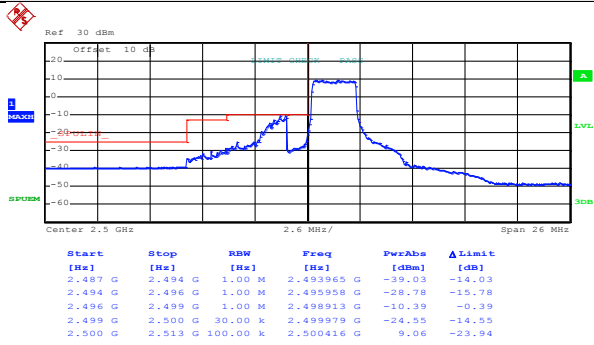
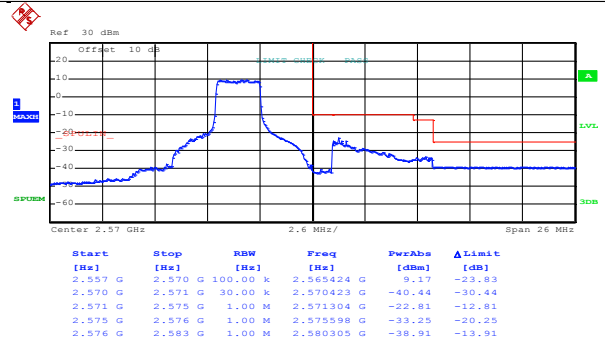


Test Mode: LTE band 7(QPSK RB Size 12 & RB Offset 0)



Date: 22.APR.2017 22:58:34

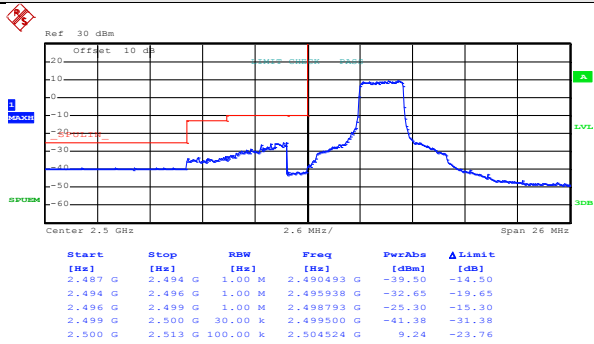
Lowest channel



Date: 22.APR.2017 23:03:27

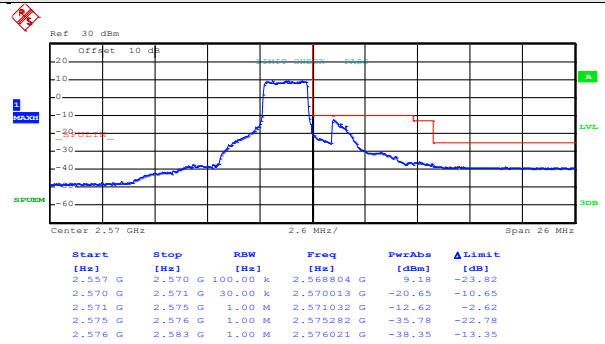
Highest channel

Test Mode: LTE band 7(QPSK RB Size 12 & RB Offset 11)



Date: 22.APR.2017 22:59:09

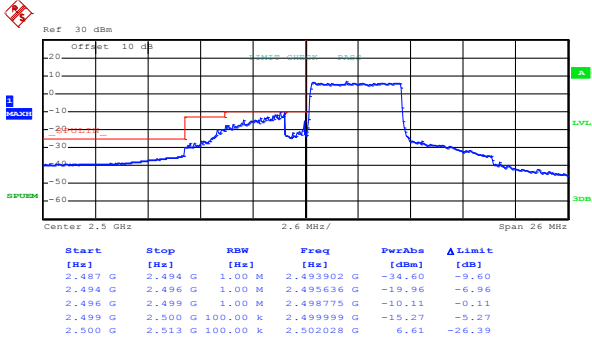
Lowest channel



Date: 22.APR.2017 23:04:33

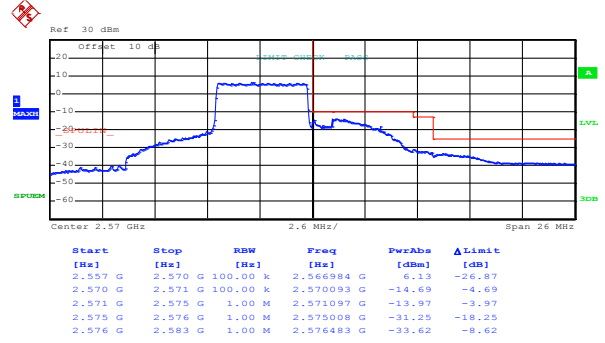
Highest channel

Test Mode: LTE band 7(QPSK RB Size 25 & RB Offset 0)



Date: 22.APR.2017 23:00:02

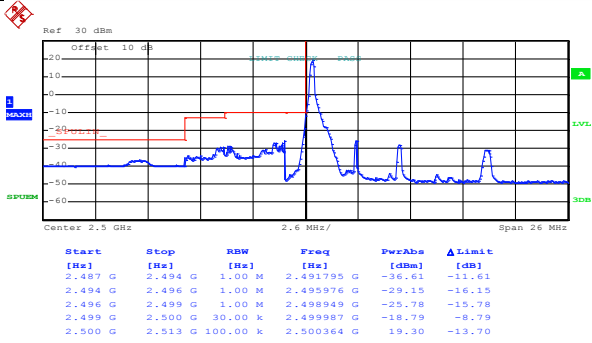
Lowest channel



Date: 22.APR.2017 23:05:16

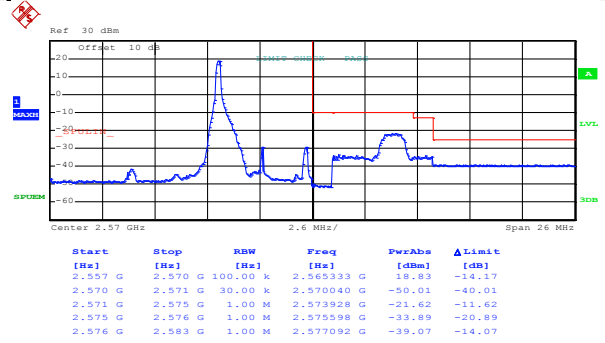
Highest channel

Test Mode: LTE band 7(16QAM RB Size 1 & RB Offset 0)



Date: 22.APR.2017 22:56:19

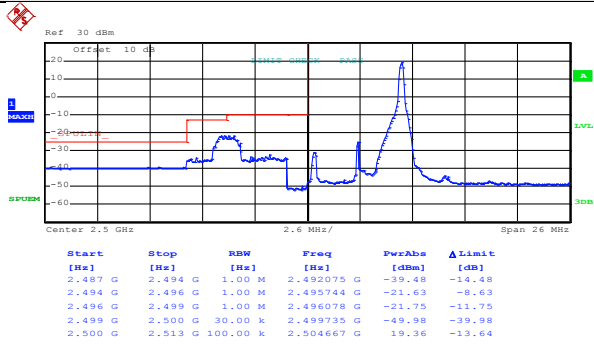
Lowest channel



Date: 22.APR.2017 23:02:02

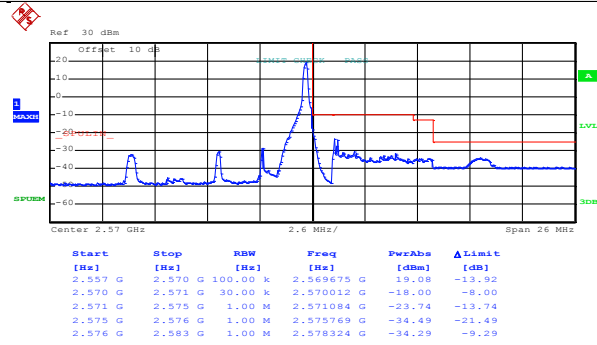
Highest channel

Test Mode: LTE band 7(16QAM RB Size 1 & RB Offset 24)



Date: 22.APR.2017 22:56:58

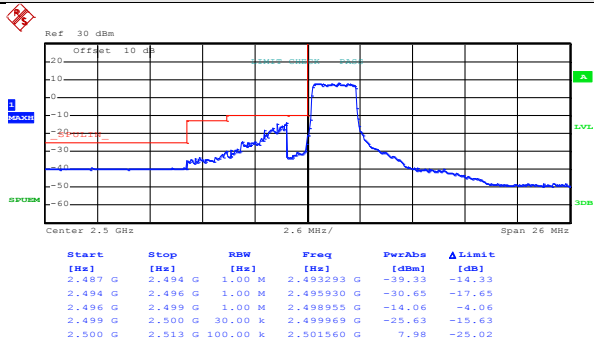
Lowest channel



Date: 22.APR.2017 23:03:09

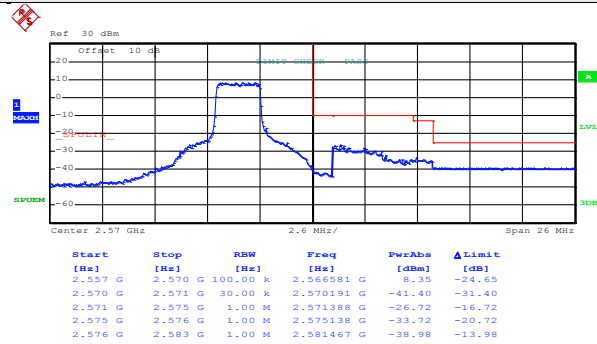
Highest channel

Test Mode: LTE band 7(16QAM RB Size 12 & RB Offset 0)



Date: 22.APR.2017 22:58:50

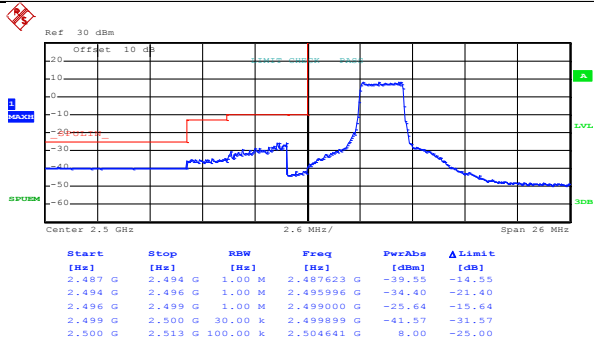
Lowest channel



Date: 22.APR.2017 23:03:37

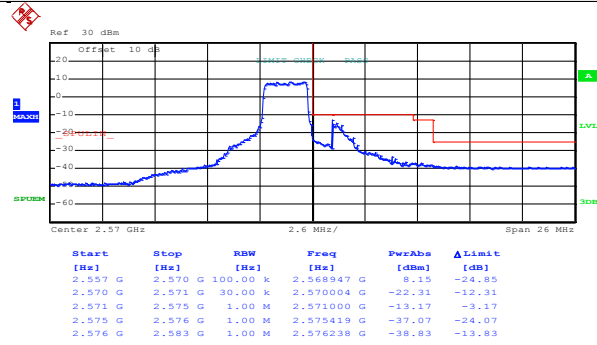
Highest channel

Test Mode: LTE band 7(16QAM RB Size 12 & RB Offset 11)



Date: 22.APR.2017 22:59:20

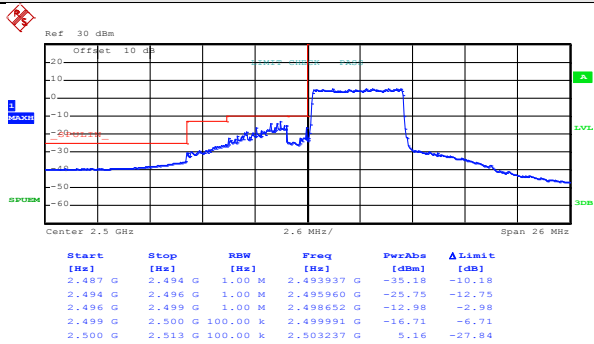
Lowest channel



Date: 22.APR.2017 23:04:46

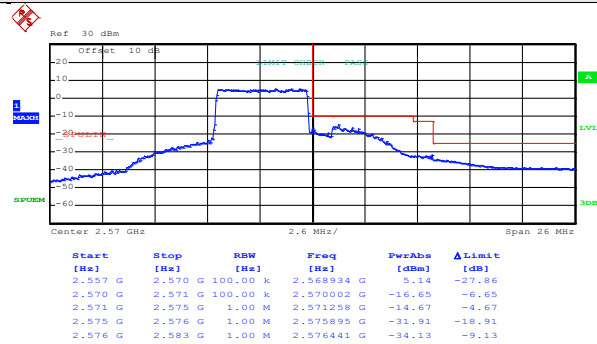
Highest channel

Test Mode: LTE band 7(16QAM RB Size 25 & RB Offset 0)



Date: 22.APR.2017 23:01:02

Lowest channel

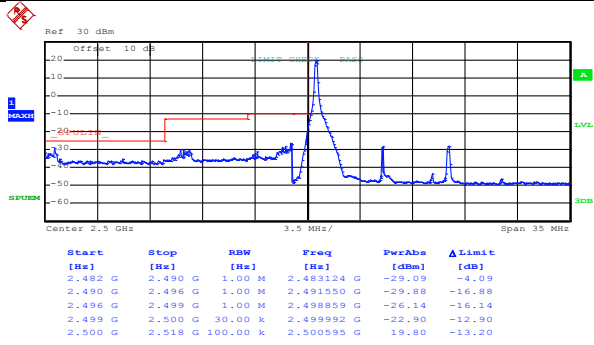


Date: 22.APR.2017 23:05:25

Highest channel

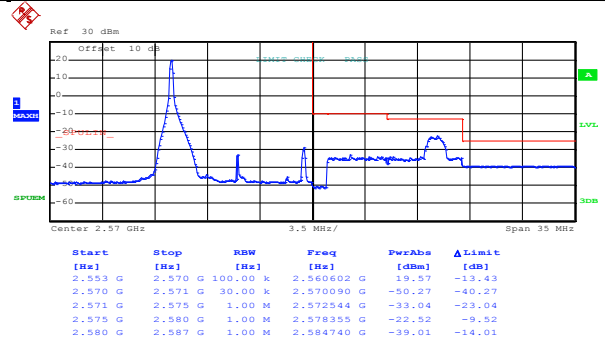
10MHz:

Test Mode: LTE band 7(QPSK RB Size 1 & RB Offset 0)



Date: 22.APR.2017 23:09:41

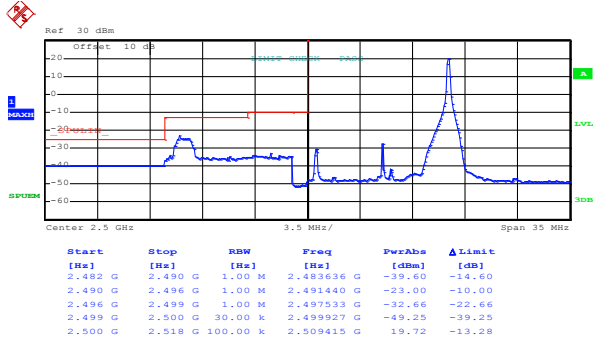
Lowest channel



Date: 22.APR.2017 23:20:46

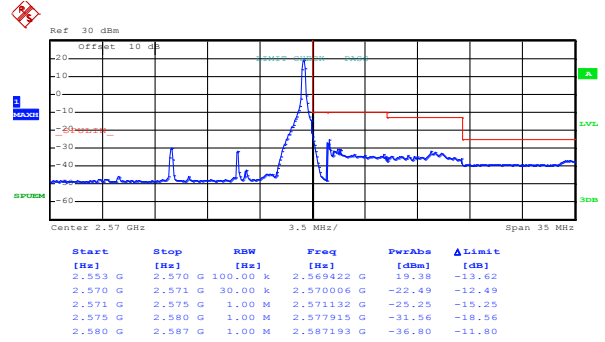
Highest channel

Test Mode: LTE band 7(QPSK RB Size 1 & RB Offset 49)



Date: 22.APR.2017 23:10:30

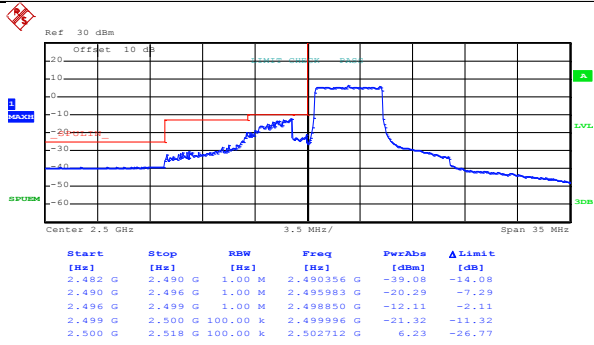
Lowest channel



Date: 22.APR.2017 23:21:14

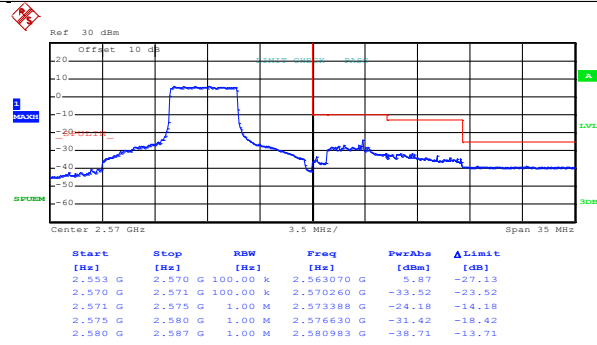
Highest channel

Test Mode: LTE band 7(QPSK RB Size 25 & RB Offset 0)



Date: 22.APR.2017 23:11:12

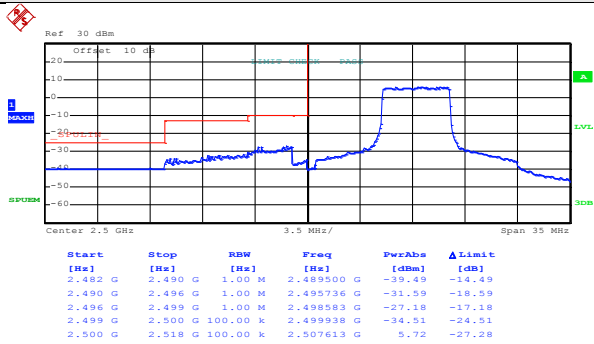
Lowest channel



Date: 22.APR.2017 23:22:01

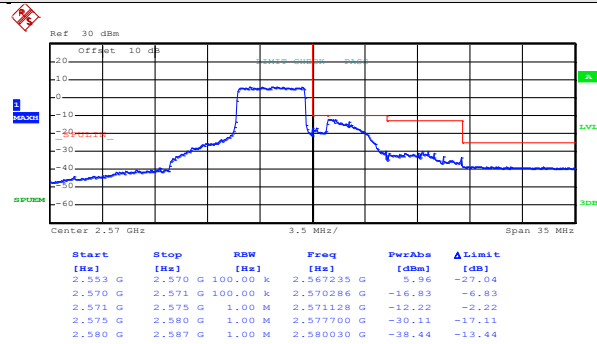
Highest channel

Test Mode: LTE band 7(QPSK RB Size 25 & RB Offset 24)



Date: 22.APR.2017 23:11:43

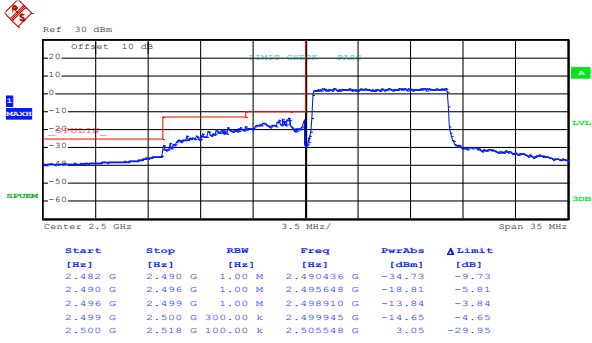
Lowest channel



Date: 22.APR.2017 23:23:04

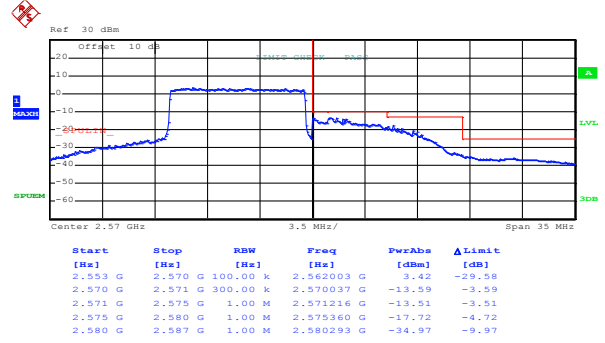
Highest channel

Test Mode: LTE band 7(QPSK RB Size 50 & RB Offset 0)



Date: 22.APR.2017 23:12:22

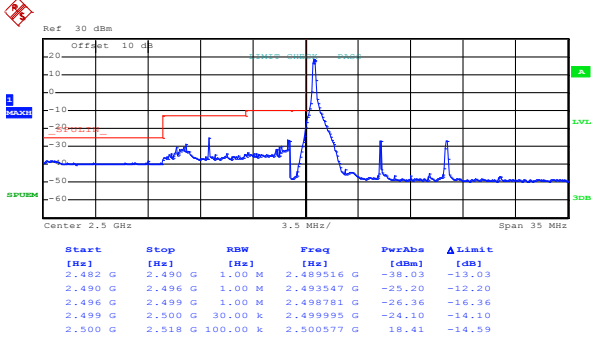
Lowest channel



Date: 22.APR.2017 23:23:44

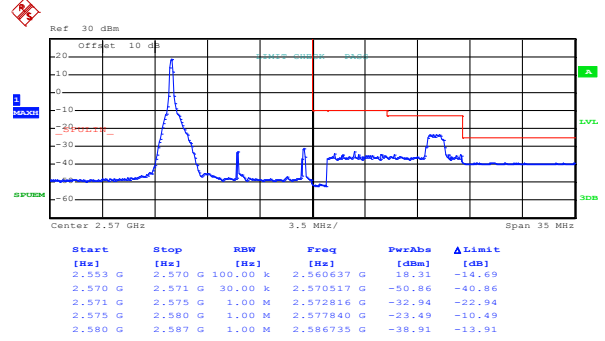
Highest channel

Test Mode: LTE band 7(16QAM RB Size 1 & RB Offset 0)



Date: 22.APR.2017 23:10:10

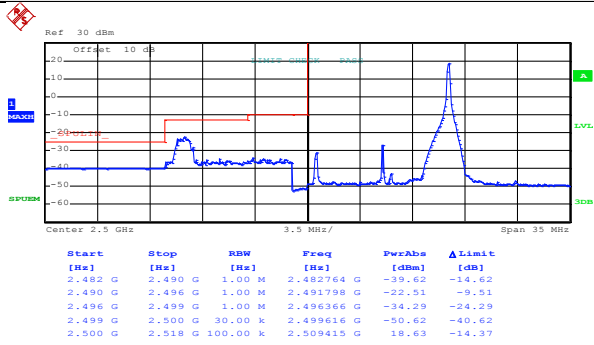
Lowest channel



Date: 22.APR.2017 23:20:55

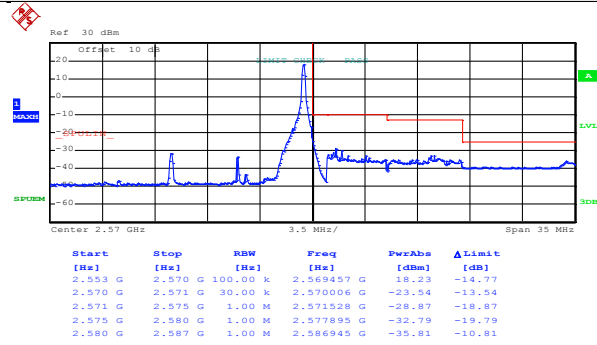
Highest channel

Test Mode: LTE band 7(16QAM RB Size 1 & RB Offset 49)



Date: 22.APR.2017 23:10:40

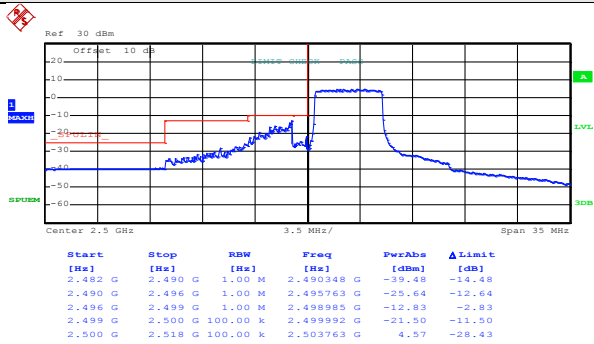
Lowest channel



Date: 22.APR.2017 23:21:25

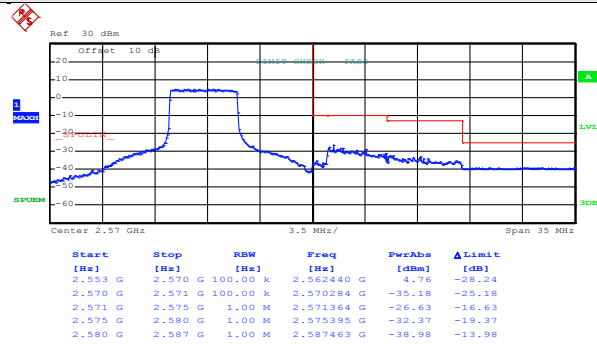
Highest channel

Test Mode: LTE band 7(16QAM RB Size 25 & RB Offset 0)



Date: 22.APR.2017 23:11:23

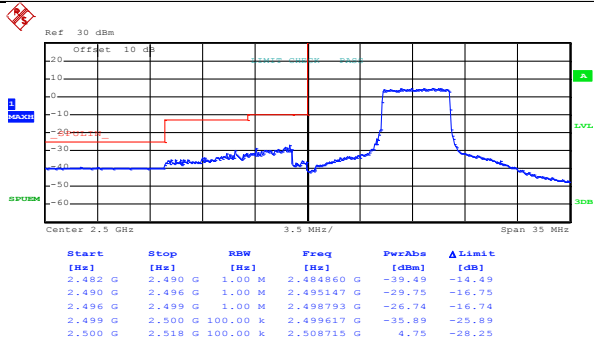
Lowest channel



Date: 22.APR.2017 23:22:10

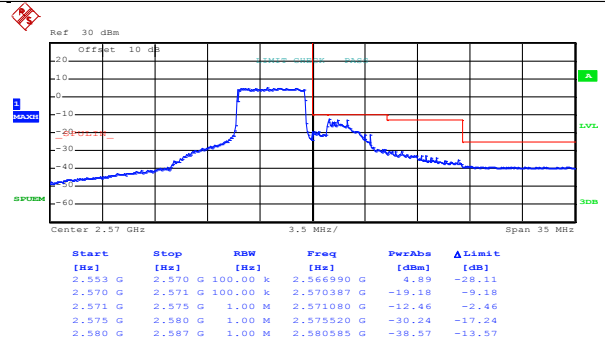
Highest channel

Test Mode: LTE band 7(16QAM RB Size 25 & RB Offset 24)



Date: 22.APR.2017 23:11:51

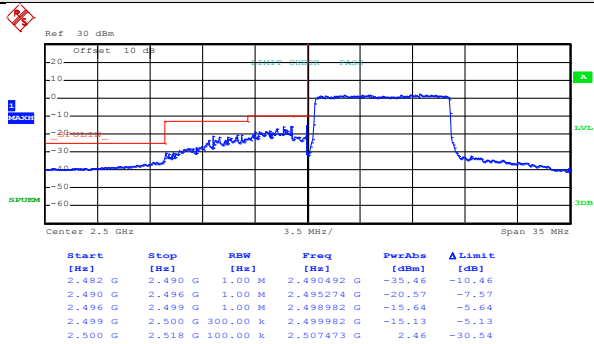
Lowest channel



Date: 22.APR.2017 23:23:20

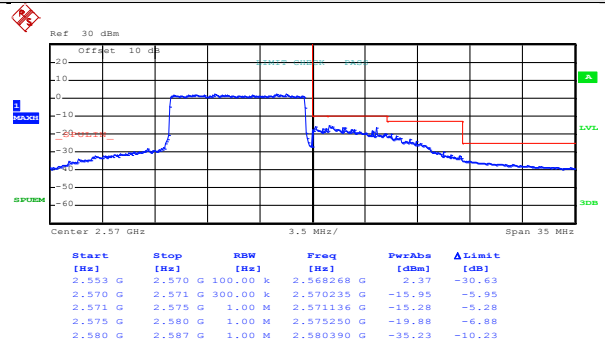
Highest channel

Test Mode: LTE band 7(16QAM RB Size 50 & RB Offset 0)



Date: 22.APR.2017 23:12:29

Lowest channel

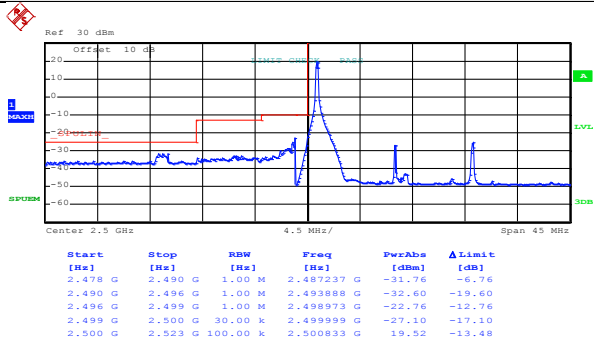


Date: 22.APR.2017 23:23:52

Highest channel

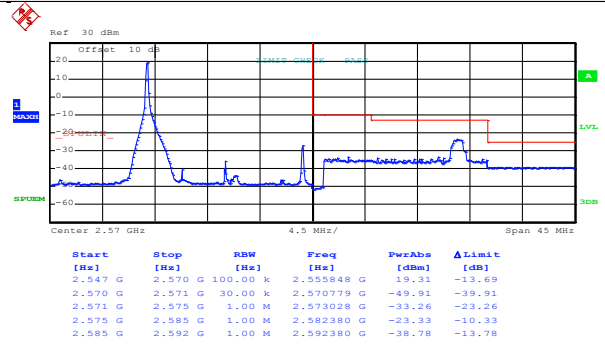
15MHz:

Test Mode: LTE band 7(QPSK RB Size 1 & RB Offset 0)



Date: 22.APR.2017 23:25:32

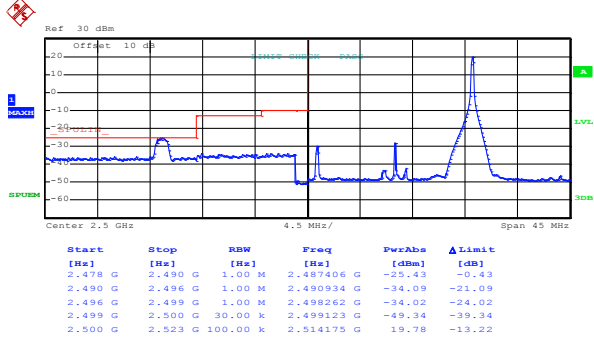
Lowest channel



Date: 22.APR.2017 23:28:52

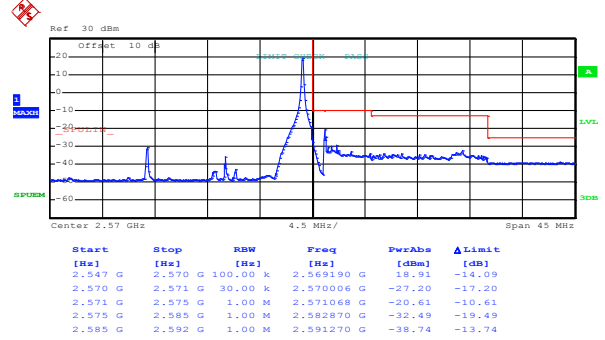
Highest channel

Test Mode: LTE band 7(QPSK RB Size 1 & RB Offset 74)



Date: 22.APR.2017 23:26:01

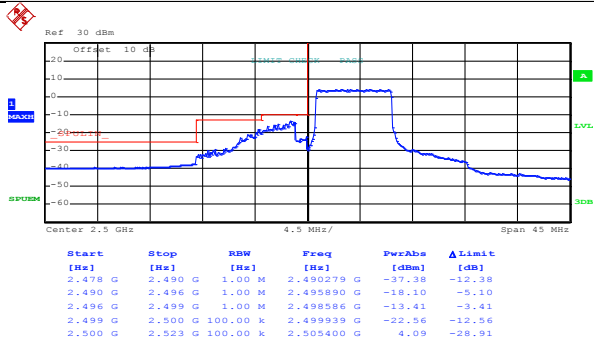
Lowest channel



Date: 22.APR.2017 23:29:15

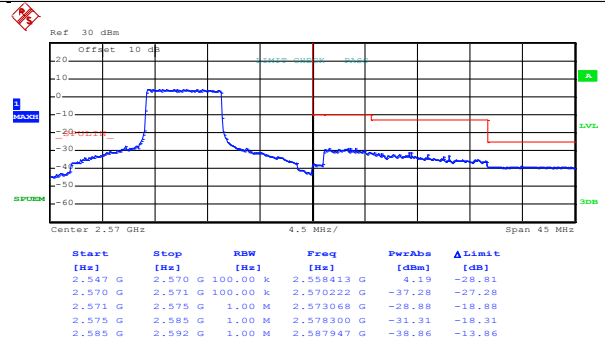
Highest channel

Test Mode: LTE band 7(QPSK RB Size 36 & RB Offset 0)



Date: 22.APR.2017 23:27:01

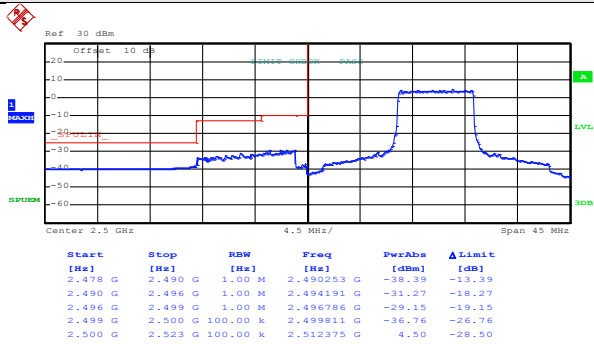
Lowest channel



Date: 22.APR.2017 23:29:59

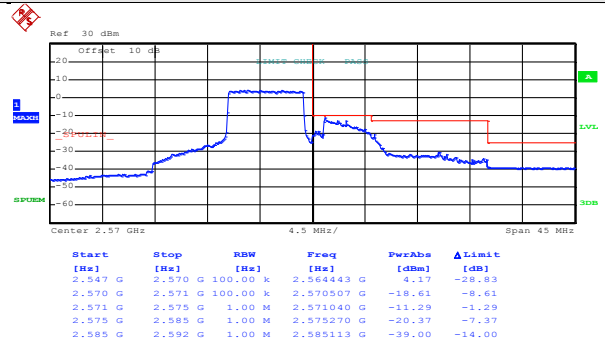
Highest channel

Test Mode: LTE band 7(QPSK RB Size 36 & RB Offset 37)



Date: 22.APR.2017 23:27:28

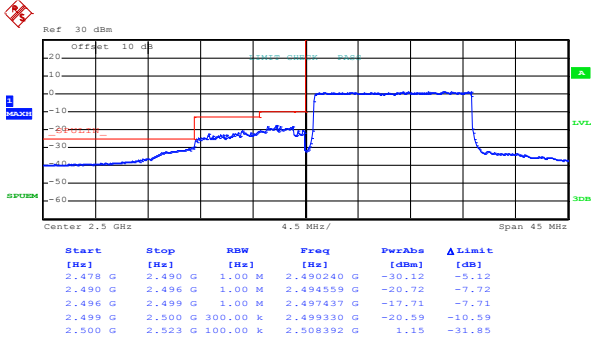
Lowest channel



Date: 22.APR.2017 23:30:25

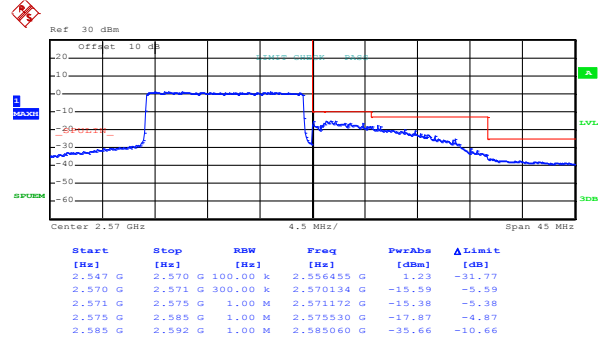
Highest channel

Test Mode: LTE band 7(QPSK RB Size 75 & RB Offset 0)



Date: 22.APR.2017 23:28:04

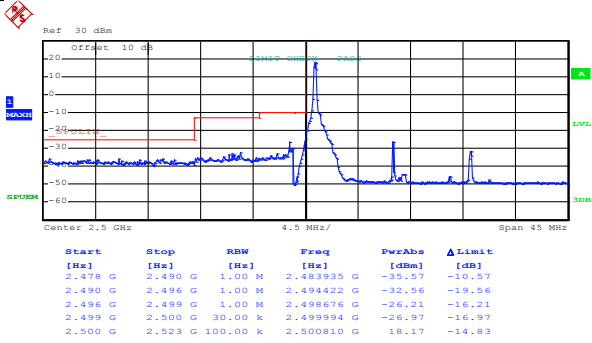
Lowest channel



Date: 22.APR.2017 23:31:08

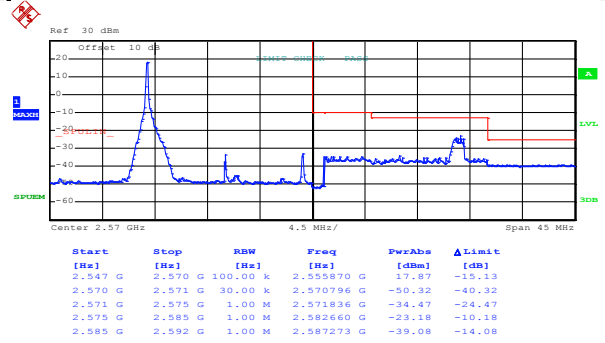
Highest channel

Test Mode: LTE band 7(16QAM RB Size 1 & RB Offset 0)



Date: 22.APR.2017 23:25:41

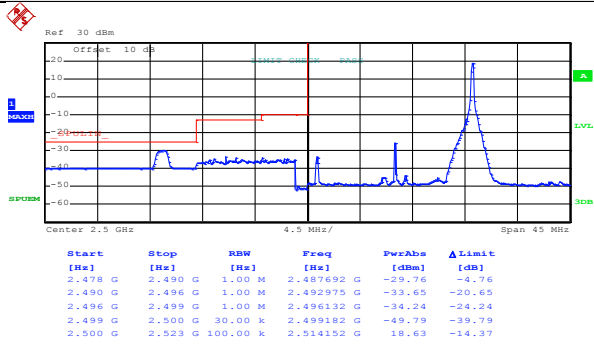
Lowest channel



Date: 22.APR.2017 23:29:00

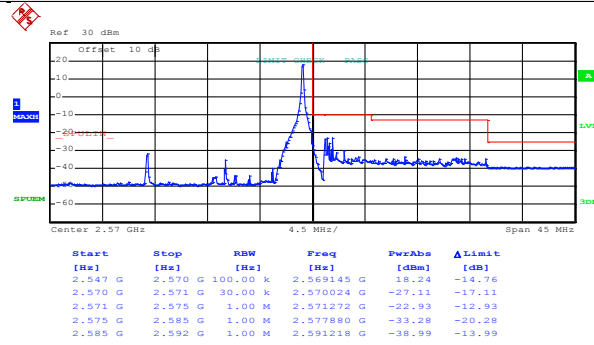
Highest channel

Test Mode: LTE band 7(16QAM RB Size 1 & RB Offset 74)



Date: 22.APR.2017 23:26:29

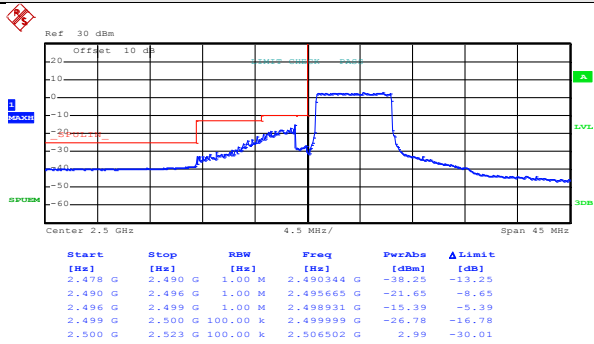
Lowest channel



Date: 22.APR.2017 23:29:25

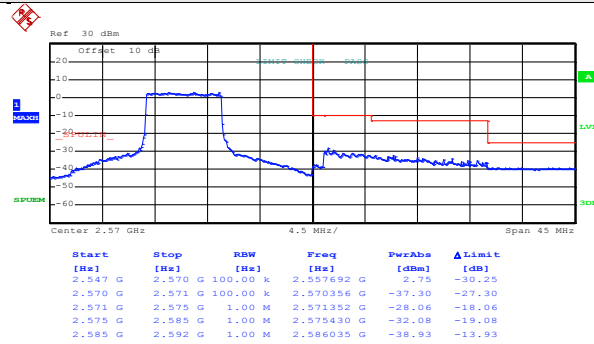
Highest channel

Test Mode: LTE band 7(16QAM RB Size 36 & RB Offset 0)



Date: 22.APR.2017 23:27:10

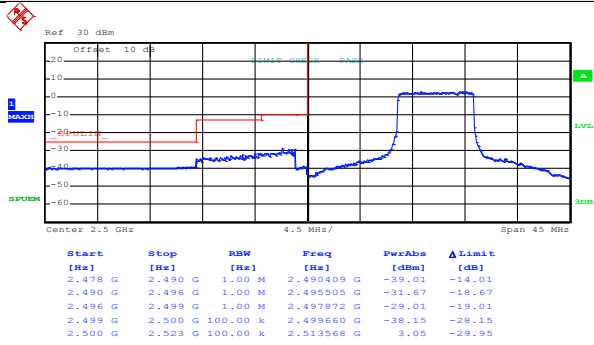
Lowest channel



Date: 22.APR.2017 23:30:08

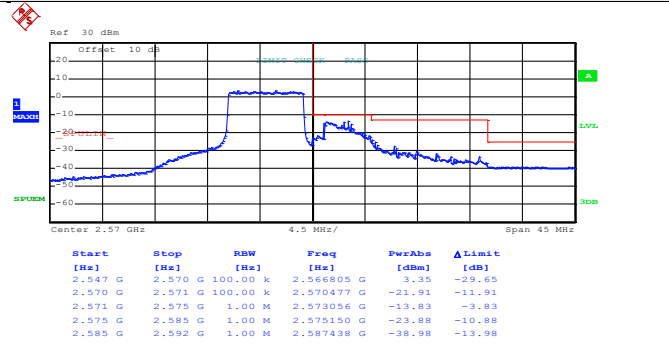
Highest channel

Test Mode: LTE band 7(16QAM RB Size 36 & RB Offset 37)



Date: 22.APR.2017 23:27:38

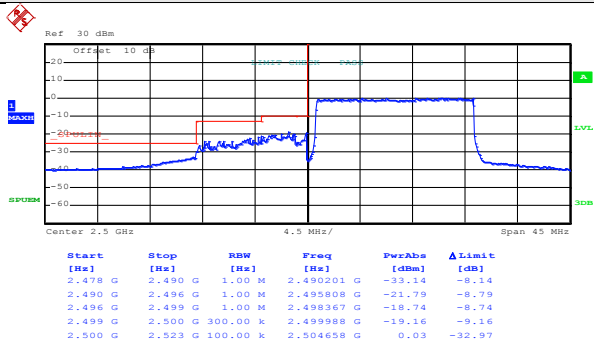
Lowest channel



Date: 22.APR.2017 23:30:36

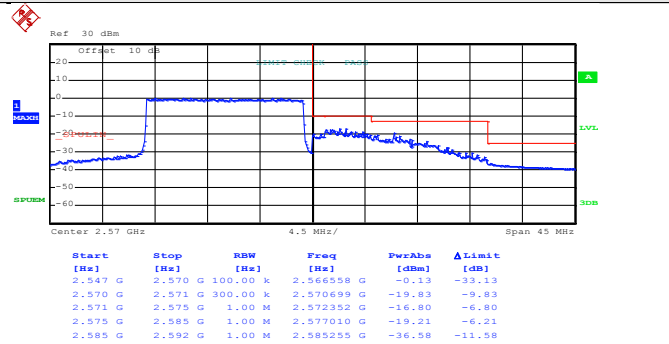
Highest channel

Test Mode: LTE band 7(16QAM RB Size 75 & RB Offset 0)



Date: 22.APR.2017 23:28:17

Lowest channel

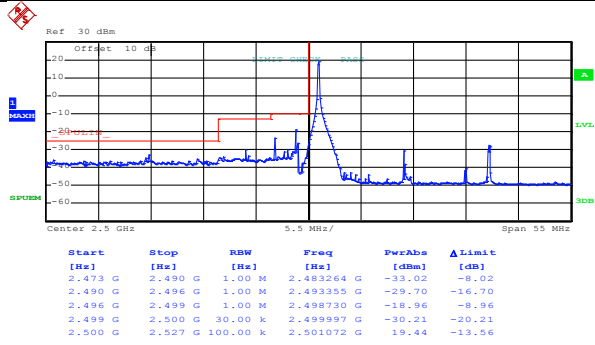


Date: 22.APR.2017 23:31:16

Highest channel

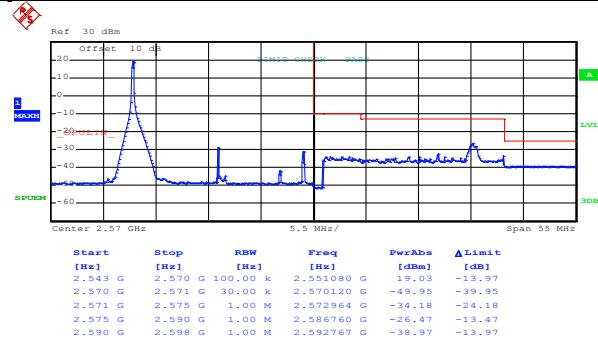
20MHz:

Test Mode: LTE band 7(QPSK RB Size 1 & RB Offset 0)



Date: 22.APR.2017 23:32:58

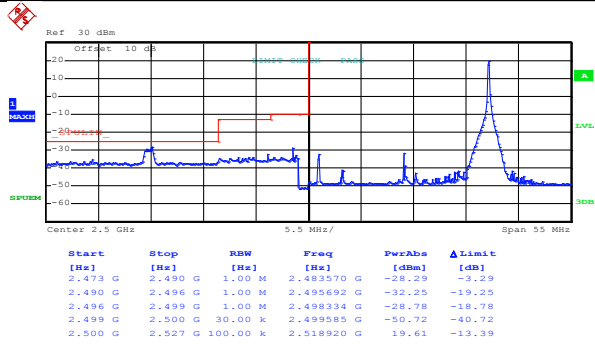
Lowest channel



Date: 22.APR.2017 23:35:33

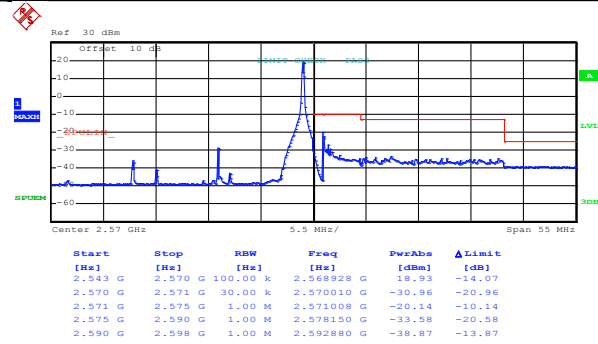
Highest channel

Test Mode: LTE band 7(QPSK RB Size 1 & RB Offset 99)



Date: 22.APR.2017 23:33:21

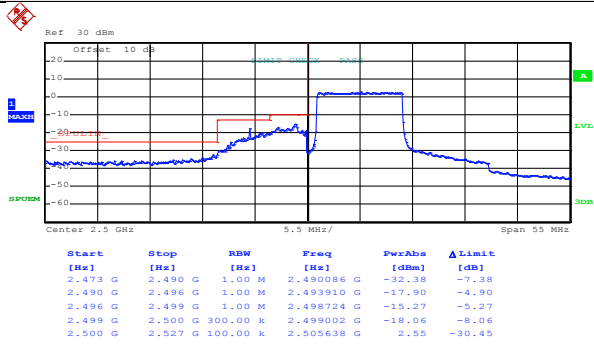
Lowest channel



Date: 22.APR.2017 23:35:55

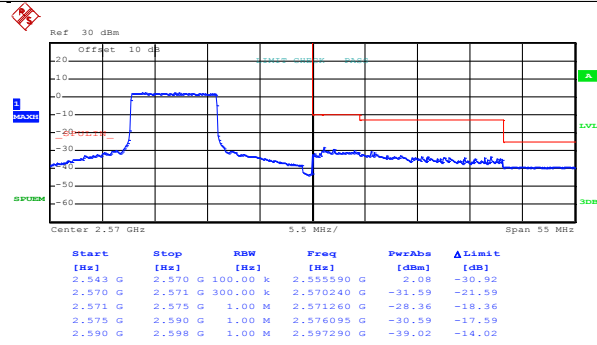
Highest channel

Test Mode: LTE band 7(QPSK RB Size 50 & RB Offset 0)



Date: 22.APR.2017 23:34:01

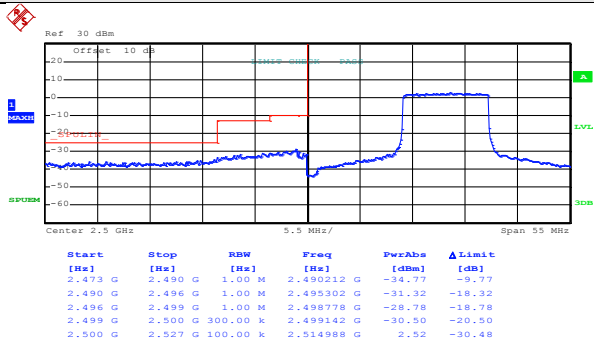
Lowest channel



Date: 22.APR.2017 23:36:27

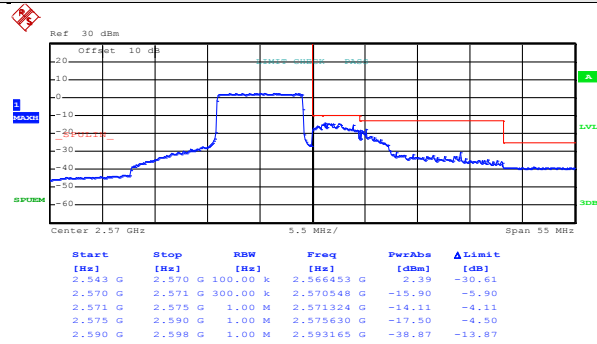
Highest channel

Test Mode: LTE band 7(QPSK RB Size 50 & RB Offset 49)



Date: 22.APR.2017 23:34:27

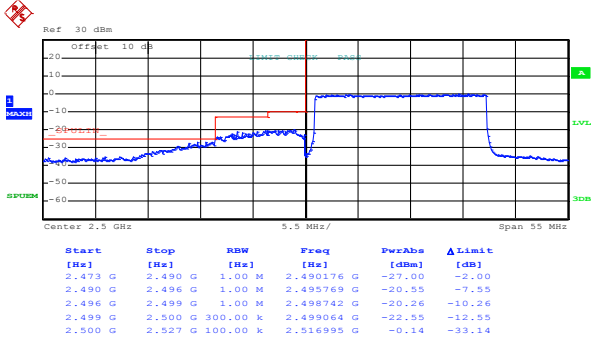
Lowest channel



Date: 22.APR.2017 23:36:50

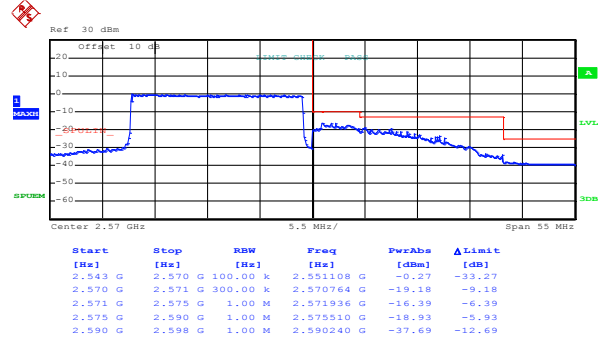
Highest channel

Test Mode: LTE band 7(QPSK RB Size 100 & RB Offset 0)



Date: 22.APR.2017 23:34:53

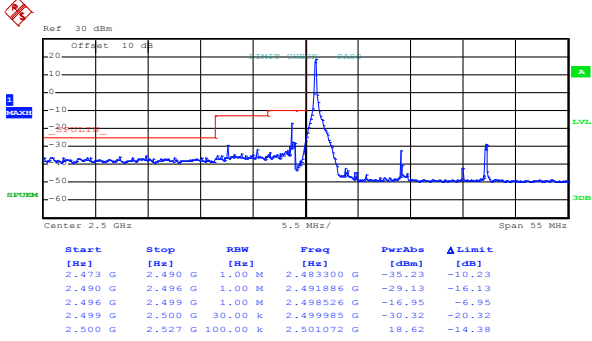
Lowest channel



Date: 22.APR.2017 23:37:18

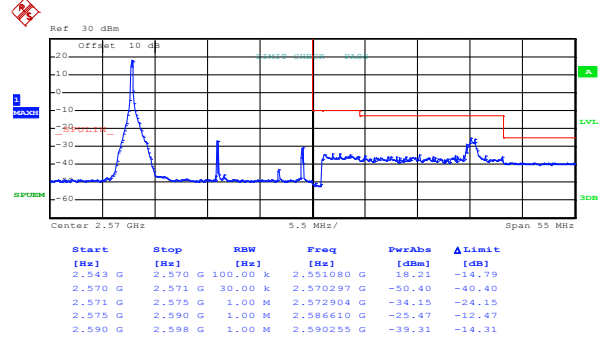
Highest channel

Test Mode: LTE band 7(16QAM RB Size 1 & RB Offset 0)



Date: 22.APR.2017 23:33:07

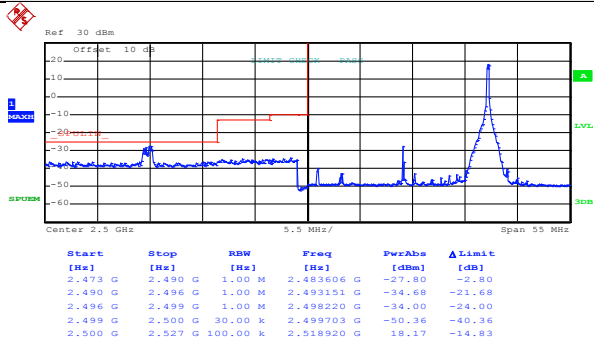
Lowest channel



Date: 22.APR.2017 23:35:42

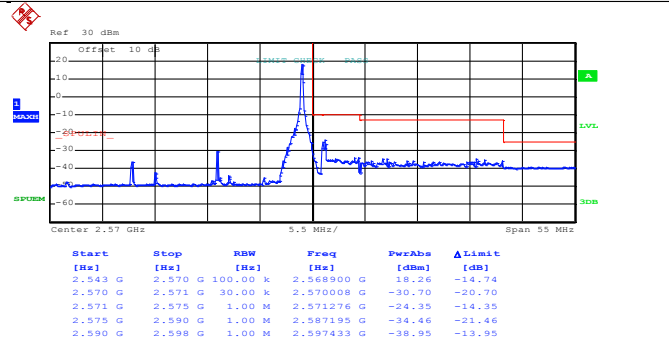
Highest channel

Test Mode: LTE band 7(16QAM RB Size 1 & RB Offset 99)



Date: 22.APR.2017 23:33:31

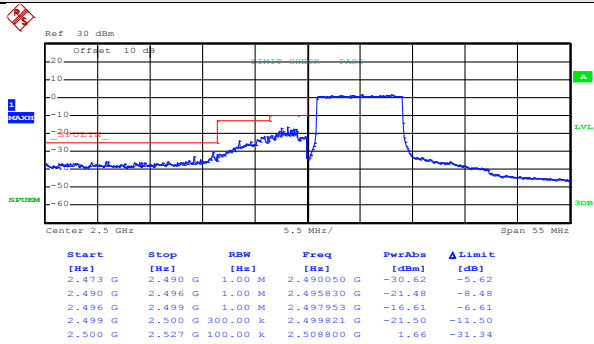
Lowest channel



Date: 22.APR.2017 23:36:03

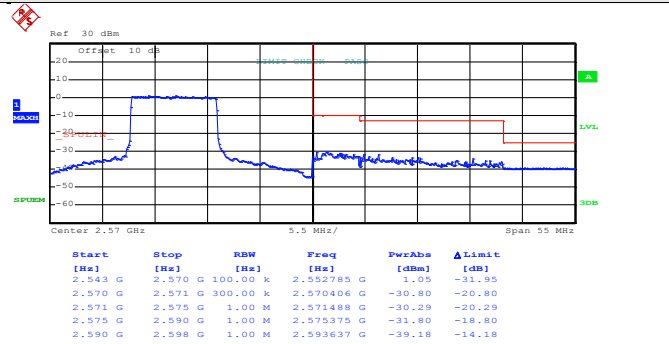
Highest channel

Test Mode: LTE band 7(16QAM RB Size 50 & RB Offset 0)



Date: 22.APR.2017 23:34:13

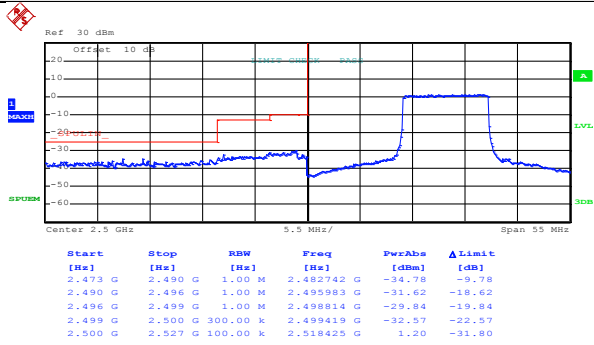
Lowest channel



Date: 22.APR.2017 23:36:35

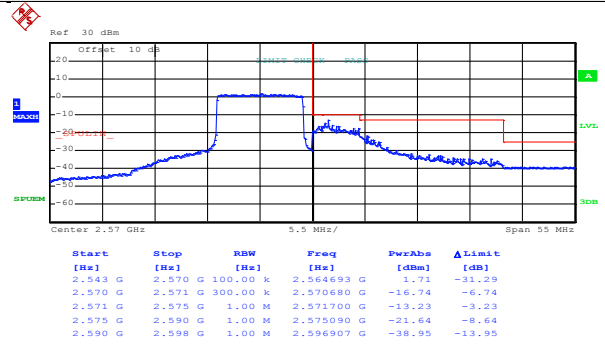
Highest channel

Test Mode: LTE band 7(16QAM RB Size 50 & RB Offset 49)



Date: 22.APR.2017 23:34:37

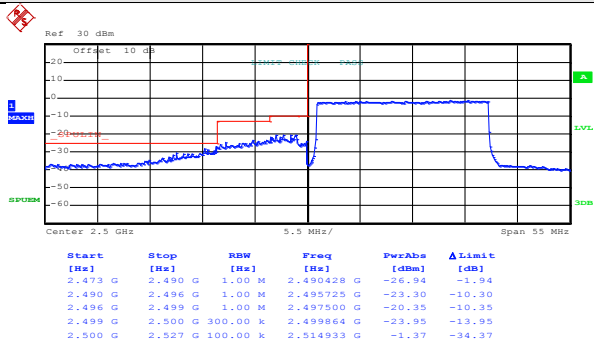
Lowest channel



Date: 22.APR.2017 23:37:01

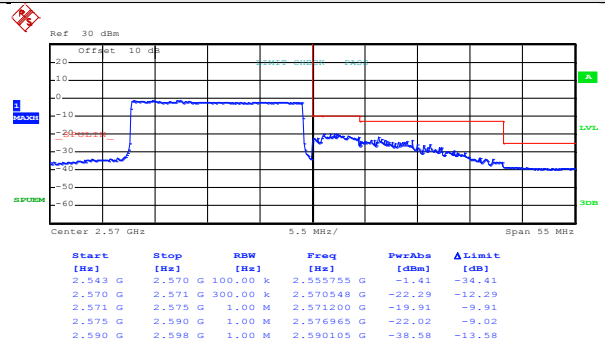
Highest channel

Test Mode: LTE band 7(16QAM RB Size 100 & RB Offset 0)



Date: 22.APR.2017 23:35:04

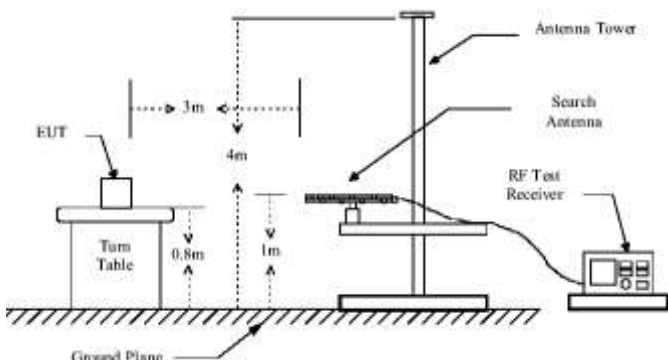
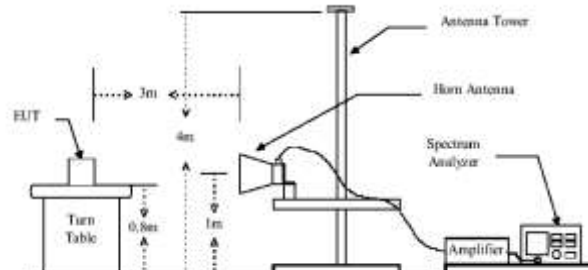
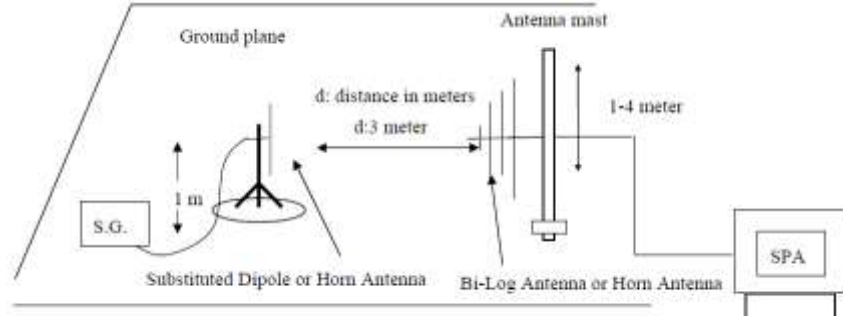
Lowest channel



Date: 22.APR.2017 23:37:26

Highest channel

6.10 ERP, EIRP Measurement

Test Requirement:	24.232 (c), part 27.50(d), part 27.50 (h)
Test Method:	FCC part2.1046
Limit:	LTE Band 2: 2W EIRP LTE Band 4: 1W EIRP LTE Band 7: 2W EIRP
Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p>  <p>Substituted method:</p> 

<p>Test Procedure:</p>	<ol style="list-style-type: none"> 1. 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 measurement, the EUT was communication 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. 3. ERP in frequency band below 1GHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows: $\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable Loss (dB)}$ 4. EIRP in frequency band above 1GHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows: $\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}$ 5. The worse case was relating to the conducted output power.
<p>Test Instruments:</p>	<p>Refer to section 5.8 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Passed</p>

Measurement Data (worst case):

LTE band 2 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1850.70	18607	QPSK	1.4	H	V	24.57	33.00	Pass
					H	19.62		
1850.70	18607	16QAM	1.4	H	V	22.10		
					H	16.45		
1.4MHz(RB size 3 & RB offset 0)								
1850.70	18607	QPSK	1.4	H	V	22.07	33.00	Pass
					H	14.07		
1850.70	18607	16QAM	1.4	H	V	21.59		
					H	14.25		
1.4MHz(RB size 6 & RB offset 0)								
1850.70	18607	QPSK	1.4	H	V	20.71	33.00	Pass
					H	12.59		
1850.70	18607	16QAM	1.4	H	V	20.96		
					H	13.03		

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1880.00	18900	QPSK	1.4	H	V	24.56	33.00	Pass
					H	19.72		
1880.00	18900	16QAM	1.4	H	V	22.08		
					H	16.52		
1.4MHz(RB size 3 & RB offset 0)								
1880.00	18900	QPSK	1.4	H	V	22.03	33.00	Pass
					H	14.12		
1880.00	18900	16QAM	1.4	H	V	21.63		
					H	14.35		
1.4MHz(RB size 6 & RB offset 0)								
1880.00	18900	QPSK	1.40	H	V	20.74	33.00	Pass
					H	12.68		
1880.00	18900	16QAM	1.40	H	V	20.95		
					H	13.05		

Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1909.30	19193	QPSK	1.4	H	V	24.49	33.00	Pass
					H	19.68		
1909.30	19193	16QAM	1.4	H	V	22.11		
					H	16.54		
1.4MHz(RB size 3 & RB offset 0)								
1909.30	19193	QPSK	1.4	H	V	22.00	33.00	Pass
					H	14.09		
1909.30	19193	16QAM	1.4	H	V	21.62		
					H	14.35		
1.4MHz(RB size 6 & RB offset 0)								
1909.30	19193	QPSK	1.4	H	V	20.76	33.00	Pass
					H	12.39		
1909.30	19193	16QAM	1.4	H	V	20.97		
					H	13.09		

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1860.00	18700	QPSK	20	H	V	20.96	33.00	Pass
					H	12.85		
1860.00	18700	16QAM	20	H	V	20.87		
					H	12.89		
20MHz(RB size 50 & RB offset 0)								
1860.00	18700	QPSK	20	H	V	18.31	33.00	Pass
					H	11.21		
1860.00	18700	16QAM	20	H	V	18.70		
					H	11.46		
20MHz(RB size 100 & RB offset 0)								
1860.00	18700	QPSK	20	H	V	16.92	33.00	Pass
					H	10.63		
1860.00	18700	16QAM	20	H	V	17.10		
					H	10.68		

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1880.00	18900	QPSK	20	H	V	21.02	33.00	Pass
					H	12.89		
1880.00	18900	16QAM	20	H	V	21.03		
					H	12.86		
20MHz(RB size 50 & RB offset 0)								
1880.00	18900	QPSK	20	H	V	18.34	33.00	Pass
					H	11.26		
1880.00	18900	16QAM	20	H	V	18.76		
					H	11.39		
20MHz(RB size 100 & RB offset 0)								
1880.00	18900	QPSK	20	H	V	16.97	33.00	Pass
					H	10.38		
1880.00	18900	16QAM	20	H	V	17.12		
					H	10.73		

Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1900.00	19100	QPSK	20	H	V	21.07	33.00	Pass
					H	13.02		
1900.00	19100	16QAM	20	H	V	21.06		
					H	12.89		
20MHz(RB size 50 & RB offset 0)								
1900.00	19100	QPSK	20	H	V	18.39	33.00	Pass
					H	11.35		
1900.00	19100	16QAM	20	H	V	18.74		
					H	11.46		
20MHz(RB size 100 & RB offset 0)								
1900.00	19100	QPSK	20	H	V	16.99	33.00	Pass
					H	10.52		
1900.00	19100	16QAM	20	H	V	17.16		
					H	10.82		

LTE band 4 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	18.99	30.00	Pass
					H	18.34		
1710.70	19957	16QAM	1.4	H	V	18.83		
					H	18.01		
1.4MHz(RB size 3 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	18.37	30.00	Pass
					H	19.02		
1710.70	19957	16QAM	1.4	H	V	18.75		
					H	18.33		
1.4MHz(RB size 6 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	17.65	30.00	Pass
					H	17.37		
1710.70	19957	16QAM	1.4	H	V	17.65		
					H	17.78		

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	19.02	30.00	Pass
					H	18.36		
1732.50	20175	16QAM	1.4	H	V	18.84		
					H	18.00		
1.4MHz(RB size 3 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	18.34	30.00	Pass
					H	19.06		
1732.50	20175	16QAM	1.4	H	V	18.76		
					H	18.74		
1.4MHz(RB size 6 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	17.64	30.00	Pass
					H	17.39		
1732.50	20175	16QAM	1.4	H	V	17.64		
					H	17.83		

Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1754.30	20393	QPSK	1.4	H	V	19.03	30.00	Pass
					H	18.34		
1754.30	20393	16QAM	1.4	H	V	18.86		
					H	18.00		
1.4MHz(RB size 3 & RB offset 0)								
1754.30	20393	QPSK	1.4	H	V	18.36	30.00	Pass
					H	19.04		
1754.30	20393	16QAM	1.4	H	V	18.77		
					H	18.75		
1.4MHz(RB size 6 & RB offset 0)								
1754.30	20393	QPSK	1.4	H	V	17.62	30.00	Pass
					H	17.43		
1754.30	20393	16QAM	1.4	H	V	17.67		
					H	17.82		

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	19.12	30.00	Pass
					H	18.56		
1720.00	20050	16QAM	20	H	V	19.14		
					H	18.62		
20MHz(RB size 50 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	16.70	30.00	Pass
					H	16.17		
1720.00	20050	16QAM	20	H	V	17.39		
					H	16.94		
20MHz(RB size 100 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	15.27	30.00	Pass
					H	15.42		
1720.00	20050	16QAM	20	H	V	15.92		
					H	16.03		

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	19.16	30.00	Pass
					H	18.54		
1732.50	20175	16QAM	20	H	V	19.12		
					H	18.64		
20MHz(RB size 50 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	16.72	30.00	Pass
					H	16.14		
1732.50	20175	16QAM	20	H	V	17.42		
					H	16.92		
20MHz(RB size 100 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	15.34	30.00	Pass
					H	15.46		
1732.50	20175	16QAM	20	H	V	15.93		
					H	16.05		

High channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	16.14	30.00	Pass
					H	18.59		
1745.00	20300	16QAM	20	H	V	19.13		
					H	18.72		
20MHz(RB size 50 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	16.74	30.00	Pass
					H	16.19		
1745.00	20300	16QAM	20	H	V	17.43		
					H	16.64		
20MHz(RB size 100 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	15.39	30.00	Pass
					H	15.42		
1745.00	20300	16QAM	20	H	V	15.96		
					H	16.03		

LTE band 7 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
5MHz(RB size 1 & RB offset 0)								
2502.50	20775	QPSK	5	H	V	13.54	33.00	Pass
					H	10.26		
2502.50	20775	16QAM	5	H	V	13.54		
					H	10.23		
5MHz(RB size 12& RB offset 0)								
2502.50	20775	QPSK	5	H	V	13.16	33.00	Pass
					H	10.19		
2502.50	20775	16QAM	5	H	V	13.50		
					H	9.77		
5MHz(RB size 25& RB offset 0)								
2502.50	20775	QPSK	5	H	V	13.12	33.00	Pass
					H	8.54		
2502.50	20775	16QAM	5	H	V	13.01		
					H	9.41		

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
5MHz(RB size 1 & RB offset 0)								
2535.00	21100	QPSK	5	H	V	13.59	33.00	Pass
					H	10.32		
2535.00	21100	16QAM	5	H	V	13.53		
					H	10.26		
5MHz(RB size 12& RB offset 0)								
2535.00	21100	QPSK	5	H	V	13.18	33.00	Pass
					H	10.21		
2535.00	21100	16QAM	5	H	V	13.48		
					H	9.86		
5MHz(RB size 25& RB offset 0)								
2535.00	21100	QPSK	5	H	V	13.14	33.00	Pass
					H	8.56		
2535.00	21100	16QAM	5	H	V	13.06		
					H	9.42		

Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
5MHz(RB size 1 & RB offset 0)								
2567.50	21425	QPSK	5	H	V	13.62	33.00	Pass
					H	10.31		
2567.50	21425	16QAM	5	H	V	13.52		
					H	10.22		
5MHz(RB size 12& RB offset 0)								
2567.50	21425	QPSK	5	H	V	13.14	33.00	Pass
					H	10.23		
2567.50	21425	16QAM	5	H	V	13.52		
					H	9.76		
5MHz(RB size 25& RB offset 0)								
2567.50	21425	QPSK	5	H	V	13.12	33.00	Pass
					H	8.57		
2567.50	21425	16QAM	5	H	V	13.08		
					H	9.43		

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
2510.00	20850	QPSK	20	H	V	13.74	33.00	Pass
					H	10.48		
2510.00	20850	16QAM	20	H	V	13.99		
					H	10.45		
20MHz(RB size 50 & RB offset 0)								
2510.00	20850	QPSK	20	H	V	12.81	33.00	Pass
					H	9.46		
2510.00	20850	16QAM	20	H	V	13.05		
					H	9.63		
20MHz(RB size 100 & RB offset 0)								
2510.00	20850	QPSK	20	H	V	12.80	33.00	Pass
					H	8.56		
2510.00	20850	16QAM	20	H	V	12.44		
					H	8.47		

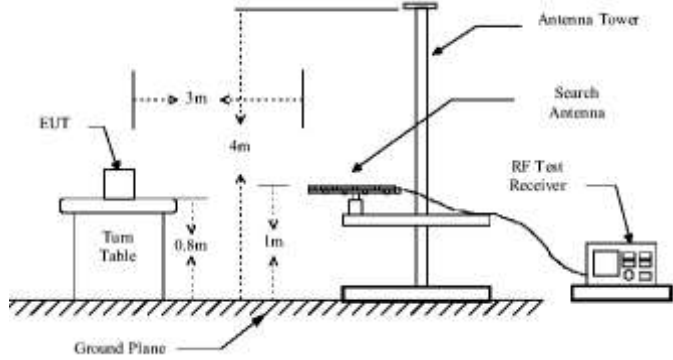
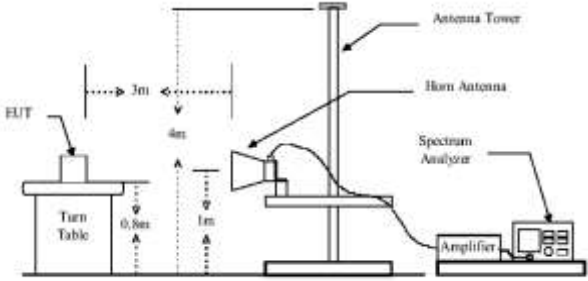
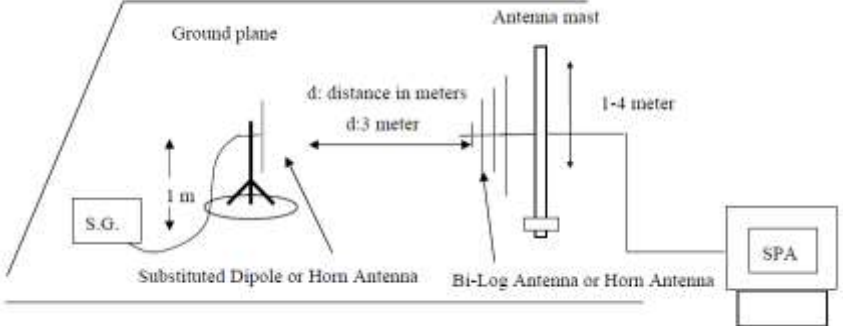
Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
2535.00	21100	QPSK	20	H	V	13.76	33.00	Pass
					H	10.52		
2535.00	21100	16QAM	20	H	V	13.98		
					H	10.44		
20MHz(RB size 50 & RB offset 0)								
2535.00	21100	QPSK	20	H	V	12.83	33.00	Pass
					H	9.47		
2535.00	21100	16QAM	20	H	V	13.02		
					H	9.64		
20MHz(RB size 100 & RB offset 0)								
2535.00	21100	QPSK	20	H	V	12.79	33.00	Pass
					H	8.54		
2535.00	21100	16QAM	20	H	V	12.36		
					H	8.42		

High channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
2560.00	21350	QPSK	20	H	V	13.74	33.00	Pass
					H	10.48		
2560.00	21350	16QAM	20	H	V	13.87		
					H	10.32		
20MHz(RB size 50 & RB offset 0)								
2560.00	21350	QPSK	20	H	V	12.86	33.00	Pass
					H	9.52		
2560.00	21350	16QAM	20	H	V	13.06		
					H	9.57		
20MHz(RB size 100 & RB offset 0)								
2560.00	21350	QPSK	20	H	V	12.89	33.00	Pass
					H	8.67		
2560.00	21350	16QAM	20	H	V	12.35		
					H	8.46		

6.11 Field strength of spurious radiation measurement

Test Requirement:	Part 24.238 (a), Part 27.53(m), Part 27.53(h)
Test Method:	FCC part2.1053
Limit:	LTE Band 2, LTE Band 4: -13dBm, LTE Band 7: -25dBm
Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p>  <p>Substituted method:</p> 
Test Procedure:	<ol style="list-style-type: none"> 1. 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. 3. 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

	<p>was determined using the substitution method.</p> <p>4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.</p> $\text{ERP / EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed

Measurement Data (worst case):

Below 1GHz:

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

Above 1GHz

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

LTE band 2 part:

1.4MHz(RB size 1 & RB offset 0) for QPSK

Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3701.40	Vertical	-34.27	-13.00	Pass
5552.10	V	-38.00		
7402.00	V	-39.46		
3701.40	Horizontal	-39.62		
5552.10	H	-35.99		
7402.00	H	-38.98		
Middle				
3760.00	Vertical	-36.35	-13.00	Pass
5640.00	V	-43.24		
7520.00	V	-42.00		
3760.00	Horizontal	-44.16		
5640.00	H	-44.66		
7520.00	H	-41.82		
Highest				
3816.60	Vertical	-38.91	-13.00	Pass
5724.90	V	-36.58		
7633.20	V	-40.87		
3816.60	Horizontal	-46.18		
5724.90	H	-39.83		
7633.20	H	-39.87		

3MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3703.00	Vertical	-35.87	-13.00	Pass
5554.50	V	-45.71		
7406.00	V	-41.09		
3703.00	Horizontal	-40.46		
5554.50	H	-39.37		
7406.00	H	-39.32		
Middle				
3760.00	Vertical	-38.52	-13.00	Pass
5640.00	V	-44.21		
7520.00	V	-41.33		
3760.00	Horizontal	-43.92		
5640.00	H	-39.35		
7520.00	H	-40.27		
Highest				
3817.00	Vertical	-38.99	-13.00	Pass
5725.50	V	-44.06		
7634.00	V	-40.51		
3817.00	Horizontal	-45.44		
5725.50	H	-37.81		
7634.00	H	-38.29		

5MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3705.00	Vertical	-34.29	-13.00	Pass
5557.50	V	-38.02		
7410.00	V	-39.54		
3705.00	Horizontal	-39.51		
5557.50	H	-35.56		
7410.00	H	-38.99		
Middle				
3760.00	Vertical	-36.52	-13.00	Pass
5640.00	V	-43.21		
7520.00	V	-42.07		
3760.00	Horizontal	-44.18		
5640.00	H	-44.64		
7520.00	H	-41.83		
Highest				
3815.00	Vertical	-38.96	-13.00	Pass
5722.50	V	-36.62		
7630.00	V	-40.89		
3815.00	Horizontal	-46.21		
5722.50	H	-39.84		
7630.00	H	-39.88		

10MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3710.00	Vertical	-35.82	-13.00	Pass
5565.00	V	-45.46		
7420.00	V	-41.06		
3710.00	Horizontal	-40.44		
5565.00	H	-39.42		
7420.00	H	-39.35		
Middle				
3760.00	Vertical	-38.46	-13.00	Pass
5640.00	V	-44.45		
7520.00	V	-41.37		
3760.00	Horizontal	-43.89		
5640.00	H	-39.31		
7520.00	H	-40.26		
Highest				
3810.00	Vertical	-38.96	-13.00	Pass
5715.00	V	-44.09		
7620.00	V	-40.57		
3810.00	Horizontal	-45.49		
5715.00	H	-37.86		
7620.00	H	-38.32		

15MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3715.00	Vertical	-34.25	-13.00	Pass
5572.50	V	-38.06		
7430.00	V	-39.51		
3715.00	Horizontal	-39.46		
5572.50	H	-35.52		
7430.00	H	-38.87		
Middle				
3760.00	Vertical	-36.42	-13.00	Pass
5640.00	V	-43.26		
7520.00	V	-42.00		
3760.00	Horizontal	-44.21		
5640.00	H	-44.53		
7520.00	H	-41.85		
Highest				
3805.00	Vertical	-38.98	-13.00	Pass
5707.50	V	-36.61		
7610.00	V	-40.87		
3805.00	Horizontal	-46.23		
5707.50	H	-39.82		
7610.00	H	-39.84		

20MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3720.00	Vertical	-35.74	-13.00	Pass
5580.00	V	-45.44		
7440.00	V	-41.01		
3720.00	Horizontal	-40.47		
5580.00	H	-39.40		
7440.00	H	-39.40		
Middle				
3760.00	Vertical	-38.48	-13.00	Pass
5640.00	V	-44.39		
7520.00	V	-41.43		
3760.00	Horizontal	-43.85		
5640.00	H	-39.34		
7520.00	H	-40.22		
Highest				
3800.00	Vertical	-38.95	-13.00	Pass
5700.00	V	-44.12		
7600.00	V	-40.62		
3800.00	Horizontal	-45.42		
5700.00	H	-37.82		
7600.00	H	-38.28		

LTE Band 4 Part:

1.4MHz(RB size 1 & RB offset 0) for QPSK

Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3421.40	Vertical	-51.11	-13.00	Pass
5132.10	V	-46.62		
6842.80	V	-40.32		
3421.40	Horizontal	-51.21		
5132.10	H	-46.61		
6842.80	H	-40.79		
Middle				
3465.00	Vertical	-49.35	-13.00	Pass
5197.50	V	-44.88		
6930.00	V	-39.25		
3465.00	Horizontal	-50.55		
5197.50	H	-45.18		
6930.00	H	-40.45		
Highest				
3508.60	Vertical	-46.17	-13.00	Pass
5262.90	V	-44.80		
7017.20	V	-40.02		
3508.60	Horizontal	-48.52		
5262.90	H	-43.99		
7017.20	H	-39.86		

3MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3423.00	Vertical	-48.77	-13.00	Pass
5134.50	V	-44.58		
6846.00	V	-40.21		
3423.00	Horizontal	-50.06		
5134.50	H	-43.95		
6846.00	H	-40.53		
Middle				
3465.00	Vertical	-51.36	-13.00	Pass
5197.50	V	-46.08		
6930.00	V	-39.76		
3465.00	Horizontal	-48.82		
5197.50	H	-45.12		
6930.00	H	-38.86		
Highest				
3507.00	Vertical	-49.58	-13.00	Pass
5260.50	V	-46.82		
7014.00	V	-39.75		
3507.00	Horizontal	-50.81		
5260.50	H	-46.89		
7014.00	H	-38.84		

5MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3425.00	Vertical	-51.16	-13.00	Pass
5137.50	V	-46.64		
6850.00	V	-40.39		
3425.00	Horizontal	-51.23		
5137.50	H	-46.63		
6850.00	H	-40.77		
Middle				
3465.00	Vertical	-49.38	-13.00	Pass
5197.50	V	-44.89		
6930.00	V	-39.26		
3465.00	Horizontal	-50.58		
5197.50	H	-45.21		
6930.00	H	-40.59		
Highest				
3505.00	Vertical	-46.18	-13.00	Pass
5257.50	V	-44.82		
7010.00	V	-40.05		
3505.00	Horizontal	-48.62		
5257.50	H	-43.86		
7010.00	H	-39.87		

10MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3430.00	Vertical	-48.76	-13.00	Pass
5145.00	V	-44.51		
6860.00	V	-40.15		
3430.00	Horizontal	-50.02		
5145.00	H	-43.97		
6860.00	H	-40.61		
Middle				
3465.00	Vertical	-51.34	-13.00	Pass
5197.50	V	-46.05		
6930.00	V	-39.72		
3465.00	Horizontal	-48.86		
5197.50	H	-45.07		
6930.00	H	-38.82		
Highest				
3500.00	Vertical	-49.62	-13.00	Pass
5250.00	V	-46.87		
7000.00	V	-39.71		
3500.00	Horizontal	-50.76		
5250.00	H	-46.85		
7000.00	H	-38.81		

15MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3435.00	Vertical	-51.26	-13.00	Pass
5152.50	V	-46.67		
6870.00	V	-40.31		
3435.00	Horizontal	-51.26		
5152.50	H	-46.65		
6870.00	H	-40.79		
Middle				
3465.00	Vertical	-49.34	-13.00	Pass
5197.50	V	-44.87		
6930.00	V	-39.25		
3465.00	Horizontal	-50.52		
5197.50	H	-45.17		
6930.00	H	-40.53		
Highest				
3495.00	Vertical	-46.14	-13.00	Pass
5242.50	V	-44.86		
6990.00	V	-40.02		
3495.00	Horizontal	-48.62		
5242.50	H	-43.89		
6990.00	H	-39.85		

20MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3440.00	Vertical	-48.73	-13.00	Pass
5160.00	V	-44.56		
6880.00	V	-40.13		
3440.00	Horizontal	-50.04		
5160.00	H	-43.95		
6880.00	H	-40.62		
Middle				
3465.00	Vertical	-51.36	-13.00	Pass
5197.50	V	-46.01		
6930.00	V	-39.68		
3465.00	Horizontal	-48.86		
5197.50	H	-45.08		
6930.00	H	-38.88		
Highest				
3490.00	Vertical	-49.59	-13.00	Pass
5235.00	V	-46.84		
6980.00	V	-39.77		
3490.00	Horizontal	-50.73		
5235.00	H	-46.83		
6980.00	H	-38.82		

LTE Band 7 Part:

5MHz(RB size 1 & RB offset 0) for QPSK

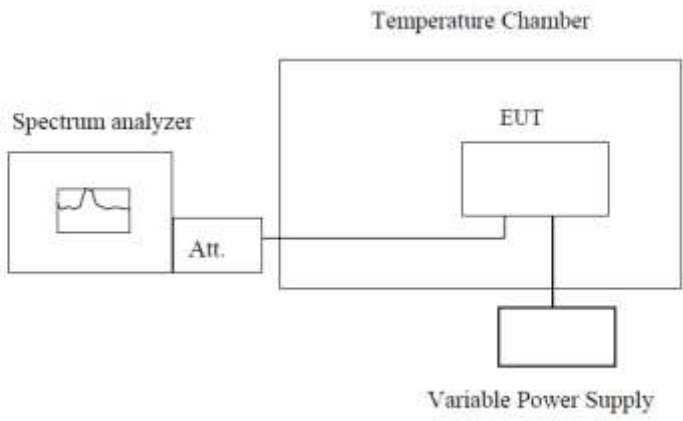
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
5005.00	Vertical	-47.14	-25.00	Pass
7507.50	V	-40.69		
10010.00	V	-40.01		
5005.00	Horizontal	-46.51		
7507.50	H	-39.11		
10010.00	H	-39.07		
Middle				
5070.00	Vertical	-45.19	-25.00	Pass
7605.00	V	-39.22		
10140.00	V	-37.66		
5070.00	Horizontal	-46.99		
7605.00	H	-39.40		
10140.00	H	-36.87		
Highest				
5135.00	Vertical	-46.22	-25.00	Pass
7702.50	V	-39.74		
10270.00	V	-38.46		
5135.00	Horizontal	-46.81		
7702.50	H	-39.73		
10270.00	H	-38.84		

10MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
5010.00	Vertical	-46.29	-25.00	Pass
7515.00	V	-41.06		
10020.00	V	-42.15		
5010.00	Horizontal	-45.37		
7515.00	H	-40.35		
10020.00	H	-39.06		
Middle				
5070.00	Vertical	-46.92	-25.00	Pass
7605.00	V	-38.78		
10140.00	V	-36.83		
5070.00	Horizontal	-46.85		
7605.00	H	-40.27		
10140.00	H	-37.49		
Highest				
5130.00	Vertical	-46.23	-25.00	Pass
7695.00	V	-40.15		
10260.00	V	-38.58		
5130.00	Horizontal	-44.79		
7695.00	H	-39.68		
10260.00	H	-37.79		

15MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
5015.00	Vertical	-47.11	-25.00	Pass
7522.50	V	-40.64		
10030.00	V	-40.05		
5015.00	Horizontal	-46.48		
7522.50	H	-39.16		
10030.00	H	-39.11		
Middle				
5070.00	Vertical	-45.23	-25.00	Pass
7605.00	V	-38.26		
10140.00	V	-37.61		
5070.00	Horizontal	-46.97		
7605.00	H	-39.42		
10140.00	H	-36.85		
Highest				
5125.00	Vertical	-46.27	-25.00	Pass
7687.50	V	-39.76		
10250.00	V	-38.52		
5125.00	Horizontal	-46.83		
7687.50	H	-39.76		
10250.00	H	-38.81		

20MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
5020.00	Vertical	-46.24	-25.00	Pass
7530.00	V	-41.05		
10040.00	V	-42.08		
5020.00	Horizontal	-45.38		
7530.00	H	-40.36		
10040.00	H	-39.00		
Middle				
5070.00	Vertical	-46.99	-25.00	Pass
7605.00	V	-39.77		
10140.00	V	-36.90		
5070.00	Horizontal	-46.88		
7605.00	H	-40.36		
10140.00	H	-37.51		
Highest				
5120.00	Vertical	-46.18	-25.00	Pass
7680.00	V	-40.11		
10240.00	V	-38.61		
5120.00	Horizontal	-44.81		
7680.00	H	-39.72		
10240.00	H	-37.76		

6.12 Frequency stability V.S. Temperature measurement

Test Requirement:	Part 24.235, Part 27.54, Part 2.1055(a)(1)(b)
Test Method:	FCC Part2.1055(a)(1)(b)
Limit:	±2.5ppm
Test setup:	 <p>Note : Measurement setup for testing on Antenna connector</p>
Test procedure:	<ol style="list-style-type: none"> 1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	All three channels of all modulations have been tested, but only the worst channel and the worst modulation show in this test item.

Measurement Data (the worst channel):

LTE Band 2(QPSK):

Reference Frequency: LTE Band 2(1.4MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	175	0.093085	±2.5	Pass
	-20	160	0.085106		
	-10	144	0.076596		
	0	102	0.054255		
	10	163	0.086702		
	20	151	0.080319		
	30	142	0.075532		
	40	130	0.069149		
	50	125	0.066489		
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	174	0.092553	±2.5	Pass
	-20	166	0.088298		
	-10	125	0.066489		
	0	130	0.069149		
	10	141	0.075000		
	20	105	0.055851		
	30	128	0.068085		
	40	136	0.072340		
	50	159	0.084574		
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	170	0.090426	±2.5	Pass
	-20	163	0.086702		
	-10	145	0.077128		
	0	128	0.068085		
	10	162	0.086170		
	20	128	0.068085		
	30	135	0.071809		
	40	149	0.079255		
	50	158	0.084043		

Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	136	0.072340	±2.5	Pass
	-20	152	0.080851		
	-10	142	0.075532		
	0	105	0.055851		
	10	126	0.067021		
	20	138	0.073404		
	30	146	0.077660		
	40	125	0.066489		
	50	109	0.057979		
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	174	0.092553	±2.5	Pass
	-20	163	0.086702		
	-10	125	0.066489		
	0	142	0.075532		
	10	105	0.055851		
	20	138	0.073404		
	30	147	0.078191		
	40	156	0.082979		
	50	138	0.073404		
Reference Frequency: LTE Band 2(20MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	185	0.098404	±2.5	Pass
	-20	125	0.066489		
	-10	163	0.086702		
	0	142	0.075532		
	10	155	0.082447		
	20	167	0.088830		
	30	135	0.071809		
	40	148	0.078723		
	50	159	0.084574		

LTE Band 2(16QAM):

Reference Frequency: LTE Band 2(1.4MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	168	0.089362	±2.5	Pass
	-20	170	0.090426		
	-10	152	0.080851		
	0	136	0.072340		
	10	146	0.077660		
	20	156	0.082979		
	30	146	0.077660		
	40	149	0.079255		
	50	128	0.068085		
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	171	0.090957	±2.5	Pass
	-20	129	0.068617		
	-10	163	0.086702		
	0	142	0.075532		
	10	158	0.084043		
	20	138	0.073404		
	30	174	0.092553		
	40	125	0.066489		
	50	156	0.082979		
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	162	0.086170	±2.5	Pass
	-20	142	0.075532		
	-10	135	0.071809		
	0	105	0.055851		
	10	126	0.067021		
	20	142	0.075532		
	30	190	0.101064		
	40	156	0.082979		
	50	174	0.092553		

Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	156	0.082979	±2.5	Pass
	-20	174	0.092553		
	-10	135	0.071809		
	0	146	0.077660		
	10	185	0.098404		
	20	158	0.084043		
	30	162	0.086170		
	40	155	0.082447		
	50	136	0.072340		
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	174	0.092553	±2.5	Pass
	-20	125	0.066489		
	-10	163	0.086702		
	0	108	0.057447		
	10	142	0.075532		
	20	135	0.071809		
	30	126	0.067021		
	40	145	0.077128		
	50	140	0.074468		
Reference Frequency: LTE Band 2(20MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	177	0.094149	±2.5	Pass
	-20	162	0.086170		
	-10	148	0.078723		
	0	152	0.080851		
	10	143	0.076064		
	20	125	0.066489		
	30	156	0.082979		
	40	185	0.098404		
	50	190	0.101064		

LTE Band 4(QPSK):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	166	0.095815	±2.5	Pass
	-20	125	0.072150		
	-10	136	0.078499		
	0	155	0.089466		
	10	142	0.081962		
	20	112	0.064646		
	30	106	0.061183		
	40	147	0.084848		
	50	125	0.072150		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	142	0.081962	±2.5	Pass
	-20	136	0.078499		
	-10	152	0.087734		
	0	158	0.091198		
	10	140	0.080808		
	20	136	0.078499		
	30	145	0.083694		
	40	122	0.070418		
	50	108	0.062338		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	177	0.102165	±2.5	Pass
	-20	156	0.090043		
	-10	143	0.082540		
	0	135	0.077922		
	10	142	0.081962		
	20	162	0.093506		
	30	141	0.081385		
	40	125	0.072150		
	50	136	0.078499		

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	175	0.101010	±2.5	Pass
	-20	163	0.094084		
	-10	152	0.087734		
	0	145	0.083694		
	10	129	0.074459		
	20	187	0.107937		
	30	176	0.101587		
	40	135	0.077922		
	50	125	0.072150		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	163	0.094084	±2.5	Pass
	-20	181	0.104473		
	-10	149	0.086003		
	0	128	0.073882		
	10	163	0.094084		
	20	155	0.089466		
	30	170	0.098124		
	40	129	0.074459		
	50	142	0.081962		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	185	0.106782	±2.5	Pass
	-20	136	0.078499		
	-10	142	0.081962		
	0	162	0.093506		
	10	174	0.100433		
	20	158	0.091198		
	30	143	0.082540		
	40	105	0.060606		
	50	122	0.070418		

LTE Band 4(16QAM):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	136	0.078499	±2.5	Pass
	-20	125	0.072150		
	-10	140	0.080808		
	0	121	0.069841		
	10	142	0.081962		
	20	144	0.083117		
	30	153	0.088312		
	40	163	0.094084		
	50	147	0.084848		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	162	0.093506	±2.5	Pass
	-20	108	0.062338		
	-10	122	0.070418		
	0	136	0.078499		
	10	162	0.093506		
	20	141	0.081385		
	30	144	0.083117		
	40	136	0.078499		
	50	150	0.086580		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	174	0.100433	±2.5	Pass
	-20	162	0.093506		
	-10	135	0.077922		
	0	140	0.080808		
	10	162	0.093506		
	20	108	0.062338		
	30	135	0.077922		
	40	142	0.081962		
	50	181	0.104473		

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	174	0.100433	±2.5	Pass
	-20	136	0.078499		
	-10	125	0.072150		
	0	136	0.078499		
	10	142	0.081962		
	20	152	0.087734		
	30	146	0.084271		
	40	155	0.089466		
	50	126	0.072727		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	167	0.096392	±2.5	Pass
	-20	152	0.087734		
	-10	134	0.077345		
	0	105	0.060606		
	10	126	0.072727		
	20	114	0.065801		
	30	158	0.091198		
	40	160	0.092352		
	50	129	0.074459		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	147	0.084848	±2.5	Pass
	-20	103	0.059452		
	-10	126	0.072727		
	0	153	0.088312		
	10	101	0.058297		
	20	123	0.070996		
	30	152	0.087734		
	40	106	0.061183		
	50	124	0.071573		

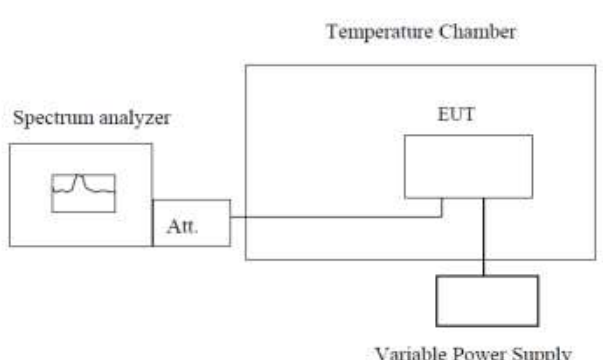
LTE Band 7(QPSK):

Reference Frequency: LTE Band 7(5MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	168	0.066272	±2.5	Pass
	-20	102	0.040237		
	-10	122	0.048126		
	0	136	0.053649		
	10	163	0.064300		
	20	152	0.059961		
	30	142	0.056016		
	40	108	0.042604		
	50	162	0.063905		
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	142	0.056016	±2.5	Pass
	-20	103	0.040631		
	-10	125	0.049310		
	0	136	0.053649		
	10	141	0.055621		
	20	133	0.052465		
	30	105	0.041420		
	40	126	0.049704		
	50	126	0.049704		
Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	141	0.055621	±2.5	Pass
	-20	105	0.041420		
	-10	126	0.049704		
	0	138	0.054438		
	10	152	0.059961		
	20	116	0.045759		
	30	124	0.048915		
	40	108	0.042604		
	50	162	0.063905		
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	174	0.068639	±2.5	Pass
	-20	125	0.049310		
	-10	136	0.053649		
	0	169	0.066667		
	10	152	0.059961		
	20	142	0.056016		
	30	152	0.059961		
	40	160	0.063116		
	50	135	0.053254		

LTE Band 7(16QAM):

Reference Frequency: LTE Band 7(5MHz) Middle channel=21100Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	142	0.056016	±2.5	Pass
	-20	102	0.040237		
	-10	136	0.053649		
	0	152	0.059961		
	10	141	0.055621		
	20	102	0.040237		
	30	125	0.049310		
	40	160	0.063116		
	50	141	0.055621		
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	152	0.059961	±2.5	Pass
	-20	123	0.048521		
	-10	141	0.055621		
	0	105	0.041420		
	10	122	0.048126		
	20	135	0.053254		
	30	142	0.056016		
	40	102	0.040237		
	50	162	0.063905		
Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	142	0.056016	2.5	Pass
	-20	125	0.049310		
	-10	136	0.053649		
	0	125	0.049310		
	10	150	0.059172		
	20	141	0.055621		
	30	102	0.040237		
	40	132	0.052071		
	50	152	0.059961		
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	145	0.057199	2.5	Pass
	-20	126	0.049704		
	-10	150	0.059172		
	0	125	0.049310		
	10	145	0.057199		
	20	126	0.049704		
	30	142	0.056016		
	40	125	0.049310		
	50	132	0.052071		

6.13 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 24.235, Part 27.54, Part 2.1055(d)(2)
Test Method:	FCC Part2.1055(d)(1)(2)
Limit:	2.5ppm
Test setup:	 <p style="text-align: center;">Note : Measurement setup for testing on Antenna connector</p>
Test procedure:	<ol style="list-style-type: none"> 1. Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details, and all channels have been tested, only shows the worst channel data in this report.
Test results:	Passed

Measurement Data (the worst channel):
LTE Band 2(QPSK):

Reference Frequency: LTE Band 2(1.4MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	96	0.051064	±2.5	Pass
	3.80	87	0.046277		
	3.55	69	0.036702		
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	75	0.039894	±2.5	Pass
	3.80	85	0.045213		
	3.55	64	0.034043		
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.039362	±2.5	Pass
	3.80	62	0.032979		
	3.55	50	0.026596		
Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.039362	±2.5	Pass
	3.80	52	0.027660		
	3.55	36	0.019149		
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.039362	±2.5	Pass
	3.80	85	0.045213		
	3.55	65	0.034574		
Reference Frequency: LTE Band 2(20MHz) Middle channel=20175 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.039362	±2.5	Pass
	3.80	88	0.046809		
	3.55	69	0.036702		

LTE Band 2(16QAM):

Reference Frequency: LTE Band 2(1.4MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.039362	±2.5	Pass
	3.80	85	0.045213		
	3.55	88	0.046809		
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.039362	±2.5	Pass
	3.80	96	0.051064		
	3.55	85	0.045213		
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	77	0.040957	±2.5	Pass
	3.80	68	0.036170		
	3.55	96	0.051064		
Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	71	0.037766	±2.5	Pass
	3.80	85	0.045213		
	3.55	67	0.035638		
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	75	0.039894	±2.5	Pass
	3.80	88	0.046809		
	3.55	89	0.047340		
Reference Frequency: LTE Band 2(20MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	75	0.039894	±2.5	Pass
	3.80	65	0.034574		
	3.55	71	0.037766		

LTE Band 4(QPSK):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	88	0.050794	±2.5	Pass
	3.80	76	0.043867		
	3.55	96	0.055411		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	78	0.045022	±2.5	Pass
	3.80	85	0.049062		
	3.55	68	0.039250		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.042713	±2.5	Pass
	3.80	88	0.050794		
	3.55	87	0.050216		
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	86	0.049639	±2.5	Pass
	3.80	95	0.054834		
	3.55	85	0.049062		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.042713	±2.5	Pass
	3.80	85	0.049062		
	3.55	74	0.042713		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	77	0.044444	±2.5	Pass
	3.80	85	0.049062		
	3.55	91	0.052525		

LTE Band 4(16QAM):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.042713	±2.5	Pass
	3.80	80	0.046176		
	3.55	68	0.039250		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.042713	±2.5	Pass
	3.80	82	0.047330		
	3.55	78	0.045022		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	90	0.051948	±2.5	Pass
	3.80	78	0.045022		
	3.55	70	0.040404		
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	68	0.039250	±2.5	Pass
	3.80	74	0.042713		
	3.55	88	0.050794		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.042713	±2.5	Pass
	3.80	65	0.037518		
	3.55	85	0.049062		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	74	0.042713	±2.5	Pass
	3.80	96	0.055411		
	3.55	85	0.049062		

LTE Band 7(QPSK):

Reference Frequency: LTE Band 7(5MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	87	0.034320	±2.5	Pass
	3.80	90	0.035503		
	3.55	85	0.033531		
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	67	0.026430	±2.5	Pass
	3.80	80	0.031558		
	3.55	74	0.029191		
Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	88	0.034714	±2.5	Pass
	3.80	65	0.025641		
	3.55	85	0.033531		
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	78	0.030769	±2.5	Pass
	3.80	75	0.029586		
	3.55	90	0.035503		

LTE Band 7(16QAM):

Reference Frequency: LTE Band 7(5MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	85	0.033531	±2.5	Pass
	3.80	75	0.029586		
	3.55	63	0.024852		
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	84	0.033136	±2.5	Pass
	3.80	95	0.037475		
	3.55	74	0.029191		
Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	85	0.033531	±2.5	Pass
	3.80	76	0.029980		
	3.55	90	0.035503		
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.35	85	0.033531	±2.5	Pass
	3.80	74	0.029191		
	3.55	85	0.033531		