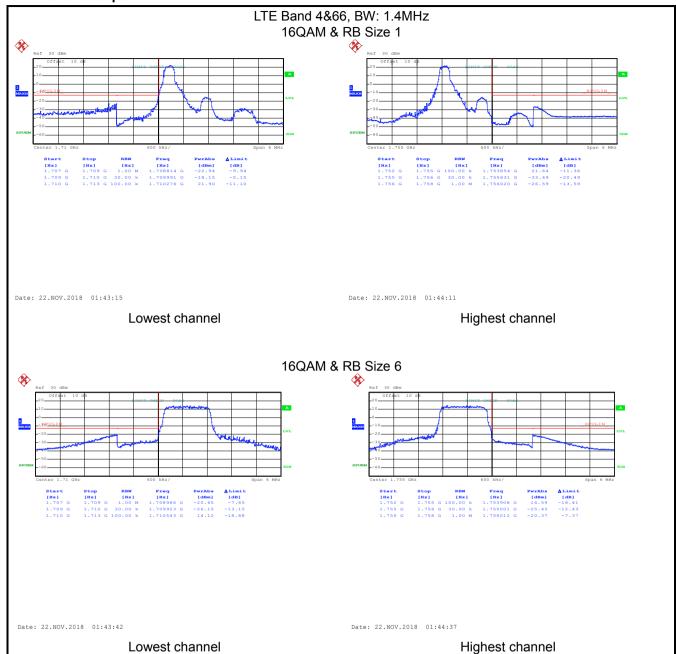
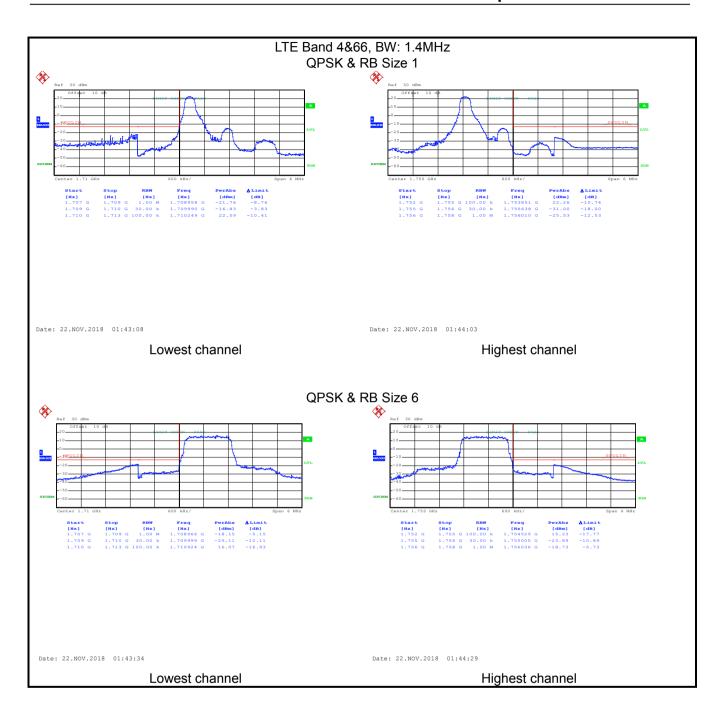




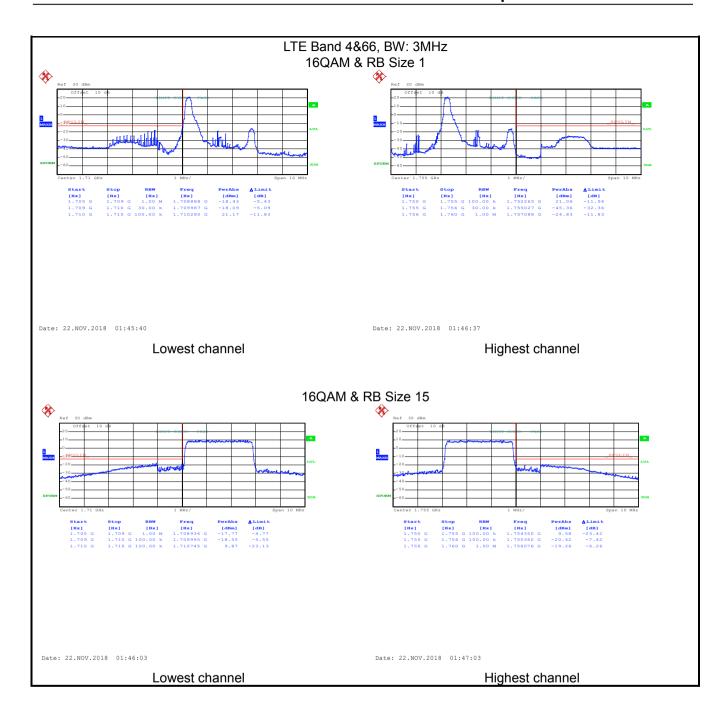
LTE Band 4&66 part:



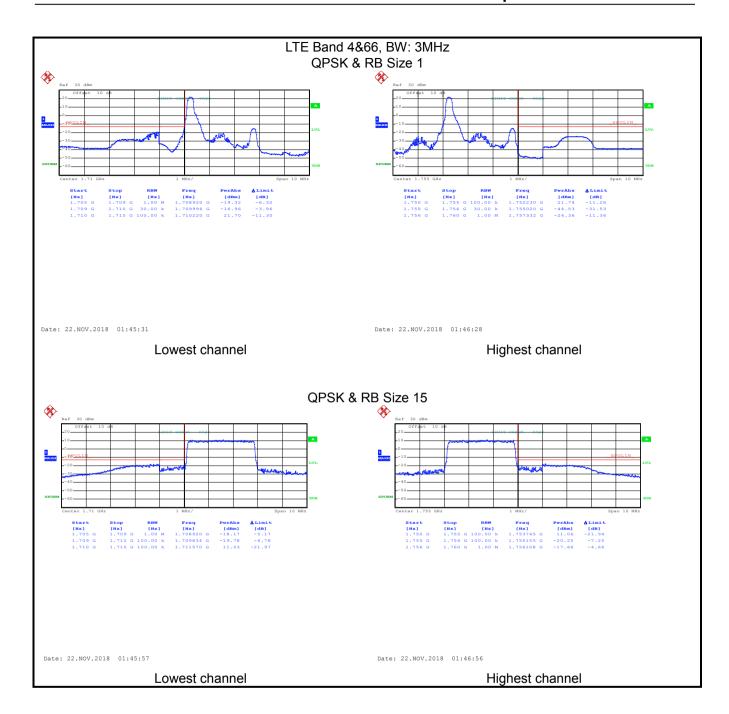




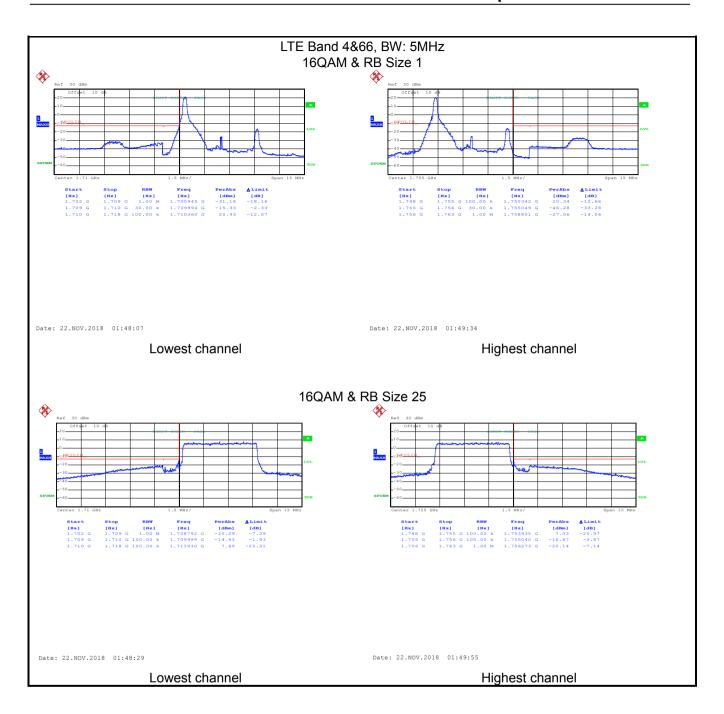




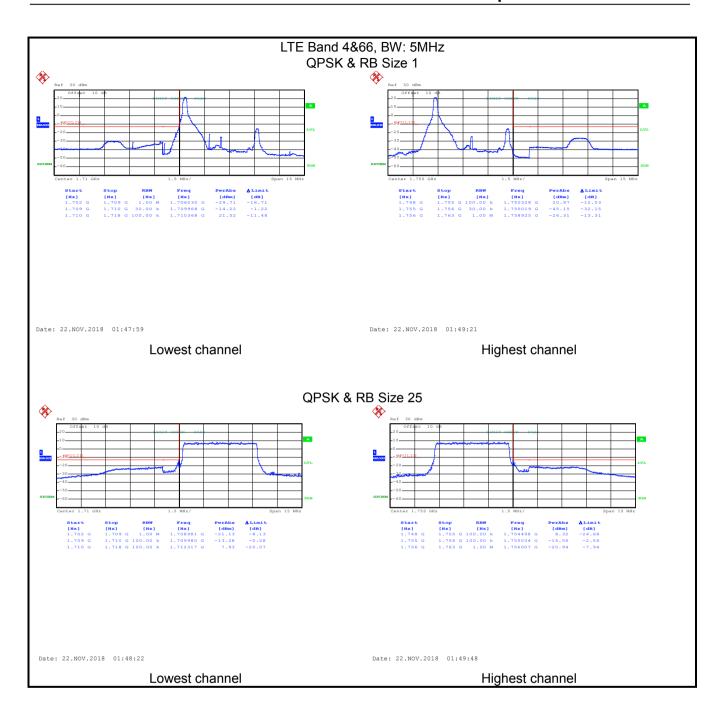




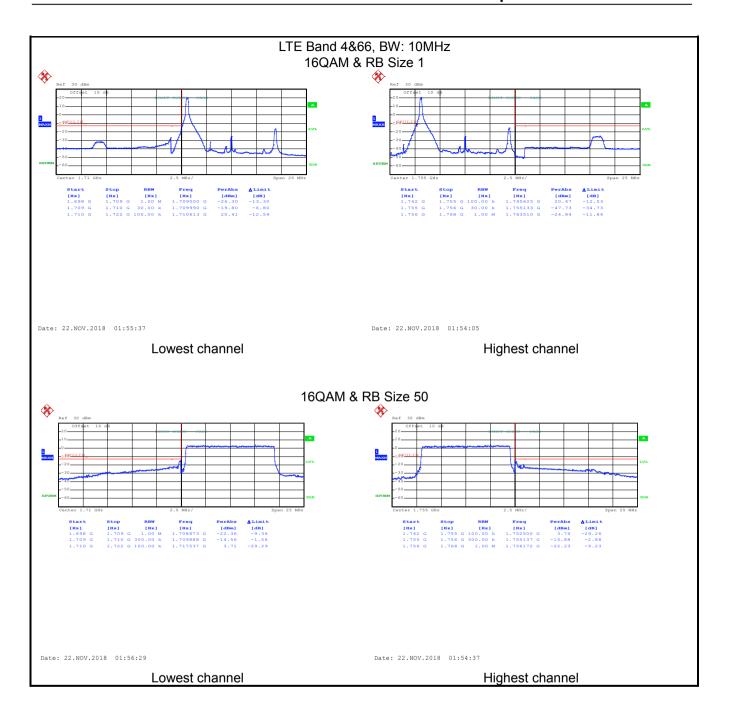




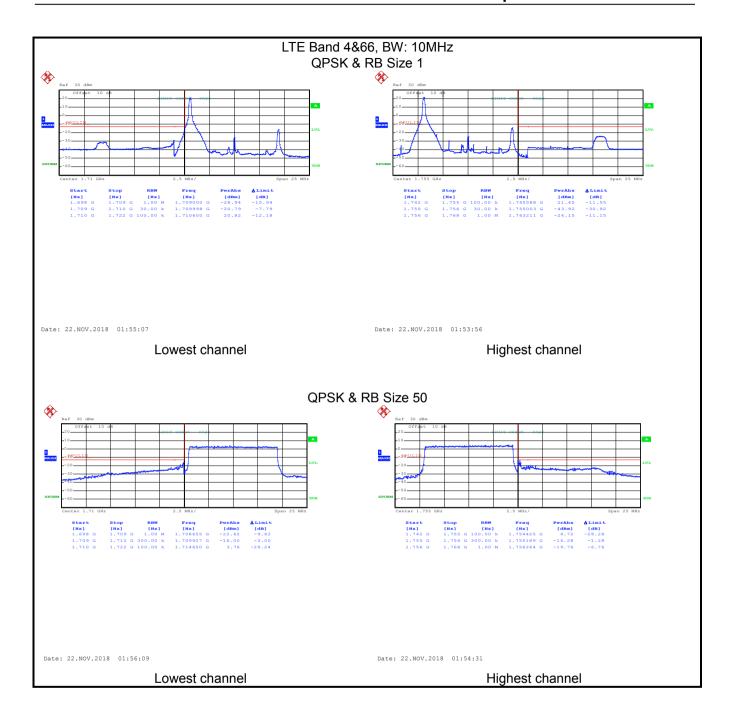




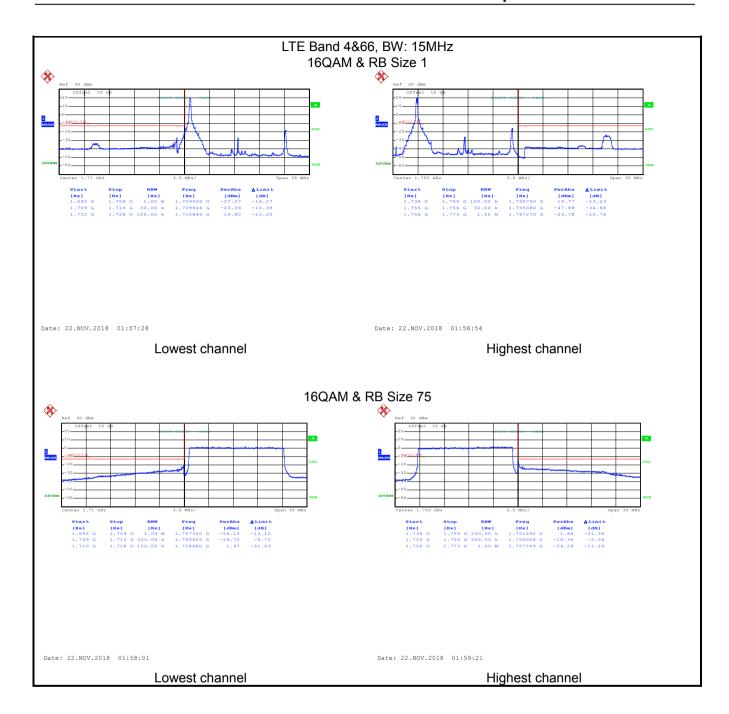




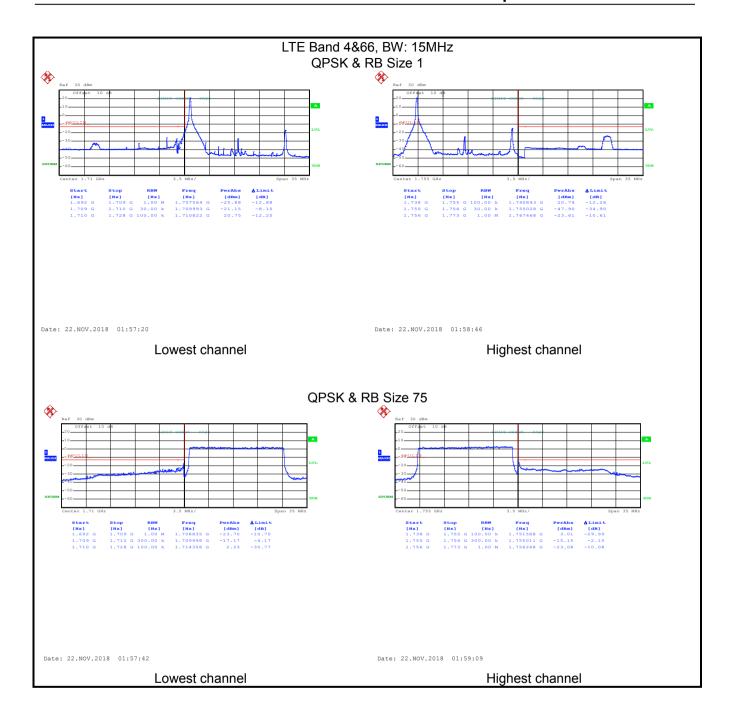




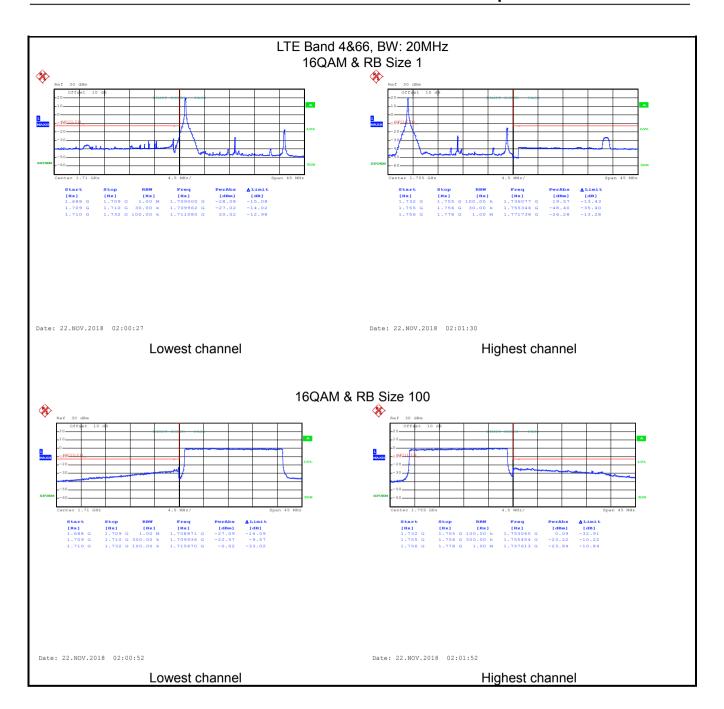




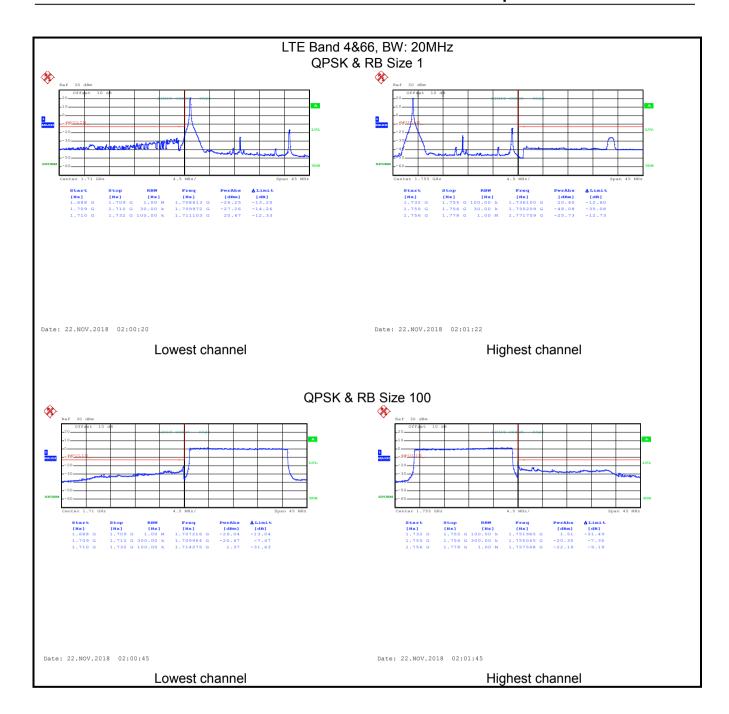






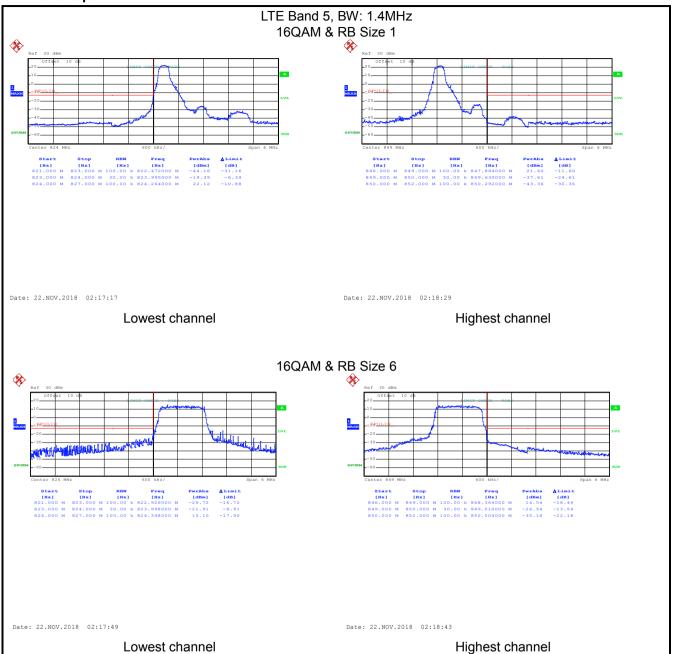




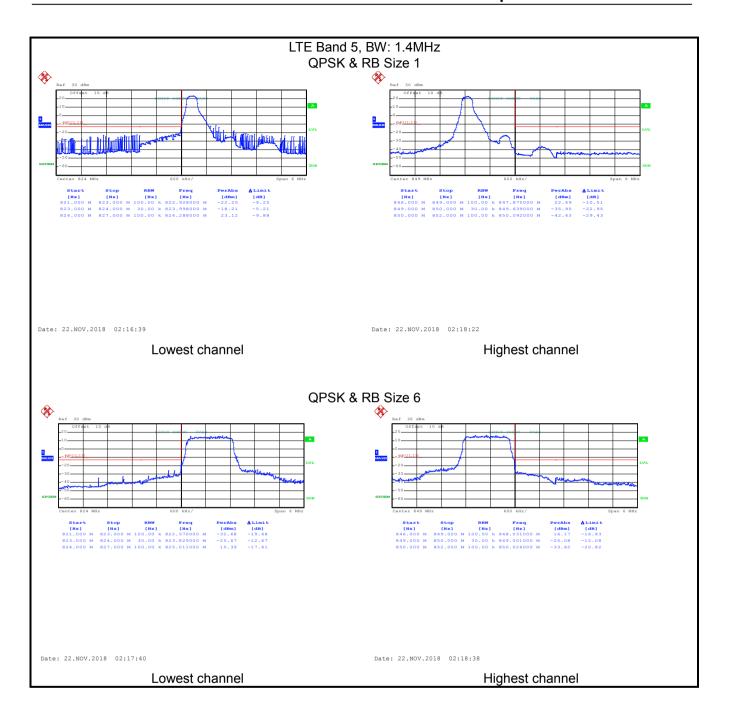




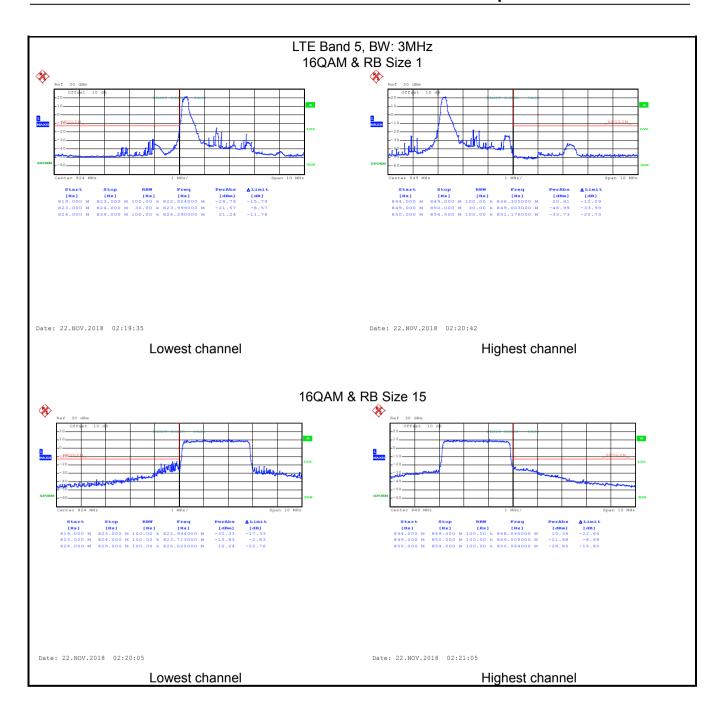
LTE Band 5 part:



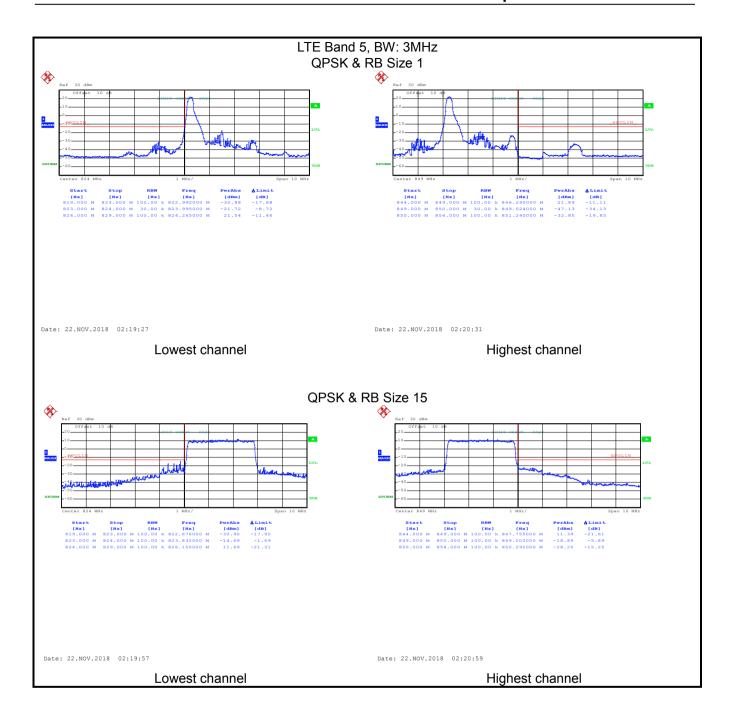




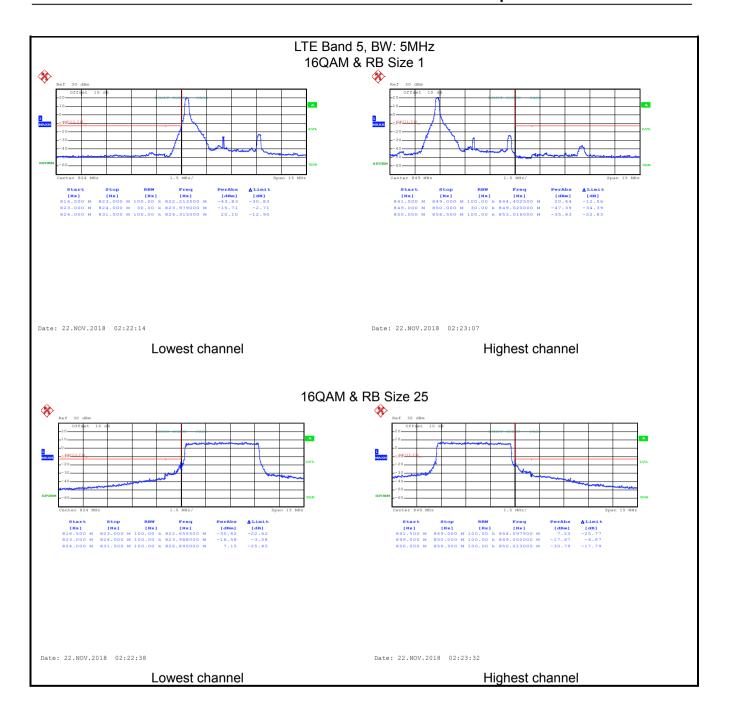




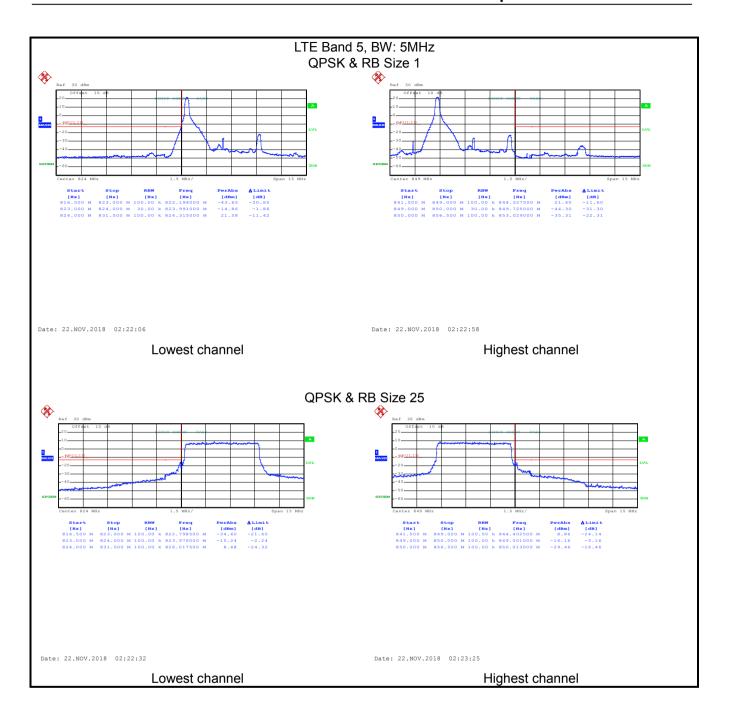




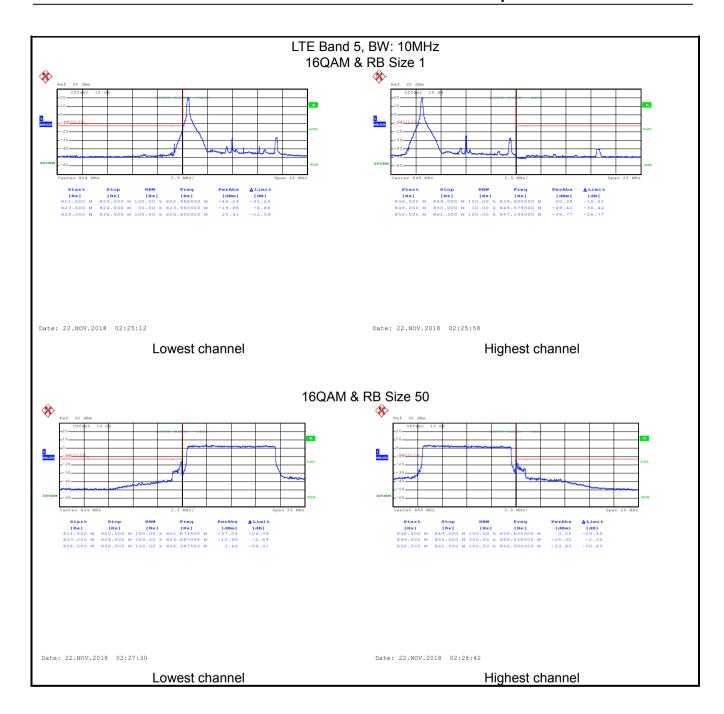




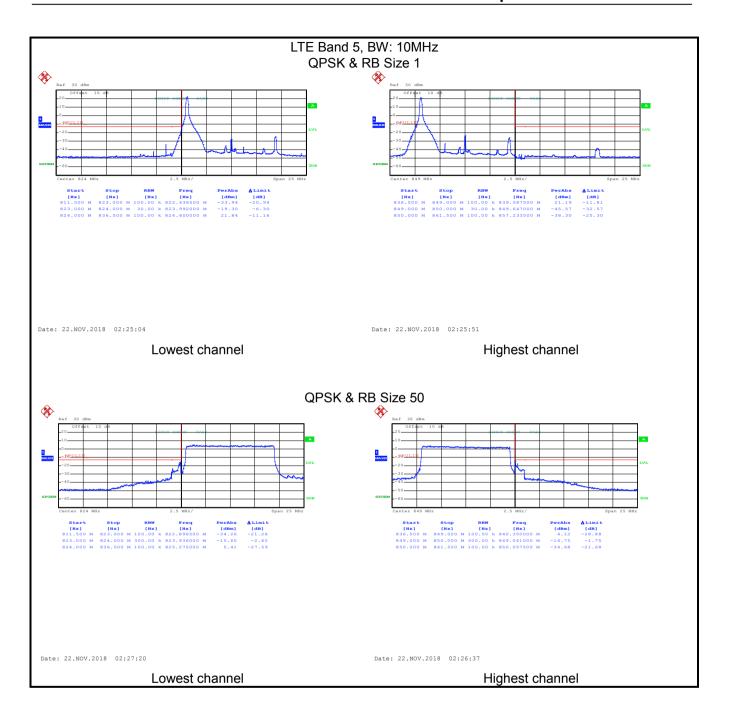






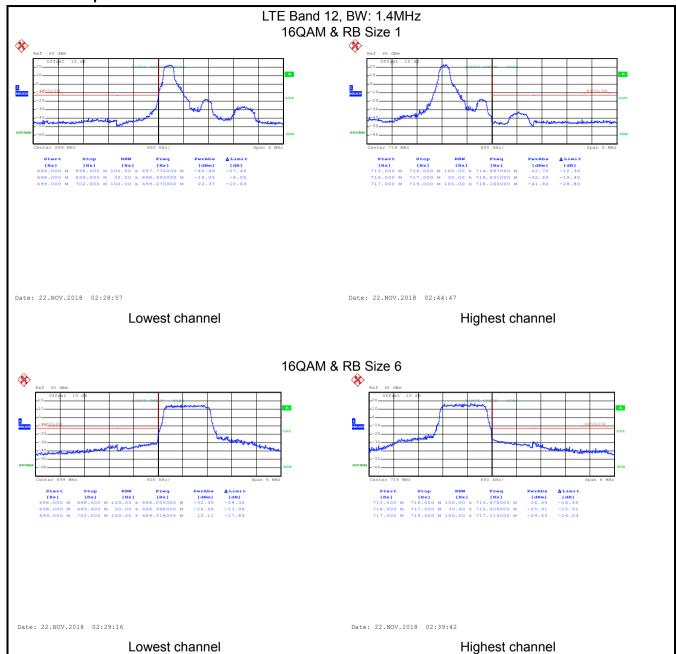




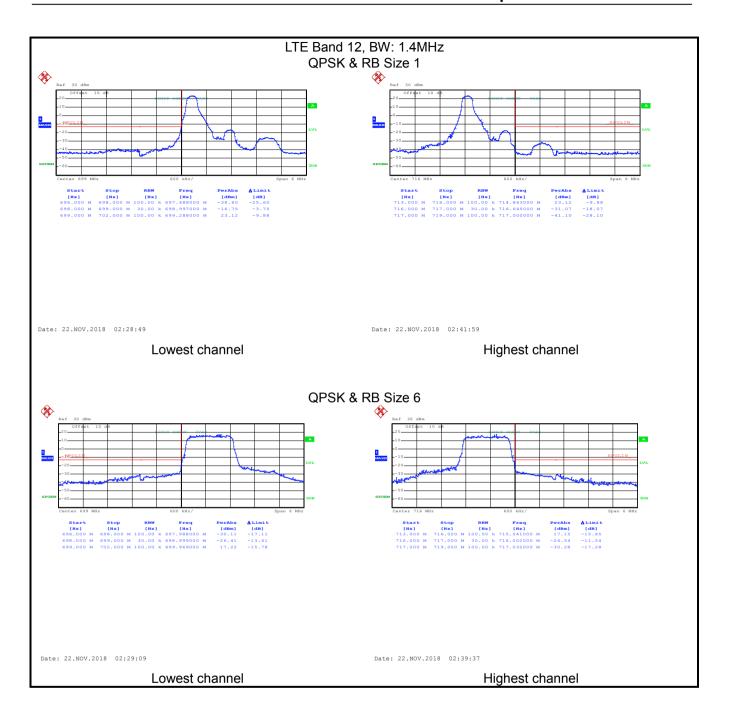




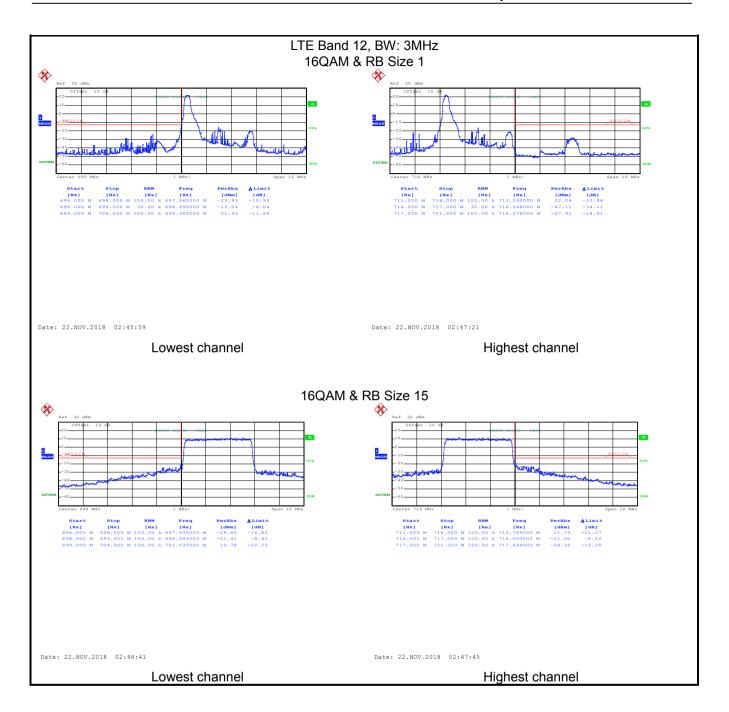
LTE band 12 part:



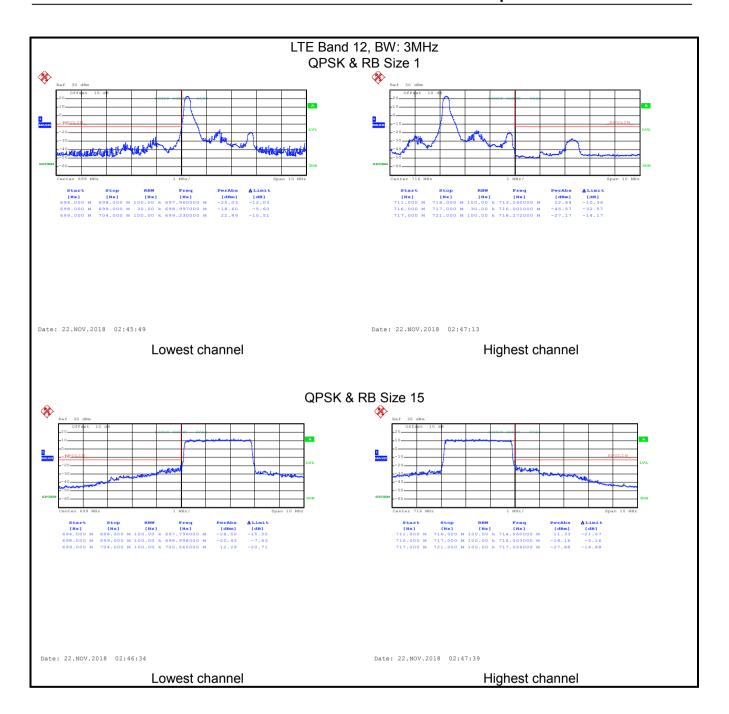




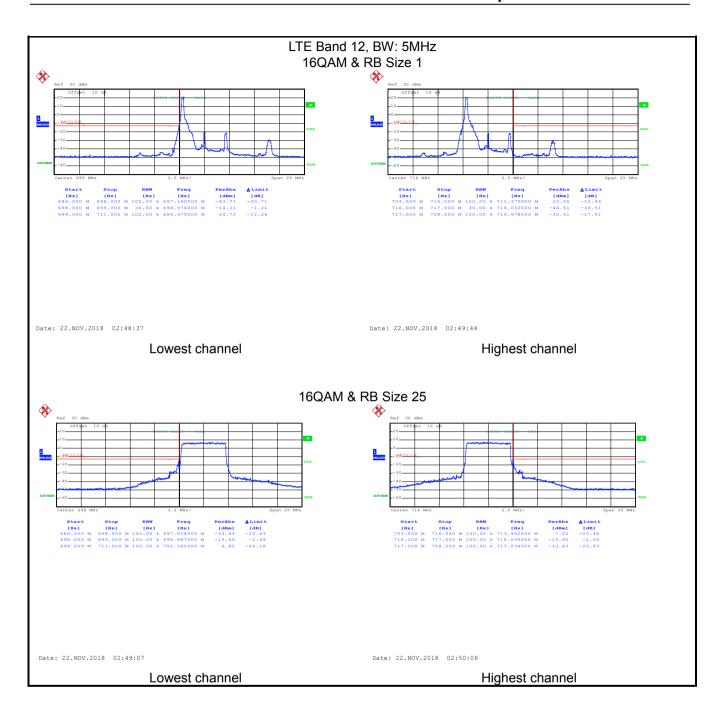




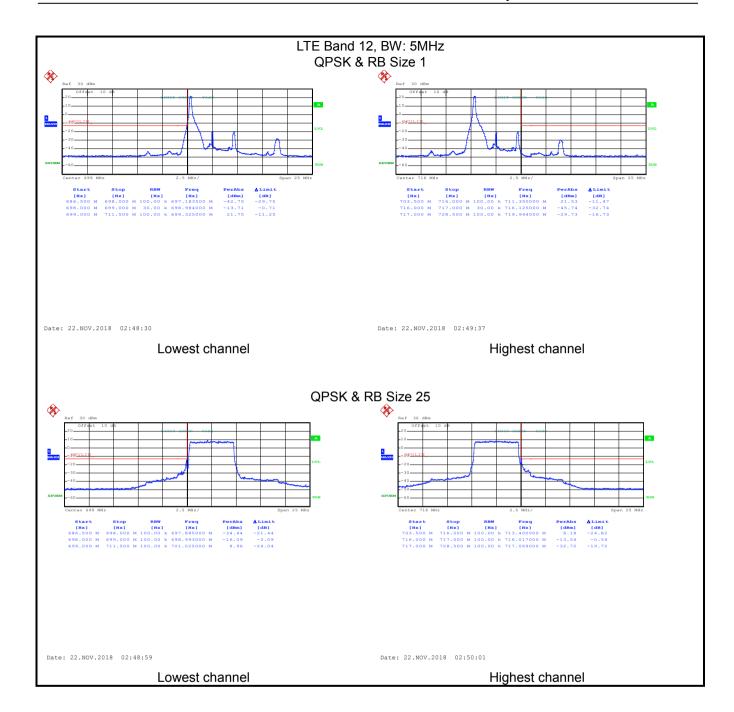




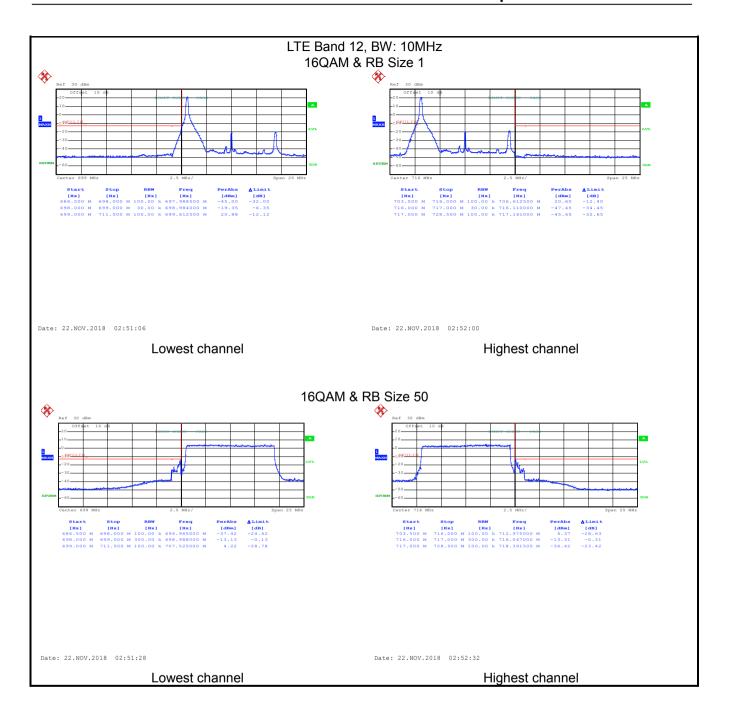




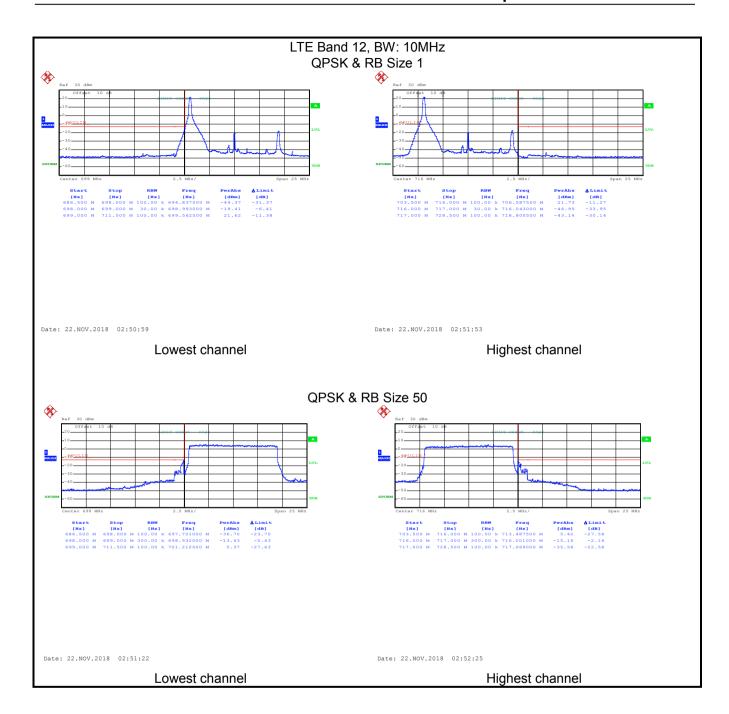






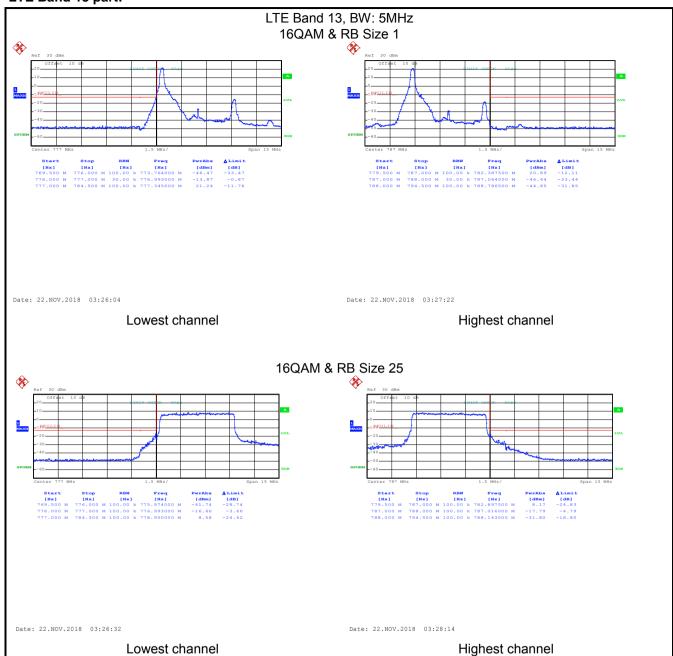




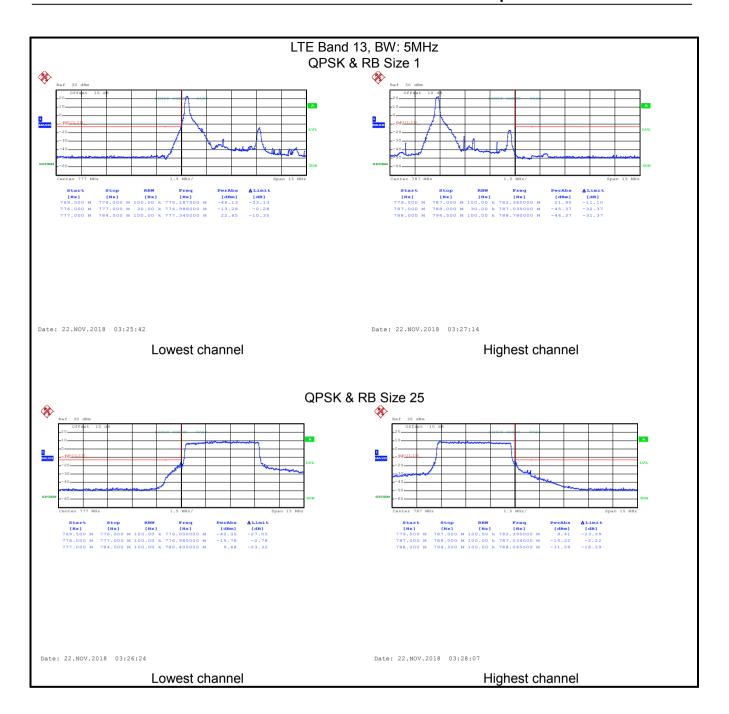




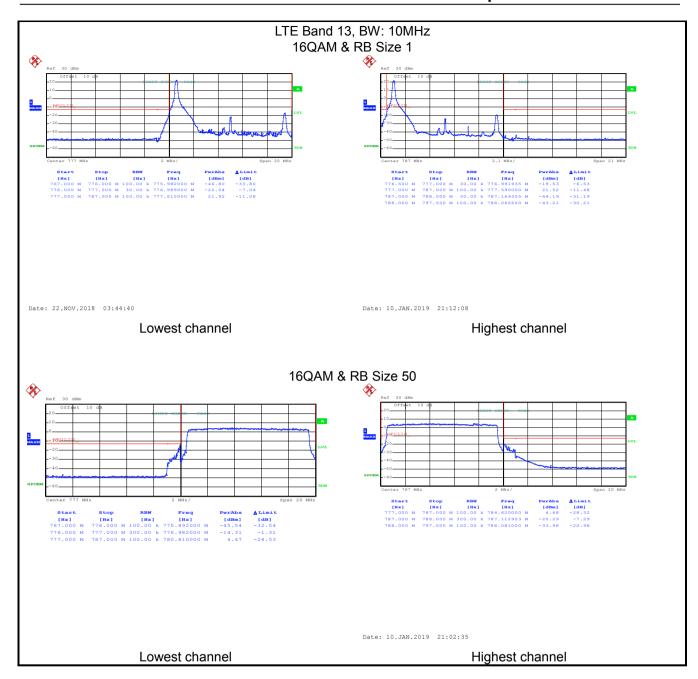
LTE Band 13 part:



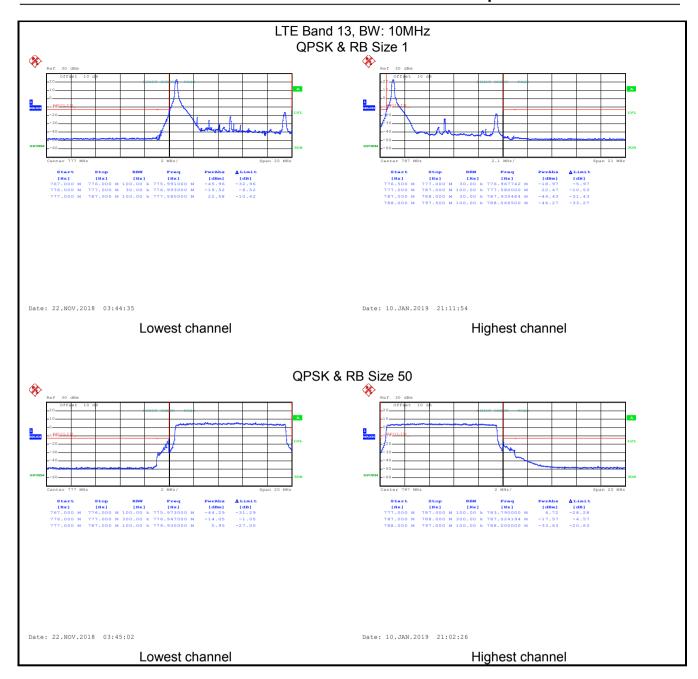






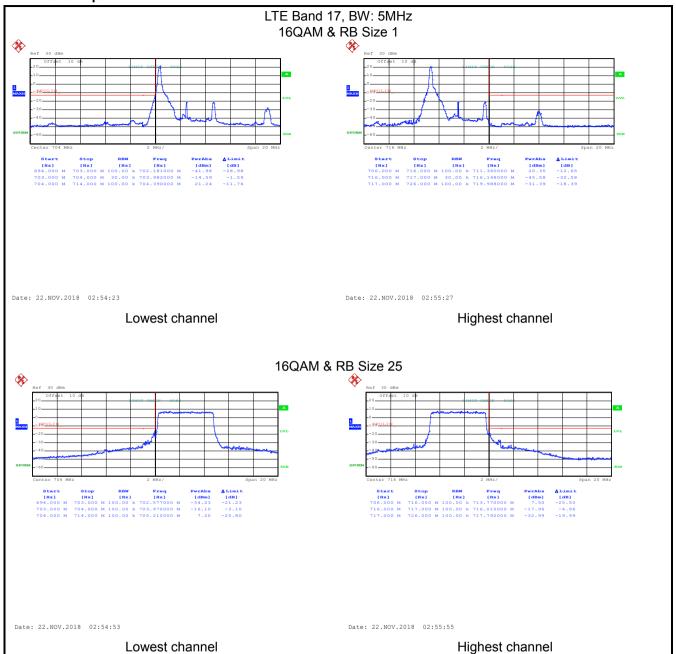




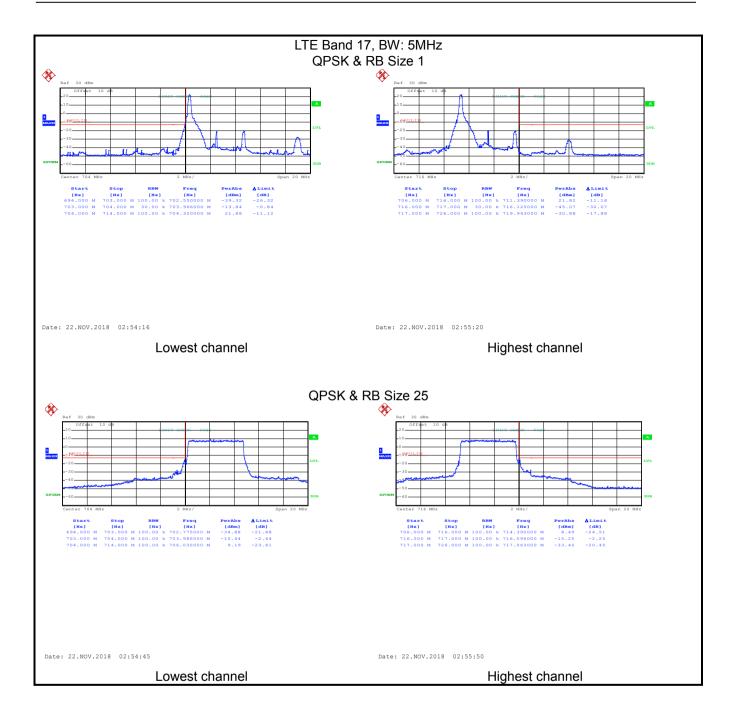




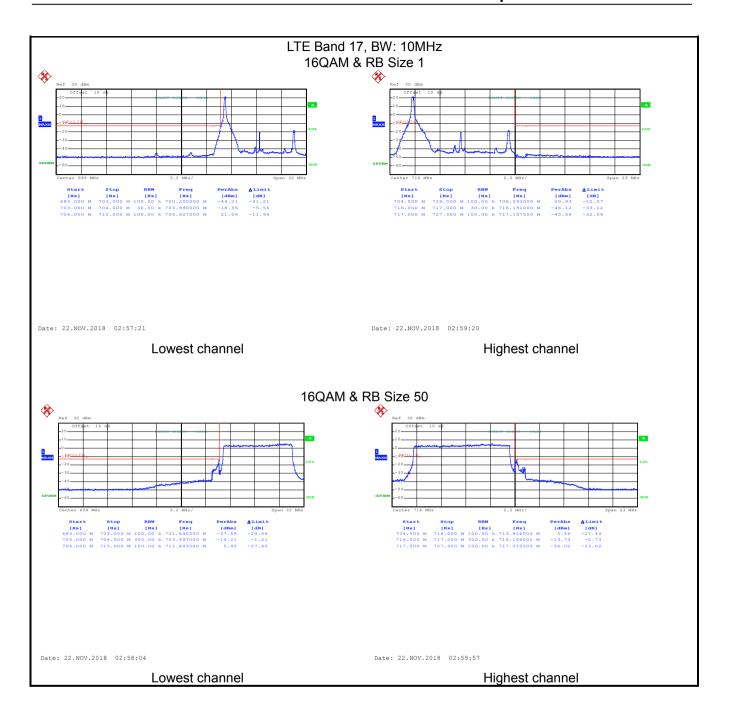
LTE Band 17 part:



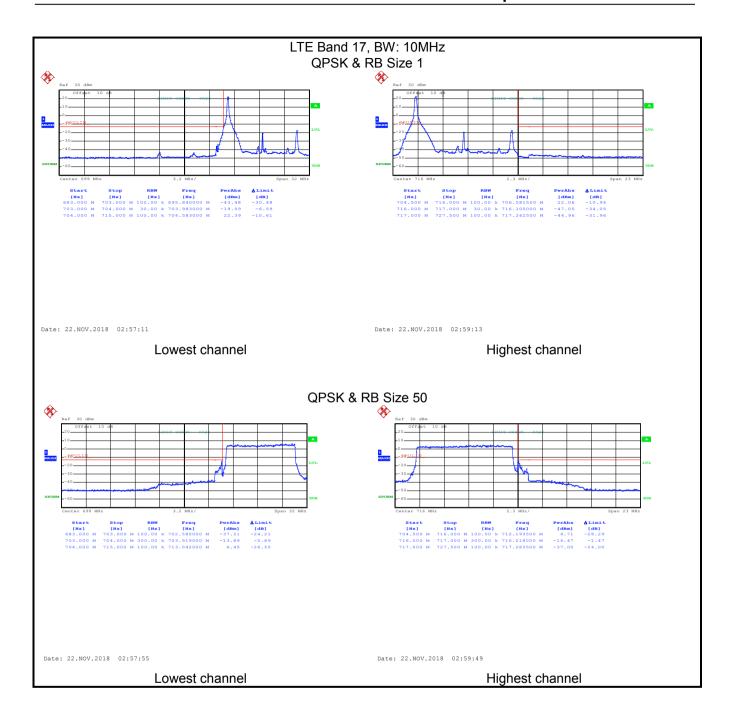














6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 22.917(b), Part 24.238 (a), Part 27.53(g), Part 27.53(m),
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 2 & $4/66$ & 5 & 12 & 13 &17: 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:	Above 1GHz
	Antenna Tower Ground Reference Plane Test Receiver Amplier Controller
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



Measurement Data:

LTE Band 2 part:

	LT	E Band 2, WB: 1.4MH	łz	
	R	B size 1 & RB offset (0	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
1 requericy (Wir 12)	Polarization	Level (dBm)	Lilliit (dbill)	Nesuit
		Lowest Channel		
3701.40	Vertical	-51.27		
5552.10	V	-44.06		
7402.00	V	-39.56	-13.00	Pass
3701.40	Horizontal	-50.67	-13.00	Pass
5552.10	Н	-43.58		
7402.00	Н	-38.97		
		Middle Channel		
3760.00	Vertical	-50.70		
5640.00	V	-42.16		
7520.00	V	-40.29	42.00	Door
3760.00	Horizontal	-51.19	-13.00	Pass
5640.00	Н	-44.37		
7520.00	Н	-40.12		
		Highest Channel		•
3816.60	Vertical	-50.89		
5724.90	V	-43.70		
7633.20	V	-39.40	-13.00	Door
3816.60	Horizontal	-51.10		Pass
5724.90	Н	-44.52		
7633.20	Н	-38.22		

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					
	R	B size 1 & RB offset ()		
Fraguenov (MHz)	Spurious	Emission	Limit (dPm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
	Lowest Channel				
3703.00	Vertical	-51.69			
5554.50	V	-48.62			
7406.00	V	-37.62	-13.00	Pass	
3703.00	Horizontal	-52.61	-13.00	Pass	
5554.50	Н	-42.26			
7406.00	Н	-38.94			
		Middle Channel			
3760.00	Vertical	-46.31			
5640.00	V	-41.57			
7520.00	V	-38.64	-13.00	Pass	
3760.00	Horizontal	-49.61	-13.00	Pass	
5640.00	Н	-45.25			
7520.00	Н	-38.22			
	_	Highest Channel			
3817.00	Vertical	-46.25			
5725.50	V	-37.64			
7634.00	V	-35.16	-13.00	Door	
3817.00	Horizontal	-38.56		Pass	
5725.50	Н	-41.56			
7634.00	Н	-39.72			

^{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.



	Ľ	TE Band 2, WB: 5MH	z	
	R	B size 1 & RB offset	0	
Fraguency (MHz)	Spurious	Emission	Limit (dDm)	Popult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
3705.00	Vertical	-52.23		
5557.50	V	-45.61		
7410.00	V	-38.64	-13.00	Pass
3705.00	Horizontal	-51.64	-13.00	Pass
5557.50	Н	-42.67		
7410.00	Н	-38.19		
·		Middle Channel		
3760.00	Vertical	-49.23		
5640.00	V	-41.25		
7520.00	V	-39.64	-13.00	Pass
3760.00	Horizontal	-52.25	-13.00	Pass
5640.00	Н	-45.16		
7520.00	Н	-39.76		
		Highest Channel		
3815.00	Vertical	-49.61		
5722.50	V	-42.55		
7630.00	V	-38.19	-13.00	Door
3815.00	Horizontal	-52.26		Pass
5722.50	Н	-43.65		
7630.00	Н	-37.49		

^{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: 10MHz					
RB size 1 & RB offset 0					
Fraguenov (MHz)	Spurious	Emission	Limit (dDm)	Popult	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3710.00	Vertical	-52.23			
5565.00	V	-48.62			
7420.00	V	-37.95	-13.00	Pass	
3710.00	Horizontal	-51.62	-13.00	Fa55	
5565.00	Н	-43.61			
7420.00	Н	-37.98			
		Middle Channel			
3760.00	Vertical	-47.62			
5640.00	V	-42.56			
7520.00	V	-37.94	-13.00	Pass	
3760.00	Horizontal	-48.61	-13.00	F 455	
5640.00	Н	-46.31			
7520.00	Н	-39.58			
		Highest Channel			
3810.00	Vertical	-46.25			
5715.00	V	-38.64			
7620.00	V	-36.15	-13.00	Door	
3810.00	Horizontal	-37.94		Pass	
5715.00	Н	-42.51			
7620.00	Н	-38.58			

^{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					
RB size 1 & RB offset 0					
Fraguenov (MHz)	Spurious	Emission	Limit (dDm)	Popult	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3715.00	Vertical	-51.25			
5572.50	V	-46.65			
7430.00	V	-37.94	-13.00	Pass	
3715.00	Horizontal	-52.26	-13.00	Fa55	
5572.50	Н	-41.65			
7430.00	Н	-37.98			
		Middle Channel			
3760.00	Vertical	-48.21			
5640.00	V	-42.56			
7520.00	V	-37.64	-13.00	Pass	
3760.00	Horizontal	-51.55	-13.00	Fa55	
5640.00	Н	-46.19			
7520.00	Н	-38.79			
		Highest Channel			
3805.00	Vertical	-48.51			
5707.50	V	-41.62			
7610.00	V	-37.94	-13.00	Pass	
3805.00	Horizontal	-52.25		Pass	
5707.50	Н	-42.19			
7610.00	Н	-38.49			

^{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: 20MHz					
RB size 1 & RB offset 0					
Fraguency (MUz)	Spurious	Emission	Limit (dDm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3720.00	Vertical	-52.26			
5580.00	V	-47.62			
7440.00	V	-38.69	-13.00	Pass	
3720.00	Horizontal	-52.21	-13.00	Fd55	
5580.00	Н	-42.62			
7440.00	Н	-38.61			
		Middle Channel			
3760.00	Vertical	-47.95		Pass	
5640.00	V	-41.56			
7520.00	V	-38.61	-13.00		
3760.00	Horizontal	-49.61	-13.00	Pass	
5640.00	Н	-45.86			
7520.00	Н	-39.61			
		Highest Channel			
3800.00	Vertical	-47.64			
5700.00	V	-39.56			
7600.00	V	-36.25	-13.00	Door	
3800.00	Horizontal	-38.25		Pass	
5700.00	Н	-41.76			
7600.00	Н	-37.49			

^{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 4&66 part:

	LTE Band 4&66, WB: 1.4MHz				
	R	B size 1 & RB offset (0		
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result	
Frequency (WITIZ)	Polarization	Level (dBm)	Lillit (dbill)	Result	
_		Lowest Channel			
3421.40	Vertical	-42.93			
5132.10	V	-45.53			
6842.80	V	-39.99	-13.00	Pass	
3421.40	Horizontal	-41.46	-13.00	Fd55	
5132.10	Н	-44.47			
6842.80	Н	-39.21			
		Middle Channel			
3465.00	Vertical	-42.64			
5197.50	V	-45.46			
6930.00	V	-40.15	-13.00	Pass	
3465.00	Horizontal	-41.83	-13.00	Pass	
5197.50	Н	-45.03			
6930.00	Н	-40.05			
		Highest Channel			
3508.60	Vertical	-46.97			
5262.90	V	-45.62			
7017.20	V	-38.49	-13.00	Door	
3508.60	Horizontal	-45.60		Pass	
5262.90	Н	-45.59			
7017.20	Н	-39.98			

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	E Band 4&66, WB: 3M	lHz	
		B size 1 & RB offset (
Fraguenov (MHz)	Spurious	Emission	Limit (dPm)	Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
_		Lowest Channel		
3423.00	Vertical	-45.25		
5134.50	V	-45.37		
6846.00	V	-39.61	-13.00	Pass
3423.00	Horizontal	-42.50	-13.00	Fd55
5134.50	Н	-46.31		
6846.00	Н	-39.98		
		Middle Channel		
3465.00	Vertical	-46.31		
5197.50	V	-45.27		
6930.00	V	-39.31	-13.00	Pass
3465.00	Horizontal	-42.55	-13.00	Pd55
5197.50	Н	-46.31		
6930.00	Н	-38.67		
		Highest Channel		
3507.00	Vertical	-45.21		
5260.50	V	-46.31		
7014.00	V	-39.64	-13.00	Pass
3507.00	Horizontal	-42.51		Pass
5260.50	Н	-45.77		
7014.00	Н	-39.46		

^{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&66, WB: 5M	lHz	
	R	B 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	-41.32		
5137.50	V	-46.62		
6850.00	V	-40.25	-13.00	Pass
3425.00	Horizontal	-42.61	-13.00	Pd55
5137.50	Н	-45.62		
6850.00	Н	-37.90		
		Middle Channel		
3465.00	Vertical	-41.65		
5197.50	V	-45.21		
6930.00	V	-39.62	12.00	Door
3465.00	Horizontal	-42.57	-13.00	Pass
5197.50	Н	-46.31		
6930.00	Н	-41.47		
		Highest Channel	_	
3505.00	Vertical	-45.25		
5257.50	V	-46.31		
7010.00	V	-37.64	-13.00	Door
3505.00	Horizontal	-46.16		Pass
5257.50	Н	-45.21		
7010.00	Н	-39.51		

^{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&66, WB: 10MHz					
RB size 1 & RB offset 0					
Fraguency (MUz)	Spurious	Emission	Limit (dDm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
3430.00	Vertical	-46.32			
5145.00	V	-44.51			
6860.00	V	-39.67	-13.00	Pass	
3430.00	Horizontal	-42.51	-13.00	Fd55	
5145.00	Н	-45.21			
6860.00	Н	-37.64			
		Middle Channel			
3465.00	Vertical	-45.21		Pass	
5197.50	V	-46.69			
6930.00	V	-40.25	-13.00		
3465.00	Horizontal	-43.65	-13.00	Fd55	
5197.50	Н	-45.21			
6930.00	Н	-39.76			
		Highest Channel			
3500.00	Vertical	-44.61			
5250.00	V	-45.21			
7000.00	V	-39.64	-13.00	Pass	
3500.00	Horizontal	-41.34		Pass	
5250.00	Н	-45.67			
7000.00	Н	-39.49			

^{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 4&66, WB: 15N	ЛНz	
	R	B size 1 & RB offset (0	
Fraguency (MHz)	Spurious	Emission	Limit (dDm)	Dogult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
3435.00	Vertical	-42.25		
5152.50	V	-45.62		
6870.00	V	-39.62	-13.00	Pass
3435.00	Horizontal	-41.57	-13.00	Fd55
5152.50	Н	-45.21		
6870.00	Н	-38.62		
		Middle Channel		
3465.00	Vertical	-42.25		
5197.50	V	-46.31		
6930.00	V	-37.64	-13.00	Pass
3465.00	Horizontal	-42.52	-13.00	Pd55
5197.50	Н	-45.65		
6930.00	Н	-42.78		
		Highest Channel		
3495.00	Vertical	-44.61		
5242.50	V	-45.98		
6990.00	V	-39.60	-13.00	Pass
3495.00	Horizontal	-45.21		Pass
5242.50	Н	-46.21		
6990.00	Н	-37.45		

^{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&66, WB: 20MHz					
	RB size 1 & RB offset 0					
Fraguenov (MHz)	Spurious	Emission	Limit (dPm)	D 14		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
		Lowest Channel				
3440.00	Vertical	-43.40				
5160.00	V	-45.80				
6880.00	V	-40.40	-13.00	Pass		
3440.00	Horizontal	-42.67	-13.00	Fd55		
5160.00	Н	-47.10				
6880.00	Н	-39.56				
		Middle Channel				
3465.00	Vertical	-46.31		Pass		
5197.50	V	-45.28				
6930.00	V	-39.62	-13.00			
3465.00	Horizontal	-44.26	-13.00	Fd55		
5197.50	Н	-46.13				
6930.00	Н	-39.46				
		Highest Channel				
3490.00	Vertical	-46.44				
5235.00	V	-45.89				
6980.00	V	-40.51	-13.00	Pass		
3490.00	Horizontal	-42.67	-13.00	Pass		
5235.00	Н	-46.90				
6980.00	Н	-40.01				

^{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:

LTE Band 5, WB: 1.4MHz				
	R	B size 1 & RB offset ()	
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
Frequency (Miriz)	Polarization	Level (dBm)	Limit (dbin)	Result
		Lowest Channel		
1649.40	Vertical	-59.73		
2474.10	V	-52.87	-13.00	
3298.80	V	-52.63		Pass
1649.40	Horizontal	-57.13	-13.00	Fd55
2474.10	Н	-46.95		
3298.80	Н	-52.11		
		Middle Channel		
1673.00	Vertical	-58.62		Door
2509.50	V	-50.82		
3346.00	V	-52.01	42.00	
1673.00	Horizontal	-57.64	-13.00	Pass
2509.50	Н	-49.61		
3346.00	Н	-52.25		
		Highest Channel		
1696.60	Vertical	-59.09		
2544.90	V	-53.00		
3393.20	V	-51.83	12.00	Door
1696.60	Horizontal	-60.20	-13.00	Pass
2544.90	Н	-52.14		
3393.20	Н	-52.65		_

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 5, WB: 3MHz				
	R	B size 1 & RB offset	0	
Fraguency (MUz)	Spurious	Emission	Limit (dPm)	Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
1651.00	Vertical	-58.62		
2476.50	V	-51.26		
3302.00	V	-51.44	-13.00	Pass
1651.00	Horizontal	-58.61	-13.00	Fd55
2476.50	Н	-45.97		
3302.00	Н	-52.25		
		Middle Channel		
1673.00	Vertical	-57.46		Pass
2509.50	V	-61.25		
3346.00	V	-51.25	-13.00	
1673.00	Horizontal	-58.49	-13.00	Fd55
2509.50	Н	-48.36		
3346.00	Н	-51.65		
		Highest Channel		
1695.00	Vertical	-58.62		
2542.50	V	-52.23		
3390.00	V	-51.43	-13.00	Door
1695.00	Horizontal	-59.61		Pass
2542.50	Н	-51.47		
3390.00	Н	-52.22		

^{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, WB: 5MHz				
	R	B size 1 & RB offset (0	
[Spurious	Emission	Line it (alDree)	Desuit
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
1653.00	Vertical	-60.23		
2479.50	V	-52.26		
3306.00	V	-51.44	-13.00	Pass
1653.00	Horizontal	-56.31		Fd55
2479.50	Н	-45.75		
3306.00	Н	-51.46		
		Middle Channel		
1673.00	Vertical	-59.64		
2509.50	V	-49.67		
3346.00	V	-51.43	-13.00	Pass
1673.00	Horizontal	-58.61	-13.00	Fd55
2509.50	Н	-49.77		
3346.00	Н	-52.22		
		Highest Channel		
1693.00	Vertical	-58.41		
2539.50	V	-52.67		
3386.00	V	-51.44	-13.00	Pass
1693.00	Horizontal	-59.61	-13.00	Pass
2539.50	Н	-51.43		
3386.00	Н	-52.76		

^{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, WB: 10MHz				
	R	B size 1 & RB offset (0		
[Spurious Emission		Line it (alDree)	Desuit	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest Channel			
1658.00	Vertical	-60.03			
2487.00	V	-51.64			
3316.00	V	-52.07	-13.00	Pass	
1658.00	Horizontal	-59.76		Fd55	
2487.00	Н	-45.60			
3316.00	Н	-53.34			
		Middle Channel			
1673.00	Vertical	-60.97			
2509.50	V	-52.76			
3346.00	V	-52.22	-13.00	Pass	
1673.00	Horizontal	-56.82	-13.00	F 455	
2509.50	Н	-46.59			
3346.00	Н	-49.78			
		Highest Channel			
1688.00	Vertical	-60.66			
2532.00	V	-50.98			
3376.00	V	-50.21	-13.00	Pass	
1688.00	Horizontal	-60.67	-13.00	F d 5 5	
2532.00	Н	-48.64			
3376.00	Н	-52.94			

^{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:

LTE Band 12, WB: 1.4MHz				
	R	B size 1 & RB offset (0	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (MHZ)	Polarization	Level (dBm)	Lillill (dbill)	Result
		Lowest Channel		
1399.40	Vertical	-56.81		
2099.10	V	-53.29		
2798.80	V	-53.93	-13.00	Pass
1399.40	Horizontal	-56.13		Fa55
2099.10	Н	-51.55		
2798.80	Н	-55.35		
		Middle Channel		
1415.00	Vertical	-57.51		Dana
2122.50	V	-56.95		
2830.00	V	-51.72	12.00	
1415.00	Horizontal	-60.49	-13.00	Pass
2122.50	Н	-49.54		
2830.00	Н	-53.71		
		Highest Channel		
1430.60	Vertical	-55.88		
2145.90	V	-55.72		
2861.20	V	-54.09	12.00	Door
1430.60	Horizontal	-56.22	-13.00	Pass
2145.90	Н	-49.41		
2861.20	Н	-52.63		

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 12, WB: 3MHz						
RB size 1 & RB offset 0						
[(NALL-)	Spurious	Emission	Lineit (dDne)	Result		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
		Lowest Channel				
1401.00	Vertical	-57.62				
2101.50	V	-53.61	-13.00			
2802.00	V	-54.95		Pass		
1401.00	Horizontal	-55.24	-13.00	Fd55		
2101.50	Н	-52.61				
2802.00	Н	-53.79				
		Middle Channel				
1415.00	Vertical	-55.21		Pass		
2122.50	V	-52.46				
2830.00	V	-54.61	-13.00			
1415.00	Horizontal	-54.97	-13.00	F d 5 5		
2122.50	Н	-52.26				
2830.00	Н	-53.19				
		Highest Channel				
1429.00	Vertical	-57.64				
2143.50	V	-55.21				
2858.00	V	-54.91	12.00	Pass		
1429.00	Horizontal	-56.34	-13.00	Pass		
2143.50	Н	-55.18				
2858.00	Н	-54.79				

^{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 12, WB: 5MHz				
	R	B size 1 & RB offset ()	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Decult
Frequency (IVIF12)	Polarization	Level (dBm)		Result
		Lowest Channel		
1403.00	Vertical	-57.62		
2104.50	V	-52.61		
2806.00	V	-54.95	-13.00	Door
1403.00	Horizontal	-55.21		Pass
2104.50	Н	-52.76		
2806.00	Н	-54.19		
		Middle Channel		
1415.00	Vertical	-56.36		
2122.50	V	-54.19		
2830.00	V	-52.62	42.00	Desa
1415.00	Horizontal	-59.37	-13.00	Pass
2122.50	Н	-48.51		
2830.00	Н	-52.22		
<u>.</u>		Highest Channel		
1427.00	Vertical	-54.21		
2410.50	V	-54.62		
2854.00	V	-53.61	40.00	Descri
1427.00	Horizontal	-54.31	-13.00	Pass
2410.50	Н	-49.75		
2854.00	Н	-51.49		

^{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 12, WB: 10MHz						
RB size 1 & RB offset 0						
Fraguency (MHz)	Spurious	Emission	Limit (dPm)	Result		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
		Lowest Channel				
1408.00	Vertical	-56.20				
2112.00	V	-52.85				
2816.00	V	-54.05	-13.00	Pass		
1408.00	Horizontal	-55.48		Pass		
2112.00	Н	-51.81				
2816.00	Н	-54.19		1		
		Middle Channel				
1415.00	Vertical	-56.02		Pass		
2122.50	V	-53.92				
2830.00	V	-53.81	-13.00			
1415.00	Horizontal	-55.25	-13.00	Pass		
2122.50	Н	-51.73				
2830.00	Н	-54.73				
		Highest Channel				
1422.00	Vertical	-58.02				
2133.00	V	-56.87				
2844.00	V	-55.19	42.00	Dana		
1422.00	Horizontal	-57.59	-13.00	Pass		
2133.00	Н	-56.20				
2844.00	Н	-54.76				

^{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 13 part:

	LT	E Band 13, WB: 5MH	lz	
		B size 1 & RB offset		
Fraguency (MHz)	Spurious	Emission	Limit (dDm)	5 "
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
1559.00	Vertical	-59.42		
2338.50	V	-56.72	-25.00	
3118.00	V	-52.74		Pass
1559.00	Horizontal	-60.29	-25.00	F d 5 5
2338.50	Н	-57.15		
3118.00	Н	-51.84		
		Middle Channel		
1564.00	Vertical	-60.23		
2346.00	V	-59.64		
3128.00	V	-51.34	-25.00	Pass
1564.00	Horizontal	-58.62	-25.00	Pass
2346.00	Н	-56.31		
3128.00	Н	-49.12		
		Highest Channel		
1569.00	Vertical	-58.64		
2353.50	V	-64.15		
3138.00	V	-49.61	25.00	Door
1569.00	Horizontal	-62.23	-25.00	Pass
2353.50	Н	-57.64		
3138.00	Н	-49.63		

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 13, WB: 10MHz				
	RE	size 1 & RB offset (0	
Fraguanay (MHz)	Spurious E	Emission	Limit (dDm)	Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Middle Channel		
1564.00	Vertical	-59.56		
2346.00	V	-57.64		
3128.00	V	-52.21	25.00	Dese
1564.00	Horizontal	-57.64	-25.00	Pass
2346.00	Н	-55.21		
3128.00	Н	-49.78		

^{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 17 part:

	Lī	E Band 17, WB: 5MH	z	
	R	B size 1 & RB offset (0	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (Miriz)	Polarization	Level (dBm)		Result
		Lowest Channel		
1413.00	Vertical	-56.16		
2119.50	V	-56.51		
2826.00	V	-54.70	-13.00	Pass
1413.00	Horizontal	-56.17		Fd55
2119.50	Н	-543.11		
2826.00	Н	-54.19		
		Middle Channel		
1420.00	Vertical	-55.94		
2130.00	V	-55.60		
2840.00	V	-53.84	-13.00	Pass
1420.00	Horizontal	-57.04	-13.00	Fd55
2130.00	Н	-50.00		
2840.00	Н	-54.07		
		Highest Channel		
1427.00	Vertical	-52.78		
2140.50	V	-55.59		
2854.00	V	-54.14	12.00	Door
1427.00	Horizontal	-53.38	-13.00	Pass
2140.50	Н	-51.42		
2854.00	Н	-54.19		

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.



	LT	E Band 17, WB: 10MH	Нz	
	R	B size 1 & RB offset ()	
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
Frequency (Miriz)	Polarization	Level (dBm)	Limit (ubin)	Result
		Lowest Channel		
1418.00	Vertical	-60.42		
2127.00	V	-52.82		
2836.00	V	-53.06	-13.00	Pass
1418.00	Horizontal	-60.15	-13.00	F455
2127.00	Н	-48.42		
2836.00	Н	-53.47		
		Middle Channel		
1420.00	Vertical	-56.05		
2130.00	V	-53.31		
2840.00	V	-53.98	-13.00	Pass
1420.00	Horizontal	-57.38	-13.00	F 455
2130.00	Н	-51.22		
2840.00	Н	-54.31		
		Highest Channel		
1422.00	Vertical	-53.40		
2133.00	V	-55.39		
2844.00	V	-54.19	-13.00	Pass
1422.00	Horizontal	-53.63	-13.00	Pass
2133.00	Н	-51.27		
2844.00	Н	-54.09		

^{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 EUT 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:

	requency: LTE Band 2	•		0 channel=1880.0	0MHz
Power supplied (Vdc)	Temperature (°C) ⊢	Freque	ency error	Limit (ppm)	Result
	Tomporataro (o)	Hz	ppm	Σ (ρρ)	
		QPSK			
	-30	200	0.106383	_	
	-20	157	0.083511		
	-10	165	0.087766	_	
	0	125	0.066489	_	Pass
3.80	10	190	0.101064	±2.5	
	20	176	0.093617		
	30	116	0.061702		
	40	107	0.056915		
	50	152	0.080851		
		16QAM			
	-30	125	0.066489		
	-20	152	0.080851		
	-10	168	0.089362		
	0	124	0.065957		
3.80	10	146	0.077660	±2.5	Pass
	20	142	0.075532		
	30	158	0.084043		
	40	135	0.071809	1	
	50	140	0.074468]	





LTE Band 4&66 part:

Power supplied	T(°C)	Freque	ency error	L'arit (a a ar	D !!
(Vdc)	Temperature (°C) ⊢	Hz	ppm	Limit (ppm)	Result
	·	QPSK	·	·	
	-30	196	0.113131		
	-20	153	0.088312		
	-10	161	0.092929		
	0	121	0.069841		Pass
3.80	10	186	0.107359	±2.5	
	20	172	0.099278		
	30	112	0.064646		
	40	103	0.059452		
	50	148	0.085426		
		16QAM			
	-30	121	0.069841		
	-20	148	0.085426		
	-10	164	0.094661		
	0	120	0.069264		
3.80	10	142	0.081962	±2.5	Pass
	20	138	0.079654		
	30	154	0.088889		
	40	131	0.075613		
	50	136	0.078499	-	





LTE Band 5 part:

	requency: LTE Band			5 channel=836.50	MHZ
Power supplied (Vdc)	Temperature (°C)	•	ency error	Limit (ppm)	Result
	Tomporataro (°)	Hz	ppm		rtoodit
		QPSK		,	
	-30	197	0.235505		
	-20	154	0.184100		
	-10	162	0.193664		
	0	122	0.145846		Pass
3.80	10	187	0.223551	±2.5	
	20	173	0.206814		
	30	113	0.135087		
	40	104	0.124328		
	50	149	0.178123		
		16QAM			
	-30	122	0.145846		
	-20	149	0.178123		
	-10	165	0.197250		
	0	121	0.144650		
3.80	10	143	0.170950	±2.5	Pass
	20	139	0.166169		
	30	155	0.185296		
	40	132	0.157800]	
	50	137	0.163778]	





LTE Band 12 part:

Power supplied		12 (10MHz) Middle channel=2309 Frequency error			
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	<u> </u>	QPSK			
	-30	195	0.275618		
	-20	152	0.214841		
	-10	160	0.226148		
	0	120	0.169611		Pass
3.80	10	185	0.261484	±2.5	
	20	171	0.241696		
	30	111	0.156890		
	40	102	0.144170		
	50	147	0.207774		
		16QAM			
	-30	120	0.169611		
	-20	147	0.207774		
	-10	163	0.230389		
	0	119	0.168198		
3.80	10	141	0.199293	±2.5	Pass
	20	137	0.193640	_	
	30	153	0.216254	_	
	40	130	0.183746]	
	50	135	0.190813		





LTE Band 13 part:

Power supplied		13 (10MHz) Middle channel=2323 Frequency error			
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
		QPSK			
	-30	195	0.249361		
	-20	152	0.194373		
	-10	160	0.204604		
	0	120	0.153453		Pass
3.80	10	185	0.236573	±2.5	
	20	171	0.218670		
	30	111	0.141944		
	40	102	0.130435	_	
	50	147	0.187980		
		16QAM			
	-30	120	0.153453		
	-20	147	0.187980		
	-10	163	0.208440		
	0	119	0.152174		
3.80	10	141	0.180307	±2.5	Pass
	20	137	0.175192		
	30	153	0.195652]	
	40	130	0.166240		
	50	135	0.172634		





LTE Band 17 part:

	requency: LTE Band 1			90 channel=710.0	0MHz
Power supplied	Temperature (°C)		ency error	Limit (ppm)	Result
(Vdc)		Hz	ppm	(- /	
		QPSK		,	
	-30	199	0.280282		
	-20	156	0.219718		
	-10	164	0.230986		
	0	124	0.174648		Pass
3.80	10	189	0.266197	±2.5	
	20	175	0.246479		
	30	115	0.161972		
	40	106	0.149296		
	50	151	0.212676		
		16QAM			
	-30	124	0.174648		
	-20	151	0.212676		
	-10	167	0.235211		
	0	123	0.173239		
3.80	10	145	0.204225	±2.5	Pass
	20	141	0.198592		
	30	157	0.221127		
	40	134	0.188732		
	50	139	0.195775]	



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 Power Source
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
Temperature (°C)	Power supplied	Frequen	cy error	Limit (ppm)	Result
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
		QPSK			
	4.35	96	0.05106		
25	3.80	63	0.03351	±2.5	Pass
	3.50	72	0.03830		
		16QAM			
	4.35	78	0.04149		
25	3.80	94	0.05000	±2.5	Pass
	3.50	46	0.02447		
Note: Only the worst case	se shown in the report.	·		·	

LTE Band 4&66 part:

Reference Fred	quency: LTE Band 48	&66(10MHz) Midd	lle channel=201	75 channel=1732	2.50MHz
Temperature (°C)	Power supplied	Frequen	cy error	Limit (ppm)	Result
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
		QPSK			
	4.35	96	0.055411	±2.5	
25	3.80	63	0.036364		Pass
	3.50	72	0.041558		
		16QAM			
	4.35	78	0.045022		
25	3.80	94	0.054257	±2.5	Pass
	3.50	46	0.026551		
Note: Only the worst ca	se shown in the report.				

LTE Band 5 part:

Reference Fi	requency: LTE Band 5	5(10MHz) Midd	le channel=2052	5 channel=836.50	OMHz
Tomporature (°C)	Power supplied	Freque	ncy error	Limit (mma)	Daguilt
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
		QPSK			
	4.35	97	0.115959	±2.5	Pass
25	3.80	64	0.076509		
	3.50	73	0.087268		
		16QAM			
	4.35	79	0.094441		
25	3.80	95	0.113568	±2.5	Pass
	3.50	47	0.056186	7	