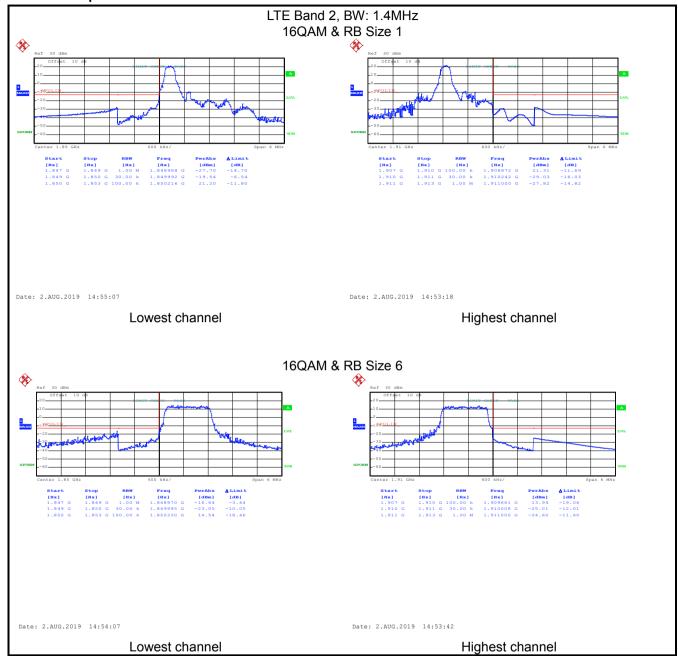


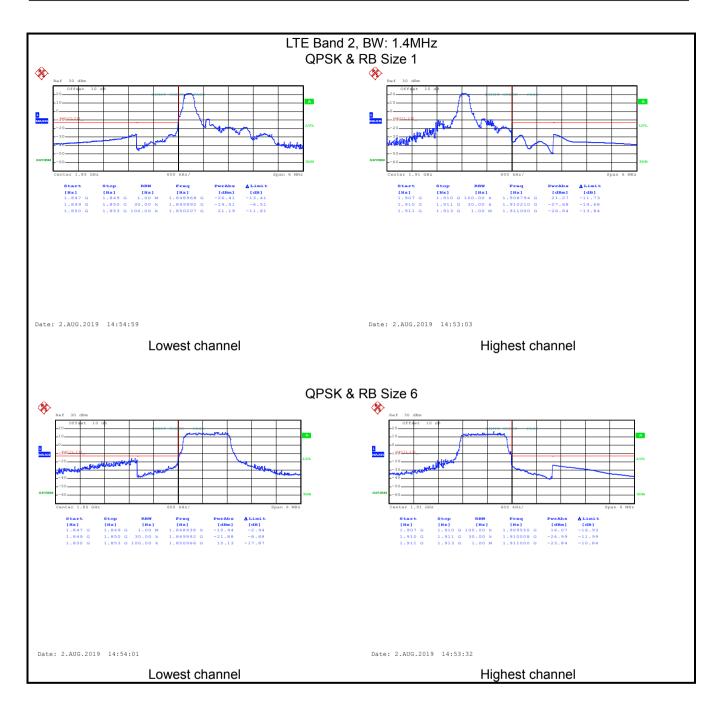


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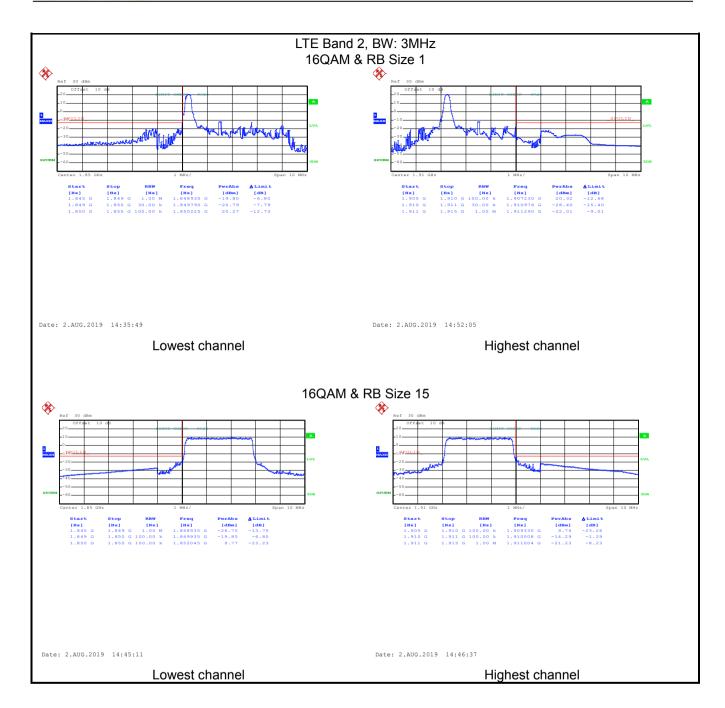
LTE Band 2 part:



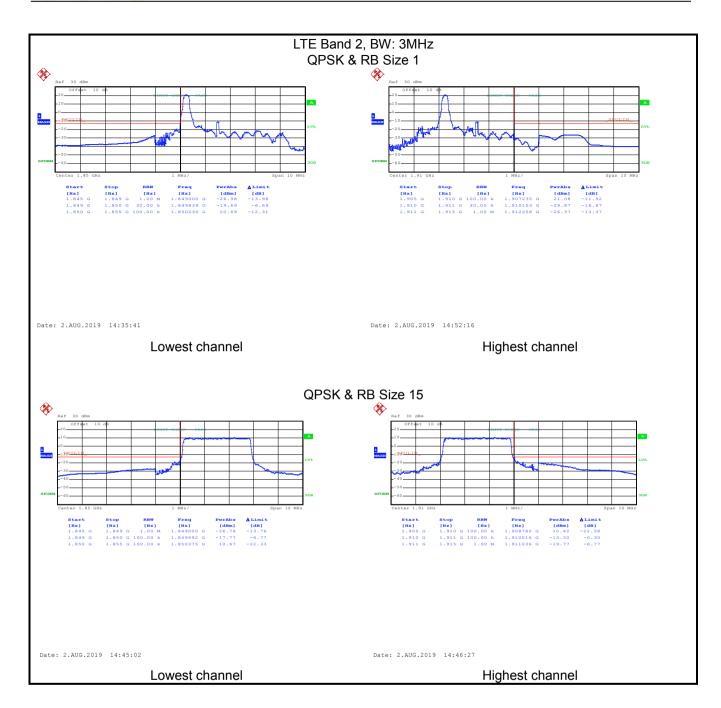




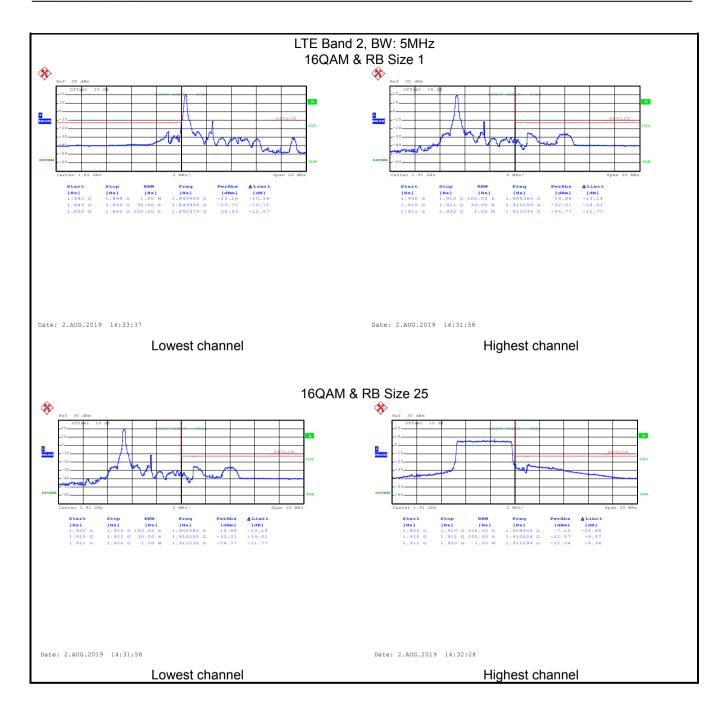




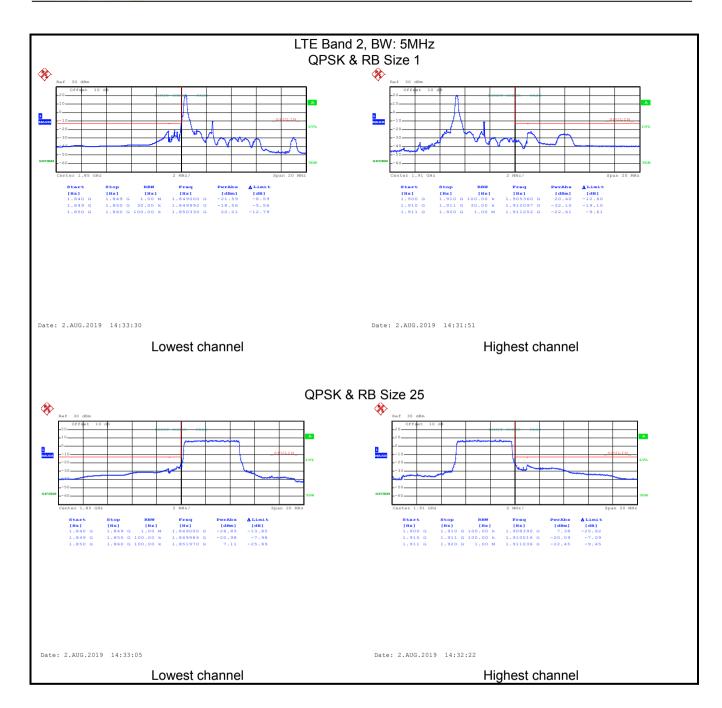




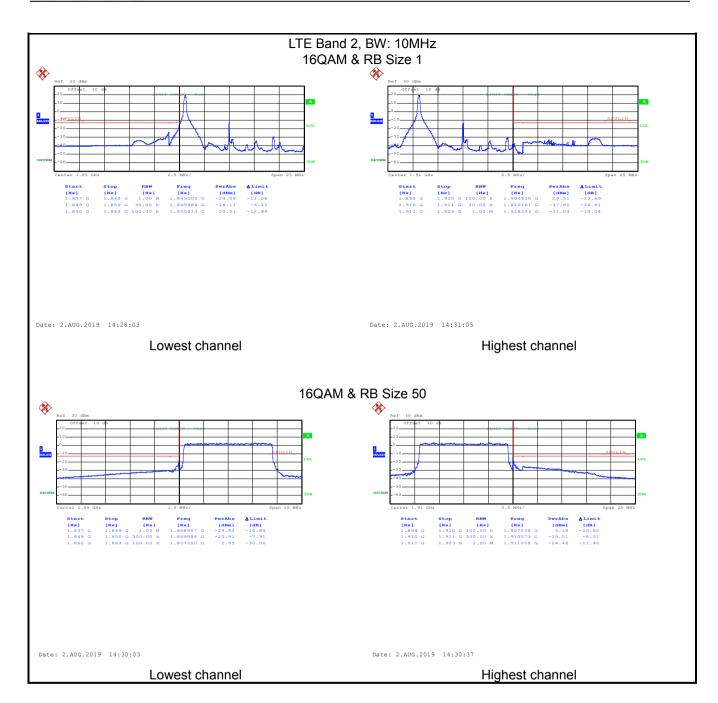




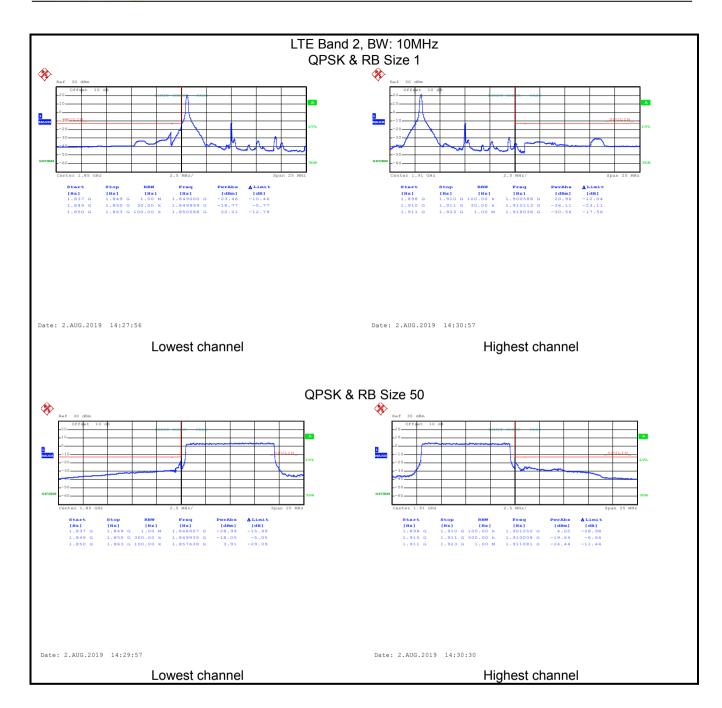




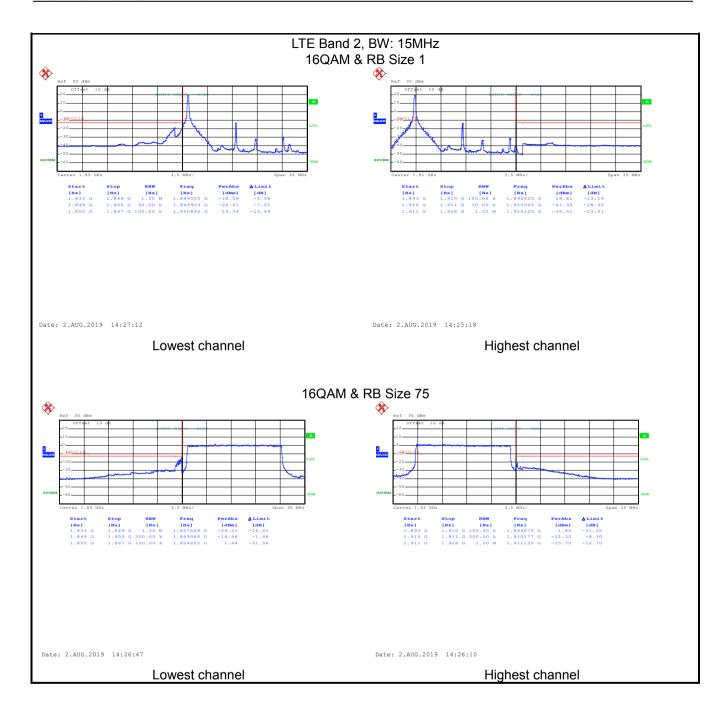




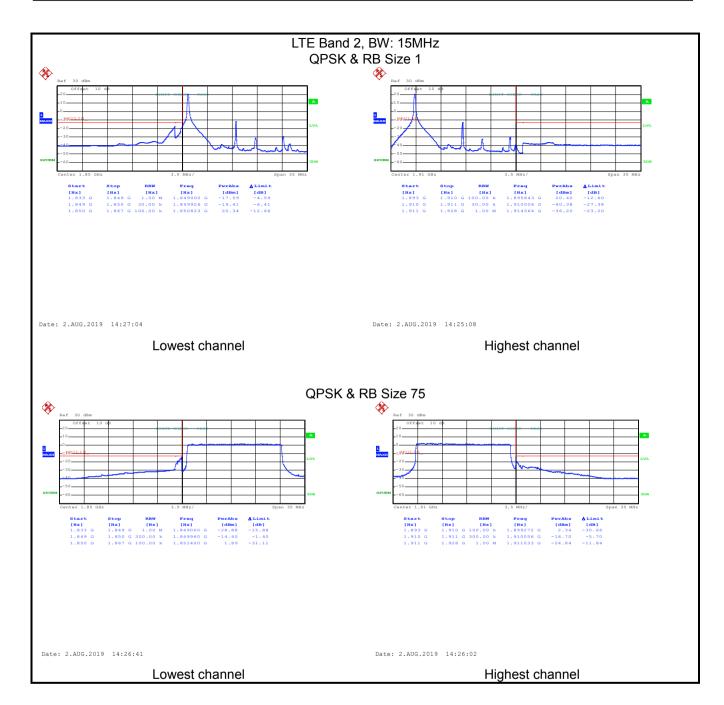




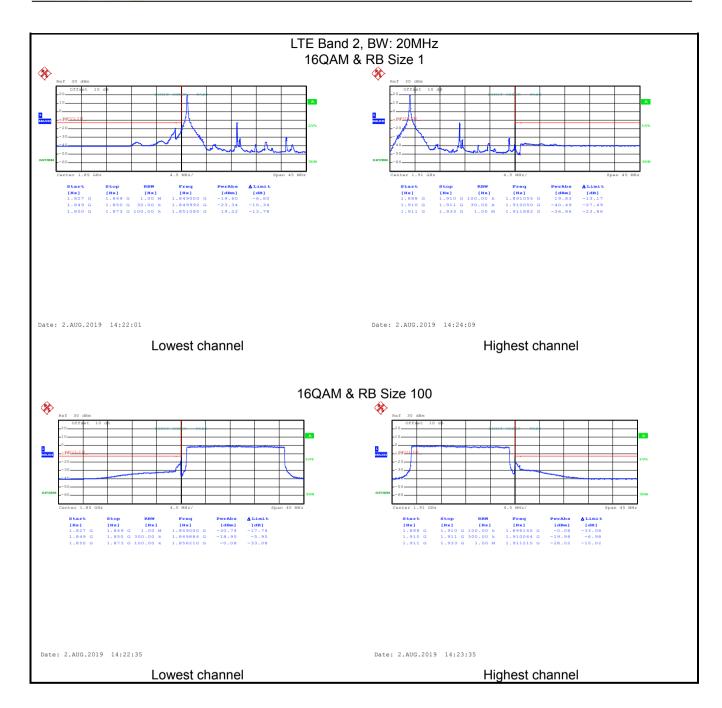




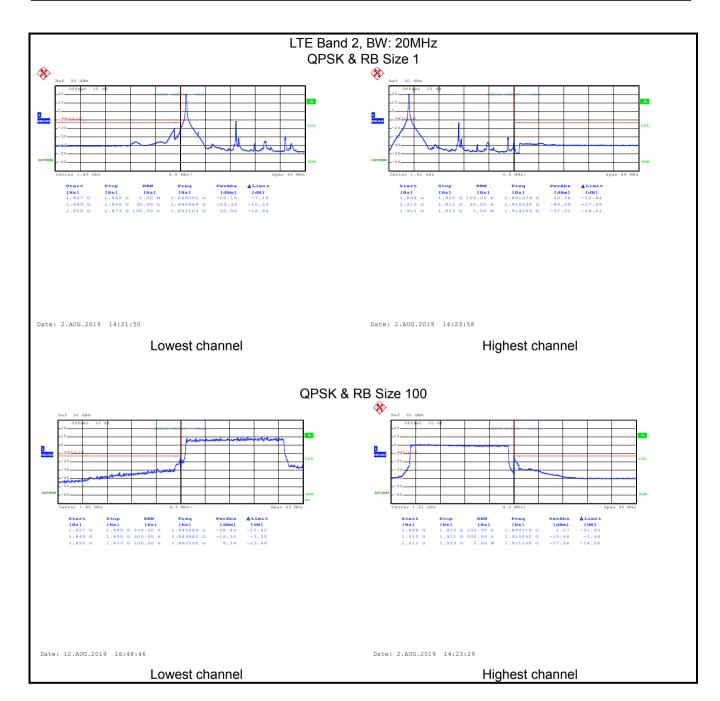






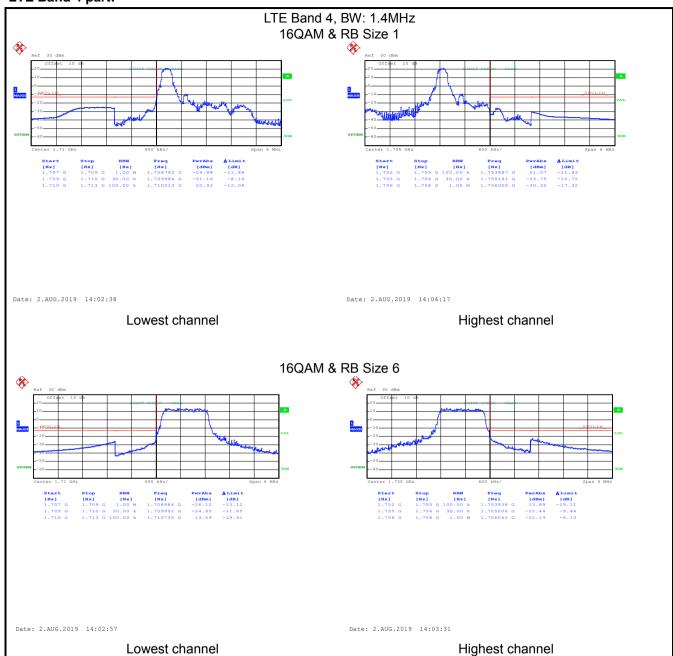




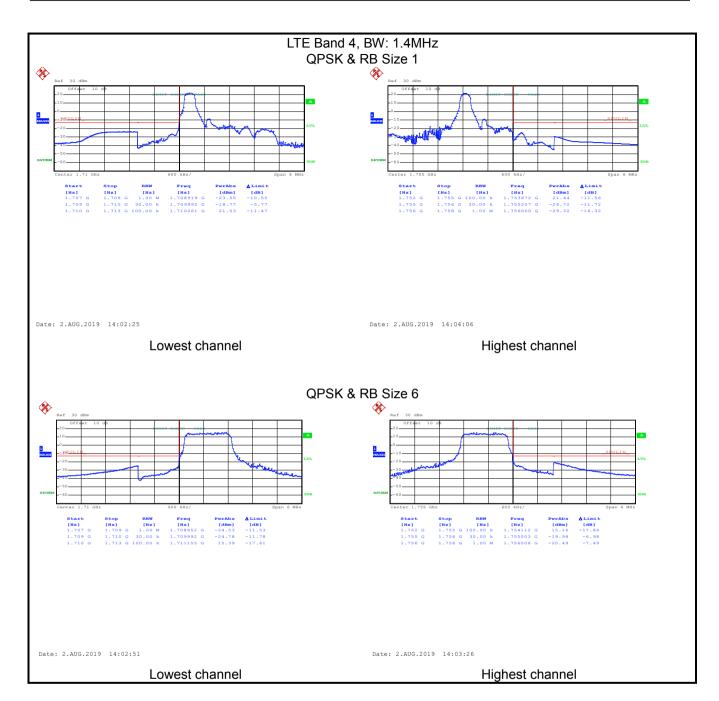




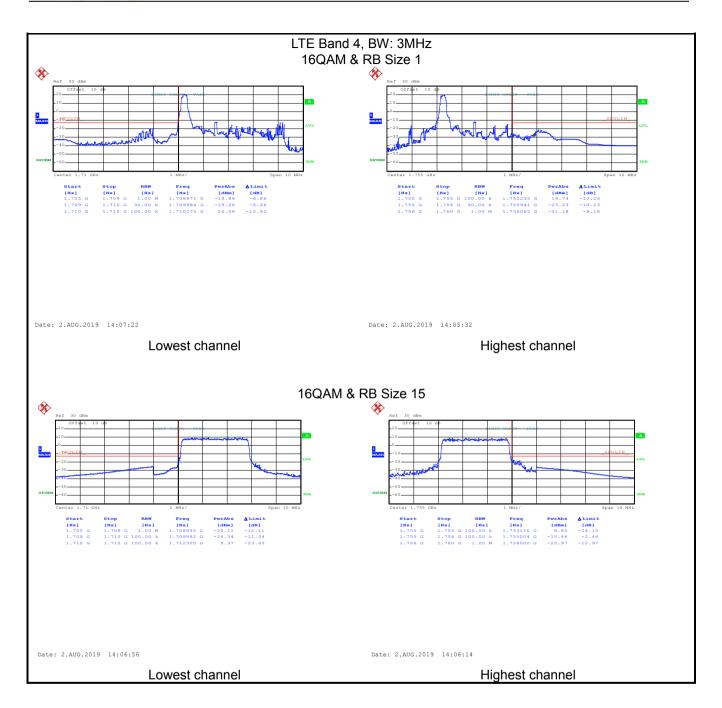
LTE Band 4 part:



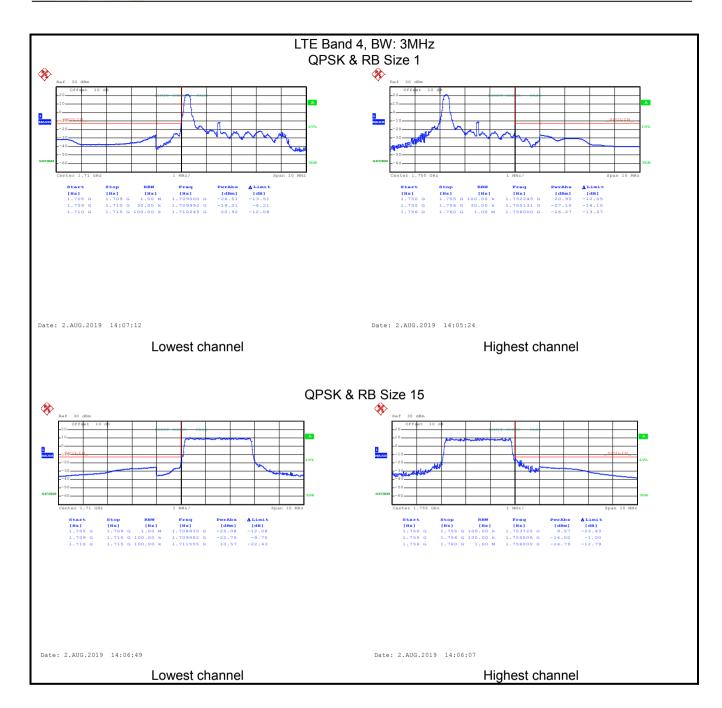




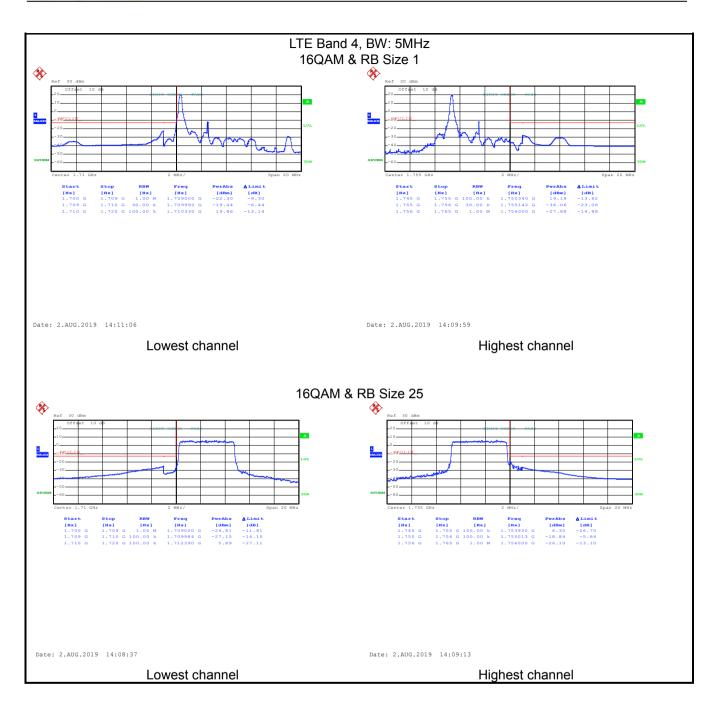




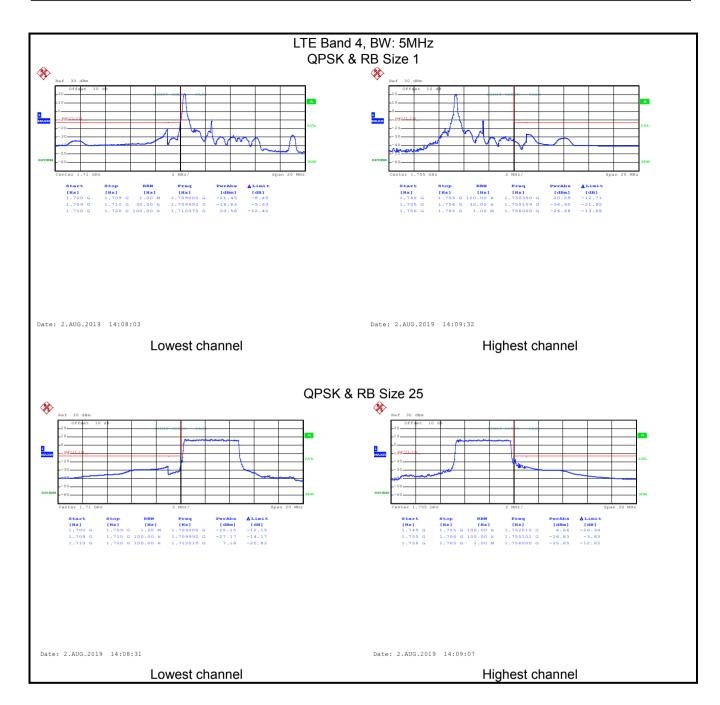




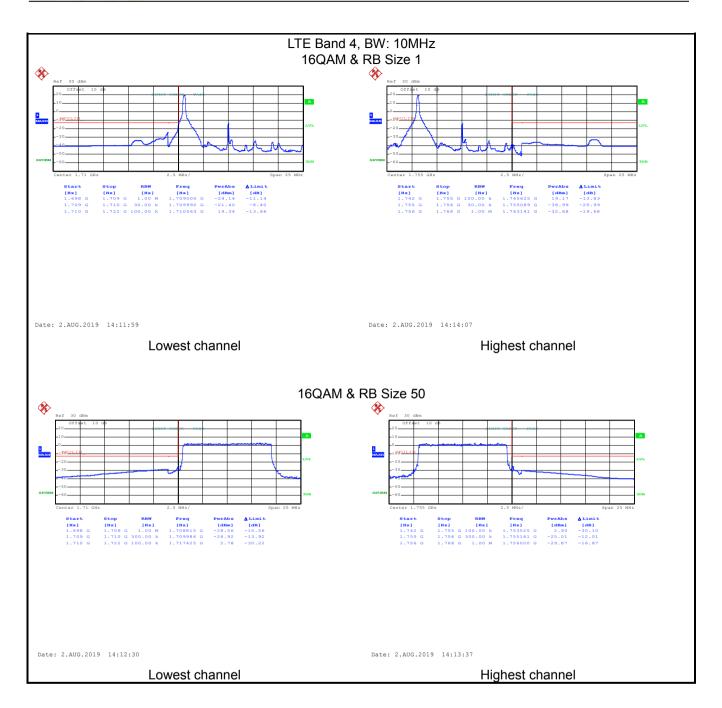




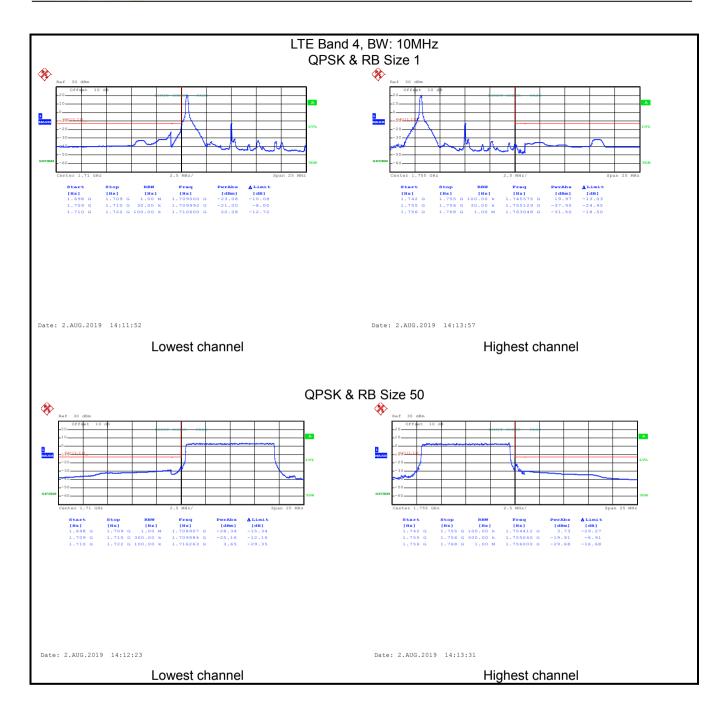




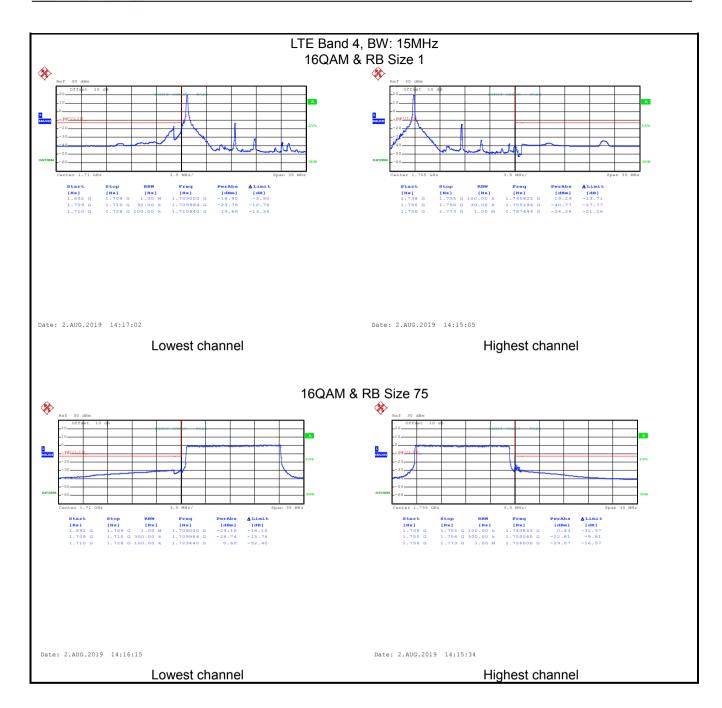




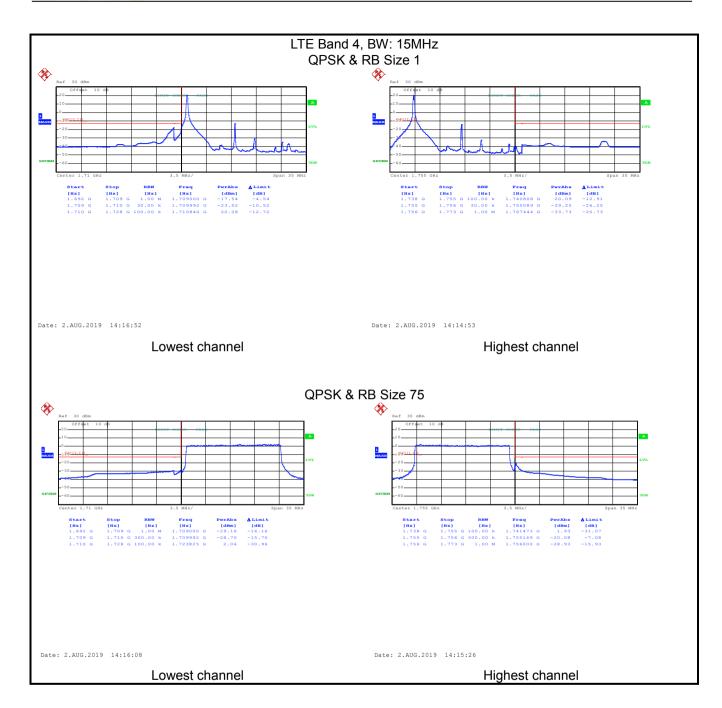




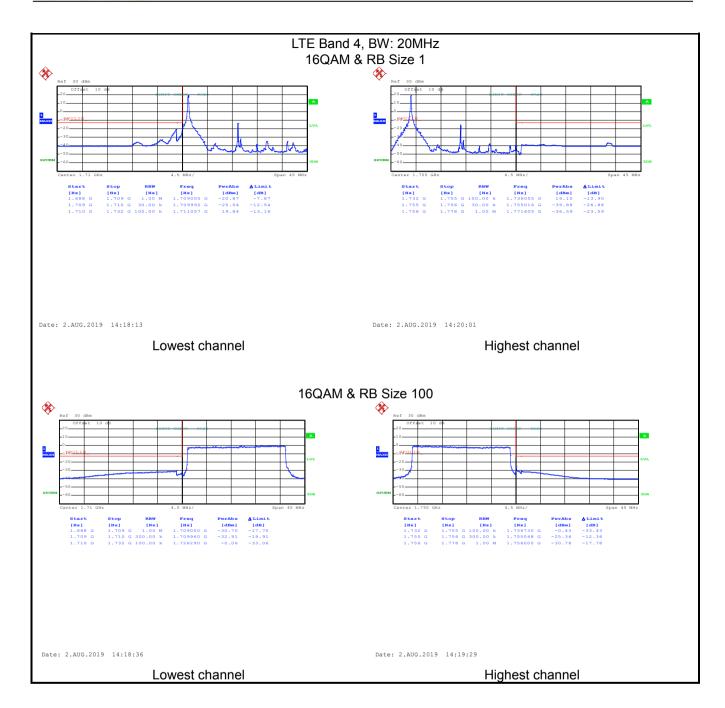




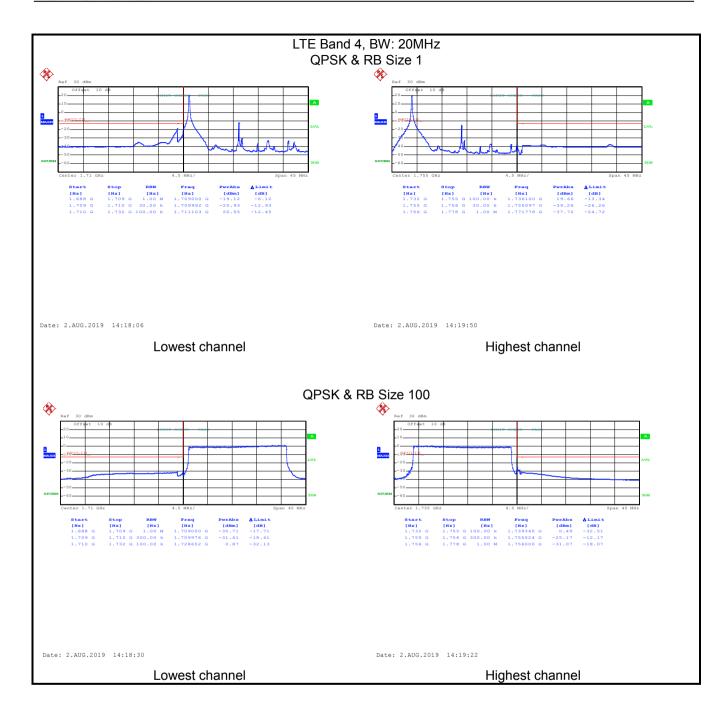






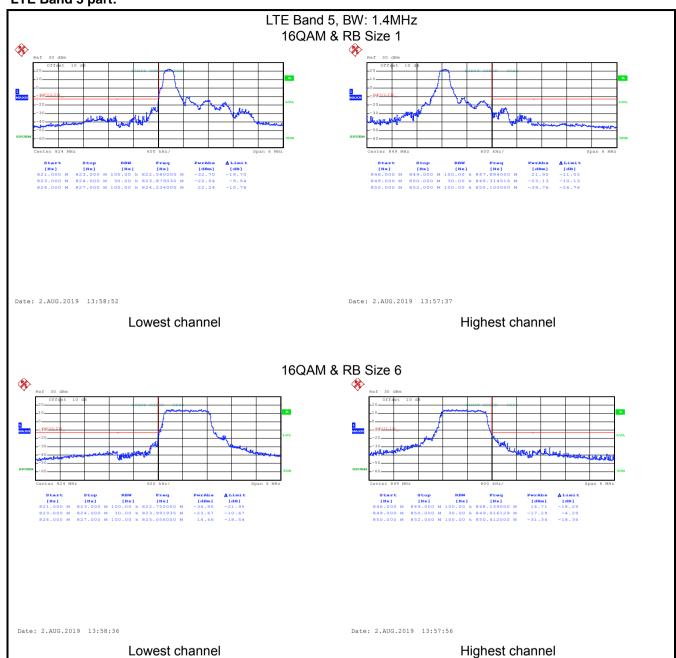




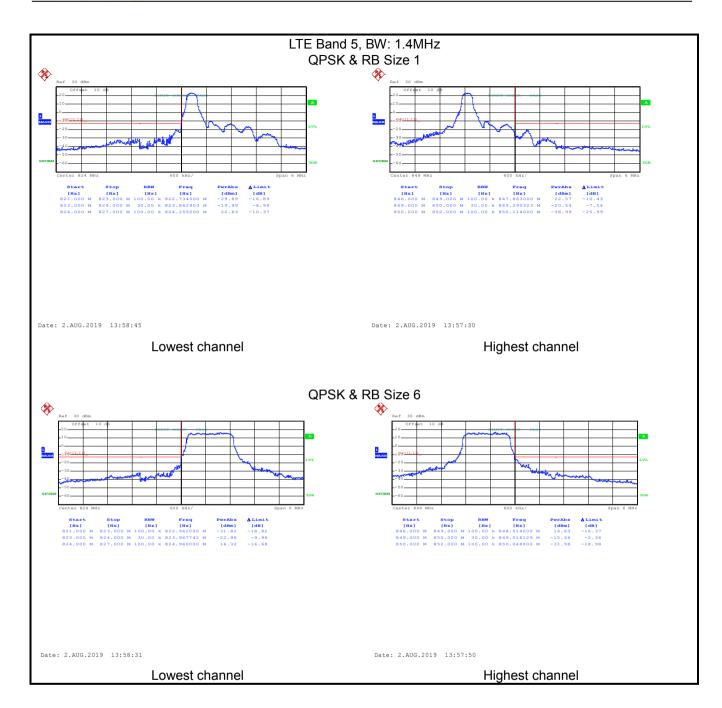




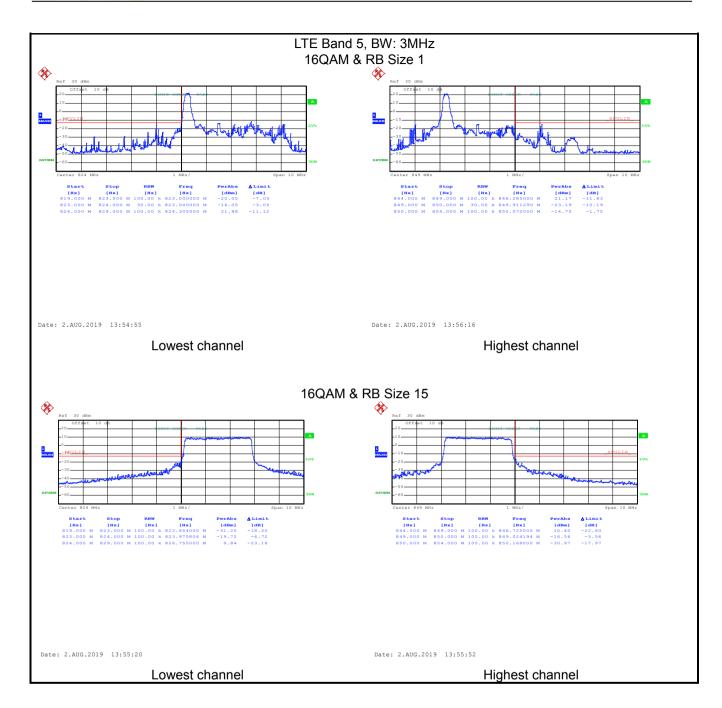
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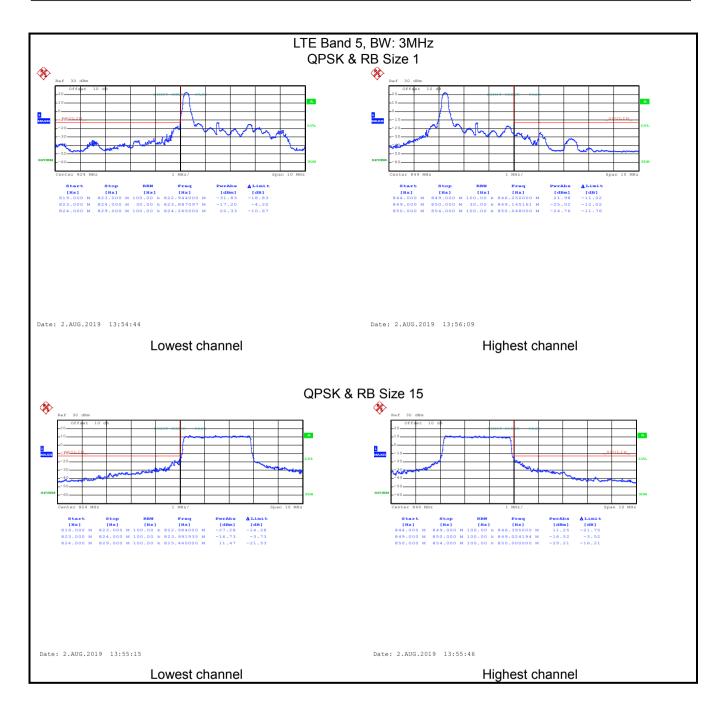




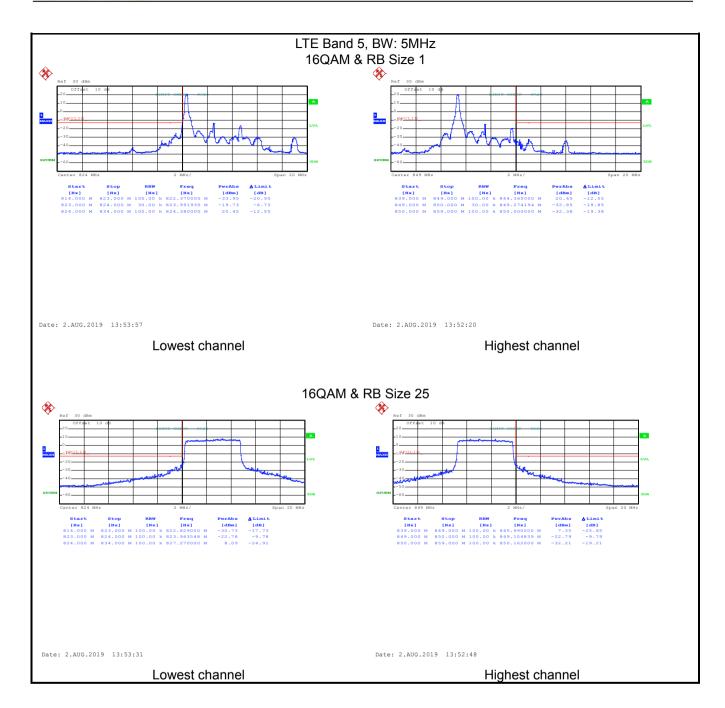




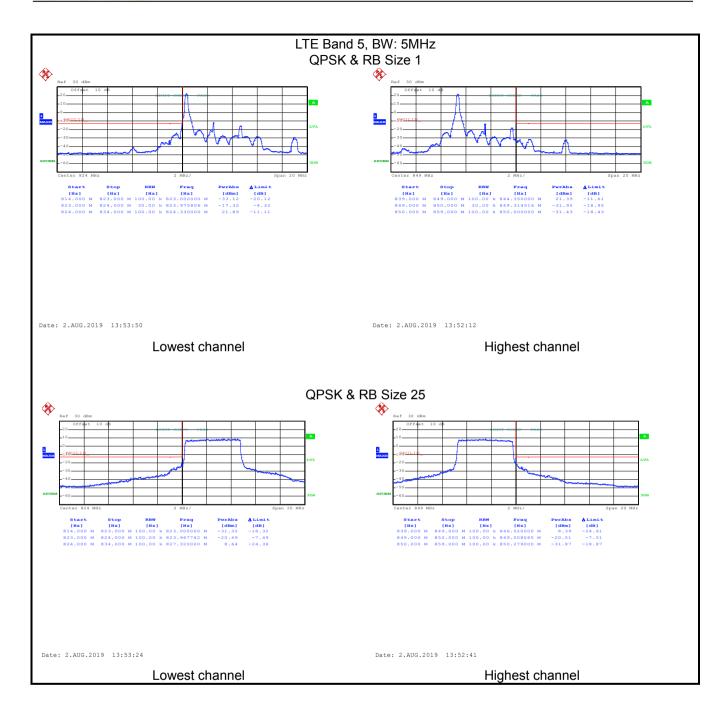




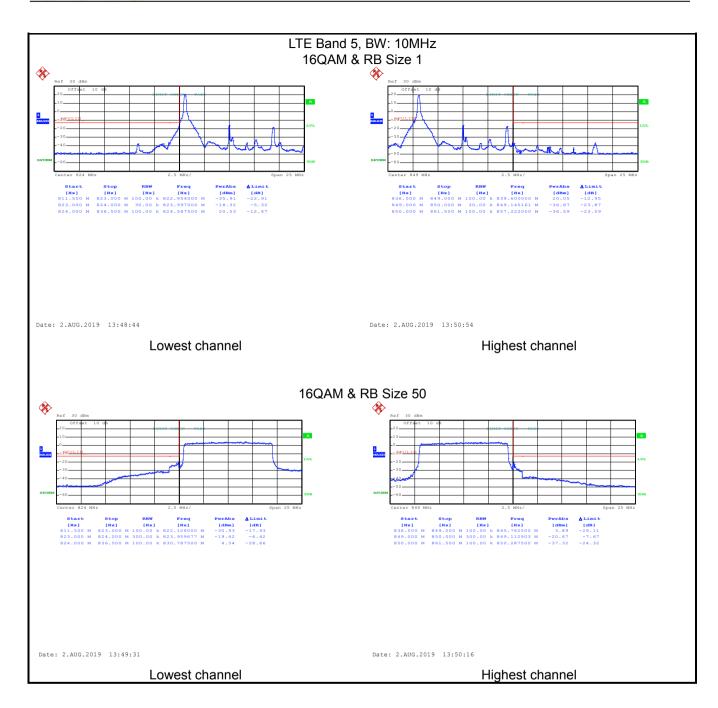




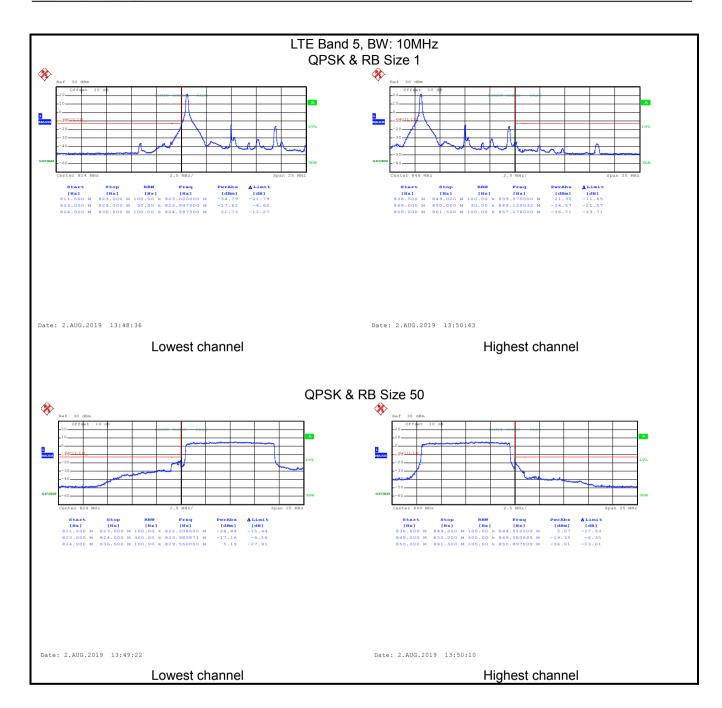






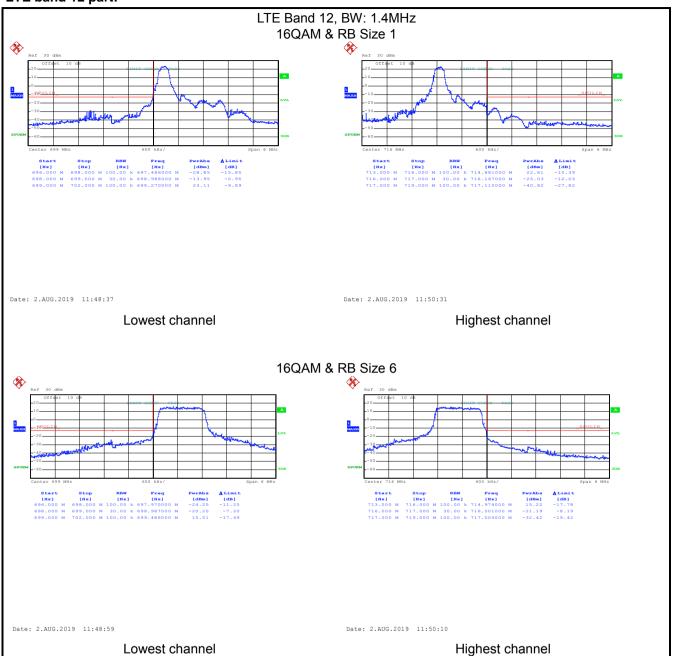




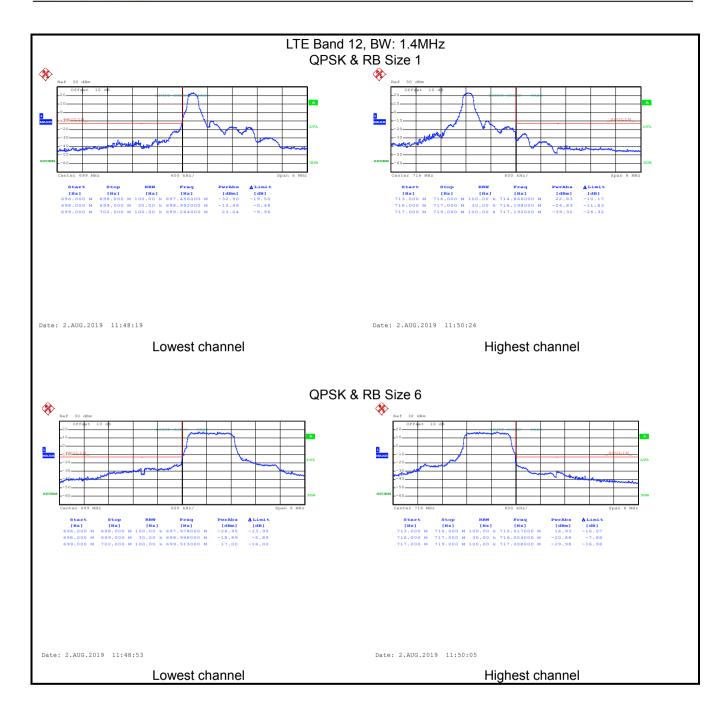




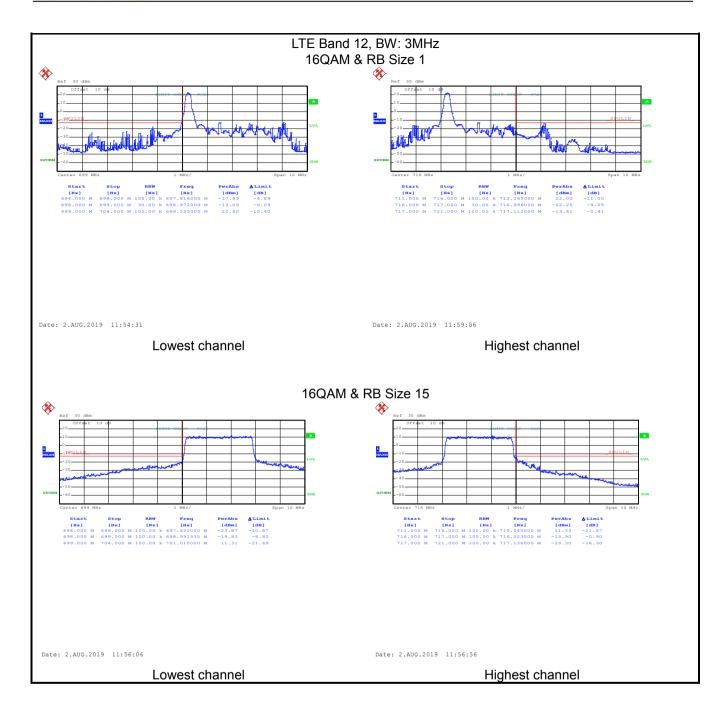
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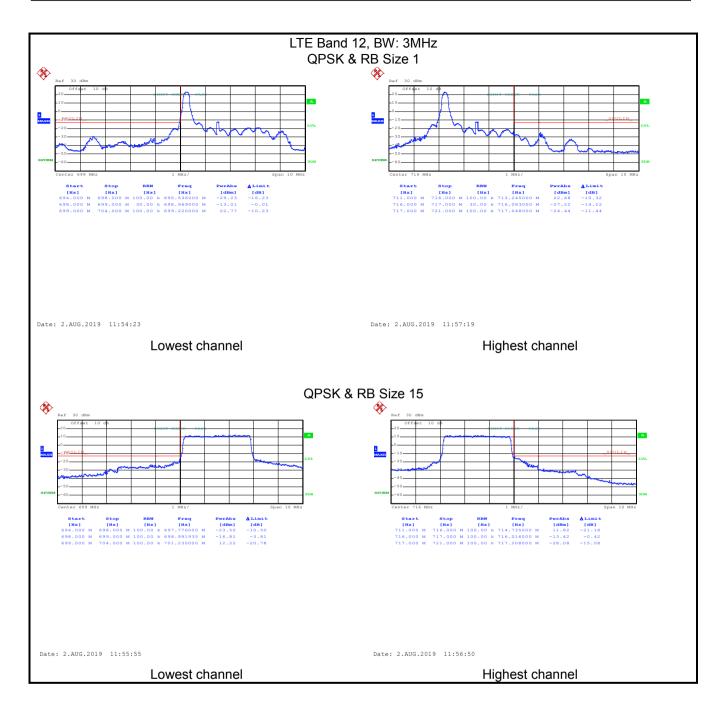




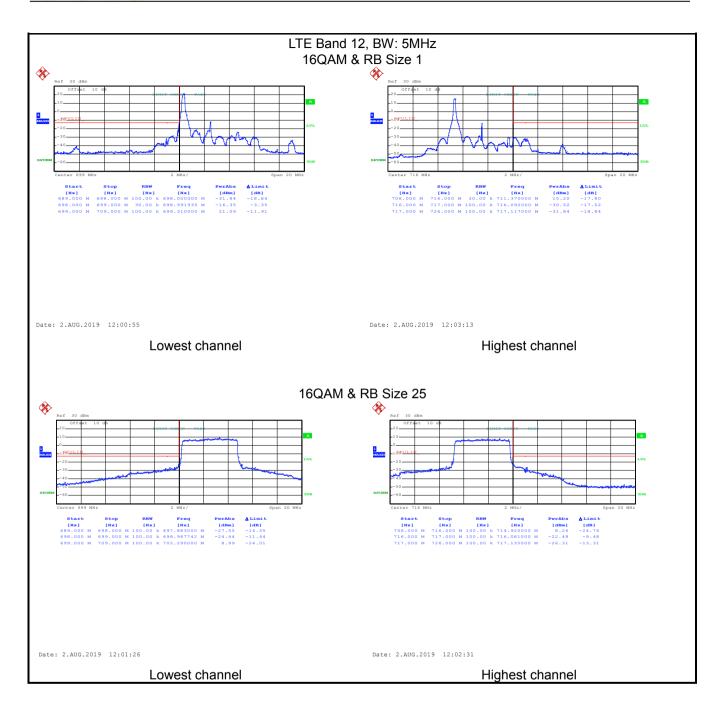




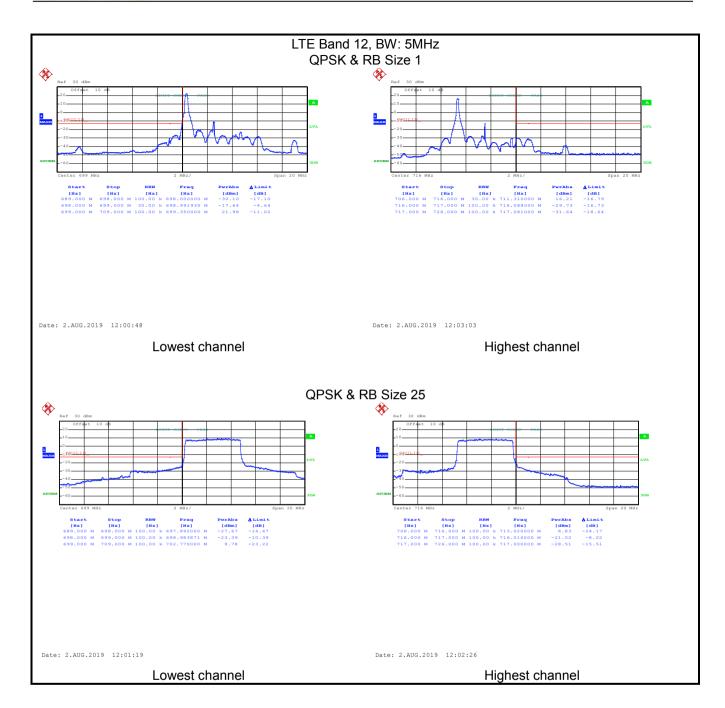




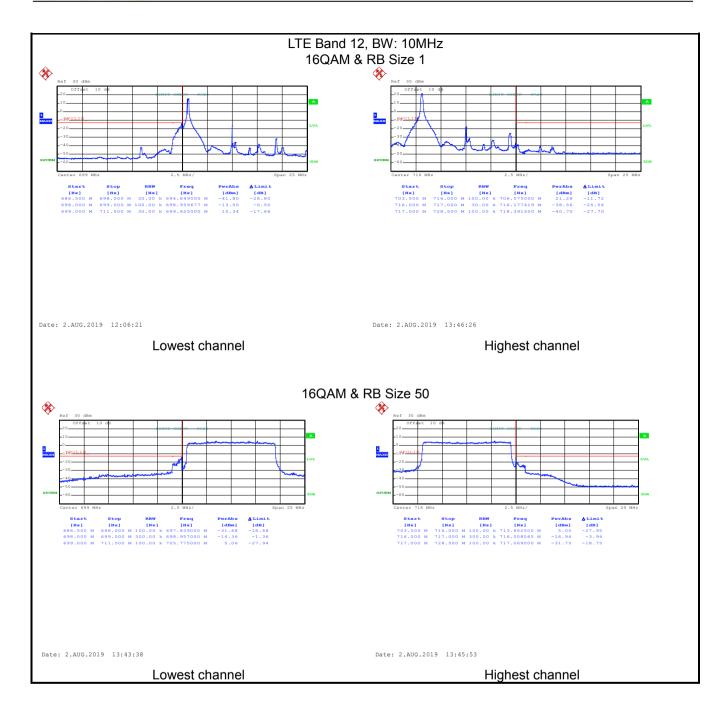




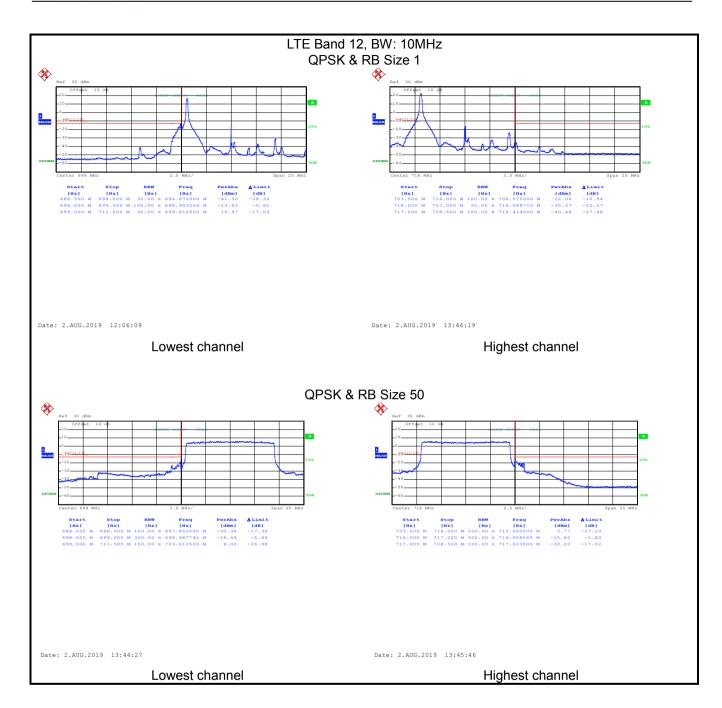














6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 22.917(b), Part 24.238 (a), Part 27.53(g), Part 27.53(h)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 2 & 4 & 5 & 12: The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log ₁₀ (P) dB (-13 dBm).
Test setup:	Below 1GHz Antenna Tower Ground Reference Plane Ground Reference Plane Ground Reference Plane Signal Generator Amplifier
	Ground Reference Plane Test Receiver Test Receiver Test Receiver
Test Procedure:	 The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. ERP / EIRP = S.G. output (dBm) + Antenna Gain(dB/dBi) - Cable Loss (dB)
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed

Shenzhen Zhongjian Nanfang Testing Co., Ltd. No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China

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Measurement Data:

LTE Band 2 part:

LTE Band 2, WB: 1.4MHz					
	RI	B size 1 & RB offset (0		
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result	
Frequency (MITIZ)	Polarization	Level (dBm)	Limit (ubin)	Kesuit	
	Lowest Channel				
3701.40	Vertical	-43.82			
5552.10	V	-37.33			
7402.00	V	-33.06	-13.00	Dage	
3701.40	Horizontal	-43.99	-13.00	Pass	
5552.10	Н	-36.34			
7402.00	Н	-33.67			
		Middle Channel			
3760.00	Vertical	-49.14		Pass	
5640.00	V	-42.83			
7520.00	V	-34.09	-13.00		
3760.00	Horizontal	-49.97	-13.00		
5640.00	Н	-42.89			
7520.00	Н	-38.30			
		Highest Channel			
3816.60	Vertical	-45.61			
5724.90	V	-39.30			
7633.20	V	-33.98	12.00	Door	
3816.60	Horizontal	-45.04	-13.00	Pass	
5724.90	Н	-38.31			
7633.20	Н	-34.90			

Note:

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



LTE Band 2, WB: 3MHz					
RB size 1 & RB offset 0					
Fraguenov (MHz)	Spurious	Emission	Limit (dDm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3703.00	Vertical	-45.36			
5554.50	V	-39.61			
7406.00	V	-35.24	-13.00	Pass	
3703.00	Horizontal	-46.15	-13.00	Fa55	
5554.50	Н	-41.72			
7406.00	Н	-33.32			
		Middle Channel			
3760.00	Vertical	-43.62			
5640.00	V	-36.67			
7520.00	V	-36.59	-13.00	Pass	
3760.00	Horizontal	-49.13	-13.00	Fa55	
5640.00	Н	-36.64			
7520.00	Н	-33.45			
		Highest Channel			
3817.00	Vertical	-45.21			
5725.50	V	-36.67			
7634.00	V	-36.49	-13.00	Door	
3817.00	Horizontal	-45.19		Pass	
5725.50	Н	-41.70			
7634.00	Н	-36.49			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



LTE Band 2, WB: 5MHz					
RB size 1 & RB offset 0					
Frequency (MHz)	Spurious	Emission	Limit (dRm)	Result	
Frequency (MHZ)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3705.00	Vertical	-44.69			
5557.50	V	-46.51			
7410.00	V	-32.74	-13.00	Pass	
3705.00	Horizontal	-42.65	-13.00	Pass	
5557.50	Н	-34.61			
7410.00	Н	-34.98			
		Middle Channel			
3760.00	Vertical	-49.52		Pass	
5640.00	V	-42.15			
7520.00	V	-33.75	-13.00		
3760.00	Horizontal	-48.51	-13.00	Pass	
5640.00	Н	-41.57			
7520.00	Н	-37.49			
		Highest Channel			
3815.00	Vertical	-44.61			
5722.50	V	-39.67			
7630.00	V	-34.51	-13.00	Desc	
3815.00	Horizontal	-45.21		Pass	
5722.50	Н	-37.48			
7630.00	Н	-36.26			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LTE Band 2, WB: 10MHz				
	R	B size 1 & RB offset ()		
Fraguency (MHz)	Spurious	Emission	Limit (dRm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3710.00	Vertical	-46.37			
5565.00	V	-39.51			
7420.00	V	-33.26	-13.00	Pass	
3710.00	Horizontal	-46.51	-13.00	Pass	
5565.00	Н	-42.57			
7420.00	Н	-34.31			
		Middle Channel			
3760.00	Vertical	-45.21			
5640.00	V	-37.94			
7520.00	V	-36.65	42.00	Pass	
3760.00	Horizontal	-49.65	-13.00		
5640.00	Н	-39.61			
7520.00	Н	-33.55			
		Highest Channel			
3810.00	Vertical	-44.61			
5715.00	V	-37.64			
7620.00	V	-36.62	42.00	Daga	
3810.00	Horizontal	-46.58	-13.00	Pass	
5715.00	Н	-42.19			
7620.00	Н	-34.78			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LTE Band 2, WB: 15MHz				
	R	B size 1 & RB offset ()		
Frequency (MHz)	Spurious	Emission	Limit (dRm)	Result	
Frequency (MHZ)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3715.00	Vertical	-45.21			
5572.50	V	-46.37			
7430.00	V	-31.69	-13.00	Door	
3715.00	Horizontal	-42.51	-13.00	Pass	
5572.50	Н	-34.67			
7430.00	Н	-33.62			
		Middle Channel			
3760.00	Vertical	-45.81			
5640.00	V	-41.27			
7520.00	V	-32.56	42.00	Door	
3760.00	Horizontal	-46.58	-13.00	Pass	
5640.00	Н	-42.61			
7520.00	Н	-36.79			
		Highest Channel			
3805.00	Vertical	-45.21			
5707.50	V	-37.64			
7610.00	V	-35.61	40.00	Dana	
3805.00	Horizontal	-46.19	-13.00	Pass	
5707.50	Н	-38.54			
7610.00	Н	-34.79			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



LTE Band 2, WB: 20MHz					
RB size 1 & RB offset 0					
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result	
Frequency (MHZ)	Polarization	Level (dBm)	LIIIII (UDIII)	Result	
3720.00	Vertical	-47.20			
5580.00	V	-40.73			
7440.00	V	-34.50	-13.00	Pass	
3720.00	Horizontal	-45.96	-13.00	Pass	
5580.00	Н	-41.20			
7440.00	Н	-35.25			
		Middle Channel			
3760.00	Vertical	-44.67			
5640.00	V	-38.91			
7520.00	V	-35.24	42.00	Dese	
3760.00	Horizontal	-50.32	-13.00	Pass	
5640.00	Н	-40.95			
7520.00	Н	-34.22			
		Highest Channel			
3800.00	Vertical	-46.15			
5700.00	V	-38.65			
7600.00	V	-33.94	-13.00	Door	
3800.00	Horizontal	-45.54		Pass	
5700.00	Н	-43.59			
7600.00	Н	-35.53			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.





LTE Band 4 part:

	LT	E Band 4, WB: 1.4MH	lz	
	R	B size 1 & RB offset ()	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (Miriz)	Polarization	Level (dBm)	Limit (ubin)	Result
		Lowest Channel		
3421.40	Vertical	-45.27		
5132.10	V	-40.49		
6842.80	V	-38.35	-13.00	Pass
3421.40	Horizontal	-44.51	-13.00	Pass
5132.10	Н	-40.46		
6842.80	Н	-35.65		
		Middle Channel		
3465.00	Vertical	-44.31		
5197.50	V	-40.75		
6930.00	V	-36.00	42.00	Door
3465.00	Horizontal	-44.19	-13.00	Pass
5197.50	Н	-42.12		
6930.00	Н	-35.19		
		Highest Channel		
3508.60	Vertical	-45.35		
5262.90	V	-41.47		
7017.20	V	-36.05	-13.00	Door
3508.60	Horizontal	-46.39		Pass
5262.90	Н	-41.30		
7017.20	Н	-34.80		

Note:

The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



LTE Band 4, WB: 3MHz					
RB size 1 & RB offset 0					
Frequency (MHz)	Spurious	Emission	Lineit (dDne)	Desult	
Frequency (MHZ)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3423.00	Vertical	-46.36			
5134.50	V	-37.69			
6846.00	V	-3659.00	-13.00	Door	
3423.00	Horizontal	-42.61	-13.00	Pass	
5134.50	Н	-37.64			
6846.00	Н	-31.26			
		Middle Channel			
3465.00	Vertical	-44.61			
5197.50	V	-36.32			
6930.00	V	-35.64	42.00	Door	
3465.00	Horizontal	-42.17	-13.00	Pass	
5197.50	Н	-42.77			
6930.00	Н	-31.69			
		Highest Channel			
3507.00	Vertical	-43.62			
5260.50	V	-42.69			
7014.00	V	-35.75	-13.00	Dana	
3507.00	Horizontal	-45.69		Pass	
5260.50	Н	-42.87			
7014.00	Н	-31.43			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



LTE Band 4, WB: 5MHz					
RB size 1 & RB offset 0					
Fraguenov (MHz)	Spurious	Emission	Limit (dPm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3425.00	Vertical	-46.36			
5137.50	V	-39.61			
6850.00	V	-37.42	-13.00	Pass	
3425.00	Horizontal	-43.21	-13.00	Fa55	
5137.50	Н	-39.64			
6850.00	Н	-35.19			
		Middle Channel			
3465.00	Vertical	-45.26		Pass	
5197.50	V	-39.61			
6930.00	V	-37.64	-13.00		
3465.00	Horizontal	-43.51	-13.00	Fa55	
5197.50	Н	-42.69			
6930.00	Н	-34.65			
		Highest Channel			
3505.00	Vertical	-44.51			
5257.50	V	-42.67			
7010.00	V	-36.69	-13.00	Pass	
3505.00	Horizontal	-45.81		Pass	
5257.50	Н	-42.12			
7010.00	Н	-33.47			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 4, WB: 10MH	z	
	R	B size 1 & RB offset ()	
Fraguenov (MHz)	Spurious	Emission	Limit (dPm)	Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
3430.00	Vertical	-45.23		
5145.00	V	-37.64		
6860.00	V	-36.36	-13.00	Pass
3430.00	Horizontal	-42.56	-13.00	F455
5145.00	Н	-36.95		
6860.00	Н	-31.45		
		Middle Channel		
3465.00	Vertical	-45.25		
5197.50	V	-37.49		
6930.00	V	-36.61	-13.00	Pass
3465.00	Horizontal	-42.56	-13.00	Pd55
5197.50	Н	-41.73		
6930.00	Н	-32.49		
		Highest Channel		
3500.00	Vertical	-46.31		
5250.00	V	-42.67		
7000.00	V	-35.69	-13.00	Pass
3500.00	Horizontal	-44.69		Pass
5250.00	Н	-42.61		
7000.00	Н	-32.44		

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



LTE Band 4, WB: 15MHz					
RB size 1 & RB offset 0					
Fraguency (MUz)	Spurious	Emission	Limit (dPm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3435.00	Vertical	-45.62			
5152.50	V	-37.64			
6870.00	V	-36.63	-13.00	Pass	
3435.00	Horizontal	-42.51	-13.00	Fd55	
5152.50	Н	-38.64			
6870.00	Н	-34.79			
		Middle Channel			
3465.00	Vertical	-45.21			
5197.50	V	-39.64			
6930.00	V	-36.69	-13.00	Pass	
3465.00	Horizontal	-42.58	-13.00	Pass	
5197.50	Н	-41.64			
6930.00	Н	-34.76			
		Highest Channel			
3495.00	Vertical	-45.21			
5242.50	V	-41.67			
6990.00	V	-36.69	-13.00	Door	
3495.00	Horizontal	-45.19		Pass	
5242.50	Н	-41.27			
6990.00	Н	-33.49			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 4, WB: 20MH	z	
	R	B size 1 & RB offset 0)	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (MHZ)	Polarization	Level (dBm)	LIIIII (UDIII)	Result
		Lowest Channel		
3440.00	Vertical	-46.32		
5160.00	V	-36.34		
6880.00	V	V -36.34 V -37.64 Horizontal -41.60 H -37.69 H -32.51 Middle Channel Vertical -44.36 V -36.64 V -37.64 Horizontal -41.25 H -42.61 H -33.69	Door	
3440.00	Horizontal	-41.60	-13.00	F 455
5160.00	Н	-37.69		
6880.00	Н	-32.51		
		Middle Channel		
3465.00	Vertical	-44.36		
5197.50	V	-36.64		
6930.00	V	-37.64	12.00	Door
3465.00	Horizontal	-41.25	-13.00	Pass
5197.50	Н	-42.61		
6930.00	Н	-33.69		
		Highest Channel		
3490.00	Vertical	-45.69		
5235.00	V	-41.27		
6980.00	V	-35.69	12.00	Door
3490.00	Horizontal	-44.21	-13.00	Pass
5235.00	Н	-42.67		
6980.00	Н	-32.19		

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.





LTE Band 5 part:

	LT	E Band 5, WB: 1.4MH	Iz	
	R	B size 1 & RB offset ()	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (Miriz)	Polarization	Level (dBm)	Limit (ubin)	Result
		Lowest Channel		
1649.40	Vertical	-50.75		
2474.10	V	-51.40	8.12 1.63 0.80 7.90	
3298.80	V	V -48.12 Horizontal -51.63 H -50.80 H -47.90 Middle Channel Vertical -47.52 V -51.22	Poop	
1649.40	Horizontal	-51.63	-13.00 Pa	
2474.10	Н	-50.80		
3298.80	Н	-47.90		
		Middle Channel		
1673.00	Vertical	-47.52		
2509.50	V	-51.22		
3346.00	V	-46.81	-13.00	Pass
1673.00	Horizontal	-48.17	-13.00	F455
2509.50	Н	-51.59		
3346.00	Н	-48.28		
		Highest Channel		
1696.60	Vertical	-45.88		
2544.90	V	-49.88		
3393.20	V	-46.58	12.00	Door
1696.60	Horizontal	-45.40	-13.00	Pass
2544.90	Н	-51.36		
3393.20	Н	-46.20		

Note:

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	L	TE Band 5, WB: 3MHz	Z		
	R	B size 1 & RB offset ()		
Fraguenov (MHz)	Spurious	Emission	Limit (dPm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
1651.00	Vertical	-49.62			
2476.50	V	-53.23			
3302.00	V	retrical -49.62 V -53.23 V -52.61 rizontal -49.67 H -51.34 H -47.93 Middle Channel retrical -45.21 V -52.36 V -46.67 rizontal -47.85 Partical -43.00 Partical -45.19 H -47.85	Poos		
1651.00	Horizontal	-13.00 -49.67 -51.34		Pass	
2476.50	Н	-51.34			
3302.00	Н	-47.93			
		Middle Channel			
1673.00	Vertical	-45.21			
2509.50	V	-52.36			
3346.00	V	-46.67	12.00	Door	
1673.00	Horizontal	-45.19	-13.00	Fa55	
2509.50	Н	-47.85			
3346.00	Н	-46.11			
		Highest Channel			
1695.00	Vertical	-47.52			
2542.50	V	-49.31			
3390.00	V	-52.61 -13.00 Pass -51.34 -47.93 Middle Channel al -45.21 -52.36 -46.67 -141 -47.85 -46.11 Highest Channel al -47.52 -49.31 -45.27 -13.00 Pass			
1695.00	Horizontal	-46.19	-13.00	Pass	
2542.50	Н	-49.13			
3390.00	Н	-43.35			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	Ľ	TE Band 5, WB: 5MH	Z		
	R	B size 1 & RB offset	0		
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result	
	Polarization	Level (dBm)	Limit (dbin)	Result	
		Lowest Channel			
1653.00	Vertical	-49.32			
2479.50	V	-52.36			
3306.00	V	-47.61	-13.00	Pass	
1653.00	Horizontal	-13		Fd55	
2479.50	Н	-49.67			
3306.00	Н	-46.18			
		Middle Channel			
1673.00	Vertical	-46.25			
2509.50	V	-49.12			
3346.00	V	-45.27	-13.00	Pass	
1673.00	Horizontal	-47.61	-13.00	F d 5 5	
2509.50	Н	-52.58			
3346.00	Н	-47.84			
		Highest Channel			
1693.00	Vertical	-44.61			
2539.50	V	-48.21			
3386.00	V	-45.77	12.00	Door	
1693.00	Horizontal	-46.85	-46.85 -13.00 Pass		
2539.50	Н	-46.19			
3386.00	Н	-45.12			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 5, WB: 10MH	łz			
	R	B size 1 & RB offset	0			
Fraguenov (MUz)	Spurious Emission		Limit (dDm)	Result		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
		Lowest Channel				
1658.00	Vertical	-50.78				
2487.00	V	-51.27				
3316.00	V	-51.17	-13.00	Pass		
1658.00	Horizontal	-49.72	-13.00	Fd55		
2487.00	Н	-52.74				
3316.00	Н	-48.59				
		Middle Channel				
1673.00	Vertical	-49.45				
2509.50	V	-52.46				
3346.00	V	-47.59	-13.00 Pa			
1673.00	Horizontal	-45.56	-13.00	Pass		
2509.50	Н	-48.90				
3346.00	Н	-47.08]			
<u>.</u>		Highest Channel				
1688.00	Vertical	-48.10				
2532.00	V	-50.65]			
3376.00	00 H -47.08 Highest Channel 00 Vertical -48.10 00 V -50.65		10.00	Dana		
1688.00	Horizontal	-47.03	-13.00	Pass		
2532.00	Н	-50.68]			
3376.00	Н	-44.07]			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.





LTE Band 12 part:

	LTI	E Band 12, WB: 1.4MI	Hz	
	R	B size 1 & RB offset ()	
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
Frequency (MHZ)	Polarization	Level (dBm)	LIIIII (UDIII)	Result
		Lowest Channel		
1399.40	Vertical	-51.83		
2099.10	V	-53.98	8.73 0.83 3.48 8.80 Channel	
2798.80	V -48.73	Poop		
1399.40	Horizontal	ontal -50.83 -13.00 -13.00		Fa55
2099.10	Н	-53.48		
2798.80	Н	-48.80		
		Middle Channel		
1415.00	Vertical	-43.49		
2122.50	V	-53.30		
2830.00	V	-53.15	42.00	Dese
1415.00	Horizontal	-47.64	-13.00	Pass
2122.50	Н	-55.06		
2830.00	Н	-51.42		
·		Highest Channel		
1430.60	Vertical	-43.96		
2145.90	V	-50.51		
2861.20	V	Middle Channel ertical -43.49 V -53.30 V -53.15 rizontal -47.64 H -55.06 H -51.42 Highest Channel ertical -43.96 V -50.51 V -50.15 Pass		
1430.60	Horizontal	-47.13	-13.00	Pass
2145.90	Н	-54.68		
2861.20	Н	-48.77		

Note:

The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 12, WB: 3MH	z			
	R	B size 1 & RB offset ()			
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result		
	Polarization	Level (dBm)	Limit (dbin)	Result		
		Lowest Channel				
1401.00	Vertical	-49.62				
2101.50	V	-51.36				
2802.00	V	-49.61	-13.00	Pass		
1401.00	Horizontal	-50.23	-13.00	Fd55		
2101.50	Н	-49.72				
2802.00	Н	-51.15				
		Middle Channel				
1415.00	Vertical	-49.61				
2122.50	V	-51.24				
2830.00	V	-52.63	1 4 3 -13 00			
1415.00	Horizontal	-49.61	-13.00	Pass		
2122.50	Н	-48.72				
2830.00	Н	-49.23				
		Highest Channel				
1429.00	Vertical	-48.31				
2143.50	V	-51.46				
2858.00	V	-50.23	12.00	Door		
1429.00	Horizontal	-46.25	-46.25 -13.00 Pass			
2143.50	Н	-45.87				
2858.00	Н	-47.13				

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 12, WB: 5MH	İz		
	R	B size 1 & RB offset	0		
Frequency (MHz)	Spurious Emission		Limit (dPm)	Danill	
Frequency (MHZ)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
1403.00	Vertical	-49.36			
2104.50	V	-52.61	13.00 Pas		
2806.00	V	-47.65	12.00	Pass	
1403.00	Horizontal	-49.61	-13.00	Fa55	
2104.50	Н	-53.21			
2806.00	Н	-47.59			
		Middle Channel			
1415.00	Vertical	-43.26			
2122.50	V	-52.14			
2830.00	V	-53.75	-13.00	Pass	
1415.00	Horizontal	-46.14	-13.00	Fa55	
2122.50	Н	-55.13			
2830.00	Н	-54.13			
		Highest Channel			
1427.00	Vertical	-43.61			
2410.50	V	-49.86			
2854.00	V	-51.37	42.00	Dese	
1427.00	Horizontal	-46.53	-13.00	Pass	
2410.50	Н	-52.76			
2854.00	Н	-47.18			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 12, WB: 10MF	-lz		
	R	B size 1 & RB offset ()		
Fraguency (MUz)	Spurious Emission		Limit (dRm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
1408.00	Vertical	-53.14			
2112.00	V	-53.77			
2816.00	V	-50.79	-13.00	Door	
1408.00	Horizontal	-52.75	-13.00	Pass	
2112.00	Н	-56.28			
2816.00	Н	-51.56			
·		Middle Channel			
1415.00	Vertical	-50.89			
2122.50	V	-53.61			
2830.00	V	-52.38	42.00	Door	
1415.00	Horizontal	-52.01	-13.00	Pass	
2122.50	Н	-53.87			
2830.00	Н	-49.68			
<u>.</u>		Highest Channel			
1422.00	Vertical	-49.36			
2133.00	V	-52.24			
2844.00	V	-51.64	40.00	Dana	
1422.00	Horizontal	-46.76	-13.00	Pass	
2133.00	Н	-49.61			
2844.00	Н	-48.72			

^{1.} The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

^{2.} For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



6.6 Frequency stability V.S. Temperature measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 2.1055(a)(1)(b)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
Test setup:	SS Divider Temperature & Humidity Chamber Power Source
Test procedure:	 The equipment under test was connected to an external DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed





Measurement Data (worst case):

LTE Band 2 part:

Power supplied	requency: LTE Band 2		ncy error	U cnannel=1880.00	JIVIHZ
(Vdc)	Temperature (°C) -	Hz	ppm	Limit (ppm)	Result
,		QPSK	PP···		
	-30	186	0.098936		
	-20	162	0.086170		
	-10	157	0.083511		
	0	154	0.081915	Within	
12.0	10	126	0.067021	authorized band for LTE	Pass
	20	167	0.088830	band 2	
	30	136	0.072340		
	40	125	0.066489		
	50	123	0.065426		
		16QAM			
	-30	135	0.071809		
	-20	154	0.081915		
	-10	125	0.066489	<u> </u>	
	0	157	0.083511	Within	
12.0	10	135	0.071809	authorized band for LTE	Pass
	20	155	0.082447	band 2	
	30	126	0.067021		
	40	143	0.076064		
	50	146	0.077660		





LTE Band 4 part:

Power supplied	Tamanaratura (°C)	Freque	ency error	Limeit (mmm)	Daguile
(Vdc)	Temperature (°C) —	Hz	ppm	Limit (ppm)	Result
	·	QPSK	_	·	
	-30	192	0.110823		
	-20	162	0.093506		
	-10	136	0.078499		
	0	132	0.076190	Within	
12.0	10	147	0.084848	authorized band for LTE	Pass
	20	147	0.084848	band 4	
	30	141	0.081385		
	40	150	0.086580		
	50	126	0.072727		
		16QAM			
	-30	132	0.076190		
	-20	154	0.088889		
	-10	163	0.094084		
	0	127	0.073304	Within	
12.0	10	145	0.083694	authorized band for LTE	Pass
	20	139	0.080231	band 4	
	30	165	0.095238		
	40	139	0.080231		
	50	182	0.105051	7	





LTE Band 5 part:

Reference F	requency: LTE Band	5 (10MHz) Mide	dle channel=2052	5 channel=836.50)MHz
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
	remperature (©)	Hz	ppm	Limit (ppin)	Nesuit
		QPSK			
	-30	197	0.235505		Pass
	-20	165	0.197250		
	-10	137	0.163778		
	0	159	0.190078		
12.0	10	146	0.174537	±2.5	
	20	176	0.210400		
	30	165	0.197250		
	40	153	0.182905		
	50	114	0.136282		
		16QAM			
	-30	162	0.193664		Pass
	-20	147	0.175732	±2.5	
	-10	136	0.162582		
	0	157	0.187687		
12.0	10	152	0.181710		
	20	136	0.162582		
	30	116	0.138673		
	40	114	0.136282		
	50	137	0.163778		





LTE Band 12 part:

Reference Frequency: LTE Band 12 (10MHz) Middle channel=23 Power supplied Frequency error					
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
		QPSK			
	-30	185	0.261484		Pass
	-20	162	0.228975		
	-10	141	0.199293		
	0	123	0.173852	Within	
12.0	10	145	0.204947	authorized band for LTE	
	20	136	0.192226	band 12	
	30	111	0.156890		
	40	106	0.149823		
	50	147	0.207774		
		16QAM			
	-30	154	0.217668		Pass
	-20	133	0.187986		
	-10	145	0.204947]	
	0	105	0.148410	Within	
12.0	10	113	0.159717	authorized band for LTE	
	20	125	0.176678	band 12	
	30	129	0.182332		
	40	137	0.193640		
	50	122	0.172438		



6.7 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 2.1055(d)(2)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
Test setup:	SS EUT Divider Temperature & Humidity Chamber
Test procedure:	 Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation (+/-15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed



Measurement Data (worst case):

LTE Band 2 part:

Reference Fr	equency: LTE Band	2(10MHz) Middle	channel=18900) channel=1880.0	00MHz
Tomporatura (°C)	Power supplied	Frequency error		Limit (nnm)	Result
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Kesuit
		QPSK			
	12.8	98	0.052128	Within authorized	
25	12.0	65	0.034574		Pass
_,	11.2	74	0.039362	band for LTE band 2	
		16QAM			
25	12.8	80	0.042553	Within	
	12.0	96	0.051064	authorized band for LTE band 2	Pass
	11.2	48	0.025532		
Note: Only the worst ca	se shown in the report.	·	·		

LTE Band 4 part:

Reference Fr	equency: LTE Band	4(10MHz) Middle	channel=2017	5 channel=1732.5	50MHz
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (none)	Result
remperature (C)		Hz	ppm	Limit (ppm)	Result
		QPSK			
	12.8	84	0.048485	Within authorized band for LTE band 4	
25	12.0	92	0.053102		Pass
20	11.2	67	0.038672		
		16QAM			
25	12.8	75	0.043290	Within	
	12.0	68	0.039250	authorized band for LTE band 4	Pass
	11.2	84	0.048485		
Note: Only the worst ca	se shown in the report.				

LTE Band 5 part:

Reference Fi	requency: LTE Band	5(10MHz) Middl	e channel=2052	5 channel=836.5	0MHz
Tomporature (°C)	Power supplied	Frequency error		Limit (none)	Danult
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
		QPSK			
	12.8	93	0.111178	±2.5	Pass
25	12.0	75	0.089659		
	11.2	68	0.081291		
		16QAM			
25	12.8	82	0.098027	±2.5	Pass
	12.0	89	0.106396		
	11.2	54	0.064555		





LTE Band 12 part:

Reference Fr	equency: LTE Band	12(10MHz) Midd	le channel=2309	95 channel=707.5	0MHz
Tomporatura (°C)	Power supplied	Frequency error		Limit (mmm)	Danult
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
		QPSK			
25	12.8	95	0.134276	Within authorized band for LTE band 12	Pass
	12.0	58	0.081979		
	11.2	41	0.057951		
		16QAM			
25	12.8	81	0.114488	Within authorized band for LTE band 12	Pass
	12.0	46	0.065018		
	11.2	59	0.083392		