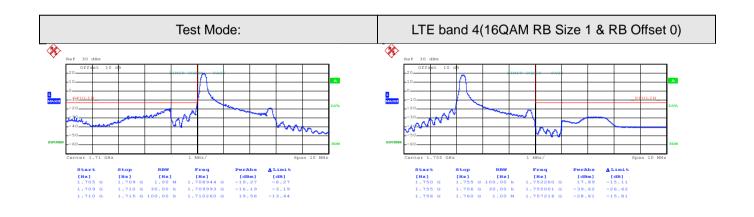


Date: 11.JUL.2017 14:24:08

Date: 11.JUL.2017 14:23:10

Lowest channel

Highest channel



Date: 11.JUL.2017 14:00:36

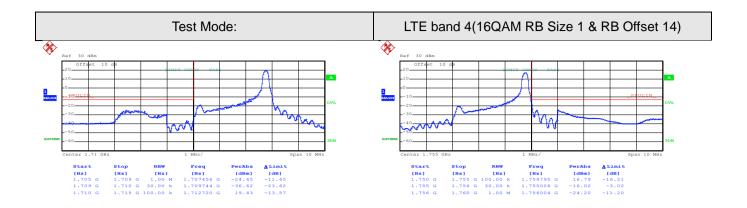
Date: 11.JUL.2017 14:03:36

Lowest channel

Highest channel





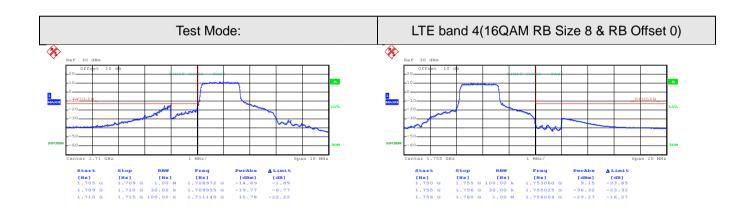


Date: 11.JUL.2017 14:01:15

Date: 11.JUL.2017 14:04:03

Lowest channel

Highest channel



Date: 11.JUL.2017 14:02:06

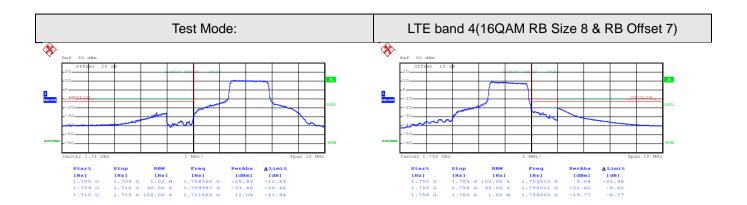
Date: 11.JUL.2017 14:04:43

Lowest channel

Highest channel





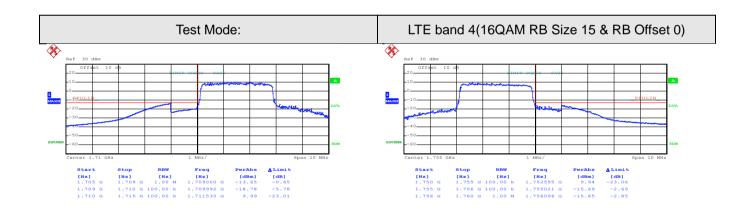


Date: 11.JUL.2017 14:02:35

Date: 11.JUL.2017 14:05:13

Lowest channel

Highest channel



Date: 11.JUL.2017 14:24:23

Date: 11.JUL.2017 14:23:19

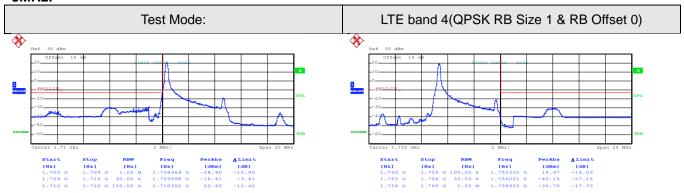
Lowest channel

Highest channel





5MHz:

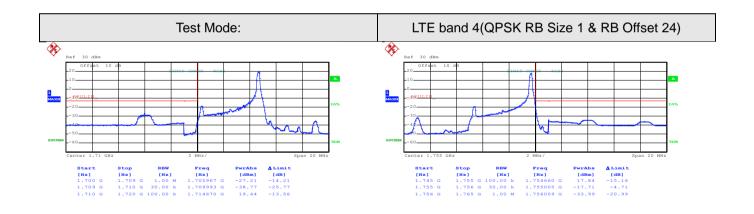


Date: 11.JUL.2017 14:09:08

Date: 11.JUL.2017 14:06:21

Lowest channel

Highest channel



Date: 11.JUL.2017 14:09:41

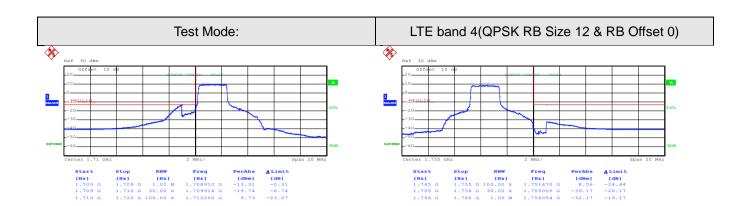
Date: 11.JUL.2017 14:06:53

Lowest channel

Highest channel





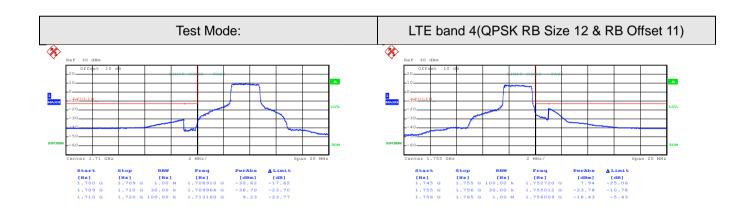


Date: 11.JUL.2017 14:10:50

Date: 11.JUL.2017 14:07:36

Lowest channel

Highest channel



Date: 11.JUL.2017 14:11:30

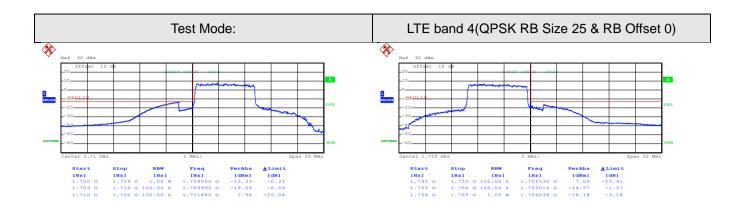
Date: 11.JUL.2017 14:08:13

Lowest channel

Highest channel





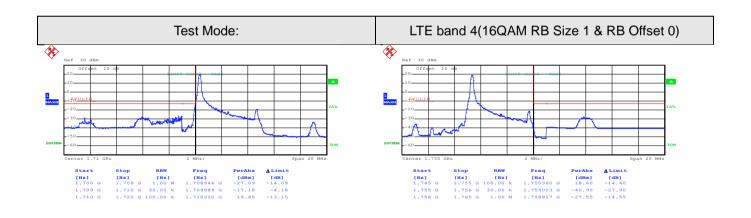


Date: 11.JUL.2017 14:20:33

Date: 11.JUL.2017 14:21:44

Lowest channel

Highest channel



Date: 11.JUL.2017 14:09:22

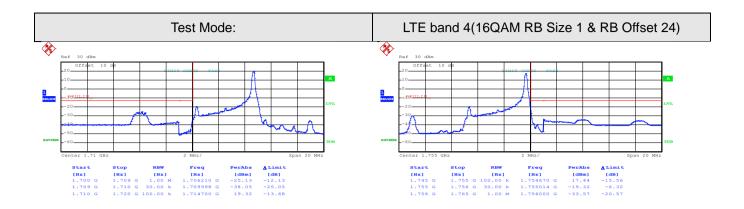
Date: 11.JUL.2017 14:06:35

Lowest channel

Highest channel





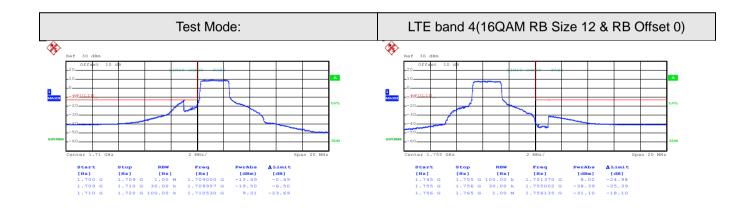


Date: 11.JUL.2017 14:09:54

Date: 11.JUL.2017 14:07:06

Lowest channel

Highest channel



Date: 11.JUL.2017 14:11:12

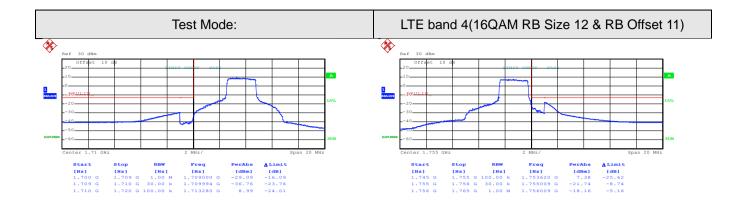
Date: 11.JUL.2017 14:07:49

Lowest channel

Highest channel





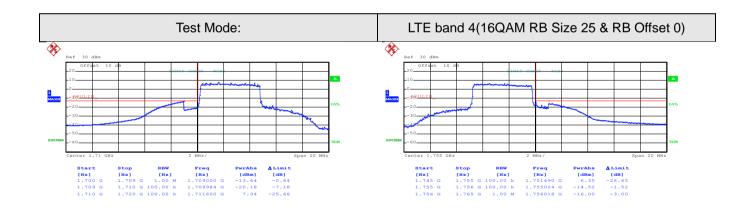


Date: 11.JUL.2017 14:11:43

Date: 11.JUL.2017 14:08:29

Lowest channel

Highest channel



Date: 11.JUL.2017 14:20:47

Date: 11.JUL.2017 14:21:56

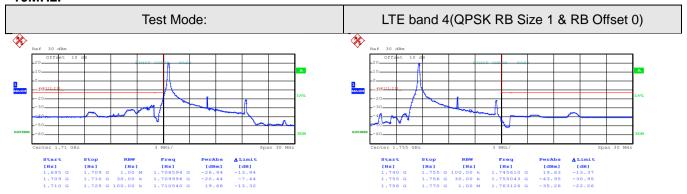
Lowest channel

Highest channel





10MHz:

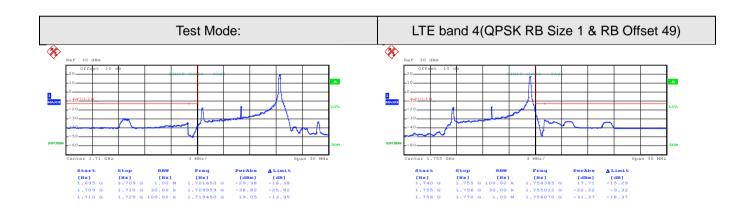


Date: 11.JUL.2017 14:39:18

Date: 11.JUL.2017 14:41:00

Lowest channel

Highest channel



Date: 11.JUL.2017 14:39:49

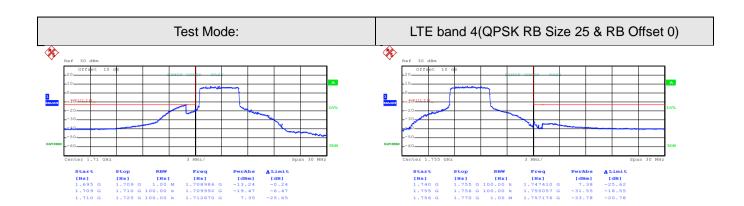
Date: 11.JUL.2017 14:41:26

Lowest channel

Highest channel





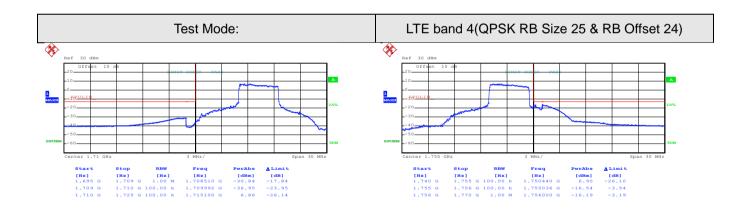


Date: 11.JUL.2017 14:27:13

Date: 11.JUL.2017 14:28:56

Lowest channel

Highest channel



Date: 11.JUL.2017 14:27:49

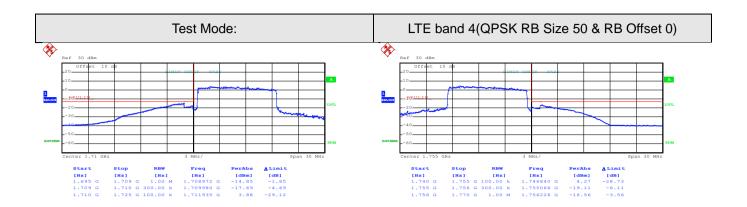
Date: 11.JUL.2017 14:29:33

Lowest channel

Highest channel





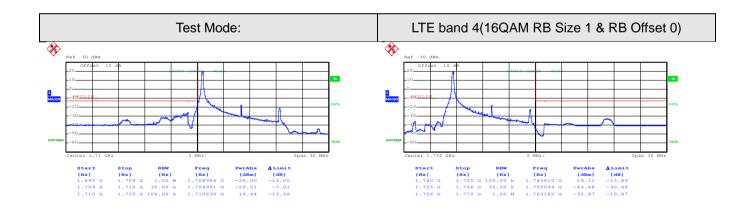


Date: 11.JUL.2017 15:02:53

Date: 11.JUL.2017 15:01:49

Lowest channel

Highest channel



Date: 11.JUL.2017 14:39:29

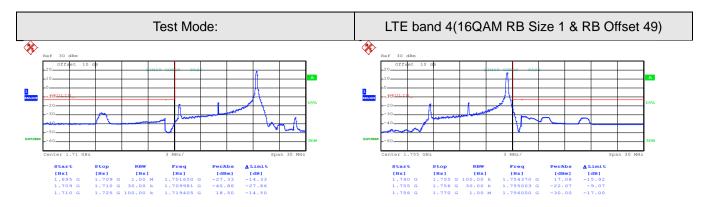
Date: 11.JUL.2017 14:41:12

Lowest channel

Highest channel





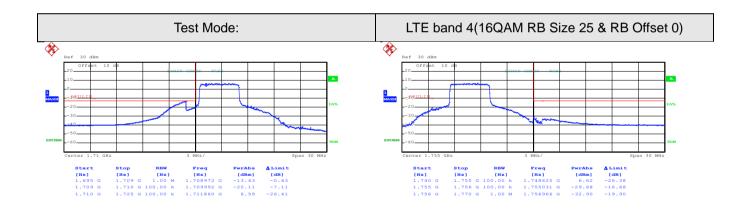


Date: 11.JUL.2017 14:39:59

Date: 11.JUL.2017 14:41:39

Lowest channel

Highest channel



Date: 11.JUL.2017 14:27:30

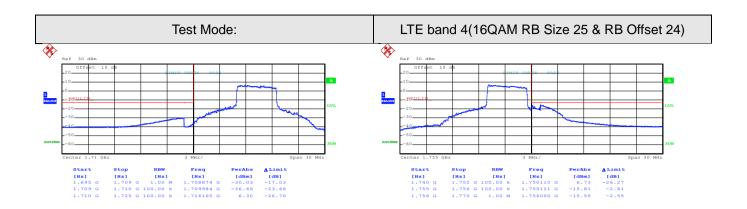
Date: 11.JUL.2017 14:29:16

Lowest channel

Highest channel





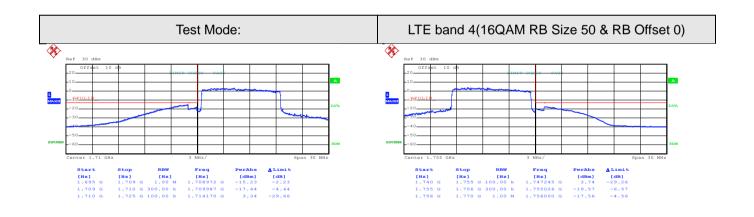


Date: 11.JUL.2017 14:28:04

Date: 11.JUL.2017 14:29:47

Lowest channel

Highest channel



Date: 11.JUL.2017 15:03:04

Date: 11.JUL.2017 15:02:01

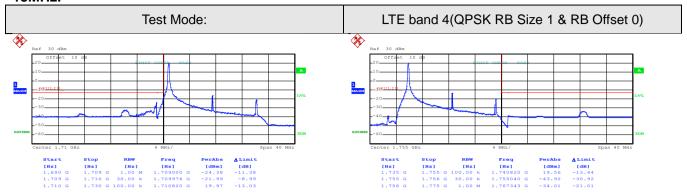
Lowest channel

Highest channel





15MHz:

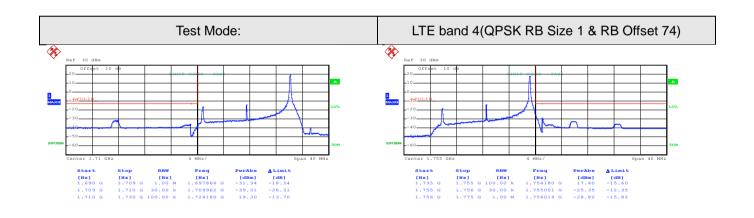


Date: 11.JUL.2017 14:45:17

Date: 11.JUL.2017 14:43:30

Lowest channel

Highest channel



Date: 11.JUL.2017 14:45:50

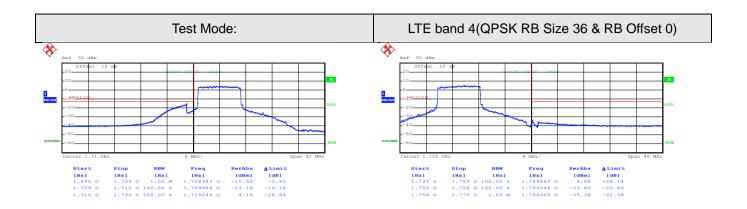
Date: 11.JUL.2017 14:44:03

Lowest channel

Highest channel





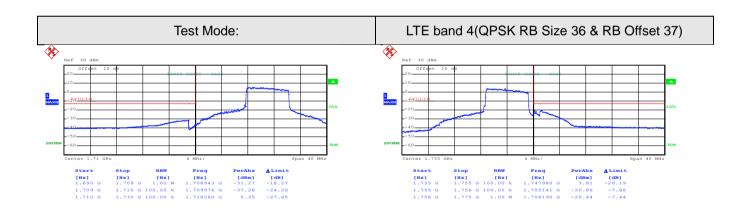


Date: 11.JUL.2017 14:36:11

Date: 11.JUL.2017 14:33:35

Lowest channel

Highest channel



Date: 11.JUL.2017 14:36:41

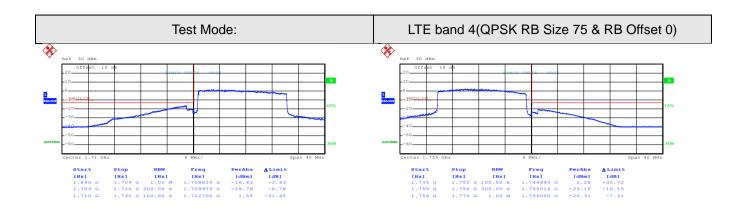
Date: 11.JUL.2017 14:34:06

Lowest channel

Highest channel





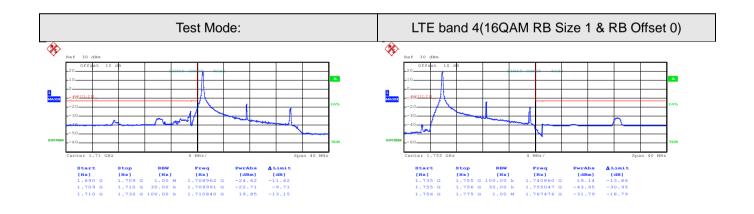


Date: 11.JUL.2017 14:59:30

Date: 11.JUL.2017 15:00:19

Lowest channel

Highest channel



Date: 11.JUL.2017 14:45:33

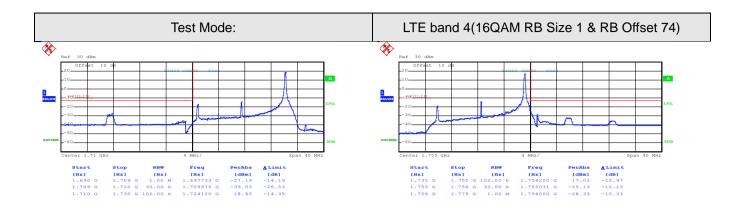
Date: 11.JUL.2017 14:43:43

Lowest channel

Highest channel





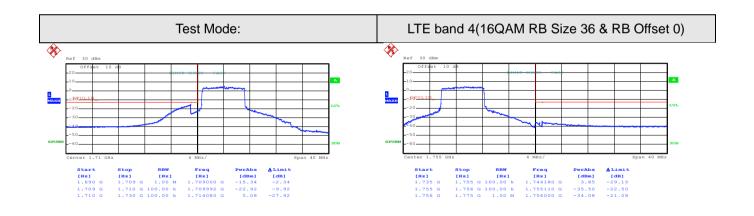


Date: 11.JUL.2017 14:46:02

Date: 11.JUL.2017 14:44:17

Lowest channel

Highest channel



Date: 11.JUL.2017 14:36:24

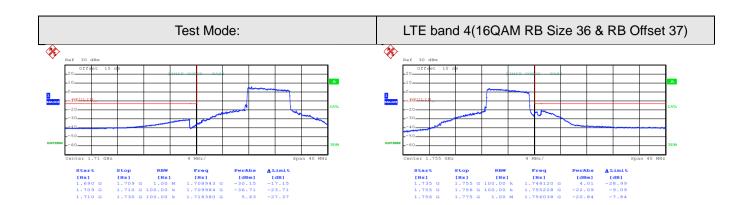
Date: 11.JUL.2017 14:33:49

Lowest channel

Highest channel





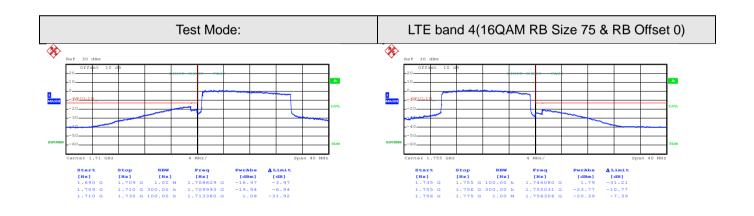


Date: 11.JUL.2017 14:36:55

Date: 11.JUL.2017 14:34:19

Lowest channel

Highest channel



Date: 11.JUL.2017 14:59:50

Date: 11.JUL.2017 15:00:28

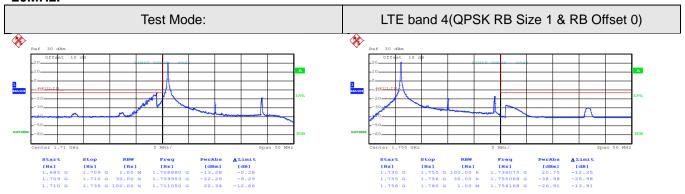
Lowest channel

Highest channel





20MHz:

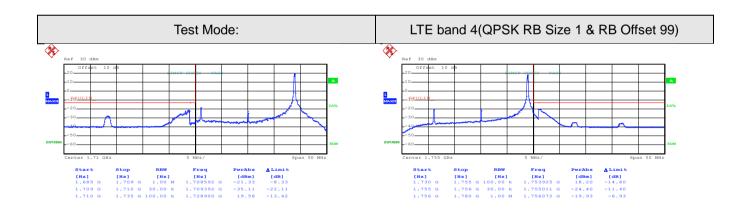


Date: 11.JUL.2017 14:47:31

Date: 11.JUL.2017 14:49:14

Lowest channel

Highest channel



Date: 11.JUL.2017 14:48:02

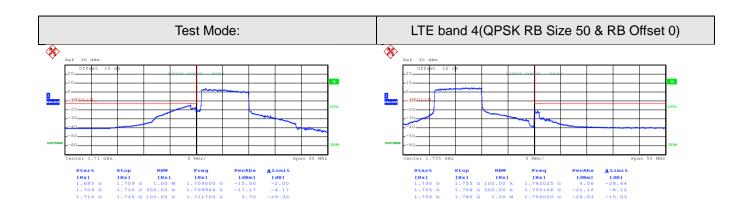
Date: 11.JUL.2017 14:49:40

Lowest channel

Highest channel





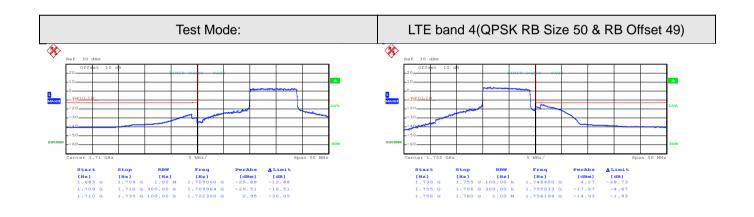


Date: 11.JUL.2017 14:55:52

Date: 11.JUL.2017 14:52:10

Lowest channel

Highest channel



Date: 11.JUL.2017 14:56:46

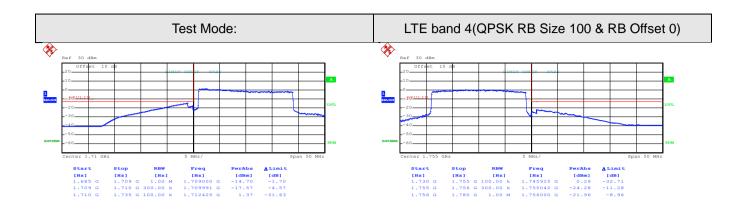
Date: 11.JUL.2017 14:53:07

Lowest channel

Highest channel





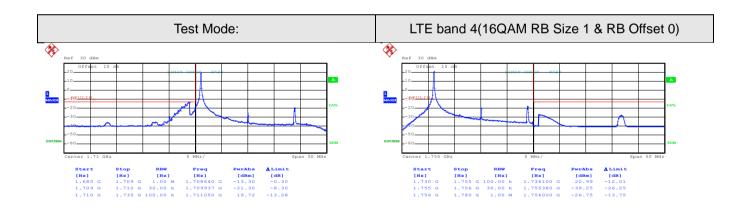


Date: 11.JUL.2017 14:57:21

Date: 11.JUL.2017 14:53:40

Lowest channel

Highest channel



Date: 11.JUL.2017 14:47:49

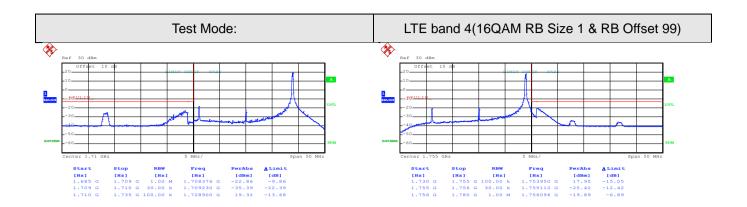
Date: 11.JUL.2017 14:49:26

Lowest channel

Highest channel





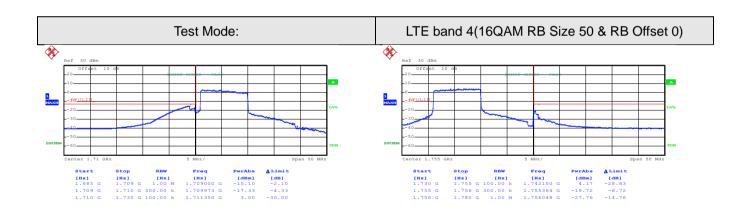


Date: 11.JUL.2017 14:48:14

Date: 11.JUL.2017 14:49:53

Lowest channel

Highest channel



Date: 11.JUL.2017 14:56:13

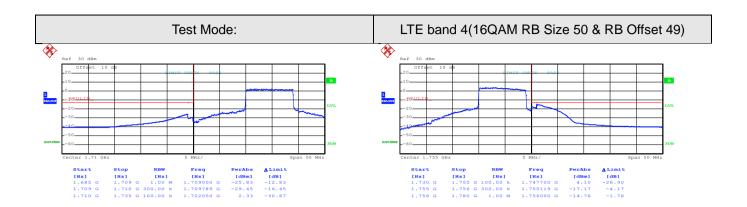
Date: 11.JUL.2017 14:52:24

Lowest channel

Highest channel





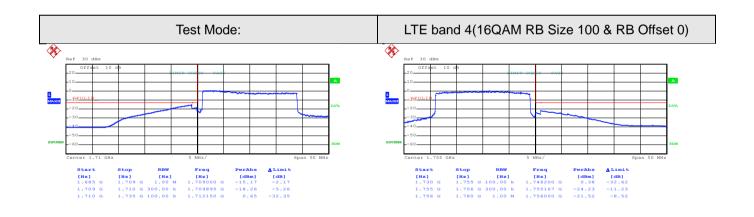


Date: 11.JUL.2017 14:57:03

Date: 11.JUL.2017 14:53:22

Lowest channel

Highest channel



Date: 11.JUL.2017 14:57:32

Date: 11.JUL.2017 14:53:51

Lowest channel

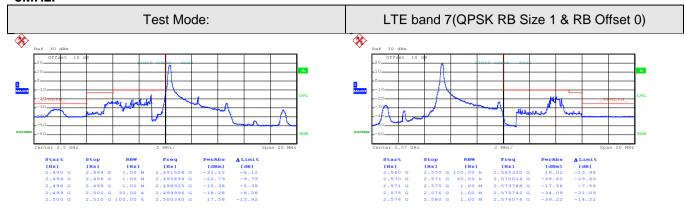
Highest channel





LTE band 7 part:

5MHz:

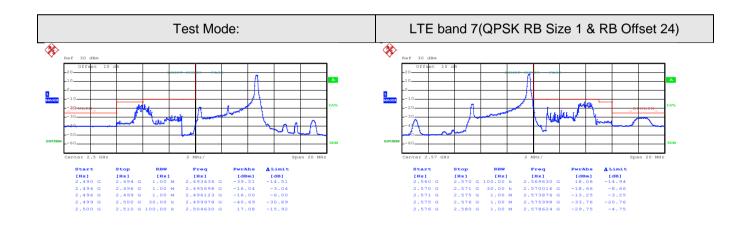


Date: 11.JUL.2017 09:28:54

Date: 11.JUL.2017 10:33:00

Lowest channel

Highest channel



Date: 11.JUL.2017 09:29:23

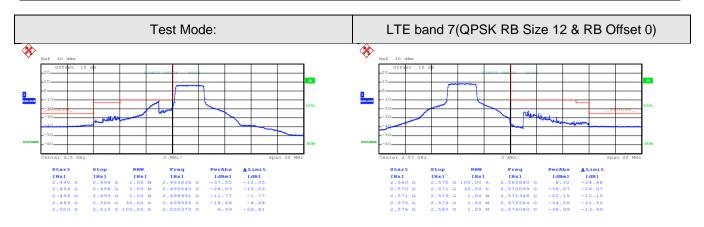
Date: 11.JUL.2017 10:34:01

Lowest channel

Highest channel





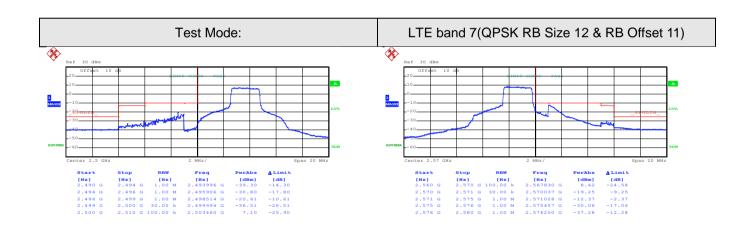


Date: 11.JUL.2017 10:38:40

Date: 11.JUL.2017 10:35:11

Lowest channel

Highest channel



Date: 11.JUL.2017 09:32:06

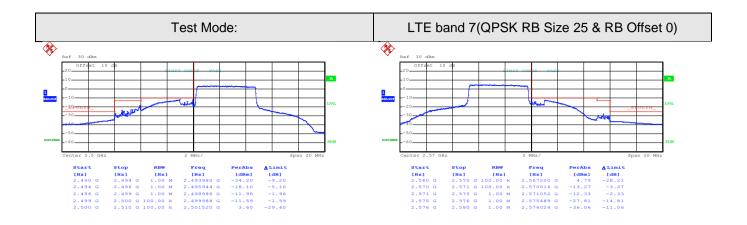
Date: 11.JUL.2017 10:36:21

Lowest channel

Highest channel





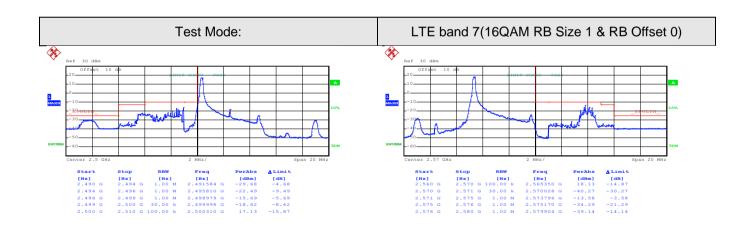


Date: 11.JUL.2017 10:42:03

Date: 11.JUL.2017 10:45:02

Lowest channel

Highest channel



Date: 11.JUL.2017 09:29:09

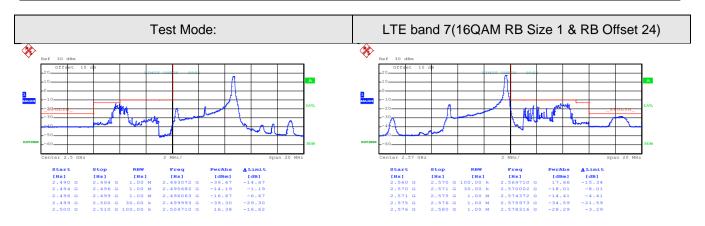
Date: 11.JUL.2017 10:33:25

Lowest channel

Highest channel





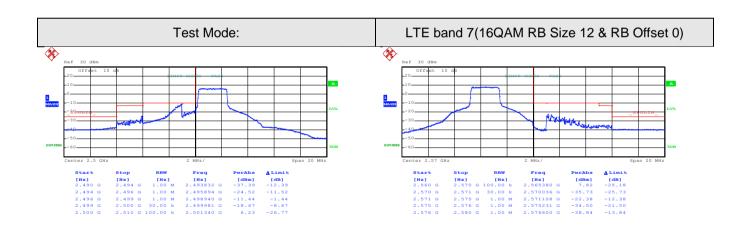


Date: 11.JUL.2017 09:29:36

Date: 11.JUL.2017 10:34:33

Lowest channel

Highest channel



Date: 11.JUL.2017 10:38:57

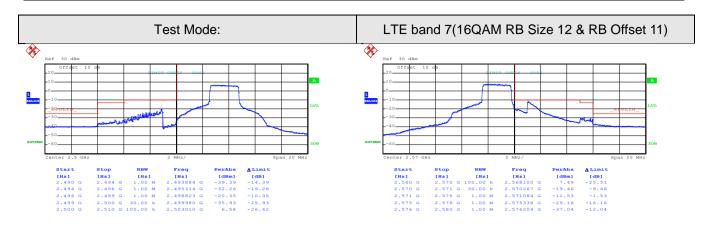
Date: 11.JUL.2017 10:35:23

Lowest channel

Highest channel





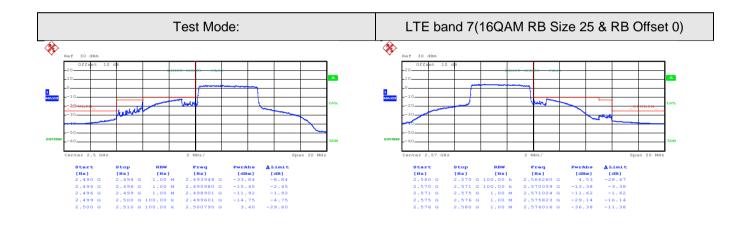


Date: 11.JUL.2017 09:32:18

Date: 11.JUL.2017 10:36:43

Lowest channel

Highest channel



Date: 11.JUL.2017 10:42:14

Date: 11.JUL.2017 10:45:17

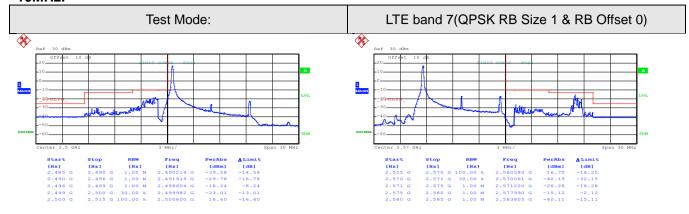
Lowest channel

Highest channel





10MHz:

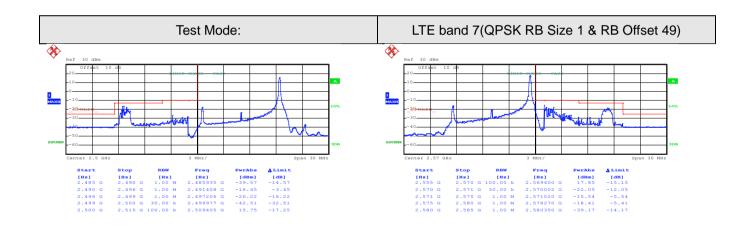


Date: 11.JUL.2017 10:47:05

Date: 11.JUL.2017 11:02:31

Lowest channel

Highest channel



Date: 11.JUL.2017 10:47:40

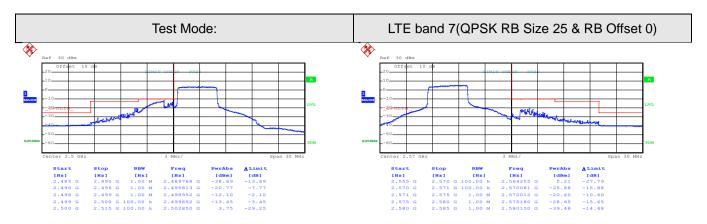
Date: 11.JUL.2017 12:49:50

Lowest channel

Highest channel





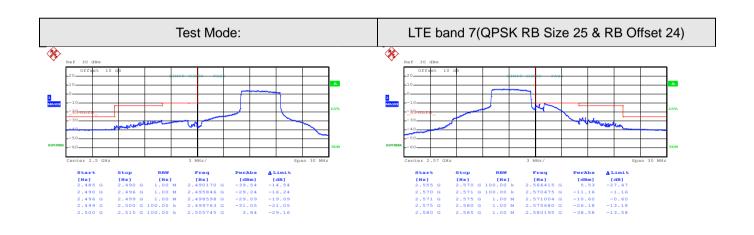


Date: 11.JUL.2017 11:48:35

Date: 11.JUL.2017 11:45:46

Lowest channel

Highest channel



Date: 11.JUL.2017 11:49:07

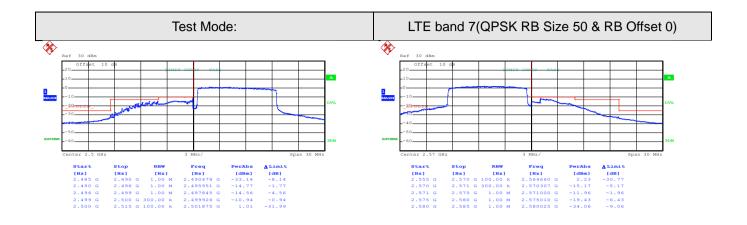
Date: 11.JUL.2017 11:47:16

Lowest channel

Highest channel





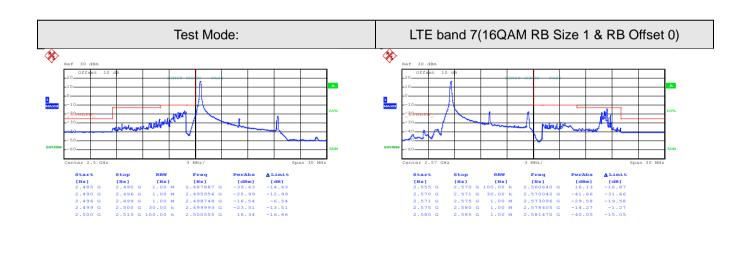


Date: 11.JUL.2017 11:50:57

Date: 11.JUL.2017 11:52:48

Lowest channel

Highest channel



Date: 11.JUL.2017 10:47:17

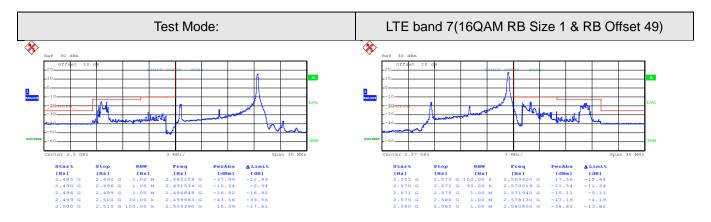
Date: 11.JUL.2017 11:02:57

Lowest channel

Highest channel





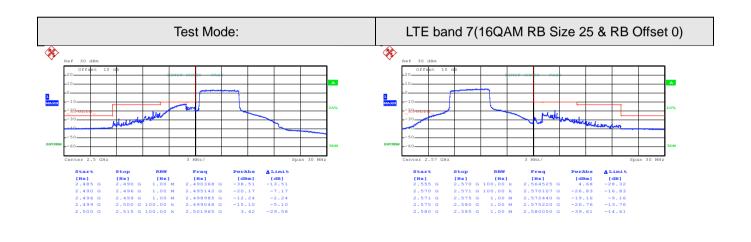


Date: 11.JUL.2017 10:47:56

Date: 11.JUL.2017 12:50:03

Lowest channel

Highest channel



Date: 11.JUL.2017 11:48:50

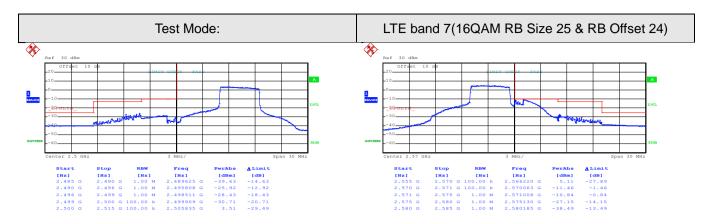
Date: 11.JUL.2017 11:45:58

Lowest channel

Highest channel





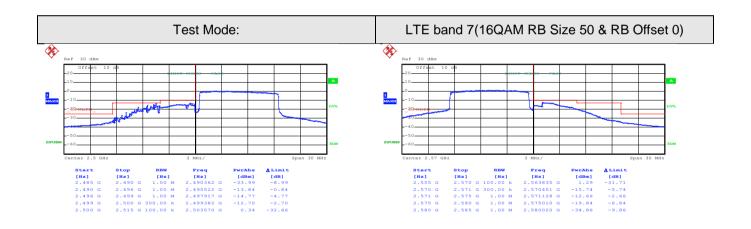


Date: 11.JUL.2017 11:49:20

Date: 11.JUL.2017 11:47:30

Lowest channel

Highest channel



Date: 11.JUL.2017 11:51:14

Date: 11.JUL.2017 11:53:01

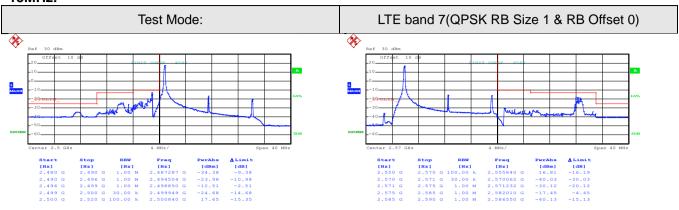
Lowest channel

Highest channel





15MHz:

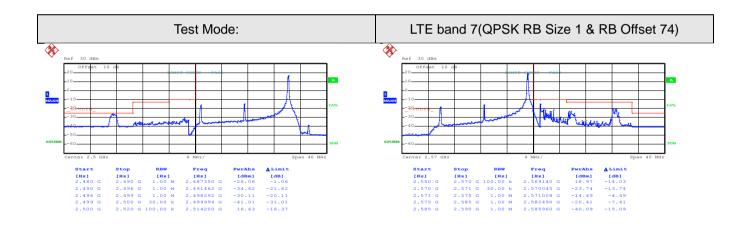


Date: 11.JUL.2017 12:07:12

Date: 11.JUL.2017 12:09:34

Lowest channel

Highest channel



Date: 11.JUL.2017 12:07:57

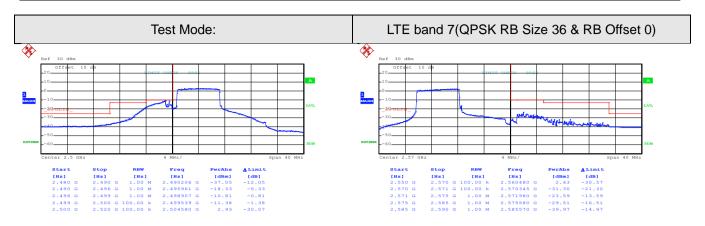
Date: 11.JUL.2017 12:10:10

Lowest channel

Highest channel





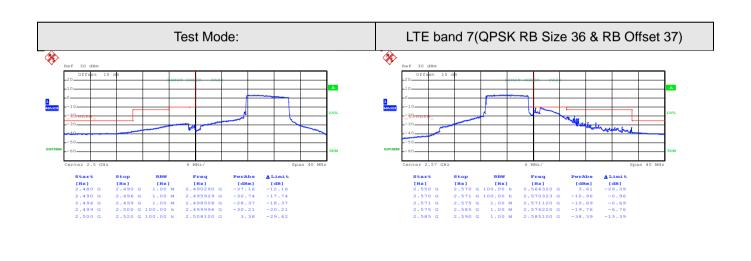


Date: 11.JUL.2017 12:04:16

Date: 11.JUL.2017 11:59:43

Lowest channel

Highest channel



Date: 11.JUL.2017 12:04:57

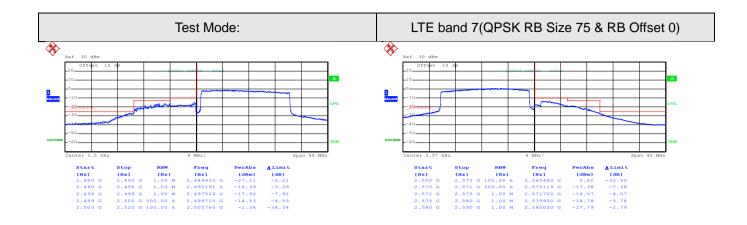
Date: 11.JUL.2017 12:02:16

Lowest channel

Highest channel





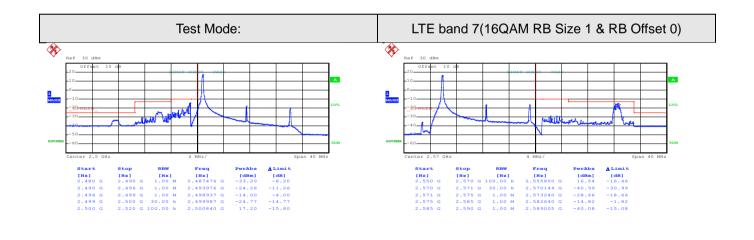


Date: 11.JUL.2017 11:55:25

Date: 11.JUL.2017 11:56:22

Lowest channel

Highest channel



Date: 11.JUL.2017 12:07:27

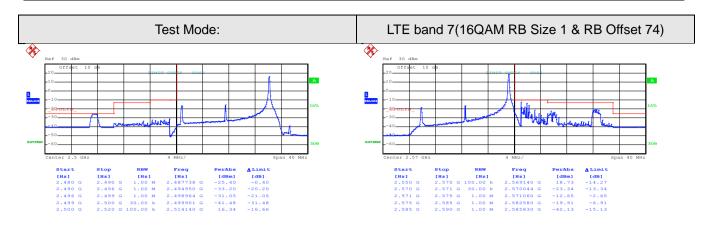
Date: 11.JUL.2017 12:09:54

Lowest channel

Highest channel





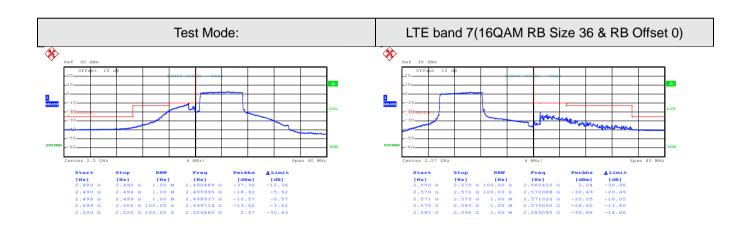


Date: 11.JUL.2017 12:08:37

Date: 11.JUL.2017 12:10:26

Lowest channel

Highest channel



Date: 11.JUL.2017 12:04:36

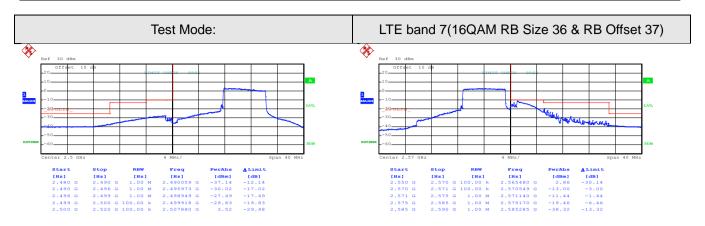
Date: 11.JUL.2017 11:59:57

Lowest channel

Highest channel





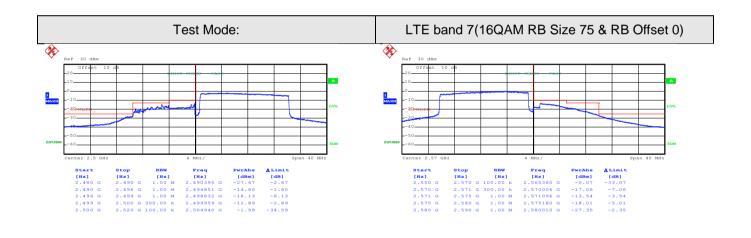


Date: 11.JUL.2017 12:05:12

Date: 11.JUL.2017 12:02:34

Lowest channel

Highest channel



Date: 11.JUL.2017 11:55:40

Date: 11.JUL.2017 11:56:37

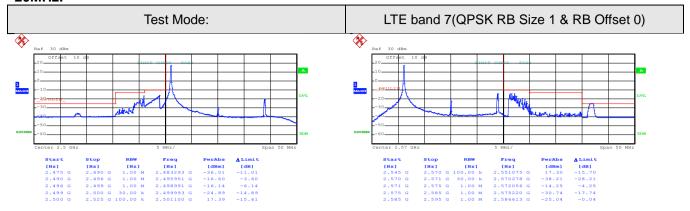
Lowest channel

Highest channel





20MHz:

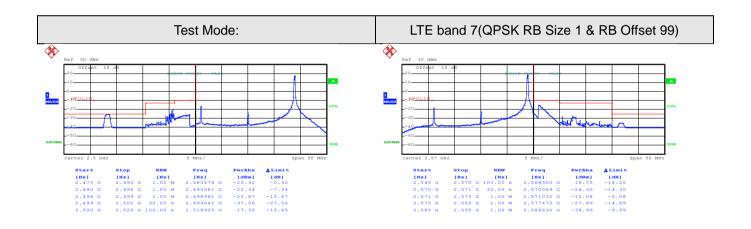


Date: 11.JUL.2017 12:52:54

Date: 11.JUL.2017 12:17:05

Lowest channel

Highest channel



Date: 11.JUL.2017 12:23:09

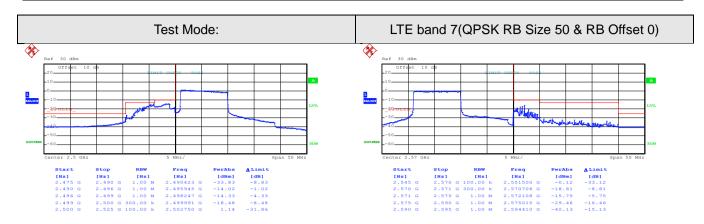
Date: 11.JUL.2017 12:20:52

Lowest channel

Highest channel





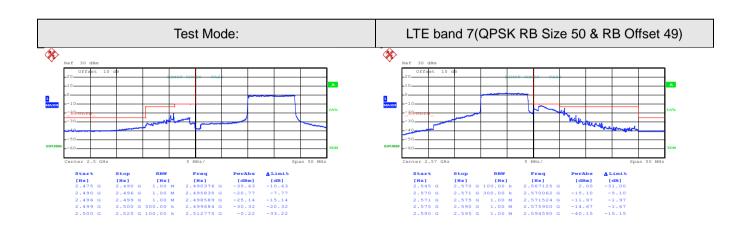


Date: 11.JUL.2017 12:27:06

Date: 11.JUL.2017 12:29:12

Lowest channel

Highest channel



Date: 11.JUL.2017 12:27:42

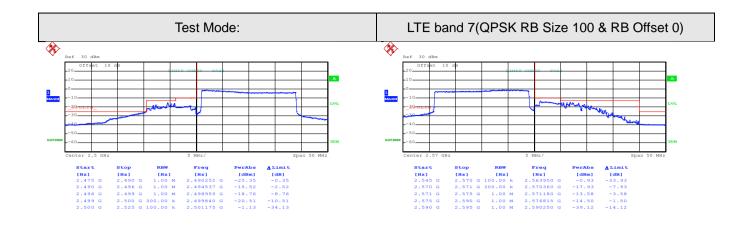
Date: 11.JUL.2017 12:30:10

Lowest channel

Highest channel





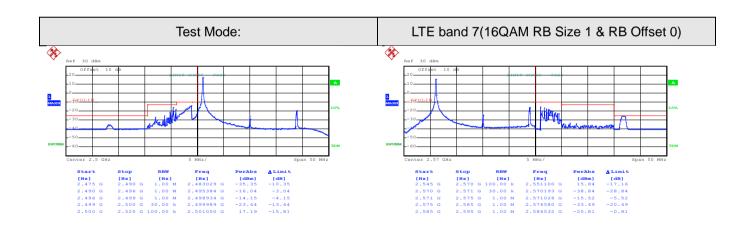


Date: 11.JUL.2017 12:28:17

Date: 11.JUL.2017 12:30:44

Lowest channel

Highest channel



Date: 11.JUL.2017 12:22:44

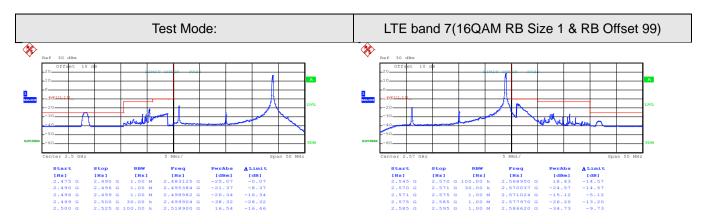
Date: 11.JUL.2017 12:19:39

Lowest channel

Highest channel





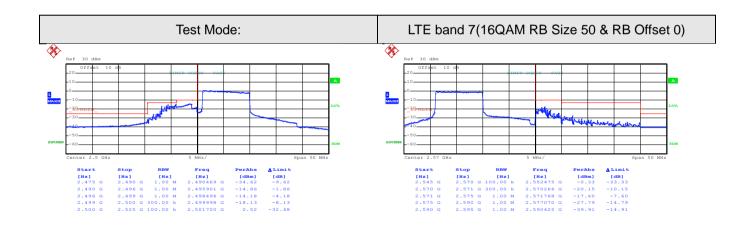


Date: 11.JUL.2017 12:25:27

Date: 11.JUL.2017 12:21:09

Lowest channel

Highest channel



Date: 11.JUL.2017 12:27:22

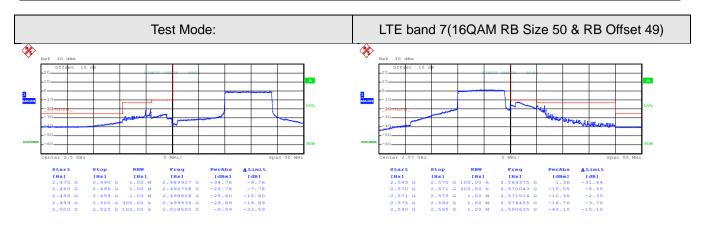
Date: 11.JUL.2017 12:29:29

Lowest channel

Highest channel





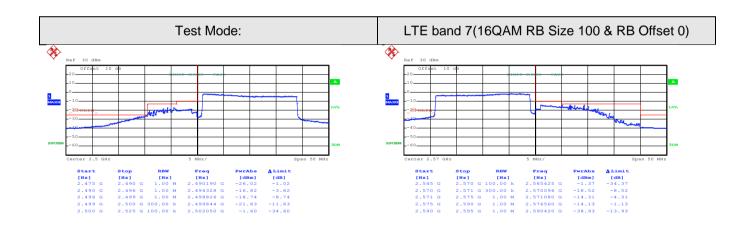


Date: 11.JUL.2017 12:28:01

Date: 11.JUL.2017 12:30:25

Lowest channel

Highest channel



Date: 11.JUL.2017 12:28:27

Date: 11.JUL.2017 12:30:59

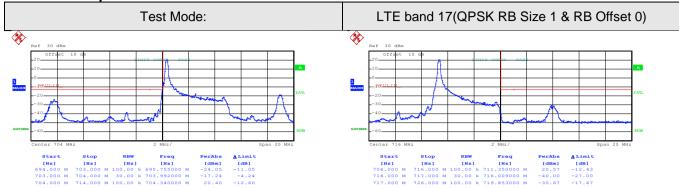
Lowest channel

Highest channel





LTE band 17 part:5MHz:

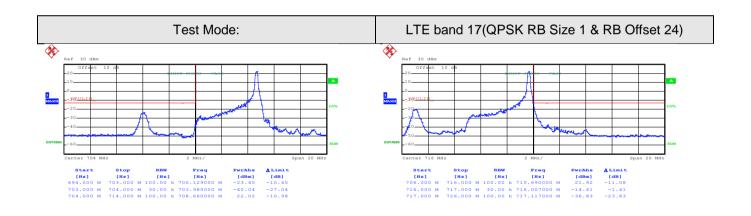


Date: 11.JUL.2017 15:22:14

Date: 11.JUL.2017 15:13:33

Lowest channel

Highest channel



Date: 11.JUL.2017 15:17:19

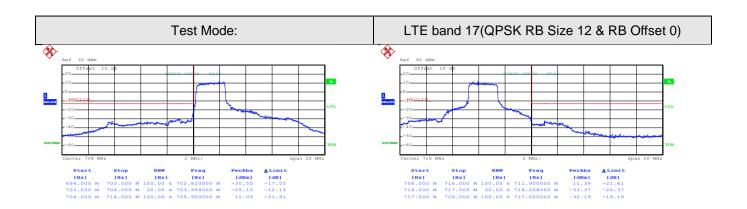
Date: 11.JUL.2017 15:14:29

Lowest channel

Highest channel





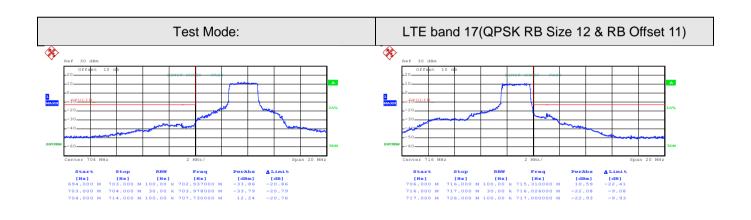


Date: 11.JUL.2017 15:17:47

Date: 11.JUL.2017 15:15:11

Lowest channel

Highest channel



Date: 11.JUL.2017 15:18:21

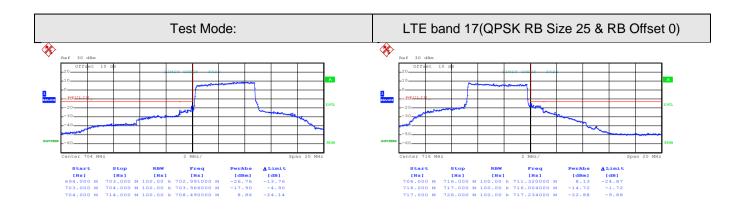
Date: 11.JUL.2017 15:15:37

Lowest channel

Highest channel





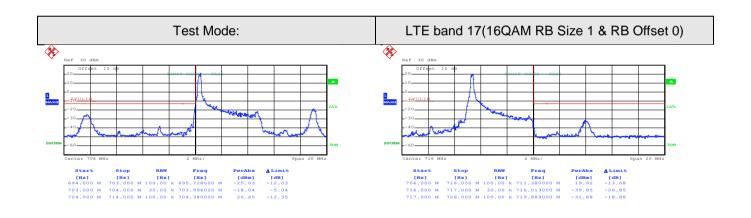


Date: 11.JUL.2017 15:23:11

Date: 11.JUL.2017 15:24:02

Lowest channel

Highest channel



Date: 11.JUL.2017 15:17:06

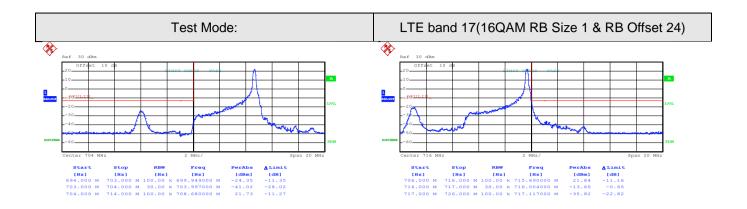
Date: 11.JUL.2017 15:13:44

Lowest channel

Highest channel





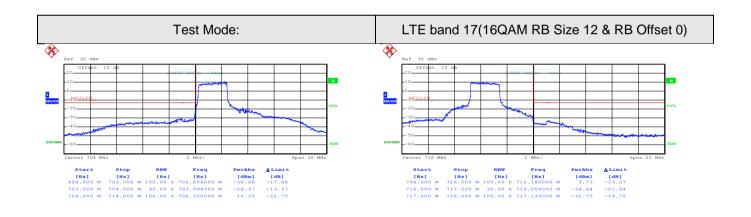


Date: 11.JUL.2017 15:17:31

Date: 11.JUL.2017 15:14:42

Lowest channel

Highest channel



Date: 11.JUL.2017 15:17:57

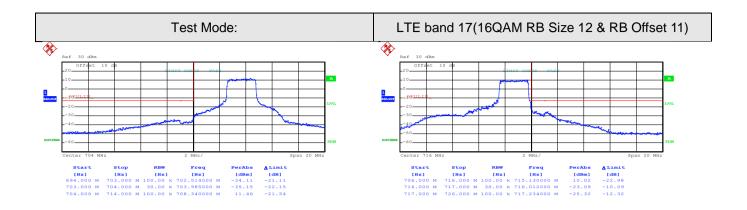
Date: 11.JUL.2017 15:15:21

Lowest channel

Highest channel





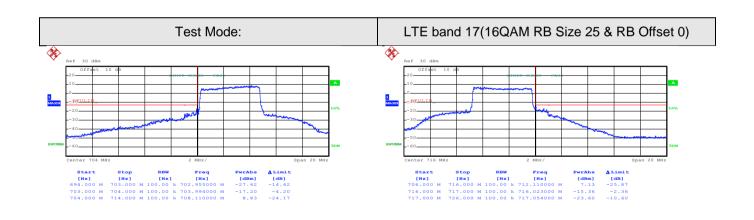


Date: 11.JUL.2017 15:18:33

Date: 11.JUL.2017 15:15:49

Lowest channel

Highest channel



Date: 11.JUL.2017 15:23:20

Date: 11.JUL.2017 15:24:11

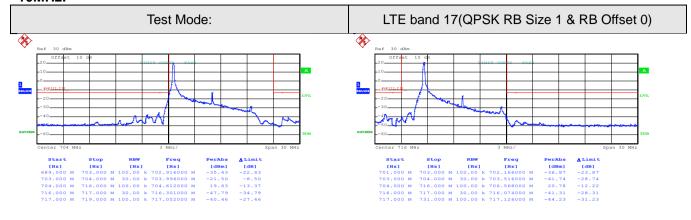
Lowest channel

Highest channel





10MHz:

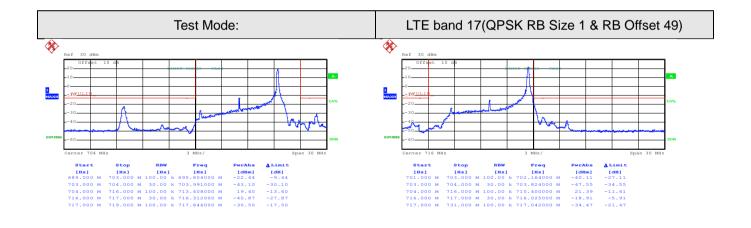


Date: 11.JUL.2017 15:08:18

Date: 11.JUL.2017 15:10:36

Lowest channel

Highest channel



Date: 11.JUL.2017 15:08:39

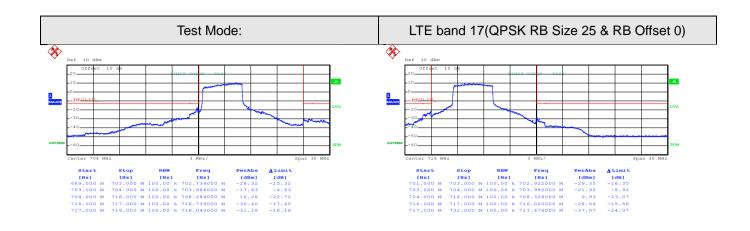
Date: 11.JUL.2017 15:10:55

Lowest channel

Highest channel





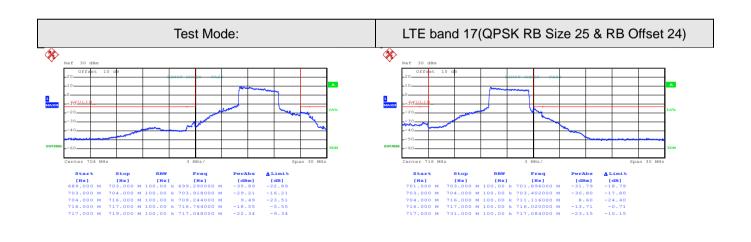


Date: 11.JUL.2017 15:26:55

Date: 11.JUL.2017 15:25:18

Lowest channel

Highest channel



Date: 11.JUL.2017 15:27:21

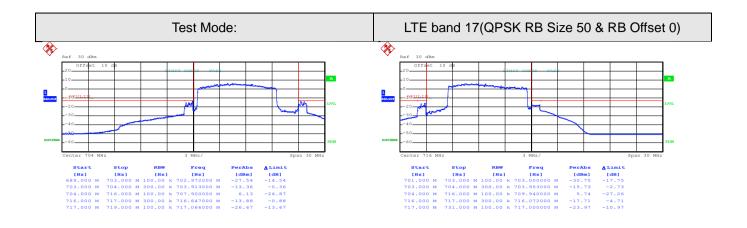
Date: 11.JUL.2017 15:25:47

Lowest channel

Highest channel





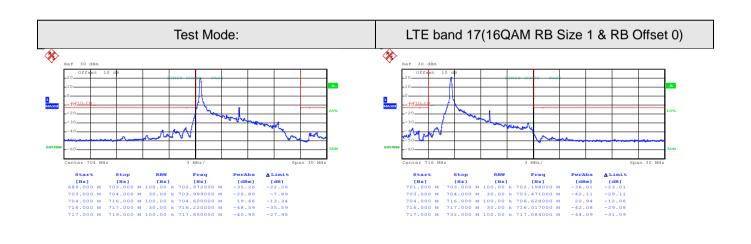


Date: 11.JUL.2017 15:30:14

Date: 11.JUL.2017 15:32:12

Lowest channel

Highest channel



Date: 11.JUL.2017 15:09:03

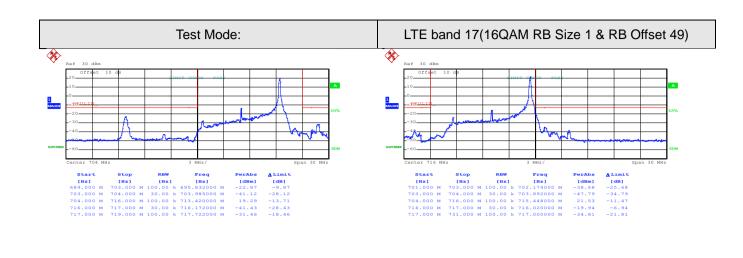
Date: 11.JUL.2017 15:10:26

Lowest channel

Highest channel





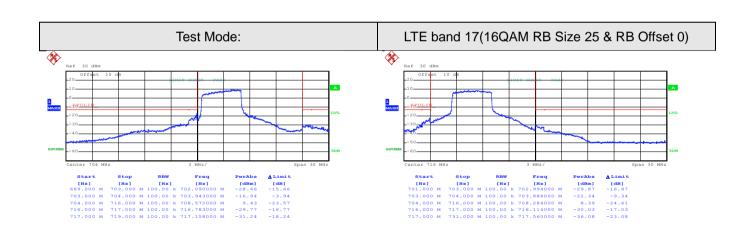


Date: 11.JUL.2017 15:09:19

Date: 11.JUL.2017 15:11:06

Lowest channel

Highest channel



Date: 11.JUL.2017 15:27:07

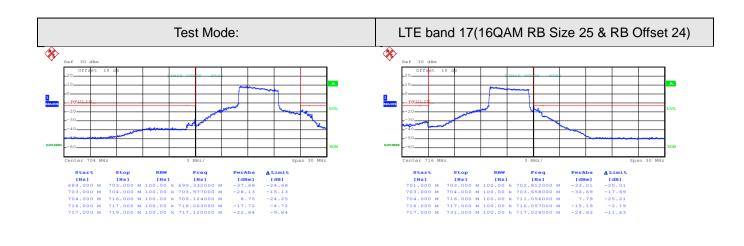
Date: 11.JUL.2017 15:25:31

Lowest channel

Highest channel





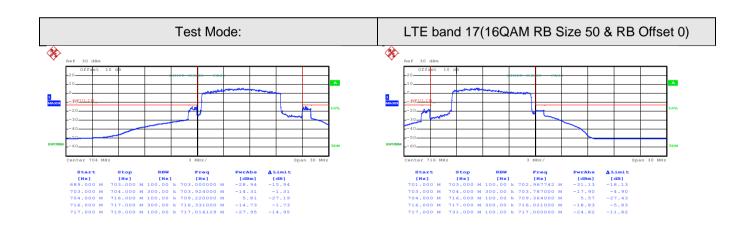


Date: 11.JUL.2017 15:27:32

Date: 11.JUL.2017 15:25:59

Lowest channel

Highest channel



Date: 11.JUL.2017 15:31:08

Date: 11.JUL.2017 15:32:28

Lowest channel

Highest channel





6.10 ERP, EIRP Measurement

Test Requirement:	24.232 (c), part 27.50(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 LTE Band 17: 3W EIRP
Test setup:	Below 1GHz
	Antenna Tower Search Antenna RF Test Receiver Above 1GHz Antenna Tower Antenna Tower Antenna Tower Antenna Tower Antenna Antenna Spectrum Analysiar Antenna Spectrum Analysiar Analysiar
	Substituted method:
	Ground plane d: distance in meters d: 3 meter I-4 meter SpA Substituted Dipole or Horn Antenna Bi-Log Antenna or Horn Antenna





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 s	ize 1 & RB	offset 0)				
1950.70	10607	OBSK	1.4	Н	V	13.50			
1850.70	18607	QPSK	1.4	П	Н	10.33	33.00	Pass	
1950.70	10607	16OAM	1 1	Н	V	13.97	33.00	Pass	
1850.70	18607	16QAM	1.4	П	Н	10.44			
1.4MHz(RB size 3 & RB offset 0)									
1050.70	10607	ODSK	1.4	Н	V	13.57			
1850.70	18607	QPSK	1.4		Н	9.91	33.00	Pass	
1850.70	18607	16QAM	1.4	Н	V	13.75	33.00	Pass	
1650.70	10007	TOQAW	1.4	П	Н	10.25			
		1.	4MHz(RB s	size 6 & RB	offset 0)				
1050.70	10007	ODSK	1.4	Ш	V	12.63			
1850.70	18607	QPSK	1.4	Н	Н	9.02	22.00	Door	
1950.70	10607	160 A M	1.4	Н	V	12.84	33.00	Pass	
1850.70	18607	16QAM	1.4		Н	9.18			

Middle channel

Middle channel											
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
		1.4	4MHz(RB	size 1 & RE	3 offset 0)						
1880.00	18900	QPSK	1.4	Н	V	13.62					
1000.00	10900	QF 5K	1.4	11	Н	10.57	33.00	Pass			
1880.00	18900	16QAM	1.4	Н	V	13.75	33.00				
1000.00	10900	IOQAIVI	1.4	11	Н	10.29					
	1.4MHz(RB size 3 & RB offset 0)										
1880.00	18900	QPSK	1.4	Н	V	13.86					
1000.00	16900	QFSK	1.4	П	Н	10.28	33.00	Pass			
1880.00	18900	16QAM	1.4	Н	V	13.78	33.00	Fass			
1000.00	10900	IOQAW	1.4	11	Н	10.57					
		1.4	4MHz(RB	size 6 & RE	3 offset 0)						
1880.00	18900	QPSK	1.40	Н	V	12.77					
1000.00	10300	QI OIX	1.40		Н	9.86	33.00	Pass			
1880.00	18900	16QAM	1.40	Н	V	12.73	33.00	1 055			
1000.00	10900	IOQAW	1.40		Н	9.53					





Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
			1.4MHz(RE	3 size 1 & F	RB offset 0)						
1909.30	10102	QPSK	1.4	Н	V	13.77					
1909.30	19193	QFSK	1.4	П	Н	10.45	33.00	Door			
1000 20	10102	16QAM	1.4	Н	V	14.19	33.00	Pass			
1909.30	19193	IOQAW	1.4	П	Н	10.68					
	1.4MHz(RB size 3 & RB offset 0)										
4000 00	40400	ODCK		4.4	V	13.92		Door			
1909.30	19193	QPSK	1.4	Н	Н	10.21	22.00				
1000 20	10102	160 AM	1.1	Н	V	13.54	33.00	Pass			
1909.30	19193	16QAM	1.4	П	Н	10.42					
			1.4MHz(RE	3 size 6 & F	RB offset 0)						
4000 20	40400	ODCK	4.4	1.1	V	12.42					
1909.30	19193	QPSK	1.4	Н	Н	9.69	22.00	Doos			
1000 20	10102	160AM	4.4	Ш	V	12.62	33.00	Pass			
1909.30	19193	16QAM	1.4	Н	Н	9.47					

Lowest channel

	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)											
1960.00	10700	OBSK	20 H V	13.52							
1860.00	18700	QPSK	20	20 H	10.42	33.00	Pass				
1860.00	18700	16QAM	20	Н	V	13.67	33.00	1 833			
1000.00	18700	TOQAM	20		Н	10.58					
	20MHz(RB size 50 & RB offset 0)										
1860.00	18700		20	Н	V	13.66					
1000.00	10700	QPSK	20	П	Н	10.29	33.00	Pass			
1860.00	18700	16QAM	20	Н	V	13.35	33.00	Fa55			
1000.00	18700	TOQAM	20		Н	10.46					
		20	MHz(RB siz	e 100 & R	B offset 0)						
1860.00	18700	QPSK	20	Н	V	12.25					
1000.00	10700	QF3N	20	П	Н	9.98	33.00	Pass			
1860.00	18700	16QAM	20	Н	V	12.57	33.00	F a 5 5			
1000.00	16700	IOQAM	20	П	Н	9.86					





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)											
1880.00	18900	QPSK	20	Н	V	13.89					
1000.00	10900	QFSK	20	П	Н	10.27	33.00	Pass			
1880.00	18900	16QAM	20	Н	V	13.75	33.00	Fa55			
1880.00	10900	TOQAW	20	П	Н	10.64					
	20MHz(RB size 50 & RB offset 0)										
1880.00	18900	QPSK	20	Н	V	13.54					
1000.00	10900	QF3K	20	П	Н	10.33	33.00	Pass			
1880.00	18900	16QAM	20	Н	V	13.48	33.00	F 4 5 5			
1000.00	10900	IOQAW	20	П	Н	10.22					
		20	MHz(RB siz	e 100 & R	B offset 0)						
1000.00	10000	ODSK	20	Ш	V	12.69					
1880.00	18900	QPSK	20	Н	Н	9.88	33.00	Pass			
1880.00	18900	16QAM	20	Н	V	12.52	33.00	F 455			
1000.00	10900	IOQAW	20	17	Н	9.64					

Highest channel

	nighest chaintei										
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	Н	V	13.82					
1900.00	19100	QPSK	20	П	Н	10.33	22.00	Door			
1900.00	19100	16QAM	20	ы	V	13.86	33.00	Pass			
1900.00	19100	TOQAM	20 H		Н	10.57					
	20MHz(RB size 50 & RB offset 0)										
1900.00	19100	QPSK	,	20 H	V	13.65	33.00				
1900.00	19100	QFSK	20		Н	10.18		Pass			
1900.00	19100	16QAM	20	Н	V	13.45		Fa55			
1900.00	19100	IOQAW	20	П	Н	10.27					
		2	0MHz(RB s	ize 100 8	RB offset 0))					
1900.00	19100	QPSK	20	Н	V	12.42					
1900.00	19100	QF3N	20	17	Н	9.69	33.00	Pass			
1900.00	19100	16QAM	20	Н	V	12.35	33.00	F a55			
1900.00	19100	IOQAW	20	11	Н	9.82					





LTE band 4 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
		,	I.4MHz(RE	3 size 1 &	RB offset 0)						
1710.70	19957	QPSK	1.4	Н	V	12.67					
1710.70	19937	QFSK	1.4 H	П	Н	7.44	30.00	Pass			
1710.70	19957	16QAM		ы	V	12.72	30.00	Fa55			
1710.70	19937	IOQAW	1.4		Н	7.29					
	1.4MHz(RB size 3 & RB offset 0)										
1710.70	19957	QPSK	1.4	Н	V	14.14		Pass			
1710.70	19937	QFSK	1.4	1.4	Н	7.95	30.00				
1710.70	19957	16QAM	1.4	Н	V	12.89	30.00	Fa55			
1710.70	19937	IOQAW	1.4		Н	7.30		1			
		•	1.4MHz(RE	3 size 6 &	RB offset 0)						
1710 70	10057	ODSK	4.4	Н	V	11.60					
1710.70	19957	QPSK	1.4		Н	6.95	20.00	Pass			
1710.70	19957	16QAM	1.4	Н	V	11.89	30.00				
1710.70	19907	IOQAW	1.4	П	Н	6.40					

Middle channel

	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)											
1722.50	20175	ODSK	1.4	Н	V	12.58						
1732.50	20175	QPSK	1.4	П	Н	7.96	20.00	Door				
1732.50	20175	16QAM	1.4 H		V	12.83	30.00	Pass				
1732.50	20173	IOQAW	1.4	П	Н	7.86						
	1.4MHz(RB size 3 & RB offset 0)											
1732.50	20175	QPSK	1.4	Н	V	14.36	30.00	Pass				
1732.50	20175	QFSK	1.4	.4	Н	7.45						
1732.50	20175	16QAM	1.4	Н	V	12.78	30.00	F 455				
1732.50	20175	TOQAM	1.4	- 11	Н	7.58						
		1	.4MHz(RE	3 size 6 &	RB offset 0)							
1732.50	20175	QPSK	1.4	Н	V	11.85						
1732.50	20175	QPSK	1.4	П	Н	6.92	30.00	Door				
1732.50	20175	16QAM	1.1	Н	V	11.73	30.00	Pass				
1732.50	20173	TOQAM	1.4	17	Н	6.49						





Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
			1.4MHz(RE	size 1 & l	RB offset 0)						
1754.30	20393	QPSK	1.4	Н	V	12.75					
1754.50	20393	QFSK	1.4	П	Н	7.88	30.00	Door			
1754.30	20393	16O A M	1.4	Н	V	12.68	30.00	Pass			
1754.50	20393	16QAM	1.4	П	Н	7.52					
	1.4MHz(RB size 3 & RB offset 0)										
1751 20	20202	ODSK	1.4	Н	V	13.98		Pass			
1754.30	20393	QPSK	1.4	П	Н	7.68	20.00				
1751 20	20202	160014	1.1	Н	1/ 12.70	30.00	Pass				
1754.30	20393	16QAM	1.4	П	Н	7.43					
		,	1.4MHz(RE	3 size 6 & F	RB offset 0)						
4754.00	20202	ODCK	4.4	- 11	V	11.55					
1754.30	20393	QPSK	1.4	Н	Н	6.39	20.00	Door			
1754.30	20393	16QAM	1.4	Н	V	11.74	30.00	Pass			
1754.50	20393	TOQAM	1.4	17	Н	6.89					

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	Н	V	12.73					
1720.00	20030	QF3K	20	П	Н	7.62	30.00	Pass			
1720.00	20050	16QAM	20	Н	V	12.68	30.00	F a 5 5			
1720.00	20050	IOQAW	20	П	Н	7.51					
	20MHz(RB size 50 & RB offset 0)										
1720.00	20050	QPSK	20	Н	V	14.25					
1720.00	20050	QFSK	20	П	Н	7.86	30.00	Pass			
1720.00	20050	16QAM	20	Н	V	12.38	30.00	Pa55			
1720.00	20050	IOQAW	20	П	Н	7.42					
		20MHz(RB size 100	& RB offs	et 0)						
1720.00	20050	QPSK	20	Н	V	11.56					
1720.00	20050	QFSK	20	П	Н	6.59	30.00	Pass			
1720.00	20050	16QAM	20	Н	V	11.78	30.00	F a 5 5			
1720.00	20050	IOQAW	20	П	Н	6.39					



Report No: CCISE170611003

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)										
1722.50	20175	QPSK	20	Н	V	12.65					
1732.50	20175	QFSN	20	П	Н	7.83	30.00	Pass			
1732.50	20175	16QAM	20	Н	V	12.74	30.00	F 455			
1732.50	20175	TOQAW	20	П	Н	7.81					
20MHz(RB size 50 & RB offset 0)											
1732.50	20175	QPSK	20	Н	V	14.36					
1732.50	20175	QFSN	20	П	Н	7.52	30.00	Pass			
1732.50	20175	16QAM	20	Н	V	12.89	30.00	F 455			
1732.50	20175	TOQAW	20	П	Н	7.41					
		20	MHz(RB siz	e 100 & R	B offset 0)						
1732.50	20175	QPSK	20	Н	V	11.63					
1732.50	20175	QFSN	20	П	Н	6.87	20.00	Door			
1722.50 20175	20175	16QAM	20	Н	V	11.51	30.00	Pass			
1732.50	20173	TOQAM	20	П	Н	6.36					

High channel

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	Н	V	12.37				
1745.00	20300	QFSK	20	П	Н	7.58	30.00	Pass		
1745.00	20300	16QAM	20	Н	V	12.49	30.00	F a 5 5		
1743.00	20300	TOQAM	20	11	Н	7.37				
20MHz(RB size 50 & RB offset 0)										
1745.00	20300	QPSK	20	Н	V	14.27				
1745.00	20300	QFSK	20	П	Н	7.19	30.00	Pass		
1745.00	20300	16QAM	20	Н	V	12.59	30.00	F a 5 5		
1745.00	20300	TOQAM	20	П	Н	7.33				
		2	20MHz(RB siz	e 100 & RI	3 offset 0)					
1745.00	20300	QPSK	20	Н	V	11.56				
1745.00	20300	QFSN	20	П	Н	6.43	30.00	Door		
1745.00	15.00 20300 16QAM	20	Н	V	11.49	30.00	Pass			
1745.00	20300	IOQAM	20	П	Н	6.70				





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 & I	RB offset 0)					
2502.50	20775	QPSK	5	Н	V	14.84				
2502.50	20773	QFSK	5	П	Н	13.71	33.00	Pass		
2502.50	20775	16QAM	5	Н	V	13.95	33.00	Fa55		
2502.50	20773	IOQAW	5	П	Н	13.59				
	5MHz(RB size 12& RB offset 0)									
2502.50	20775	QPSK	5	Н	V	11.59				
2502.50	20773	QFSK	5	П	Н	10.39	22.00	Pass		
2502.50	20775	16QAM	5	Н	V	12.08	33.00	Fa55		
2502.50	20775	IOQAW	5	П	Н	11.41				
			5MHz(RB	size 25&	RB offset 0)					
2502.50	20775	ODSK	E	ы	V	9.92				
2502.50	20775	QPSK	5 H	Н	9.12	22.00	Door			
2502.50	20775	160 AM	OAM 5	ы	V	11.15	33.00	Pass		
2502.50	20775	16QAM	3	5 H	Н	9.80				

Middle channel

	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)										
2525.00	21100	ODSK	5	Н	V	14.57					
2535.00	21100	QPSK	5	П	Н	13.65	33.00	Door			
2535.00	21100	16QAM	5 H	V	13.88	33.00	Pass				
2555.00	21100	IOQAW	5	П	Н	13.52					
5MHz(RB size 12& RB offset 0)											
2535.00	21100	QPSK	E	5 H	V	11.75					
2555.00	21100	QFSK	5	П	Н	10.53	22.00	Pass			
2535.00	21100	16QAM	5	5 H		12.12	33.00	F 455			
2555.00	21100	TOQAM	5		Н	11.58					
		Ę	MHz(RB	size 25&	RB offset 0)						
2535.00	21100	QPSK	E	ы	V	10.02					
2555.00	21100	QFSK	5 H		Н	9.53	22.00	Door			
2535.00	21100	00 16QAM 5	5	Н	V	V 11.10	33.00	.00 Pass			
2555.00	21100	IOQAM	5	17	Н	9.63					





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	Н	V	14.25				
2567.50	21423	QFSK	5	П	Н	13.75	33.00	Pass		
2567.50	21425	16QAM	5	Н	V	13.92	33.00	Fa55		
2567.50	21423	IOQAW	5	П	Н	13.61				
	5MHz(RB size 12& RB offset 0)									
2567.50	21425	QPSK	5	Н	V	11.86				
2567.50	21425	QPSK	5	П	Н	10.45	33.00	Pass		
2567.50	21425	16QAM	5	Н	V	11.96	33.00	Fa55		
2567.50	21423	IOQAW	5	П	Н	11.27				
			5MHz(RB	size 25& R	RB offset 0)					
2567.50	24.425	ODSK	E	Ш	V	10.21				
2567.50	21425	QPSK	5	Н	Н	9.42	22.00	Door		
2567.50	21.125	160 AM	5	Н	V	11.03	33.00	Pass		
2567.50	21425	16QAM	3	П	Н	9.45				

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	20050	ODSK	20	Ш	V	14.15				
2510.00	20850	QPSK	20	Н	Н	13.68	22.00	Doos		
2510.00	20050	16O A M	20	Ш	V	13.97	33.00	Pass		
2510.00	20850	16QAM	20	Н	Н	13.52				
	20MHz(RB size 50 & RB offset 0)									
2510.00	20050	ODSK	20	Н	V	11.59				
2510.00	20850	QPSK	20	П	Н	10.65	33.00	Pass		
2510.00	20850	16QAM	20	Н	V	11.83	33.00	Pa55		
2510.00	20030	TOQAM	20		Н	11.23				
		20MHz(RB size 100	& RB offs	et 0)					
2510.00	20850	QPSK	20	Н	V	10.11				
2510.00	20000	QF3N	20	17	Н	9.26	33.00	Pass		
2510.00	20950	16QAM	20	Н	V	10.98	33.00	rass		
2510.00	20850	TOQAM	20	17	Н	9.36				



Report No: CCISE170611003

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	Н	V	14.05					
2555.00	21100	QFSN	20	П	Н	13.85	33.00	Pass			
2535.00	21100	16QAM	20	Н	V	13.78	33.00	F 455			
2555.00	21100	TOQAW	20	П	Н	13.36					
20MHz(RB size 50 & RB offset 0)											
2535.00	21100	QPSK	20	Н	V	11.74					
2555.00	21100	QFSN	20	П	Н	10.46	33.00	Pass			
2535.00	21100	16QAM	20	Н	V	11.81	33.00	rass			
2333.00	21100	TOQAW	20	!!	Н	11.16					
		20	MHz(RB siz	e 100 & RI	B offset 0)						
2535.00	21100	QPSK	20	Н	V	10.05					
2555.00	21100	QFSK	20	П	Н	9.42	33.00	Pass			
2535.00	21100	16QAM	20	н	V	10.92	33.00	F a 3 3			
2555.00	21100	IOQAW	20 H	11	Н	9.53					

High channe

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	Н	V	14.12				
2500.00	21330	QFSK	20	П	Н	13.75	33.00	Pass		
2560.00	21350	16QAM	20	Н	V	13.53	33.00	Fass		
2300.00	21330	TOQAM	20	!!	Н	13.25				
20MHz(RB size 50 & RB offset 0)										
2560.00	21350	QPSK	20	Н	V	11.85				
2300.00	21330	QFSK	20	11	Н	10.63	33.00	Pass		
2560.00	21350	16QAM	20	Н	V	11.78	33.00	Fass		
2300.00	21330	TOQAM	20	11	Н	11.21				
		2	20MHz(RB s	ize 100 8	RB offset ())				
2560.00	21350	QPSK	20	Н	V	10.13				
2500.00	21330	QFSK	20	П	Н	9.65	33.00	Pass		
2560.00	21350	16QAM	20 I	20	20	20 H	V	10.96	33.00	Pass
2300.00	21330	TOQAM			Н	9.46				





LTE band 17 part Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result		
	5MHz(RB size 1 & RB offset 0)									
706.50	23755	QPSK	5	Н	V	7.72				
706.50	23733	QFSK	5	П	Н	11.59	34.77	Pass		
706.50	23755	16QAM	5	Н	V	7.52	34.77	Fa55		
706.50	23733	IOQAW	5	П	Н	11.88				
	5MHz(RB size 12 & RB offset 0)									
706.50	23755	QPSK	5	Н	V	4.07				
706.50	23733	QFSK	5	П	Н	8.66	34.77	Pass		
706.50	23755	16QAM	5	Н	V	4.79	34.77	газэ		
700.50	23733	IOQAW	5	11	Н	8.94				
		!	5MHz(RB	size 25 8	RB offset 0)					
706.50	23755	QPSK	5	Н	V	2.00				
700.50	23700	QF3N	5	П	Н	6.59	34.77	Pass		
706.50	06.50 23755 16QAM	5	Н	V	3.27	34.77	Pass			
700.50	20700	IOQAW	3	11	Н	7.93				

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result		
	5MHz(RB size 1 & RB offset 0)									
710.00	23790	QPSK	5	Н	V	7.83				
710.00	23790	QFSK	5	П	Н	11.56	34.77	Pass		
710.00	23790	16QAM	5	Н	V	7.43	34.77	F a 5 5		
710.00	23790	IOQAW	5	П	Н	11.87				
	5MHz(RB size 12 & RB offset 0)									
710.00	22700	QPSK	E	Н	V	4.35				
710.00	23790	QPSK	5	Г	Н	8.87	34.77	Pass		
710.00	23790	16QAM	5	Н	V	4.96	34.77	Fa55		
710.00	23790	IOQAW	5	Г	Н	9.15				
			5MHz(RE	size 25 &	RB offset 0)					
740.00	22700	ODCK	_	11	V	2.42				
710.00	23790	QPSK	5 H	Н	6.53	24 77	Door			
710.00	23790	16QAM	5 H —	П	V	3.65	34.77	Pass		
7 10.00	23/90	TOQAM		Н	7.96					



Report No: CCISE170611003

Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result		
5MHz(RB size 1 & RB offset 0)										
712.50	22025	QPSK	5	Н	V	7.72				
713.50	23825	QPSK	5	П	Н	11.76	24 77	Pass		
712.50	22025	160 AM	5	Н	V	7.66	34.77	Fa55		
713.50	23825	16QAM	5	П	Н	11.89				
	5MHz(RB size 12 & RB offset 0)									
713.50	22225 ODSI/	5	Н	V	4.24	.24				
7 13.50	23825	QPSK	5	П	Н	8.69	34.77	Pass		
713.50	23825	16QAM	5	Н	V	4.92	34.77	Fa55		
713.50	23023	IOQAW	5	П	Н	9.14				
		,	5MHz(RB	size 25 &	RB offset 0)					
742.50	22025	ODCK	_	Н	V	2.19				
713.50	23825	QPSK	5	П	Н	6.86	24.77	Door		
713.50	3.50 23825 16QAM 5	E	ш	V	3.75	34.77	Pass			
7 13.50	23023	IOQAW	5 H	Н	7.89					

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result		
	10MHz(RB size 1 & RB offset 0)									
709.00	23780	QPSK	10	Н	V	7.52				
709.00	23700	QFSK	10	П	Н	11.86	34.77	Pass		
700.00	23780	16QAM	10	Н	V	7.69	34.77	Pa55		
709.00	23700	IOQAW	10		Н	11.93				
	10MHz(RB size 25& RB offset 0)									
700.00	22700	OBSK	10	Н	V	4.58				
709.00	23780	QPSK	10	П	Н	8.87	34.77	Pass		
709.00	23780	16QAM	10	Н	V	4.86	34.77	Pa55		
709.00	23700	IOQAW	10		Н	9.03				
		•	10MHz(R	B size 508	RB offset 0)					
700.00	22700	ODSK	10	Н	V	2.15				
709.00	23780	QPSK	10	п	Н	6.92	34.77	Door		
709.00	23780	16QAM	10	Н	V	3.78	34.77	Pass		
709.00	23700	IOQAW	10	11	Н	8.05				



Report No: CCISE170611003

Middle channel

Frequency	UL	Modulation	BW	EUT	Antenna	EDD(dDm)	Limit	Dogult				
(MHz)	Channel	Modulation	(MHz)	Pol.	Pol.	ERP(dBm)	(dBm)	Result				
	10MHz(RB size 1 & RB offset 0)											
710.00	23790	QPSK	10	Н	V	7.85						
7 10.00	23790	QFSK	10 11	Н	11.67	34.77	Pass					
710.00	23790	16QAM	10	10 H	V	7.82	34.77	Fass				
7 10.00	23790	TOQAM	10	11	Н	11.95						
	10MHz(RB size 25& RB offset 0)											
710.00	710.00 23790 QPSK	OBSK	10	Н	V	4.61						
7 10.00		QF 5K		10		16 Н	8.75	34.77	Pass			
710.00	23790	16QAM	10	Н	V	4.91	34.77	F d55				
710.00	23790	IOQAM	10	10	11	Н	9.12					
	10MHz(RB size 50& RB offset 0)											
710.00	710.00 23790 QPSK 10	Н	V	2.58								
7 10.00		23790	Qi Sit	10	10	10	10	QI OIL 10		Н	6.89	34.77
710.00	23790 16QAM	160 AM	10 H -		V	3.68	J 4 .77	F 455				
7 10.00		10QAW 10		Н	7.98							

Highest channel

Hignest channel											
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result			
	10MHz(RB size 1 & RB offset 0)										
711.00	23800	QPSK	40	Н	V	7.72					
711.00	23000	QFSK	10	П	Н	11.76	34.77	Pass			
711.00	23800	16QAM	10	I	V	7.68	34.77	Pa55			
711.00	23000	TOQAW	10	Π	H 11.88						
	10MHz(RB size 25& RB offset 0)										
711.00	711.00 23800 QPSK	OBSK	10	Н	V	4.32					
711.00		10		10	10	10	10	10	Π	Н	8.63
711.00	23800	16QAM	1 10	I	V	4.85	34.11	F 455			
711.00	23000		10	Π	Н	9.13					
	10MHz(RB size 50& RB offset 0)										
711.00	22000 ODSK	CK 10	10 H	V	2.45						
711.00	23800	23800 QPSK 10	10		Н	6.86	34.77	Pass			
711.00	23800 160	160AM	16QAM 10 H	ц	V	3.77	J 4 .77	F 055			
711.00		TOQAM IN		10	10	Н	7.92				



6.11 Field strength of spurious radiation measurement

o. 11 Field strength of sp	urious radiation measurement
Test Requirement:	Part 24.238 (a),Part 27.53(g), Part 27.53(m), Part 27.53(h)
Test Method:	FCC part2.1053
Limit:	LTE Band 2, LTE Band 4, LTE Band 5 and LTE Band 17: -13dBm, LTE Band 7: -25dBm
Test setup:	Below 1GHz Antenna Tower Search Antenna RF Test Receiver Ground Plane Above 1GHz
	Antenna Tower Hom Automa Spectrum Analyzer Table Amplifier
	Substituted method: Antenna mast d: distance in meters d:3 meter S.G. Substituted Dipole or Horn Antenna Bi-Log Antenna or Horn Antenna
Test Procedure:	 The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission



Report No: CCISE170611003

	 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.



Report No: CCISE170611003

LTE band 2 part:

		ze 1 & RB offset 0) for	or QPSK	
Frequency (MHz)	Spurious I			Result
rrequericy (IVITZ)	Polarization	Level (dBm)	Limit (dBm)	
		Lowest		
3701.40	Vertical	-35.52		Pass
5552.10	V	-31.10		
7402.00	V	-32.65	40.00	
3701.40	Horizontal	-40.00	-13.00	
5552.10	Н	-28.80		
7402.00	Н	-36.82		
		Middle		
3760.00	Vertical	-39.32		Pass
5640.00	V	-34.90		
7520.00	V	-35.79	42.00	
3760.00	Horizontal	-41.05	-13.00	
5640.00	Н	-30.33		
7520.00	Н	-30.53		
		Highest		
3818.60	Vertical	-42.23		Pass
5727.9	V	-36.59	40.00	
7637.20	V	-35.44		
3818.60	Horizontal	-43.42	-13.00	
5727.9	Н	-36.61		
7637.20	Н	-34.16		





	3MHz(RB siz	ze 1 & RB offset 0)	for QPSK	
F (MIL)		Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3703.00	Vertical	-37.23		
5554.50	V	-33.52		
7406.00	V	-32.46	-13.00	Pass
3703.00	Horizontal	-42.12	-13.00	Pass
5554.50	Н	-26.89		
7406.00	Н	-35.77		
·		Middle		
3760.00	Vertical	-41.20	40.00	
5640.00	V	-33.42		Pass
7520.00	V	-34.51		
3760.00	Horizontal	-42.13	-13.00	
5640.00	Н	-33.23		
7520.00	Н	-31.45		
·		Highest		
3817.00	Vertical	-41.85	12.00	Dana
5725.50	V	-36.56		
7634.00	V	-37.45		
3817.00	Horizontal	-44.15	-13.00	Pass
5725.50	Н	-37.45		
7634.00	Н	-35.26		





	5MHz(RB siz	ze 1 & RB offset 0) fo	or QPSK		
Fraguency (MHz)	Spurious			Danish	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest			
3705.00	Vertical	-34.72			
5557.50	V	-31.26			
7410.00	V	-32.56	-13.00	Door	
3705.00	Horizontal	-40.56	-13.00	Pass	
5557.50	Н	-29.63			
7410.00	Н	-36.77			
<u> </u>		Middle		<u> </u>	
3760.00	Vertical	-39.69	-13.00		
5640.00	V	-35.26		Pass	
7520.00	V	-35.62			
3760.00	Horizontal	-42.59			
5640.00	Н	-32.58			
7520.00	Н	-31.75			
<u> </u>		Highest		<u>.</u>	
3815.00	Vertical	-42.69		Pass	
5722.50	V	-36.56	42.00		
7630.00	V	-36.89			
3815.00	Horizontal	-42.56	-13.00		
5722.50	Н	-38.69			
7630.00	Н	-35.88			





	10MHz(RB si	ze 1 & RB offset 0) f	or QPSK	
	Spurious Emission			
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
1		Lowest		1
3710.00	Vertical	-36.23		
5565.00	V	-32.35		
7420.00	V	-31.40	12.00	Door
3710.00	Horizontal	-42.12	-13.00	Pass
5565.00	Н	-29.85		
7420.00	Н	-34.23		
		Middle		
3760.00	Vertical	-38.00		Barrie
5640.00	V	25.00		
7520.00	V	-35.23	42.00	
3760.00	Horizontal	-42.69	-13.00	Pass
5640.00	Н	-32.56		
7520.00	Н	-31.72		
		Highest		
3810.00	Vertical	-40.89		
5715.00	V	-36.96	-13.00	
7620.00	V	-35.26		Dans
3810.00	Horizontal	-41.56		Pass
5715.00	Н	-39.53		
7620.00	Н	-35.26		





	15MHz(RB	size 1 & RB offset 0) for QPSK	
Frequency (MHz)		s Emission	Limit (dBm)	Result
1 requericy (Wir 12)	Polarization	Level (dBm)	Limit (dbin)	Nesuit
		Lowest		
3715.00	Vertical	-36.25		
5572.50	V	-32.23		
7430.00	V	-32.58	-13.00	Pass
3715.00	Horizontal	-41.25	-13.00	Pass
5572.50	Н	-29.69		
7430.00	Н	-35.22		
		Middle		
3760.00	Vertical	-40.26		
5640.00	V	-35.26		Pass
7520.00	V	-36.55	-13.00	
3760.00	Horizontal	-42.75	-13.00	
5640.00	Н	-33.58		
7520.00	Η	-31.72		
		Highest		
3805.00	Vertical	-44.23		
5707.50	V	-38.42		
7610.00	V	-36.41	-13.00	Pass
3805.00	Horizontal	-45.22		rass
5707.50	Н	-36.21		
7610.00	Н	-35.23		





	20MHz(RB s	size 1 & RB offset 0) for QPSK	
	Spurious	Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3720.00	Vertical	-34.23		
5580.00	V	-32.82		
7440.00	V	-30.85	-13.00	Pass
3720.00	Horizontal	-39.68	-13.00	Pass
5580.00	Н	-31.20		
7440.00	Н	-36.58		
		Middle		
3760.00	Vertical	-38.56		
5640.00	V	-36.26		
7520.00	V	-35.21	12.00	Door
3760.00	Horizontal	-40.23	-13.00	Pass
5640.00	Н	-32.52		
7520.00	Н	-32.69		
		Highest		
3800.00	Vertical	-40.63		
5700.00	V	-35.26		
7600.00	V	-36.96	-13.00	Door
3800.00	Horizontal	-45.66		Pass
5700.00	Н	-37.41		
7600.00	Н	-37.14		





LTE Band 4 Part:

		ze 1 & RB offset 0)	for QPSK	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (Minz)	Polarization	Level (dBm)	Limit (ubin)	Kesuit
		Lowest		
3421.40	Vertical	-40.93		
5132.10	V	-41.78		
6842.80	V	-39.13	-13.00	Pass
3421.40	Horizontal	-40.74	-13.00	F455
5132.10	Н	-36.79		
6842.80	Н	-36.92		
		Middle		
3465.00	Vertical	-32.97		
5197.50	V	-34.79	-	
6930.00	V	-35.81	-13.00	Pass
3465.00	Horizontal	-37.13	-13.00	Pass
5197.50	Н	-39.03		
6930.00	Н	-36.68		
		Highest		
3508.60	Vertical	-42.93		
5262.90	V	-38.68	-13.00	
7017.20	V	-35.44		Pass
3508.60	Horizontal	-43.03		FdSS
5262.90	Н	-37.86]	
7017.20	Н	-37.28]	





	3MHz(RB siz	e 1 & RB offset 0) fo	or QPSK	
Fraguenov (MUz)	Spurious Emission			Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3423.00	Vertical	-38.65		
5134.50	V	-42.23		
6846.00	V	-40.63	-13.00	Pass
3423.00	Horizontal	-41.26	-13.00	Pass
5134.50	Н	-37.56		
6846.00	Н	-39.26		
		Middle		
3465.00	Vertical	-31.22		
5197.50	V	-35.63		
6930.00	V	-34.16	-13.00	Pass
3465.00	Horizontal	-38.56	-13.00	Pass
5197.50	Н	-41.20		
6930.00	Н	-35.26		
		Highest		
3507.00	Vertical	-41.20		
5260.50	V	-39.62		
7014.00	V	-36.23	-13.00	Pass
3507.00	Horizontal	-45.25		Pass
5260.50	Н	-38.56		
7014.00	Н	-36.32		





	5MHz(RB siz	e 1 & RB offset 0) fo	or QPSK	
Fraguency (MHz)	Spurious			Dogult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3425.00	Vertical	-41.25		
5137.50	V	-41.63		
6850.00	V	-38.56	42.00	Door
3425.00	Horizontal	-39.68	-13.00	Pass
5137.50	Н	-35.26		
6850.00	Н	-35.42		
<u>.</u>		Middle		
3465.00	Vertical	-31.52		
5197.50	V	-33.69		
6930.00	V	-36.65	-13.00	Pass
3465.00	Horizontal	-38.52	-13.00	Pass
5197.50	Н	-37.15		
6930.00	Н	-34.26		
<u>.</u>		Highest		
3505.00	Vertical	-40.36		
5257.50	V	-39.90		
7010.00	V	-33.26	-13.00	Pass
3505.00	Horizontal	-45.26		Pass
5257.50	Н	-38.56		
7010.00	Н	-37.46		





	10MHz(RB s	ize 1 & RB offset 0)	for QPSK	
Fraguency (MHz)		Emission		Dogult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3430.00	Vertical	-39.63		
5145.00	V	-40.25		
6860.00	V	-40.63	42.00	Door
3430.00	Horizontal	-41.25	-13.00	Pass
5145.00	Н	-37.58		
6860.00	Н	-37.46		
<u> </u>		Middle	<u> </u>	·
3465.00	Vertical	-31.63		
5197.50	V	-35.26		
6930.00	V	-36.67	-13.00	Pass
3465.00	Horizontal	-36.56	-13.00	Pass
5197.50	Н	-38.75		
6930.00	Н	-38.26		
		Highest		
3500.00	Vertical	-41.52		
5250.00	V	-39.26	-13.00	
7000.00	V	-36.23		Door
3500.00	Horizontal	-42.15		Pass
5250.00	Н	-38.75		
7000.00	Н	-38.69		





	15MHz(RB s	ize 1 & RB offset 0)	for QPSK	
Frequency (MHz)		Emission	Limit (dBm)	Result
Frequency (Miriz)	Polarization	Level (dBm)	Limit (ubin)	Nesuit
		Lowest		
3435.00	Vertical	-39.53		
5152.50	V	-42.55		
6870.00	V	-38.52	42.00	Door
3435.00	Horizontal	-41.25	-13.00	Pass
5152.50	Н	-36.23		
6870.00	Н	-35.42		
<u> </u>		Middle		
3465.00	Vertical	-31.45		
5197.50	V	-35.22		
6930.00	V	-36.26	40.00	Dana
3465.00	Horizontal	-38.53	-13.00	Pass
5197.50	Н	-38.45		
6930.00	Н	-35.26	-	
<u> </u>		Highest		
3495.00	Vertical	-41.25		
5242.50	V	-39.56	-13.00	
6990.00	V	-36.23		Pass
3495.00	Horizontal	-40.63		Fa55
5242.50	Н	-36.23]	
6990.00	Н	-38.55		





	20MHz(RB s	ize 1 & RB offset 0) for QPSK	
Frequency (MHz)	Spurious	Spurious Emission		Result
riequency (wiriz)	Polarization	Level (dBm)	Limit (dBm)	Kesuit
		Lowest		
3440.00	Vertical	-41.25		
5160.00	V	-40.36		
6880.00	V	-40.25	-13.00	Dana
3440.00	Horizontal	-41.75	-13.00	Pass
5160.00	Н	-38.56]	
6880.00	Н	-39.26		
		Middle		
3465.00	Vertical	-31.24		
5197.50	V	-35.26		
6930.00	V	-36.25	12.00	Daga
3465.00	Horizontal	-38.55	-13.00	Pass
5197.50	Н	-37.45		
6930.00	Н	-35.63]	
		Highest		
3490.00	Vertical	-41.20		
5235.00	V	-39.56]	
6980.00	V	-36.21	-13.00	Door
3490.00	Horizontal	-42.16		Pass
5235.00	Н	-38.75]	
6980.00	Н	-36.26]	





LTE Band 7 Part:

	5MHz(RB siz	e 1 & RB offset 0) for	or QPSK	
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
Frequency (MHZ)	Polarization	Level (dBm)	Limit (ubm)	Kesuit
		Lowest		
5005.00	Vertical	-44.73		
7507.50	V	-38.64		
10010.00	V	-37.82	25.00	Dana
5005.00	Horizontal	-44.61	-25.00	Pass
7507.50	Н	-36.44		
10010.00	Н	-37.37		
		Middle		
5070.00	Vertical	-41.33		Pass
7605.00	V	-33.07		
10140.00	V	-36.36	25.00	
5070.00	Horizontal	-43.45	-25.00	Pass
7605.00	Н	-32.18		
10140.00	Н	-35.26		
·		Highest		•
5135.00	Vertical	-41.03		
7702.50	V	-30.98		
10270.00	V	-35.33	-25.00	Dees
5135.00	Horizontal	-40.88		Pass
7702.50	Н	-29.61		
10270.00	Н	-36.05		





	10MHz(RB si	ize 1 & RB offset 0) f	for QPSK	
Frequency (MHz)	Spurious Emission			Result
Frequency (MID2)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
5010.00	Vertical	-45.12		
7515.00	V	-37.56		
10020.00	V	-38.45	-25.00	Pass
5010.00	Horizontal	-42.69	-25.00	Pass
7515.00	Н	-38.23		
10020.00	Н	-35.27		
<u> </u>		Middle		<u>.</u>
5070.00	Vertical	-42.56		
7605.00	V	-36.26		
10140.00	V	-37.85	-25.00	Pass
5070.00	Horizontal	-42.96	-25.00	Pass
7605.00	Н	-33.23		
10140.00	Н	-34.15		
		Highest		
5130.00	Vertical	-42.52		
7695.00	V	-31.24	-25.00	
10260.00	V	-34.16		Door
5130.00	Horizontal	-39.56		Pass
7695.00	Н	-28.79		
10260.00	Н	-35.26		





	15MHz(RB s	size 1 & RB offset 0)	for QPSK	
Frequency (MHz)		Emission	Limit (dBm)	Result
Frequency (IVIF12)	Polarization	Level (dBm)	Lillit (dbill)	Kesuit
		Lowest		
5015.00	Vertical	42.63		
7522.50	V	-37.52		
10030.00	V	-36.69	25.00	Door
5015.00	Horizontal	-45.12	-25.00	Pass
7522.50	Н	-37.85		
10030.00	Н	-38.56		
		Middle		
5070.00	Vertical	-42.15		
7605.00	V	-34.21		
10140.00	V	-35.75	25.00	Door
5070.00	Horizontal	-44.56	-25.00	Pass
7605.00	Н	-34.15		
10140.00	Н	-33.69		
		Highest		
5125.00	Vertical	-40.25		
7687.50	V	-32.26		
10250.00	V	-36.12	-25.00	Door
5125.00	Horizontal	-39.52		Pass
7687.50	Н	-30.14		
10250.00	Н	-35.24		





	20MHz(RR si	ize 1 & RB offset 0) for OPSK	
F (8411.)		Emission		D II
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
5020.00	Vertical	-43.26		
7530.00	V	-39.25		
10040.00	V	-38.54	25.00	Desa
5020.00	Horizontal	-45.12	-25.00	Pass
7530.00	Н	-37.52		
10040.00	Н	-38.56		
		Middle		
5070.00	Vertical	-42.51		
7605.00	V	-34.25		Pass
10140.00	V	-37.46	-25.00	
5070.00	Horizontal	-42.16	-25.00	F455
7605.00	Н	-33.26		
10140.00	Н	-36.78		
		Highest		
5120.00	Vertical	-42.13		
7680.00	V	-31.20		
10240.00	V	-34.25	25.00	Door
5120.00	Horizontal	-41.26	25.00	Pass
7680.00	Н	-32.01		
10240.00	Н	-34.78		





LTE Band 17 Part:

		e 1 & RB offset 0) fo	or QPSK	
Frequency (MHz)	Spurious		Limit (dBm)	Result
Frequency (WIFIZ)	Polarization	Level (dBm)	Limit (dbin)	Nesuit
		Lowest		
1413.00	Vertical	-44.88		
2119.50	V	-16.68		
2826.00	V	-20.05	12.00	Pass
1413.00	Horizontal	-49.02	-13.00	Pass
2119.50	Н	-35.88		
2826.00	Н	-26.74		
		Middle		
1420.00	Vertical	-45.45		
2130.00	V	-16.64		
2840.00	V	-26.21	40.00	Dana
1420.00	Horizontal	-53.03	-13.00	Pass
2130.00	Н	-41.20		
2840.00	Н	-37.30		
		Highest		
1427.00	Vertical	-47.24		
2140.50	V	-38.41		
2854.00	V	-16.12	12.00	Door
1427.00	Horizontal	-51.31	-13.00	Pass
2140.50	Н	-48.68	1	
2854.00	Н	-39.19		





	10MHz(RB siz	e 1 & RB offset 0) fo	or QPSK		
Fragues av (MIII-)	Spurious	Emission	L'art (IDay)	D !!	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest			
1418.00	Vertical	-43.26			
2127.00	V	-17.58			
2836.00	V	-21.45	-13.00	Pass	
1418.00	Horizontal	-48.53	-13.00	Pass	
2127.00	Н	-34.26			
2836.00	Н	-28.64			
		Middle		·	
1420.00	Vertical	-47.41		Pass	
2130.00	V	-19.26			
2840.00	V	-25.43	-13.00		
1420.00	Horizontal	-50.13	- 13.00	Fass	
2130.00	Н	-42.31			
2840.00	Н	-38.56			
		Highest			
1422.00	Vertical	-48.55			
2133.00	V	-37.42			
2844.00	V	-18.96	-13.00	Pass	
1422.00	Horizontal	-49.68	-13.00	F d 5 5	
2133.00	Н	-47.56	1		
2844.00	Н	-38.26			



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:	Spectrum analyzer EUT Variable Power Supply Note: Measurement setup for testing on Antenna connector
Test procedure:	 The equipment under test was connected to an external DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached
Test Instruments:	Refer to section 5.8 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):

		LTE Band			
Reference Fr	equency: LTE Band	2(1.4MHz) N	Middle channel=18900	channel=1880.00)MHz
Power supplied	Temperature (°C)	Fr	Frequency error		Result
(Vdc)	remperature (c)	Hz	ppm	Limit (ppm)	Nesuit
	-30	152	0.080851		
	-20	136	0.072340		
	-10	122	0.064894		
	0	104	0.055319		
12.00	10	125	0.066489	±2.5	Pass
12.00	20	136	0.072340		1 400
	30	127	0.067553		
	40	125	0.066489		
	50	122	0.064894	7	
Poforonco E			iddle channel=18900 d	shannol_1990 00	\ / ∐->
	requency. LTE band	· · ·			VIIIZ
Power supplied	Temperature (°ℂ)		equency error	Limit (ppm)	Result
(Vdc)	. , ,	Hz	ppm	(11 /	
	-30	147	0.078191		
	-20	123	0.065426		
	-10	105	0.055851		
	0	116	0.061702		
12.00	10	124	0.065957	±2.5	Pass
	20	136	0.072340		
	30	123	0.065426		
	40	105	0.055851		
	50	128	0.068085		
Reference F	requency: LTE Band	2(5MHz) M	iddle channel=18900 d	channel=1880.00	MHz
Dower ounnied (\/ds)	Tomporature (°C)	Fr	equency error	Livit (Dooult
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	144	0.076596		
	-20	125	0.066489		
	-10	130	0.069149		
	0	131	0.069681	_	
12.00	10	102	0.054255	±2.5	Pass
	20	114	0.060638	_	
	30	126	0.067021	_	
	40	128	0.068085	_	
	50	104	0.055319		





			iddle channel=18900	1	1411 12
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
oner supplied (vas)	. , ,	Hz	ppm		
	-30	126	0.067021		
	-20	102	0.054255		
•	-10	114	0.060638	_	
	0	123	0.065426		D
12.00	10	102	0.054255	±2.5	Pass
	20	115	0.061170		
-	30 40	127 103	0.067553 0.054787	_	
•	50	112	0.059574		
Reference Fr			iddle channel=18900	 channel=1880.00	MHz
			equency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	123	0.065426		Pass
	-20	120	0.063830		
	-10	102	0.054255		
	0	114	0.060638		
12.00	10	103	0.054787	±2.5	
	20	125	0.066489		
	30	120	0.063830		
	40	130	0.069149		
	50	142	0.075532		
Reference Fr	equency: LTE Band	2(20MHz) M	iddle channel=18900	channel=1880.00	MHz
Dower cumplied (\/de)	Temperature (°C)	Fre	equency error	Limit (nnm)	
Power supplied (Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	152	0.080851		
	-20	136	0.072340		
	-10	125	0.066489		
	0	124	0.065957		
12.00	10	102	0.054255	±2.5	Pass
	20	136	0.072340		
	30	125	0.066489		
	40	146	0.077660		
-	50	105	0.055851	1	





LTE Band 2(16QAM):

		LTE Band 2	2(16QAM):		
Reference F	requency: LTE Band	2(1.4MHz) I	Middle channel=18900	channel=1880.0	0MHz
	Temperature (°C)	Frequency error		Limit (ppm)	
Power supplied (Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	142	0.075532		
	-20	130	0.069149		
	-10	122	0.064894		
	0	126	0.067021		
12.00	10	120	0.063830	±2.5	Pass
12.00	20	130	0.069149		1 455
	30	150	0.079787		
	40	141	0.075000		
	50	102	0.054255		
Deference F				hannal 1000 001	ALL
Reference	requericy. LTE band	Z(SIVITZ) IVI	iddle channel=18900 d		VIIIZ
Power supplied (Vdc)	Temperature (°C)	Fre	equency error	Limit (ppm)	Result
Power supplied (vac)	romporataro (o)	Hz	ppm	(ρρ)	Result
	-30	122	0.064894		
	-20	106	0.056383		
	-10	123	0.065426		
	0	140	0.074468		
12.00	10	125	0.066489	±2.5	Pass
12.00	20	102	0.054255		1 400
	30	133	0.070745		
	40	126	0.067021		
	50	104	0.055319		
Reference F		<u> </u>	iddle channel=18900 d	channel=1880.00l	MHz
		Frequency error			
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	163	0.086702		
	-20	125	0.066489		
	-10	135	0.071809	_	
	0	122	0.064894	_	
12.00	10	120	0.063830	±2.5	Pass
	20	133	0.070745	_	
	30	124	0.065957	4	
	40	123	0.065426	_	
	50	106	0.056383		<u> </u>





		2(10MHz) Middle channel=18900 o			
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	142	0.075532		
	-20	136	0.072340		
	-10	125	0.066489		
	0	122	0.064894		
12.00	10	104	0.055319	±2.5	Pass
	20	123	0.065426		
	30	163	0.086702		
	40	114	0.060638		
	50	105	0.055851		
	requency: LTE Band	2(15MHz) M	liddle channel=18900	channel=1880.00	MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	, , ,	Hz	ppm	Σιτιιτ (ρριτι)	rtoodit
	-30	125	0.066489		Pass
	-20	136	0.072340		
	-10	120	0.063830		
	0	125	0.066489		
12.00	10	114	0.060638	±2.5	
	20	105	0.055851		
	30	136	0.072340		
	40	125	0.066489		
	50	104	0.055319		
Reference Fi	requency: LTE Band	2(20MHz) M		0 channel=1880.00	MHz
Power supplied	Temperature (°ℂ)	Fre	equency error		
(Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	144	0.076596		
	-20	136	0.072340		
	-10	105	0.055851		
	0	124	0.065957		
12.00	10	116	0.061702	±2.5	Pass
	20	125	0.066489	<u> </u>	
	30	123	0.065426		
-			0.000720	-	
	40	109	0.057979		





LTE Band 4(QPSK):

		LTE Band			
	equency: LTE Band	, ,	/liddle channel=20175	channel=1732.50	MHz
Power supplied	Temperature (°C)	Frequency error		Limit (ppm)	Result
(Vdc)	, ,	Hz	ppm	Еппт (ррпп)	rtosait
	-30	155	0.089466		
	-20	125	0.072150		
	-10	116	0.066955		
	0	142	0.081962		
12.00	10	133	0.076768	±2.5	Pass
	20	125	0.072150		
	30	108	0.062338	1	
	40	119	0.068687		
	50	107	0.061760		
Reference F			iddle channel=20175	channel=1732.50	MHz
Power supplied			equency error		Result
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	
	-30	122	0.070418		Pass
	-20	104	0.060029		
	-10	119	0.068687		
	0	136	0.078499	1	
12.00	10	125	0.072150	±2.5	
12.00	20	114	0.065801	±2.5	
	30	105	0.060606		
	40	129	0.074459		
	50	123	0.070996		
Reference F		Į.	iddle channel=20175	 channel=1732.50	MHz
			equency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	163	0.094084		
	-20	159	0.091775		
	-10	127	0.073304		
	0	133	0.076768		
12.00	10	156	0.090043	±2.5	Pass
	20	141	0.081385	_	
	30	125	0.072150	4	
	40	116	0.066955	_	
	50	136	0.078499		





Reference Fr	equency: LTE Band	4(10MHz) M	liddle channel=20175	channel=1732.50)MHz
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
Power supplied (vac)	remperature (C)	Hz	ppm	Limit (ppm)	Resuit
	-30	141	0.081385		
	-20	122	0.070418		
	-10	106	0.061183		
	0	125	0.072150		
12.00	10	136	0.078499	±2.5	Pass
	20	125	0.072150		
	30	114	0.065801		
	40	106	0.061183		
	50	125	0.072150		
Reference Fr	equency: LTE Band	,	1iddle channel=20175	channel=1732.50)MHz
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
	. ,	Hz	ppm	(- - - - - - - - - - - - -	Result
	-30	146	0.084271		Pass
	-20	125	0.072150		
	-10	136	0.078499		
	0	105	0.060606		
12.00	10	124	0.071573	±2.5	
	20	116	0.066955		
	30	105	0.060606		
	40	126	0.072727		
	50	136	0.078499		
Reference Fr	equency: LTE Band	4(20MHz) M	liddle channel=20175	channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)	Fre	equency error	Limit (ppm)	
Power supplied (vac)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	124	0.071573		
	-20	150	0.086580		
	-10	112	0.064646		
	0	106	0.061183		
12.00	10	109	0.062915	±2.5	Pass
	20	122	0.070418		. 400
	30	130	0.075036		
	40	146	0.084271		
	50	106	0.061183		





LTE Band 4(16QAM):

		LTE Band 4	1(16QAM):		
Reference F	requency: LTE Band	4(1.4MHz)	Middle channel=20175	5 channel=1732.5	OMHz
	Temperature (°C)	Frequency error		Limit (nnm)	
Power supplied (Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	160	0.092352		
	-20	143	0.082540		
	-10	123	0.070996		
	0	105	0.060606		
12.00	10	126	0.072727	±2.5	Pass
12.00	20	115	0.066378		1 455
	30	122	0.070418		
	40	136	0.078499	1	
	50	105	0.060606		
Potoronco E			iddle channel=20175	channal_1722 50	./I⊔→
Neielelice F	requericy. LTE band	4(3101112) 101			VII IZ
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
Power supplied (vac)	romporataro (o)	Hz	ppm	2 (pp)	Resuit
	-30	130	0.075036		
	-20	126	0.072727		
	-10	125	0.072150		
	0	116	0.066955]	
12.00	10	120	0.069264	±2.5	Pass
12.00	20	117	0.067532		1 400
	30	136	0.078499		
	40	108	0.062338		
	50	129	0.074459		
Reference F	requency: LTE Band	4(5MHz) M	iddle channel=20175	channel=1732.50l	ИНz
5 " 10/1)	T (%C)	Fr	Frequency error		5 "
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	130	0.075036		
	-20	105	0.060606		
	-10	126	0.072727	_	
	0	104	0.060029	_	_
12.00	10	123	0.070996	±2.5	Pass
	20	101	0.058297	_	
	30	104	0.060029	_	
	40	115	0.066378	-	
	50	126	0.072727		





Davies average LAZIA	Tamanagatura (°C)	Fre	equency error	Limit ()	D 11
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	133	0.076768		
	-20	109	0.062915		
	-10	126	0.072727		
	0	139	0.080231		
12.00	10	145	0.083694	±2.5	Pass
	20	136	0.078499		
	30	128	0.073882		
	40	146	0.084271		
	50	125	0.072150		
	requency: LTE Band			5 channel=1732.50	MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	` '	Hz	ppm	(F F)	
	-30	140	0.080808		
	-20	116	0.066955		
	-10	136	0.078499		
	0	105	0.060606		
12.00	10	126	0.072727	±2.5	Pass
	20	103	0.059452		
	30	120	0.069264		
	40	115	0.066378		
	50	106	0.061183		
Reference Fi	requency: LTE Band	4(20MHz) M	iddle channel=20175	5 channel=1732.50	MHz
Power supplied	Temperature (°ℂ)	Fre	equency error		_
(Vdc)	Temperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	102	0.058874		
	-20	116	0.066955		
	-10	126	0.072727		
	0	133	0.076768		
12.00	10	105	0.060606	±2.5	Pass
	20	116	0.066955		i- ass
	30	125	0.072150	- 	
	40	108	0.062338	\dashv	
	.0	. 50	0.002000	-	





LTE Band 7(QPSK):

LTE Band 7(QPSK): Reference Frequency: LTE Band 7(5MHz) Middle channel=21100Frequency=2535.00MHz							
	requency: LTE Band			requency=2535.00	MHz		
Power supplied	Temperature (°ℂ)		equency error	Limit (ppm)	Result		
(Vdc)		Hz	ppm	Limit (ppm)	Result		
	-30	136	0.053649				
	-20	102	0.040237				
	-10	115	0.045365				
	0	140	0.055227				
12.00	10	109	0.042998	±2.5	Pass		
	20	126	0.049704		1 433		
	30	136	0.053649				
	40	125	0.049310				
	50	142	0.056016				
Poforonco Er	equency: LTE Band 7			Froguency-2535 0	7 1/1 →		
Power supplied		'	equency error		JIVII 12		
(Vdc)	Temperature (°C)	Hz	· · · · · · · · · · · · · · · · · · ·	Limit (ppm)	Result		
(vuc)	-30	142	ppm	(11 /			
			0.056016	_			
	-20	106	0.041815				
	-10	116	0.045759		Pass		
	0	136	0.053649				
12.00	10	105	0.041420	±2.5			
	20	115	0.045365				
	30	107	0.042209				
	40	122	0.048126				
	50	136	0.053649				
Reference Fr	equency: LTE Band 7	(15MHz) Mic		requency=2535.00	OMHz		
Power supplied	Temperature (°C)	Fre	equency error	Limit (none)	Decult		
(Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result		
	-30	142	0.056016				
	-20	108	0.042604				
	-10	116	0.045759				
	0	123	0.048521				
12.00	10	146	0.057594	±2.5	Pass		
	20	128	0.050493				
	30	146	0.057594				
	40	136	0.053649				
D (50	107	0.042209		28.41.1		
	equency: LTE Band 7	,		requency=2535.00	JMHZ		
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result		
(Vdc)	20	Hz	ppm	,			
	-30 -20	163 102	0.064300				
	-20 -10	119	0.040237 0.046943	⊣			
	0	125	0.049310	⊣			
12.00	10	142	0.056016	±2.5	Pass		
12.00	20	136	0.053649	- · · · · · · · ·	1 433		
	30	122	0.048126	┥			
	40	105	0.041420	⊣			
	50	136	0.053649				





LTE Band 7(16QAM):

Reference I	Frequency: LTE Band	LTE Band 7 7(5MHz) Mid		requency=2535.00	MHz
Power supplied	Temperature (°C)		equency error		
(Vdc)	Temperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	126	0.049704		
	-20	135	0.053254		
	-10	104	0.041026		
	0	116	0.045759		
12.00	10	123	0.048521	±2.5	Pass
	20	108	0.042604		
	30	136	0.053649		
	40	114	0.044970		
	50	126	0.049704		
Reference F	requency: LTE Band 7			requency=2535.0	0MHz
Power supplied			equency error		
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
, ,	-30	106	0.041815		
	-20	124	0.041815		
	-10	133	0.052465		Pass
	0	116	0.032463		
12.00	10	128		±2.5	
12.00	20	136	0.050493	±2.5	
			0.053649		
	30	125	0.049310	_	
	40	116	0.045759		
D.(50	108	0.042604		OB ALL
Power supplied	requency: LTE Band 7		<u>adie cnannei=21100 i</u> equency error	requency=2535.0	UMHZ
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
(140)	-30	142	0.056016		
	-20	116	0.045759		
	-10	136	0.053649		
	0	105	0.041420		
12.00	10	126	0.049704	2.5	Pass
	20	136	0.053649		
	30	115	0.045365		
	40	108 116	0.042604 0.045759		
Reference F	50 requency: LTE Band 7				OMHz
Power supplied		, ,	equency error		OIVII IZ
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
(1.00)	-30	142	0.056016		
	-20	136	0.053649		
	-10	125	0.049310		
	0	146	0.057594		
12.00	10	125	0.049310	2.5	Pass
	20	108	0.042604	_	
	30	126	0.049704		
	40	136	0.053649	_	
	50	130	0.051282		





LTE Band 17(QPSK):

Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz						
Power supplied	Temperature (°ℂ)	Fr	equency error	1.1 - 21 ()	D 14	
(Vdc)	Tomporature (C)	Hz	ppm	Limit (ppm)	Result	
	-30	152	0.214085			
	-20	103	0.145070			
	-10	136	0.191549			
	0	124	0.174648			
12.00	10	102	0.143662	±2.5	Pass	
	20	113	0.159155			
	30	126	0.177465			
	40	123	0.173239			
	50	104	0.146479			
Reference F	requency: LTE Band	17(10MHz)	Middle channel=23790	channel=710.00)MHz	
Power supplied	Temperature (°C)	Fr	equency error		D It	
(Vdc)	Temperature (C)	Hz	ppm	Limit (ppm)	Result	
	-30	145	0.204225			
	-20	103	0.145070			
	-10	126	0.177465			
	0	102	0.143662			
12.00	10	141	0.198592	±2.5	Pass	
	20	122	0.171831			
	30	109	0.153521			
	40	117	0.164789			
	50	123	0.173239	1		

LTE Band 17(16QAM):

Reference Frequency: LTE Band 17(16QAM): Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz						
Power supplied				VII 12		
(Vdc)	Temperature (°C)	Hz	equency error ppm	Limit (ppm)	Result	
	-30	130	0.183099			
	-20	102	0.143662			
	-10	126	0.177465			
	0	141	0.198592			
12.00	10	133	0.187324	±2.5	Pass	
	20	125	0.176056			
	30	106	0.149296			
	40	125	0.176056			
	50	116	0.163380			
Reference F	requency: LTE Band	17(10MHz)	Middle channel=23790	channel=710.00	MHz	
Power supplied	Temperature (°ℂ)	Frequency error		Limsit (mmm)	Dogult	
(Vdc)	1 0porataro (0)	Hz	ppm	Limit (ppm)	Result	
	-30	145	0.204225			
	-20	136	0.191549			
	-10	125	0.176056			
	0	113	0.159155			
12.00	10	125	0.176056	±2.5	Pass	
	20	116	0.163380			
	30	123	0.173239			
	40	105	0.147887			
	50	127	0.178873	<u> </u>		

Page 370 of 380



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:	Spectrum analyzer EUT Variable Power Supply Note: Measurement setup for testing on Antenna connector
Test procedure:	 Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation (+/-15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 5.8 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	LTE Band 2(QPSK):						
Temperature (°C)	Reference Fr	requency: LTE Band	2(1.4MHz) Middle	e channel=18900	channel=1880.00	MHz	
CVdc Hz ppm	Temperature (°C)	Power supplied Frequency error		Limit (nnm)	Popult		
12.00	remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
10.20		13.80	85	0.045213			
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz	25	12.00	74	0.039362	±2.5	Pass	
Temperature (℃) Power supplied (Vdc) Frequency error Limit (ppm) Result 25 13.80 99 0.052660 ±2.5 Pass 10.20 74 0.039362 ±2.5 Pass Temperature (℃) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 88 0.046809 ±2.5 Pass 10.20 76 0.040426 ±2.5 Pass 10.20 85 0.045213 ±2.5 Pass 13.80 88 0.046809 ±2.5 Pass 10.20 76 0.040426 ±2.5 Pass Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz Frequency error Limit (ppm) Result 13.80 78 0.041489 ±2.5 Pass 10.20 90 0.047872 ±2.5 Pass Temperature (℃) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 77 0.040957		10.20	63	0.033511			
Temperature (°C)	Reference F	requency: LTE Band	d 2(3MHz) Middle	channel=18900 c	channel=1880.00I	ИНz	
Temperature (°C)	T (%C)	Power supplied	Frequer	ncy error		_	
12.00	Temperature (C)	7 -	Hz	ppm	Limit (ppm)	Result	
10.20		13.80	99	0.052660			
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz Temperature (°C)	25	12.00	85	0.045213	±2.5	Pass	
Temperature (℃) Power supplied (Vdc) Frequency error Limit (ppm) Result 25 13.80 88 0.046809 ±2.5 Pass 10.20 85 0.040426 ±2.5 Pass Temperature (℃) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 78 0.041489 ±2.5 Pass 10.20 90 0.047872 ±2.5 Pass Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz Temperature (℃) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 77 0.040957 ±2.5 Pass 10.20 56 0.029787 ±2.5 Pass 10.20 63 0.033511 ±2.5 Pass Reference Frequency: LTE Band 2(20MHz) Middle channel=20175 channel=1880.00MHz Frequency error Limit (ppm) Result		10.20	74	0.039362			
Temperature (°C)	Reference F	requency: LTE Band	d 2(5MHz) Middle	channel=18900 c	channel=1880.00I	ИНz	
13.80	- (00)	Power supplied	Frequer	ncy error		_	
12.00	Temperature (T)	7 -	Hz	ppm	Limit (ppm)	Result	
10.20		13.80	88	0.046809	±2.5		
Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz Temperature (°C)	25	12.00	76	0.040426		Pass	
Temperature (°C) Power supplied (Vdc) Frequency error ppm Limit (ppm) Result 13.80 78 0.041489 25 12.00 68 0.036170 ±2.5 Pass 10.20 90 0.047872 ±2.5 Pass Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 13.80 77 0.040957 ±2.5 Pass 10.20 56 0.029787 ±2.5 Pass 10.20 63 0.033511 Except Security Common Result Temperature (°C) Power supplied Frequency error Limit (ppm) Result		10.20	85	0.045213			
Temperature (°C)	Reference F	requency: LTE Band	2(10MHz) Middle	channel=18900	channel=1880.00	MHz	
13.80	- (00)	Power supplied	Frequency error				
13.80	Temperature (C)	7 -	Hz	ppm	Limit (ppm)	Result	
10.20 90 0.047872			78	0.041489			
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz Temperature (°C)	25	12.00	68	0.036170	±2.5	Pass	
Temperature (℃) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 77 0.040957 25 12.00 56 0.029787 ±2.5 Pass 10.20 63 0.033511 10.00000000000000000000000000000000000		10.20	90	0.047872			
Temperature (℃) (Vdc) Hz ppm Limit (ppm) Result 13.80 77 0.040957 25 12.00 56 0.029787 ±2.5 Pass 10.20 63 0.033511 Eference Frequency: LTE Band 2(20MHz) Middle channel=20175 channel=1880.00MHz Frequency error Limit (ppm) Result	Reference F	requency: LTE Band	2(15MHz) Middle	channel=18900	channel=1880.00	MHz	
Temperature (°C)	- (00)	Power supplied	Frequer	ncy error			
13.80 77 0.040957 12.00 56 0.029787 ±2.5 Pass 10.20 63 0.033511	Temperature (°C)		Hz	ppm	Limit (ppm)	Result	
25 12.00 56 0.029787 ±2.5 Pass 10.20 63 0.033511 **			77	0.040957			
Reference Frequency: LTE Band 2(20MHz) Middle channel=20175 channel=1880.00MHz Temperature (°C) Power supplied Frequency error Limit (ppm) Result	25	12.00	56		±2.5	Pass	
Temperature (°C) Power supplied Frequency error Limit (ppm) Result		10.20	63	0.033511			
Temperature (°C) Limit (ppm) Result	Reference F	requency: LTE Band	2(20MHz) Middle	channel=20175	channel=1880.00	MHz	
Temperature (C) Result		Power supplied	Frequer	ncy error			
· ' '	Temperature (℃)	7 -	Hz	ppm	Limit (ppm)	Result	
13.80 85 0.045213			85	0.045213			
25 12.00 47 0.025000 ±2.5 Pass	25	12.00			±2.5	Pass	
10.20 63 0.033511		10.20	63		1	. 2.00	





LTE Band 2(16QAM):

Reference Frequency: LTE Band 2(1.4MHz) Middle channel=18900 channel=1880.00MH Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) 13.80 75 0.039894 25 12.00 63 0.033511 ±2.5 10.20 58 0.030851 Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz	Result
Temperature (C) (Vdc) Hz ppm Limit (ppm) 13.80 75 0.039894 12.00 63 0.033511 ±2.5 10.20 58 0.030851	Result
(Vdc) Hz ppm 13.80 75 0.039894 12.00 63 0.033511 ±2.5 10.20 58 0.030851	Result
25	
10.20 58 0.030851	
33 3.5536	Pass
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz	
	<u> </u>
Power supplied Frequency error	
Temperature (°C) (Vdc) Hz ppm Limit (ppm)	Result
13.80 74 0.039362	
25 12.00 55 0.029255 ±2.5	Pass
10.20 69 0.036702	
Reference Frequency: LTE Band 2(5MHz) Middle channel=18900 channel=1880.00MHz	7
Power supplied Frequency error	
Temperature (°C) (Vdc) Hz ppm Limit (ppm)	Result
13.80 75 0.039894	
25 12.00 69 0.036702 ±2.5	Pass
10.20 58 0.030851	
Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz	Z
Power supplied Frequency error	
Temperature (°C) (Vdc) Hz ppm Limit (ppm)	Result
13.80 74 0.039362	
25 12.00 58 0.030851 ±2.5	Pass
10.20 77 0.040957	
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MH:	Z
Power supplied Frequency error	
Temperature (°C) (Vdc) Hz ppm Limit (ppm)	Result
13.80 78 0.041489	
25 12.00 68 0.036170 ±2.5	Pass
10.20 85 0.045213	
Reference Frequency: LTE Band 2(20MHz) Middle channel=18900 channel=1880.00MHz	Z
Power supplied Frequency error	
Temperature (°C) (Vdc) Hz ppm Limit (ppm)	Result
13.80 90 0.047872	
25 12.00 58 0.030851 ±2.5	Pass
10.20 75 0.039894	1 400





LTE Band 4(QPSK):

LTE Band 4(QPSK):						
Reference Fi	requency: LTE Band	4(1.4MHz) Middle	e channel=20175	channel=1732.50)MHz	
Temperature (℃)	Power supplied Frequency e		ncy error	Limit (nnm)	Result	
	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	77	0.044444			
25	12.00	85	0.049062	±2.5	Pass	
	10.20	49	0.028283			
Reference F	requency: LTE Band	d 4(3MHz) Middle	channel=20175 c	hannel=1732.50ľ	ИHz	
- (00)	Power supplied	Frequer	ncy error		_	
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	67	0.038672			
25	12.00	74	0.042713	±2.5	Pass	
	10.20	78	0.045022	7		
Reference F	requency: LTE Band	d 4(5MHz) Middle	channel=20175 c	hannel=1732.50	ИНz	
	Power supplied	Frequer	ncy error			
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	77	0.044444			
25	12.00	85	0.049062	±2.5	Pass	
	10.20	63	0.036364			
Reference F	requency: LTE Band	4(10MHz) Middle	channel=20175	channel=1732.50	MHz	
	Power supplied	Frequer	ncy error			
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	75	0.043290			
25	12.00	46	0.026551	±2.5	Pass	
	10.20	82	0.047330			
Reference F	requency: LTE Band	4(15MHz) Middle	channel=20175	channel=1732.50	MHz	
	Power supplied	Frequer	ncy error			
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	88	0.050794			
25	12.00	46	0.026551	±2.5	Pass	
	10.20	74	0.042713			
Reference F	requency: LTE Band			channel=1732.50	MHz	
	Power supplied	,	ncy error			
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	86	0.049639			
25	12.00	52	0.030014	±2.5	Pass	
20	10.20	46	0.026551		. 400	
		1 -10	0.020001	<u> </u>		





LTE Band 4(16QAM):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz	LTE Band 4(16QAM):						
Power supplied	Reference Fi	requency: LTE Band	4(1.4MHz) Middle	e channel=20175	channel=1732.50	MHz	
(Vdc)	Tomporature (°C)	Power supplied	Frequency error		Limit (nnm)	Danill	
12.00	remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
10.20 35 0.020202		13.80	74	0.042713	_		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz	25	12.00	62	0.035786	±2.5	Pass	
Temperature (°C)		10.20	35	0.020202			
Temperature (°C)	Reference F	requency: LTE Band	d 4(3MHz) Middle	channel=20175 c	hannel=1732.50N	ИHz	
13.80	- (00)	Power supplied	Freque	ncy error			
12.00 79 0.045599 ±2.5 Pass	Temperature (℃)	• •	Hz	ppm	Limit (ppm)	Result	
10.20		13.80	77	0.044444			
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz	25	12.00	79	0.045599	±2.5	Pass	
Temperature (°C)		10.20	65	0.037518			
Temperature (°C)	Reference F	requency: LTE Band	d 4(5MHz) Middle	channel=20175 c	hannel=1732.50N	ИHz	
Temperature (C)		Power supplied	Freque	ncy error			
13.80	Temperature (℃)	• •	Hz	ppm	Limit (ppm)	Result	
10.20 62 0.035786		13.80	48	0.027706			
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 25 13.80 74 0.042713 ±2.5 Pass 10.20 62 0.035786 ±2.5 Pass Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz Temperature (°C) Power supplied (Vdc) Hz ppm Limit (ppm) Result 25 13.80 52 0.030014 ±2.5 Pass 25 12.00 74 0.042713 ±2.5 Pass Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result Temperature (°C) Hz ppm Limit (ppm) Result 13.80 72 0.041558 ±2.5 Pass	25	12.00	75	0.043290	±2.5	Pass	
Temperature (°C)		10.20	62	0.035786			
Temperature (℃) (Vdc) Hz ppm Limit (ppm) Result 25 13.80 74 0.042713 ±2.5 Pass 10.20 85 0.049062 ±2.5 Pass Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz Frequency error Limit (ppm) Result 13.80 52 0.030014 ±2.5 Pass 10.20 63 0.036364 Frequency error Limit (ppm) Result Temperature (℃) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 72 0.041558 ±2.5 Pass	Reference F	requency: LTE Band	4(10MHz) Middle	channel=20175	channel=1732.50	MHz	
Temperature (°C)	- (00)	Power supplied	Frequency error				
12.00	Temperature (℃)		Hz	ppm	Limit (ppm)	Result	
10.20 62 0.035786		13.80	74	0.042713			
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 25 12.00 74 0.042713 ±2.5 Pass 10.20 63 0.036364 ±2.5 Pass Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 13.80 72 0.041558 25 12.00 55 0.031746 ±2.5 Pass	25	12.00	85	0.049062	±2.5	Pass	
Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 52 0.030014 25 25 20.030014 25 25 20.030014 25 26 20.030014 20.030014 20.0042713 20.030014 20.03001		10.20	62	0.035786			
Temperature (℃) (Vdc) Hz ppm Limit (ppm) Result 25 13.80 52 0.030014 ±2.5 Pass 10.20 63 0.036364 ±2.5 Pass Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz Temperature (℃) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 72 0.041558 12.00 ±2.5 Pass	Reference F	requency: LTE Band	4(15MHz) Middle	channel=20175	channel=1732.50	MHz	
Temperature (°C)	- (00)	Power supplied	Freque	ncy error			
25 12.00 74 0.042713 ±2.5 Pass Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 72 0.041558 ±2.5 Pass 25 12.00 55 0.031746 ±2.5 Pass	Temperature (℃)	• •	Hz	ppm	Limit (ppm)	Result	
10.20 63 0.036364		13.80	52	0.030014			
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 13.80 72 0.041558 25 12.00 55 0.031746 ±2.5 Pass	25	12.00	74	0.042713	±2.5	Pass	
Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 13.80 72 0.041558 25 12.00 55 0.031746 ±2.5 Pass		10.20	63	0.036364			
Temperature (°C) Hz ppm Limit (ppm) Result 13.80 72 0.041558 25 12.00 55 0.031746 ±2.5 Pass	Reference F	requency: LTE Band	4(20MHz) Middle	channel=20175	channel=1732.50	MHz	
Temperature (°C)	T (00)	Power supplied	Freque	ncy error		_	
13.80 72 0.041558 12.00 55 0.031746 ±2.5 Pass	remperature (℃)	• •	Hz	ppm	Limit (ppm)	Result	
25 12.00 55 0.031746 ±2.5 Pass		, ,	72	0.041558			
	25	12.00	55		±2.5	Pass	
		10.20	63]		





LTE Band 7(QPSK):

Reference Fr	equency: LTE Band	7(5MHz) Middle c	hannel=21100 Fro	equency=2535.0	OMHz	
Temperature (°ℂ)	Power supplied	Frequency error		Limit (nnm)	Dogult	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	74	0.029191			
25	12.00	52	0.020513	±2.5	Pass	
	10.20	60	0.023669			
Reference Fre	equency: LTE Band 7	(10MHz) Middle	channel=21100 Fr	equency=2535.0	0MHz	
Temperature (°C)	Power supplied	Freque	ncy error	Limit (nnm)	Result	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	45	0.017751	±2.5	Pass	
25	12.00	62	0.024458			
	10.20	75	0.029586			
Reference Fre	equency: LTE Band 7	(15MHz) Middle	channel=21100 Fr	equency=2535.0	0MHz	
Temperature (°C)	Power supplied	Frequency error		Limit (mmm)	Danult	
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	85	0.033531			
25	12.00	63	0.024852	±2.5	Pass	
	10.20	45	0.017751			
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz						
Temperature (°C)	Power supplied	Freque	ncy error	Limit (nnm)	Result	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	13.80	78	0.030769			
25	12.00	55	0.021696	±2.5	Pass	
	10.20	69	0.027219			





LTE Band 7(16QAM):

=======================================							
Reference Fr	equency: LTE Band	7(5MHz) Middle c	hannel=21100 Fre	equency=2535.0	0MHz		
Temperature (°ℂ)	Power supplied	Freque	ncy error	Limit (nnm)	Dogult		
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	13.80	74	0.029191				
25	12.00	85	0.033531	±2.5	Pass		
	10.20	76	0.029980				
Reference Fre	equency: LTE Band 7	(10MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz		
Temperature (°ℂ)	Power supplied	Freque	ncy error	Limit (nnm)	Result		
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	13.80	72	0.028402	±2.5	Pass		
25	12.00	82	0.032347				
	10.20	63	0.024852				
Reference Fre	equency: LTE Band 7	(15MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz		
Temperature (°ℂ)	Power supplied	Frequency error		Limit (nnm)	Dogult		
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	13.80	74	0.029191				
25	12.00	58	0.022880	±2.5	Pass		
	10.20	85	0.033531				
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz							
Temperature (°ℂ)	Power supplied	Freque	ncy error	Limit (nnm)	Result		
Temperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	13.80	92	0.036292				
25	12.00	56	0.022091	±2.5	Pass		
	10.20	74	0.029191				





LTE Band 17(QPSK):

Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz							
Temperature (°C)	Power supplied		ncy error	Limit (ppm) Res	Result		
· omporataro (o)	(Vdc)	Hz	ppm	- ши (ррии)	rtoodit		
	13.80	74	0.104225				
25	12.00	85	0.119718	±2.5	Pass		
	10.20	69	0.097183		<u> </u>		
Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 channel=710.00MHz							
Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Result		
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	13.80	74	0.104225				
25	12.00	66	0.092958	±2.5	Pass		
	10.20	85	0.119718				

LTE Band 17(16QAM):

LIE Band 17(16QAM):					
Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz					
Temperature (°C)	Power supplied	Frequer	ncy error	Limit (ppm) Result	
	(Vdc)	Hz	ppm	Ешти (ррш)	result
	13.80	74	0.10423		
25	12.00	62	0.08732	±2.5	Pass
	10.20	90	0.12676		
Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 channel=710.00MHz					
Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Result
	(Vdc)	Hz	ppm	Limit (ppm)	Kesuit
	13.80	77	0.108451		
25	12.00	85	0.119718	±2.5	Pass
	10.20	63	0.088732		