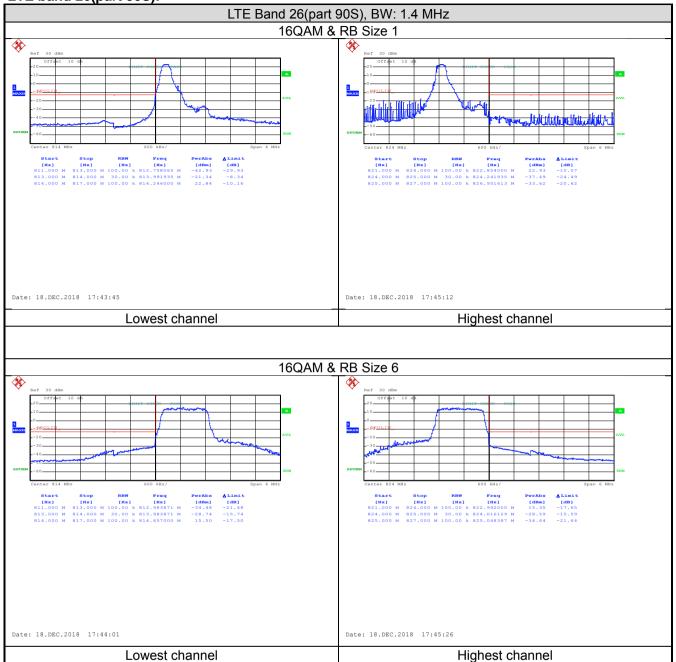
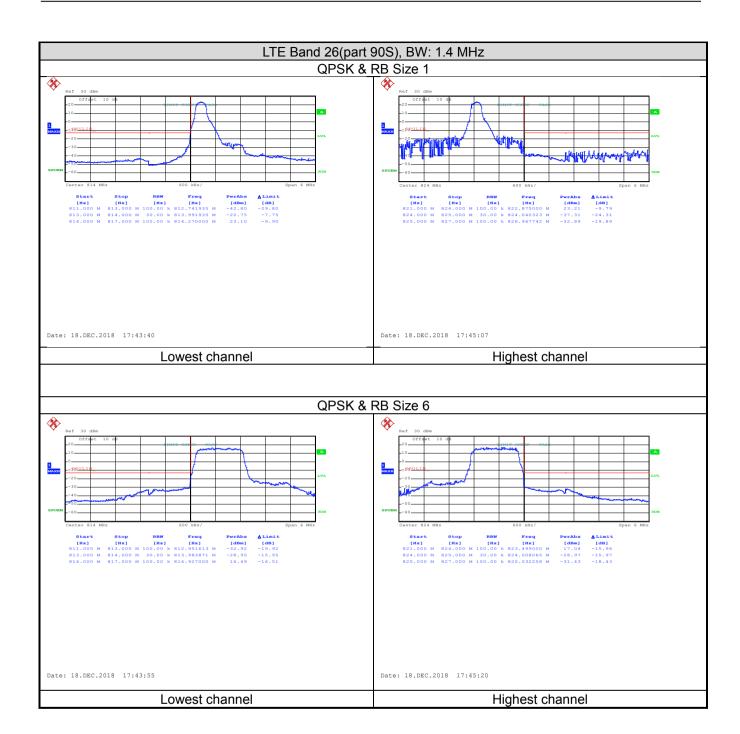




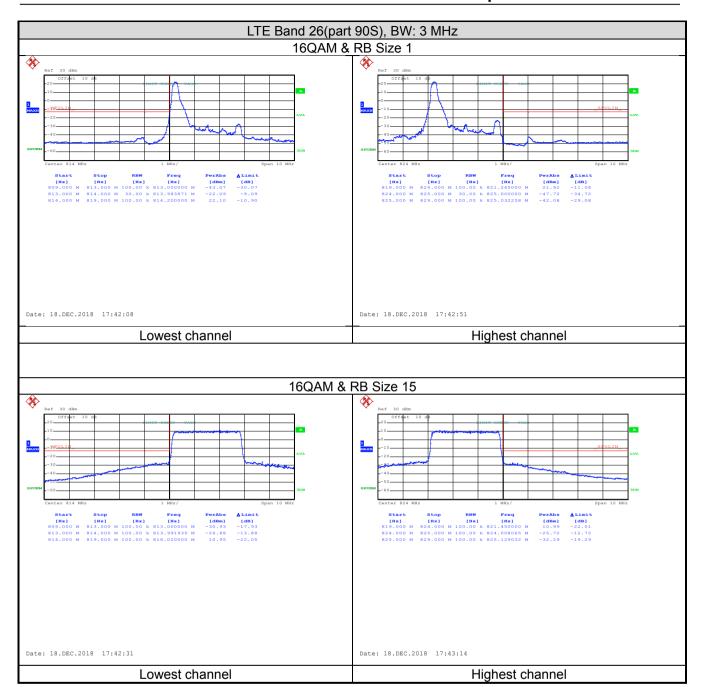
LTE band 26(part 90S):



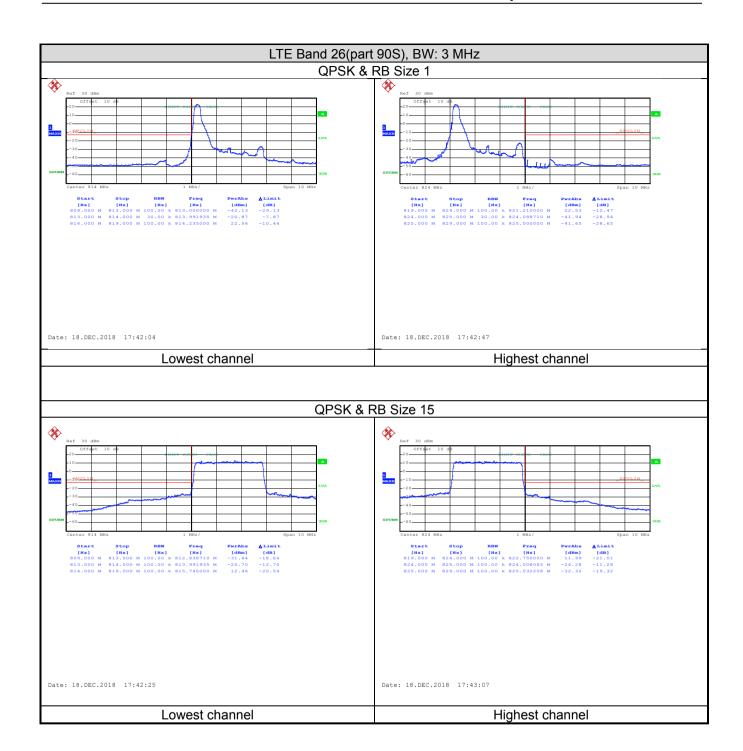




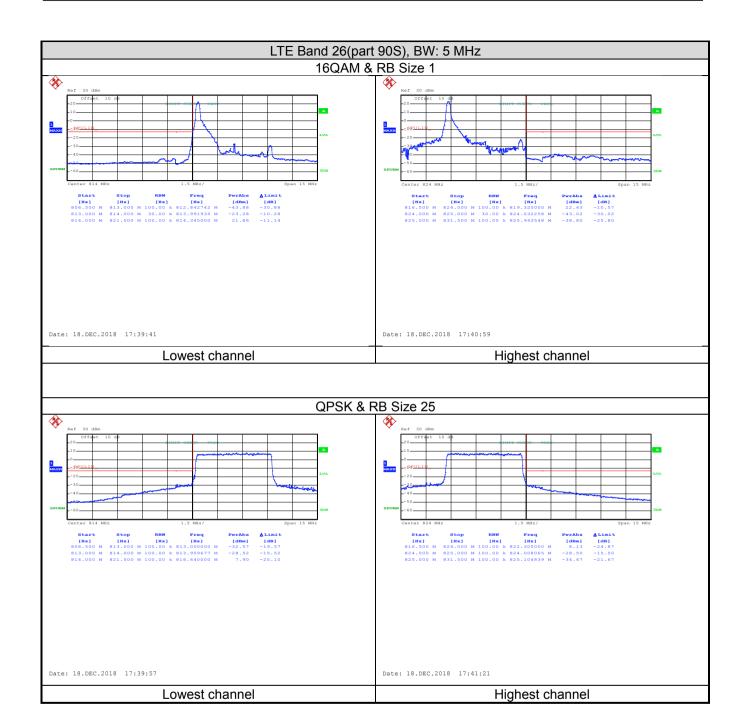




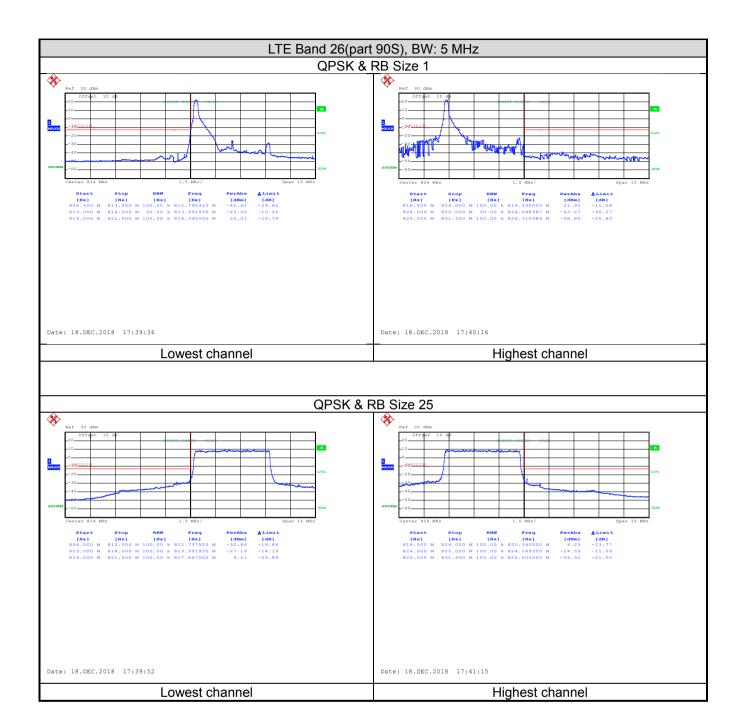




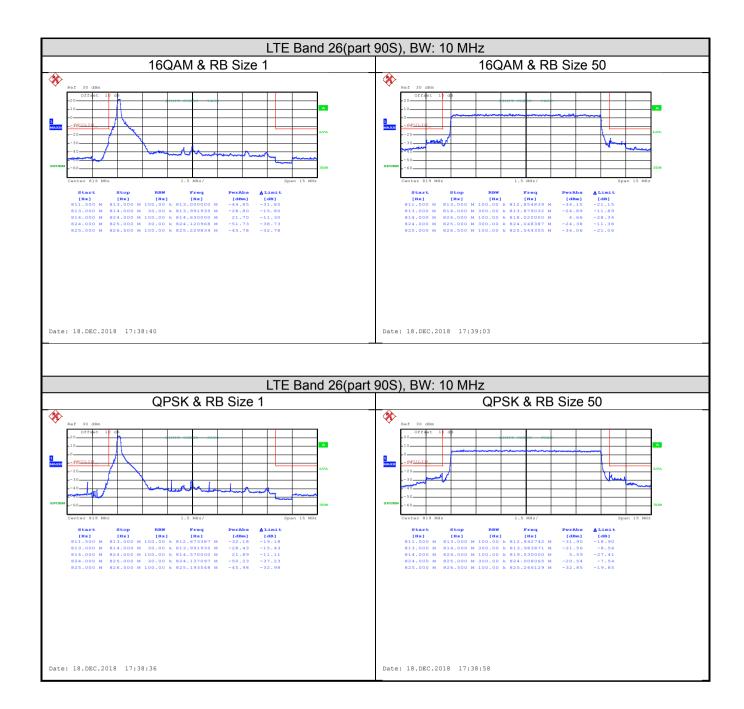




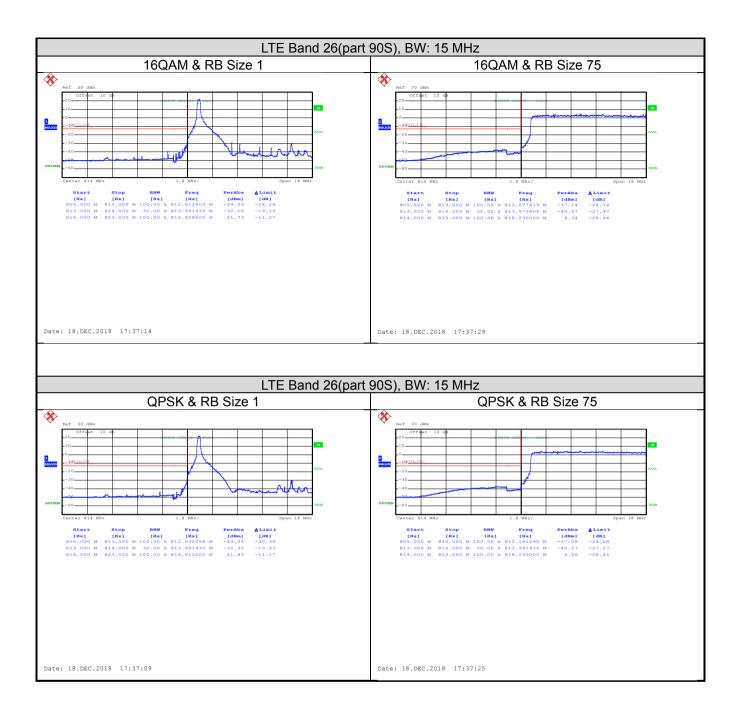






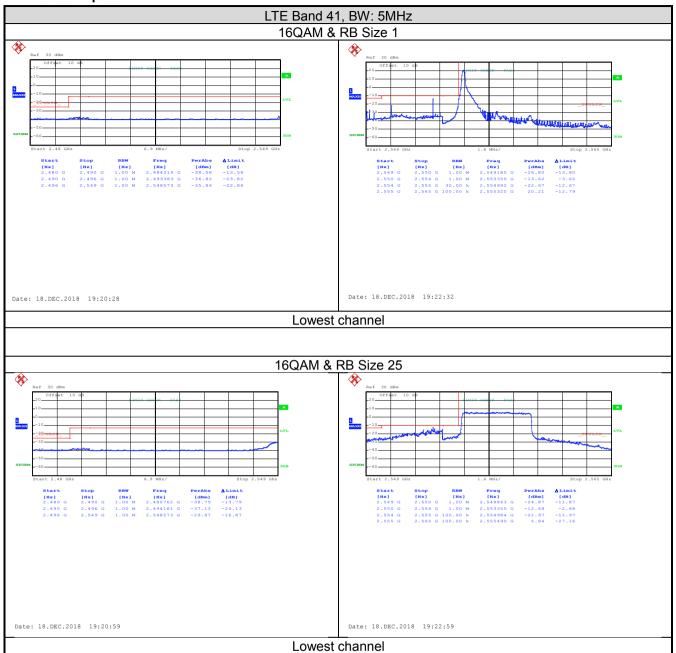




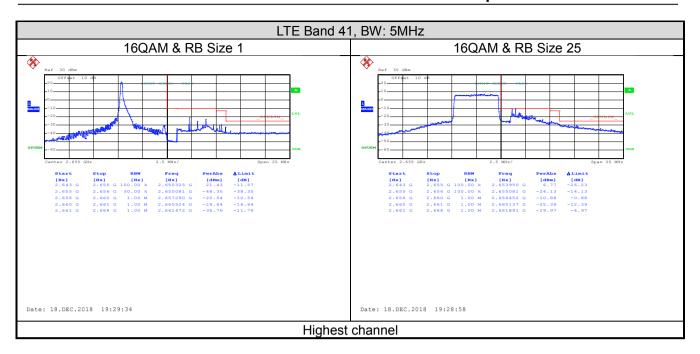




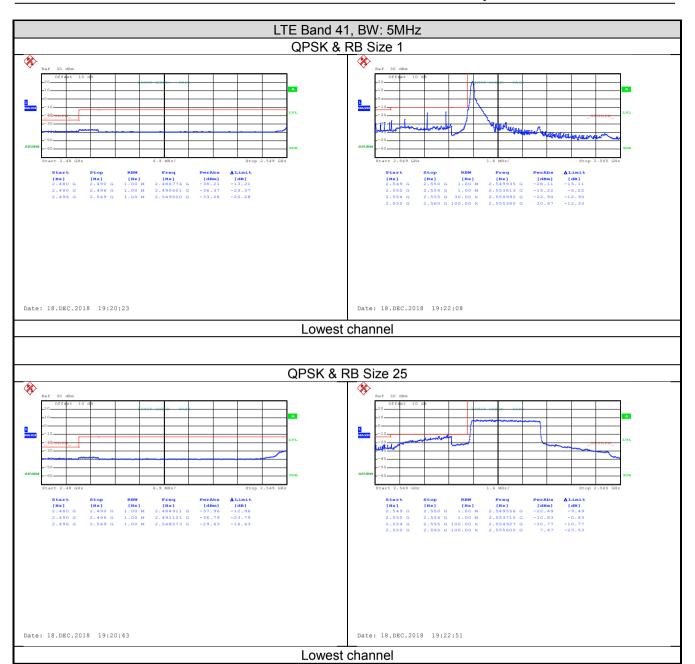
## LTE Band 41 part:



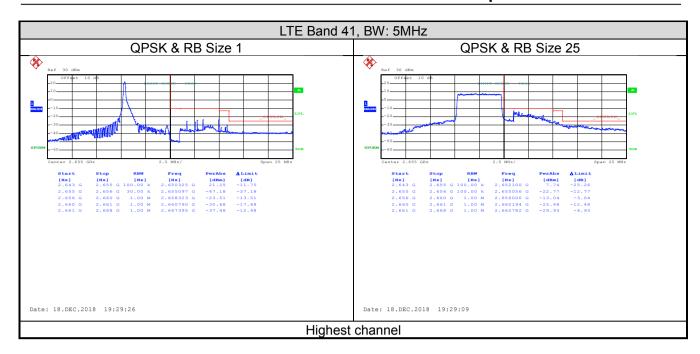














# 6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 22.917(a), Part 24.238(a), Part 27.53(c & f) Part 27.53(g), Part 27.53(m), Part 27.53(h), Part 90.691(a)			
Test Method:	ANSI/TIA-603-D 2010			
Limit:	LTE Band 4 & 12 & 17 & 25 & 26:  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 <sub>10</sub> (P) dB (-13 dBm).  LTE Band 13:  The power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB(-13 dBm).  For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals.  LTE Band 7&41:  For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.			
Test setup:	Below 1GHz  Antenna Tower  Test Receiver Plane  Above 1GHz			
	Antenna Tower  Ground Reference Plane  Test Receiver  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.			
	2. 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.
	<ol> <li>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.</li> </ol>
	The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.    Company   Company
	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 4 part:

LTE Band 4, WB: 1.4MHz				
	R	B size 1 & RB offset (	0	
Fraguenov (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dbin)	Result
		Lowest Channel		
3421.40	Vertical	-51.12		
5132.10	V	-45.89		
6842.80	V	-40.90	-13.00	Pass
3421.40	Horizontal	-51.79	-13.00	Fa55
5132.10	Н	-46.23		
6842.80	Н	-41.22		
		Middle Channel		
3465.00	Vertical	-50.57		
5197.50	V	-46.89		
6930.00	V	-39.85	42.00	Pass
3465.00	Horizontal	-52.97	-13.00	
5197.50	Н	-44.85		
6930.00	Н	-40.42		
		Highest Channel		
3508.60	Vertical	-50.65		
5262.90	V	-45.04		
7017.20	V	-41.57	-13.00	Desa
3508.60	Horizontal	-50.89		Pass
5262.90	Н	-45.57		
7017.20	Н	-40.97		

#### Note:

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



	L	TE Band 4, WB: 3MH	z	
	R	B size 1 & RB offset	0	
Fraguency (MHz)	Spurious	Emission	Limit (dDm)	Popult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		<b>Lowest Channel</b>		
3423.00	Vertical	-51.40		
5134.50	V	-45.89		
6846.00	V	-40.57	-13.00	Pass
3423.00	Horizontal	-51.05	-13.00	Pass
5134.50	Н	-46.97		
6846.00	Н	-41.78		
·		Middle Channel		
3465.00	Vertical	-50.56		Pass
5197.50	V	-46.70		
6930.00	V	-39.84	-13.00	
3465.00	Horizontal	-52.65	-13.00	Pass
5197.50	Н	-44.04		
6930.00	Н	-40.40		
		Highest Channel		
3507.00	Vertical	-50.54		
5260.50	V	-45.44		
7014.00	V	-41.04	-13.00	Dana
3507.00	Horizontal	-50.41		Pass
5260.50	Н	-45.37		
7014.00	Н	-40.93		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	L.	TE Band 4, WB: 5MH	Z	
	R	B size 1 & RB offset (	0	
F (MIL)	Spurious	Emission	Limit (dPm)	D 14
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
3425.00	Vertical	-51.34		
5137.50	V	-45.51		
6850.00	V	-40.68	-13.00	Pass
3425.00	Horizontal	-51.41	-13.00	F455
5137.50	Н	-46.13		
6850.00	Н	-41.85		
		Middle Channel		
3465.00	Vertical	-50.19		Door
5197.50	V	-46.38		
6930.00	V	-39.51	-13.00	
3465.00	Horizontal	-52.94	-13.00	Pass
5197.50	Н	-44.85		
6930.00	Н	-40.11		
		Highest Channel		
3505.00	Vertical	-50.49		
5257.50	V	-45.57		
7010.00	V	-41.18	-13.00	Door
3505.00	Horizontal	-50.91		Pass
5257.50	Н	-45.79		
7010.00	Н	-40.85		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> 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 (	0	
F (MIL)	Spurious	Emission	Limit (dPm)	D 14
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
3430.00	Vertical	-51.51		
5145.00	V	-45.12		
6860.00	V	-40.24	-13.00	Pass
3430.00	Horizontal	-51.24	-13.00	F455
5145.00	Н	-46.12		l
6860.00	Н	-41.89		
		Middle Channel		
3465.00	Vertical	-50.12		Pass
5197.50	V	-46.26		
6930.00	V	-39.51	-13.00	
3465.00	Horizontal	-52.90	-13.00	
5197.50	Н	-44.41		
6930.00	Н	-40.65		
		Highest Channel		
3500.00	Vertical	-50.24		
5250.00	V	-45.99		
7000.00	V	-41.99	-13.00	Door
3500.00	Horizontal	-50.24		Pass
5250.00	Н	-45.89		
7000.00	Н	-40.57		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 4, WB: 15MH	z	
	R	B size 1 & RB offset (	)	
F (MIL)	Spurious	Emission	Limit (dPm)	D 14
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
3435.00	Vertical	-51.57		
5152.50	V	-45.95		
6870.00	V	-40.55	-13.00	Pass
3435.00	Horizontal	-51.78	-13.00	F455
5152.50	Н	-46.68		
6870.00	Н	-41.59		
		Middle Channel		
3465.00	Vertical	-50.80		Door
5197.50	V	-46.89		
6930.00	V	-39.97	12.00	
3465.00	Horizontal	-52.04	-13.00	Pass
5197.50	Н	-44.94		
6930.00	Н	-40.74		
		Highest Channel		
3495.00	Vertical	-50.80		
5242.50	V	-45.45		
6990.00	V	-41.49	-13.00	Door
3495.00	Horizontal	-50.24		Pass
5242.50	Н	-45.58		
6990.00	Н	-40.95		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	Lī	E Band 4, WB: 20MH	z	
	R	B size 1 & RB offset (	0	
Fragues av (MHz)	Spurious	Emission	Limit (dDm)	Dogult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		<b>Lowest Channel</b>		
3440.00	Vertical	-51.56		
5160.00	V	-45.40		
6880.00	V	-40.04	-13.00	Pass
3440.00	Horizontal	-51.98	-13.00	Pass
5160.00	Н	-46.75		
6880.00	Н	-41.39		
		Middle Channel		
3465.00	Vertical	-50.42		Pass
5197.50	V	-46.62		
6930.00	V	-39.79	-13.00	
3465.00	Horizontal	-52.19	13.00	1 433
5197.50	Н	-44.97		
6930.00	Н	-40.58		
		Highest Channel		
3490.00	Vertical	-50.91		
5235.00	V	-45.83		
6980.00	V	-41.15	-13.00	Door
3490.00	Horizontal	-50.15		Pass
5235.00	Н	-45.86		
6980.00	Н	-40.42		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



# LTE Band 7 part:

LTE Band 7, WB: 5MHz					
RB size 1 & RB offset 0					
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result	
Frequency (IVIF12)	Polarization	Level (dBm)	Lilliit (dbill)	Result	
		Lowest Channel			
5005.00	Vertical	-47.93			
7507.50	V	-40.70			
10010.00	V	-38.98	-25.00	Pass	
5005.00	Horizontal	-47.30	-25.00	Fd55	
7507.50	Н	-39.88			
10010.00	Н	-37.94			
		Middle Channel			
5070.00	Vertical	-47.38		Pass	
7605.00	V	-40.19			
10140.00	V	-38.26	-25.00		
5070.00	Horizontal	-47.43	-25.00		
7605.00	Н	-39.97			
10140.00	Н	-37.88			
		Highest Channel			
5135.00	Vertical	-47.29			
7702.50	V	-40.63			
10270.00	V	-38.61	-25.00	Door	
5135.00	Horizontal	-47.98		Pass	
7702.50	Н	-40.32			
10270.00	Н	-38.30			

## Note:

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



LTE Band 7, WB: 10MHz				
		B size 1 & RB offset (		
Fraguenov (MHz)	Spurious	Emission	Limit (dDm)	Popult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
5010.00	Vertical	-47.29		
7515.00	V	-40.40		
10020.00	V	-38.61	-25.00	Pass
5010.00	Horizontal	-47.17	-25.00	F455
7515.00	Н	-39.86		
10020.00	Н	-37.28		
		Middle Channel		
5070.00	Vertical	-47.98		Pass
7605.00	V	-40.46		
10140.00	V	-38.75	-25.00	
5070.00	Horizontal	-47.92	-25.00	
7605.00	Н	-39.34		
10140.00	Н	-37.78		
		<b>Highest Channel</b>		
5130.00	Vertical	-47.52		
7695.00	V	-40.92		
10260.00	V	-38.14	-25.00	Pass
5130.00	Horizontal	-47.92		Pass
7695.00	Н	-39.73		
10260.00	Н	-37.46		_

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 7, WB: 15MH	z	
		B size 1 & RB offset (		
F (MIL)	Spurious	Emission	Limit (dPm)	D 16
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
5015.00	Vertical	-47.36		
7522.50	V	-40.32		
10030.00	V	-38.72	-25.00	Pass
5015.00	Horizontal	-47.37	-25.00	F455
7522.50	Н	-39.77		
10030.00	Н	-37.78		
		Middle Channel		
5070.00	Vertical	-47.88		Pass
7605.00	V	-40.17		
10140.00	V	-38.13	-25.00	
5070.00	Horizontal	-47.37	-25.00	
7605.00	Н	-39.69		
10140.00	Н	-37.46		
		Highest Channel		
5125.00	Vertical	-47.51		
7687.50	V	-40.11		
10250.00	V	-38.46	-25.00	Pass
5125.00	Horizontal	-47.46		Pass
7687.50	Н	-40.37		
10250.00	Н	-38.69		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 7, WB: 20MH	z	
	R	B size 1 & RB offset (	0	
F (MIL)	Spurious	Emission	Limit (dPm)	D 14
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
5020.00	Vertical	-47.46		
7530.00	V	-40.46		
10040.00	V	-38.54	-25.00	Pass
5020.00	Horizontal	-47.67	-25.00	F455
7530.00	Н	-39.63		
10040.00	Н	-37.52		
		Middle Channel		
5070.00	Vertical	-47.46		Pass
7605.00	V	-40.92		
10140.00	V	-38.76	-25.00	
5070.00	Horizontal	-47.54	-25.00	
7605.00	Н	-39.78		
10140.00	Н	-37.29		
		Highest Channel		
5120.00	Vertical	-47.82		
7680.00	V	-40.39		
10240.00	V	-38.48	-25.00	Pass
5120.00	Horizontal	-47.79		Pass
7680.00	Н	-39.74		
10240.00	Н	-37.31		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



## LTE Band 12 part:

	LTE	E Band 12, WB: 1.4M	Hz		
RB size 1 & RB offset 0					
Frequency (MHz)	Spurious Emission		Limit (dDm)	Result	
	Polarization	Level (dBm)	Limit (dBm)	Result	
Lowest Channel					
1399.40	Vertical	-58.32		Pass	
2099.10	V	-57.84			
2798.80	V	-53.00	12.00		
1399.40	Horizontal	-59.59	-13.00		
2099.10	Н	-58.73			
2798.80	Н	-54.76			
		Middle Channel			
1415.00	Vertical	-58.91		Pass	
2122.50	V	-58.54			
2830.00	V	-52.96	-13.00		
1415.00	Horizontal	-58.28	-13.00		
2122.50	Н	-57.22			
2830.00	Н	-54.93			
		Highest Channel			
1430.60	Vertical	-58.59	-13.00	Pass	
2145.90	V	-56.59			
2861.20	V	-52.41			
1430.60	Horizontal	-58.62			
2145.90	Н	-58.41			
2861.20	Н	-54.22			

## Note:

<sup>1.</sup> 

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.



	Lī	E Band 12, WB: 3MH	z		
		B size 1 & RB offset (			
Frequency (MHz)	Spurious Emission		Line it (dDree)	Dooult	
	Polarization	Level (dBm)	Limit (dBm)	Result	
Lowest Channel					
1401.00	Vertical	-58.89		Pass	
2101.50	V	-57.93			
2802.00	V	-53.92	-13.00		
1401.00	Horizontal	-59.91	-13.00		
2101.50	Н	-58.30			
2802.00	Н	-54.28			
		Middle Channel			
1415.00	Vertical	-58.91		Pass	
2122.50	V	-58.30			
2830.00	V	-52.28	-13.00		
1415.00	Horizontal	-57.13	-13.00		
2122.50	Н	-57.03			
2830.00	Н	-54.84			
		Highest Channel			
1429.00	Vertical	-58.36	-13.00	Pass	
2143.50	V	-56.37			
2858.00	V	-52.41			
1429.00	Horizontal	-58.67			
2143.50	Н	-58.78			
2858.00	Н	-54.10			

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	Lī	E Band 12, WB: 5MH	z	
		B size 1 & RB offset (		
Frequency (MHz)	Spurious Emission		Line it (dDree)	Dooult
	Polarization	Level (dBm)	Limit (dBm)	Result
		<b>Lowest Channel</b>		
1403.00	Vertical	-58.13		Pass
2104.50	V	-57.20		
2806.00	V	-53.27	-13.00	
1403.00	Horizontal	-59.39	-13.00	
2104.50	Н	-58.09		
2806.00	Н	-54.79		
		Middle Channel		
1415.00	Vertical	-58.92		Pass
2122.50	V	-58.98		
2830.00	V	-52.93	12.00	
1415.00	Horizontal	-58.20	-13.00	
2122.50	Н	-57.88		
2830.00	Н	-54.39		
		Highest Channel		
1427.00	Vertical	-58.20	-13.00	Pass
2410.50	V	-56.85		
2854.00	V	-52.90		
1427.00	Horizontal	-58.88		
2410.50	Н	-58.54		
2854.00	Н	-54.06		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 12, WB: 10M	-lz		
	R	B size 1 & RB offset (	0		
Frequency (MHz)	Spurious Emission		Line it (dDree)	Descrit	
	Polarization	Level (dBm)	Limit (dBm)	Result	
Lowest Channel					
1408.00	Vertical	-58.75		Pass	
2112.00	V	-57.82			
2816.00	V	-53.07	-13.00		
1408.00	Horizontal	-59.53	-13.00		
2112.00	Н	-58.24			
2816.00	Н	-54.75			
		Middle Channel			
1415.00	Vertical	-58.36		Pass	
2122.50	V	-58.44			
2830.00	V	-52.51	12.00		
1415.00	Horizontal	-57.60	-13.00		
2122.50	Н	-57.42			
2830.00	Н	-57.12			
		Highest Channel			
1422.00	Vertical	-58.04	-13.00	Pass	
2133.00	V	-56.59			
2844.00	V	-52.76			
1422.00	Horizontal	-58.24			
2133.00	Н	-58.54			
2844.00	Н	-54.29			

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



# LTE Band 13 part:

LTE Band 13, WB: 5MHz					
RB size 1 & RB offset 0					
Frequency (MHz)	Spurious Emission		Limit (dRm)	Result	
	Polarization	Level (dBm)	Limit (dBm)	Result	
Lowest Channel					
1559.00	Vertical	-58.78		Pass	
2338.50	V	-57.52	-13.00		
3118.00	V	-52.72			
1559.00	Horizontal	-58.83	-13.00		
2338.50	Н	-56.17			
3118.00	Н	-51.83			
Middle Channel					
1564.00	Vertical	-58.65		Pass	
2346.00	V	-56.69			
3128.00	V	-53.37	12.00		
1564.00	Horizontal	-57.21	-13.00		
2346.00	Н	-54.33			
3128.00	Н	-50.59			
Highest Channel					
1569.00	Vertical	-57.11	-13.00	Pass	
2353.50	V	-57.05			
3138.00	V	-51.33			
1569.00	Horizontal	-58.37			
2353.50	Н	-56.22			
3138.00	Н	-50.05			

## Note:

<sup>3.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>4.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



LTE Band 13, WB: 10MHz					
	RE	B size 1 & RB offset (	0		
Fraguenov (MHz)	Spurious I	Emission	Limit (dDm)	Docult	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Middle Channel			
1564.00	Vertical	-57.41			
2346.00	V	-56.24			
3128.00	V	-54.33	12.00	Door	
1564.00	Horizontal	-58.33	-13.00	Pass	
2346.00	Н	-53.58			
3128.00	Н	-51.35			

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

LTE Band 13 in the(1559MHz-1610MHz)						
	RB size 1 & RB offset 0					
Fragues av (MHz)	Spurious E	mission	Limit (dBm) Result			
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	Middle Channel					
1564.00	Vertical	-57.36	-40.00	Door		
1564.00	Horizontal	-58.11	-40.00	Pass		

#### Note:

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



## LTE Band 17 part:

LTE Band 17, WB: 5MHz					
	R	B size 1 & RB offset (	)		
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result	
Frequency (IVIF12)	Polarization	Level (dBm)	Limit (ubin)	Result	
		Lowest Channel			
1413.00	Vertical	-58.95			
2119.50	V	-49.85			
2826.00	V	-52.47	-13.00	Pass	
1413.00	Horizontal	-59.76	-13.00	Fd55	
2119.50	Н	-48.67			
2826.00	Н	-54.17			
	Middle Channel				
1420.00	Vertical	-57.82		Pass	
2130.00	V	-50.32			
2840.00	V	-51.14	-13.00		
1420.00	Horizontal	-58.11	-13.00		
2130.00	Н	-48.25			
2840.00	Н	-53.16			
		Highest Channel			
1427.00	Vertical	-58.32			
2140.50	V	-50.16			
2854.00	V	-50.83	-13.00	Door	
1427.00	Horizontal	-58.41		Pass	
2140.50	Н	-47.41			
2854.00	Н	-52.58			

## Note:

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 17, WB: 10Mb	-lz	
	R	B size 1 & RB offset (	0	
Fraguenov (MHz)	Spurious	Emission	Limit (dDm)	D 16
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
1418.00	Vertical	-58.14		
2127.00	V	-49.21	40.00	
2836.00	V	-52.28		Pass
1418.00	Horizontal	-59.36	-13.00	Pass
2127.00	Н	-48.15		
2836.00	Н	-54.67		
		Middle Channel		
1420.00	Vertical	-57.03		
2130.00	V	-50.99		
2840.00	V	-51.24	12.00	Door
1420.00	Horizontal	-58.67	-13.00	Pass
2130.00	Н	-48.43		
2840.00	Н	-53.03		
		Highest Channel		
1422.00	Vertical	-58.32		
2133.00	V	-50.63		
2844.00	V	-50.24	-13.00	Door
1422.00	Horizontal	-58.18		Pass
2133.00	Н	-47.59		
2844.00	Н	-52.15		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



## LTE Band 25 part:

LTE Band 25, WB: 1.4MHz					
RB size 1 & RB offset 0					
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result	
	Polarization	Level (dBm)	Lillill (ubill)	Kesuit	
		Lowest Channel			
3701.40	Vertical	-51.40			
5552.10	V	-44.84			
7402.80	V	-39.25	-13.00	Pass	
3701.40	Horizontal	-50.46	-13.00	Pass	
5552.10	Н	-44.54			
7402.80	Н	-40.27			
		Middle Channel			
3765.00	Vertical	-50.45		Deser	
5647.50	V	-43.53			
7530.00	V	-40.42	42.00		
3765.00	Horizontal	-49.63	-13.00	Pass	
5647.50	Н	-43.86			
7530.00	Н	-41.92			
		Highest Channel			
3828.60	Vertical	-51.63			
5742.90	V	-40.63	-13.00		
7657.20	V	-39.79		Dage	
3828.60	Horizontal	-51.63		Pass	
5742.90	Н	-42.86			
7657.20	Н	-40.11			

#### Note:

<sup>3.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>4.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



LTE Band 25, WB: 3MHz						
	R	B size 1 & RB offset (	0			
Fraguency (MUz)	Spurious	Emission	Limit (dDm)	Result		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
		Lowest Channel				
3703.00	Vertical	-51.16				
5554.50	V	-44.54				
7406.00	V	-39.86	-13.00	Pass		
3703.00	Horizontal	-50.14	-13.00	Fd55		
5554.50	Н	-44.78				
7406.00	Н	-40.27				
	Middle Channel					
3765.00	Vertical	-50.63		Pass		
5647.50	V	-43.54				
7530.00	V	-40.31	-13.00			
3765.00	Horizontal	-49.31	-13.00			
5647.50	Н	-43.56				
7530.00	Н	-41.63				
		Highest Channel				
3827.00	Vertical	-51.43				
5740.50	V	-40.37				
7654.00	V	-39.31	-13.00	Door		
3827.00	Horizontal	-51.29		Pass		
5740.50	Н	-42.11				
7654.00	Н	-40.13				

<sup>3.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>4.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	Lī	E Band 25, WB: 5MH	lz	
		B size 1 & RB offset (		
F (MIL)	Spurious	Emission	Limit (dDm)	Dogult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
3705.00	Vertical	-51.54		
5557.50	V	-44.14	-13.00	
7410.00	V	-39.31		Pass
3705.00	Horizontal	-50.23	-13.00	Fd55
5557.50	Н	-44.39		
7410.00	Н	-40.28		
		Middle Channel		
3765.00	Vertical	-50.16		
5647.50	V	-43.54		
7530.00	V	-40.46	-13.00	Pass
3765.00	Horizontal	-49.56	-13.00	Fd55
5647.50	Н	-43.63		
7530.00	Н	-41.34		
		Highest Channel		
3825.00	Vertical	-51.39		
5737.50	V	-40.12		
7650.00	V	-39.46	-13.00	Pass
3825.00	Horizontal	-51.06		Pass
5737.50	Н	-42.46		
7650.00	Н	-40.58		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 25, WB: 10Mb	-lz	
	R	B size 1 & RB offset (	0	
[ (NALL_)	Spurious	Emission	Limit (dDm)	Popult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
3710.00	Vertical	-51.43		
5565.00	V	-44.45	-13.00	
7420.00	V	-39.43		Pass
3710.00	Horizontal	-50.23	-13.00	Fd55
5565.00	Н	-44.48		
7420.00	Н	-40.34		
		Middle Channel		
3765.00	Vertical	-50.97		
5647.50	V	-43.19		
7530.00	V	-40.34	-13.00	Pass
3765.00	Horizontal	-49.56	-13.00	Fd55
5647.50	Н	-43.67		
7530.00	Н	-41.16		
		Highest Channel		
3820.00	Vertical	-51.63		
5730.00	V	-40.46		
7640.00	V	-39.44	-13.00	Door
3820.00	Horizontal	-51.23		Pass
5730.00	Н	-42.46		
7640.00	Н	-40.39		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 25, WB: 15Mb	-lz	
	R	B size 1 & RB offset (	0	
F (MIL)	Spurious	Emission	Limit (dPm)	Popult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
3715.00	Vertical	-51.97		
5572.50	V	-44.29	-13.00	
7430.00	V	-39.86		Pass
3715.00	Horizontal	-50.56		Pass
5572.50	Н	-44.51		
7430.00	Н	-40.23		
		Middle Channel		
3765.00	Vertical	-50.72		
5647.50	V	-43.67		
7530.00	V	-40.29	-13.00	Pass
3765.00	Horizontal	-49.34	-13.00	Fd55
5647.50	Н	-43.29		
7530.00	Н	-41.71		
		Highest Channel		
3815.00	Vertical	-51.39		
5722.50	V	-40.29		
7630.00	V	-39.86	-13.00	Pass
3815.00	Horizontal	-51.56		Pass
5722.50	Н	-42.62		
7630.00	Н	-40.52		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LT	E Band 25, WB: 20MI	-lz	
	R	B size 1 & RB offset (	0	
[ (NALL_)	Spurious	Emission	Limit (dPm)	Popult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		<b>Lowest Channel</b>		
3720.00	Vertical	-51.11		
5580.00	V	-44.34	-13.00	
7440.00	V	-39.23		Pass
3720.00	Horizontal	-50.12		Pass
5580.00	Н	-44.52		
7440.00	Н	-40.53		
		Middle Channel		
3765.00	Vertical	-50.14		
5647.50	V	-43.56		
7530.00	V	-40.46	-13.00	Pass
3765.00	Horizontal	-49.34	-13.00	Fd55
5647.50	Н	-43.58		
7530.00	Н	-41.39		
		Highest Channel		
3810.00	Vertical	-51.45		
5715.00	V	-40.72		
7620.00	V	-39.28	-13.00	Pass
3810.00	Horizontal	-51.54		Pass
5715.00	Н	-42.29		
7620.00	Н	-40.56		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



#### LTE Band 5&26(part 22H):

	LTE Band	I 5&26(part 22H), WB	8: 1.4MHz	
		B size 1 & RB offset		
F (A411.)	Spurious	Emission	Lingt (IDm)	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
·		Lowest Channel		
1649.40	Vertical	-58.92		
2474.10	V	-56.00	40.00	
3298.80	V	-51.93		Pass
1649.40	Horizontal	-58.80	-13.00	Pass
2474.10	Н	-55.82		
3298.80	Н	-52.57		
		Middle Channel		
1673.00	Vertical	-57.15		Pass
2509.50	V	-55.58		
3346.00	V	-52.30	-13.00	
1673.00	Horizontal	-58.58	-13.00	F d 5 5
2509.50	Н	-54.39		
3346.00	Н	-52.32		
		Highest Channel		
1696.60	Vertical	-58.91		
2544.90	V	-54.84		
3393.20	V	-51.45	-13.00	Page
1696.60	Horizontal	-58.22		Pass
2544.90	Н	-56.32		
3393.20	Н	-51.71		

## Note:

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LTE Ban	d 5&26(part 22H), Wi	B: 3MHz	
	R	B size 1 & RB offset	0	
Fraguenov (MHz)	Spurious	Emission	Limit (dPm)	Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
1651.00	Vertical	-58.41		
2476.50	V	-56.92	-13.00	
3302.00	V	-51.25		Pass
1651.00	Horizontal	-58.37	-13.00	F455
2476.50	Н	-55.32		
3302.00	Н	-52.15		
		Middle Channel		
1673.00	Vertical	-57.42		Pass
2509.50	V	-55.58		
3346.00	V	-52.91	-13.00	
1673.00	Horizontal	-58.07	-13.00	F455
2509.50	Н	-54.92		
3346.00	Н	-52.88		
		<b>Highest Channel</b>		
1695.00	Vertical	-58.39		
2542.50	V	-54.07		
3390.00	V	-51.15	-13.00	Pass
1695.00	Horizontal	-58.33		Pass
2542.50	Н	-56.52		
3390.00	Н	-51.25		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LTE Ban	d 5&26(part 22H), Wi	B: 5MHz	
	R	B size 1 & RB offset	0	
Fraguenov (MHz)	Spurious Emission		Limit (dPm)	Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
1653.00	Vertical	-58.58		
2479.50	V	-56.24		
3306.00	V	V -51.33 rizontal -58.64 H -55.47 H -52.29		
1653.00	Horizontal	-58.64	-13.00	Pass
2479.50	Н	-55.47		
3306.00	Н	-52.29		
		Middle Channel		
1673.00	Vertical	-57.48		
2509.50	V	-55.71		
3346.00	V	-52.96	-13.00	Pass
1673.00	Horizontal	-58.88	-13.00	F d 5 5
2509.50	Н	-54.15		
3346.00	Н	-52.64		
		Highest Channel		
1693.00	Vertical	-58.84		
2539.50	V	-54.57		
3386.00	V	-51.39	-13.00	Pass
1693.00	Horizontal	-58.45	-13.00	Pass
2539.50	Н	-56.75		
3386.00	Н	-51.32		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LTE Band	d 5&26(part 22H), WB	B: 10MHz	
		B size 1 & RB offset		
Fraguenov (MHz)	Spurious Emission		Limit (dDm)	D !!
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest Channel		
1658.00	Vertical	-58.41		
2487.00	V	-56.58		
3316.00	V	Vertical     -58.41       V     -56.58       V     -51.25       Horizontal     -58.41       H     -55.92       H     -52.24       Middle Channel       Vertical     -57.93       V     -55.51       V     -52.62       Horizontal     -58.07       H     -54.25	Pass	
1658.00	Horizontal	-58.41	-13.00	Fa55
2487.00	Н	-55.92		
3316.00	Н	-52.24		
		Middle Channel		
1673.00	Vertical	-57.93		
2509.50	V	-55.51		
3346.00	V	-52.62	12.00	Pass
1673.00	Horizontal	-58.07	-13.00	F455
2509.50	Н	-54.25		
3346.00	Н	-52.52		
		Highest Channel		
1688.00	Vertical	-58.21		
2532.00	V	-54.24		
3376.00	V	-51.97	-13.00	Pass
1688.00	Horizontal	-58.79	-13.00	Pass
2532.00	Н	-56.85		
3376.00	Н	-51.55		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LTE Bai	nd 26(part 22H), WB:	15MHz	
		B size 1 & RB offset (		
Frequency (MHz)	Spurious Emission		Limit (dPm)	Popult
Frequency (MHZ)	Polarization	Level (dBm)	Limit (dBm)	Result
		<b>Lowest Channel</b>		
1663.00	Vertical	-58.07		
2494.50	V	-56.24		
3326.00	V	-51.93		
1663.00	Horizontal	-58.25	-13.00	Pass
2494.50	Н	-55.39		
3326.00	Н	-52.22		
		Middle Channel		
1673.00	Vertical	-57.25		
2509.50	V	-55.92		
3346.00	V	-52.24	-13.00	Pass
1673.00	Horizontal	-58.91	-13.00	Pd55
2509.50	Н	-54.58		
3346.00	Н	-52.42		
		Highest Channel		
1683.00	Vertical	-58.91		
2524.50	V	-64.32		
3366.00	V	-51.93	-13.00	Pass
1683.00	Horizontal	-58.79	-13.00	Pass
2524.50	Н	-56.41		
3366.00	Н	-51.55		

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



## LTE Band 26(part 90S):

	LTE Bar	nd 26(part 90S), WB:	1.4MHz	
	R	B size 1 & RB offset (	0	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
1 requericy (Wir 12)	Polarization	Level (dBm)	Limit (dbin)	Nesuit
		Lowest Channel		
1629.40	Vertical	-59.54		
2444.10	V	-56.16		
3258.80	V	-51.82	-13.00	Pass
1629.40	Horizontal	-59.30	-13.00	Fa55
2444.10	Н	-56.05		
3258.80	Н	-51.76		
		Middle Channel		
1638.00	Vertical	-58.44		
2457.00	V	-55.42		
3276.00	V	-49.27	-13.00	Pass
1638.00	Horizontal	-59.42	-13.00	F455
2457.00	Н	-55.42		
3276.00	Н	-50.51		
		<b>Highest Channel</b>		
1646.60	Vertical	-58.89		
2469.90	V	-54.36		
3293.20	V	-50.75	12.00	Pass
1646.60	Horizontal	-57.19	-13.00	rass
2469.90	Н	-54.18		
3293.20	Н	-51.39		

#### Note:

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LTE Ba	nd 26(part 90S), WB:	: 3MHz			
	R	B size 1 & RB offset	0			
Fraguenov (MHz)	Spurious Emission		Limit (dPm)	Result		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
		Lowest Channel				
1631.00	Vertical	-59.75				
2446.50	V	-56.74				
3262.00	V	-51.41	.41 .76 .14			
1631.00	Horizontal	-59.76	-13.00 Pa			
2446.50	Н	-56.14				
3262.00	Н	-51.59				
		Middle Channel				
1638.00	Vertical	-58.24				
2457.00	V	-55.06				
3276.00	V	-49.39	-13.00	Pass		
1638.00	Horizontal	-59.39	-13.00	Fd55		
2457.00	Н	-55.41				
3276.00	Н	-50.34				
		Highest Channel				
1645.00	Vertical	-58.89				
2467.50	V	-54.14				
3290.00	V	-50.58	-13.00	Door		
1645.00	Horizontal	-57.45	-13.00	Pass		
2467.50	Н	-54.14				
3290.00	Н	-51.89				

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LTE Ba	nd 26(part 90S), WB:	5MHz			
	R	B size 1 & RB offset (	0			
Erogueney (MHz)	Spurious Emission		Limit (dRm)	Result		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
		Lowest Channel				
1633.00	Vertical	-59.16				
2449.50	V	-56.28				
3266.00	Polarization   Le	-51.34	12.00	Door		
1633.00	Horizontal	-59.51	-13.00 Pa 5.06			
2449.50	Н	-56.06				
3266.00	Н	-51.48				
		Middle Channel				
1638.00	Vertical	-58.19				
2457.00	V	-55.56				
3276.00	V	-49.42	-13.00	Pass		
1638.00	Horizontal	-59.24	-13.00	Fd55		
2457.00	Н	-55.39				
3276.00	Н	-50.76				
		<b>Highest Channel</b>				
1643.00	Vertical	-58.14				
2464.50	V	-54.58				
3286.00	V	-50.44	-13.00	Door		
1643.00	Horizontal	-57.05	-13.00	Pass		
2464.50	Н	-54.24				
3286.00	Н	-51.89				

<sup>1.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>2.</sup> For above 1 GHz, all test modes were performed, and just the worst case shown in the report.



	LTE Bar	nd 26(part 90S), WB:	10MHz		
	RE	B size 1 & RB offset	0		
Fraguenov (MHz)	Spurious I	Emission	Limit (dPm)	Dooult	
Frequency (MHz)	Polarization	Level (dBm) Limit (dBm)		Result	
		Middle Channel			
1638.00	Vertical	-57.89			
2457.00	V	-55.24			
3276.00	V	-50.76	12.00	Door	
1638.00	Horizontal	-58.44	-13.00	Pass	
2457.00	Н	-54.42			
3276.00	Н	-51.99			

- 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 Ban	d 26(part 90S), WB:	15MHz		
	RE	size 1 & RB offset	0		
Fraguanay (MHz)	Spurious E	mission	Limit (dDm)	Docult	
Frequency (MHz)	Polarization	Level (dBm) Limit (dBm)		Result	
		Lowest Channel			
1643.00	Vertical	-58.31			
2464.50	V	-56.22			
3286.00	V	-51.71	12.00	Door	
1643.00	Horizontal	-58.48	-13.00	Pass	
2464.50	Н	-55.44			
3286.00	Н	-50.43			

## 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 41 part:

	LT	E Band 41, WB: 5MH	z			
	RI	B size 1 & RB offset (	)			
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result		
Frequency (Miriz)	Polarization	Level (dBm)	Lillill (ubill)	Kesuit		
		Lowest Channel				
5115.00	Vertical	-45.88				
7672.50	V	-40.23				
10230.00	V	-38.41	-25.00	Pass		
5115.00	Horizontal	-46.78	-25.00	F 455		
7672.50	Н	-39.78				
10230.00	Н	-37.77				
		Middle Channel				
5210.00	Vertical	-46.78				
7815.00	V	-39.78				
10420.00	V	-38.65	25.00	Dana		
5210.00	Horizontal	-46.65	-25.00	Pass		
7815.00	Н	-39.56				
10420.00	Н	-37.63				
		Highest Channel				
5305.00	Vertical	-45.41				
7957.50	V	-39.66				
10610.00	V	-38.63	25.00	Door		
5305.00	Horizontal	-47.69	-25.00	Pass		
7957.50	Н	-40.73				
10610.00	Н	-38.05				

#### Note:

<sup>5.</sup> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

<sup>6.</sup> 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:	<ol> <li>The equipment under test was connected to an external DC power supply and input rated voltage.</li> <li>RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.</li> <li>The EUT was placed inside the temperature chamber.</li> <li>Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency.</li> <li>Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.</li> <li>Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached</li> </ol>
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 4 part:

Reference Fi	requency: LTE Band 4			5 channel=1732.5	0MHz
Power supplied	Temperature (°C)	Freque	ncy error	Limit (ppm)	Result
(Vdc)	Tomporatoro ( e)	Hz	ppm	Limit (ppm)	rtoouit
		QPSK			
	-30	196	0.113131		
	-20	153	0.088312		
	-10	161	0.092929		
	0	121	0.069841		Pass
3.85	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		
3.85	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 7 part:

Reference Fre	quency: LTE Band 7	(10MHz) Middle	e channel=21100 l	Frequency=2535.	00MHz
Power supplied (Vdc)	Temperature (°C)	Freque	ency error	Limit (ppm)	Result
	remperature ( c)	Hz	ppm	Еппі (рріп)	Nesuit
		QPSK			
	-30	197	0.0777120		
	-20	154	0.0607495		
	-10	162	0.0639053		
	0	122	0.0481262		
3.85	10	187	0.0737673	±2.5	Pass
	20	173	0.0682446	_	
	30	113	0.0445759		
	40	104	0.0410256		
	50	149	0.0587771		
		16QAM			
	-30	122	0.0481262		
	-20	149	0.0587771		
	-10	165	0.0650888		
	0	121	0.0477318		
3.85	10	143	0.0564103	±2.5	Pass
	20	139	0.0548323		
	30	155	0.0611440		
	40	132	0.0520710	]	
	50	137	0.0540434		





LTE Band 12 part:

Reference Fi	requency: LTE Band 1			95 channel=707.5	0MHz
Power supplied	Temperature (°C)	Freque	ency error	Limit (ppm)	Result
(Vdc)	Temperature ( ©)	Hz	ppm	Limit (ppm)	rtesuit
		QPSK			
	-30	195	0.275618		
	-20	152	0.214841		
	-10	160	0.226148		
	0	120	0.169611		Pass
3.85	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		
3.85	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:

Reference Fi					
(Vdc)	Temperature (°C)	Hz	ency error ppm	Limit (ppm)	Result
		QPSK			
	-30	193	0.2468031		
	-20	150	0.1918159		
	-10	158	0.2020460		Pass
	0	118	0.1508951		
3.85	10	183	0.2340153	±2.5	
	20	169	0.2161125		
	30	109	0.1393862		
	40	100	0.1278772		
	50	145	0.1854220		
		16QAM			
	-30	118	0.1508951		
	-20	145	0.1854220		
	-10	161	0.2058824		
	0	117	0.1496164		
3.85	10	139	0.1777494	±2.5	Pass
	20	135	0.1726343	]	
	30	151	0.1930946	]	
	40	128	0.1636829		
	50	133	0.1700767		





## LTE Band 17 part:

Reference F	requency: LTE Band 1	7 (10MHz) Mid	dle channel=2379	0 channel=710.0	0MHz
Power supplied	Temperature (°C)	Freque	ency error	Limit (ppm)	Result
(Vdc)	remperature (C)	Hz	ppm	Limit (ppin)	Nesuit
		QPSK			
	-30	199	0.280282		
	-20	156	0.219718		
	-10	164	0.230986		
	0	124	0.174648		Pass
3.85	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		
3.85	10	145	0.204225	±2.5	Pass
	20	141	0.198592		
	30	157	0.221127		
	40	134	0.188732	]	
	50	139	0.195775	1	





LTE Band 25 part:

	requency: LTE Band 2			55 channel=1882.	5MHz
Power supplied	Temperature (°C)		ency error	Limit (ppm)	Result
(Vdc)	' ' '	Hz	ppm	· (FF )	
		QPSK			
	-30	180	0.095618		
	-20	169	0.089774		
	-10	167	0.088712		Pass
	0	117	0.062151		
3.85	10	134	0.071182	±2.5	
	20	168	0.089243		
	30	108	0.057371		
	40	158	0.083931		
	50	144	0.076494		
		16QAM			
	-30	175	0.092961		
	-20	148	0.078619		
	-10	142	0.075432		
	0	120	0.063745		
3.85	10	159	0.084462	±2.5	Pass
	20	138	0.073307	]	
	30	154	0.081806	]	
	40	131	0.069588	1	
	50	138	0.073307	]	





LTE Band 5&26(part 22H):

Reference Frequency: LTE Band 5&26(part 22H) (10MHz) Middle chann  Power supplied Frequency error					
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	·	QPSK			
	-30	187	0.223551		
	-20	133	0.158996		
	-10	159	0.190078		
	0	110	0.131500		Pass
3.85	10	166	0.198446	±2.5	
	20	172	0.205619		
	30	110	0.131500		
	40	101	0.120741		
	50	151	0.180514		
		16QAM		<u>,                                      </u>	
	-30	150	0.179319		
	-20	123	0.147041		
	-10	144	0.172146		
	0	122	0.145846		
3.85	10	141	0.168559	±2.5	Pass
	20	140	0.167364		
	30	148	0.176928		
	40	133	0.158996		
	50	138	0.164973		





LTE Band 26(part 90S):

Reference Freq	uency: LTE Band 26(pa	•	•	=26/40 channel=	819.0MHz
Power supplied	Temperature (°C) ⊢		ency error	Limit (ppm)	Result
(Vdc)	1011110101010101010101010101010101010101	Hz	ppm	Σ (ρρ)	rtoodit
		QPSK			
	-30	187	0.228327		
	-20	133	0.162393		
	-10	159	0.194139		
	0	114	0.139194		Pass
3.85	10	159	0.194139	±2.5	
	20	167	0.203907		
	30	106	0.129426		
	40	102	0.124542		
	50	149	0.181929		
		16QAM			
	-30	150	0.183150		
	-20	123	0.150183		
	-10	138	0.168498		
	0	121	0.147741		
3.85	10	137	0.167277	±2.5	Pass
	20	138	0.168498		
	30	139	0.169719		
	40	131	0.159951		
	50	112	0.136752	]	





#### LTE Band 41:

Reference F	requency: LTE Band	•		0 channel=2605.0	MHz
Power supplied	Temperature (°C)	Freque	ency error	Limit (ppm)	Result
(Vdc)	Tomporataro ( o)	Hz	ppm	Limit (ppm)	rtoodit
		QPSK		<del>,</del>	
	-30	191	0.073660		
	-20	137	0.052835		
	-10	163	0.062862		
	0	118	0.045507		Pass
3.85	10	163	0.062862	±2.5	
	20	171	0.065947	_	
	30	110	0.042422		
	40	106	0.040879		
	50	153	0.059005		
		16QAM			
	-30	154	0.059391		
	-20	127	0.048978		
	-10	142	0.054763		
	0	125	0.048207		
3.85	10	141	0.054377	±2.5	Pass
	20	142	0.054763		
	30	143	0.055148		
	40	135	0.052063		
	50	116	0.044736		



# 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:	<ol> <li>Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage.</li> <li>Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.</li> <li>Reduce the input voltage to specify extreme voltage variation (+/-15%) and endpoint, record the maximum frequency change.</li> </ol>
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 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz								
Temperature (°C)	Power supplied	Frequen	cy error	Limit (ppm)	Result			
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result			
QPSK								
	4.40	94	0.054257					
25	3.85	61	0.035209	±2.5	Pass			
	3.50	70	0.040404					
		16QAM						
	4.40	78	0.045022					
25	3.85	94	0.054257	±2.5	Pass			
	3.50	46	0.026551					
Note: Only the worst case	se shown in the report.							

## LTE Band 7 part:

Reference Fre	quency: LTE Band 7	(10MHz) Middle	channel=21100 F	requency=2535	.00MHz
Temperature (°C)	Power supplied	Frequen	cy error	Limit (nnm)	D !!
remperature ( C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
		QPSK			
	4.40	97	0.0382643		
25	3.85	64	0.0252465	±2.5	Pass
	3.50	73	0.0287968		
		16QAM			
	4.40	79	0.0311637		
25	3.85	95	0.0374753	±2.5	Pass
	3.50	47	0.0185404		
Note: Only the worst cas	se shown in the report.				

## LTE Band 12 part:

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 channel=707.50MHz								
Temperature (℃)	Power supplied	Frequen	cy error	Limit (none)	Danult			
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result			
QPSK								
	4.40	95	0.134276					
25	3.85	62	0.087633	±2.5	Pass			
	3.50	71	0.100353					
		16QAM						
	4.40	77	0.108834					
25	3.85	93	0.131449	±2.5	Pass			
	3.50	45	0.063604	7				
Note: Only the worst ca	se shown in the report.	_	_					



## LTE Band 13 part:

Reference Frequency: LTE Band 13(10MHz) Middle channel=23230 Frequency=782.00MHz								
Temperature (°C)	Power supplied	Frequen	cy error	Limeit (mmma)	Decult			
Temperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result			
QPSK								
	4.40	96	0.1227621	±2.5				
25	3.85	63	0.0805627		Pass			
	3.50	72	0.0920716					
		16QAM						
	4.40	78	0.0997442					
25	3.85	94	0.1202046	±2.5	Pass			
	3.50	46	0.0588235					
Note: Only the worst ca	Note: Only the worst case shown in the report.							

## LTE Band 17 part:

Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 channel=710.00MHz						
Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Dogult	
	(Vdc)	Hz	ppm	Limit (ppm)	Result	
QPSK						
	4.40	99	0.139437	±2.5	Pass	
25	3.85	66	0.092958			
	3.50	75	0.105634			
		16QAM				
25	4.40	81	0.114085	±2.5	Pass	
	3.85	97	0.136620			
	3.50	49	0.069014			
Note: Only the worst ca	se shown in the report.					

# LTE Band 25 part:

	equency: LTE Band				
Temperature ( $^{\circ}$ )	Power supplied	Frequency error		Limit (nnm)	Daguit
	(Vdc)	Hz	ppm	Limit (ppm)	Result
		QPSK		•	
25	4.40	51	0.027092	±2.5	Pass
	3.85	90	0.047809		
	3.50	62	0.032935		
		16QAM			
25	4.40	79	0.041965	±2.5	Pass
	3.85	77	0.040903		
	3.50	61	0.032404		



## LTE Band 5&26(part 22H):

Reference Frequency: LTE Band 5&26(part 22H) (10MHz) Middle channel=26915 channel=836.5MHz						
Temperature (°C)	Power supplied	Frequency error		Limit (ppm) Result		
	(Vdc)	Hz	ppm	Limit (ppm)	Result	
QPSK						
	4.40	43	0.051405	±2.5	Pass	
25	3.85	91	0.108787			
	3.50	62	0.074118			
16QAM						
25	4.35	88	0.105198	±2.5	Pass	
	3.80	92	0.109979			
	3.50	62	0.074117			
Note: Only the worst case shown in the report.						

## LTE Band 26(part 90S):

Reference Freque	ency: LTE Band 26(p	oart 90S) (10MHz)	Middle channel	=26740 channel	=819.0MHz	
Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Result	
	(Vdc)	Hz	ppm	Limit (ppm)	Result	
QPSK						
25	4.40	44	0.053724	±2.5	Pass	
	3.85	91	0.111111			
	3.50	59	0.072039			
		16QAM				
25	4.40	87	0.106227	±2.5	Pass	
	3.85	94	0.114774			
	3.50	51	0.062271			
Note: Only the worst ca	se shown in the report.	_				

## LTE Band 41:

Reference Frequency: LTE Band 41 (10MHz) Middle channel=40740 channel=2605.0MHz							
Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Result		
	(Vdc)	Hz	ppm	Limit (ppm)	Result		
QPSK							
	4.40	100	0.038565	±2.5	Pass		
25	3.85	64	0.024682				
	3.50	73	0.028153				
16QAM							
25	4.40	82	0.031624	±2.5	Pass		
	3.85	98	0.037794				
	3.50	50	0.019283				
Note: Only the worst ca	se shown in the report.	_	_		_		





**Test Setup Photo** 

