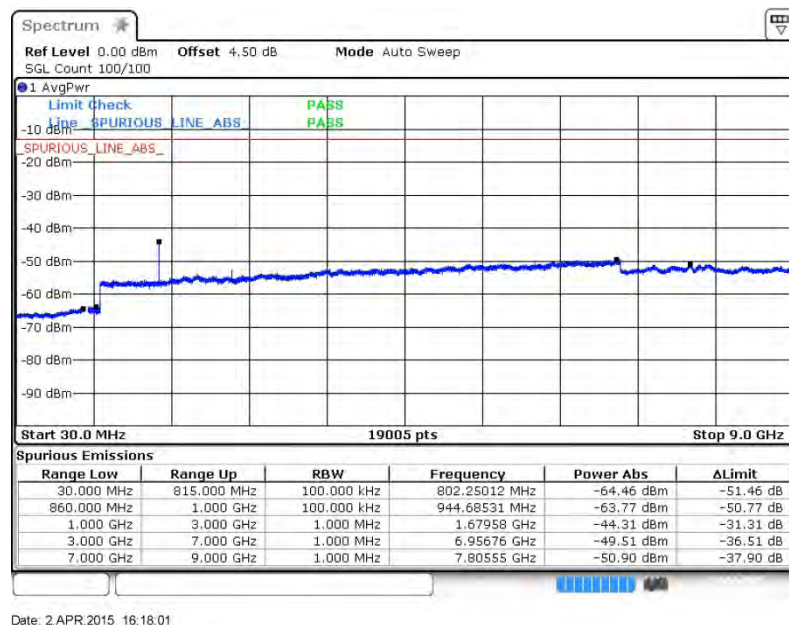


16QAM (RB Size 1, RB Offset 0)



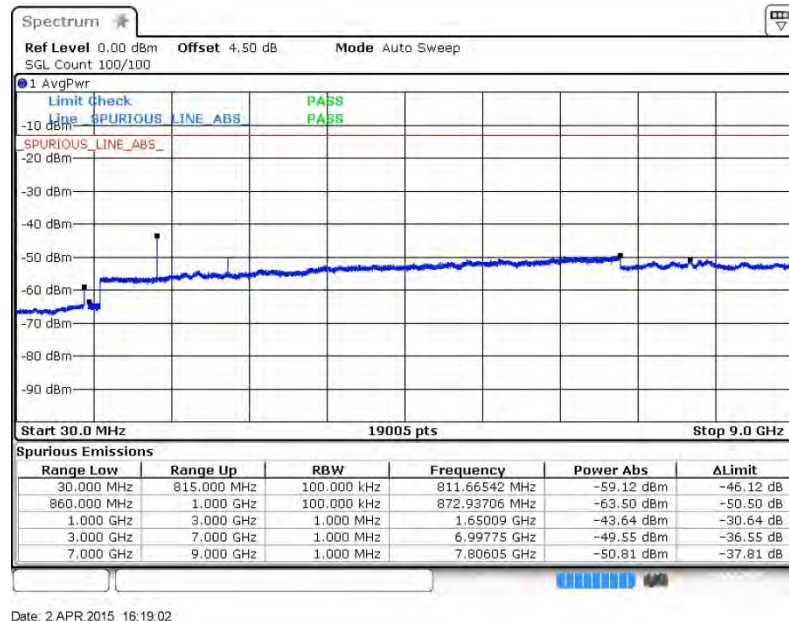
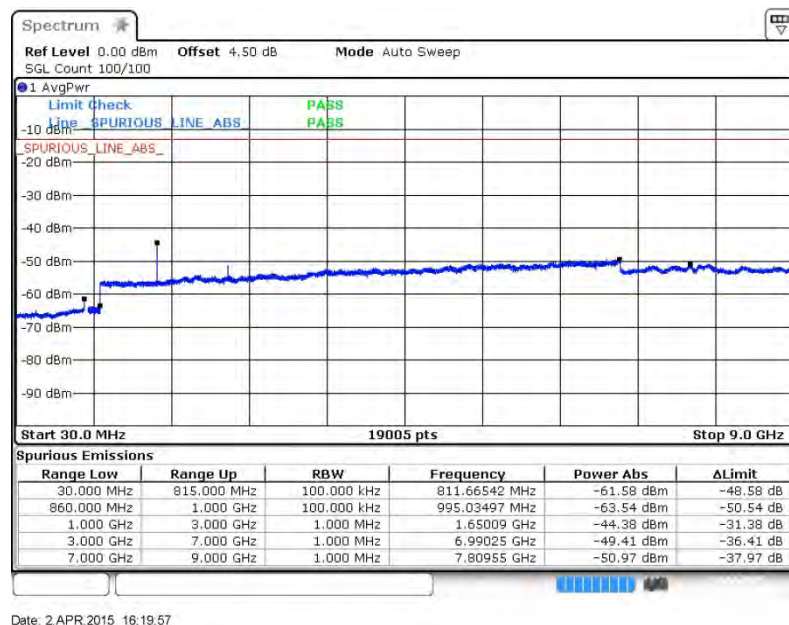


Band :	LTE Band 26	Channel :	CH26990 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)**16QAM (RB Size 1, RB Offset 0)**

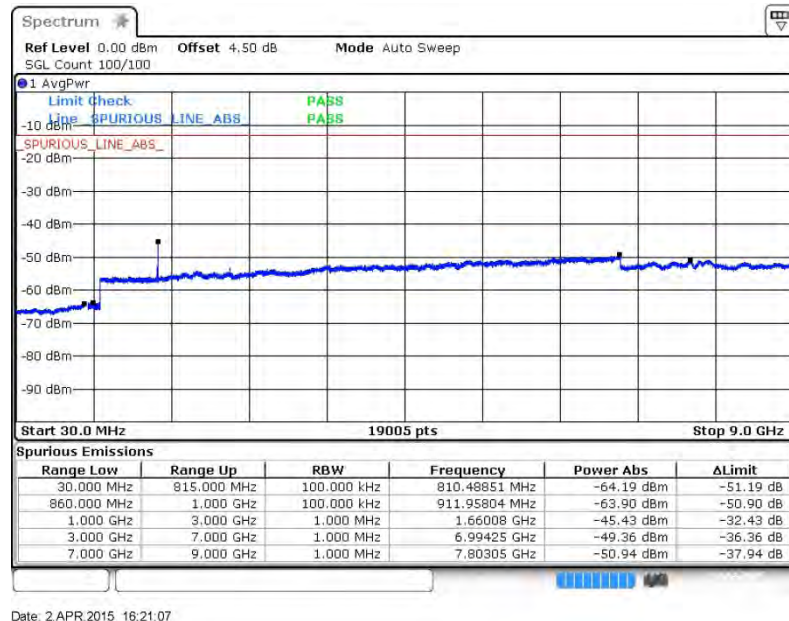


Band :	LTE Band 26	Channel :	CH26865 (Low)
Band Width :	15MHz		

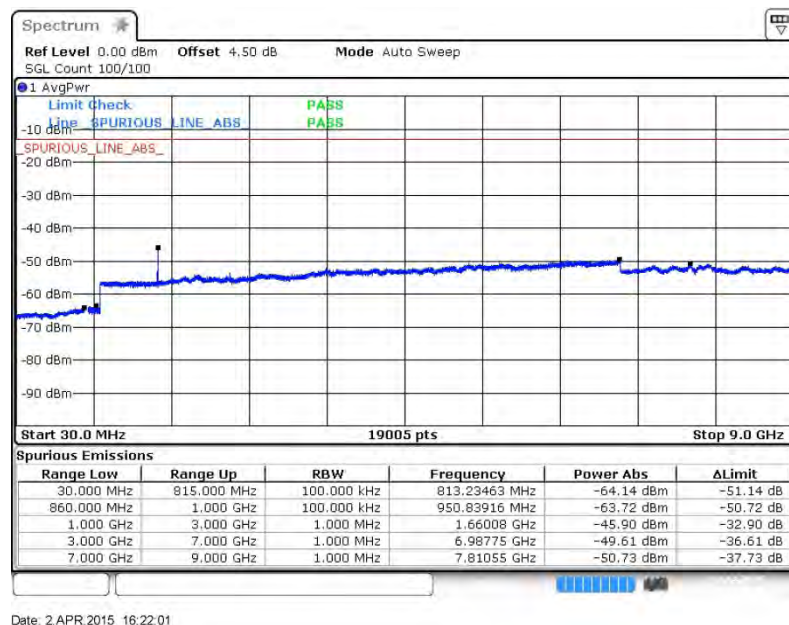
QPSK (RB Size 1, RB Offset 37)**16QAM (RB Size 1, RB Offset 0)**

Band :	LTE Band 26	Channel :	CH26915 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 37)

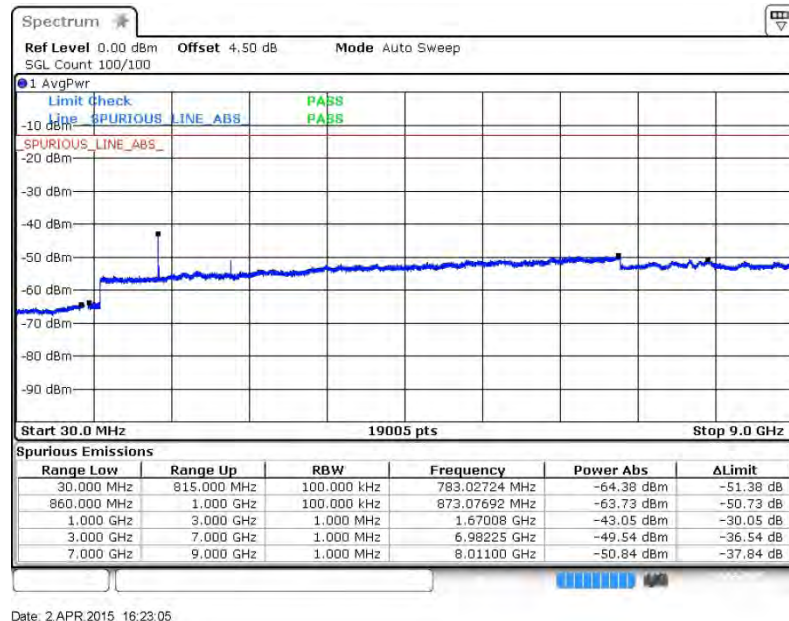


16QAM (RB Size 1, RB Offset 37)

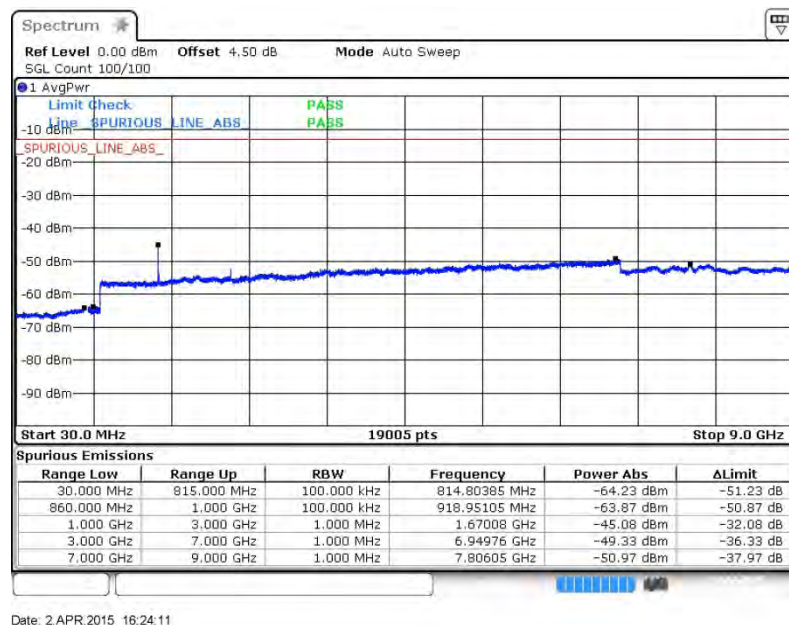


Band :	LTE Band 26	Channel :	CH26965 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



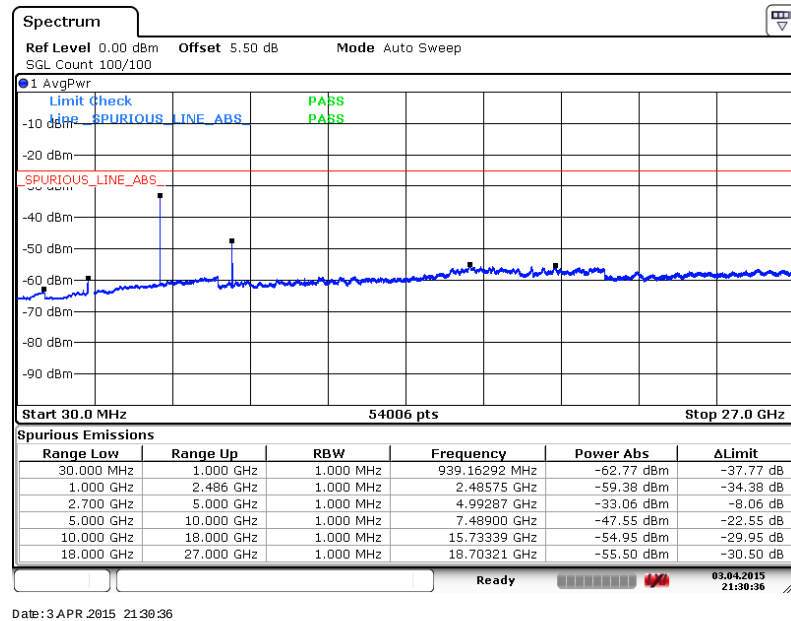
16QAM (RB Size 1, RB Offset 0)



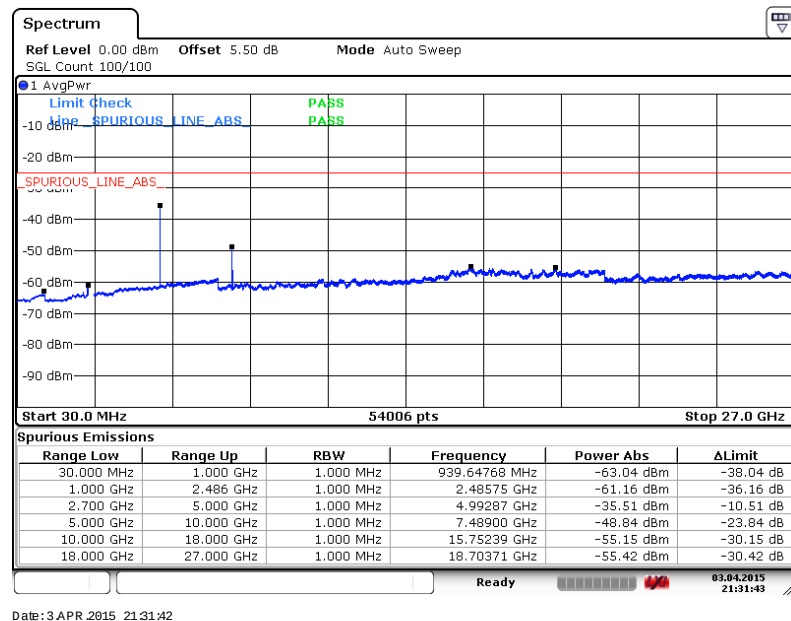


Band :	LTE Band 41	Channel :	CH39675 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



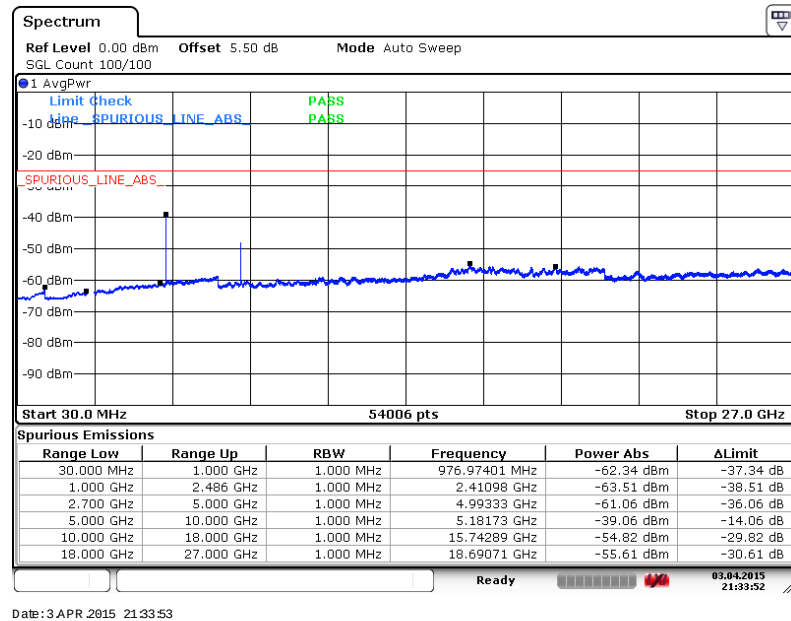
16QAM (RB Size 1, RB Offset 12)



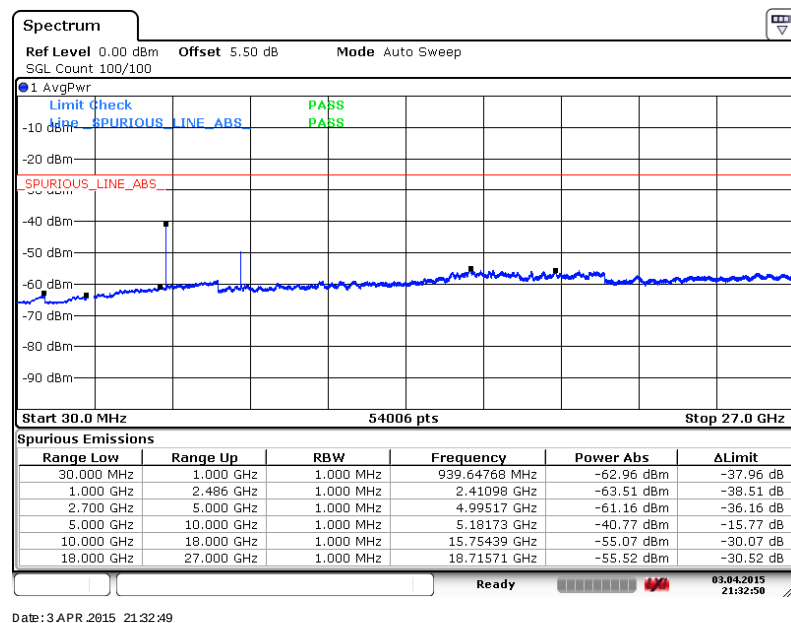


Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



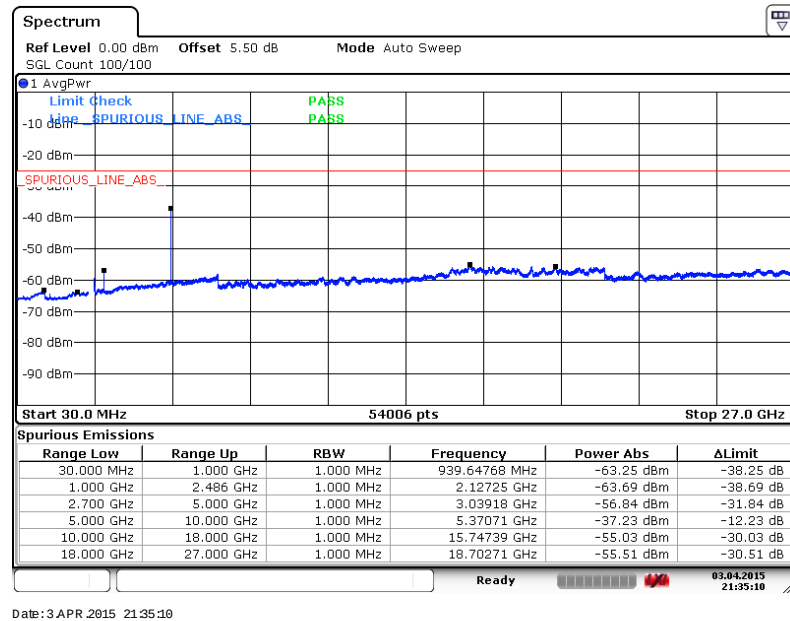
16QAM (RB Size 1, RB Offset 0)



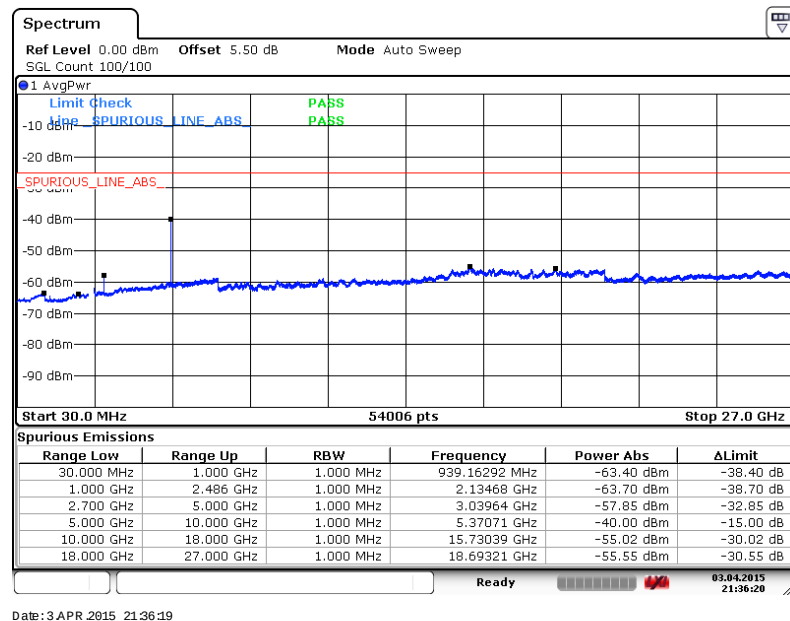


Band :	LTE Band 41	Channel :	CH41565 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



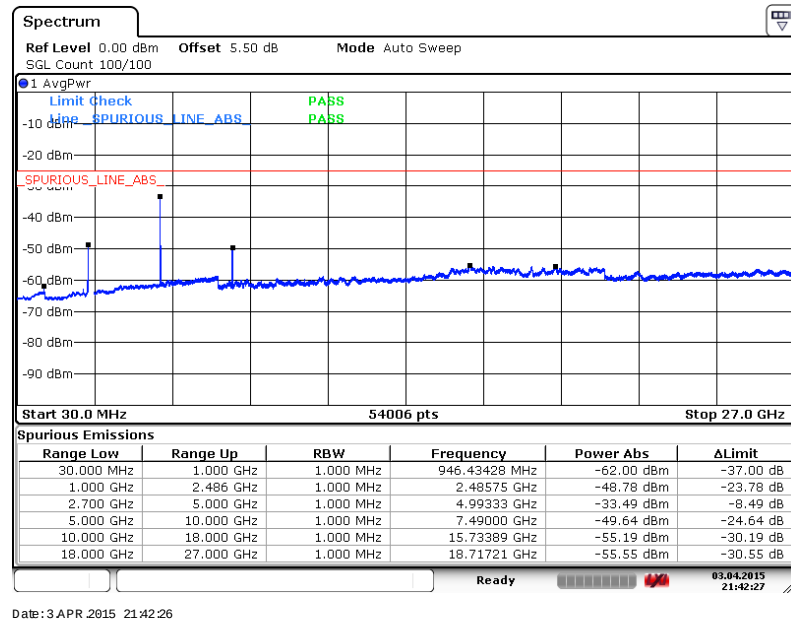
16QAM (RB Size 1, RB Offset 0)



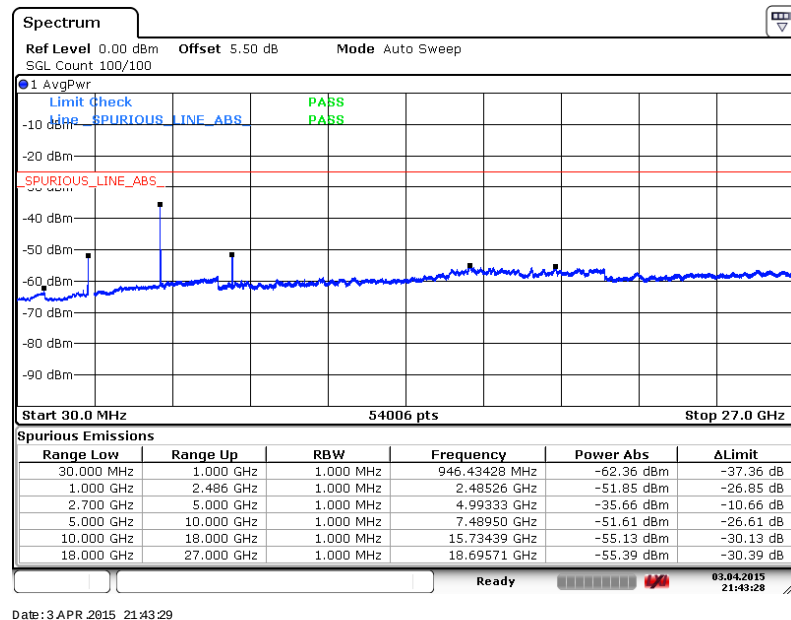


Band :	LTE Band 41	Channel :	CH39700 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 24)



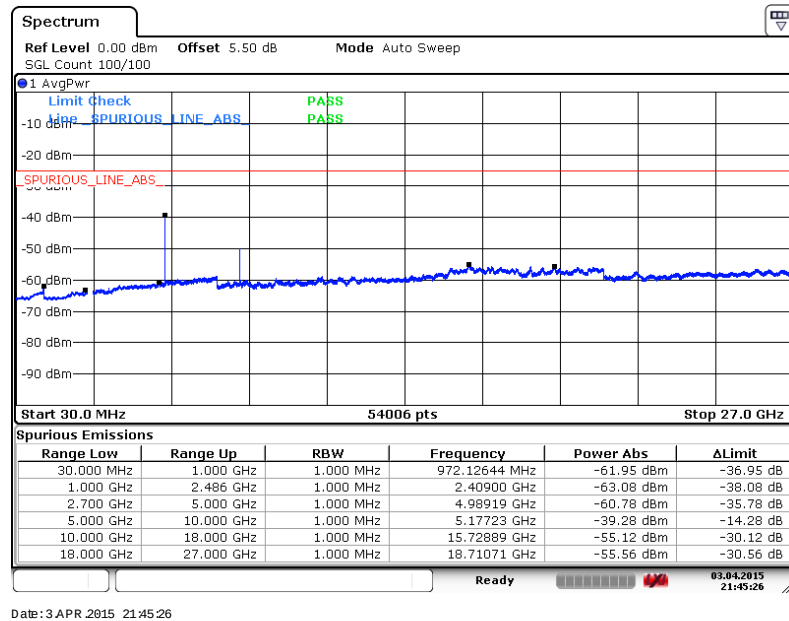
16QAM (RB Size 1, RB Offset 0)



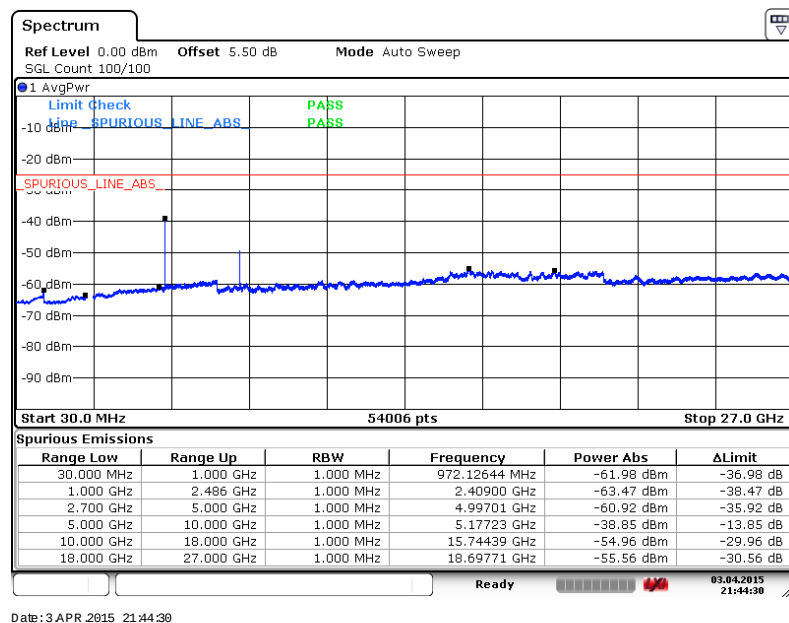


Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)

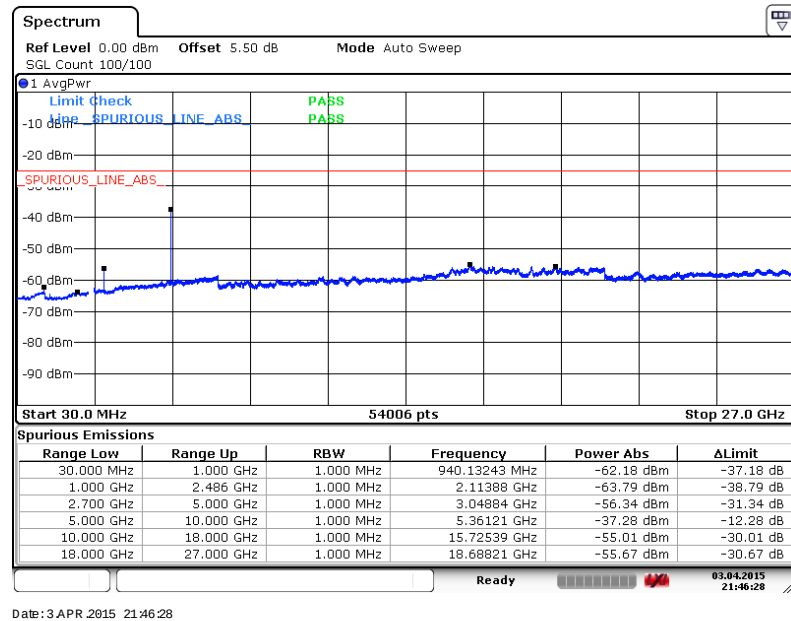
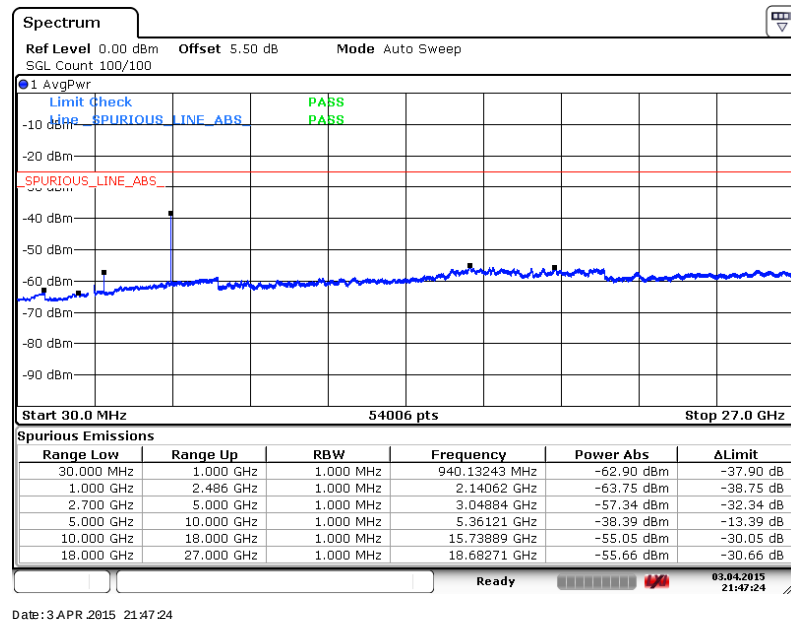


16QAM (RB Size 1, RB Offset 0)





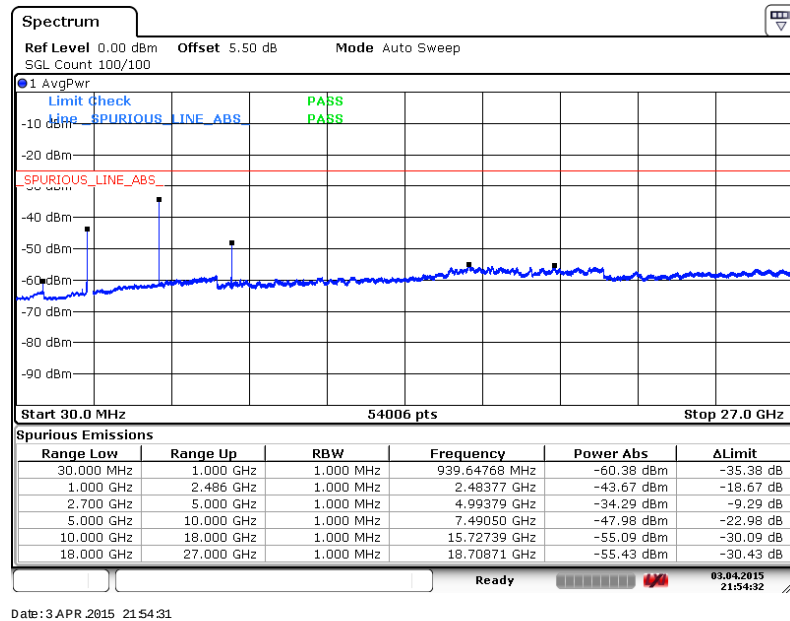
Band :	LTE Band 41	Channel :	CH41540 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)**16QAM (RB Size 1, RB Offset 0)**

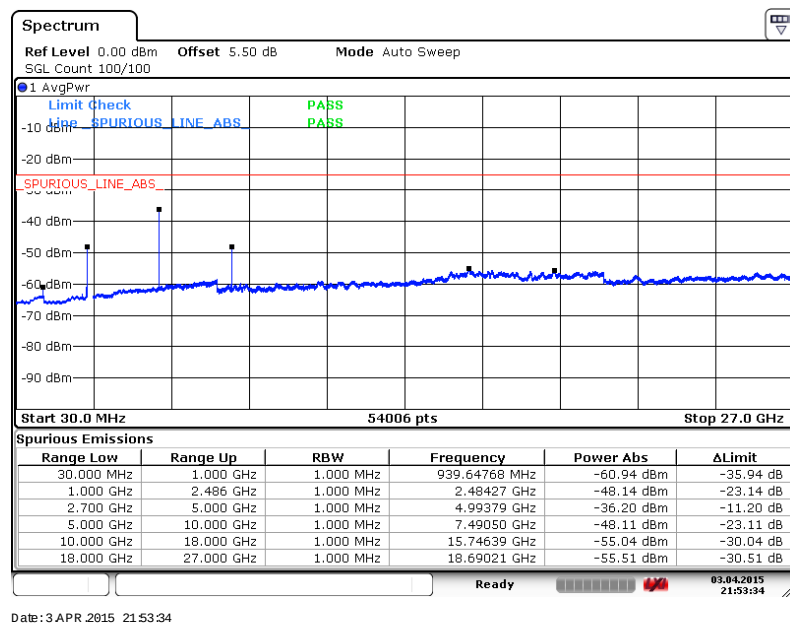


Band :	LTE Band 41	Channel :	CH39725 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)

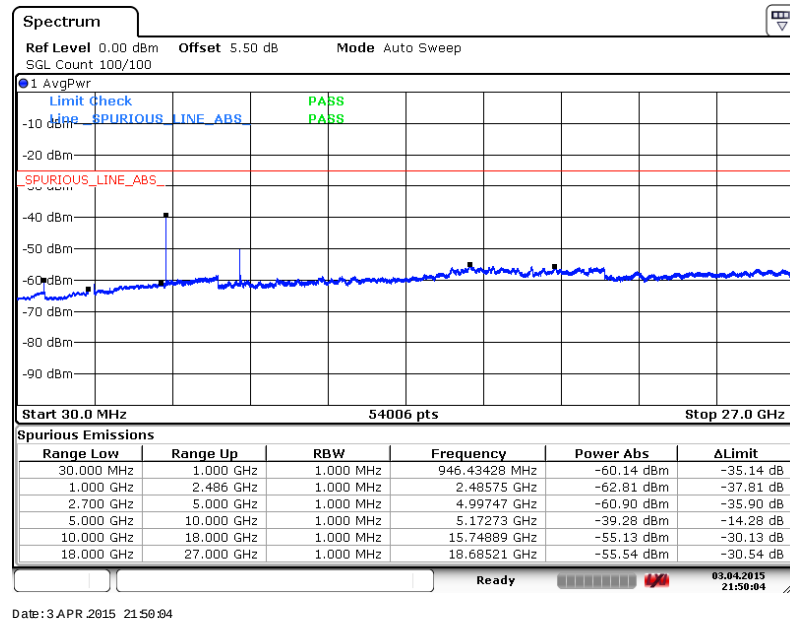
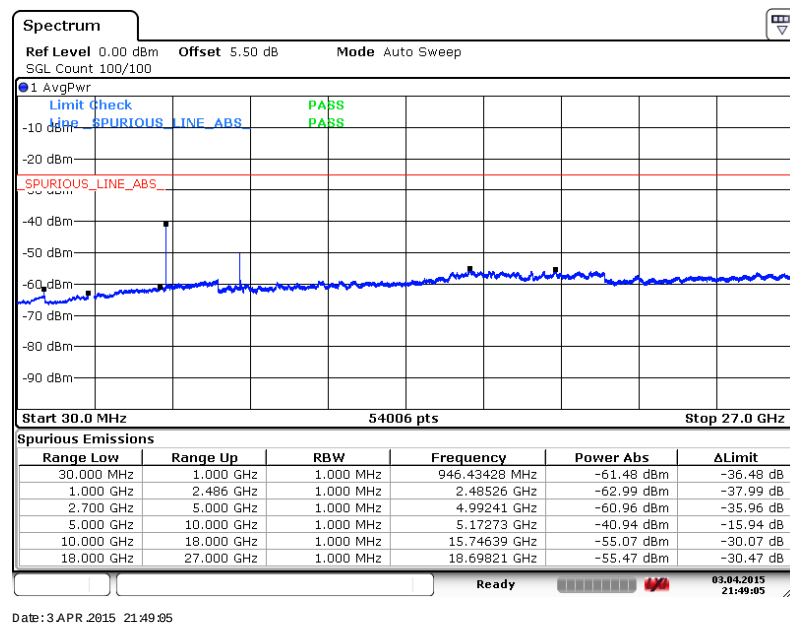


16QAM (RB Size 1, RB Offset 74)



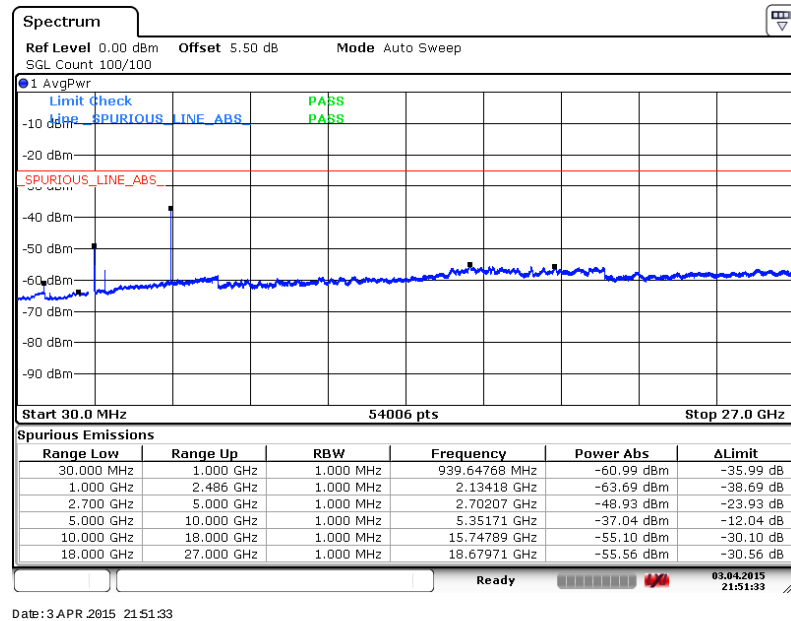
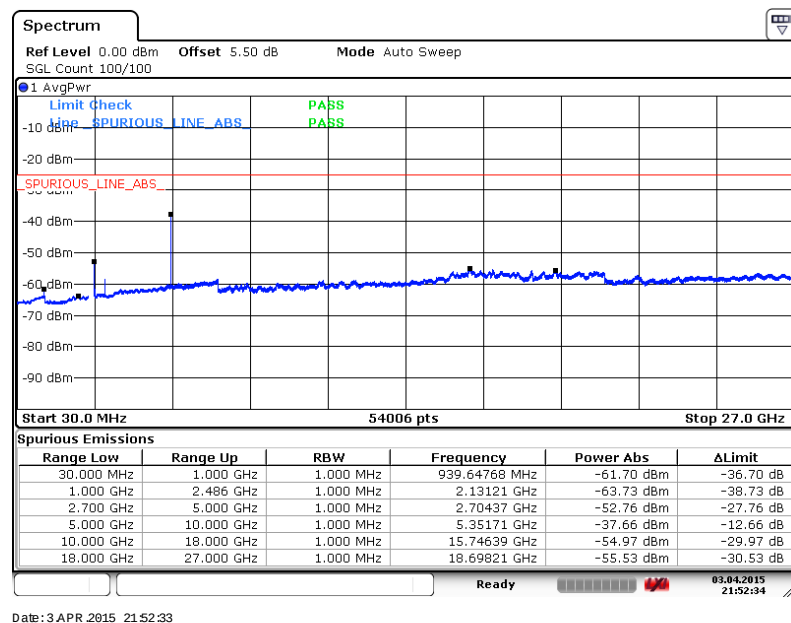


Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)**16QAM (RB Size 1, RB Offset 0)**



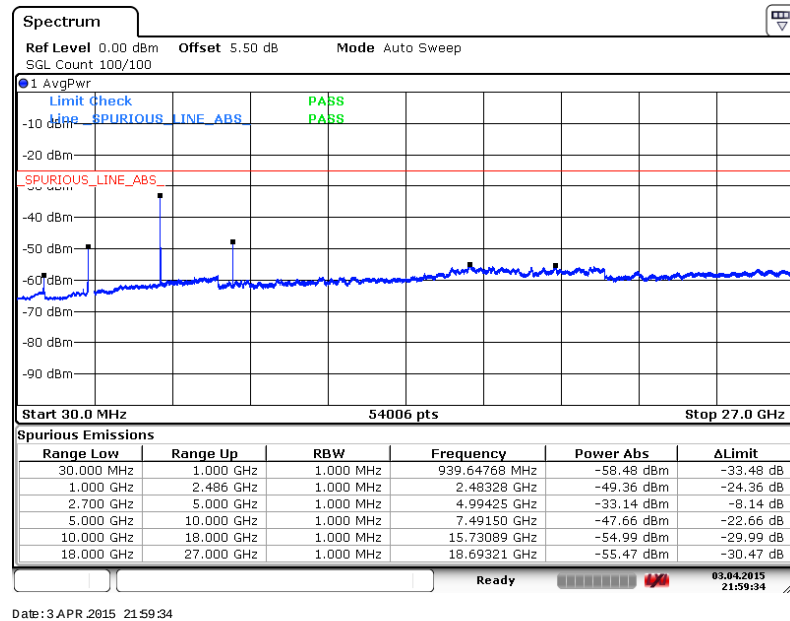
Band :	LTE Band 41	Channel :	CH41515 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 74)**16QAM (RB Size 1, RB Offset 0)**

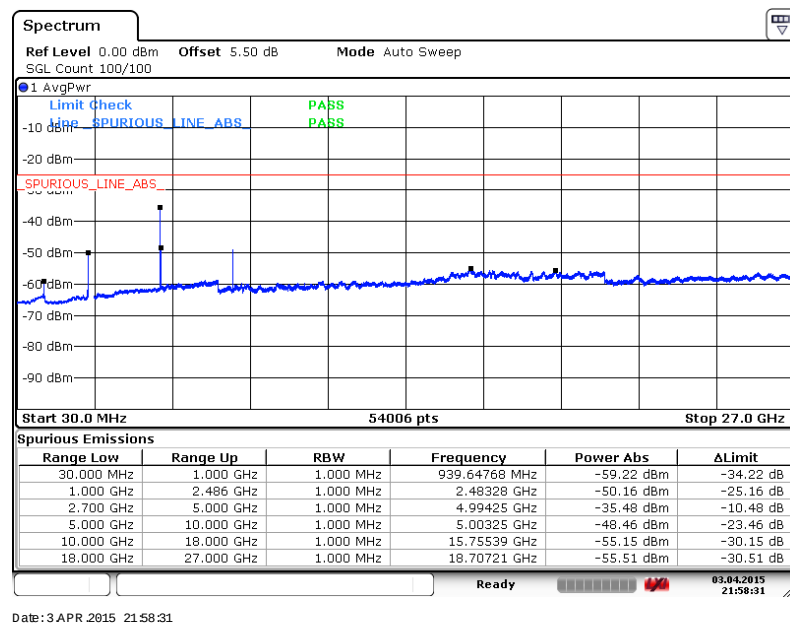


Band :	LTE Band 41	Channel :	CH39750 (Low)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



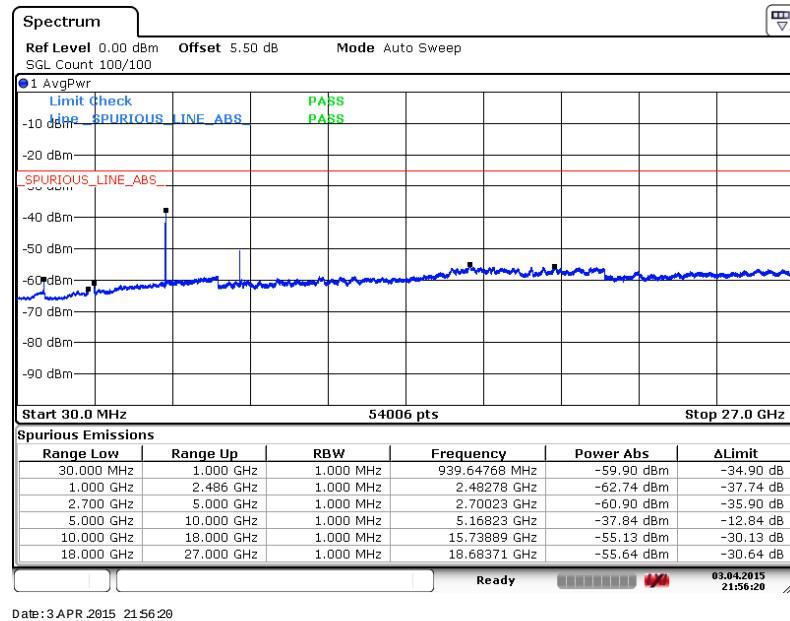
16QAM (RB Size 1, RB Offset 0)



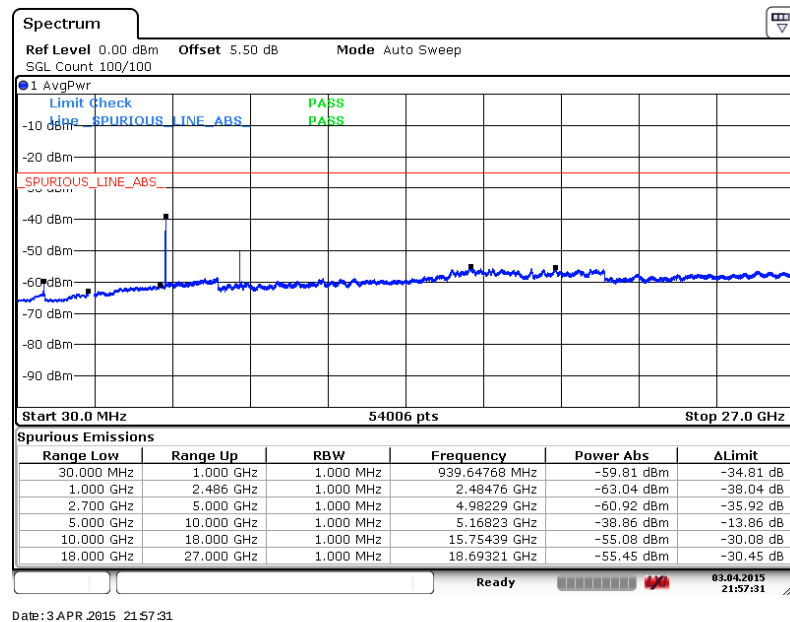


Band :	LTE Band 41	Channel :	CH40620 (Middle)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



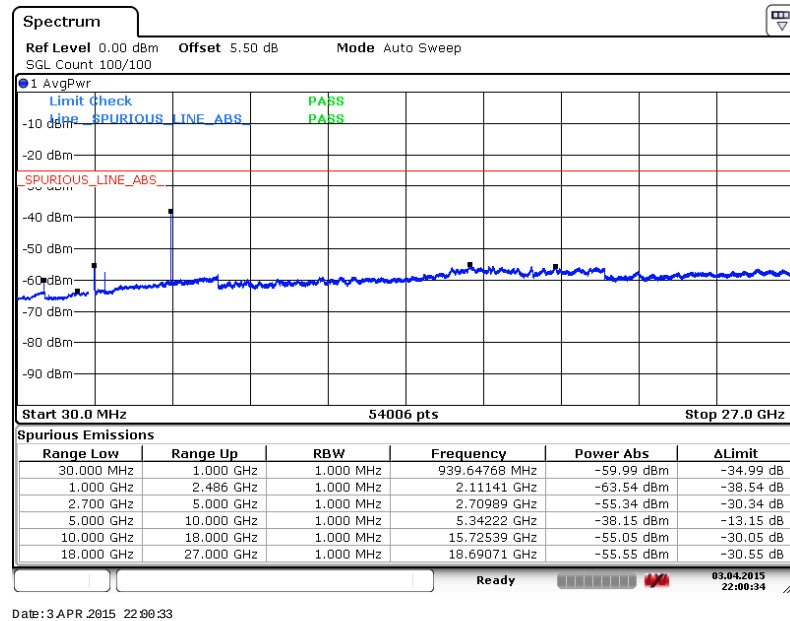
16QAM (RB Size 1, RB Offset 0)



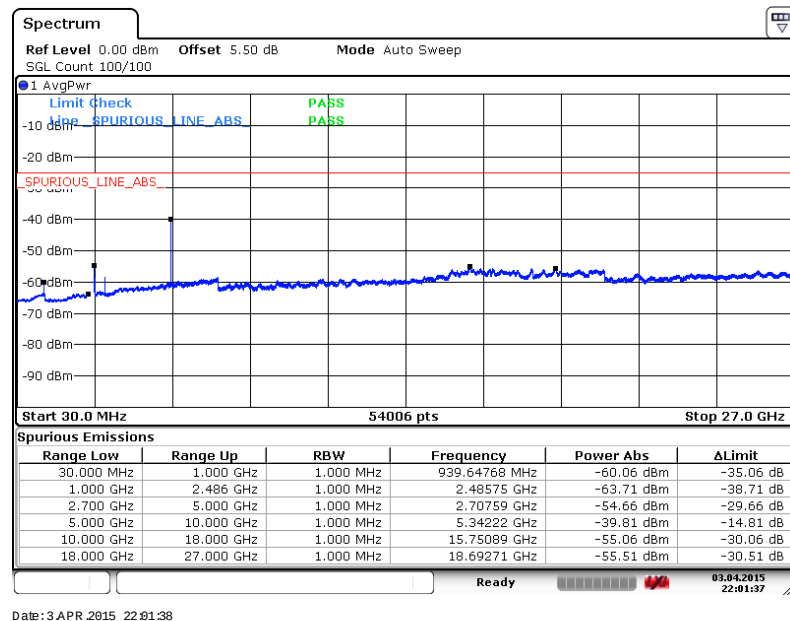


Band :	LTE Band 41	Channel :	CH41490 (High)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



16QAM (RB Size 1, RB Offset 0)



3.7 Radiated Spurious Emission Measurement

3.7.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Procedures

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$

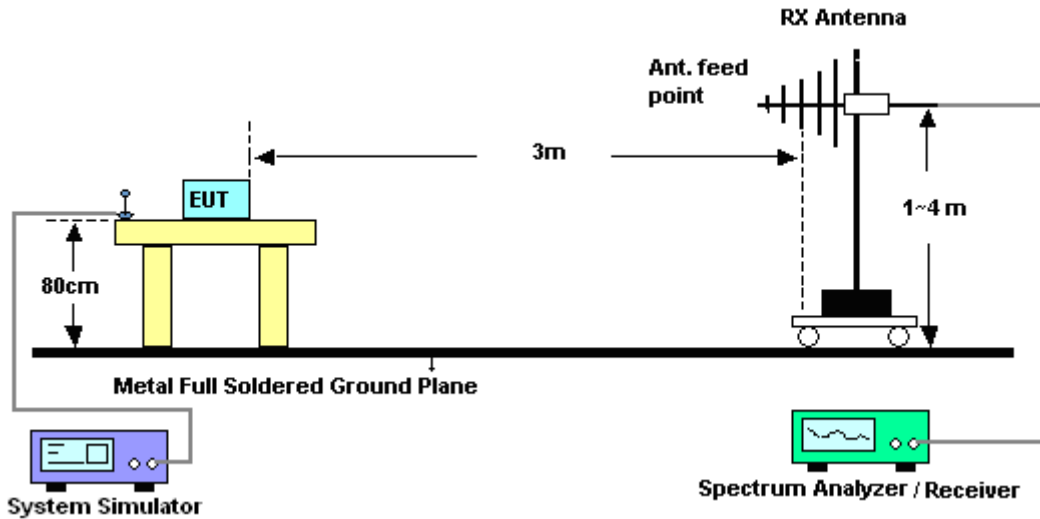
For Band 41

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)

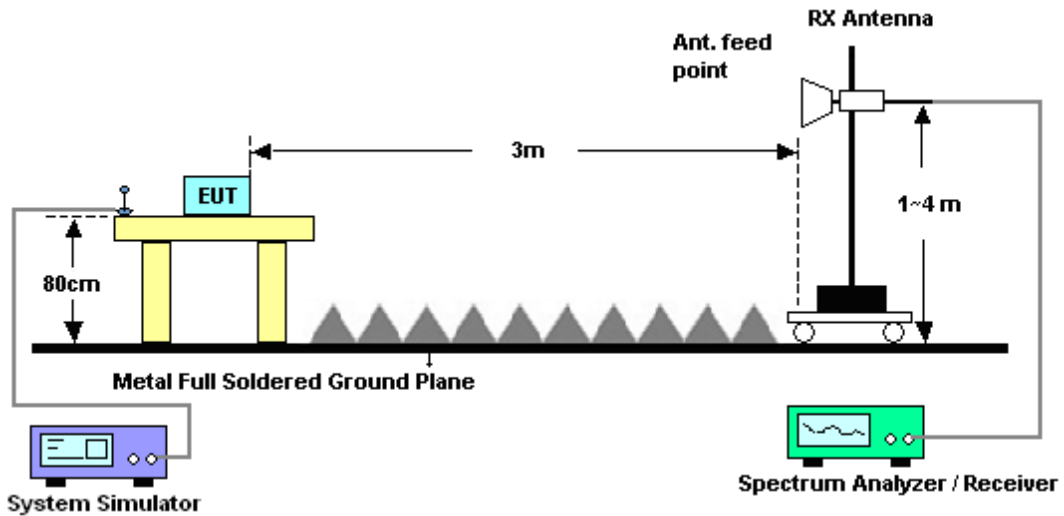
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15

3.7.4 Test Setup

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.7.5 Test Result of Field Strength of Spurious Radiated

Band :	LTE Band 25				Temperature :	22~23℃			
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Horizontal			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3759	-51.70	-13	-38.70	-65.90	-56.30	3	7.60	H	Pass
5637	-48.71	-13	-35.71	-62.50	-54.97	3.84	10.10	H	Pass
7518	-42.09	-13	-29.09	-61.87	-49.59	4.43	11.93	H	Pass

Band :	LTE Band 25					Temperature :	22~23°C		
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0					Relative Humidity :	42~43%		
Test Engineer :	Simon Lu					Polarization :	Vertical		
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3759	-53.72	-13	-40.72	-66.21	-58.32	3	7.60	V	Pass
5637	-49.05	-13	-36.05	-61.46	-55.31	3.84	10.10	V	Pass
7518	-45.44	-13	-32.44	-63.23	-52.94	4.43	11.93	V	Pass



Band :	LTE Band 25				Temperature :	22~23℃			
Test Mode :	3MHz QPSK RB Size 1 Offset 0				Relative Humidity :	40~41%			
Test Engineer :	Simon Lu				Polarization :	Horizontal			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3756	-52.03	-13	-39.03	-66.23	-56.63	3	7.60	H	Pass
5635.5	-48.25	-13	-35.25	-62.04	-54.51	3.84	10.10	H	Pass
7515	-42.42	-13	-29.42	-62.20	-49.92	4.43	11.93	H	Pass

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	3MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
3756	-53.37	-13	-40.37	-65.86	-57.97	3	7.60	V	Pass
5635	-50.17	-13	-37.17	-62.58	-56.43	3.84	10.10	V	Pass
7515	-44.69	-13	-31.69	-62.48	-52.19	4.43	11.93	V	Pass



Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Simon Lu	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain	(H/V)	
(dB)			(dB)	(dBm)	(dBm)	(dB)	(dBi)		
3756	-51.69	-13	-38.69	-65.89	-56.29	3	7.60	H	Pass
5632.5	-47.47	-13	-34.47	-61.26	-53.73	3.84	10.10	H	Pass
7509	-42.67	-13	-29.67	-62.45	-50.17	4.43	11.93	H	Pass

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain		
			(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
3756	-53.82	-13	-40.82	-66.31	-58.42	3	7.60	V	Pass
5632.5	-49.28	-13	-36.28	-61.69	-55.54	3.84	10.10	V	Pass
7509	-45.16	-13	-32.16	-62.95	-52.66	4.43	11.93	V	Pass



Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Simon Lu	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain	(H/V)	
(dB)	(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)	(dBi)		
3750	-51.29	-13	-38.29	-65.49	-55.89	3	7.60	H	Pass
5625	-46.68	-13	-33.68	-60.47	-52.94	3.84	10.10	H	Pass
7500	-42.47	-13	-29.47	-62.25	-49.97	4.43	11.93	H	Pass

Band :	LTE Band 25	Temperature :	22~23℃						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over Limit	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	(dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3750	-51.19	-13	-38.19	-63.68	-55.79	3	7.60	V	Pass
5625	-49.21	-13	-36.21	-61.62	-55.47	3.84	10.10	V	Pass
7500	-44.60	-13	-31.60	-62.39	-52.10	4.43	11.93	V	Pass



Band :	LTE Band 25				Temperature :	22~23℃			
Test Mode :	15MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Horizontal			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3744	-52.47	-13	-39.47	-66.67	-57.07	3	7.60	H	Pass
5617.5	-49.04	-13	-36.04	-62.83	-55.30	3.84	10.10	H	Pass
7491	-42.88	-13	-29.88	-62.66	-50.38	4.43	11.93	H	Pass

Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
3744	-54.38	-13	-41.38	-66.87	-58.98	3	7.60	V	Pass
5616	-49.95	-13	-36.95	-62.36	-56.21	3.84	10.10	V	Pass
7491	-45.02	-13	-32.02	-62.81	-52.52	4.43	11.93	V	Pass



Band :	LTE Band 25	Temperature :	22~23°C						
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3741	-52.06	-13	-39.06	-66.26	-56.66	3	7.60	H	Pass
5610	-47.58	-13	-34.58	-61.37	-53.84	3.84	10.10	H	Pass
7479	-42.27	-13	-29.27	-62.05	-49.77	4.43	11.93	H	Pass

Band :	LTE Band 25				Temperature :	22~23°C			
Test Mode :	20MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Vertical			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3741	-53.81	-13	-40.81	-66.3	-58.41	3	7.60	V	Pass
5610	-49.57	-13	-36.57	-61.98	-55.83	3.84	10.10	V	Pass
7479	-44.19	-13	-31.19	-61.98	-51.69	4.43	11.93	V	Pass



Band :	LTE Band 26				Temperature :	22~23℃			
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Horizontal			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
1662	-53.38	-13	-40.38	-55.56	-55.27	1.86	5.90	H	Pass
2492.4	-53.88	-13	-40.88	-62.91	-56.22	2.31	6.80	H	Pass
3324	-50.76	-13	-37.76	-63.39	-53.16	2.85	7.40	H	Pass

Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	1.4MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain	(H/V)	
(dB)	(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)	(dBi)		
1664	-54.19	-13	-41.19	-54.78	-56.08	1.86	5.90	V	Pass
2492	-50.28	-13	-37.28	-61.25	-52.62	2.31	6.80	V	Pass
3324	-50.21	-13	-37.21	-64.19	-52.61	2.85	7.40	V	Pass



Band :	LTE Band 26				Temperature :	22~23°C			
Test Mode :	3MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Horizontal			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
1660	-54.20	-13	-41.20	-56.38	-56.09	1.86	5.90	H	Pass
2490	-53.02	-13	-40.02	-62.05	-55.36	2.31	6.80	H	Pass
3320	-52.72	-13	-39.72	-65.35	-55.12	2.85	7.40	H	Pass

Band :	LTE Band 26				Temperature :	22~23℃			
Test Mode :	3MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Vertical			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
1660	-53.96	-13	-40.96	-54.68	-55.85	1.86	5.90	V	Pass
2490	-50.44	-13	-37.44	-61.41	-52.78	2.31	6.80	V	Pass
3320	-50.46	-13	-37.46	-64.44	-52.86	2.85	7.40	V	Pass



Band :	LTE Band 26				Temperature :	22~23℃			
Test Mode :	5MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Horizontal			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
1658	-54.18	-13	-41.18	-56.36	-56.07	1.86	5.90	H	Pass
2487	-53.30	-13	-40.30	-62.33	-55.64	2.31	6.80	H	Pass
3316	-52.01	-13	-39.01	-64.64	-54.41	2.85	7.40	H	Pass

Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
1658	-53.78	-13	-40.78	-54.46	-55.67	1.86	5.90	V	Pass
2487	-51.26	-13	-38.26	-62.23	-53.60	2.31	6.80	V	Pass
3316	-51.73	-13	-38.73	-65.71	-54.13	2.85	7.40	V	Pass



Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
1652	-54.90	-13	-41.90	-57.08	-56.79	1.86	5.90	H	Pass
2479.5	-52.36	-13	-39.36	-61.39	-54.70	2.31	6.80	H	Pass
3306	-51.48	-13	-38.48	-64.11	-53.88	2.85	7.40	H	Pass

Band :	LTE Band 26				Temperature :	22~23°C			
Test Mode :	10MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Vertical			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
1654	-53.88	-13	-40.88	-54.58	-55.77	1.86	5.90	V	Pass
2480	-50.58	-13	-37.58	-61.55	-52.92	2.31	6.80	V	Pass
3306	-50.53	-13	-37.53	-64.51	-52.93	2.85	7.40	V	Pass



Band :	LTE Band 26	Temperature :	22~23°C						
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
1650	-50.27	-13	-37.27	-52.71	-52.16	1.86	5.90	H	Pass
2472	-53.23	-13	-40.23	-62.26	-55.57	2.31	6.80	H	Pass
3296	-52.49	-13	-39.49	-65.12	-54.89	2.85	7.40	H	Pass

Band :	LTE Band 26				Temperature :	22~23°C			
Test Mode :	15MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Vertical			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
1650	-53.26	-13	-40.26	-53.84	-55.15	1.86	5.90	V	Pass
2472	-50.91	-13	-37.91	-61.88	-53.25	2.31	6.80	V	Pass
3296	-51.15	-13	-38.15	-65.13	-53.55	2.85	7.40	V	Pass



Band :	LTE Band 41	Temperature :	22~23℃						
Test Mode :	5MHz QPSK RB Size 1 Offset 0					Relative Humidity :	42~43%		
Test Engineer :	Simon Lu					Polarization :	Horizontal		
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain		
			(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
5180	-47.83	-25	-22.83	-61.81	-53.61	3.49	9.27	H	Pass
7771.5	-42.98	-25	-17.98	-59.52	-50.77	4.28	12.07	H	Pass
10360	-44.83	-25	-19.83	-66.22	-52.13	5.1	12.40	H	Pass

Band :	LTE Band 41	Temperature :	22~23°C						
Test Mode :	5MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
5180	-46.59	-25	-21.59	-60.75	-52.37	3.49	9.27	V	Pass
7771.5	-43.33	-25	-18.33	-60.35	-51.12	4.28	12.07	V	Pass
10360	-44.55	-25	-19.55	-65.65	-51.85	5.1	12.40	V	Pass



Band :	LTE Band 41	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain	(H/V)	
			(dB)	(dBm)	(dBm)	(dB)	(dBi)		
5177	-46.13	-25	-21.13	-60.11	-51.91	3.49	9.27	H	Pass
7763	-40.27	-25	-15.27	-58.06	-48.06	4.28	12.07	H	Pass
10352	-43.38	-25	-18.38	-64.77	-50.68	5.1	12.40	H	Pass

Band :	LTE Band 41				Temperature :	22~23°C			
Test Mode :	10MHz QPSK RB Size 1 Offset 0				Relative Humidity :	42~43%			
Test Engineer :	Simon Lu				Polarization :	Vertical			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
5177	-45.63	-25	-20.63	-59.79	-51.41	3.49	9.27	V	Pass
7764	-42.39	-25	-17.39	-59.41	-50.18	4.28	12.07	V	Pass
10352	-43.78	-25	-18.78	-64.88	-51.08	5.1	12.40	V	Pass



Band :	LTE Band 41	Temperature :	22~23℃						
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain	(H/V)	
(dB)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dB)	(dBi)		
5171	-48.00	-25	-23.00	-61.98	-53.78	3.49	9.27	H	Pass
7756.5	-43.57	-25	-18.57	-60.11	-51.36	4.28	12.07	H	Pass
10344	-42.59	-25	-17.59	-63.98	-49.89	5.1	12.40	H	Pass

Band :	LTE Band 41	Temperature :	22~23°C						
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
5171	-47.72	-25	-22.72	-61.88	-53.50	3.49	9.27	V	Pass
7756.5	-43.74	-25	-18.74	-60.76	-51.53	4.28	12.07	V	Pass
10344	-44.02	-25	-19.02	-65.12	-51.32	5.1	12.40	V	Pass



Band :	LTE Band 41	Temperature :	22~23°C						
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over Limit	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	Gain	(H/V)	
5165	-47.30	-25	-22.30	-61.28	-53.08	3.49	9.27	H	Pass
7749	-42.63	-25	-17.63	-59.17	-50.42	4.28	12.07	H	Pass
10332	-46.20	-25	-21.20	-67.59	-53.50	5.1	12.40	H	Pass

Band :	LTE Band 41	Temperature :	22~23°C						
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	42~43%						
Test Engineer :	Simon Lu	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain	(H/V)	
(dB)			(dB)	(dBm)	(dBm)	(dB)	(dBi)		
5165	-47.27	-25	-22.27	-61.43	-53.05	3.49	9.27	V	Pass
7749	-41.76	-25	-16.76	-58.78	-49.55	4.28	12.07	V	Pass
10332	-46.78	-25	-21.78	-67.88	-54.08	5.1	12.40	V	Pass

3.8 Frequency Stability Measurement

3.8.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

3.8.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

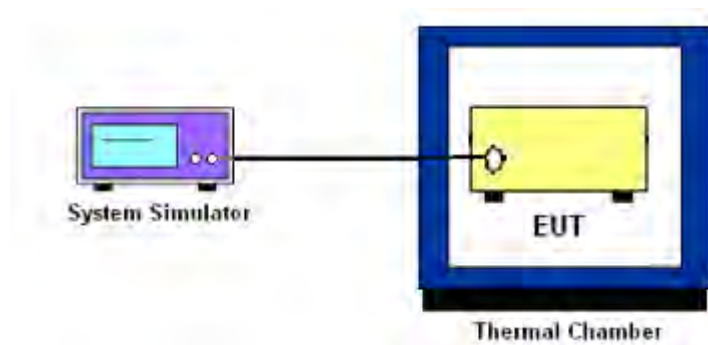
3.8.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.8.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at $25 \pm 5^{\circ}\text{C}$ and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

3.8.5 Test Setup



3.8.6 Test Result of Temperature Variation (FCC)

Band :	LTE Band 25 (QPSK)	Limit (ppm) :	within authorized band
Temperature (°C)	BW 10MHz	Result	
	Deviation (ppm)		
50	0.0005	PASS	
40	0.0080		
30	0.0007		
20(Ref.)	0.0000		
10	0.0015		
0	0.0002		
-10	0.0071		
-20	0.0005		
-30	0.0083		

Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Band :	LTE Band 26 (QPSK)	Limit (ppm) :	2.5
Temperature (°C)	BW 10MHz	Result	
	Deviation (ppm)		
50	0.0032	PASS	
40	0.0133		
30	0.0011		
20(Ref.)	0.0000		
10	0.0077		
0	0.0145		
-10	0.0126		
-20	0.0035		
-30	0.0147		

Band :	LTE Band 41 (QPSK)	Limit (ppm) :	within authorized band
Temperature (°C)	BW 10MHz	Result	
	Deviation (ppm)		
50	0.0012	PASS	
40	0.0058		
30	0.0002		
20(Ref.)	0.0000		
10	0.0050		
0	0.0062		
-10	0.0010		
-20	0.0004		
-30	0.0066		

Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

3.8.7 Test Result of Voltage Variation (FCC)

Band	Bandwidth	Voltage (Volt)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 25	10M	4.35	0.0023	(Note 3.)	PASS
		Normal	0.0097		
		3.60	0.0074		
LTE Band 26	10M	4.35	0.0055	2.5	PASS
		Normal	0.0165		
		3.60	0.0127		
LTE Band 41	10M	4.35	0.0008	(Note 3.)	PASS
		Normal	0.0046		
		3.60	0.0015		

Remark:

1. Normal Voltage = 3.80V.
2. The manufacturer declared that the EUT could work properly between voltage 3.60V ~ 4.35V.
3. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV30	101338	9kHz~30GHz	May 04, 2014	Apr. 01, 2015~ Apr. 13, 2015	May 03, 2015	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	-40~+150°C	Oct. 25, 2014	Apr. 01, 2015~ Apr. 13, 2015	Oct. 24, 2015	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Sep. 29, 2014	Apr. 20, 2015~ Apr. 22, 2015	Sep. 28, 2015	Radiation (03CH02-KS)
Spectrum Analyzer	R&S	FSV40	101040	10kHz~40GHz;Ma x 30dBm	Sep. 25, 2014	Apr. 20, 2015~ Apr. 22, 2015	Sep. 24, 2015	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6112D	37879	30MHz-2GHz	Sep. 13, 2014	Apr. 20, 2015~ Apr. 22, 2015	Sep. 12, 2015	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 08, 2014	Apr. 20, 2015~ Apr. 22, 2015	Nov. 07, 2015	Radiation (03CH02-KS)
Active Horn Antenna	com-power	AHA-118	701030	1GHz~18GHz	Nov. 08, 2014	Apr. 20, 2015~ Apr. 22, 2015	Nov. 07, 2015	Radiation (03CH02-KS)
SHF-EHF Horn	com-power	AH-840	101070	18GHz~40GHz	Sep. 04, 2014	Apr. 20, 2015~ Apr. 22, 2015	Sep. 03, 2015	Radiation (03CH02-KS)
Amplifier	com-power	PA-103A	161069	1kHz ~1000MHz / 32 dB	May 04, 2014	Apr. 20, 2015~ Apr. 22, 2015	May 03, 2015	Radiation (03CH02-KS)
Amplifier	Agilent	8449B	3008A02384	1-26.5GHz Gain 30dB	Oct. 28, 2014	Apr. 20, 2015~ Apr. 22, 2015	Oct. 27, 2015	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	6160100024 73	N/A	NCR	Apr. 20, 2015~ Apr. 22, 2015	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Apr. 20, 2015~ Apr. 22, 2015	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Apr. 20, 2015~ Apr. 22, 2015	NCR	Radiation (03CH02-KS)



5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1 dB
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