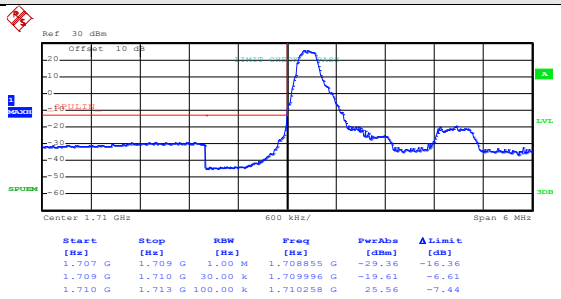
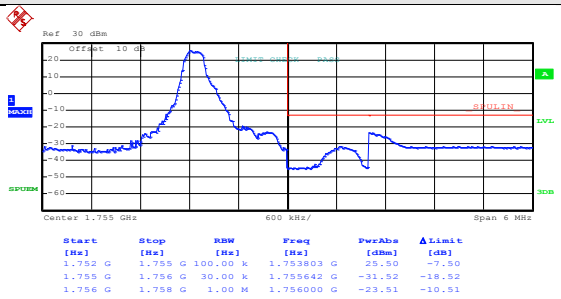
LTE band 4 part:1.4MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 20:38:53

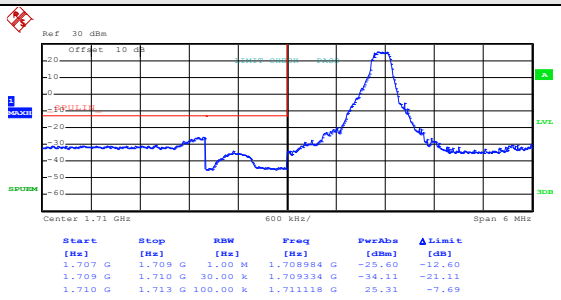
Lowest channel



Date: 22.FEB.2017 20:41:59

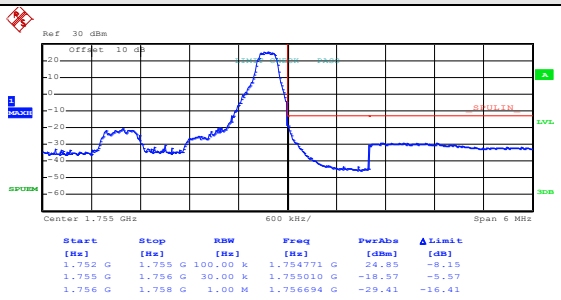
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 5)



Date: 22.FEB.2017 20:39:18

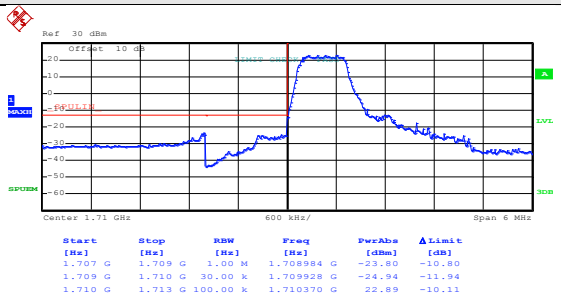
Lowest channel



Date: 22.FEB.2017 20:42:27

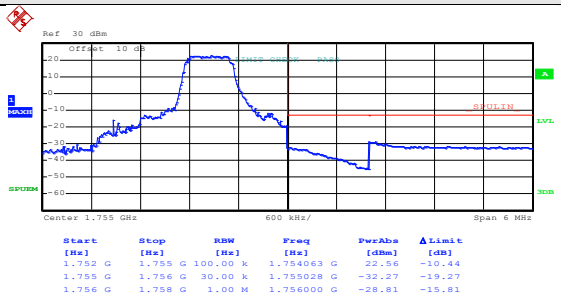
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 3 & RB Offset 0)



Date: 22.FEB.2017 20:40:11

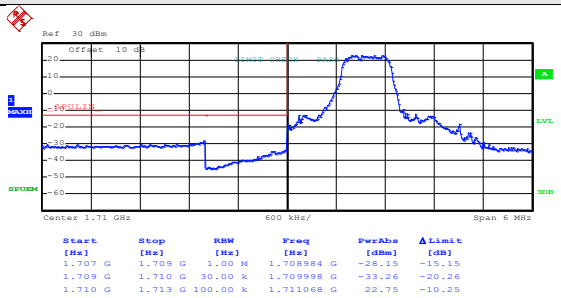
Lowest channel



Date: 22.FEB.2017 20:43:00

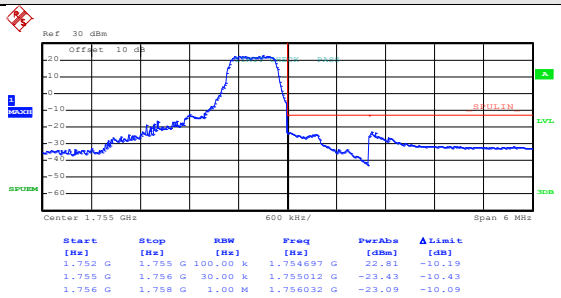
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 3 & RB Offset 2)



Date: 22.FEB.2017 20:40:37

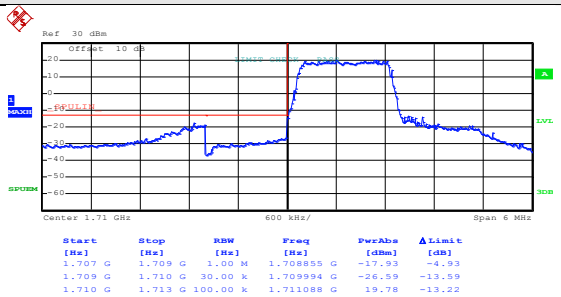
Lowest channel



Date: 22.FEB.2017 20:43:26

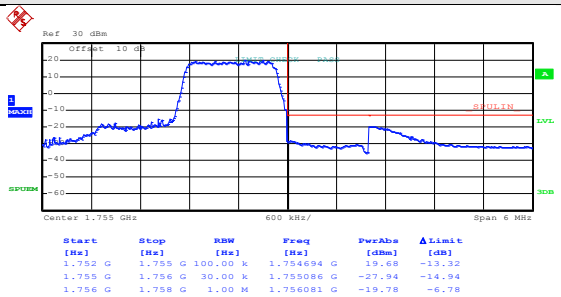
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 6 & RB Offset 0)



Date: 22.FEB.2017 20:41:06

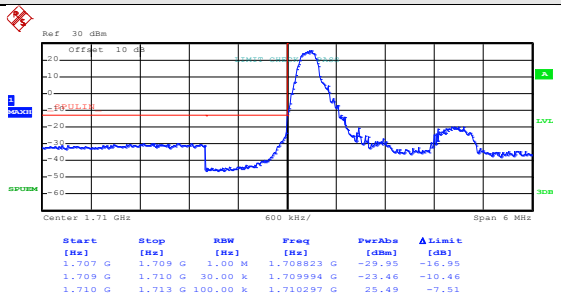
Lowest channel



Date: 22.FEB.2017 20:43:54

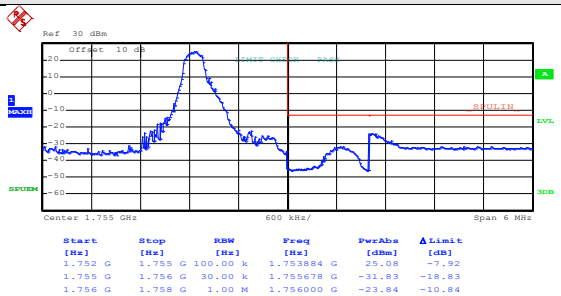
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 20:39:04

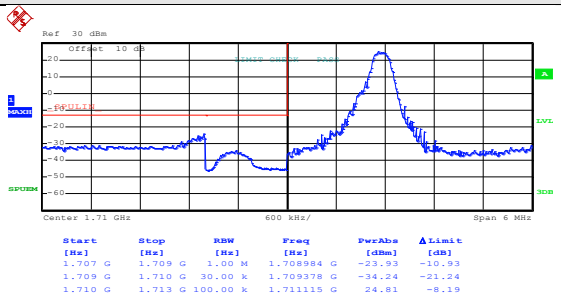
Lowest channel



Date: 22.FEB.2017 20:42:14

Highest channel

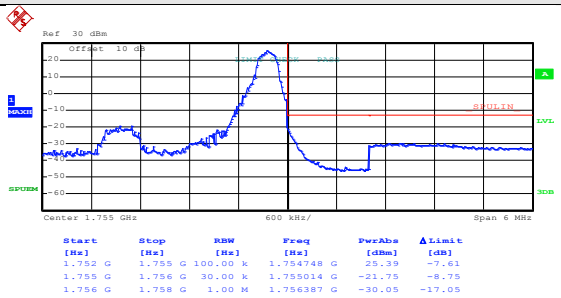
Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 5)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.707 G	1.709 G	1.00 M	1.708984 G	-23.93	-10.93
1.709 G	1.710 G	30.00 k	1.709378 G	-34.24	-21.24
1.710 G	1.713 G	100.00 k	1.711115 G	24.81	-8.19

Date: 22.FEB.2017 20:39:30

Lowest channel

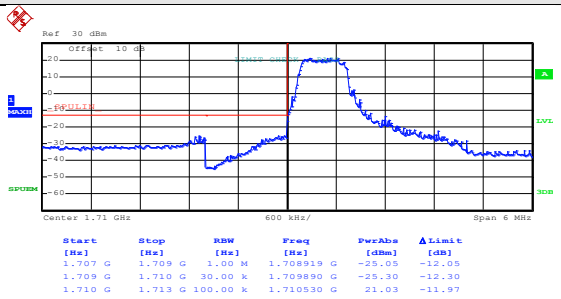


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.752 G	1.755 G	100.00 k	1.754748 G	25.39	-7.61
1.755 G	1.756 G	30.00 k	1.755014 G	-21.75	-8.75
1.756 G	1.758 G	1.00 M	1.756387 G	-30.05	-17.05

Date: 22.FEB.2017 20:42:38

Highest channel

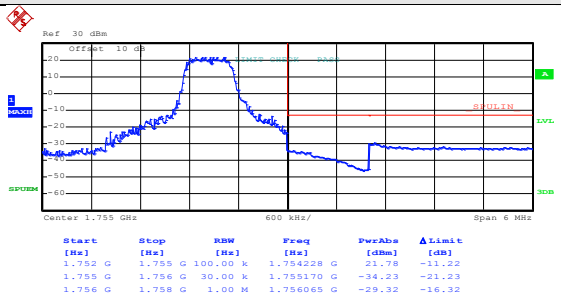
Test Mode:	LTE band 4(16QAM RB Size 3 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.707 G	1.709 G	1.00 M	1.708919 G	-25.05	-12.05
1.709 G	1.710 G	30.00 k	1.709890 G	-25.30	-12.30
1.710 G	1.713 G	100.00 k	1.710530 G	21.03	-11.97

Date: 22.FEB.2017 20:40:20

Lowest channel

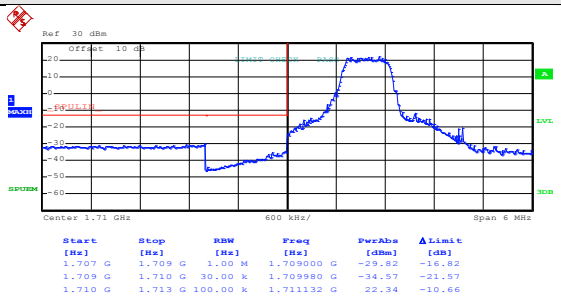


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.752 G	1.755 G	100.00 k	1.754228 G	21.78	-11.22
1.755 G	1.756 G	30.00 k	1.755170 G	-34.23	-21.23
1.756 G	1.758 G	1.00 M	1.756065 G	-29.32	-16.32

Date: 22.FEB.2017 20:43:11

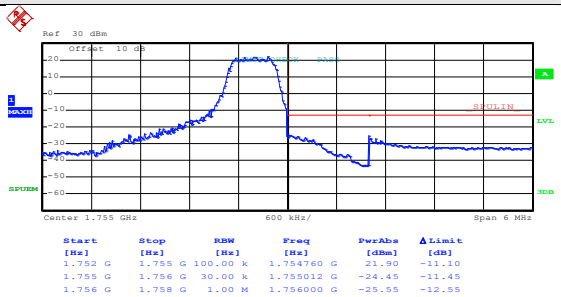
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 3 & RB Offset 2)



Date: 22.FEB.2017 20:40:48

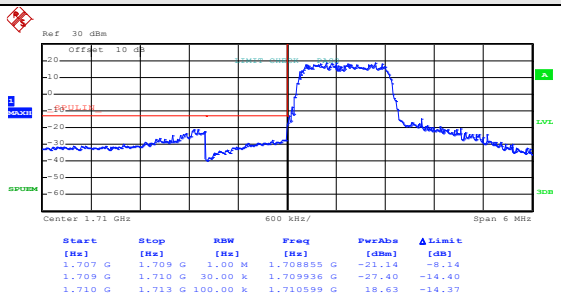
Lowest channel



Date: 22.FEB.2017 20:43:39

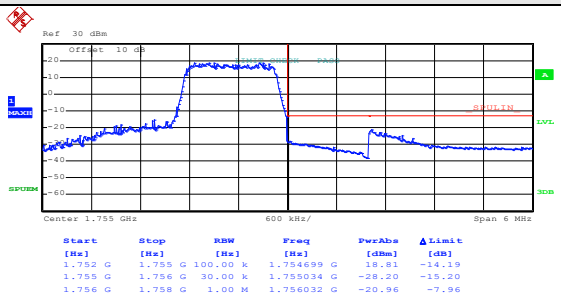
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 6 & RB Offset 0)



Date: 22.FEB.2017 20:41:13

Lowest channel

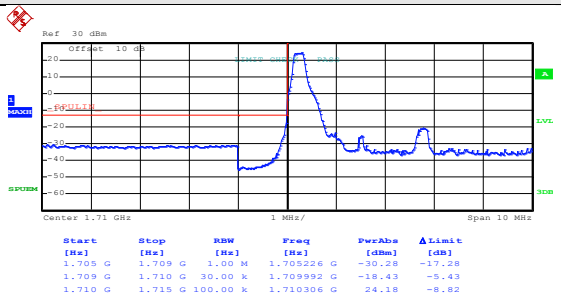


Date: 22.FEB.2017 20:44:02

Highest channel

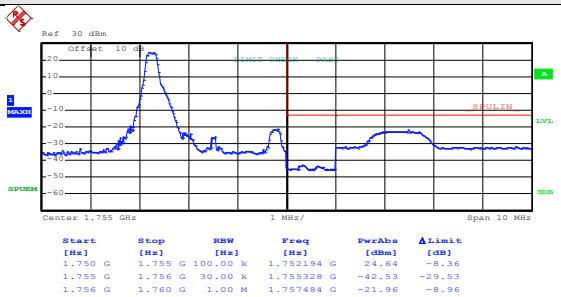
3MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 20:49:36

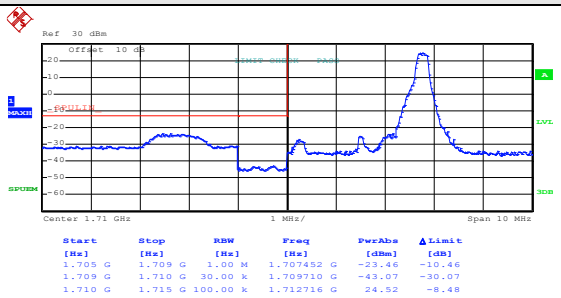
Lowest channel



Date: 22.FEB.2017 20:52:47

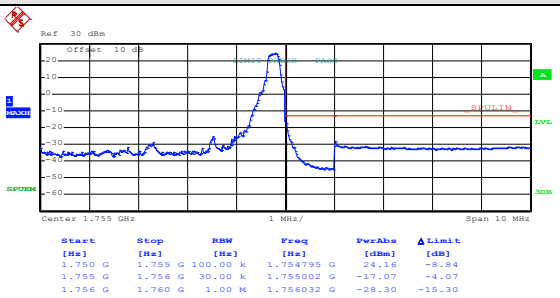
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 14)



Date: 22.FEB.2017 20:50:10

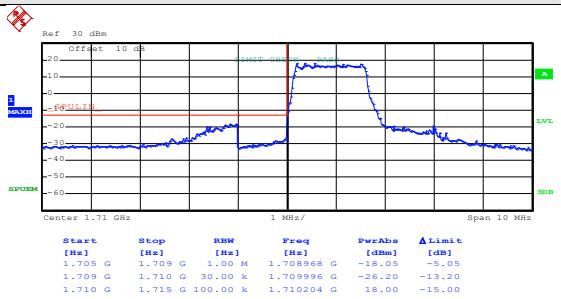
Lowest channel



Date: 22.FEB.2017 20:53:10

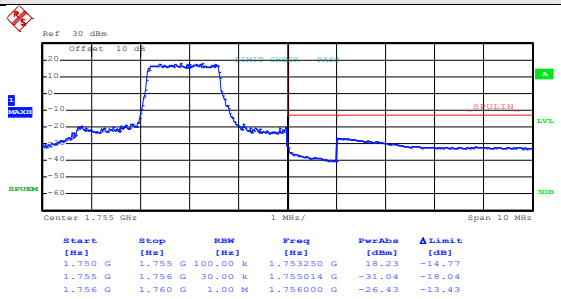
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 8 & RB Offset 0)



Date: 22.FEB.2017 20:50:48

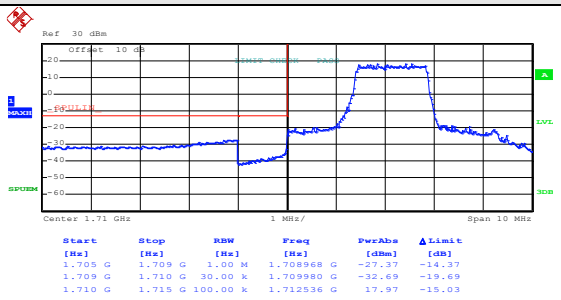
Lowest channel



Date: 22.FEB.2017 20:53:44

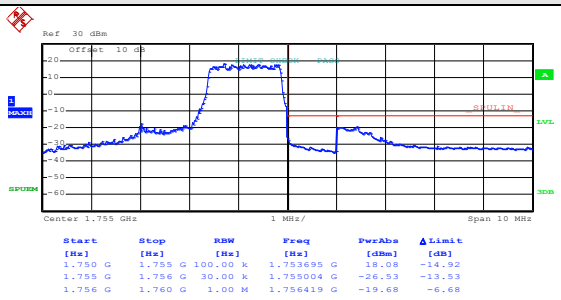
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 8 & RB Offset 7)



Date: 22.FEB.2017 20:51:17

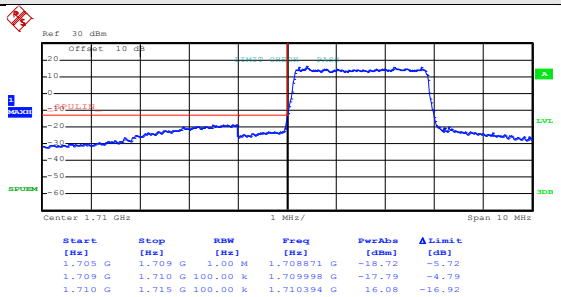
Lowest channel



Date: 22.FEB.2017 20:54:08

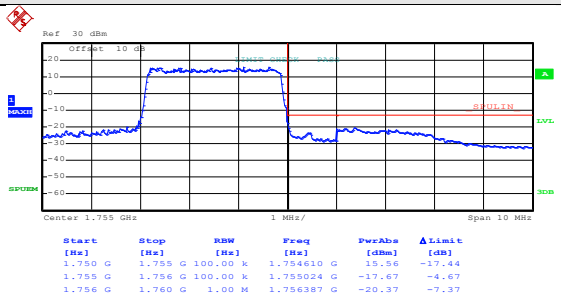
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 15 & RB Offset 0)



Date: 22.FEB.2017 20:51:56

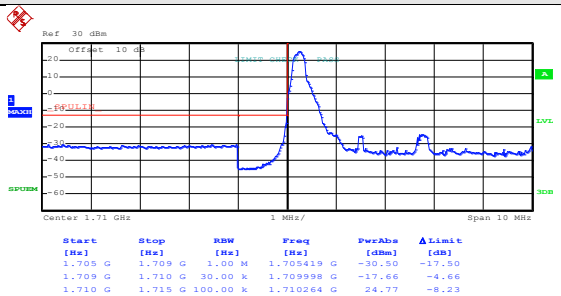
Lowest channel



Date: 22.FEB.2017 20:55:08

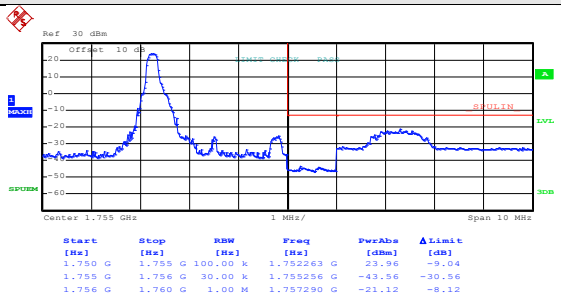
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 20:49:52

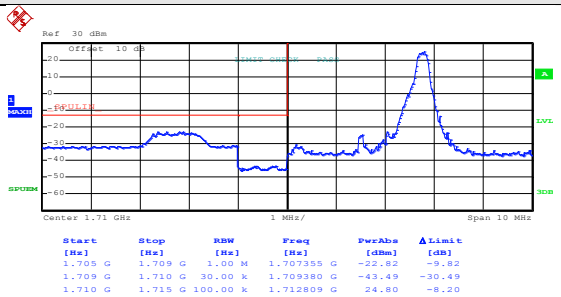
Lowest channel



Date: 22.FEB.2017 20:52:55

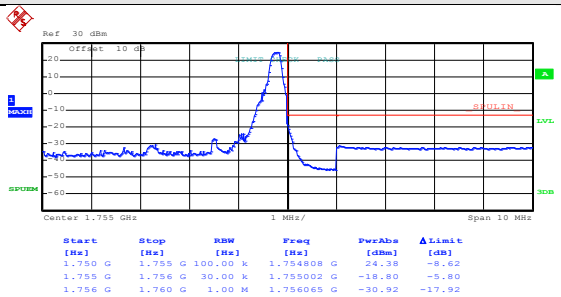
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 14)



Date: 22.FEB.2017 20:50:23

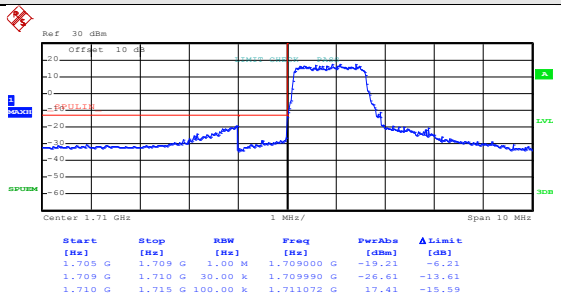
Lowest channel



Date: 22.FEB.2017 20:53:21

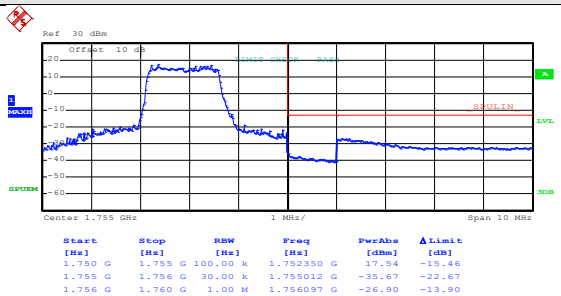
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 8 & RB Offset 0)



Date: 22.FEB.2017 20:51:00

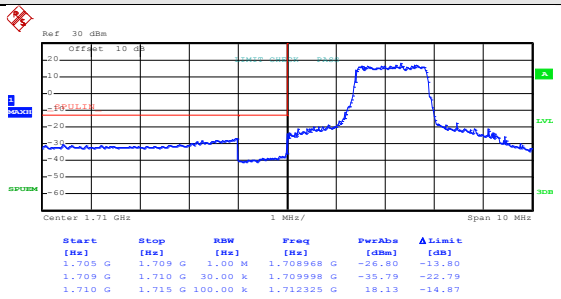
Lowest channel



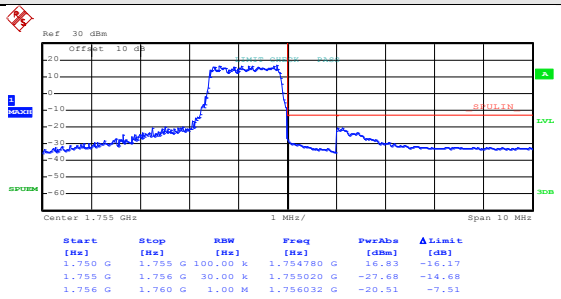
Date: 22.FEB.2017 20:53:54

Highest channel

Test Mode:	LTE band 4(16QAM RB Size 8 & RB Offset 7)

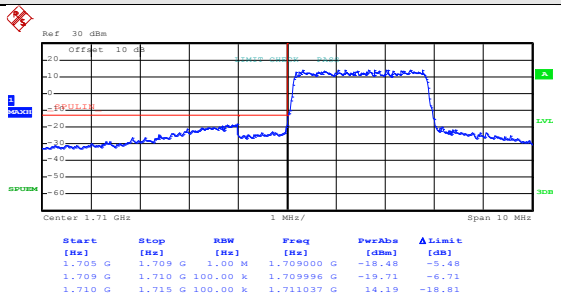


Lowest channel

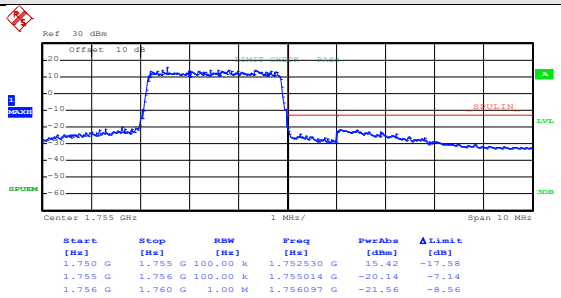


Highest channel

Test Mode:	LTE band 4(16QAM RB Size 15 & RB Offset 0)



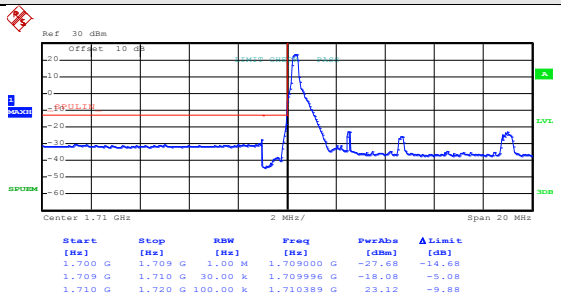
Lowest channel



Highest channel

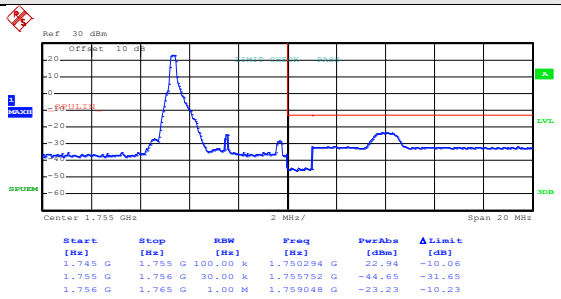
5MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 20:57:04

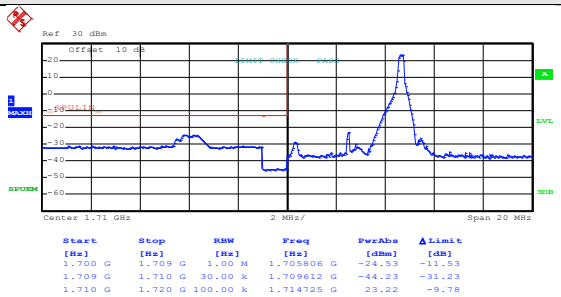
Lowest channel



Date: 22.FEB.2017 21:03:21

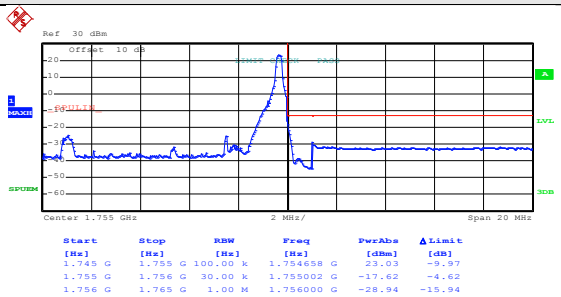
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 24)



Date: 22.FEB.2017 20:57:40

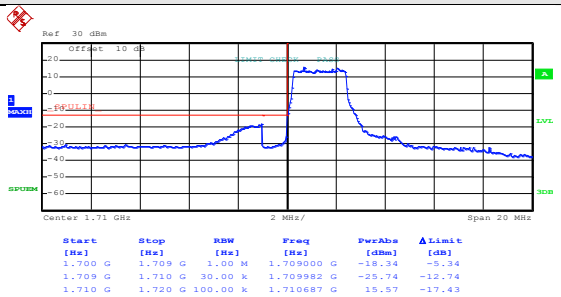
Lowest channel



Date: 22.FEB.2017 21:03:43

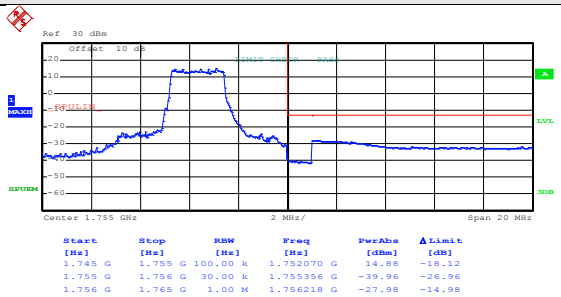
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 12 & RB Offset 0)



Date: 22.FEB.2017 20:58:22

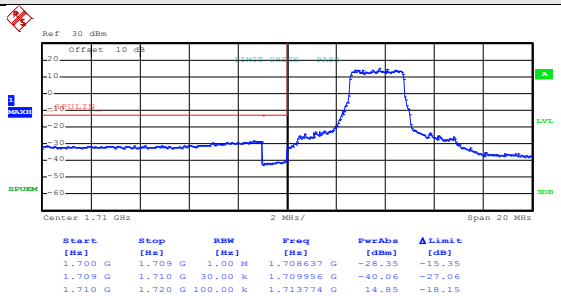
Lowest channel



Date: 22.FEB.2017 21:04:33

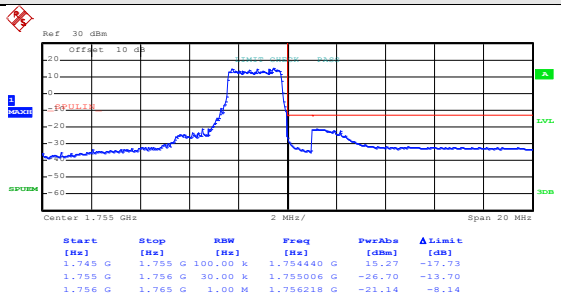
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 12 & RB Offset 11)



Date: 22.FEB.2017 20:58:46

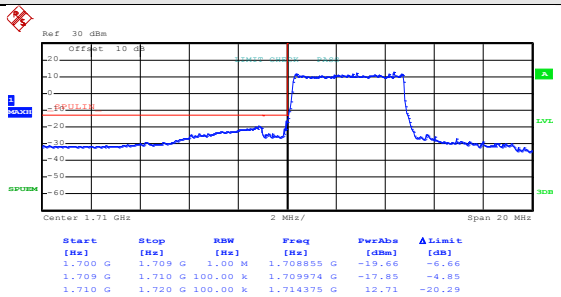
Lowest channel



Date: 22.FEB.2017 21:04:55

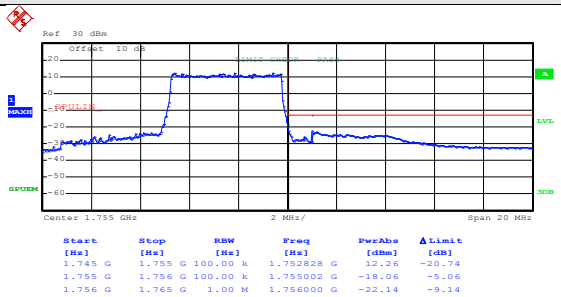
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 25 & RB Offset 0)



Date: 22.FEB.2017 20:59:28

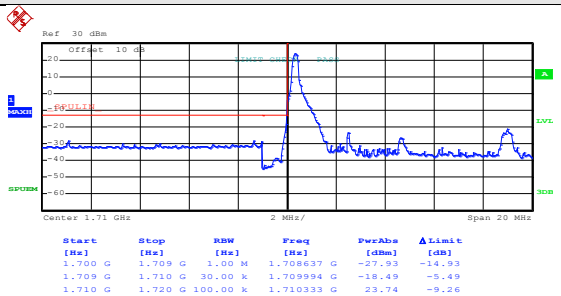
Lowest channel



Date: 22.FEB.2017 21:06:03

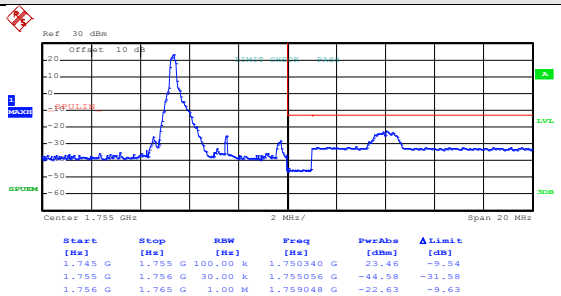
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 20:57:20

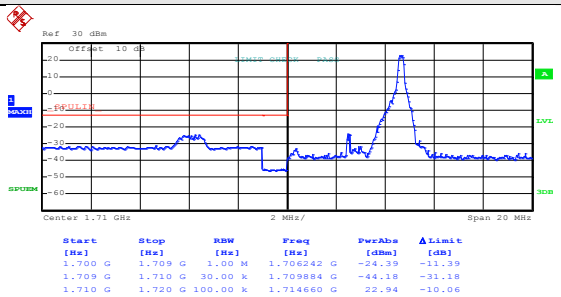
Lowest channel



Date: 22.FEB.2017 21:03:29

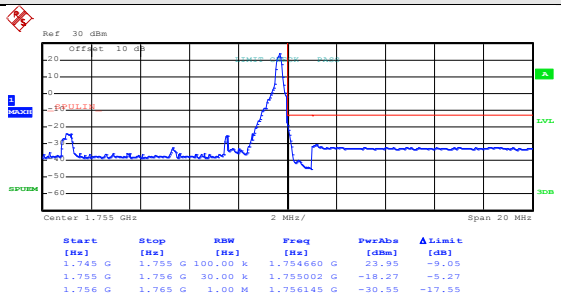
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 24)



Date: 22.FEB.2017 20:57:50

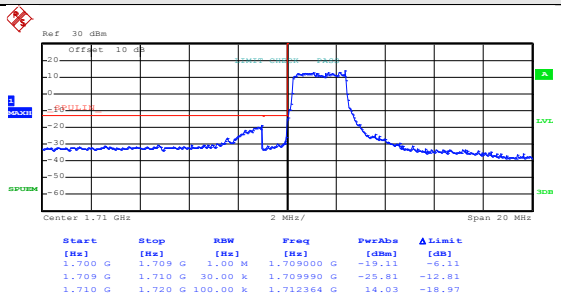
Lowest channel



Date: 22.FEB.2017 21:04:08

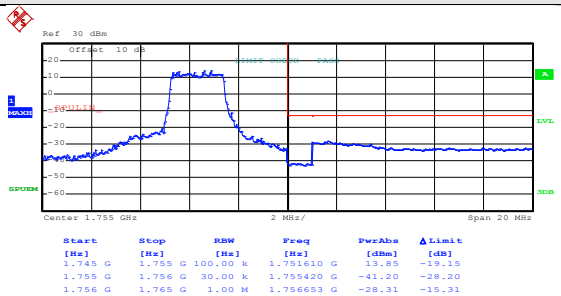
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 12 & RB Offset 0)



Date: 22.FEB.2017 20:58:32

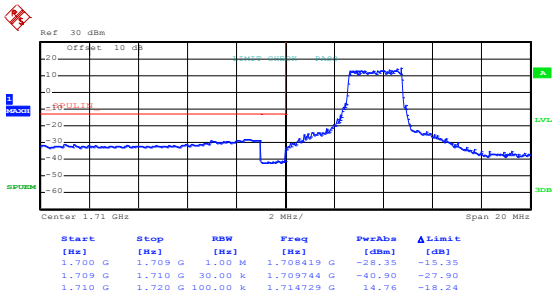
Lowest channel



Date: 22.FEB.2017 21:04:42

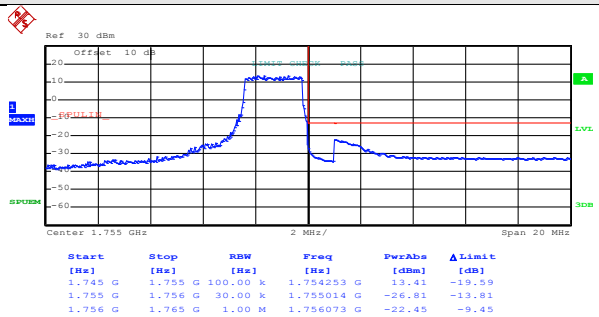
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 12 & RB Offset 11)



Date: 22.FEB.2017 20:59:00

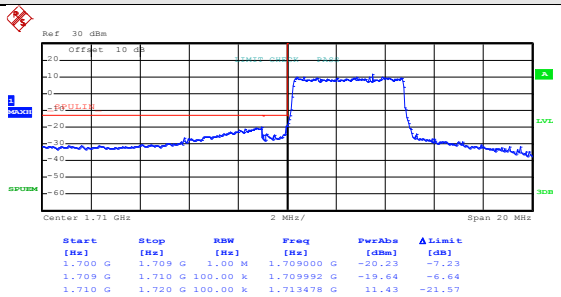
Lowest channel



Date: 22.FEB.2017 21:05:17

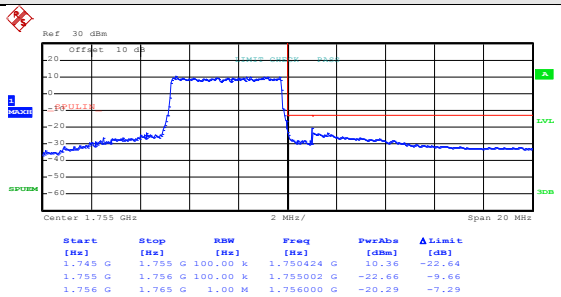
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 25 & RB Offset 0)



Date: 22.FEB.2017 20:59:36

Lowest channel

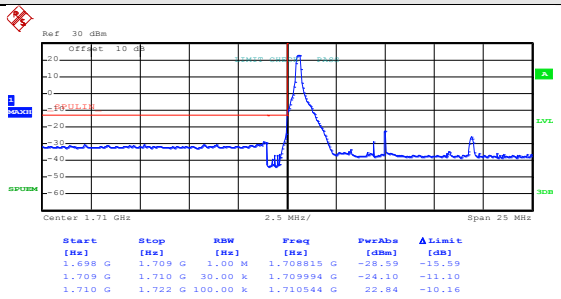


Date: 22.FEB.2017 21:06:12

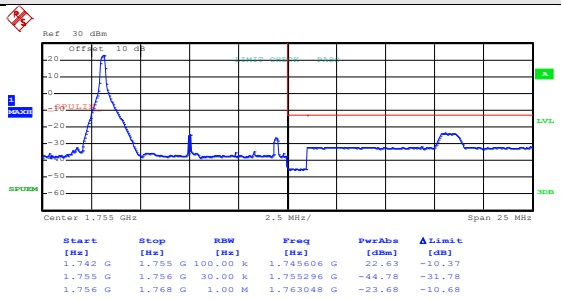
Highest channel

10MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)

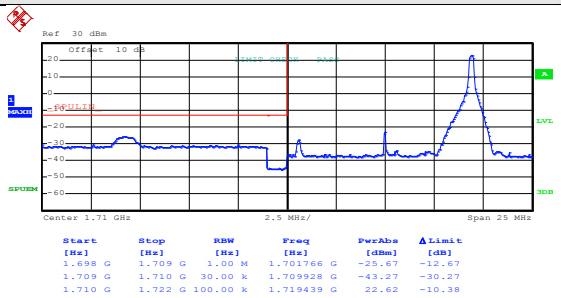


Lowest channel

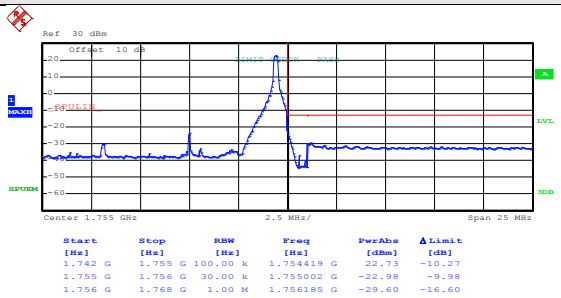


Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 49)

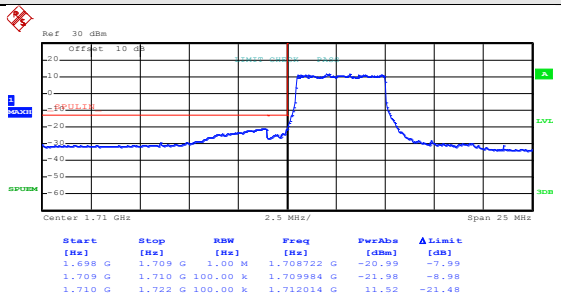


Lowest channel



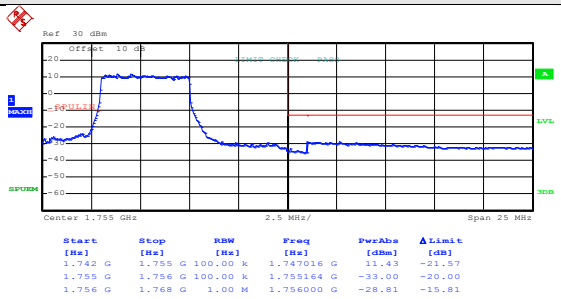
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 25 & RB Offset 0)



Date: 22.FEB.2017 21:10:22

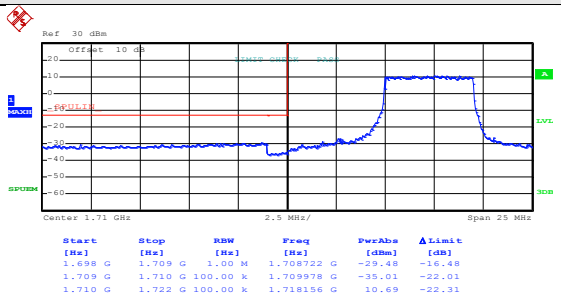
Lowest channel



Date: 22.FEB.2017 21:14:14

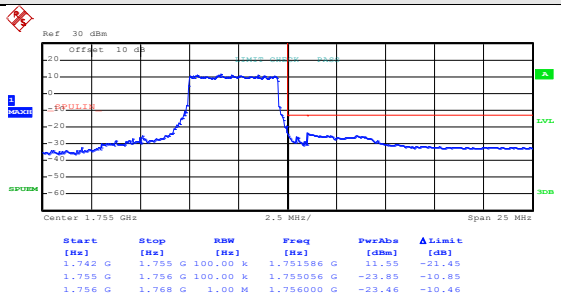
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 25 & RB Offset 24)



Date: 22.FEB.2017 21:10:49

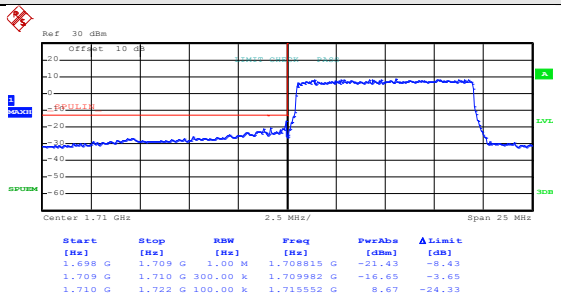
Lowest channel



Date: 22.FEB.2017 21:14:40

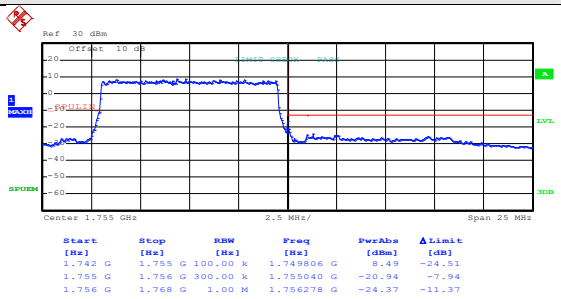
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 50 & RB Offset 0)



Date: 22.FEB.2017 21:11:55

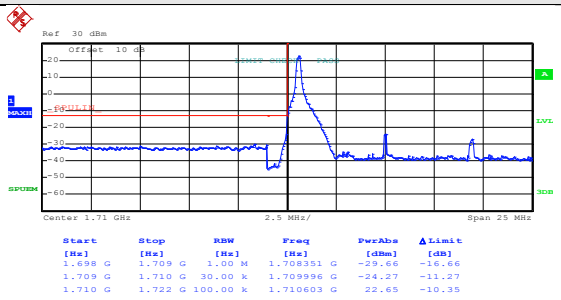
Lowest channel



Date: 22.FEB.2017 21:16:24

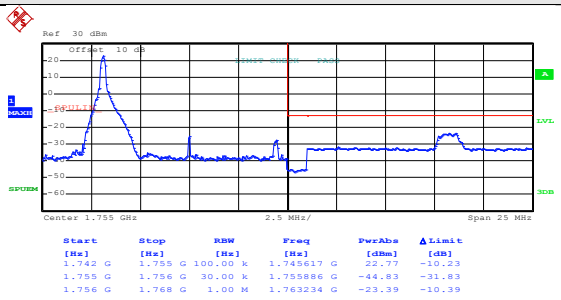
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 21:08:11

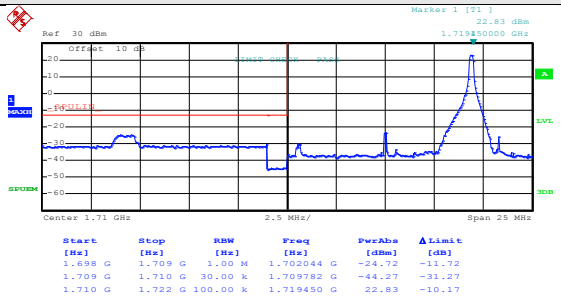
Lowest channel



Date: 22.FEB.2017 21:13:12

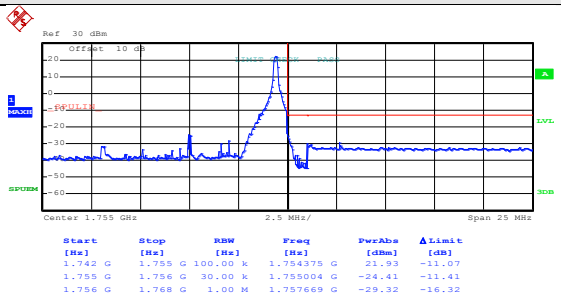
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 49)



Date: 22.FEB.2017 21:09:00

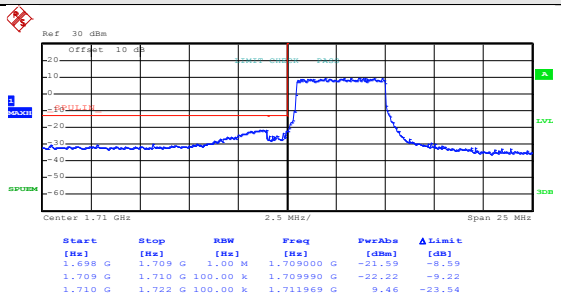
Lowest channel



Date: 22.FEB.2017 21:13:39

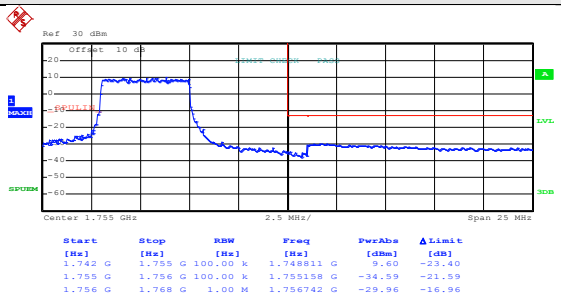
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 25 & RB Offset 0)



Date: 22.FEB.2017 21:10:34

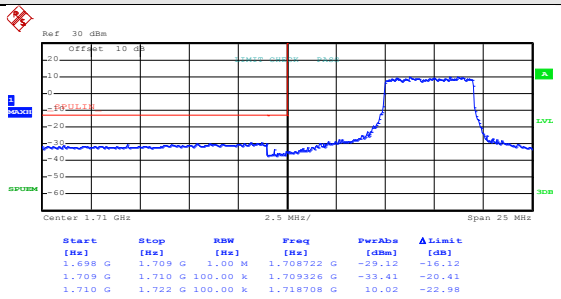
Lowest channel



Date: 22.FEB.2017 21:14:24

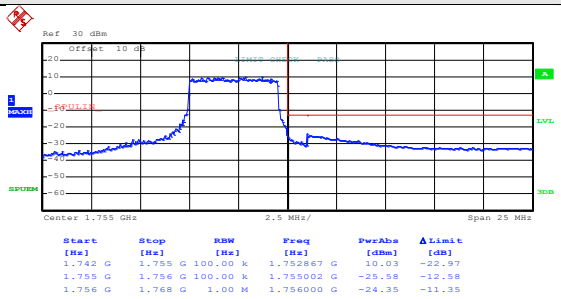
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 25 & RB Offset 24)



Date: 22.FEB.2017 21:11:04

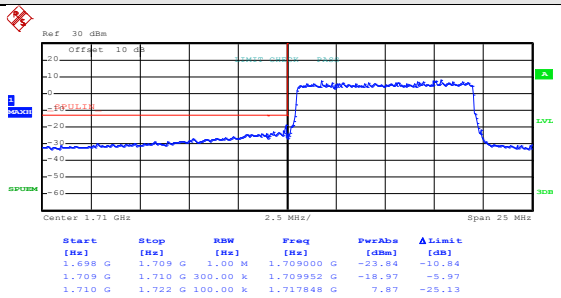
Lowest channel



Date: 22.FEB.2017 21:14:52

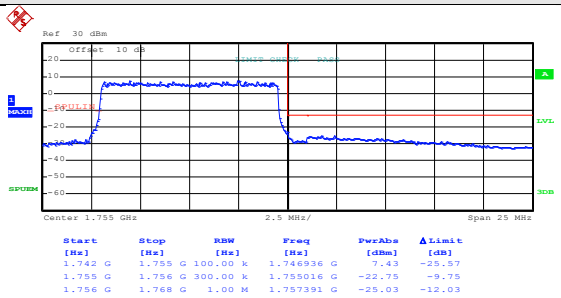
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 50 & RB Offset 0)



Date: 22.FEB.2017 21:12:05

Lowest channel

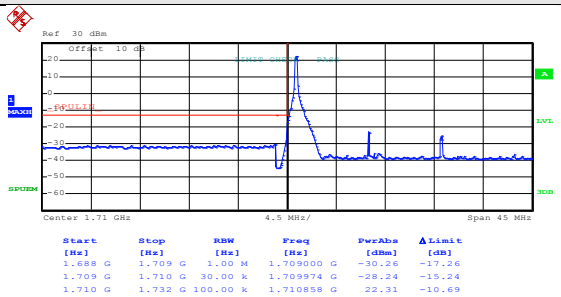


Date: 22.FEB.2017 21:16:34

Highest channel

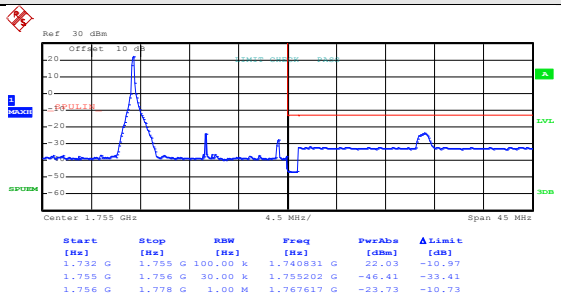
15MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 21:24:14

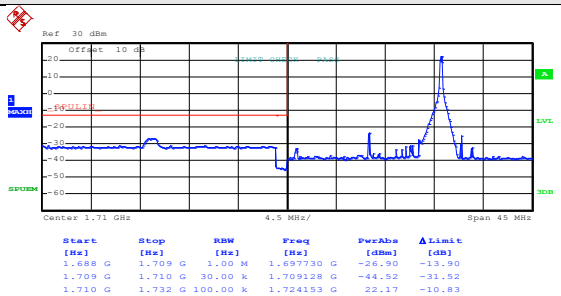
Lowest channel



Date: 22.FEB.2017 21:28:03

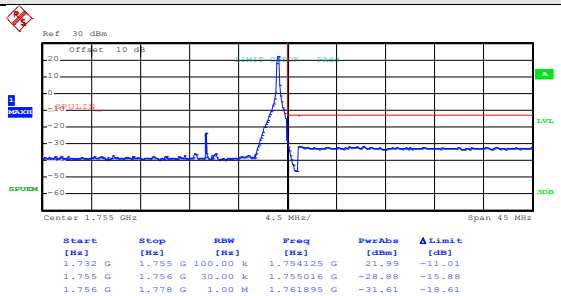
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 74)



Date: 22.FEB.2017 21:24:47

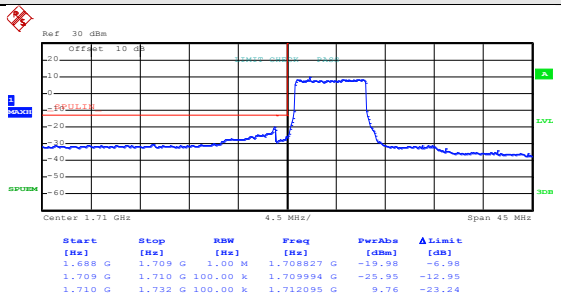
Lowest channel



Date: 22.FEB.2017 21:28:31

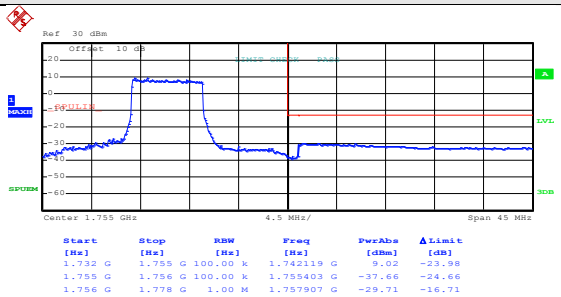
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 36 & RB Offset 0)



Date: 22.FEB.2017 21:25:34

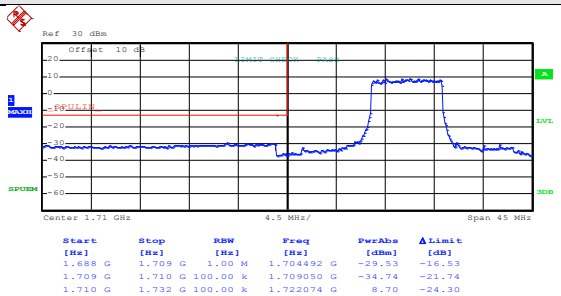
Lowest channel



Date: 22.FEB.2017 21:29:10

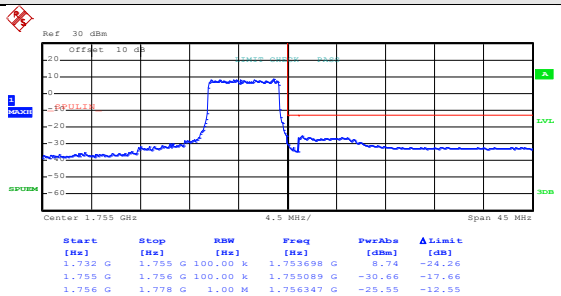
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 36 & RB Offset 37)



Date: 22.FEB.2017 21:26:01

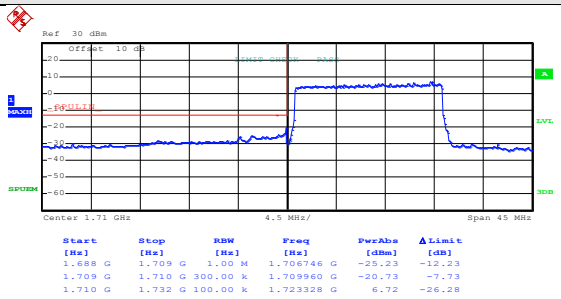
Lowest channel



Date: 22.FEB.2017 21:29:32

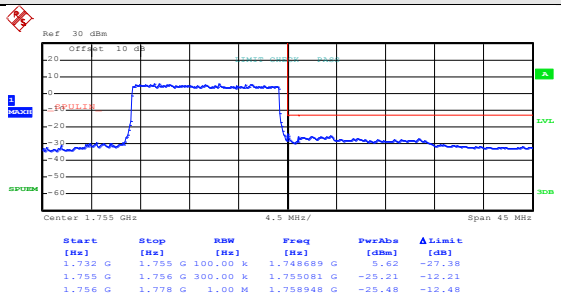
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 75 & RB Offset 0)



Date: 22.FEB.2017 21:27:14

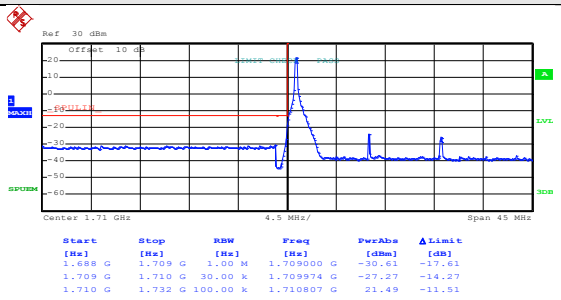
Lowest channel



Date: 22.FEB.2017 21:30:08

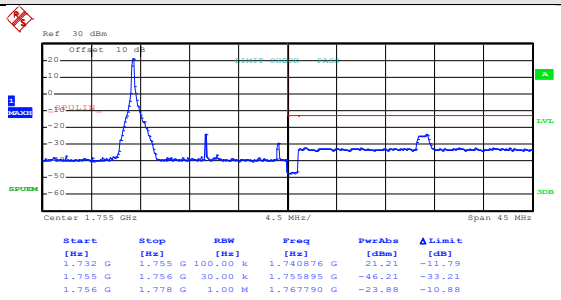
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 21:24:28

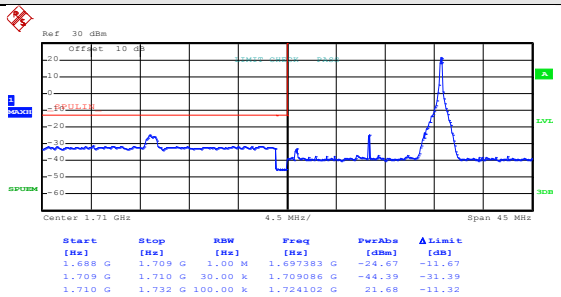
Lowest channel



Date: 22.FEB.2017 21:28:15

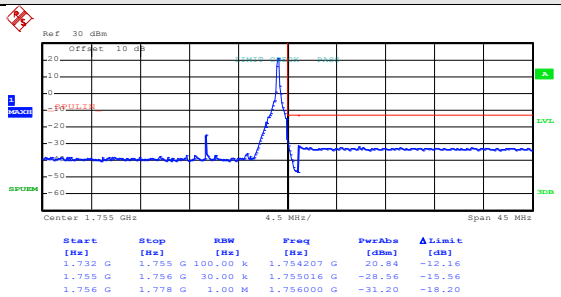
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 74)



Date: 22.FEB.2017 21:25:00

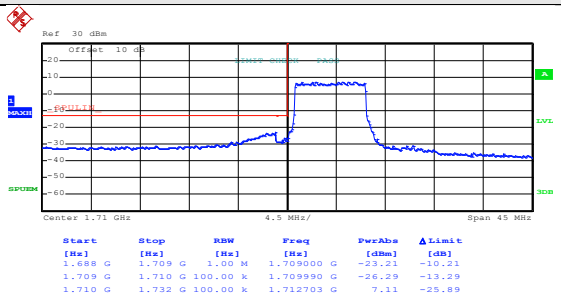
Lowest channel



Date: 22.FEB.2017 21:28:43

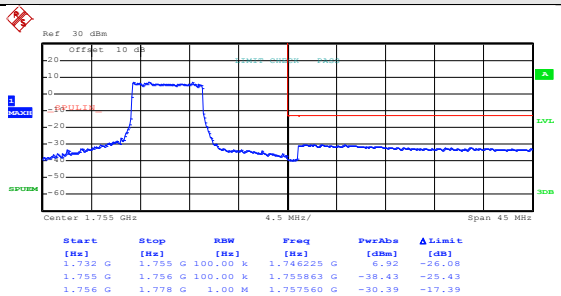
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 36 & RB Offset 0)



Date: 22.FEB.2017 21:25:45

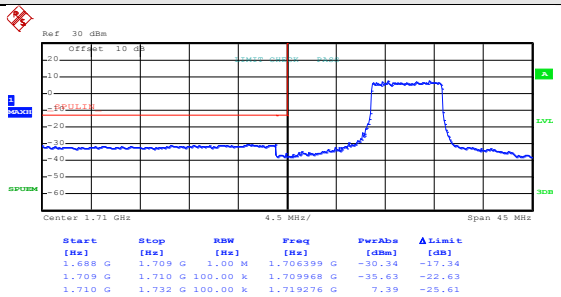
Lowest channel



Date: 22.FEB.2017 21:29:19

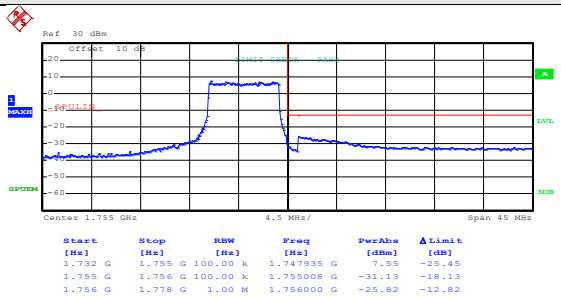
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 36 & RB Offset 37)



Date: 22.FEB.2017 21:26:13

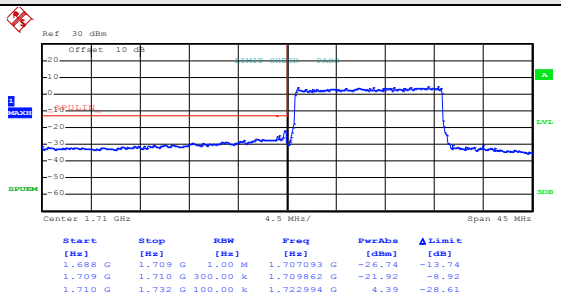
Lowest channel



Date: 22.FEB.2017 21:29:44

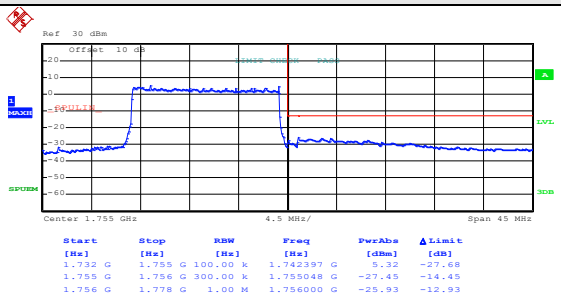
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 75 & RB Offset 0)



Date: 22.FEB.2017 21:27:22

Lowest channel

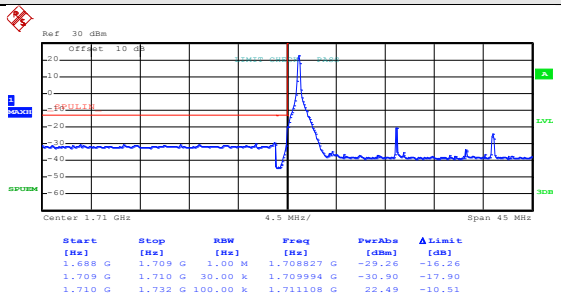


Date: 22.FEB.2017 21:30:17

Highest channel

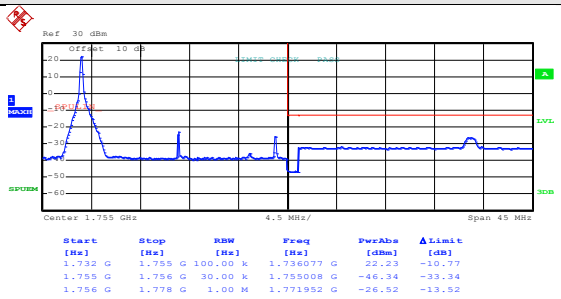
20MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 21:31:58

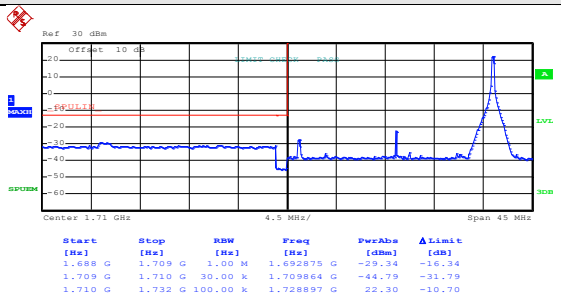
Lowest channel



Date: 22.FEB.2017 21:35:06

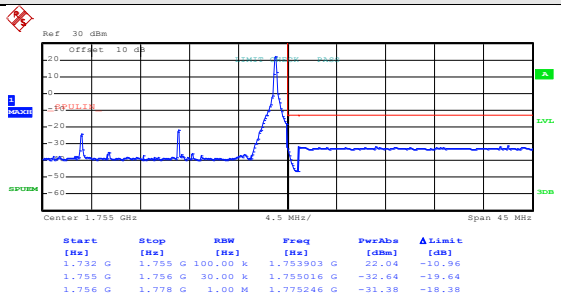
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 99)



Date: 22.FEB.2017 21:32:28

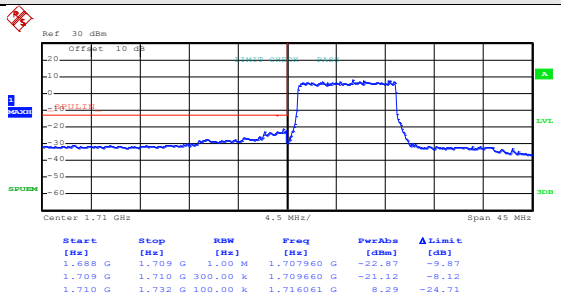
Lowest channel



Date: 22.FEB.2017 21:35:35

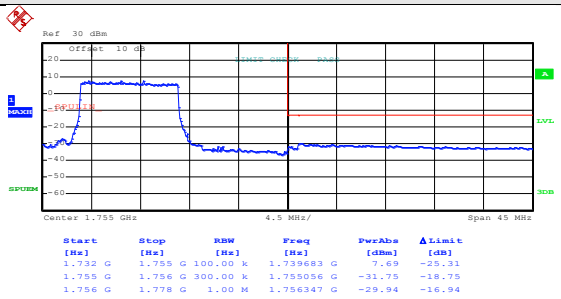
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 50 & RB Offset 0)



Date: 22.FEB.2017 21:33:21

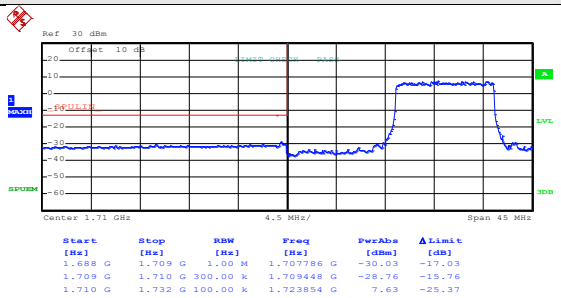
Lowest channel



Date: 22.FEB.2017 21:36:11

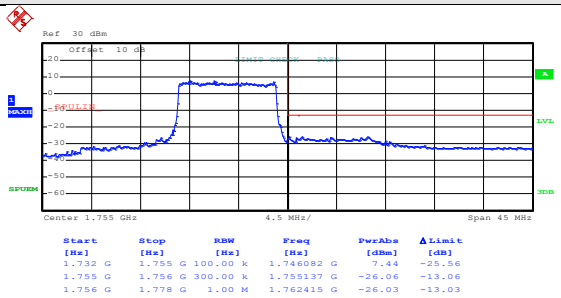
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 50 & RB Offset 49)



Date: 22.FEB.2017 21:33:47

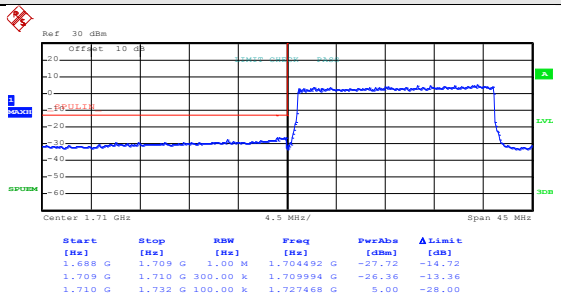
Lowest channel



Date: 22.FEB.2017 21:36:44

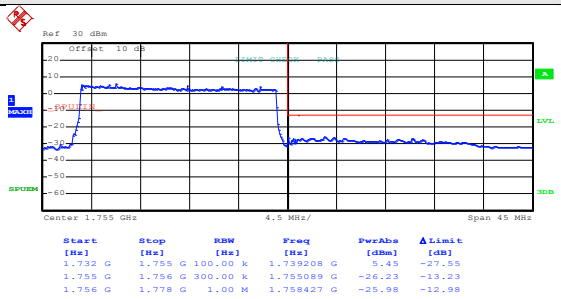
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 100 & RB Offset 0)



Date: 22.FEB.2017 21:34:17

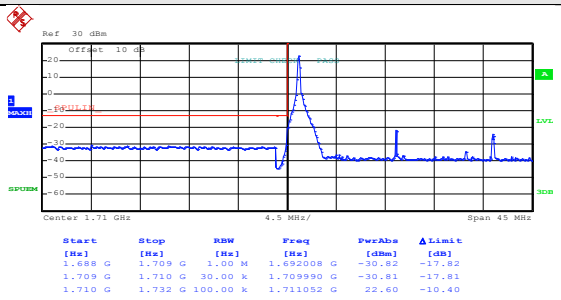
Lowest channel



Date: 22.FEB.2017 21:37:08

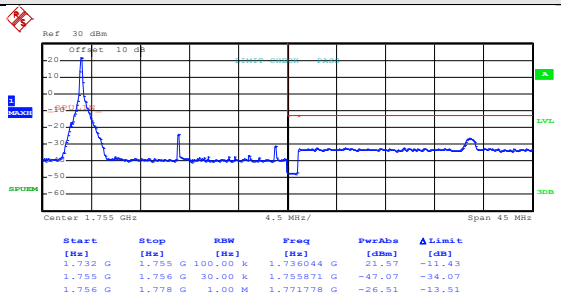
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Date: 22.FEB.2017 21:32:11

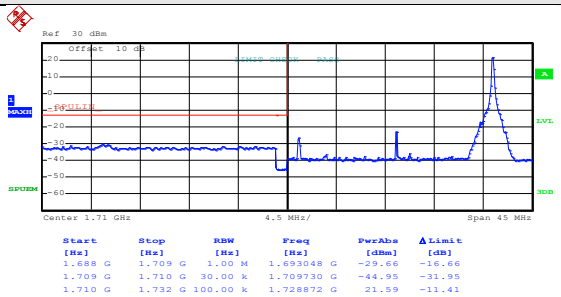
Lowest channel



Date: 22.FEB.2017 21:35:17

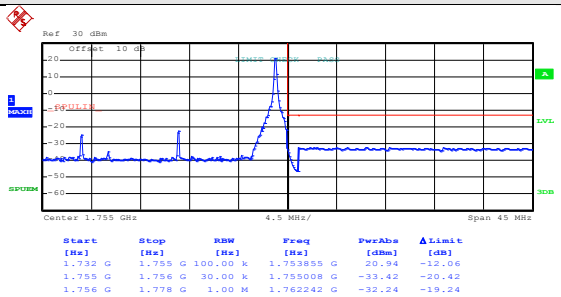
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 99)



Date: 22.FEB.2017 21:32:38

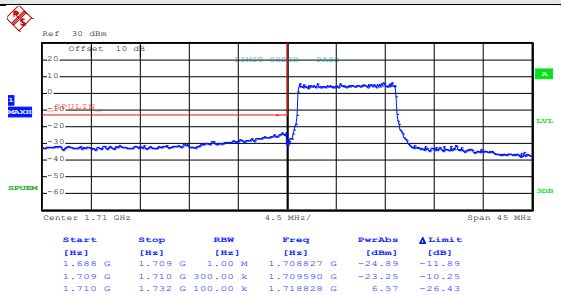
Lowest channel



Date: 22.FEB.2017 21:35:47

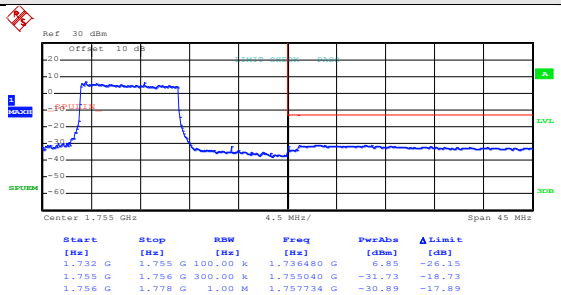
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 50 & RB Offset 0)



Date: 22.FEB.2017 21:33:34

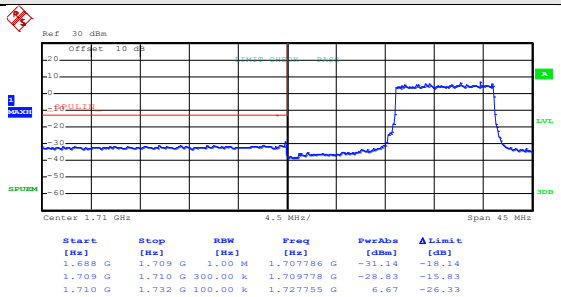
Lowest channel



Date: 22.FEB.2017 21:36:25

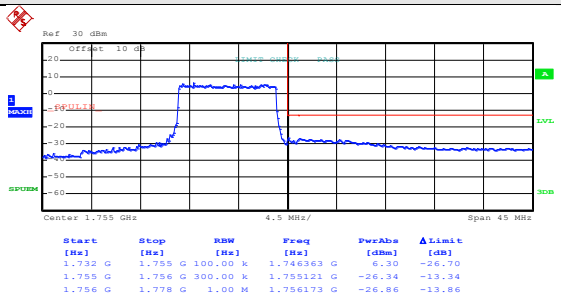
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 50 & RB Offset 49)



Date: 22.FEB.2017 21:34:03

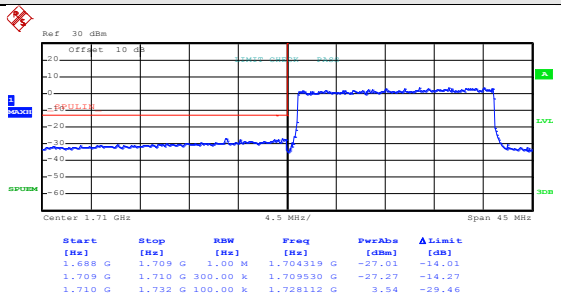
Lowest channel



Date: 22.FEB.2017 21:36:55

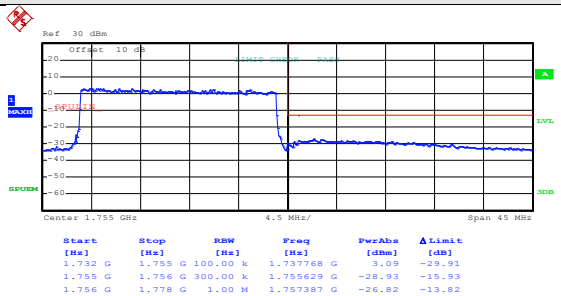
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 100 & RB Offset 0)



Date: 22.FEB.2017 21:34:27

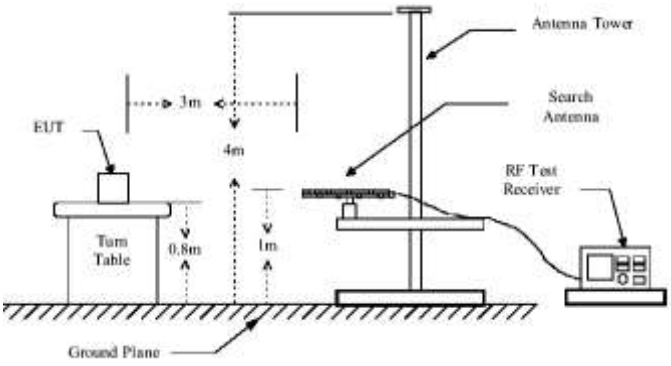
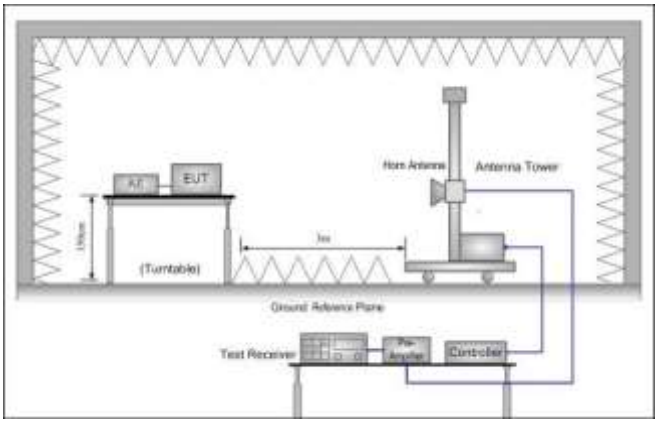
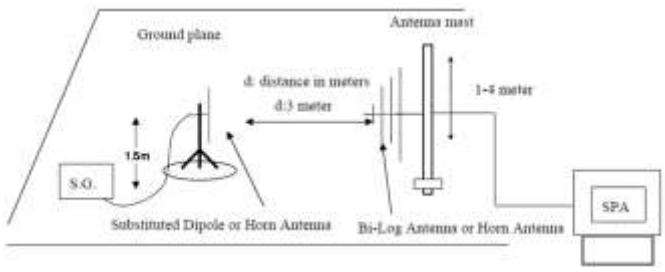
Lowest channel



Date: 22.FEB.2017 21:37:15

Highest channel

6.10 ERP, EIRP Measurement

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

Test Procedure:	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: ERP = S.G. output (dBm) + Antenna Gain (dBd) – 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: EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB) 5. The worse case was relating to the conducted output power.
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):

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	25.62	33.00	Pass
					H	17.90		
1850.70	18607	16QAM	1.4	H	V	21.64		
					H	17.97		
1.4MHz(RB size 3 & RB offset 0)								
1850.70	18607	QPSK	1.4	H	V	24.12	33.00	Pass
					H	18.86		
1850.70	18607	16QAM	1.4	H	V	20.03		
					H	18.85		
1.4MHz(RB size 6 & RB offset 0)								
1850.70	18607	QPSK	1.4	H	V	24.15	33.00	Pass
					H	18.96		
1850.70	18607	16QAM	1.4	H	V	22.51		
					H	18.93		

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	24.15	33.00	Pass
					H	18.56		
1880.00	18900	16QAM	1.4	H	V	22.36		
					H	18.54		
1.4MHz(RB size 3 & RB offset 0)								
1880.00	18900	QPSK	1.4	H	V	25.13	33.00	Pass
					H	19.63		
1880.00	18900	16QAM	1.4	H	V	21.41		
					H	19.86		
1.4MHz(RB size 6 & RB offset 0)								
1880.00	18900	QPSK	1.40	H	V	23.25	33.00	Pass
					H	19.65		
1880.00	18900	16QAM	1.40	H	V	23.52		
					H	19.54		

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	23.98	33.00	Pass
					H	19.52		
1909.30	19193	16QAM	1.4	H	V	21.47		
					H	19.85		
1.4MHz(RB size 3 & RB offset 0)								
1909.30	19193	QPSK	1.4	H	V	24.51	33.00	Pass
					H	20.03		
1909.30	19193	16QAM	1.4	H	V	22.52		
					H	20.51		
1.4MHz(RB size 6 & RB offset 0)								
1909.30	19193	QPSK	1.4	H	V	22.58	33.00	Pass
					H	20.63		
1909.30	19193	16QAM	1.4	H	V	22.45		
					H	20.08		

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	25.73	33.00	Pass
					H	17.87		
1860.00	18700	16QAM	20	H	V	21.29		
					H	17.48		
20MHz(RB size 50 & RB offset 0)								
1860.00	18700	QPSK	20	H	V	24.14	33.00	Pass
					H	18.56		
1860.00	18700	16QAM	20	H	V	20.04		
					H	18.47		
20MHz(RB size 100 & RB offset 0)								
1860.00	18700	QPSK	20	H	V	24.15	33.00	Pass
					H	19.53		
1860.00	18700	16QAM	20	H	V	21.52		
					H	19.45		

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	24.51	33.00	Pass
					H	18.74		
1880.00	18900	16QAM	20	H	V	22.63		
					H	18.25		
20MHz(RB size 50 & RB offset 0)								
1880.00	18900	QPSK	20	H	V	23.56	33.00	Pass
					H	19.85		
1880.00	18900	16QAM	20	H	V	21.88		
					H	19.63		
20MHz(RB size 100 & RB offset 0)								
1880.00	18900	QPSK	20	H	V	23.52	33.00	Pass
					H	20.53		
1880.00	18900	16QAM	20	H	V	20.14		
					H	20.85		

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	23.69	33.00	Pass
					H	19.83		
1900.00	19100	16QAM	20	H	V	23.25		
					H	19.63		
20MHz(RB size 50 & RB offset 0)								
1900.00	19100	QPSK	20	H	V	24.15	33.00	Pass
					H	20.52		
1900.00	19100	16QAM	20	H	V	22.53		
					H	20.06		
20MHz(RB size 100 & RB offset 0)								
1900.00	19100	QPSK	20	H	V	24.23	33.00	Pass
					H	21.53		
1900.00	19100	16QAM	20	H	V	21.47		
					H	19.93		

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	21.56	30.00	Pass
					H	20.27		
1710.70	19957	16QAM	1.4	H	V	25.31		
					H	18.76		
1.4MHz(RB size 3 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	20.85	30.00	Pass
					H	21.35		
1710.70	19957	16QAM	1.4	H	V	24.39		
					H	19.54		
1.4MHz(RB size 6 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	22.35	30.00	Pass
					H	21.45		
1710.70	19957	16QAM	1.4	H	V	24.88		
					H	19.87		

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	22.53	30.00	Pass
					H	21.85		
1732.50	20175	16QAM	1.4	H	V	24.45		
					H	19.99		
1.4MHz(RB size 3 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	21.53	30.00	Pass
					H	22.54		
1732.50	20175	16QAM	1.4	H	V	23.65		
					H	20.55		
1.4MHz(RB size 6 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	21.25	30.00	Pass
					H	22.83		
1732.50	20175	16QAM	1.4	H	V	25.93		
					H	18.89		

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	23.63	30.00	Pass
					H	22.51		
1754.30	20393	16QAM	1.4	H	V	23.56		
					H	20.05		
1.4MHz(RB size 3 & RB offset 0)								
1754.30	20393	QPSK	1.4	H	V	21.52	30.00	Pass
					H	22.41		
1754.30	20393	16QAM	1.4	H	V	24.06		
					H	19.36		
1.4MHz(RB size 6 & RB offset 0)								
1754.30	20393	QPSK	1.4	H	V	22.36	30.00	Pass
					H	23.96		
1754.30	20393	16QAM	1.4	H	V	24.85		
					H	19.93		

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	22.78	30.00	Pass
					H	22.13		
1720.00	20050	16QAM	20	H	V	21.38		
					H	17.36		
20MHz(RB size 50 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	22.86	30.00	Pass
					H	23.12		
1720.00	20050	16QAM	20	H	V	20.12		
					H	18.56		
20MHz(RB size 100 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	23.02	30.00	Pass
					H	23.07		
1720.00	20050	16QAM	20	H	V	20.47		
					H	18.86		

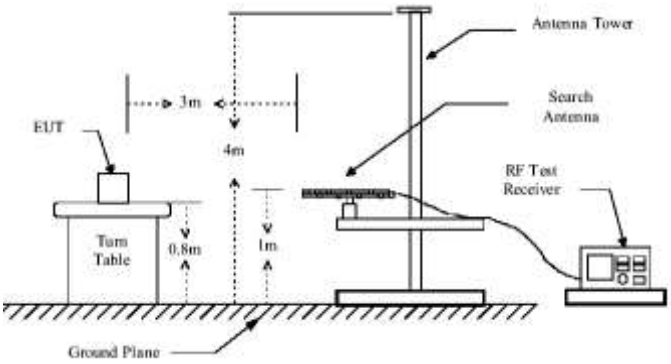
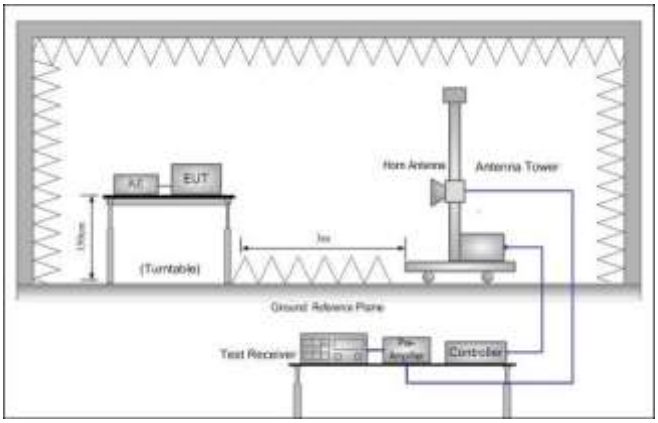
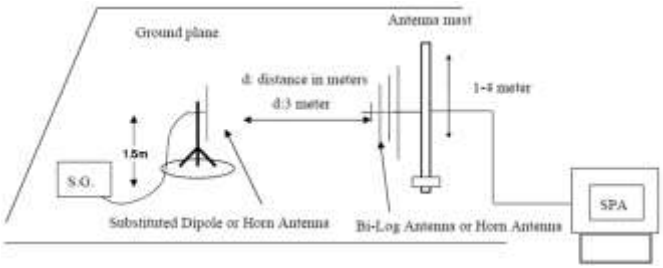
Middle channel

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	23.85	30.00	Pass
					H	21.41		
1732.50	20175	16QAM	20	H	V	22.56		
					H	18.56		
20MHz(RB size 50 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	23.52	30.00	Pass
					H	22.41		
1732.50	20175	16QAM	20	H	V	21.56		
					H	19.96		
20MHz(RB size 100 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	22.33	30.00	Pass
					H	24.15		
1732.50	20175	16QAM	20	H	V	19.98		
					H	19.86		

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	22.17	30.00	Pass
					H	22.45		
1745.00	20300	16QAM	20	H	V	23.63		
					H	19.25		
20MHz(RB size 50 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	22.74	30.00	Pass
					H	21.52		
1745.00	20300	16QAM	20	H	V	22.85		
					H	20.07		
20MHz(RB size 100 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	21.56	30.00	Pass
					H	23.17		
1745.00	20300	16QAM	20	H	V	20.05		
					H	20.47		

6.11 Field strength of spurious radiation measurement

Test Requirement:	Part 24.238 (a), Part 27.53(h)
Test Method:	FCC part2.1053
Limit:	LTE Band 2, LTE Band 4: -13dBm,
Test setup:	Below 1GHz  Above 1GHz  Substituted method: 
Test Procedure:	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 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 5.8 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	-36.98	-13.00	Pass
5552.10	V	-31.03		
7402.00	V	-28.15		
3701.40	Horizontal	-25.24		
5552.10	H	-19.54		
7402.00	H	-22.20		
Middle				
3760.00	Vertical	-33.83	-13.00	Pass
5640.00	V	-22.72		
7520.00	V	-29.70		
3760.00	Horizontal	-35.90		
5640.00	H	-28.44		
7520.00	H	-28.01		
Highest				
3816.60	Vertical	-24.00	-13.00	Pass
5724.90	V	-18.87		
7633.20	V	-24.83		
3816.60	Horizontal	-31.31		
5724.90	H	-23.80		
7633.20	H	-24.41		

3MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3703.00	Vertical	-35.26	-13.00	Pass
5554.50	V	-30.14		
7406.00	V	-27.53		
3703.00	Horizontal	-24.12		
5554.50	H	-18.36		
7406.00	H	-21.53		
Middle				
3760.00	Vertical	-32.52	-13.00	Pass
5640.00	V	-21.45		
7520.00	V	-28.63		
3760.00	Horizontal	-34.12		
5640.00	H	-29.63		
7520.00	H	-27.15		
Highest				
3817.00	Vertical	-23.14	-13.00	Pass
5725.50	V	-17.45		
7634.00	V	-23.56		
3817.00	Horizontal	-30.21		
5725.50	H	-22.41		
7634.00	H	-23.85		

5MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3705.00	Vertical	-35.21	-13.00	Pass
5557.50	V	-30.26		
7410.00	V	-29.31		
3705.00	Horizontal	-26.52		
5557.50	H	-20.14		
7410.00	H	-23.26		
Middle				
3760.00	Vertical	-32.56	-13.00	Pass
5640.00	V	-23.54		
7520.00	V	-28.47		
3760.00	Horizontal	-34.15		
5640.00	H	-27.45		
7520.00	H	-29.36		
Highest				
3815.00	Vertical	-23.74	-13.00	Pass
5722.50	V	-19.63		
7630.00	V	-23.65		
3815.00	Horizontal	-30.14		
5722.50	H	-24.58		
7630.00	H	-25.63		

10MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3710.00	Vertical	-27.41	-13.00	Pass
5565.00	V	-24.56		
7420.00	V	-23.63		
3710.00	Horizontal	-25.63		
5565.00	H	-23.12		
7420.00	H	-21.47		
Middle				
3760.00	Vertical	-26.35	-13.00	Pass
5640.00	V	-20.14		
7520.00	V	-24.51		
3760.00	Horizontal	-27.85		
5640.00	H	-22.35		
7520.00	H	-22.47		
Highest				
3810.00	Vertical	-23.69	-13.00	Pass
5715.00	V	-20.15		
7620.00	V	-28.35		
3810.00	Horizontal	-26.53		
5715.00	H	-21.51		
7620.00	H	-22.36		

15MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3715.00	Vertical	-34.21	-13.00	Pass
5572.50	V	-29.63		
7430.00	V	-28.51		
3715.00	Horizontal	-27.41		
5572.50	H	-19.63		
7430.00	H	-22.85		
Middle				
3760.00	Vertical	-31.41	-13.00	Pass
5640.00	V	-24.56		
7520.00	V	-27.85		
3760.00	Horizontal	-33.69		
5640.00	H	-26.93		
7520.00	H	-28.54		
Highest				
3805.00	Vertical	-22.58	-13.00	Pass
5707.50	V	-20.31		
7610.00	V	-24.53		
3805.00	Horizontal	-29.63		
5707.50	H	-23.65		
7610.00	H	-24.78		

20MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3720.00	Vertical	-26.72	-13.00	Pass
5580.00	V	-23.16		
7440.00	V	-24.25		
3720.00	Horizontal	-26.26		
5580.00	H	-22.36		
7440.00	H	-22.80		
Middle				
3760.00	Vertical	-27.07	-13.00	Pass
5640.00	V	-19.41		
7520.00	V	-25.34		
3760.00	Horizontal	-28.98		
5640.00	H	-21.34		
7520.00	H	-23.53		
Highest				
3800.00	Vertical	-24.53	-13.00	Pass
5700.00	V	-19.66		
7600.00	V	-29.13		
3800.00	Horizontal	-27.78		
5700.00	H	-20.58		
7600.00	H	-23.93		

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	-35.03	-13.00	Pass
5132.10	V	-28.72		
6842.80	V	-22.18		
3421.40	Horizontal	-36.25		
5132.10	H	-34.21		
6842.80	H	-25.98		
Middle				
3465.00	Vertical	-38.05	-13.00	Pass
5197.50	V	-24.20		
6930.00	V	-20.92		
3465.00	Horizontal	-31.79		
5197.50	H	-25.99		
6930.00	H	-25.85		
Highest				
3508.60	Vertical	-35.01	-13.00	Pass
5262.90	V	-24.07		
7017.20	V	-21.27		
3508.60	Horizontal	-34.58		
5262.90	H	-27.01		
7017.20	H	-21.30		

3MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3423.00	Vertical	-38.54	-13.00	Pass
5134.50	V	-30.17		
6846.00	V	-23.69		
3423.00	Horizontal	-30.12		
5134.50	H	-25.87		
6846.00	H	-22.63		
Middle				
3465.00	Vertical	-30.74	-13.00	Pass
5197.50	V	-21.47		
6930.00	V	-22.96		
3465.00	Horizontal	-32.45		
5197.50	H	-26.35		
6930.00	H	-24.17		
Highest				
3507.00	Vertical	-29.63	-13.00	Pass
5260.50	V	-27.48		
7014.00	V	-24.15		
3507.00	Horizontal	-28.35		
5260.50	H	-26.74		
7014.00	H	-24.15		

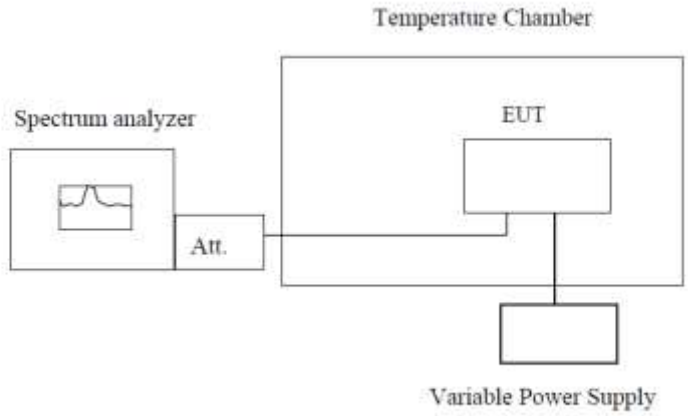
5MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3425.00	Vertical	-34.25	-13.00	Pass
5137.50	V	-27.14		
6850.00	V	-23.69		
3425.00	Horizontal	-35.41		
5137.50	H	-33.52		
6850.00	H	-24.58		
Middle				
3465.00	Vertical	-37.85	-13.00	Pass
5197.50	V	-23.65		
6930.00	V	-21.74		
3465.00	Horizontal	-30.41		
5197.50	H	-24.78		
6930.00	H	-24.69		
Highest				
3505.00	Vertical	-34.25	-13.00	Pass
5257.50	V	-23.69		
7010.00	V	-20.45		
3505.00	Horizontal	-33.52		
5257.50	H	-26.35		
7010.00	H	-22.85		

10MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3430.00	Vertical	-39.65	-13.00	Pass
5145.00	V	-31.42		
6860.00	V	-24.85		
3430.00	Horizontal	-31.47		
5145.00	H	-26.93		
6860.00	H	-21.21		
Middle				
3465.00	Vertical	-31.52	-13.00	Pass
5197.50	V	-20.63		
6930.00	V	-21.47		
3465.00	Horizontal	-33.24		
5197.50	H	-25.32		
6930.00	H	-23.65		
Highest				
3500.00	Vertical	-30.14	-13.00	Pass
5250.00	V	-28.56		
7000.00	V	-25.47		
3500.00	Horizontal	-29.63		
5250.00	H	-27.41		
7000.00	H	-25.61		

15MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3435.00	Vertical	-33.96	-13.00	Pass
5152.50	V	-26.58		
6870.00	V	-22.54		
3435.00	Horizontal	-34.21		
5152.50	H	-32.85		
6870.00	H	-23.41		
Middle				
3465.00	Vertical	-36.95	-13.00	Pass
5197.50	V	-22.47		
6930.00	V	-22.53		
3465.00	Horizontal	-29.85		
5197.50	H	-25.69		
6930.00	H	-23.58		
Highest				
3495.00	Vertical	-33.24	-13.00	Pass
5242.50	V	-22.74		
6990.00	V	-21.69		
3495.00	Horizontal	-32.14		
5242.50	H	-25.89		
6990.00	H	-23.64		

20MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3440.00	Vertical	-40.63	-13.00	Pass
5160.00	V	-32.75		
6880.00	V	-25.44		
3440.00	Horizontal	-32.31		
5160.00	H	-27.73		
6880.00	H	-20.74		
Middle				
3465.00	Vertical	-32.67	-13.00	Pass
5197.50	V	-19.99		
6930.00	V	-20.63		
3465.00	Horizontal	-34.14		
5197.50	H	-24.59		
6930.00	H	-22.37		
Highest				
3490.00	Vertical	-31.99	-13.00	Pass
5235.00	V	-29.46		
6980.00	V	-26.54		
3490.00	Horizontal	-30.95		
5235.00	H	-28.22		
6980.00	H	-24.16		

6.12 Frequency stability V.S. Temperature measurement

Test Requirement:	FCC Part2.1055(a)(1)(b)
Test Method:	FCC Part2.1055(a)(1)(b)
Limit:	±2.5ppm
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	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℃ operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ 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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	185	0.098404	±2.5	Pass
	-20	163	0.086702		
	-10	144	0.076596		
	0	153	0.081383		
	10	163	0.086702		
	20	170	0.090426		
	30	138	0.073404		
	40	156	0.082979		
	50	180	0.095745		
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	177	0.094149	±2.5	Pass
	-20	163	0.086702		
	-10	160	0.085106		
	0	158	0.084043		
	10	159	0.084574		
	20	150	0.079787		
	30	127	0.067553		
	40	136	0.072340		
	50	155	0.082447		
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	165	0.087766	±2.5	Pass
	-20	175	0.093085		
	-10	163	0.086702		
	0	177	0.094149		
	10	181	0.096277		
	20	163	0.086702		
	30	155	0.082447		
	40	174	0.092553		
	50	190	0.101064		

Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	166	0.088298	±2.5	Pass
	-20	174	0.092553		
	-10	158	0.084043		
	0	159	0.084574		
	10	162	0.086170		
	20	152	0.080851		
	30	144	0.076596		
	40	103	0.054787		
	50	107	0.056915		
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	163	0.086702	±2.5	Pass
	-20	105	0.055851		
	-10	137	0.072872		
	0	146	0.077660		
	10	155	0.082447		
	20	145	0.077128		
	30	108	0.057447		
	40	136	0.072340		
	50	157	0.083511		
Reference Frequency: LTE Band 2(20MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	168	0.089362	±2.5	Pass
	-20	152	0.080851		
	-10	143	0.076064		
	0	126	0.067021		
	10	155	0.082447		
	20	178	0.094681		
	30	186	0.098936		
	40	189	0.100532		
	50	174	0.092553		

LTE Band 2(16QAM):

Reference Frequency: LTE Band 2(1.4MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	163	0.086702	±2.5	Pass
	-20	174	0.092553		
	-10	188	0.100000		
	0	157	0.083511		
	10	169	0.089894		
	20	155	0.082447		
	30	174	0.092553		
	40	108	0.057447		
	50	125	0.066489		
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	155	0.082447	±2.5	Pass
	-20	163	0.086702		
	-10	147	0.078191		
	0	152	0.080851		
	10	135	0.071809		
	20	146	0.077660		
	30	158	0.084043		
	40	147	0.078191		
	50	129	0.068617		
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	167	0.088830	±2.5	Pass
	-20	152	0.080851		
	-10	142	0.075532		
	0	136	0.072340		
	10	152	0.080851		
	20	146	0.077660		
	30	105	0.055851		
	40	174	0.092553		
	50	163	0.086702		

Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	167	0.088830	±2.5	Pass
	-20	129	0.068617		
	-10	152	0.080851		
	0	187	0.099468		
	10	166	0.088298		
	20	105	0.055851		
	30	123	0.065426		
	40	124	0.065957		
	50	156	0.082979		
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	174	0.092553	±2.5	Pass
	-20	123	0.065426		
	-10	158	0.084043		
	0	130	0.069149		
	10	159	0.084574		
	20	175	0.093085		
	30	145	0.077128		
	40	106	0.056383		
	50	166	0.088298		
Reference Frequency: LTE Band 2(20MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	147	0.078191	±2.5	Pass
	-20	162	0.086170		
	-10	155	0.082447		
	0	146	0.077660		
	10	105	0.055851		
	20	146	0.077660		
	30	187	0.099468		
	40	169	0.089894		
	50	160	0.085106		

LTE Band 4(QPSK):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	177	0.102165	±2.5	Pass
	-20	163	0.094084		
	-10	152	0.087734		
	0	159	0.091775		
	10	107	0.061760		
	20	125	0.072150		
	30	133	0.076768		
	40	156	0.090043		
	50	187	0.107937		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	169	0.097547	±2.5	Pass
	-20	122	0.070418		
	-10	128	0.073882		
	0	155	0.089466		
	10	146	0.084271		
	20	167	0.096392		
	30	125	0.072150		
	40	122	0.070418		
	50	167	0.096392		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	126	0.072727	±2.5	Pass
	-20	120	0.069264		
	-10	147	0.084848		
	0	149	0.086003		
	10	168	0.096970		
	20	152	0.087734		
	30	163	0.094084		
	40	177	0.102165		
	50	162	0.093506		

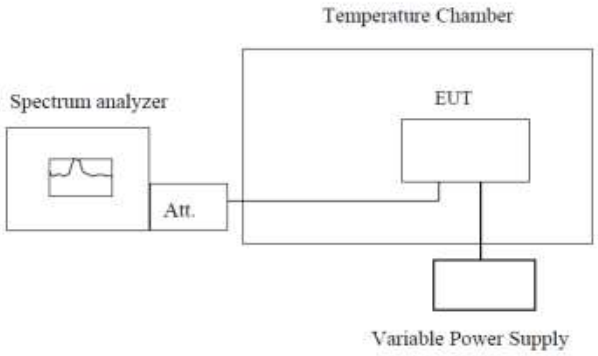
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	174	0.100433	±2.5	Pass
	-20	155	0.089466		
	-10	136	0.078499		
	0	130	0.075036		
	10	189	0.109091		
	20	155	0.089466		
	30	174	0.100433		
	40	165	0.095238		
	50	126	0.072727		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	157	0.090620	±2.5	Pass
	-20	142	0.081962		
	-10	133	0.076768		
	0	126	0.072727		
	10	187	0.107937		
	20	192	0.110823		
	30	158	0.091198		
	40	136	0.078499		
	50	122	0.070418		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	174	0.100433	±2.5	Pass
	-20	152	0.087734		
	-10	166	0.095815		
	0	145	0.083694		
	10	133	0.076768		
	20	174	0.100433		
	30	166	0.095815		
	40	187	0.107937		
	50	125	0.072150		

LTE Band 4(16QAM):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	163	0.094084	±2.5	Pass
	-20	142	0.081962		
	-10	127	0.073304		
	0	105	0.060606		
	10	116	0.066955		
	20	117	0.067532		
	30	126	0.072727		
	40	133	0.076768		
	50	138	0.079654		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	162	0.093506	±2.5	Pass
	-20	174	0.100433		
	-10	185	0.106782		
	0	169	0.097547		
	10	145	0.083694		
	20	173	0.099856		
	30	126	0.072727		
	40	145	0.083694		
	50	174	0.100433		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	155	0.089466	±2.5	Pass
	-20	146	0.084271		
	-10	125	0.072150		
	0	103	0.059452		
	10	155	0.089466		
	20	142	0.081962		
	30	135	0.077922		
	40	126	0.072727		
	50	145	0.083694		

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	147	0.084848	±2.5	Pass
	-20	133	0.076768		
	-10	106	0.061183		
	0	128	0.073882		
	10	152	0.087734		
	20	127	0.073304		
	30	106	0.061183		
	40	148	0.085426		
	50	169	0.097547		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	174	0.100433	±2.5	Pass
	-20	105	0.060606		
	-10	163	0.094084		
	0	155	0.089466		
	10	124	0.071573		
	20	143	0.082540		
	30	125	0.072150		
	40	106	0.061183		
	50	148	0.085426		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	160	0.092352	±2.5	Pass
	-20	147	0.084848		
	-10	106	0.061183		
	0	116	0.066955		
	10	135	0.077922		
	20	128	0.073882		
	30	190	0.109668		
	40	152	0.087734		
	50	141	0.081385		

6.13 Frequency stability V.S. Voltage measurement

Test Requirement:	FCC Part2.1055(d)(1)(2)
Test Method:	FCC Part2.1055(d)(1)(2)
Limit:	2.5ppm
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. Set chamber temperature to 25℃. 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 (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	95	0.050532	±2.5	Pass
	3.70	63	0.033511		
	3.14	74	0.039362		
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	85	0.045213	±2.5	Pass
	3.70	96	0.051064		
	3.14	45	0.023936		
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	75	0.039894	±2.5	Pass
	3.70	66	0.035106		
	3.14	70	0.037234		
Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	85	0.045213	±2.5	Pass
	3.70	74	0.039362		
	3.14	33	0.017553		
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	74	0.039362	±2.5	Pass
	3.70	65	0.034574		
	3.14	88	0.046809		
Reference Frequency: LTE Band 2(20MHz) Middle channel=20175 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	74	0.039362	±2.5	Pass
	3.70	63	0.033511		
	3.14	55	0.029255		

LTE Band 2(16QAM):

Reference Frequency: LTE Band 2(1.4MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	74	0.039362	±2.5	Pass
	3.70	55	0.029255		
	3.14	63	0.033511		
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	87	0.046277	±2.5	Pass
	3.70	68	0.036170		
	3.14	65	0.034574		
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	74	0.039362	±2.5	Pass
	3.70	88	0.046809		
	3.14	65	0.034574		
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	75	0.039894	±2.5	Pass
	3.70	63	0.033511		
	3.14	85	0.045213		
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	88	0.046809	±2.5	Pass
	3.70	75	0.039894		
	3.14	63	0.033511		
Reference Frequency: LTE Band 2(20MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	77	0.040957	±2.5	Pass
	3.70	65	0.034574		
	3.14	60	0.031915		

LTE Band 4(QPSK):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	74	0.042713	±2.5	Pass
	3.70	96	0.055411		
	3.14	85	0.049062		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	75	0.043290	±2.5	Pass
	3.70	88	0.050794		
	3.14	66	0.038095		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	67	0.038672	±2.5	Pass
	3.70	85	0.049062		
	3.14	47	0.027128		
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	66	0.038095	±2.5	Pass
	3.70	38	0.021934		
	3.23	97	0.055988		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	88	0.050794	±2.5	Pass
	3.70	75	0.043290		
	3.14	61	0.035209		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	57	0.032900	±2.5	Pass
	3.70	63	0.036364		
	3.14	78	0.045022		

LTE Band 4(16QAM):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	55	0.031746	±2.5	Pass
	3.70	74	0.042713		
	3.14	66	0.038095		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	88	0.050794	±2.5	Pass
	3.70	55	0.031746		
	3.14	74	0.042713		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	67	0.038672	±2.5	Pass
	3.70	82	0.047330		
	3.14	69	0.039827		
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	74	0.042713	±2.5	Pass
	3.70	55	0.031746		
	3.14	62	0.035786		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	74	0.042713	±2.5	Pass
	3.70	52	0.030014		
	3.14	63	0.036364		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	74	0.042713	±2.5	Pass
	3.70	56	0.032323		
	3.14	96	0.055411		