

 MOTOROLA SOLUTIONS	 MS ISO/IEC 17025 TESTING SAMM No. 0825																						
MOTOROLA PENANG ADV. COMM. LABORATORY Motorola Solutions Malaysia Sdn Bhd, Innoplex Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D, 11900 Bayan Lepas, Penang, Malaysia.	FCC / IC TEST REPORT Report Revision : Rev.B																						
<table><tr><td>Date/s Tested</td><td>: 15-April-2018 - 3-May-2018</td></tr><tr><td>Manufacturer/Location</td><td>: Motorola Solutions – Penang</td></tr><tr><td>Requestor</td><td>: RONI KOZIEL</td></tr><tr><td>Product Type</td><td>: LEX L11 Mission Critical LTE Device</td></tr><tr><td>Model Number</td><td>: LEX L11n</td></tr><tr><td>Frequency Band</td><td>: Refer to section 1.4</td></tr><tr><td>Applicant Name</td><td>: Motorola Solutions, Inc</td></tr><tr><td>Applicant Address</td><td>: 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322</td></tr><tr><td>FCC Registrations</td><td>: 461337</td></tr><tr><td>IC Registrations</td><td>: 109AK</td></tr></table> The equipment was tested accordance to the requirement listed below: <table><tr><td>(LTE Band 30) FCC 47 CFR Part 2 / 27 ISED RSS GEN Issue 4, November 2014 ISED RSS 195 Issue 2, April 2014</td><td>PASS</td></tr></table>		Date/s Tested	: 15-April-2018 - 3-May-2018	Manufacturer/Location	: Motorola Solutions – Penang	Requestor	: RONI KOZIEL	Product Type	: LEX L11 Mission Critical LTE Device	Model Number	: LEX L11n	Frequency Band	: Refer to section 1.4	Applicant Name	: Motorola Solutions, Inc	Applicant Address	: 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322	FCC Registrations	: 461337	IC Registrations	: 109AK	(LTE Band 30) FCC 47 CFR Part 2 / 27 ISED RSS GEN Issue 4, November 2014 ISED RSS 195 Issue 2, April 2014	PASS
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Prepared By:  Maheshvaran Rajagopal Technician	Approved By:  Goh Aik Hong Responsible Engineer																						

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REVISION HISTORY

Revision History	Description	Date	Originator
Rev A.	Initial Report	4-May-2018	Maheshvaran Rajagopal
Rev B.	i. Applicant name and address has been added. ii. The battery model number has been revised. iii. AC adapter accessories devices	30-May-2018	Maheshvaran Rajagopal

	information has been added. iv. The Test report number of page format is corrected. v. RSSs version standard have been added to the cover page. vi. Justification statement of accessory devices is included at section 1.5.		
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1.0. Summary of Test Results

FCC Clause	IC Clause	Test Item	Results	Remarks
2.1046	RSS-Gen 6.12 RSS-195 4.1	Conducted RF Output Power	Pass	Meet the requirement of limit
27.50	RSS-195 5.5.1	Peak-to-Average Power Ratio	Pass	Meet the requirement of limit
2.1049 27.53(a)(5)	RSS-Gen 6.6	Occupied Bandwidth (26dBc, 99%)	Pass	Meet the requirement of limit
2.1055 27.54	RSS-195 5.4	Frequency Stability	Pass	Meet the requirement of limit
2.1051 27.53(a)(4)	RSS-Gen 6.13 RSS-195 5.6	Band Edge Conducted Spurious Emission	Pass	Meet the requirement of limit
2.1051 27.53(a)(4)	RSS-Gen 6.13 RSS-195 5.6	Conducted Spurious Emissions	Pass	Meet the requirement of limit
2.1053 27.53 (a)(4)	RSS-195 5.6	Radiated Spurious Emission	Pass	Meet the requirement of limit
2.1049 27.50(a)(3)	RSS-195 5.5	Equivalent Isotropically Radiated Power (EIRP)	Pass	Meet the requirement of limit

1.1. Measurement Uncertainty

Measurement	Frequency	Expanded Uncertainty (k=1.96) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	5.01
	200MHz ~ 1000MHz	5.01
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.01
	18GHz ~ 25GHz	5.01

1.2. Equipment List

Description	Model	Serial Number	Calibration Date	Calibration Due Date
Broadband ATE 1				
Wideband Radio Communication Tester	CMW500	154550	14-Feb-17	14-Feb-19
Signal Analyzer	FSV40	101431	13-Jul-17	12-Jul-19
Chamber	SH-641	92002651	6-Mar-17	6-Mar-18
Power Supply	6621A	US37370810	5-Jun-17	5-Jun-18
Radiated Emission				
Drg Horn Freq.	SAS-571	719	18-Jul-17	18-Jul-19
Drg Horn Freq.	SAS-571	720	2-Mar-17	2-Mar-19
Power Supply	6032A	2615A01178	6-Jun-17	6-Jun-18

Microwave Signal Generator	SMP04	100127	19-Jul-17	18-Jul-18
Emi Test Receiver	ESIB26	100336	13-Jul-17	12-Jul-18
Signal Analyzer	FSV40	101103	18-Jul-17	17-Jul-18
5m Semi-Anechoic Chamber	S800-HX	J2308	Not Required	Not Required
Bilog Antenna	CBL6112B	2950	23-Feb-16	23-Feb-18
BILOG ANTENNA	CBL6112B	2964	3-Feb-17	3-Feb-18
BROAD-BAND HORN ANTENNA	BBHA9170	BBHA9170143	20-Mar-17	10-Apr-18
DATA LOGGER	SDL500	A.016776	18-Mar-17	18-Mar-18
LOOP ANTENNA	6502	208416	27-Jul-17	27-Jul-18
SYSTEM CONTROLLER	SC104V	050806-1	Not Required	Not Required
TURNTABLE FLUSH MOUNT 2M	FM2011	NA	Not Required	Not Required
ANTENNA POSITIONING TOWER	TLT2	NA	Not Required	Not Required
18 - 40GHz PREAMPLIFIER	BBV9721	9721-007	Not Required	Not Required
PREAMPLIFIER	PAM-0118P	361	Not Required	Not Required
Wideband Radio Communication Tester	CMW500	153174	9-Jan-2017	9-Jan-2019

1.3. General Information

General Description of EUT

Product	LEX L11 Mission Critical LTE Device		
Brand	Motorola Solutions		
Test Model	LEX L11n		
Power Supply Rating	3.7Vdc (Battery), 5Vdc (Adapter)		
Mode of operation	LTE Band 30		
Modulation Type	QPSK, 16QAM		
Operating Frequency	LTE Band 30	Channel Bandwidth 5MHz	2307.5MHz~2312.5MHz
		Channel Bandwidth 10MHz	2310.0MHz
Max. EIRP Power	LTE Band 30 QPSK	Channel Bandwidth 5MHz	23.653dBm (0.232W)
		Channel Bandwidth 10MHz	23.346dBm (0.216W)
	LTE Band 30 16QAM	Channel Bandwidth 5MHz	23.007dBm (0.199W)
		Channel Bandwidth 10MHz	22.822dBm (0.191W)
Antenna Type	LTE Band 30	Monopole with 1.1dBi gain	
SW Version	L11_D01.00.62		
HW Version	PP		

Note:

- The EUT contains following accessory devices and data cable.

Item	Brand	Model or P/N	Specification
Rechargeable Lithium ion battery	Motorola Solutions	PMNN4545A	2500mAH 3.7V LI-ION STD
Rechargeable Lithium ion battery	Motorola Solutions	PMNN4546A	5000mAH 3.7V LI-ION HICAP
Charger Vehicular Adapter VPA	Motorola Solutions	PMLN7779A	18W
Power Supply Adaptor, Power supply Wall cube, AC, DC (USB type A-C)	Motorola Solutions	PS000150A31 - US/JPN plug	7.5W, 100V-240V

Power Supply Adaptor (USB type C-C)	Motorola Solutions	PS000278A01 - US/JPN plug	27W
Detachable Power/Data Cable USB-A to USB-C	Motorola Solutions	CB000756A01	-
Detachable Power/Data Cable USB-C to USB-C	Motorola Solutions	CB000754A01	-

Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	Product	Brand	Model No.	Serial No.	FCC ID
1	Wideband Radio Communication Tester	R&S	CMW500	154550	NA

NO.	Signal Cable Description of The above Support Units
1	NA

Note:

1. All power cords of the above support units are non-shielded.
2. Item 1 acted as a communication partner to transfer data.

EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency.

General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

KDB 971168 D02 Misc OOB License Digital Systems v02r01

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.

1.4. Channel number and frequency info

Band	Bandwidth supported	Available Channel Number	Test Channel Number			Test Channel Frequency (MHz)		
			Low Channel	Mid Channel	High Channel	Low Channel	Mid Channel	High Channel
LTE Band 30	5 MHz	27685 ~ 27735	27685	27710	27735	2307.5	2310.0	2312.5
	10 MHz	27710	-	27710	-	-	2310.0	-

1.5. Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The Radiated Emission worst case was found when positioned on Z-Plane for LTE band 30.

Pre-scan also have been conducted with the accessory devices listed in section table 1.3, only the worst case radiated emission results of the combination test configuration is reported in this report.

The following channel(s) was (were) selected for the final test as listed below:

LTE Band 30

Test Item	Available Channel	Tested Channel	Channel Bandwidth	Uplink Modulation	Mode
Conducted RF Output Power/ Equivalent Isotropically Radiated Power (EIRP)	27685 ~ 27735	27685, 27710, 27735	5 MHz	QPSK, 16QAM	As per table 1.6.2 & 1.6.4
	27710	27710	10 MHz		
Peak to Average Power Ratio	27685 ~ 27735	27685, 27710, 27735	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	27710	27710	10 MHz		50 RB / 0 RB Offset
Occupied Bandwidth	27685 ~ 27735	27685, 27710, 27735	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	27710	27710	10 MHz		50 RB / 0 RB Offset
Frequency Stability	27685 ~ 27735	27710	5 MHz	QPSK	25 RB / 0 RB Offset
	27710	27710	10 MHz		50 RB / 0 RB Offset
Band Edge Conducted Spurious Emission	27685 ~ 27735	27685, 27735	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 25 RB / 0 RB Offset
	27710	27710	10 MHz		1 RB / 0 RB Offset 1 RB / 49 RB Offset 50 RB / 0 RB Offset
Conducted Spurious Emission	27685 ~ 27735	27685, 27710, 27735	5 MHz	QPSK	1 RB / 24 RB Offset
	27710	27710	10 MHz		1 RB / 25 RB Offset
Radiated Spurious Emission	27685 ~ 27735	27685, 27710, 27735	5 MHz	QPSK	1 RB / 24 RB Offset
	27710	27710	10 MHz		1 RB / 25 RB Offset

NOTE:

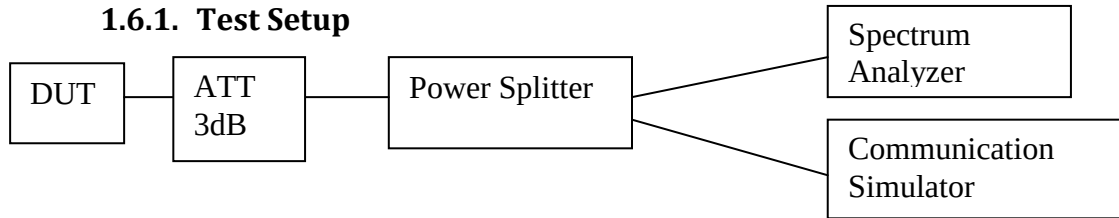
1. The Conducted RF Output Power for QPSK and 16QAM, measured value of QPSK mode is higher than 16QAM mode. Therefore, only Conducted Spurious Emission and Radiated Emission had been tested under QPSK modes.
2. Band Edge was performed with 1 and full Resource Block at the lowest and highest operating frequency band.
3. The Equivalent Isotropically Radiated Power (EIRP) was calculated from Conducted RF Output Power results in QPSK and 16QAM modulation.
4. Peak to Average and Occupied Bandwidth were performed with full Resource Block which is the worst case.
5. Frequency stability was performed with full Resource Block in QPSK modulation.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
Conducted RF Output Power/ Equivalent Isotropically Radiated Power (EIRP)	25°C, 50% RH	3.7V DC	Maheshvaran
Peak-to-Average Power Ratio	25°C, 50% RH	3.7V DC	Maheshvaran
Occupied Bandwidth	25°C, 50% RH	3.7V DC	Maheshvaran
Frequency Stability	25°C, 50% RH	3.7V DC	Maheshvaran
Band Edge Conducted Spurious Emission	25°C, 50% RH	3.7V DC	Maheshvaran
Conducted Spurious Emission	25°C, 50% RH	3.7V DC	Maheshvaran
Radiated Spurious Emission	25°C, 63.7% RH	3.7V DC	Nazrin/Qawiman

1.6. Conducted RF Output Power

1.6.1. Test Setup



1. The DUT transmitter output port was connected to communication simulator with above setup.
2. Path loss for the measurement included.
3. Set DUT to transmit maximum power through communication simulator
4. All the measurement was done at low, mid, high channel for each band and different modulation.
5. Record the average power into the test report.

1.6.2. Limits

FCC: For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, *except that* for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.

ISED: The e.i.r.p. of mobile or portable equipment transmitting in the band 2305-2315 MHz or the band 2350-2360 MHz, employing 3GPP LTE (Third Generation Partnership Project Long Term Evolution) standards, shall not exceed 250 mW within any 5 MHz bandwidth. For other technologies, the e.i.r.p. shall not exceed 50 mW within any 1 MHz bandwidth.

1.6.3. Conducted RF Output Power – LTE Band 30 (2305-2315MHz)

Conducted Output Power (dBm)								
LTE Band/BW	RB Size	RB Offset	QPSK Modulation			16QAM Modulation		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			27685	27710	27735	27685	27710	27735
			2307.5MHz	2310.0 MHz	2312.5 MHz	2307.5 MHz	2310.0 MHz	2312.5 MHz
Band 30 / 5MHz	1	0	22.334	22.529	22.543	21.37	21.702	21.907
	1	13	22.523	22.418	22.451	21.547	21.608	21.859
	1	24	22.544	22.553	22.14	21.589	21.775	21.536
	12	0	21.655	21.725	21.84	20.736	20.84	21.017
	12	6	21.7	21.715	21.741	20.821	20.847	20.936
	12	13	21.79	21.812	21.597	20.939	20.952	20.804
	25	0	21.692	21.71	21.691	20.848	20.936	20.932

Conducted Output Power (dBm)								
LTE Band/BW	RB Size	RB Offset	QPSK Modulation			16QAM Modulation		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				27710			27710	

				2310.0 MHz			2310.0 MHz	
Band 30 / 10MHz	1	0		22.068			21.516	
	1	25		22.246			21.722	
	1	49		22.17			21.394	
	25	0		21.52			20.72	
	25	13		21.669			20.813	
	25	25		21.606			20.826	
	50	0		21.575			20.812	

1.6.4. Equivalent Isotropically Radiated Power (EIRP) - LTE Band 30 (2305-2315MHz)

EIRP (dBm)								
LTE Band/BW	RB Size	RB Offset	QPSK Modulation			16QAM Modulation		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			27685	27710	27735	27685	27710	27735
			2307.5MHz	2310.0 MHz	2312.5 MHz	2307.5 MHz	2310.0 MHz	2312.5 MHz
Band 30 / 5MHz	1	0	23.434	23.629	23.643	22.47	22.802	23.007
	1	13	23.623	23.518	23.551	22.647	22.708	22.959
	1	24	23.644	23.653	23.24	22.689	22.875	22.636
	12	0	22.755	22.825	22.94	21.836	21.94	22.117
	12	6	22.8	22.815	22.841	21.921	21.947	22.036
	12	13	22.89	22.912	22.697	22.039	22.052	21.904
	25	0	22.792	22.81	22.791	21.948	22.036	22.032

EIRP (dBm)								
LTE Band/BW	RB Size	RB Offset	QPSK Modulation			16QAM Modulation		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				27710			27710	
				2310.0 MHz			2310.0 MHz	
Band 30 / 10MHz	1	0		23.168			22.616	
	1	25		23.346			22.822	
	1	49		23.27			22.494	
	25	0		22.62			21.82	
	25	13		22.769			21.913	
	25	25		22.706			21.926	
	50	0		22.675			21.912	

The maximum ERP/EIRP from the measured RF output power is given in Equation as follows:

$$\mathbf{EIRP} = \mathbf{P_{Meas}} + \mathbf{G_T}$$

$$\mathbf{ERP} = \mathbf{EIRP} - 2.15$$

Where, ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively

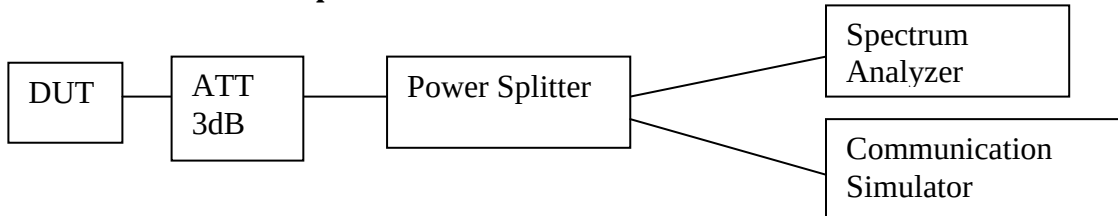
(Expressed in the same units as P_{Meas}, e.g., dBm)

P_{Meas} measured transmitter output power, in dBm

G_T gain of the transmitting antenna, in dBi (EIRP)

1.7. Peak-to-Average Power Ratio

1.7.1. Test Setup



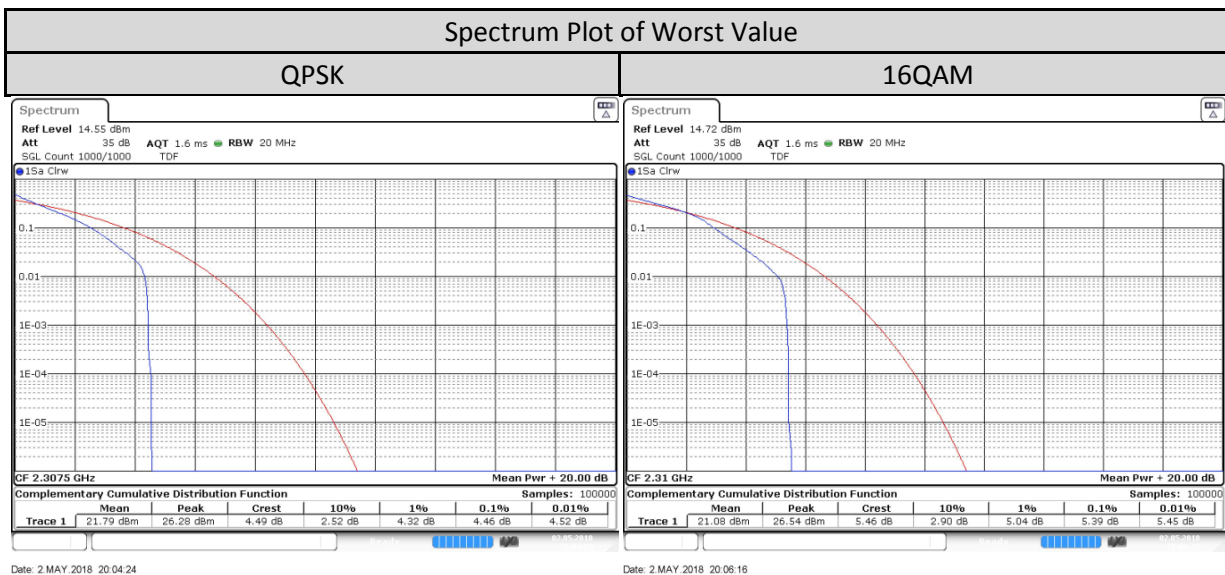
1. The DUT transmitter output port was connected to communication simulator with above setup.
2. Path loss for the measurement included.
3. Set DUT to transmit maximum power through communication simulator
4. Set the CCDF (Complementary Cumulative Distribution Function) option in the spectrum analyzer.
5. Spectrum Analyzer setting, RBW = 20MHz.
6. Recorded the maximum PAR level associated with a probability of 0.1% as Peak to Average Ratio.
7. All the measurement was done at low, mid, high channel for each band and different modulation.

1.7.2. Test Limit

In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

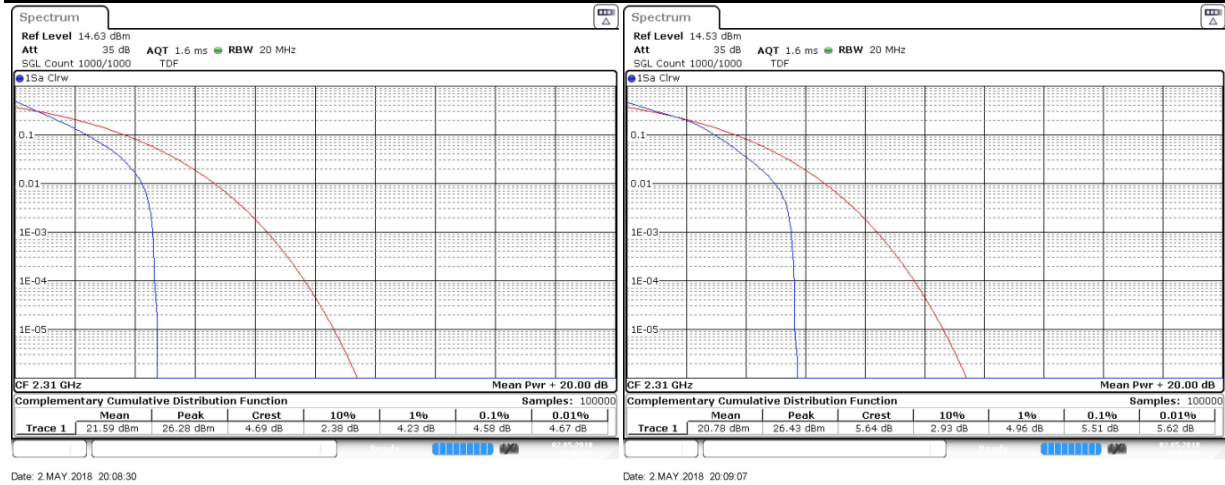
1.7.3. Peak-to-Average Power Ratio - LTE Band 30 (2305-2315MHz)

LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	Peak To Average (dB)	
			QPSK Modulation	16QAM Modulation
Band 30/5MHz/25/0	Low CH 27685	2307.5 MHz	4.464	5.362
	Mid CH 27710	2310 MHz	4.406	5.391
	High CH 27735	2312.5 MHz	4.377	5.333



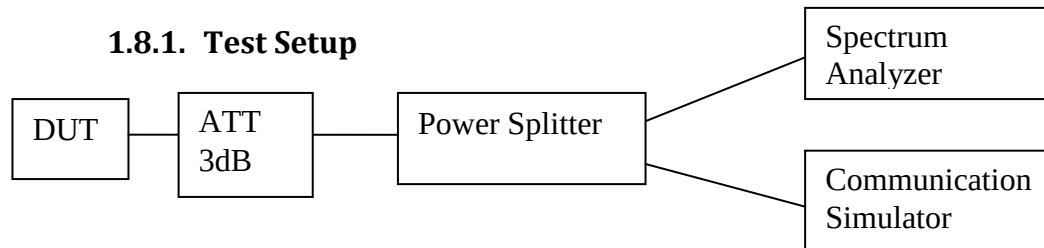
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	Peak To Average (dB)	
			QPSK Modulation	16QAM Modulation
Band 30/10MHz/50/0	Low CH			
	Mid CH 27710	2310 MHz	4.58	5.507
	High CH			

Spectrum Plot of Worst Value	
QPSK	16QAM



1.8. Occupied Bandwidth

1.8.1. Test Setup



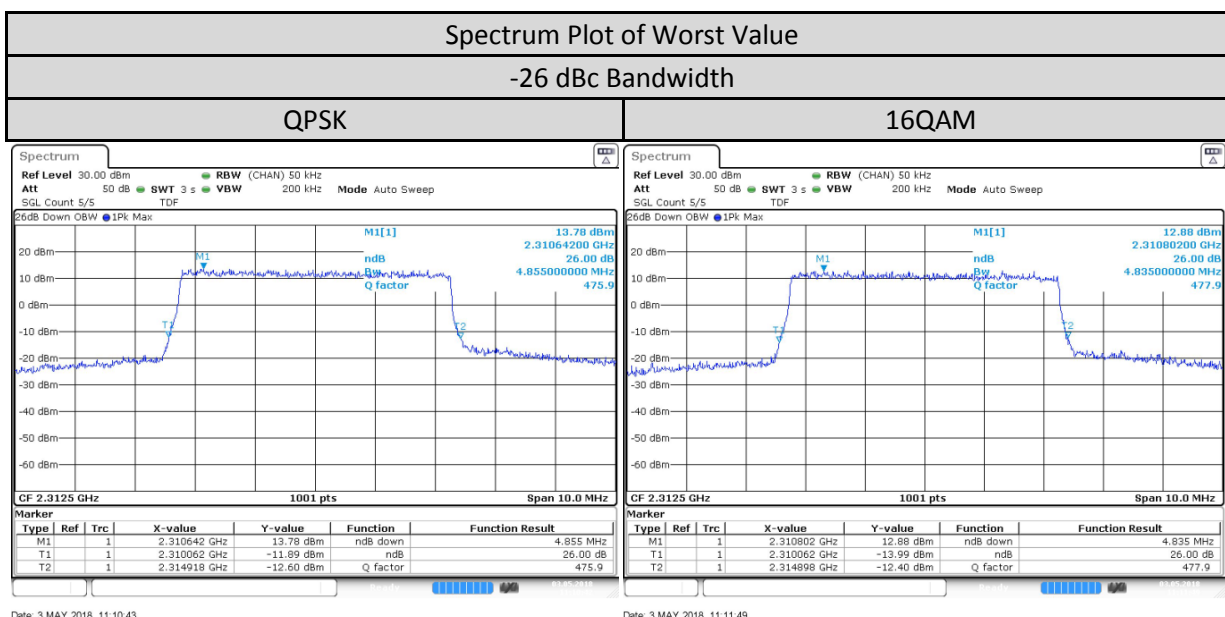
- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) For LTE measurement, set DUT to transmit maximum power & full RB size through communication simulator.
- 4) For LTE measurement, set DUT to transmit maximum power through communication simulator.
- 5) Spectrum Analyzer setting, RBW is 1% of OBW and VBW is 3 times of RBW.
- 6) Measure & record -26dBc and 99% occupied bandwidth (BW).
- 7) All the measurement was done at low, mid, high channel for each band and different modulation.

1.8.2. Test Limit

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

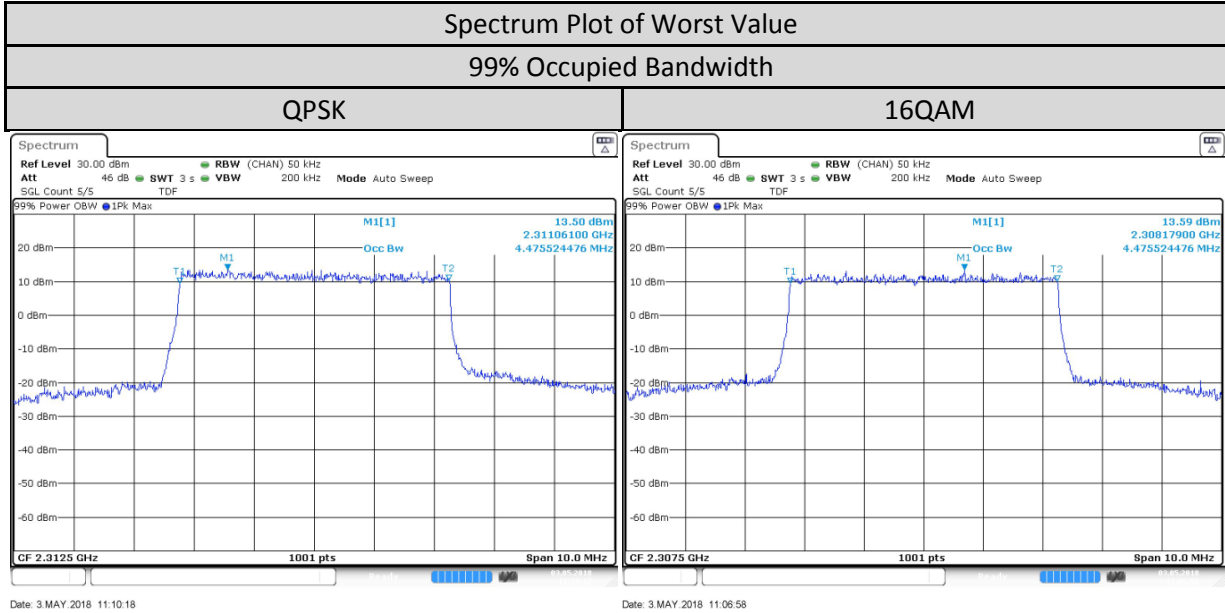
1.8.3. Occupied Bandwidth - LTE Band 30 (2305-2315MHz)

LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-26 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 30/5MHz/25/0	Low CH 27685	2307.5 MHz	4.835	4.795
	Mid CH 27710	2310 MHz	4.815	4.785
	High CH 27735	2312.5 MHz	4.855	4.835

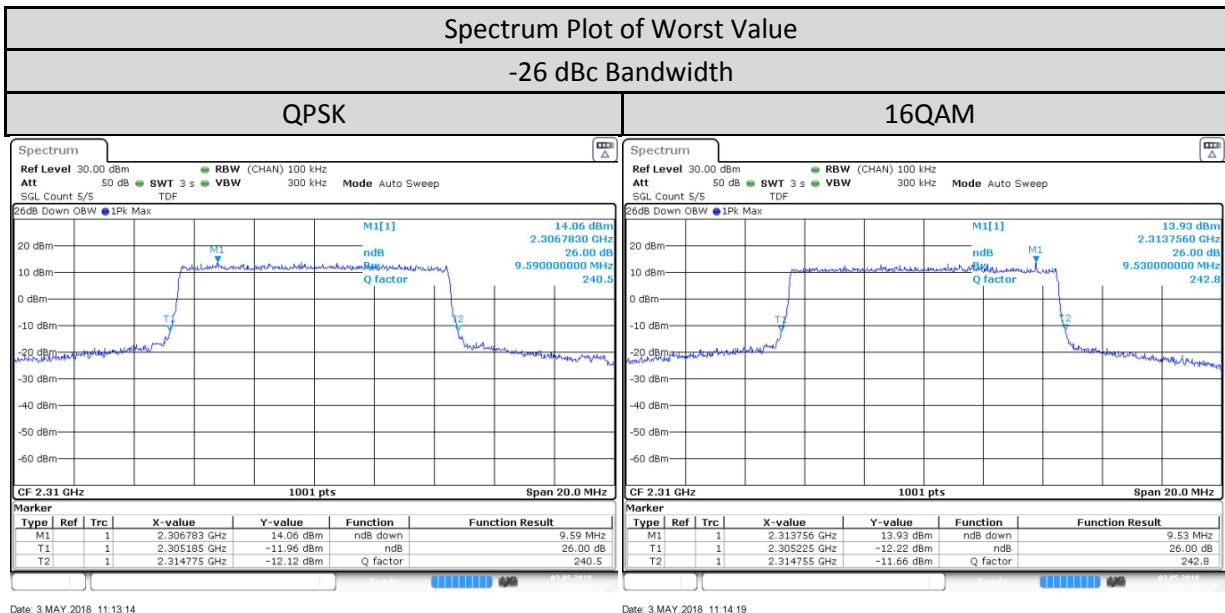


LTE Band/BW/RB	Channel Number	Tx	99% Occupied Bandwidth (MHz)
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Size/RB Offset		Frequency	QPSK Modulation	16QAM Modulation
Band 30/5MHz/25/0	Low CH 27685	2307.5 MHz	4.466	4.476
	Mid CH 27710	2310 MHz	4.456	4.456
	High CH 27735	2312.5 MHz	4.476	4.466



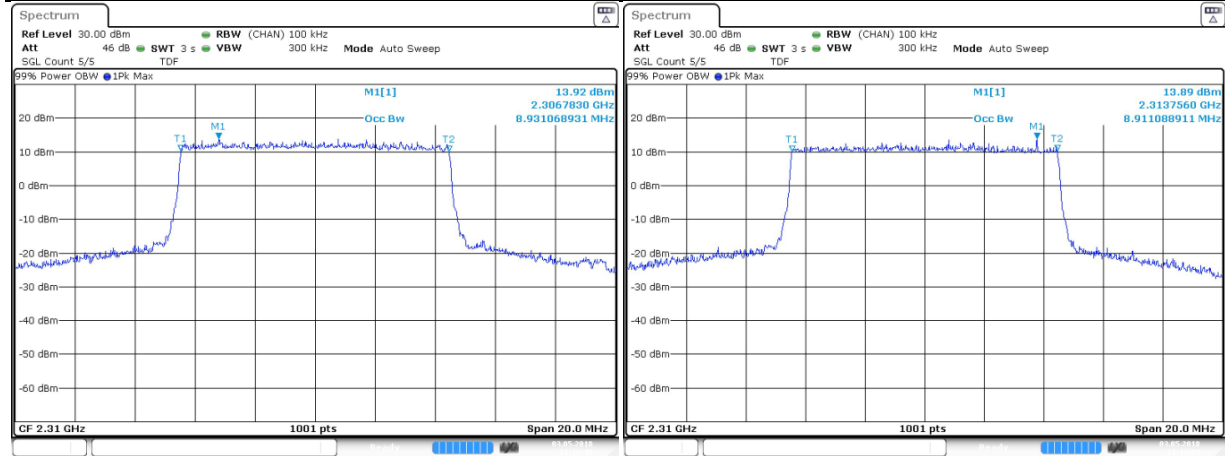
LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	-26 dBc Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation
Band 30/10MHz/50/0	Low CH			
	Mid CH 27710	2310 MHz	9.59	9.53
	High CH			



LTE Band/BW/RB Size/RB Offset	Channel Number	Tx Frequency	99% Occupied Bandwidth (MHz)	
			QPSK Modulation	16QAM Modulation

Band 30/10MHz/50/0	Low CH			
	Mid CH 27710	2310 MHz	8.931	8.911
	High CH			

Spectrum Plot of Worst Value	
99% Occupied Bandwidth	
QPSK	16QAM

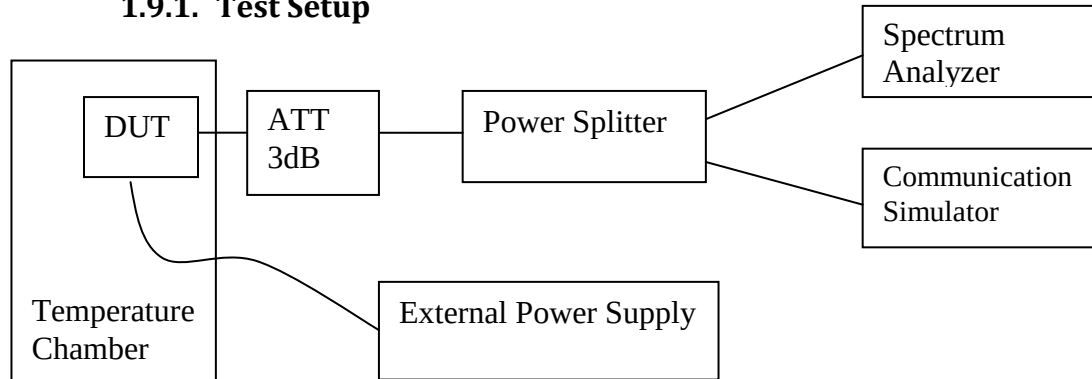


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1.9. Frequency Stability

1.9.1. Test Setup



- 1) The DUT is placed in the temperature chamber and DUT is power up by external power supply to control the DC input voltage.
- 2) The temperature chamber could control the temperature and humidity and external power supply could control the test voltage range from minimum to maximum operating voltage.
- 3) Measured frequency error from the communication simulator by vary below step :
 - i. Vary temperature of the temperature chamber from -30 ~ 50 deg C (10 deg C / Step) and set external supply voltage constant at nominal voltage.
 - ii. Vary external supply voltage from minimum to maximum operation voltage support by DUT and set temperature chamber constant at room temp.
- 4) All the measurement was done at mid channel for each band.

1.9.2. Test Limit

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

1.9.3. Frequency Stability – LTE Band 30 (2305-2315MHz)

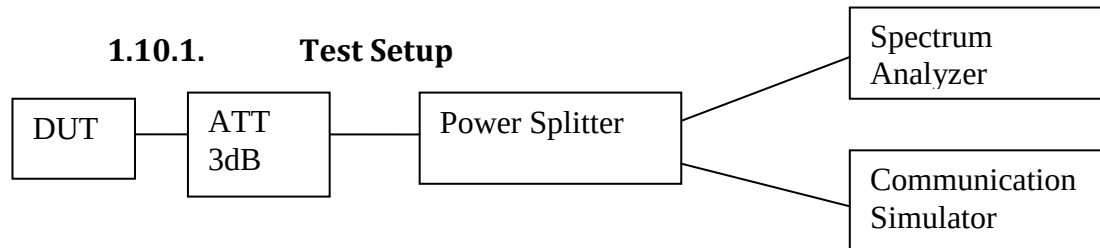
Band	Temp (Deg C)	Frequency Error VS Temperature			
		Channel Bandwidth: 5 MHz			
		Low Channel		High Channel	
		2307.5MHz		2312.5MHz	
		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
LTE Band 30	50	2307.499984	-0.006993	2312.50002	0.008698
	40	2307.49998	-0.008462	2312.500021	0.009273
	30	2307.499982	-0.007793	2312.50002	0.0085
	20	2307.499984	-0.006863	2312.500022	0.009427
	10	2307.499982	-0.007979	2312.500021	0.009019
	0	2307.499981	-0.008078	2312.500029	0.012576
	-10	2307.499991	-0.003769	2312.500027	0.01163
	-20	2307.499985	-0.006435	2312.500021	0.009192
	-30	2307.499981	-0.00814	2312.500019	0.008221

Band	Voltage (V)	Frequency Error VS Voltage			
		Channel Bandwidth: 5 MHz			
		Low Channel		High Channel	
		2307.5MHz		2312.5MHz	
LTE Band 30		Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
	4.35	2307.50002	0.008549	2312.500022	0.009359
	3.7	2307.499983	-0.007328	2312.500019	0.00819
	3.2	2307.499982	-0.007855	2312.500021	0.008964

Band	Temp (Deg C)	Frequency Error VS Temperature	
		Channel Bandwidth: 10 MHz	
		Mid Channel	
		2310MHz	
LTE Band 30		Frequency (MHz)	Frequency Error (ppm)
	50	2310.000019	0.008311
	40	2310.000013	0.005765
	30	2310.000027	0.011834
	20	2310.000015	0.006317
	10	2310.000017	0.007301
	0	2310.000014	0.006094
	-10	2310.000018	0.007828
	-20	2310.000018	0.007834
	-30	2310.000013	0.005747

Band	Voltage (V)	Frequency Error VS Voltage	
		Channel Bandwidth: 10 MHz	
		Mid Channel	
		2310MHz	
LTE Band 30		Frequency (MHz)	Frequency Error (ppm)
	4.35	2310.000015	0.006577
	3.7	2309.999984	-0.006973
	3.2	2310.000024	0.010379

1.10. Band Edge Conducted Spurious Emission



- 1) The DUT transmitter output port was connected to communication simulator with above setup.
- 2) Path loss for the measurement included.
- 3) Set DUT to transmit maximum power through communication simulator.
- 4) The band edges of lowest and highest channels with the highest RF powers were measured.
- 5) The center frequency of spectrum is the band edge frequency, span is 3MHz, RBW is 1~3% of EBW and VBW is at least 3 times of RBW.
- 6) Record the maximum trace plot into the test report.

1.10.2. Test Limit

(a) For operations in the 2305-2320 MHz band and the 2345-2360 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power P (with averaging performed only during periods of transmission) within the licensed band(s) of operation, in watts, by the following amounts:

(4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

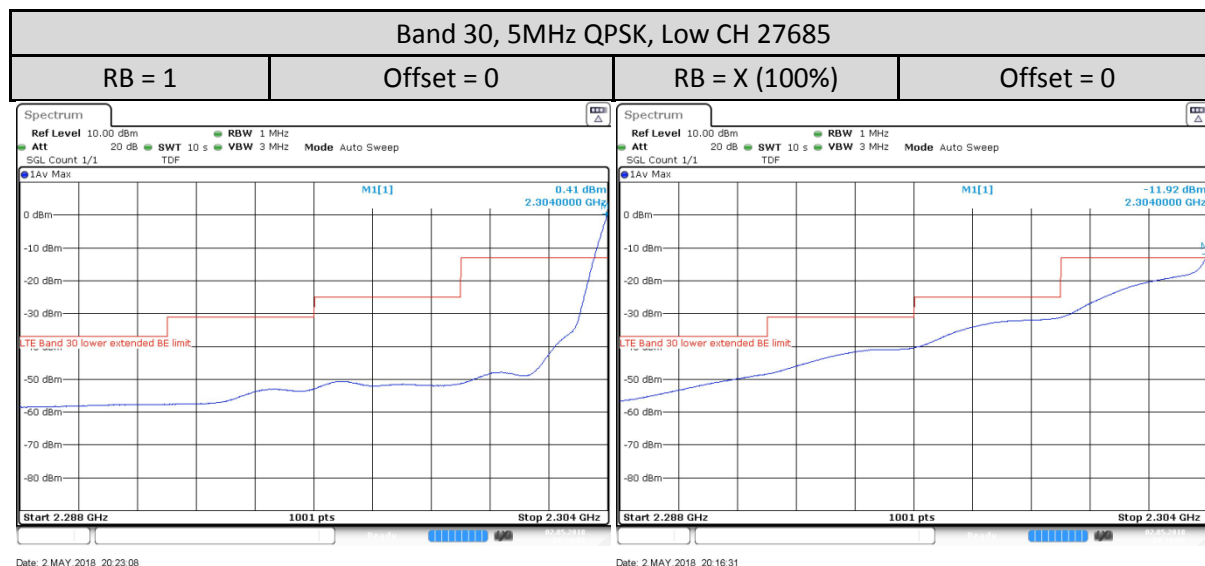
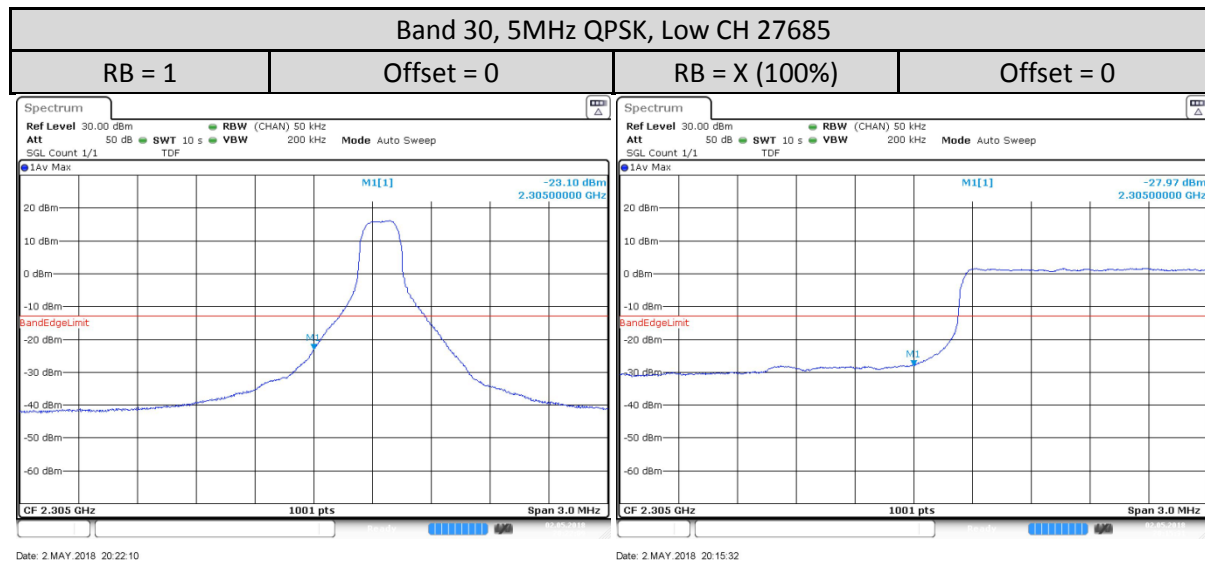
(i) By a factor of not less than: $43 + 10 \log (P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log (P)$ dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than $61 + 10 \log (P)$ dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than $67 + 10 \log (P)$ dB on all frequencies between 2328 and 2337 MHz;

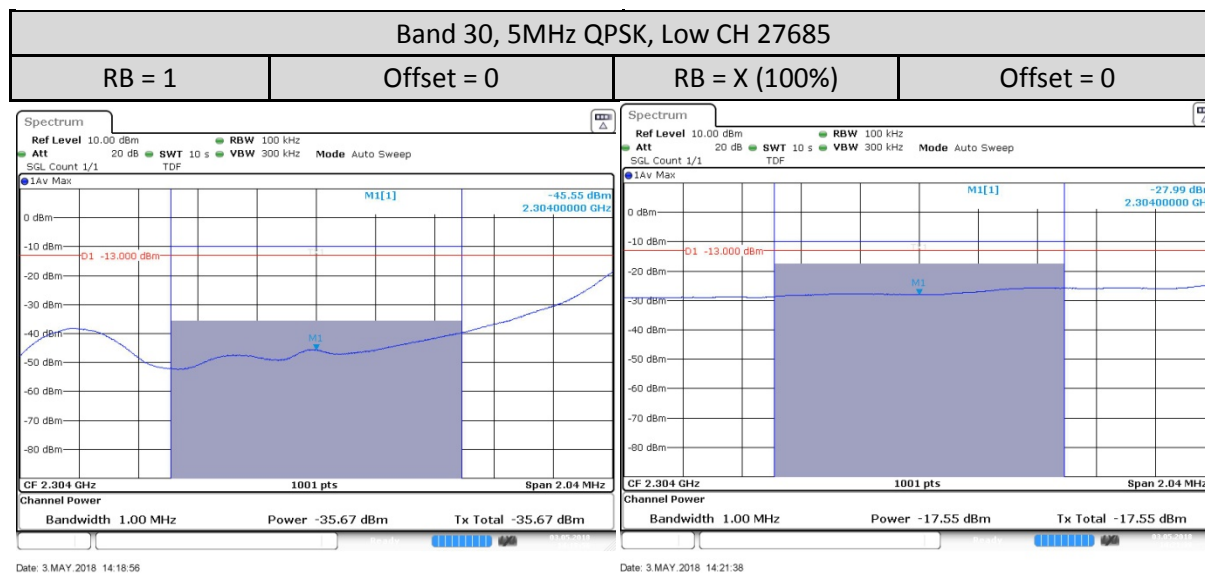
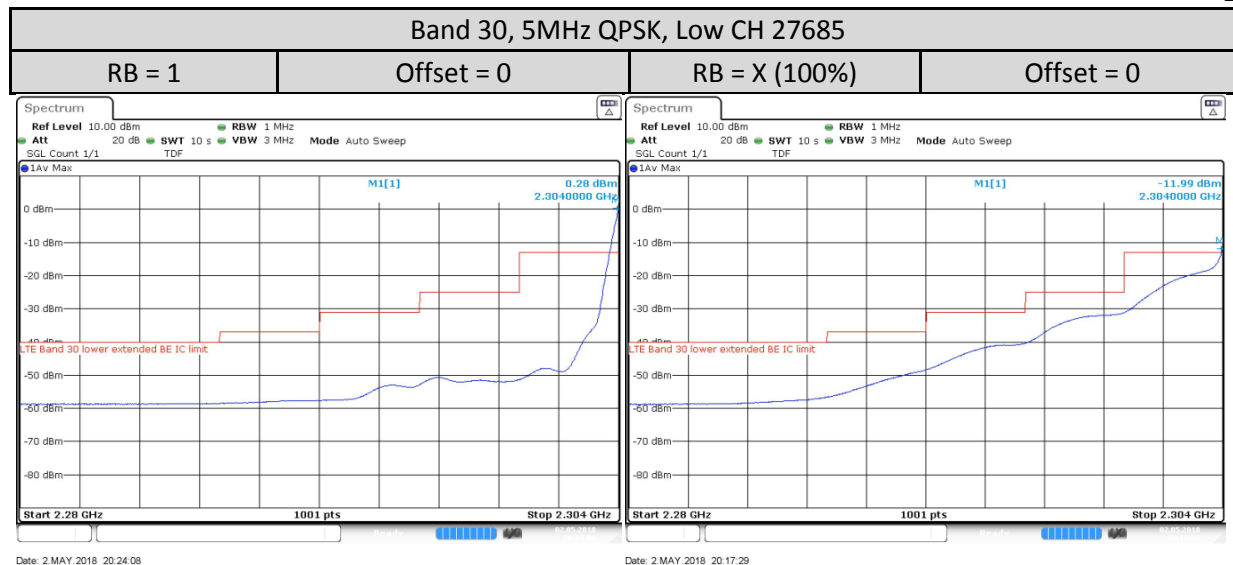
(ii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2300 and 2305 MHz, $55 + 10 \log (P)$ dB on all frequencies between 2296 and 2300 MHz, $61 + 10 \log (P)$ dB on all frequencies between 2292 and 2296 MHz, $67 + 10 \log (P)$ dB on all frequencies between 2288 and 2292 MHz, and $70 + 10 \log (P)$ dB below 2288 MHz;

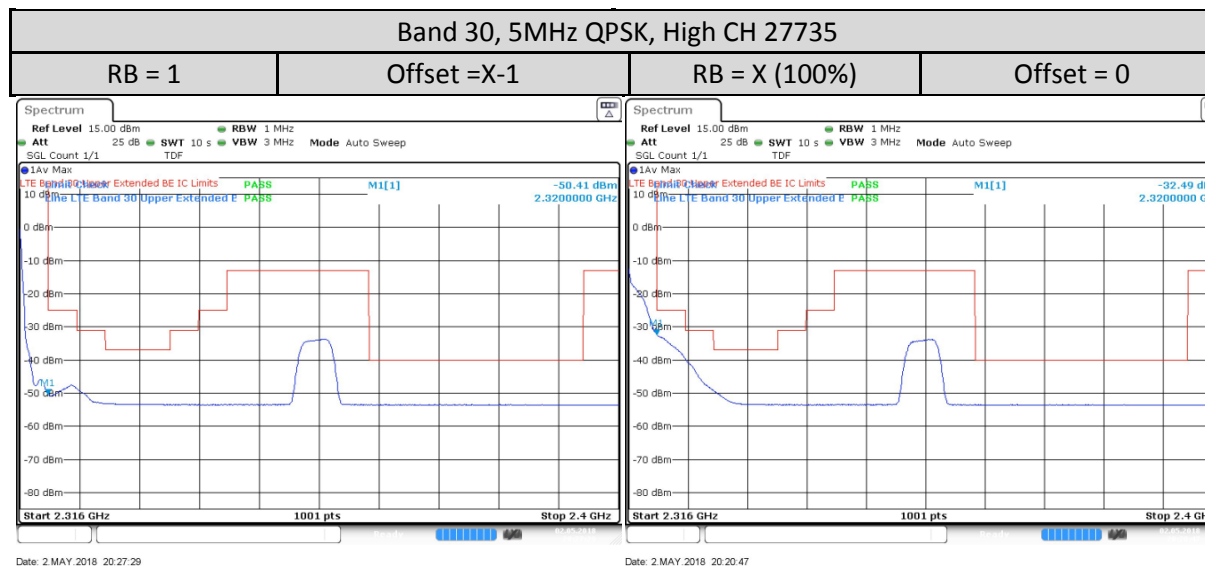
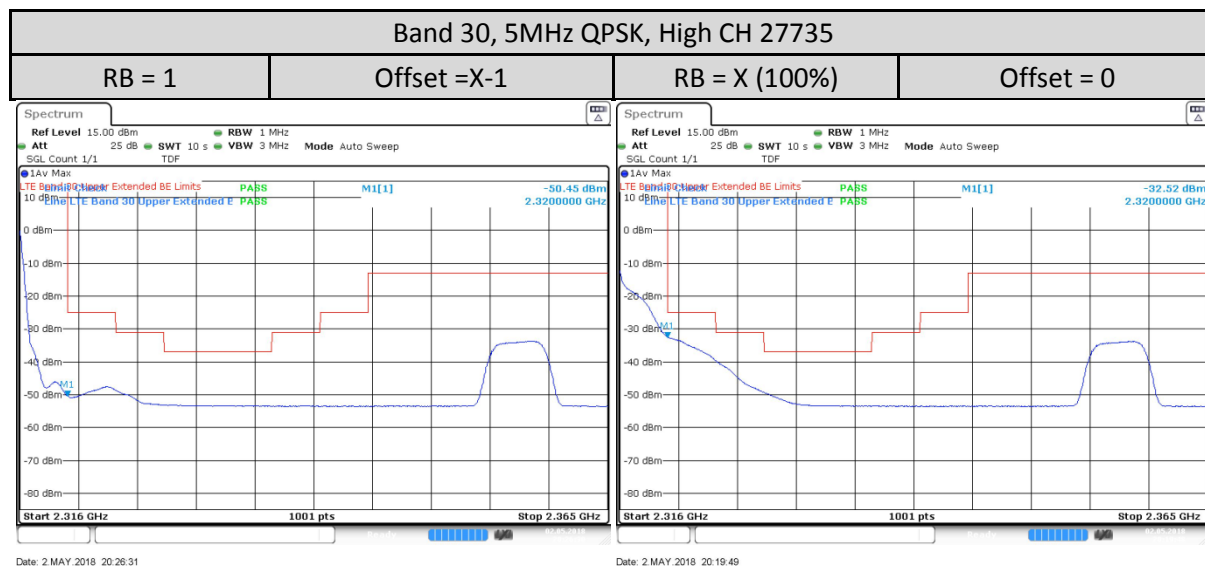
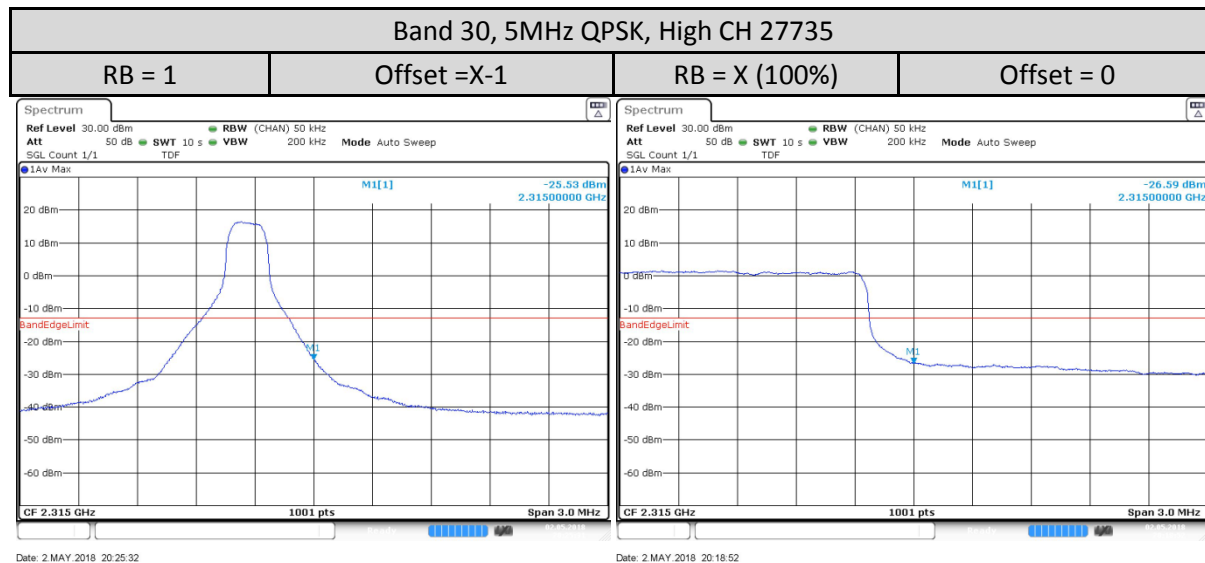
(iii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P)$ dB above 2365 MHz.

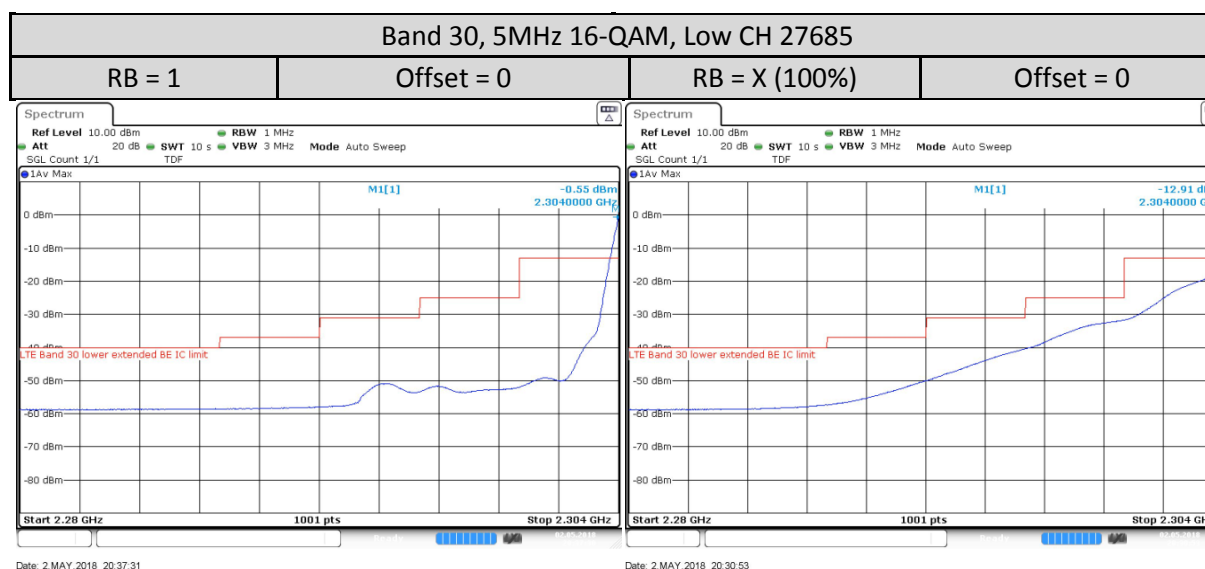
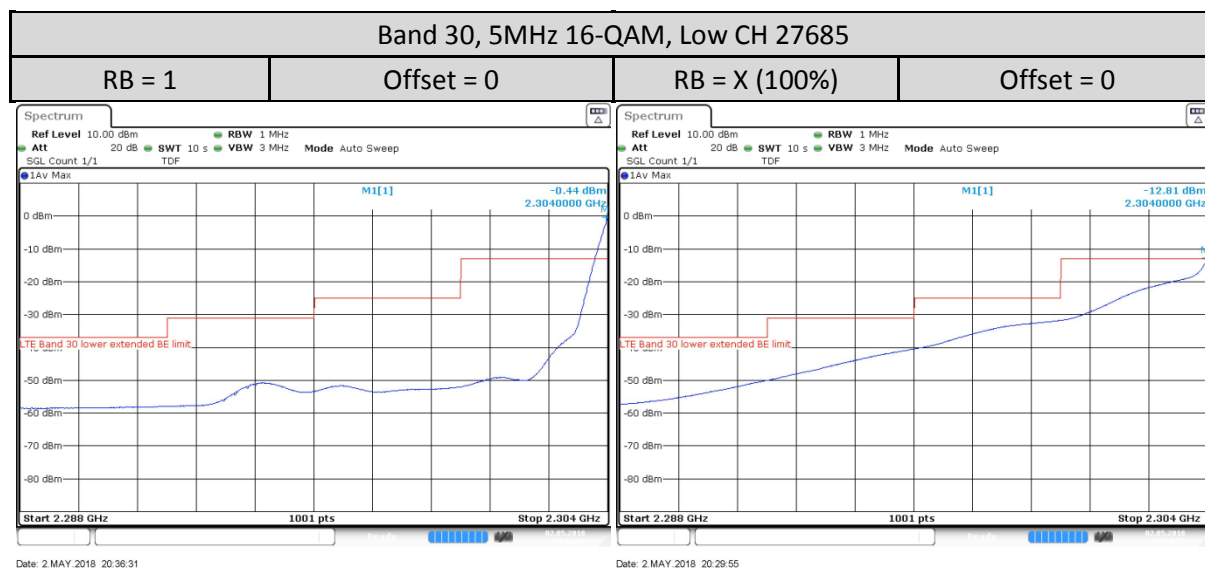
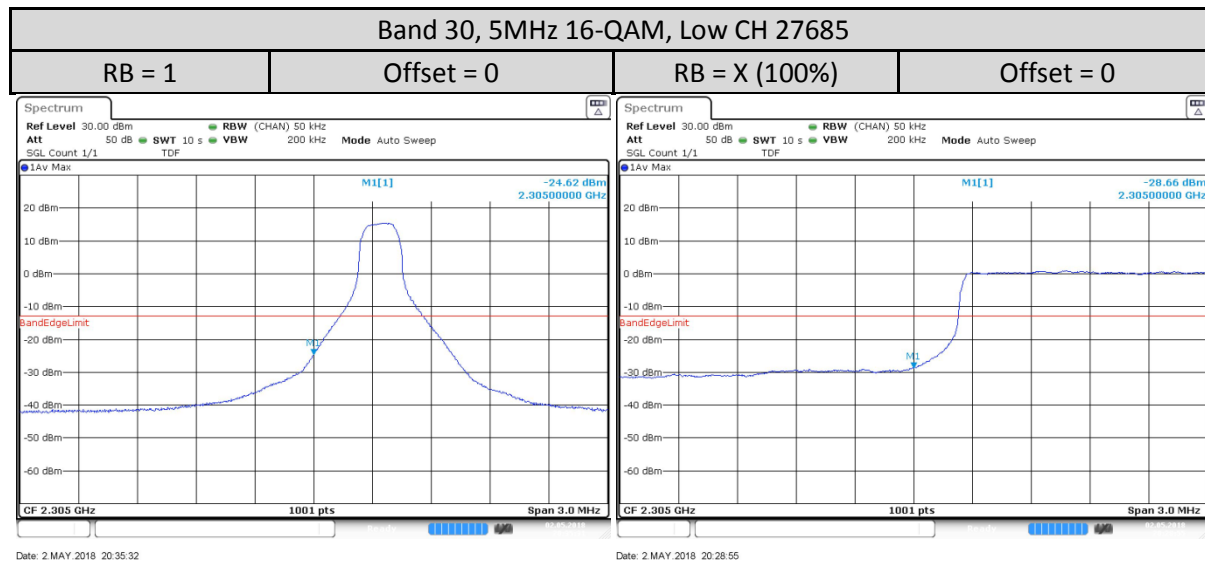
(5) *Measurement procedure.* Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the channel blocks at 2305, 2310, 2315, 2320, 2345, 2350, 2355, and 2360 MHz, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.*, 1 MHz).

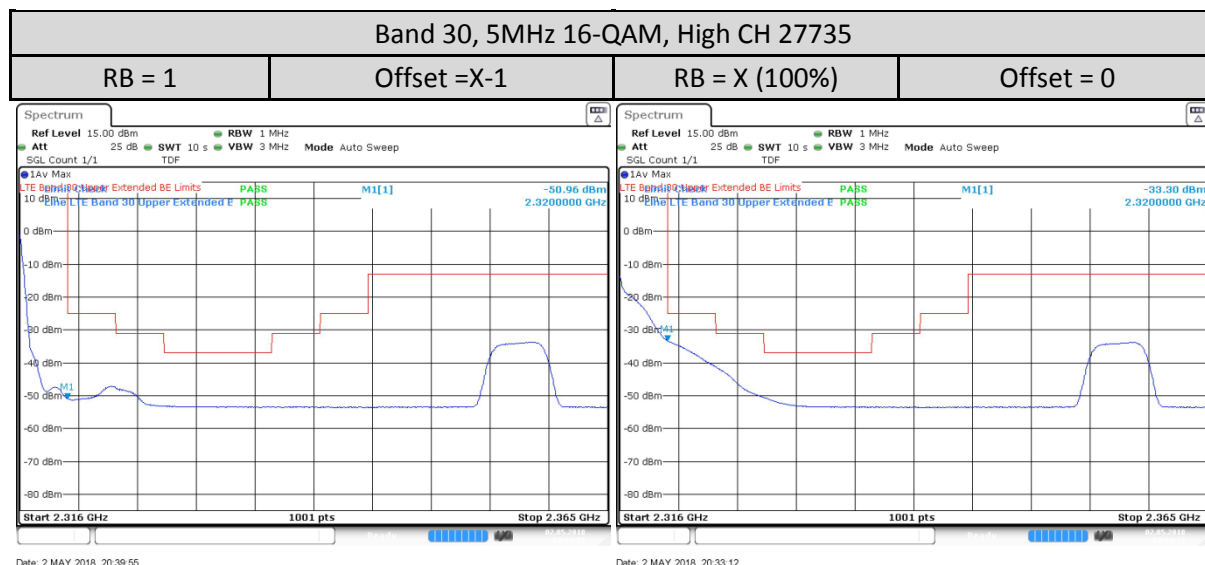
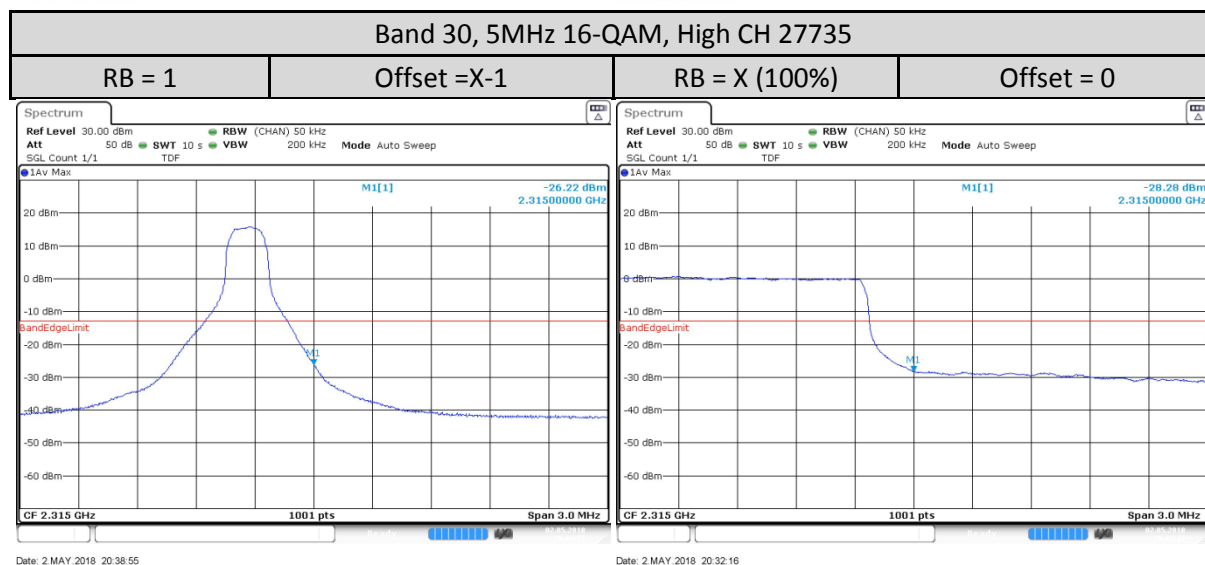
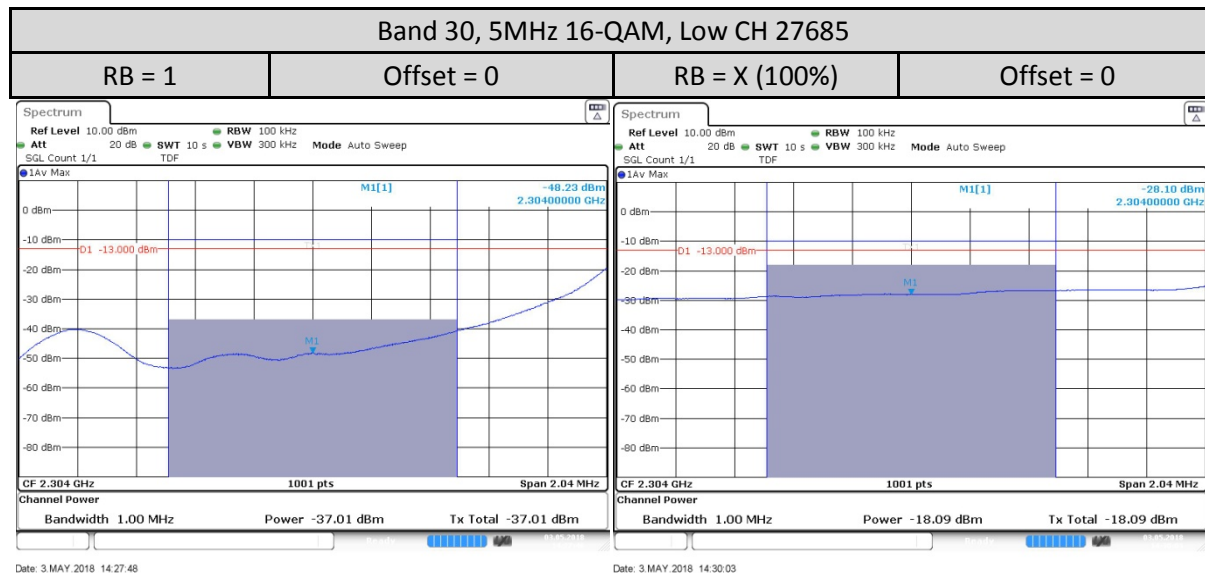
1.10.3. Band Edge Conducted Spurious Emission – LTE Band 30 (2305-2315MHz)

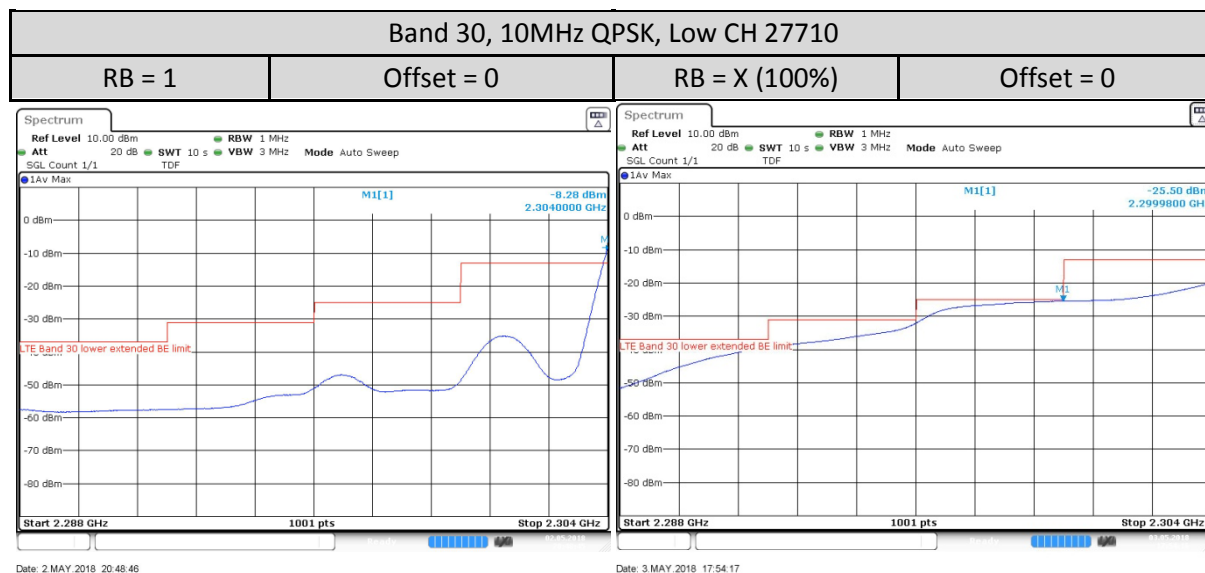
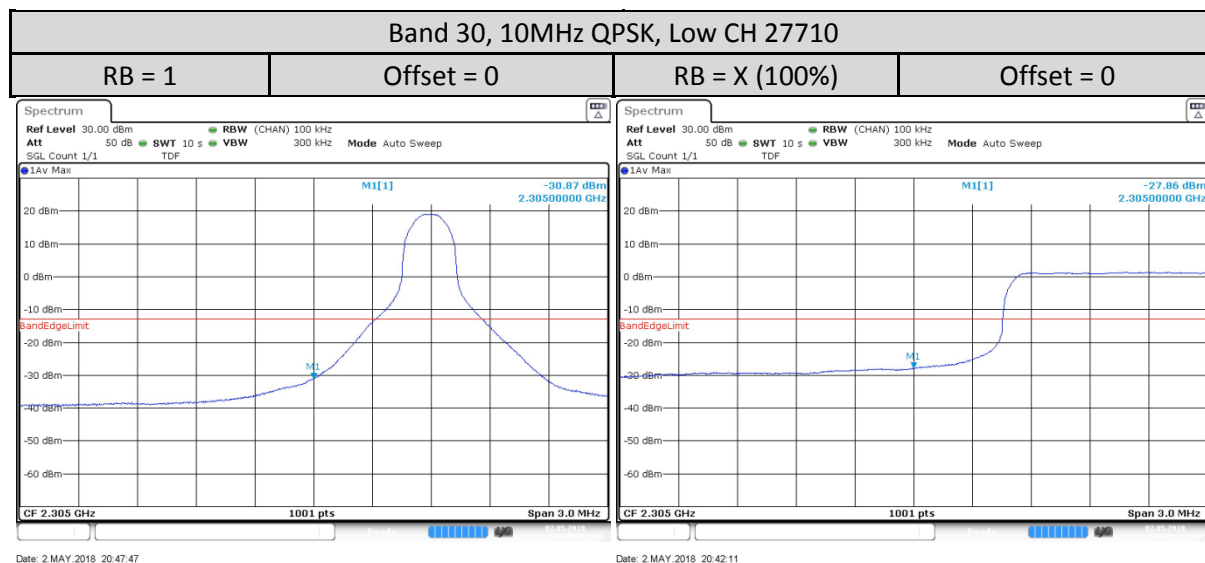
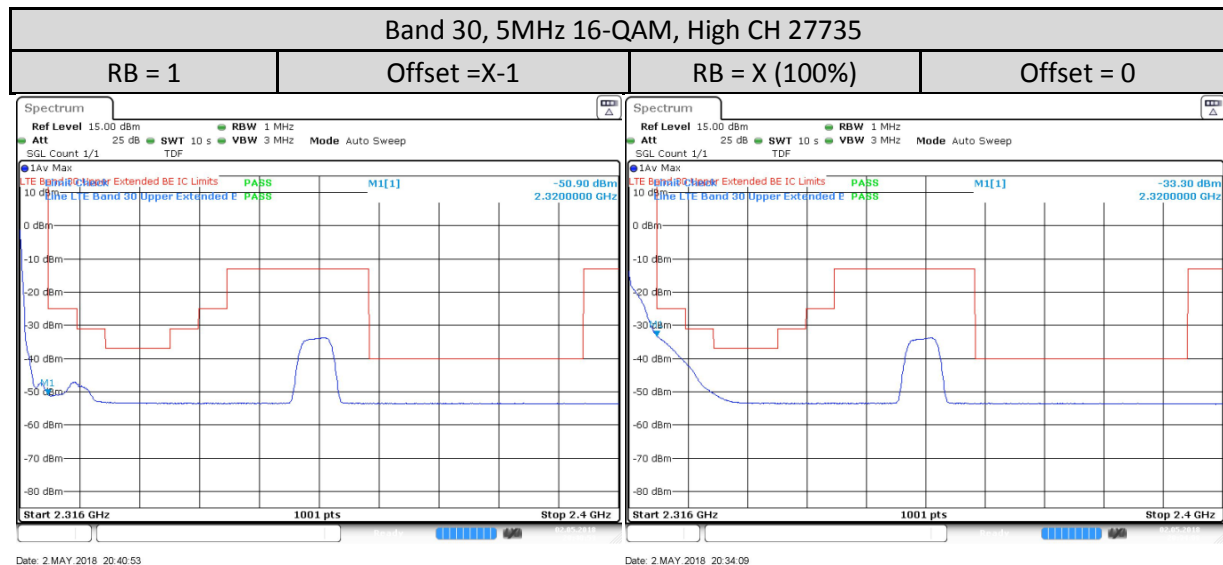


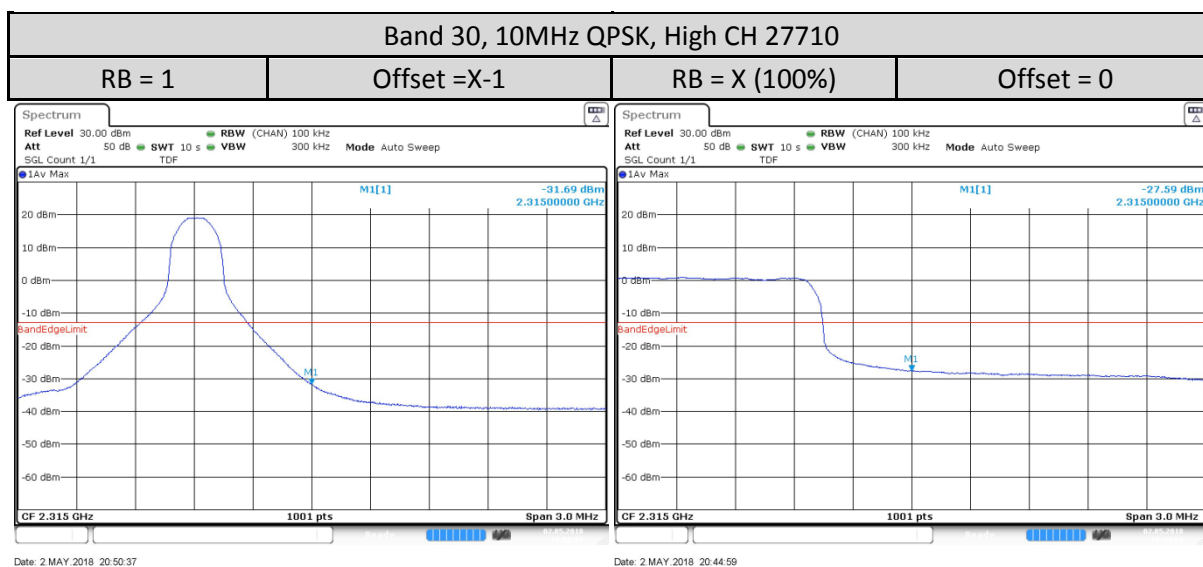
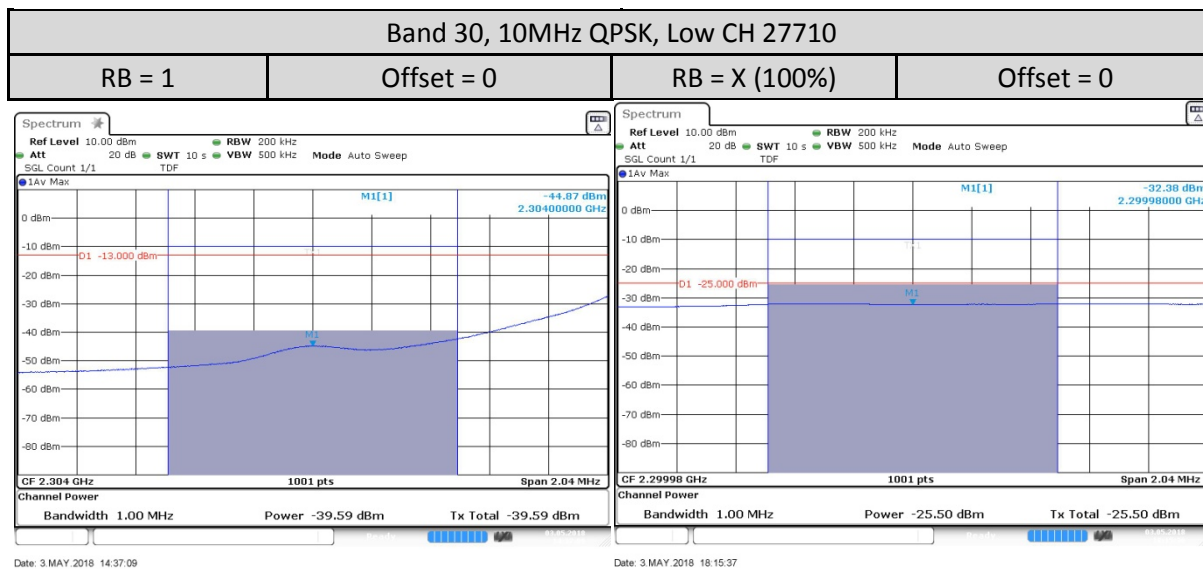
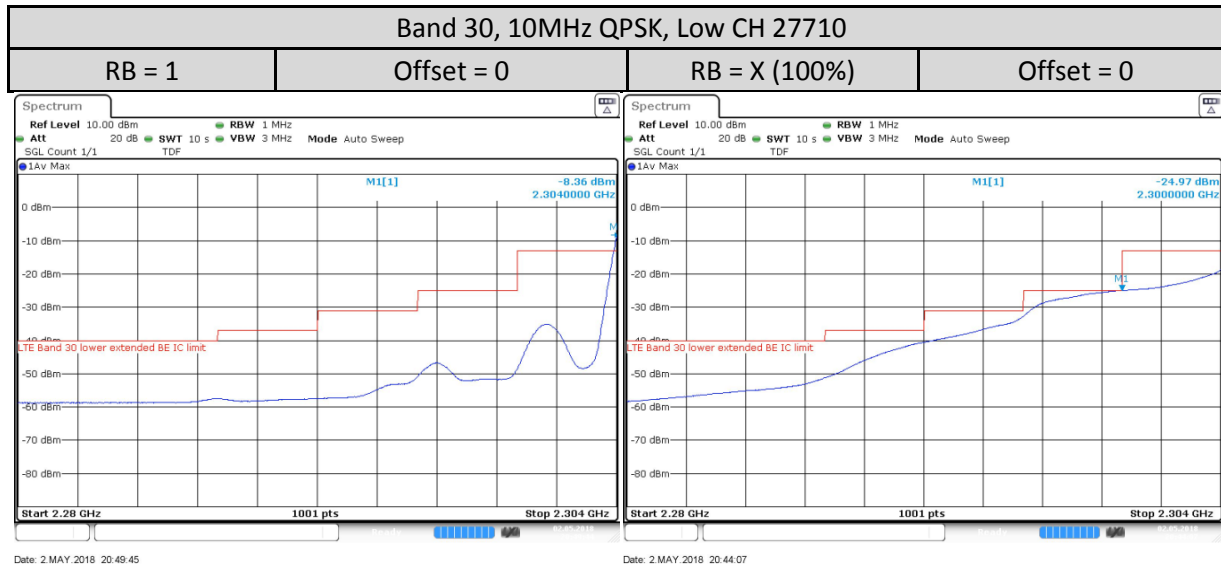


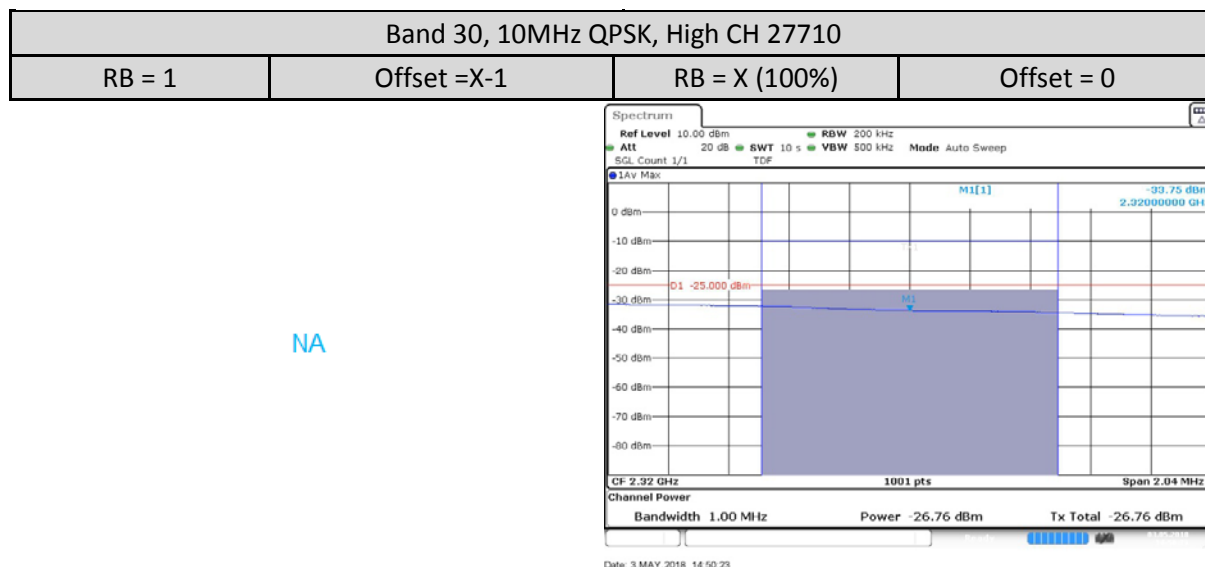
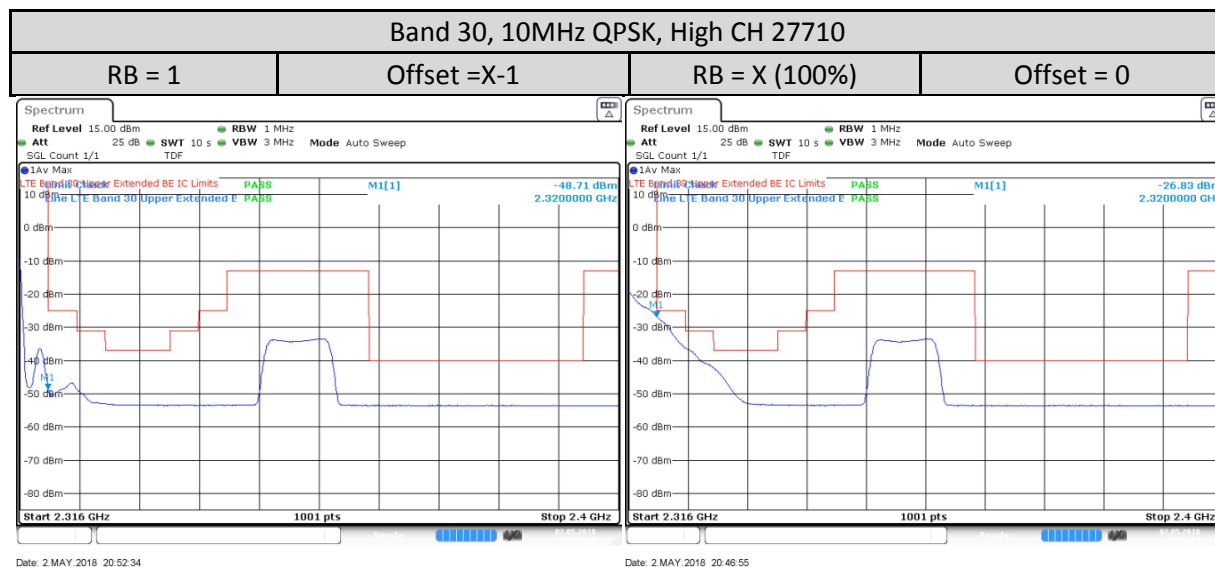
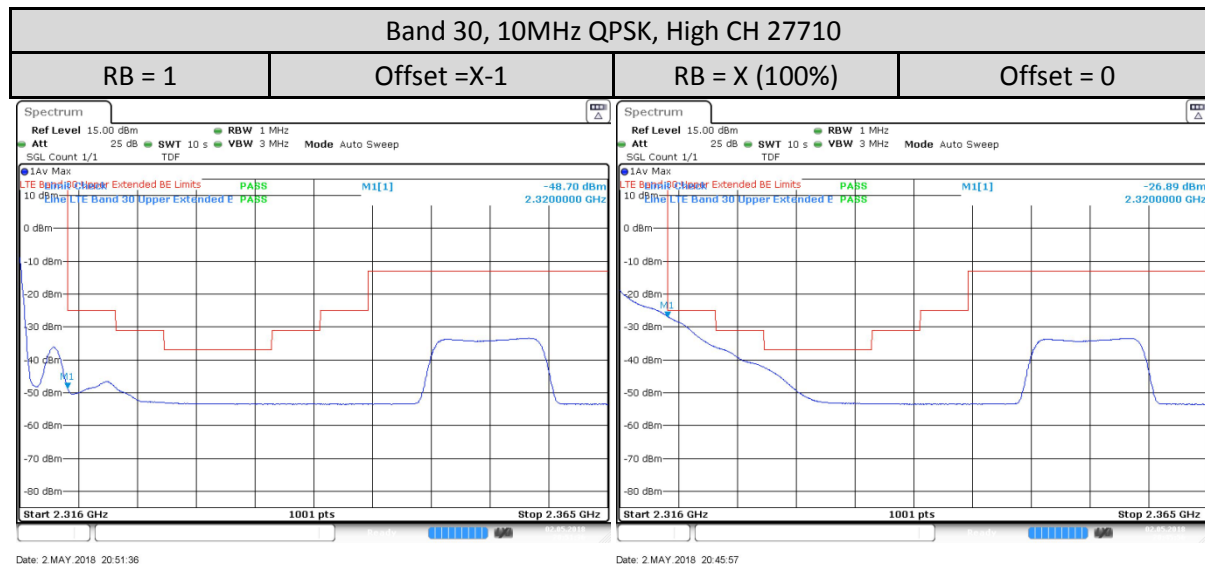












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