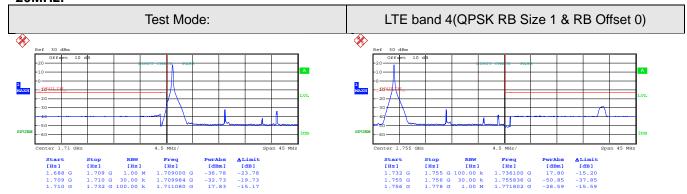




20MHz:

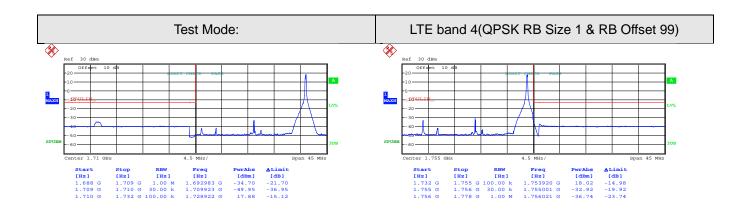


Date: 8.JUN.2017 16:30:05

Date: 8.JUN.2017 16:32:39

Lowest channel

Highest channel



Date: 8.JUN.2017 16:30:24

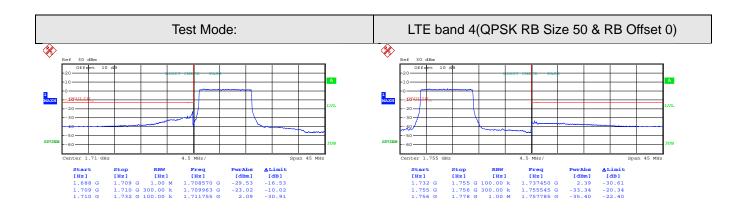
Date: 8.JUN.2017 16:32:58

Lowest channel

Highest channel





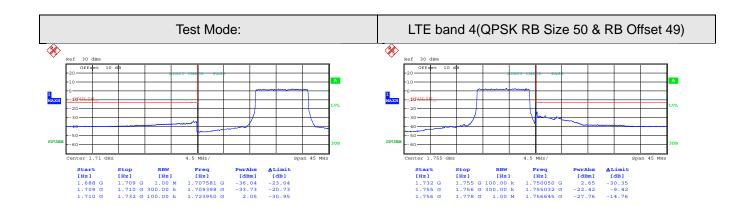


Date: 8.JUN.2017 16:30:50

Date: 8.JUN.2017 16:33:25

Lowest channel

Highest channel



Date: 8.JUN.2017 16:31:21

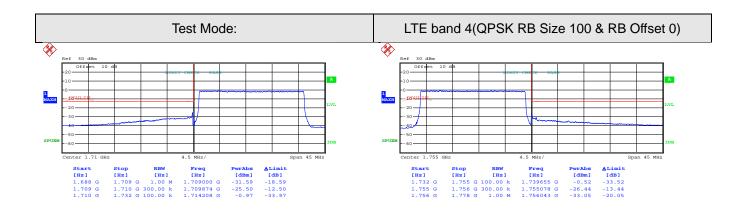
Date: 8.JUN.2017 16:33:47

Lowest channel

Highest channel





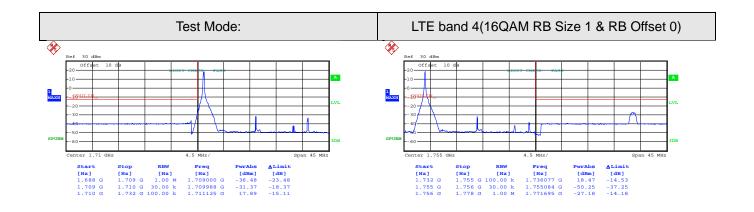


Date: 8.JUN.2017 16:31:42

Date: 8.JUN.2017 16:34:10

Lowest channel

Highest channel



Date: 8.JUN.2017 16:30:13

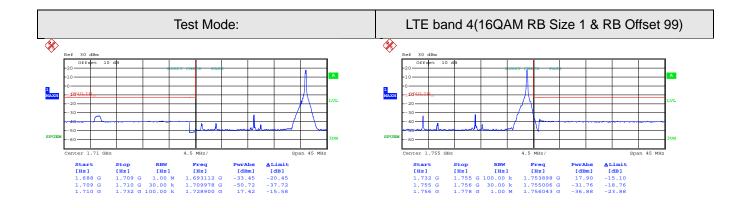
Date: 8.JUN.2017 16:32:47

Lowest channel

Highest channel





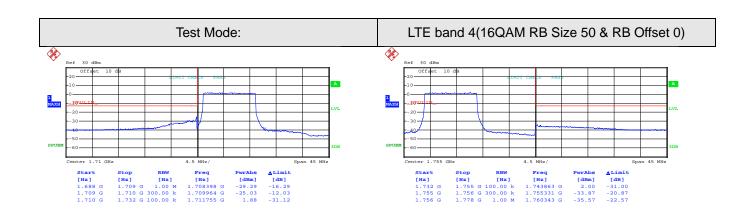


Date: 8.JUN.2017 16:30:33

Date: 8.JUN.2017 16:33:07

Lowest channel

Highest channel



Date: 8.JUN.2017 16:31:07

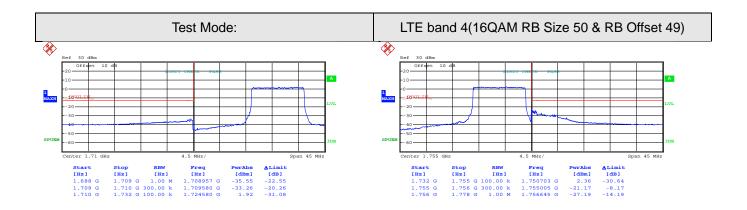
Date: 8.JUN.2017 16:33:35

Lowest channel

Highest channel





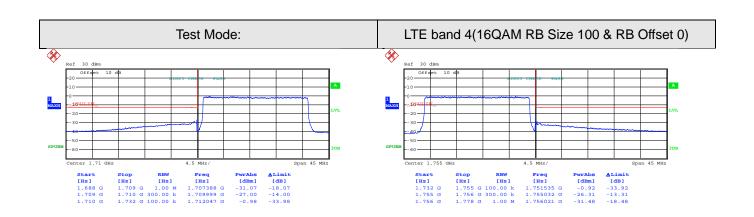


Date: 8.JUN.2017 16:31:30

Date: 8.JUN.2017 16:33:57

Lowest channel

Highest channel



Date: 8.JUN.2017 16:31:49

Date: 8.JUN.2017 16:34:18

Lowest channel

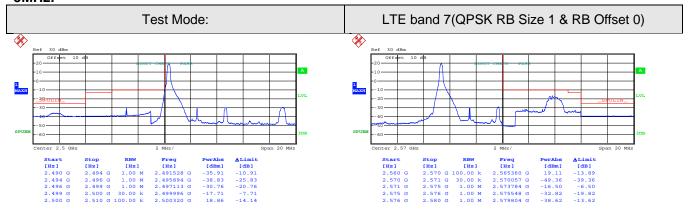
Highest channel





LTE band 7 part:

5MHz:

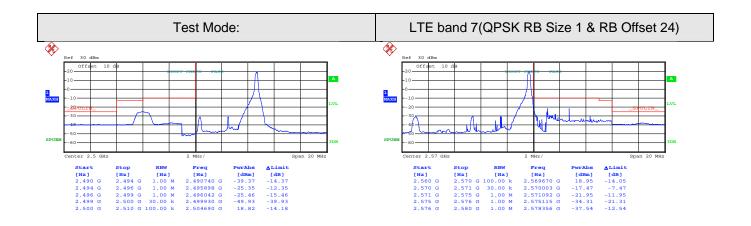


Date: 8.JUN.2017 16:43:04

Date: 8.JUN.2017 16:52:45

Lowest channel

Highest channel



Date: 8.JUN.2017 16:43:33

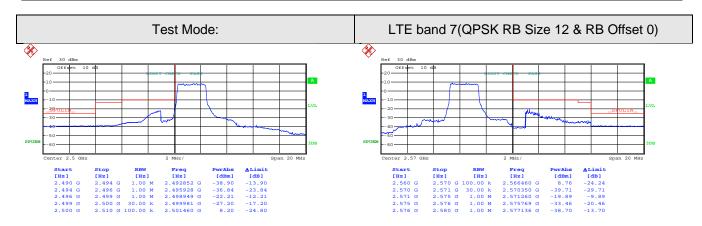
Date: 8.JUN.2017 16:53:08

Lowest channel

Highest channel



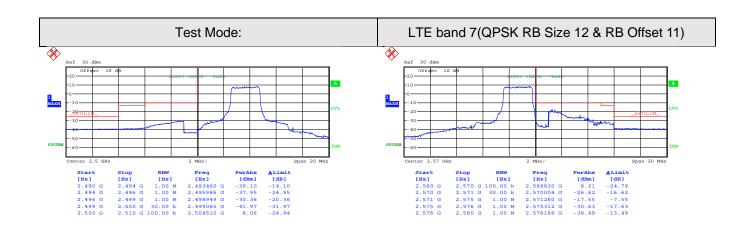




Date: 8.JUN.2017 16:43:57 Date: 8.JUN.2017 16:53:42

Lowest channel

Highest channel



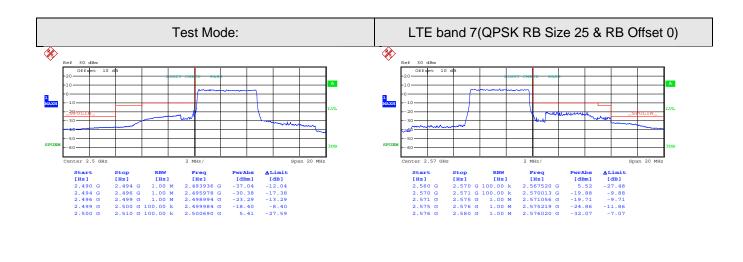
Date: 8.JUN.2017 16:44:20 Date: 8.JUN.2017 16:54:13

Lowest channel

Highest channel





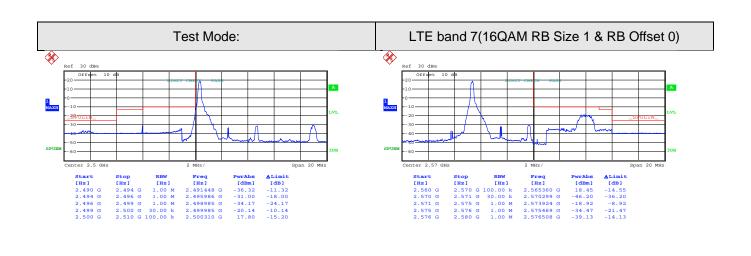


Date: 8.JUN.2017 16:44:48

Date: 8.JUN.2017 16:54:43

Lowest channel

Highest channel



Date: 8.JUN.2017 16:43:16

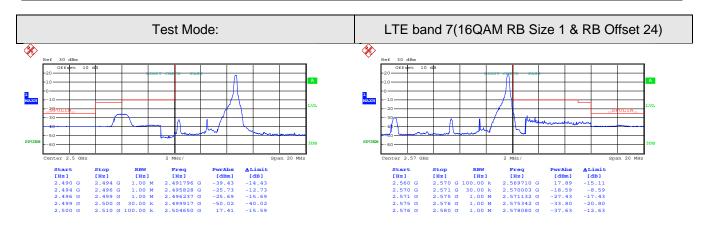
Date: 8.JUN.2017 16:52:57

Lowest channel

Highest channel





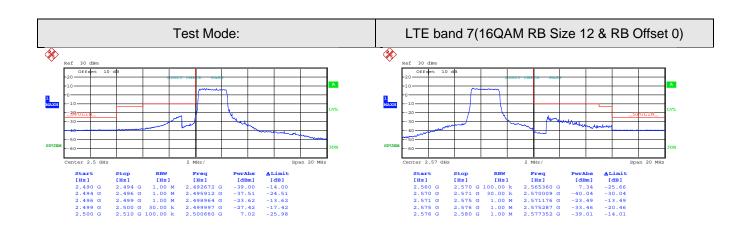


Date: 8.JUN.2017 16:43:43

Date: 8.JUN.2017 16:53:16

Lowest channel

Highest channel



Date: 8.JUN.2017 16:44:06

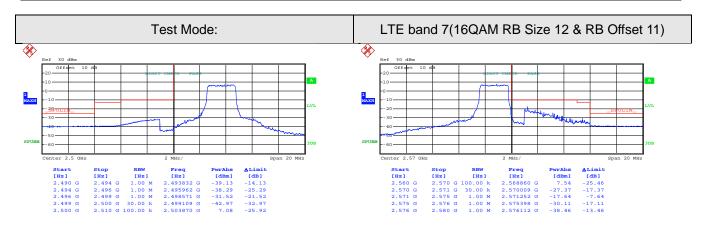
Date: 8.JUN.2017 16:53:52

Lowest channel

Highest channel





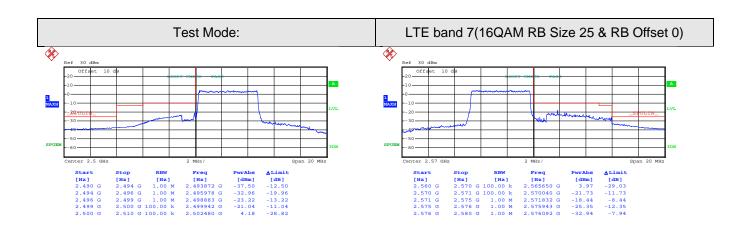


Date: 8.JUN.2017 16:44:29

Date: 8.JUN.2017 16:54:21

Lowest channel

Highest channel



Date: 8.JUN.2017 16:44:56

Date: 8.JUN.2017 16:54:51

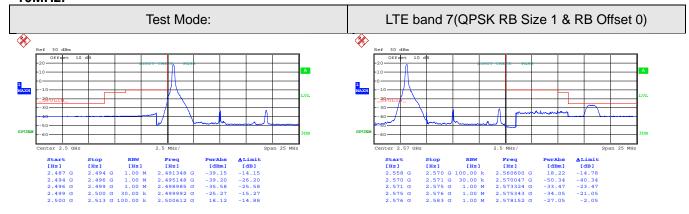
Lowest channel

Highest channel





10MHz:

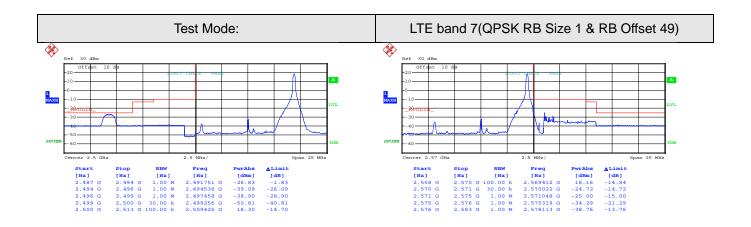


Date: 8.JUN.2017 16:55:37

Date: 8.JUN.2017 16:59:19

Lowest channel

Highest channel



Date: 8.JUN.2017 16:56:03

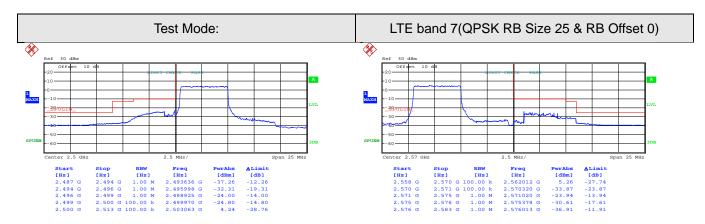
Date: 8.JUN.2017 16:59:39

Lowest channel

Highest channel





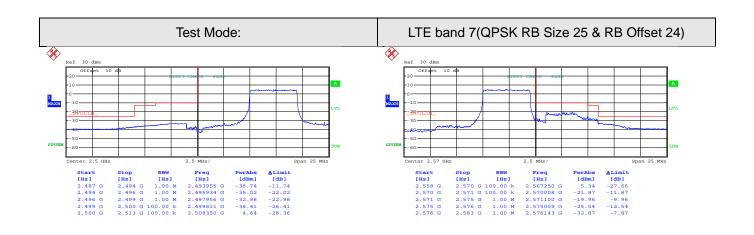


Date: 8.JUN.2017 16:56:32

Date: 8.JUN.2017 17:00:08

Lowest channel

Highest channel



Date: 8.JUN.2017 16:56:54

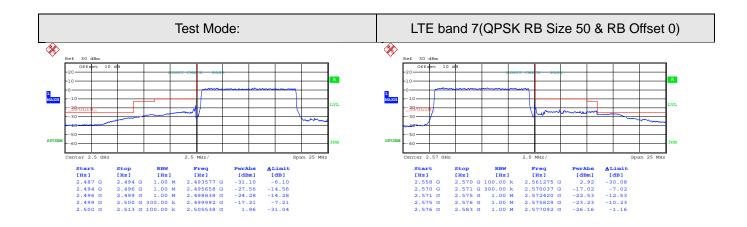
Date: 8.JUN.2017 17:00:28

Lowest channel

Highest channel





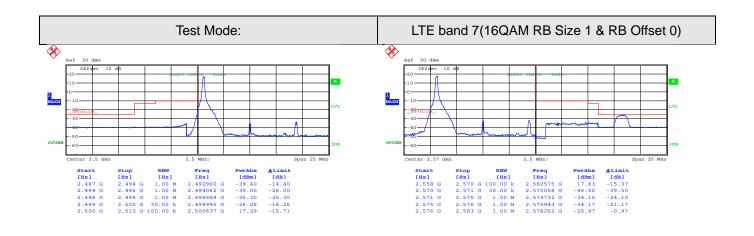


Date: 8.JUN.2017 16:57:19

Date: 8.JUN.2017 17:01:02

Lowest channel

Highest channel



Date: 8.JUN.2017 16:55:45

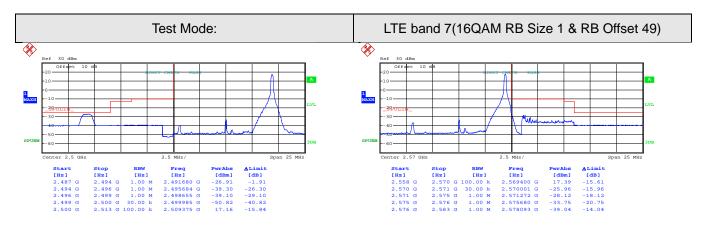
Date: 8.JUN.2017 16:59:29

Lowest channel

Highest channel



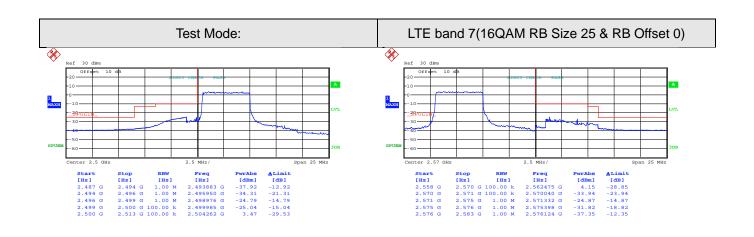




Date: 8.JUN.2017 16:56:12 Date: 8.JUN.2017 16:59:50

Lowest channel

Highest channel



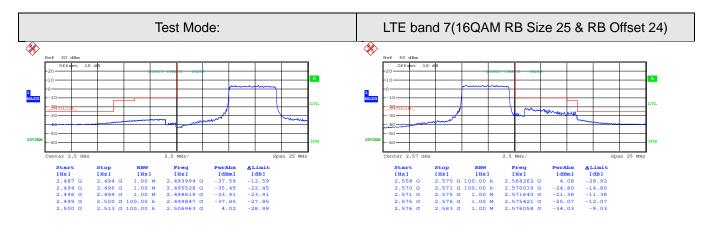
Date: 8.JUN.2017 16:56:41 Date: 8.JUN.2017 17:00:16

Lowest channel

Highest channel





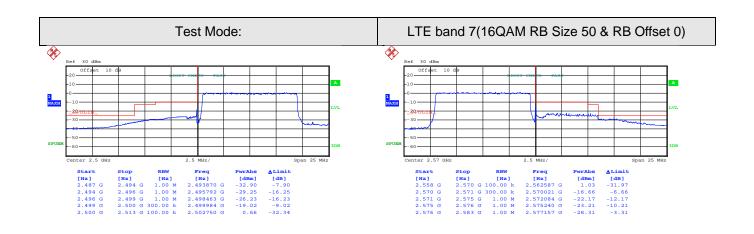


Date: 8.JUN.2017 16:57:04

Date: 8.JUN.2017 17:00:37

Lowest channel

Highest channel



Date: 8.JUN.2017 16:57:28

Date: 8.JUN.2017 17:01:10

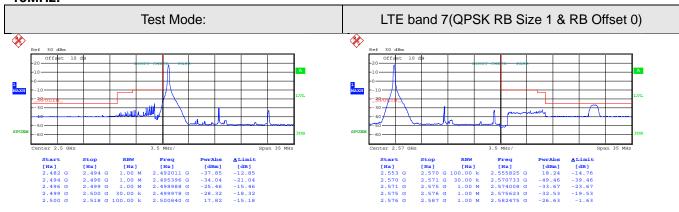
Lowest channel

Highest channel





15MHz:

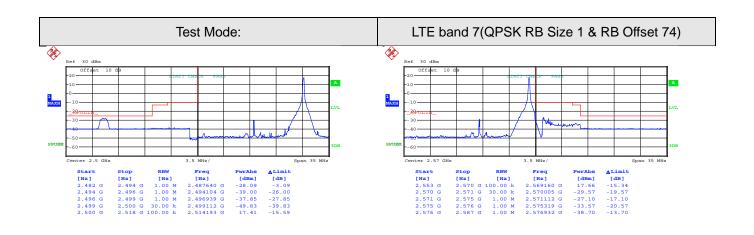


Date: 8.JUN.2017 17:02:44

Date: 8.JUN.2017 17:05:49

Lowest channel

Highest channel



Date: 8.JUN.2017 17:03:04

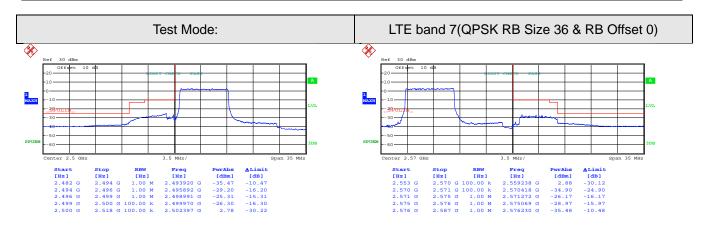
Date: 8.JUN.2017 17:06:09

Lowest channel

Highest channel



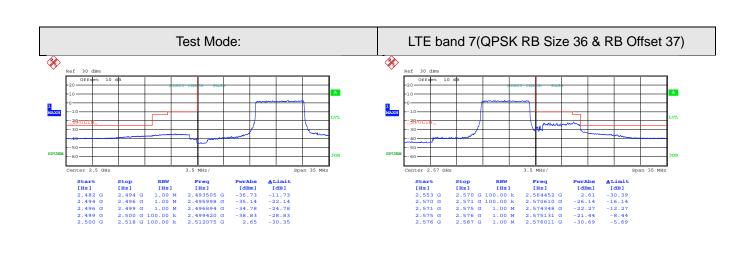




Date: 8.JUN.2017 17:03:32 Date: 8.JUN.2017 17:06:35

Lowest channel

Highest channel



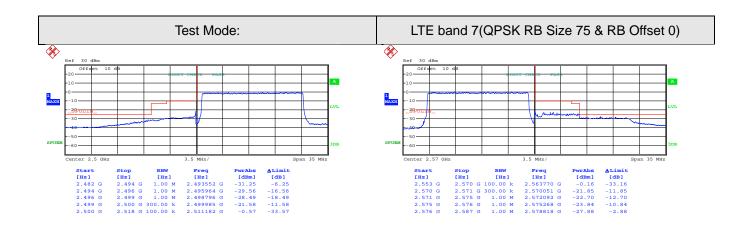
Date: 8.JUN.2017 17:03:53 Date: 8.JUN.2017 17:06:55

Lowest channel

Highest channel





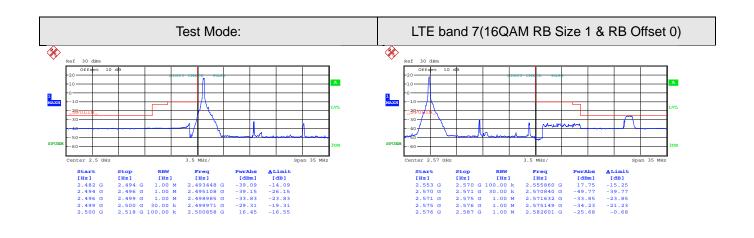


Date: 8.JUN.2017 17:05:07

Date: 8.JUN.2017 17:07:21

Lowest channel

Highest channel



Date: 8.JUN.2017 17:02:52

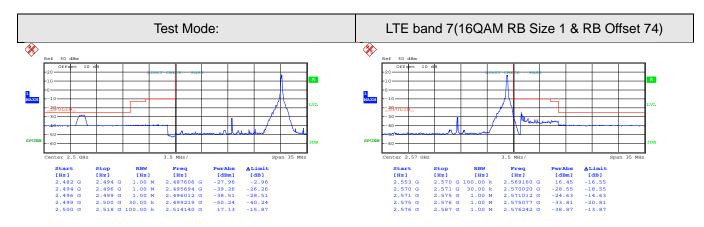
Date: 8.JUN.2017 17:05:58

Lowest channel

Highest channel



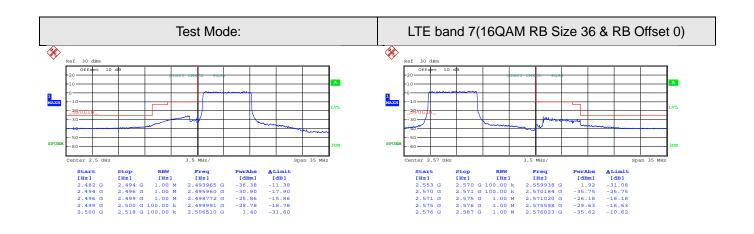




Date: 8.JUN.2017 17:03:14 Date: 8.JUN.2017 17:06:18

Lowest channel

Highest channel



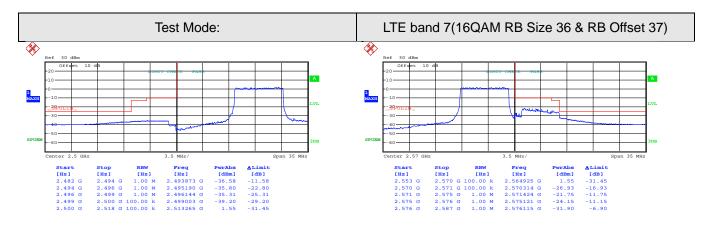
Date: 8.JUN.2017 17:03:41 Date: 8.JUN.2017 17:06:44

Lowest channel

Highest channel





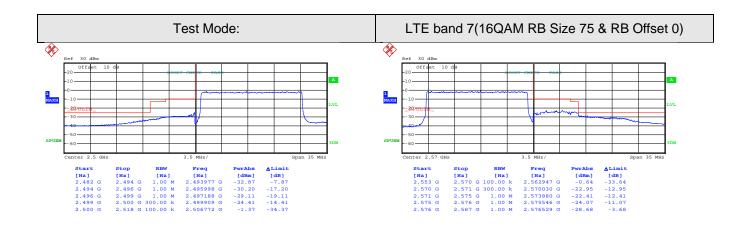


Date: 8.JUN.2017 17:04:02

Date: 8.JUN.2017 17:07:04

Lowest channel

Highest channel



Date: 8.JUN.2017 17:05:14

Date: 8.JUN.2017 17:07:29

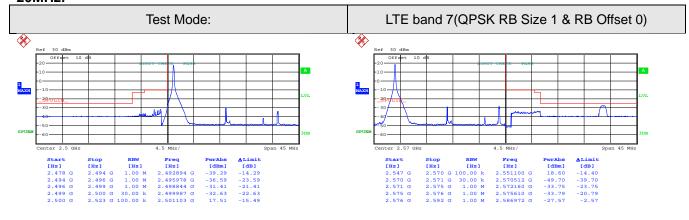
Lowest channel

Highest channel





20MHz:

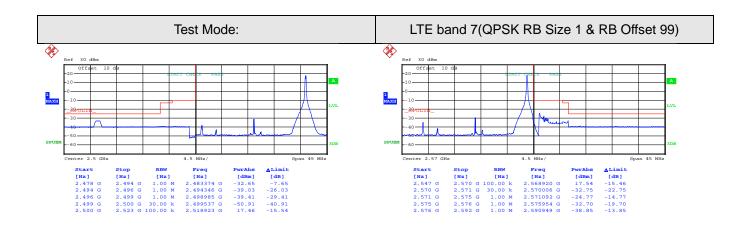


Date: 8.JUN.2017 17:08:23

Date: 8.JUN.2017 17:13:04

Lowest channel

Highest channel



Date: 8.JUN.2017 17:08:44

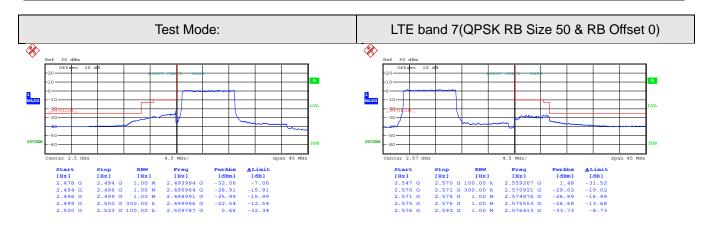
Date: 8.JUN.2017 17:13:23

Lowest channel

Highest channel





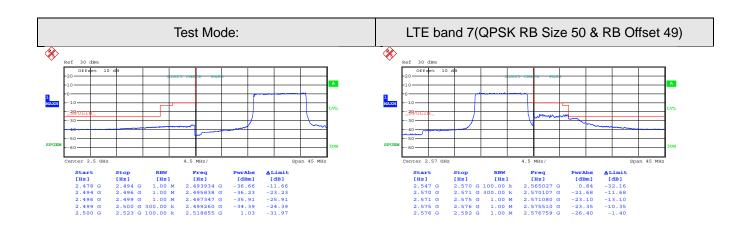


Date: 8.JUN.2017 17:10:17

Date: 8.JUN.2017 17:13:52

Lowest channel

Highest channel



Date: 8.JUN.2017 17:12:02

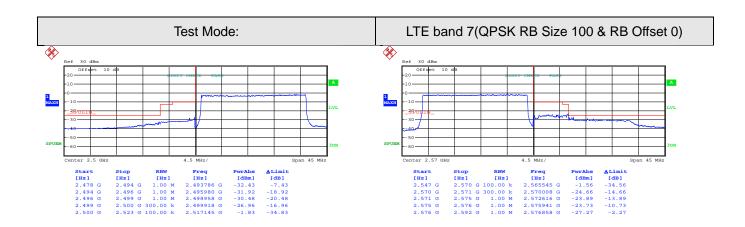
Date: 8.JUN.2017 17:14:16

Lowest channel

Highest channel





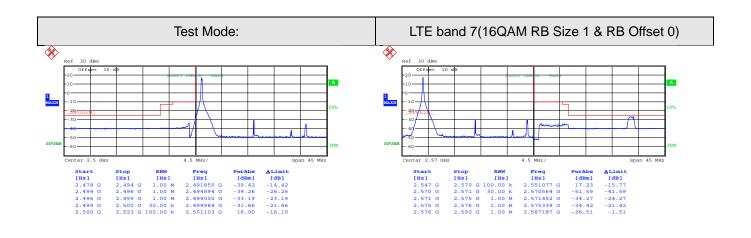


Date: 8.JUN.2017 17:12:23

Date: 8.JUN.2017 17:15:44

Lowest channel

Highest channel



Date: 8.JUN.2017 17:08:32

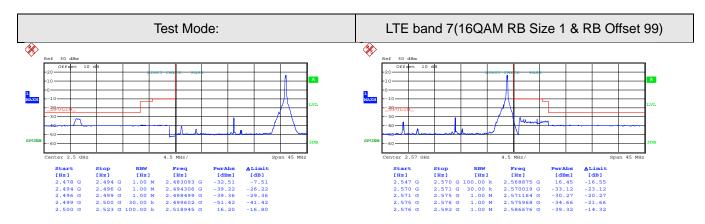
Date: 8.JUN.2017 17:13:12

Lowest channel

Highest channel





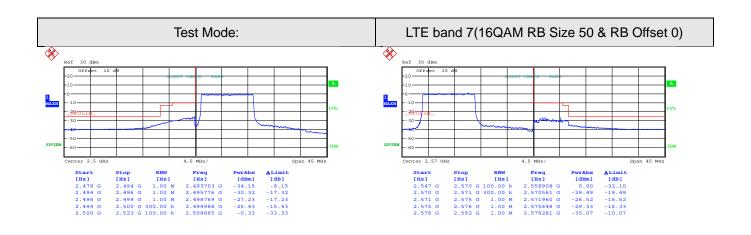


Date: 8.JUN.2017 17:08:55

Date: 8.JUN.2017 17:13:32

Lowest channel

Highest channel



Date: 8.JUN.2017 17:10:42

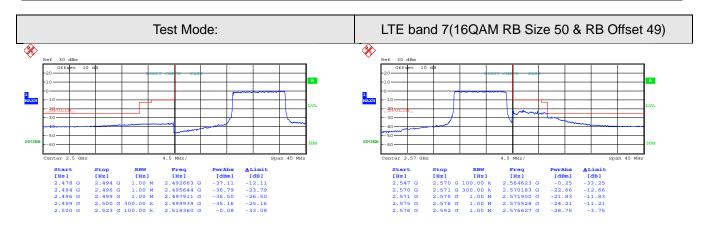
Date: 8.JUN.2017 17:14:01

Lowest channel

Highest channel





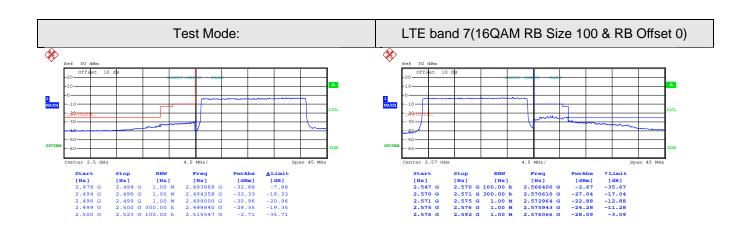


Date: 8.JUN.2017 17:12:11

Date: 8.JUN.2017 17:14:29

Lowest channel

Highest channel



Date: 8.JUN.2017 17:12:30

Date: 8.JUN.2017 17:15:52

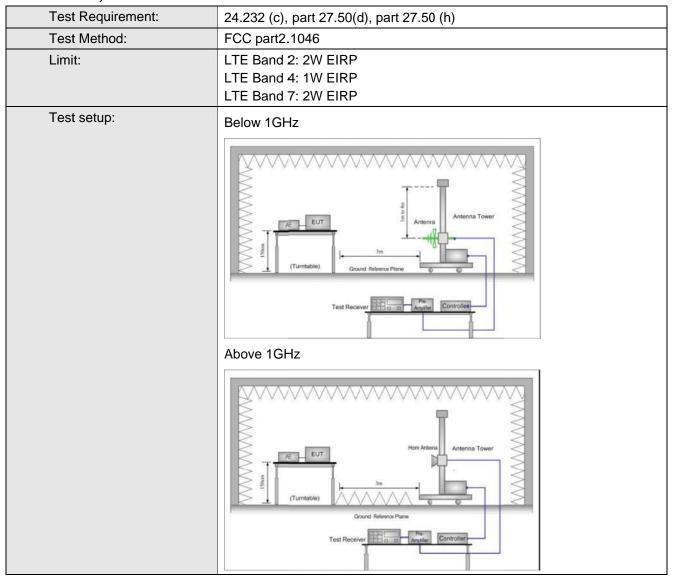
Lowest channel

Highest channel





6.10 ERP, EIRP Measurement







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)			
1850.70	18607	QPSK	1.4	Н	V	22.30		
1650.70	10007	QFSK	1.4	П	Н	11.23	22.00	Doos
1850.70	18607	16QAM	1.4	Н	V	21.24	33.00	Pass
1650.70	10007	IOQAW	1.4		Н	10.69		
		1.	4MHz(RB s	size 3 & RB	offset 0)			
1850.70	18607	QPSK	1.4	Н	V	22.46		
1650.70	10007	QFSK	1.4		Н	11.08	33.00	Pass
1850.70	18607	16QAM	1.4	Н	V	22.03	33.00	Fa55
1650.70	10007	TOQAW	1.4	П	Н	10.96		
		1.	4MHz(RB s	size 6 & RB	offset 0)			
1850.70	18607	QPSK	1.4	Н	V	21.57		
1650.70	10007	QP3K	1.4	"	Н	10.88	33.00	Pass
1850.70	18607	16QAM	1.4	Н	V	21.49	33.00	rass
1050.70	10007	TOQAM	1.4		Н	11.02		

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	21.26		
1000.00	10900	QF3K	1.4	11	Н	12.40	33.00	Pass
1880.00	18900	16QAM	1.4	Н	V	21.47	33.00	Fa55
1000.00	16900	IOQAW	1.4		Н	11.26		
		1.4	4MHz(RB	size 3 & RE	3 offset 0)			
1880.00	18900	QPSK	1.4	Н	V	22.47		
1000.00	16900	QFSK	1.4	11	Н	11.36	33.00	Pass
1880.00	18900	16QAM	1.4	Н	V	22.69	33.00	F 4 5 5
1880.00	16900	IOQAW	1.4	11	Н	10.23		
		1.4	4MHz(RB	size 6 & RE	3 offset 0)			
1880.00	18900	QPSK	1.40	Н	V	22.23		
1000.00	10900	QF3N	1.40	П	Н	10.77	33.00	Pass
1880.00	18900	16QAM	1.40	Н	V	21.36	33.00	F a 5 5
1000.00	10900	IOQAW	1.40	П	Н	10.25		





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)			
1000 20	10102	QPSK	1.1	Н	V	21.64		
1909.30	19193	QPSK	1.4	Г	Н	11.34	33.00	Pass
1909.30	19193	16QAM	1.4	н	V	21.69	33.00	Fa55
1909.30	19193	IOQAW	1.4	П	Н	10.42		
			1.4MHz(RE	3 size 3 & F	RB offset 0)			
1000 20	10102	ODCK	1 1	Н	V	22.21		
1909.30	19193	QPSK	1.4	П	Н	10.26	22.00	Door
1909.30	19193	16QAM	1.4	н	V	22.58	33.00	Pass
1909.50	19193	IOQAW	1.4	П	Н	10.39		
			1.4MHz(RE	3 size 6 & F	RB offset 0)			
1000 20	10102	QPSK	1 1	Н	V	22.87		
1909.30	19193	QPSK	1.4	П	Н	10.46	22.00	Door
1909.30	19193	16QAM	1.4	Н	V	21.39	33.00	Pass
1909.30	19193	IOQAW	1.4	17	Н	10.77		

Lowest channel

			LOWC	St Channe	<u> </u>			
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
		2	20MHz(RB s	ize 1 & RE	3 offset 0)			
1860.00	18700	QPSK	20	Н	V	21.74		
1000.00	18700	QFSK	20	Г	Н	11.16	33.00	Pass
1860.00	18700	16QAM	20	Н	V	21.56	33.00	F a 5 5
1000.00	10700	IOQAW	20	П	Н	11.11		
		2	0MHz(RB si	ze 50 & RI	B offset 0)			
1860.00	18700	QPSK	20	Н	V	19.78		
1000.00	18700	QFSK	20	П	Н	10.07	33.00	Pass
1860.00	18700	16QAM	20	Н	V	20.84	33.00	Fa55
1660.00	10700	IOQAW	20	П	Н	10.06		
		20	MHz(RB siz	e 100 & R	B offset 0)			
1860.00	18700	QPSK	20	Н	V	19.29		
1000.00	18700	QFSK	20	Г	Н	10.62	33.00	Pass
1860.00	18700	16QAM	20	Н	V	19.26	33.00	Fa55
1000.00	10700	IOQAW	20	11	Н	10.22		





Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
		2	20MHz(RB s	ize 1 & RE	offset 0)			
1000.00	10000	QPSK	20	Н	V	22.03		
1880.00	18900	QPSK	20	"	Н	10.24	22.00	Door
1990.00	19000	16O A M	20	Н	V	22.19	33.00	Pass
1880.00	18900	16QAM	20		Н	10.00		
		2	0MHz(RB si	ze 50 & RI	3 offset 0)			
4000.00	40000	ODCK	20	Н	V	19.58		
1880.00	18900	QPSK	20		Н	11.43	22.00	Doos
1000 00	10000	16O A M	20	Н	V	20.20	33.00	Pass
1880.00	18900	16QAM	20		Н	11.29		
		20	MHz(RB siz	ze 100 & R	B offset 0)			
4000.00	40000	ODCK	20	- 11	V	20.24		
1880.00	18900	QPSK	20	Н	Н	11.37	22.00	Door
1880.00	18900	16QAM	20	Н	V	20.19	33.00	Pass
1000.00	10900	IOQAW	20	П	Н	12.24		

Highest channel

	Fraguency III PW EUT Antonno Limit									
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	21.36				
1900.00	19100	QFSK	20	П	Н	11.42	33.00	Door		
1900.00	19100	16QAM	20	Н	V	22.79	33.00	Pass		
1900.00	19100	TOQAM	20	П	Н	10.23				
		2	20MHz(RB s	size 50 &	RB offset 0)				
1900.00	19100	QPSK	20	Н	V	20.21				
1900.00	19100	QFSK	20	П	Н	10.43	33.00	Pass		
1900.00	19100	16QAM	20	Η	V	21.63	33.00	F 455		
1900.00	19100	TOQAM	20	11	Н	10.79				
		2	0MHz(RB s	ize 100 8	& RB offset (0)				
1900.00	19100	QPSK	20	Η	V	21.24				
1900.00	19100	QF 5K	20	11	Η	10.23	33.00	Pass		
1900.00	19100	16QAM	20	Η	V	21.87	33.00	F 033		
1300.00	13100	ΙΟΩΛΙΝΙ	20	11	Н	12.14				





LTE band 4 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result	
	1.4MHz(RB size 1 & RB offset 0)								
1710.70	19957	QPSK	1.4	Н	V	21.63			
1710.70	19931	QFSK	1.4	11	Н	13.75	30.00	Pass	
1710.70	19957	16QAM	1.4	Н	V	21.06	30.00	Fa55	
1710.70	19931	TOQAW	1.4	11	Н	13.95			
		1	.4MHz(RE	3 size 3 &	RB offset 0)				
1710.70	19957	QPSK	1.4	Н	V	21.99			
1710.70	19937	QFSK	1.4	П	Н	13.58	30.00	Pass	
1710.70	19957	16QAM	1.4	Н	V	22.44	30.00	Fa55	
1710.70	19937	IOQAW	1.4	П	Н	14.58			
		1	.4MHz(RE	3 size 6 &	RB offset 0)				
1710 70	10057	ODSK	1.1	Н	V	19.72			
1710.70	19957	QPSK	1.4	П	Н	11.88	20.00	Door	
1710.70	19957	16QAM	1.4	Н	V	20.02	30.00	Pass	
17 10.70	19907	TOQAM	1.4	17	Н	12.28			

Middle channel

			IVIIC	adie chan	IIEI			
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
	1.4MHz(RB size 1 & RB offset 0)							
1732.50	20175	QPSK	1.4	Н	V	21.25		
1732.50	20173	QFSK	1.4	П	Н	13.45	30.00	Pass
1732.50	20175	16QAM	1.4	Н	V	21.76	30.00	Fa55
1732.50	20173	TOQAW	1.4	11	Н	13.56		
		1	.4MHz(RE	3 size 3 &	RB offset 0)			
1732.50	20175	QPSK	1.4	Н	V	21.75		
1732.50	20175	QPSK	1.4	П	Н	13.25	30.00	Pass
1732.50	20175	16QAM	1.4	Н	V	22.69	30.00	F a 5 5
1732.50	20175	TOQAM	1.4	11	Н	14.72		
		1	.4MHz(RE	3 size 6 &	RB offset 0)			
1732.50	20175	QPSK	1.4	Н	V	20.13		
1732.50	20175	QP3K	1.4	П	Н	11.72	30.00	Pass
1732.50	20175	16QAM	1.4	Н	V	20.43	30.00	rass
1732.50	20173	TOQAM	1.4	17	Н	12.39		





Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
		,	1.4MHz(RE	3 size 1 & I	RB offset 0)			
1751 20	20202	QPSK	1.1	Н	V	21.64		
1754.30	20393	QPSK	1.4	П	Н	12.24	20.00	Door
1754.30	20393	16QAM	1.4	Н	V	22.36	30.00	Pass
1754.50	20393	TOQAM	1.4	П	Н	14.76		
		•	1.4MHz(RE	3 size 3 & I	RB offset 0)			
1754.30	20202	QPSK	1.4	Н	V	21.49		
1754.30	20393	QPSK	1.4	П	Н	12.26	30.00	Pass
1754 20	20202	16QAM	1.4	Н	V	22.43	30.00	Fa55
1754.30	20393	TOQAM	1.4	П	Н	10.42		
		•	1.4MHz(RE	3 size 6 & I	RB offset 0)			
1751 20	20202	ODSK	1.4	Н	V	21.30		
1754.30	20393	QPSK	1.4		Н	11.25	20.00	Door
1754.30	20393	16QAM	1.4	Н	V	21.63	30.00	Pass
1754.30	20393	IOQAW	1.4	П	Н	13.26		

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
		2	0MHz(RB si	ze 1 & RB	offset 0)			
1720.00	20050	QPSK	20	Н	V	21.42		
1720.00	20050	QFSN	20	11	Н	14.00	30.00	Pass
1720.00	20050	16QAM	20	Н	V	20.43	30.00	Fa55
1720.00	20050	TOQAM	20	11	Н	13.70		
		20MHz	(RB size 50	& RB offse	et 0)			
1720.00	20050	QPSK	20	Н	V	20.51		
1720.00	20050	QFSK	20	П	Н	13.66	30.00	Pass
1720.00	20050	16QAM	20	Н	V	20.54	30.00	F a 5 5
1720.00	20030	TOQAM	20	11	Н	13.62		
		20MHz(RB size 100	& RB offs	et 0)			
1720.00	20050	QPSK	20	Н	V	18.25		
1720.00	20050	QFSN	20	11	Н	11.08	30.00	Pass
1720.00	20050	16QAM	20	Н	V	18.21	30.00	F a 5 5
1720.00	20000	IOQAW	20	11	Н	11.04		



Report No: CCISE170601305

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
		2	0MHz(RB si	ze 1 & RB	offset 0)			
1732.50	20175	QPSK	20	Н	V	22.03		
1732.50	20175	QFSN	20	П	Н	12.34	30.00	Pass
1732.50	20175	16QAM	20	Н	V	20.21	30.00	F 455
1732.50	20175	TOQAW	20	П	Н	13.56		
		20	MHz(RB siz	ze 50 & RE	3 offset 0)			
1732.50	20175	QPSK	20	Н	V	21.34		
1732.50	20175	QFSN	20	П	Н	12.58	30.00	Pass
1732.50	20175	16QAM	20	Н	V	20.31	30.00	F 455
1732.50	20175	TOQAW	20	П	Н	13.25		
		20	MHz(RB siz	e 100 & RI	B offset 0)			
1722.50	20175	OBSK	20	Н	V	19.54		
1732.50	20175	QPSK	20	П	Н	10.25	30.00	Pass
1732.50	20175	16QAM	20	Н	V	19.45	30.00	F a 5 5
1732.50	20175	TOQAW	20	11	Н	10.21		

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	21.26														
1745.00	20300	QFSK	20	20 H	Н	12.47	20.00	Pass												
1745.00	20300	16QAM	20 H	ı	V	20.59	30.00	rass												
1745.00	20300	TOGAIVI 20	TOQAM 20 H	20	20	20	Н	12.42												
		:	20MHz(RB siz	ze 50 & RE	3 offset 0)															
1745.00	20300	QPSK	20	Н	V	21.46														
1745.00	20300	QFSK		11	Н	11.27	30.00	Pass												
1745.00	20300	16QAM	20	20	Н	V	21.46	30.00	F a 5 5											
1745.00	20300	20300	20300	20300	20300	20300	20300	20300	20300	20300	20300	20300	IOQAIVI	IOQAM	QAIVI 20	11	Н	12.43		
	20MHz(RB size 100 & RB offset 0)																			
1745.00	745.00 20300 QPSK	20200 ODSK 20 H	ODSK 20	ODCK 20	ODSK 30	200 OBSK 20	20	OBSK 30	V	20.10										
1745.00		20	Н	Н	10.26	30.00	Door													
1745.00	20300	16QAM	20	Н	V	20.23	30.00	Pass												
17-3.00	20300	IOQAW	20	11	Н	10.17														





LTE band 7 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
	5MHz(RB size 1 & RB offset 0)									
2502.50	20775	QPSK	5	Н	V	17.25				
2502.50	20113	QFSK	5	11	Н	11.82	33.00	Pass		
2502.50	20775	16QAM	5	Н	V	17.13	33.00	Pass		
2302.30	20113	IOQAW	3	11	Н	11.90				
			5MHz(RB	size 12&	RB offset 0)					
2502.50	20775	QPSK	5 H	ы	V	17.48				
2502.50	20113	QFSK		5	11	Н	12.04	33.00	Pass	
2502.50	20775	16QAM	5	Н	V	17.46	33.00	F d 5 5		
2502.50	20773	IOQAW	5	П	Н	12.09				
			5MHz(RB	size 25&	RB offset 0)					
2502.50	20775	ODSK	E		V	14.26	22.00			
2502.50	20775	QPSK	5	Н	Н	10.76		Dana		
2502.50	50 20775 400AM F	5	Н	V	14.16	33.00	Pass			
2502.50	20775	16QAM	J	17	Н	11.02				

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)									
2535.00	21100	QPSK	5	Н	V	16.25			
2555.00	21100	QFSK	5 H	Н	12.34	33.00	Door		
2535.00	21100	160AM		V	18.26	33.00	Pass		
2555.00	21100	10QAIVI 5		16QAM 5 H	Н	11.03			
		Ę	MHz(RB	size 12&	RB offset 0)				
2535.00	21100	QPSK	5	Н	V	16.58			
2555.00	21100	QFSK		J	11	Н	11.46	33.00	Pass
2535.00	21100	16QAM	5 H	н	V	16.78	33.00	F a 5 5	
2555.00	21100	TOQAM		5	Э	11	Н	10.26	
	5MHz(RB size 25& RB offset 0)								
2525.00	21100	OBSK	5	Н	V	15.67		Pass	
2555.00	2535.00 21100 QPSK	UFSK	Э	П	Н	10.22	33.00		
2535.00 21100	21100	21100 16QAM	5	Н	V	15.67			
2000.00	21100	IOQAM	J	11	Н	11.03			





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	17.26					
2567.50	21425	QPSK	5	Г	H 12.34	12.34	33.00	Pass			
2567.50	21425	16QAM	5 H	V	17.85	33.00	Fa55				
2567.50	21423	TOQAM	5		Н	11.42					
			5MHz(RB	size 12& R	RB offset 0)						
2567.50	04.405	QPSK	E	ш	V	17.24					
2567.50	21425	QPSK	5 H	Н	11.39	33.00	Pass				
2567.50	21425	16QAM	5	Н	V	17.85	33.00	Fa55			
2567.50	21423	IOQAW	5	П	Н	11.12					
			5MHz(RB	size 25& R	RB offset 0)						
2567.50	24.425	ODSK	_	-	F	-	ы	V	16.52		
2567.50	21425	QPSK	5	5 H	Н	10.24	22.00	D			
2567.50	21425	16QAM	5	Н	V	17.23	33.00	Pass			
2567.50	21420	IOQAW	ິ	П	Н	11.23					

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result					
	20MHz(RB size 1 & RB offset 0)												
2510.00	20850	QPSK	20	Н	V	17.58							
2510.00	20000	QFSK	20	П	Н	12.38	22.00	Pass					
2510.00	20050	16QAM	20	Н	V	17.65	33.00	Fa55					
2510.00	20850	IOQAW	20	П	Н	12.41							
		20MHz	(RB size 50	& RB offse	et 0)								
2510.00	20050	ODCK	20	Н	V	16.17							
2510.00	20850	QPSK	20	П	Н	11.46	33.00	Door					
2510.00	20850	16QAM	20	Н	V	16.14	33.00	Pass					
2510.00	20050	TOQAW		20	20	20	20	20	11	Н	11.36	İ	
	20MHz(RB size 100 & RB offset 0)												
2510.00	20050	OBSK	00	20	20	20	20	20	Н	V	14.37		
2510.00	0.00 20850 QPSK	20	"	Н	10.44	33.00	Door						
2510.00	20850	20850 16QAM	20	Н	V	15.26	33.00	Pass					
2310.00	20000	IOQAW	20	11	Н	10.26							



Report No: CCISE170601305

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	18.24			
2555.00	21100	QFSN	20	П	Н	11.36	22.00	Pass	
2535.00	21100	16QAM	20 H		V	18.75	33.00	Pass	
2555.00	21100	TOQAW	20	11	Н	12.03			
		20	MHz(RB siz	ze 50 & RE	3 offset 0)				
2535.00	21100	QPSK	20	Н	V	18.27			
2555.00	21100	QFSK		П	Н	12.06	33.00	Pass	
2535.00	21100	16QAM	20	Н	V	17.24	33.00	rass	
2333.00	21100	TOQAW	20	!!	Н	12.36			
		20	MHz(RB siz	e 100 & RI	B offset 0)				
2525.00	21100	0000	20	Н	V	15.24	33.00	Pass	
2555.00	2535.00 21100 QPS	QPSK	20		Н	10.23			
2535.00	21100	21100 16QAM	20	Н	>	16.72			
2555.00	21100	TOQAW	20	11	Н	10.48			

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)																	
2560.00	21350	QPSK	20	Н	V	19.57																
2560.00	21330	QFSK	20	П	Н	10.24	33.00	Pass														
2560.00	21350	16QAM	20	Н	V	18.26	33.00	Pass														
2300.00	21330	TOQAM	∠∪	11	Н	11.23																
			20MHz(RB s	size 50 &	RB offset 0)																
2560.00	21350	QPSK	20	20 H	ш	V	19.23															
2500.00	21330	QFSK		11	Н	11.02	33.00	Pass														
2560.00	21350	16QAM	20	20	Н	V	18.46	33.00	Fass													
2300.00	21350	21350	Z135U	21350	21300	Z1330	21330	21330	21330	21330	21330	21330	21330	IOQAW	IOQAW	20	20	Г	Н	11.52		
	20MHz(RB size 100 & RB offset 0)																					
2560.00	21350 QPSK 20	20	Н	V	16.72																	
2500.00	21350	QFSK	20	11	Н	11.24	33.00	Pass														
2560.00	21350	16QAM	20	Н	V	16.89	33.00	F 455														
2500.00	21330	TOQAM	20	11	Н	10.21																





6.11 Field strength of spurious radiation measurement

	urious radiation measurement
Test Requirement:	Part 24.238 (a), Part 27.53(m), Part 27.53(h)
Test Method:	FCC part2.1053
Limit:	LTE Band 2, LTE Band 4: -13dBm, LTE Band 7: -25dBm
Test setup:	Below 1GHz Antenna Tower Search Antenna RF Test Receiver Ground Plane Above 1GHz Antenna Tower
	Substituted method: Antenna mast 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:	 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: CCISE170601305

	 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: CCISE170601305

LTE band 2 part:

		ze 1 & RB offset 0) f	or QPSK	
Fraguency (MHz)	Spurious I		Limit (dBm)	Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (abm)	Result
		Lowest		
3701.40	Vertical	-47.47		
5552.10	V	-35.79		
7402.00	V	-35.20	12.00	Dess
3701.40	Horizontal	-47.08	-13.00	Pass
5552.10	Н	-34.26		
7402.00	Н	-38.11		
		Middle		
3760.00	Vertical	-42.67		Pass
5640.00	V	-31.39		
7520.00	V	-36.68	40.00	
3760.00	Horizontal	-49.08	-13.00	
5640.00	Н	-23.68		
7520.00	Н	-35.88		
		Highest		
3816.60	Vertical	-46.59		
5724.90	V	-28.69	-13.00	
7633.20	V	-36.35		Doca
3816.60	Horizontal	-43.26		Pass
5724.90	Н	-24.58		
7633.20	Н	-32.47		





	3MHz(RB siz	ze 1 & RB offset 0)	for QPSK	
Fragues av (MHz)		Emission	Limit (dBm)	Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dbin)	Result
		Lowest		
3703.00	Vertical	-46.32		
5554.50	V	-35.21		
7406.00	V	-36.72	-13.00	Pass
3703.00	Horizontal	-45.12	-13.00	Pass
5554.50	Н	-36.78		
7406.00	Н	-35.13		
		Middle		·
3760.00	Vertical	-45.21		
5640.00	V	-36.25		Pass
7520.00	V	-35.79	-13.00	
3760.00	Horizontal	-34.15	-13.00	
5640.00	Н	-32.73		
7520.00	Н	-35.21		
		Highest		
3817.00	Vertical	-45.27		
5725.50	V	-34.31	-13.00	
7634.00	V	-33.58		Pass
3817.00	Horizontal	-46.58		Pass
5725.50	Н	-32.65		
7634.00	Н	-35.24		





	FMU-/DD air	4 9 DD offset 0) fo	- ODCK	
		ze 1 & RB offset 0) for Emission	or QPSK	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1 Old I Lation	Lowest		1
3705.00	Vertical	-46.26		
5557.50	V	-34.27		
7410.00	V	-36.25		_
3705.00	Horizontal	-47.51	-13.00	Pass
5557.50	Н	-31.52		
7410.00	Н	-38.59		
		Middle		'
3760.00	Vertical	-42.57		Pass
5640.00	V	-31.26		
7520.00	V	-36.59	40.00	
3760.00	Horizontal	-48.51	-13.00	
5640.00	Н	-23.56		
7520.00	Н	-35.76		
·		Highest		
3815.00	Vertical	-45.12		
5722.50	V	-29.54	-13.00	
7630.00	V	-36.59		Door
3815.00	Horizontal	-43.25		Pass
5722.50	Н	-24.18		
7630.00	Н	-32.72		





	10MHz(RB si	ze 1 & RB offset 0)	for QPSK	
	•	Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
<u> </u>		Lowest		
3710.00	Vertical	-46.23		
5565.00	V	-35.21		
7420.00	V	-36.59	12.00	Door
3710.00	Horizontal	-45.21	-13.00	Pass
5565.00	Н	-36.45		
7420.00	Н	-35.78		
		Middle	<u>.</u>	
3760.00	Vertical	-45.21		Pass
5640.00	V	-36.59		
7520.00	V	-36.45	-13.00	
3760.00	Horizontal	-35.10	-13.00	
5640.00	Н	-32.25		
7520.00	Н	-36.57		
·		Highest		
3810.00	Vertical	-42.64		
5715.00	V	-34.61	-13.00	Date
7620.00	V	-33.47		
3810.00	Horizontal	-45.61		Pass
5715.00	Н	-32.67		
7620.00	Н	-35.49		





	15MU-/DD	size 1 & RB offset 0	\ for OPSK	
		s Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3715.00	Vertical	-46.25		
5572.50	V	-34.15		
7430.00	V	-36.29	40.00	Door
3715.00	Horizontal	-45.81	-13.00	Pass
5572.50	Н	-32.47		
7430.00	Н	-38.54		
	<u> </u>	Middle		
3760.00	Vertical	-42.15		
5640.00	V	-32.46		Pass
7520.00	V	-35.78	-13.00	
3760.00	Horizontal	-48.51	-13.00	
5640.00	Н	-23.65		
7520.00	Н	-35.97		
		Highest		
3805.00	Vertical	-45.16		
5707.50	V	-30.26	-13.00	
7610.00	V	-35.27		Pass
3805.00	Horizontal	-42.18		rass
5707.50	Н	-25.97		
7610.00	Н	-31.49		





	20MHz(RB s	size 1 & RB offset 0) for QPSK	
	Spurious	Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3720.00	Vertical	-45.26		
5580.00	V	-36.54		
7440.00	V	-35.78	12.00	Door
3720.00	Horizontal	-46.64	-13.00	Pass
5580.00	Н	-35.78		
7440.00	Н	-36.89		
		Middle		
3760.00	Vertical	-46.93		
5640.00	V	-36.23		Pass
7520.00	V	-35.91	-13.00	
3760.00	Horizontal	-36.25	-13.00	
5640.00	Н	-31.36		
7520.00	Н	-36.56		
		Highest		
3800.00	Vertical	-44.49		
5700.00	V	-34.96	-13.00	
7600.00	V	-33.71		Pass
3800.00	Horizontal	-47.82		rass
5700.00	Н	-33.68		
7600.00	Н	-36.69		





LTE Band 4 Part:

		e 1 & RB offset 0) for	or QPSK	
Fragues av (MIII-)	Spurious I			Daguit
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3421.40	Vertical	-45.44		
5132.10	V	-33.16		
6842.80	V	-29.95	42.00	Door
3421.40	Horizontal	-44.29	-13.00	Pass
5132.10	Н	-40.44		
6842.80	Н	-34.12		
<u> </u>		Middle		
3465.00	Vertical	-47.22		Pass
5197.50	V	-35.25		
6930.00	V	-35.22	40.00	
3465.00	Horizontal	-42.02	-13.00	
5197.50	Н	-33.82		
6930.00	Н	-36.00		
<u> </u>		Highest		
3508.60	Vertical	-43.96		
5262.90	V	-34.99	-13.00	
7017.20	V	-36.09		Dees
3508.60	Horizontal	-46.26		Pass
5262.90	Н	-37.66		
7017.20	Н	-36.91		





Spurious Emission Limit (dBm) Result		3MHz(RB siz	ze 1 & RB offset 0) fo	or QPSK	
Comparison Com	Fraguera (MII-)		<u>-</u>		Decult
Section	Frequency (MH2)	Polarization	Level (dBm)	Limit (dBm)	Result
5134.50 V -40.21 6846.00 V -37.65 3423.00 Horizontal -40.21 5134.50 H -33.26 6846.00 H -35.26 Middle 3465.00 Vertical -51.24 5197.50 V -42.57 6930.00 V -38.59 3465.00 Horizontal -41.21 5197.50 H -33.75 6930.00 H -38.62 Highest 3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21			Lowest		
Color	3423.00	Vertical	-52.26		
Sample	5134.50	V	-40.21		
3423.00	6846.00	V	-37.65	12.00	Door
6846.00 H -35.26 Middle 3465.00 Vertical -51.24 -51.24 5197.50 V -42.57 -13.00 Pass 5197.50 H -33.75 -13.00 Highest 3507.00 Vertical -51.27 -5260.50 V -42.56 7014.00 V -38.61 -13.00 Pass	3423.00	Horizontal	-40.21	-13.00	Pass
Middle 3465.00 Vertical -51.24 5197.50 V -42.57 6930.00 V -38.59 3465.00 Horizontal -41.21 5197.50 H -33.75 6930.00 H -38.62 Highest 3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21	5134.50	Н	-33.26		
3465.00 Vertical -51.24 5197.50 V -42.57 6930.00 V -38.59 3465.00 Horizontal -41.21 5197.50 H -33.75 6930.00 H -38.62 Highest 3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21	6846.00	Н	-35.26		
5197.50 V -42.57 6930.00 V -38.59 3465.00 Horizontal -41.21 5197.50 H -33.75 6930.00 H -38.62 Highest 3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21			Middle		·
6930.00 V -38.59 3465.00 Horizontal -41.21 5197.50 H -33.75 6930.00 H -38.62 Highest 3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21	3465.00	Vertical	-51.24		Pass
3465.00 Horizontal -41.21 -13.00 Pass 5197.50 H -33.75 6930.00 H -38.62 Highest 3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21	5197.50	V	-42.57		
3465.00 Horizontal -41.21 5197.50 H -33.75 6930.00 H -38.62 Highest 3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21	6930.00	V	-38.59	12.00	
6930.00 H -38.62 Highest 3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21	3465.00	Horizontal	-41.21	-13.00	
Highest 3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21	5197.50	Н	-33.75		
3507.00 Vertical -51.27 5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21 -13.00 Pass	6930.00	Н	-38.62		
5260.50 V -42.56 7014.00 V -38.61 3507.00 Horizontal -42.21			Highest		
7014.00 V -38.61 3507.00 Horizontal -42.21 -13.00 Pass	3507.00	Vertical	-51.27		
3507.00 Horizontal -42.21 -13.00 Pass	5260.50	V	-42.56		
3507.00 Horizontal -42.21	7014.00	V	-38.61	-13.00	Door
5260.50 H -33.36	3507.00	Horizontal	-42.21		Pass
	5260.50	Н	-33.36		
7014.00 H -34.59	7014.00	Н	-34.59		





	5MHz(RB siz	ze 1 & RB offset 0) fo	or QPSK	
[Emission		Danielt
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3425.00	Vertical	-45.21		
5137.50	V	-33.26		
6850.00	V	-29.58	-13.00	Pass
3425.00	Horizontal	-42.61	-13.00	Pass
5137.50	Н	40.72		
6850.00	Н	-33.26		
<u> </u>		Middle		
3465.00	Vertical	-46.25		Pass
5197.50	V	-35.67		
6930.00	V	-35.95	42.00	
3465.00	Horizontal	-42.13	-13.00	
5197.50	Н	-34.57		
6930.00	Н	-36.29		
<u> </u>		Highest		
3505.00	Vertical	-42.21		
5257.50	V	-35.64	-13.00	
7010.00	V	-36.91		Pass
3505.00	Horizontal	-45.68		Pass
5257.50	Н	-37.65		
7010.00	Н	-35.62		





	10MHz(RB si	ze 1 & RB offset 0) f	or QPSK	
Frequency (MHz)		Emission	Limit (dBm)	Result
1 requeries (Wil 12)	Polarization	Level (dBm)	Limit (abin)	Nesuit
		Lowest		
3430.00	Vertical	-51.23		
5145.00	V	-40.25		
6860.00	V	-37.54	-13.00	Door
3430.00	Horizontal	-40.26	-13.00	Pass
5145.00	Н	-32.69		
6860.00	Н	-36.34		
<u>.</u>		Middle		
3465.00	Vertical	-50.21		Pass
5197.50	V	-41.25		
6930.00	V	-37.54	-13.00	
3465.00	Horizontal	-40.26	-13.00	
5197.50	Н	-32.58		
6930.00	Н	-37.49		
		Highest		
3500.00	Vertical	-50.63		
5250.00	V	-41.28		
7000.00	V	-38.57	-13.00	
3500.00	Horizontal	-41.28		Pass
5250.00	Н	-32.26		
7000.00	Н	-33.47		





	15MHz(RB s	ize 1 & RB offset 0)	for QPSK					
Eroguanov (MUz)		Emission		Result				
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result				
	Lowest							
3435.00	Vertical	-46.21						
5152.50	V	-34.69						
6870.00	V	-30.75	40.00	Dana				
3435.00			-13.00	Pass				
5152.50	Н	-40.25						
6870.00	870.00 H -33.78							
.	Middle							
3465.00	Vertical	-45.12						
5197.50	V	-36.24		l				
6930.00	V	-35.19	42.00	Door				
3465.00	Horizontal	-42.18	-13.00	Pass				
5197.50	Н	-34.77						
6930.00	Н	-36.12						
		Highest						
3495.00	Vertical	-42.75						
5242.50	V	-35.97						
6990.00	V	-35.21	-13.00	Pass				
3495.00	Horizontal	-45.97	-13.00	Pass				
5242.50	Н	-38.21						
6990.00	Н	-35.19						





	20MHz(RB s	ize 1 & RB offset 0) for QPSK		
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result	
riequency (Minz)	Polarization	Level (dBm)	LIIIII (UDIII)	Result	
		Lowest			
3440.00	Vertical	-50.24			
5160.00	V	-41.32			
6880.00	V	-13.00	Door		
3440.00	Horizontal	-13.00	Pass		
5160.00	Н				
6880.00	0 H -35.29				
		Middle			
3465.00	Vertical	-49.05		Pass	
5197.50	V	-40.96			
6930.00	V	-37.43	-13.00		
3465.00	Horizontal	-40.57	-13.00		
5197.50	Н	-32.61			
6930.00	Н	-34.85			
		Highest			
3490.00	Vertical	-50.12			
5235.00	V	-41.26			
6980.00	V -38.65		-13.00	Pass	
3490.00	Horizontal	-40.21	-13.00	Pass	
5235.00	Н	-32.56			
6980.00	Н	-33.57]		





LTE Band 7 Part:

		ze 1 & RB offset 0) fo	or QPSK	
Frequency (MHz)	Spurious		Limit (dBm)	Result
r requericy (ivii iz)	Polarization	Level (dBm)	Littiit (dDitt)	Nesuit
		Lowest		
5005.00	Vertical	-37.28		
7507.50	V	-29.95		
10010.00	V	-33.11	25.00	Door
5005.00	Horizontal	-30.98	-25.00	Pass
7507.50	Н	-26.28		
10010.00				
<u>.</u>		Middle		
5070.00	Vertical	-33.90		
7605.00	V	-34.82		
10140.00	V	-36.39	25.00	Pass
5070.00	Horizontal	-35.16	-25.00	Pass
7605.00	Н	-32.39		
10140.00	00 H -33.48			
·		Highest		
5135.00	Vertical	-33.99		
7702.50	V	-32.13		
10270.00	V	-32.34	25.00	Door
5135.00	Horizontal	-34.14	-25.00	Pass
7702.50	Н	-28.48		
10270.00	Н	-32.61		





	10MHz(RB siz	ze 1 & RB offset 0) fo	or QPSK	
Frequency (MHz)	Spurious		Limit (dBm)	Result
r requericy (ivii iz)	Polarization	Level (dBm)	Limit (dbin)	Result
		Lowest		
5010.00	Vertical	-31.25		
7515.00	V	-32.67		
10020.00	V	-30.46	-25.00	Pass
5010.00	5010.00 Horizontal -34.57		-25.00	Pass
7515.00 Horizontal -34.57		-26.59	1	
10020.00	Н	-38.55		
		Middle		
5070.00	Vertical	-26.64		Pass
7605.00	V	-25.57		
10140.00	V	-30.12	25.00	
5070.00	Horizontal	-28.54	-25.00	Pass
7605.00	Н	-26.91		
10140.00	Н	-30.26		
		Highest		
5130.00	Vertical	-32.54		
7695.00	V	-30.16		
10260.00	V	-32.25	25.00	Dest
5130.00	Horizontal	-32.64	-25.00	Pass
7695.00	Н	-31.02		
10260.00	Н	-29.67		





Frequency (MHz) Spurious Emission Lowest Lowest 5015.00 Vertical -37.26 7522.50 V -29.54 10030.00 V -33.16 5015.00 Horizontal -30.25	Result Pass
Color Colo	
5015.00 Vertical -37.26 7522.50 V -29.54 10030.00 V -33.16	Pass
7522.50 V -29.54 10030.00 V -33.16	Pass
10030.00 V -33.16 -25.00	Pass
-25.00	Pass
5015.00 Horizontal -30.25	Pass
7522.50 H -26.28	
10030.00 H -28.64	
Middle	
5070.00 Vertical -32.21	Pass
7605.00 V -33.46	
10140.00 V -35.51	
5070.00 Horizontal -35.76 -25.00	
7605.00 H -32.15	
10140.00 H -33.49	
Highest	
5125.00 Vertical -32.58	
7687.50 V -32.57	
10250.00 V -32.45	Desa
5125.00 Horizontal -34.78 -25.00	Pass
7687.50 H -28.51	
10250.00 H -32.26	





	20MHz(RB si	ze 1 & RB offset 0)	for QPSK		
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result	
Frequency (Miriz)	Polarization	Level (dBm)	Lilliit (dbill)	Result	
		Lowest			
5020.00	Vertical	-32.55			
7530.00	V	-31.30			
10040.00	V	-31.45	-25.00	Door	
5020.00	Horizontal	-25.00	Pass		
7530.00	Н				
10040.00	Н				
		Middle			
5070.00	Vertical	-27.62		Pass	
7605.00	V	-27.96			
10140.00	V	-30.45	-25.00		
5070.00	Horizontal	-28.51	-25.00		
7605.00	Н	-27.64			
10140.00	Н	-30.22			
		Highest			
5120.00	Vertical	-31.67			
7680.00	V	-29.76			
10240.00	V -33.23		25.00	Pass	
5120.00	Horizontal	-31.80	-25.00	Pass	
7680.00	Н	-31.00			
10240.00	Н	-30.29			



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 Att. Variable Power Supply
Test procedure:	 Note: Measurement setup for testing on Antenna connector 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			
	equency: LTE Band		Middle channel=18900	channel=1880.00)MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	` ` `	Hz	ppm	(pp)	
	-30	182	0.096809		
	-20	174	0.092553		
	-10	155	0.082447		
	0	163	0.086702		
3.80	10	147	0.078191	±2.5	Pass
	20	135	0.071809		
	30	140	0.074468		
	40	158	0.084043		
	50	160	0.085106		
Reference F	requency: LTF Band	2(3MHz) M		hannel=1880 00	MHz
Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz Power supplied Temperature (°C) Frequency error Limit (nom) Result					
(Vdc)	Temperature (°C)	Hz		Limit (ppm)	Result
(• 00)	-30	163	ppm 0.086702		
	-20	145		1	
	-10	122	0.077128	<u> </u>	
	0		0.064894	-	
		130	0.069149		
3.80	10	145	0.077128	±2.5	Pass
	20	125	0.066489	_	
	30	136	0.072340		
	40	142	0.075532		
	50	157	0.083511		
Reference F	requency: LTE Band	2(5MHz) M	liddle channel=18900 c	hannel=1880.00	MHz
Power supplied (Vdc)	Temperature (°C)	Fr	equency error	Limit (nnm)	Result
rower supplied (vac)	remperature (C)	Hz	ppm	Limit (ppm)	Nesuit
	-30	168	0.089362		
	-20	152	0.080851	1	
	-10	144	0.076596	1	
	0	123	0.065426		Б.
3.80	10	125	0.066489	±2.5	Pass
	20 30	140 113	0.074468	1	
	40	128	0.060106 0.068085	1	
	50	160	0.085106	1	
	50	100	0.003100		





		, ,	liddle channel=18900	1	1411 12
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
. опот обрршов (таб)	. , ,	Hz	ppm	(PP)	
	-30	174	0.092553	_	
	-20	152	0.080851		
	-10	162	0.086170		
	0	135	0.071809	.0.5	D
3.80	10	146	0.077660	±2.5	Pass
	20 30	128	0.068085		
	40	155 126	0.082447 0.067021		
	50	128	0.067021	- 	
Reference Fi	requency: LTE Band) channel=1880.00)MHz
		, ,	equency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	181	0.096277		
	-20	145	0.077128		Pass
	-10	162	0.086170		
	0	143	0.076064		
3.80	10	155	0.082447	±2.5	
	20	128	0.068085		
	30	146	0.077660		
	40	125	0.066489		
	50	170	0.090426		
Reference Fi	requency: LTE Band	2(20MHz) M	liddle channel=18900	channel=1880.00	MHz
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	December
. o.ror ouppliou (vuo)	. ,	Hz	ppm	Lillia (ppili)	Result
	-30	166	0.088298		
	-20	145	0.077128		
	-10	125	0.066489		
	0	136	0.072340		
3.80	10	152	0.080851	±2.5	Pass
	20	104	0.055319		
	30	122	0.064894		
	40	134	0.071277		
	50	163	0.086702		





LTE Band 2(16QAM):

		LTE Band 2	2(16QAM):		
Reference F	requency: LTE Band	2(1.4MHz)	Middle channel=18900	channel=1880.0	OMHz
	Temperature (°C)	Fı	Frequency error		
Power supplied (Vdc)	remperature (c)	Hz	ppm	Limit (ppm)	Result
	-30	170	0.090426		
	-20	155	0.082447		
	-10	142	0.075532		
	0	133	0.070745		
3.80	10	160	0.085106	±2.5	Pass
0.00	20	151	0.080319	1	. 455
	30	140	0.074468		
	40	123	0.065426	1	
	50	128	0.068085	1	
Reference F	requency: LTE Band	2(3MHz) M	liddle channel=18900 d	channel=1880.00l	ИНz
		, ,			
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
		Hz	ppm		
	-30	170	0.090426	-	
	-20	125	0.066489	_	
	-10	142	0.075532		
	0	136	0.072340		
3.80	10	152	0.080851	±2.5	Pass
	20	155	0.082447		
	30	146	0.077660		
	40	149	0.079255	1	
	50	138	0.073404	1	
Reference F	requency: LTE Band	2(5MHz) M	liddle channel=18900 c	channel=1880.00l	ИНz
D	T(°C)	Fr	equency error	Lind (Annual)	D !!
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	190	0.101064		
	-20	188	0.100000		
	-10	152	0.080851	_	
	0	163	0.086702	<u> </u>	_
3.80	10	145	0.077128	±2.5	Pass
	20	174	0.092553	┦	
	30	165 128	0.087766	 	
	40 50	128	0.068085 0.080851	1	
	อบ	102	0.00001		





Reference Fi	requency: LTE Band	2(10MHz) M	iddle channel=18900	channel=1880.00	MHz
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
rowei supplied (vdc)	remperature (c)	Hz	ppm	сини (ррии)	Result
	-30	176	0.093617		
	-20	185	0.098404		
	-10	122	0.064894		
	0	124	0.065957	_	_
3.80	10	136	0.072340	±2.5	Pass
	20	141	0.075000	_	
	30	120	0.063830	_	
	40	156	0.082979	_	
	50	122	0.064894		
	requency: LTE Band	•		channel=1880.00	MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)		Hz	ppm	" ,	
	-30	157	0.083511	_	
	-20	142	0.075532	_	
	-10	133	0.070745		
	0	135	0.071809		Pass
3.80	10	126	0.067021	±2.5	
	20	150	0.079787		
	30	114	0.060638		
	40	128	0.068085		
	50	137	0.072872		
Reference Fi	requency: LTE Band	2(20MHz) M	iddle channel=18900	channel=1880.00	MHz
Power supplied	Temperature (°ℂ)	Fre	equency error	1	ъ
(Vdc)	· omporatoro (c)	Hz	ppm	Limit (ppm)	Result
	-30	169	0.089894		
	-20	145	0.077128		
	-10	133	0.070745		
	0	135	0.071809		
3.80	10	128	0.068085	±2.5	Pass
	20	150	0.079787	7	
	30	154	0.081915		
•				†	
	40	117	0.062234		





LTE Band 4(QPSK):

		LTE Band	4(QPSK):		
Reference Fr	equency: LTE Band	4(1.4MHz) N	Middle channel=20175	channel=1732.50)MHz
Power supplied	Temperature (°C)	Fr	equency error	Limit (nnm)	Popult
(Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	186	0.107359		
	-20	126	0.072727		
	-10	124	0.071573		
	0	130	0.075036	1	
3.80	10	105	0.060606	±2.5	Pass
0.00	20	121	0.069841		. 400
	30	136	0.078499	1	
	40	140	0.080808	1	
	50	150	0.086580	1	
Reference F	requency: LTF Band	4(3MHz) M	iddle channel=20175 c	hannel-1732 50	MHz
	requeriey. ETE Baria			1732.30	VII 12
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	20	Hz	ppm		
	-30	163	0.094084		
	-20	104	0.060029		
	-10	115	0.066378		
	0	126	0.072727		
3.80	10	134	0.077345	±2.5	Pass
	20	141	0.081385	1	
	30	142	0.081962		
	40	150	0.086580		
	50	123	0.070996		
Reference F	requency: LTE Band	4(5MHz) M	iddle channel=20175 c	hannel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)	Fr	equency error	Limit (ppm)	Result
rower supplied (vac)	` , ,	Hz	ppm	Limit (ppin)	Kesuit
	-30	185	0.106782		
	-20	142	0.081962	<u> </u>	
	-10	136	0.078499	 	
	0	141	0.081385		D -
3.80	10	134	0.077345	±2.5	Pass
	20 30	135 126	0.077922	-	
	40	147	0.072727 0.084848	+	
	50	105	0.064646	1	
	50	100	0.00000		





1 (0.0.0.0	equency. LTE band	,	liddle channel=20175	cnannel=1732.50	IMHZ
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
11 ()	` '	Hz	ppm	(11 /	
	-30 -20	160 125	0.092352 0.072150	_	
	-20 -10	111	0.064069		
	0	134	0.004009	_	
3.80	10	135	0.077922	±2.5	Pass
3.80	20	126	0.072727		1 400
	30	107	0.061760		
	40	129	0.074459		
	50	124	0.071573		
Reference Fr	requency: LTE Band	4(15MHz) N	fiddle channel=20175	channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)	Fre	equency error	Limit (ppm)	
Power supplied (vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	144	0.083117		Pass
	-20	120	0.069264		
	-10	113	0.065224		
	0	135	0.077922		
3.80	10	141	0.081385	±2.5	
	20	126	0.072727	†	
	30	108	0.062338		
	40	119	0.068687		
	50	127	0.073304		
Reference Fr	requency: LTE Band	L	fiddle channel=20175	channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)	Fre	equency error	Limit (nnm)	
Power supplied (vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	171	0.098701		
	-20	129	0.074459		
	-10	150	0.086580		
	0	142	0.081962		
3.80	10	136	0.078499	±2.5	Pass
	20	146	0.084271		1 033
		-		1	
	30	108	0.062338		
	30 40	108 107	0.062338 0.061760	 	





LTE Band 4(16QAM):

		LTE Band	4(16QAM):		
Reference F	requency: LTE Band	4(1.4MHz)	Middle channel=20175	channel=1732.5	0MHz
	Temperature (°C)	F	requency error	Limait (mmma)	_
Power supplied (Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	168	0.096970		
	-20	137	0.079076		
	-10	130	0.075036		
	0	126	0.072727	1	
3.80	10	108	0.062338	±2.5	Pass
0.00	20	118	0.068110	1	1 455
	30	127	0.073304	1	
	40	133	0.076768	_	
	50	149	0.086003	†	
Poforonco E			liddle channel=20175 c	hannol_1722 50I	\ / U→
Neielelice F	requericy. LTE band	4(31011 12) 10	ilidale chamille=20175 c		VII IZ
Damar amplied ()/da)	Temperature (℃)	Fr	Frequency error		Daguilt
Power supplied (Vdc)	remperature (c)	Hz	ppm	Limit (ppm)	Result
	-30	177	0.102165		
	-20	163	0.094084		
	-10	125	0.072150		
	0	145	0.083694		
3.80	10	105	0.060606	±2.5	Pass
3.00	20	123	0.070996	1	1 433
	30	141	0.081385	†	
	40	106	0.061183	†	
	50	122	0.070418	†	
Reference F	requency: LTE Band		liddle channel=20175 c	hannel=1732.50l	МНz
	- (00)	Fr	equency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	186	0.107359		
	-20	175	0.101010		
	-10	125	0.072150	1	
	0	136	0.078499	1	_
3.80	10	122	0.070418	±2.5	Pass
	20	114	0.065801	1	
	30	136	0.078499	1	
	40	125	0.072150	1	
	50	142	0.081962		





Reference F	requency: LTE Band	4(10MHz) M	liddle channel=20175	channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)	Fre	equency error	Limit (ppm)	Result
Power supplied (vac)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	194	0.111977		
	-20	152	0.087734		
	-10	146	0.084271		
	0	135	0.077922		
3.80	10	122	0.070418	±2.5	Pass
	20	147	0.084848	_	
	30	185	0.106782	_	
	40	180	0.103896	_	
	50	169	0.097547		
	requency: LTE Band	, ,	liddle channel=20175	channel=1732.50	MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	` '	Hz	ppm	- (11 /	
	-30	174	0.100433	_	Pass
	-20	155	0.089466		
	-10	146	0.084271		
	0	136	0.078499		
3.80	10	120	0.069264	±2.5	
	20	104	0.060029		
	30	115	0.066378		
	40	128	0.073882		
	50	162	0.093506		
Reference F	requency: LTE Band	4(20MHz) M	liddle channel=20175	channel=1732.50	MHz
Power supplied	Temperature (°ℂ)	Fre	equency error		5 "
(Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	170	0.098124		
	-20	125	0.072150		
3.80	-10	136	0.078499		
	0	144	0.083117		
	10	152	0.087734	±2.5	Pass
	20	160	0.092352	<u>-</u> 2.0	1 033
	30	141	0.081385	7	
	30	171			
	40	125	0.072150		





LTE Band 7(QPSK):

Poforonco F	requency: LTE Band	LTE Band	7(QPSK): ldle channel=21100Fre	201000V-2535 00	N/Hz
Power supplied	Tequency. LTL band		equency error	-quericy=2333.00	IVII IZ
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	146	0.057594		
	-20	125	0.04931	†	
	-10	130	0.051282	†	
	0	120	0.047337	1	
3.80	10	141	0.055621	-	_
3.00	20	112		±2.5	Pass
	30	105	0.044181	1	
			0.04142	-	
	40	122	0.048126		
D (50	140	0.055227	2525.0	ON 41 1
	equency: LTE Band /		ddle channel=21100 Fr	equency=2535.00	OMHZ
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	00	Hz	ppm	Еппи (ррпп)	resuit
	-30	182	0.071795	1	
	-20	145	0.057199	1	
	-10	165	0.065089	1	
	0	125	0.04931]	
3.80	10	138	0.054438	±2.5	Pass
	20	147	0.057988		
	30	122	0.048126		
	40	180	0.071006		
	50	174	0.068639	†	
Reference From	equency: LTE Band 7	(15MHz) Mid	ddle channel=21100 Fr	requency=2535.00	OMHz
Power supplied			equency error		
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	136	0.053649]	
	-20	125	0.04931	1	
	-10	104	0.041026	1	
	0	115	0.045365	1	
3.80	10	120	0.047337	±2.5	Pass
	20	123	0.048521	1	
	30	107	0.042209		
	40 50	112	0.044181	-	
Potoronoo Er		130	0.051282	1	7MU→
	equency. LTE band <i>t</i>	,	ddle channel=21100 Fi	equency=2555.00	JIVITZ
Power supplied (Vdc)	Temperature (°C)	Hz	equency error	Limit (ppm)	Result
(vuc)	-30	150	ppm 0.059172		
	-20	125	0.049310	1	
	-10	142	0.056016	1	
	0	136	0.053649	†	
3.80	10	130	0.051282	±2.5	Pass
	20	101	0.039842	1	
	30	145	0.057199]	
	40	125	0.049310]	
	50	130	0.051282	<u> </u>	





LTE Band 7(16QAM):

LTE Band 7(16QAM):								
Reference F	Reference Frequency: LTE Band 7(5MHz) Middle channel=21100Frequency=2535.00MHz							
Power supplied	Temperature (°C)	Fr	equency error	Limit (ppm)	Result			
(Vdc)	1 (3)	Hz	ppm	сини (ррии)	Kesuit			
	-30	163	0.064300					
	-20	152	0.059961					
	-10	142	0.056016					
	0	125	0.049310					
3.80	10	135	0.053254	±2.5	Pass			
	20	108	0.042604					
	30	117	0.046154					
	40	155	0.061144	 				
	50	124	0.048915	+				
Reference Fr			ddle channel=21100 F	reguency-2535 0	OMH ₇			
	equency. LTL band 7	<u> </u>		lequency=2000.0	OIVII IZ			
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result			
(vuo)		Hz	ppm					
	-30	191	0.075345	_				
	-20	127	0.050099					
	-10	154	0.060750					
	0	163	0.064300					
3.80	10	168	0.066272	±2.5	Pass			
	20	125	0.049310					
	30	135	0.053254					
	40	124	0.048915					
	50	168	0.066272					
Reference Fro		l .	ddle channel=21100 F	reguency=2535.0	0MHz			
Power supplied			equency error					
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result			
	-30	189	0.074556					
	-20	134	0.052860					
	-10	145	0.057199					
	0	116	0.045759	_				
3.80	10	148	0.058383	2.5	Pass			
	20	136	0.053649	_				
	30	122	0.048126	_				
	40 50	174 168	0.068639 0.066272	_				
Poforonco Fr	L		ddle channel=21100 F					
Power supplied		1	equency error					
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result			
(: 40)	-30	158	0.062327					
	-20	127	0.050099	┪				
	-10	144	0.056805	7				
	0	106	0.041815					
3.80	10	139	0.054832	2.5	Pass			
	20	185	0.072978					
1	30	144	0.056805					
	40	120	0.047337	_				
	50	115	0.045365					



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:	Temperature Chamber				
	Spectrum analyzer Att. 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 Fr	requency: LTE Band	2(1.4MHz) Middle	•	channel=1880.00)MHz
Temperature (°C)	Power supplied (Vdc)	Frequer Hz	ncy error ppm	Limit (ppm)	Result
	4.35	74	0.039362		
25	3.80	88	0.046809	±2.5	Pass
	3.60	90	0.047872		. 466
Reference F	requency: LTE Band	2(3MHz) Middle	channel=18900 c	channel=1880.00I	ИНz
- (2-)	Power supplied	Frequer	ncy error		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	63	0.033511		
25	3.80	88	0.046809	±2.5	Pass
	3.60	74	0.039362		
Reference F	requency: LTE Band	d 2(5MHz) Middle	channel=18900 c	channel=1880.00I	ИНz
T(%C)	Power supplied	Freque	ncy error		
Temperature $(^{\circ}\mathbb{C})$	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	89	0.047340		Pass
25	3.80	69	0.036702	±2.5	
	3.60	87	0.046277		
Reference F	requency: LTE Band	2(10MHz) Middle	channel=18900	channel=1880.00	MHz
T(%)	Power supplied	Freque	ncy error	Limit (ppm)	
Temperature $(^{\circ}\mathbb{C})$	(Vdc)	Hz	ppm		Result
	4.35	97	0.051596		
25	3.80	88	0.046809	±2.5	Pass
	3.60	74	0.039362		
Reference F	requency: LTE Band	2(15MHz) Middle	channel=18900	channel=1880.00	MHz
Tomporatura (°C)	Power supplied	Frequer	ncy error		Doordt
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	68	0.036170		
25	3.80	70	0.037234	±2.5	Pass
	3.60	49	0.026064		
Reference F	requency: LTE Band	2(20MHz) Middle	channel=20175	channel=1880.00	MHz
Temperature (%) Power supplied Frequency error		Line it (n =)	Danult		
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	88	0.046809	_	
25	3.80	79	0.042021	±2.5	Pass
	3.60	60	0.031915		





LTE Band 2(16QAM):

LTE Band 2(16QAM):							
Reference Fi	requency: LTE Band	2(1.4MHz) Middle	e channel=18900	channel=1880.00	MHz		
Temperature (℃)	Power supplied	Frequer	ncy error	Limit (nnm)	Dogult		
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	89	0.047340				
25	3.80	79	0.042021	±2.5	Pass		
	3.60	68	0.036170				
Reference F	requency: LTE Band	d 2(3MHz) Middle	channel=18900 c	channel=1880.00	ЛHz		
- (00)	Power supplied	Frequer	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	88	0.046809				
25	3.80	74	0.039362	±2.5	Pass		
	3.60	90	0.047872				
Reference F	requency: LTE Band	2(5MHz) Middle	channel=18900 c	channel=1880.00	ЛHz		
	Power supplied	Frequer	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	85	0.045213				
25	3.80	74	0.039362	±2.5	Pass		
	3.60	96	0.051064				
Reference F	requency: LTE Band	2(10MHz) Middle	channel=18900	channel=1880.00	MHz		
	Power supplied	Frequer	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	86	0.045745				
25	3.80	95	0.050532	±2.5	Pass		
	3.60	78	0.041489				
Reference F	requency: LTE Band	2(15MHz) Middle	channel=18900	channel=1880.00	MHz		
	Power supplied	Frequer	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	79	0.042021				
25	3.80	88	0.046809	±2.5	Pass		
	3.60	75	0.039894				
Reference F	requency: LTE Band	2(20MHz) Middle		channel=1880.00	MHz		
Power supplied Frequency error							
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	96	0.051064				
25	3.80	85	0.045213	±2.5	Pass		
20							





LTE Band 4(QPSK):

		LTE Band 4(Q	PSK):		
Reference F	requency: LTE Band	4(1.4MHz) Middle	e channel=20175	channel=1732.50)MHz
Temperature (℃)	Power supplied	Freque	ncy error	Limit (nnm)	Docult
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	74	0.042713		
25	3.80	90	0.051948	±2.5	Pass
	3.60	85	0.049062		
Reference F	requency: LTE Band	d 4(3MHz) Middle	channel=20175 c	channel=1732.50	ИНz
- (00)	Power supplied	Freque	ncy error		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	87	0.050216		
25	3.80	74	0.042713	±2.5	Pass
	3.60	90	0.051948	7	
Reference F	requency: LTE Band	d 4(5MHz) Middle	channel=20175 c	channel=1732.50	ИНz
	Power supplied	Frequer	ncy error		
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	63	0.036364		
25	3.80	74	0.042713	±2.5	Pass
	3.60	85	0.049062]	
Reference F	requency: LTE Band	4(10MHz) Middle	channel=20175	channel=1732.50	MHz
1	Power supplied	Frequer	ncy error		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	89	0.051371		
25	3.80	90	0.051948	±2.5	Pass
	3.60	88	0.050794	7	
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
	4.35	88	0.050794		
25	3.80	79	0.045599	±2.5	Pass
-	3.60	85	0.049062	1	
Reference F	requency: LTE Band			channel=1732.50	MHz
l <u> </u>	Power supplied Frequency error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	96	0.055411		
25	3.80	88	0.050794	±2.5	Pass
	3.60	87	0.050216]	





LTE Band 4(16QAM):

LTE Band 4(16QAM):							
Reference Fr	requency: LTE Band	4(1.4MHz) Middle	e channel=20175	channel=1732.50	MHz		
Temperature (℃)	Power supplied	Frequer	ncy error	Limit (nnm)	Dogult		
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	88	0.050794				
25	3.80	90	0.051948	±2.5	Pass		
	3.60	74	0.042713				
Reference F	requency: LTE Band	d 4(3MHz) Middle	channel=20175 c	channel=1732.50	ИHz		
T (%)	Power supplied	Frequer	ncy error				
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	88	0.050794				
25	3.80	96	0.055411	±2.5	Pass		
	3.60	77	0.044444				
Reference F	requency: LTE Band	d 4(5MHz) Middle	channel=20175 c	channel=1732.50	ИНz		
_ (05)	Power supplied	Frequer	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	90	0.051948				
25	3.80	99	0.057143	±2.5	Pass		
	3.60	88	0.050794				
Reference F	requency: LTE Band	4(10MHz) Middle	channel=20175	channel=1732.50	MHz		
	Power supplied	Frequer	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	74	0.042713				
25	3.80	89	0.051371	±2.5	Pass		
	3.60	95	0.054834				
Reference F	requency: LTE Band	4(15MHz) Middle	channel=20175	channel=1732.50	MHz		
- (20)	Power supplied	Frequer	ncy error		_		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	87	0.050216				
25	3.80	68	0.039250	±2.5	Pass		
	3.60	49	0.028283				
Reference F	requency: LTE Band	4(20MHz) Middle	channel=20175	channel=1732.50	MHz		
Power supplied Frequency error							
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.35	86	0.049639				
25	2.00	70	0.040404	±2.5	Daga		
20	3.80	70	0.040404	±2.5	Pass		





LTE Band 7(QPSK):

Reference Frequency: LTE Band 7(5MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 25 3.80 66 0.026036 ±2.5 Pass 3.60 80 0.031558 ±2.5 Pass Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 25 3.80 76 0.029586 ±2.5 Pass 3.60 49 0.019329 ±2.5 Pass Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 25 3.80 68 0.029586 ±2.5 Pass 25 3.80 68 0.029586 ±2.5 Pass Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result Temperature (°										
Columbia	Reference Fr	equency: LTE Band	7(5MHz) Middle o	channel=21100 Fre	equency=2535.0	0MHz				
Color Hz	Temperature (°C)	Power supplied	Freque	ncy error	Limit (nnm)	Pocult				
25 3.80 66 0.026036 ±2.5 Pass Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (℃) Power supplied (Vdc) Frequency error Hz ppm Limit (ppm) Result 25 3.80 76 0.029586 ±2.5 Pass 25 3.80 76 0.029980 ±2.5 Pass Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (℃) Power supplied (Vdc) Frequency error Hz ppm Limit (ppm) Result 25 3.80 68 0.029586 ±2.5 Pass 25 3.80 68 0.026824 ±2.5 Pass Temperature (℃) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result Temperature (℃) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result Temperature (℃) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result	remperature (C)	(Vdc)	Hz	ppm	Limit (ppin)	Nesuit				
3.60 80 0.031558 Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 25 3.80 76 0.029980 ±2.5 Pass 3.60 49 0.019329 ±2.5 Pass Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 25 3.80 68 0.029586 ±2.5 Pass 3.60 88 0.026824 ±2.5 Pass Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Limit (ppm) Result 4.35 98 0.038659 ±2.5 Pass 25 3.80 97 0.038264 ±2.5 Pass		4.35	79	0.031164						
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (℃) Power supplied (Vdc) Frequency error (Hz ppm) Limit (ppm) Result 25 3.80 75 0.029586 ±2.5 Pass 3.60 49 0.019329 ±2.5 Pass Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (℃) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result 25 3.80 68 0.029586 ±2.5 Pass 3.60 88 0.026824 ±2.5 Pass Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (℃) Power supplied (Vdc) Frequency error (Limit (ppm) Limit (ppm) Result 4.35 98 0.038659 ±2.5 Pass 25 3.80 97 0.038264 ±2.5 Pass	25	3.80	66	0.026036	±2.5	Pass				
Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 25 3.80 75 0.029586 ±2.5 Pass 3.60 49 0.019329 ±2.5 Pass Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 25 3.80 68 0.029586 ±2.5 Pass 3.60 88 0.034714 ±2.5 Pass Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 4.35 98 0.038659 ±2.5 Pass 25 3.80 97 0.038264 ±2.5 Pass		3.60	80	0.031558						
Column C	Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz									
Comparison of the comparison	Temperature (°C)	Power supplied	Freque	ncy error	Limit (nnm)	Popult				
25 3.80 76 0.029980 ±2.5 Pass 3.60 49 0.019329 Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result 25 3.80 68 0.029586 ±2.5 Pass 3.60 88 0.034714 ±2.5 Pass Temperature (°C) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result Temperature (°C) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result 25 3.80 97 0.038264 ±2.5 Pass	remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result				
Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C)		4.35	75	0.029586						
Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result 25 3.80 68 0.029586 ±2.5 Pass 3.60 88 0.034714 ±2.5 Pass Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result 4.35 98 0.038659 ±2.5 Pass 25 3.80 97 0.038264 ±2.5 Pass	25	3.80	76	0.029980	±2.5	Pass				
Temperature (℃) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 25 4.35 75 0.029586 ±2.5 Pass 3.80 68 0.026824 ±2.5 Pass Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (℃) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 4.35 98 0.038659 ±2.5 Pass 25 3.80 97 0.038264 ±2.5 Pass		3.60	49	0.019329						
Column C	Reference Fro	equency: LTE Band 7	7(15MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz				
Column C	Tomporature (°C)	Power supplied	Frequency error		Limit (nnm)	Doordt				
25 3.80 68 0.026824 ±2.5 Pass 3.60 88 0.034714 ±2.5 Pass Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error (Vdc) Limit (ppm) Result 4.35 98 0.038659 ±2.5 Pass 25 3.80 97 0.038264 ±2.5 Pass	remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result				
3.60 88 0.034714 Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 4.35 98 0.038659 25 3.80 97 0.038264 ±2.5 Pass		4.35	75	0.029586						
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 4.35 98 0.038659 25 3.80 97 0.038264 ±2.5 Pass	25	3.80	68	0.026824	±2.5	Pass				
Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 4.35 98 0.038659 25 3.80 97 0.038264 ±2.5 Pass		3.60	88	0.034714						
Column C	Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz									
(Vdc) Hz ppm 4.35 98 0.038659 25 3.80 97 0.038264 ±2.5 Pass	Tomporature (°C)	Power supplied	Freque	ncy error	Limit (nnm)	Dooult				
25 3.80 97 0.038264 ±2.5 Pass	remperature (C)	(Vdc)	Hz	ppm	Littiit (ppini)	Result				
		4.35	98	0.038659						
3.60 83 0.032742	25	3.80	97	0.038264	±2.5	Pass				
		3.60	83	0.032742						





LTE Band 7(16QAM):

Reference Fi	requency: LTE Band	7(5MHz) Middle c	hannel=21100 Fre	equency=2535.0	0MHz
Temperature (°C)	Power supplied	Freque	ncy error	Limit (nnm)	Result
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	79	0.031164		
25	3.80	76	0.029980	±2.5	Pass
	3.60	90	0.035503		
Reference Fr	equency: LTE Band 7	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
	4.35	85	0.033531		Pass
25	3.80	74	0.029191	±2.5	
	3.60	92	0.036292		
Reference Fr	equency: LTE Band 7	7(15MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz
Tomporatura (°C)	Power supplied	Frequency error		Limit (nam)	Dooult
Temperature ($^{\circ}$)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	99	0.039053		
25	3.80	68	0.026824	±2.5	Pass
	3.60	71	0.028008		
Reference Fr	equency: LTE Band 7	(20MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz
Temperature (°C)	Power supplied	Frequei	ncy error	Limit (nnm)	Result
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.35	58	0.022880		
25	3.80	49	0.019329	±2.5	Pass
	3.60	96	0.037870		