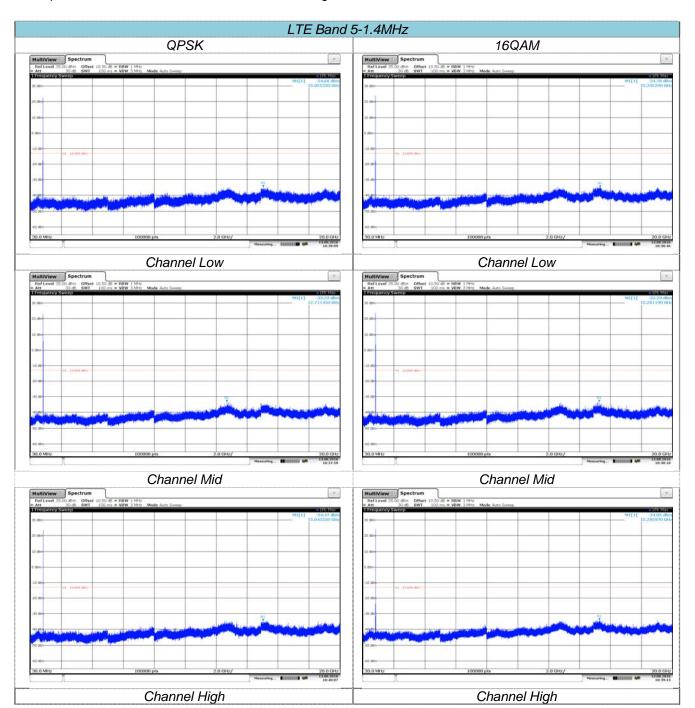
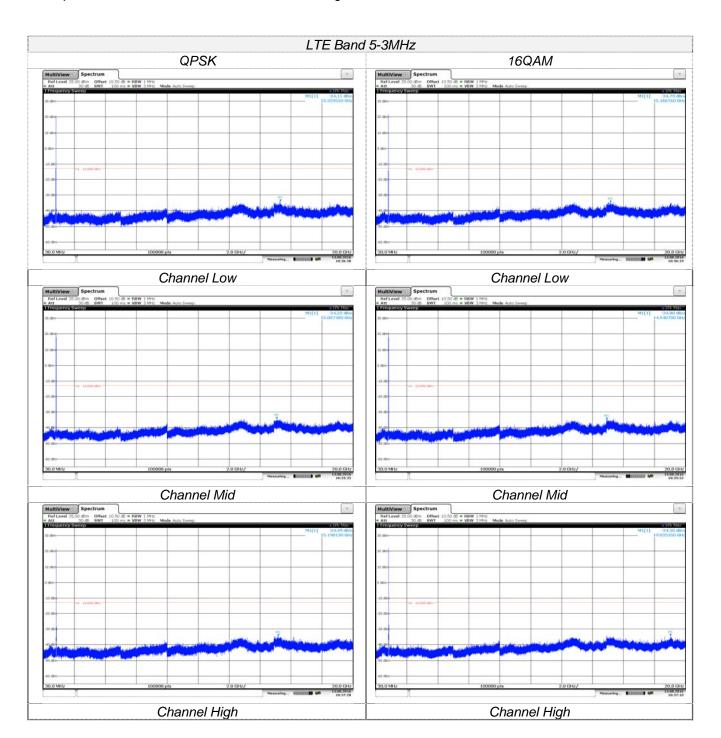
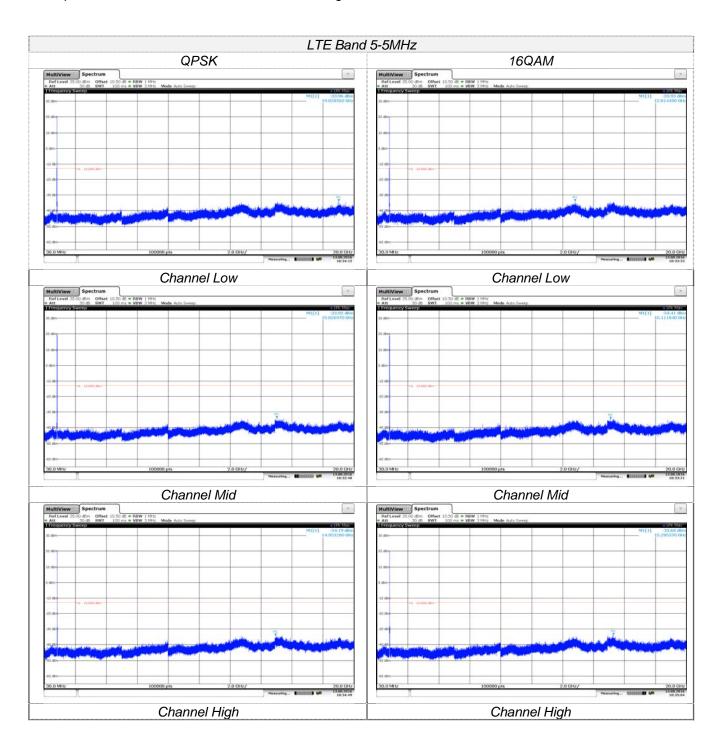
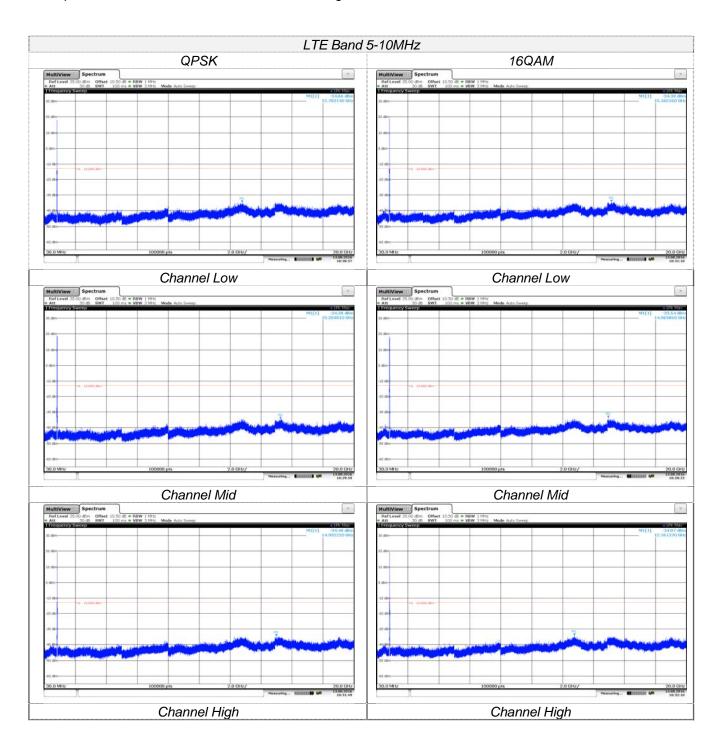


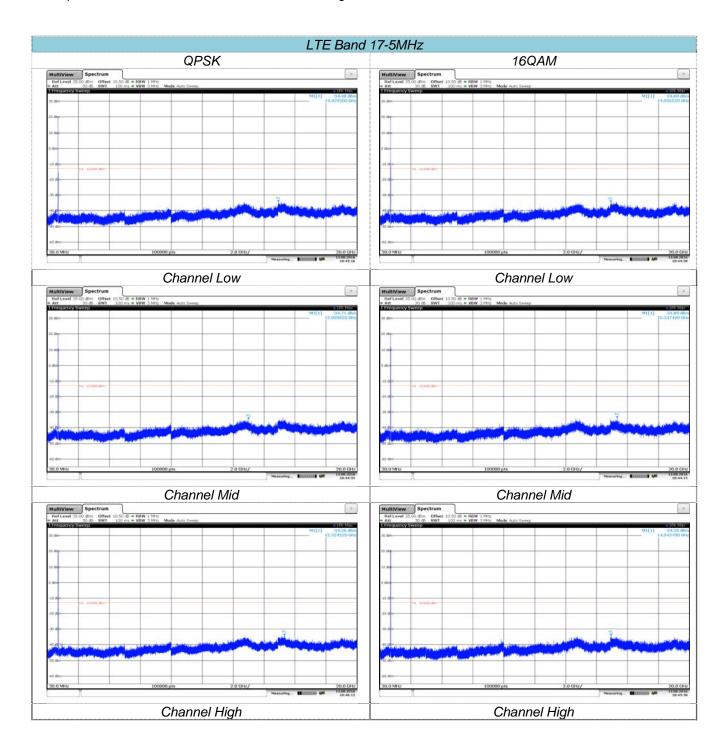
Report No: TRE1605009502 Page: 47 of 114 Issued: 2016-08-14

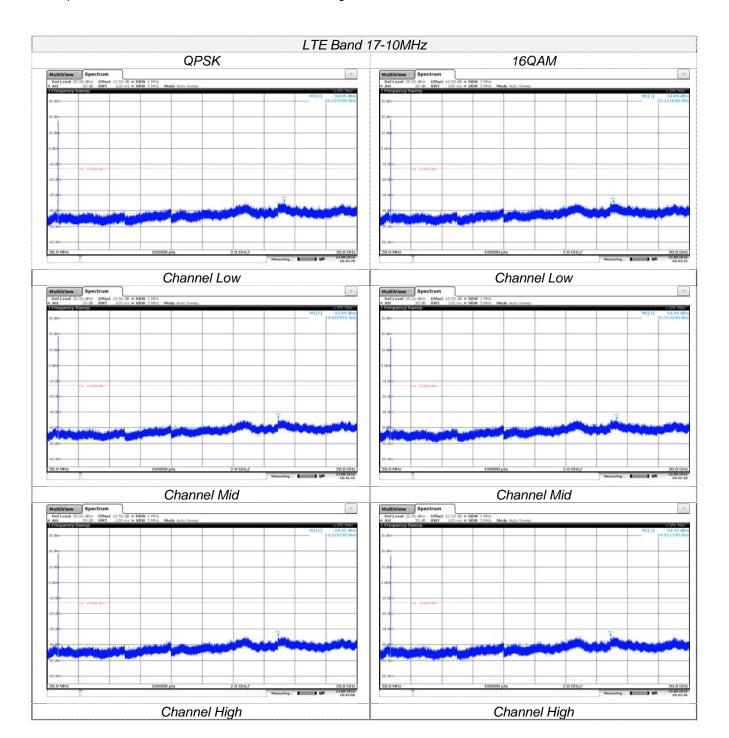












Report No: TRE1605009502 Page: 53 of 114 Issued: 2016-08-14

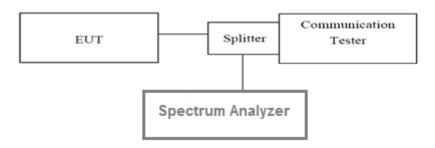
# 4.4. Band Edge compliance

#### <u>LIMIT</u>

Part 24.238 and Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

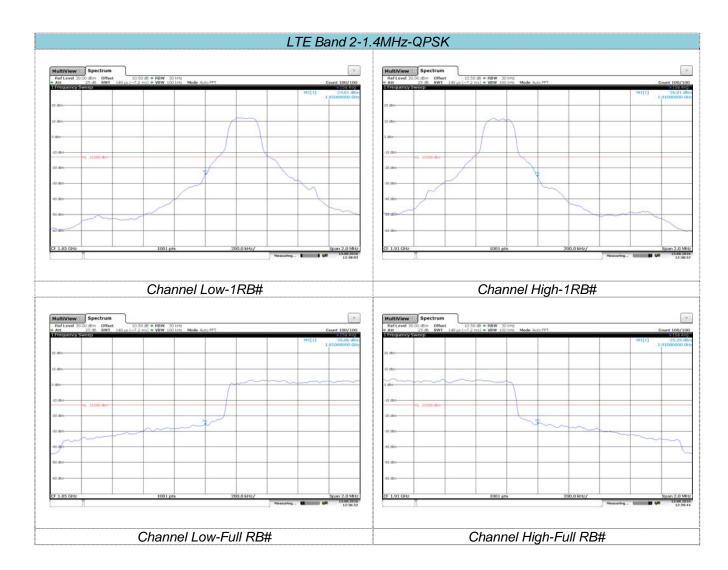
### **TEST CONFIGURATION**

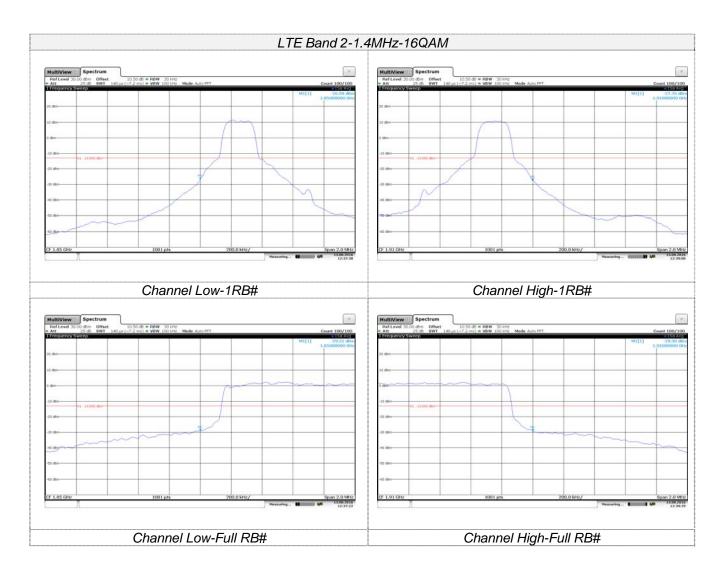


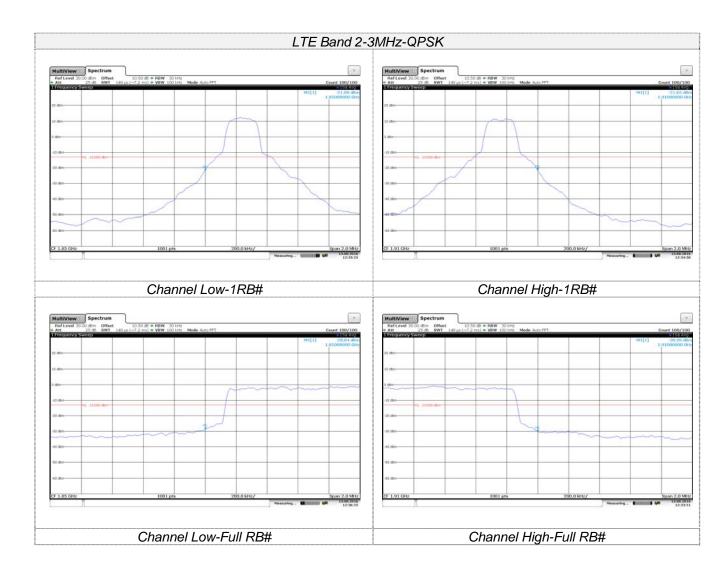
#### **TEST PROCEDURE**

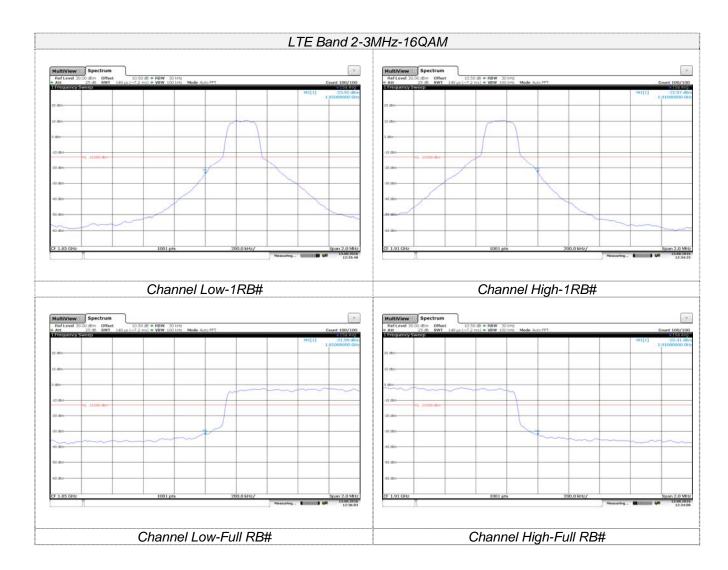
- 1. The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.
- 2. The band edges of low and high channels for the highest RF powers were measured. Set RBW>= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
- 3. Set spectrum analyzer with RMS detector.

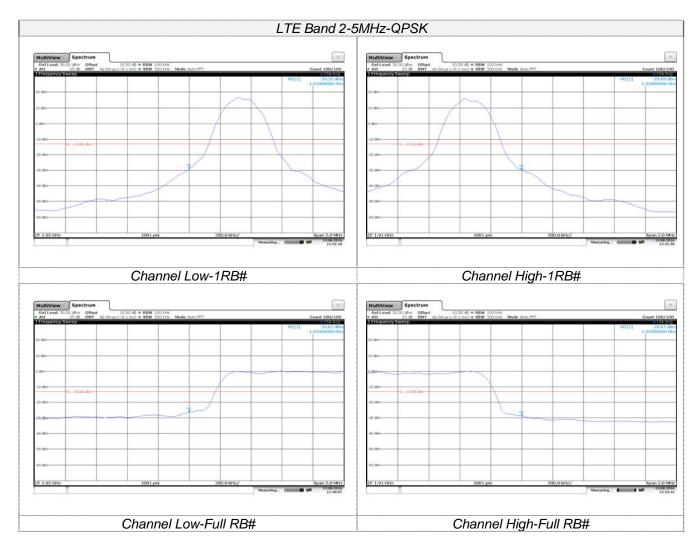
## **TEST RESULTS**

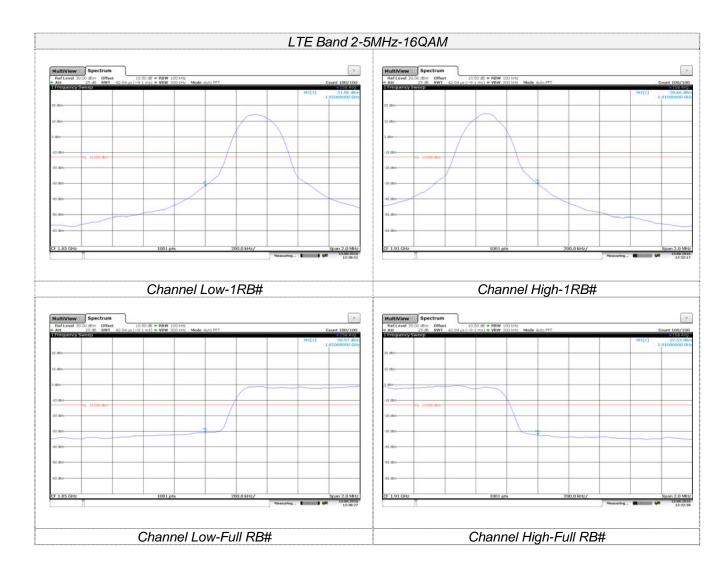


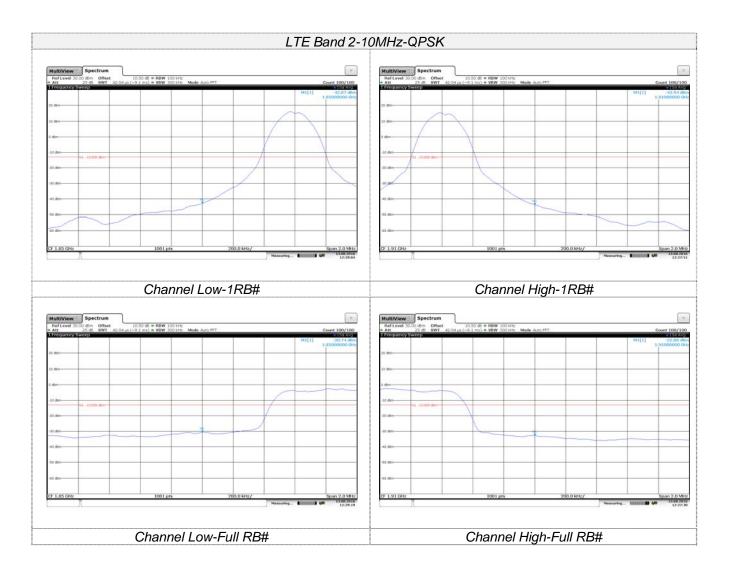


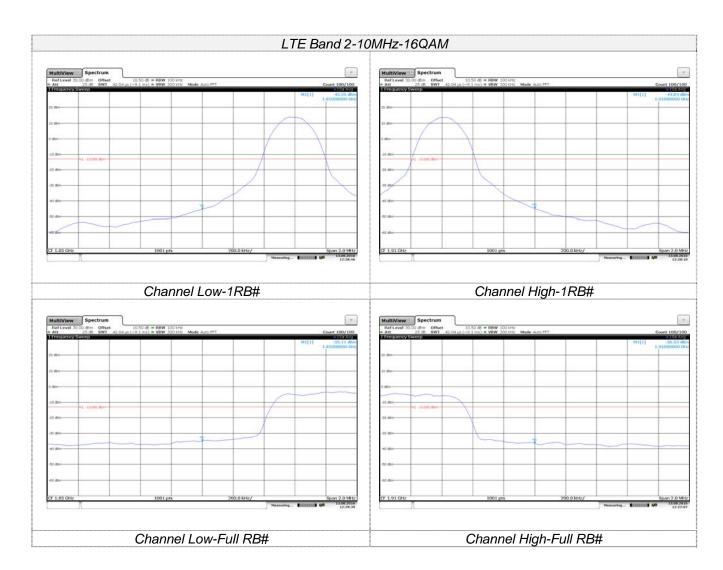


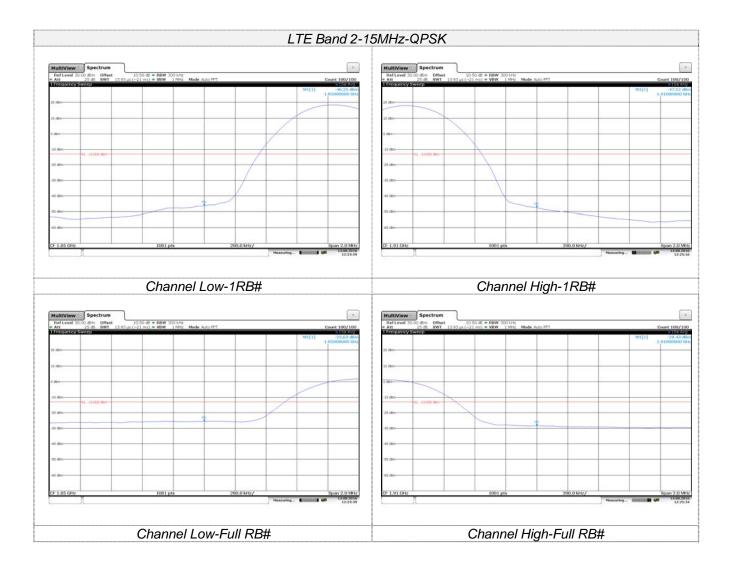


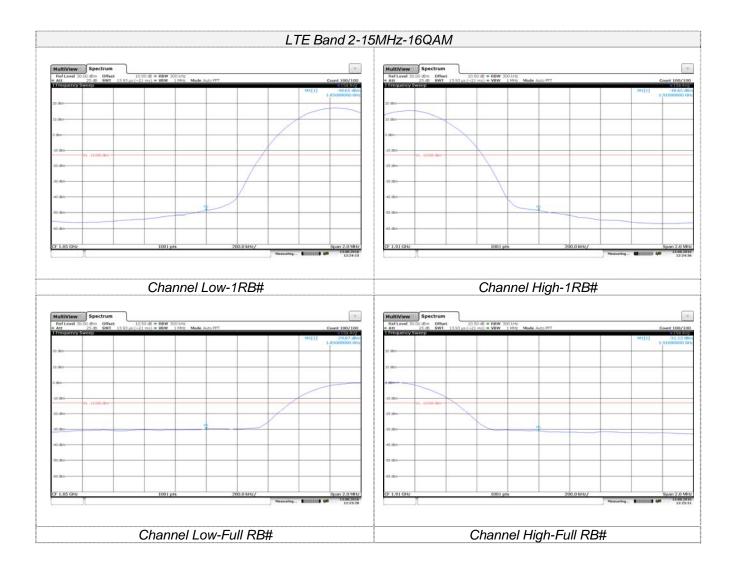


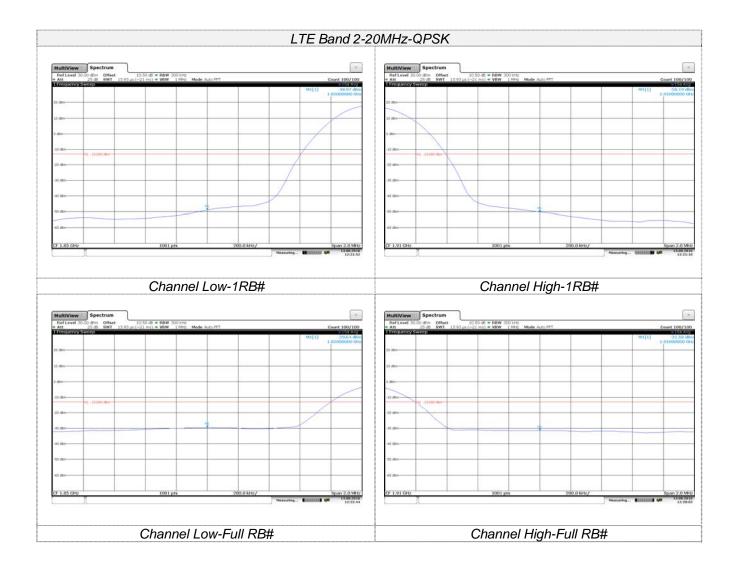


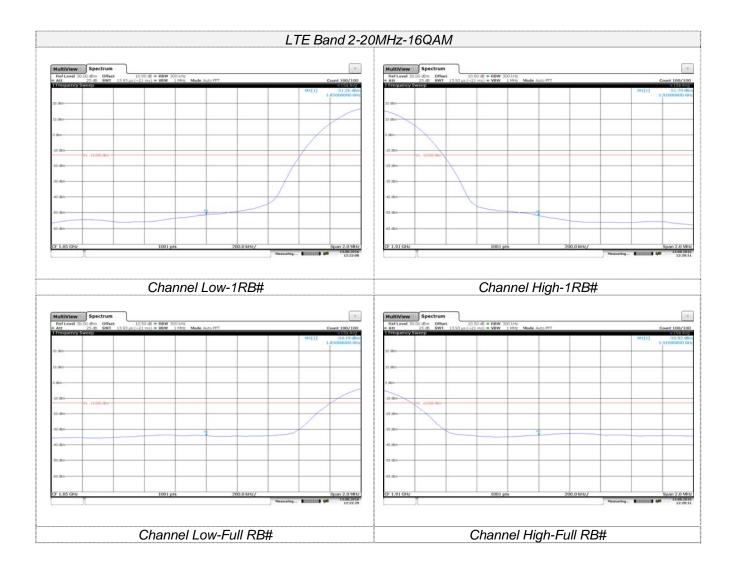


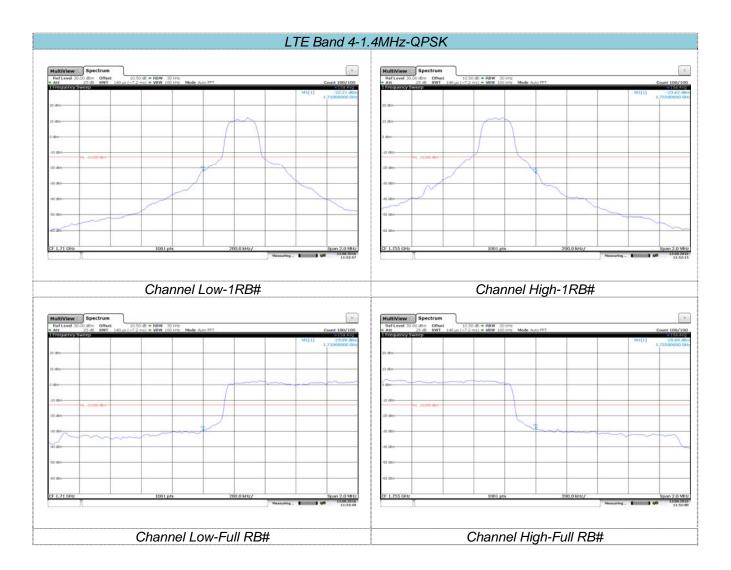


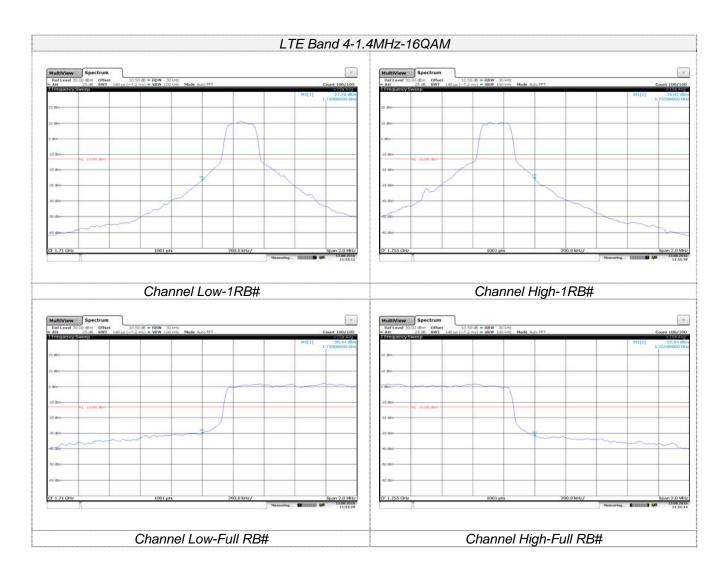


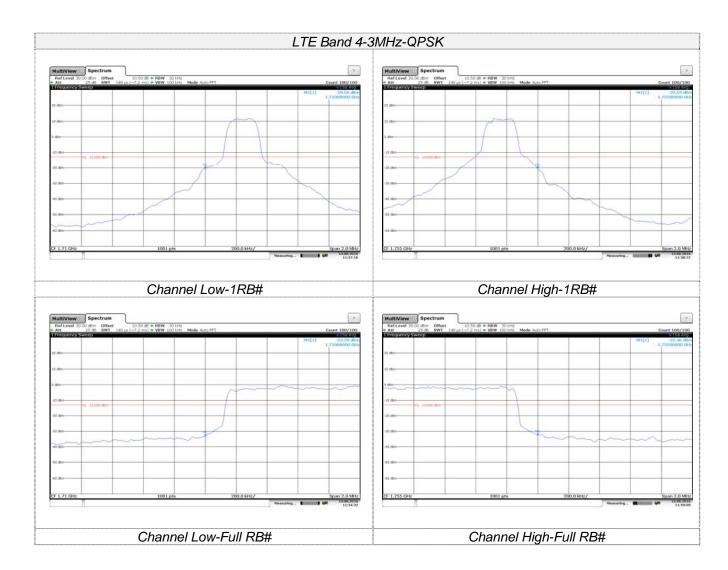


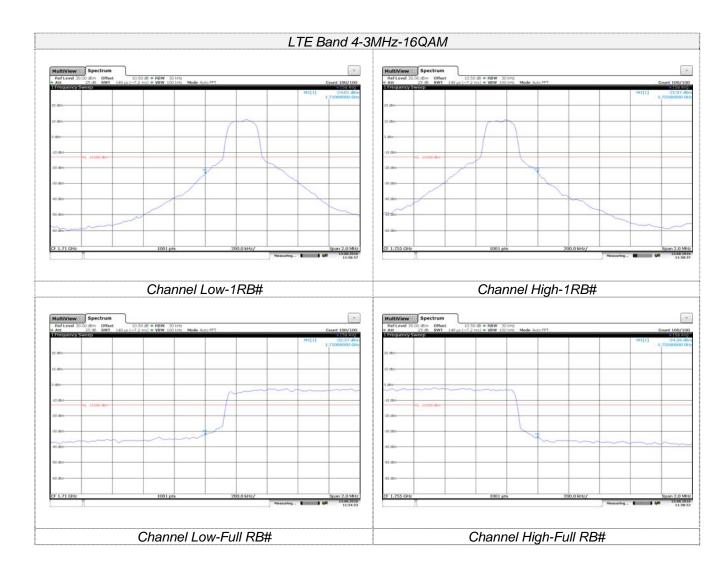


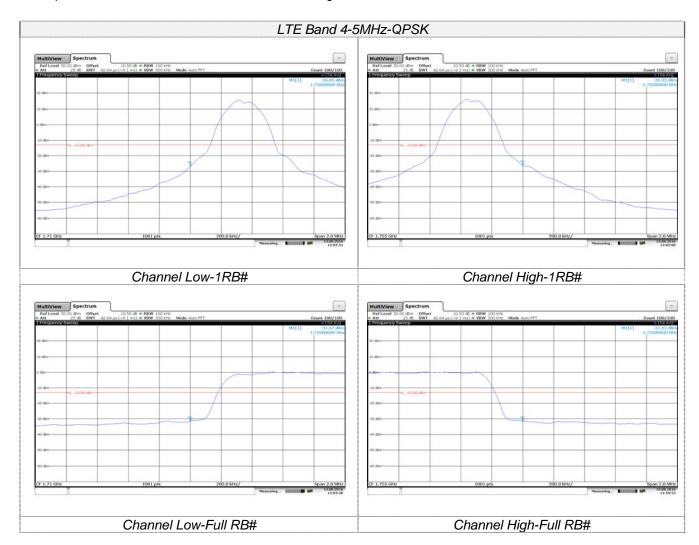


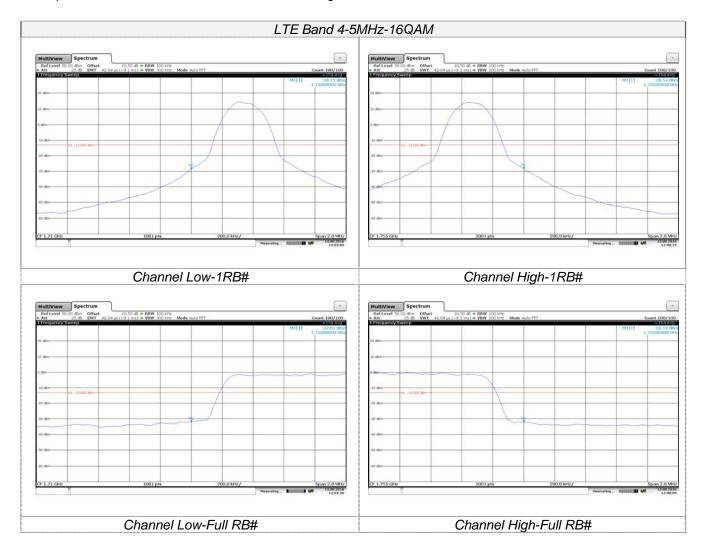


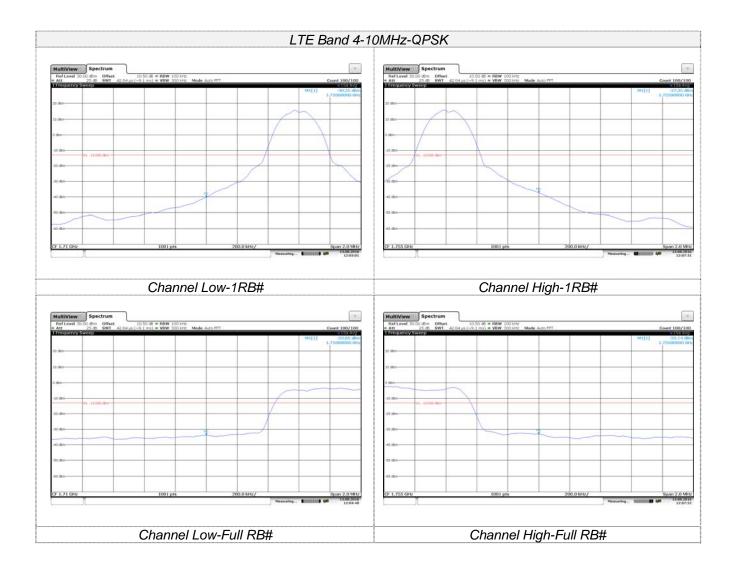


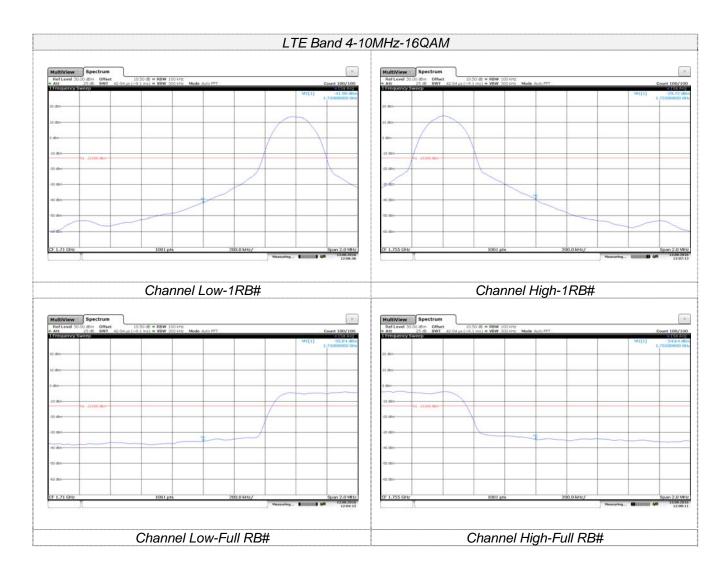


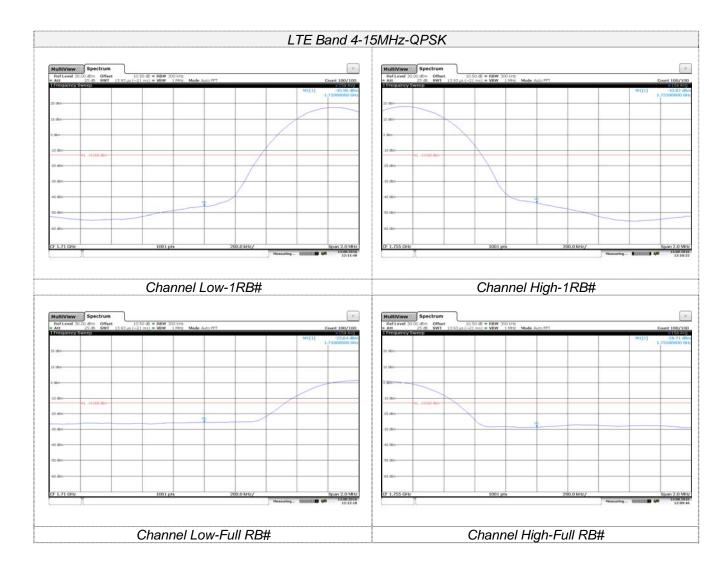


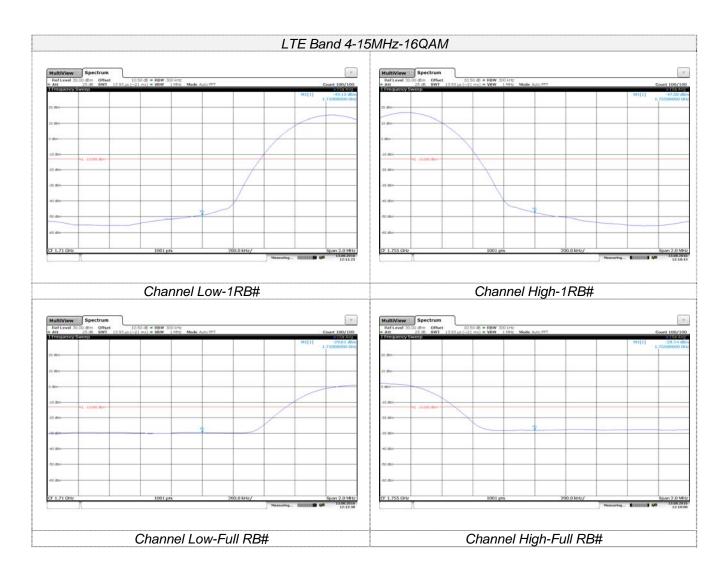


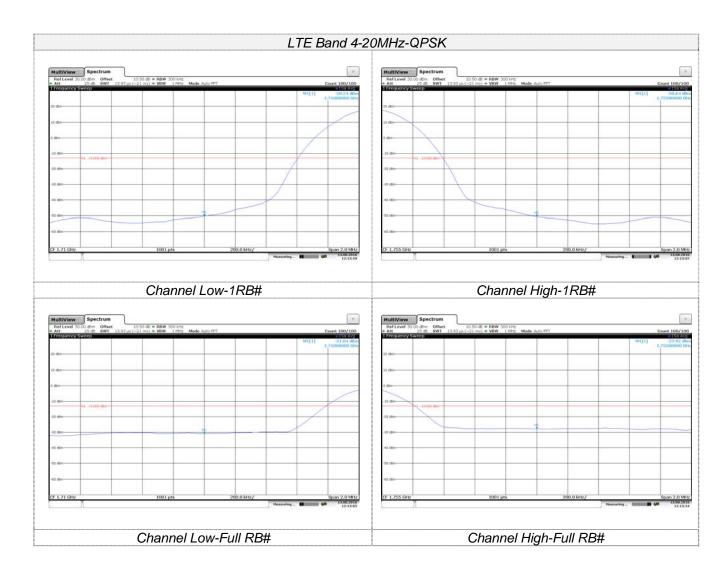


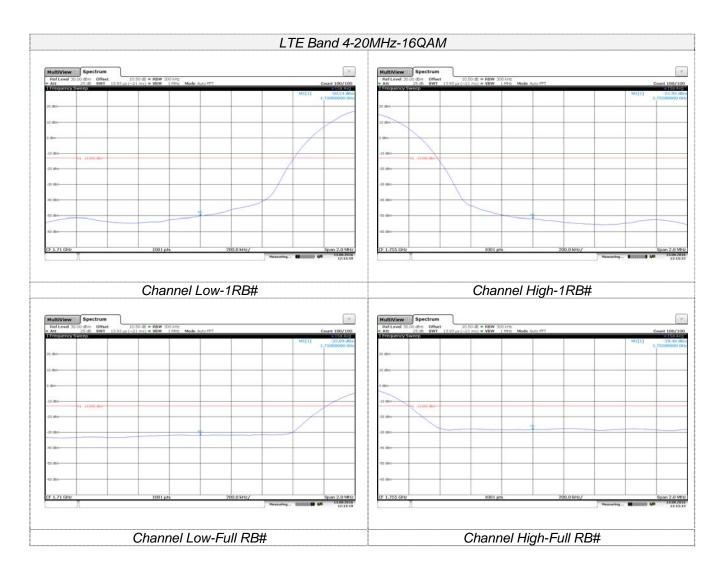


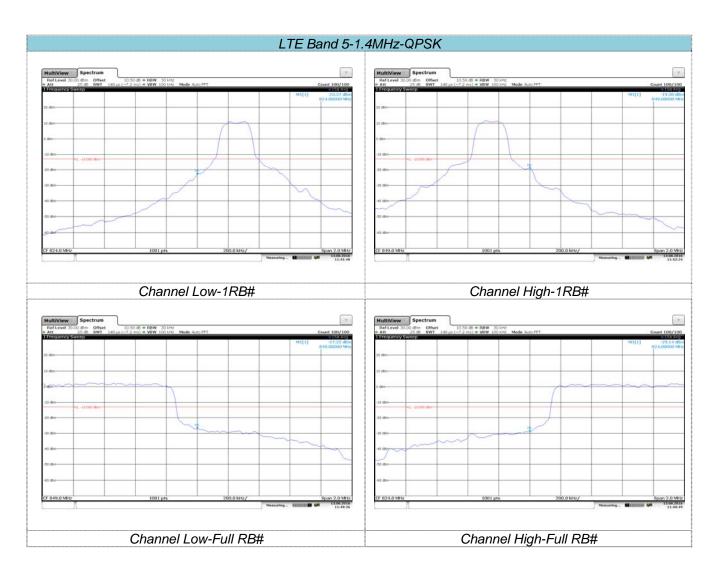


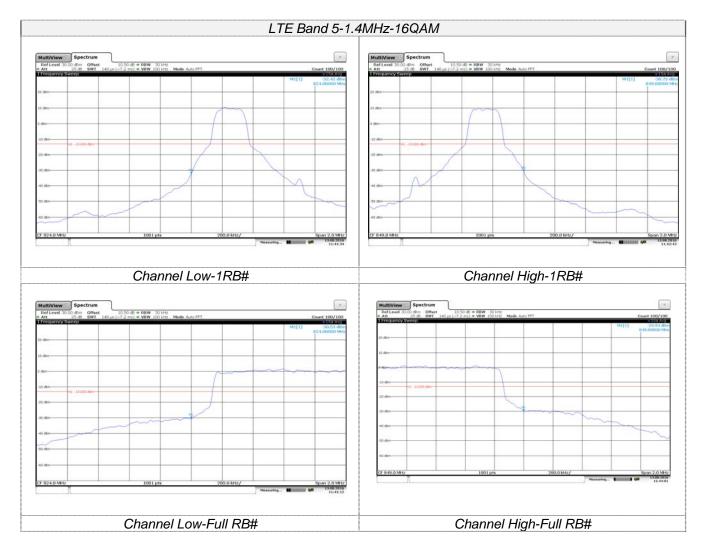


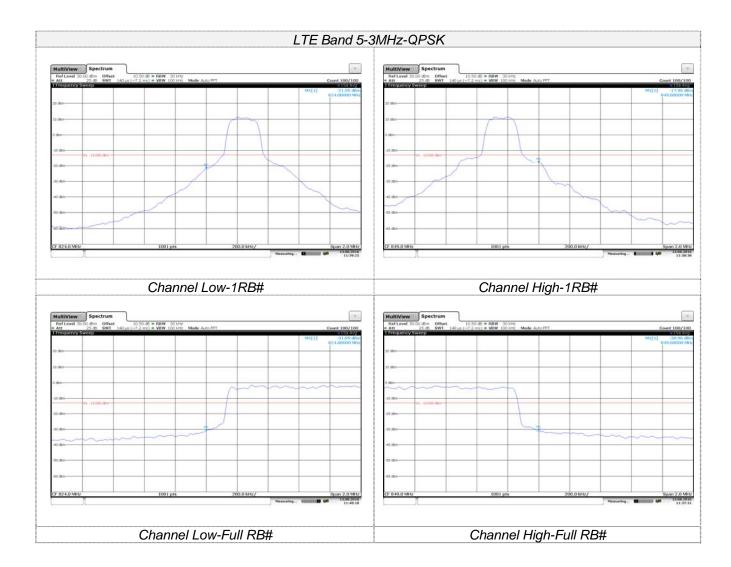


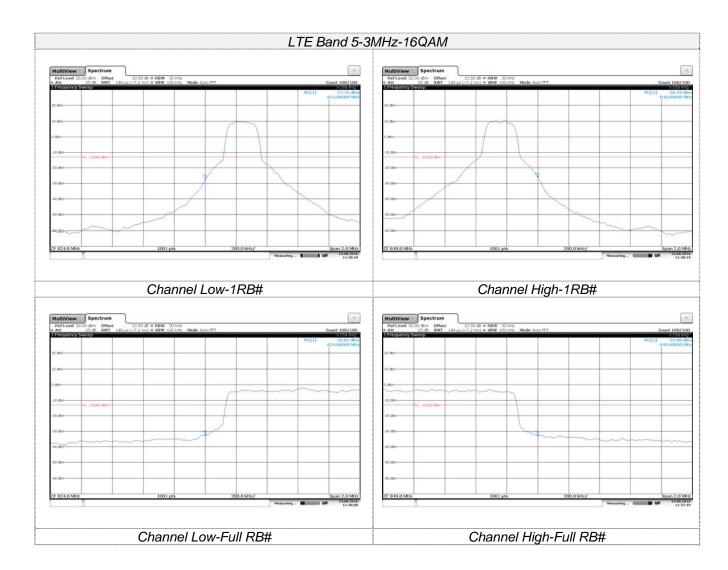


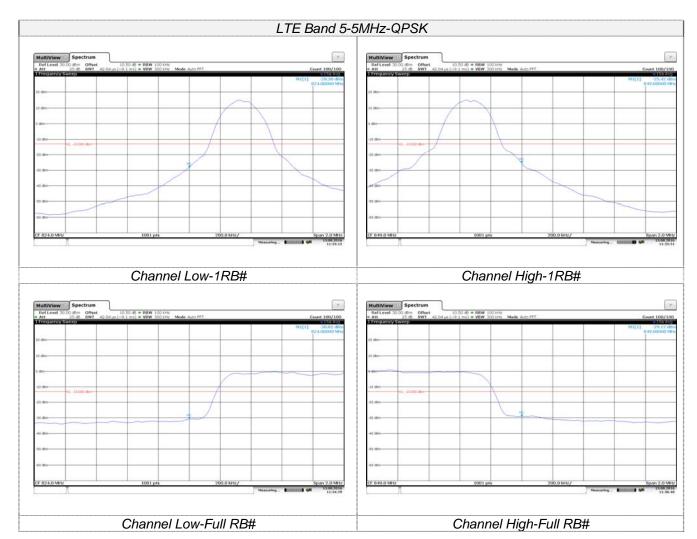


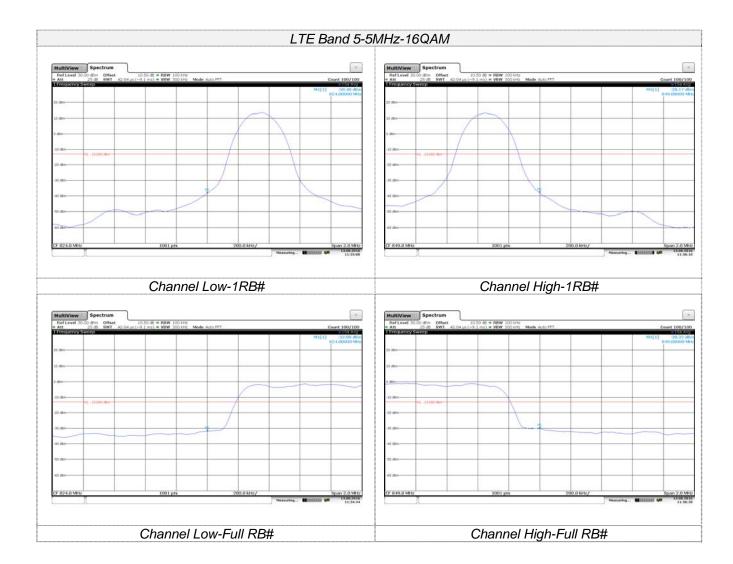


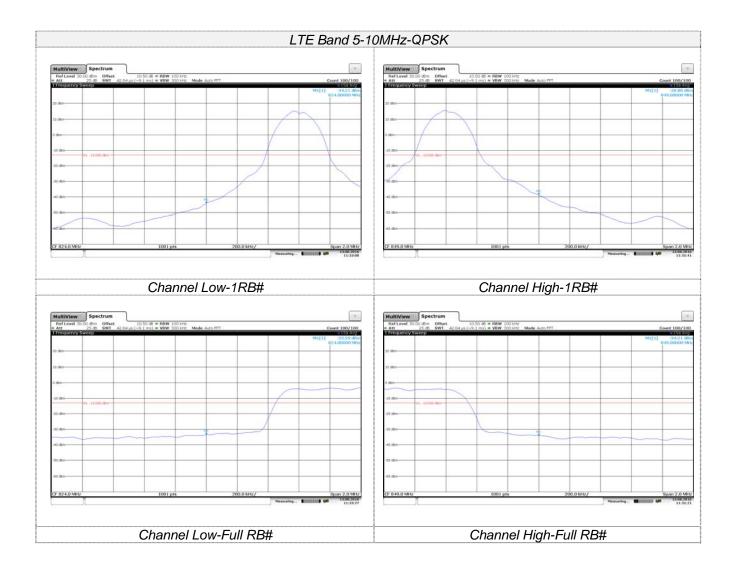


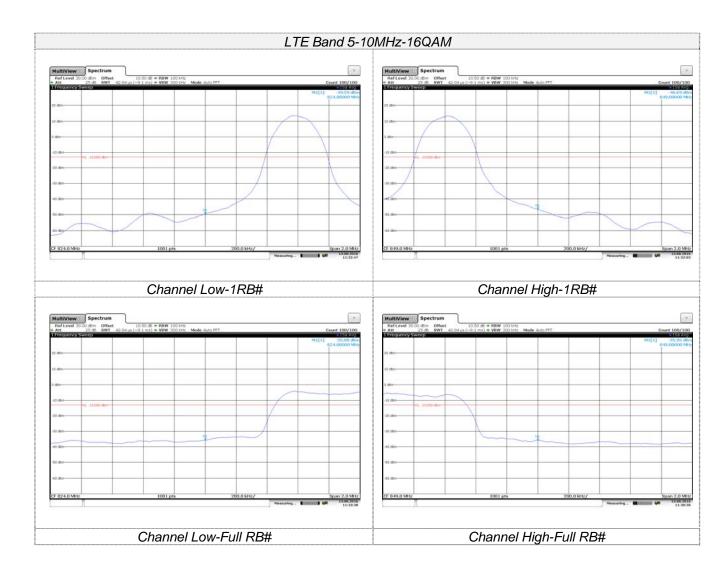


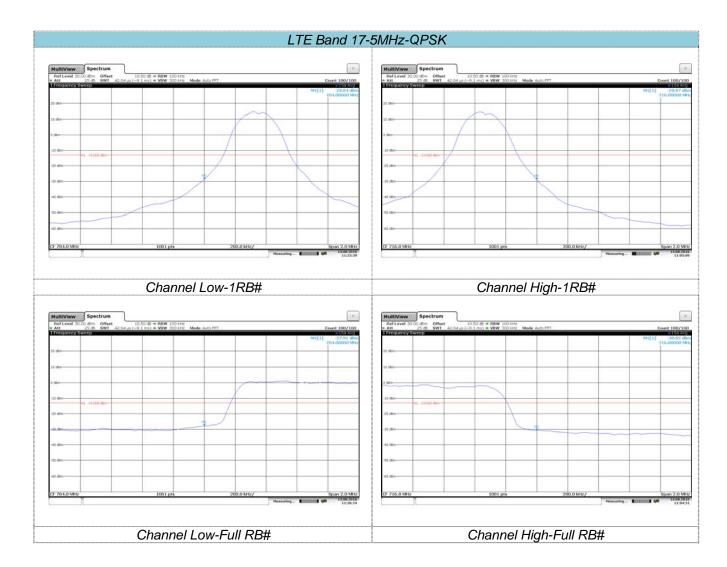


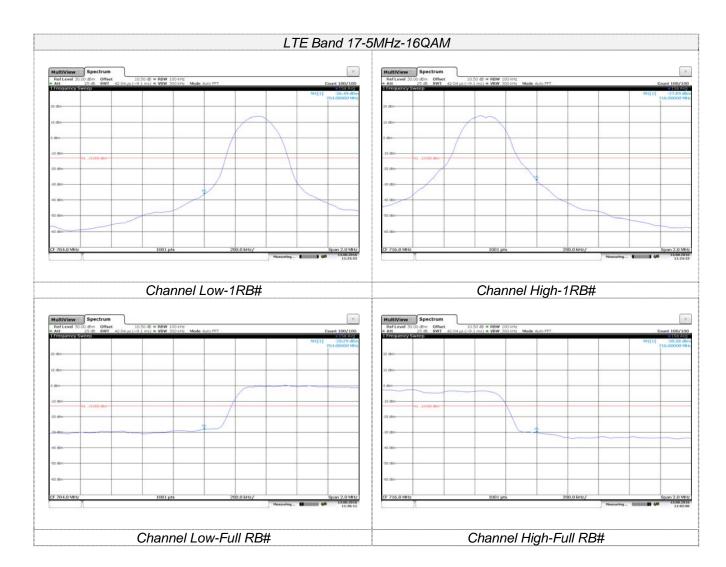


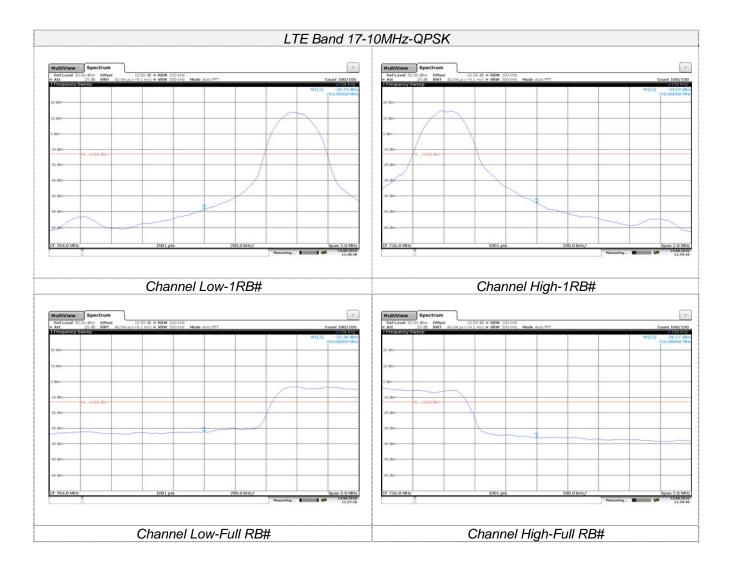


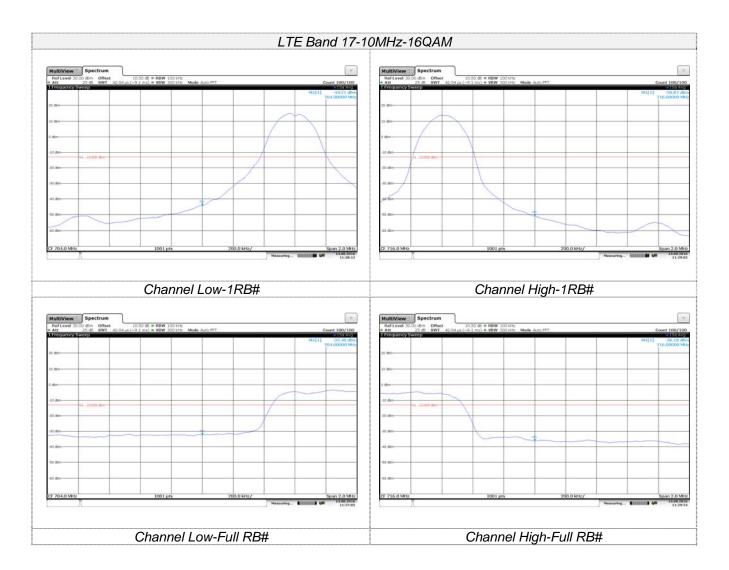












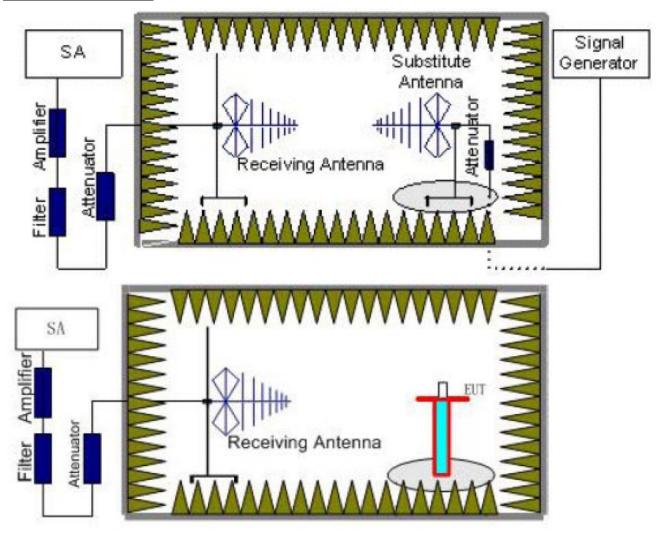
Report No: TRE1605009502 Page: 90 of 114 Issued: 2016-08-14

### 4.5. Radiated Power Measurement

#### LIMIT

LTE Band 2: EIRP <2W,LTE Band 4: EIRP<1W,LTE Band 5:ERP<7W,LTE Band 17:EPR<3W

#### **TEST CONFIGURATION**



# **TEST PROCEDURE**

- 1. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.0m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
- 2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- 3. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and RBW=100kHz,VBW=300kHz for 30MHz to 1GHz,, And the maximum value of the receiver should be recorded as (Pr).
- 4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be

Report No: TRE1605009502 Page: 91 of 114 Issued: 2016-08-14

performed by rotating the test item and adjusting the receiving antenna polarization.

- 5. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
- 6. The measurement results are obtained as described below: Power(EIRP)=PMea- PAg - Pcl + Ga We used SMF100A micowave signal generator which signal level can up to 33dBm,so we not used power Amplifier for substituation test; The measurement results are amend as described below: Power(EIRP)=PMea- Pcl + Ga
- This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
   ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

Report No: TRE1605009502 Page: 92 of 114 Issued: 2016-08-14

LTE Band 2-1.4MHz								
Modulation	Channel	EIRP (dBm)		Limit (dBm)	Result			
Modulation	Channel	Vertical	Horizontal	LIIIII (UDIII)	Result			
	Low	18.38	21.38					
QPSK	Mid	19.45	22.52		PASS			
	High	18.57	21.75	22				
	Low	18.36	21.64	33				
16QAM	Mid	18.47	21.32		PASS			
	High	19.52	22.59					

LTE Band 2-3MHz								
Madulatian	Channel	EIRP (dBm)		Limit (dDm)	Result			
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result			
	Low	18.36	21.36					
QPSK	Mid	18.43	21.47		PASS			
	High	17.25	20.25					
	Low	19.74	22.64	- 33				
16QAM	Mid	18.35	21.37		PASS			
	High	18.54	21.38					

LTE Band 2-5MHz									
Modulation	Oh ann al	EIRP	(dBm)	Limit (dBm)	Result				
Modulation	Channel	Vertical	Horizontal	LIIIII (UDIII)	Resuit				
	Low	18.64	21.57						
QPSK	Mid	19.57	22.35	00	PASS				
	High	19.28	21.49						
	Low	18.74	21.36	- 33					
16QAM	Mid	18.06	21.24		PASS				
	High	19.39	22.37						

	LTE Band 2-10MHz								
Modulation	Channel	EIRP (dBm)		Limit (dPm)	Result				
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result				
	Low	18.25	21.25						
QPSK	Mid	18.34	22.36		PASS				
	High	18.19	21.47						
	Low	18.57	21.26	33					
16QAM	Mid	18.38	21.39		PASS				
	High	18.43	22.47						

Report No: TRE1605009502 Page: 93 of 114 Issued: 2016-08-14

		LTE Band	2-15MHz		
Modulation	Channel	EIRP	EIRP (dBm)		Popult
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result
	Low	18.28	21.34		
QPSK	Mid	18.57	21.06		PASS
	High	18.35	21.34		
	Low	19.64	22.25	33	
16QAM	Mid	18.52	20.69		PASS
	High	18.76	21.32		

LTE Band 2-20MHz								
Modulation	Channel	EIRP	(dBm)	Limit (dRm)	Result			
iviodulation	Chamer	Vertical	Horizontal	Limit (dBm)	Nesuit			
	Low	18.83	21.42					
QPSK	Mid	17.47	21.57		PASS			
	High	18.57	20.38	22				
	Low	18.38	21.24	33				
16QAM	Mid	18.29	21.75		PASS			
	High	18.63	21.64					

Report No: TRE1605009502 Page: 94 of 114 Issued: 2016-08-14

LTE Band 4-1.4MHz									
Modulation	Channel	EIRP (dBm)		Limit (dBm)	Daguit				
Modulation	Channel	Vertical	Horizontal	Lilliit (dbill)	Result				
	Low	18.39	22.01						
QPSK	Mid	18.25	21.47		PASS				
	High	18.76	21.35						
	Low	19.38	22.64	30					
16QAM	Mid	18.64	21.57		PASS				
	High	18.17	21.38						

LTE Band 4-3MHz								
Madulatian	Channel	EIRP (dBm)		Limit (dPm)	Result			
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result			
	Low	18.48	21.64					
QPSK	Mid	18.57	22.84		PASS			
	High	18.64	21.75					
	Low	18.37	21.34	30				
16QAM	Mid	17.59	20.69		PASS			
	High	18.68	22.73					

LTE Band 4-5MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dBm)	Result				
Modulation	Channel	Vertical	Horizontal	LIIIII (UDIII)	Resuit				
	Low	19.64	22.16						
QPSK	Mid	18.37	21.47	00	PASS				
	High	18.46	21.35						
	Low	19.53	22.68	30					
16QAM	Mid	17.21	21.52		PASS				
	High	18.15	21.06						

	LTE Band 4-10MHz								
Modulation	Channel	EIRP (dBm)		Limit (dPm)	Result				
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result				
	Low	18.64	21.74						
QPSK	Mid	18.14	21.37		PASS				
	High	17.39	20.65						
	Low	17.64	20.28	30					
16QAM	Mid	18.48	21.49		PASS				
	High	17.58	20.39						

Report No: TRE1605009502 Page: 95 of 114 Issued: 2016-08-14

LTE Band 4-15MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Result				
iviodulation	Channel	Vertical	Horizontal	Limit (dBm)	Result				
	Low	18.24	20.25						
QPSK	Mid	17.34	20.47		PASS				
	High	18.25	21.36						
	Low	17.43	20.57	30					
16QAM	Mid	17.26	20.74		PASS				
	High	17.79	20.26						

LTE Band 4-20MHz								
Madulatian	Channel	EIRP (dBm)		Limit (dPm)	Popult			
Modulation	Criamei	Vertical	Horizontal	Limit (dBm)	Result			
	Low	17.46	20.81					
QPSK	Mid	18.76	20.71	20	PASS			
	High	17.25	20.25					
	Low	17.26	20.62	30				
16QAM	Mid	18.47	21.14		PASS			
	High	17.64	20.43					

Report No: TRE1605009502 Page: 96 of 114 Issued: 2016-08-14

LTE Band 5-1.4MHz								
Modulation	Channel	ERP (dBm)		Limit (dPm)	Dogult			
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result			
	Low	17.25	20.47					
QPSK	Mid	16.75	19.85		PASS			
	High	17.64	20.79					
	Low	16.24	19.64	38.5				
16QAM	Mid	16.27	19.47		PASS			
	High	15.47	19.78					

	LTE Band 5-3MHz								
Modulation	Channel	ERP	ERP (dBm)		Result				
Modulation	Chamer	Vertical	Horizontal	Limit (dBm)	Result				
	Low	17.25	20.65						
QPSK	Mid	16.74	19.64		PASS				
	High	16.64	20.74						
	Low	16.25	19.25	38.5					
16QAM	Mid	16.95	20.47		PASS				
	High	16.25	19.68						

LTE Band 5-5MHz								
Maril Jacks	Channal	ERP	(dBm)	Limit (dDm)	Dogult			
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result			
	Low	17.21	20.37					
QPSK	Mid	16.41	19.25		PASS			
	High	17.36	20.47	20.5				
	Low	16.38	19.52	- - -				
16QAM	Mid	15.25	19.36		PASS			
	High	16.52	19.75					

LTE Band 5-10MHz								
Madulation	Channel	ERP	(dBm)	Limit (dBm)	Result			
Modulation	Chamilei	Vertical	Horizontal	Lilliit (UBIII)	Nesuit			
	Low	16.64	19.25					
QPSK	Mid	17.36	20.47		PASS			
	High	17.36	20.36	20.5				
	Low	16.47	19.34	38.5				
16QAM	Mid	16.37	19.74		PASS			
	High	17.25	20.36					

Report No: TRE1605009502 Page: 97 of 114 Issued: 2016-08-14

LTE Band 17-5MHz								
Modulation	Channel	ERP (dBm)		Limit (dPm)	Result			
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result			
	Low	15.25	19.36	-				
QPSK	Mid	15.43	19.84		PASS			
	High	15.36	19.47					
	Low	15.63	19.36	34.8				
16QAM	Mid	16.25	19.42		PASS			
	High	16.25	19.52					

LTE Band 17-10MHz								
NA - I I-C	Channel	ERP (dBm)		Limit (dPm)	Popult			
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result			
	Low	15.38	19.65					
QPSK	Mid	14.75	18.75	34.8	PASS			
	High	15.64	19.35					
	Low	15.35	19.35					
16QAM	Mid	14.45	19.42		PASS			
	High	15.36	19.36					

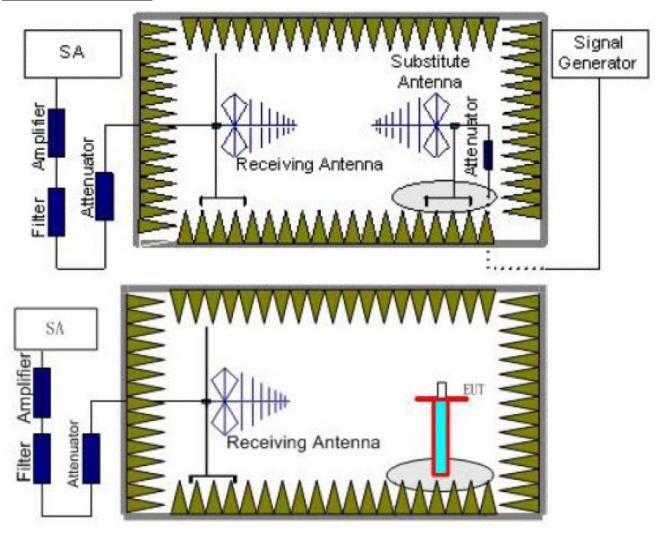
Report No: TRE1605009502 Page: 98 of 114 Issued: 2016-08-14

# 4.6. Radiated Spurious Emssion

#### **LIMIT**

-13dBm

#### **TEST CONFIGURATION**



- 1. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.0m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
- 2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- 3. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and RBW=100kHz,VBW=300kHz for 30MHz to 1GHz, And the maximum value of the receiver should be recorded as (Pr).
- 4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be

Report No: TRE1605009502 Page: 99 of 114 Issued: 2016-08-14

performed by rotating the test item and adjusting the receiving antenna polarization.

- 5. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
- 6. The measurement results are obtained as described below: Power(EIRP)=PMea- PAg - Pcl + Ga We used SMF100A micowave signal generator which signal level can up to 33dBm,so we not used power Amplifier for substituation test; The measurement results are amend as described below: Power(EIRP)=PMea- Pcl + Ga
- 7. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.

  ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

Report No: TRE1605009502 Page: 100 of 114 Issued: 2016-08-14

LTE Band 2-1.4MHz							
Channel	Frequency	Spurious	Emission	Limit (dDm)	Result		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	3701.4	Vertical	-29.75				
	5552.1	V	-35.46	-13.00	Pass		
Low	7402.8	V					
Low	3701.4	Horizontal	-28.75				
	5552.1	Н	-32.65	-13.00	Pass		
	7402.8	Н					
	3760	Vertical	-31.99	-13.00	Pass		
	5640	V	-37.57				
Mid	7520	V					
IVIIQ	3760	Horizontal	-30.28		Pass		
	5640	Н	-34.09	-13.00			
	7520	Н					
	3818.6	Vertical	-31.44				
	5727.9	V	-37.04	-13.00	Pass		
Lliah	7637.2	V					
High	3818.6	Horizontal	-29.90				
	5727.9	Н	-33.73	-13.00	Pass		
	7637.2	Н		1			

#### Remark:

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

LTE Band 2-3MHz							
Channal	Frequency	Spurious	Emission	Limit (dDm)	Dooult		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	3703	Vertical	-32.25				
	5554.5	V	-38.14	-13.00	Pass		
Law	7406	V					
Low	3703	Horizontal	-30.25				
	5554.5	Н	-34.35	-13.00	Pass		
	7406	Н					
	3760	Vertical	-29.98	-13.00	Pass Pass		
	5640	V	-36.01				
Mid	7520	V					
iviid	3760	Horizontal	-28.71				
	5640	Н	-32.90	-13.00			
	7520	Н					
	3817	Vertical	-30.55				
	5725.5	V	-36.54	-13.00	Pass		
∐iah	7634	V					
High	3817	Horizontal	-29.09				
	5725.5	Н	-33.26	-13.00	Pass		
	7634	Н					

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Report No: TRE1605009502 Page: 101 of 114 Issued: 2016-08-14

	LTE Band 2-5MHz							
Channel	Frequency	Spurious	Emission	Limit (dDm)	Dooult			
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result			
	3705	Vertical	-31.24					
	5557.5	V	-36.37	-13.00	Pass			
Low	7410	V						
LOW	3705	Horizontal	-29.26					
	5557.5	Н	-33.76	-13.00	Pass			
	7410	Н						
	3760	Vertical	-33.72	-13.00	Pass			
	5640	V	-38.70					
Mid	7520	V						
IVIIG	3760	Horizontal	-30.95		Pass			
	5640	Н	-35.35	-13.00				
	7520	Н						
	3815	Vertical	-33.10					
	5722.5	V	-38.12	-13.00	Pass			
Lliab	7630	V						
High	3815	Horizontal	-30.53					
	5722.5	Н	-34.95	-13.00	Pass			
	7630	Н		1				

#### Remark:

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

LTE Band 2-10MHz							
Channal	Frequency	Spurious	Emission	Limit (dDm)	Decult		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	3710	Vertical	-34.84				
	5565	V	-40.69	-13.00	Pass		
Low	7420	V					
LOW	3710	Horizontal	-32.27				
	5565	Н	-35.58	-13.00	Pass		
	7420	Н					
	3760	Vertical	-37.32		Pass Pass		
	5640	V	-43.02	-13.00			
Mid	7520	V					
iviid	3760	Horizontal	-33.96				
	5640	Н	-37.17	-13.00			
	7520	Н					
	3810	Vertical	-36.70				
	5715	V	-42.44	-13.00	Pass		
High	7620	V					
High	3810	Horizontal	-33.54				
	5715	Н	-36.77	-13.00	Pass		
	7620	Н					

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Report No: TRE1605009502 Page: 102 of 114 Issued: 2016-08-14

LTE Band 2-15MHz							
Channel	Frequency	Spurious	Emission	Limit (dDm)	Result		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	3705	Vertical	-32.47				
	5557.5	V	-37.52	-13.00	Pass		
Low	7410	V					
LOW	3705	Horizontal	-31.65				
	5557.5	Н	-34.76	-13.00	Pass		
	7410	Н					
	3760	Vertical	-34.95	-13.00	Pass		
	5640	V	-39.85				
Mid	7520	V					
IVIIG	3760	Horizontal	-33.34		Pass		
	5640	Н	-36.35	-13.00			
	7520	Н					
	3815	Vertical	-34.33				
	5722.5	V	-39.27	-13.00	Pass		
High	7630	V					
підп	3815	Horizontal	-32.92				
	5722.5	Н	-35.95	-13.00	Pass		
	7630	Н		1			

#### Remark:

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

LTE Band 2-20MHz							
Channel	Frequency	Spurious	Emission	Limit (dDm)	Dooult		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	3720	Vertical	-35.65				
	5580	V	-39.76	-13.00	Pass		
Low	7440	V					
LOW	3720	Horizontal	-32.64				
	5580	Н	-37.38	-13.00	Pass		
	7440	Н					
	3760	Vertical	-38.13	-13.00	Pass		
	5640	V	-42.09				
Mid	7520	V					
IVIIG	3760	Horizontal	-34.33		Pass		
	5640	Н	-38.97	-13.00			
	7520	Н					
	3800	Vertical	-37.51				
	5700	V	-41.51	-13.00	Pass		
High	7600	V					
riigii	3800	Horizontal	-33.91				
	5700	Н	-38.57	-13.00	Pass		
	7600	Н		1			

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Report No: TRE1605009502 Page: 103 of 114 Issued: 2016-08-14

LTE Band 4-1.4MHz							
Channel	Frequency	Spurious I	Emission	Limit (dPm)	Decult		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	3421.4	Vertical	-43.65				
	5132.1	V	-45.64	-13.00	Pass		
Low	6842.8	V					
LOW	3421.4	Horizontal	-39.25				
	5132.1	Н	-42.47	-13.00	Pass		
	6842.8	Н					
	3465	Vertical	-46.13	-13.00	Pass		
	5197.5	V	-47.97				
Mid	6930	V					
IVIIU	3465	Horizontal	-40.52		Pass		
	5197.5	Н	-43.66	-13.00			
	6930	Н					
	3508.6	Vertical	-41.47				
	5262.9	V	-43.88	-13.00	Pass		
Lligh	7017.2	V					
High	3508.6	Horizontal	-40.94				
	5262.9	Н	-44.06	-13.00	Pass		
	7017.2	Н					

#### Remark:

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

		LTE Bar	nd 4-3MHz		
Channel	Frequency	Spurious	Emission	Limit (dDm)	Danult
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	3423	Vertical	-41.84		
	5134.5	V	-42.58	-13.00	Pass
Low	6846	V			
LOW	3423	Horizontal	-38.97		
	5134.5	Н	-40.23	-13.00	Pass
	6846	Н			
	3465	Vertical	-39.36	-13.00	Pass
	5197.5	V	-40.25		
Mid	6930	V			
iviid	3465	Horizontal	-37.28		Pass
	5197.5	Н	-38.64	-13.00	
	6930	Н			
	3507	Vertical	-37.18		
	5260.5	V	-38.49	-13.00	Pass
High	7014	V			
riigir	3423	Horizontal	-35.80		
	5134.5	Н	-37.44	-13.00	Pass
	6846	Н			

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Report No: TRE1605009502 Page: 104 of 114 Issued: 2016-08-14

LTE Band 4-5MHz							
Channel	Frequency	Spurious	Emission	Limit (dDm)	Desult		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	3425	Vertical	-42.33				
	5137.5	V	-41.85	-13.00	Pass		
Low	6850	V					
LOW	3425	Horizontal	-41.43				
	5137.5	Н	-40.40	-13.00	Pass		
	6850	Н					
	3465	Vertical	-44.25	-13.00	Pass		
	5197.5	V	-43.65				
Mid	6930	V					
IVIIU	3465	Horizontal	-42.74		Pass		
	5197.5	Н	-41.63	-13.00			
	6930	Н					
	3505	Vertical	-45.94				
	5257.5	V	-45.02	-13.00	Pass		
High	7010	V					
riigii	3505	Horizontal	-43.89				
	5257.5	Н	-42.56	-13.00	Pass		
	7010	Н					

#### Remark:

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

LTE Band 4-10MHz						
Channel	Frequency	Spurious	Emission	Limit (dDm)	Dooult	
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
	3430	Vertical	-46.52			
	5145	V	-44.25	-13.00	Pass	
Law	6860	V				
Low	3430	Horizontal	-43.06			
	5145	Н	-39.25	-13.00	Pass	
	6860	Н				
	3465	Vertical	-44.60	-13.00	Pass	
	5197.5	V	-42.45			
Mid	6930	V				
IVIIG	3465	Horizontal	-41.75			
	5197.5	Н	-38.02	-13.00	Pass	
	6930	Н				
	3500	Vertical	-48.88			
	5250	V	-46.40	-13.00	Pass	
High	7000	V				
High	3500	Horizontal	-44.67			
	5250	Н	-40.71	-13.00	Pass	
Damani.	7000	Н				

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Report No: TRE1605009502 Page: 105 of 114 Issued: 2016-08-14

		LTE Ban	d 4-15MHz		
Channel	Frequency	Spurious	Emission	Limit (dDm)	Desuit
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	3435	Vertical	-49.61		
	5152.5	V	-47.43	-13.00	Pass
Low	6870	V			
Low	3435	Horizontal	-45.26		
	5152.5	Н	-43.22	-13.00	Pass
	6870	Н			
	3465	Vertical	-48.94	-13.00	Pass
	5197.5	V	-46.65		
Mid	6930	V			
iviid	3465	Horizontal	-44.80		Pass
	5197.5	Н	-42.69	-13.00	
	6930	Н			
	3490	Vertical	-47.25		
	5235	V	-45.28	-13.00	Pass
∐iah	6980	V			
High	3490	Horizontal	-43.65		
	5235	Н	-41.76	-13.00	Pass
	6980	Н		1	

#### Remark:

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

LTE Band 4-20MHz						
Channal	Frequency	Spurious Emission		Limit (dDm)	Doord	
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
	3440	Vertical	-44.25			
	5160	V	-43.64	-13.00	Pass	
Low	6880	V				
Low	3440	Horizontal	-41.52			
	5160	Н	-43.08	-13.00	Pass	
	6880	Н				
	3465	Vertical	-45.21	-13.00	Pass	
	5197.5	V	-44.54			
Mid	6930	V				
IVIIG	3465	Horizontal	-42.17			
	5197.5	Н	-43.69	-13.00	Pass	
	6930	Н				
	3490	Vertical	-44.97			
	5235	V	-44.32	-13.00	Pass	
Lligh	6980	V				
High	3490	Horizontal	-42.01			
	5235	Н	-43.54	-13.00	Pass	
	6980	Н				

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Report No: TRE1605009502 Page: 106 of 114 Issued: 2016-08-14

LTE Band 5-1.4MHz						
Channel	Frequency	Spurious	Emission	Limit (dDm)	D It	
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
	1649.4	Vertical	-40.25			
	2474.1	V	-36.63	-13.00	Pass	
Law	3298.8	V				
Low	1649.4	Horizontal	-39.63			
	2474.1	Н	-35.38	-13.00	Pass	
	3298.8	Н				
	1673	Vertical	-41.21	-13.00	Pass	
	2509.5	V	-37.53			
Mid	3346	V				
IVIIQ	1673	Horizontal	-40.28		Pass	
	2509.5	Н	-35.99	-13.00		
	3346	Н				
	1696.6	Vertical	-40.97			
	2544.9	V	-37.31	-13.00	Pass	
Lliah	3393.2	V				
High	1696.6	Horizontal	-40.12			
	2544.9	Н	-35.84	-13.00	Pass	
	3393.2	Н				

#### Remark:

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

		LTE Bar	nd 5-3MHz		
Channel	Frequency	Spurious	Emission	Limit (dDm)	D 11
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1651	Vertical	-44.35		
	2476.5	V	-40.25	-13.00	Pass
Lave	3302	V			
Low	1651	Horizontal	-42.47		
	2476.5	Н	-38.52	-13.00	Pass
	3302	Н			
	1673	Vertical	-45.31	-13.00	Pass Pass
	2509.5	V	-41.15		
Mid	3346	V			
IVIIU	1673	Horizontal	-43.12		
	2509.5	Н	-39.13	-13.00	
	3346	Н			
	1696.6	Vertical	-46.03		
	2544.9	V	-41.83	-13.00	Pass
Lliah	3393.2	V			
High	1696.6	Horizontal	-42.96		
	2544.9	Н	-38.98	-13.00	Pass
	3393.2	Н			

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Report No: TRE1605009502 Page: 107 of 114 Issued: 2016-08-14

LTE Band 5-5MHz							
Channel	Frequency	Spurious	Emission	Limit (dDm)	Descrit		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	1653	Vertical	-45.25				
	2479.5	V	-40.65	-13.00	Pass		
Low	3306	V					
LOW	1653	Horizontal	-42.58				
	2479.5	Н	-38.69	-13.00	Pass		
	3306	Н					
	1673	Vertical	-46.21	-13.00	Pass		
	2509.5	V	-41.55				
Mid	3346	V					
IVIIU	1673	Horizontal	-43.23		Pass		
	2509.5	Н	-39.30	-13.00			
	3346	Н					
	1695	Vertical	-46.93				
	2542.5	V	-42.23	-13.00	Pass		
Lligh	3390	V					
High	1695	Horizontal	-43.07				
	2542.5	Н	-39.15	-13.00	Pass		
	3390	Н					

#### Remark:

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

LTE Band 5-10MHz						
Channel	Frequency	Spurious	Emission	Limit (dDm)	Desult	
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
	1658	Vertical	-46.74			
	2487	V	-41.52	-13.00	Pass	
Low	3316	V				
Low	1658	Horizontal	-43.25			
	2487	Н	-37.54	-13.00	Pass	
	3316	Н				
	1673	Vertical	-48.42	-13.00	Pass	
	2509.5	V	-43.10			
Mid	3346	V				
iviid	1673	Horizontal	-43.74		Pass	
	2509.5	Н	-38.00	-13.00		
	3346	Н				
	1688	Vertical	-48.54			
	2532	V	-43.10	-13.00	Pass	
High	3376	V				
High	1688	Horizontal	-42.68			
	2532	Н	-37.07	-13.00	Pass	
	3376	Н				

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Report No: TRE1605009502 Page: 108 of 114 Issued: 2016-08-14

LTE Band 17-5MHz							
Channal	Frequency	Spurious	Emission	Limeit (alDine)	D !!		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result		
	1413	Vertical	-35.69				
	2119.5	V	-42.58	-13.00	Pass		
Low	2826	V					
LOW	1413	Horizontal	-32.48				
	2119.5	Н	-40.52	-13.00	Pass		
	2826	Н					
	1420	Vertical	-37.37	-13.00	Pass		
	2130	V	-44.16				
Mid	2840	V					
IVIIQ	1420	Horizontal	-32.97		Pass		
	2130	Н	-40.98	-13.00			
	2840	Н					
	1427	Vertical	-37.49				
	2140.5	V	-44.16	-13.00	Pass		
High	2854	V					
High	1427	Horizontal	-31.91				
	2140.5	Н	-40.05	-13.00	Pass		
	2854	Н					

## Remark:

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

LTE Band 17-10MHz						
Channal	Frequency	Spurious	Emission	Limit (dDm)	D It	
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
	1418	Vertical	-34.52			
	2127	V	-40.64	-13.00	Pass	
Low	2836	V				
LOW	1418	Horizontal	-30.64			
	2127	Н	-37.52	-13.00	Pass	
	2836	Н				
	1420	Vertical	-36.20		Pass Pass	
	2130	V	-42.22	-13.00		
Mid	2840	V				
IVIIG	1420	Horizontal	-31.13			
	2130	Н	-37.98	-13.00		
	2840	Н				
	1422	Vertical	-36.32			
	2133	V	-42.22	-13.00	Pass	
Lligh	2844	V				
High	1422	Horizontal	-30.07			
	2133	Н	-37.05	-13.00	Pass	
	2844	Н				

- 1. Remark"---" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

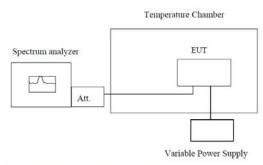
Report No: TRE1605009502 Page: 109 of 114 Issued: 2016-08-14

# 4.7. Frequency stability V.S. Temperature measurement

## **LIMIT**

2.5ppm

#### **TEST CONFIGURATION**



Note: Measurement setup for testing on Antenna connector

## **TEST PROCEDURE**

- 1. The equipment under test was connected to an external DC power supply and input rated voltage.
- 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.
- 3. 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<sup>°</sup>C operating frequency as reference frequency.
- 5. Turn EUT off and set the chamber temperature to −30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.
- 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Report No: TRE1605009502 Page: 110 of 114 Issued: 2016-08-14

Referer	nce Frequency: LTE B	and 2 Middle cha	nnel=1880MHz,	20MHz Bandwidth	1		
Power supplied Frequency error							
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result		
, ,	-30	44	0.0620				
	-20	38	0.0535				
	-10	50	0.0704				
	0	46	0.0648				
3.70	10	35	0.0493	2.5	Pass		
	20	47	0.0662				
	30	39	0.0549				
	40	47	0.0662				
	50	32	0.0451				
Reference	ce Frequency: LTE Ba			.20MHz Bandwidt	h		
Power supplied		Frequer					
(Vdc)	Temperature (°C)	Hz	ppm	Limit (ppm)	Result		
· · ·	-30	51	0.0294				
	-20	46	0.0266				
	-10	34	0.0196				
	0	41	0.0237		Pass		
3.70	10	25	0.0144	2.5			
	20	34	0.0196				
	30	38	0.0219				
	40	44	0.0254				
	50	25	0.0144				
Reference Frequency: LTE Band 5 Middle channel=836.5MHz,10MHz Bandwidth							
Referen	ce Frequency: LTE B	and 5 Middle cha	nnel=836.5MHz,	10MHz Bandwidth	า		
		and 5 Middle cha Frequer					
Referen Power supplied (Vdc)	ce Frequency: LTE B Temperature (°C)			10MHz Bandwidth Limit (ppm)	Result		
Power supplied		Frequer	cy error				
Power supplied	Temperature (°C)	Frequer Hz	cy error ppm				
Power supplied	Temperature (°C)	Frequer Hz 38	ppm 0.0454				
Power supplied	Temperature (°C)  -30  -20	Frequer Hz 38 29	ppm 0.0454 0.0347				
Power supplied	Temperature (°C)  -30  -20  -10	Frequer Hz 38 29 34	ppm 0.0454 0.0347 0.0406				
Power supplied (Vdc)	Temperature (°C)  -30  -20  -10  0	Frequer Hz 38 29 34 25	ppm 0.0454 0.0347 0.0406 0.0299	Limit (ppm)	Result		
Power supplied (Vdc)	Temperature (°C)  -30  -20  -10  0  10	Frequer Hz 38 29 34 25	ppm 0.0454 0.0347 0.0406 0.0299 0.0203	Limit (ppm)	Result		
Power supplied (Vdc)	Temperature (°C)  -30  -20  -10  0  10  20	Frequer Hz 38 29 34 25 17 36	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430	Limit (ppm)	Result		
Power supplied (Vdc)	Temperature (°C)  -30  -20  -10  0  10  20  30	Frequer Hz 38 29 34 25 17 36 25	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299	Limit (ppm)	Result		
Power supplied (Vdc)	Temperature (°C)  -30  -20  -10  0  10  20  30  40	Frequer Hz 38 29 34 25 17 36 25 43 27	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323	Limit (ppm)	Result Pass		
Power supplied (Vdc)  3.70  Referer Power supplied	Temperature (°C)  -30  -20  -10  0  10  20  30  40  50  ace Frequency: LTE B	Frequer Hz 38 29 34 25 17 36 25 43 27	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz,	Limit (ppm)  2.5  10MHz Bandwidth	Result		
Power supplied (Vdc)  3.70  Referen	Temperature (°C)  -30  -20  -10  0  10  20  30  40  50	Frequer  Hz  38  29  34  25  17  36  25  43  27  and 17 Middle ch	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz,	Limit (ppm)	Result Pass		
Power supplied (Vdc)  3.70  Referer Power supplied	Temperature (°C)  -30  -20  -10  0  10  20  30  40  50  ace Frequency: LTE B	Frequer  Hz  38  29  34  25  17  36  25  43  27  and 17 Middle ch  Frequer	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz,	Limit (ppm)  2.5  10MHz Bandwidth	Result		
Power supplied (Vdc)  3.70  Referer Power supplied	Temperature (°C)  -30 -20 -10 0 10 20 30 40 50  rece Frequency: LTE B	Frequer  Hz  38  29  34  25  17  36  25  43  27  and 17 Middle ch  Frequer  Hz	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz,	Limit (ppm)  2.5  10MHz Bandwidth	Result		
Power supplied (Vdc)  3.70  Referer Power supplied	Temperature (°C)  -30  -20  -10  0  10  20  30  40  50  ce Frequency: LTE B  Temperature (°C)  -30	Frequer  Hz  38  29  34  25  17  36  25  43  27  and 17 Middle ch  Frequer  Hz  27	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz, ccy error ppm 0.0380	Limit (ppm)  2.5  10MHz Bandwidth	Result		
Power supplied (Vdc)  3.70  Referer Power supplied	Temperature (°C)  -30  -20  -10  0  10  20  30  40  50  ce Frequency: LTE B  Temperature (°C)  -30  -20	Frequer  Hz  38  29  34  25  17  36  25  43  27  and 17 Middle ch  Frequer  Hz  27  34	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz, cy error ppm 0.0380 0.0479	Limit (ppm)  2.5  10MHz Bandwidth	Result		
Power supplied (Vdc)  3.70  Referer Power supplied	Temperature (°C)  -30  -20  -10  0  10  20  30  40  50  Ice Frequency: LTE B  Temperature (°C)  -30  -20  -10	Frequer  Hz  38  29  34  25  17  36  25  43  27  and 17 Middle ch  Frequer  Hz  27  34  25	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz, cy error ppm 0.0380 0.0479 0.0352	Limit (ppm)  2.5  10MHz Bandwidth	Result		
Power supplied (Vdc)  3.70  Referer Power supplied (Vdc)	Temperature (°C)  -30  -20  -10  0  10  20  30  40  50  ce Frequency: LTE B  Temperature (°C)  -30  -20  -10  0	Frequer  Hz  38  29  34  25  17  36  25  43  27  and 17 Middle ch  Frequer  Hz  27  34  25  36	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz, rcy error ppm 0.0380 0.0479 0.0352 0.0507	Limit (ppm)  2.5  10MHz Bandwidth Limit (ppm)	Result Pass Result		
Power supplied (Vdc)  3.70  Referer Power supplied (Vdc)	Temperature (°C)  -30  -20  -10  0  10  20  30  40  50  Temperature (°C)  -30  -20  -10  0  10	Frequer  Hz  38  29  34  25  17  36  25  43  27  and 17 Middle ch  Frequer  Hz  27  34  25  36  43	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz, acy error ppm 0.0380 0.0479 0.0352 0.0507 0.0606	Limit (ppm)  2.5  10MHz Bandwidth Limit (ppm)	Result Pass Result		
Power supplied (Vdc)  3.70  Referer Power supplied (Vdc)	Temperature (°C)  -30  -20  -10  0  10  20  30  40  50  ce Frequency: LTE B  Temperature (°C)  -30  -20  -10  0  10  20	Frequer  Hz  38  29  34  25  17  36  25  43  27  and 17 Middle ch  Frequer  Hz  27  34  25  36  43  28	ppm 0.0454 0.0347 0.0406 0.0299 0.0203 0.0430 0.0299 0.0514 0.0323 annel=710MHz, acy error ppm 0.0380 0.0479 0.0352 0.0507 0.0606 0.0394	Limit (ppm)  2.5  10MHz Bandwidth Limit (ppm)	Result Pass Result		

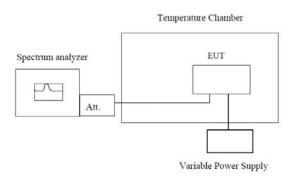
Report No: TRE1605009502 Page: 111 of 114 Issued: 2016-08-14

# 4.8. Frequency stability V.S. Voltage measurement

# **LIMIT**

2.5ppm

# **TEST CONFIGURATION**



Note: Measurement setup for testing on Antenna connector

# **TEST PROCEDURE**

- 1. Set chamber temperature to 25 °C. Use a variable DC power source to power the EUT and set the voltage to rated voltage.
- 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.
- 3. Reduce the input voltage to specified extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.

Reference Frequency: LTE Band 2 Middle channel=1880MHz,20MHz Bandwidth							
Temperature (°C)	Power supplied	Frequer	cy error	Limit (ppm)	Result		
	(Vdc)	Hz	ppm	Limit (ppm)	Nesuit		
	4.23	24	0.0338				
25	3.70	32	0.0451	2.5	Pass		
	3.15	33	0.0465				
Reference	e Frequency: LTE Ba	and 4 Middle chan	nel=1732.5MHz,2	20MHz Bandwidt	h		
Temperature (°C)	Power supplied	Frequer	ncy error	Limit (ppm)	Result		
remperature ( C)	(Vdc)	Hz	ppm	Limit (ppm)	Result		
	4.23	21	0.0121				
25	3.70	28	0.0162	2.5	Pass		
	3.15	31	0.0179				
Reference	ce Frequency: LTE B	and 5 Middle chai	nnel=836.5MHz,1	0MHz Bandwidth	1		
Temperature (°C)	Power supplied	Frequer	ncy error	Limit (ppm)	Result		
remperature ( C)	(Vdc)	Hz	ppm	Limit (ppm)	Nesuit		
	4.23	47	0.0562				
25	3.70	36	0.0430	2.5	Pass		
	3.15	25	0.0299				
Reference Frequency: LTE Band 17 Middle channel=710MHz,10MHz Bandwidth							
Temperature (°C)	Power supplied	Frequer	ncy error	Limit (ppm)	Result		
	(Vdc)	Hz	ppm	Limit (ppm)	Nesuit		
	4.23	17	0.0239				
25	25 3.70	29	0.0408	2.5	Pass		
	3.15	36	0.0507				

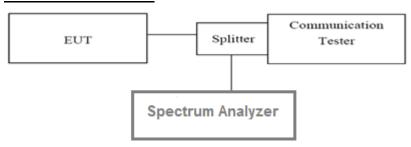
Report No: TRE1605009502 Page: 112 of 114 Issued: 2016-08-14

# 4.9. Peak-Average Ratio

#### **LIMIT**

13dB

## **TEST CONFIGURATION**



# **TEST PROCEDURE**

According with KDB 971168

- 1. The signal analyzer's CCDF measurement profile is enabled
- 2. Frequency = carrier center frequency
- 3. Measurement BW > Emission bandwidth of signal
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed. For continuous signals(>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

LTE Band 2-20MHz						
Modulation	QP:	QPSK 16QAM		l ::::::::::::::::::::::::::::::::::::	Daguit	
Channel	1RB#	Full RB#	1RB#	Full RB#	Limit(dB)	Result
Low	3.15	3.47	3.58	3.26	13	Pass
Mid	3.43	3.35	3.34	3.46	13	Pass
High	3.25	3.64	3.25	3.57	13	Pass

LTE Band 4-20MHz						
Modulation	QP:	QPSK 16QAM		l ::t/alD\	Doordt	
Channel	1RB#	Full RB#	1RB#	Full RB#	Limit(dB)	Result
Low	3.25	3.41	4.85	4.33	13	Pass
Mid	3.43	3.36	4.07	4.65	13	Pass
High	3.64	3.36	4.63	4.44	13	Pass

LTE Band 5-10MHz						
Modulation	QPSK		16QAM		Line:t/dD)	Decult
Channel	1RB#	Full RB#	1RB#	Full RB#	Limit(dB)	Result
Low	3.26	4.26	3.01	4.32	13	Pass
Mid	3.48	4.74	3.38	4.08	13	Pass
High	3.37	4.52	3.45	4.52	13	Pass

LTE Band 17-10MHz						
Modulation	QPS	SK 16QAM		Limit/dD\	Dogult	
Channel	1RB#	Full RB#	1RB#	Full RB#	Limit(dB)	Result
Low	5.86	5.35	5.47	5.47	13	Pass
Mid	5.54	5.63	6.85	5.39	13	Pass
High	5.49	5.38	5.42	5.54	13	Pass

Report No: TRE1605009502 Page: 113 of 114 Issued: 2016-08-14

# 5. Test Setup Photos of the EUT

Radiated emission:





Report No: TRE1605009502 Page: 114 of 114 Issued: 2016-08-14

# 6. External and Internal Photos of the EUT

Reference to the test report No. TRE16050	09501
	End of Report