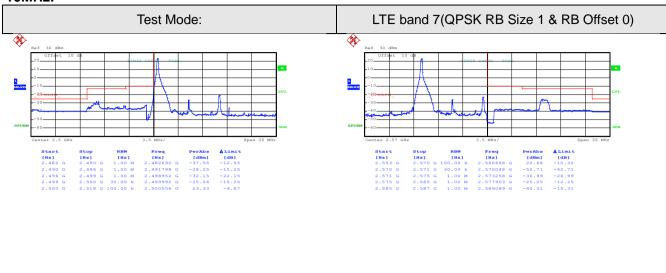


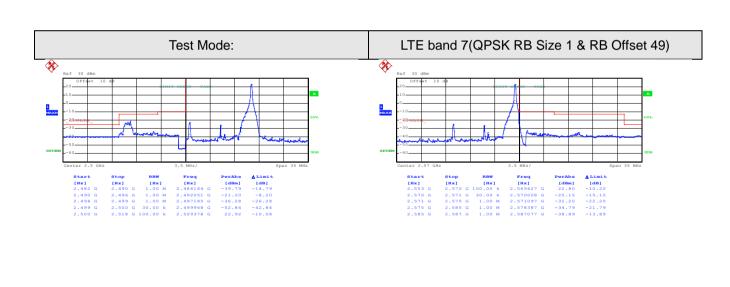


### 10MHz:



Lowest channel

Highest channel



Date: 27.NOV.2016 13:37:20

Date: 27.NOV.2016 13:37:00

Date: 27.NOV.2016 13:39:36

Date: 27.NOV.2016 13:39:16

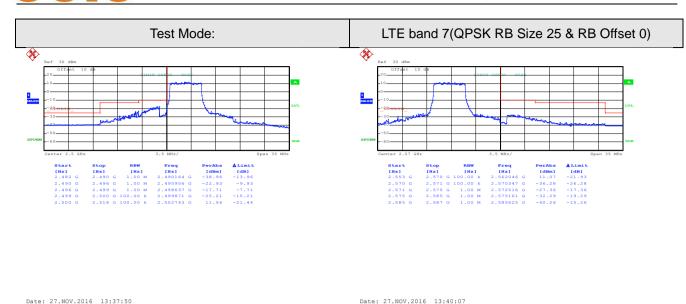
Lowest channel

Highest channel

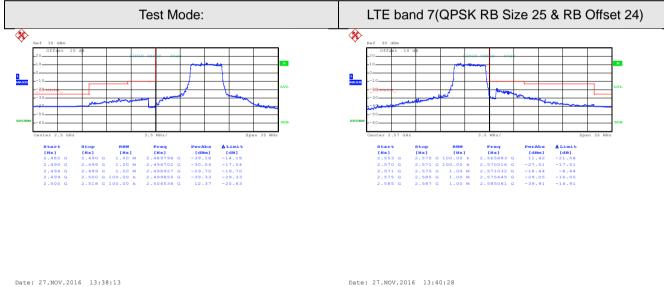


Highest channel





Lowest channel

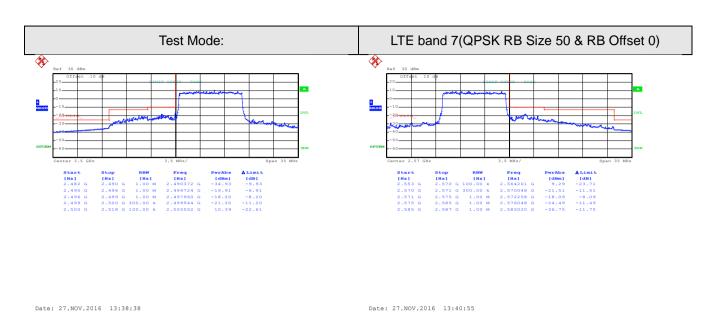


Date: 27.NOV.2016 13:40:28

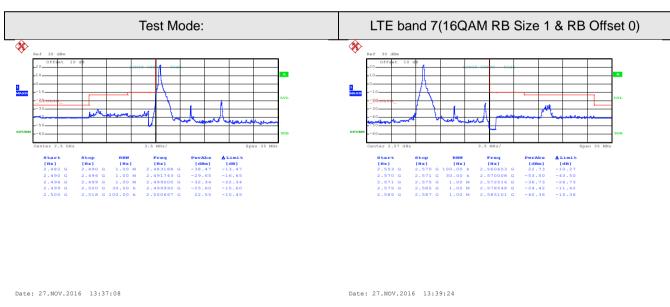
Lowest channel Highest channel







Lowest channel Highest channel



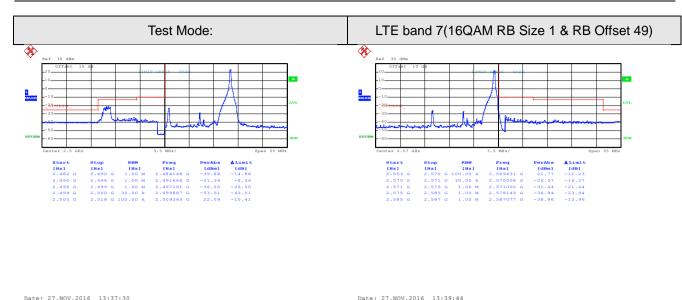
Lowest channel

Project No.: CCISE1611044

Highest channel

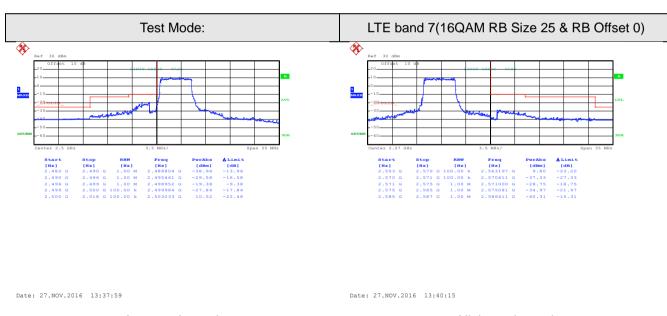






Lowest channel

Highest channel



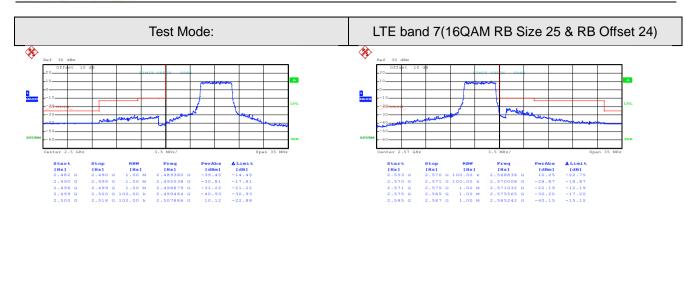
Lowest channel

Highest channel



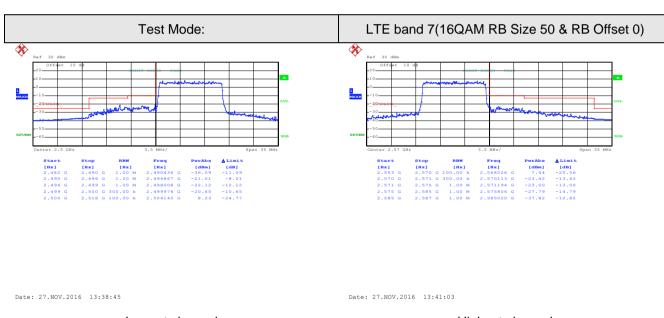


Date: 27.NOV.2016 13:38:22



Lowest channel Highest channel

Date: 27.NOV.2016 13:40:38

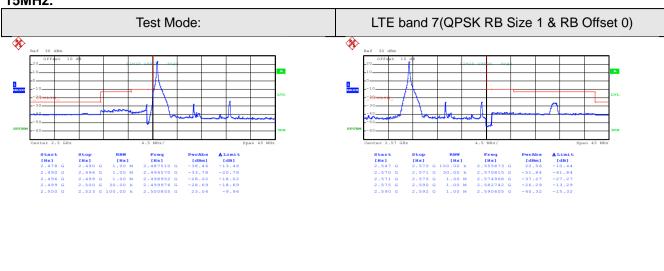


Lowest channel Highest channel





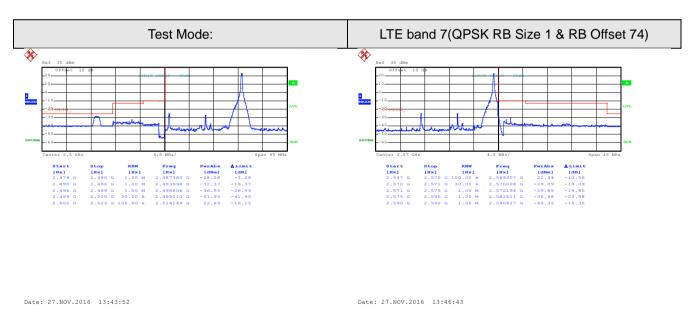
### 15MHz:



Date: 27.NOV.2016 13:43:03

Date: 27.NOV.2016 13:46:21

Lowest channel Highest channel

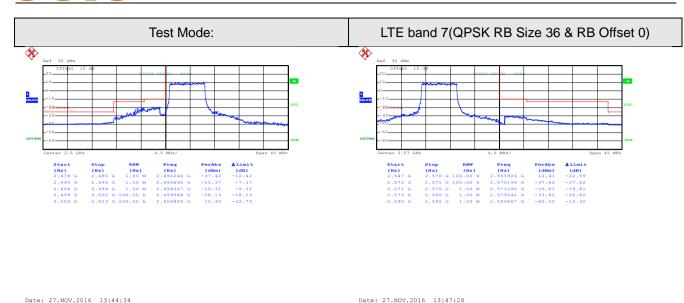


Lowest channel

Highest channel

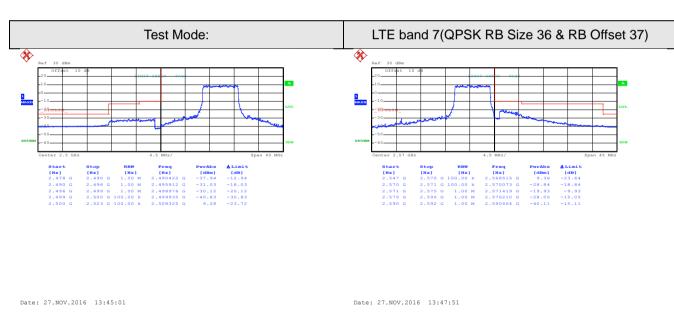






Lowest channel

Highest channel



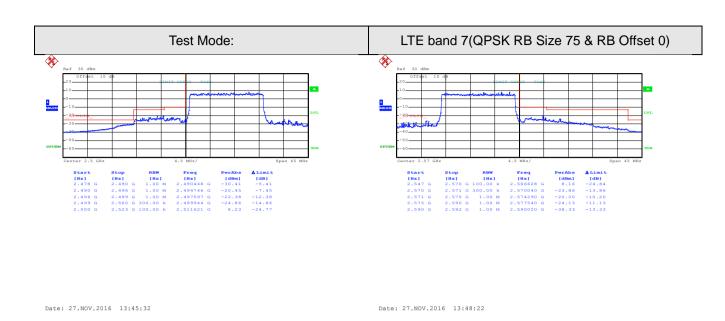
Lowest channel

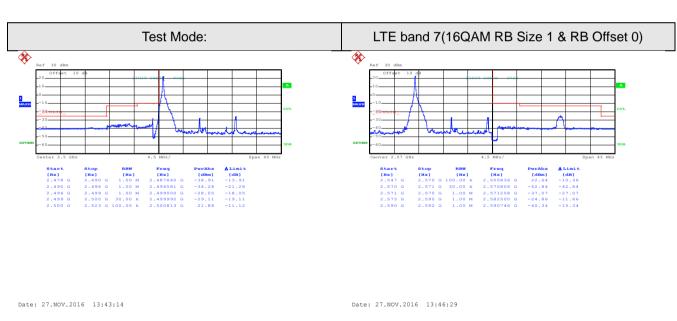
Highest channel



Highest channel





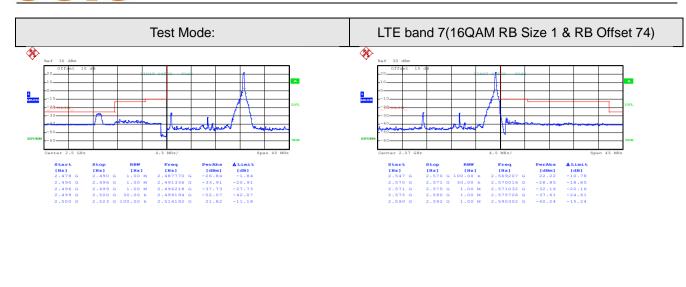


Lowest channel Highest channel

Lowest channel





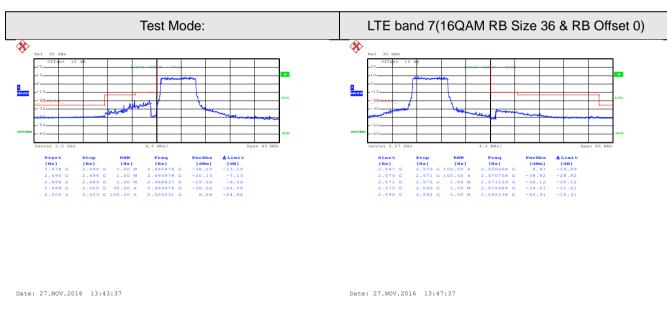


Lowest channel

Date: 27.NOV.2016 13:44:01

Date: 27.NOV.2016 13:46:54

### Highest channel

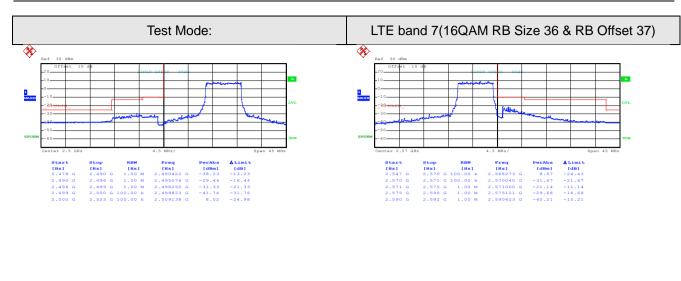


Lowest channel

Highest channel





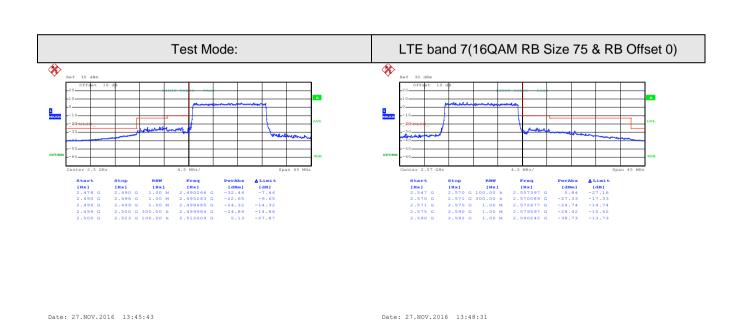


Lowest channel

Date: 27.NOV.2016 13:45:11

Highest channel

Date: 27.NOV.2016 13:48:01



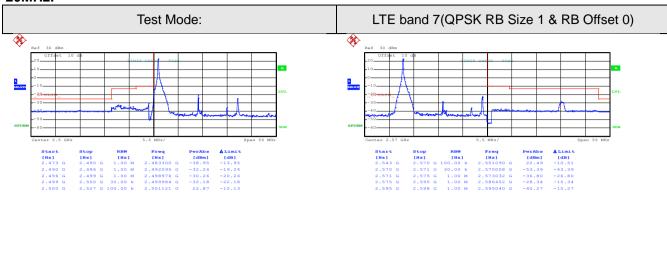
Lowest channel

Highest channel





### 20MHz:

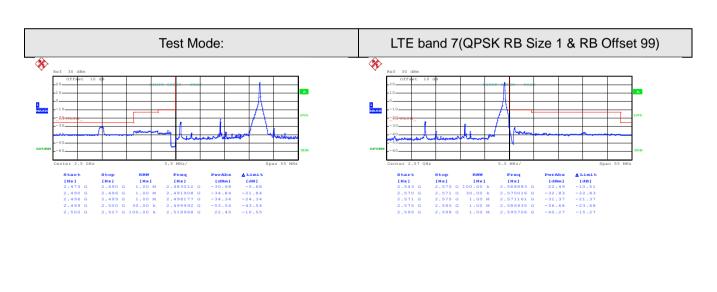


Date: 27.NOV.2016 13:49:37

Date: 27.NOV.2016 13:53:11

Lowest channel

Highest channel



Date: 27.NOV.2016 13:50:00

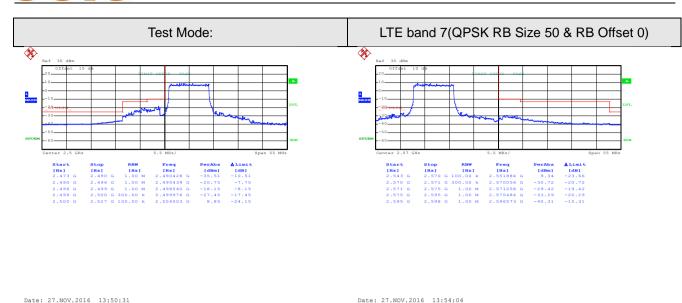
Date: 27.NOV.2016 13:53:34

Lowest channel

Highest channel

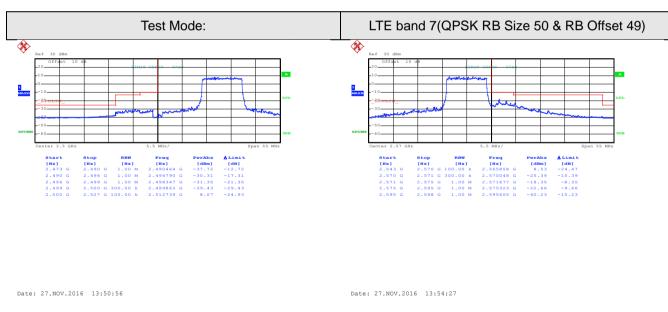






Lowest channel

Highest channel



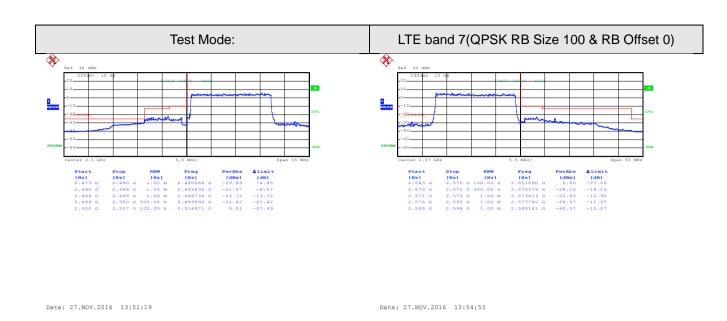
Lowest channel

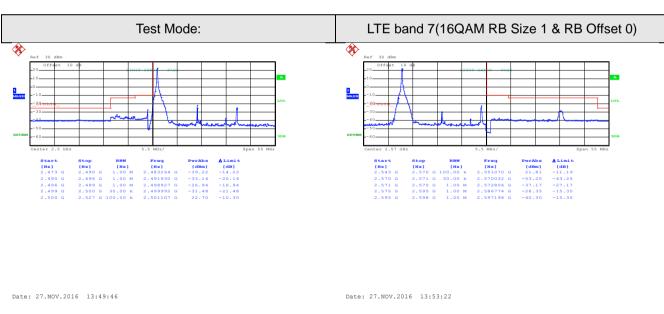
Highest channel



Highest channel





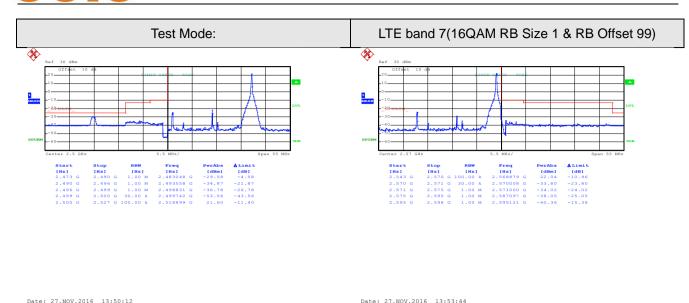


Lowest channel Highest channel

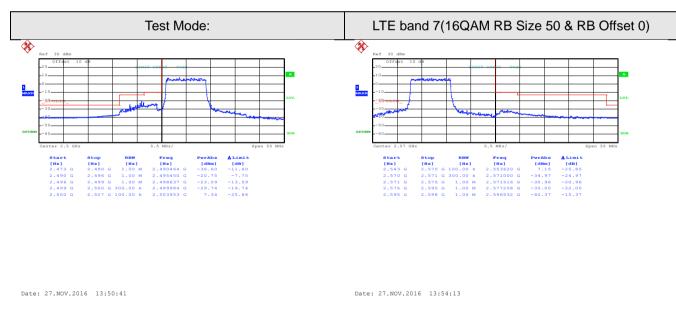
Lowest channel







Lowest channel Highest channel

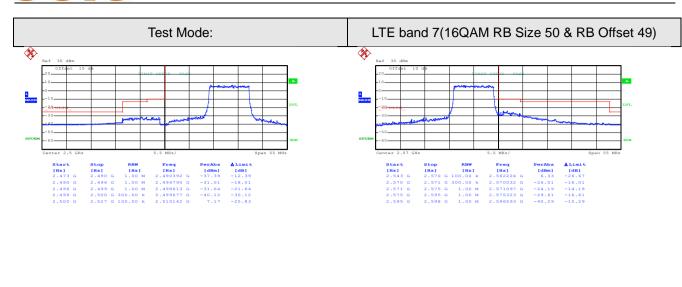


Lowest channel Highest channel





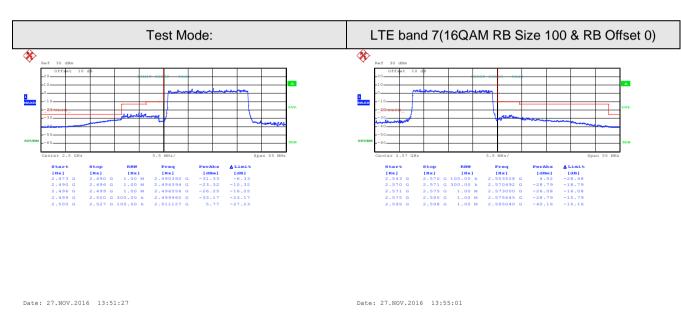
Date: 27.NOV.2016 13:51:06



Date: 27.NOV.2016 13:54:37

Lowest channel

Highest channel



Lowest channel

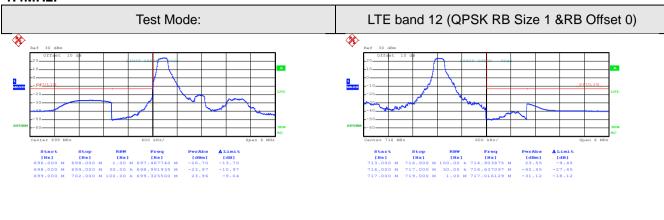
Highest channel





### LTE band 12 part:

### 1.4MHz:

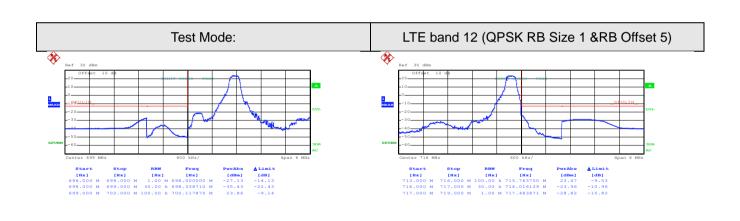


Date: 1.DEC.2016 16:39:19

Date: 1.DEC.2016 16:41:16

Lowest channel

Highest channel



Date: 1.DEC.2016 16:39:41

Date: 1.DEC.2016 16:41:34

Lowest channel

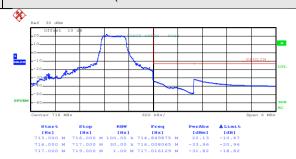
Highest channel



Report No: CCISE161104405



### LTE band 12 (QPSK RB Size 3 &RB Offset 0)



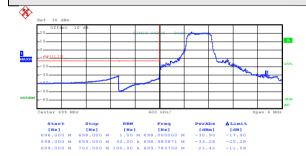
Date: 1.DEC.2016 16:40:04

Lowest channel

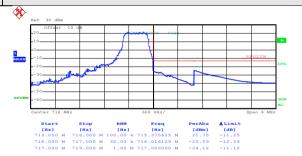
Date: 1.DEC.2016 16:42:13

Highest channel

### Test Mode:



### LTE band 12 (QPSK RB Size 3 &RB Offset 2)



Date: 1.DEC.2016 16:40:24

Date: 1.DEC.2016 16:42:41

Lowest channel

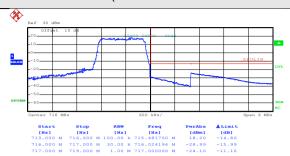
Highest channel



Report No: CCISE161104405

## Test Mode: | Test

### LTE band 12 (QPSK RB Size 6 &RB Offset 0)

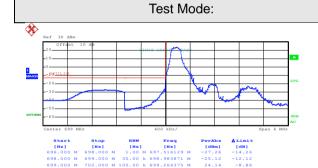


Date: 1.DEC.2016 16:40:43

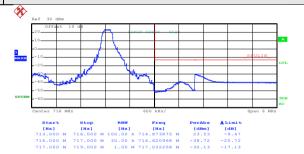
Date: 1.DEC.2016 16:43:01

Lowest channel

Highest channel



### LTE band 12 (16QAM RB Size 1 &RB Offset 0)



Date: 1.DEC.2016 16:39:30

Date: 1.DEC.2016 16:41:24

Lowest channel

Highest channel





### Test Mode:

### LTE band 12 (16QAM RB Size 1 &RB Offset 5)

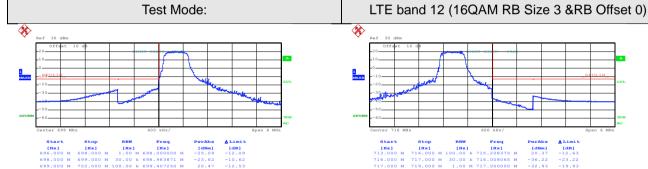


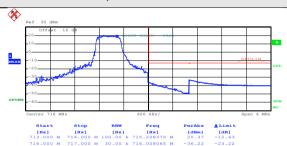
Date: 1.DEC.2016 16:39:51

Date: 1.DEC.2016 16:41:44

Lowest channel

Highest channel





Date: 1.DEC.2016 16:40:12

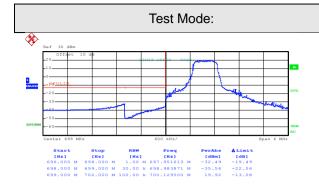
Date: 1.DEC.2016 16:42:21

Lowest channel

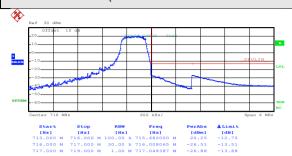
Highest channel







### LTE band 12 (16QAM RB Size 3 &RB Offset 2)

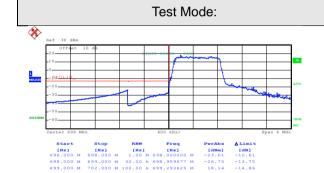


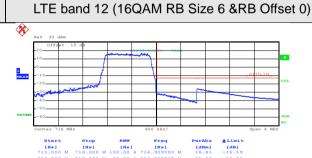
Date: 1.DEC.2016 16:40:32

Date: 1.DEC.2016 16:42:49

Lowest channel

Highest channel





Date: 1.DEC.2016 16:40:51

Date: 1.DEC.2016 16:43:08

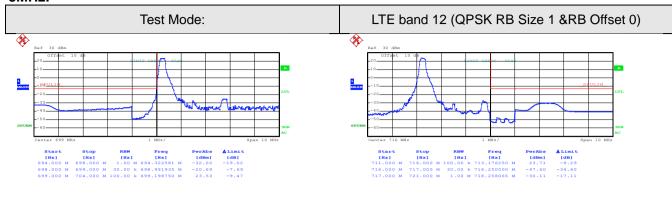
Lowest channel

Highest channel





### 3MHz:

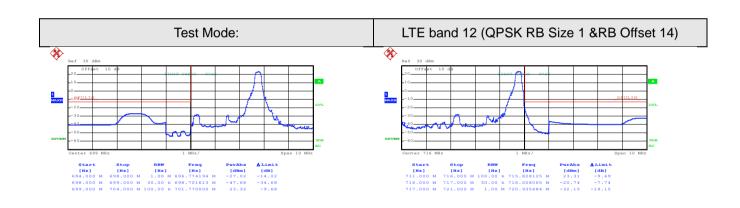


Date: 1.DEC.2016 16:44:20

Date: 1.DEC.2016 16:47:40

Lowest channel

Highest channel



Date: 1.DEC.2016 16:44:38

Date: 1.DEC.2016 16:48:09

Lowest channel

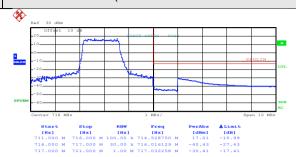
Highest channel



Report No: CCISE161104405

# 

### LTE band 12 (QPSK RB Size 8 &RB Offset 0)

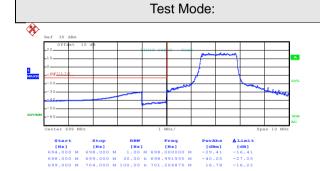


Date: 1.DEC.2016 16:45:52

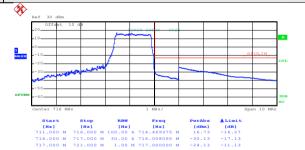
Date: 1.DEC.2016 16:48:31

Lowest channel

Highest channel



### LTE band 12 (QPSK RB Size 8 &RB Offset 7)



Date: 1.DEC.2016 16:46:13

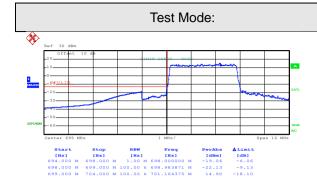
Date: 1.DEC.2016 16:48:51

Lowest channel

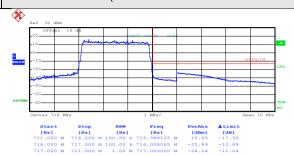
Highest channel







### LTE band 12 (QPSK RB Size 15 &RB Offset 0)

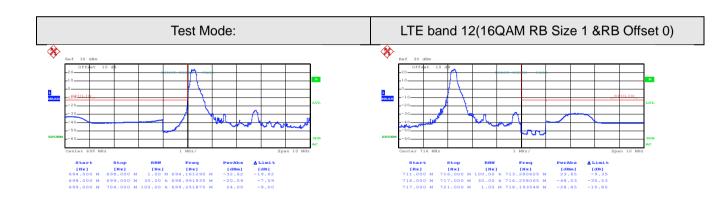


Date: 1.DEC.2016 16:46:37

Date: 1.DEC.2016 16:49:15

Lowest channel

Highest channel



Date: 1.DEC.2016 16:44:28

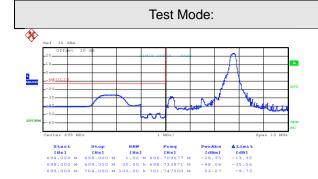
Date: 1.DEC.2016 16:47:55

Lowest channel

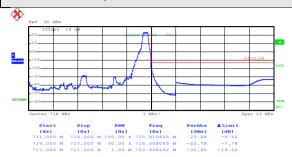
Highest channel







### LTE band 12(16QAM RB Size 1 &RB Offset 14)

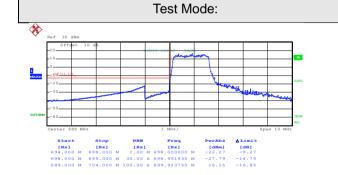


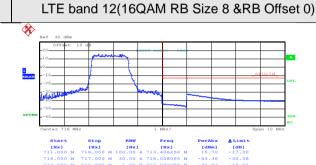
Date: 1.DEC.2016 16:44:47

Date: 1.DEC.2016 16:48:17

Lowest channel

Highest channel





Date: 1.DEC.2016 16:46:01

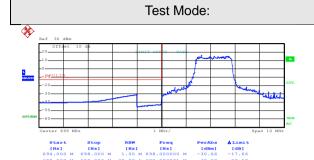
Date: 1.DEC.2016 16:48:39

Lowest channel

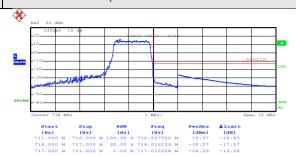
Highest channel







### LTE band 12(16QAM RB Size 8 &RB Offset 7)



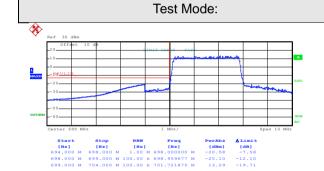
Date: 1.DEC.2016 16:46:21

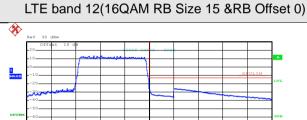
Date: 1.DEC.2016 16:46:43

Date: 1.DEC.2016 16:48:59

### Lowest channel

Highest channel





Date: 1.DEC.2016 16:49:22

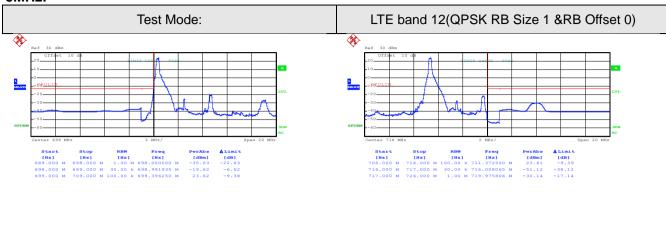
Lowest channel

Highest channel





### 5MHz:

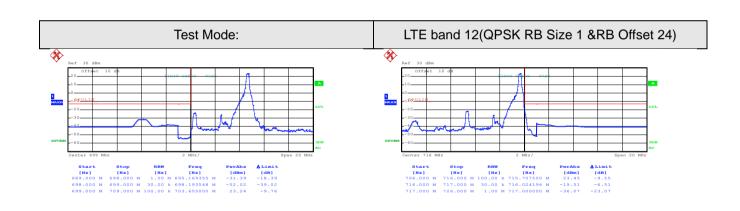


Date: 1.DEC.2016 16:50:03

Date: 1.DEC.2016 16:52:41

Lowest channel

Highest channel



Date: 1.DEC.2016 16:50:24

Date: 1.DEC.2016 16:53:00

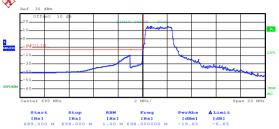
Lowest channel

Highest channel

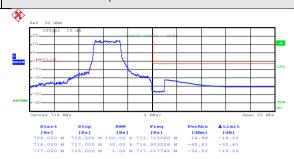








### LTE band 12(QPSK RB Size 12 &RB Offset 0)



Date: 1.DEC.2016 16:50:48

Date: 1.DEC.2016 16:53:22

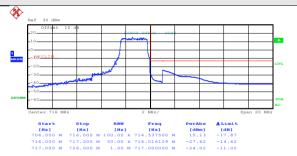
Lowest channel

Highest channel

### Test Mode:

### 

### LTE band 12(QPSK RB Size 12 &RB Offset 11)



Date: 1.DEC.2016 16:51:11

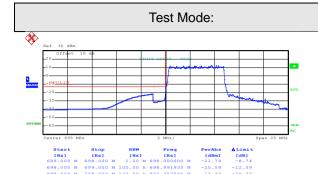
Date: 1.DEC.2016 16:53:47

Lowest channel

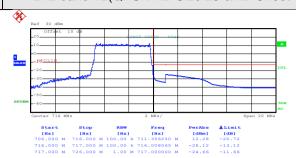
Highest channel







### LTE band 12(QPSK RB Size 25 &RB Offset 0)

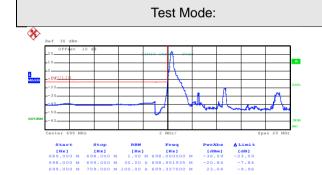


Date: 1.DEC.2016 16:52:01

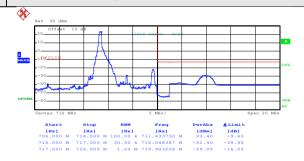
Date: 1.DEC.2016 16:54:15

Lowest channel

Highest channel



### LTE band 12(16QAM RB Size 1 &RB Offset 0)



Date: 1.DEC.2016 16:50:12

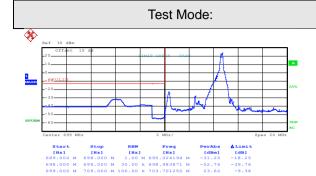
Date: 1.DEC.2016 16:52:49

Lowest channel

Highest channel







### LTE band 12(16QAM RB Size 1 &RB Offset 24)

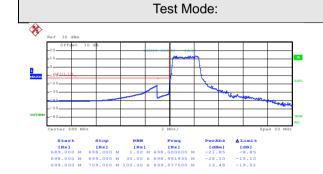


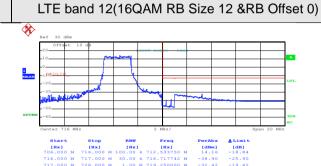
Date: 1.DEC.2016 16:50:33

Date: 1.DEC.2016 16:53:09

Lowest channel

Highest channel





Date: 1.DEC.2016 16:50:56

Date: 1.DEC.2016 16:53:30

Lowest channel

Highest channel

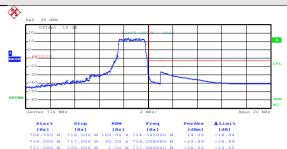






### LTE band 12(16QAM RB Size 12 &RB Offset 11)





Date: 1.DEC.2016 16:51:21

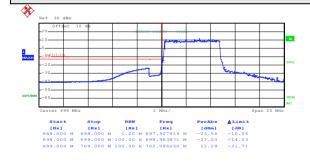
Date: 1.DEC.2016 16:53:59

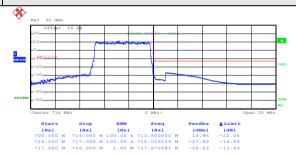
Lowest channel

Highest channel



### LTE band 12(16QAM RB Size 25 &RB Offset 0)





Date: 1.DEC.2016 16:52:09

Date: 1.DEC.2016 16:54:23

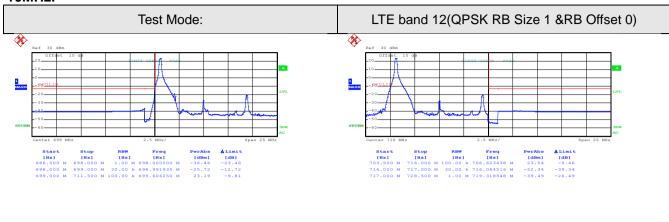
Lowest channel

Highest channel





### 10MHz:

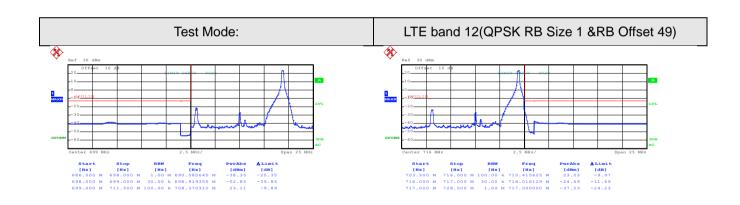


Date: 1.DEC.2016 16:55:23

Date: 1.DEC.2016 16:57:42

Lowest channel

Highest channel



Date: 1.DEC.2016 16:55:43

Date: 1.DEC.2016 16:58:05

Lowest channel

Highest channel





### 

### LTE band 12(QPSK RB Size 25 &RB Offset 0)

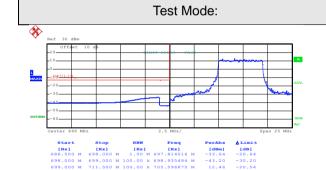


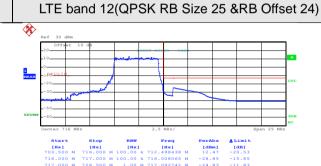
Date: 1.DEC.2016 16:56:15

Date: 1.DEC.2016 16:58:32

### Lowest channel

Highest channel



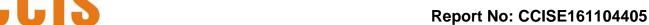


Date: 1.DEC.2016 16:56:38

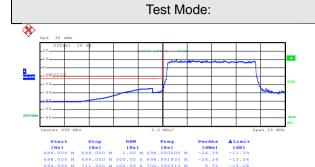
Date: 1.DEC.2016 16:58:54

Lowest channel

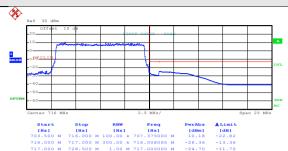
Highest channel







### LTE band 12(QPSK RB Size 50 &RB Offset 0)

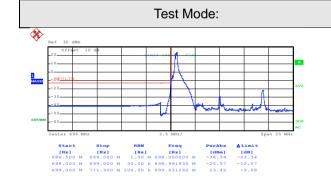


Date: 1.DEC.2016 16:57:08

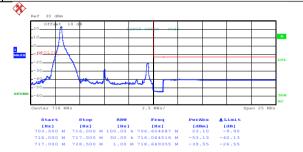
Date: 1.DEC.2016 16:59:19

### Lowest channel

Highest channel



### LTE band 12(16QAM RB Size 1 &RB Offset 0)



Date: 1.DEC.2016 16:55:31

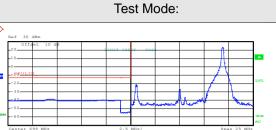
Date: 1.DEC.2016 16:57:52

Lowest channel

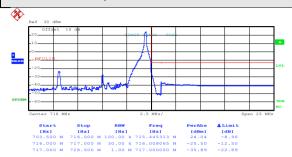
Highest channel







### LTE band 12(16QAM RB Size 1 &RB Offset 49)

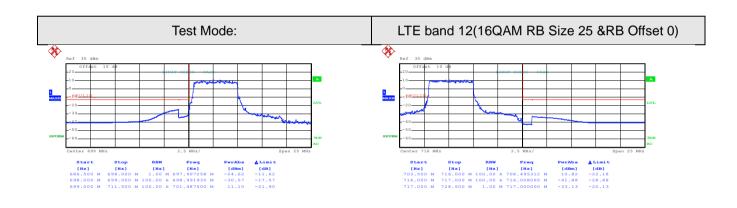


Date: 1.DEC.2016 16:55:52

Date: 1.DEC.2016 16:58:15

Lowest channel

Highest channel



Date: 1.DEC.2016 16:56:23

Date: 1.DEC.2016 16:58:41

Lowest channel

Highest channel



Report No: CCISE161104405

## Test Mode: | Test

### LTE band 12(16QAM RB Size 25 &RB Offset 24)

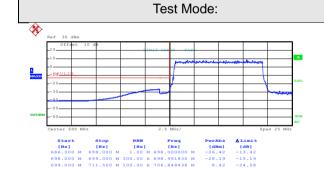


Date: 1.DEC.2016 16:56:49

Date: 1.DEC.2016 16:59:04

Lowest channel

Highest channel



### LTE band 12 (16QAM RB Size 50 &RB Offset 0)



Date: 1.DEC.2016 16:57:16

Date: 1.DEC.2016 16:59:27

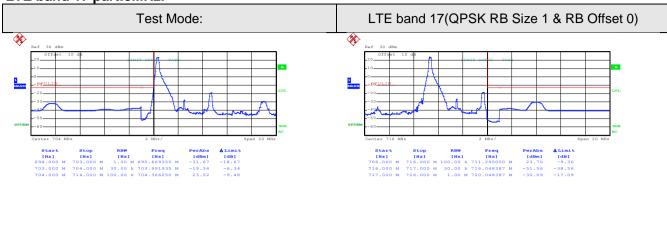
Lowest channel

Highest channel





### LTE band 17 part:5MHz:

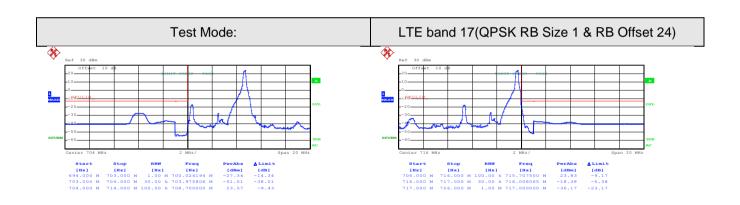


Date: 1.DEC.2016 17:00:57

Date: 1.DEC.2016 17:03:17

Lowest channel

Highest channel



Date: 1.DEC.2016 17:01:18

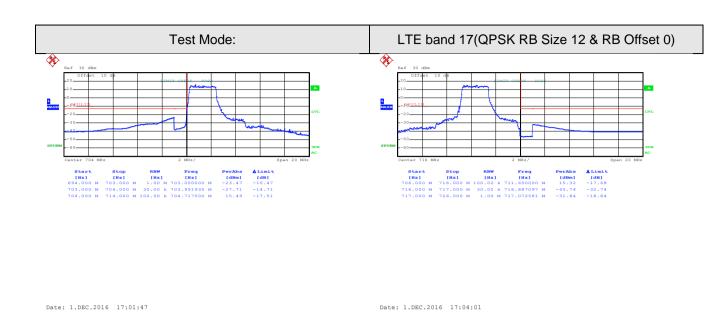
Date: 1.DEC.2016 17:03:38

Lowest channel

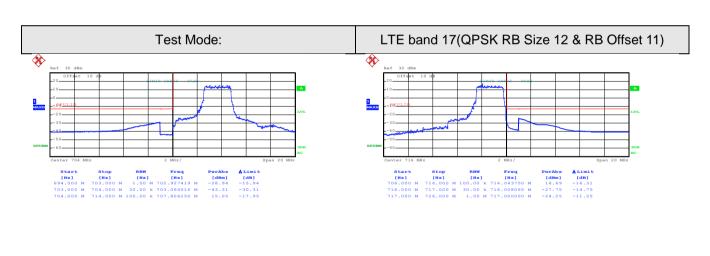
Highest channel







Lowest channel Highest channel



Date: 1.DEC.2016 17:02:09

Date: 1.DEC.2016 17:04:22

Lowest channel

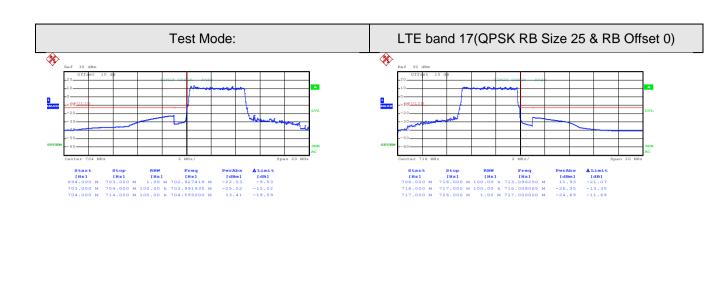
Highest channel





Date: 1.DEC.2016 17:02:39

Lowest channel



# 

Date: 1.DEC.2016 17:04:48

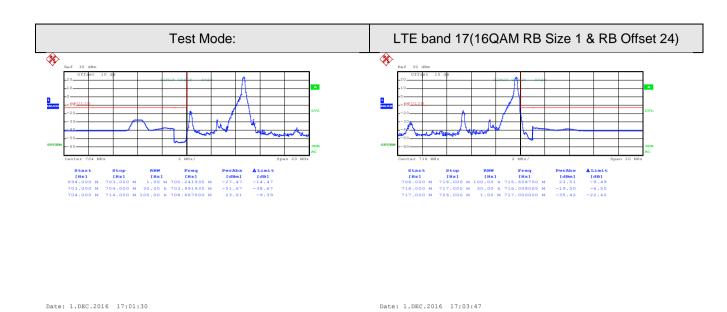
Highest channel

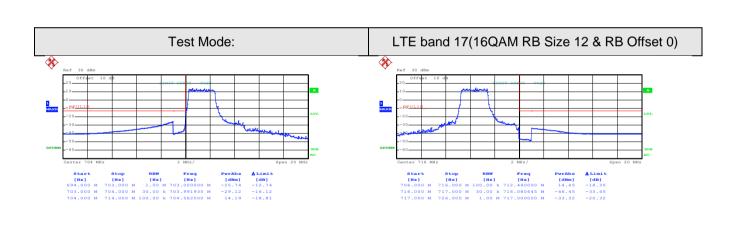
Date: 1.DEC.2016 17:01:06 Date: 1.DEC.2016 17:03:25

Lowest channel Highest channel









Date: 1.DEC.2016 17:01:55

Date: 1.DEC.2016 17:04:10

Lowest channel

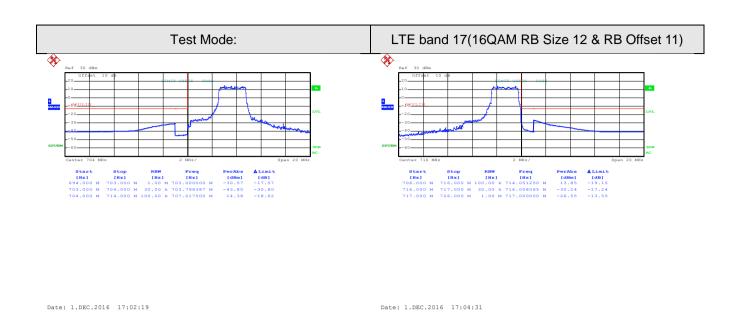
Lowest channel

Highest channel

Highest channel

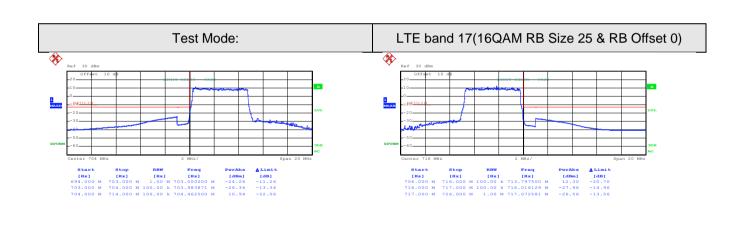






Lowest channel

Highest channel



Date: 1.DEC.2016 17:02:47

Date: 1.DEC.2016 17:04:57

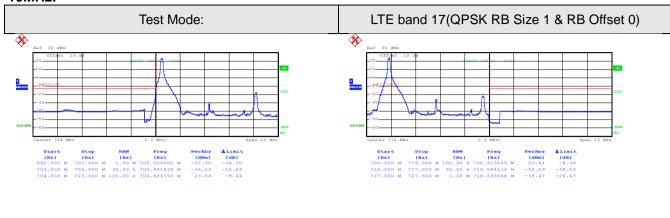
Lowest channel

Highest channel





#### 10MHz:

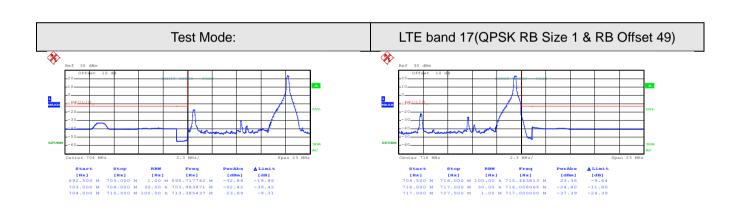


Date: 1.DEC.2016 17:06:40

Date: 1.DEC.2016 17:09:02

Lowest channel

Highest channel



Date: 1.DEC.2016 17:07:05

Date: 1.DEC.2016 17:09:23

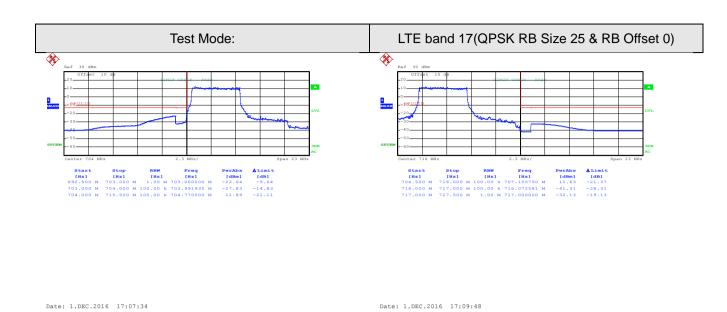
Lowest channel

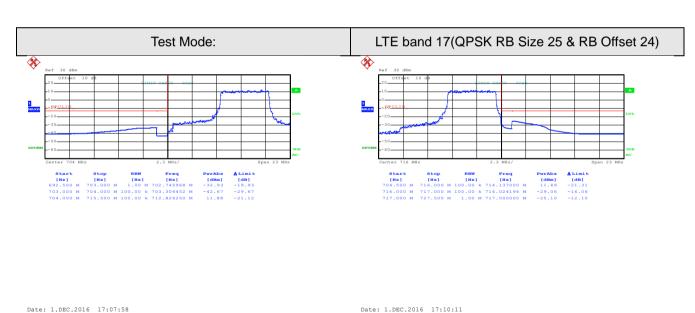
Highest channel



Highest channel







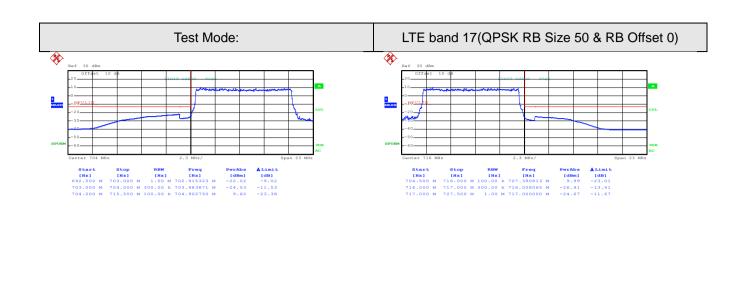
Date: 1.DEC.2016 17:10:11

Lowest channel Highest channel

Lowest channel





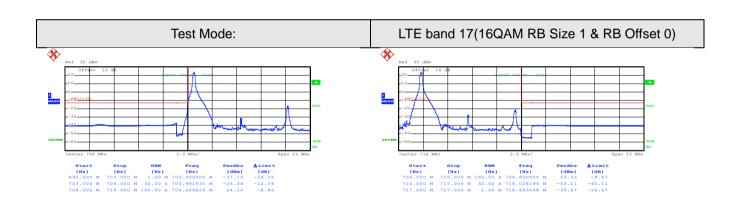


Lowest channel

Date: 1.DEC.2016 17:08:24

Highest channel

Date: 1.DEC.2016 17:10:37



Date: 1.DEC.2016 17:06:53

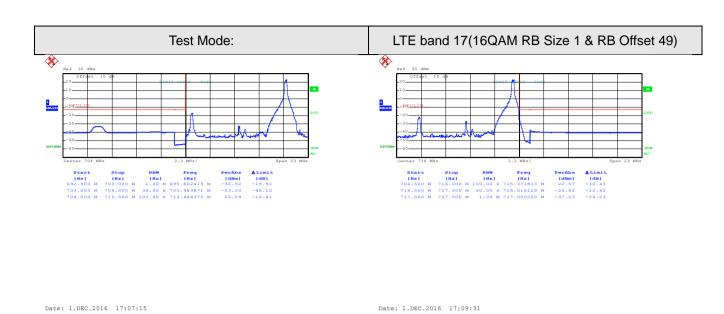
Date: 1.DEC.2016 17:09:10

Lowest channel

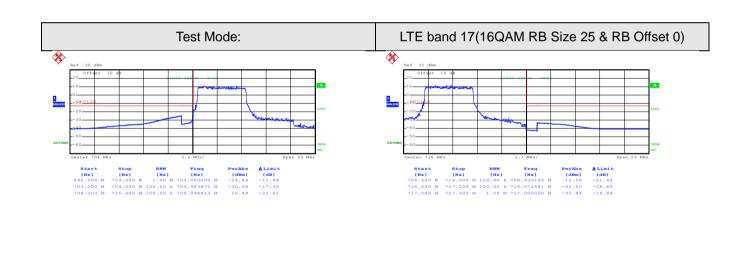
Highest channel







Lowest channel Highest channel

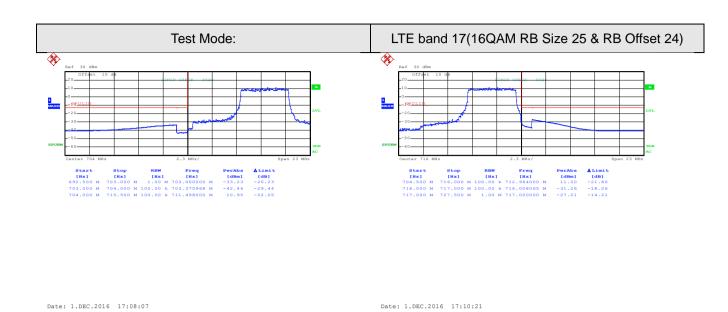


Date: 1.DEC.2016 17:07:45 Date: 1.DEC.2016 17:09:57

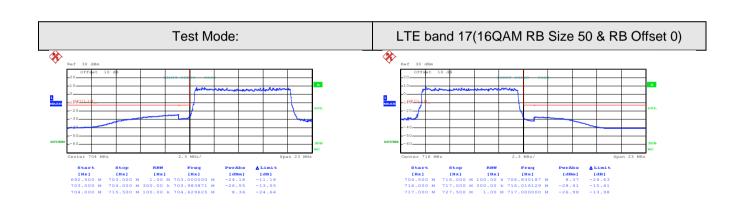
Lowest channel Highest channel







Lowest channel Highest channel



Date: 1.DEC.2016 17:08:31

Date: 1.DEC.2016 17:10:44

Lowest channel

Highest channel





# 6.10 ERP, EIRP Measurement

0.10 Livi , Liivi Weasurei	
Test Requirement:	FCC part 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 12: 3W ERP LTE Band 17: 3W EIRP
Test setup:	Below 1GHz
	Antenna Tower  Search Antenna  RF T est Receiver  Ground Plane  Above 1GHz  Antenna Tower  Horn Antenna  Spectrum Analyzer  Amplifier
	Substituted method:  Antenna mast
	Ground plane  d: distance in meters  d:3 meter  1-4 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)					
1050.70	10007	ODCK	1.1	Н	V	19.99				
1850.70	18607	QPSK	1.4	П	Н	17.62	33.00	Door		
1850.70	18607	16QAM	1.4	Н	V	20.08	33.00	Pass		
1650.70	10007	IOQAW	1.4	П	Н	18.59				
	1.4MHz(RB size 3 & RB offset 0)									
1050.70	10607	ODSK	1.4	Н	V	20.23				
1850.70	18607	QPSK	1.4		Н	19.94	33.00	Pass		
1850.70	18607	16QAM	1.4	Н	V	19.00	33.00	Pass		
1650.70	10007	TOQAW	1.4	П	Н	19.87				
		1.	4MHz(RB s	size 6 & RB	offset 0)					
4050.70	40007	ODCK	4.4		V	20.40				
1850.70	18607	QPSK	1.4	Н	Н	19.62	22.00	Door		
1950.70	10607	160 A M	1.4	Н	V	19.06	33.00	Pass		
1850.70	18607	16QAM	1.4		Н	20.16				

### 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)											
1880.00	18900	QPSK	1.4	Н	V	20.03						
1000.00	16900	QFSN	1.4	П	Н	17.68	33.00	Pass				
1880.00	18900	16QAM	1.4	Н	V	20.16	33.00	rass				
1000.00	10900	IOQAIVI	1.4	11	Н	19.32						
	1.4MHz(RB size 3 & RB offset 0)											
1880.00	18900	QPSK	1.4	Н	V	20.13						
1000.00	16900	QFSK	1.4	П	Н	20.49	33.00	Pass				
1880.00	18900	16QAM	1.4	Н	V	19.65	33.00	rass				
1000.00	10900	TOQAM	1.4	11	Н	19.26						
		1.4	4MHz(RB	size 6 & RE	3 offset 0)							
1880.00	18900	QPSK	1.40	Н	V	20.41						
1000.00	10300	QI OIX	1.40		Н	20.46	33.00	Pass				
1880.00	18900	16QAM	1.40	Н	V	20.37	33.00	1 000				
1000.00	10900	IOQAW	1.40		Н	21.46						





**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	19193	QPSK	1.4	Н	V	20.15					
1909.30	19193	QFSK	1.4	П	Н	18.64	22.00	Door			
1909.30	19193	16QAM	1.4	Н	V	V 20.36	33.00	Pass			
1909.30	19193	TOQAM	1.4	П	Н	19.84					
	1.4MHz(RB size 3 & RB offset 0)										
1000 20	10102	ODSK	4.4	1.4 H	V	21.24					
1909.30	19193	QPSK	1.4	П	Н	20.39	22.00	Door			
1909.30	19193	16QAM	1.4	Н	V	19.32	33.00	Pass			
1909.30	19193	IOQAW	1.4	П	Н	19.27					
			1.4MHz(RE	3 size 6 & F	RB offset 0)						
1000 20	10102	ODSK	4.4	Н	V	20.14					
1909.30	19193	QPSK	1.4	П	Н	20.31	22.00	Door			
1909.30	19193	16QAM	1.4	Н	V	20.39	33.00	Pass			
1909.30	19193	IOQAW	1.4	17	Н	21.34					

#### 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	Н	V	21.05					
1860.00	18700	QPSK	20	П	Н	19.47	33.00	Pass			
1860.00	18700	16QAM	20	Н	V	20.87	33.00	Fa55			
1000.00	10700	TOQAM	20	Н	20.50						
	20MHz(RB size 50 & RB offset 0)										
1860.00	18700	QPSK	20	Н	V	20.51					
1000.00	16700	QFSK	20	П	Н	20.33	33.00	Pass			
1860.00	18700	16QAM	20	Н	V	19.76	33.00	Fa55			
1800.00	18700	TOQAM	20		Н	19.54					
		20	MHz(RB siz	e 100 & R	B offset 0)						
1860.00	18700	QPSK	20	Н	V	18.72					
1000.00	16700	QFSK	20	П	Н	18.74	33.00	Pass			
1860.00	18700	16QAM	20	Н	V	18.84	33.00	F a 5 5			
1000.00	16700	IOQAM	20	17	Н	19.35					





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)					
1880.00	18900	QPSK	20	Н	V	20.36				
1000.00	10900	QFSK	20	П	Н	19.24	33.00	Pass		
1880.00	18900	16QAM	20	Н	V	20.13	33.00	Pass		
1000.00	10900	IOQAW	20	П	Н	20.47				
	20MHz(RB size 50 & RB offset 0)									
1990.00	19000	OBSK	20	Н	V	20.16				
1880.00	18900	QPSK	20	П	Н	20.49	22.00	Pass		
1880.00	18900	16QAM	20	Н	V	19.63	33.00	Fa55		
1000.00	10900	IOQAW	20	П	Н	19.75				
		20	MHz(RB siz	ze 100 & R	B offset 0)					
1000.00	10000	ODCK	20	Н	V	19.34				
1880.00	18900	QPSK	20	П	Н	19.32	22.00	Door		
1990.00	19000	16QAM	20	Н	V	18.24	33.00	Pass		
1880.00	18900	IOQAM	20	П	Н	19.78				

**Highest channel** 

	rignest channel										
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
20MHz(RB size 1 & RB offset 0)											
1900.00	19100	QPSK	20	Н	V	20.15					
1900.00	19100	QFSK	20	- 1	Н	19.64	33.00	Pass			
1900.00	19100	16QAM	20	Н	<b>V</b>	20.18	33.00	F 455			
1900.00	19100	TOQAM	20	- 11	Н	20.46					
	20MHz(RB size 50 & RB offset 0)										
1900.00	19100	QPSK	20	Н	V	20.14					
1900.00	19100	QFSK	20	- 1	Н	20.79	33.00	Pass			
1900.00	19100	16QAM	20	Н	<b>V</b>	V 19.35	33.00	F 455			
1900.00	19100	TOQAM	20	- 11	Н	19.32					
		2	0MHz(RB s	ize 100 8	RB offset (	))					
1900.00	19100	QPSK	20	Н	V	20.15					
1900.00	19100	QFSK	20	- 1	Н	19.34	33.00	Docc			
1900.00	0.00 19100 16QAM	20	Н	<b>V</b>	19.28	33.00	Pass				
1900.00	19100	TOQAM	20	11	Н	20.06					





# LTE band 4 part

#### Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
		1	I.4MHz(RE	3 size 1 &	RB offset 0)					
1710.70	19957	QPSK	1.4	Н	V	26.60				
1710.70	19937	QFSK	1.4	П	Н	20.61	30.00	Pass		
1710.70	19957	16QAM	1.4	ы	V	25.79	30.00	Fa55		
17 10.70	19901	TOQAW	1.4 H H 19.36							
	1.4MHz(RB size 3 & RB offset 0)									
1710.70	100E7	ODSK	4.4	Н	V	26.25				
1710.70	19957	QPSK	1.4	П	Н	19.13	30.00	Pass		
1710.70	19957	16QAM	1.4		V	25.76	30.00	Fa55		
1710.70	19937	IOQAW	1.4	Н	Н	20.41				
		1	I.4MHz(RE	3 size 6 &	RB offset 0)					
1710 70	10057	ODSK	1.1	Н	V	25.33				
1710.70	19957	QPSK	1.4	П	Н	18.79	20.00	Door		
1710 70	10057	160 AM	1.1		V	23.76	30.00	Pass		
1710.70	19957	16QAM	1.4	Н	Н	18.31				

#### Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
		1	.4MHz(RE	3 size 1 &	RB offset 0)					
1722.50	20175	QPSK	1.1	Н	V	25.32				
1732.50	20175	QPSK	1.4	П	Н	21.34	30.00	Pass		
1732.50	20175	16QAM	1.4	Н	V	26.37	30.00	Pa55		
1732.50	20173	IOQAW	1.4	П	Н	20.12				
	1.4MHz(RB size 3 & RB offset 0)									
1732.50	20175	QPSK	1.4	Н	V	25.87				
1732.50	20175	QPSK	1.4	П	Н	20.45	30.00	Pass		
1732.50	20175	16QAM	1.4	4.4	H V 24.16	24.16	30.00	F 455		
1732.50	20175	TOQAW	1.4	- 11	Н	20.49				
		1	.4MHz(RE	3 size 6 &	RB offset 0)					
1722.50	20175	ODCK	1.1	Н	V	25.34				
1732.50	20175	QPSK	1.4	П	Н	19.37	20.00	Door		
1732.50	20175	16OAM	1.4	Н	V	23.64	30.00	Pass		
1732.50	20173	16QAM	1.4	П	Н	19.75				





**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	1.1	1.4 H V 24		24.31					
1754.50	20393	QFSK	1.4	H   20.36	30.00	Pass					
1754.30	20393	16QAM	1.4	Н	V	25.97	30.00	F a 3 3			
1754.50	20393	IOQAW	1.4	П	Н	21.34					
	1.4MHz(RB size 3 & RB offset 0)										
1754.30	20393	QPSK	1.4	Н	V	24.61					
1754.50	20393	QFSK	1.4	11	Н	20.39	30.00	Door			
1754.30	20393	16QAM	1.4	Н	V 24.31	30.00	Pass				
1754.50	20393	IOQAW	1.4	П	Н	20.45					
		•	1.4MHz(RE	3 size 6 & I	RB offset 0)						
1754.20	20202	ODSK	1.4	Ш	V	25.36					
1754.30	20393	QPSK	1.4	Н	Н	20.02	20.00	Door			
1754.20	20202	160 AM	1.4	Н	V	23.47	30.00	Pass			
1754.30	20393	16QAM	1.4	П	Н	19.34					

#### 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	25.61					
1720.00	20050	QF3K	20	П	Н	18.34	30.00	Door			
1720.00	20050	16QAM	20	Н	V	25.54	30.00	Pass			
1720.00	20050	IOQAW	20	П	Н	20.38					
	20MHz(RB size 50 & RB offset 0)										
1720.00	20050	QPSK	20	Н	V	26.55					
1720.00	20050	QFSK	20	П	Н	19.96	30.00	Pass			
1720.00	20050	16QAM	20	Н	V	25.59	30.00	F a 5 5			
1720.00	20030	TOQAIVI	20	11	Н	21.93					
		20	MHz(RB siz	e 100 & R	B offset 0)						
1720.00	20050	QPSK	20	Н	V	23.87					
1720.00	20030	QF3N	20	17	Н	18.98	30.00	Pass			
1720.00	20050	16QAM	20	Н	V	23.83	30.00	F a 5 5			
1720.00	20000	IOQAW	20	11	Н	20.93					



Report No: CCISE161104405

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	24.31				
1732.50	20175	QFSN	20	П	Н	19.36	30.00	Pass		
1732.50	20175	16QAM	20	Н	V	24.27	30.00	F 455		
1732.50	20175	TOQAM	20	П	Н	20.28				
	20MHz(RB size 50 & RB offset 0)									
1732.50	20175	QPSK	20	Н	V	25.34				
1732.50	20175	QFSK	20	П	Н	20.16	30.00	Pass		
1732.50	20175	16QAM	20	Н	V	24.67	30.00	F 455		
1732.50	20175	TOQAM	20	П	Н	21.34				
		20	MHz(RB siz	e 100 & R	B offset 0)					
1732.50	20175	QPSK	20	Н	V	23.34				
1732.00	20173	QF3N	20	П	Н	19.34	30.00	Pass		
1732.50	2.50 20175 16QAM	20	Н	V	23.36	30.00	F a 5 5			
1732.30	20173	IUQAW	20	11	Н	20.04				

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	24.36				
1745.00	20300	QFSK	20	П	Н	20.04	30.00	Pass		
1745.00	20300	16QAM	20	Н	V	23.37	30.00	F 455		
1743.00	20300	TOQAM	20	!!	Н	21.45				
20MHz(RB size 50 & RB offset 0)										
1745.00	5.00 20300 QPSK	20	П	H V 24.67						
1745.00	20300	QFSK	20	П	Н	20.48	30.00	Pass		
1745.00	20300	16QAM	20	Н	<b>V</b>	23.34	30.00	F 455		
1743.00	20300	TOQAM	20	11	Η	20.15				
		2	20MHz(RB siz	e 100 & RI	3 offset 0)					
1745.00	20300	QPSK	20	Н	V	23.36				
1745.00	20300	QFSN	20	П	Н	20.07	30.00	Pass		
1745.00	1745.00 20300 16QAM	160AM	20	Н	٧	23.45	30.00	F a 5 5		
1745.00	20300	IOQAM	20	П	Н	21.49				





# 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	20.07				
2502.50	20113	QFSK	5		Н	18.09	33.00	Pass		
2502.50	20775	16QAM	5	ы	V	21.26	33.00	F d 5 5		
2502.50	20113	TOQAW	5 H		Н	19.01				
	5MHz(RB size 12& RB offset 0)									
2502.50	20775	QPSK	5	Н	V	20.96				
2502.50	20775	QPSK	5		Н	20.63	33.00	Pass		
2502.50	20775	16QAM		33.00	F d 5 5					
2502.50	20773	IOQAW	5	П	Н	18.67				
			5MHz(RB	size 25&	RB offset 0)					
2502.50	20775	ODSK	E	Н	V	21.14				
2502.50	20775	QPSK	5	П	Н	18.68	22.00	Door		
2502 50 20775	16QAM	_	ы	V	21.14	33.00	Pass			
2502.50	20775	IOQAW	5 H	Н	17.72					

#### Middle channel

	Middle Chaillei										
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	OBSK	5	Н	V	21.34					
2535.00	21100	QPSK	5	Г	Н	19.36	33.00	Pass			
2535.00	21100	16QAM	5	Н	V	20.46	33.00	Fa55			
2555.00	21100	IOQAW	р п		Н	20.72					
5MHz(RB size 12& RB offset 0)											
2535.00		5	Н	V	20.21						
2555.00	21100	QFSK	р р п	П	Н	21.34	33.00	Pass			
2535.00	21100	16QAM	5		V	20.79	33.00	F a 5 5			
2555.00	21100	TOQAM	5	5 H	Н	19.78	1				
		Ę	MHz(RB	size 25&	RB offset 0)						
2525.00	21100	QPSK	E	Н	V	21.04					
2535.00	21100	QFSK	5	П	Н	19.67	22.00	Door			
2535.00	2535.00 21100 16QAM 5	5	Н	V	21.34	33.00	Pass				
2555.00		3	17	Н	18.79						





**Highest channel** 

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
			5MHz(RB	size 1 & R	B offset 0)					
2567.50	21425	QPSK	5	Н	V	21.54				
2567.50	21423	QFSK	5	П	Н	19.37	22.00	Pass		
2567.50	21425	16O A M	E	Н	V	20.02	33.00	Fa55		
2567.50	21423	16QAM		П	Н	21.45				
	5MHz(RB size 12& RB offset 0)									
2567.50	24.425		Е	Н	V	20.46	0.46			
2567.50	21425	QPSK	э п	Н	21.35	33.00	Pass			
2567.50	21425	16QAM	5	Н	V	20.26	33.00	Fa55		
2567.50	21423	IOQAW	5	П	Н	19.32				
			5MHz(RB	size 25& R	B offset 0)					
2507.50	04.405	ODCK	-	1.1	V	20.46				
2567.50	21425	QPSK	5	Н	Н	19.78	22.00	Door		
2567.50	7.50 21425 16QAM 5	Е	Н	V	21.24	33.00	Pass			
2567.50	21425	16QAM	ס	П	Н	18.63				

#### 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)						
2510.00	20850	QPSK	20	Н	V	19.49					
2510.00	20000	QF3K	20	П	Н	21.37	33.00	Pass			
2510.00	20850	16QAM	20	Н	V	19.60	33.00	Pa55			
2510.00	20000	IOQAW	20	П	Н	19.34					
	20MHz(RB size 50 & RB offset 0)										
2510.00	20850	QPSK	20	Н	V	18.38					
2510.00	20000	QFSK	20	П	Н	19.91	33.00	Pass			
2510.00	20850	16QAM	20	20	20	20	Н	V	21.35	33.00	rass
2310.00	20030	TOQAIVI	20	11	Н	18.85					
		20	MHz(RB siz	e 100 & R	B offset 0)						
2510.00	20850	QPSK	20	Н	V	17.51					
2510.00	20030	QF 5K	20	П	Н	19.20	33.00	Pass			
2510.00	2510.00 20850 16QAM	20	П	V	18.48	33.00	F a 5 5				
2310.00	20000	IOQAW	20	Н	Н	19.20					



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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	20.34				
2555.00	21100	QFSK	20	П	Н	21.25	33.00	Pass		
2535.00	21100	16QAM	20	Н	V	19.67	33.00	F 455		
2555.00	21100	TOQAM	20	П	Н	19.58				
20MHz(RB size 50 & RB offset 0)										
2535.00	21100	QPSK	20	Н	V	19.32				
2555.00	21100	QFSK	20	П	Н	20.01	33.00	Pass		
2535.00	21100	16QAM	20	Н	V	21.34	33.00	rass		
2333.00	21100	TOQAM	20	!!	Н	19.64				
		20	MHz(RB siz	e 100 & RI	B offset 0)					
2535.00	21100	QPSK	20	Н	V	18.64				
2555.00	21100	QFSK	20	П	Н	19.36	33.00	Pass		
2535.00	21100	16QAM	20	Н	V	18.25	33.00	F a 5 5		
2000.00	21100	IOQAW	20	11	Н	19.38	<u> </u>			

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	21.34				
2560.00	21330	QFSK	20	П	Н	20.69	33.00	Pass		
2560.00	21350	16QAM	20	Н	V	20.04	33.00	Fass		
2300.00	21330	TOQAM	20	11	Н	20.18				
20MHz(RB size 50 & RB offset 0)										
2560.00	21350	QPSK	20	Н	V	20.48				
2300.00	21330	QFSK	20		Н	20.16	33.00	Pass		
2560.00	21350	16QAM	20	Н	V	21.37	33.00	Fass		
2300.00	21330	TOQAM	20	11	Н	19.58				
		2	20MHz(RB s	ize 100 8	RB offset 0	))				
2560.00	21350	QPSK	20	Н	V	19.64				
2500.00	21330	QFSN	20	П	Н	20.04	22.00	Pass		
2560.00	21350	50 16QAM 20	Η	V	19.78	33.00	Fa55			
2300.00	21330	IOQAW	20		Н	18.63				





# LTE band 12 part

#### Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result		
		1	I.4MHz(RE	3 size 1 &	RB offset 0)					
699.70	23017	QPSK	1.4	Н	V	22.57				
099.70	23017	QFSK	1.4	17	Н	20.86	34.77	Pass		
699.70	23017	16QAM	1 /	Н	V	21.71	34.77	Fa55		
099.70	23017	TOQAW	1.4 H	1.4	1.4	1.7	Н	18.28		
	1.4MHz(RB size 3& RB offset 0)									
600.70	699.70 23017 QPSK	1.4	Н	V	19.72					
699.70	23017	QPSK	1.4		Н	18.06	34.77	Pass		
699.70	23017	16QAM	1.4	<b>Н</b>	V	V 19.87	34.77	F d 5 5		
099.70	23017	IOQAW	1.4		Н	18.26				
		•	1.4MHz(RI	B size 6&	RB offset 0)					
600.70	22017	ODSK	1.1	Н	V	20.01				
699.70	23017	QPSK	1.4	"	Н	17.95	34.77	Pass		
699.70	23017	16QAM	1.4	Н	V	20.62	34.77	rass		
099.70	23017	TOQAM	1.4	П	Н	17.21				

#### Middle channel

Middle channel											
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result			
	1.4MHz(RB size 1 & RB offset 0)										
707.50	23095	QPSK	1.4	Н	V	21.36					
707.50	23095	QPSK	1.4	Г	Н	20.46	34.77	Pass			
707.50	23095	16QAM	1 /	Н	V	21.73	34.77	Fa55			
707.50	23093	IOQAW	1.4 H		Н	19.06					
1.4MHz(RB size 3& RB offset 0)											
707.50	23095	QPSK	1.4	Н	V	20.04					
707.50	23095	QPSK	1.4	П	Н	19.37	34.77	Pass			
707.50	23095	16QAM	1.4	Н	V	19.34	34.77	Fa55			
707.50	23093	IOQAW	1.4	П	Н	17.64					
		1	.4MHz(RI	3 size 6&	RB offset 0)						
707.50	22005	ODCK	1.1	Н	V	20.46					
707.50	23095	QPSK	1.4	П	Н	17.64	24.77	D			
707.50 22005	23095	16OAM	1.4	Н	V	21.24	34.77	Pass			
707.50	23093	16QAM	1.4	П	Н	18.76					





**Highest channel** 

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result		
			1.4MHz(RE	size 1 & I	RB offset 0)					
715.30	23173	QPSK	1.4	Н	V	21.34				
715.30	23173	QFSK	1.4	П	Н	20.23	24 77	Pass		
715.30	23173	16QAM	1.4	Н	V	21.34	34.77	Fa55		
715.30	23173	IOQAIVI	1.4	П	Н	20.04				
	1.4MHz(RB size 3& RB offset 0)									
715.20		1.1	Н	V	20.14	4				
715.30	23173	QPSK	1.4	П	Н	20.34	34.77	Doos		
715.30	23173	16QAM	1.4	4 H	V	20.79	34.77	Pass		
715.30	23173	IOQAW	1.4	П	Н	19.52				
			1.4MHz(RE	3 size 6& F	RB offset 0)					
745.00	00470	ODCK	4.4	- 11	V	20.41				
715.30	23173	QPSK	1.4	Н	Н	18.67	24 77	Door		
715 20	F 20 22172 160AM 1.4	1.4	Н	V	21.34	34.77	Pass			
715.30	23173	16QAM	1.4	П	Н	19.42				

#### 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)									
704.00	23060	QPSK	10	Н	V	20.37				
704.00	23060	QF3K	10	П	Н	17.96	34.77	Pass		
704.00	23060	16QAM	10	Н	V	20.04	34.77	Pa55		
704.00	23000	IOQAW	10	П	Н	18.47				
	10MHz(RB size 25& RB offset 0)									
704.00	23060	QPSK	10	Н	V	19.93				
704.00	23000	QFSK	10	П	Н	17.78	34.77	Pass		
704.00	23060	16QAM	10	Н	V	19.90	34.77	F 4 5 5		
704.00	23000	TOQAIVI	10	11	Н	17.81				
		10MHz	(RB size 50	& RB offse	et 0)					
704.00	23060	QPSK	10	Ц	V	18.77				
704.00	23000	QF 5K	10	Н	Н	17.17	34.77	Door		
704.00	23060	16QAM	10	Н	V	18.86	34.77	Pass		
704.00	23000	IOQAW	10	10	П	Н	18.24			



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Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result		
		1	0MHz(RB si	ze 1 & RB	offset 0)			•		
707.50	22005	ODSK	10	Ш	V	20.02				
707.50	23095	QPSK	10	Н	Н	18.24	34.77	Pass		
707.50	23095	16QAM	10	Н	V	20.16	34.77	Pass		
707.50	23095	IOQAW	10	П	Н	19.34				
	10MHz(RB size 25& RB offset 0)									
707.50	22005	ODSK	10	Н	V	18.64				
707.50	23095	QPSK	SK 10	10	10	П	Н	17.63	24 77	Pass
707.50	23095	16QAM	40	10	Н	V	19.62	34.77	F 455	
707.50	23093	TOQAM	10	П	Н	18.04				
		10	MHz(RB siz	ze 50 & RE	3 offset 0)					
707.50	22005	QPSK	10	Н	V	18.34				
707.50	23095	QFSK	10	П	Н	17.35	24 77	Door		
707.50	23095	16QAM	10	Н	V	19.64	34.77	Pass		
707.50	23093	TOQAW	10	17	Н	18.79				

High channe

High 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	23130	QPSK	10	Н	V	20.14					
711.00	23130	QFSK	10	П	Н	19.36	34.77	Door			
711.00	23130	16QAM	10	Н	V	20.05	34.77	Pass			
711.00	23130	TOQAM	10	11	Н	19.25					
	10MHz(RB size 25& RB offset 0)										
711.00	23130	OBSK	QPSK 10	Н	V	19.35					
711.00	23130	QFSK		П	Н	17.29	34.77	Pass			
711.00	23130	16QAM	10	Н	V	19.34	34.77	F a 5 5			
711.00	23130	TOQAM	10	П	Н	18.26					
			10MHz(RB s	size 50 & RE	3 offset 0)						
711.00	23130	QPSK	10	Н	V	19.36					
711.00	23130	QFSK	10	П	Н	17.24	24.77	Door			
711.00	23130	16QAM	10	Н	V	19.52	34.77	Pass			
711.00	23130	TOQAM	10	11	Н	19.38					





# LTE band 17 part Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result	
			5MHz(RE	3 size 1 &	RB offset 0)				
706.50	23755	QPSK	5	Н	V	19.60			
706.50	23733	QFSK	5	П	Н	17.47	34.77	Pass	
706.50	23755	16QAM	5	Н	V	19.43	34.77	Fa55	
706.50	23/33	IOQAW	5	П	Н	18.02			
	5MHz(RB size 12 & RB offset 0)								
706.50	23755	QPSK	5	Н	V	19.85		Pass	
706.50	23733	QFSK	5	5 П	Н	18.31	34.77		
706.50	23755	16QAM	5	5 H	V	19.35	34.77	Fa55	
700.50	23755	TOQAW	5	П	Н	17.83			
		!	5MHz(RB	size 25 8	RB offset 0)				
706.50	23755	QPSK	5	Н	V	19.68			
700.50	23733	QF3N	<u> </u>		Н	18.05	34.77	Pass	
706.50	23755	16QAM	5	Н	V	20.34	34.77	F a 3 3	
700.50	23733	IUQAW	J	11	Н	17.98			

#### Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result		
			5MHz(RI	B size 1 &	RB offset 0)					
710.00	23790	QPSK	5	Н	V	19.34				
7 10.00	23790	QF5K	5	11	Н	18.24	34.77	Pass		
710.00	23790	16QAM	5	Н	V	19.35	34.77	F a 5 5		
7 10.00	23790	IOQAM	5	П	Н	19.34				
			5MHz(RB	3 size 12 &	RB offset 0)					
710.00	23790	QPSK	5	Н	V	20.13	34.77 Pa			
7 10.00	23790	QFSK	5	р П	Н	19.34		Pass		
710.00	23790	16QAM	5	5		5 H	V	20.14	J4.77	Pass
7 10.00	23790	TOQAM	5	I I	Н	17.59				
			5MHz(RE	3 size 25 &	RB offset 0)					
710.00	22700	OBSK	E	Н	V	20.01				
710.00	23790	QPSK	5		Н	17.64	34.77	Pass		
710.00	23790	16QAM	5	Н	V	20.36	34.11	газэ		
7 10.00	23790	IOQAW	3	11	Н	17.59				





**Highest channel** 

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result	
			5MHz(RE	3 size 1 &	RB offset 0)				
712.50	22025	QPSK	5	Н	V	20.16			
713.50	23825	QPSK	5	П	Н	19.34	24.77	Pass	
712.50	22025	160AM	5	Н	V	19.38	34.77	Fa55	
713.50	23825	16QAM	5	П	Н	20.04	<u> </u>		
	5MHz(RB size 12 & RB offset 0)								
712.50	22025	QPSK	5	Н	V	20.54			
713.50	23825	QPSK	5	J	11	Н	20.16	34.77	Door
713.50	23825	16QAM	5	5 H	V	19.67	34.77	Pass	
713.50	23023	TOQAM	5	П	Н	18.45			
			5MHz(RB	size 25 &	RB offset 0)				
742.50	22025	ODCK	_	Н	V	20.16			
713.50	23825	QPSK	5	П	Н	18.67	24.77	Door	
712.50	22025	160 A M	E	- 11	V	20.16	34.77	Pass	
713.50	23825	16QAM	5	Η	Н	18.54			

#### Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
			10MHz(R	B size 1 &	RB offset 0)			
709.00	23780	QPSK	10	Н	V	19.46		
709.00	23760	QFSK	10		Н	18.55	34.77	Page
709.00	23780	16QAM	10	Н	V	20.78	34.77	Pass
709.00	23700	IOQAW	10	П	Н	17.10		
		•	10MHz(R	B size 258	RB offset 0)			
709.00	23780	QPSK	10	Н	V	20.89		
709.00	23760	QPSK	10	П	Н	17.29	34.77	Door
709.00	23780	16QAM	10	10 H	V	21.05	34.77	Pass
709.00	23700	IOQAW	10	П	Н	17.86		
		•	10MHz(R	B size 508	RB offset 0)			
700.00	22700	OBSK	10	Н	V	19.29		
709.00	23780	QPSK	10	п	Н	16.41	34.77	Door
709.00	23780	16QAM	10	Н	V	19.32	34.77	Pass
709.00	23700	IOQAW	10	11	Н	16.05		



Middle channel

				iddie Cilai					
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result	
			10MHz(R	B size 1 &	RB offset 0)				
710.00	23790	QPSK	10	Н	V	19.65			
710.00	23790	QFSK	10		Н	17.34	34.77	Pass	
710.00	23790	16QAM	10 H		V	20.46	34.77	rass	
7 10.00	23790	TOQAM	10	11	Н	18.59			
	10MHz(RB size 25& RB offset 0)								
710.00	23790	ODSK	QPSK	10	Н	V	20.16		
710.00	23790	QFSK	10		Н	18.64	34.77	Pass	
710.00	23790	16QAM	10	10 Н	V	21.03	34.77		
7 10.00	23790	TOQAW	10	Į Į	Н	18.97			
			10MHz(R	B size 50&	RB offset 0)				
710.00	23790	QPSK	10	Н	V	19.36			
7 10.00	23790	QFSK	10	П	Н	17.54	34.77	Pass	
710.00	23790	16QAM	10	10 H	V	20.03	34.77	гаъъ	
7 10.00	23790	IOQAW	10	11	Н	17.94		ı	

**Highest channel** 

			111	gnesi cha	IIIIGI					
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	10	Н	V	20.46				
711.00	23000	QFSK	10	П	Н	17.95	24.77	Pass		
711.00	23800	16QAM	10	Н	V	20.36	34.77	Fa55		
711.00	23000	TOQAW	10	П	Н	19.58				
	10MHz(RB size 25& RB offset 0)									
711.00	23800	QPSK	10	10 H	V	21.34		Pass		
711.00	23000	QFSK	10		Н	19.68	34.77			
711.00	23800	16QAM	10	Н	V	21.37	34.77	F 455		
711.00	23000	TOQAW	10	П	Н	19.42				
		•	10MHz(R	B size 50&	RB offset 0)					
711.00	22000	OBSK	10	Н	V	20.15				
711.00	23800	QPSK	10	П	Н	17.64	34.77	Door		
711.00	23800	16QAM	10	10 H	V	20.33	34.77	Pass		
711.00	23000	IOQAW	10	П	Н	19.54				



# 6.11 Field strength of spurious radiation measurement

6.11	Fleia strength of sp	urious radiation measurement
	Test Requirement:	FCC 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 12 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
		Andenna Tower  Horn Antenna  Spectrum  Analyzer  Turn  Table  Amplifier  Substituted method:
		Ground plane  d: distance in meters d:3 meter  S.G.  Substituted Dipole or Horn Antenna  Bi-Log Antenna or Horn Antenna
	Test Procedure:	<ol> <li>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.</li> <li>During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.</li> <li>The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission</li> </ol>



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	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.



CCIS

LTE band 2 part:

		ze 1 & RB offset 0) f	for QPSK	
Frequency (MHz)	Spurious		Limit (dBm)	Result
Frequency (WIF12)	Polarization	Level (dBm)	Limit (dbin)	Kesuit
		Lowest		
3701.40	Vertical	-41.41		
5552.10	V	-24.63		
7402.00	V	-20.92	42.00	Daga
3701.40	Horizontal	-40.91	-13.00	Pass
5552.10	Н	-24.23		
7402.00	Н	-31.70		
<u> </u>		Middle		
3760.00	Vertical	-44.77		
5640.00	V	-28.47		Dana
7520.00	V	-40.20	40.00	
3760.00	Horizontal	-45.16	-13.00	Pass
5640.00	Н	-29.01		
7520.00	Н	-35.43		
		Highest		
3816.60	Vertical	-45.42		
5724.90	V	-27.45		
7633.20	V	-34.29	40.00	Dana
3816.60	Horizontal	-43.83	-13.00	Pass
5724.90	Н	-24.43		
7633.20	Н	-33.70		





	3MHz(RB siz	e 1 & RB offset 0) for	or QPSK		
Frequency (MHz)	Spurious		Limit (dBm)	Result	
Frequency (MHZ)	Polarization	Level (dBm)	Limit (abm)	Result	
		Lowest			
3703.00	Vertical	-42.26			
5554.50	V	-27.64			
7406.00	V	-30.04	-13.00	Door	
3703.00	Horizontal	-45.97	-13.00	Pass	
5554.50	Н	-26.34			
7406.00	Н	-28.51			
		Middle			
3760.00	Vertical	-45.97		Pass	
5640.00	V	-34.67			
7520.00	V	-37.81	-13.00		
3760.00	Horizontal	-45.21	-13.00		
5640.00	Н	-26.34			
7520.00	Н	-35.67			
		Highest			
3817.00	Vertical	-43.67			
5725.50	V	-29.63			
7634.00	V	-34.21	12.00	Door	
3817.00	Horizontal	-42.29	-13.00	Pass	
5725.50	Н	-27.98			
7634.00	Н	-37.65			





	5MHz(RB siz	ze 1 & RB offset 0) fo	or QPSK	
Frequency (MHz)	Spurious Emission			Decult
	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3705.00	Vertical	-42.26		Pass
5557.50	V	-26.36		
7410.00	V	-20.04	40.00	
3705.00	Horizontal	-40.75	-13.00	
5557.50	Н	-27.64		
7410.00	Н	-31.43		
		Middle		
3760.00	Vertical	-43.37		Pass
5640.00	V	-28.64	-13.00	
7520.00	V	-41.45		
3760.00	Horizontal	-45.32		
5640.00	Н	-30.05		
7520.00	Н	-36.67		
		Highest		
3815.00	Vertical	-45.27		
5722.50	V	-30.02	-13.00	Pass
7630.00	V	-34.26		
3815.00	Horizontal	-43.67		
5722.50	Н	-24.04		
7630.00	Н	-33.67		





	10MHz(RB si	ze 1 & RB offset 0)	for QPSK	
	Spurious Emission			
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3710.00	Vertical	-42.95		Pass
5565.00	V	-26.37		
7420.00	V	-29.58	-13.00	
3710.00	Horizontal	-45.21	-13.00	
5565.00	Н	-26.34	- - -	
7420.00	Н	-28.97		
		Middle		
3760.00	Vertical	-46.25		Pass
5640.00	V	-33.34		
7520.00	V	-38.67	12.00	
3760.00	Horizontal	-45.12	-13.00	
5640.00	Н	-27.46		
7520.00	Н	-35.56		
		Highest		
3810.00	Vertical	-43.67	-13.00	Page
5715.00	V	-29.64		
7620.00	V	-34.15		
3810.00	Horizontal	-42.78		Pass
5715.00	Н	-26.69		
7620.00	Н	-38.02		





	15MHz(RB	size 1 & RB offset 0	) for QPSK			
Frequency (MHz)	Spurious Emission					
	Polarization	Level (dBm)	Limit (dBm)	Result		
		Lowest				
3715.00	Vertical	-42.36				
5572.50	V	-36.67				
7430.00	V	-20.04	-13.00	Door		
3715.00	Horizontal	-40.12	-13.00	Pass		
5572.50	Н	-28.67				
7430.00	Н	-32.24				
	Middle					
3760.00	Vertical	-43.31				
5640.00	V	-28.67	-13.00	Pass		
7520.00	V	-42.25				
3760.00	Horizontal	-45.97				
5640.00	Н	-31.34				
7520.00	Н	-36.25				
		Highest				
3805.00	Vertical	-46.67	-13.00	Pass		
5707.50	V	-31.34				
7610.00	V	-35.49				
3805.00	Horizontal	-42.21				
5707.50	Н	-25.59				
7610.00	Н	-34.37				





	20MHz(RB s	size 1 & RB offset 0	) for QPSK	
	Spurious Emission			
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3720.00	Vertical	-43.00		Pass
5580.00	V	-25.60		
7440.00	V	-29.23	-13.00	
3720.00	Horizontal	-46.43	-13.00	
5580.00	Н	-26.82	1	
7440.00	Н	-28.44		
		Middle		
3760.00	Vertical	-46.32		Pass
5640.00	V	-32.86		
7520.00	V	-39.48	12.00	
3760.00	Horizontal	-45.22	-13.00	
5640.00	Н	-26.41	- - -	
7520.00	Н	-36.59		
		Highest		
3800.00	Vertical	-43.81		Pass
5700.00	V	-28.00		
7600.00	V	-34.58	-13.00	
3800.00	Horizontal	-42.24		
5700.00	Н	-27.67		
7600.00	Н	-37.29		





#### LTE Band 4 Part:

		ze 1 & RB offset 0)	for QPSK	
Frequency (MHz)	Spurious Emission		Limit (dBm)	Dogult
	Polarization	Level (dBm)	Limit (abm)	Result
		Lowest		
3421.40	Vertical	-44.99		Pass
5132.10	V	-33.65		
6842.80	V	-31.23	-13.00	
3421.40	Horizontal	-44.28	-13.00	
5132.10	Н	-35.35		
6842.80	Н	-33.34	1	
		Middle		<u>.</u>
3465.00	Vertical	-46.94		
5197.50	V	-37.72	-13.00	Pass
6930.00	V	-30.72		
3465.00	Horizontal	-47.14		
5197.50	Н	-34.12		
6930.00	Н	-32.89		
<u> </u>		Highest		<u>.</u>
3508.60	Vertical	-47.00		
5262.90	V	-34.80	-13.00	Pass
7017.20	V	-30.49		
3508.60	Horizontal	-48.91		
5262.90	Н	-39.56		
7017.20	Н	-36.23		





	3MHz(RB siz	e 1 & RB offset 0) fo	or QPSK	
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)	LIIIII (UDIII)	Result
		Lowest		
3423.00	Vertical	-42.26		Pass
5134.50	V	-31.64		
6846.00	V	-27.64	42.00	
3423.00	Horizontal	-46.31	-13.00	
5134.50	Н	-34.82		
6846.00	Н	-32.21		
<u>.</u>		Middle		
3465.00	Vertical	-47.61		Pass
5197.50	V	-34.21		
6930.00	V	-26.25	-13.00	
3465.00	Horizontal	-45.28		
5197.50	Н	-38.61		
6930.00	Н	-33.24		
<u>.</u>		Highest		
3507.00	Vertical	-47.61	-13.00	Descri
5260.50	V	-36.54		
7014.00	V	-33.36		
3507.00	Horizontal	-46.20		Pass
5260.50	Н	-36.67		
7014.00	Н	-32.21		





	5MUz/DD ci	ze 1 & RB offset 0) f	or OBSK	
		Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3425.00	Vertical	-43.31		
5137.50	V	-34.67		
6850.00	V	-32.25	40.00	Dese
3425.00	Horizontal	-45.61	-13.00	Pass
5137.50	Н	-36.65		
6850.00	Н	-33.28		
		Middle		
3465.00	Vertical	-46.85		Pass
5197.50	V	-37.24		
6930.00	V	-30.21	-13.00	
3465.00	Horizontal	-47.58	-13.00	Pass
5197.50	Н	-34.56		
6930.00	Н	-32.26		
		Highest		
3505.00	Vertical	-46.37		
5257.50	V	-34.21		
7010.00	V	-30.25	-13.00	Pass
3505.00	Horizontal	-48.63		F 455
5257.50	Н	-39.62		
7010.00	Н	-36.32		





	10MHz(RB s	ize 1 & RB offset 0)	for QPSK	
		Emission		Decult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3430.00	Vertical	-43.36		
5145.00	V	-32.25		
6860.00	V	-28.64	-13.00	Pass
3430.00	Horizontal	-45.67	-13.00	Pass
5145.00	Н	-34.12		
6860.00	Н	-32.26		
		Middle		
3465.00	Vertical	-46.25		Pass
5197.50	V	-34.51		
6930.00	V	-26.97	-13.00	
3465.00	Horizontal	-46.25	-13.00	Fass
5197.50	Н	-37.89		
6930.00	Н	-32.01		
		Highest		
3500.00	Vertical	-46.28		
5250.00	V	-36.02		
7000.00	V	-32.24	-13.00	Pass
3500.00	Horizontal	-45.91		Pass
5250.00	Н	-35.64		
7000.00	Н	-31.86		





	15MHz(RB s	ize 1 & RB offset 0)	for QPSK	
E (1411)		Emission		Б. и
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3435.00	Vertical	-42.26		
5152.50	V	-34.65		
6870.00	V	-32.21	-13.00	Door
3435.00	Horizontal	-45.95	-13.00	Pass
5152.50	Н	-36.32		
6870.00	Н	-33.25		
<u>.</u>		Middle		
3465.00	Vertical	-46.31		
5197.50	V	-37.69		
6930.00	V	-30.25	12.00	Dana
3465.00	Horizontal	-47.65	-13.00	Pass
5197.50	Н	-32.26		
6930.00	Н	-33.35		
		Highest		
3495.00	Vertical	-47.58		
5242.50	V	-34.71		
6990.00	V	-30.15	-13.00	Pass
3495.00	Horizontal	-48.79	-13.00	F 455
5242.50	Н	-39.41		
6990.00	Н	-35.26		





	20MHz(RB s	ize 1 & RB offset 0)	) for QPSK	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (MHZ)	Polarization	Level (dBm)	Limit (ubin)	Resuit
	_	Lowest		
3440.00	Vertical	-43.53		
5160.00	V	-32.68		
6880.00	V	-27.79	-13.00	Door
3440.00	Horizontal	-45.09	-13.00	Pass
5160.00	Н	-34.47		
6880.00	Н	-31.42		
		Middle		
3465.00	Vertical	-46.55		
5197.50	V	-34.90		
6930.00	V	-26.45	42.00	Dana
3465.00	Horizontal	-46.01	-13.00	Pass
5197.50	Н	-37.34		
6930.00	Н	-31.77		
		Highest	<u> </u>	
3490.00	Vertical	-45.41		
5235.00	V	-35.59		
6980.00	V	-32.45	-13.00	Dana
3490.00	Horizontal	-46.36		Pass
5235.00	Н	-35.46		
6980.00	Н	-30.63		





#### LTE Band 7 Part:

	5MHz(RB siz	LTE Band 7 Part: ze 1 & RB offset 0) fo	or QPSK	
Fragues av (MHz)		Emission		Docult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
5005.00	Vertical	-30.64		
7507.50	V	-37.31		
10010.00	V	-37.87	25.00	Dage
5005.00	Horizontal	-26.65	-25.00	Pass
7507.50	Н	-37.44		
10010.00	Н	-34.93		
		Middle		
5070.00	Vertical	-30.67		Descri
7605.00	V	-36.21		
10140.00	V	-37.65	05.00	
5070.00	Horizontal	-28.35	-25.00	Pass
7605.00	Н	-38.01		
10140.00	Н	-36.51		
,		Highest		
5135.00	Vertical	-30.09		
7702.50	V	-36.98		
10270.00	V	-35.79	-25.00	Dees
5135.00	Horizontal	-30.33		Pass
7702.50	Н	-39.37		





	10MHz(RB s	ize 1 & RB offset 0)	for QPSK	
Fraguency (MUz)		Emission		Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
5010.00	Vertical	-30.21		
7515.00	V	-36.54		
10020.00	V	-37.25	-25.00	Pass
5010.00	Horizontal	-37.29	-25.00	Pass
7515.00	Н	-38.74		
10020.00	Н	-37.21		ı
		Middle	<u> </u>	
5070.00	Vertical	-32.24		Pass
7605.00	V	-36.51		
10140.00	V	-35.02	-25.00	
5070.00	Horizontal	-30.13	-25.00	
7605.00	Н	-38.42		
10140.00	Н	-37.61		
		Highest		
5130.00	Vertical	-32.21		
7695.00	V	-36.59	]	
10260.00	V	-37.51	-25.00	Pass
5130.00	Horizontal	-30.05		Pass
7695.00	Н	-39.87	]	
10260.00	Н	-37.14	]	





	15MHz(RB	size 1 & RB offset 0	) for QPSK	
Fraguenov (MHz)		s Emission		Dogult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
5015.00	Vertical	-30.24		
7522.50	V	-36.62		
10030.00	V	-37.29	05.00	D
5015.00	Horizontal	-26.31	-25.00	Pass
7522.50	Н	-37.24		
10030.00	Н	-34.91		
<u> </u>		Middle		
5070.00	Vertical	-30.04		Pass
7605.00	V	-36.67		
10140.00	V	-37.94	25.00	
5070.00	Horizontal	-28.21	-25.00	
7605.00	Н	-38.97		
10140.00	Н	-36.24		
<u> </u>		Highest		
5125.00	Vertical	-30.04		
7687.50	V	-36.21		
10250.00	V	-35.47	-25.00	Desc
5125.00	Horizontal	-30.05		Pass
7687.50	Н	-39.67		
10250.00	Н	-37.24		





	20MHz(RB s	ize 1 & RB offset 0	) for QPSK	
F (MIL)	•	Emission		D II
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
5020.00	Vertical	-30.81		
7530.00	V	-36.77		
10040.00	V	-37.37	25.00	Door
5020.00	Horizontal	-37.03	-25.00	Pass
7530.00	Н	-38.67		
10040.00	Н	-37.86		
		Middle		
5070.00	Vertical	-32.54		Pass
7605.00	V	-36.57		
10140.00	V	-35.91	25.00	
5070.00	Horizontal	-30.01	-25.00	
7605.00	Н	-38.25		
10140.00	Н	-37.02		
		Highest		
5120.00	Vertical	-32.18		
7680.00	V	-36.26	1	
10240.00	V	-37.09	-25.00	Door
5120.00	Horizontal	-30.15		Pass
7680.00	Н	-40.71		
10240.00	Н	-38.25	]	





### LTE Band 12 Part:

		ize 1 & RB offset 0)	for QPSK	
	Spurious	Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
<u> </u>		Lowest		
1399.40	Vertical	-39.94		
2099.10	V	-47.15		
2798.80	V	-53.27	42	Door
1399.40	Horizontal	-44.27	-13	Pass
2099.10	Н	-50.45		
2798.80	Н	-52.20		
·		Middle		
1415.00	Vertical	-46.85		
2122.50	V	-43.04		
2830.00	V	-50.45	-13	Pass
1415.00	Horizontal	-53.74	-13	Pass
2122.50	Н	-51.36		
2830.00	Н	-51.52		
·		Highest		
1430.60	Vertical	-46.45		
2145.90	V	-46.63		
2861.20	V	-46.56	12	Door
1430.60	Horizontal	-53.59	-13	Pass
2145.90	Н	-52.29		
2861.20	Н	-53.64		





3MHz(RB size 1 & RB offset 0) for QPSK				
Francisco (MIII-)		Emission		Daguit
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
1401.00	Vertical	-42.29		
2101.50	V	-46.31		
2802.00	V	-51.47	-13	Pass
1401.00	Horizontal	-43.21	-13	Fd55
2101.50	Н	-52.26		
2802.00	Н	-51.43		
		Middle	·	
1415.00	Vertical	-47.52		
2122.50	V	-42.26		Pass
2830.00	V	-49.37	-13	
1415.00	Horizontal	-51.16	-13	
2122.50	Н	-52.46		
2830.00	Н	-52.79		
		Highest	<u> </u>	
1429.00	Vertical	-46.31		
2143.50	V	-47.51	7	
2858.00	V	-46.59	12	Door
1429.00	Horizontal	-52.41	-13	Pass
2143.50	Н	-51.43	7	
2858.00	Н	-42.18	7	





		e 1 & RB offset 0)	for QPSK	T
	Spurious	Emission	_	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
1403.00	Vertical	-40.04		
2104.50	V	-47.51		
2806.00	V	-52.26	10	Pass
1403.00	Horizontal	-44.26	13	Pass
2104.50	Н	-50.13		
2806.00	Н	-52.47		
		Middle		
1415.00	Vertical	-46.31		
2122.50	V	-42.57		
2830.00	V	-50.03	-13	Pass
1415.00	Horizontal	-53.31	-13	Fd55
2122.50	Н	-52.24		
2830.00	Н	-51.78		
		Highest		
1427.00	Vertical	-45.61		
2410.50	V	-45.32		
2854.00	V	-46.78	-13	Pass
1427.00	Horizontal	-52.29		Pass
2410.50	Н	-52.36		
2854.00	Н	-42.15		





	10MHz(RB siz	ze 1 & RB offset 0)	for QPSK	
Fragues at (MIII-)	Spurious Emission		Limeit (dDms)	Decult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
1408.00	Vertical	-41.25		
2112.00	V	-46.37		
2816.00	V	-51.24	-13	Pass
1408.00	Horizontal	-43.25	-13	Fa55
2112.00	Н	-51.48		
2816.00	Н	-52.16		
		Middle		
1415.00	Vertical	-47.87		
2122.50	V	-42.59		
2830.00	V	-49.61	-13	Pass
1415.00	Horizontal	-52.75	-13	F a 5 5
2122.50	Н	-51.46		
2830.00	Н	-52.21		
		Highest		
1422.00	Vertical	-46.32		
2133.00	V	-46.21		
2844.00	V	-46.57	-13	Door
1422.00	Horizontal	-52.24		Pass
2133.00	Н	-52.19		
2844.00	Н	-43.21		





#### LTE Band 17 Part:

		IE Band 17 Part:				
	5MHz(RB size	e 1 & RB offset 0) fo	or QPSK			
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result		
Frequency (MHZ)	Polarization	Level (dBm)	Limit (ubin)	Resuit		
		Lowest				
1413.00	Vertical	-49.67				
2119.50	V	-50.24				
2826.00	V	-48.79	-13.00	Pass		
1413.00	Horizontal	-50.45	-13.00	Pass		
2119.50	Н	-50.27				
2826.00	Н	-54.04				
Middle						
1420.00	Vertical	-42.78				
2130.00	V	-44.81				
2840.00	V	-48.67	42.00	Dage		
1420.00	Horizontal	-46.46	-13.00	Pass		
2130.00	Н	-48.34				
2840.00	Н	-51.51				
<u> </u>		Highest				
1427.00	Vertical	-40.77				
2140.50	V	-51.43				
2854.00	V	-54.09	42.00	Dage		
1427.00	Horizontal	-46.11	-13.00	Pass		
2140.50	Н	-52.11				
2854.00	Н	-52.81				





10MHz(RB size 1 & RB offset 0) for QPSK							
Fraguenov (MUz)	Spurious	Emission	Limit (dDm)	Dogult			
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result			
Lowest							
1418.00	Vertical	-50.04					
2127.00	V	-51.36					
2836.00	V	-48.97	12.00	Door			
1418.00	Horizontal	-50.43	-13.00	Pass			
2127.00	Н	-51.26					
2836.00	Н	-54.37					
		Middle		·			
1420.00	Vertical	-42.67					
2130.00	V	-44.58		Pass			
2840.00	V	-49.63	-13.00				
1420.00	Horizontal	-46.35	-13.00	F 433			
2130.00	Н	-48.29					
2840.00	Н	-51.24					
		Highest					
1422.00	Vertical	-40.21					
2133.00	V	-51.95					
2844.00	V	-54.36	-13.00	Pass			
1422.00	Horizontal	-46.25	-13.00	Fass			
2133.00	Н	-52.87					
2844.00	Н	-52.46					



## 6.12 Frequency stability V.S. Temperature measurement

Test Requirement:	FCC Part2.1055(a)(1)(b)
Test Method:	FCC Part2.1055(a)(1)(b)
Limit:	±2.5ppm
Test setup:	Spectrum analyzer  EUT  Att.  Variable Power Supply
	Note: Measurement setup for testing on Antenna connector
Test procedure:	<ol> <li>The equipment under test was connected to an external DC power supply and input rated voltage.</li> <li>RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.</li> <li>The EUT was placed inside the temperature chamber.</li> <li>Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency.</li> <li>Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.</li> <li>Repeat step measure with 10°C increased per stage until the highest</li> </ol>
	6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	All three channels of all modulations have been tested, but only the worst channel and the worst modulation show in this test item.

Measurement Data (the worst channel):





LTE Band 2(QPSK):

		LTE Band			
Reference Fr	requency: 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)	Result
	-30	198	0.105319		
	-20	123	0.065426		
	-10	165	0.087766		
	0	144	0.076596		
3.80	10	122	0.064894	±2.5	Pass
0.00	20	139	0.073936		1 400
	30	101	0.053723		
	40	184	0.097872		
	50	171	0.090957		
Poforonco F			iddle channel=18900	channal_1880 00	MU2
	requency. LTE band	· · · · ·			IVII IZ
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)		Hz	ppm	(11)	
	-30	152	0.080851		
	-20	123	0.065426		
	-10	136	0.072340		
	0	120	0.063830	  -	
3.80	10	144	0.076596	±2.5	Pass
	20	107	0.056915		
	30	165	0.087766		
	40	108	0.057447		
	50	174	0.092553		
Reference F	requency: LTE Band	2(5MHz) M	iddle channel=18900	channel=1880.00	MHz
Dance and all (V/da)	Tomor or at the (°C)	Fr	equency error	Lineit (mana)	Danult
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	156	0.082979		
	-20	123	0.065426		
	-10	177	0.094149		
	0	144	0.076596		_
3.80	10	160	0.085106	±2.5	Pass
	20	155	0.082447		
	30	150	0.079787		
	40	104	0.055319		
	50	132	0.070213		





Reference Fr	requency: LTE Band	2(10MHz) N	liddle channel=18900	) channel=1880.00	MHz
Danisa annalia d (Vda)	T(°C)	Fre	Frequency error		Danielt
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	181	0.096277		
	-20	123	0.065426		
	-10	165	0.087766		
	0	104	0.055319		
3.80	10	171	0.090957	±2.5	Pass
	20	146	0.077660		
	30	100	0.053191		
	40	118	0.062766		
	50	148	0.078723		
Reference Fr	equency: LTE Band	, ,	liddle channel=18900	channel=1880.00	MHz
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
. оно: оарршоа (тао)		Hz	ppm	(pp)	Result
	-30	155	0.082447		
	-20	165	0.087766		
	-10	171	0.090957		
	0	144	0.076596		
3.80	10	120	0.063830	±2.5	Pass
	20	133	0.070745		
	30	138	0.073404		
	40	104	0.055319		
	50	118	0.062766		
Reference Fr	equency: LTE Band	2(20MHz) M	liddle channel=18900	) channel=1880.00	MHz
Danier and al (Vala)	Tomoroture (°C)	Fre	equency error	Limit (mmm)	
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	195	0.103723		
	-20	123	0.065426		
	-10	132	0.070213		
	0	166	0.088298		
3.80	10	181	0.096277	±2.5	Pass
	20	175	0.093085	<b>-</b>	1 033
	30	143	0.076064	7	
	40	123	0.065426	╡	
-	50	107	0.056915		





LTE Band 2(16QAM):

LTE Band 2(16QAM):								
Reference F	requency: LTE Band	2(1.4MHz)	Middle channel=18900	channel=1880.0	0MHz			
	Temperature (℃)	Frequency error		Limit (ppm)	- ·			
Power supplied (Vdc)	remperature (C)	Hz	ppm	сини (ррии)	Result			
	-30	151	0.080319					
	-20	181	0.096277					
	-10	144	0.076596					
	0	171	0.090957					
3.80	10	141	0.075000	±2.5	Pass			
	20	133	0.070745					
	30	136	0.072340	1				
	40	108	0.057447	1				
	50	102	0.054255	]				
Reference F	Frequency: LTE Band	d 2(3MHz) N	/liddle channel=18900 d	channel=1880.00	)MHz			
	12.2.7.2.2.2.2.3							
Power supplied (Vdc)	Temperature (℃)		requency error	Limit (ppm)	Result			
		Hz	ppm					
	-30	166	0.088298					
	-20	160	0.085106					
	-10	155	0.082447					
	0	123	0.065426					
3.80	10	133	0.070745	±2.5	Pass			
	20	126	0.067021	]				
	30	138	0.073404					
	40	144	0.076596					
	50	140	0.074468					
Reference F	requency: LTE Band	d 2(5MHz) N	/liddle channel=18900 d	channel=1880.00	)MHz			
Power supplied (Vdc)	Temperature (°C)	F	requency error	Limit (nnm)	Result			
rower supplied (vac)	` ` `	Hz	ppm	Limit (ppm)	Result			
	-30	177	0.094149					
	-20	123	0.065426	]				
	-10	132	0.070213	-				
2.00	0	133	0.070745	.05	D			
3.80	10	126	0.067021	±2.5	Pass			
	20 30	144 148	0.076596 0.078723	-				
	40	166	0.078723	1				
	50	160	0.085106	-				
	50	100	0.000100	ı				





B " 104.	T	Fr	Frequency error		5
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	181	0.096277	-	
	-20	121	0.064362		
	-10	144	0.076596		
	0	155	0.082447		
3.80	10	160	0.085106	±2.5	Pass
	20	140	0.074468		
	30	108	0.057447		
	40	117	0.062234		
	50	103	0.054787		
Reference F	requency: LTE Band	2(15MHz) N	Middle channel=18900	channel=1880.00	MHz
Power supplied (Vdc)	Temperature (°C)		requency error	Limit (ppm)	Result
Totto: cappiloa (Tao)	. , ,	Hz	ppm	(pp)	rtoodit
	-30	166	0.088298		Pass
	-20	160	0.085106		
	-10	112	0.059574		
	0	110	0.058511		
3.80	10	123	0.065426	±2.5	
	20	125	0.066489	]	
	30	133	0.070745		
	40	136	0.072340		
	50	107	0.056915		
Reference F			Middle channel=18900	channel=1880.00	)MHz
		<u> </u>	requency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	155	0.082447		
	-20	161	0.085638		
	-10	123	0.065426		
	0	133	0.070745		
3.80	10	125	0.066489	+2.5	Pass
5.50	20	136	0.072340		1 433
	30	166			
-	40		0.088298		
		171	0.090957		
	50	104	0.055319		





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)	Dogult
(Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	193	0.111400		
	-20	123	0.070996		
	-10	131	0.075613		
	0	166	0.095815		
3.80	10	181	0.104473	±2.5	Pass
	20	171	0.098701		
	30	182	0.105051		
	40	175	0.101010		
	50	144	0.083117	_	
Deference				-hammal 1722 FO	N 41 1—
Reference	-requency: LTE Band		liddle channel=20175	cnanne=1732.50	IVITIZ
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
	, ,	Hz	ppm	(  -	
	-30	188	0.108514		
	-20	123	0.070996		
	-10	132	0.076190		
	0	166	0.095815	±2.5	
3.80	10	171	0.098701		Pass
	20	141	0.081385		
	30	105	0.060606		
	40	108	0.062338		
	50	155	0.089466		
Reference I	requency: LTE Band	d 4(5MHz) N	/liddle channel=20175	channel=1732.50	MHz
		Frequency error			
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	164	0.094661		
	-20	132	0.076190		
	-10	136	0.078499	_	
	0	168	0.096970	_	
3.80	10	144	0.083117	±2.5	Pass
	20	148	0.085426	_	
	30	101	0.058297	_	
	40	108	0.062338	-	
	50	128	0.073882		





		Fre	equency error		MHz
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	166	0.095815		
-	-20	123	0.070996		
	-10	133	0.076768		
	0	128	0.073882		
3.80	10	161	0.092929	±2.5	Pass
	20	144	0.083117		
	30	140	0.080808		
_	40	171	0.098701		
	50	170	0.098124		
Reference F	requency: LTE Band	4(15MHz) N	/liddle channel=2017	5 channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
1 ower supplied (vac)	, , ,	Hz	ppm	Еши (ррш)	resuit
	-30	155	0.089466		
	-20	123	0.070996		Pass
	-10	150	0.086580		
	0	126	0.072727		
3.80	10	144	0.083117	±2.5	
-	20	148	0.085426		
	30	133	0.076768		
	40	130	0.075036		
	50	114	0.065801		
Reference F			/liddle channel=2017	5 channel=1732.50	MHz
			equency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	196	0.113131		
	-20	171	0.098701		
	-10	175	0.101010		
	0	161	0.092929		
3.80	10	133	0.076768	±2.5	Pass
	20	148	0.085426		
	30	138	0.079654		
-	50			<b>-</b>	
	40	140	0.080808		





LTE Band 4(16QAM):

LIE Band 4(16QAM):								
Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz								
Davisa avandia d () (da)	Temperature (°C)		requency error	Limit (ppm)	Danult			
Power supplied (Vdc)	remperature ( ©)	Hz	ppm	Еши (ррш)	Result			
	-30	166	0.095815					
	-20	152	0.087734	]				
	-10	121	0.069841					
	0	153	0.088312					
3.80	10	162	0.093506	±2.5	Pass			
	20	144	0.083117	]				
	30	148	0.085426	1				
	40	107	0.061760	1				
	50	109	0.062915	1				
Reference F	Frequency: LTF Rand		/liddle channel=20175 o	rhannel–1732 50	MHz			
TKOTOTOTIOC I	requeriey. ETE Bark			T	1VII 1Z			
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result			
	romporatoro ( o)	Hz	ppm	(pp)				
	-30	165	0.095238					
	-20	142	0.081962					
	-10	148	0.085426					
	0	160	0.092352	±2.5				
3.80	10	132	0.076190		Pass			
	20	136	0.078499					
	30	126	0.072727	1				
	40	128	0.073882	1				
	50	107	0.061760					
Reference F	requency: LTF Band	1 4(5MHz) N	/liddle channel=20175 (	channel=1732 50	MHz			
TOTOTOTIOC 1			requency error		IVII 12			
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result			
	-30	154	0.088889					
	-20	164	0.094661	1				
	-10	158	0.091198	1				
	0	160	0.092352	]				
3.80	10	123	0.070996	±2.5	Pass			
	20	131	0.075613	_				
	30	126	0.072727	_				
	40	130	0.075036	_				
	50	144	0.083117					





5 " 10/1	T (%C)	Fre	Frequency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	165	0.095238	-	
	-20	123	0.070996		
	-10	131	0.075613		
_	0	144	0.083117		
3.80	10	128	0.073882	±2.5	Pass
<u>-</u>	20	136	0.078499		
<u>-</u>	30	148	0.085426		
<u>-</u>	40	107	0.061760		
	50	109	0.062915		
Reference F	requency: LTE Band	4(15MHz) N	/liddle channel=2017	5 channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
	' '	Hz	ppm	- (1.1. /	
-	-30	177	0.102165		Pass
-	-20	141	0.081385		
	-10	162	0.093506		
	0	123	0.070996		
3.80	10	132	0.076190	±2.5	
	20	146	0.084271		
	30	160	0.092352		
<b>-</b>	40	151	0.087157		
-	50	158	0.091198		
Reference F			/liddle channel=2017	5 channel=1732.50	MHz
D	T(°C)	Fr	equency error	13-31 (	D !!
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	166	0.095815		
	-20	162	0.093506		
	-10	132	0.076190		
-		131	0.075613		
	()		- · · · · · · · ·	1	Doco
3.80	0 10		0.083117	+2.5	Pass
3.80	10	144	0.083117	±2.5	Pass
3.80	10 20	144 140	0.080808	±2.5	Pass
3.80	10	144		±2.5	Pass





LTE Band 7(QPSK):

LTE Band 7(QPSK):  Reference Frequency: LTE Band 7(5MHz) Middle channel=21100Frequency=2535.00MHz								
	requency: LTE Band			equency=2535.00	)MHz			
Power supplied	Temperature (°C)		equency error	Limpit (mmma)	Decult			
(Vdc)	10poratao (0)	Hz	ppm	Limit (ppm)	Result			
	-30	198	0.078107					
	-20	123	0.048521					
	-10	161	0.063511					
	0	193	0.076134					
3.80	10	144	0.056805	±2.5	Pass			
	20	171	0.067456	12.0	1 433			
	30	180	0.071006					
	40	116	0.045759					
	50	131						
Poforonco E			0.051677 iddle channel=21100 F	rogueney-2535 (	)∩N1∐->			
Power supplied		· ' '	requency error	requency=2555.0	JUIVITZ			
(Vdc)	Temperature (°C)	Hz	, ' , , , , , , , , , , , , , , , , , ,	Limit (ppm)	Result			
( vuc)	-30	155	ppm	(11 /				
			0.061144	-				
	-20	161	0.063511					
	-10	123	0.048521					
	0	136	0.053649					
3.80	10	166	0.065483	±2.5	Pass			
	20	171	0.067456					
	30	180	0.071006					
	40	153	0.060355					
	50	177	0.069822					
Reference Fi	requency: LTE Band 7	7(15MHz) M	iddle channel=21100 F	requency=2535.0	00MHz			
Power supplied	Temperature (°C)	F	requency error	Limit (ppm)	Result			
(Vdc)	` ` `	Hz	ppm	Еши (ррш)	Nesuit			
	-30	123	0.048521					
	-20	166	0.065483	=				
	-10	168	0.066272	-				
	0	122	0.048126		_			
3.80	10	144	0.056805	±2.5	Pass			
	20	147	0.057988	-				
	30 40	101	0.039842	-				
	50	155 150	0.061144 0.059172					
Poforonco Fi			iddle channel=21100 F	reguency-2535 (	OMH-			
Power supplied	Tequency. LTE band I	, ,	requency error	Tequency=2555.0	DOIVITIZ			
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result			
( v u c)	-30	192	0.075740					
	-20	123	0.048521	1				
	-10	171	0.067456	1				
	0	182	0.071795	1				
3.80	10	161	0.063511	±2.5	Pass			
	20	144	0.056805	]				
	30	152	0.059961	]				
	40	155	0.061144					
	50	108	0.042604					





LTE Band 7(16QAM):

Reference F		LTE Band 7	<b>7(16QAM):</b> ddle channel=21100Fr	equency=2535 00	MHz
Power supplied			equency error		WII 12
(Vdc)	Temperature (°C)	Hz			Result
	-30	123	0.048521		
	-20	155	0.061144		
	-10	166	0.065483		
	0	161	0.063511		
3.80	10	150	0.059172	-0.5	Dana
0.00	20	134	0.052860	±2.5	Pass
	30	145	0.052000	_	
	40	114	0.044970		
	50	107	0.044970		
Reference F			iddle channel=21100 I	Frequency-2535 (	OMH <sub>7</sub>
				lequency=2555.0	JOIVII IZ
Power supplied	Temperature (°C)		requency error	Limit (ppm)	Result
(Vdc)		Hz	ppm	Σ (ρρ)	
	-30	181	0.071400		
	-20	123	0.048521		
	-10	136	0.053649		
	0	124	0.048915	±2.5	
3.80	10	138	0.054438		Pass
	20	104	0.041026		
	30	177	0.069822		
	40	160	0.063116		
	50	166	0.065483		
Reference F	requency: LTE Band 7	7(15MHz) M	iddle channel=21100 l	requency=2535.0	00MHz
Power supplied	Temperature (°C)	F	requency error	Limit (ppm)	Result
(Vdc)	` ` `	Hz	ppm	Еппи (ррпп)	result
	-30	158	0.062327		
	-20	121	0.047732		
	-10	169	0.066667		
3.80	0 10	171 178	0.067456 0.070217	2.5	Pass
3.00	20	151	0.059566	2.5	Fa55
	30	145	0.057199		
	40	146	0.057594		
	50	108	0.042604		
Reference F	requency: LTE Band 7		iddle channel=21100 I	requency=2535.0	00MHz
Power supplied	Temperature (°C)	F	requency error	Limpit (mmma)	Decult
(Vdc)	Temperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	144	0.056805		
	-20	151	0.059566		
	-10	146	0.057594	_	
	0	158	0.062327	<b>⊣</b>	_
3.80	10	123	0.048521	2.5	Pass
	20	136	0.053649	_	
	30	104	0.041026	-	
	40 50	171	0.067456	-	
	50	141	0.055621		





LTE Band 12(QPSK):

D ( E		LTE Band	, ,	707.5	0.8.41.1
	equency: LTE Band 1		Middle channel=23095	requency=707.50	UMHZ
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	00	Hz	ppm 0.281272	Ziiiii (ppiii)	rtoodit
	-30	199			
	-20	141	0.199293		
	-10	151	0.213428		
	0	164	0.231802		
3.70	10	158	0.223322	±2.5	Pass
	20	148	0.209187		
	30	169	0.238869		
	40	171	0.241696		
	50	189	0.267138		
Reference F	requency: LTE Band	12(3MHz) N	Middle channel=23095F	requency=707.50	)MHz
Power supplied	Temperature (°C)	F	requency error		
(Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	155	0.219081		
	-20	184	0.260071		
	-10	174	0.245936		
	0	176	0.248763	±2.5	
3.70	10	180	0.254417		Pass
	20	161	0.227562		Fa55
	30	169	0.238869		
	40	104	0.146996		
	50	125	0.176678	1	
Poforonco F			Middle channel=23095F	reguency=707.50	MH-2
Power supplied			requency error		
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
(100)	-30	169	0.238869		
	-20	123	0.173852		
	-10	138	0.195053		
	0	129	0.182332		
3.70	10	144	0.203534	±2.5	Pass
	20	150	0.212014		
	30	156	0.220495		
	40	101	0.142756		
	50	108	0.152650		
	requency: LTE Band	12(10MHz) I	Middle channel=23095	Frequency=707.5	0MHz
Power supplied	Temperature (°C)		requency error	Limit (ppm)	Result
(Vdc)		Hz	ppm	Limit (ppin)	resuit
	-30	197	0.278445		
	-20	123	0.173852	1	
	-10	135	0.190813	_	
0.70	0	126	0.178092	-	Б.
3.70	10	138	0.195053	±2.5	Pass
	20	144	0.203534	-	
	30	180	0.254417	-	
	40 50	171 168	0.241696	-	
	บบ	100	0.237456		





LTE Band 12(16QAM):

Reference Fro		LTE Band 1 2(1 4MHz) [	, ,	Frequency=707.5	OMHz			
	Reference Frequency: LTE Band 12(1.4MHz) Middle channel=23095Frequency=707.50MHz							
Power supplied (Vdc)	Temperature (°C)	Hz	equency error ppm	Limit (ppm)	Result			
	-30	151	0.213428					
	-20	123	0.173852					
	-10	136	0.192226					
	0	144	0.203534					
3.70	10	171	0.241696	.0.5	Daga			
0.70	20	101	0.142756	±2.5	Pass			
	30	160	0.226148					
	40	168	0.237456					
	50	148	0.209187					
Poforonco F			Middle channel=23095	Frequency-707 5	JMH-2			
	l			Tequency=707.30	JIVII IZ			
Power supplied	Temperature (°C)		requency error	Limit (ppm)	Result			
(Vdc)		Hz	ppm	Ziiiii (ppiii)	rtoodit			
	-30	148	0.209187					
	-20	151	0.213428					
	-10	123	0.173852					
	0	136	0.192226					
3.70	10	155	0.219081	±2.5	Pass			
	20	141	0.199293		1 433			
	30	101	0.142756					
	40	105	0.148410					
	50	118	0.166784					
Reference F			Middle channel=23095	Frequency-707 50	NH <sub>2</sub>			
Power supplied			requency error					
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result			
( /	-30	123	0.173852					
	-20	131	0.185159					
	-10	147	0.207774					
	0	150	0.212014					
3.70	10	155	0.219081	2.5	Pass			
	20	160	0.226148					
	30	141	0.199293					
	40	107	0.151237					
5 / 5	50	118	0.166784					
	requency: LTE Band		Middle channel=23095	Frequency=/0/.5	OMHz			
Power supplied	Temperature (°C)		requency error	Limit (ppm)	Result			
(Vdc)	-30	Hz 163	ppm 0.230389					
	-20	169	0.238869					
	-10	144	0.203534	-				
	0	151	0.213428					
3.70	10	158	0.223322	2.5	Pass			
	20	171	0.241696	7 1				
	30	176	0.248763					
	40	101	0.142756					
	50	108	0.152650					





LTE Band 17(QPSK):

Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz							
Power supplied	Temperature (°ℂ)	Fr	Frequency error		D 1		
(Vdc)	Tomporature (C)	Hz	ppm	Limit (ppm)	Result		
	-30	195	0.274648				
	-20	171	0.240845				
	-10	180	0.253521				
	0	186	0.261972				
3.80	10	175	0.246479	±2.5	Pass		
	20	123	0.173239				
	30	136	0.191549				
	40	121	0.170423				
	50	140	0.197183				
Reference F	requency: LTE Band	17(10MHz)	17(10MHz) Middle channel=23790 channel=710.00MHz				
Power supplied	Temperature (°C)	F	requency error		Danult		
(Vdc)	Tomporature (C)	Hz	ppm	Limit (ppm)	Result		
	-30	199	0.280282				
	-20	141	0.198592				
	-10	151	0.212676				
	0	168	0.236620				
3.80	10	158	0.222535	±2.5	Pass		
	20	149	0.209859		-/		
	30	171	0.240845				
	40	189	0.266197				
	50	180	0.253521	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	plied Frequency error			011011101-110.00	VIII 12		
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result		
	-30	161	0.226761				
	-20	141	0.198592				
	-10	181	0.254930				
	0	123	0.173239				
3.80	10	138	0.194366	±2.5	Pass		
	20	171	0.240845				
	30	186	0.261972				
	40	169	0.238028		l		
	50	107	0.150704				
Reference F	requency: LTE Band	17(10MHz)	Middle channel=23790	channel=710.00	MHz		
Power supplied	Temperature (°ℂ)	Frequency error		Limit (nnm)	Dooult		
(Vdc)	1 sporataro ( 0)	Hz	ppm	Limit (ppm)	Result		
	-30	107	0.150704				
	-20	181	0.254930				
	-10	141	0.198592				
	0	156	0.219718				
3.80	10	153	0.215493	±2.5	Pass		
	20	123	0.173239				
	30	168	0.236620				
	40	118	0.166197				
	50	172	0.242254				



# 6.13 Frequency stability V.S. Voltage measurement

Test Requirement:	FCC Part2.1055(d)(1)(2)				
Test Method:	FCC Part2.1055(d)(1)(2)				
Limit:	2.5ppm				
Test setup:	Spectrum analyzer  EUT  Att.  Variable Power Supply				
Test procedure:	Note: Measurement setup for testing on Antenna connector  1. Set chamber temporature to 25°C. Here a variable DC power source.				
rest procedure.	<ol> <li>Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage.</li> <li>Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.</li> <li>Reduce the input voltage to specify extreme voltage variation (+/-15%) and endpoint, record the maximum frequency change.</li> </ol>				
Test Instruments:	Refer to section 5.8 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):

LTE Band 2(QPSK):									
Reference Fi	requency: LTE Band	2(1.4MHz) Middle	e channel=18900	channel=1880.00	)MHz				
Temperature (℃)	Power supplied	Freque	ncy error	Limit (nnm)	Danult				
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result				
	4.37	99	0.052660						
25	3.80	87	0.046277	±2.5	Pass				
	3.23	68	0.036170						
Reference F	Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 channel=1880.00MHz								
T(°C)	Power supplied	Frequei	ncy error		5				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result				
	4.37	75	0.039894						
25	3.80	84	0.044681	±2.5	Pass				
	3.23	64	0.034043						
Reference F	requency: LTE Band	I 2(5MHz) Middle	channel=18900 c	channel=1880.00 <b>i</b>	МНz				
<b>-</b> (00)	Power supplied	Freque	ncy error						
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result				
	4.37	82	0.043617						
25	3.80	90	0.047872	±2.5	Pass				
	3.23	74	0.039362						
Reference F	requency: LTE Band	2(10MHz) Middle	channel=18900	channel=1880.00	MHz				
	Power supplied		ncy error	Limit (ppm)					
Temperature (℃)	(Vdc)	Hz	ppm		Result				
	4.37	77	0.040957						
25	3.80	84	0.044681	±2.5	Pass				
	3.23	96	0.051064						
Reference F	requency: LTE Band	2(15MHz) Middle	channel=18900	channel=1880.00	MHz				
T(°C)	Power supplied	Freque	ncy error		ъ :				
Temperature $(^{\circ}\mathbb{C})$	(Vdc)	Hz	ppm	Limit (ppm)	Result				
	4.37	92	0.048936						
25	3.80	96	0.051064	±2.5	Pass				
	3.23	76	0.040426						
Reference F	requency: LTE Band	2(20MHz) Middle	channel=20175	channel=1880.00	MHz				
T(°C)	Power supplied	Freque	ncy error		ъ :				
Temperature $(^{\circ}\mathbb{C})$	(Vdc)	Hz	ppm	Limit (ppm)	Result				
	4.37	88	0.046809						
25	3.80	64	0.034043	±2.5	Pass				
	3.23	71	0.037766	]	-				





LTE Band 2(16QAM):

	LTE Band 2(16QAM):						
Reference Fr	requency: LTE Band	2(1.4MHz) Middle	e channel=18900	channel=1880.00	)MHz		
Tomporatura (°C)	Power supplied	Frequer	ncy error	1.1	D !!		
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	90	0.047872				
25	3.80	81	0.043085	±2.5	Pass		
	3.23	76	0.040426				
Reference F	requency: LTE Band	2(3MHz) Middle	channel=18900 c	hannel=1880.00l	ИНz		
<b>T</b> (%C)	Power supplied	Frequer	ncy error		_		
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	99	0.052660				
25	3.80	84	0.044681	±2.5	Pass		
	3.23	75	0.039894	1			
Reference F	requency: LTE Band	2(5MHz) Middle	channel=18900 c	hannel=1880.00l	ИНz		
- (00)	Power supplied	Frequer	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	93	0.049468				
25	3.80	75	0.039894	±2.5	Pass		
-	3.23	81	0.043085	]			
Reference F	requency: LTE Band	2(5MHz) Middle		hannel=1880.00l	ИНz		
	Power supplied	Frequer	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	78	0.041489				
25	3.80	81	0.043085	±2.5	Pass		
	3.23	74	0.039362				
Reference F	requency: LTE Band			channel=1880.00	MHz		
	Power supplied		ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	99	0.052660				
25	3.80	82	0.043617	±2.5	Pass		
	3.23	76	0.040426	1			
Reference F	requency: LTE Band			channel=1880.00	MHz		
T(%C)	Power supplied	Frequer	ncy error		5		
Temperature $(^{\circ}\mathbb{C})$	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	93	0.049468				
25	3.80	82	0.043617	±2.5	Pass		
	3.23	64	0.034043				





LTE Band 4(QPSK):

LTE Band 4(QPSK):							
Reference Fi	requency: LTE Band	4(1.4MHz) Middle	e channel=20175	channel=1732.50	)MHz		
Tomporoture (°C)	Power supplied	Freque	ncy error	Limit (name)	Danult		
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	98	0.056566				
25	3.80	75	0.043290	±2.5	Pass		
	3.23	64	0.036941				
Reference F	requency: LTE Band	d 4(3MHz) Middle	channel=20175 c	hannel=1732.50 <b>l</b>	ИНz		
T(°C)	Power supplied	Frequei	ncy error		5		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	90	0.051948				
25	3.80	99	0.057143	±2.5	Pass		
	3.23	85	0.049062				
Reference F	requency: LTE Band	d 4(5MHz) Middle	channel=20175 c	hannel=1732.50l	MHz		
- (00)	Power supplied	Freque	ncy error				
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	86	0.049639				
25	3.80	74	0.042713	±2.5	Pass		
	3.23	92	0.053102				
Reference F	requency: LTE Band	4(10MHz) Middle	channel=20175	channel=1732.50	MHz		
- (00)	Power supplied	Frequency error					
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	95	0.054834				
25	3.80	91	0.052525	±2.5	Pass		
	3.23	81	0.046753	]			
Reference F	requency: LTE Band	4(15MHz) Middle	channel=20175	channel=1732.50	MHz		
- (200)	Power supplied	Freque	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	77	0.044444				
25	3.80	84	0.048485	±2.5	Pass		
	3.23	68	0.039250	7			
Reference F	requency: LTE Band			channel=1732.50	MHz		
	Power supplied	Freque	ncy error				
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	90	0.051948				
25	3.80	87	0.050216	±2.5	Pass		
	3.23	64	0.036941	7			
				•	·		





LTE Band 4(16QAM):

LTE Band 4(16QAM):						
requency: LTE Band	4(1.4MHz) Middle	e channel=20175	channel=1732.50	)MHz		
Power supplied	Frequer	ncy error	Lineit (none)	Doordt		
(Vdc)	Hz	ppm	Limit (ppm)	Result		
4.37	88	0.050794				
3.80	75	0.043290	±2.5	Pass		
3.23	71	0.040981				
requency: LTE Band	I 4(3MHz) Middle	channel=20175 c	:hannel=1732.50	ИНz		
Power supplied	Frequer	ncy error		5		
(Vdc)	Hz	ppm	Limit (ppm)	Result		
4.37	66	0.038095				
3.80	84	0.048485	±2.5	Pass		
3.23	52	0.030014				
requency: LTE Band	4(5MHz) Middle	channel=20175 c	hannel=1732.50ľ	ИНz		
Power supplied	Frequer	ncy error		_		
(Vdc)	Hz		Limit (ppm)	Result		
4.37	55	0.031746				
	87		±2.5	Pass		
3.23	48	0.027706	]			
requency: LTE Band	4(10MHz) Middle	channel=20175	channel=1732.50	MHz		
Power supplied	Frequency error					
(Vdc)	Hz		Limit (ppm)	Result		
4.37	99					
3.80	65	0.037518	±2.5	Pass		
3.23	87	0.050216	1			
requency: LTE Band	4(15MHz) Middle	channel=20175	channel=1732.50	MHz		
Power supplied	Frequer	ncy error		_		
	Hz		Limit (ppm)	Result		
` '	68					
3.80	75		±2.5	Pass		
3.23	81	0.046753	1			
			channel=1732.50	MHz		
Power supplied	,					
(Vdc)	Hz	ppm	Limit (ppm)	Result		
4.37	86	0.049639				
3.80	94	0.054257	±2.5	Pass		
3.23	71	0.040981	]			
	Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23 Frequency: LTE Bance Power supplied (Vdc) 4.37 3.80 3.23	requency: LTE Band 4(1.4MHz) Middle    Power supplied (Vdc)	Power supplied (Vdc)	Power supplied (Vdc)		





LTE Band 7(QPSK):

		LIE Ballu / (G	0.11/).		
Reference Fr	equency: LTE Band	7(5MHz) Middle o	hannel=21100 Fr	equency=2535.0	0MHz
Temperature (°C)	Power supplied	Freque	ncy error	Limit (ppm)	Result
Temperature ( C)	(Vdc)	Hz	ppm	Limit (ppini)	Nesuit
	4.37	90	0.035503		
25	3.80	81	0.031953	±2.5	Pass
	3.23	65	0.025641		
Reference Fre	equency: LTE Band 7	(10MHz) Middle	channel=21100 F	requency=2535.0	00MHz
Temperature (°ℂ)	Power supplied	Freque	ncy error	Limit (nnm)	Dogult
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	74	0.029191	±2.5	
25	3.80	81	0.031953		Pass
	3.23	96	0.037870		
Reference Fre	equency: LTE Band 7	(15MHz) Middle	channel=21100 F	requency=2535.0	00MHz
Tomporoture (°C)	Power supplied	Frequency error		Lineit (n.n.n.)	Desult
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	88	0.034714		
25	3.80	75	0.029586	±2.5	Pass
	3.23	64	0.025247		
Reference Fre	equency: LTE Band 7	(20MHz) Middle	channel=21100 F	requency=2535.0	00MHz
Temperature (°ℂ)	Power supplied	Frequency error		1	Descrit
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	84	0.033136		
25	3.80	97	0.038264	±2.5	Pass
	3.23	40	0.015779		





LTE Band 7(16QAM):

		LIE Band /(10	QAIVI).		
Reference Fi	requency: LTE Band	7(5MHz) Middle o	hannel=21100 Fre	equency=2535.0	0MHz
Temperature (°C)	Power supplied	Freque	ncy error	Limit (ppm)	Result
Temperature ( C)	(Vdc)	Hz	ppm	Limit (ppin)	Nesuit
	4.37	74	0.029191		
25	3.80	84	0.033136	±2.5	Pass
	3.23	96	0.037870		
Reference Fr	equency: LTE Band 7	(10MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz
Temperature (°ℂ)	Power supplied	Freque	ncy error	Limit (ppm)	Result
remperature (C)	(Vdc)	Hz	ppm	Limit (ppin)	Resuit
	4.37	99	0.039053		
25	3.80	85	0.033531	±2.5	Pass
	3.23	64	0.025247		
Reference Fr	equency: LTE Band 7	(15MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz
Temperature (°ℂ)	Power supplied	Frequency error		Limit (nnm)	Dooult
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	58	0.022880		
25	3.80	74	0.029191	±2.5	Pass
	3.23	90	0.035503		
Reference Fr	equency: LTE Band 7	(20MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz
Temperature (°ℂ)	Power supplied	Frequency error		Line ( ( a con )	Dooult
Temperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	65	0.025641		
25	3.80	81	0.031953	±2.5	Pass
	3.23	74	0.029191		





LTE Band 12(QPSK):

		ETE Bana 12/4	· - /			
Reference Fre	equency: LTE Band 1	2(1.4MHz) Middle	e channel=23095l	requency=707.5	50MHz	
Temperature (°C)	Power supplied	Frequency error		Limit (ppm)	Result	
	(Vdc)	Hz	ppm	Еппі (рріп)	Result	
	4.37	78	0.110247			
25	3.80	94	0.132862	±2.5	Pass	
	3.23	80	0.113074			
Reference Frequency: LTE Band 12(3MHz) Middle channel=23095Frequency=707.50MHz						
Temperature (℃)	Power supplied	Frequency error		Limit (nnm)	Dogult	
	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	4.37	88	0.124382	±2.5		
25	3.80	86	0.121555		Pass	
	3.23	91	0.128622			
Reference Fr	equency: LTE Band	12(5MHz) Middle	channel=23095F	requency=707.50	OMHz	
Tomporature (°C)	Power supplied	Frequency error		Limit (nnm)	Dogult	
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
25	4.37	95	0.134276	±2.5	Pass	
	3.80	64	0.090459			
	3.23	72	0.101767			
Reference Fre	equency: LTE Band ′	12(10MHz) Middle	channel=23095F	requency=707.5	0MHz	
Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Popult	
	(Vdc)	Hz	ppm	Limit (ppm)	Result	
25	4.37	84	0.118728			
	3.80	67	0.094700	±2.5	Pass	
	3.23	47	0.066431			





LTE Band 12(16QAM):

		LIL Ballu 12(1	owalii).		
Reference Fr	equency: LTE Band 1	12(1.4MHz) Middl	e channel=23095	Frequency=707.5	0MHz
Temperature (℃)	Power supplied	Frequency error		Limit (ppm)	Result
remperature (C)	(Vdc)	Hz	ppm	Limit (ppin)	Kesull
25	4.37	90	0.127208	±2.5	Pass
	3.80	81	0.114488		
	3.23	74	0.104594		
Reference F	requency: LTE Band	12(3MHz) Middle	channel=23095F	requency=707.50	)MHz
Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Dogult
	(Vdc)	Hz	ppm	Limit (ppm)	Result
25	4.37	88	0.124382	±2.5	Pass
	3.80	64	0.090459		
	3.23	71	0.100353		
Reference F	requency: LTE Band	12(5MHz) Middle	channel=23095F	requency=707.50	)MHz
Temperature (℃)	Power supplied	Frequency error		Limit (nnm)	Dogult
	(Vdc)	Hz	ppm	Limit (ppm)	Result
25	4.37	56	0.079152	±2.5	Pass
	3.80	64	0.090459		
	3.23	71	0.100353		
Reference Fr	equency: LTE Band '	12(10MHz) Middle	e channel=23095F	requency=707.5	0MHz
Temperature (°C)	Power supplied	Freque	cy error		Result
	(Vdc)	Hz	ppm	Limit (ppm)	Result
25	4.37	81	0.114488	±2.5	Pass
	3.80	93	0.131449		
	3.23	37	0.052297		





LTE Band 17(QPSK):

Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz						
Temperature (℃)	Power supplied		ncy error	Limit (ppm) Re		
	(Vdc)	Hz	ppm	Еши (ррш)	rtoodit	
25	4.37	66	0.092958	±2.5	Pass	
	3.80	87	0.122535			
	3.23	90	0.126761			
Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 channel=710.00MHz						
Temperature (°C)	Power supplied	Frequency error		Limit (ppm)	Result	
	(Vdc)	Hz	ppm	Limit (ppm)	Kesuit	
	4.37	84	0.118310			
25	3.80	71	0.100000	±2.5	Pass	
	3.23	90	0.126761			

## LTE Band 17(16QAM)

LTE Band 17(16QAM):							
Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz							
Temperature (°C)	Power supplied	Frequency error		Limit (ppm)	Result		
	(Vdc)	Hz	ppm	сини (ррии)	Nesuit		
25	4.37	66	0.092958	±2.5	Pass		
	3.80	85	0.119718				
	3.23	74	0.104225				
Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 channel=710.00MHz							
Temperature (°C)	Power supplied	Frequency error		Limit (ppm)	Result		
	(Vdc)	Hz	ppm	Еппі (рріп)	Nesult		
25	4.37	63	0.088732	±2.5	Pass		
	3.80	52	0.073239				
	3.23	48	0.067606				