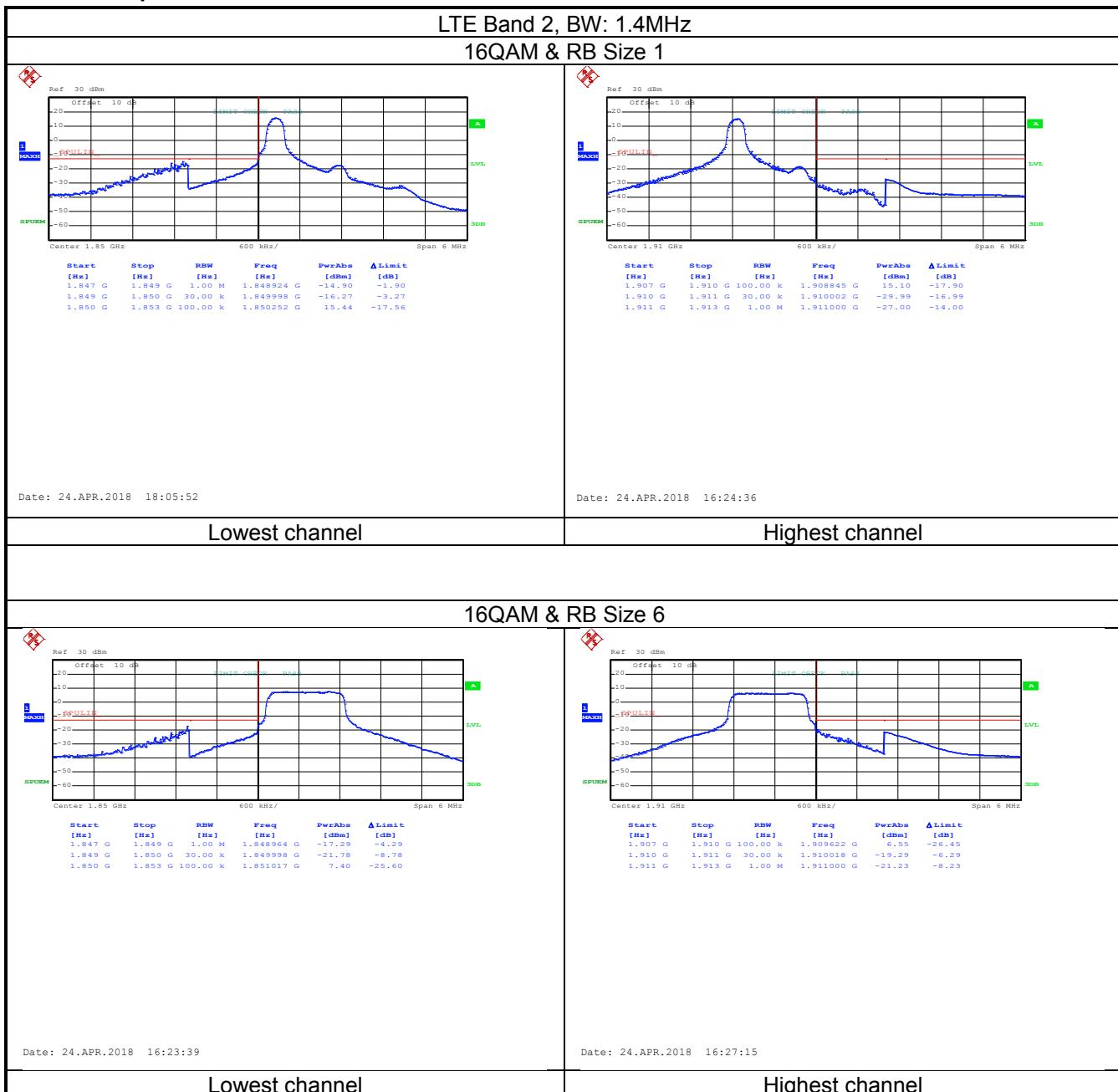
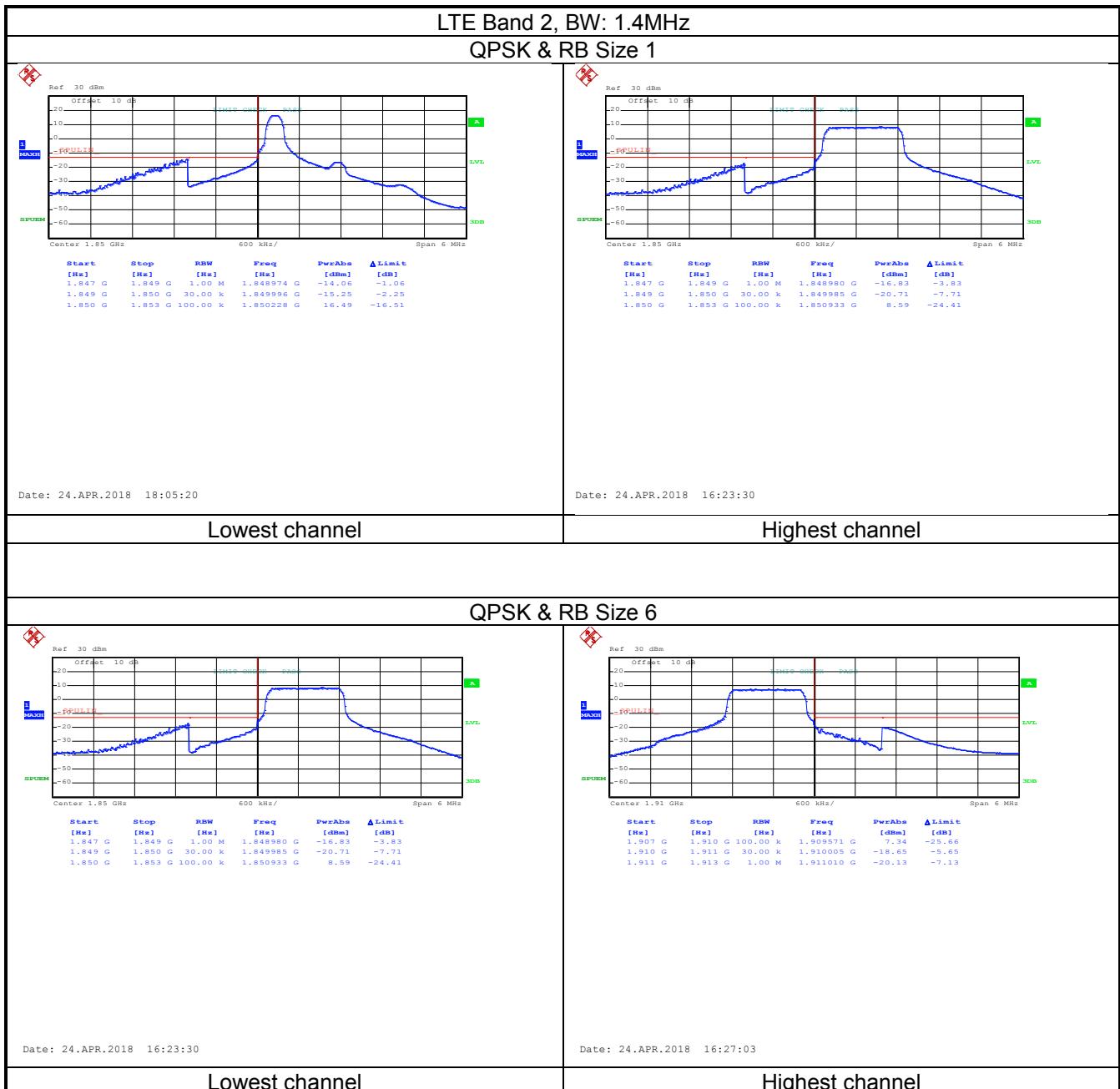
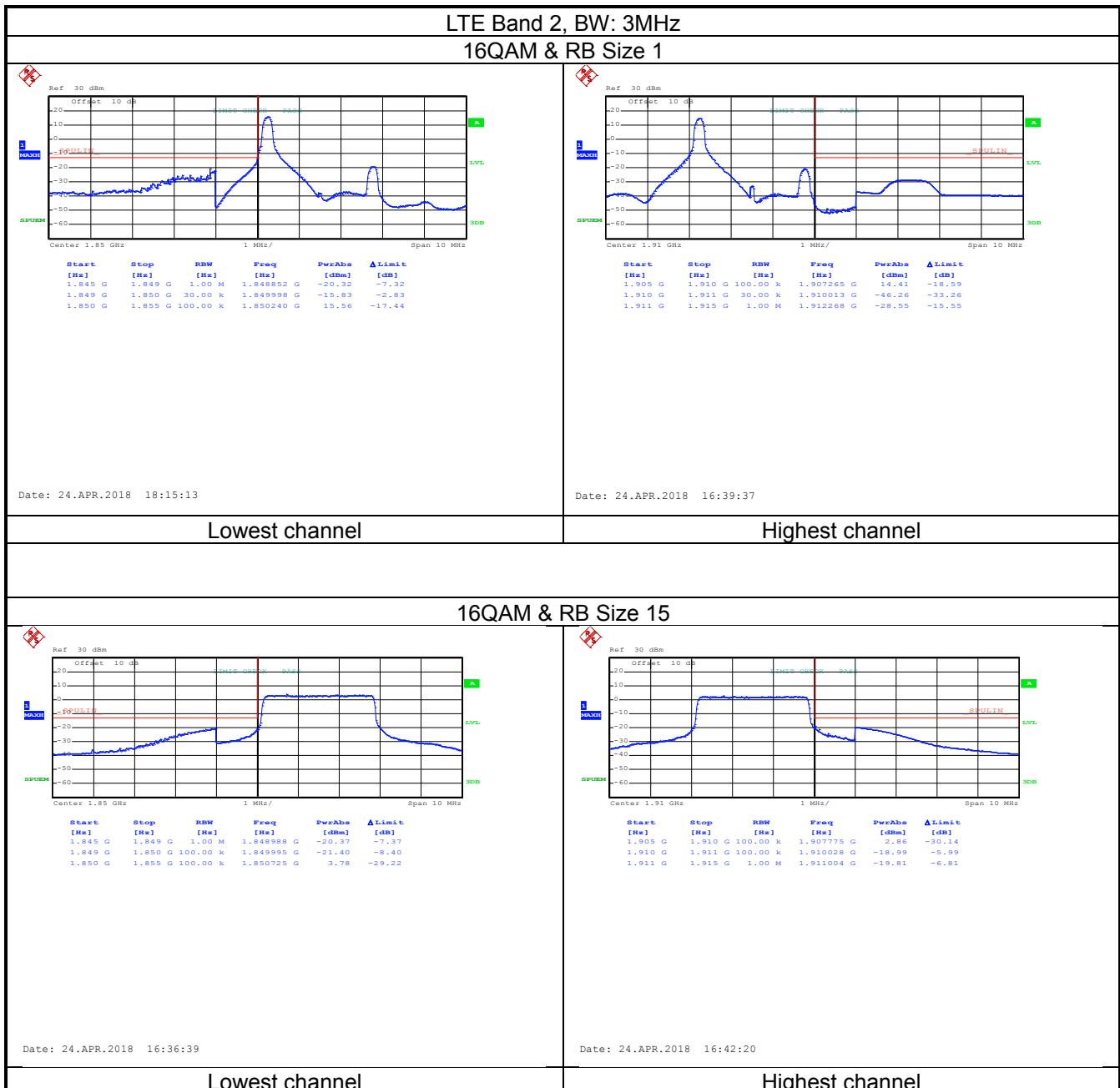


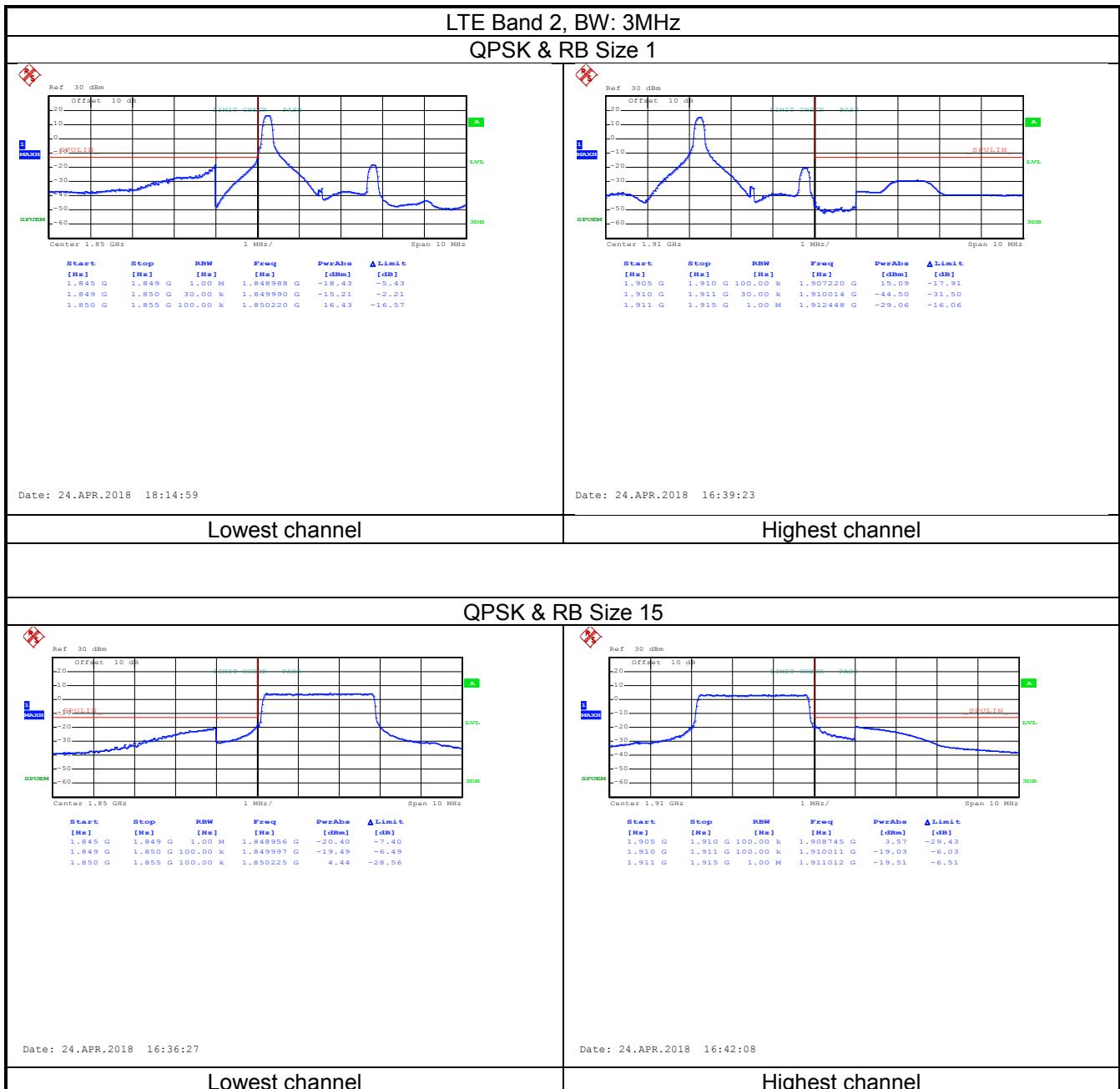
**Band edge emission:**

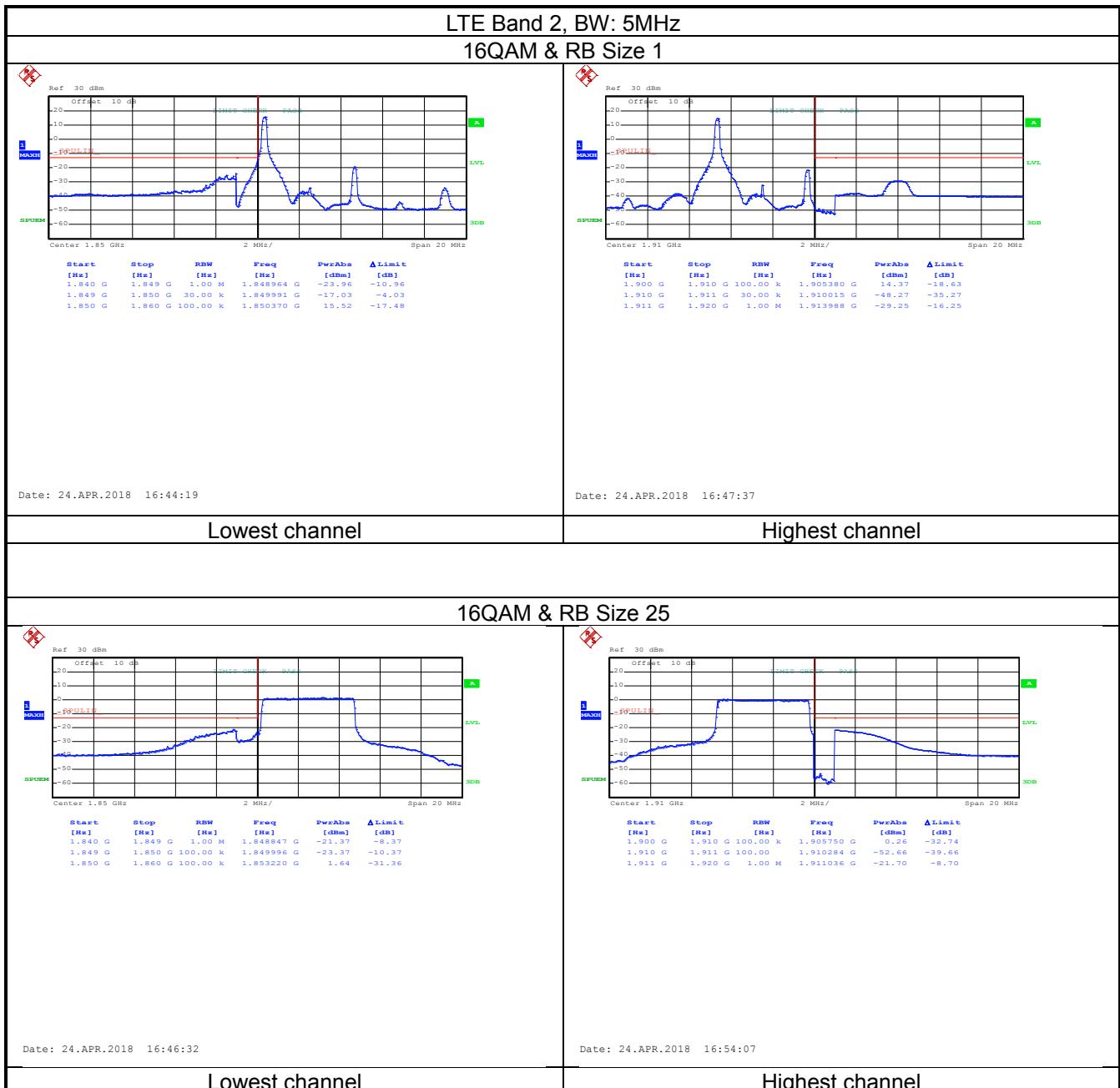
LTE Band 2 part:

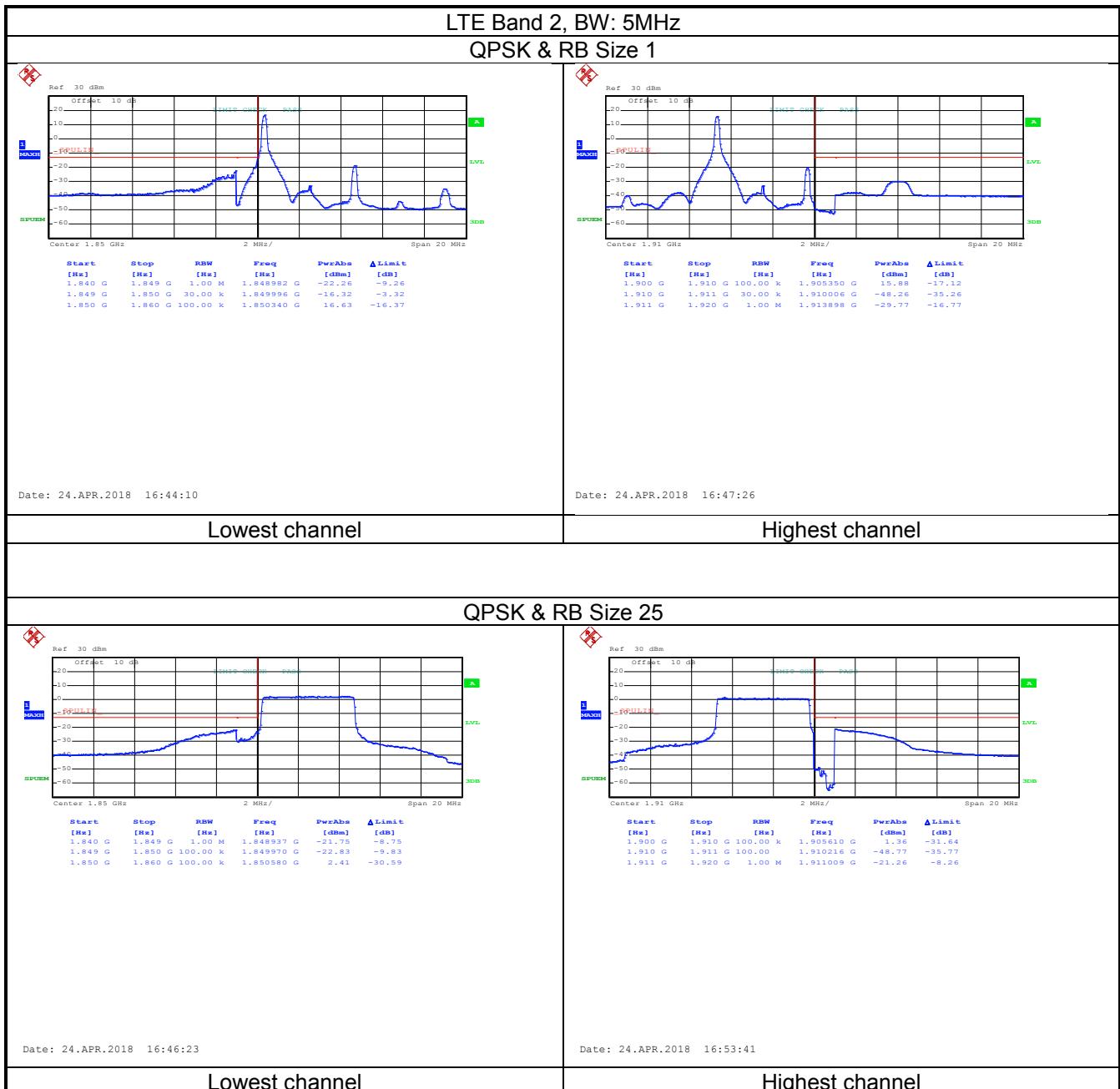


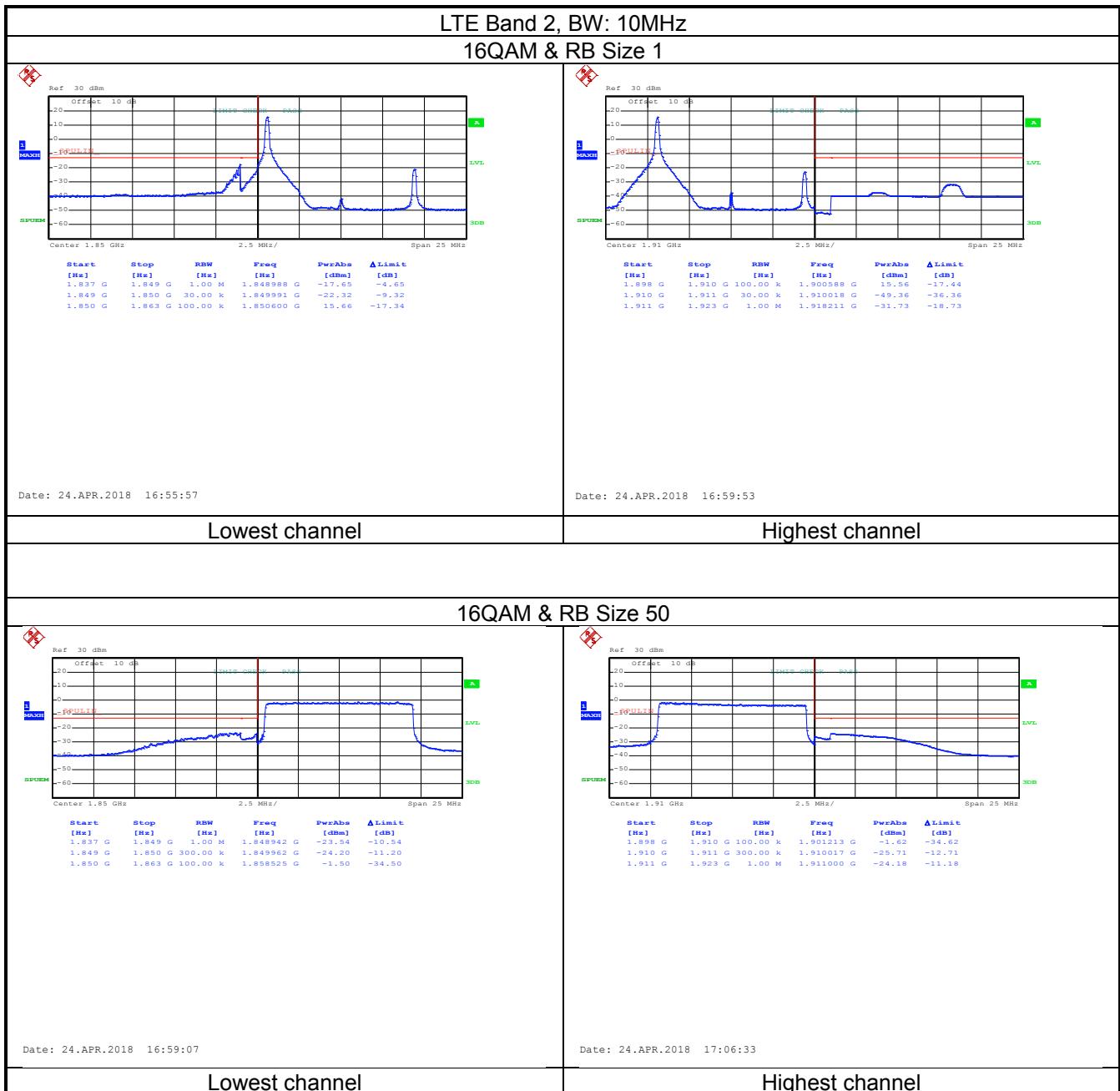


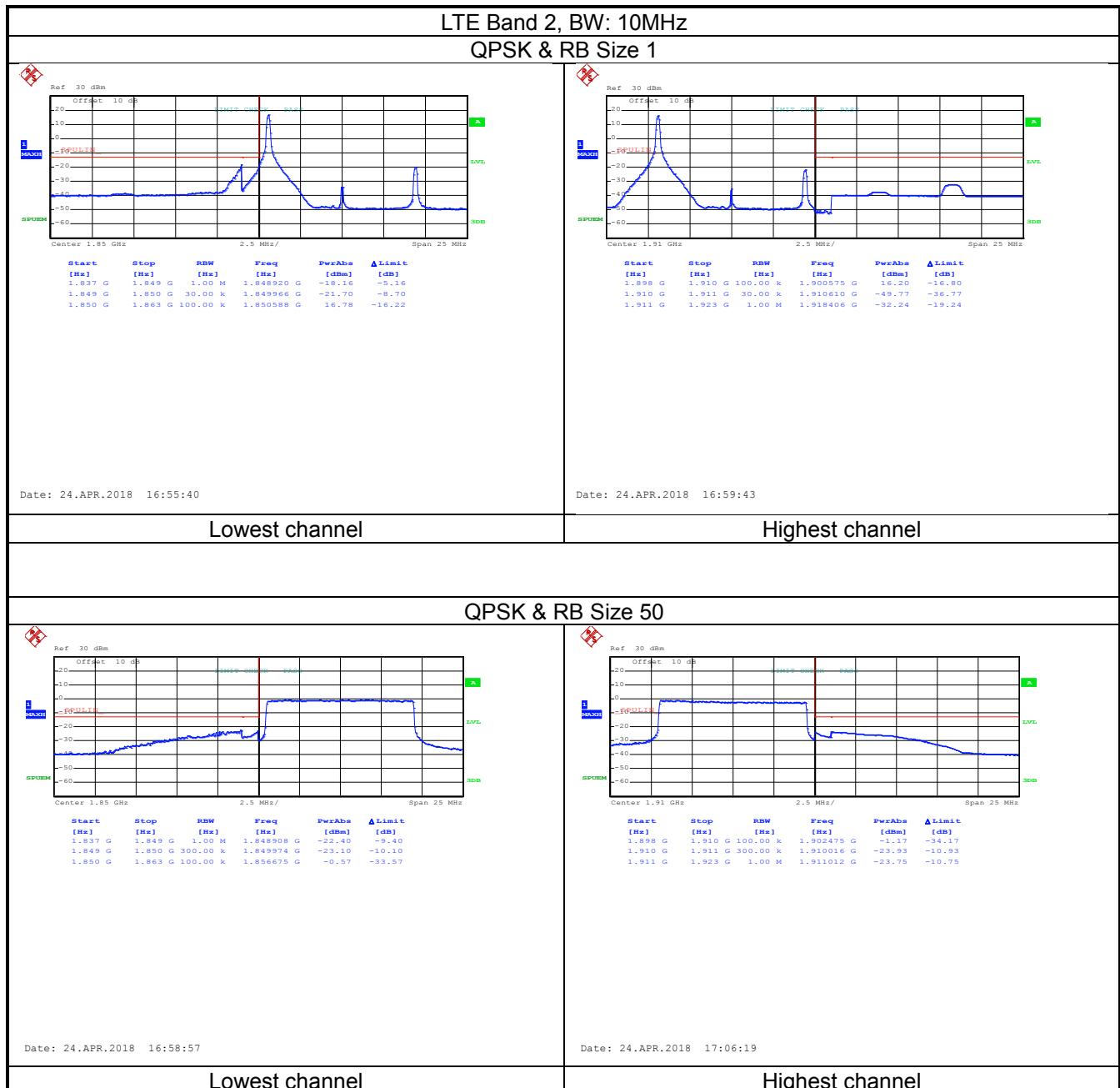


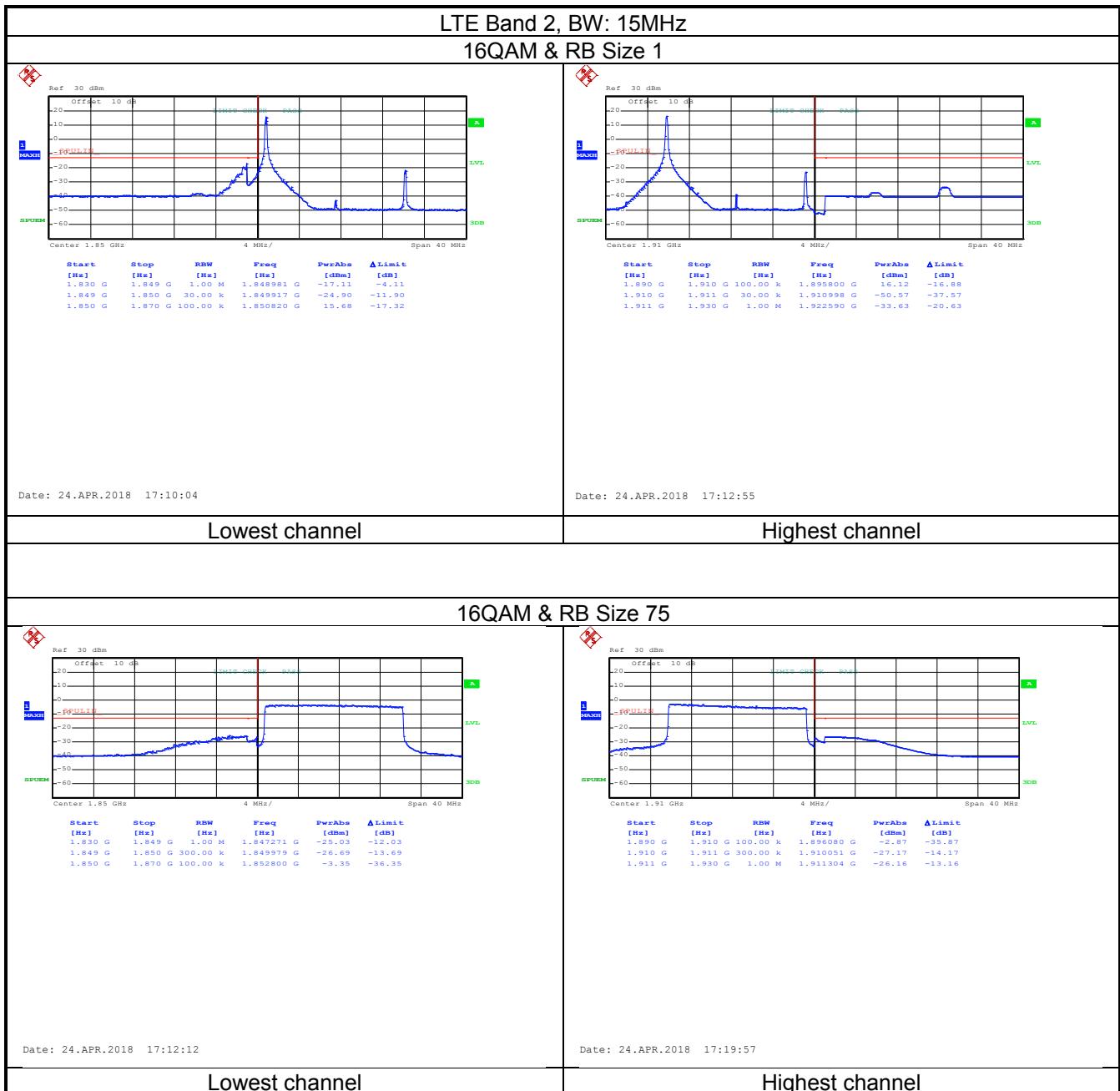


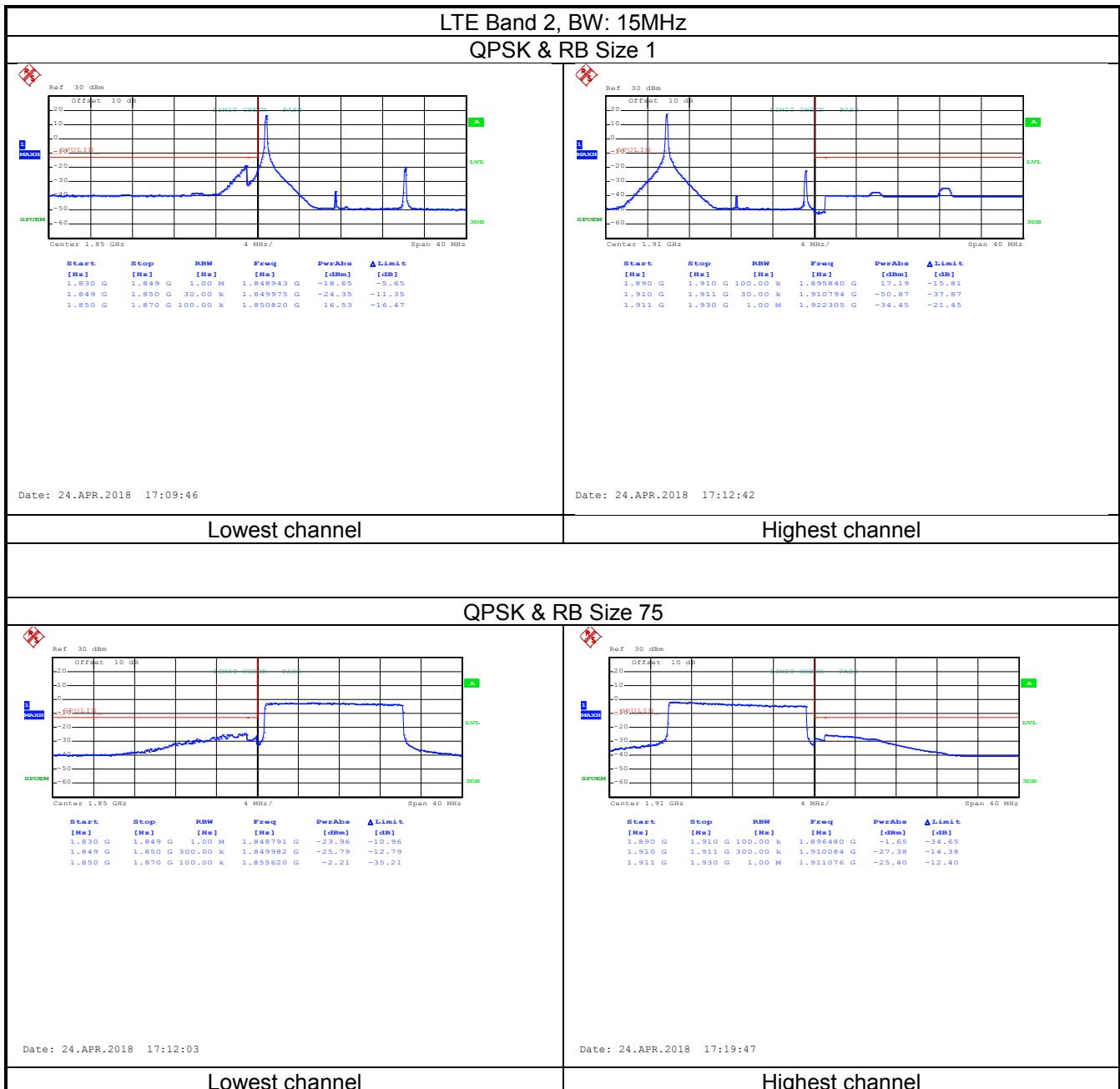


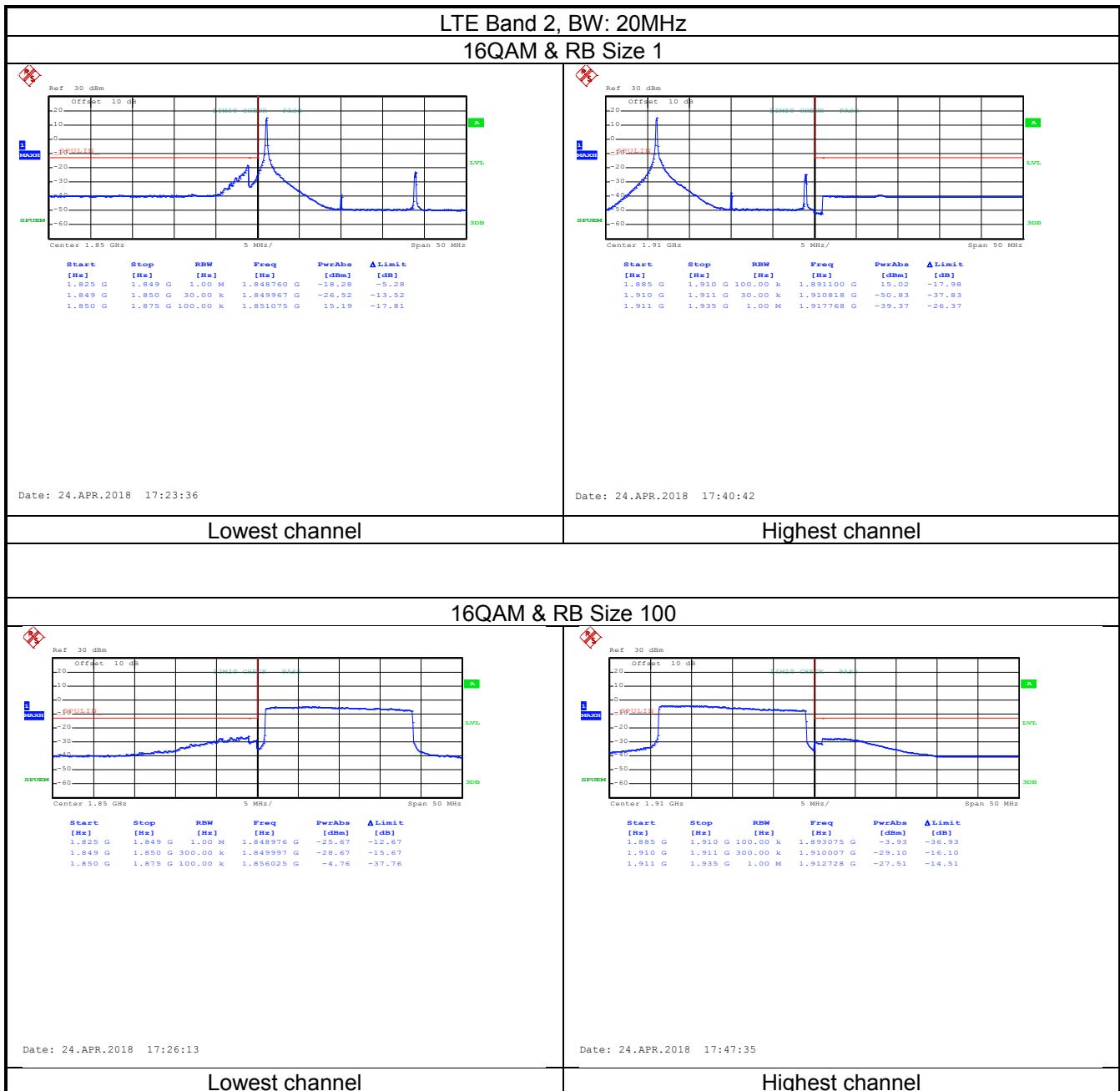


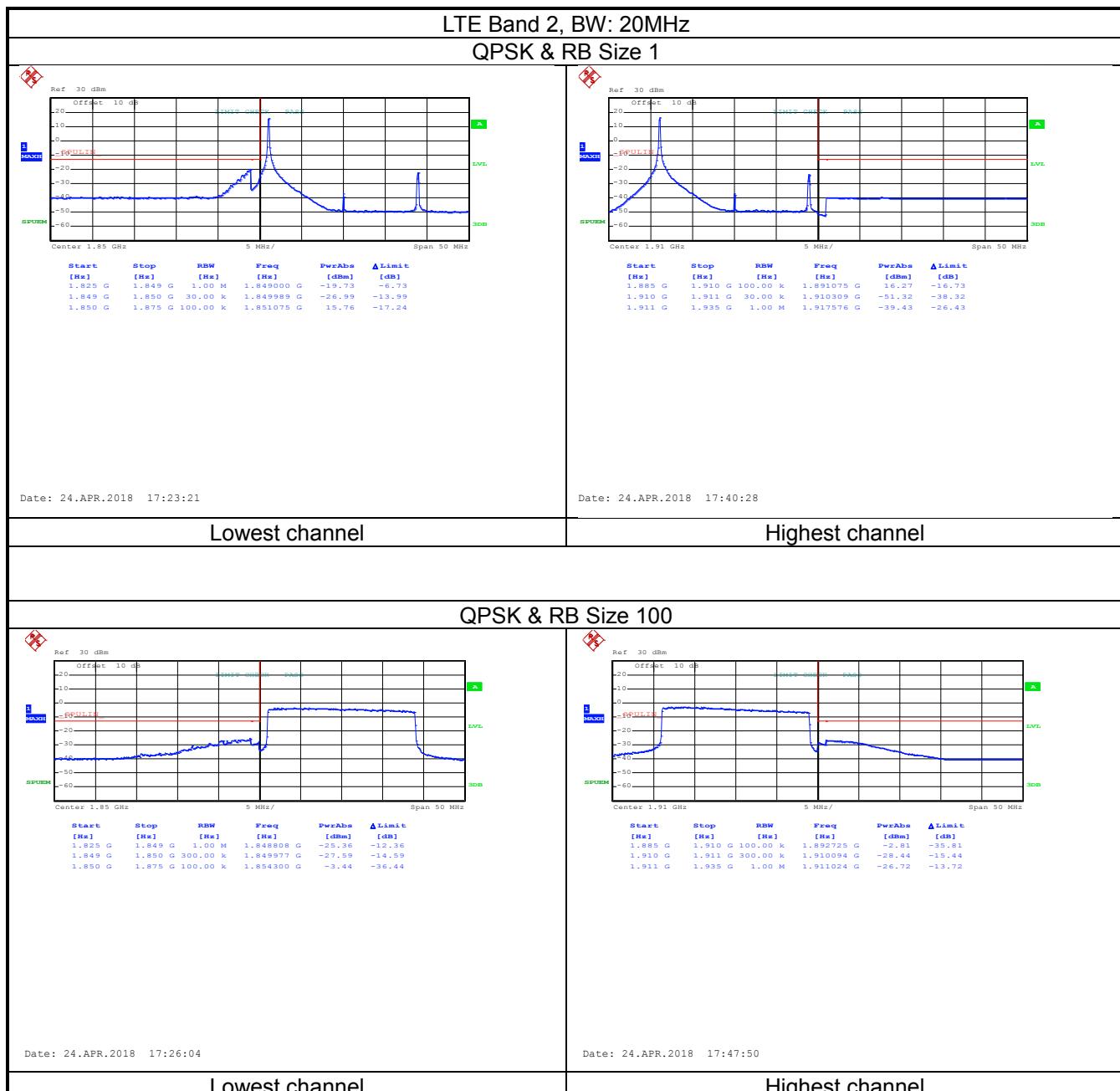




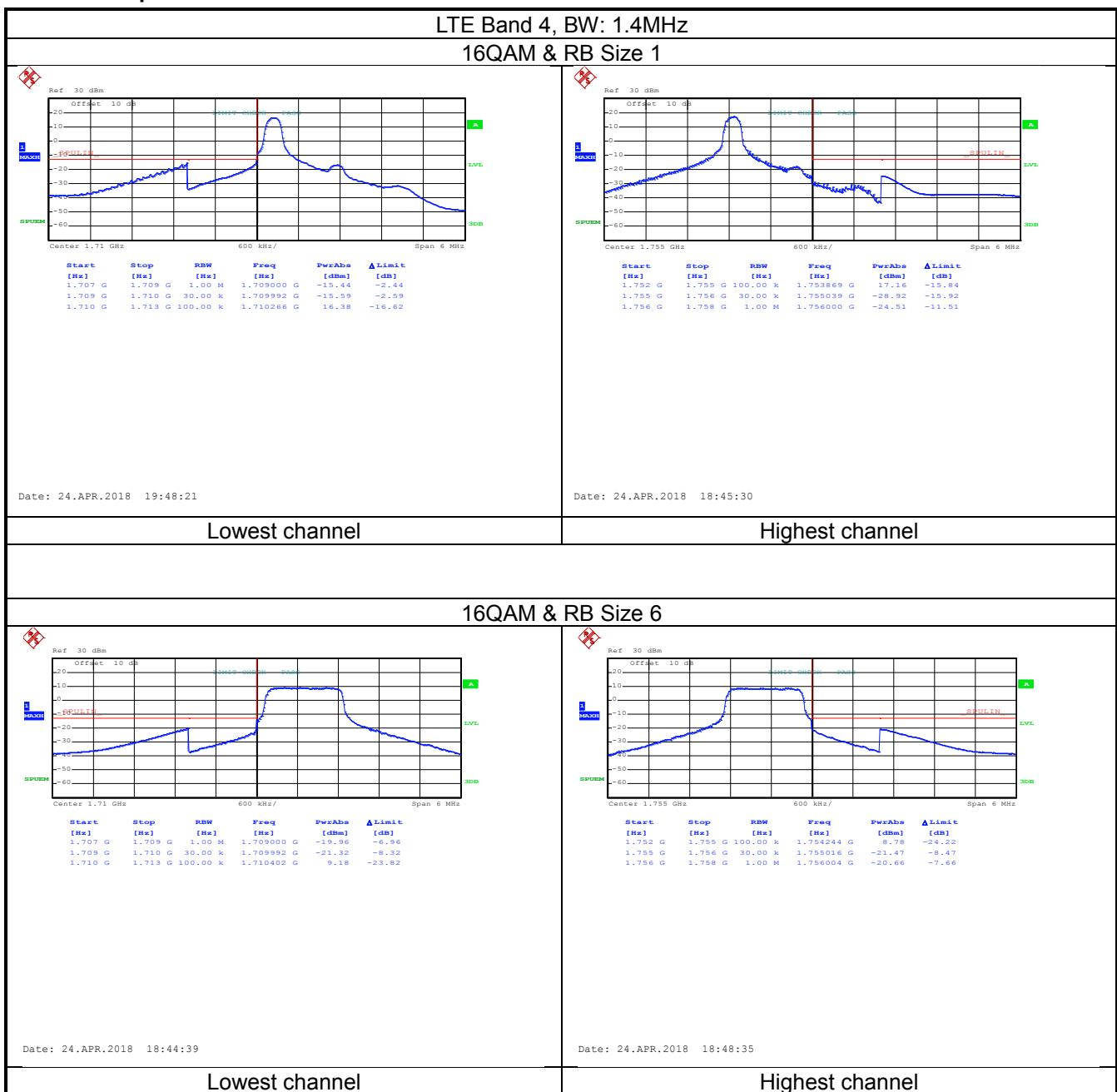


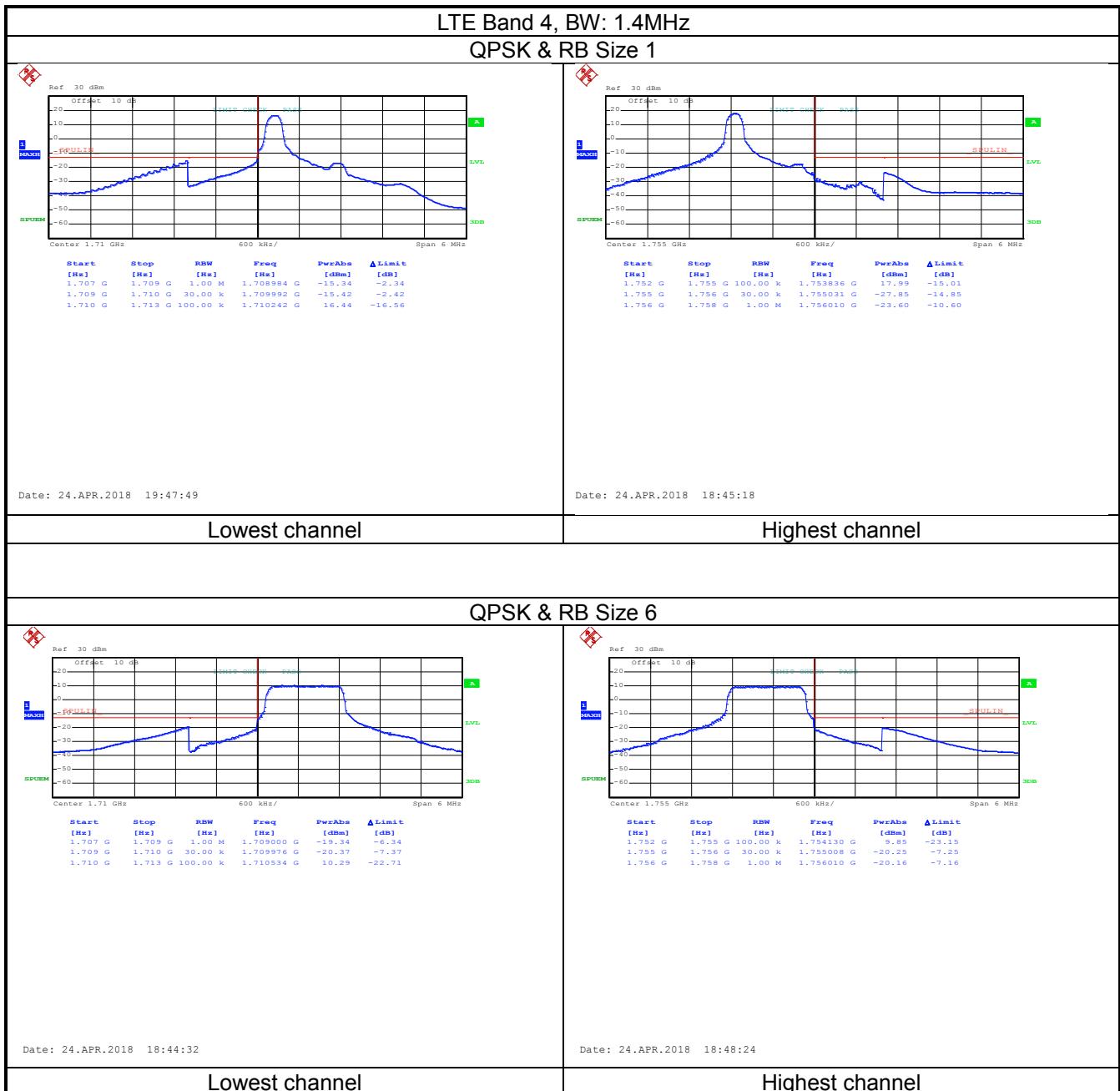


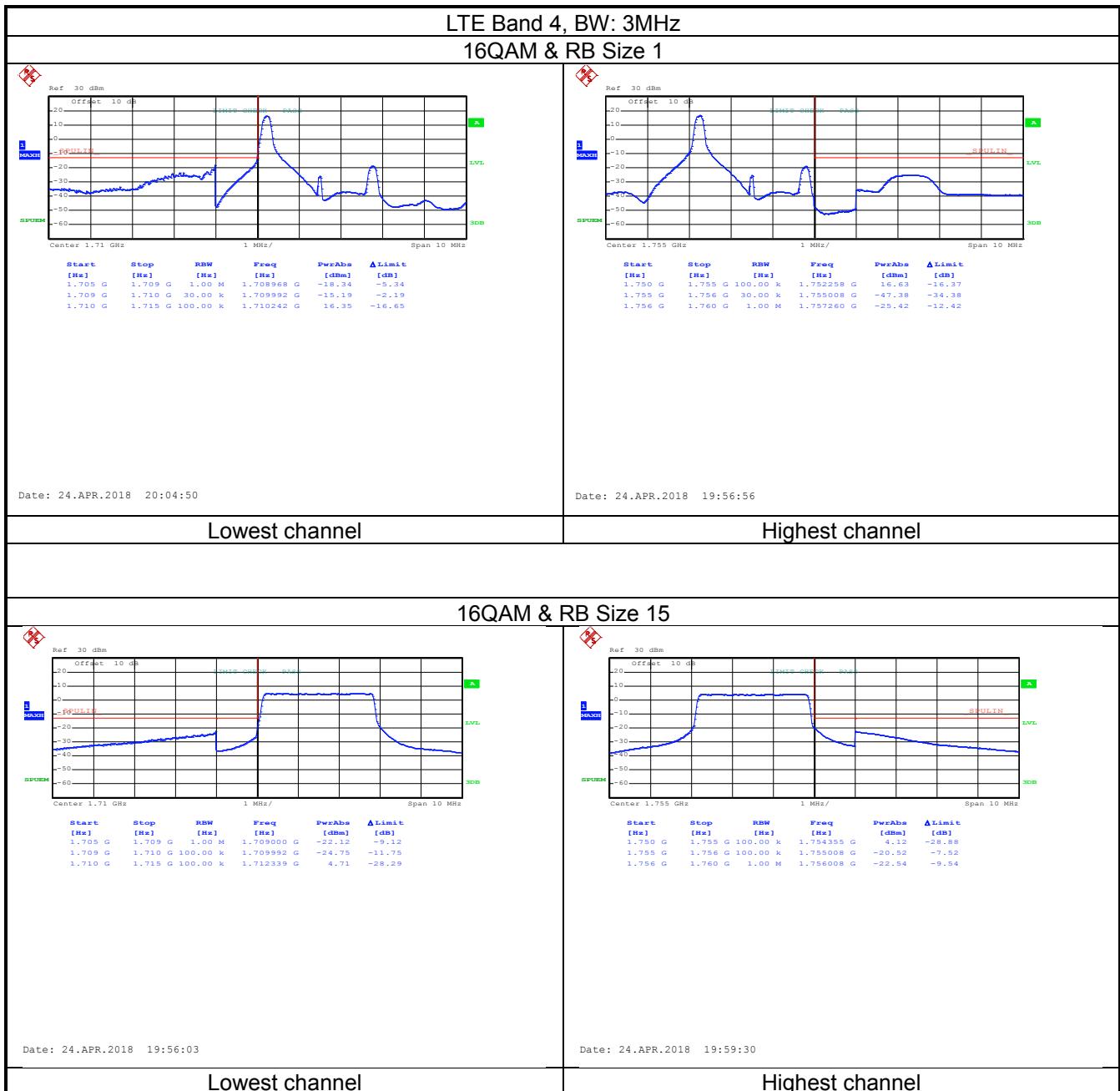


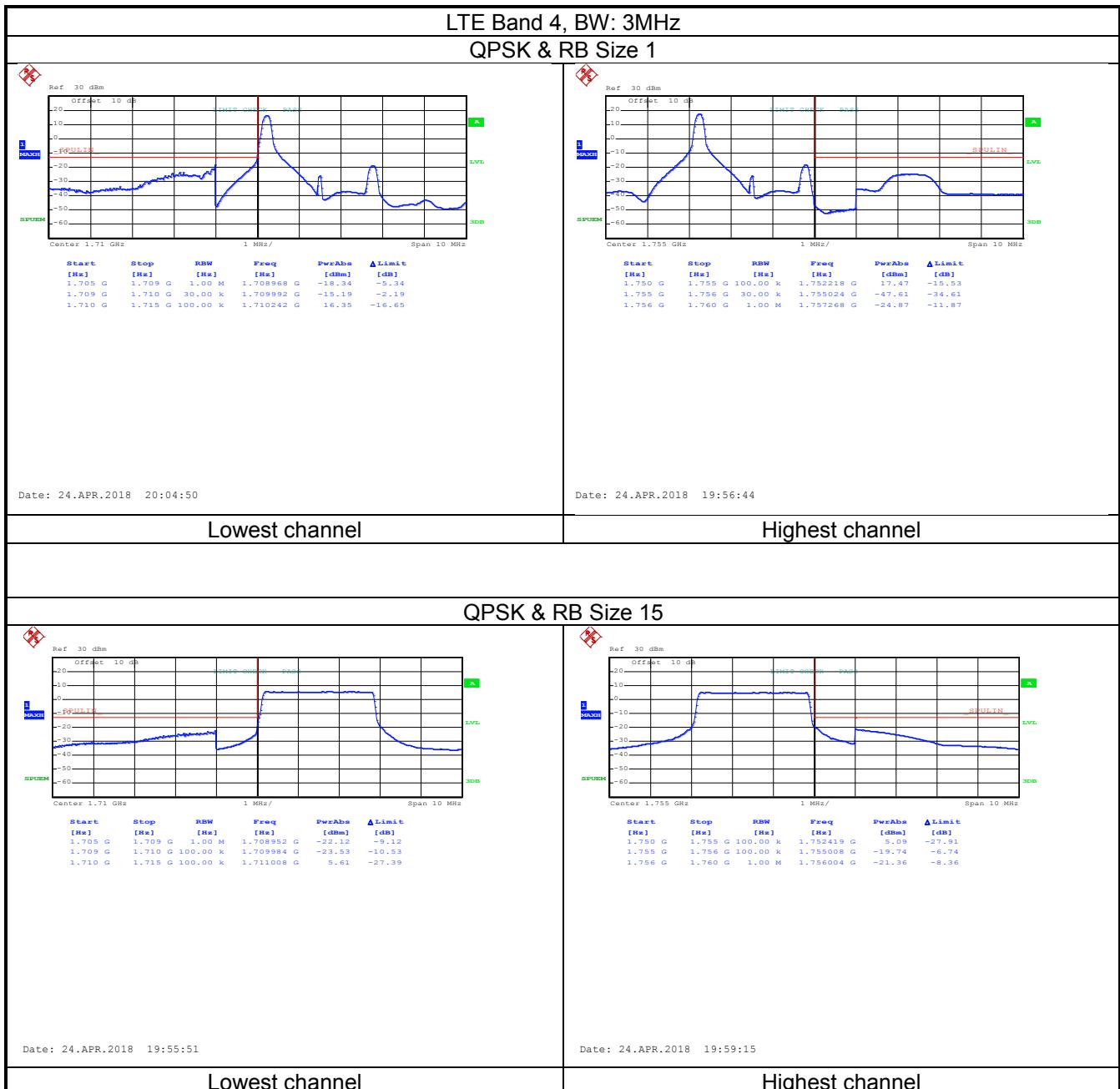


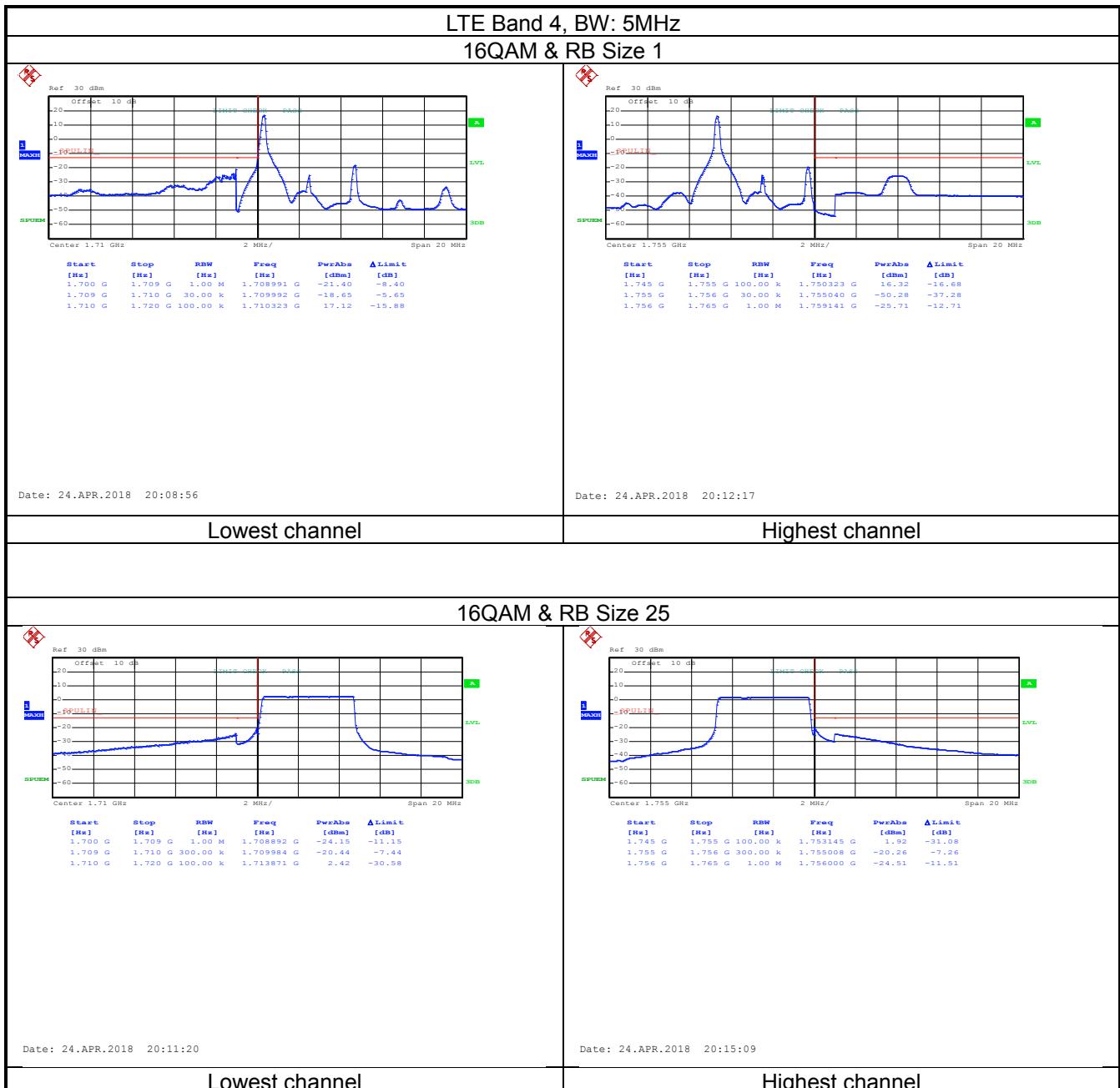
LTE Band 4 part:

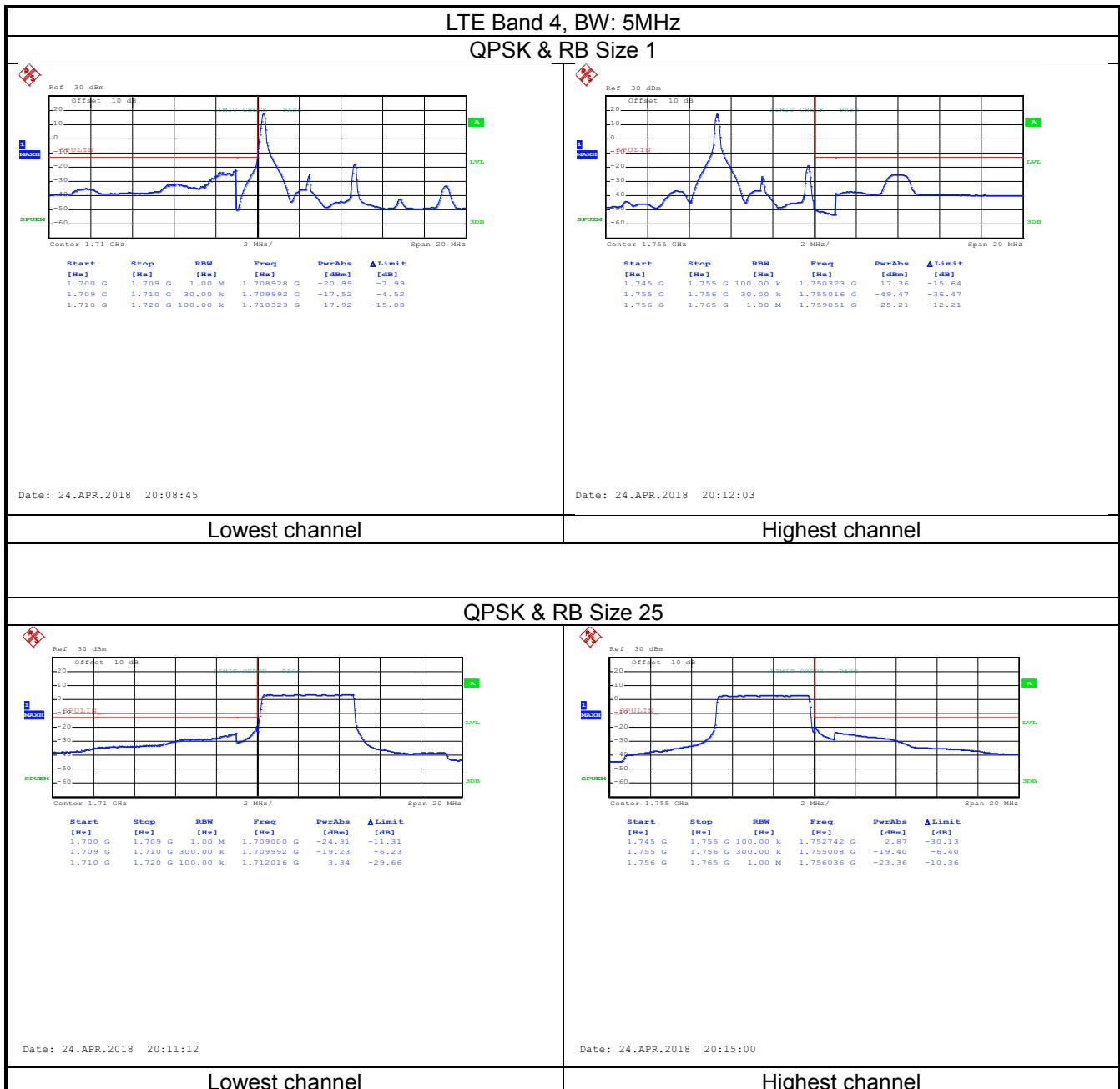


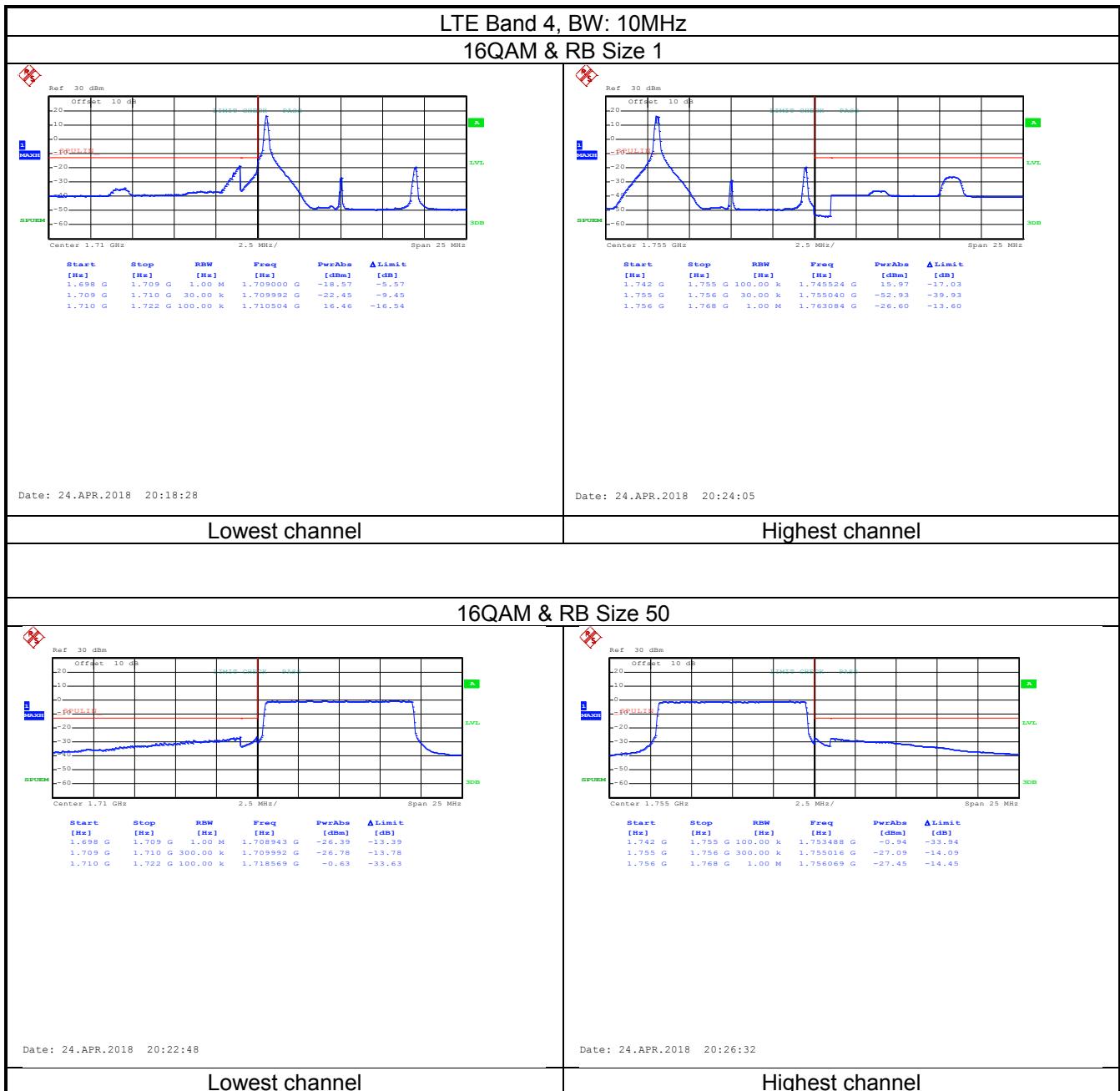


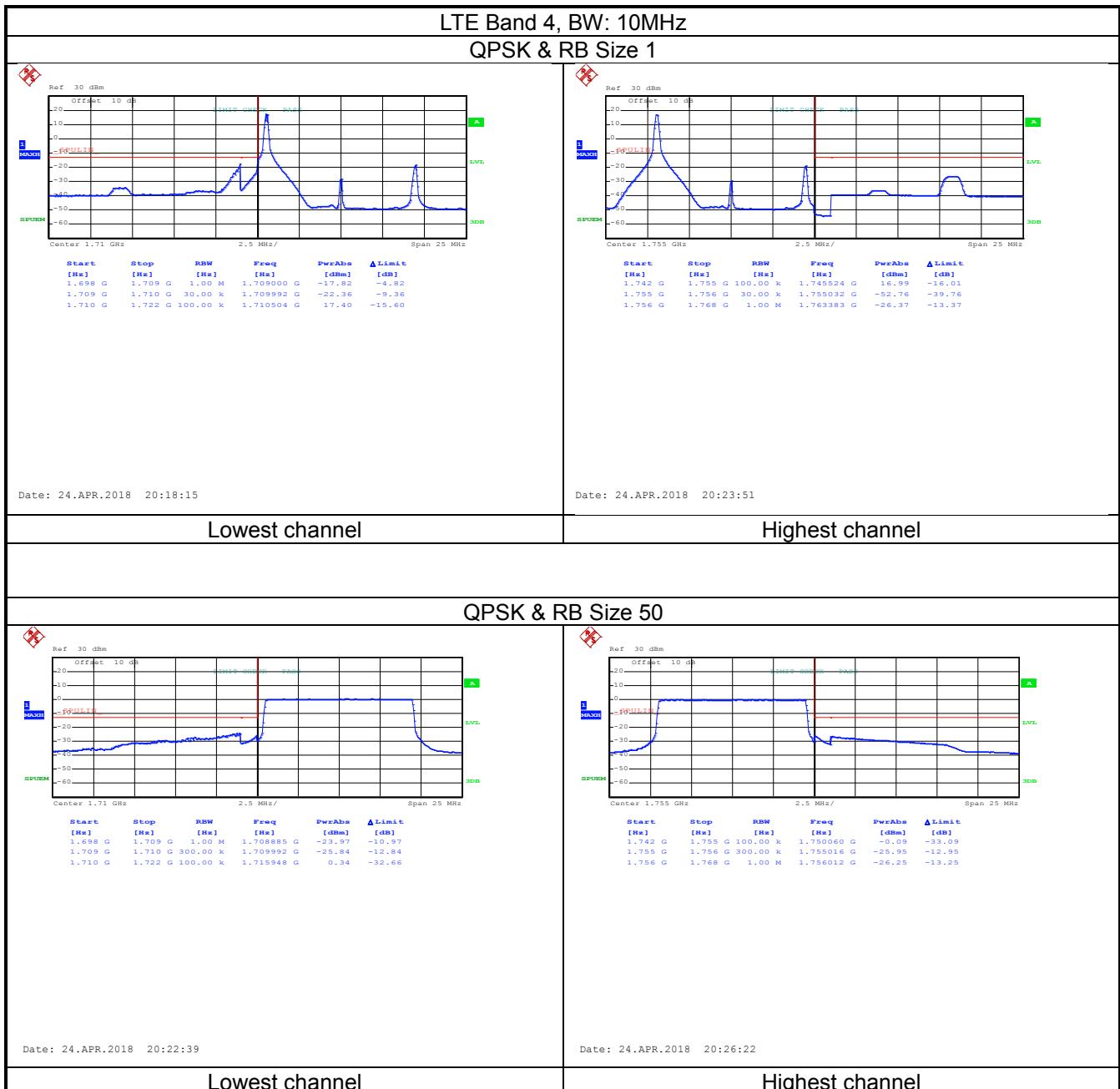


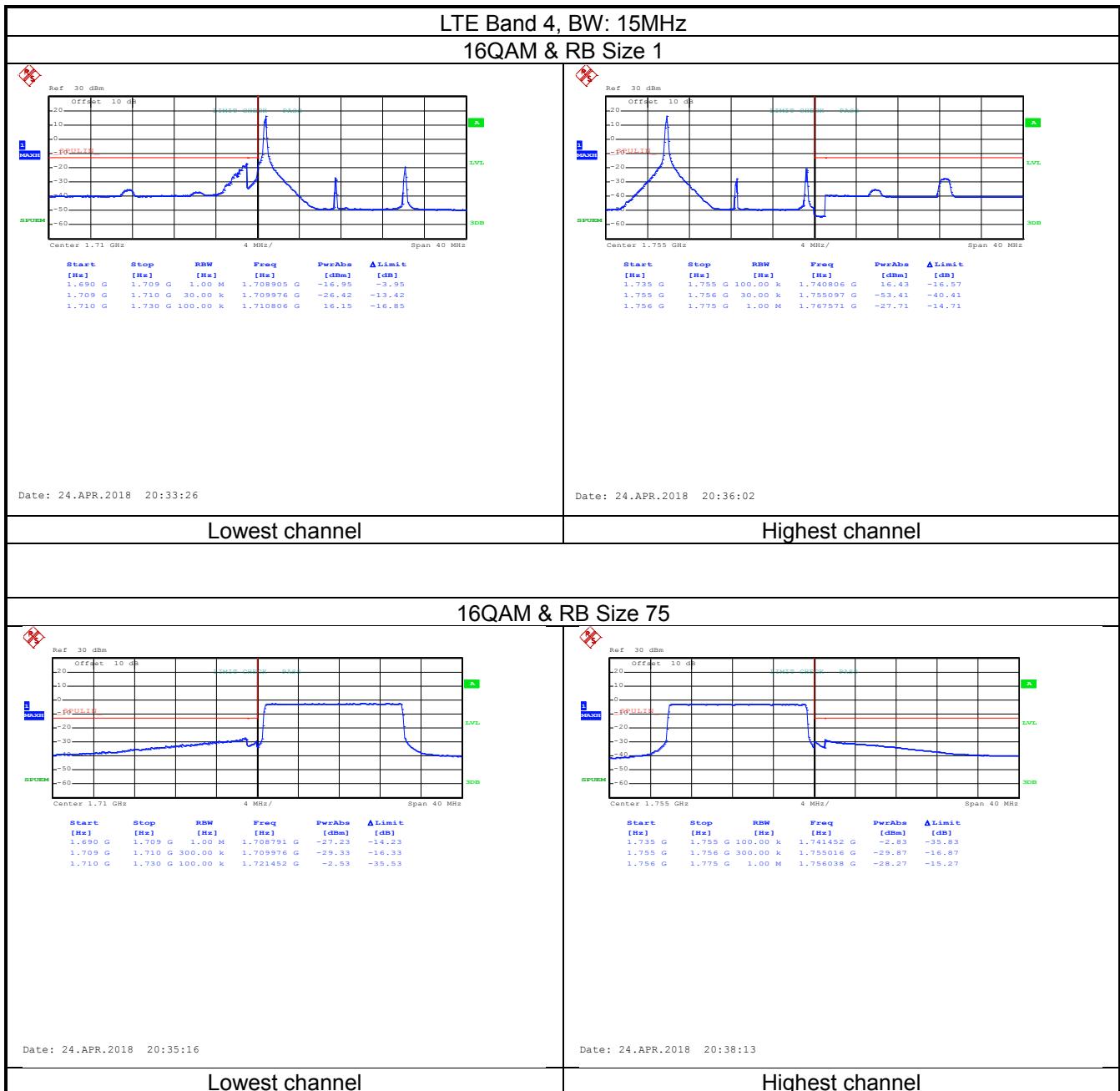


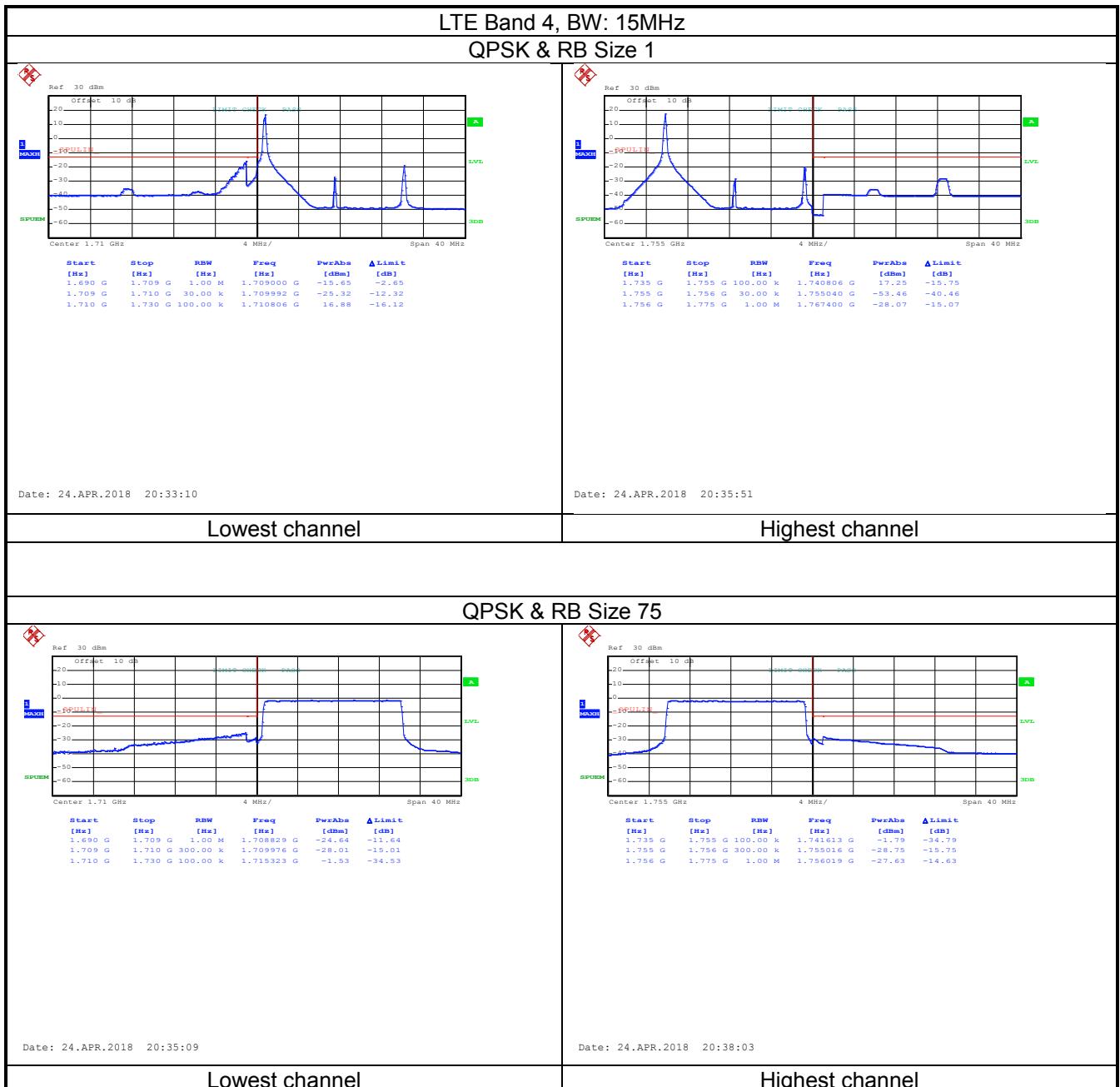


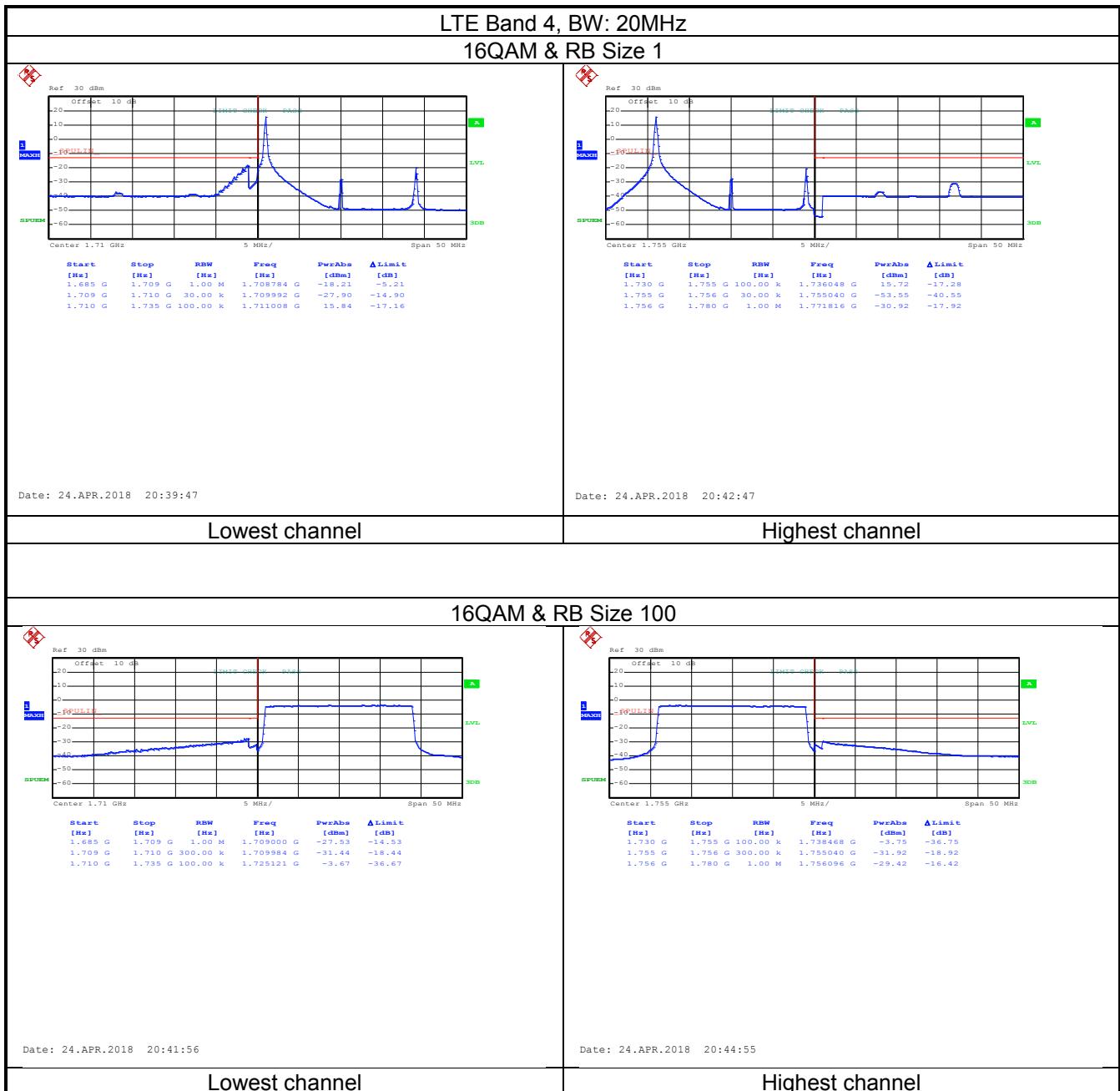


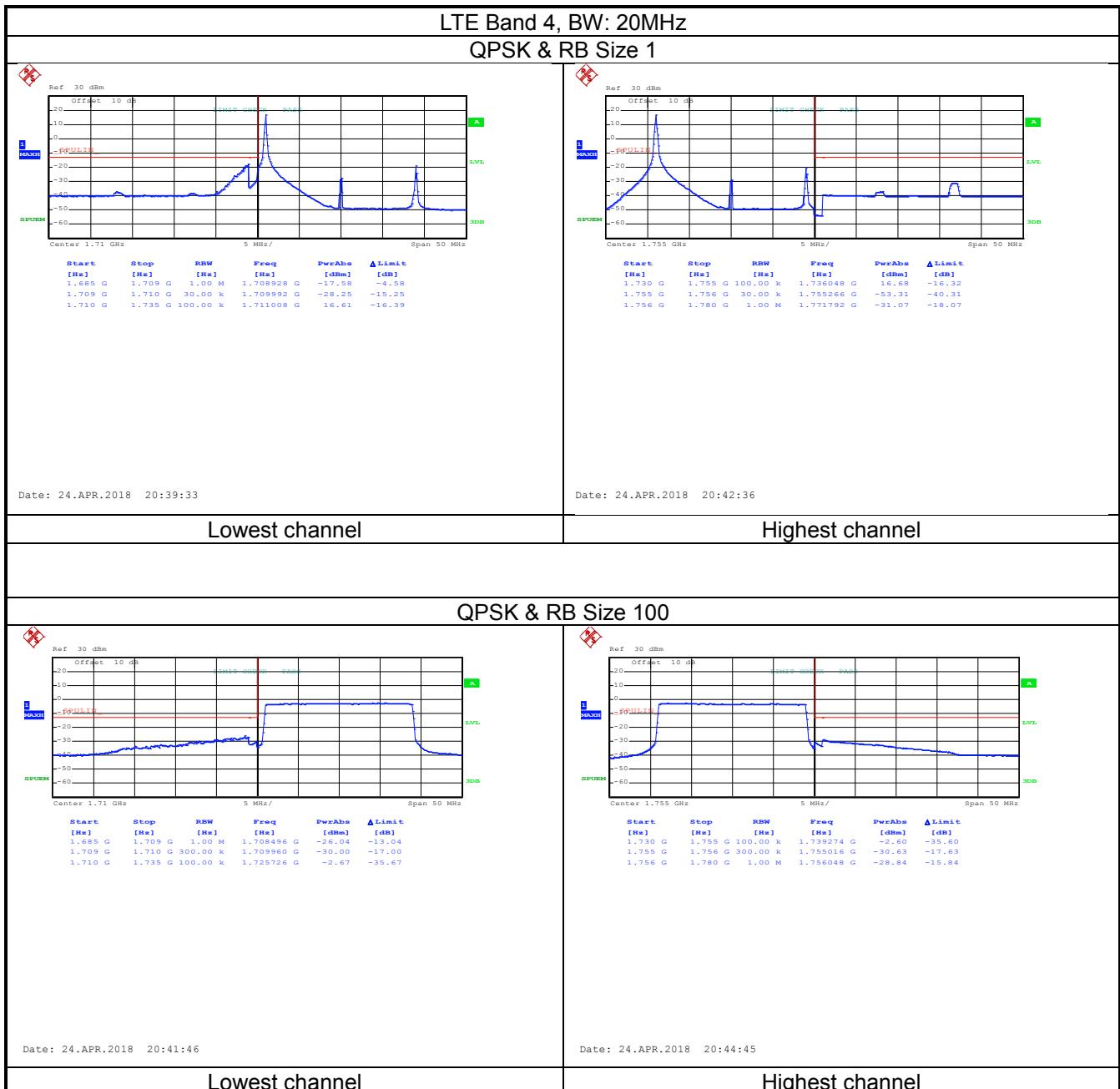




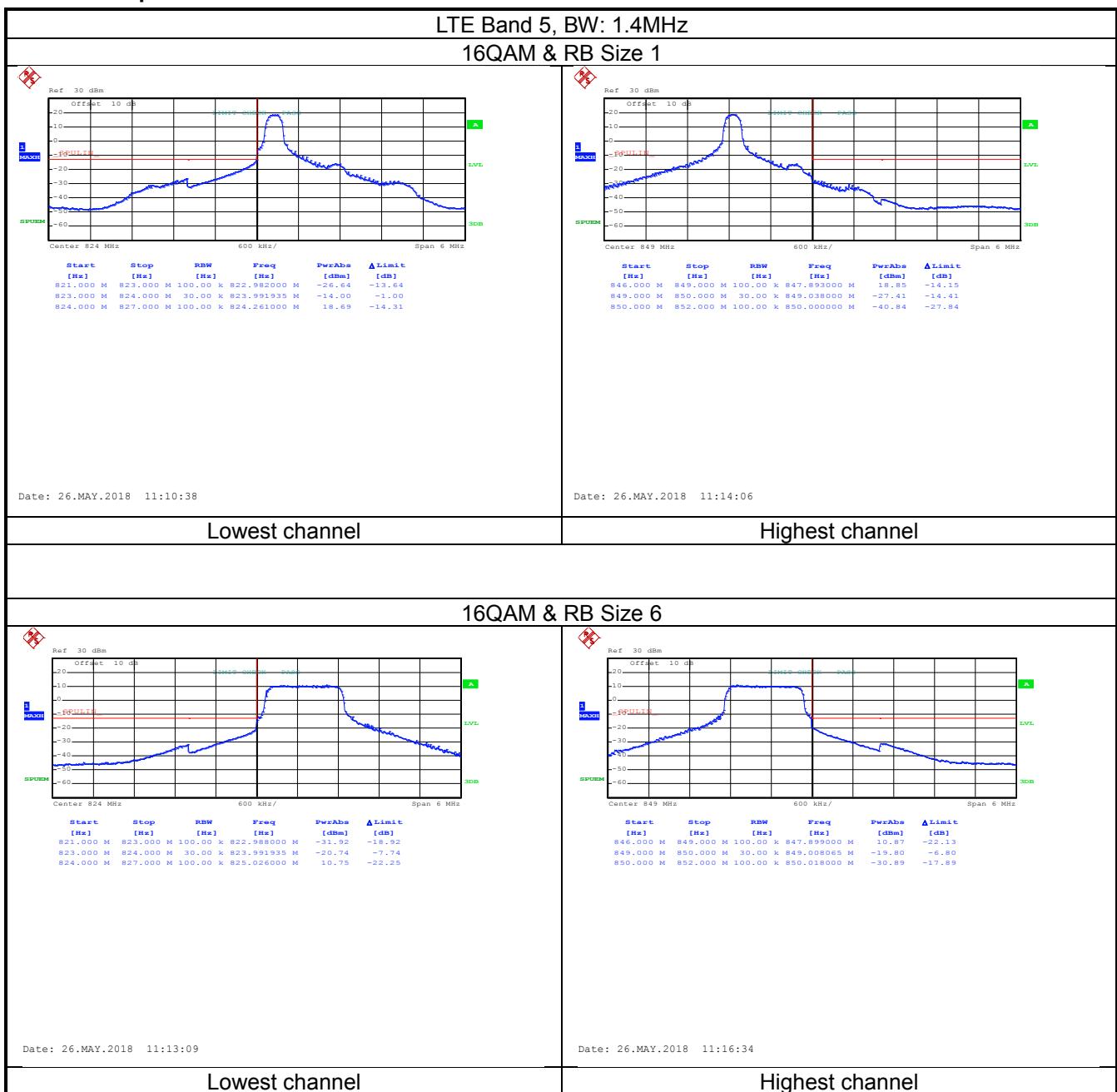


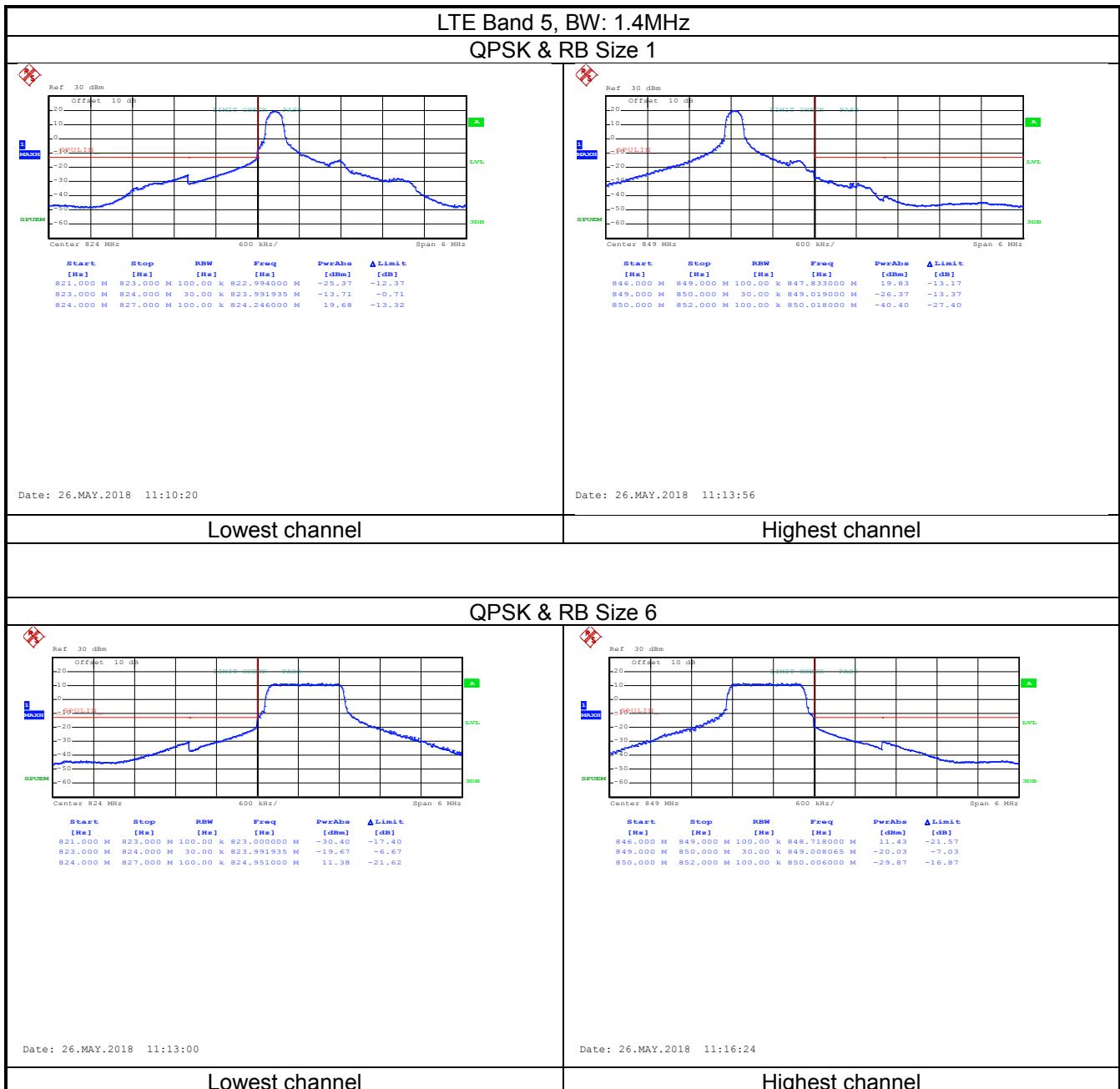


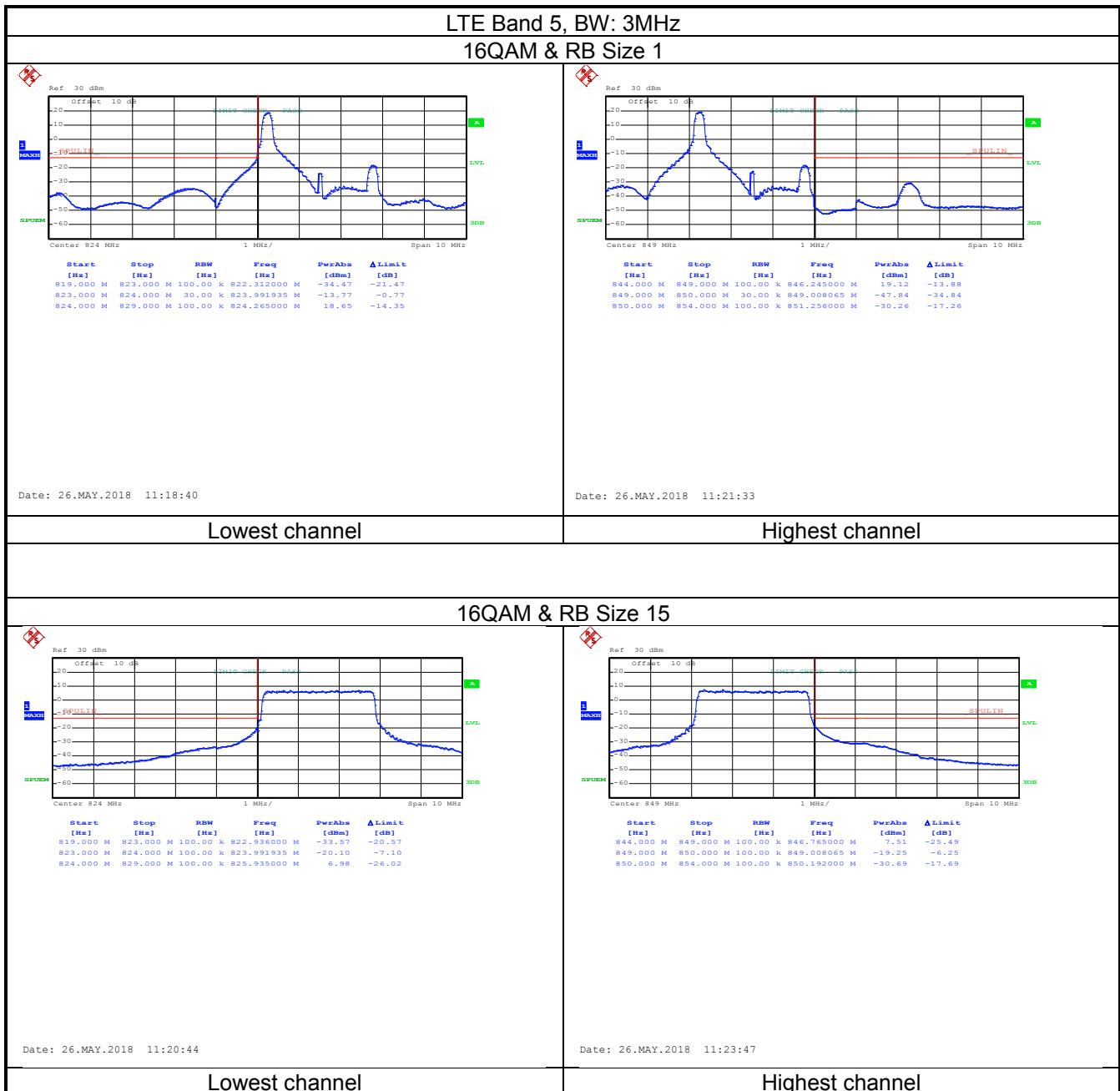


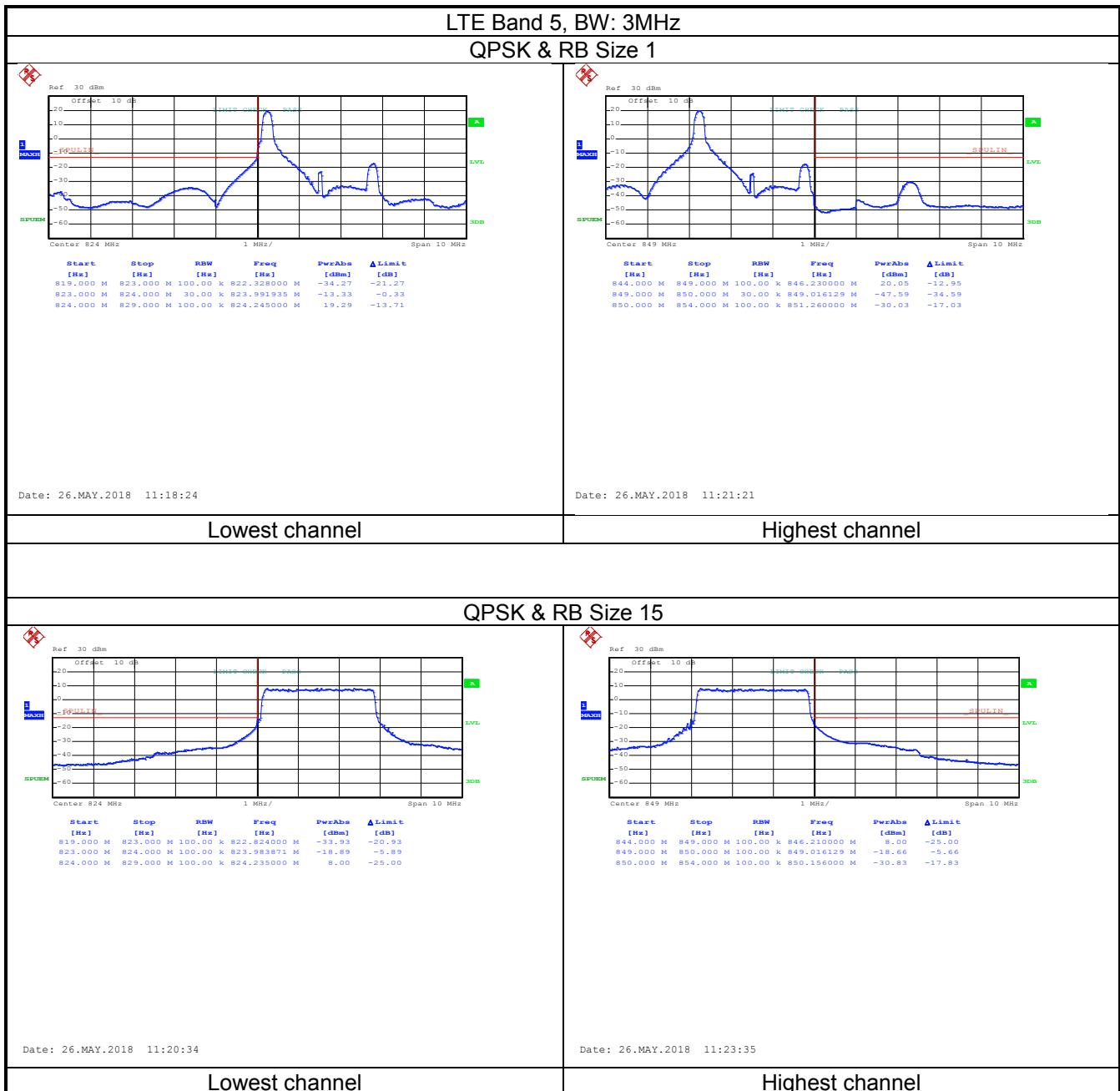


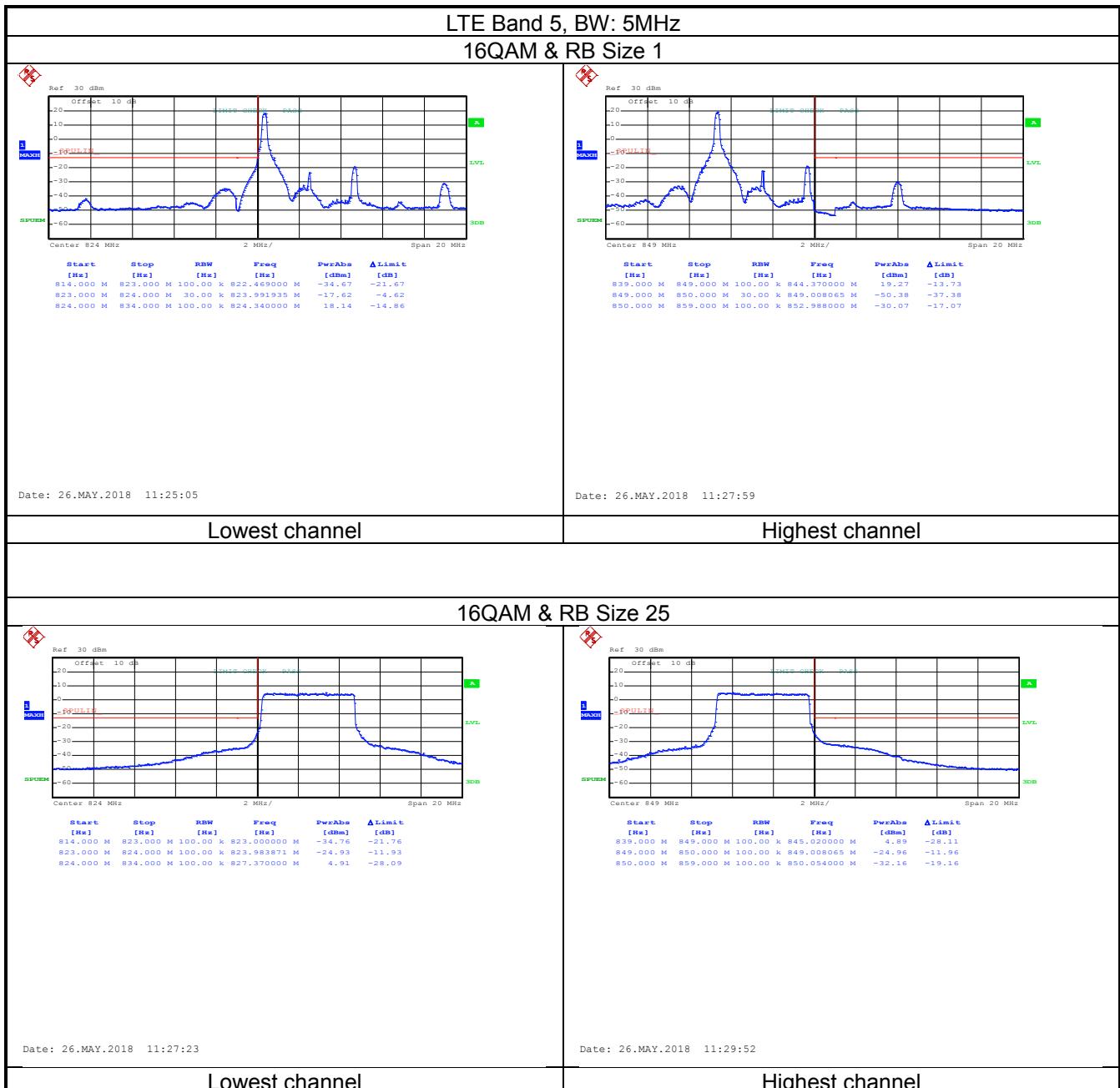
LTE Band 5 part:

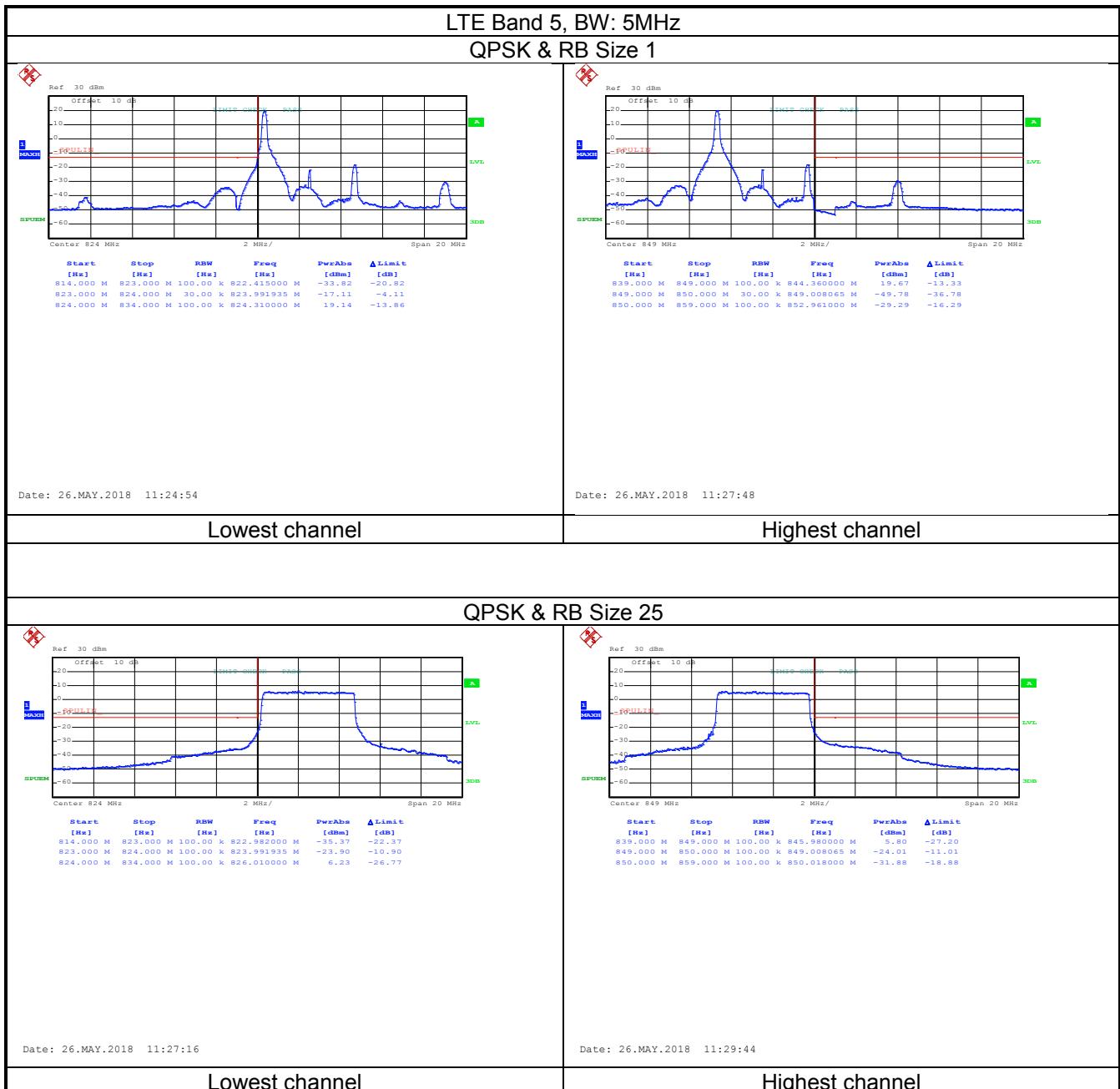


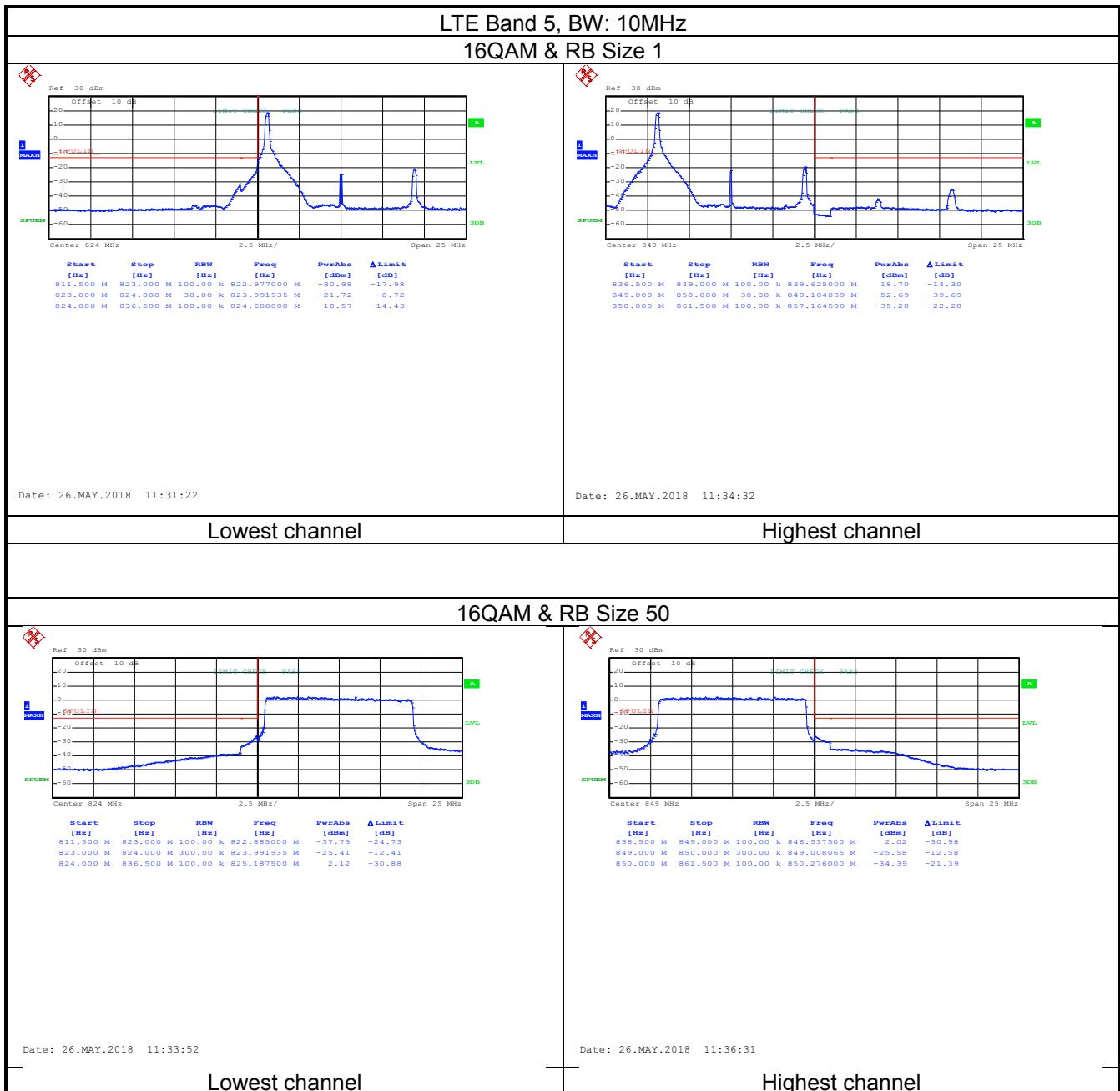


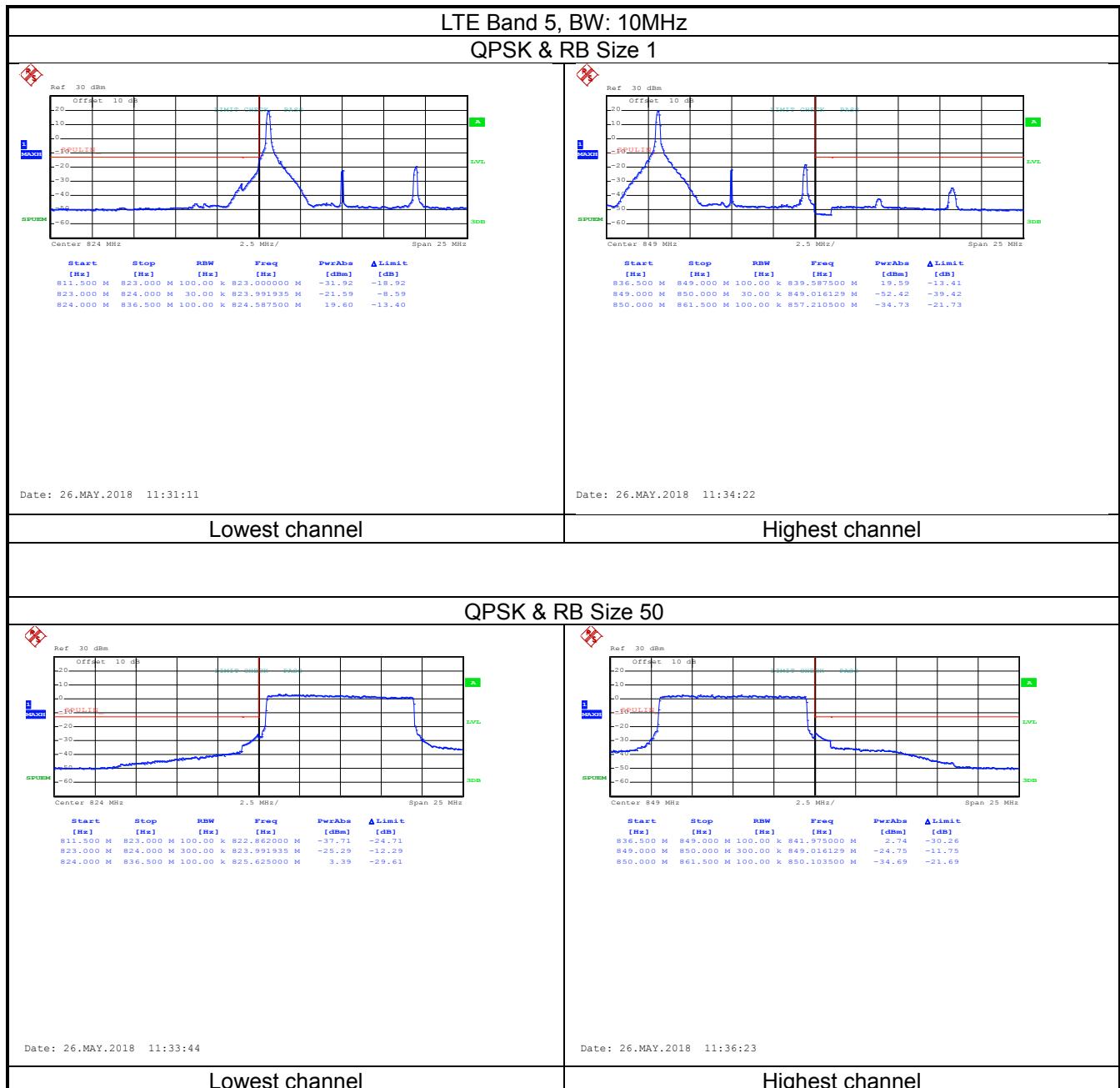




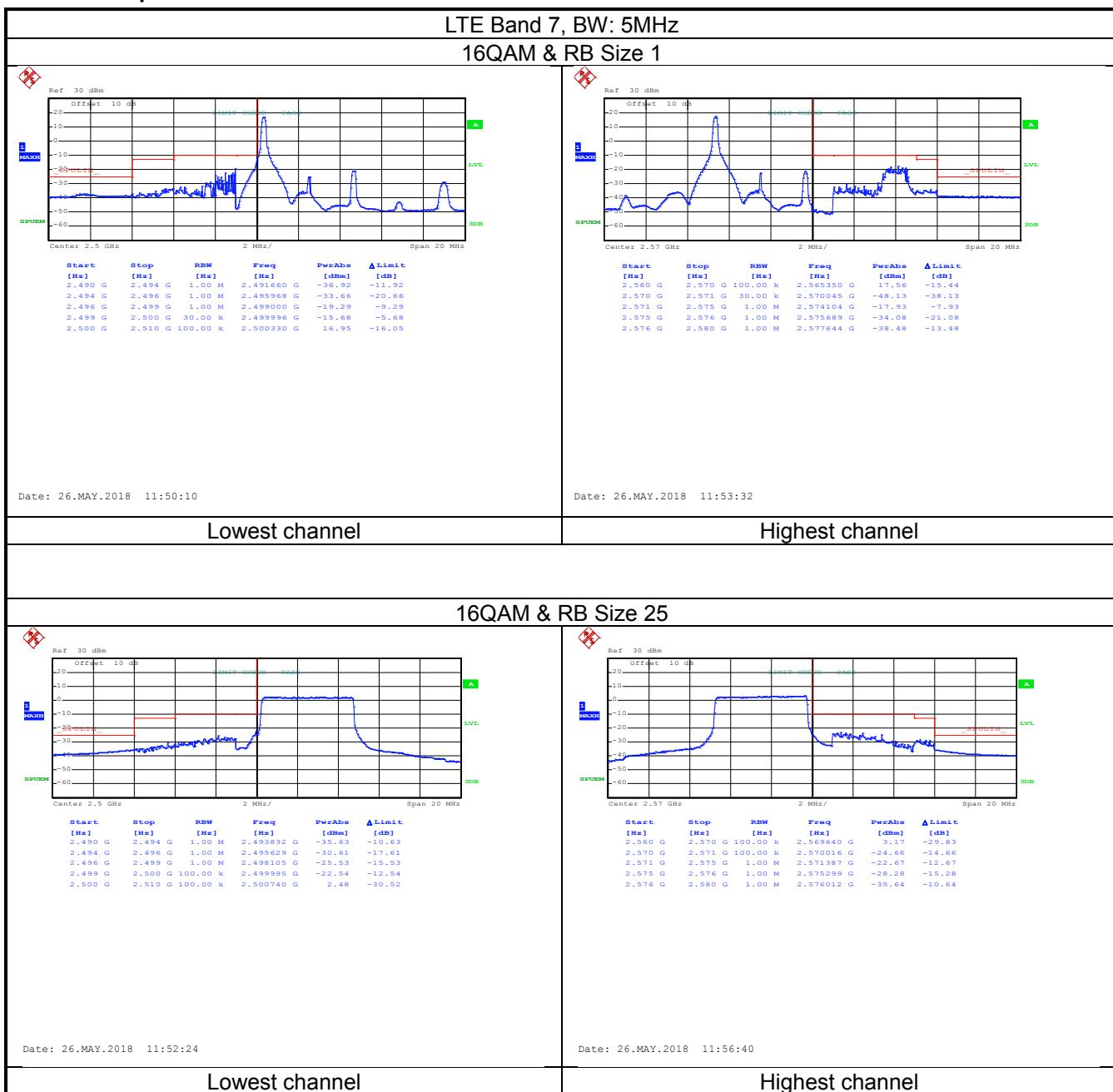


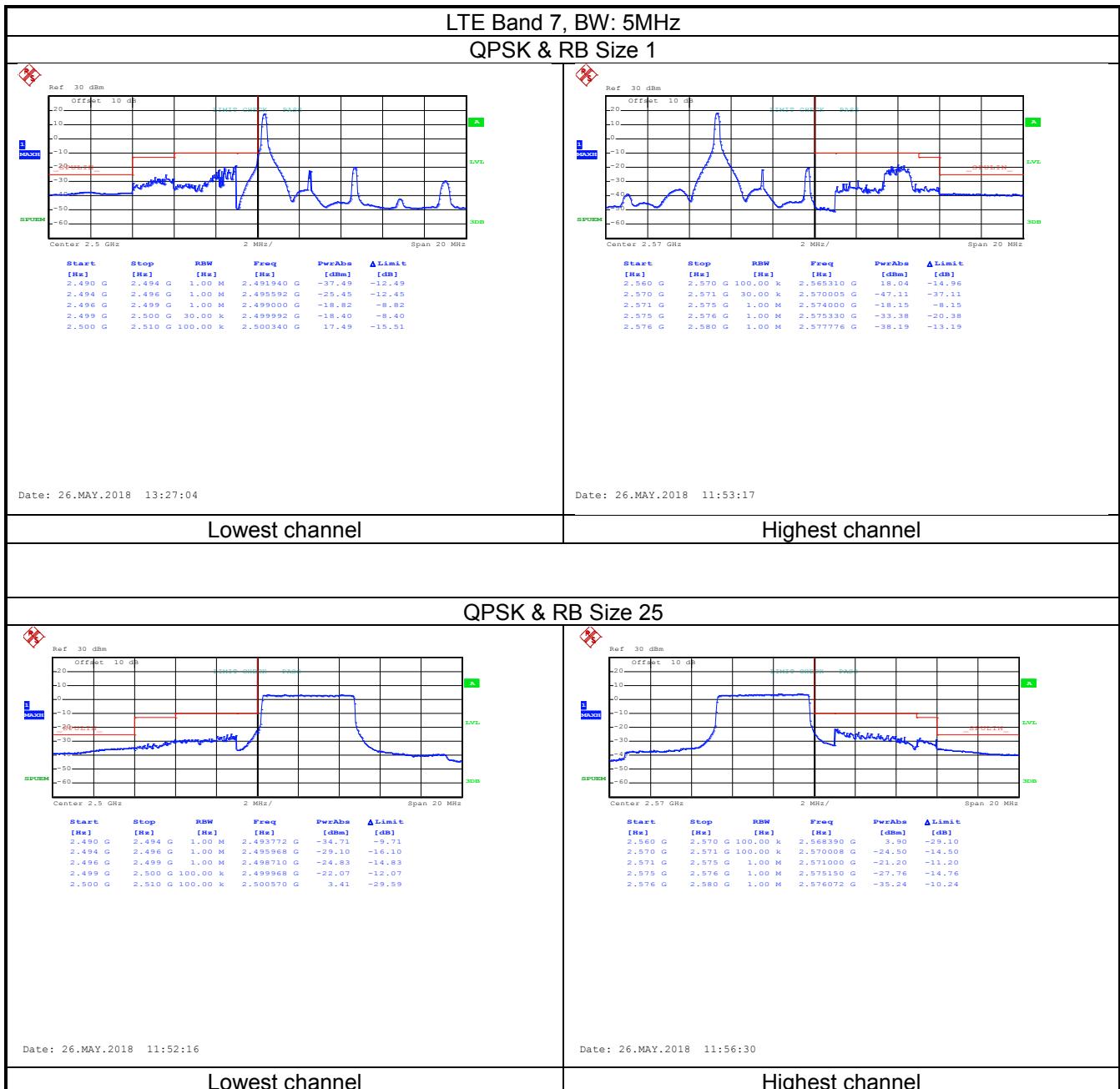


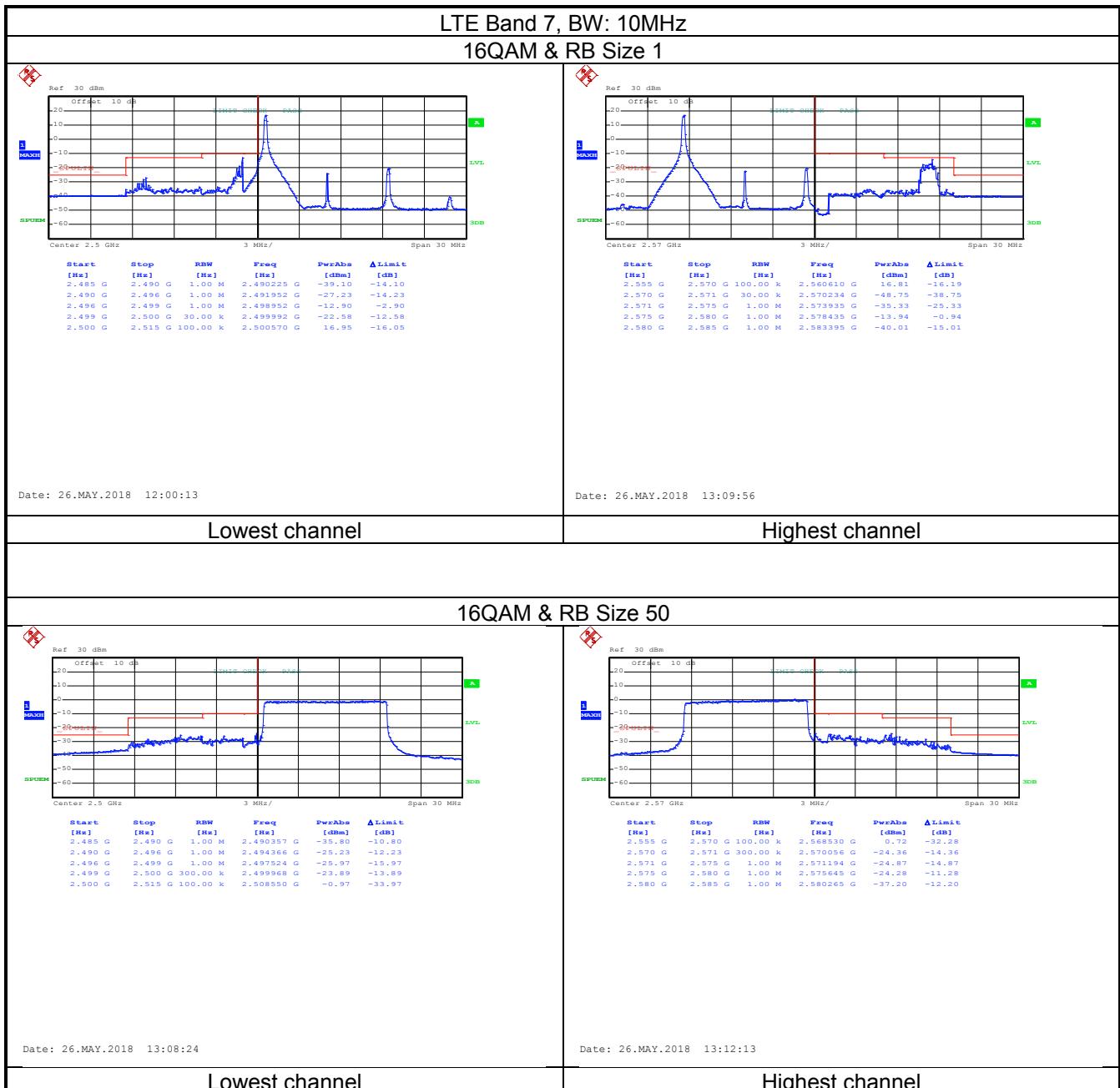


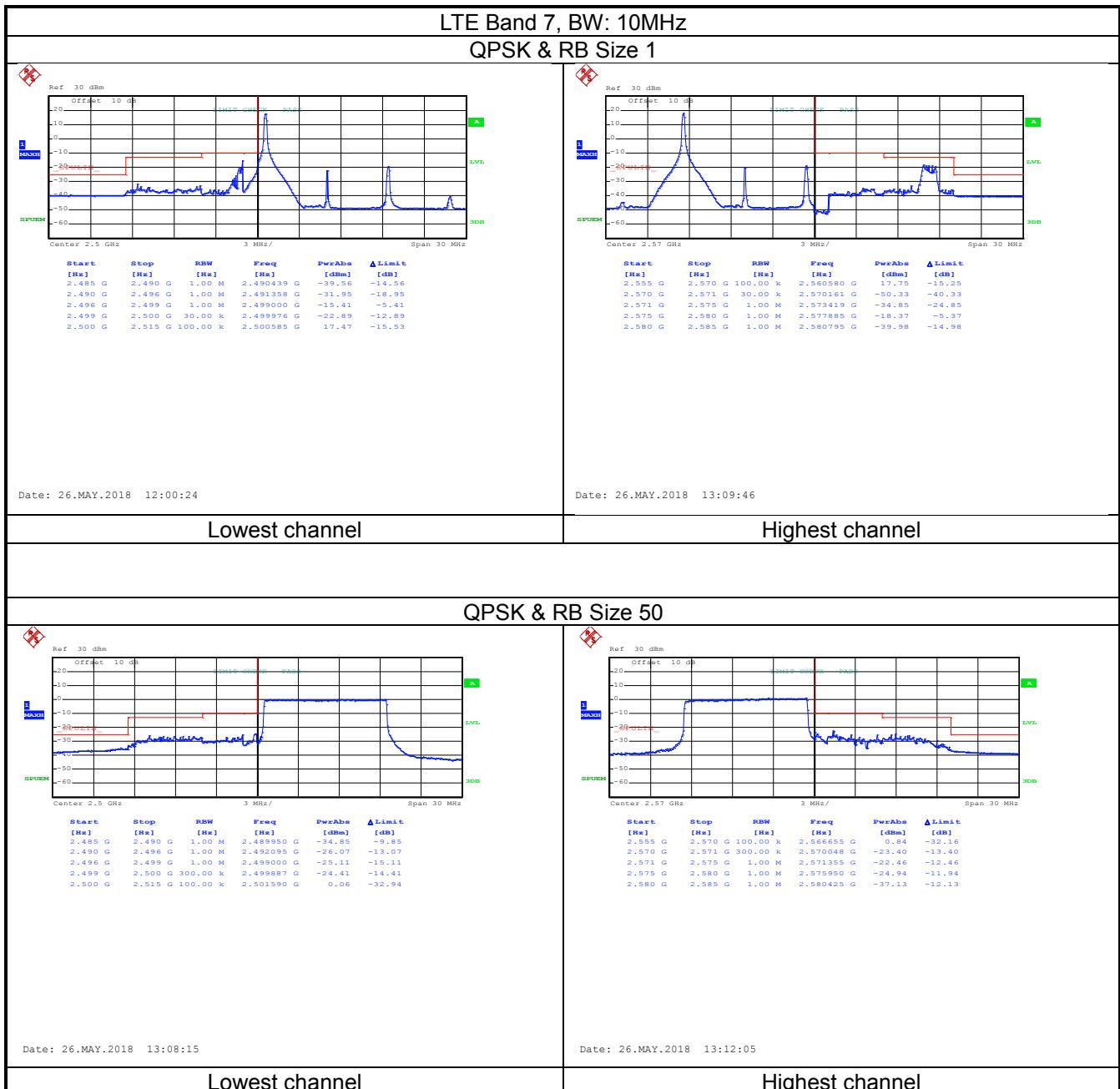


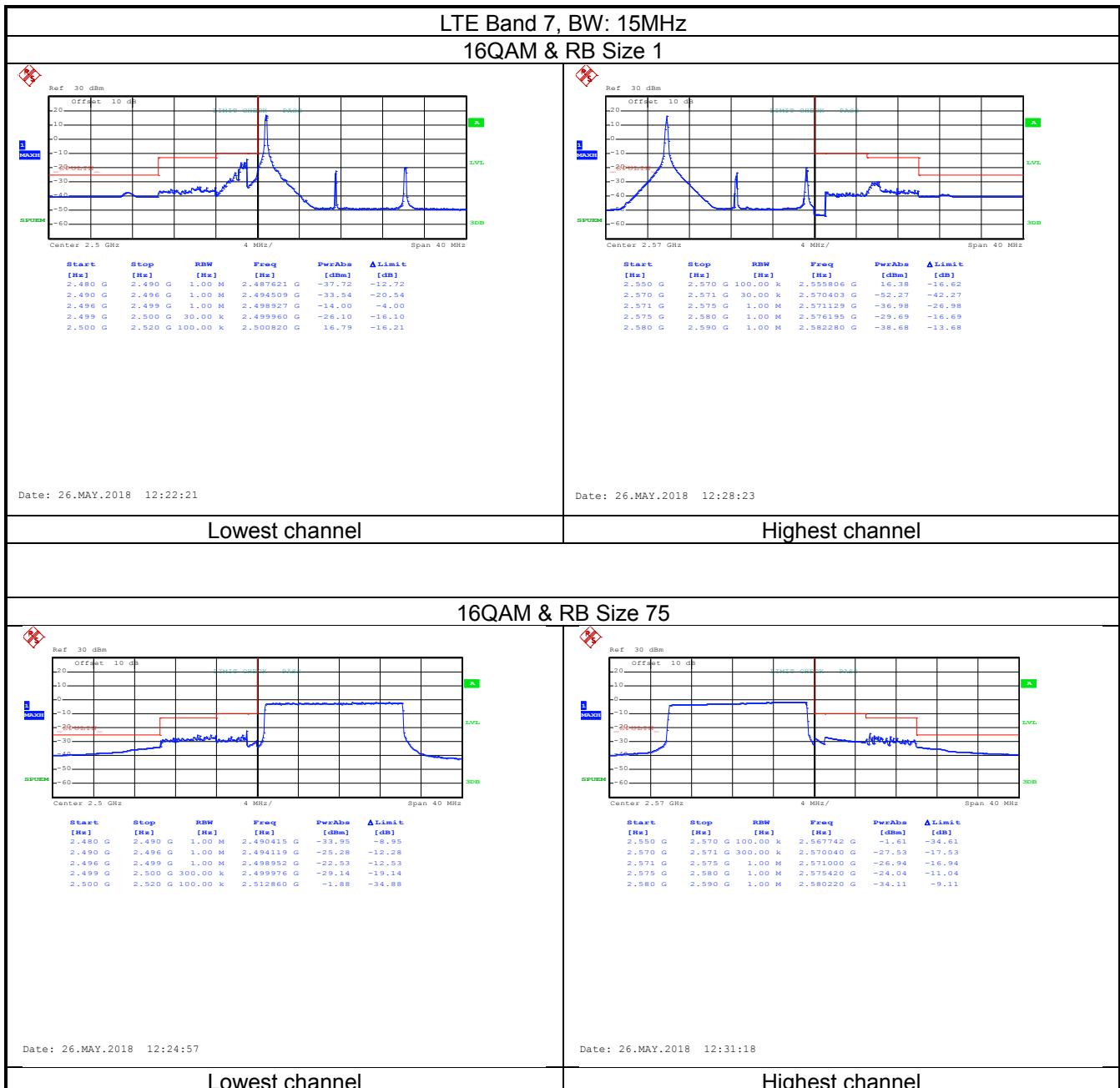
LTE Band 7 part:

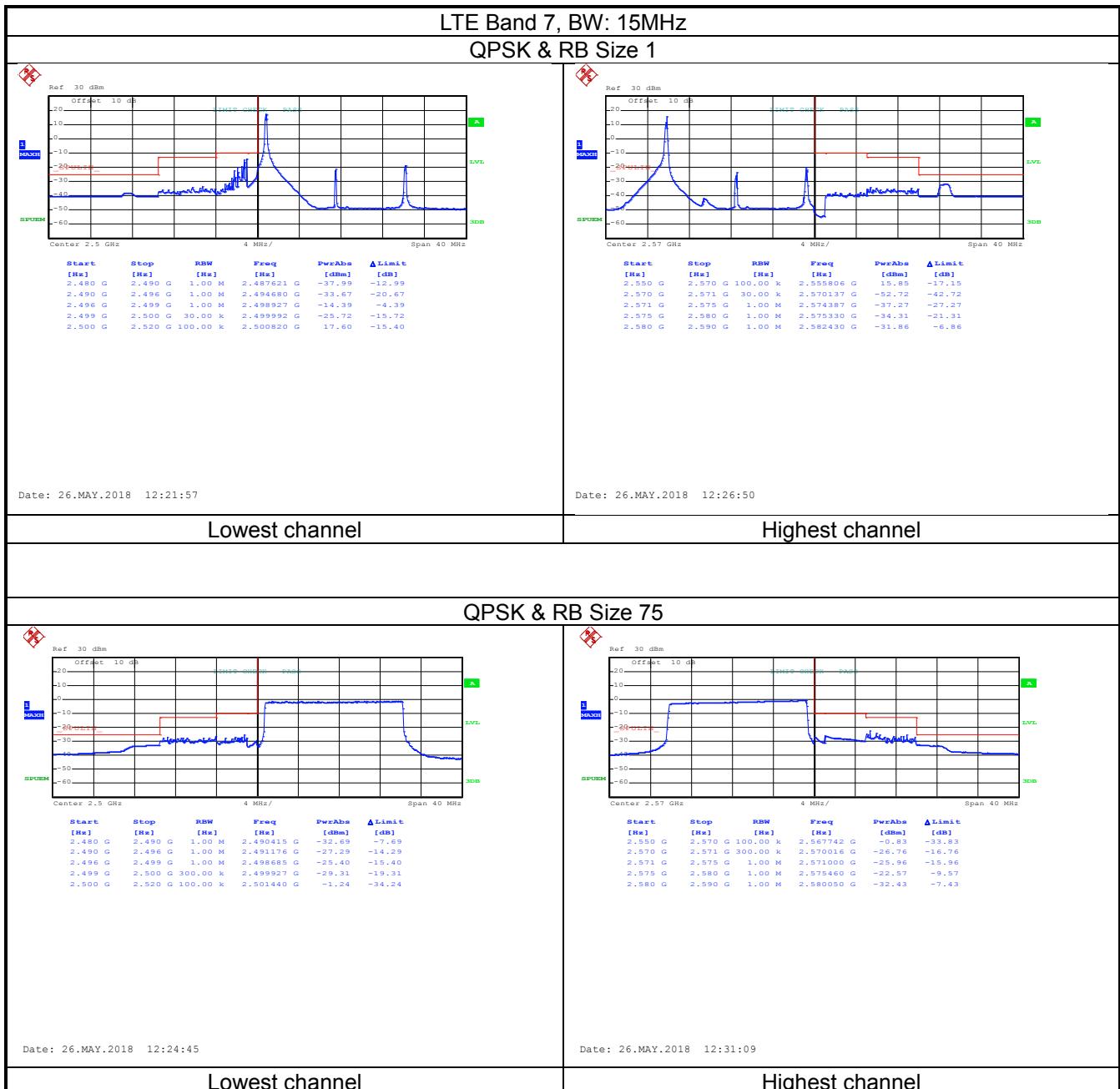


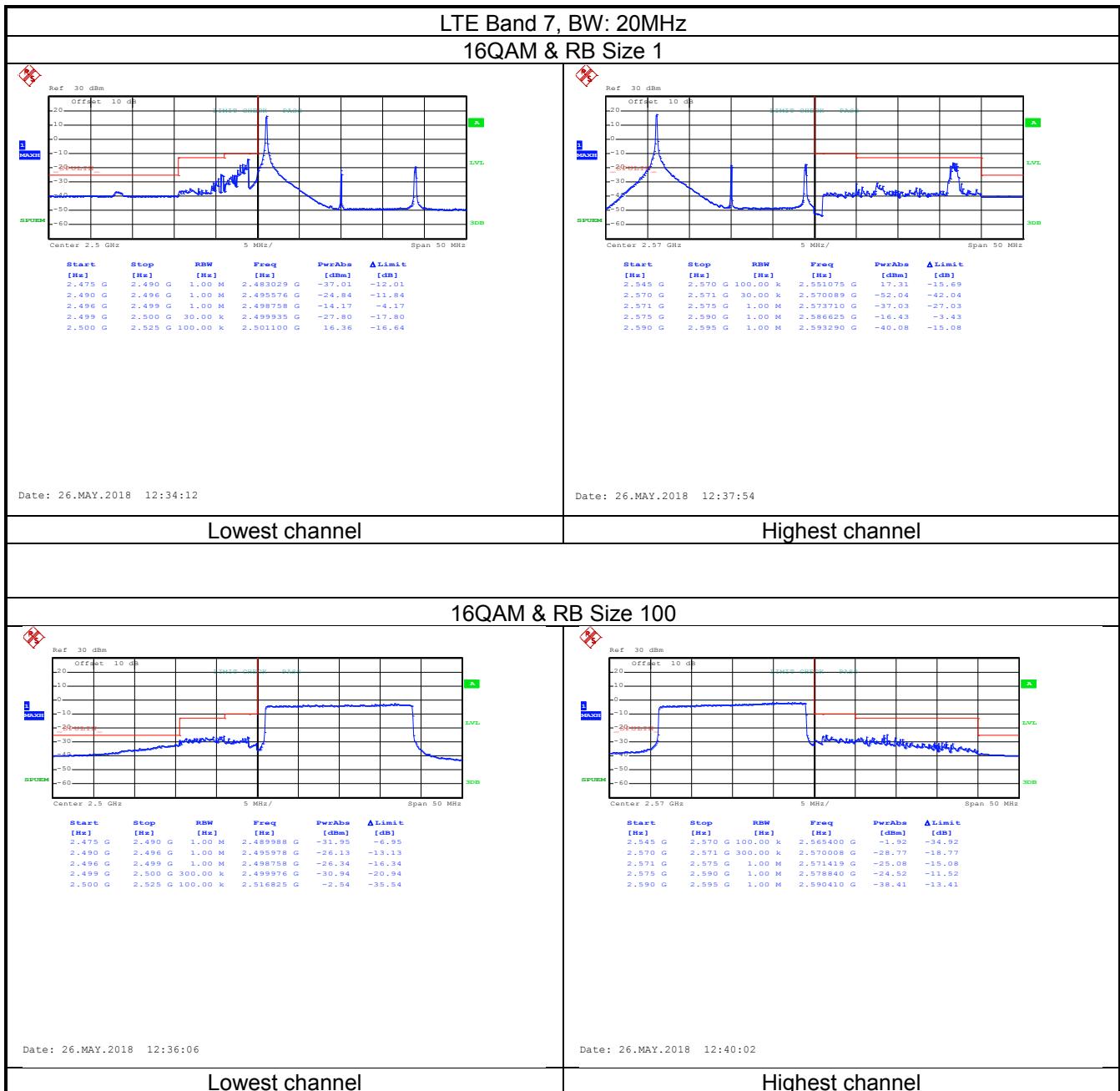


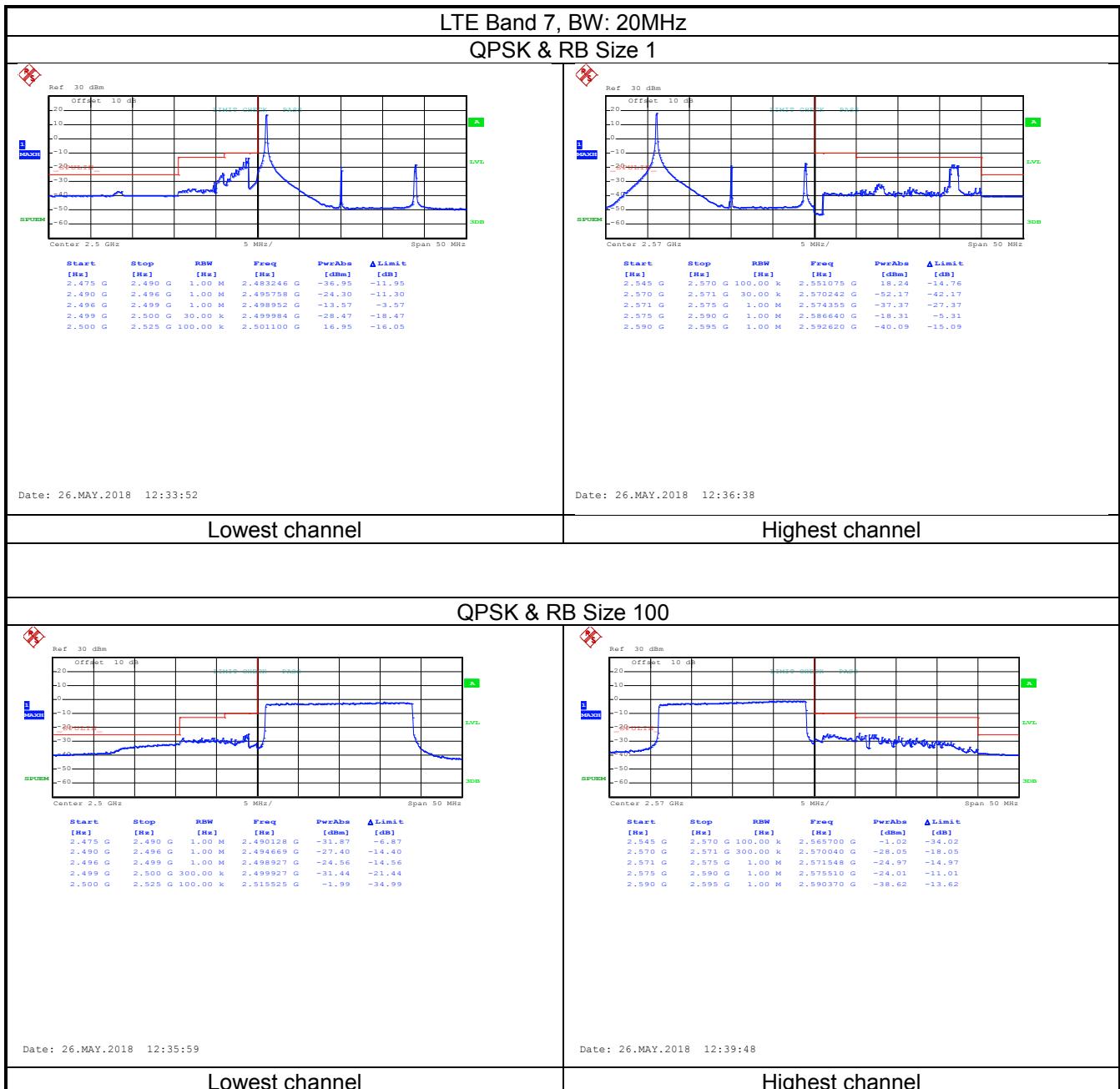












## 6.5 ERP, EIRP Measurement

Test Requirement:	Part 22.913(a)(2), Part 24.232(c), Part 27.50(d)(4), Part 27.50 (h)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 2: 2W EIRP, LTE Band 5: 7W EIRP, LTE Band 4: 1W EIRP, LTE Band 7: 2W EIRP
Test setup:	<p>Below 1GHz</p> <p>Above 1GHz</p>
Test Procedure:	<ol style="list-style-type: none"> <li>The EUT was placed on a 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.</li> <li>During the measurement, the EUT was communicating with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.</li> <li>ERP in frequency band below 1GHz were measured using a substitution method. The EUT was replaced by a dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:  <math display="block">\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}</math> </li> <li>EIRP in frequency band above 1GHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:  <math display="block">\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}</math> </li> <li>The worse case was relating to the conducted output power.</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:****LTE Band 2 part:**

<b>LTE Band 2</b>							
<b>BW: 1.4MHz</b>							
<b>Lowset channel</b>							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
<b>1.4MHz(RB size 1 &amp; RB offset 0)</b>							
1850.70	18607	QPSK	H	V	23.48	33.00	Pass
				H	25.79		
1850.70	18607	16QAM	H	V	23.15		
				H	25.46		
<b>1.4MHz(RB size 3 &amp; RB offset 0)</b>							
1850.70	18607	QPSK	H	V	23.56	33.00	Pass
				H	25.75		
1850.70	18607	16QAM	H	V	23.24		
				H	25.48		
<b>1.4MHz(RB size 6 &amp; RB offset 0)</b>							
1850.70	18607	QPSK	H	V	23.26	33.00	Pass
				H	25.63		
1850.70	18607	16QAM	H	V	23.18		
				H	25.38		
<b>Middle channel</b>							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
<b>1.4MHz(RB size 1 &amp; RB offset 0)</b>							
1880.00	18900	QPSK	H	V	23.43	33.00	Pass
				H	25.74		
1880.00	18900	16QAM	H	V	23.25		
				H	25.31		
<b>1.4MHz(RB size 3 &amp; RB offset 0)</b>							
1880.00	18900	QPSK	H	V	23.41	33.00	Pass
				H	25.71		
1880.00	18900	16QAM	H	V	23.23		
				H	25.48		
<b>1.4MHz(RB size 6 &amp; RB offset 0)</b>							
1880.00	18900	QPSK	H	V	23.25	33.00	Pass
				H	25.61		
1880.00	18900	16QAM	H	V	23.15		
				H	25.37		

<b>Highest channel</b>												
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result					
<b>1.4MHz(RB size 1 &amp; RB offset 0)</b>												
1909.30	19193	QPSK	H	V	23.41	33.00	Pass					
				H	25.78							
1909.30	19193	16QAM	H	V	23.21	33.00	Pass					
				H	25.48							
<b>1.4MHz(RB size 3 &amp; RB offset 0)</b>												
1909.30	19193	QPSK	H	V	23.38	33.00	Pass					
				H	25.74							
1909.30	19193	16QAM	H	V	23.31	33.00	Pass					
				H	25.44							
<b>1.4MHz(RB size 6 &amp; RB offset 0)</b>												
1909.30	19193	QPSK	H	V	23.24	33.00	Pass					
				H	25.63							
1909.30	19193	16QAM	H	V	23.17	33.00	Pass					
				H	25.36							
<b>BW: 20MHz</b>												
<b>Lowset channel</b>												
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result					
<b>20MHz(RB size 1 &amp; RB offset 0)</b>												
1860.00	18700	QPSK	H	V	23.39	33.00	Pass					
				H	25.75							
1860.00	18700	16QAM	H	V	23.19	33.00	Pass					
				H	25.45							
<b>20MHz(RB size 50 &amp; RB offset 0)</b>												
1860.00	18700	QPSK	H	V	23.41	33.00	Pass					
				H	25.69							
1860.00	18700	16QAM	H	V	23.23	33.00	Pass					
				H	25.47							
<b>20MHz(RB size 100 &amp; RB offset 0)</b>												
1860.00	18700	QPSK	H	V	23.25	33.00	Pass					
				H	25.59							
1860.00	18700	16QAM	H	V	23.16	33.00	Pass					
				H	25.34							

Middle channel							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)							
1880.00	18900	QPSK	H	V	23.42	33.00	Pass
				H	25.70		
1880.00	18900	16QAM	H	V	23.23	33.00	Pass
				H	25.48		
20MHz(RB size 50 & RB offset 0)							
1880.00	18900	QPSK	H	V	23.45	33.00	Pass
				H	25.72		
1880.00	18900	16QAM	H	V	23.25	33.00	Pass
				H	25.47		
20MHz(RB size 100 & RB offset 0 )							
1880.00	18900	QPSK	H	V	23.24	33.00	Pass
				H	25.63		
1880.00	18900	16QAM	H	V	23.18	33.00	Pass
				H	25.37		
High channel							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)							
1900.00	19100	QPSK	H	V	23.45	33.00	Pass
				H	25.72		
1900.00	19100	16QAM	H	V	23.29	33.00	Pass
				H	25.54		
20MHz(RB size 50 & RB offset 0)							
1900.00	19100	QPSK	H	V	23.42	33.00	Pass
				H	25.68		
1900.00	19100	16QAM	H	V	23.29	33.00	Pass
				H	25.48		
20MHz(RB size 100 & RB offset 0)							
1900.00	19100	QPSK	H	V	23.21	33.00	Pass
				H	25.68		
1900.00	19100	16QAM	H	V	23.23	33.00	Pass
				H	25.33		

## LTE Band 4 part:

<b>LTE Band 4</b>							
<b>BW: 1.4MHz</b>							
<b>Lowset channel</b>							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
<b>1.4MHz(RB size 1 &amp; RB offset 0)</b>							
1710.70	19957	QPSK	H	V	19.84	30.00	Pass
				H	25.01		
1710.70	19957	16QAM	H	V	19.78		
				H	24.96		
<b>1.4MHz(RB size 3 &amp; RB offset 0)</b>							
1732.50	20175	QPSK	H	V	20.04	30.00	Pass
				H	24.78		
1732.50	20175	16QAM	H	V	19.86		
				H	24.69		
<b>1.4MHz(RB size 6 &amp; RB offset 0)</b>							
1754.30	20393	QPSK	H	V	18.99	30.00	Pass
				H	24.80		
1754.30	20393	16QAM	H	V	18.82		
				H	24.58		
<b>Middle channel</b>							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
<b>1.4MHz(RB size 1 &amp; RB offset 0)</b>							
1732.50	20175	QPSK	H	V	19.89	30.00	Pass
				H	25.05		
1732.50	20175	16QAM	H	V	19.76		
				H	24.91		
<b>1.4MHz(RB size 3 &amp; RB offset 0)</b>							
1732.50	20175	QPSK	H	V	20.06	30.00	Pass
				H	24.72		
1732.50	20175	16QAM	H	V	19.82		
				H	24.66		
<b>1.4MHz(RB size 6 &amp; RB offset 0)</b>							
1732.50	20175	QPSK	H	V	19.05	30.00	Pass
				H	24.75		
1732.50	20175	16QAM	H	V	18.86		
				H	24.57		

<b>Highest channel</b>												
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result					
1.4MHz(RB size 1 & RB offset 0)												
1754.30	20393	QPSK	H	V	19.81	30.00	Pass					
				H	25.07							
1754.30	20393	16QAM	H	V	19.71							
				H	24.87							
1.4MHz(RB size 3 & RB offset 0)												
1754.30	20393	QPSK	H	V	20.08	30.00	Pass					
				H	24.73							
1754.30	20393	16QAM	H	V	19.85							
				H	24.68							
1.4MHz(RB size 6 & RB offset 0)												
1754.30	20393	QPSK	H	V	18.85	30.00	Pass					
				H	24.76							
1754.30	20393	16QAM	H	V	18.82							
				H	24.56							
<b>BW: 20MHz</b>												
<b>Lowset channel</b>												
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result					
20MHz(RB size 1 & RB offset 0)												
1720.00	20050	QPSK	H	V	19.95	30.00	Pass					
				H	25.14							
1720.00	20050	16QAM	H	V	19.82							
				H	25.02							
20MHz(RB size 50 & RB offset 0)												
1720.00	20050	QPSK	H	V	20.12	30.00	Pass					
				H	24.69							
1720.00	20050	16QAM	H	V	19.80							
				H	24.65							
20MHz(RB size 100 & RB offset 0 for QPSK & RB size 99)												
1720.00	20050	QPSK	H	V	18.82	30.00	Pass					
				H	24.82							
1720.00	20050	16QAM	H	V	18.83							
				H	24.52							

<b>Middle channel</b>							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
<b>20MHz(RB size 1 &amp; RB offset 0)</b>							
1732.50	20175	QPSK	H	V	19.92	30.00	Pass
				H	25.10		
1732.50	20175	16QAM	H	V	19.87	30.00	Pass
				H	25.01		
<b>20MHz(RB size 50 &amp; RB offset 0)</b>							
1732.50	20175	QPSK	H	V	20.08	30.00	Pass
				H	24.75		
1732.50	20175	16QAM	H	V	19.89	30.00	Pass
				H	24.68		
<b>20MHz(RB size 100 &amp; RB offset 0 for QPSK &amp; RB size 99)</b>							
1732.50	20175	QPSK	H	V	18.81	30.00	Pass
				H	24.80		
1732.50	20175	16QAM	H	V	18.85	30.00	Pass
				H	24.55		
<b>High channel</b>							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
<b>20MHz(RB size 1 &amp; RB offset 0)</b>							
1745.00	20300	QPSK	H	V	19.97	30.00	Pass
				H	25.15		
1745.00	20300	16QAM	H	V	19.82	30.00	Pass
				H	25.06		
<b>20MHz(RB size 50 &amp; RB offset 0)</b>							
1745.00	20300	QPSK	H	V	20.13	30.00	Pass
				H	24.73		
1745.00	20300	16QAM	H	V	19.82	30.00	Pass
				H	24.65		
<b>20MHz(RB size 100 &amp; RB offset 0 for QPSK &amp; RB size 99)</b>							
1745.00	20300	QPSK	H	V	18.85	30.00	Pass
				H	24.75		
1745.00	20300	16QAM	H	V	18.81	30.00	Pass
				H	24.50		

## LTE Band 5 part:

<b>LTE Band 5</b>							
<b>BW: 1.4MHz</b>							
<b>Lowset channel</b>							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
<b>1.4MHz(RB size 1 &amp; RB offset 0)</b>							
824.70	20407	QPSK	H	V	22.67	38.45	Pass
				H	28.28		
824.70	20407	16QAM	H	V	22.59		
				H	28.12		
<b>1.4MHz(RB size 3 &amp; RB offset 0)</b>							
824.70	20407	QPSK	H	V	22.03	38.45	Pass
				H	28.70		
824.70	20407	16QAM	H	V	21.93		
				H	28.55		
<b>1.4MHz(RB size 6 &amp; RB offset 0)</b>							
824.70	20407	QPSK	H	V	20.84	38.45	Pass
				H	27.68		
824.70	20407	16QAM	H	V	20.73		
				H	24.41		
<b>Middle channel</b>							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
<b>1.4MHz(RB size 1 &amp; RB offset 0)</b>							
836.50	20525	QPSK	H	V	22.69	38.45	Pass
				H	28.25		
836.50	20525	16QAM	H	V	22.61		
				H	28.19		
<b>1.4MHz(RB size 3 &amp; RB offset 0)</b>							
836.50	20525	QPSK	H	V	22.06	38.45	Pass
				H	28.71		
836.50	20525	16QAM	H	V	21.95		
				H	28.59		
<b>1.4MHz(RB size 6 &amp; RB offset 0)</b>							
836.50	20525	QPSK	H	V	20.86	38.45	Pass
				H	27.69		
836.50	20525	16QAM	H	V	20.76		
				H	27.41		

<b>Highest channel</b>												
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result					
1.4MHz(RB size 1 & RB offset 0)												
848.30	20643	QPSK	H	V	22.65	38.45	Pass					
				H	28.24							
848.30	20643	16QAM	H	V	22.57	38.45	Pass					
				H	28.13							
1.4MHz(RB size 3 & RB offset 0)												
848.30	20643	QPSK	H	V	22.01	38.45	Pass					
				H	28.65							
848.30	20643	16QAM	H	V	21.95	38.45	Pass					
				H	28.51							
1.4MHz(RB size 6 & RB offset 0)												
848.30	20643	QPSK	H	V	20.84	38.45	Pass					
				H	27.61							
848.30	20643	16QAM	H	V	20.75	38.45	Pass					
				H	27.46							
<b>BW: 10MHz</b>												
<b>Lowset channel</b>												
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result					
10MHz(RB size 1 & RB offset 0)												
829.00	20450	QPSK	H	V	22.69	38.45	Pass					
				H	28.24							
829.00	20450	16QAM	H	V	22.53	38.45	Pass					
				H	28.14							
10MHz(RB size 25 & RB offset 0)												
829.00	20450	QPSK	H	V	22.09	38.45	Pass					
				H	28.63							
829.00	20450	16QAM	H	V	21.91	38.45	Pass					
				H	28.52							
10MHz(RB size 50 & RB offset 0)												
829.00	20450	QPSK	H	V	20.81	38.45	Pass					
				H	27.59							
829.00	20450	16QAM	H	V	20.71	38.45	Pass					
				H	27.46							

Middle channel							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
10MHz(RB size 1 & RB offset 0)							
836.50	20525	QPSK	H	V	22.63	38.45	Pass
				H	28.27		
836.50	20525	16QAM	H	V	22.57	38.45	Pass
				H	28.19		
10MHz(RB size 25 & RB offset 0)							
836.50	20525	QPSK	H	V	22.05	38.45	Pass
				H	28.64		
836.50	20525	16QAM	H	V	21.98	38.45	Pass
				H	28.59		
10MHz(RB size 50 & RB offset 0)							
836.50	20525	QPSK	H	V	20.86	38.45	Pass
				H	27.67		
836.50	20525	16QAM	H	V	20.76	38.45	Pass
				H	27.41		
High channel							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
10MHz(RB size 1 & RB offset 0)							
844.00	20600	QPSK	H	V	22.67	38.45	Pass
				H	28.24		
844.00	20600	16QAM	H	V	22.50	38.45	Pass
				H	28.19		
10MHz(RB size 25 & RB offset 0)							
844.00	20600	QPSK	H	V	22.01	38.45	Pass
				H	28.67		
844.00	20600	16QAM	H	V	21.98	38.45	Pass
				H	28.55		
10MHz(RB size 50 & RB offset 0)							
844.00	20600	QPSK	H	V	20.85	38.45	Pass
				H	27.65		
844.00	20600	16QAM	H	V	20.74	38.45	Pass
				H	27.46		

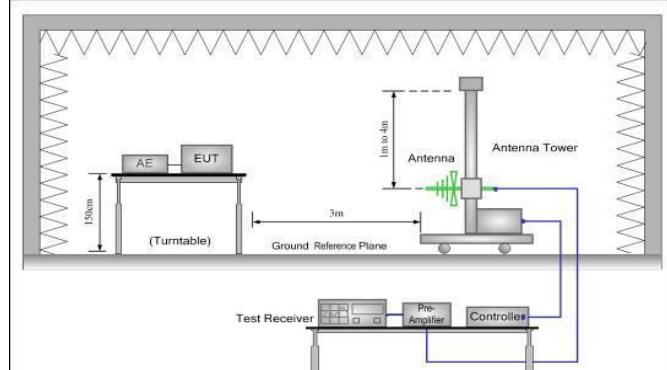
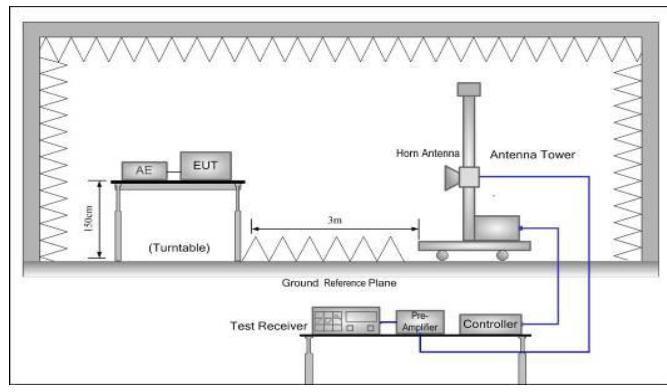
## LTE band 7 part:

LTE Band 7							
BW: 5MHz							
Lowset channel							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
5MHz(RB size 1 & RB offset 0)							
2502.50	20775	QPSK	H	V	12.62	33.00	Pass
				H	18.67		
2502.50	20775	16QAM	H	V	12.45		
				H	18.53		
5MHz(RB size 12 & RB offset 0)							
2502.50	20775	QPSK	H	V	10.22	33.00	Pass
				H	17.23		
2502.50	20775	16QAM	H	V	10.18		
				H	17.11		
5MHz(RB size 25 & RB offset 0)							
2502.50	20775	QPSK	H	V	8.43	33.00	Pass
				H	14.99		
2502.50	20775	16QAM	H	V	8.41		
				H	14.89		
Middle channel							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
5MHz(RB size 1 & RB offset 0)							
2535.00	21100	QPSK	H	V	12.68	33.00	Pass
				H	18.66		
2535.00	21100	16QAM	H	V	12.47		
				H	18.56		
5MHz(RB size 12 & RB offset 0)							
2535.00	21100	QPSK	H	V	10.25	33.00	Pass
				H	17.25		
2535.00	21100	16QAM	H	V	10.19		
				H	17.18		
5MHz(RB size 25 & RB offset 0)							
2535.00	21100	QPSK	H	V	8.46	33.00	Pass
				H	14.92		
2535.00	21100	16QAM	H	V	8.43		
				H	14.86		

<b>Highest channel</b>												
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result					
5MHz(RB size 1 & RB offset 0)												
2567.50	21425	QPSK	H	V	12.72	33.00	Pass					
				H	18.61							
2567.50	21425	16QAM	H	V	12.44	33.00	Pass					
				H	18.53							
5MHz(RB size 12 & RB offset 0)												
2567.50	21425	QPSK	H	V	10.26	33.00	Pass					
				H	17.23							
2567.50	21425	16QAM	H	V	10.21	33.00	Pass					
				H	17.19							
5MHz(RB size 25 & RB offset 0)												
2567.50	21425	QPSK	H	V	8.48	33.00	Pass					
				H	14.95							
2567.50	21425	16QAM	H	V	8.41	33.00	Pass					
				H	14.92							
<b>BW: 20MHz</b>												
<b>Lowset channel</b>												
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result					
20MHz(RB size 1 & RB offset 0)												
2510.00	20850	QPSK	H	V	12.74	33.00	Pass					
				H	18.63							
2510.00	20850	16QAM	H	V	12.42	33.00	Pass					
				H	18.57							
20MHz(RB size 50 & RB offset 0)												
2510.00	20850	QPSK	H	V	10.28	33.00	Pass					
				H	17.29							
2510.00	20850	16QAM	H	V	10.13	33.00	Pass					
				H	17.18							
20MHz(RB size 100 & RB offset 0 for QPSK & RB size 99)												
2510.00	20850	QPSK	H	V	8.45	33.00	Pass					
				H	14.96							
2510.00	20850	16QAM	H	V	8.47	33.00	Pass					
				H	14.96							

Middle channel							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)							
2535.00	21100	QPSK	H	V	12.69	33.00	Pass
				H	18.71		
2535.00	21100	16QAM	H	V	12.44	33.00	Pass
				H	18.55		
20MHz(RB size 50 & RB offset 0)							
2535.00	21100	QPSK	H	V	10.28	33.00	Pass
				H	17.31		
2535.00	21100	16QAM	H	V	10.17	33.00	Pass
				H	17.21		
20MHz(RB size 100 & RB offset 0 for QPSK & RB size 99)							
2535.00	21100	QPSK	H	V	8.51	33.00	Pass
				H	14.91		
2535.00	21100	16QAM	H	V	8.49	33.00	Pass
				H	14.92		
High channel							
Frequency (MHz)	UL Channel	Modulation	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)							
2560.00	21350	QPSK	H	V	12.63	33.00	Pass
				H	18.75		
2560.00	21350	16QAM	H	V	12.47	33.00	Pass
				H	18.59		
20MHz(RB size 50 & RB offset 0)							
2560.00	21350	QPSK	H	V	10.31	33.00	Pass
				H	17.25		
2560.00	21350	16QAM	H	V	10.13	33.00	Pass
				H	17.14		
20MHz(RB size 100 & RB offset 0 for QPSK & RB size 99)							
2560.00	21350	QPSK	H	V	8.47	33.00	Pass
				H	14.93		
2560.00	21350	16QAM	H	V	8.42	33.00	Pass
				H	14.96		

## 6.6 Field strength of spurious radiation measurement

Test Requirement:	Part 22.917(b), Part 24.238 (a), Part 27.53(m), Part 27.53(h)
Test Method:	ANSI/TIA-603-D 2010
Limit:	<p>LTE Band 2 &amp; 4 &amp; 5  The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least <math>43 + 10 \log_{10}(P)</math> dB (-13 dBm).</p> <p>LTE Band 7:  For mobile digital stations, the attenuation factor shall be not less than <math>40 + 10 \log (P)</math> dB on all frequencies between the channel edge and 5 megahertz from the channel edge, <math>43 + 10 \log (P)</math> dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and <math>55 + 10 \log (P)</math> 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 than <math>43 + 10 \log (P)</math> dB on all frequencies between 2490.5 MHz and 2496 MHz and <math>55 + 10 \log (P)</math> dB at or below 2490.5 MHz.</p>
Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
Test Procedure:	<ol style="list-style-type: none"> <li>The EUT was placed on a 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.</li> <li>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.</li> <li>The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels).</li> </ol>

	Once spurious emission was identified, the power of the emission was determined using the substitution method.
	4. 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:**

LTE Band 2, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3701.40	Vertical	-33.77	-13.00	Pass
5552.10	V	-40.94		
7402.00	V	-35.87		
3701.40	Horizontal	-28.34		
5552.10	H	-38.58		
7402.00	H	-34.78		
<b>Middle Channel</b>				
3760.00	Vertical	-27.69	-13.00	Pass
5640.00	V	-40.45		
7520.00	V	-35.12		
3760.00	Horizontal	-26.58		
5640.00	H	-38.32		
7520.00	H	-35.88		
<b>Highest Channel</b>				
3816.60	Vertical	-24.45	-13.00	Pass
5724.90	V	-41.62		
7633.20	V	-35.83		
3816.60	Horizontal	-22.50		
5724.90	H	-41.08		
7633.20	H	-35.25		

**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				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3703.00	Vertical	-31.25	-13.00	Pass
5554.50	V	-40.15		
7406.00	V	-35.75		
3703.00	Horizontal	-28.56		
5554.50	H	-38.69		
7406.00	H	-34.15		
<b>Middle Channel</b>				
3760.00	Vertical	-28.53	-13.00	Pass
5640.00	V	-40.26		
7520.00	V	-35.69		
3760.00	Horizontal	-26.45		
5640.00	H	-38.45		
7520.00	H	-35.96		
<b>Highest Channel</b>				
3817.00	Vertical	-25.36	-13.00	Pass
5725.50	V	-40.10		
7634.00	V	-35.26		
3817.00	Horizontal	-24.16		
5725.50	H	-40.36		
7634.00	H	-35.78		

**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: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3705.00	Vertical	-31.25	-13.00	Pass
5557.50	V	-40.53		
7410.00	V	-35.62		
3705.00	Horizontal	-28.36		
5557.50	H	-38.52		
7410.00	H	-34.12		
<b>Middle Channel</b>				
3760.00	Vertical	-29.36	-13.00	Pass
5640.00	V	-40.26		
7520.00	V	-35.68		
3760.00	Horizontal	-28.56		
5640.00	H	-38.42		
7520.00	H	-35.69		
<b>Highest Channel</b>				
3815.00	Vertical	-25.63	-13.00	Pass
5722.50	V	-40.52		
7630.00	V	-35.57		
3815.00	Horizontal	-23.12		
5722.50	H	-40.26		
7630.00	H	-35.23		

**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: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3710.00	Vertical	-29.56	-13.00	Pass
5565.00	V	-40.12		
7420.00	V	-36.23		
3710.00	Horizontal	-27.46		
5565.00	H	-38.52		
7420.00	H	-35.12		
<b>Middle Channel</b>				
3760.00	Vertical	-27.43	-13.00	Pass
5640.00	V	-40.26		
7520.00	V	-36.92		
3760.00	Horizontal	-27.45		
5640.00	H	-38.52		
7520.00	H	-35.26		
<b>Highest Channel</b>				
3810.00	Vertical	-26.36	-13.00	Pass
5715.00	V	-40.58		
7620.00	V	-35.57		
3810.00	Horizontal	-25.56		
5715.00	H	-38.56		
7620.00	H	-35.69		

**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: 15MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3715.00	Vertical	-33.53	-13.00	Pass
5572.50	V	-40.26		
7430.00	V	35.75		
3715.00	Horizontal	-28.36		
5572.50	H	-38.25		
7430.00	H	-35.26		
<b>Middle Channel</b>				
3760.00	Vertical	-28.42	-13.00	Pass
5640.00	V	-40.51		
7520.00	V	-35.26		
3760.00	Horizontal	-36.56		
5640.00	H	-38.45		
7520.00	H	-36.23		
<b>Highest Channel</b>				
3805.00	Vertical	-25.36	-13.00	Pass
5707.50	V	-40.24		
7610.00	V	-35.75		
3805.00	Horizontal	-24.15		
5707.50	H	-39.26		
7610.00	H	-36.56		

**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: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3720.00	Vertical	-33.26	-13.00	Pass
5580.00	V	-40.52		
7440.00	V	-35.26		
3720.00	Horizontal	-28.53		
5580.00	H	-38.51		
7440.00	H	-34.15		
<b>Middle Channel</b>				
3760.00	Vertical	-28.26	-13.00	Pass
5640.00	V	-40.53		
7520.00	V	-35.59		
3760.00	Horizontal	-27.52		
5640.00	H	-38.56		
7520.00	H	-36.56		
<b>Highest Channel</b>				
3800.00	Vertical	-25.42	-13.00	Pass
5700.00	V	-40.36		
7600.00	V	-35.26		
3800.00	Horizontal	-23.26		
5700.00	H	-38.92		
7600.00	H	-35.45		

**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 4 part:

LTE Band 4, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3421.40	Vertical	-42.82	-13.00	Pass
5132.10	V	-40.70		
6842.80	V	-36.70		
3421.40	Horizontal	-37.68		
5132.10	H	-40.13		
6842.80	H	-36.74		
<b>Middle Channel</b>				
3465.00	Vertical	-44.24	-13.00	Pass
5197.50	V	-42.09		
6930.00	V	-36.01		
3465.00	Horizontal	-41.99		
5197.50	H	-37.90		
6930.00	H	-36.00		
<b>Highest Channel</b>				
3508.60	Vertical	-42.83	-13.00	Pass
5262.90	V	-41.18		
7017.20	V	-36.20		
3508.60	Horizontal	-39.64		
5262.90	H	-40.87		
7017.20	H	-35.13		

**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 4, WB: 3MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3423.00	Vertical	-43.26	-13.00	Pass
5134.50	V	-40.15		
6846.00	V	-36.56		
3423.00	Horizontal	-38.26		
5134.50	H	-39.62		
6846.00	H	-36.53		
<b>Middle Channel</b>				
3465.00	Vertical	-42.12	-13.00	Pass
5197.50	V	-40.36		
6930.00	V	-36.23		
3465.00	Horizontal	-39.56		
5197.50	H	-38.52		
6930.00	H	-36.23		
<b>Highest Channel</b>				
3507.00	Vertical	-42.16	-13.00	Pass
5260.50	V	-41.36		
7014.00	V	-36.23		
3507.00	Horizontal	-39.69		
5260.50	H	-38.12		
7014.00	H	-36.36		

**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 4, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3425.00	Vertical	-43.26	-13.00	Pass
5137.50	V	-40.26		
6850.00	V	-36.56		
3425.00	Horizontal	-37.52		
5137.50	H	-39.23		
6850.00	H	-36.23		
<b>Middle Channel</b>				
3465.00	Vertical	-42.36	-13.00	Pass
5197.50	V	-41.26		
6930.00	V	-36.58		
3465.00	Horizontal	-38.23		
5197.50	H	-40.23		
6930.00	H	-36.23		
<b>Highest Channel</b>				
3505.00	Vertical	-43.63	-13.00	Pass
5257.50	V	-41.25		
7010.00	V	-36.89		
3505.00	Horizontal	-37.42		
5257.50	H	-36.53		
7010.00	H	-36.26		

**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 4, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3430.00	Vertical	-43.26	-13.00	Pass
5145.00	V	-40.25		
6860.00	V	-36.53		
3430.00	Horizontal	-37.45		
5145.00	H	-38.59		
6860.00	H	-36.23		
<b>Middle Channel</b>				
3465.00	Vertical	-43.26	-13.00	Pass
5197.50	V	-40.25		
6930.00	V	-36.59		
3465.00	Horizontal	-37.45		
5197.50	H	-36.23		
6930.00	H	-37.45		
<b>Highest Channel</b>				
3500.00	Vertical	-43.26	-13.00	Pass
5250.00	V	-41.25		
7000.00	V	-36.59		
3500.00	Horizontal	-39.53		
5250.00	H	-37.26		
7000.00	H	-36.53		

**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 4, WB: 15MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3435.00	Vertical	-44.26	-13.00	Pass
5152.50	V	-40.25		
6870.00	V	-36.53		
3435.00	Horizontal	-37.58		
5152.50	H	-39.23		
6870.00	H	-36.23		
<b>Middle Channel</b>				
3465.00	Vertical	-42.15	-13.00	Pass
5197.50	V	-40.21		
6930.00	V	-36.23		
3465.00	Horizontal	-38.56		
5197.50	H	-39.65		
6930.00	H	-36.27		
<b>Highest Channel</b>				
3495.00	Vertical	-44.15	-13.00	Pass
5242.50	V	-40.26		
6990.00	V	-36.25		
3495.00	Horizontal	-39.65		
5242.50	H	-38.12		
6990.00	H	-36.42		

**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 4, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
3440.00	Vertical	-42.36	-13.00	Pass
5160.00	V	-40.25		
6880.00	V	-36.53		
3440.00	Horizontal	-38.55		
5160.00	H	-37.42		
6880.00	H	-36.62		
<b>Middle Channel</b>				
3465.00	Vertical	-43.26	-13.00	Pass
5197.50	V	-40.15		
6930.00	V	-36.53		
3465.00	Horizontal	-36.56		
5197.50	H	-37.48		
6930.00	H	-37.48		
<b>Highest Channel</b>				
3490.00	Vertical	-42.36	-13.00	Pass
5235.00	V	-41.21		
6980.00	V	-36.53		
3490.00	Horizontal	-38.56		
5235.00	H	-38.52		
6980.00	H	-36.65		

**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 5 part:

LTE Band 5, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
1649.40	Vertical	-45.93	-13.00	Pass
2474.10	V	-44.78		
3298.80	V	-48.10		
1649.40	Horizontal	-45.03		
2474.10	H	-51.06		
3298.80	H	-46.08		
<b>Middle Channel</b>				
1673.00	Vertical	-46.31	-13.00	Pass
2509.50	V	-51.76		
3346.00	V	-47.77		
1673.00	Horizontal	-43.21		
2509.50	H	-51.42		
3346.00	H	-47.98		
<b>Highest Channel</b>				
1696.60	Vertical	-48.82	-13.00	Pass
2544.90	V	-52.56		
3393.20	V	-46.45		
1696.60	Horizontal	-46.90		
2544.90	H	-49.84		
3393.20	H	-47.53		

**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 5, WB: 3MHz						
RB size 1 & RB offset 0						
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result		
	Polarization	Level (dBm)				
<b>Lowest Channel</b>						
1651.00	Vertical	-46.36	-13.00	Pass		
2476.50	V	-48.45				
3302.00	V	-47.75				
1651.00	Horizontal	-44.69				
2476.50	H	-50.36				
3302.00	H	-48.26				
<b>Middle Channel</b>						
1673.00	Vertical	-48.56	-13.00	Pass		
2509.50	V	-51.23				
3346.00	V	-47.63				
1673.00	Horizontal	-45.26				
2509.50	H	-50.26				
3346.00	H	-48.13				
<b>Highest Channel</b>						
1695.00	Vertical	-47.56	-13.00	Pass		
2542.50	V	-50.26				
3390.00	V	-48.56				
1695.00	Horizontal	-45.26				
2542.50	H	-51.42				
3390.00	H	-46.39				
<i>Note:</i>						
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				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
1653.00	Vertical	-45.63	-13.00	Pass
2479.50	V	-46.36		
3306.00	V	-48.57		
1653.00	Horizontal	-44.50		
2479.50	H	-50.36		
3306.00	H	-47.53		
<b>Middle Channel</b>				
1673.00	Vertical	-47.53	-13.00	Pass
2509.50	V	-51.26		
3346.00	V	-46.36		
1673.00	Horizontal	-45.23		
2509.50	H	-50.46		
3346.00	H	-47.58		
<b>Highest Channel</b>				
1693.00	Vertical	-47.45	-13.00	Pass
2539.50	V	-51.24		
3386.00	V	-46.39		
1693.00	Horizontal	-44.69		
2539.50	H	-50.15		
3386.00	H	-47.36		

**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 5, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
1658.00	Vertical	-45.26	-13.00	Pass
2487.00	V	-47.15		
3316.00	V	-48.53		
1658.00	Horizontal	-45.26		
2487.00	H	-51.36		
3316.00	H	-47.56		
<b>Middle Channel</b>				
1673.00	Vertical	-47.26	-13.00	Pass
2509.50	V	-50.36		
3346.00	V	-47.89		
1673.00	Horizontal	-45.69		
2509.50	H	-50.12		
3346.00	H	-48.75		
<b>Highest Channel</b>				
1688.00	Vertical	-48.53	-13.00	Pass
2532.00	V	-50.36		
3376.00	V	-47.86		
1688.00	Horizontal	-44.36		
2532.00	H	-50.26		
3376.00	H	-46.69		

**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 7 part:

LTE Band 7, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
5005.00	Vertical	-34.58	-25.00	Pass
7507.50	V	-26.01		
10010.00	V	-33.09		
5005.00	Horizontal	-34.83		
7507.50	H	-28.50		
10010.00	H	-33.51		
<b>Middle Channel</b>				
5070.00	Vertical	-37.77	-25.00	Pass
7605.00	V	-30.71		
10140.00	V	-32.33		
5070.00	Horizontal	-38.94		
7605.00	H	-32.48		
10140.00	H	-32.89		
<b>Highest Channel</b>				
5135.00	Vertical	-37.75	-25.00	Pass
7702.50	V	-33.92		
10270.00	V	-31.93		
5135.00	Horizontal	-39.99		
7702.50	H	-34.85		
10270.00	H	-31.28		

## 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 7, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
5010.00	Vertical	-36.23	-25.00	Pass
7515.00	V	-27.19		
10020.00	V	-33.59		
5010.00	Horizontal	-34.23		
7515.00	H	-28.69		
10020.00	H	-32.53		
<b>Middle Channel</b>				
5070.00	Vertical	-38.12	-25.00	Pass
7605.00	V	-31.26		
10140.00	V	-33.26		
5070.00	Horizontal	-37.45		
7605.00	H	-32.23		
10140.00	H	-33.36		
<b>Highest Channel</b>				
5130.00	Vertical	-36.56	-25.00	Pass
7695.00	V	-31.06		
10260.00	V	-32.45		
5130.00	Horizontal	-38.56		
7695.00	H	-33.26		
10260.00	H	-32.16		

**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 7, WB: 15MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
5015.00	Vertical	-35.26	-25.00	Pass
7522.50	V	-27.42		
10030.00	V	-33.26		
5015.00	Horizontal	-33.26		
7522.50	H	-28.46		
10030.00	H	-34.15		
<b>Middle Channel</b>				
5070.00	Vertical	-37.45	-25.00	Pass
7605.00	V	-31.26		
10140.00	V	-32.26		
5070.00	Horizontal	-36.23		
7605.00	H	-30.21		
10140.00	H	-34.12		
<b>Highest Channel</b>				
5125.00	Vertical	-38.56	-25.00	Pass
7687.50	V	-30.16		
10250.00	V	-32.56		
5125.00	Horizontal	-38.52		
7687.50	H	-30.12		
10250.00	H	-34.12		

**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 7, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
<b>Lowest Channel</b>				
5020.00	Vertical	-35.06	-25.00	Pass
7530.00	V	-26.16		
10040.00	V	-31.48		
5020.00	Horizontal	-35.23		
7530.00	H	-30.12		
10040.00	H	-32.56		
<b>Middle Channel</b>				
5070.00	Vertical	-38.56	-25.00	Pass
7605.00	V	-30.16		
10140.00	V	-32.15		
5070.00	Horizontal	-38.42		
7605.00	H	-33.53		
10140.00	H	-32.15		
<b>Highest Channel</b>				
5120.00	Vertical	-36.53	-25.00	Pass
7680.00	V	-30.14		
10240.00	V	-32.15		
5120.00	Horizontal	-37.45		
7680.00	H	-32.56		
10240.00	H	-32.25		

**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.

## 6.7 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:	$\pm 2.5\text{ppm}$
Test setup:	<p>The diagram illustrates the test setup. It shows a Source (SS) and a Reference Source (SA) connected to a Divider. The output of the Divider is connected to the EUT (Equipment Under Test). The EUT is placed inside a Temperature &amp; Humidity Chamber. A Power Source provides power to the EUT. The chamber has two temperature sensors.</p>
Test procedure:	<ol style="list-style-type: none"> <li>1. The equipment under test was connected to an external DC power supply and input rated voltage.</li> <li>2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.</li> <li>3. The EUT was placed inside the temperature chamber.</li> <li>4. 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>5. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.</li> <li>6. 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 2 part:**

Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	198	0.105319	±2.5	Pass
	-20	155	0.082447		
	-10	163	0.086702		
	0	123	0.065426		
	10	188	0.100000		
	20	174	0.092553		
	30	114	0.060638		
	40	105	0.055851		
	50	150	0.079787		
16QAM					
3.70	-30	123	0.065426	±2.5	Pass
	-20	150	0.079787		
	-10	166	0.088298		
	0	122	0.064894		
	10	144	0.076596		
	20	140	0.074468		
	30	156	0.082979		
	40	133	0.070745		
	50	138	0.073404		

Note: Only the worst case shown in the report.

## LTE Band 4 part:

Reference Frequency: LTE Band 4 (10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	198	0.114286	±2.5	Pass
	-20	155	0.089466		
	-10	163	0.094084		
	0	123	0.070996		
	10	188	0.108514		
	20	174	0.100433		
	30	114	0.065801		
	40	105	0.060606		
	50	150	0.086580		
16QAM					
3.70	-30	123	0.070996	±2.5	Pass
	-20	150	0.086580		
	-10	166	0.095815		
	0	122	0.070418		
	10	144	0.083117		
	20	140	0.080808		
	30	156	0.090043		
	40	133	0.076768		
	50	138	0.079654		

Note: Only the worst case shown in the report.

## LTE Band 5 part:

Reference Frequency: LTE Band 5 (10MHz) Middle channel=20525 channel=836.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	198	0.236701	±2.5	Pass
	-20	155	0.185296		
	-10	163	0.194860		
	0	123	0.147041		
	10	188	0.224746		
	20	174	0.208010		
	30	114	0.136282		
	40	105	0.125523		
	50	150	0.179319		
16QAM					
3.70	-30	123	0.147041	±2.5	Pass
	-20	150	0.179319		
	-10	166	0.198446		
	0	122	0.145846		
	10	144	0.172146		
	20	140	0.167364		
	30	156	0.186491		
	40	133	0.158996		
	50	138	0.164973		

Note: Only the worst case shown in the report.

## LTE Band 7 part:

Reference Frequency: LTE Band 7 (10MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	198	0.078107	$\pm 2.5$	Pass
	-20	155	0.061144		
	-10	163	0.064300		
	0	123	0.048521		
	10	188	0.074162		
	20	174	0.068639		
	30	114	0.044970		
	40	105	0.041420		
	50	150	0.059172		
	16QAM				
3.70	-30	123	0.048521	$\pm 2.5$	Pass
	-20	150	0.059172		
	-10	166	0.065483		
	0	122	0.048126		
	10	144	0.056805		
	20	140	0.055227		
	30	156	0.061538		
	40	133	0.052465		
	50	138	0.054438		
	<i>Note: Only the worst case shown in the report.</i>				

## 6.8 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:	$\pm 2.5\text{ppm}$
Test setup:	<p>The diagram illustrates the test setup. On the left, there are two blue rectangular boxes labeled 'SS' (Signal Source) and 'SA' (Spectrum Analyzer). Blue lines connect the SS to the SA. From the SA, a blue line goes to a grey rectangular component labeled 'Divider'. From the Divider, a blue line continues to a black rectangular box labeled 'EUT' (Equipment Under Test). A red line connects the EUT back to the Divider. Below the Divider is a grey rectangular box labeled 'Power Source'. A red line connects the Power Source to the EUT. All components are contained within a large blue rectangular frame labeled 'Temperature &amp; Humidity Chamber'.</p>
Test procedure:	<ol style="list-style-type: none"> <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 2 part:**

Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.25	98	0.052128	±2.5	Pass
	3.70	65	0.034574		
	3.15	74	0.039362		
16QAM					
25	4.25	80	0.042553	±2.5	Pass
	3.70	96	0.051064		
	3.15	48	0.025532		

Note: Only the worst case shown in the report.

**LTE Band 4 part:**

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.25	98	0.056566	±2.5	Pass
	3.70	65	0.037518		
	3.15	74	0.042713		
16QAM					
25	4.25	80	0.046176	±2.5	Pass
	3.70	96	0.055411		
	3.15	48	0.027706		

Note: Only the worst case shown in the report.

**LTE Band 5 part:**

Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 channel=836.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.25	98	0.117155	±2.5	Pass
	3.70	65	0.077705		
	3.15	74	0.088464		
16QAM					
25	4.25	80	0.095637	±2.5	Pass
	3.70	96	0.114764		
	3.15	48	0.057382		

Note: Only the worst case shown in the report.

## LTE Band 7 part:

Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.25	98	0.038659	±2.5	Pass
	3.70	65	0.025641		
	3.15	74	0.029191		
16QAM					
25	4.25	80	0.031558	±2.5	Pass
	3.70	96	0.037870		
	3.15	48	0.018935		

*Note: Only the worst case shown in the report.*