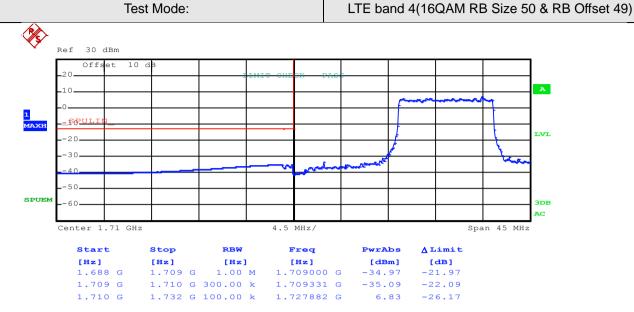
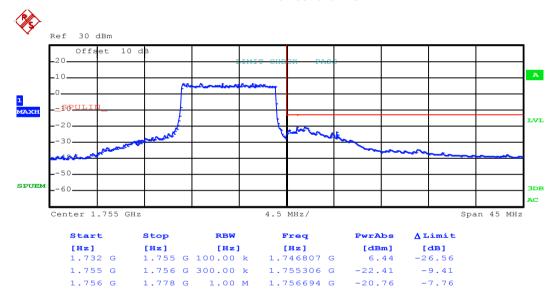


Highest channel

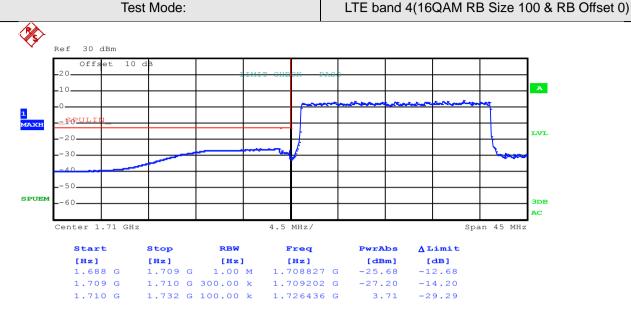


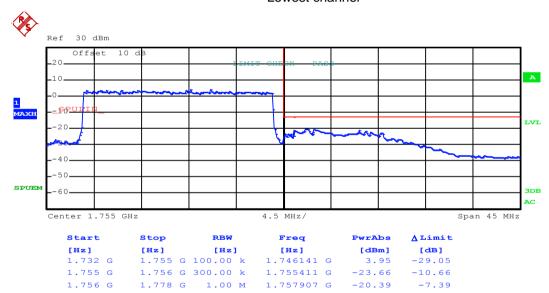




Highest channel





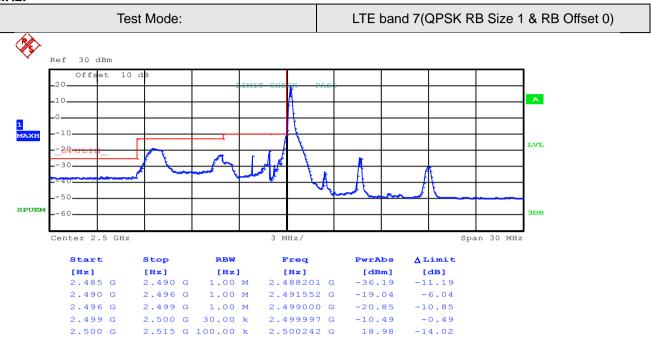


Highest channel

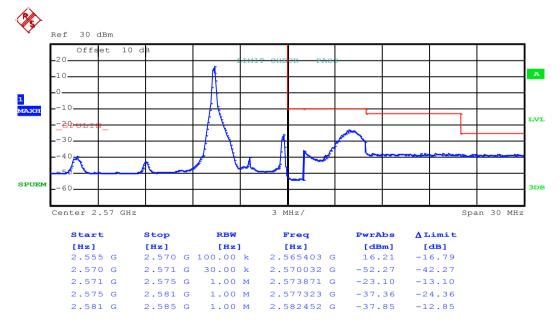


# LTE band 7 part:

## 5MHz:

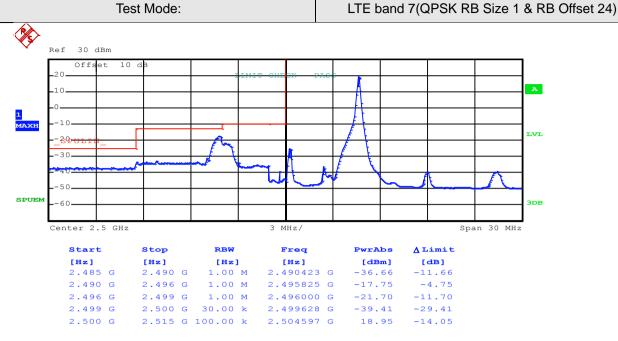


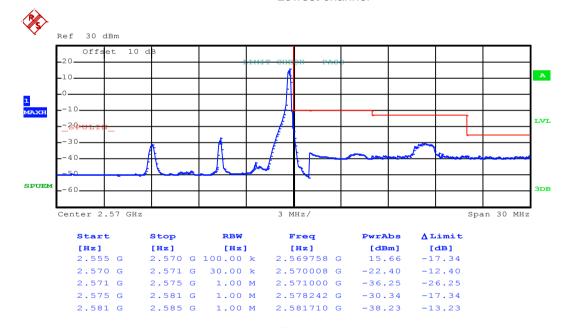
# Lowest channel



Highest channel

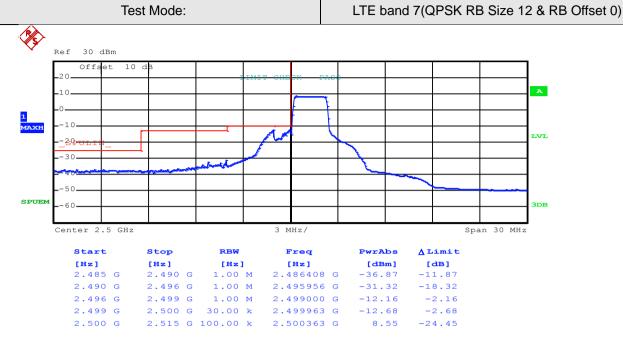


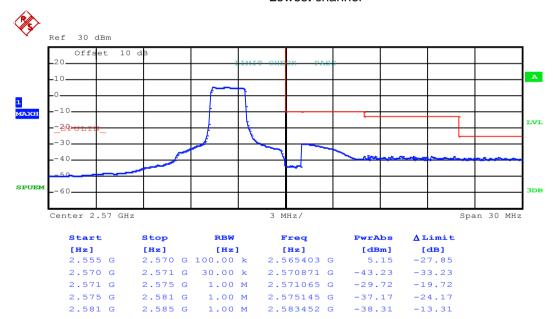




Highest channel

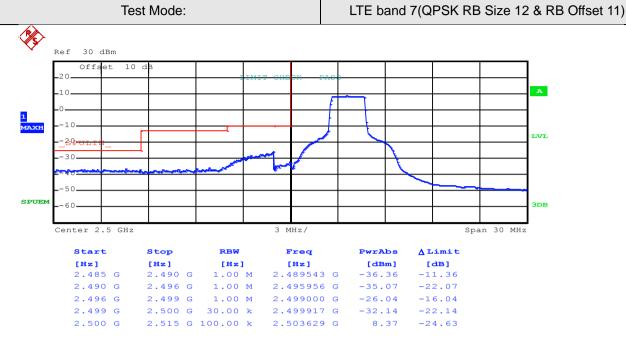


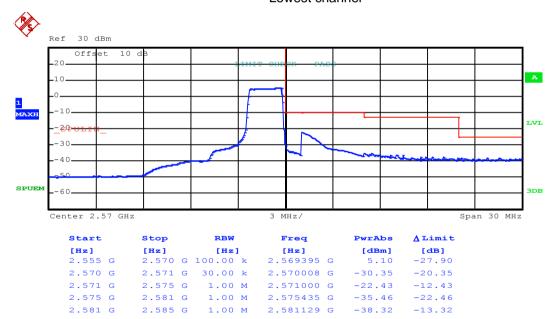




Highest channel

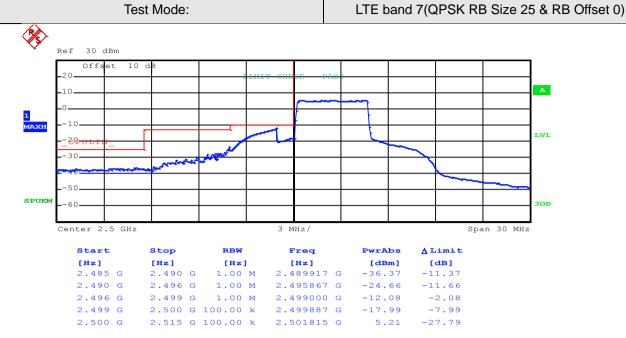


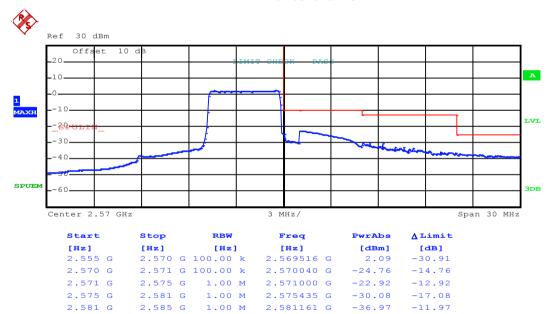




Highest channel

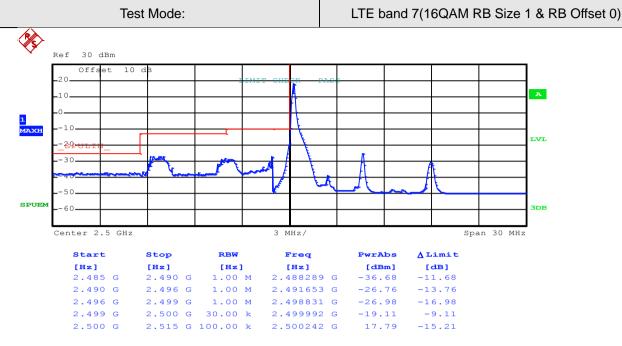


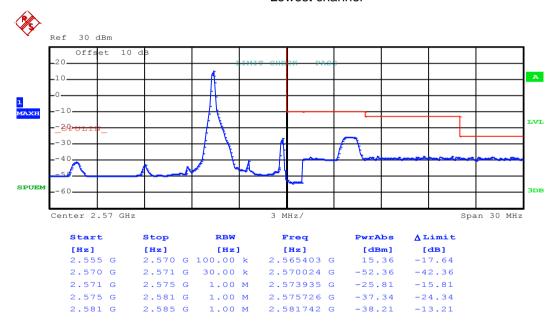




Highest channel

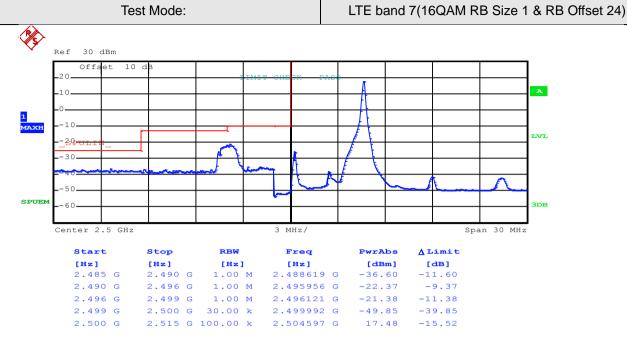


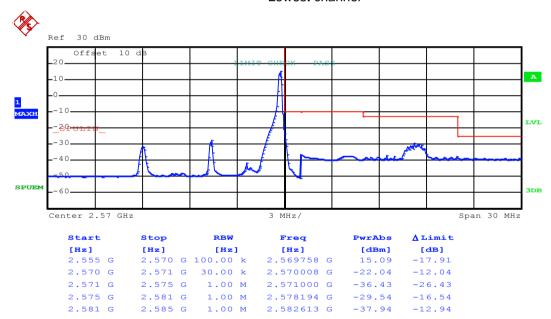




Highest channel

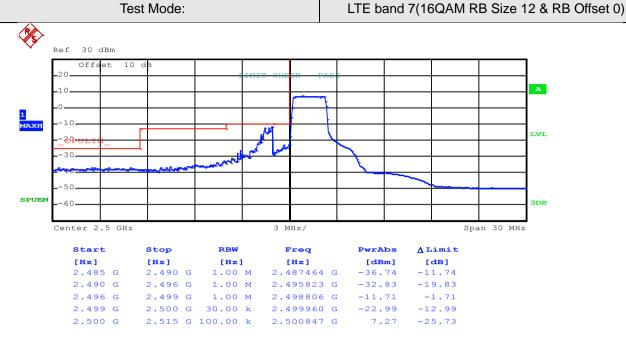


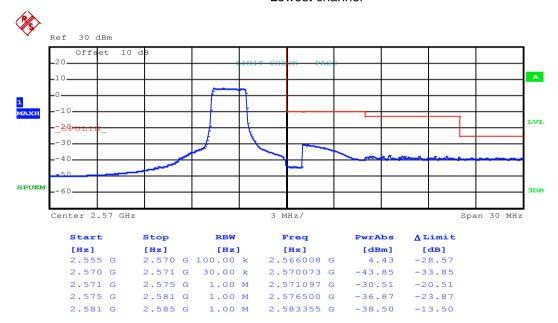




Highest channel

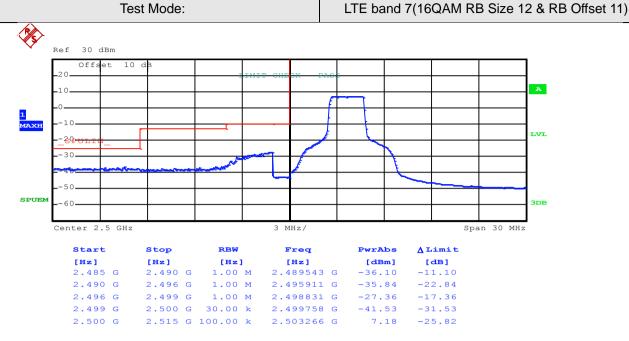


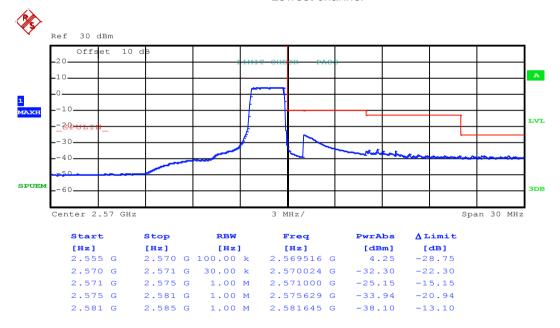




Highest channel

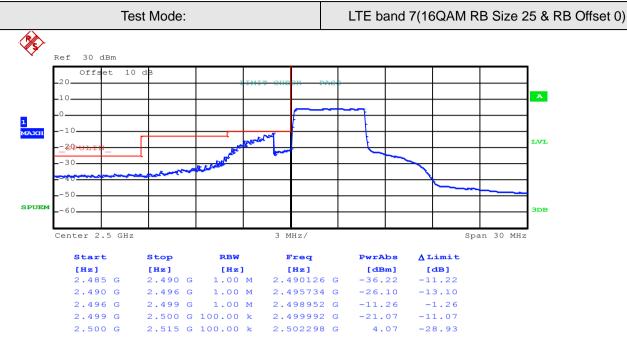


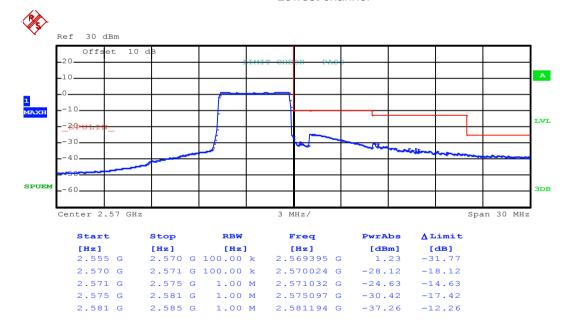




Highest channel



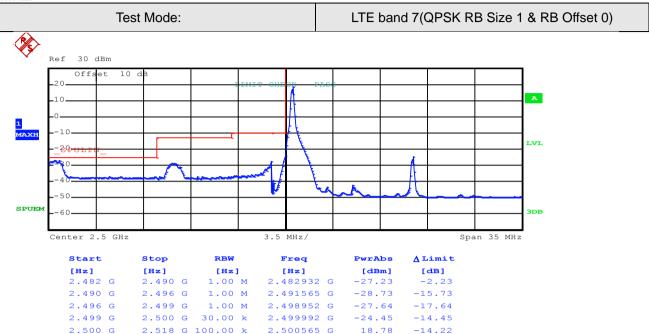




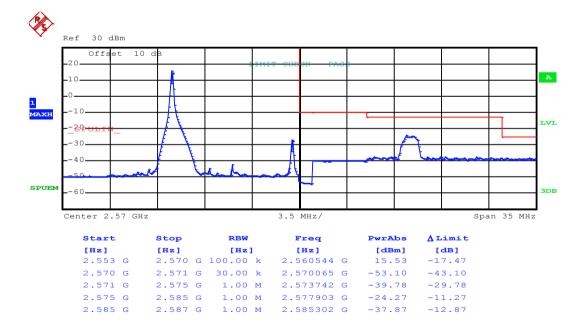
Highest channel



## 10MHz:

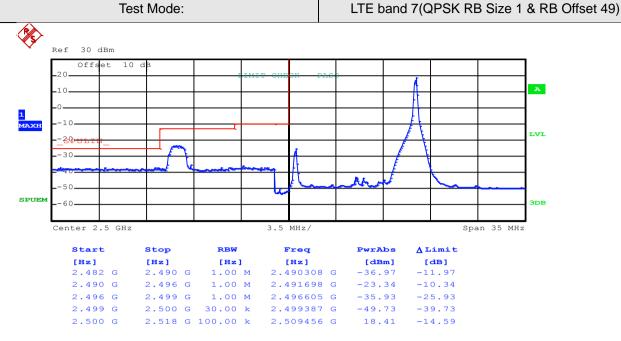


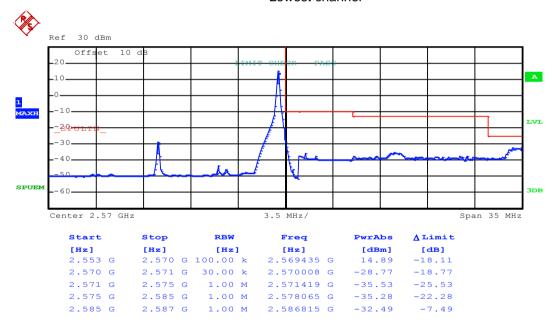
#### Lowest channel



Highest channel

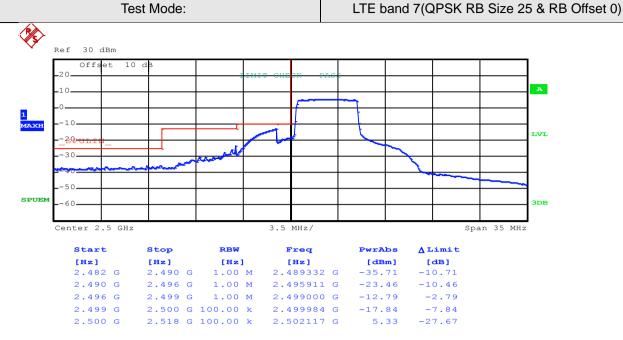


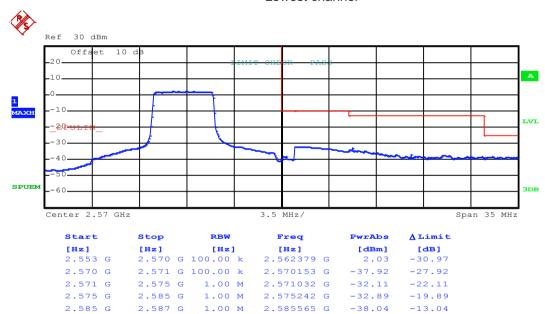




Highest channel

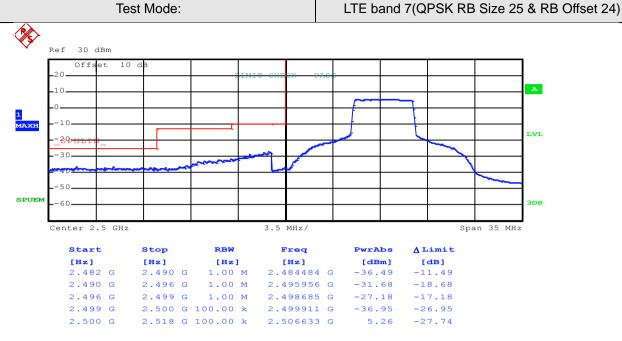


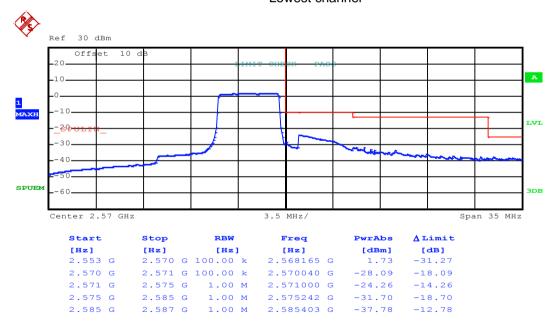




Highest channel

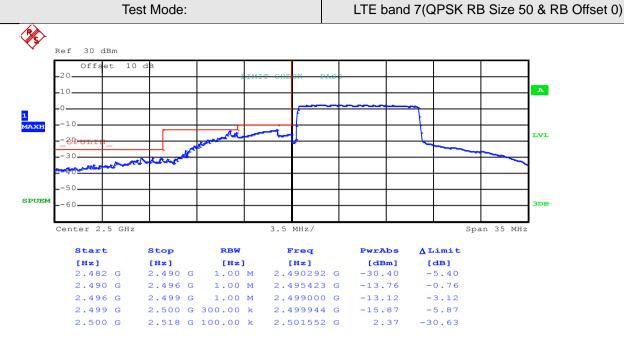


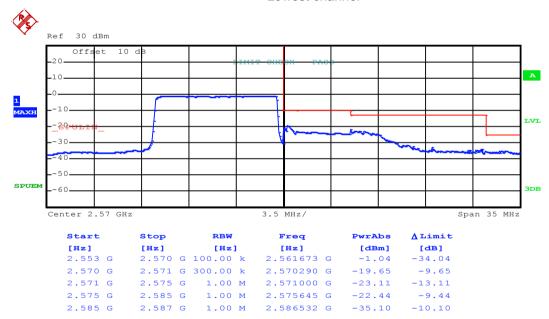




Highest channel

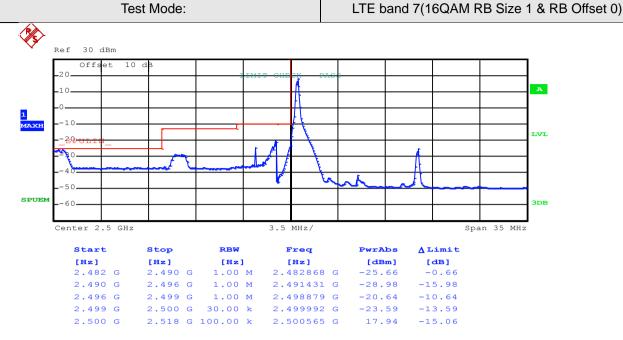


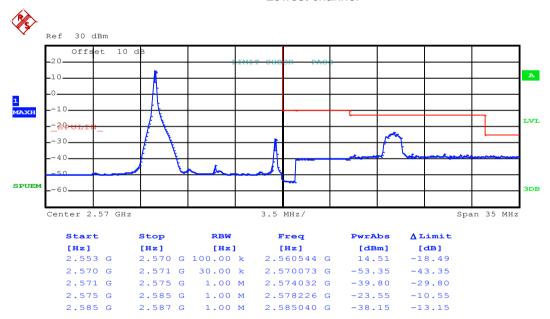




Highest channel

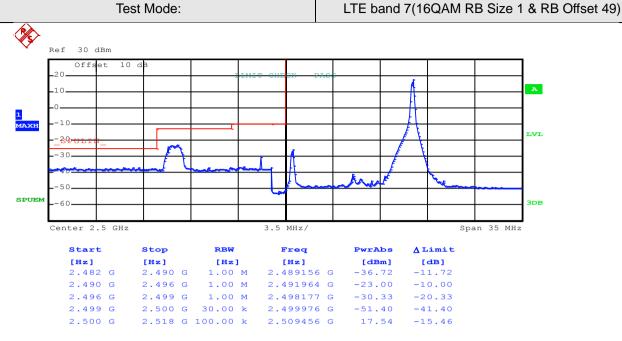


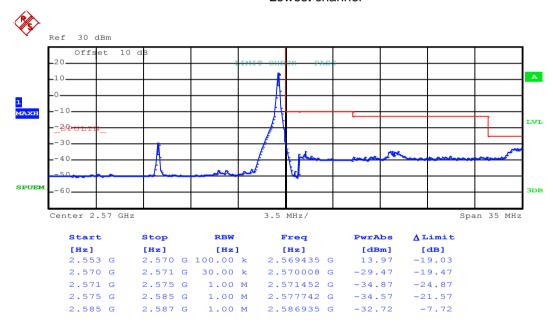




Highest channel

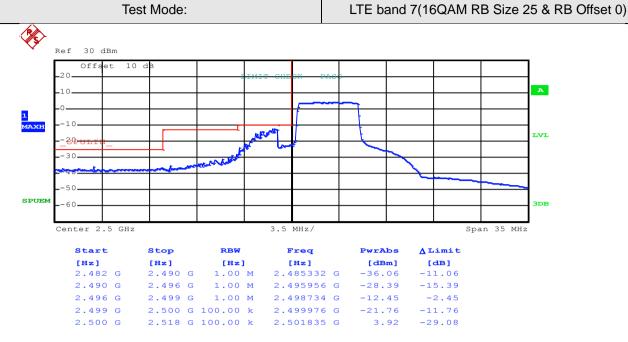


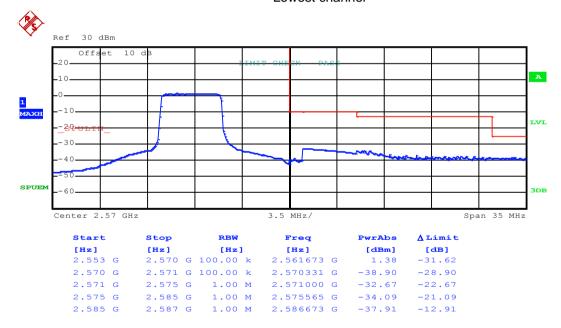




Highest channel

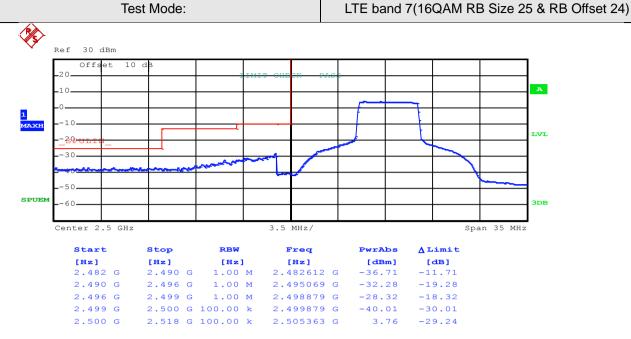


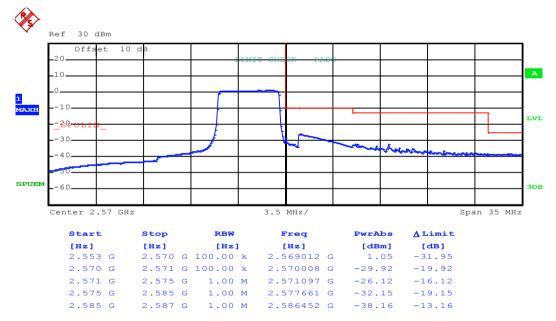




Highest channel

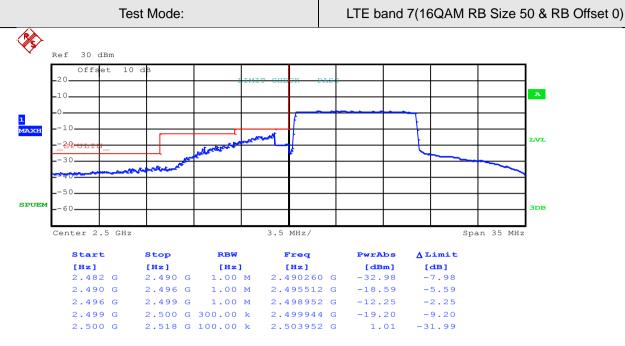


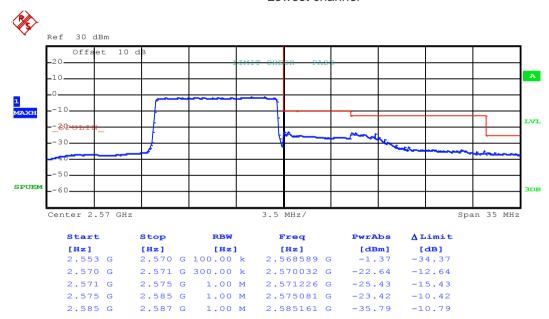




Highest channel



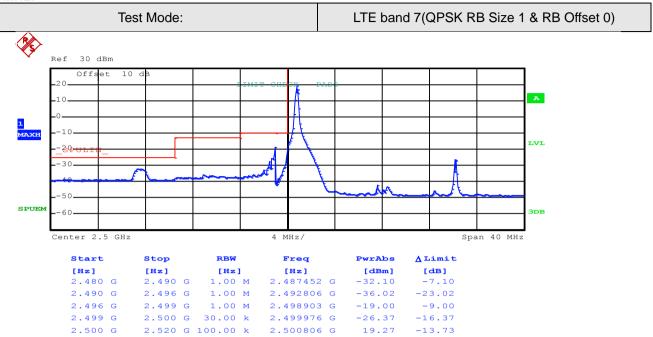




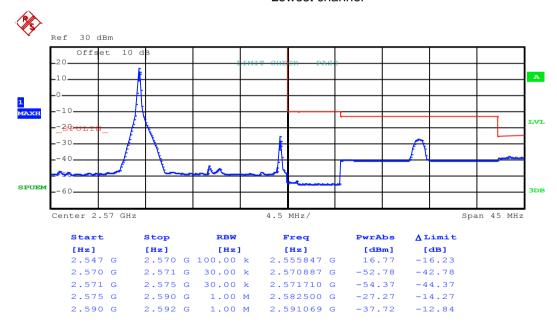
Highest channel



## 15MHz:

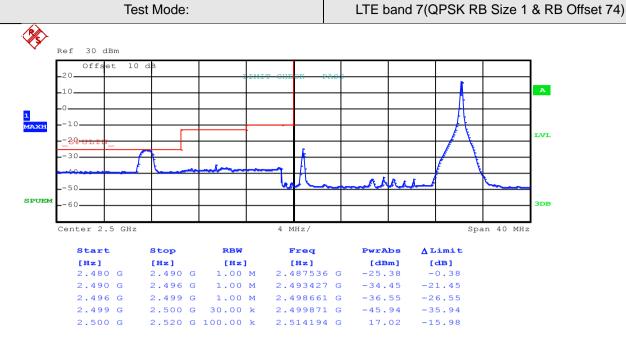


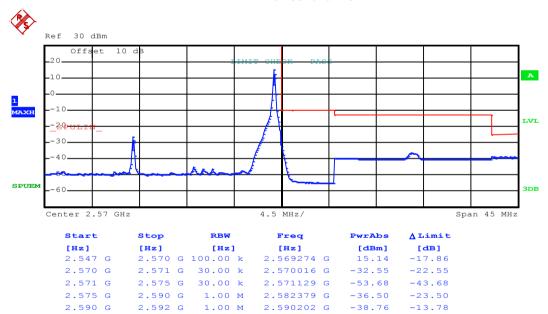
#### Lowest channel



Highest channel

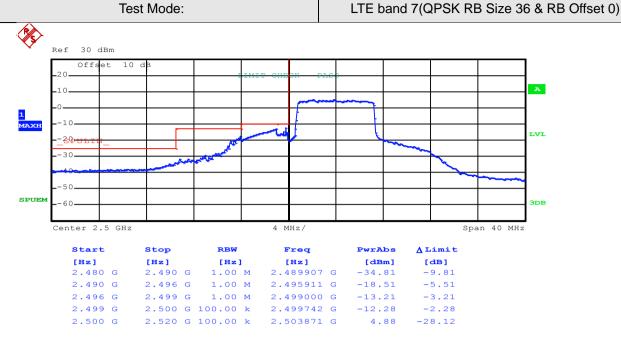


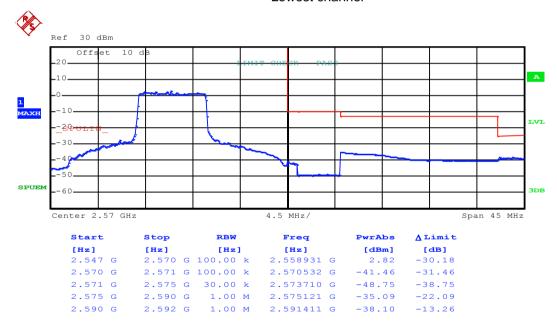




Highest channel

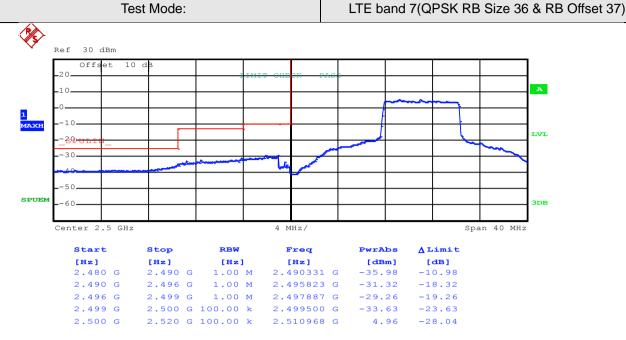


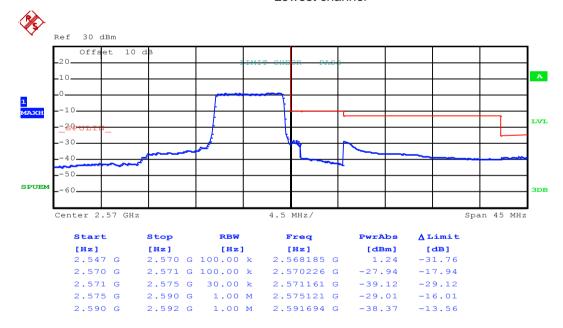




Highest channel

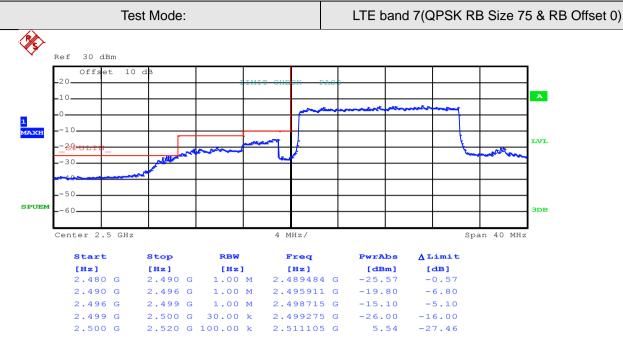


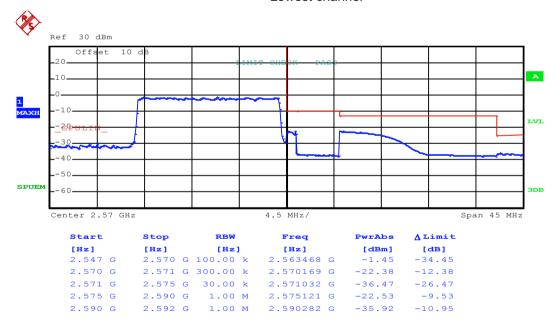




Highest channel

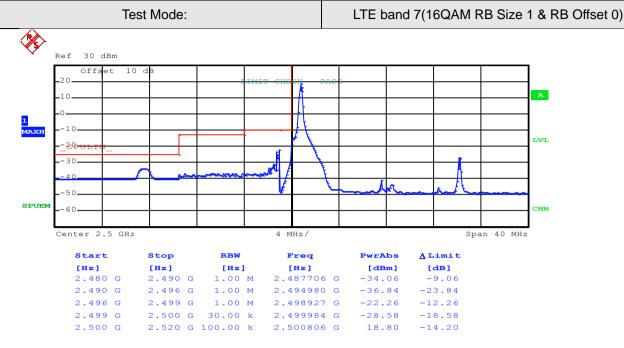


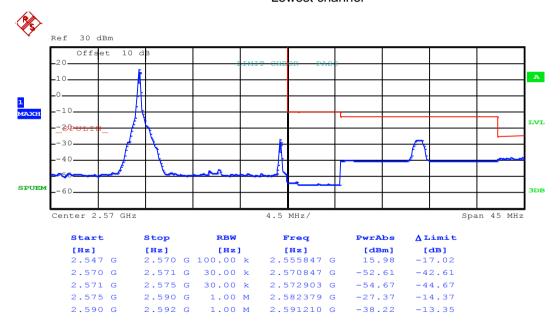




Highest channel

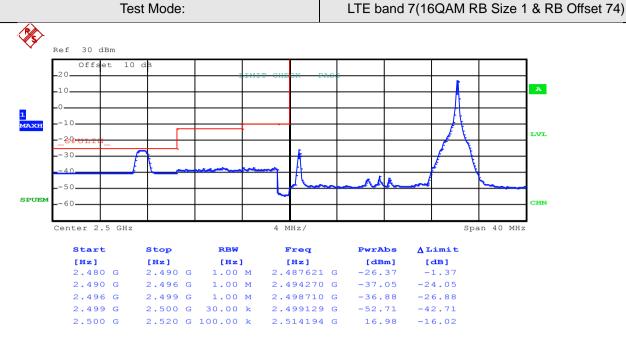


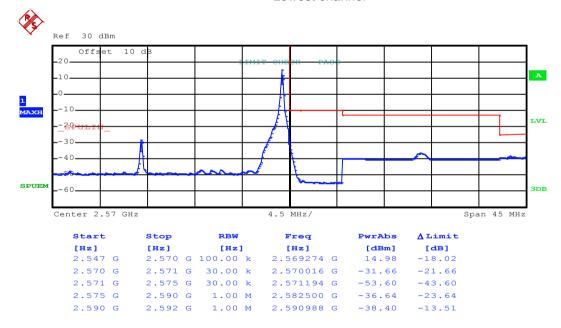




Highest channel

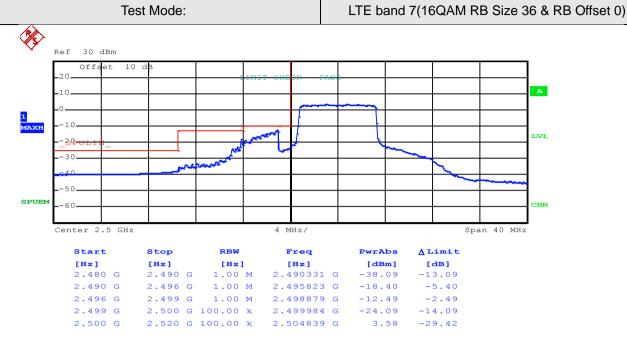


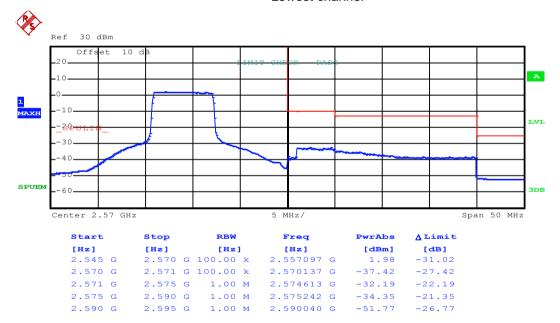




Highest channel

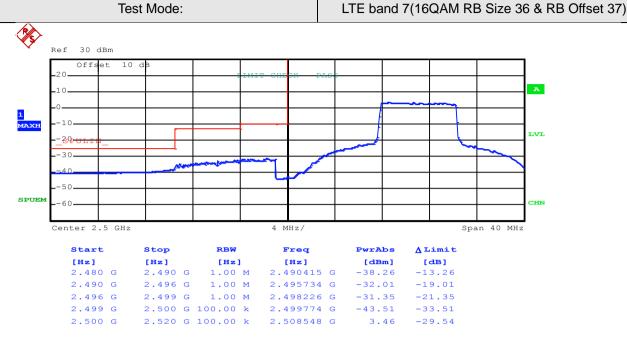


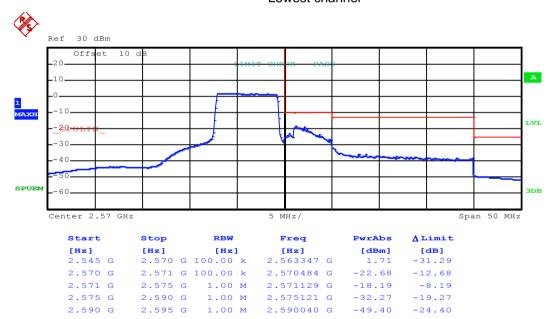




Highest channel

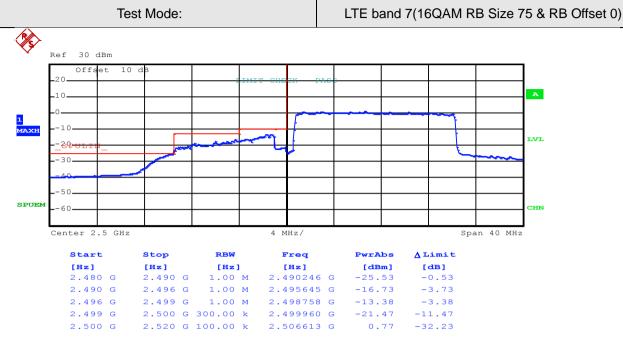


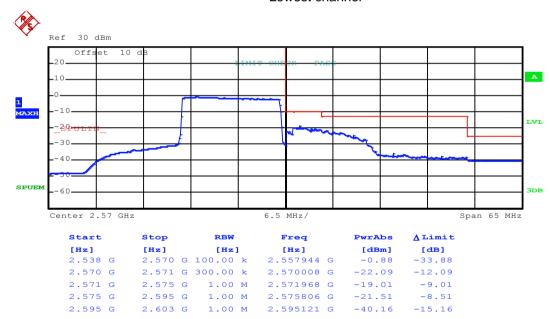




Highest channel



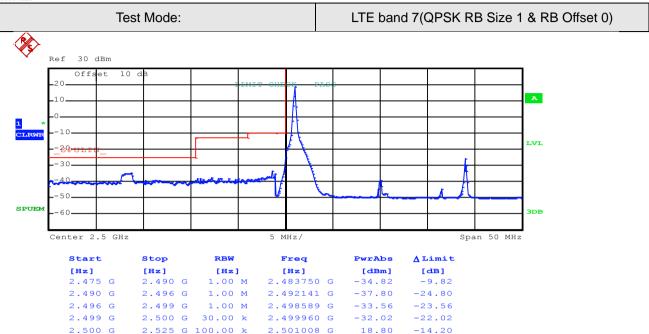




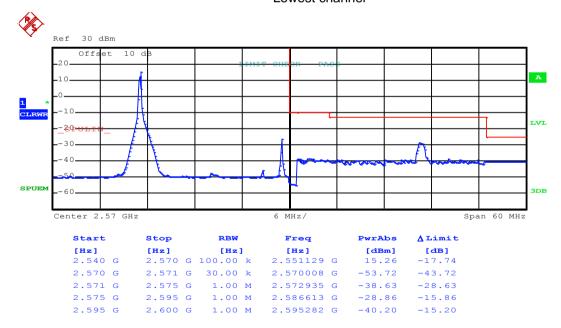
Highest channel



## 20MHz:

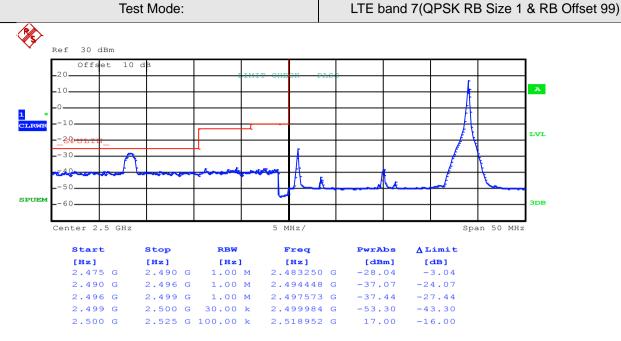


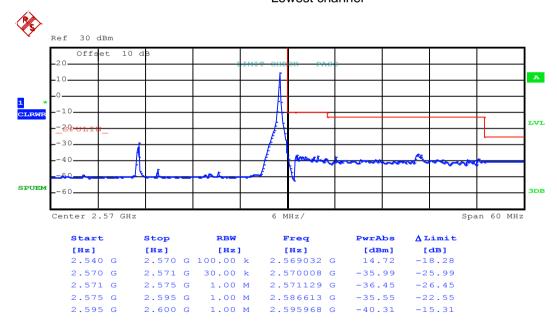
## Lowest channel



Highest channel

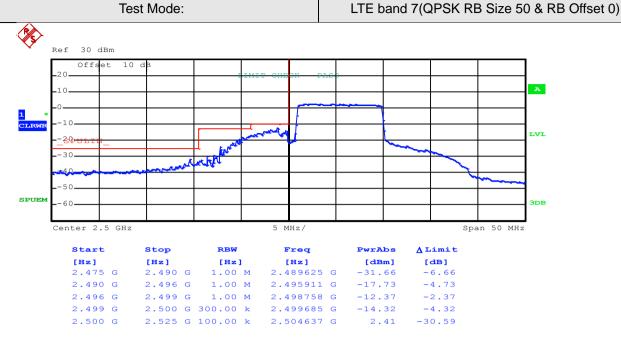


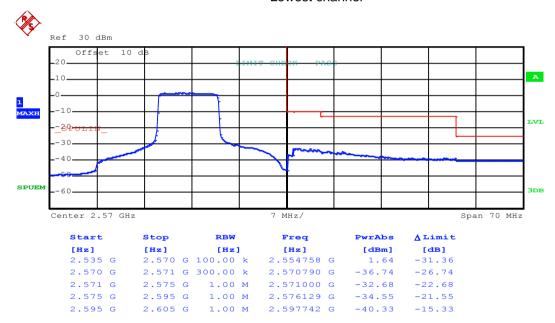




Highest channel

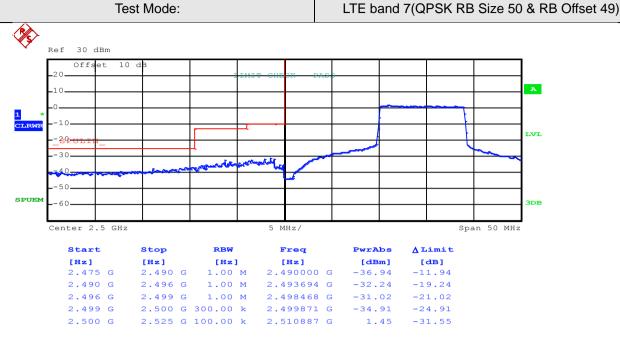


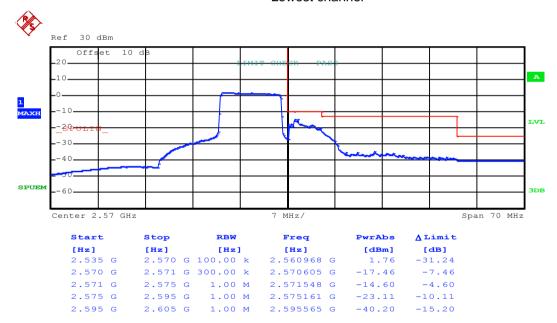




Highest channel

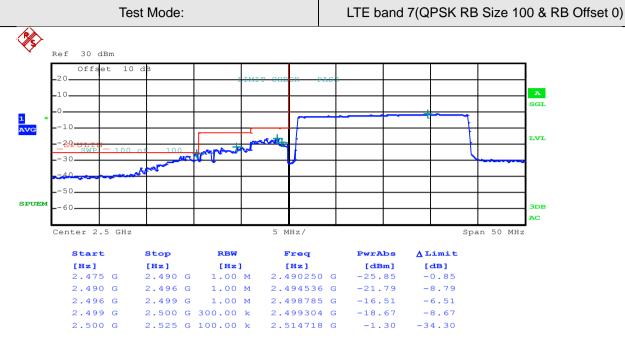


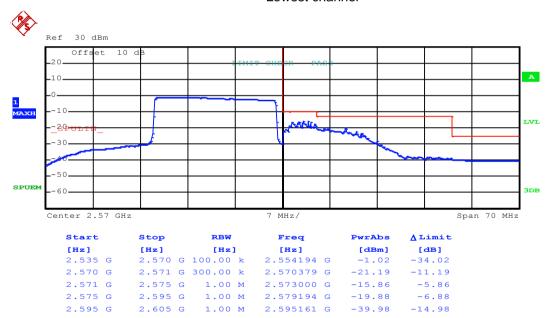




Highest channel

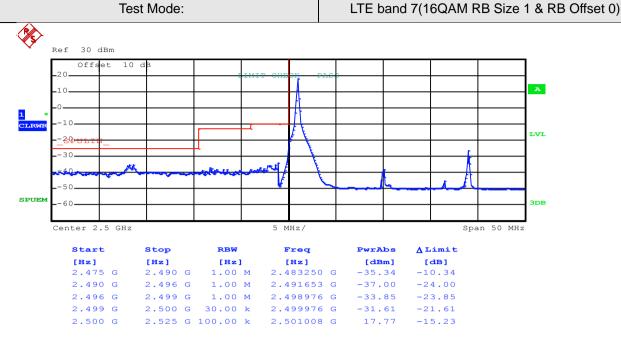


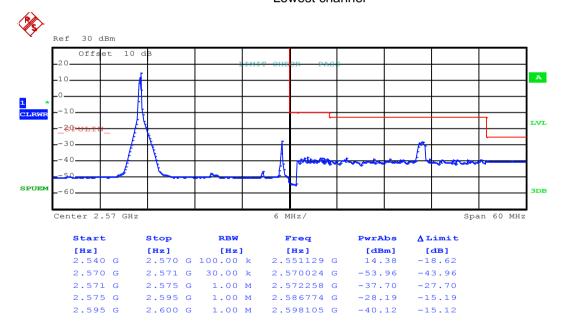




Highest channel

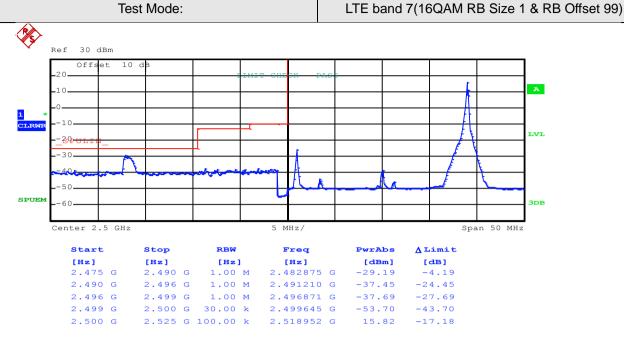


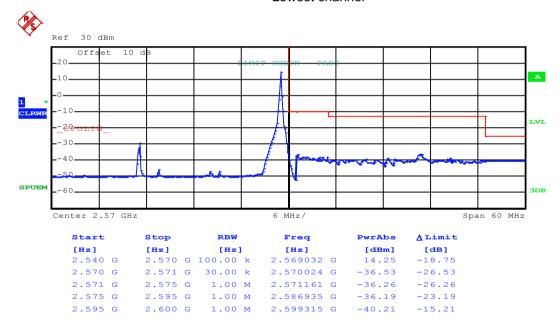




Highest channel

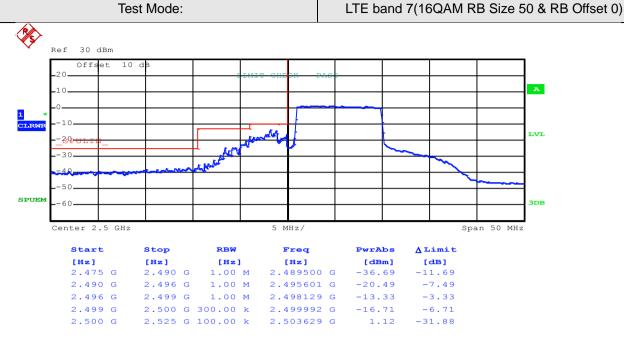


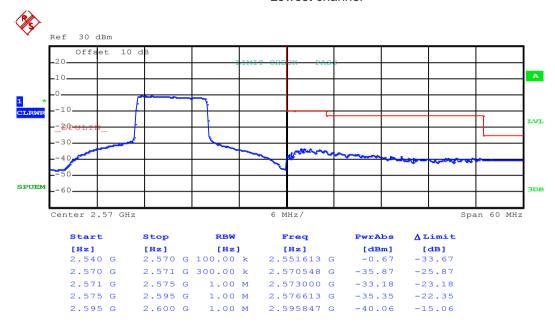




Highest channel

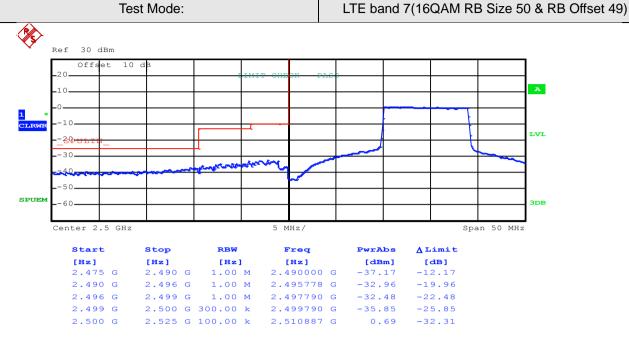


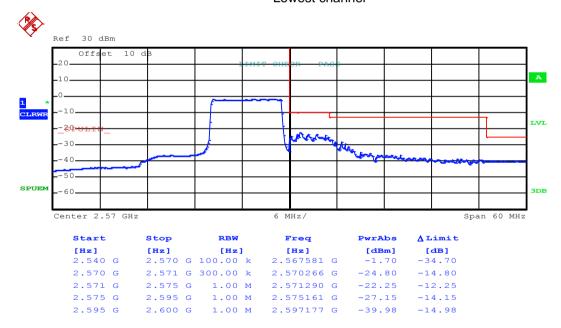




Highest channel

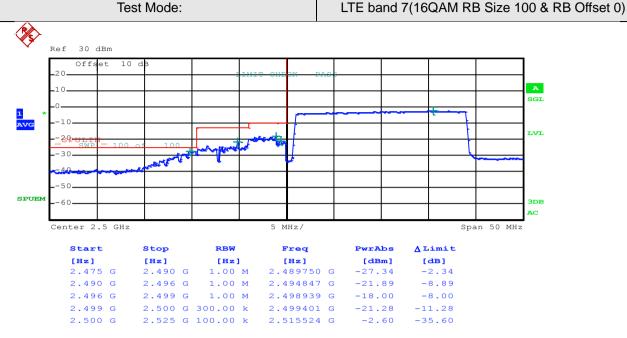


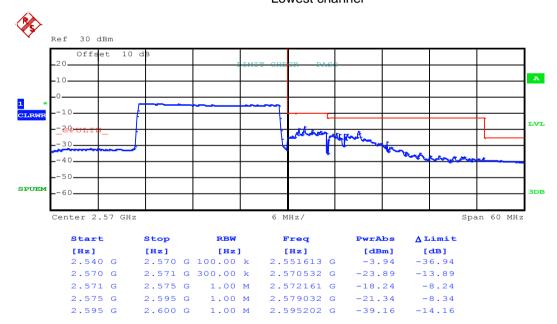




Highest channel







Highest channel



# 6.10 ERP, EIRP Measurement

O. TO LINI , LINI Weasure	
Test Requirement:	FCC part 24.232 (c), part 27.50(c), part 27.50(d)
Test Method:	FCC part 2.1046
Limit:	LTE Band 2: 2W EIRP LTE Band 4: 1W EIRP LTE Band 7: 2W EIRP
Test setup:	Below 1GHz  Antenna Tower  Search Antenna  RF Test Receiver
	Tum Table 0.8m Im A A A A A A A A A A A A A A A A A A
	Antenna Tower  Horn Antenna  Spectrum  Analyzer  Amplifier
	Substituted method:  Antenna mast  d: distance in meters  1-4 meter
	Substituted Dipole or Horn Antenna Bi-Log Antenna or Horn Antenna SPA





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. EIRP in frequency band 1850.7 –1909.3MHz, 1710.7-1754.3 MHz and 706.5-7135 MHz 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)
	4. The worse case was relating to the conducted output power.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case)





## LTE band 2 part

## Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
		1.	4MHz(RB s	ize 1 & RB	offset 0)						
1850.70	18607	QPSK	1.4	Н	V	23.71					
1650.70	10007	QFSK	1.4	П	Н	15.00	22.00	Doos			
1050.70	10007	16001	1.1	Н	V	23.11	33.00	Pass			
1850.70	18607	16QAM	1.4	П	Н	18.27					
	1.4MHz(RB size 3 & RB offset 0)										
1050.70	19607	ODSK	1.4	Ш	V	23.79					
1850.70	18607	QPSK	1.4	H	Н	15.21	22.00	Door			
1050.70	19607	160 AM	1.4	Н	V	23.50	33.00	Pass			
1850.70	18607	16QAM	1.4		Н	17.89					
		1.	4MHz(RB s	size 6 & RB	offset 0)						
1050.70	10007	ODSK	1.4	Ш	V	24.00					
1850.70	18607	QPSK	1.4	H	Н	18.36	22.00	Doos			
1950.70	10607	160 AM	4.4		1 4 4	1 4 4	Н	V	18.20	33.00	Pass
1850.70	18607	16QAM	1.4	"	Н	18.70					

## Middle channel

Middle channel											
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
		1.4	4MHz(RB	size 1 & RE	3 offset 0)						
1880.00	18900	QPSK	1.4	Н	V	23.06					
1000.00	16900	QFSN	1.4	11	Н	16.73	33.00	Pass			
1880.00	18900	16QAM 1.4	16001	1.4	Н	V	22.83	33.00	rass		
1000.00	10900	IOQAW	1.4	!!	Н	22.81					
	1.4MHz(RB size 3 & RB offset 0)										
1880.00	18900	QPSK	1.4	Н	V	23.47					
1000.00	10300	QI OIX	1.4		Н	17.08	33.00	Pass			
1880.00	18900	16QAM	1.4	Н	V	21.37	33.00	1 033			
1000.00	10300	TOQAWI	1.7		Н	20.75					
		1.4	4MHz(RB	size 6 & RE	3 offset 0)						
1880.00	18900	QPSK	1.40	Н	V	23.74					
1000.00	10900	QFOR	1.40	11	Н	17.46	33.00	Pass			
1880.00	18900	16QAM	1.40	Н	V	20.42	33.00	rass			
1000.00	10900	IOQAW	1.40	11	Η	21.25					



CCIS

**Highest channel** 

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
			1.4MHz(RE	size 1 & F	RB offset 0)						
1000 20	10102	QPSK	1.1	Н	V	18.44					
1909.30	19193	QPSK	1.4	Г	Н	18.35	33.00	Door			
1909.30	19193	16QAM	1.4	н	V	16.94	33.00	Pass			
1909.50	19193	IOQAW	H 14.71								
	1.4MHz(RB size 3 & RB offset 0)										
4000 20	40400	ODCK	4.4	1.1	V	17.75		Door			
1909.30	19193	QPSK	1.4	1.4 H	Н	15.98	22.00				
1000 20	19193	160AM	1.1	Н	V	19.48	33.00	Pass			
1909.30	19193	16QAM	1.4	П	Н	16.77					
			1.4MHz(RE	3 size 6 & F	RB offset 0)						
4000 20	40400	ODCK	4.4	1.1	V	18.69					
1909.30	19193	QPSK	1.4	Н	Н	16.56	22.00	D			
1000 20	10102	160 AM	16QAM 1.4		V	19.15	33.00	Pass			
1909.30	19193	IVIADOI	1.4	Η	Η	16.85					

## Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
20MHz(RB size 1 & RB offset 0)										
1860.00	18700	QPSK	20	Н	V	23.13				
1000.00	16700	QPSK	20	Г	Н	18.34	33.00	Door		
1960.00	18700	16QAM	20	Н	V	21.89	33.00	Pass		
1860.00	10700	TOQAM	20	П	Н	13.40				
	20MHz(RB size 50 & RB offset 0)									
1960.00	10700	ODSK	20	Н	V	23.20				
1860.00	18700	QPSK	20	П	Н	15.60	33.00	Pass		
1860.00	18700	16QAM	20	Н	V	9.25	33.00	Fa55		
1860.00	18700	TOQAM	20	11	Н	19.36				
		20MHz(	RB size 100	& RB offs	et 0)					
1860.00	18700	QPSK	20	Н	V	20.17				
1000.00	18700	QFSK	20	П	Н	13.98	33.00	Pass		
1960.00	18700	16QAM	20	20	20	Н	V	20.92	33.00	Fa55
1860.00	10700	IOQAW	20	17	Н	15.55				



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Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
		2	0MHz(RB s	ize 1 & RE	offset 0)						
1880.00	18900	QPSK	20	Н	V	25.96					
1000.00	10900	QF3K	20	П	Н	18.86	33.00	Pass			
1880.00	18900	16QAM	20	Н	V	25.85	33.00	Fass			
1880.00	10900	TOQAW	20	11	Н	19.30					
	20MHz(RB size 50 & RB offset 0)										
1880.00	18900	QPSK	20	Н	V	23.06					
1000.00	10900	QF3K	20	П	Н	18.82	33.00	Pass			
1880.00	18900	16QAM	20	Н	V	23.03	33.00	Fass			
1000.00	10900	IOQAW	20	П	Н	19.49					
		20	MHz(RB siz	ze 100 & R	B offset 0)						
1000.00	10000	ODSK	20	Н	V	21.22					
1880.00	18900	QPSK	20	П	Н	17.38	22.00	Door			
1880.00	18900	16QAM	20	Н	V	21.46	33.00	Pass			
1000.00	10900	IOQAW	20	11	Н	18.29					

Highest channel

	nighest 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	25.32					
1900.00	19100	QF3K	20	П	Н	18.62	33.00	Pass			
1900.00	19100	16QAM	M 20 H	V	24.84	33.00	F 455				
1900.00	19100	TOQAM	20 H		Н	18.00					
	20MHz(RB size 50 & RB offset 0)										
1900.00	19100	QPSK	<del>1                                    </del>	Н	V	22.08					
1900.00	19100	QF3K	20		Н	17.66	33.00	Pass			
1900.00	19100	16QAM	20	Н	V	21.72	33.00	F 055			
1900.00	19100	TOQAIVI	20	11	Н	18.06					
		2	0MHz(RB s	ize 100 8	& RB offset (	0)					
1900.00	19100	QPSK	20	Н	V	21.97					
1900.00	19100	QF3N	20	17	Н	16.51	33.00	Pass			
1900.00	19100	16QAM	20	Н	V	22.37	33.00	1 033			
1900.00	19100	ΙΟΩΛΙΝΙ	20	11	Н	17.21					





# LTE band 4 part

### Lowest 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)						
1710.70	19957	QPSK	1.4	Н	V	19.53					
1710.70	19937	QFSK	1.4	П	Н	13.41	30.00	Door			
1710.70	19957	16QAM	1.4	Н	V	19.60	30.00	Pass			
1710.70	19931	TOQAW	1.4	11	Н	13.70					
	1.4MHz(RB size 3 & RB offset 0)										
1710.70	19957	QPSK	1.4	Н	V	19.01		Pass			
1710.70	19937	QFSK	1.4	1.4	Н	13.08	30.00				
1710.70	19957	16QAM	1.4	Н	V	18.81	30.00	F455			
1710.70	19937	IOQAW	1.4	П	Н	13.82					
		1	I.4MHz(RE	3 size 6 &	RB offset 0)						
1710.70	19957	QPSK	1.4	Н	V	19.42					
1710.70	19957	QFSK	1.4	П	Н	13.32	20.00	Pass			
1710.70	19957	16QAM	1.4	Н	V	19.65	30.00				
1710.70	19907	TOQAM	1.4	17	Н	13.99					

### Middle channel

_	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)							
1732.50	20175	QPSK	1.4	Н	V	21.66						
1732.50	20173	QFSK	1.4	П	Н	15.57	30.00	Pass				
1732.50	20175	16QAM	1.4 H		<b>V</b>	15.59	30.00	F 455				
1732.30	20173	TOQAM	1.4	1.4	Н	16.23						
	1.4MHz(RB size 3 & RB offset 0)											
1732.50	20175	QPSK	1.4	4 H	V	15.56						
1732.30	20173	QFSK	1.4		Н	21.32	30.00	Pass				
1732.50	20175	16QAM	1.4	1.4	Н	V	15.48	30.00	rass			
1732.30	20173	TOQAW	1.4	11	Н	21.85						
		1	.4MHz(RE	3 size 6 &	RB offset 0)							
1732.50	20175	QPSK	1 1	ы	V	20.47						
1732.50	20173	QF 3N	1.4	1.4 H	Н	15.62	30.00	Pass				
1732.50	20175	16QAM	1.4	1.4 H	<b>V</b>	21.95	30.00	F d 5 5				
1732.30	20173	IOQAM	1.4	11	Н	15.50						



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**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)						
1754 20	20202	QPSK	V 22.40								
1754.30	20393	QPSK	1.4	Н	Н	17.01	30.00	Door			
1754 20	20393	16QAM	1.4	Н	V	22.08	30.00	Pass			
1754.30	20393	IOQAW	1.4	П	Н	17.49					
	1.4MHz(RB size 3 & RB offset 0)										
1754.30	20202	QPSK		Н	V	22.43		Door			
1754.30	20393	QPSK	1.4	П	Н	16.87	20.00				
1754.30	20393	16QAM	1.4	Н	V	21.39	30.00	Pass			
1754.50	20393	IOQAW	1.4	П	Н	16.69					
		•	1.4MHz(RE	3 size 6 & F	RB offset 0)						
1751 20	20202	ODSK	1.1	Н	V	22.68					
1754.30	20393	QPSK	1.4		Н	17.50	20.00	Door			
1754 20	20202	160AM	1.1	Н	V	22.90	30.00	Pass			
1754.30	20393	16QAM	1.4	П	Н	17.33					

## 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	18.38				
1720.00	20050	QFSK	20	П	Н	12.32	20.00	Door		
1720.00	20050	160AM	20	Ш	V	19.16	30.00	Pass		
1720.00	20050	16QAM	20	Н	Н	12.29				
	20MHz(RB size 50 & RB offset 0)									
4700.00	20050	ODCK	20	1.1	V	17.18	30.00			
1720.00	20050	QPSK	20	Н	Н	12.79		Door		
1720.00	20050	16QAM	20	Н	V	17.30	30.00	Pass		
1720.00	20050	TOQAM	20	П	Н	14.07				
		20MHz(	RB size 100	& RB offs	et 0)					
1720.00	20050	QPSK	20	Н	V	16.23				
1720.00	20050	QPSK	20	П	Н	12.29	30.00	Pass		
1720.00	20050	16QAM	AM 20	Н	V	16.77	30.00	Fa55		
1720.00	20000	IOQAW	20	11	Н	13.26				



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Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result	
		2	0MHz(RB si	ize 1 & RB	offset 0)				
1732.50	20175	QPSK	20	Н	V	17.53			
1732.50	20175	QFSK	20	П	Н	13.34	30.00	Dace	
1732.50	20175	16QAM	20	Н	V	17.89	30.00	Pass	
1732.50	20175	TOQAW	20	11	Н	14.01			
	20MHz(RB size 50 & RB offset 0)								
1732.50	20175	QPSK	20	Н	V	18.40		Pass	
1732.50	20175	QFSK	20	11	Н	14.83	30.00		
1732.50	20175	16QAM	20	20	н	V	19.47	30.00	rass
1732.30	20173	TOQAM	20	11	Н	15.62			
		20	MHz(RB siz	e 100 & R	B offset 0)				
1732.50	20175	QPSK	20	Н	V	28.39			
1732.50	20173	QFSN	20	П	Н	13.18	30.00	Pass	
1732.50	20175	16QAM	20	Н	V	27.49	30.00	1 033	
1732.30	20175	IOQAM	20	11	Н	14.53			

High channel

	High channel										
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	F	Result		
			20MHz(RB	size 1 &	RB offset 0)						
1745.00	20300	QPSK	20	Н	V	20.37					
1745.00	20300	QFSK	20	П	Н	15.28	30.00	,	Dace		
1745.00	20300	16QAM	20	Н	V	18.75	30.00	'	Pass		
1745.00	20300	TOQAM	20	11	Н	14.29					
20MHz(RB size 50 & RB offset 0)											
1745.00	20300	QPSK	20	Н	V	20.30					
1745.00	20300	QFSK	20	11	Н	15.12	30.00	,	Pass		
1745.00	20300	16OAM	16O A M	16QAM	20	Н	V	20.40	30.00	'	rass
1745.00	20300	IOQAW	20	11	Н	16.12					
		2	20MHz(RB s	ize 100 8	RB offset (	0)					
1745.00	20300	QPSK	20	Н	V	18.88					
1745.00	20300	QF SIX	20	11	Н	13.67	30.00	,	Pass		
1745.00	20300	16QAM	20	Н	V	19.37	30.00	,	1 000		
1745.00	20000	IOQAW	20	11	Н	14.29					





## 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 & l	RB offset 0)					
2502.50	20775	QPSK	5	Н	V	12.27				
2502.50	20773	QFSK	5	П	Н	13.56	33.00	Pass		
2502.50	20775	16QAM	5	Н	V	15.01	33.00	F455		
2302.30	20773	TOQAW	5	11	Н	13.46	1			
	5MHz(RB size 12 & RB offset 0)									
2502.50	20775	QPSK	5	Н	V	15.05	33.00	Pass		
2502.50	20773	QFSK	5	П	Н	8.10				
2502.50	20775	16QAM	_	_	5	Н	V	14.49	33.00	F455
2502.50	20773	IOQAW	5	П	Н	8.05				
			5MHz(RB	size 25 &	RB offset 0)					
2502.50	20775	QPSK	5	Н	V	15.33				
2502.50	20773	QFSK	5	П	Н	8.74	22.00	Door		
2502.50	20775	16QAM	5	Н	V	15.09	33.00	Pass		
2502.50	20113	IOQAW	ິວ	П	Н	8.89				

## Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result	
		· ·	5MHz(RB	size 1 & F	RB offset 0)				
2525.00	21100	QPSK	5	Н	V	12.25			
2535.00	21100	QPSK	5	П	Н	9.60	22.00	Pass	
2535.00	21100	16QAM	5	Н	V	11.90	33.00	Fa55	
2555.00	21100	IOQAW	5	П	Н	8.69			
	5MHz(RB size 12 & RB offset 0)								
2535.00	21100	QPSK	5	Н	V	15.54	33.00	Pass	
2555.00	21100	QFSK	5	П	Н	8.13			
2535.00	21100	16QAM	5	Н	V	11.92	33.00	Fa55	
2555.00	21100	IOQAW	5	П	Н	8.12			
		5	MHz(RB	size 25 &	RB offset 0)				
2525.00	24400	ODCK	_		V	15.79			
2535.00	21100	QPSK	5	Н	Н	9.42	20.00	Dana	
2525.00	21100	160AM	5	Н	V	15.72	33.00	Pass	
2535.00	21100	16QAM	5	П	Н	8.81			



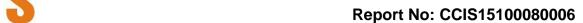
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**Highest channel** 

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	15.36			
2567.50	21423	QFSK	5	П	Н	8.39	33.00	Pass	
2567.50	21425	16QAM	5	Н	V	15.70	33.00	Fa55	
2567.50	21423	IOQAM	5	П	Н	7.83			
	5MHz(RB size 12 & RB offset 0)								
2567.50	21425	QPSK	5	Н	V	14.67			
2567.50	21425	QPSK	5	П	Н	8.35	33.00	Door	
2567.50	21425	16QAM	5	Н	V	12.94	33.00	Pass	
2567.50	21423	IOQAW	5	П	Н	7.07			
			5MHz(RB	size 25 & F	RB offset 0)				
2567.50	24.425	ODSK	E	ш	V	13.62			
2567.50	21425	QPSK	5	Н	Н	10.58	22.00	Door	
2567.50	21425	16QAM	5	Н	V	12.20	33.00	Pass	
2507.50	21423	TOQAM	J	17	Н	10.89			

## 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	12.94		Pass	
2510.00	20000	QFSK	20	П	Н	12.83	22.00		
2510.00	20850	16QAM	20	Н	V	14.41	33.00		
2510.00	20000	TOQAM	20	П	Н	12.32			
	20MHz(RB size 50 & RB offset 0)								
2510.00	20050	ODCK	20	Н	V	14.39			
2510.00	20850	QPSK	20	20	П	Н	12.59	33.00	Pass
2510.00	20050	20850	16QAM	20	Н	V	14.26	33.00	Fa55
2510.00	20000	IOQAW	20	П	Н	12.95			
		20MHz(	RB size 100	& RB offs	et 0)				
2510.00	20850	QPSK	20	Н	V	13.51			
2510.00	20000	QF3N	20	17	Н	11.86	33.00	Pass	
2510.00	20850	16QAM	20	Н	V	13.47	33.00	F a 5 5	
2510.00	20000	IOQAW	20	17	Н	12.67			



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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)				
2535.00	21100	QPSK	20	Н	V	13.14			
2555.00	21100	QFSN	20	П	Н	11.55	33.00	Pass	
2535.00	21100	16QAM	20	Н	V	9.17	33.00	F a 5 5	
2555.00	21100	TOQAM	20	11	Н	12.36			
	20MHz(RB size 50 & RB offset 0)								
2535.00	21100	QPSK	20	Н	V	13.79		Pass	
2555.00	21100	QFSN	20	П	Н	12.19	33.00		
2535.00	21100	16QAM	20	Н	V	12.96	33.00	F a 5 5	
2555.00	21100	TOQAM	20	11	Н	12.83			
		20	MHz(RB siz	e 100 & RI	B offset 0)				
2535.00	21100	QPSK	20	Н	V	12.10			
2555.00	21100	QF3K	20	П	Н	10.77	33.00	Pass	
2535.00	21100	16QAM	20	Н	V	11.56	33.00	F a 3 3	
2555.00	21100	TOQAW	20	11	Н	11.26			

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	12.49							
2560.00	21330	QFSK	20	П	Н	10.50	33.00	Pass					
2560.00	21350	16QAM	20	Н	V	11.28	33.00	rass					
2300.00	21330	TOQAM	20	11	Н	9.32							
20MHz(RB size 50 & RB offset 0)													
2560.00	21350	QPSK	20	Н	V	11.32							
2500.00	21330	QFSK	20	11	Н	8.77	33.00	Pass					
2560.00	21250	21350	21350	16QAM	20 4		OAM 20	20	Н	V	10.88	33.00	rass
2300.00	21330	IOQAW	20	11	Н	9.16							
		2	20MHz(RB s	ize 100 8	RB offset (	))							
2560.00	21350	QPSK	20	Н	V	9.23							
2300.00	21330	QFSK	20	11	Н	7.20	33.00	Pass					
2560.00	21350	16QAM	20	Н	V	9.45	33.00	1 1 455					
2300.00	21330	IOQAW	20	11	Н	7.86							





# 6.11 Field strength of spurious radiation measurement

6.11 Field strength of sp	urious radiation measurement
Test Requirement:	FCC Part 24.238 (a), part 27.53(g), part 27.53(h)
Test Method:	FCC part 2.1053
Limit:	LTE Band 2 & LTE Band 4: -13 dBm, LTE Band 7 -25dBm
Test setup:	Below 1GHz  Antenna Tower
	Search Antenna  Am  RF Test Receiver  Tum Table  Ground Plane
	Above 1GHz
	Antenna Tower  Horn Antenna  Spectrum Analyzer  Turn O,8m Im Table A A A A A A A A A A A A A A A A A A A
	Substituted method:
	Ground plane  d: distance in meters d:3 meter  I m  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>
	was determined using the substitution method.
	4. The spurious emissions attenuation was calculated as the difference
Shenzhen Zhongjian Nanfang Testing C	Co., Ltd. Project No.: CCIS151000800RF

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Report No: CCIS15100080006

	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 Uncertainty:	±4.88dB
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed

## **Measurement Data (worst case)**

#### **Below 1GHz:**

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

#### **Above 1GHz**

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



Report No: CCIS15100080006

LTE band 2 part:

1.4MHz(RB size 1 & RB offset 0) for QPSK									
- (1)	Spurious			5					
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result					
		Lowest							
3701.40	Vertical	-43.51							
5552.10	V	-17.30							
7402.00	V	-34.16	12.00	Daga					
3701.40	Horizontal	-42.72	-13.00	Pass					
5552.10	Н	-14.69							
7402.00	Н	-31.69							
	Middle								
3760.00	Vertical	-41.86							
5640.00	V	-30.11							
7520.00	V	-33.10	-13.00	Pass					
3760.00	Horizontal	-45.83	-13.00	Pass					
5640.00	Н	-30.44							
7520.00	Н	-34.38							
		Highest							
3816.60	Vertical	-38.72							
5724.90	V	-21.66							
7633.20	V	-34.52	-13.00	Pass					
3816.60	Horizontal	-42.86	-13.00	F 455					
5724.90	Н	-21.46							
7633.20	Н	-32.35							





	3MHz(RB siz	e 1 & RB offset 0) f	or QPSK		
Гто су (	Spurious			Decult	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest			
3703.00	Vertical	-43.61			
5554.50	V	-16.57			
7406.00	V	-33.26	42.00	Door	
3703.00	Horizontal	-35.27	-13.00	Pass	
5554.50	Н	-18.67			
7406.00	Н	-31.46			
		Middle			
3760.00	Vertical	-45.79		Pass	
5640.00	V	-23.59			
7520.00	V	-35.01	-13.00		
3760.00	Horizontal	-43.67	-13.00		
5640.00	Н	-23.14			
7520.00	Н	-35.67			
		Highest			
3817.00	Vertical	-43.16			
5725.50	V	-25.79			
7634.00	V	-35.67	40.00	Door	
3817.00	Horizontal	-42.16	-13.00	Pass	
5725.50	Н	-26.59			
7634.00	Н	-35.17			





	5MHz(RB siz	e 1 & RB offset 0) fo	or QPSK	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (IVII IZ)	Polarization	Level (dBm)	Limit (ubm)	Result
		Lowest		
3705.00	Vertical	-42.59		
5557.50	V	-16.37		
7410.00	V	-35.79	-13.00	Door
3705.00	Horizontal	-41.79	-13.00	Pass
5557.50	Н	-14.32		
7410.00	Н	-32.49		
<u>.</u>		Middle		
3760.00	Vertical	-41.56		
5640.00	V	-30.59		
7520.00	V	-33.67	42.00	Dese
3760.00	Horizontal	-45.81	-13.00	Pass
5640.00	Н	-30.46		
7520.00	Н	-34.16		
<u>.</u>		Highest		
3815.00	Vertical	-39.76		
5722.50	V	-20.56		
7630.00	V	-35.61	12.00	Door
3815.00	Horizontal	-42.35	-13.00	Pass
5722.50	Н	-22.03		
7630.00	Н	-32.86		





	10MHz(RB si	ze 1 & RB offset 0) fo	or QPSK	
	Spurious	Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3710.00	Vertical	-41.37		
5565.00	V	-18.79		
7420.00	V	-32.46	-13.00	Door
3710.00	Horizontal	-44.51	-13.00	Pass
5565.00	Н	-19.34		
7420.00	Н	-32.64		
·		Middle		
3760.00	Vertical	-45.79		
5640.00	V	-23.64		
7520.00	V	-35.19	-13.00	Pass
3760.00	Horizontal	-43.74	-13.00	P 455
5640.00	Н	-21.47		
7520.00	Н	-34.62		
		Highest		
3810.00	Vertical	-43.01		
5715.00	V	-26.35		
7620.00	V	-35.97	12.00	Pass
3810.00	Horizontal	-42.16	-13.00	rass
5715.00	Н	-26.47		
7620.00	Н	-35.67		





	15MHz(RB s	size 1 & RB offset 0	)) for QPSK	
Frequency (MHz)		Emission	Limit (dBm)	Result
Frequency (IVII 12)	Polarization	Level (dBm)	Limit (dbin)	Result
Lowest				
3715.00	Vertical	-43.16		
5572.50	V	-16.74		
7430.00	V	-36.41	-13.00	Pass
3715.00	Horizontal	-41.57	-13.00	Pass
5572.50	Н	-15.87		
7430.00	Н	-31.29		
<u> </u>		Middle	<u> </u>	
3760.00	Vertical	-41.79		
5640.00	V	-30.24		
7520.00	V	-33.67	-13.00	Pass
3760.00	Horizontal	-45.29	-13.00	Pass
5640.00	Н	-30.01		
7520.00	Н	-34.27		
		Highest		
3805.00	Vertical	-38.54		
5707.50	V	-20.46	7	
7610.00	V	-34.57	12.00	Door
3805.00	Horizontal	-42.51	-13.00	Pass
5707.50	Н	-22.34	7	
7610.00	Н	-32.76		





	20MHz(RB	size 1 & RB offset 0	) for QPSK	
Spurious Emission		Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
Lowest				
3720.00	Vertical	-42.94		
5580.00	V	-17.43		
7440.00	V	-32.90	12.00	Door
3720.00	Horizontal	-44.80	-13.00	Pass
5580.00	Н	-17.95		
7440.00	Н	-32.22		
		Middle		
3760.00	Vertical	-45.14		
5640.00	V	-23.92		
7520.00	V	-35.06	-13.00	Pass
3760.00	Horizontal	-43.85	-13.00	Fd55
5640.00	Н	-22.46	1	
7520.00	Н	-35.75		
		Highest		
3800.00	Vertical	-43.64		
5700.00	V	-25.74	]	
7600.00	V	-35.13	12.00	Door
3800.00	Horizontal	-42.64	-13.00	Pass
5700.00	Н	-26.83	]	
7600.00	Н	-35.24	]	





#### LTE Band 4 Part:

		LTE Band 4 Part:		
	•	ze 1 & RB offset 0) f	or QPSK	1
Frequency (MHz)	Spurious		Limit (dBm)	Result
1 7 ( /	Polarization	Level (dBm)	, ,	
		Lowest		T
3421.40	Vertical	-42.62		
5132.10	V	-24.04		
6842.80	V	-35.34	-13.00	Pass
3421.40	Horizontal	-43.82		
5132.10	Н	-21.06		
6842.80	Н	-37.70		
		Middle		
3465.00	Vertical	-44.69		
5197.50	V	-22.68		
6930.00	V	-35.51	-13.00	Door
3465.00	Horizontal	-44.00	-13.00	Pass
5197.50	Н	-23.84	1	
6930.00	Н	-36.85		
		Highest		
3508.60	Vertical	-44.17		Pass
5262.90	V	-20.46		
7017.20	V	-34.84		
3508.60	Horizontal	-44.33	-13.00	
5262.90	Н	-25.63		
7017.20	Н	-34.88		
	3MHz(RB siz	e 1 & RB offset 0) fo	or QPSK	
<b>5</b> (MIL)	Spurious			5 "
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3423.00	Vertical	-43.16		
5134.50	V	-21.47		
6846.00	V	-36.74	40.00	_
3423.00	Horizontal	-46.86	-13.00	Pass
5134.50	Н	-19.65		
6846.00	Н	-35.74		
		Middle		•
3465.00	Vertical	-41.34		
5197.50	V	-25.67		
6930.00	V	-34.62	40.55	_
3465.00	Horizontal	-43.61	-13.00	Pass
5197.50	Н	-46.32		
6930.00	Н	-22.10	-	





		Highest		
3507.00	Vertical	-45.97		
5260.50	V	-19.34		
7014.00	V	-36.34	40.00	_
3507.00	Horizontal	-46.10	-13.00	Pass
5260.50	Н	-18.37		
7014.00	Н	-38.69		
5MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious		Limit (dBm)	Result
r requericy (wir iz)	Polarization	Level (dBm)	Limit (dbin)	Result
		Lowest		1
3425.00	Vertical	-43.13		
5137.50	V	-25.67		
6850.00	V	-35.14	-13.00	Pass
3425.00	Horizontal	-52.74	-15.00	1 833
5137.50	Н	-20.34		
6850.00	Н	-37.41		
		Middle		
3465.00	Vertical	-43.16		
5197.50	V	-21.34	- - 13.00	
6930.00	V	-34.52		Pass
3465.00	Horizontal	-43.01	-13.00	FdSS
5197.50	Н	-22.47		
6930.00	Н	-35.78		
		Highest		
3505.00	Vertical	-43.16		
5257.50	V	-19.41		
7010.00	V	-35.46	40.00	Dana
3505.00	Horizontal	-43.65	-13.00	Pass
5257.50	Н	-26.37		
7010.00	Н	-33.67		
	10MHz(RB si	ze 1 & RB offset 0)	for QPSK	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
1 requericy (Wir 12)	Polarization	Level (dBm)	Limit (dbin)	Result
		Lowest		
3430.00	Vertical	-76.38		
5145.00	V	-19.74		
6860.00	V	-34.16	-13.00	Pass
3430.00	Horizontal	-45.89	. 5.55	. 466
5145.00	Н	-19.69		
6860.00	Н	-35.64		





		Middle		
3465.00	Vertical	-42.67		
5197.50	V	-29.74		
6930.00	V	-34.14	40.00	Dana
3465.00	Horizontal	-45.61	-13.00	Pass
5197.50	Н	-24.36		
6930.00	Н	-39.64		
		Highest		
3500.00	Vertical	-45.74		
5250.00	V	-29.34		
7000.00	V	-35.63	-13.00	Pass
3500.00	Horizontal	-46.61	-13.00	FdSS
5250.00	Н	-20.36		
7000.00	Н	-37.61		
	15MHz(RB s	size 1 & RB offset 0	) for QPSK	
Frequency (MHz)		Spurious Emission		Result
	Polarization	Level (dBm)	Limit (dBm)	rtoount
	· · · · · ·	Lowest		T
3435.00	Vertical	-43.16	_	
5152.50	V	-25.67	_	
6870.00	V	-34.79	-13.00	Pass
3435.00	Horizontal	-46.00		
5152.50	Н	-20.34	_	
6870.00	Н	-37.98		
	I	Middle		ı
3465.00	Vertical	-43.67	_	
5197.50	V	-21.34	_	
6930.00	V	-36.25	-13.00	Pass
3465.00	Horizontal	-46.71		
5197.50	Н	-22.45		
6930.00	Н	-35.79		
	1	Highest		1
3495.00	Vertical	-43.67		
5242.50	V	-19.47		
6990.00	V	-35.69	-13.00	Pass
3495.00	Horizontal	-43.61		. 300
5242.50	Н	-24.67		
6990.00	Н	-35.69		





	20MHz(RB si	ize 1 & RB offset 0)	for QPSK		
Frequency (MHz)	Spurious		Limit (dBm)	Result	
Frequency (Miriz)	Polarization	Level (dBm)	Limit (ubin)	Nesuit	
	Lowest				
3440.00	Vertical	-42.67			
5160.00	V	-20.24			
6880.00	V	-35.67	-13.00	Pass	
3440.00	Horizontal	-44.17	-13.00	Pass	
5160.00	Н	-20.49			
6880.00	Н	-34.38			
		Middle			
3465.00	Vertical	-42.70			
5197.50	V	-26.35			
6930.00	V	-33.57	-13.00	Pass	
3465.00	Horizontal	-44.55	-13.00	Pass	
5197.50	Н	-23.74			
6930.00	Н	-40.03			
		Highest			
3490.00	Vertical	-45.32			
5235.00	V	-20.62			
6980.00	V	-36.35	12.00	Door	
3490.00	Horizontal	-45.20	-13.00	Pass	
5235.00	Н	-19.38			
6980.00	Н	-37.07			



Report No: CCIS15100080006

## LTE Band 7 Part:

		LTE Band 7 Part: e 1 & RB offset 0) f	for OPSK	
	Spurious		U QFSK	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1 Olanzadon	Lowest		
5005.00	Vertical	-28.02		
7507.50	V	-28.87		
10010.00	V	-34.67		_
5005.00	Horizontal	-29.00	-25.00	Pass
7507.50	Н	-31.00	_	
10010.00	Н	-35.97		
		Middle		<u> </u>
5070.00	Vertical	-29.59		
7605.00	V	-28.49	_	
10140.00	V	-34.89		_
5070.00	Horizontal	-29.36	-25.00	Pass
7605.00	Н	-30.29	_	
10140.00	Н	-35.96	_	
		Highest		
5135.00	Vertical	-30.01		
7702.50	V	-29.29		Pass
10270.00	V	-34.97		
5135.00	Horizontal	-27.84	-25.00	
7702.50	Н	-28.71		
10270.00	Н	-35.67		
	10MHz(RB siz	ze 1 & RB offset 0)	for QPSK	1
Frequency (MHz)	Spurious		Limit (dBm)	Result
Trequeries (WIT12)	Polarization	Level (dBm)	Limit (dbin)	Result
	T	Lowest	T	T
5010.00	Vertical	-29.55		
7515.00	V	-28.69		
10020.00	V	-39.64	-25.00	Pass
5010.00	Horizontal	-26.97		
7515.00	Н	-27.84		
10020.00	Н	-40.21		
		Middle		
5070.00	Vertical	-31.76		
7605.00	V	-30.09		
10140.00	V	-39.56	-25.00	Pass
5070.00	Horizontal	-30.56		. 400
7605.00	Н	-29.13		
10140.00	Н	-38.17		





		Highest		
5130.00	Vertical	-27.28		
7695.00	V	-28.70		
10260.00	V	-40.15		_
5130.00	Horizontal	-26.24	-25.00	Pass
7695.00	Н	-27.94		
10260.00	Н	-39.67		
	15MHz(RB s	ize 1 & RB offset 0)	for QPSK	
Гто ж о ю о (NALI <del>-</del> )	Spurious			Dooule
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	<u>,                                      </u>	Lowest		<del>,</del>
5015.00	Vertical	-25.69		
7522.50	V	-26.34		
10030.00	V	-38.97	-25.00	Pass
5015.00	Horizontal	-26.34	-23.00	F 435
7522.50	Н	-27.46		
10030.00	Н	-37.24		
		Middle		
5070.00	Vertical	-25.16		
7605.00	V	-26.97		
10140.00	V	-37.81	25.00	Dese
5070.00	Horizontal	-26.94	-25.00	Pass
7605.00	Н	-27.03		
10140.00	Н	-38.65		
		Highest		
5125.00	Vertical	-26.03		
7687.50	V	-25.48		
10250.00	V	-38.61	05.00	_
5125.00	Horizontal	-27.64	-25.00	Pass
7687.50	Н	-26.98	1	
10250.00	Н	-39.64	1	
	20MHz(RB s	ize 1 & RB offset 0)	for QPSK	1
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
riequency (MHZ)	Polarization	Level (dBm)	Limit (ubin)	Resuit
		Lowest		
5020.00	Vertical	-25.94	]	
7530.00	V	-26.52	]	
10040.00	V	-37.52	-25.00	Pass
5020.00	Horizontal	-25.97	-20.00	F 033
7530.00	Н	-26.80		
10040.00	Н	-38.61		





		Middle		
5070.00	Vertical	-29.04		
7605.00	V	-28.28		
10140.00	V	-37.84	-25.00	Pass
5070.00	Horizontal	-27.25	-25.00	Fa55
7605.00	Н	-28.76		
10140.00	Н	-38.61		
		Highest		
5120.00	Vertical	-25.81		
7680.00	V	-26.68		
10240.00	V	-37.65	-25.00	Pass
5120.00	Horizontal	-25.38	-23.00	Fass
7680.00	Н	-26.46		
10240.00	Н	-38.20		



# 6.12 Frequency stability V.S. Temperature measurement

Test Requirement:	FCC Part 2.1055(a)(1)(b)
Test Method:	FCC Part 2.1055(a)(1)(b)
Limit:	±2.5 ppm
Test setup:	Temperature Chamber  Spectrum analyzer EUT
	Spectrum analyzer  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 temperature of +50°C reached</li> </ol>
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):

		LIE Band			
Reference Fr	equency: LTE Band	, ,	Middle channel=18900	channel=1880.00	OMHz
Power supplied (Vdc)	Temperature ( $^{\circ}$ )	Frequency error		Limit (ppm)	Result
		Hz	ppm	Еппі (рріп)	Nesult
3.80	-30	197	0.104787	±2.5	Pass
	-20	152	0.080851		
	-10	58	0.030851		
	0	87	0.046277		
	10	73	0.038830		
	20	113	0.060106		
	30	125	0.066489		
	40	132	0.070213		
	50	110	0.058511		
Reference F	requency: LTF Band	2(3MHz) M	iddle channel=18900 c	hannel=1880 00	MHz
	Temperature (°C)	` '			VII 12
Power supplied (Vdc)			equency error	Limit (ppm)	Result
3.80	-30	Hz 148	ppm	±2.5	Pass
			0.078723		
	-20	125	0.066489		
	-10	151	0.080319		
	0	82	0.043617		
	10	73	0.038830		
	20	94	0.050000		
	30	113	0.060106		
	40	122	0.064894		
	50	132	0.070213		
Reference F	requency: LTE Band	2(5MHz) M	iddle channel=18900 c	hannel=1880.00	MHz
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (nnm)	Result
		Hz	ppm	Limit (ppm)	Result
3.80	-30	69	0.036702	±2.5	Pass
	-20	74	0.039362		
	-10	95	0.050532		
	0	53	0.028191		
	10	110	0.058511		
	20 30	35 115	0.018617 0.061170		
	40	74	0.039362		
	50	97	0.059502		
	50	51	0.001000	1	





			iddle channel=18900	1	VII 12
Power supplied (Vdc)		Frequency error		Limit (ppm)	Result
		Hz 81	ppm 0.043085	,	
3.80	-30 -20	41	0.021809		Pass
	-10	66	0.035106	_	
	0	98	0.052128		
	10	46	0.024468	±2.5	
	20	78	0.041489		
	30	39	0.020745		
	40	61	0.032447		
	50	95	0.050532		
Reference F	requency: LTE Band	2(15MHz) N	/liddle channel=1890	0 channel=1880.00	MHz
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	
		Hz	ppm	Littit (ppiti)	Result
3.80	-30	78	0.041489		Pass
	-20	84	0.044681		
	-10	66	0.035106		
	0	91	0.048404		
	10	58	0.030851	±2.5	
	20	85	0.045213		
	30	46	0.024468		
	40	67	0.035638		
	50	94	0.050000		
Reference F	requency: LTE Band			0 channel=1880.00	MHz
Power supplied (Vdc)		Frequency error		Limit (nam)	
		Hz	ppm	Limit (ppm)	Result
3.80	-30	110	0.058511		Pass
	-20	122	0.064894		
	-10	35	0.018617		
	0	57	0.030319	7	
	10	136	0.072340	±2.5	
	20	124	0.065957		
	30	112	0.059574		
			0.000011	i I	
	40	72	0.038298		





### LTE Band 2(16QAM):

			Z(TOWANI).		
Reference F	requency: LTE Band	2(1.4MHz)	Middle channel=18900	channel=1880.0	0MHz
<b>5</b>	Temperature (°C)		Frequency error		D 1:
Power supplied (Vdc)	Tomperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	137	0.072872		
	-20	111	0.059043		
	-10	105	0.055851		
	0	95	0.050532		
3.80	10	96	0.051064	±2.5	Pass
3.00	20	68	0.036170		1 433
	30	110	0.058511		
	40	75	0.039894	1	
	50	64	0.034043		
Deference				shammal 1000 00	N 41 1—
Reference	requency: LIE Band	2 (3NIHZ) IV	/liddle channel=18900	cnannei=1880.00	JIVIMZ
5 " 10/1)	Temperature (°C)	Frequency error		Limit (ppm)	<b>5</b>
Power supplied (Vdc)	remperature (C)	Hz	ppm	Lilliii (ppili)	Result
	-30	101	0.053723		
	-20	115	0.061170		
	-10	114	0.060638	±2.5	
	0	116	0.061702		
3.80	10	98	0.052128		Pass
3.00	20	109	0.057979		rass
	30	104	0.055319		
	40	45	0.023936		
	50	84	0.044681		
Reference F			liddle channel=18900 c	channel=1880.00	MHz
D " 10/11)	T (%C)	Fr	Frequency error		D 1
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	134	0.071277		
	-20	125	0.066489		
	-10	126	0.067021		
	0	128	0.068085	_	
3.80	10	134	0.071277	±2.5	Pass
	20	95	0.050532	_	
	30	101	0.053723	_	
	40	42	0.022340	_	
	50	83	0.044149		





Decree and Peril (VAIs)	T(°C)	Fre	equency error	Line ( ( and an)	D 11
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	84	0.044681		
	-20	61	0.032447		
	-10	45	0.023936		
	0	78	0.041489		
3.80	10	84	0.044681	±2.5	Pass
	20	96	0.051064		
	30	107	0.056915		
	40	105	0.055851		
	50	107	0.056915		
	requency: LTE Band			) channel=1880.00	MHz
Power supplied	Temperature (°ℂ)		equency error	Limit (ppm)	Result
(Vdc)	, , ,	Hz	ppm	(pp)	
	-30	121	0.064362		
	-20	135	0.071809		Pass
	-10	125	0.066489		
	0	103	0.054787		
3.80	10	101	0.053723	±2.5	
	20	94	0.050000		
	30	75	0.039894		
	40	41	0.021809		
	50	55	0.029255		
Reference F	requency: LTE Band			channel=1880.00	MHz
Power supplied	Temperature (°ℂ)	Fre	equency error		
(Vdc)	Temperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	67	0.035638		
	-20	88	0.046809		
	-10	91	0.048404		
	0	75	0.039894	<b>-</b>	
				-0.5	Pass
3.80		116	0.061702	±2.5	F 455
3.80	10	116 115	0.061702 0.061170	±2.5	F a 5 5
3.80	10 20	115	0.061170	±2.5	F 455
3.80	10	-		±2.5	r a55





### LTE Band 4(QPSK):

		LIE Dallu	4(QF 3K).		
Reference Fr	equency: LTE Band	4(1.4MHz) N	Middle channel=20175	channel=1732.50	OMHz
Power supplied	Temperature (°C)	Fr	equency error	Limpit (mmm)	Decult
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	87	0.050216		
	-20	65	0.037518		
	-10	96	0.055411		
	0	115	0.066378		
3.80	10	124	0.071573	±2.5	Pass
3.00	20	118	0.068110		1 433
	30	117	0.067532		
	40	112	0.064646	7	
	50	105	0.060606	7	
Reference F			iddle channel=20175	channel-1732 50	MHz
	Tequency. LTL band				1011 12
Power supplied (Vdc)	Temperature (°C)	Hz	equency error	Limit (ppm)	Result
(VGC)	-30	141	ppm 0.081385		
		122		_	
	-20		0.070418	_	
	-10	105	0.060606	_	
	0	96	0.055411	±2.5	
3.80	10	103	0.059452		Pass
	20	97	0.055988		
	30	64	0.036941		
	40	41	0.023665		
	50	72	0.041558		
Reference F	requency: LTE Band	4(5MHz) M	iddle channel=20175	channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)	Fr	equency error	Limit (ppm)	Result
rowei supplied (vac)	. , ,	Hz	ppm	сини (ррин)	Result
	-30	147	0.084848		
	-20	125	0.072150		
	-10	144	0.083117	_	
	0	112	0.064646	0.5	Date
3.80	10	154	0.088889	±2.5	Pass
	20	111	0.064069	_	
	30	95	0.054834	_	
	40	98 71	0.056566	-	
	50	7 1	0.040981	1	1





Reference Fi	equency: LTE Band	4(10MHz) M	iddle channel=20175	channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
rower supplied (vac)	remperature ( c)	Hz	ppm	Еппі (рріп)	Nesuit
	-30	51	0.029437		
	-20	44	0.025397		
	-10	76	0.043867		
	0	94	0.054257		_
3.80	10	97	0.055988	±2.5	Pass
	20	103	0.059452		
	30 40	114 147	0.065801		
	50	102	0.084848 0.058874		
Reference F		l.	/liddle channel=2017	5 channel=1732.50	)MHz
			equency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	117	0.067532		
	-20	105	0.060606		
	-10	141	0.081385		
	0	105	0.060606		
3.80	10	94	0.054257	±2.5	Pass
	20	75	0.043290		1 033
	30	126	0.072727		
	40	134	0.077345		
	50	128	0.073882		
Reference F		l.	/liddle channel=2017	5 channel=1732.50	)MHz
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	
rower supplied (vac)	remperature ( C)	Hz	ppm	Limit (ppin)	Result
	-30	164	0.094661		
	-20	122	0.070418		
	-10	134	0.077345		
	0	142	0.081962		
3.80	10	95	0.054834	±2.5	Pass
	20	104	0.060029		. 455
	30	86	0.049639		
				<del> </del>	
	40	124	0.071573		





### LTE Band 4(16QAM):

		4/4 AMIL		1 1 700 7	01.41.1
Reference F	requency: LTE Band	4(1.4MHz)	Middle channel=20175	channel=1732.5	OMHZ
Danier and Park (1771)	Temperature (°C)		Frequency error		D !!
Power supplied (Vdc)	, , ,	Hz	ppm	Limit (ppm)	Result
	-30	117	0.067532		
	-20	131	0.075613		
	-10	122	0.070418		
	0	95	0.054834		
3.80	10	103	0.059452	±2.5	Pass
0.00	20	85	0.049062		. 455
	30	98	0.056566		
	40	97	0.055988		
	50	89	0.051371		
Poforonco I			/liddle channel=20175 o	shannal_1722 50	ıM⊔>
Neielelice I	riequency. LTE band	1 4(SIVII IZ) IV	mudie chamilei=20175 (		IIVII IZ
Dawer ausplied ()/de)	Temperature (℃)	Frequency error		Limit (ppm)	Daguit
Power supplied (Vdc)	romporataro ( ©)	Hz	ppm	Elitili (ppiii)	Result
	-30	107	0.061760		
	-20	121	0.069841		
	-10	115	0.066378	±2.5	
	0	43	0.024820		
3.80	10	74	0.042713		Pass
0.00	20	65	0.037518		1 455
	30	68	0.039250		
	40	69	0.039827		
	50	54	0.031169	•	
Reference F		4(5MHz) M	liddle channel=20175 c	hannel=1732.50	MHz
Dower cumplied (\/ds)	Tomporature (°C)	Fr	equency error	Limit (ppgs)	Dooult
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	148	0.085426		
	-20	131	0.075613		
	-10	135	0.077922		
	0	124	0.071573		_
3.80	10	102	0.058874	±2.5	Pass
	20	104	0.060029		
	30	98	0.056566		
	40	89 61	0.051371	-	
	50	וט	0.035209		





Reference F	requency: LTE Band	4(10MHz) N	/liddle channel=20175	channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
rower supplied (vac)	. , ,	Hz	ppm	Еппі (рріп)	Nesuit
	-30	131	0.075613		
	-20	114	0.065801		
	-10	95	0.054834		
	0	129	0.074459		
3.80	10	81	0.046753	±2.5	Pass
	20	75	0.043290		
	30	74	0.042713		
	40	56	0.032323		
	50	97	0.055988		
	requency: LTE Band		/liddle channel=20175	channel=1732.50	MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	` '	Hz	ppm	( - /	
	-30	114	0.065801		
	-20	131	0.075613	±2.5	
	-10	125	0.072150		
	0	106	0.061183		
3.80	10	54	0.031169		Pass
	20	98	0.056566		. 455
	30	82	0.047330		
	40	85	0.049062		
	50	68	0.039250		
Reference F			Middle channel=20175	channel=1732.5	OMHz
Power supplied	Temperature (°ℂ)	Fr	equency error	Lineit (mmm)	Danish
(Vdc)	· smporatoro ( $\odot$ )	Hz	ppm	Limit (ppm)	Result
	-30	149	0.086003		
	-20	134	0.077345		
	-10	85	0.049062	7	
	0	43	0.024820		
3.80	10	116	0.066955	±2.5	Pass
-	20	94	0.054257		1 033
	=				
	30	97	0.055988		
	30 40	97 75	0.055988 0.043290	_	





LTE Band 7(QPSK):

		LTE Band			
	requency: LTE Band 7		ddle channel=21100 Fr	equency=2535.00	MHz
Power supplied	Temperature (°C)	Fr	equency error	Limit (nnm)	Dogult
(Vdc)		Hz	ppm	Limit (ppm)	Result
	-30	154	0.060750		
	-20	91	0.035897		
	-10	124	0.048915		
	0	125	0.049310	±2.5 Pa	
3.80	10	147	0.057988		Pass
	20	75	0.029586	<u></u> 2.0	1 433
	30	86	0.033925	1	
	40	65	0.025641		
	50	118	0.046548		
Peference Er			ddle channel=21100 F	reguency-2535 0	
Power supplied		·	equency error		OIVII IZ
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
( • 00)	-30	99	0.039053	,	
	-20	81	0.031953	-	
			0.031933	_	
	-10	85			
	0	107	0.042209		
3.80	10	147	0.057988	±2.5	Pass
	20	135	0.053254		
	30	112	0.044181		
	40	85	0.033531		
	50	64	0.025247		
Reference Fr	equency: LTE Band 7	(15MHz) Mi	ddle channel=21100 F	requency=2535.0	0MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)		Hz	ppm	Еппи (ррпп)	rtesuit
	-30	159	0.062722		
	-20	144	0.056805		
	-10	75	0.029586		
	0	93	0.036686		_
3.80	10	113	0.044576	±2.5	Pass
	20	124	0.048915	_	
	30 40	118	0.046548	_	
	50	67 78	0.026430 0.030769		
Poforonco Er			ddle channel=21100 F	reguency-2535 0	
		,		Tequency=2555.0	UIVITIZ
Power supplied (Vdc)	Temperature (°C)	Hz	equency error	Limit (ppm)	Result
(vuc)	-30	158	ppm 0.062327		
	-20	131	0.051677		
	-10	82	0.032347	†	
	0	96	0.037870	†	
3.80	10	64	0.025247	±2.5	Pass
	20	105	0.041420		
	30	64	0.025247	1	
	40	86	0.033925		
	50	41	0.016174		



Report No: CCIS15100080006

Reference Fr	equency: LTE Band 7	7(5MHz) Mic	ddle channel=21100 Fr	equency=2535.0	OMHz
Power supplied	Temperature (°C)		equency error		
(Vdc)	Temperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	91	0.035897		
	-20	37	0.014596		
	-10	81	0.031953		
	0	75	0.029586		
3.80	10	112	0.044181	±2.5	Pass
	20	135	0.053254	±2.5	F 033
	30	114	0.044970		
	40	144	0.056805		
	50	83	0.032742	_	
Reference Fre			ddle channel=21100 F	requency=2535 (	IOMHz
Power supplied			equency error		JOIVII IZ
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
(100)	-30	57	0.022485		
	-20	99	0.039053		
	-10	35	0.013807	_	
	0	87	0.034320		
3.80	10	112			_
3.00			0.044181	±2.5	Pass
	20	104	0.041026		
	30	125	0.049310		
	40	98	0.038659		
	50	87	0.034320		
	equency: LTE Band 7		ddle channel=21100 F	requency=2535.0	00MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	1 1	Hz	ppm	(11 /	
	-30	87	0.034320	_	
	-20 -10	68 115	0.026824 0.045365	_	
	0	122	0.045365		
3.80	10	122	0.048126	2.5	Pass
0.00	20	135	0.053254	2.5	1 433
	30	127	0.050099		
	40	119	0.046943		
	50	107	0.042209		
Reference Fre	equency: LTE Band 7	(20MHz) Mi	ddle channel=21100 F	requency=2535.0	00MHz
Power supplied	Temperature (°ℂ)	Fr	equency error	Limit (ppm)	Result
(Vdc)	1 1	Hz	ppm	шин (ррии)	Nesuit
	-30	147	0.057988	_	
	-20	99	0.039053	_	
	-10	91	0.035897	_	
	0	95	0.037475	-	5
3.80	10	44	0.017357	2.5	Pass
	20	67	0.026430	-	
	30	115	0.045365	-	
	40 50	102 127	0.040237 0.050099	-	
	50	121	0.000099		



# 6.13 Frequency stability V.S. Voltage measurement

Test Requirement:	FCC Part 2.1055(d)(1)(2)
Test Method:	FCC Part 2.1055(d)(1)(2)
Limit:	±2.5ppm
Test setup:	Temperature Chamber
	Spectrum analyzer  EUT  Variable Power Supply  Note: Measurement setup for testing on Antenna connector
Test 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):

equency: LTE Band Power supplied		e channel=18900	channel=1880.00	MHZ
Power supplied	Г			
		ncy error	Limit (ppm)	Result
(Vdc)	Hz	ppm	Еппи (ррпп)	Nesuit
4.25	87	0.046277		
3.80	66	0.035106	±2.5	Pass
3.40	94	0.050000		
equency: LTE Band	d 2(3MHz) Middle	channel=18900 c	channel=1880.00M	ИHz
Power supplied	Frequer	ncy error	Limit (nnm)	Result
(Vdc)	Hz		Limit (ppm)	Result
4.25	48	0.025532		
3.80	81	0.043085	±2.5	Pass
3.40	95	0.050532		
equency: LTE Band	2(5MHz) Middle	channel=18900 c	channel=1880.00N	ИНz
Power supplied	Frequer	ncv error		
		•	Limit (ppm)	Result
			±2.5	Pass
				. 400
equency: LTE Band	2(10MHz) Middle	channel=18900	channel=1880.00 <b>i</b>	ИНz
Power supplied	Frequer	ncy error	11. 14.4	D ''
(Vdc)	Hz		Limit (ppm)	Result
4.25	96			
3.80	112		±2.5	Pass
	85			
	2(15MHz) Middle	channel=18900	channel=1880.00l	ИНz
		•	Limit (ppm)	Result
\ /				
			±2.5	Pass
			channel=1880.00	MHz
· · ·	,			
• •			Limit (ppm)	Result
			+25	Pass
3.40	88	0.030319		Pass
	3.40 requency: LTE Band Power supplied (Vdc) 4.25 3.80 3.40 requency: LTE Band Power supplied (Vdc) 4.25 3.80 3.40 requency: LTE Band Power supplied (Vdc) 4.25 3.80 3.40 requency: LTE Band Power supplied (Vdc) 4.25 3.80 3.40 requency: LTE Band Power supplied (Vdc) 4.25 3.80 3.40 requency: LTE Band	3.40   94   Pequency: LTE Band 2(3MHz) Middle   Power supplied (Vdc)	3.40 94 0.050000 requency: LTE Band 2(3MHz) Middle channel=18900 control (Vdc)	3.40   94   0.050000





LTE Band 2(16QAM):

		LIE Band 2(16			
Reference F	requency: LTE Band	2(1.4MHz) Middle	e channel=18900	channel=1880.00	MHz
Temperature (°C)	Power supplied		ncy error	Limit (ppm)	Result
romporataro ( c)	(Vdc)	Hz	ppm	Еппи (ррпп)	rtoodit
	4.25	109	0.057979		
25	3.80	75	0.039894	±2.5	Pass
	3.40	66	0.035106		
Reference I	Frequency: LTE Band	d 2(3MHz) Middle	channel=18900 d	channel=1880.00N	ИHz
T(°C)	Power supplied	Frequei	ncy error	Limit (mmm)	Danill
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.25	91	0.048404		
25	3.80	85	0.045213	±2.5	Pass
	3.40	56	0.029787	1	
Reference	Frequency: LTE Band	d 2(5MHz) Middle	channel=18900 c	channel=1880.00N	ИHz
T(°C)	Power supplied	Freque	ncy error	1: '( )	<b>5</b>
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.25	77	0.040957		
25	3.80	98	0.052128	±2.5	Pass
	3.40	96	0.051064	1	
Reference F	requency: LTE Band	2(10MHz) Middle	channel=18900	channel=1880.00l	MHz
	Power supplied	Freque	ncy error		
Temperature (°C)	• •		10, 01101	I imit (nnm)	
	(Vac)	Hz	mag	Limit (ppm)	Result
	(Vdc) 4.25	Hz 84	ppm 0.044681	Еппік (рріпі)	Result
25	4.25	84	0.044681		
25	` ,			±2.5	Result Pass
	4.25 3.80 3.40	84 65 76	0.044681 0.034574 0.040426	±2.5	Pass
Reference F	4.25 3.80 3.40 Frequency: LTE Band	84 65 76 2(15MHz) Middle	0.044681 0.034574 0.040426 channel=18900	±2.5 channel=1880.00l	Pass MHz
	4.25 3.80 3.40  Frequency: LTE Band  Power supplied	84 65 76 2(15MHz) Middle Frequel	0.044681 0.034574 0.040426 channel=18900 ncy error	±2.5	Pass
Reference F	4.25 3.80 3.40 Frequency: LTE Band Power supplied (Vdc)	84 65 76 2(15MHz) Middle Frequer Hz	0.044681 0.034574 0.040426 channel=18900 ncy error ppm	±2.5 channel=1880.00l	Pass MHz
Reference F	4.25 3.80 3.40 Frequency: LTE Band Power supplied (Vdc) 4.25	84 65 76 2(15MHz) Middle Frequer Hz 78	0.044681 0.034574 0.040426 channel=18900 ncy error ppm 0.041489	±2.5  channel=1880.00l  Limit (ppm)	Pass MHz Result
Reference F	4.25 3.80 3.40 Frequency: LTE Band (Vdc) 4.25 3.80	84 65 76 2(15MHz) Middle Frequer Hz	0.044681 0.034574 0.040426 channel=18900 ncy error ppm 0.041489 0.050532	±2.5 channel=1880.00l	Pass MHz
Reference F Temperature (°C) 25	4.25 3.80 3.40  Frequency: LTE Band  Power supplied (Vdc) 4.25 3.80 3.40	84 65 76 2(15MHz) Middle Frequel Hz 78 95 94	0.044681 0.034574 0.040426 channel=18900 ncy error ppm 0.041489 0.050532 0.050000	±2.5  channel=1880.00l  Limit (ppm)  ±2.5	Pass MHz Result Pass
Reference F Temperature (°C)  25  Reference F	4.25 3.80 3.40 Frequency: LTE Band (Vdc) 4.25 3.80 3.40 Frequency: LTE Band	84 65 76 2(15MHz) Middle Frequer Hz 78 95 94 2(20MHz) Middle	0.044681 0.034574 0.040426 channel=18900 ncy error ppm 0.041489 0.050532 0.050000 channel=18900	±2.5  channel=1880.00l  Limit (ppm)  ±2.5  channel=1880.00l	Pass MHz Result Pass
Reference F Temperature (°C)	4.25 3.80 3.40  Frequency: LTE Band  Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band  Power supplied	84 65 76 2(15MHz) Middle Frequel Hz 78 95 94 2(20MHz) Middle Frequel	0.044681 0.034574 0.040426 channel=18900 ncy error ppm 0.041489 0.050532 0.050000 channel=18900 ncy error	±2.5  channel=1880.00l  Limit (ppm)  ±2.5	Pass MHz Result Pass
Reference F Temperature (°C)  25  Reference F	4.25 3.80 3.40 Frequency: LTE Band  Power supplied (Vdc) 4.25 3.80 3.40 Frequency: LTE Band  Power supplied (Vdc)	84 65 76 2(15MHz) Middle Frequently Hz 78 95 94 2(20MHz) Middle Frequently	0.044681 0.034574 0.040426 channel=18900 ncy error ppm 0.041489 0.050532 0.050000 channel=18900 ncy error ppm	±2.5  channel=1880.00l  Limit (ppm)  ±2.5  channel=1880.00l	Pass MHz Result Pass
Reference F Temperature (°C)  25  Reference F	4.25 3.80 3.40  Frequency: LTE Band  Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band  Power supplied	84 65 76 2(15MHz) Middle Frequel Hz 78 95 94 2(20MHz) Middle Frequel	0.044681 0.034574 0.040426 channel=18900 ncy error ppm 0.041489 0.050532 0.050000 channel=18900 ncy error	±2.5  channel=1880.00l  Limit (ppm)  ±2.5  channel=1880.00l	Pass MHz Result Pass





## LTE Band 4(QPSK):

RAIDIANCA F	requency: LTE Band	4(1 4MHz) Middle	e channel-20175	channel-1732 50	MHz
Telefelice i	<u> </u>				1011 12
Temperature (°C)	Power supplied (Vdc)	Hz	ncy error	Limit (ppm)	Result
	4.25	61	ppm 0.035209		
25	3.80	75	0.033209	±2.5	Pass
25	3.40	94	0.043290	±2.5	Fa55
Reference	Frequency: LTE Band	-		 	/H <sub>7</sub>
Neierence				17 32.301	/11 12
Temperature (°C)	Power supplied		ncy error	Limit (ppm)	Result
	(Vdc)	Hz	ppm	" ' '	
0.5	4.25	63	0.036364		5
25	3.80	52	0.030014	±2.5	Pass
	3.40	42	0.024242		
Reference	Frequency: LTE Band	d 4(5MHz) Middle	channel=20175	channel=1732.50N	ИHz
Temperature (°C)	Power supplied	Freque	ncy error	Limit (ppm)	Result
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.25	54	0.031169		
25	3.80	55	0.031746	±2.5	Pass
	3.40	46	0.026551		
Reference F	Frequency: LTE Band	4(10MHz) Middle	e channel=20175	channel=1732.50	MHz
	· · ·	, ,			
Reference F Temperature (°C)	Power supplied (Vdc)	, ,	ncy error	channel=1732.50 Limit (ppm)	MHz Result
	Power supplied	Freque	ncy error ppm		
Temperature (°C)	Power supplied (Vdc) 4.25	Freque Hz 84	ppm 0.048485	Limit (ppm)	Result
	Power supplied (Vdc) 4.25 3.80	Freque Hz	ppm 0.048485 0.049062		
Temperature (°C) 25	Power supplied (Vdc) 4.25 3.80 3.40	Freque Hz 84 85 46	ppm 0.048485 0.049062 0.026551	Limit (ppm)	Result Pass
Temperature (°C)  25  Reference F	Power supplied (Vdc) 4.25 3.80 3.40 Frequency: LTE Band	Freque Hz 84 85 46 4(15MHz) Middle	ppm 0.048485 0.049062 0.026551 e channel=20175	±2.5 channel=1732.50	Result Pass MHz
Temperature (°C) 25	Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band Power supplied	Freque Hz 84 85 46 4(15MHz) Middle	ppm 0.048485 0.049062 0.026551 e channel=20175 ncy error	Limit (ppm)	Result Pass
Temperature (°C)  25  Reference F	Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band Power supplied (Vdc)	Freque Hz 84 85 46 4(15MHz) Middle Freque Hz	ncy error ppm 0.048485 0.049062 0.026551 channel=20175 ncy error ppm	±2.5 channel=1732.50	Result Pass MHz
Temperature (°C)  25  Reference F  Temperature (°C)	Power supplied (Vdc) 4.25 3.80 3.40 Frequency: LTE Band Power supplied (Vdc) 4.25	Freque Hz 84 85 46 4(15MHz) Middle Freque Hz 57	ppm 0.048485 0.049062 0.026551 e channel=20175 ncy error ppm 0.032900	timit (ppm)  ±2.5  channel=1732.50  Limit (ppm)	Result Pass MHz Result
Temperature (°C)  25  Reference F	Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band Power supplied (Vdc)	Freque Hz 84 85 46 4(15MHz) Middle Freque Hz	ncy error ppm 0.048485 0.049062 0.026551 channel=20175 ncy error ppm	±2.5 channel=1732.50	Result Pass MHz
Temperature (°C)  25  Reference F  Temperature (°C)  25	Power supplied (Vdc) 4.25 3.80 3.40 Frequency: LTE Band (Vdc) 4.25 3.80	Freque  Hz  84  85  46  4(15MHz) Middle  Freque  Hz  57  58  99	ppm 0.048485 0.049062 0.026551 channel=20175 ncy error ppm 0.032900 0.033478 0.057143	Limit (ppm)  ±2.5  channel=1732.50  Limit (ppm)  ±2.5	Result Pass MHz Result Pass
Temperature (°C)  25  Reference F  Temperature (°C)  25  Reference F	Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band (Vdc) 4.25 3.80 3.40	Freque Hz 84 85 46 4(15MHz) Middle Freque Hz 57 58 99 4(20MHz) Middle	ppm 0.048485 0.049062 0.026551 channel=20175 ncy error ppm 0.032900 0.033478 0.057143	Limit (ppm)  ±2.5  channel=1732.50  Limit (ppm)  ±2.5  channel=1732.50	Result Pass MHz Result Pass
Temperature (°C)  25  Reference F  Temperature (°C)  25	Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band (Vdc) 4.25 3.80 3.40  Frequency: LTE Band	Freque Hz 84 85 46 4(15MHz) Middle Freque Hz 57 58 99 4(20MHz) Middle	ppm 0.048485 0.049062 0.026551 channel=20175 ncy error ppm 0.032900 0.033478 0.057143 channel=20175 ncy error	Limit (ppm)  ±2.5  channel=1732.50  Limit (ppm)  ±2.5	Result Pass MHz Result Pass
Temperature (°C)  25  Reference F  Temperature (°C)  25  Reference F	Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band (Vdc) 4.25 3.80 3.40  Frequency: LTE Band Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band Power supplied	Freque Hz 84 85 46 4(15MHz) Middle Freque Hz 57 58 99 4(20MHz) Middle Freque	ppm 0.048485 0.049062 0.026551 e channel=20175 ncy error ppm 0.032900 0.033478 0.057143 e channel=20175	Limit (ppm)  ±2.5  channel=1732.50  Limit (ppm)  ±2.5  channel=1732.50	Result Pass MHz Result Pass
Temperature (°C)  25  Reference F  Temperature (°C)  25  Reference F	Power supplied (Vdc) 4.25 3.80 3.40  Frequency: LTE Band (Vdc) 4.25 3.80 3.40  Frequency: LTE Band (Vdc) 4.25 3.80 3.40  Frequency: LTE Band (Vdc) (Vdc)	Freque Hz 84 85 46 4(15MHz) Middle Freque Hz 57 58 99 4(20MHz) Middle Freque Hz	ppm 0.048485 0.049062 0.026551 channel=20175 ncy error ppm 0.032900 0.033478 0.057143 channel=20175 ncy error ppm	Limit (ppm)  ±2.5  channel=1732.50  Limit (ppm)  ±2.5  channel=1732.50	Result Pass MHz Result Pass





LTE Band 4(16QAM):

		LIE Ballu 4(16			
Reference F	requency: LTE Band	4(1.4MHz) Middle	e channel=20175	channel=1732.50	MHz
Temperature (°C)	Power supplied	Power supplied Frequency error		Limit (nnm)	Result
	(Vdc)	Hz	ppm	Limit (ppm)	Kesuit
	4.25	66	0.038095		Pass
25	3.80	54	0.031169	±2.5	
	3.40	46	0.026551		
Reference	Frequency: LTE Band	d 4(3MHz) Middle	channel=20175	channel=1732.50N	ЛHz
Tamanaratura (°C)	Power supplied	Freque	ncy error	Limpit (mmm)	Result
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	
	4.25	71	0.040981		
25	3.80	85	0.049062	±2.5	Pass
	3.40	85	0.049062		
Reference	Frequency: LTE Band	d 4(5MHz) Middle	channel=20175	channel=1732.50N	ЛНz
	Power supplied	Frequency error			
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.25	65	0.037518		
25	3.80	66	0.038095	±2.5	Pass
20	3.40	58	0.033478		
Reference F	requency: LTE Band	4(10MHz) Middle		channel=1732.50	MHz
	Power supplied	Frequency error			
Temperature ( $^{\circ}$ C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.25	88	0.050794	±2.5	
25	3.80	97	0.055988		Pass
	3.40	59	0.034055		
Reference F	requency: LTE Band			channel=1732.50	MHz
	Power supplied				
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
25	4.25	61	0.035209	±2.5	Pass
	3.80	42	0.024242		
	3.40	73	0.042136		
Reference F	requency: LTE Band			channel=1732.50	MHz
Temperature (°C)	Power supplied	Frequency error			
	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.25	55	0.031746		
25	4.25 3.80	55 66	0.031746 0.038095	±2.5	Pass





LTE Band 7(QPSK):

Reference Fi	requency: LTE Band	7(5MHz) Middle c	hannel=21100 Fre	equency=2535.0	0MHz
Temperature (℃)	Power supplied	Frequency error		Lineit (none)	D !!
	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.25	91	0.035897		Pass
25	3.80	62	0.024458	±2.5	
	3.40	85	0.033531		
Reference Fr	equency: LTE Band 7	7(10MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz
Tamananatuma (°C)	Power supplied	Frequei	ncy error	Limit (ppm)	Result
Temperature (°C)	(Vdc)	Hz	ppm		
	4.25	76	0.029980		Pass
25	3.80	44	0.017357	±2.5	
	3.40	65	0.025641		
Reference Fr	equency: LTE Band 7	7(15MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz
Temperature (°C)	Power supplied	Frequency error		Lineit (none)	Desult
	(Vdc)	Hz	ppm	Limit (ppm)	Result
25	4.25	93	0.036686	±2.5	Pass
	3.80	65	0.025641		
	3.40	81	0.031953		
Reference Fr	equency: LTE Band 7	7(20MHz) Middle	channel=21100 Fr	equency=2535.0	00MHz
Temperature (°C)	Power supplied	Freque	Frequency error		Result
	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.25	48	0.018935	±2.5	Pass
25	3.80	69	0.027219		
	3.40	84	0.033136		





LTE Band 7(16QAM):

Reference Frequency: LTE Band 7(5MHz) Middle channel=21100 Frequency=2535.00MHz           Temperature (°C)         Power supplied (Vdc)         Frequency error Hz         Limit (ppm)         Result           25         3.80         95         0.037475         ±2.5         Pass           3.40         34         0.013412         ±2.5         Pass           Temperature (°C)         Power supplied (Vdc)         Frequency error Hz         Limit (ppm)         Result           4.25         73         0.028797         ±2.5         Pass           3.80         95         0.037475         ±2.5         Pass           25         3.80         95         0.037475         ±2.5         Pass           Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz         Temperature (°C)         Power supplied (Vdc)         Frequency error Limit (ppm)         Result           4.25         68         0.026824         ±2.5         Pass           3.80         61         0.024063         ±2.5         Pass           Temperature (°C)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           4.25         98         0.038659         ±2.5         Pass </th <th></th> <th></th> <th>LIL Bana // I</th> <th>, <del></del></th> <th></th> <th></th>			LIL Bana // I	, <del></del>		
Comparison   Com	Reference Fr	equency: LTE Band	7(5MHz) Middle	channel=21100 Fr	equency=2535.0	0MHz
1	Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Pocult
25         3.80         95         0.037475         ±2.5         Pass           Temperature (°C)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           25         3.80         95         0.028797         ±2.5         Pass           25         3.80         95         0.037475         ±2.5         Pass           25         3.80         95         0.037475         ±2.5         Pass           Temperature (°C)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           25         3.80         61         0.024063         ±2.5         Pass           3.40         95         0.037475         ±2.5         Pass           Temperature (°C)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           Temperature (°C)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           Temperature (°C)         Power supplied (Vdc)		(Vdc)	Hz	ppm	Limit (ppm)	Kesult
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz   Temperature (°C)	25	4.25	92	0.036292	±2.5	Pass
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz   Temperature (°C)		3.80	95	0.037475		
Temperature (°C)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           25         4.25         73         0.028797         ±2.5         Pass           3.40         44         0.017357         ±2.5         Pass           Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz           Temperature (°C)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           25         3.80         61         0.024063         ±2.5         Pass           3.40         95         0.037475         ±2.5         Pass           Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz           Temperature (°C)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           Temperature (°C)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           4.25         98         0.038659         ±2.5         Pass           25         3.80         67         0.026430         ±2.5         Pass		3.40	34	0.013412		
Temperature (°C)	Reference Fre	equency: LTE Band 7	7(10MHz) Middle	channel=21100 F	requency=2535.0	00MHz
1	Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Pocult
25       3.80       95       0.037475       ±2.5       Pass         3.40       44       0.017357       ±2.5       Pass         Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz         Temperature (°C)       Power supplied (Vdc)       Frequency error (Frequency error)       Limit (ppm)       Result         25       3.80       61       0.024063       ±2.5       Pass         Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz         Temperature (°C)       Power supplied (Vdc)       Frequency error (Vdc)       Limit (ppm)       Result         4.25       98       0.038659       ±2.5       Pass         25       3.80       67       0.026430       ±2.5       Pass		(Vdc)	Hz	ppm	Littiit (ppitt)	Nesult
3.40   44   0.017357		4.25	73	0.028797		Pass
Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz           Temperature (°C)         Power supplied (Vdc)         Frequency error (Vdc)         Limit (ppm)         Result           25         3.80         61         0.024063         ±2.5         Pass           3.40         95         0.037475         1.000000000000000000000000000000000000	25	3.80	95	0.037475	±2.5	
Temperature (℃)         Power supplied (Vdc)         Frequency error         Limit (ppm)         Result           4.25         68         0.026824         ±2.5         Pass           3.40         95         0.037475         ±2.5         Pass           Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz           Temperature (℃)         Power supplied (Vdc)         Frequency error Hz         Limit (ppm)         Result           4.25         98         0.038659         ±2.5         Pass           25         3.80         67         0.026430         ±2.5         Pass		3.40	44	0.017357		
Temperature ( ℃)         (Vdc)         Hz         ppm         Limit (ppm)         Result           4.25         68         0.026824         ±2.5         Pass           3.80         61         0.024063         ±2.5         Pass           3.40         95         0.037475         Limit (ppm)         Result           Temperature ( ℃)         Power supplied (Vdc)         Frequency error Hz         Limit (ppm)         Result           4.25         98         0.038659         ±2.5         Pass           25         3.80         67         0.026430         ±2.5         Pass	Reference Fre	equency: LTE Band 7	7(15MHz) Middle	channel=21100 F	requency=2535.0	00MHz
1.25   68   0.026824   25   3.80   61   0.024063   ±2.5   Pass	Temperature (°C)	Power supplied	Frequency error		Limit (nnm)	Pocult
25     68     0.026824       3.80     61     0.024063       3.40     95     0.037475       Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz       Temperature (°C)     Power supplied (Vdc)     Frequency error Hz     Limit (ppm)     Result       4.25     98     0.038659       25     3.80     67     0.026430     ±2.5     Pass		(Vdc)	Hz	ppm	Limit (ppm)	Result
3.40       95       0.037475       Colspan="4">Note: The prediction of the policy of	25	4.25	68		±2.5	Pass
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz           Temperature (°C)         Power supplied (Vdc)         Frequency error Hz         Limit (ppm)         Result           4.25         98         0.038659         25         3.80         67         0.026430         ±2.5         Pass		3.80	61	0.024063		
Temperature (℃)         Power supplied (Vdc)         Frequency error Hz         Limit (ppm)         Result           4.25         98         0.038659         ±2.5         Pass		3.40	95	0.037475		
Column   C	Reference Fre	equency: LTE Band 7	7(20MHz) Middle	channel=21100 F	requency=2535.0	00MHz
(Vdc)     Hz     ppm       4.25     98     0.038659       25     3.80     67     0.026430     ±2.5     Pass	Temperature (℃)		Frequency error		Limit (nnm)	Recult
4.25     98     0.038659       25     3.80     67     0.026430     ±2.5     Pass			Hz	ppm	Lillit (ppill)	Nesult
	25	4.25	98			Pass
3.40 42 0.016568		3.80	67	0.026430	±2.5	
		3.40	42	0.016568		





-----End of report-----