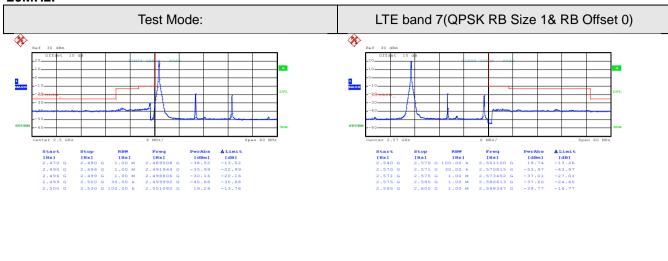




20MHz:

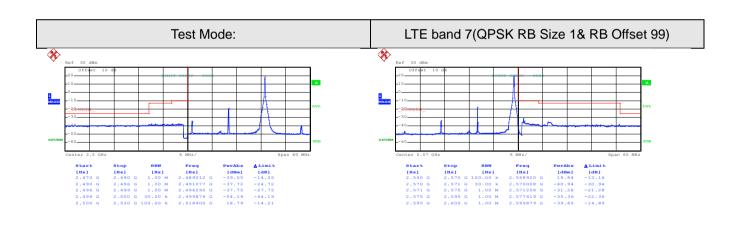


Date: 23.JUN.2016 23:13:11

Date: 23.JUN.2016 23:15:16

Lowest channel

Highest channel



Date: 23.JUN.2016 23:13:26

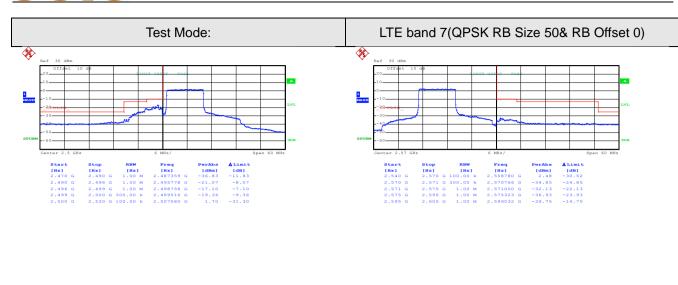
Date: 23.JUN.2016 23:15:30

Lowest channel

Highest channel



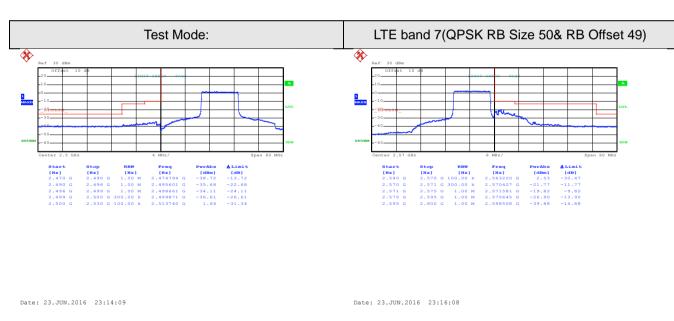




Date: 23.JUN.2016 23:15:51

Lowest channel

Highest channel

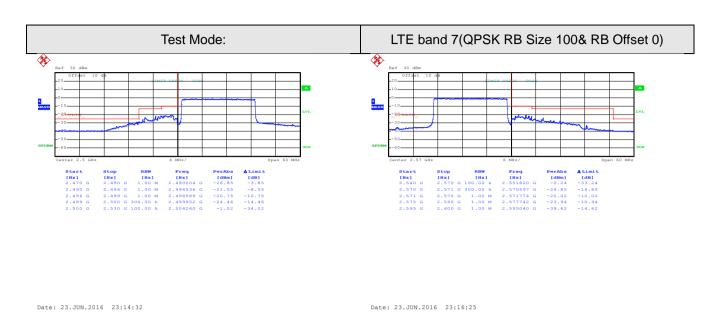


Lowest channel

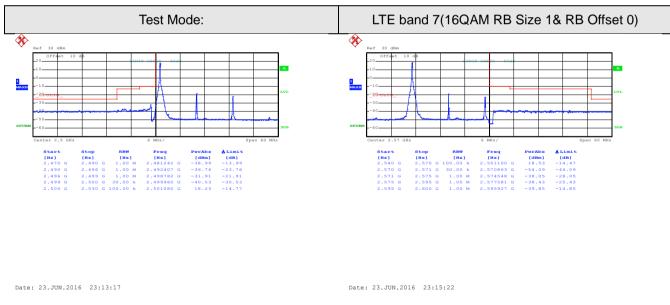
Highest channel







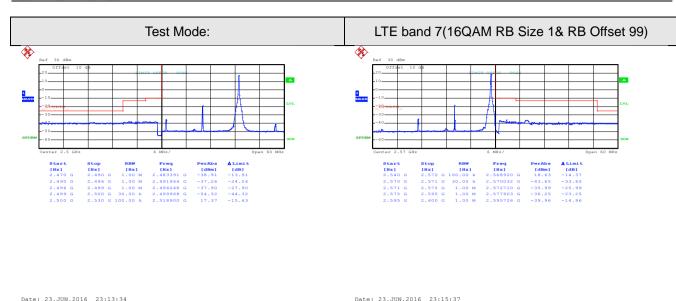
Lowest channel Highest channel

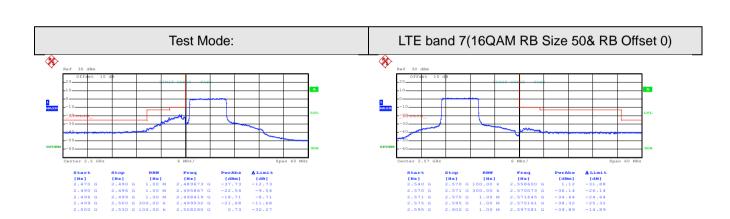


Lowest channel Highest channel









Date: 23.JUN.2016 23:15:58

Lowest channel

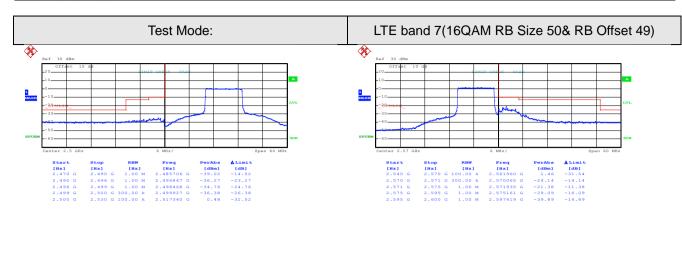
Lowest channel

Highest channel

Highest channel





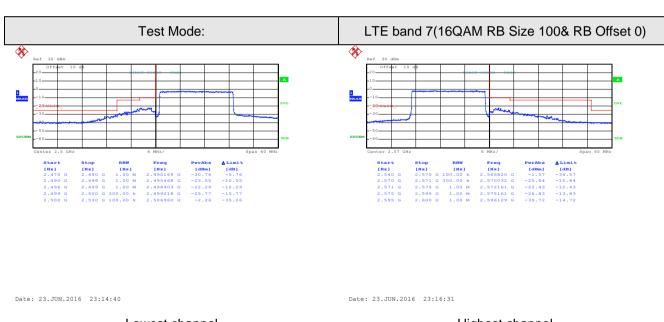


Date: 23.JUN.2016 23:14:18

Date: 23.JUN.2016 23:16:15

Lowest channel

Highest channel



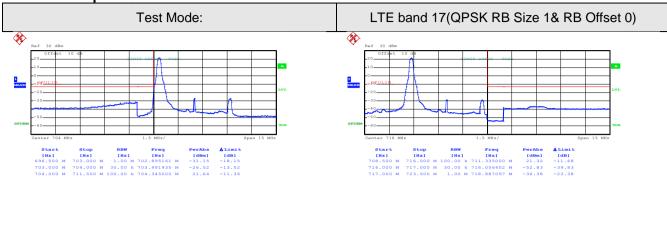
Lowest channel

Highest channel





LTE band 17 part: 5MHz:

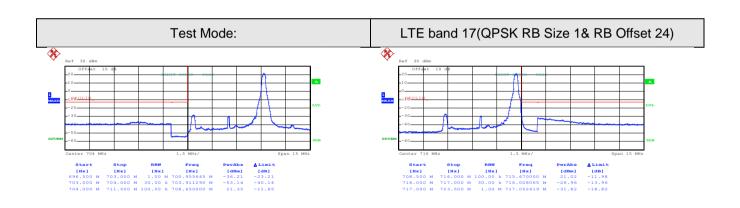


Date: 23.JUN.2016 21:29:45

Date: 23.JUN.2016 21:31:27

Lowest channel

Highest channel



Date: 23.JUN.2016 21:30:01

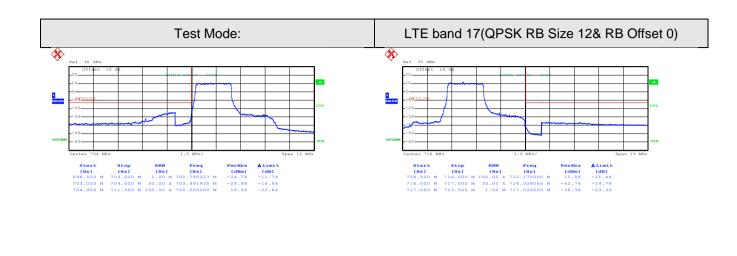
Date: 23.JUN.2016 21:31:41

Lowest channel

Highest channel



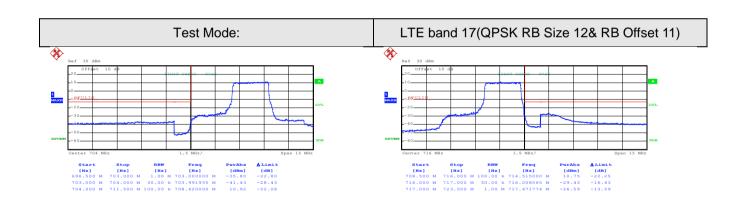




Date: 23.JUN.2016 21:32:00

Lowest channel

Highest channel



Date: 23.JUN.2016 21:30:34

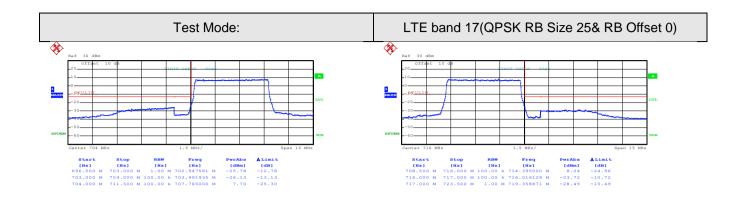
Date: 23.JUN.2016 21:32:16

Lowest channel

Highest channel



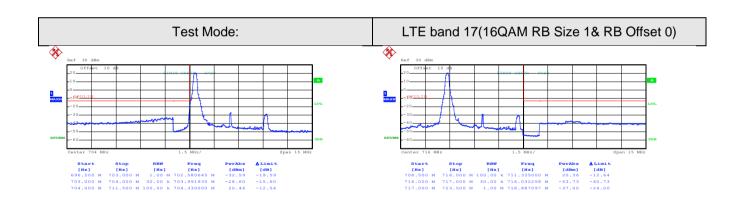




Date: 23.JUN.2016 21:32:39

Lowest channel

Highest channel



Date: 23.JUN.2016 21:29:51

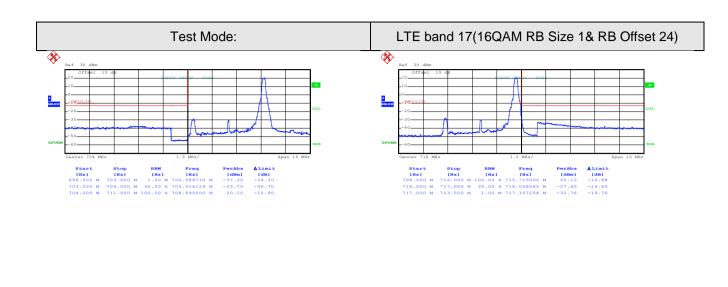
Date: 23.JUN.2016 21:31:32

Lowest channel

Highest channel



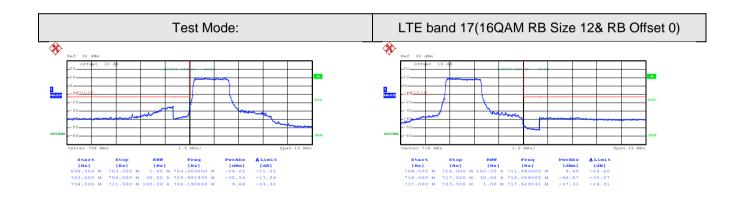




Lowest channel

Highest channel

Date: 23.JUN.2016 21:31:48

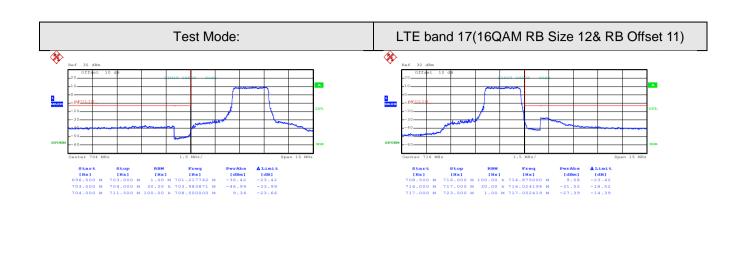


Date: 23.JUN.2016 21:30:24 Date: 23.JUN.2016 21:32:06

> Lowest channel Highest channel



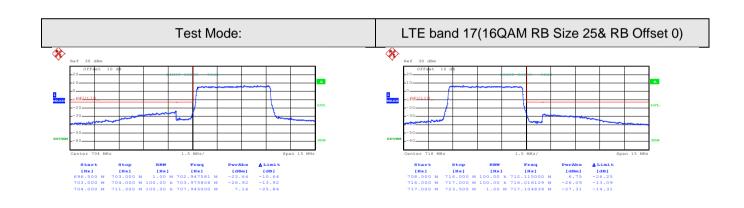




Date: 23.JUN.2016 21:32:22

Lowest channel

Highest channel



Date: 23.JUN.2016 21:31:02

Date: 23.JUN.2016 21:32:44

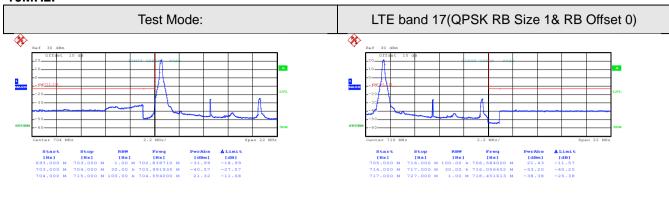
Lowest channel

Highest channel





10MHz:

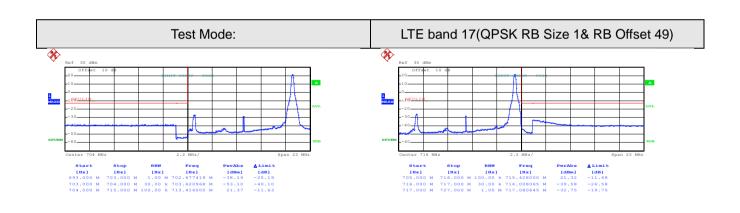


Date: 23.JUN.2016 21:33:28

Date: 23.JUN.2016 21:35:34

Lowest channel

Highest channel



Date: 23.JUN.2016 21:33:43

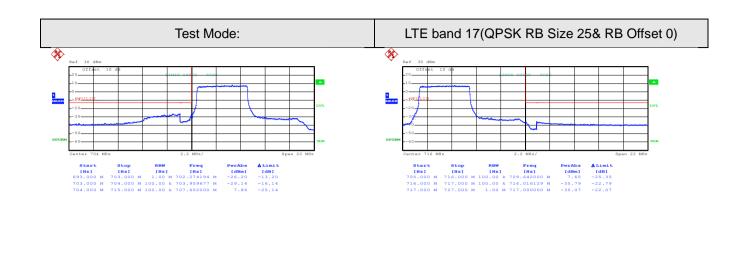
Date: 23.JUN.2016 21:35:52

Lowest channel

Highest channel

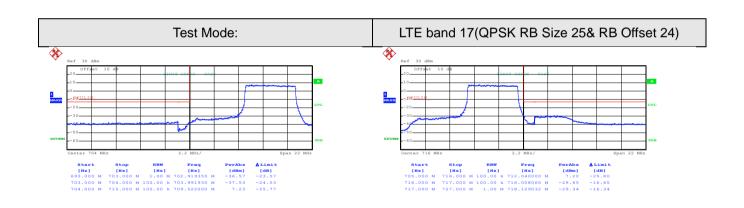






Date: 23.JUN.2016 21:36:16

Lowest channel Highest channel



Date: 23.JUN.2016 21:34:37

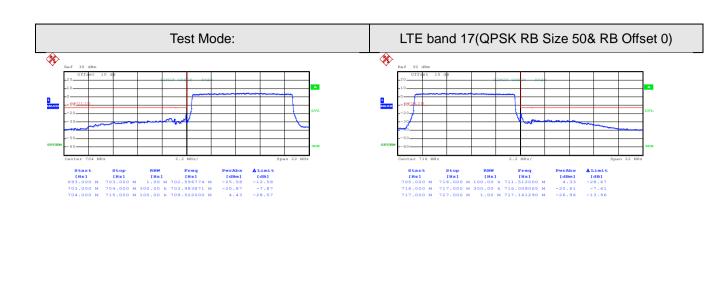
Date: 23.JUN.2016 21:36:33

Lowest channel

Highest channel





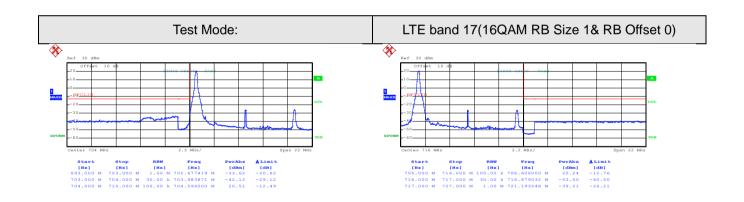


Lowest channel

Date: 23.JUN.2016 21:34:58

Highest channel

Date: 23.JUN.2016 21:36:55



Date: 23.JUN.2016 21:33:34

Date: 23.JUN.2016 21:35:40

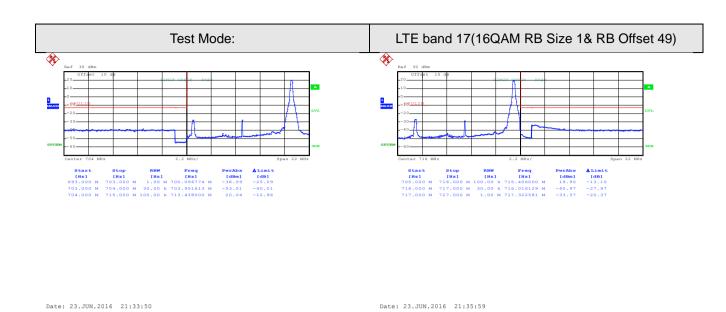
Lowest channel

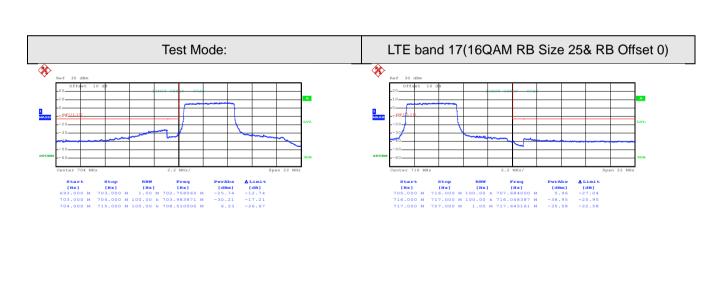
Highest channel



Highest channel







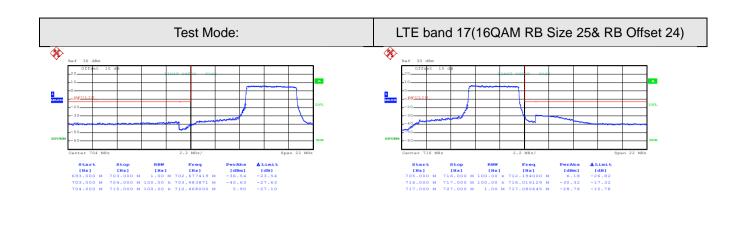
Date: 23.JUN.2016 21:34:11 Date: 23.JUN.2016 21:36:23

Lowest channel

Lowest channel Highest channel



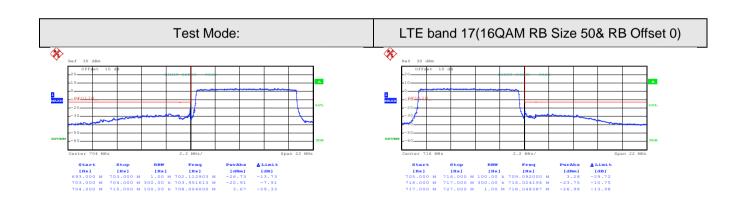




Date: 23.JUN.2016 21:36:41

Lowest channel

Highest channel



Date: 23.JUN.2016 21:35:04

Date: 23.JUN.2016 21:37:01

Lowest channel

Highest channel





6.10 ERP, EIRP Measurement

6.10 ERP, EIRP Measurer	nent
Test Requirement:	FCC part 22.913 (a), 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 5: 7W ERP LTE Band 7: 2W EIRP LTE Band 17: 3W ERP
Test setup:	Below 1GHz
	Antenna Tower Search Antenna RF Test Receiver Ground Plane Above 1GHz
	Above 10112
	Antenna Tower Horn Antenna Spectrum Analyzer Turn Table Amplifier
	Substituted method:
	Ground plane d: distance in meters d:3 meter I -4 meter Substituted Dipole or Horn Antenna Bi-Log Antenna or Horn Antenna





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Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.
	2. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.
	3. ERP in frequency band below 1GHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:
	ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable Loss (dB)
	4. EIRP in frequency band above 1GHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:
	EIRP = S.G. output (dBm) + Antenna Gain (dBi) - Cable Loss (dB)
	5. The worse case was relating to the conducted output power.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed



Measurement Data (worst case):

LTE band 2 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
		1.	4MHz(RB s	ize 1 & RB	offset 0)					
1950.70	10607	OBSK	1.1	Н	V	19.49				
1850.70	18607	QPSK	1.4	П	Н	17.00	22.00	Pass		
1850.70	18607	16QAM	1.4	Н	V	19.08	33.00	Fa55		
1650.70	10007	IOQAW	1.4	П	Н	16.27				
	1.4MHz(RB size 3 & RB offset 0)									
1050.70	10607	ODSK	1.4	Н	V	19.68				
1850.70	18607	QPSK	1.4		Н	16.13	33.00	Pass		
1850.70	18607	16QAM	1.4	Н	V	19.30	33.00	rass		
1650.70	10007	TOQAW	1.4		Н	16.19				
		1.	4MHz(RB s	size 6 & RB	offset 0)					
4050.70	40007	ODCK	4.4		V	18.70				
1850.70	18607	QPSK	1.4	Н	Н	15.15	22.00	Door		
1950.70	10607	160 A M	1.4	Н	V	18.67	33.00	Pass		
1850.70	18607	16QAM	1.4		Н	15.59				

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	19.18						
1000.00	10900	QF 5K	1.4	11	Н	17.85	33.00	Pass				
1880.00	18900	16QAM	1.4	Н	V	19.06	33.00	rass				
1000.00	10900	IOQAIVI	1.4	11	Н	16.69						
	1.4MHz(RB size 3 & RB offset 0)											
1880.00	18900	QPSK	1.4	Н	V	19.05						
1000.00	16900	QFSK	1.4	П	Н	16.91	33.00	Pass				
1880.00	18900	16QAM	1.4	Н	V	19.12	33.00	rass				
1000.00	10900	TOQAW	1.4	11	Н	16.24						
		1.4	4MHz(RB	size 6 & RE	3 offset 0)							
1880.00	18900	QPSK	1.40	Н	V	18.42						
1000.00	10300	QI OIX	1.40		Н	15.28	33.00	Pass				
1880.00	18900	16QAM	1.40	Н	V	18.83	33.00	1 000				
1000.00	10900	IOQAW	1.40	''	Н	15.74		r				





Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
			1.4MHz(RE	3 size 1 & F	RB offset 0)					
1000 20	10102	QPSK	1.4	Н	V	19.45				
1909.30	19193	QFSK	1.4	П	Н	17.55	33.00	Pass		
1000 20	10102	16QAM	1.4	Н	V	19.05	33.00	Pa55		
1909.30	19193	IOQAW	1.4	П	Н	16.18				
	1.4MHz(RB size 3 & RB offset 0)									
4000 00	40400	ODCK	,	11	V	19.01		Dane		
1909.30	19193	QPSK	1.4	Н	Н	16.86	22.00			
1000 20	10102	160014	1.4	Н	V	19.67	33.00	Pass		
1909.30	19193	16QAM	1.4	П	Н	16.73				
			1.4MHz(RE	3 size 6 & F	RB offset 0)					
4000 20	40400	ODCK	4.4	11	V	18.39				
1909.30	19193	QPSK	1.4 H		Н	15.30	1	Pass		
1000 20	10102	160AM	4.4	V	18.01	33.00				
1909.30	19193	16QAM	1.4	Н	Н	15.13				

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)										
1860.00	18700	QPSK	20	Н	V	19.50					
1000.00	18700	QPSK	20	П	Н	16.11	33.00	Pass			
1860.00	18700	16QAM	20	Н	V	19.29	33.00	F 455			
1800.00	18700	TOQAM		П	Н	16.43					
		2	0MHz(RB si	ze 50 & R	B offset 0)						
1860.00	18700	QPSK	20	Н	V	19.06					
1800.00	18700	QFSK	20	П	Н	15.85	33.00	Pass			
1860.00	18700	16QAM	20	Н	V	18.84	33.00	F 455			
1800.00	18700	TOQAM	20	П	Н	16.18					
		20	MHz(RB siz	e 100 & R	RB offset 0)						
1860.00	18700	QPSK	20	Н	V	18.13					
1800.00	18700	QFSK	20	П	Н	14.98	33.00	Pass			
1860.00	18700	16QAM	20	Н	V	18.41	33.00	F 055			
1000.00	10700	IOQAM	20		Н	15.83					



CCIS

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result				
	20MHz(RB size 1 & RB offset 0)											
1880.00	18900	QPSK	20	Н	V	19.18						
1000.00	10900	QFSK	20	П	Н	16.86	22.00	Door				
1880.00	18900	16QAM	20	Н	V	19.65	33.00	Pass				
1000.00	10900	IOQAW	20	П	Н	16.53						
		2	0MHz(RB si	ze 50 & RI	B offset 0)							
1000.00	10000	ODSK	20	Н	V	19.34						
1880.00	18900	QPSK	20	П	Н	15.40	33.00	Pass				
1880.00	18900	16QAM	20	Н	V	18.02	33.00	F488				
1000.00	10900	IOQAW	20	П	Н	16.24						
		20	MHz(RB siz	ze 100 & R	B offset 0)							
1000.00	10000	ODSK	20	Ш	V	18.45						
1880.00	18900	QPSK	20	Н	Н	14.56	22.00	Door				
1880.00	18900	16QAM	20	Н	V	18.63	33.00	Pass				
1000.00	10900	IOQAW	20	П	Н	15.37						

Highest channel

	rigilest Chainlei										
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	19.74					
1900.00	19100	QFSK	I I H I 16 <i>4</i> 5 I	33.00	Door						
1900.00	19100	16QAM	20	Н	V	19.55	33.00	Pass			
1900.00	19100	TOQAW	20	11	Н	16.52					
		2	20MHz(RB s	size 50 &	RB offset 0)					
1900.00	19100	QPSK	,	Н	V	19.02					
1900.00	19100	QFSK	20		Н	15.01	33.00	Pass			
1900.00	19100	16QAM	20	Н	٧	18.18	33.00	F 455			
1900.00	19100	TOQAW	20	11	Н	16.84					
		2	0MHz(RB s	ize 100 8	RB offset ())					
1900.00	19100	QPSK	20	Н	V	18.41					
1900.00	19100	QF SIX	20	11	Н	14.13	33.00	Pass			
1900.00	19100	16QAM	20	Н	V	18.69	33.00	F 055			
1900.00	19100	ΙΟΩΛΙΝΙ	20	11	Н	15.74					





LTE band 4 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
		•	I.4MHz(RE	3 size 1 &	RB offset 0)						
1710.70	19957	QPSK	1.4	1.4 H V 21.28							
1710.70	19937	QFSK	1.4	11	Н	14.88	20.00	Door			
1710.70	19957	16QAM	AM 1.4 H V 20.31	30.00	Pass						
1710.70	19937	IOQAW	1.4		Н	14.86					
	1.4MHz(RB size 3 & RB offset 0)										
1710 70	100F7	QPSK	1.1	Ш	V	20.68		Pass			
1710.70	19957	QPSK	1.4	1.4 H	Н	14.70	30.00				
1710.70	19957	16QAM	1.4	Н	V	19.94	30.00	Pa55			
1710.70	19937	IOQAW	1.4		Н	14.66					
		•	1.4MHz(RE	3 size 6 &	RB offset 0)						
1710 70	10057	ODSK	4.4	Н	V	19.70					
1710.70	19957	QPSK	1.4		Н	13.60	20.00	Door			
1710.70	19957	16QAM	1.4	Н	V	19.00	30.00	Pass			
1710.70	19907	IOQAW	1.4	П	Н	13.90					

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	21.17		
1732.50	20175	QFSK	1.4	П	Н	14.71	30.00	Pass
1732.50	20175	16QAM	1.4	Н	V	20.08	30.00	Pa55
1732.50	20173	IOQAW	1.4	П	Н	14.86		
		1	.4MHz(RE	3 size 3 &	RB offset 0)			
1732.50	20175	QPSK	1.4	Н	V	20.63	30.00	Pass
1732.50	20175	QPSK	1.4	П	Н	14.32		
1732.50	20175	16QAM	1.4	Н	V	19.23		
1732.50	20175	TOQAW	1.4	- 11	Н	14.36		
		1	.4MHz(RE	3 size 6 &	RB offset 0)			
1722.50	20175	ODCK	1.1	Ш	V	19.61		
1732.50	20175	QPSK	1.4 H		Н	13.13	20.00	D
1732.50	20175	160AM	1.4	Н	V	19.37	30.00	Pass
1732.50	20173	16QAM	1.4	П	Н	13.73		





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)			
1754.30	20393	QPSK	1.4	Н	V	21.37		
1754.50	20393	QFSK	1.4	П	Н	14.73	30.00	Door
1754 20	20393	16QAM	1.4	Н	V	20.34	30.00	Pass
1754.30	20393	IOQAIVI	1.4	П	Н	14.45		
		•	1.4MHz(RE	3 size 3 & F	RB offset 0)			
1754.30	20202	QPSK	1.4	Н	V	20.52		Door
1754.30	20393	QPSK	1.4		Н	14.27	30.00	
1754.30	20393	16QAM	1.4	Н	V	19.70	30.00	Pass
1754.50	20393	IOQAW	1.4	П	Н	14.01		
		,	1.4MHz(RE	3 size 6 & F	RB offset 0)			
1754.20	20202	ODSK	1.4	Ш	V	19.93		
1754.30	20393	QPSK	1.4 H		Н	13.30	20.00	D
1754 20	20202	160 AM	1.4	Н	V	19.13	30.00	Pass
1754.30	20393	16QAM	1.4	П	Н	13.37		

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	ODSK	20	Ш	V	21.16				
1720.00	20050	QPSK	20	Н	Н	14.34	20.00	Doos		
1720.00	20050	16O A M	20	Ш	V	20.77	30.00	Pass		
1720.00	20050	16QAM	20	Н	Н	14.82				
		20MHz	(RB size 50	& RB offse	et 0)					
1720.00	20050	ODSK	20	Н	V	21.69				
1720.00	20050	QPSK	20	П	Н	12.85	30.00	Pass		
1720.00	20050	16QAM	20	Н	V	21.41	30.00	Pa55		
1720.00	20030	TOQAM	20		Н	13.59				
		20MHz(RB size 100	& RB offs	et 0)					
1720.00	20050	QPSK	20	Н	V	21.41				
1720.00	20050	QFSK	20	П	Н	12.77	20.00	Door		
1720.00	20050	16QAM	20	Н	V	21.16	30.00	Pass		
1720.00	20000	TOQAM	20	17	Н	13.27				



Middle channel											
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
	20MHz(RB size 1 & RB offset 0)										
1732.50	20175	QPSK	20	Н	V	21.17					
1732.30	20173	QF 5R	20	11	Н	14.72	30.00	Pass			
1732.50	20175	16QAM	20	Н	V	20.24	30.00	rass			
1732.50	20175	TOQAM	20	П	Н	14.46					
	20MHz(RB size 50 & RB offset 0)										
1732.50	20175	QPSK	20	Н	V	21.69					
1732.50	20175	QFSK	20	11	Н	12.90	30.00	Pass			
1732.50	20175	16QAM	20	Н	V	21.02	30.00	F a 5 5			
1732.50	20175	TOQAM	20	П	Н	13.21					
		20	MHz(RB siz	e 100 & RI	B offset 0)						
1732.50	20175	QPSK	20	Н	V	21.15					
1732.50	20175	QFSK	20	11	Н	12.50	30.00	Pass			
1732.50 20175	16QAM	20	Н	V	21.03	30.00	F a 5 5				
1732.50	20175	IOQAW	20	П	Н	13.37					

High channel

nigh channel										
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
20MHz(RB size 1 & RB offset 0)										
1745.00	20300	QPSK	20	Н	V	21.73				
1745.00	20300	QFSK	20	П	Н	14.36	20.00	Pass		
1745.00	20300	16QAM	20	Н	V	20.65	30.00	rass		
1745.00	20300	TOQAM	20	П	Н	14.53				
20MHz(RB size 50 & RB offset 0)										
1745.00	20200		20	Н	V	21.30				
1745.00	20300	QPSK	20	П	Н	12.02	30.00	Pass		
1745.00	20300	16QAM	20	Н	V	21.21	30.00	Fa55		
1745.00	20300	IOQAW	20	П	Н	13.11				
		2	20MHz(RB siz	e 100 & RI	3 offset 0)					
1745.00	20200	OBSK	20	Ш	V	21.16				
1745.00	20300	QPSK	20	20	Н	Н	12.63	20.00	Door	
1745.00	20200	16QAM 20	H V 21.39	21.39	30.00	Pass				
1745.00	20300	IOQAM	20	17	Н	13.93				





LTE band 5 part

Lowest 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)										
824.70	20407	QPSK	1.4	Н	V	28.59					
024.70	20407	QF3K	1.4	11	Н	19.73	38.45	Pass			
824.70	20407	16QAM	1.4	н	V	28.51	30.43	Fa55			
024.70	20407	IOQAW	1.4	11	Н	19.72					
	1.4MHz(RB size 3& RB offset 0)										
824 70	824.70 20407 QPSK	OPSK	1.4	Н	V	28.25					
024.70	20401	QI OIV	1.4	.,	Н	19.30	38.45	Pass			
824.70	20407	16QAM	1.4	Н	V 27.73		36.43	1 433			
024.70	20401	TOGAWI	1.4	.,	Н	19.44					
		•	1.4MHz(RI	B size 6&	RB offset 0)						
824.70	20407	QPSK	1 /	Н	V	25.67					
024.70	20407	QF SIX	1.4	11	Н	17.45	38.45	Pass			
824.70	20407	16QAM	1 /	ш	V	26.32	30.43	газэ			
024.70	20407	IOQAW	1.4 H	11	Н	17.64					

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)									
836.50	20525	QPSK	1.4	Н	V	28.84				
030.50	20525	QPSK	1.4	П	Н	19.24	38.45	Pass		
836.50	20525	16QAM	1 1	Ш	V	28.45	30.43	Fa55		
630.30	20525	IOQAM	1.4 H		Н	19.54				
1.4MHz(RB size 3& RB offset 0)										
836.50	20525	QPSK	1.4	Н	V	28.46				
630.50	20323	QFSK	1.4	т '' Н	Н	19.68	38.45	Pass		
836.50	20525	16QAM	1.4	н	V	27.87	30.43	rass		
830.30	20323	IOQAW	1.4	11	Н	19.70				
		1	.4MHz(RI	B size 6&	RB offset 0)					
836.50	20525	QPSK	1.4	Н	V	25.37				
636.50	20323	QPSK	1.4	п	Н	17.08	20 15	Door		
836.50 2052	20525	16QAM	1.4	Н	V	26.34	38.45	Pass		
030.50	20020	TOQAM	M 1.4	11	Н	17.42				





Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result		
			1.4MHz(RE	size 1 & F	RB offset 0)					
848.30	20643	QPSK	1.4	Н	V	28.27				
040.30	20043	QPSK	1.4	П	Н	19.26	20 45	Pass		
949 20	20643	16O A M	1.4	Н	V	28.63	38.45	Fa55		
848.30	20043	16QAM	1.4	П	Н	19.23				
	1.4MHz(RB size 3& RB offset 0)									
040.20	20642		1.1	Н	V	28.39				
848.30	20643	QPSK	1.4 П	Н	19.30	38.45	Pass			
848.30	20643	16QAM	1.4	Н	V	27.01	30.43	Fa55		
040.30	20043	IOQAW	1.4	П	Н	19.13				
			1.4MHz(RE	3 size 6& F	RB offset 0)					
0.40.00	20042	ODCK	4.4	11	V	25.36				
848.30	20643	QPSK	1.4	Н	Н	17.66	20.45			
0.40.20	19.20 20642 46OAM 4.4	4.4	Ш	V	26.69	38.45	Pass			
848.30	20643	16QAM	1.4	Н	Н	17.23				

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)									
920.00	20450	ODSK	10	Ш	V	27.56				
829.00	20450	QPSK	10	Н	Н	19.06	20.45	Doos		
829.00	20450	16QAM	10	Н	V	27.56	38.45	Pass		
629.00	20430	TOQAM	10	П	Н	19.07				
	10MHz(RB size 25& RB offset 0)									
920.00	20450	ODSK	10	Н	V	26.94				
829.00	20450	QPSK	10	П	Н	18.44	38.45	Pass		
829.00	20450	16QAM	10	Н	V	26.92	30.43	Pa55		
029.00	20450	TOQAM	10		Н	18.37				
		10MHz	(RB size 50	& RB offse	et 0)					
829.00	20450	QPSK	10	Н	V	26.79				
629.00	20430	QFSK	10	П	Н	18.57	20 AE	Door		
920.00	829.00 20450 16QAM	160AM	10	Н	V	27.15	38.45	Pass		
029.00	20430	TOQAM	10	17	Н	18.54				



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)					
926 50	20525	ODSK	10	Н	V	27.82				
836.50	20525	QPSK	10	П	Н	19.27	38.45	Pass		
836.50	20525	16QAM	10	Н	V	27.70	30.43	Pass		
636.50	20020	TOQAW	10	П	Н	19.08				
	10MHz(RB size 25& RB offset 0)									
836.50	20525	QPSK	10	Н	V	26.81				
030.30	20525	QFSK	10	П	Н	18.18	38.45	Pass		
836.50	20525	16QAM	10	Н	V	26.02	30.43	F 455		
636.50	20020	TOQAW	10	П	Н	18.23				
		10	MHz(RB siz	ze 50 & RE	3 offset 0)					
836.50	20525	QPSK	10	Н	V	26.30				
636.50	20525	QPSK	10	П	Н	18.09	20.45	Doos		
836.50	20525	16QAM	10	Н	V	27.91	38.45	Pass		
030.50	20020	TOQAW	10	11	Н	18.14				

High channel

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)									
844.00	20600	QPSK	10	Н	V	27.42				
044.00	20000	QFSK	10	Г	Н	19.26	38.45	Pass		
844.00	20600	16QAM	10	Ι	V	27.27	30.40	Pass		
044.00	20000	TOQAM	10	11	Н	19.71				
10MHz(RB size 25& RB offset 0)										
844.00	20600	QPSK		10 H V	26.15					
044.00	20000	QFSK	10		Н	18.53	38.45	Pass		
844.00	20600	16QAM	10	Ι	V	26.39	30.40	rass		
044.00	20000	TOQAW	10	П	Н	18.31				
			10MHz(RB s	size 50 &	RB offset 0)				
844.00	20600	QPSK	10	Н	V	26.13				
044.00	20000	QFSK	10	П	Н	18.36	20.45	Door		
844.00	20600	16QAM	10	Η	V	27.65	38.45	Pass		
044.00	20000	TOQAM			Н	18.86				





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 & F	RB offset 0)					
2502.50	20775	QPSK	5	Н	V	13.31				
2302.30	20113	QI SIX	3		Н	14.81	33.00	Pass		
2502.50	20775	16QAM	5	Н	V	12.32	33.00	F 033		
2502.50	20775	TOQAM	5	Г	Н	14.88				
	5MHz(RB size 12 & RB offset 0)									
2502.50	20775	QPSK	5	Н	V	12.39				
2302.30	20775	QFSK	5		Н	13.89	33.00	Pass		
2502.50	20775	16QAM	5	Н	V	12.60	33.00	F d 5 5		
2302.30	20113	TOQAM	3	11	Н	14.40				
		!	5MHz(RB	size 25 &	RB offset 0)					
2502.50	20775	QPSK	E	Н	V	12.50				
2502.50	20775	QF3K	5	П	Н	14.51	33.00	Pass		
2502.50	20775	16QAM	5	Ц	V	12.46	33.00	Fa55		
2302.30	20113	TOQAW	5 H	11	Н	15.07				

Middle channel

	widdle Charinei										
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result			
5MHz(RB size 1 & RB offset 0)											
2535.00	21100	QPSK	5	Н	V	13.25					
2555.00	21100	QFSK	5	П	Н	14.50	33.00	Pass			
2535.00	21100	16QAM	5	Н	V	12.02	33.00	Fa55			
2555.00	21100	TOQAW	5		Н	14.26					
5MHz(RB size 12 & RB offset 0)											
2535.00		5	Н	V	12.62						
2555.00	21100	QF3K	5	3 11	Н	13.20	33.00	Pass			
2535.00	21100	16QAM	5	Н	V	12.03	33.00	rass			
2555.00	21100	IOQAW	5	П	Н	14.34					
		5	MHz(RB	size 25 &	RB offset 0)						
2535.00	21100	QPSK	5	Н	V	12.42					
2555.00	21100	QPSK	5	п	Н	14.25	33.00	Pass			
2535.00 2110	21100	16QAM	5	Н	V	12.53	33.00	F d 5 5			
2000.00	21100	TOQAM	5	, 1	Н	15.39					





Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
	5MHz(RB size 1 & RB offset 0)									
2567.50	21425	QPSK	5	Н	V	13.98				
2567.50	21423	QFSK	5	П	Н	14.83	33.00	Pass		
2567.50	21425	16QAM	5	Н	V	12.36	33.00	Fa55		
2567.50	21423	IOQAW	5	П	Н	14.68				
			5MHz(RB	size 12 & F	RB offset 0)					
2567.50	21425	QPSK		5	Н	V	12.88			
2567.50	21425	QPSK	5	П	Н	13.80	33.00	Pass		
2567.50	21425	16QAM	5	Н	V	12.01	33.00	Fa55		
2567.50	21423	IOQAW	5	П	Н	14.12				
			5MHz(RB	size 25 & F	RB offset 0)					
2567.50	24.425	ODSK	E	Ш	V	12.24				
2567.50	21425	QPSK	5	Н	Н	14.46	22.00	Door		
2567.50	21425 16QAM 5		Н	V	12.63	33.00	Pass			
2567.50	21425	IOQAW	3	П	Н	15.31				

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result		
	20MHz(RB size 1 & RB offset 0)									
2510.00	20050	ODSK	20	Ш	V	12.88				
2510.00	20850	QPSK	20	Н	Н	15.13	22.00	Doos		
2510.00	20850	16QAM	20	Н	V	13.09	33.00	Pass		
2510.00	20000	IOQAW	20	П	Н	15.50				
	20MHz(RB size 50 & RB offset 0)									
2510.00	20050	ODSK	20	Н	V	12.21				
2510.00	20850	QPSK	20	П	Н	14.03	33.00	Pass		
2510.00	20850	16QAM	20	Н	V	12.06	33.00	Pa55		
2510.00	20030	TOQAW	20		Н	14.64				
		20MHz(RB size 100	& RB offs	et 0)					
2510.00	20850	QPSK	20	Н	V	11.52				
2510.00	20000	QF3N	20	П	Н	12.66	33.00	Pass		
2510.00	510.00 20850 16QAM	20	Н	V	11.27	33.00	rass			
2510.00	20000	IOQAW	20	20	17	Н	14.14			



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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	12.25			
2555.00	21100	QFSN	20	П	Н	15.50	33.00	Pass	
2535.00	21100	16QAM	20	Н	V	13.04	33.00	F 455	
2555.00	21100	IOQAW	20	П	Н	15.42			
	20MHz(RB size 50 & RB offset 0)								
2525.00	21100	ODSK	20	Ш	V	12.24			
2535.00	21100	QPSK	20	Н	Н	14.47	33.00	Door	
2535.00	21100	16QAM	20	1.1	V	12.73	33.00	Pass	
2555.00	21100	IOQAW	20	Η	Н	14.35			
		20	MHz(RB siz	e 100 & RI	B offset 0)				
2525.00	21100	ODSK	20	Н	V	11.54			
2535.00	21100	QPSK	20		Н	12.45	22.00	Door	
2535.00	21100	16QAM	20	Н	V	11.53	33.00	Pass	
2035.00	21100	TOQAW	20	П	Н	14.39			

High channe

	High channel								
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result	
			20MHz(RB	size 1 &	RB offset 0)				
2560.00	21350	QPSK	20	Н	V	12.98			
2560.00	21330	QFSK	20	Г	Н	15.83	33.00	Pass	
2560.00	21350	16QAM	20	Н	V	13.36	33.00	F 455	
2300.00	21330	TOQAM	20	!!	Н	15.89			
20MHz(RB size 50 & RB offset 0)									
2560.00	21350	QPSK	20	Н	V	12.80			
2300.00	21330	QFSK	20	11	Н	14.11	33.00	Pass	
2560.00	21350	16QAM	20	Н	V	12.12	33.00	rass	
2300.00	21330	TOQAM	20	!!	Н	14.27			
		2	20MHz(RB s	ize 100 8	RB offset (0)			
2560.00	21350	QPSK	20	Н	V	11.73			
2300.00	21330	QF SIX	20		Н	12.39	33.00	Pass	
2560.00	21350	16QAM	20	Н	V	11.93	33.00	F 455	
2300.00	21330	IOQAW	20	11	Н	14.38			





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	23.94			
706.50	23733	QFSK	5	П	Н	16.84	24.77	Pass	
706.50	23755	16QAM	5	Н	V	23.35	34.77	Fa55	
706.50	23/33	IOQAW	5	П	Н	16.36			
	5MHz(RB size 12 & RB offset 0)								
706.50	23755	QPSK	5	Н	V	23.14	34.77	Pass	
706.50	23733	QFSK	5	11	Н	16.16			
706.50	23755	16QAM	5	5 H	V	23.13	34.77	Fa55	
700.50	23755	TOQAW	5	[]	Н	16.11			
		!	5MHz(RB	size 25 8	RB offset 0)				
706.50	23755	QPSK	5	Н	V	23.17			
700.50	23/33	QF3N	3	П	Н	16.26	34.77	Pass	
706.50	23755	16QAM	5	Н	V	23.66	34.11	газэ	
700.50	23733	TOQAM	3	11	Н	16.52			

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result			
	5MHz(RB size 1 & RB offset 0)										
710.00	23790	QPSK	5	Н	V	23.70					
7 10.00	23790	QF5K	5	11	Н	16.07	34.77	Pass			
710.00	23790	16QAM	5	Н	V	23.75	34.77	F 455			
7 10.00	23790	IOQAM	5	П	Н	16.59					
	5MHz(RB size 12 & RB offset 0)										
710.00	23790	QPSK	5	Н	V	23.01					
7 10.00	23790	QFSK	5	Г	Н	16.10	34.77	Pass			
710.00	23790	16QAM	5	Н	V	23.04	34.77	Fd55			
7 10.00	23790	TOQAM	5		Н	16.46					
			5MHz(RE	size 25 &	RB offset 0)						
710.00	22700	ODCK	E	Н	V	23.62					
710.00	23790	QPSK	5	Г	Н	16.29	34.77	Pass			
710.00	23790	16QAM	5	Н	V	23.99	34.11	газэ			
7 10.00	23130	IUQAW	J	11	Н	16.91					





Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result			
	5MHz(RB size 1 & RB offset 0)										
712.50	22025	ODSK	5	Н	V	23.14					
713.50	23825	QPSK	5	П	Н	16.42	34.77	Pass			
712.50	22025	160AM	5	Н	V	23.10	34.77	F455			
713.50	23825	16QAM	5	П	Н	16.23					
	5MHz(RB size 12 & RB offset 0)										
713.50	23825	QPSK	E	Н	V	23.02		Pass			
713.50	23023	QFSK	5	11	Н	16.36	24 77				
713.50	23825	16QAM	5	Н	V	23.66	34.77				
7 13.50	23023	TOQAM	5	П	Н	16.63					
			5MHz(RB	size 25 &	RB offset 0)						
712.50	22025	ODSK	E	Н	V	23.39					
713.50	23825	QPSK	5	П	Н	16.03	24 77	Door			
713.50	23825	16QAM	5	Н	V	23.01	34.77	Pass			
7 13.50	23623	IOQAW	3	П	Н	16.36					

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result			
	10MHz(RB size 1 & RB offset 0)										
709.00	23780	QPSK	10	Н	V	23.70					
709.00	23760	QFSK	10		Н	16.41	34.77	Page			
709.00	23780	16QAM	10	Н	V	23.55	34.77	Pass			
709.00	23700	IOQAW	10	П	Н	16.24					
		•	10MHz(R	B size 258	RB offset 0)						
700.00	22700	QPSK	10	Н	V	23.53		Dage			
709.00	23780	QFSK	10	П	Н	16.39	34.77				
709.00	23780	16QAM	10	Н	V	23.73	34.77	Pass			
709.00	23760	TOQAM	10		Н	16.23					
		•	10MHz(R	B size 508	RB offset 0)						
709.00	23780	QPSK	10	Н	V	22.72					
709.00	23/00	QF3N	10	П	Н	15.14	34.77	Pass			
709.00	23780	16QAM	10	Н	V	22.96	34.77	F d S S			
703.00	23700	IOQAW	10	11	Н	15.31					





Middle 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)				
710.00	23790	QPSK	10	Н	V	23.71			
710.00	23790	QFSK	10	П	Н	16.10	34.77	Pass	
710.00	23790	16QAM	10	Н	V	23.01	34.77	F a 5 5	
7 10.00	23790	IOQAW	10		Н	16.18			
	10MHz(RB size 25& RB offset 0)								
710.00	23790	QPSK	10	Н	V	23.87		Door	
7 10.00	23/90	QFSK	10	10 11	Н	16.71	34.77		
710.00	23790	16QAM	40	10	Н	V	23.11	34.77	Pass
7 10.00	23790	IOQAW	10		Н	16.12			
			10MHz(R	B size 50&	RB offset 0)				
740.00	00700	ODCK	40	1.1	V	22.73			
710.00	23790	QPSK	10	Н	Н	15.30	24.77	Door	
710.00	23790	16QAM	10	Н	V	22.01	34.77	Pass	
7 10.00	23790	IOQAW	10	П	Н	15.14			

Highest channel

	nighest chainlei										
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	23.42					
711.00	23000	QFSK	10	П	Н	16.22	24 77	Pass			
711.00	23800	16QAM	10	Н	V	23.02	34.77	Fa55			
711.00	23000	IOQAW	10	П	Н	16.22					
	10MHz(RB size 25& RB offset 0)										
711.00	23800	QPSK	10	Н	V	23.29	- 34.77				
711.00	23000	QFSK	10	П	Н	16.96		Pass			
711.00	23800	16QAM	10	Н	V	23.63		Fa55			
711.00	23000	IOQAW	10	П	Н	16.39					
		•	10MHz(R	B size 50&	RB offset 0)						
711.00	22000	ODSK	10	Н	V	22.30					
711.00	23800	QPSK	10	П	Н	15.01	34.77	Pass			
711.00	23800	16QAM	10 H	-	V	22.13	34.77	F d 5 5			
711.00	23000	IOQAW	10	П	Н	15.37					



6.11 Field strength of spurious radiation measurement

	purious radiation measurement
Test Requirement:	FCC Part 22.917(a), Part 24.238 (a), Part 27.53(g), Part 27.53(m), Part 27.53(h)
Test Method:	FCC part2.1053
Limit:	LTE Band 2, LTE Band 4, LTE Band 5 and LTE Band 17: -13dBm, LTE Band 7: -25dBm
Test setup:	Below 1GHz
	Antenna Tower Search Antenna RF Test Receiver Tum Table A Ground Plane
	Above 1GHz
	Antenna Tower Horn Antenna Spectrum Analyzer Turn 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 1-4 meter S.G. Substituted Dipole or Horn Antenna Bi-Log Antenna or Horn Antenna
Test Procedure:	 The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. During the tests, the antenna height and the EUT azimuth were
Shenzhen Zhongjian Nanfang Testing	varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission Co., Ltd. Project No.: CCISE1606042

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China
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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.





LTE band 2 part:

		LTE band 2 part: ze 1 & RB offset 0) f	or QPSK	
F (MILL)	Spurious I			D !!
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3701.40	Vertical	-46.69		
5552.10	V	-34.65		
7402.00	V	-37.05	42.00	Dana
3701.40	Horizontal	-46.17	-13.00	Pass
5552.10	Н	-33.58		
7402.00	Н	-40.70		
		Middle		
3760.00	Vertical	-44.94		
5640.00	V	-39.40		
7520.00	V	-41.25	42.00	Dana
3760.00	Horizontal	-47.26	-13.00	Pass
5640.00	Н	-40.16		
7520.00	Н	-42.46		
		Highest		
3816.60	Vertical	-46.97		
5724.90	V	-35.15		
7633.20	V	-41.86	42.00	Dees
3816.60	Horizontal	-46.52	-13.00	Pass
5724.90	Н	-36.00		
7633.20	Н	-37.13		





	2MHz/DR ci-	70 1 & DR offsot (1)	for ODSK	
3MHz(RB size 1 & RB offset 0) for QPSK Spurious Emission Limit (dBra) Book				
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
Lowest				
3703.00	Vertical	-49.89	-13.00	Pass
5554.50	V	-26.42		
7406.00	V	-37.40		
3703.00	Horizontal	-49.14		
5554.50	Н	-17.45		
7406.00	Н	-38.33		
		Middle		·
3760.00	Vertical	-44.57	-13.00	Pass
5640.00	V	-36.62		
7520.00	V	-39.11		
3760.00	Horizontal	-46.47		
5640.00	Н	-36.12		
7520.00	Н	-40.86		
		Highest		
3817.00	Vertical	-46.48	-13.00	Pass
5725.50	V	-37.56		
7634.00	V	-41.54		
3817.00	Horizontal	-47.42		
5725.50	Н	-34.40		
7634.00	Н	-41.12		





	5MHz(RB siz	ze 1 & RB offset 0) fo	or QPSK	
Fraguency (MHz)	•	Emission		Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3705.00	Vertical	-46.38		
5557.50	V	-34.81		
7410.00	V	-37.57	-13.00	Door
3705.00	Horizontal	-46.76	-13.00	Pass
5557.50	Н	-33.81		
7410.00	Н	-40.73		
<u>.</u>		Middle		
3760.00	Vertical	-44.64		
5640.00	V	-39.15		
7520.00	V	-41.32	42.00	Dana
3760.00	Horizontal	-47.43	-13.00	Pass
5640.00	Н	-40.03		
7520.00	Н	-42.97		
		Highest		
3815.00	Vertical	-46.42		
5722.50	V	-35.40		
7630.00	V	-41.63	-13.00	Door
3815.00	Horizontal	-46.52		Pass
5722.50	Н	-36.73		
7630.00	Н	-37.12		





Spurious Emission Level (dBm) Limit (dBm) Result		10MHz(RB si	ze 1 & RB offset 0) f	or QPSK	
Comparison Com		Spurious	Emission		
3710.00	Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
5565.00 V -26.56 7420.00 V -37.15 3710.00 Horizontal -49.33 5565.00 H -17.62 7420.00 H -38.47 Middle 3760.00 Vertical -44.15 5640.00 V -36.67 7520.00 V -39.60 3760.00 Horizontal -46.62 5640.00 H -36.82 7520.00 H -40.46 Highest 3810.00 Vertical -46.63 5715.00 V -37.12 7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83	<u>.</u>		Lowest		
7420.00 V -37.15 -13.00 Pass 3710.00 Horizontal -49.33 -13.00 Pass 5565.00 H -17.62	3710.00	Vertical	-49.38		
3710.00 Horizontal -49.33 5565.00 H -17.62 7420.00 H -38.47 Middle	5565.00	V	-26.56		
3710.00	7420.00	V	-37.15	12.00	Door
7420.00 H -38.47 Middle 3760.00 Vertical -44.15 5640.00 V -36.67 -7520.00 Horizontal -46.62 -13.00 Pass 5640.00 Highest 3810.00 Vertical -46.63 5715.00 V -37.12 -13.00 Pass 3810.00 Volumental -47.47 -13.00 Pass 5715.00 Horizontal -47.47 -13.00 Pass	3710.00	Horizontal	-49.33	-13.00	Pass
Middle 3760.00 Vertical -44.15 5640.00 V -36.67 7520.00 V -39.60 3760.00 Horizontal -46.62 5640.00 H -36.82 7520.00 H -40.46 Highest 3810.00 Vertical -46.63 5715.00 V -37.12 7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83	5565.00	Н	-17.62		
3760.00 Vertical -44.15	7420.00	Н	-38.47		
5640.00 V -36.67 7520.00 V -39.60 3760.00 Horizontal -46.62 5640.00 H -36.82 7520.00 H -40.46 Highest 3810.00 Vertical -46.63 5715.00 V -37.12 7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83	<u> </u>		Middle		
7520.00 V -39.60 3760.00 Horizontal -46.62 5640.00 H -36.82 7520.00 H -40.46 Highest 3810.00 Vertical -46.63 5715.00 V -37.12 7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83	3760.00	Vertical	-44.15		
3760.00 Horizontal -46.62 5640.00 H -36.82 7520.00 H -40.46 Highest 3810.00 Vertical -46.63 5715.00 V -37.12 7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83	5640.00	V	-36.67		
3760.00	7520.00	V	-39.60	42.00	Dese
7520.00 H -40.46 Highest 3810.00 Vertical -46.63 5715.00 V -37.12 7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83	3760.00	Horizontal	-46.62	-13.00	Pass
Highest 3810.00 Vertical -46.63 5715.00 V -37.12 7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83	5640.00	Н	-36.82		
3810.00 Vertical -46.63 5715.00 V -37.12 7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83	7520.00	Н	-40.46		
5715.00 V -37.12 7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83			Highest		
7620.00 V -41.49 3810.00 Horizontal -47.47 5715.00 H -34.83	3810.00	Vertical	-46.63		
3810.00 Horizontal -47.47 5715.00 H -34.83	5715.00	V	-37.12		
3810.00 Horizontal -47.47 5715.00 H -34.83	7620.00	V	-41.49	-13.00	Door
	3810.00	Horizontal	-47.47		Pass
7620.00 H -41.04	5715.00	Н	-34.83		
	7620.00	Н	-41.04		





	15MU-/DR	size 1 & RB offset 0) for OPSK	
		s Emission		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		-
3715.00	Vertical	-46.25		
5572.50	V	-34.53		
7430.00	V	-37.24	40.00	Dana
3715.00	Horizontal	-46.14	-13.00	Pass
5572.50	Н	-33.99		
7430.00	Н	-40.36		
		Middle		
3760.00	Vertical	-44.47		Pass
5640.00	V	-39.11		
7520.00	V	-41.41	-13.00	
3760.00	Horizontal	-47.45	-13.00	
5640.00	Н	-40.59		
7520.00	Н	-42.13		
		Highest		
3805.00	Vertical	-46.43		
5707.50	V	-35.68		
7610.00	V	-41.35	-13.00	Pass
3805.00	Horizontal	-46.47		Pass
5707.50	Н	-36.50		
7610.00	Н	-37.31		





	20MHz(RB size 1 & RB offset 0) for QPSK					
	Spurious	Emission		Result		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)			
		Lowest				
3720.00	Vertical	-49.48				
5580.00	V	-26.15				
7440.00	V	-37.84	-13.00	Pass		
3720.00	Horizontal	-49.09	-13.00	Pass		
5580.00	Н	-17.71				
7440.00	Н	-38.35				
		Middle				
3760.00	Vertical	-44.44				
5640.00	V	-36.98				
7520.00	V	-39.83	12.00	Door		
3760.00	Horizontal	-46.84	-13.00	Pass		
5640.00	Н	-36.40				
7520.00	Н	-40.67				
		Highest				
3800.00	Vertical	-46.71				
5700.00	V	-37.94				
7600.00	V	-41.05	-13.00	Door		
3800.00	Horizontal	-47.99		Pass		
5700.00	Н	-34.57				
7600.00	Н	-41.97				





LTE Band 4 Part:

		ze 1 & RB offset 0) f	for QPSK	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
Frequency (IVIFIZ)	Polarization	Level (dBm)	Limit (ubin)	Kesuit
		Lowest		
3421.40	Vertical	-45.69		
5132.10	V	-23.59		
6842.80	V	-40.73	-13.00	Pass
3421.40	Horizontal	-46.59	-13.00	Pass
5132.10	Н	-37.90		
6842.80	Н	-43.29		
<u> </u>		Middle		<u>.</u>
3465.00	Vertical	-45.28		
5197.50	V	-30.96		
6930.00	V	-40.85	40.00	Dana
3465.00	Horizontal	-46.35	-13.00	Pass
5197.50	Н	-22.79		
6930.00	Н	-39.78		
<u> </u>		Highest		<u>.</u>
3508.60	Vertical	-46.84		
5262.90	V	-36.62		
7017.20	V	-41.27	-13.00	Desa
3508.60	Horizontal	-47.60		Pass
5262.90	Н	-33.60	1	
7017.20	Н	-40.91	1	





	3MHz(RB size	e 1 & RB offset 0) fo	r QPSK	
Fraguency (MHz)	Spurious			Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3423.00	Vertical	-46.84		
5134.50	V	-24.42		
6846.00	V	-39.60	-13.00	Pass
3423.00	Horizontal	-46.58	-13.00	Pass
5134.50	Н	-22.42		
6846.00	Н	-40.01		
<u> </u>		Middle		
3465.00	Vertical	-46.45		
5197.50	V	-28.31		
6930.00	V	-39.18	-13.00	Pass
3465.00	Horizontal	-48.42	-13.00	Pass
5197.50	Н	-23.46		
6930.00	Н	-40.50		
<u>.</u>		Highest		
3507.00	Vertical	-47.88		
5260.50	V	-32.11		
7014.00	V	-41.12	-13.00	Door
3507.00	Horizontal	-46.39		Pass
5260.50	Н	-24.33		
7014.00	Н	-39.43		





	5MHz(RB siz	ze 1 & RB offset 0) fo	or QPSK	
Frequency (MHz)		Emission	Limit (dBm)	Result
riequericy (MHZ)	Polarization	Level (dBm)	LIIIII (UDIII)	Result
		Lowest		
3425.00	Vertical	-45.35		
5137.50	V	-23.70		
6850.00	V	-40.65	42.00	Door
3425.00	Horizontal	-46.58	-13.00	Pass
5137.50	Н	-37.84		
6850.00	Н	-43.41		
<u> </u>		Middle		
3465.00	Vertical	-45.42		
5197.50	V	-30.49		
6930.00	V	40.87	42.00	Dese
3465.00	Horizontal	-46.79	-13.00	Pass
5197.50	Н	-22.71		
6930.00	Н	-39.84		
·		Highest		
3505.00	Vertical	-46.12		
5257.50	V	-36.99		
7010.00	V	-41.23	-13.00	Door
3505.00	Horizontal	-47.85		Pass
5257.50	Н	-33.28		
7010.00	Н	-40.36		





	10MHz(RB s	ize 1 & RB offset 0)	for QPSK	
Г., (NALL—)		Emission		Danult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
		Lowest		
3430.00	Vertical	-46.35		
5145.00	V	-24.52		
6860.00	V	-39.69	-13.00	Pass
3430.00	Horizontal	-46.51	-13.00	Pass
5145.00	Н	-22.20]	
6860.00	Н	-40.95]	
		Middle	<u> </u>	
3465.00	Vertical	-46.16		
5197.50	V	-28.04		
6930.00	V	-39.56	-13.00	Pass
3465.00	Horizontal	-48.65	-13.00	Pa55
5197.50	Н	-23.43		
6930.00	Н	-40.66		
		Highest		
3500.00	Vertical	-47.59		
5250.00	V	-32.39]	
7000.00	V	-41.62	-13.00	Pass
3500.00	Horizontal	-46.92		Pass
5250.00	Н	-24.99]	
7000.00	Н	-39.27]	





	15MHz(RB s	ize 1 & RB offset 0)	for QPSK			
Frequency (MHz)		Emission	Limit (dBm)	Result		
Frequency (Miriz)	Polarization	Level (dBm)	Lilliit (dbill)	Kesuit		
	Lowest					
3435.00	Vertical	-45.52				
5152.50	V	-23.27				
6870.00	V	-40.10	42.00	Daga		
3435.00	Horizontal	-46.54	-13.00	Pass		
5152.50	Н	-37.42				
6870.00	Н	-43.49]			
<u>.</u>		Middle				
3465.00	Vertical	-45.87				
5197.50	V	-30.11]			
6930.00	V	-40.77	42.00	Dana		
3465.00	Horizontal	-46.61	-13.00	Pass		
5197.50	Н	-22.87]			
6930.00	Н	-39.59				
		Highest				
3495.00	Vertical	-46.69				
5242.50	V	-36.21				
6990.00	V	-41.92	-13.00	Pass		
3495.00	Horizontal	-47.31		F 455		
5242.50	Н	-33.61				
6990.00	Н	-40.49				





	20MHz(RB si	ize 1 & RB offset 0) for QPSK	
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Result
rrequericy (Minz)	Polarization	Level (dBm)	Limit (ubin)	Resuit
		Lowest		
3440.00	Vertical	-46.83		
5160.00	V	-24.68		
6880.00	V	-39.31	-13.00	Door
3440.00	Horizontal	-46.32	-13.00	Pass
5160.00	Н	-22.89		
6880.00	Н	-40.18		
		Middle		
3465.00	Vertical	-46.62		
5197.50	V	-28.16		
6930.00	V	-39.57	-13.00	Pass
3465.00	Horizontal	-48.31	-13.00	Pass
5197.50	Н	-23.55		
6930.00	Н	-40.45		
		Highest		
3490.00	Vertical	-47.24		
5235.00	V	-32.97		
6980.00	V	-41.89	-13.00	Door
3490.00	Horizontal	-46.82		Pass
5235.00	Н	-24.53		
6980.00	Н	-39.42		





LTE Band 5 Part:

	1.4MHz(RB s	ize 1 & RB offset 0)	for QPSK			
	Spurious	Emission				
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
		Lowest				
1649.40	Vertical	-41.70				
2474.10	V	-52.16				
3298.80	V	-43.78	-13	Pass		
1649.40	Horizontal	-48.86	-13	Fa55		
2474.10	Н	-49.15				
3298.80	Н	-43.20				
		Middle				
1673.00	Vertical	-59.23				
2509.50	V	-52.70				
3346.00	V	-44.78	-13	Pass		
1673.00	Horizontal	-62.18	-13	F a55		
2509.50	Н	-50.07				
3346.00	Н	-47.95				
	Highest					
1696.60	Vertical	-46.40				
2544.90	V	-49.73				
3393.20	V	-43.66	-13	Pass		
1696.60	Horizontal	-53.48		F 455		
2544.90	Н	-49.17				
3393.20	Н	-42.32				





3MHz(RB size 1 & RB offset 0) for QPSK						
Гээ эх ээ эх (NALL=)	Spurious Emission			Desult		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	Lowest					
1651.00	Vertical	-39.25				
2476.50	V	-47.38				
3302.00	V	-46.95	-13	Pass		
1651.00	Horizontal	-52.95	-13	Fa55		
2476.50	Н	-50.39				
3302.00	Н	-49.42				
		Middle				
1673.00	Vertical	-49.95				
2509.50	V	-51.33				
3346.00	V	-48.16	-13	Pass		
1673.00	Horizontal	-57.73	-13	F455		
2509.50	Н	-51.65				
3346.00	Н	-48.39				
	Highest					
1695.00	Vertical	-42.69				
2542.50	V	-53.84				
3390.00	V	-45.95	-13	Pass		
1695.00	Horizontal	-47.07		Pass		
2542.50	Н	-50.45				
3390.00	Н	-48.53				





	5MHz(RB siz	ze 1 & RB offset 0) fo	or QPSK		
	Spurious	Emission			
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
		Lowest			
1653.00	Vertical	-41.16			
2479.50	V	-52.25]		
3306.00	V -43.71 Horizontal -48.48		-13	Pass	
1653.00			-13	Fd55	
2479.50	Н	-49.37]		
3306.00	Н	-43.23			
		Middle			
1673.00	Vertical	-59.25			
2509.50	V	-52.52			
3346.00	V	-44.68	-13	Pass	
1673.00	Horizontal	-62.37	-13	F d 5 5	
2509.50	Н	-50.24			
3346.00	Н	-47.55]		
		Highest			
1693.00	Vertical	-46.47			
2539.50	V	-49.93]		
3386.00	V	-43.52	-13	Pass	
1693.00	Horizontal	-53.40	-13	Pass	
2539.50	Н	-49.46]		
3386.00	Н	-42.49]		





10MHz(RB size 1 & RB offset 0) for QPSK							
Fragues av (MLI=)	Spurious	Emission	Limit (dDm)	Decult			
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result			
Lowest							
1658.00	Vertical	-39.17					
2487.00	V	-47.16					
3316.00	6.00 V -46.11		-13	Pass			
1658.00			-13	F 455			
2487.00							
3316.00	Н	-49.19					
		Middle					
1673.00	Vertical	-49.73					
2509.50	V	-51.93					
3346.00	V	-48.10	-13	Pass			
1673.00	Horizontal	-57.95	-13	Pass			
2509.50	Н	-51.04					
3346.00	Н	-48.40					
		Highest					
1688.00	Vertical	-42.33					
2532.00	V	-53.10					
3376.00	V	-45.47	-13	Pass			
1688.00	Horizontal	-57.94	-13	Pass			
2532.00	Н	-50.97					
3376.00	Н	-48.39					





LTE Band 7 Part:

5MHz(RB size 1 & RB offset 0) for QPSK						
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result		
1 requericy (Wil 12)	Polarization	Level (dBm)	Limit (dbin)	Nesuit		
5005.00	Vertical	-35.05				
7507.50	V	-39.25				
10010.00	V	-38.12	-25.00	Pass		
5005.00	Horizontal	-39.68	-25.00	Pass		
7507.50						
10010.00	Н	-42.15				
		Middle				
5070.00	Vertical	-44.01				
7605.00	V	-40.74				
10140.00	V	-40.73	35.00	Pass		
5070.00	Horizontal	-44.78	-25.00	Pass		
7605.00	Н	-40.90				
10140.00	Н	-39.34				
		Highest				
5135.00	Vertical	-39.31				
7702.50	V	-39.64				
10270.00	V	-39.42	-25.00	Pass		
5135.00	Horizontal	-43.50	-23.00	Pass		
7702.50	Н	-39.93				
10270.00	Н	-38.77				





	10MHz(RB s	size 1 & RB offset 0)	for QPSK			
5 (MIL)	•	s Emission		5 "		
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
Lowest						
5010.00	Vertical	-35.46				
7515.00	V	-39.16				
10020.00			-25.00	Pass		
5010.00			-25.00	Pass		
7515.00	Н	-39.38				
10020.00	Н	-39.49				
	<u> </u>	Middle				
5070.00	Vertical	-40.42		Pass		
7605.00	V	-39.43				
10140.00	V	-39.86	-25.00			
5070.00	Horizontal	-44.39	-25.00	Pass		
7605.00	Н	-40.15				
10140.00	Н	-39.64				
		Highest				
5130.00	Vertical	-43.61				
7695.00	V	-40.38				
10260.00	V	-39.49	-25.00	Pass		
5130.00	Horizontal	-44.64	-25.00	Pass		
7695.00	Н	-39.97				
10260.00	Н	-39.65				





	15MHz(RB s	size 1 & RB offset 0)	for QPSK		
Frequency (MHz)		Emission	Limit (dBm)	Pocult	
Frequency (Miriz)	Polarization	Level (dBm)	Limit (dbiii)	Result	
		Lowest			
5015.00	Vertical	-35.51			
7522.50	V	-39.77			
10030.00	0030.00 V -38.10 0015.00 Horizontal -39.13		25.00	Door	
5015.00			-25.00	Pass	
7522.50					
10030.00	Н	-42.02			
		Middle			
5070.00	Vertical	-44.38		Pass	
7605.00	V	-40.02			
10140.00	V	-40.24	25.00		
5070.00	Horizontal	-44.85	-25.00		
7605.00	Н	-40.22			
10140.00	Н	-39.43			
		Highest			
5125.00	Vertical	-39.57			
7687.50	V	-39.55			
10250.00	V	-39.64	25.00	Door	
5125.00	Horizontal	-43.61	-25.00	Pass	
7687.50	Н	-39.64			
10250.00	Н	-38.52			





	20MHz(RB si	ze 1 & RB offset 0)	for QPSK		
Frequency (MHz)	Spurious	Emission	Limit (dBm)	Popult	
Frequency (MHZ)	Polarization	Level (dBm)	LIIIII (UDIII)	Result	
		Lowest			
5020.00	Vertical	-35.63			
7530.00	V	-39.75			
10040.00	10040.00 V -39.83 5020.00 Horizontal -37.49 7530.00 H -39.67		-25.00	Door	
5020.00			-25.00	Pass	
7530.00					
10040.00	Н	-39.66			
		Middle	·		
5070.00	Vertical	-40.59		Pass	
7605.00	V	-39.59			
10140.00	V	-39.29	25.00		
5070.00	Horizontal	-44.15	-25.00		
7605.00	Н	-40.58	-		
10140.00	Н	-39.94			
		Highest			
5120.00	Vertical	-43.90			
7680.00	V	-40.95			
10240.00	V	-39.04	25.00	Door	
5120.00	Horizontal	-44.28	-25.00	Pass	
7680.00	Н	-39.85			
10240.00	Н	-39.42			





LTE Band 17 Part:

LIE Band 17 Part:							
5MHz(RB size 1 & RB offset 0) for QPSK							
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result			
1 requeries (Wil 12)	Polarization	Level (dBm)	Limit (dBin)	result			
Lowest							
1413.00	Vertical	-60.03					
2119.50	V	-56.18					
2826.00	V	-48.21	-13.00	Pass			
1413.00	Horizontal	-60.57	-13.00	F455			
2119.50	Н	-51.07					
2826.00	Н	-48.24					
	Middle						
1420.00	Vertical	-55.36					
2130.00	V	-57.39					
2840.00	V	-50.54	-13.00	Pass			
1420.00	Horizontal	-60.14	-13.00	Pa55			
2130.00	Н	-56.39					
2840.00	Н	-36.96					
		Highest					
1427.00	Vertical	-50.37					
2140.50	V	-53.79					
2854.00	V	-49.76	-13.00	Pass			
1427.00	Horizontal	-55.78	-13.00	F d 5 5			
2140.50	Н	-54.15					
2854.00	Н	-48.68					





	10MHz(RB siz	e 1 & RB offset 0) fo	or QPSK					
Fraguenov (MUz)	Spurious	Emission	L : it /-ID)	Dogult				
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result				
	Lowest							
1418.00	Vertical	-47.66						
2127.00	V	-50.81						
2836.00	V	-48.69	-13.00	Pass				
1418.00	Horizontal	-57.73	-13.00	Pass				
2127.00	Н	-53.97						
2836.00	Н	-51.24						
	Middle							
1420.00	Vertical	-48.64		Pass				
2130.00	V	-53.24						
2840.00	V	-49.34	-13.00					
1420.00	Horizontal	-53.69	-13.00					
2130.00	Н	-50.73						
2840.00	Н	-48.87						
		Highest						
1422.00	Vertical	-48.35						
2133.00	V	-50.32						
2844.00	V	-49.32	-13.00	Pass				
1422.00	Horizontal	-54.31	-13.00	F d 5 5				
2133.00	Н	-51.80						
2844.00	Н	-50.06						



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

Measurement Data (the worst channel):





LTE Band 2(QPSK):

		LTE Band	2(QPSK):		
Reference Fr	equency: LTE Band	2(1.4MHz) N	/liddle channel=18900	channel=1880.00)MHz
Power supplied	Temperature (°C)	Fre	equency error	Limit (ppm)	Result
(Vdc)	remperature (C)	Hz	ppm	сини (ррии)	Kesuit
	-30	195	0.103723		
	-20	123	0.065426		
	-10	149	0.079255		
	0	145	0.077128		
3.80	10	152	0.080851	±2.5	Pass
0.00	20	118	0.062766		1 433
	30	105	0.055851		
	40	139	0.073936		
	50	127	0.067553		
Poforonco F			iddle channel=18900	channel_1880 00	MUz
	requericy. LTL band	<u> </u>			IVII IZ
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
(Vuc)	00	Hz	ppm		
	-30	155	0.082447		
	-20	142	0.075532		Pass
	-10	126	0.067021		
	0	185	0.098404		
3.80	10	174	0.092553	±2.5	
	20	113	0.060106		
	30	126	0.067021		
	40	158	0.084043		
	50	108	0.057447		
Reference F	requency: LTE Band	2(5MHz) M	iddle channel=18900	channel=1880.00	MHz
D	T (°0)	Fre	Frequency error		D II
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	163	0.086702		
	-20	147	0.078191		
	-10	152	0.080851		
	0	146	0.077660		_
3.80	10	171	0.090957	±2.5	Pass
	20	163	0.086702		
	30	145	0.077128		
	40	133	0.070745	_	
	50	128	0.068085		





	- (05)	Fre	quency error		Result
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	
	-30	163	0.086702		
	-20	169	0.089894		
	-10	145	0.077128		
	0	141	0.075000		
3.80	10	136	0.072340	±2.5	Pass
	20	145	0.077128		
	30	152	0.080851		
	40	122	0.064894		
	50	107	0.056915		
Reference F	requency: LTE Band	2(15MHz) N	liddle channel=1890	0 channel=1880.00	MHz
Power supplied (Vdc)	Temperature (°C)	Fre	quency error	Limit (ppm)	D 11
rower supplied (vdc)	remperature (c)	Hz	ppm	Еппі (рріп)	Result
	-30	166	0.088298		
	-20	152	0.080851		Pass
	-10	145	0.077128		
	0	122	0.064894		
3.80	10	155	0.082447	±2.5	
	20	136	0.072340		
	30	147	0.078191		
	40	159	0.084574		
	50	148	0.078723		
Reference F	requency: LTE Band	L		0 channel=1880 00	MHz
	· · · ·		quency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	177	0.094149		
	-20	133	0.070745		
	-10	126	0.067021		
	0	142	0.075532		
3.80	10	125	0.066489	±2.5	D
3.60	20	109	0.057979		Pass
	20	100		_	
	30	123	0 065426	1	
	30 40	123 141	0.065426 0.075000	_	





LTE Band 2(16QAM):

		LTE Band 2	2(16QAM):		
Reference F	requency: LTE Band	2(1.4MHz)	Middle channel=18900	ochannel=1880.0	0MHz
	Temperature (°C)	Fi	requency error	Limit (nnm)	
Power supplied (Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	166	0.088298		
	-20	147	0.078191		
	-10	126	0.067021		
	0	133	0.070745		
3.80	10	152	0.080851	±2.5	Pass
3.00	20	108	0.057447		1 433
	30	136	0.072340		
	40	147	0.078191		
	50	160	0.085106		
Deference F				shannal 1990 00	MU¬
Releience r	requericy. LTE band	Z(SIVITZ) IVI	iddle channel=18900		IVIITZ
Dower ownlied ()/de)	Temperature (°C)	Frequency error		Limit (ppm)	Desuit
Power supplied (Vdc)	romporataro (c)	Hz	ppm		Result
	-30	174	0.092553		
	-20	153	0.081383		Pass
	-10	155	0.082447		
	0	142	0.075532		
3.80	10	128	0.068085	±2.5	
3.00	20	163	0.086702		1 433
	30	147	0.078191		
	40	152	0.080851		
	50	129	0.068617		
Reference F			iddle channel=18900	channel=1880.00	MHz
			equency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	174	0.092553		
	-20	126	0.067021		
	-10	147	0.078191		
	0	152	0.080851		
3.80	10	136	0.072340	±2.5	Pass
	20	158	0.084043		
	30	174	0.092553	_	
	40	126	0.067021	_	
	50	141	0.075000		





		2(10MHz) Middle channel=18900 of Frequency error			
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	174	0.092553		
	-20	163	0.086702		
	-10	157	0.083511		
	0	125	0.066489		
3.80	10	160	0.085106	±2.5	Pass
	20	141	0.075000		
	30	126	0.067021		
	40	135	0.071809		
	50	128	0.068085		
Reference F	requency: LTE Band	2(15MHz) M	liddle channel=1890	0 channel=1880.00	MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	` ` `	Hz	ppm	Еши (ррш)	rtoodit
	-30	163	0.086702		
	-20	147	0.078191		
	-10	125	0.066489		
	0	133	0.070745		
3.80	10	149	0.079255	±2.5	Pass
	20	128	0.068085		. 400
	30	147	0.078191		
	40	162	0.086170		
	50	125	0.066489		i
Reference F	requency: LTE Band			0 channel=1880.00)MHz
Power supplied		•	equency error		
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	174	0.092553		
	-20	152	0.080851		
	-10	163	0.086702		
	0	185	0.098404		
			0.092553	±2.5	Pass
3.80	10	1/4			Pass
3.80	10	174 102			
3.80	20	102	0.054255		
3.80					





LTE Band 4(QPSK):

		LTE Band	4(QPSK):		
Reference Fr	requency: LTE Band	4(1.4MHz) N	Middle channel=20175	channel=1732.50	OMHz
Power supplied	Temperature (°C)	Frequency error		Limit (ppm)	Result
(Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Resuit
	-30	177	0.102165		
	-20	163	0.094084		
	-10	152	0.087734		
	0	147	0.084848		
3.80	10	128	0.073882	±2.5	Pass
3.00	20	136	0.078499		1 433
	30	128	0.073882		
	40	149	0.086003		
	50	107	0.061760		
Deference F				-1	N 41 I —
	requency: LIE Band	·	liddle channel=20175	cnannel=1732.50	IVIHZ
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	. , ,	Hz	ppm	Ziiiii (ppiii)	rtocait
	-30	166	0.095815		
	-20	158	0.091198		
	-10	127	0.073304		
	0	108	0.062338		
3.80	10	147	0.084848	±2.5	Pass
0.00	20	136	0.078499		1 400
	30	125	0.072150		
	40	141	0.081385		
	50	136	0.078499		
Reference F			liddle channel=20175	channel=1732.50	MHz
- "	- (%)	Fr	Frequency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	147	0.084848		
	-20	136	0.078499		
	-10	152	0.087734	_	
	0	128	0.073882		
3.80	10	130	0.075036	±2.5	Pass
	20	115	0.066378		
	30	124	0.071573	_	
	40	108	0.062338		
	50	126	0.072727		





		, ,	4(10MHz) Middle channel=20175 of Frequency error		
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	174	0.100433		
	-20	163	0.094084		
	-10	141	0.081385		
	0	152	0.087734		
3.80	10	108	0.062338	±2.5	Pass
0.00	20	133	0.076768		
	30	141	0.081385		
	40	126	0.072727		
	50	174	0.100433		
Reference Fr	equency: LTE Band	, ,		5 channel=1732.50	MHz
Power supplied (Vdc)	Temperature (°C)		equency error	Limit (ppm)	Result
1 ower cappilled (vae)	` ` `	Hz	ppm	Ziiiii (ppiii)	Result
	-30	141	0.081385		
	-20	152	0.087734		
	-10	136	0.078499		
	0	171	0.098701		
3.80	10	132	0.076190	±2.5	Pass
	20	128	0.073882		. 400
	30	107	0.061760		
	40	124	0.071573		
	50	126	0.072727		
Reference Fr	requency: LTE Band	l l		5 channel=1732.50	MHz
5	T (%0)	Fre	equency error	11. 11. 1	
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	145	0.083694		
	-20	136	0.078499		
	-10	174	0.100433		
	0	158	0.091198		
3.80	10	180	0.103896	±2.5	Pass
3.80		174	0.100433		Pass
	/()			•	
	20	-			
	30 40	126 133	0.072727 0.076768		





LTE Band 4(16QAM):

		LTE Band 4	1(16QAM):		
Reference F	requency: LTE Band	4(1.4MHz)	Middle channel=20175	channel=1732.5	0MHz
	Temperature (°C)	Fı	Frequency error		
Power supplied (Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	136	0.078499		
	-20	145	0.083694		
	-10	125	0.072150		
	0	117	0.067532		
3.80	10	108	0.062338	±2.5	Pass
0.00	20	136	0.078499		1 400
	30	125	0.072150		
	40	134	0.077345	1	
	50	128	0.073882	-	
Reference I			/liddle channel=20175	channel=1732 50	MHz
TKOTOTOTIOC I	requeriey. ETE Baric				1711 12
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
rowei supplied (vuc)		Hz	ppm	(11 /	Nesuit
	-30	147	0.084848	_	
	-20	106	0.061183		
	-10	181	0.104473		
	0	132	0.076190		
3.80	10	140	0.080808	±2.5	Pass
0.00	20	125	0.072150	7	. 0.00
	30	139	0.080231		
	40	140	0.080808		
	50	128	0.073882		
Reference F	requency: LTE Band	4(5MHz) M	iddle channel=20175	channel=1732.50I	ИНz
Davisa averalia d (V/da)	Tamanaratura (°C)	Fre	Frequency error		Decult
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	160	0.092352		
	-20	152	0.087734		
	-10	102	0.058874	_	
	0	114	0.065801		D.
3.80	10	123	0.070996	±2.5	Pass
	20	108	0.062338	-	
	30 40	120 126	0.069264 0.072727	┥	
	50	134	0.072727	┥	
	50	104	0.011343		





		4(10MHz) Middle channel=20175 of Frequency error			
Power supplied (Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
	-30	162	0.093506		
	-20	135	0.077922		
	-10	127	0.073304		
	0	145	0.083694		
3.80	10	136	0.078499	±2.5	Pass
	20	108	0.062338		
	30	126	0.072727		
	40	141	0.081385		
	50	135	0.077922		
	requency: LTE Band	4(15MHz) M	iddle channel=2017	5 channel=1732.50	MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	` ` `	Hz	ppm	Етти (рртт)	rtoodit
	-30	174	0.100433		
	-20	145	0.083694		
	-10	136	0.078499		
	0	141	0.081385		
3.80	10	128	0.073882	±2.5	Pass
	20	128	0.073882		. 400
	30	136	0.078499		
	40	108	0.062338		
	50	127	0.073304		
Reference F	requency: LTE Band			5 channel=1732.50	MHz
Power supplied	Temperature (°ℂ)	Fre	equency error		
(Vdc)	remperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	152	0.087734		
	-20	136	0.078499		
	-10	141	0.081385		
			0.072150		
	0	125 I	0.072130		
3.80	0 10	125 136		+2.5	Doco
3.80	10	136	0.078499	±2.5	Pass
3.80	10 20	136 108	0.078499 0.062338	±2.5	Pass
3.80	10	136	0.078499	±2.5	Pass





LTE Band 5(QPSK):

LTE Band 5(QPSK):					
	requency: LTE Band t		Middle channel=20525F	requency=836.50)MHz
Power supplied	Temperature (°C)		requency error	Lineit (none)	Daguit
(Vdc)		Hz	ppm	Limit (ppm)	Result
	-30	165	0.197250		
	-20	127	0.151823		
	-10	141	0.168559		
	0	109	0.130305		
3.80	10	136	0.162582	±2.5	Pass
	20	147	0.175732	<u> </u>	1 433
	30	128	0.153019	=	
	40	109	0.130305		
	50	127	0.151823	-	
Reference F			iddle channel=20525Fr	 	MHz
Power supplied		'	equency error	equency=636.36	IVII IZ
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
(v do)	-30	136	0.162582	,	
	-20	158	0.188882		
				-	
	-10	174	0.208010	-	
	0	163	0.194860		
3.80	10	155	0.185296	±2.5	Pass
	20	128	0.153019		
	30	141	0.168559		
	40	126	0.150628		
	50	148	0.176928		
Reference F	requency: LTE Band	5(5MHz) M	iddle channel=20525Fr	equency=836.50	MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)		Hz	ppm	Еппі (рріп)	result
	-30	133	0.158996		
	-20	125	0.149432	=	
	-10	130	0.155409		
0.00	0	124	0.148237		D
3.80	10	108	0.129109	±2.5	Pass
	20 30	136 158	0.162582 0.188882	-	
	40	145	0.173341	-	
	50	122	0.145846		
Reference F			/liddle channel=20525Fi	reguency=836.50)MHz
Power supplied		,	equency error		//VII 12
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
(140)	-30	126	0.150628		
	-20	157	0.187687	1	
	-10	136	0.162582	1	
	0	141	0.168559]	
3.80	10	125	0.149432	±2.5	Pass
	20	152	0.181710]	
	30	136	0.162582]	
	40	141	0.168559	_	
	50	152	0.181710		





LTE Band 5(16QAM):

Reference F	requency: LTE Band (LTE Band (Frequency-836 50	NMH7
	Tequency. LTL band t			irrequericy=030.30	/IVII 12
Power supplied (Vdc)	Temperature (°C)	Hz	equency error ppm	Limit (ppm)	Result
	-30	136	0.162582		
	-20	145	0.173341		
	-10	147	0.175732		
	0	108	0.129109		
3.80	10	122	0.145846		_
3.00		136	0.162582	±2.5	Pass
	20				
	30	127	0.151823		
	40	136	0.162582	_	
	50	139	0.166169		
Reference	Frequency: LTE Band	5(3MHz) Mi	iddle channel=20525F	requency=836.50	MHz
Power supplied	Temperature (°C)	Fr	equency error	l ::t ()	Danult
(Vdc)		Hz	ppm	Limit (ppm)	Result
	-30	146	0.174537		
	-20	152	0.181710		
	-10	185	0.221160		
	0	147	0.175732	_	
3.80	10	136	0.162582		5
3.00	20	148	0.176928	±2.5	Pass
	30	125	0.149432	_	
	40	109	0.130305		
	50	136	0.162582		
	Frequency: LTE Band			requency=836.50	MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	20	Hz 174	ppm	,	
	-30 -20	156	0.208010 0.186491	_	
	-10	136	0.162582		
	0	128	0.153019		
3.80	10	145	0.173341	2.5	Pass
0.00	20	155	0.185296		. 400
	30	136	0.162582		
	40	147	0.175732		
	50	128	0.153019		
Reference F	requency: LTE Band	5(10MHz) M	liddle channel=20525	Frequency=836.50	MHz
Power supplied	Temperature (°€)	Fr	equency error	Limit (nnm)	Dogult
(Vdc)	Temperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	107	0.127914		
	-20	126	0.150628		
	-10	148	0.176928		
	0	163	0.194860	_	_
3.80	10	128	0.153019	2.5	Pass
	20	145	0.173341	_	
	30	108	0.129109	_	
	40	136	0.162582	_	
	50	147	0.175732		





LTE Band 7(QPSK):

LTE Band 7(QPSK): Reference Frequency: LTE Band 7(5MHz) Middle channel=21100 Frequency=2535.00MHz					
	requency: LTE Band 7			equency=2535.0(OMHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	(0)	Hz	ppm	Limit (ppm)	Result
	-30	147	0.057988		
	-20	160	0.063116		
	-10	102	0.040237		
	0	130	0.051282		
3.80	10	141	0.055621	±2.5	Pass
	20	152	0.059961	<u> </u>	1 433
	30	162	0.063905		
	40	108	0.042604		
	50	129	0.050888		
Poforonco Er			ddle channel=21100 Fi	reguency=2535.0	OMH-
Power supplied		· · · · · ·	equency error		OIVII IZ
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
(v do)	-30	136	0.053649	,	
	-20	145			
			0.057199	_	
	-10	174	0.068639	<u> </u>	
	0	162	0.063905		
3.80	10	108	0.042604	±2.5	Pass
	20	128	0.050493]	
	30	152	0.059961		
	40	127	0.050099		
	50	136	0.053649		
Reference Fr	equency: LTE Band 7	(15MHz) Mi	ddle channel=21100 Fi	requency=2535.0	0MHz
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result
(Vdc)	` ` `	Hz	ppm	Limit (ppm)	rtoodit
	-30	162	0.063905		
	-20	141	0.055621	_	
	-10	108	0.042604		
2.00	0	152	0.059961	.0.5	Dana
3.80	10 20	143 106	0.056410 0.041815	±2.5	Pass
	30	157	0.041813		
	40	128	0.050493		
	50	136	0.053649		
Reference Fr			ddle channel=21100 Fi	requency=2535.0	0MHz
Power supplied		` '	equency error		
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result
()	-30	163	0.064300		
	-20	142	0.056016	1	
	-10	174	0.068639		
	0	125	0.049310		
3.80	10	114	0.044970	±2.5	Pass
	20	163	0.064300	1	
	30	184	0.072584	_	
	40	126	0.049704	_	
	50	147	0.057988		





LTE Band 7(16QAM):

Reference F		LTE Band 7		requency=2535 00	IMHz	
	Reference Frequency: LTE Band 7(5MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Hz	equency error ppm	Limit (ppm)	Result	
	-30	166	0.065483			
	-20	125	0.049310			
	-10	107	0.042209			
	0	136	0.053649			
3.80	10	147	0.057988	l	_	
3.00			0.068639	±2.5	Pass	
	20	174				
	30	158	0.062327	_		
	40	116	0.045759	_		
	50	127	0.050099			
Reference Fr	equency: LTE Band 7	(10MHz) Mi	ddle channel=21100 l	requency=2535.0	OMHz	
Power supplied	Temperature (°C)	Fre	equency error	Lineit (none)	Decult	
(Vdc)	(3)	Hz	ppm	Limit (ppm)	Result	
	-30	133	0.052465			
	-20	126	0.049704			
	-10	157	0.061933			
	0	149	0.058777	-		
3.80	10	108	0.042604	.0.5	Desa	
0.00	20	125	0.049310	±2.5	Pass	
	30	148	0.058383	-		
	40	129	0.050888	-		
				_		
Deference Fr	50	136	0.053649		ON 41 I -	
Power supplied	equency: LTE Band 7		equency error	requency=2535.0	JIVIHZ	
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result	
(v d o)	-30	157	0.061933			
	-20	163	0.064300			
	-10	149	0.058777			
	0	178	0.070217			
3.80	10	125	0.049310	2.5	Pass	
	20	163	0.064300			
	30	180	0.071006			
	40	126	0.049704			
	50	147	0.057988			
	equency: LTE Band 7	,		requency=2535.0	OMHz	
Power supplied	Temperature (°C)		equency error	Limit (ppm)	Result	
(Vdc)	20	Hz	ppm	(11 /		
	-30 -20	129 102	0.050888	_		
	-20 -10	102	0.040237 0.044970	-		
	0	125	0.044970	┥		
3.80	10	173	0.068245	1 2.5	Pass	
		0		2.5 Pa	. 400	
3.80		136	0.053649			
3.80	20	136 128	0.053649 0.050493	-		
3.80		136 128 157	0.053649 0.050493 0.061933			





LTE Band 17(QPSK):

Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz					
Power supplied	Temperature (°C)	Fr	Frequency error		
(Vdc)	Tomporatoro (C)	Hz	ppm	Limit (ppm)	Result
	-30	147	0.207042		
	-20	156	0.219718		
	-10	169	0.238028		
	0	183	0.257746		
3.80	10	146	0.205634	±2.5	Pass
	20	145	0.204225		1 433
	30	170	0.239437	channel=710.00	
	40	157	0.221127		
	50	106	0.149296		
Reference F	requency: LTE Band	17(10MHz)	Middle channel=23790		MHz
Power supplied	Temperature (°C)	Fr	equency error		
(Vdc)	Temperature (C)	Hz	ppm	Limit (ppm)	Result
	-30	169	0.238028		
	-20	138	0.194366		
	-10	108	0.152113		
	0	128	0.180282		
3.80	10	136	0.191549	±2.5	Pass
	20	147	0.207042		
	30	152	0.214085		
	40	146	0.205634		
	50	158	0.222535		

LTE Band 17(16QAM):

LTE Band 17(16QAM):						
Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz						
Power supplied	lied Temperature (°C)		equency error	Limit (ppm)	Result	
(Vdc)	. ,	Hz	ppm	Еппи (ррпп)	Nesuit	
	-30	139	0.195775			
	-20	147	0.207042			
	-10	158	0.222535			
	0	190	0.267606			
3.80	10	163	0.229577	±2.5	Pass	
	20	141	0.198592		1 433	
	30	125	0.176056			
	40	107	0.150704			
	50	136	0.191549			
Reference Fi	requency: LTE Band	17(10MHz)	Middle channel=23790	channel=710.00	MHz	
Power supplied	Temperature (°ℂ)	Frequency error		Limit (nnm)	Descrit	
(Vdc)	i omporatoro (o)	Hz	ppm	Limit (ppm)	Result	
	-30	163	0.229577			
	-20	148	0.208451			
	-10	150	0.211268			
	0	125	0.176056			
3.80	10	174	0.245070	±2.5	Pass	
	20	116	0.163380			
	30	136	0.191549	1		
	40	108	0.152113]		
	50	124	0.174648	1		

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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			
-	Note: Measurement setup for testing on Antenna connector			
Test procedure:	 Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation (+/-15%) and endpoint, record the maximum frequency change. 			
Test Instruments:	Refer to section 5.8 for details			
Test mode:	Refer to section 5.3 for details, and all channels have been tested, only shows the worst channel data in this report.			
Test results:	Passed			





Measurement Data (the worst channel):

LTE Band 2(QPSK):

LTE Band 2(QPSK):							
Reference F	requency: LTE Band	2(1.4MHz) Middle	e channel=18900	channel=1880.00)MHz		
Temperature (℃)	Power supplied	Freque	ncy error	Limit (nnm)	Dooult		
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	52	0.027660	_			
25	3.80	67	0.035638	±2.5	Pass		
	3.23	58	0.030851				
Reference F	Reference Frequency: LTE Band 2(3MHz) Middle channel=18900 ch						
- (00)	Power supplied	Freque	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	79	0.042021				
25	3.80	88	0.046809	±2.5	Pass		
	3.23	59	0.031383				
Reference F	requency: LTE Band	2(5MHz) Middle	channel=18900 d	channel=1880.00 l	ИНz		
	Power supplied	Frequency error					
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	69	0.036702				
25	3.80	78	0.041489	±2.5	Pass		
	3.23	85	0.045213				
Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz							
Power supplied Frequency error							
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	85	0.045213				
25	3.80	96	0.051064	±2.5	Pass		
	3.23	74	0.039362				
Reference Frequency: LTE Band 2(15MHz) Middle channel=18900 channel=1880.00MHz							
	Power supplied	Freque	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	85	0.045213				
25	3.80	63	0.033511	±2.5	Pass		
	3.23	78	0.041489	7			
Reference F	requency: LTE Band	2(20MHz) Middle	channel=20175	channel=1880.00	MHz		
_	Power supplied	Freque	ncy error				
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	69	0.036702				
25	3.80	78	0.041489	±2.5	Pass		
	3.23	85	0.045213]			





LTE Band 2(16QAM):

		LTE Band 2(16	QAM):		
Reference Fr	equency: LTE Band	2(1.4MHz) Middle	e channel=18900	channel=1880.00	MHz
Tomporatura (°C)	Power supplied	Frequer	ncy error	l ::t ()	Danult
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	96	0.051064		
25	3.80	85	0.045213	±2.5	Pass
	3.23	74	0.039362		
Reference F	requency: LTE Band	I 2(3MHz) Middle	channel=18900 c	channel=1880.00N	ЛНz
- (00)	Power supplied	Frequer	ncy error		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	85	0.045213		
25	3.80	74	0.039362	±2.5	Pass
	3.23	69	0.036702		
Reference F	requency: LTE Band	2(5MHz) Middle	channel=18900 c	channel=1880.00N	ЛНz
	Power supplied	Frequer	Frequency error		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	85	0.045213		
25	3.80	74	0.039362	±2.5	Pass
-	3.23	69	0.036702		
Reference Fr	requency: LTE Band	2(10MHz) Middle	channel=18900	channel=1880.00	MHz
Power supplied Frequency error					
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	88	0.046809		
25	3.80	63	0.033511	±2.5	Pass
	3.23	85	0.045213		
Reference Fr	requency: LTE Band	2(15MHz) Middle	channel=18900	channel=1880.00	MHz
_	Power supplied	Frequer	ncy error	Limit (ppm) Resu	
Temperature (°C)	(Vdc)	Hz	ppm		Result
25	4.37	78	0.041489		
	3.80	96	0.051064	±2.5	Pass
	3.23	58	0.030851		1 400
Reference Fi	requency: LTE Band		channel=18900	channel=1880.00	MHz
- (25)	Power supplied	Frequer	ncy error		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	57	0.030319		
0-	-				
25	3.80	85	0.045213	±2.5	Pass





LTE Band 4(QPSK):

LTE Band 4(QPSK):							
Reference Fi	requency: LTE Band	4(1.4MHz) Middle	e channel=20175	channel=1732.50)MHz		
Tomporatura (°C)	Power supplied	Frequer	ncy error	l insit (n.n.m.)	Doordt		
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	78	0.045022				
25	3.80	63	0.036364	±2.5	Pass		
	3.23	95	0.054834				
Reference F	Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 cha						
	Power supplied	Frequer	ncy error				
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	74	0.042713				
25	3.80	85	0.049062	±2.5	Pass		
	3.23	69	0.039827				
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz							
	Power supplied	Frequer	ncy error				
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	87	0.050216				
25	3.80	96	0.055411	±2.5	Pass		
	3.23	74	0.042713				
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz							
Power supplied Frequency error							
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	85	0.049062				
25	3.80	69	0.039827	±2.5 Pa	Pass		
	3.23	77	0.044444				
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz							
	Power supplied	Frequer	ncy error				
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
25	4.37	85	0.049062				
	3.80	74	0.042713	±2.5	Pass		
	3.23	69	0.039827				
Reference F	requency: LTE Band		channel=20175	channel=1732.50	MHz		
	Power supplied	,	ncy error				
Temperature ($^{\circ}$ C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	85	0.049062				
25	3.80	67	0.038672	±2.5	Pass		
20	3.23	85	0.049062		. 200		
	0.20						





LTE Band 4(16QAM):

		LTE Band 4(16	QAM):		
Reference F	requency: LTE Band	4(1.4MHz) Middle	e channel=20175	channel=1732.50	MHz
Tomporatura (°C)	Power supplied	Freque	ncy error	Limeit (mmm)	Daguit
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	96	0.055411		
25	3.80	87	0.050216	±2.5	Pass
	3.23	85	0.049062		
Reference F	requency: LTE Band	d 4(3MHz) Middle	channel=20175 c	channel=1732.50N	1Hz
	Power supplied	Freque	ncy error		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	78	0.045022		
25	3.80	68	0.039250	±2.5	Pass
	3.23	38	0.021934	7	
Reference F	requency: LTE Band	4(5MHz) Middle	channel=20175 c	channel=1732.50N	1Hz
	Power supplied		ncy error		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	75	0.043290		
25	3.80	89	0.051371	±2.5	Pass
20	3.23	67	0.038672		. 400
Reference F	requency: LTE Band		channel=20175	channel=1732.50	ИНz
Power supplied Frequency error					
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	88	0.050794		
25	3.80	67	0.038672	±2.5	Pass
	3.23	49	0.028283		. 4.00
Reference F	requency: LTE Band		channel=20175	channel=1732.50	МНz
	Power supplied	,	ncy error		
Temperature (°C)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	85	0.049062		
25	3.80	74	0.042713	±2.5	Pass
	3.23	63	0.036364		1 400
Reference F	requency: LTE Band			channel=1732.50ľ	МНz
	Power supplied	,	ncy error		
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result
	4.37	85	0.049062		
25	3.80	47	0.027128	±2.5	Pass
20	3.23	96	0.055411	- ±2.5	1 033
	0.20	90	0.000111		





LTE Band 5(QPSK):

		LIL Dalla 3/4	i Oitj.			
Reference F	requency: LTE Band	5(1.4MHz) Middle	channel=20525F	requency=836.5	0MHz	
Temperature (°C)	Power supplied	Freque	ncy error	Limit (nnm)	Result	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	4.37	67	0.080096			
25	3.80	85	0.101614	±2.5	Pass	
	3.23	96	0.114764			
Reference F	requency: LTE Band	5(3MHz) Middle	channel=20525Fr	equency=836.50	MHz	
Temperature (°C)	Power supplied	Freque	ncy error	Limit (ppm)	Result	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	4.37	47	0.056186			
25	3.80	85	0.101614	±2.5	Pass	
	3.23	63	0.075314			
Reference F	requency: LTE Band	5(5MHz) Middle	channel=20525Fr	equency=836.50	MHz	
Temperature (°C)	Power supplied	Freque	ncy error	Limit (nnm)	Result	
Temperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	4.37	96	0.114764			
25	3.80	87	0.104005	±2.5	Pass	
	3.23	57	0.068141			
Reference F	requency: LTE Band	5(10MHz) Middle	channel=20525Fi	requency=836.50)MHz	
Temperature (°C)	Power supplied	Freque	ncy error	Limit (ppm)	Result	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppin)	Kesull	
	4.37	69	0.082487			
25	3.80	85	0.101614	±2.5	Pass	
	3.23	74	0.088464			





LTE Band 5(16QAM):

		LIL Dana 3(10	αAiri).			
Reference F	equency: LTE Band	5(1.4MHz) Middle	channel=20525F	requency=836.5	0MHz	
Temperature (°C)	Power supplied	Freque	ncy error	Limit (ppm)	Result	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	4.37	88	0.105200			
25	3.80	74	0.088464	±2.5	Pass	
	3.23	63	0.075314			
Reference F	requency: LTE Band	5(3MHz) Middle	channel=20525Fr	equency=836.50	MHz	
Temperature (°C)	Power supplied	Freque	ncy error	Limit (ppm)	Result	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	4.37	57	0.068141			
25	3.80	58	0.069337	±2.5	Pass	
	3.23	90	0.107591			
Reference F	requency: LTE Band	5(5MHz) Middle	channel=20525Fr	equency=836.50	MHz	
Temperature (°C)	Power supplied	Freque	ncy error	Limit (nnm)	Result	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result	
	4.37	57	0.068141			
25	3.80	65	0.077705	±2.5	Pass	
	3.23	87	0.104005			
Reference F	requency: LTE Band	5(10MHz) Middle	channel=20525F	requency=836.50	OMHz	
Temperature (°C)	Power supplied	Freque	ncy error	Limit (ppm)	Result	
remperature (C)	(Vdc)	Hz	ppm	Limit (ppin)	Nesult	
	4.37	47	0.056186			
25	3.80	63	0.075314	±2.5	Pass	
	3.23	85	0.101614			





LTE Band 7(QPSK):

Reference Frequency: LTE Band 7(5MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C)
Comparative (C)
A.37 88 0.034714 25 3.80 63 0.024852 ±2.5 Pass
25 3.80 63 0.024852 ±2.5 Pass
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C)
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C)
Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 25 3.80 58 0.022880 ±2.5 Pass 3.23 96 0.037870 1.037870
Column C
A.37 74 0.029191 25 3.80 58 0.022880 ±2.5 Pass
25 3.80 58 0.022880 ±2.5 Pass 3.23 96 0.037870 Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Hz ppm Limit (ppm) Result 4.37 74 0.029191 25 3.80 85 0.033531 ±2.5 Pass
3.23 96 0.037870
Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 4.37 74 0.029191 25 3.80 85 0.033531 ±2.5 Pass
Temperature (°C) Power supplied (Vdc) Frequency error Hz Limit (ppm) Result 4.37 74 0.029191 25 3.80 85 0.033531 ±2.5 Pass
Hz ppm Limit (ppm) Result 4.37 74 0.029191 25 3.80 85 0.033531 ±2.5 Pass
(Vdc) Hz ppm 4.37 74 0.029191 25 3.80 85 0.033531 ±2.5 Pass
25 3.80 85 0.033531 ±2.5 Pass
0.00
00 004050
3.23 63 0.024852
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz
Temperature (°C) Power supplied Frequency error Limit (ppm) Result
(Vdc) Hz ppm
4.37 78 0.030769
4.37 78 0.030769
25 3.80 63 0.024852 ±2.5 Pass





LTE Band 7(16QAM):

LIE Band /(ToQAIVI):							
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		
Tomporataro (c)	(Vdc)	Hz	ppm	Еши (ррш)	Result		
	4.37	85	0.033531				
25	3.80	74	0.029191	±2.5	Pass		
	3.23	96	0.037870				
Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz							
Temperature (°ℂ)	Power supplied	Freque	ncy error	Limit (ppm)	Result		
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	88	0.034714	±2.5			
25	3.80	78	0.030769		Pass		
	3.23	69	0.027219				
Reference Frequency: LTE Band 7(15MHz) Middle channel=21100 Frequency=2535.00MHz							
Temperature (°ℂ)	Limit (nnm)	Result					
remperature (C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
25	4.37	87	0.034320				
	3.80	56	0.022091	±2.5	Pass		
	3.23	74	0.029191				
Reference Frequency: LTE Band 7(20MHz) Middle channel=21100 Frequency=2535.00MHz							
Temperature (°ℂ)	Power supplied	Freque	ncy error	Limit (ppm)	Result		
remperature (C)	(Vdc)	Hz	ppm	Ешик (ррш)	Result		
	4.37	68	0.026824				
25	3.80	77	0.030375	±2.5	Pass		
	3.23	48	0.018935				





LTE Band 17(QPSK):

Reference Frequency: LTE Band 17(5MHz) Middle channel=23790 channel=710.00MHz							
Temperature (°C)	Power supplied		ncy error	Limit (ppm)	Result		
<u> </u>	(Vdc)	Hz	ppm	(11 /			
	4.37	79	0.111268				
25	3.80	58	0.081690	±2.5	Pass		
	3.23	96	0.135211				
Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 channel=710.00MHz							
Tomporatura (°C)	Power supplied	Frequei	ncy error	Limit (nnm)	Dogult		
Temperature (℃)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.37	87	0.122535				
25	3.80	79	0.111268	±2.5	Pass		
	3.23	68	0.095775				

LTE Band 17(16QAM):

		LIE Band 17(10	OQAIVI):		
Reference F	requency: LTE Band	d 17(5MHz) Middle	e channel=23790	channel=710.00	MHz
Temperature (°C)	Power supplied	•	ncy error	Limit (ppm)	Result
	(Vdc)	Hz	ppm		11000
	4.37	48	0.067606		
25	3.80	95	0.133803	±2.5	Pass
	3.23	74	0.104225		
Reference F	requency: LTE Band	17(10MHz) Midd	le channel=23790	channel=710.00	MHz
Temperature (°C)	Power supplied	Frequei	ncy error	Limit (ppm)	Result
remperature (C)	(Vdc)	Hz	ppm	шти (ррит)	Kesuit
	4.37	66	0.092958		
25	3.80	90	0.126761	±2.5	Pass
	3.23	87	0.122535		