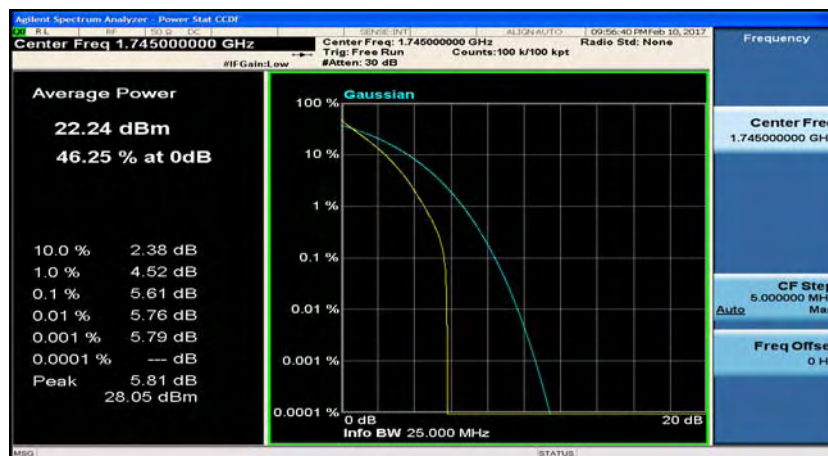




(LTE band 4_Channel Bandwidth:20 MHz)_HCH_QPSK_50RB#0



(LTE band 4_Channel Bandwidth:20 MHz)_HCH_QPSK_50RB#25

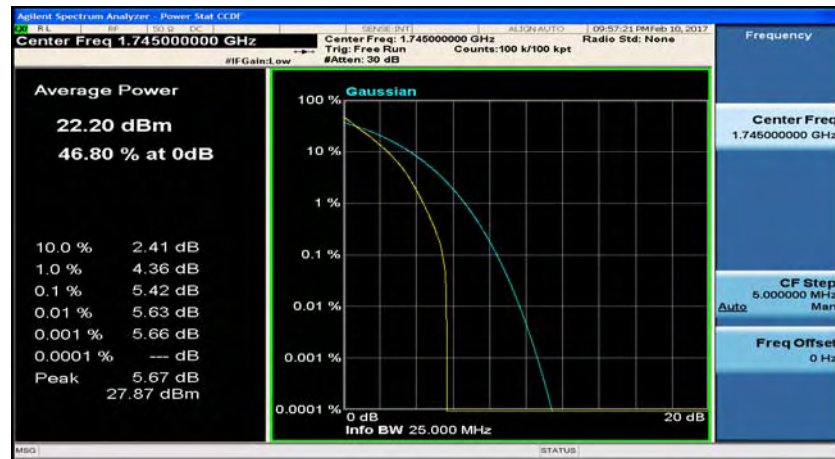


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(LTE band 4_Channel Bandwidth:20 MHz)_HCH_QPSK_100RB#0

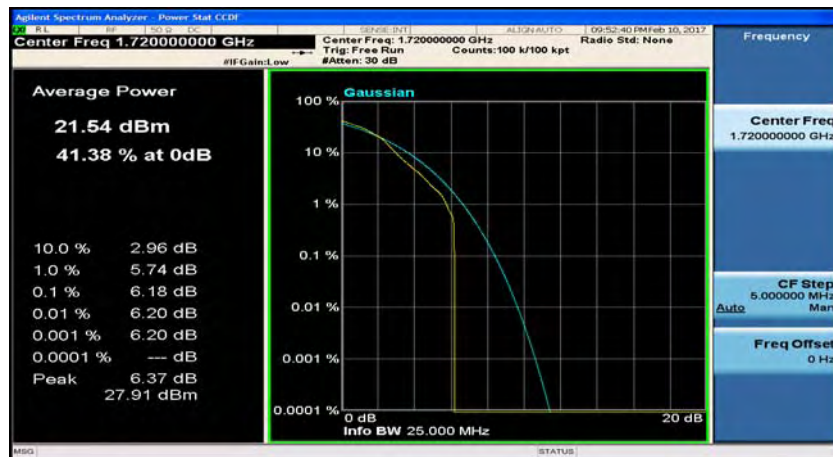




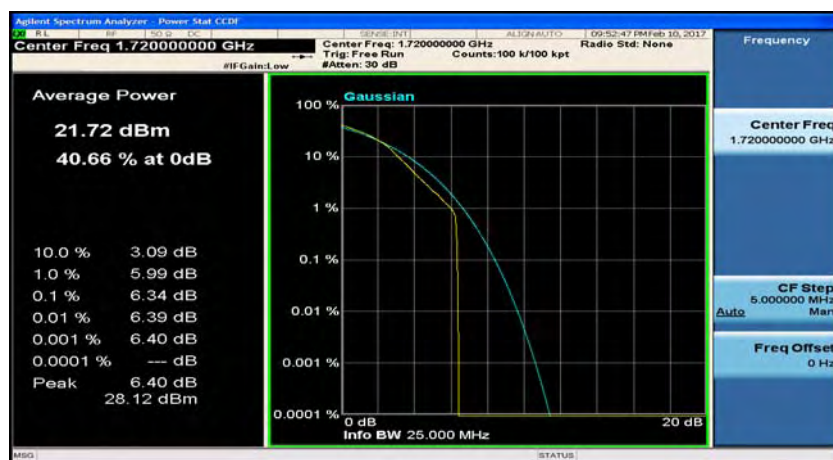
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(LTE band 4_Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

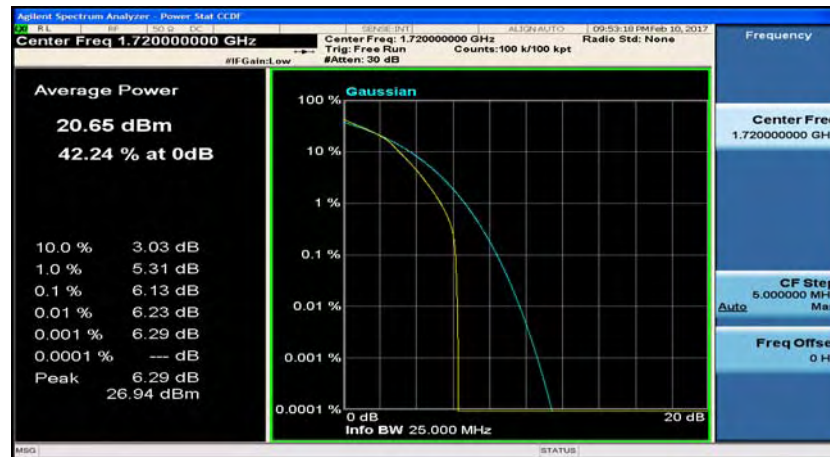


(LTE band 4_Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#99

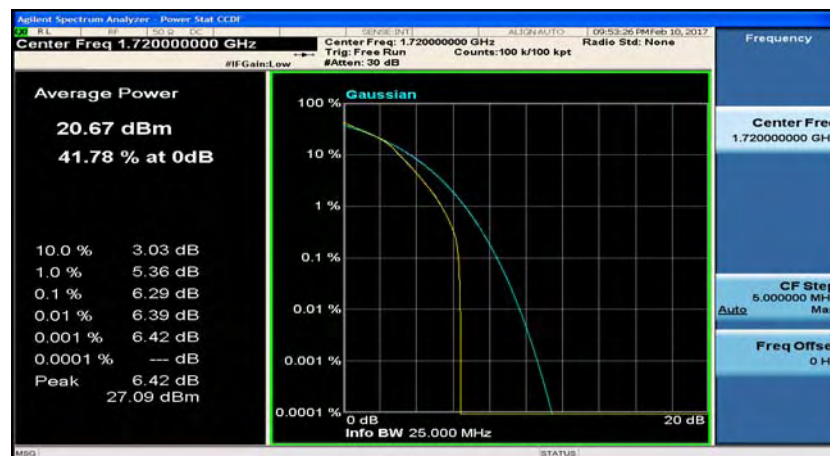




(LTE band 4_Channel Bandwidth:20 MHz)_LCH_16QAM_50RB#0

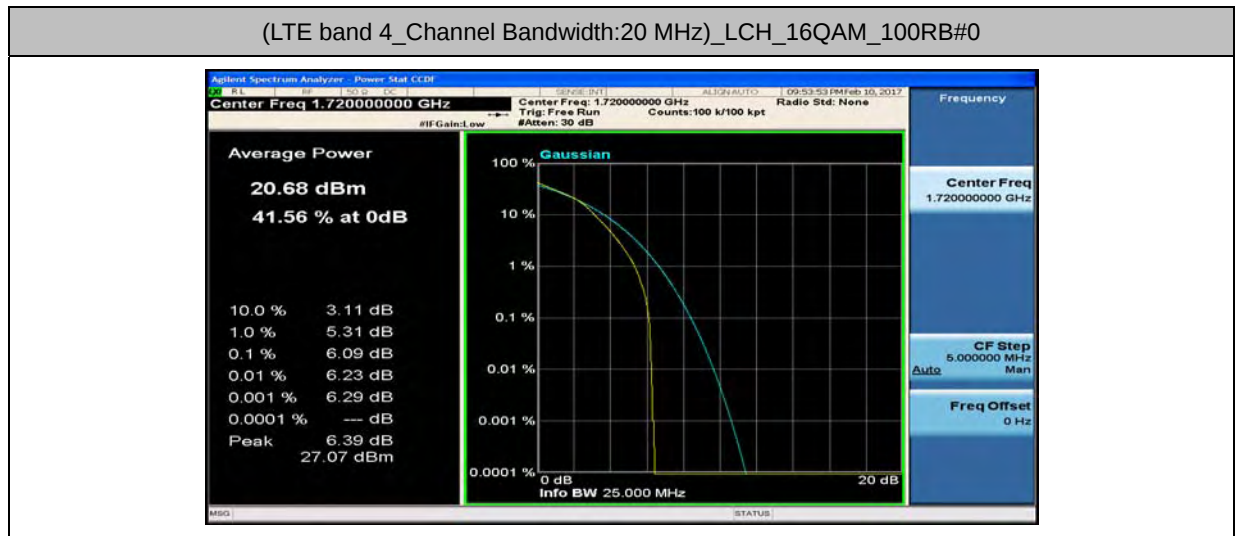
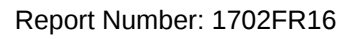


(LTE band 4_Channel Bandwidth:20 MHz)_LCH_16QAM_50RB#25



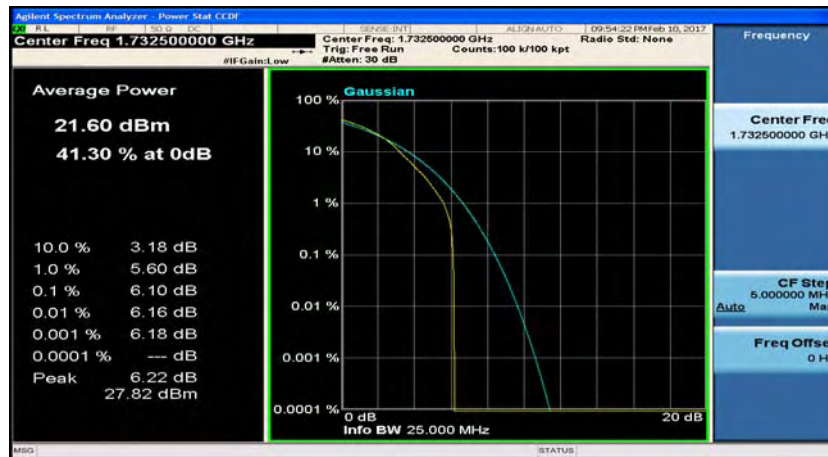
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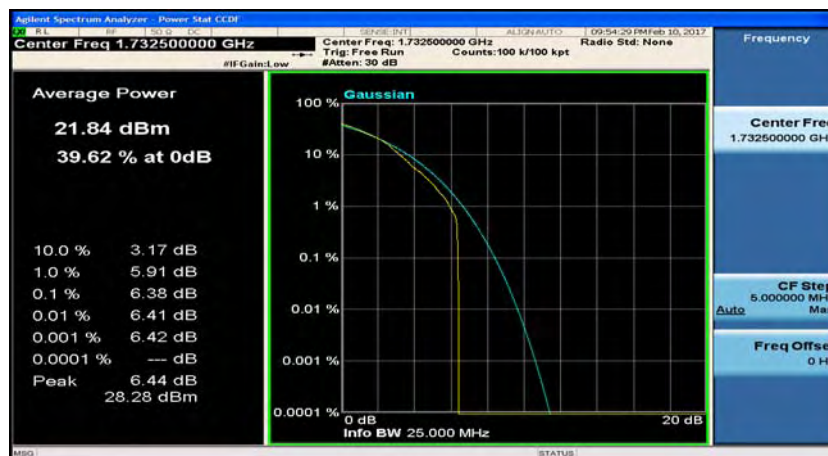




(LTE band 4_Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0



(LTE band 4_Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49



(LTE band 4_Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#99

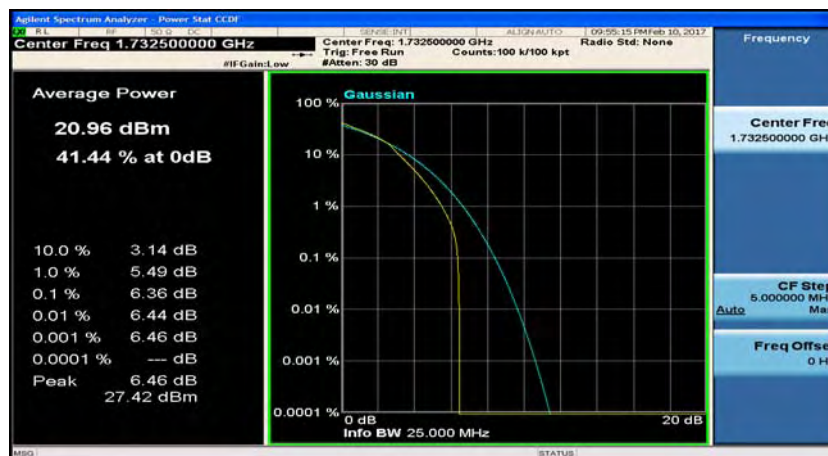




(LTE band 4_Channel Bandwidth:20 MHz)_MCH_16QAM_50RB#0



(LTE band 4_Channel Bandwidth:20 MHz)_MCH_16QAM_50RB#25



(LTE band 4_Channel Bandwidth:20 MHz)_MCH_16QAM_50RB#50





(LTE band 4_Channel Bandwidth:20 MHz)_MCH_16QAM_100RB#0

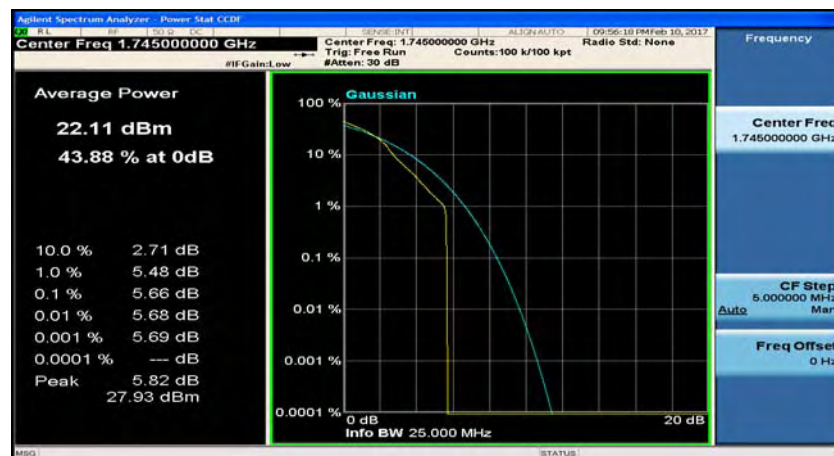




(LTE band 4_Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0



(LTE band 4_Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#49



(LTE band 4_Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#99

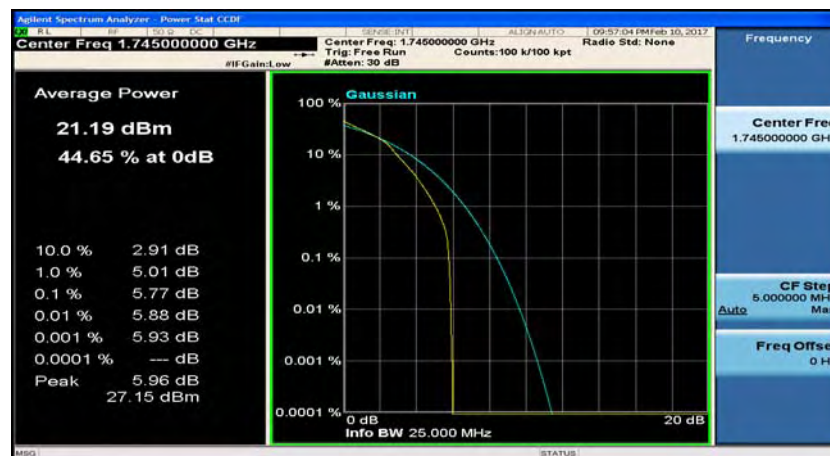




(LTE band 4_Channel Bandwidth:20 MHz)_HCH_16QAM_50RB#0

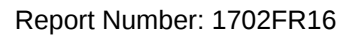


(LTE band 4_Channel Bandwidth:20 MHz)_HCH_16QAM_50RB#25



(LTE band 4_Channel Bandwidth:20 MHz)_HCH_16QAM_50RB#50





Agilent Spectrum Analyzer - Power Stat CCD

Center Freq 1.745000000 GHz

Average Power

10.0 %	2.94 dB
1.0 %	4.97 dB
0.1 %	5.75 dB
0.01 %	5.90 dB
0.001 %	5.92 dB
0.0001 %	-- dB
Peak	5.95 dB
	27.10 dBm

Trig: Free Run Counts: 100 k/100 kpt Radio Std: None

#IF Gain: low

Gaussian

0 dB

Info BW 25.000 MHz

Frequency

Center Freq 1.745000000 GHz

CF Step 5.000000 MHz

Auto Man

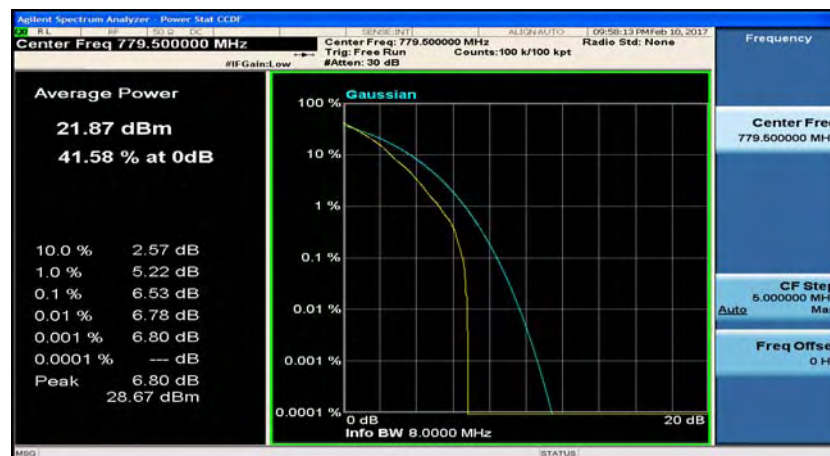
Freq Offset 0 Hz



(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12



(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24





(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#6



(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#13





(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0

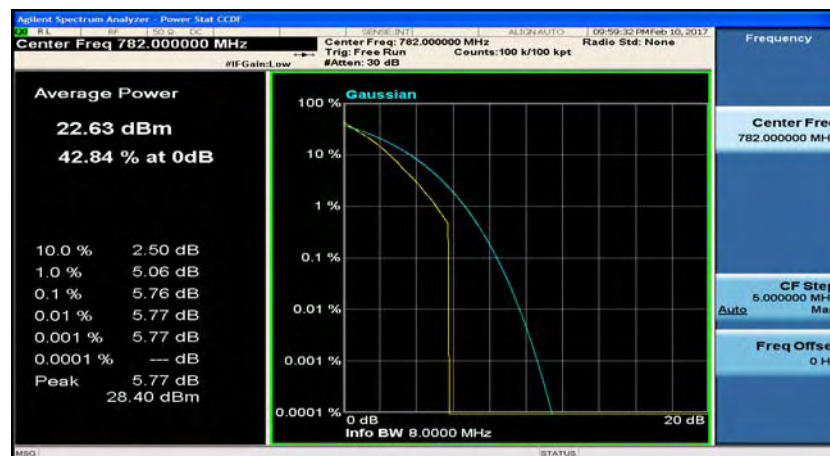




(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12



(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

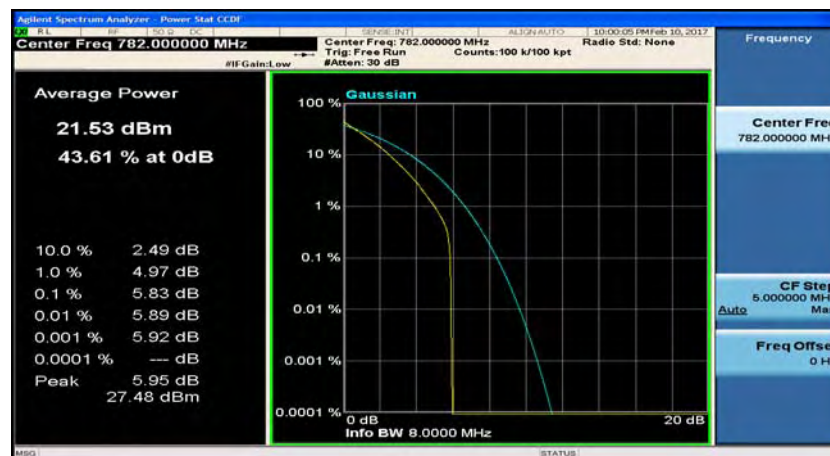




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(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#6



(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#13





(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0

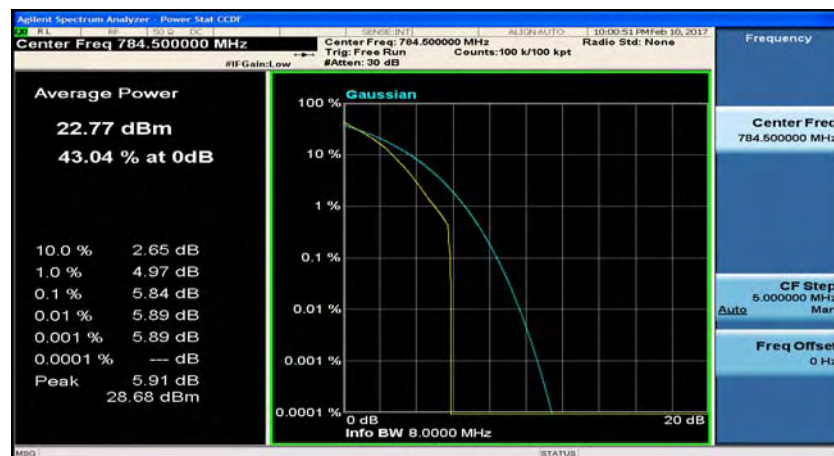




(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12



(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

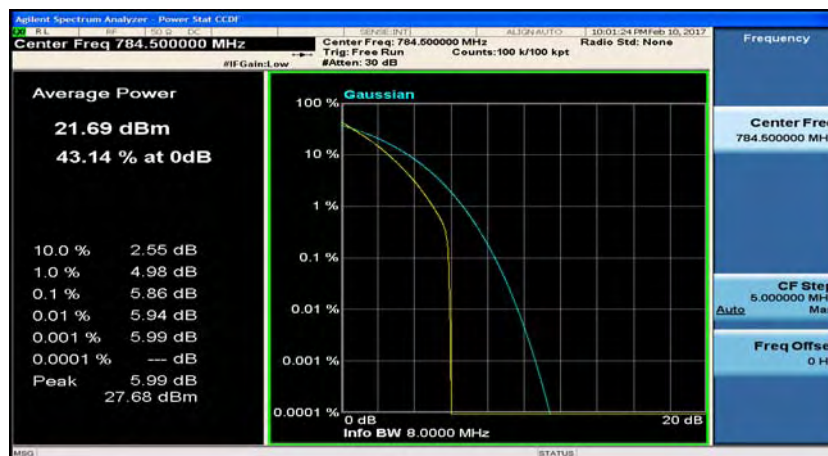




(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#6



(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#13

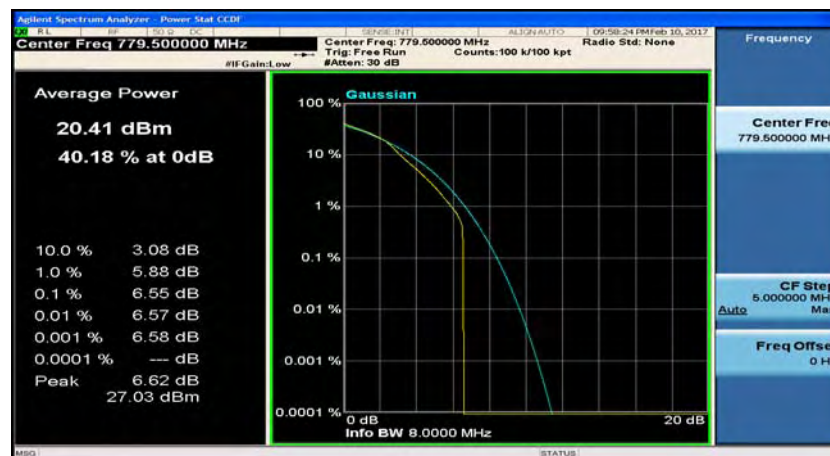




(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

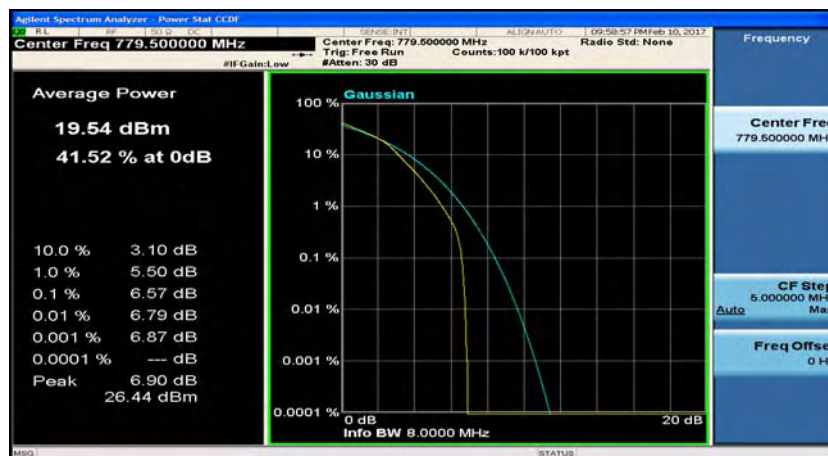




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(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0

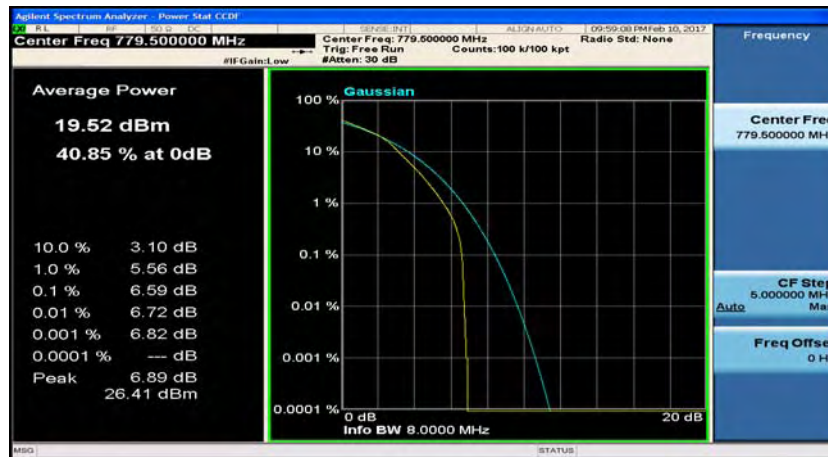


(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#6

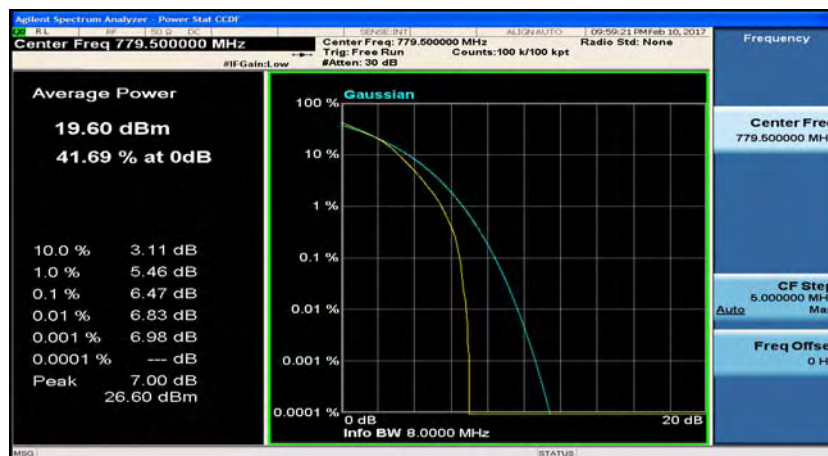




(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#13

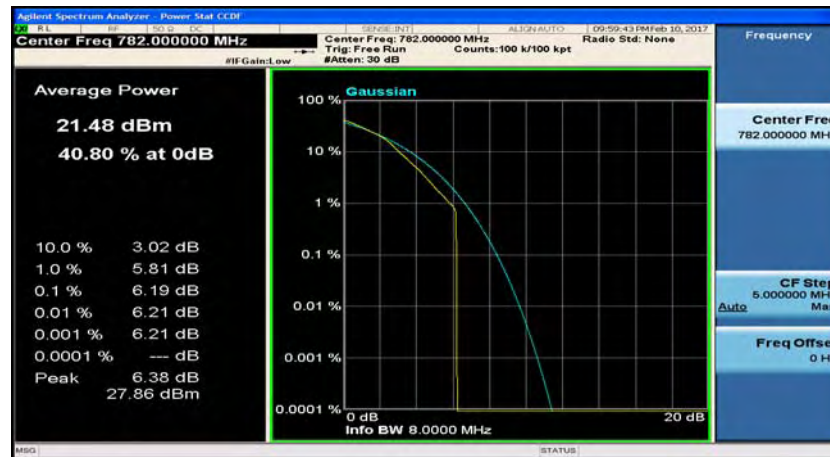


(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#0

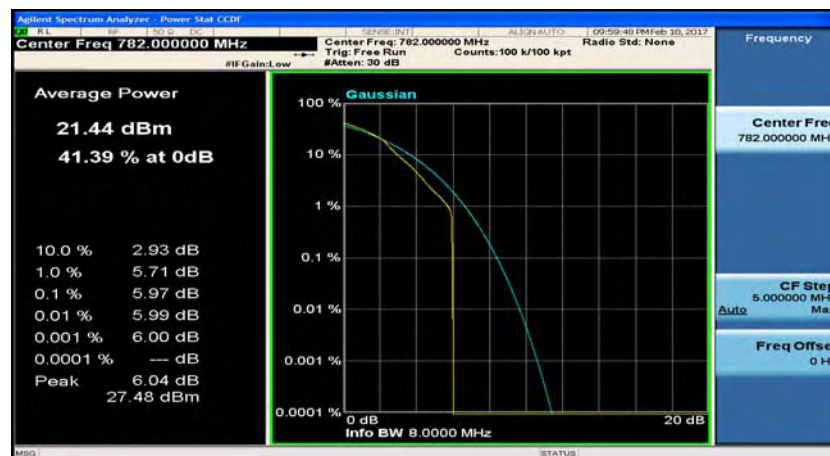




(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12



(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24

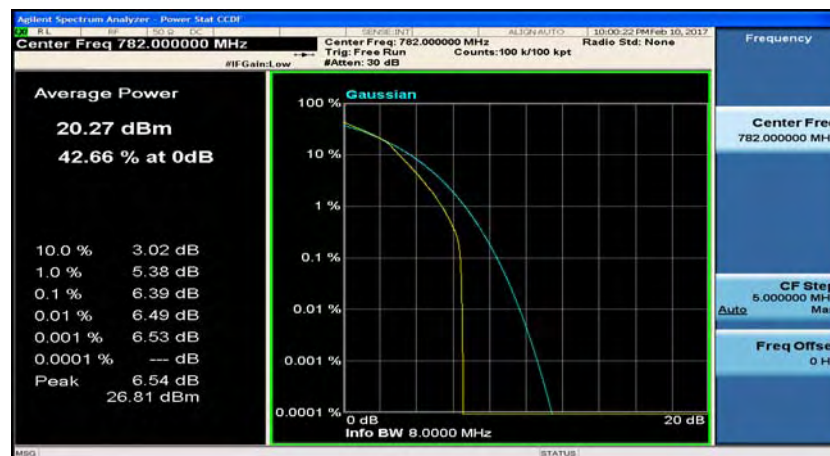




(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#6



(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#13





(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0

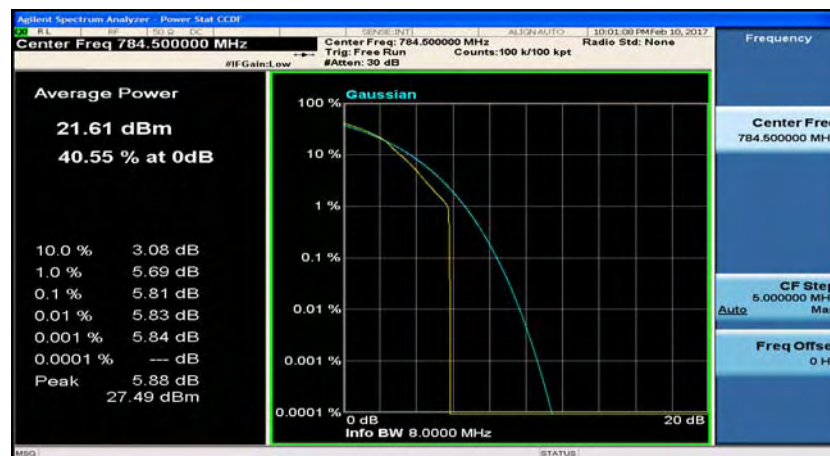




(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12



(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24

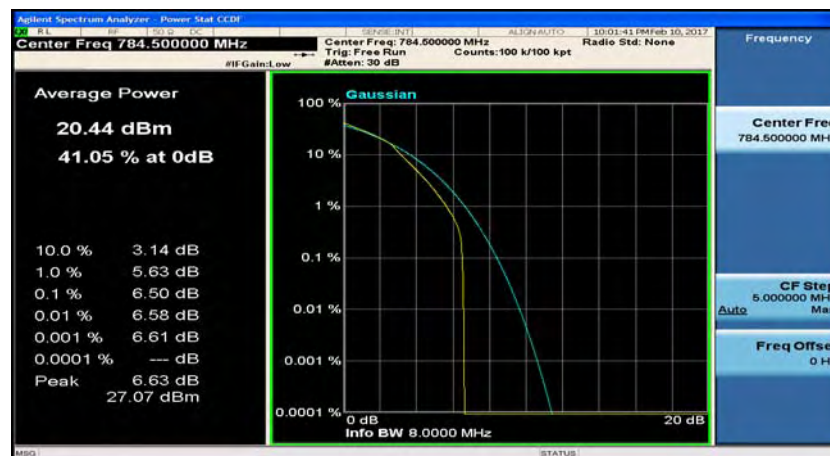




(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#6



(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#13





(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0

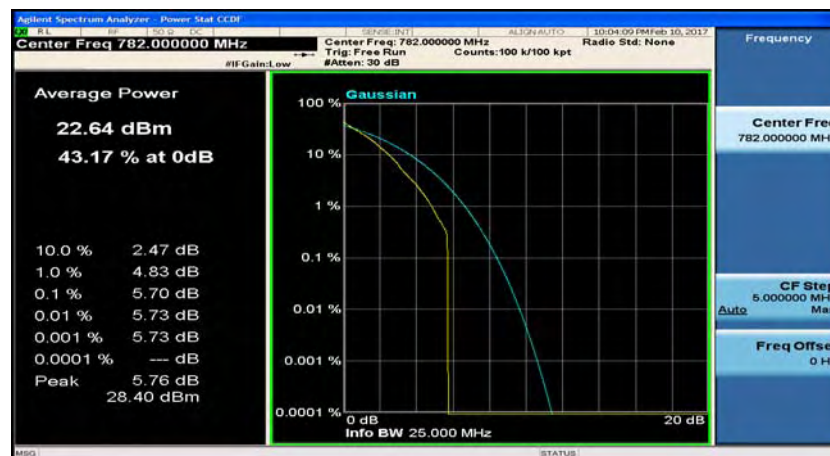




LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24



LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

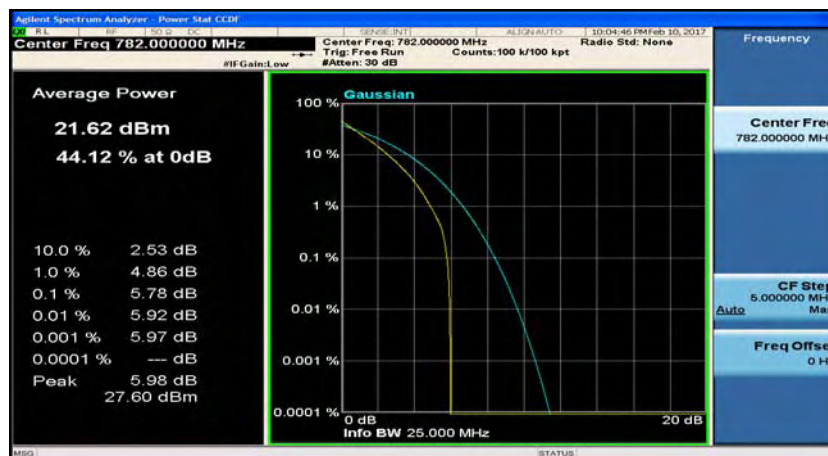




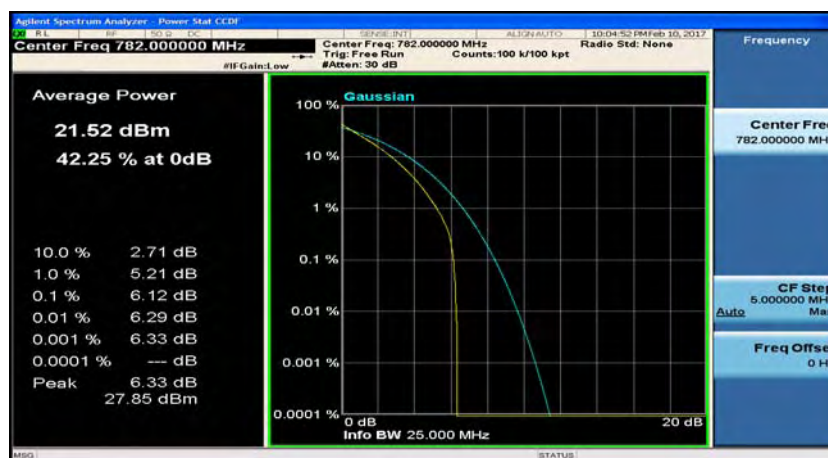
LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#0



LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#12



LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#25

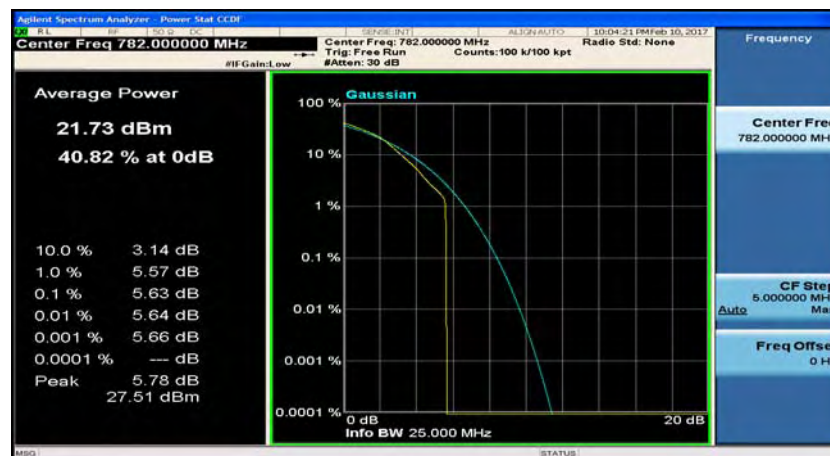




LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_50RB#0



LTE band 13_Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0

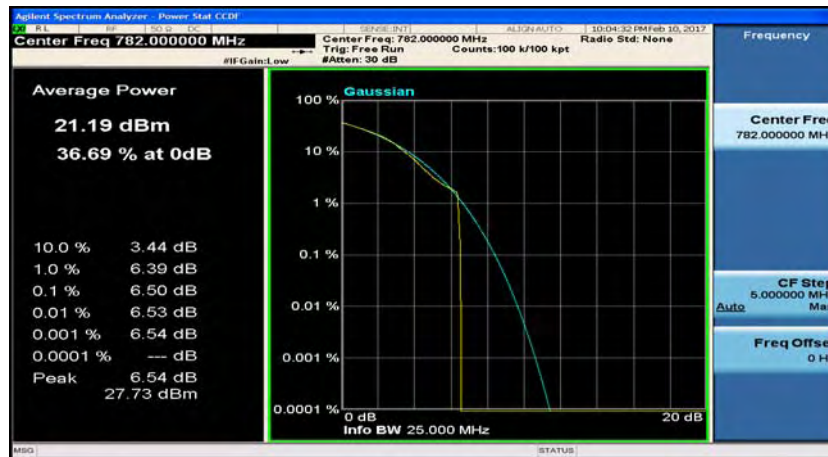


LTE band 13_Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

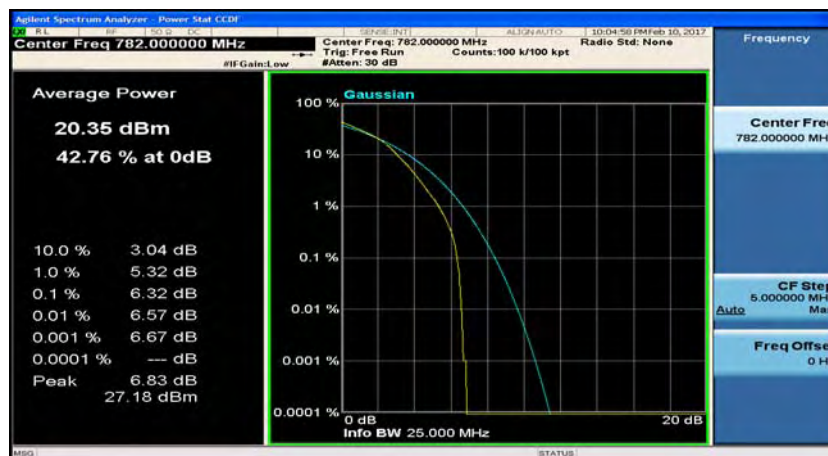




LTE band 13_Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49



LTE band 13_Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#0



LTE band 13_Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#12





LTE band 13_Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#25



LTE band 13_Channel Bandwidth: 10 MHz_MCH_16QAM_50RB#0





7 Band Edge Test

■ Limit

The Band Edge Limit:

§27.53(c)

(2) On any frequency outside the 777-787 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB.

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;

LTE Band 13_BW=5M				
Frequency (MHz)	RBW=10kHz Measurement (dBm)	RBW=6.25kHz Measurement (dBm)	Limit -35dBm/6.25kHz	Result
763 ~ 775	-39.670	-41.711	-35	PASS
793 ~ 805	-51.865	-53.906	-35	PASS

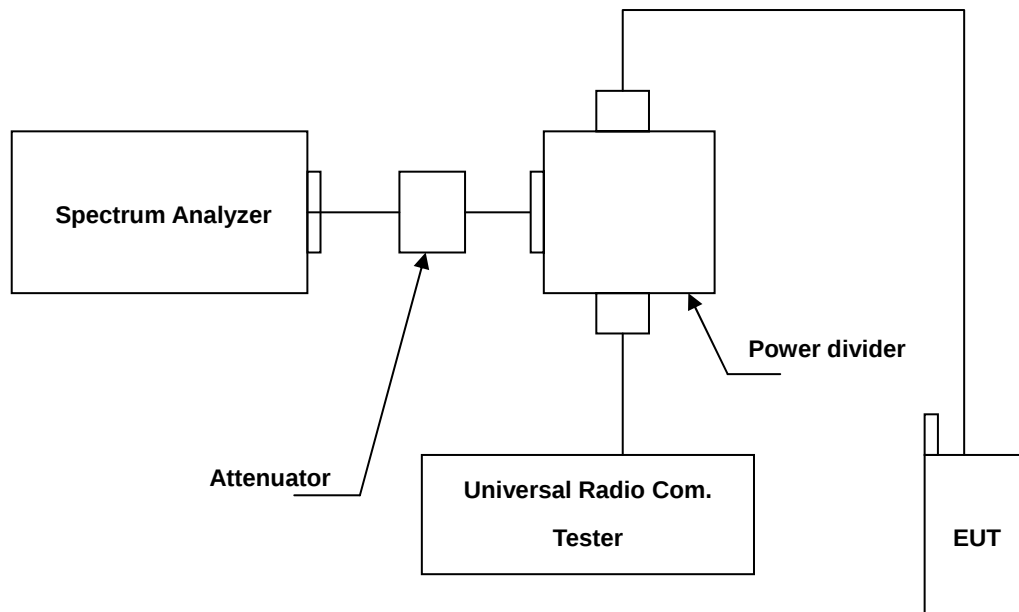
LTE Band 13_BW=10M				
Frequency (MHz)	RBW=10kHz Measurement (dBm)	RBW=6.25kHz Measurement (dBm)	Limit -35dBm/6.25kHz	Result
763 ~ 775	-42.106	-44.147	-35	PASS
793 ~ 805	-41.867	-43.908	-35	PASS

■ Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2016	1 year
Wideband Radio Communication Test	R & S	CMW500	103168	11/04/2016	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

■ Setup



■ Test Procedure

The measurement is made according to FCC rules:

- The EUT was set up for the maximum peak power with LTE/WCDMA link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.)
- The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer. This splitter loss and cable loss are the worst loss in the transmitted path track.
- The center frequency of spectrum is the band edge frequency and span is 10 MHz. RB of the resolution bandwidth of at least one percent of the emission bandwidth.
- Record the max trace plot into the test report.

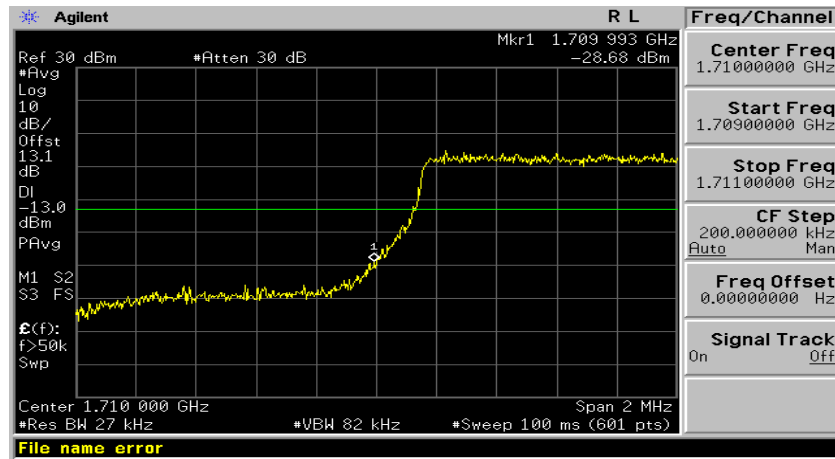
■ Uncertainty

The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.

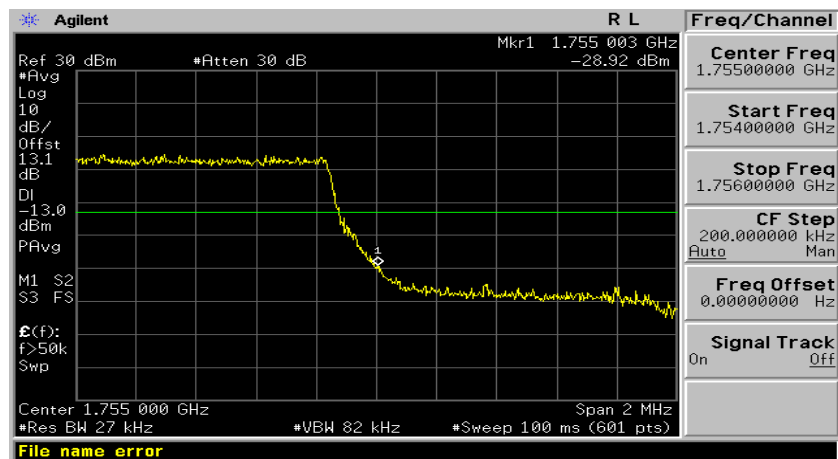


■ Test Result

(LTE band 4_Channel Bandwidth: 1.4 MHz)_LCH_QPSK_6RB#0

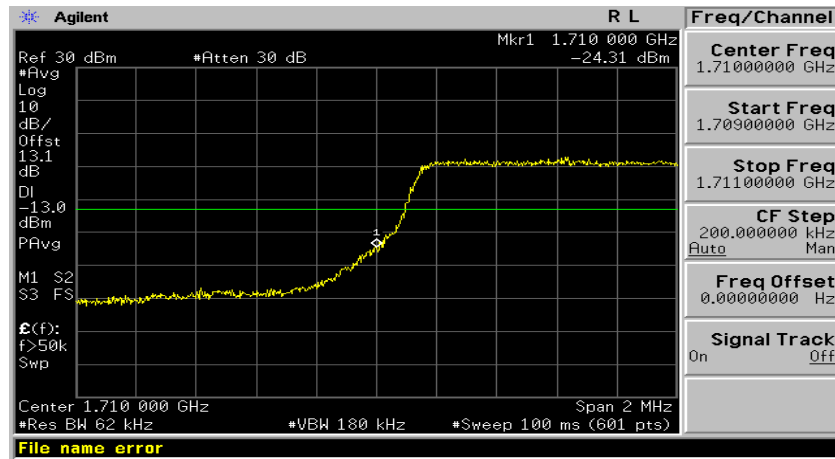


(LTE band 4_Channel Bandwidth: 1.4 MHz)_HCH_QPSK_6RB#0

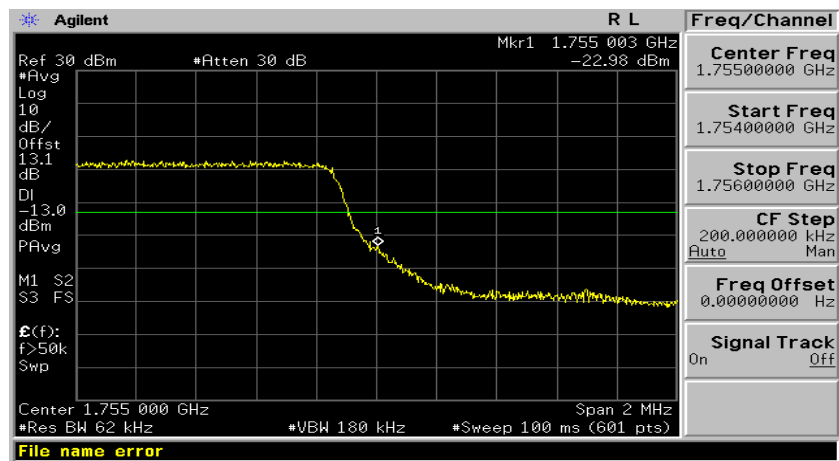




(LTE band 4_Channel Bandwidth: 3 MHz)_LCH_QPSK_15RB#0

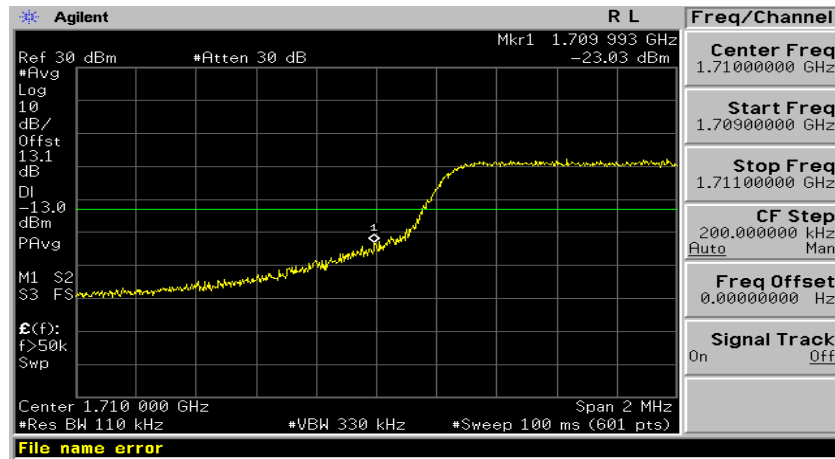


(LTE band 4_Channel Bandwidth: 3 MHz)_HCH_QPSK_15RB#0

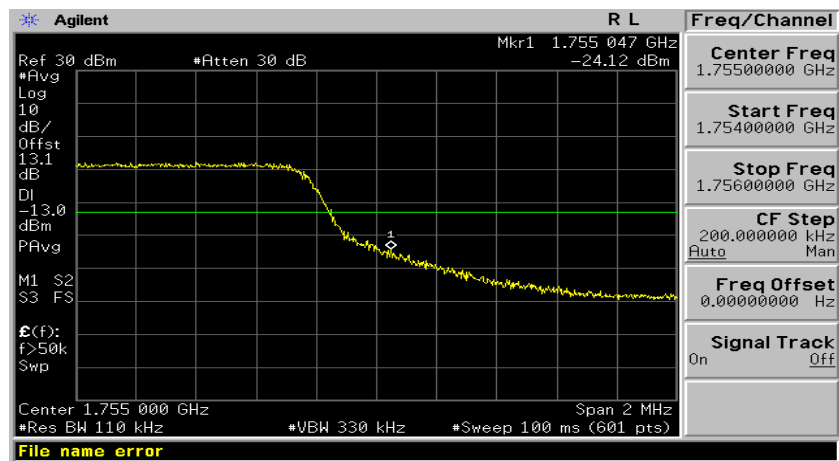




(LTE band 4_Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0

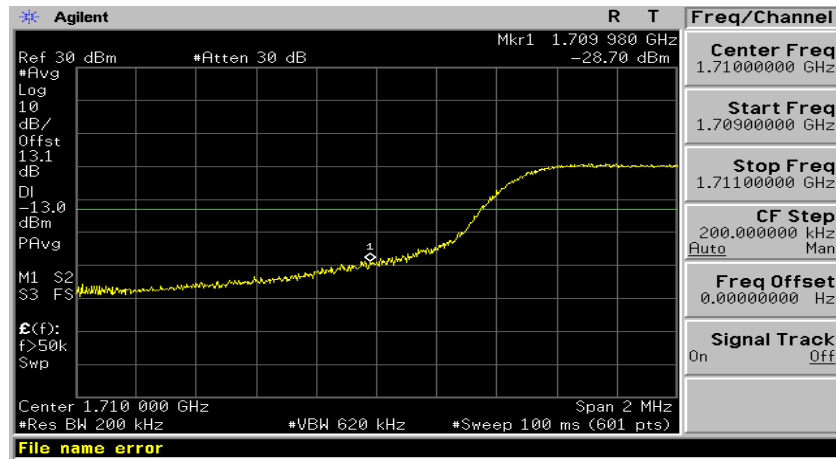


(LTE band 4_Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0

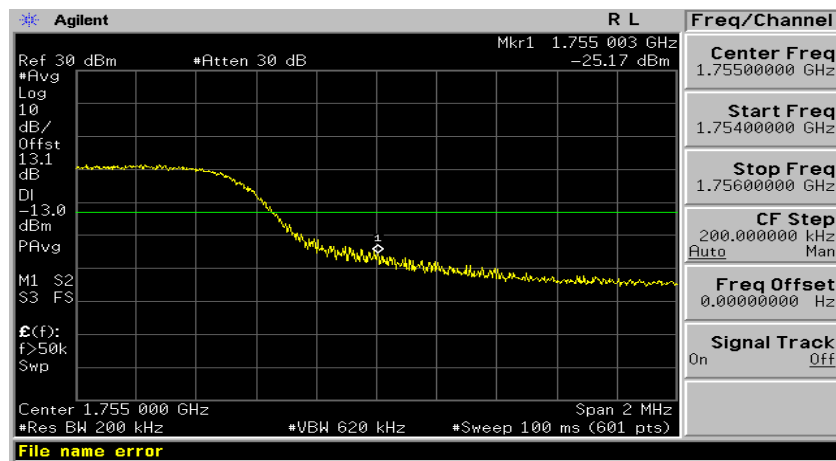




Channel Bandwidth: 10 MHz_LCH_QPSK_50RB#0

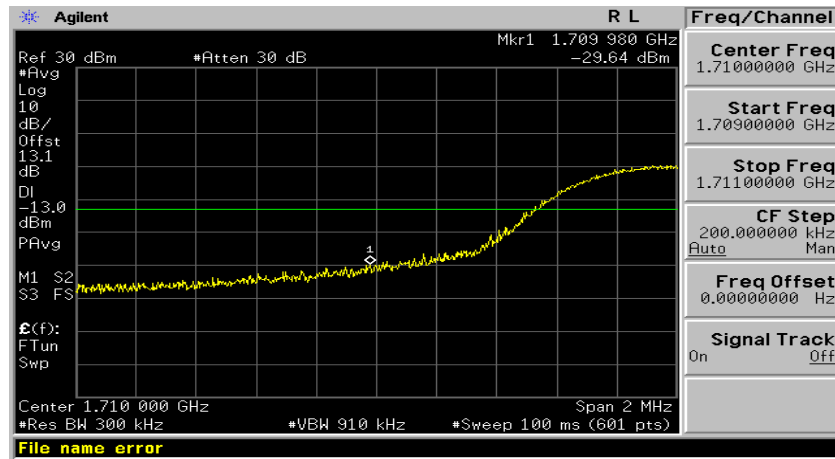


Channel Bandwidth: 10 MHz_HCH_QPSK_50RB#0

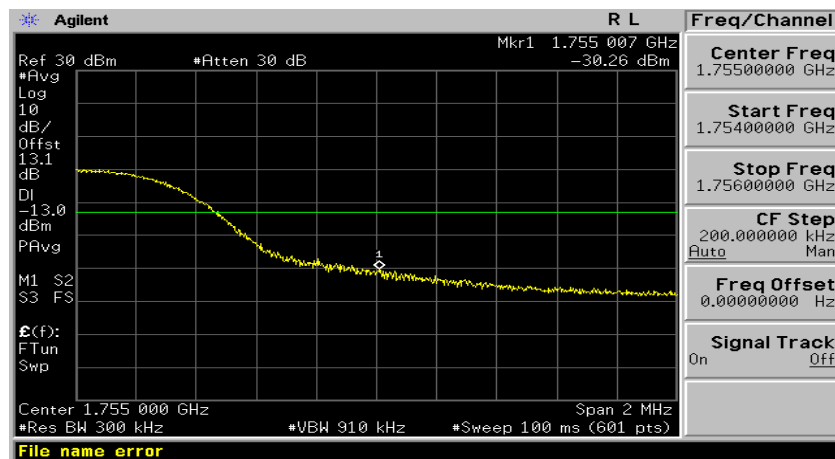




(LTE band 4_Channel Bandwidth:15 MHz)_LCH_QPSK_75RB#0

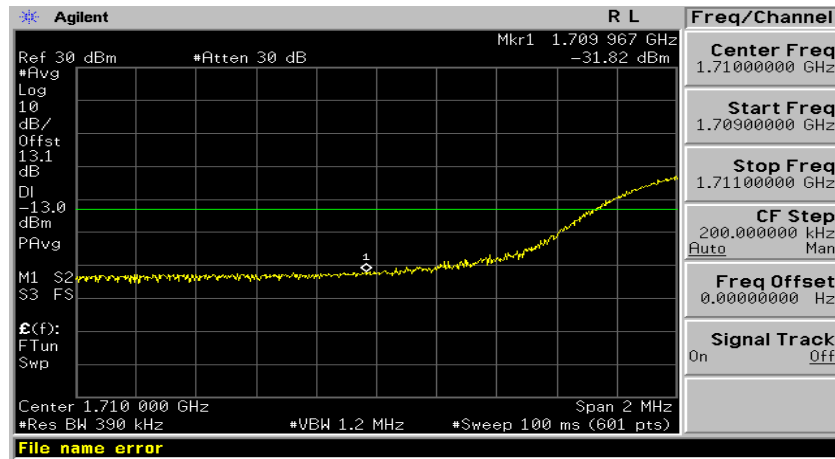


(LTE band 4_Channel Bandwidth:15 MHz)_HCH_QPSK_75RB#0

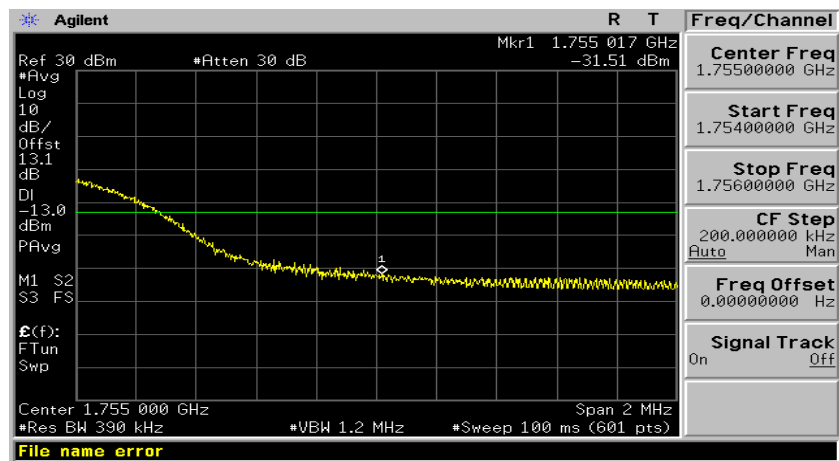




(LTE band 4_Channel Bandwidth:20 MHz)_LCH_QPSK_100RB#0

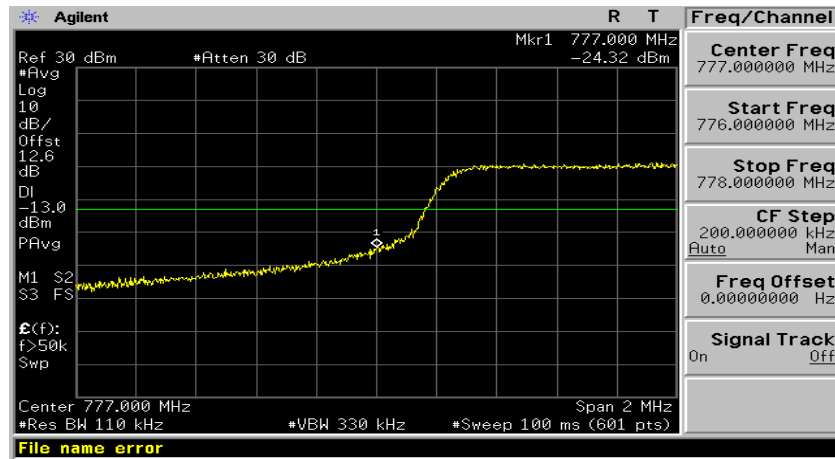


(LTE band 4_Channel Bandwidth:20 MHz)_HCH_QPSK_100RB#0

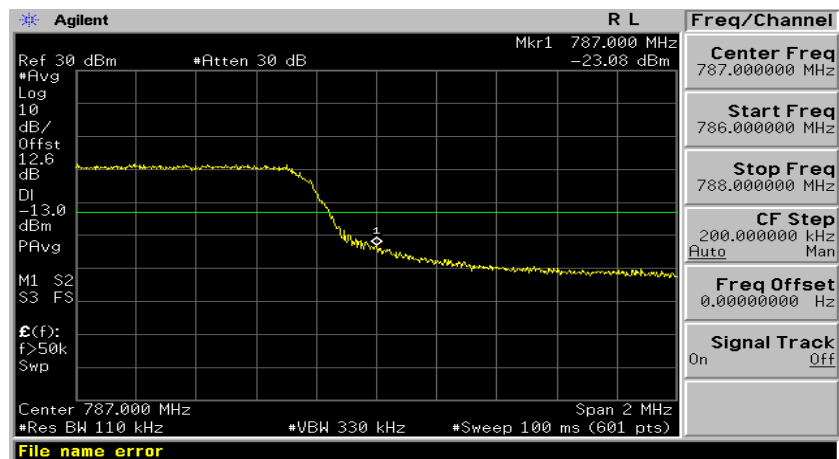




(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0

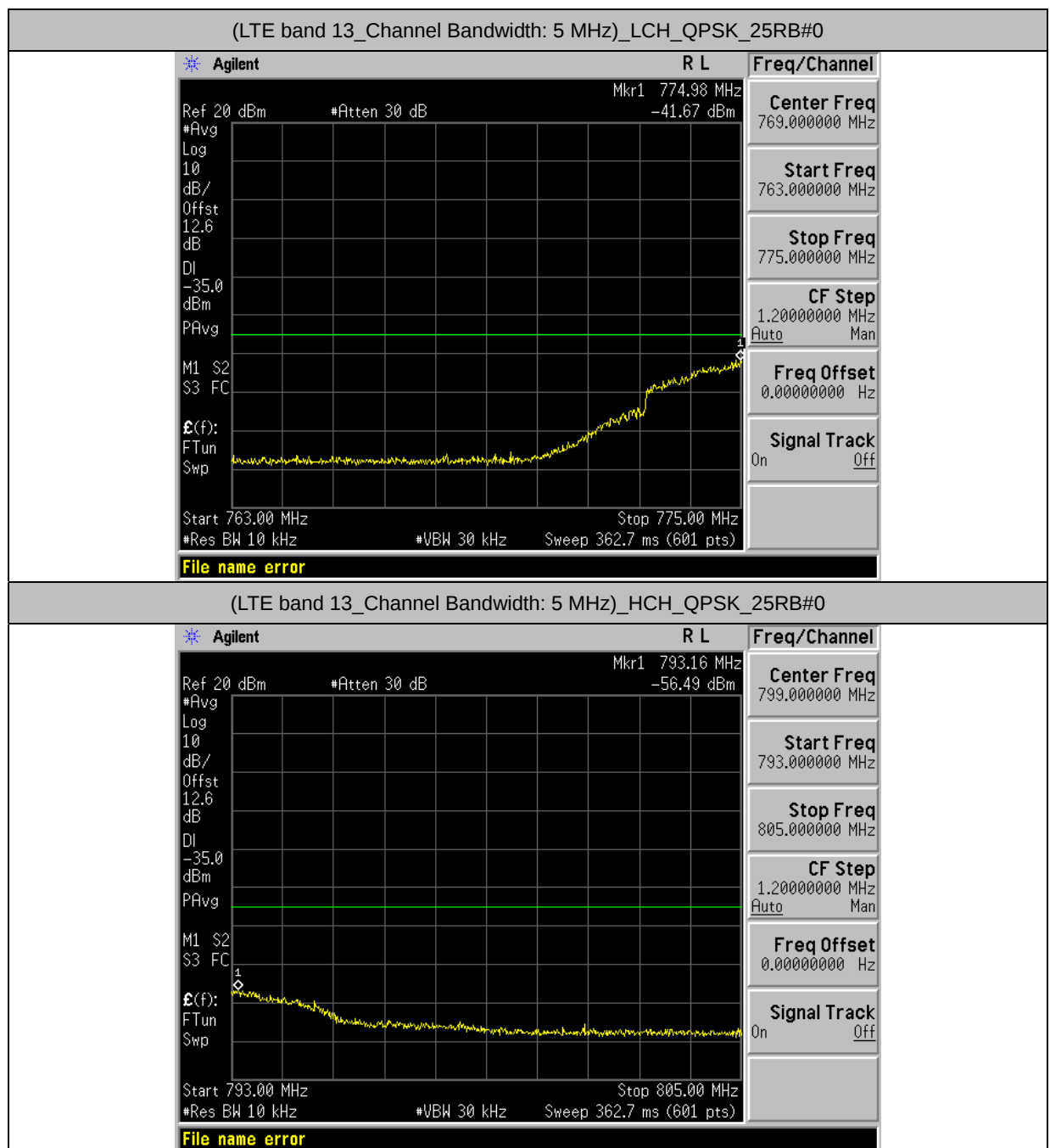


(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0



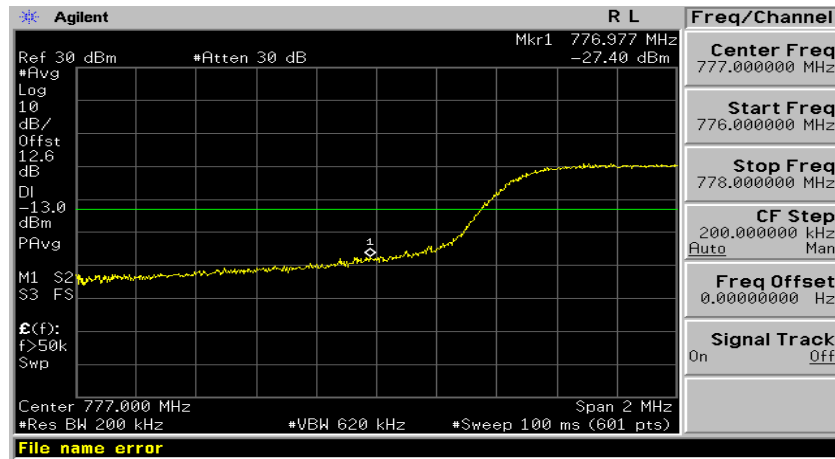


LTE band 13_Channel Bandwidth: 5 MHz							
Modulation	Channel	Frequency(MHz)		RBW=10KHz	RBW=6.25KHz	Limit	Verdict
				Measurement	Measurement	-35dBm/6.25KHz	
QPSK	LCH	763	775	-41.67	-43.71	<-35	PASS
	HCH	793	805	-56.49	-58.53	<-35	PASS

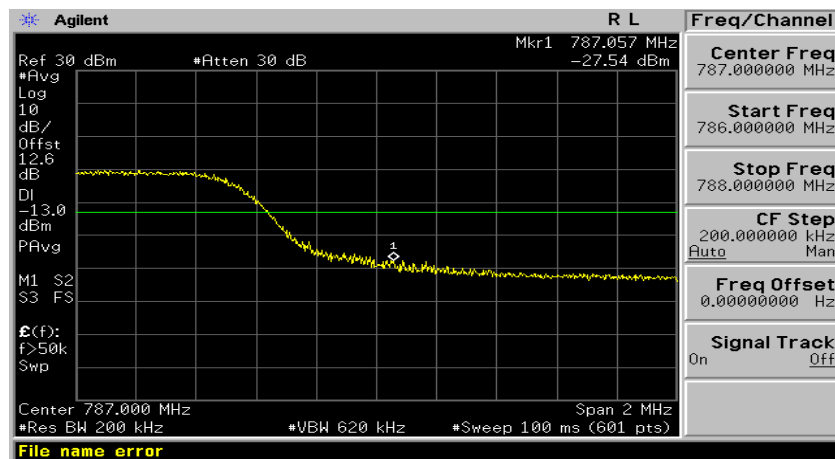




LTE band 13_Channel Bandwidth: 10 MHz_LCH_QPSK_50RB#0

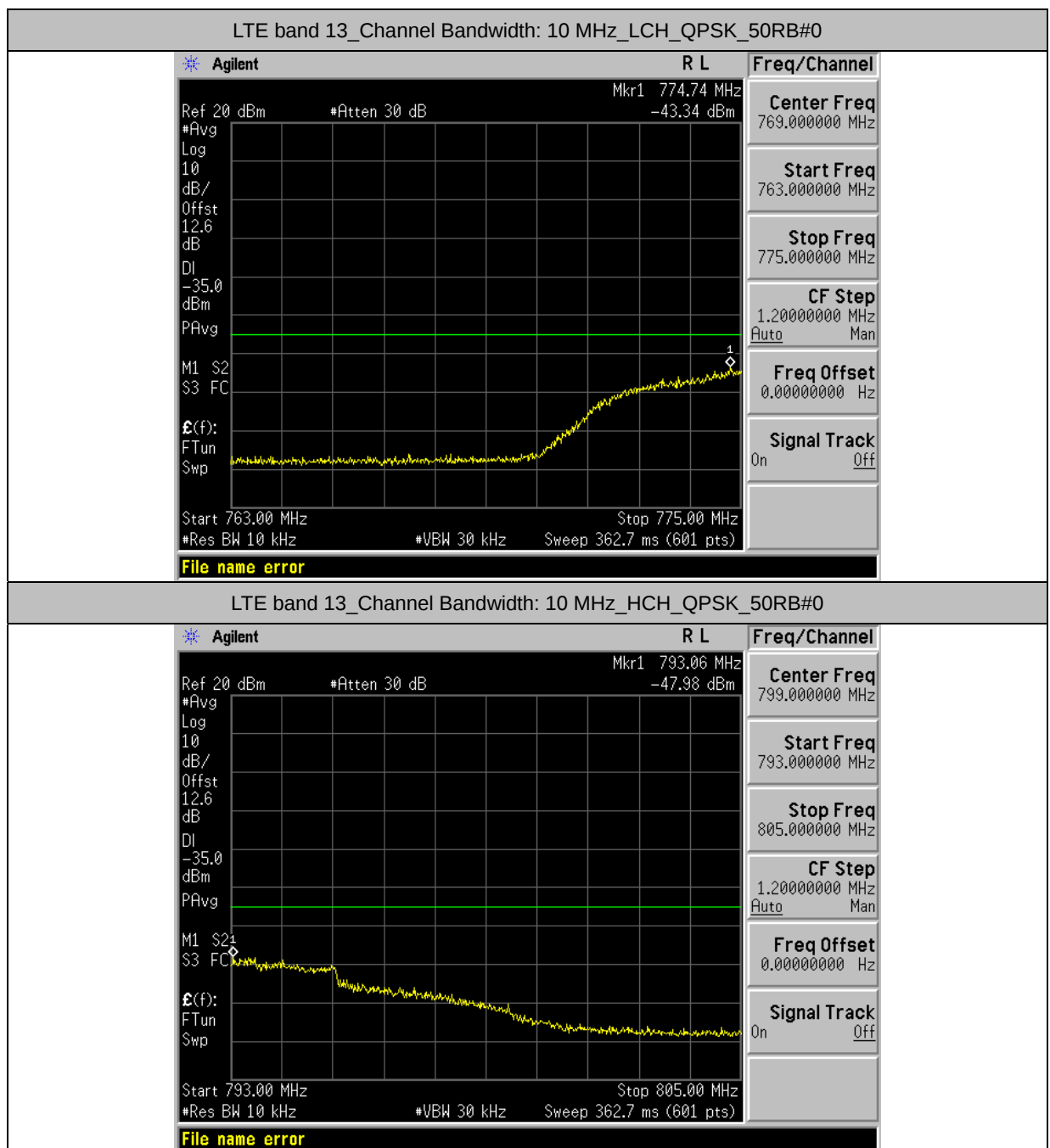


LTE band 13_Channel Bandwidth: 10 MHz_HCH_QPSK_50RB#0





LTE band 13_Channel Bandwidth: 10 MHz							
Modulation	Channel	Frequency(MHz)		RBW=10KHz	RBW=6.25KHz	Limit	Verdict
				Measurement	Measurement	-35dBm/6.25KHz	
QPSK	LCH	763	775	-43.34	-45.38	<-35	PASS
	HCH	793	805	-47.98	-50.02	<-35	PASS



8 Conducted Spurious Emission Test

■ Limit

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13dBm

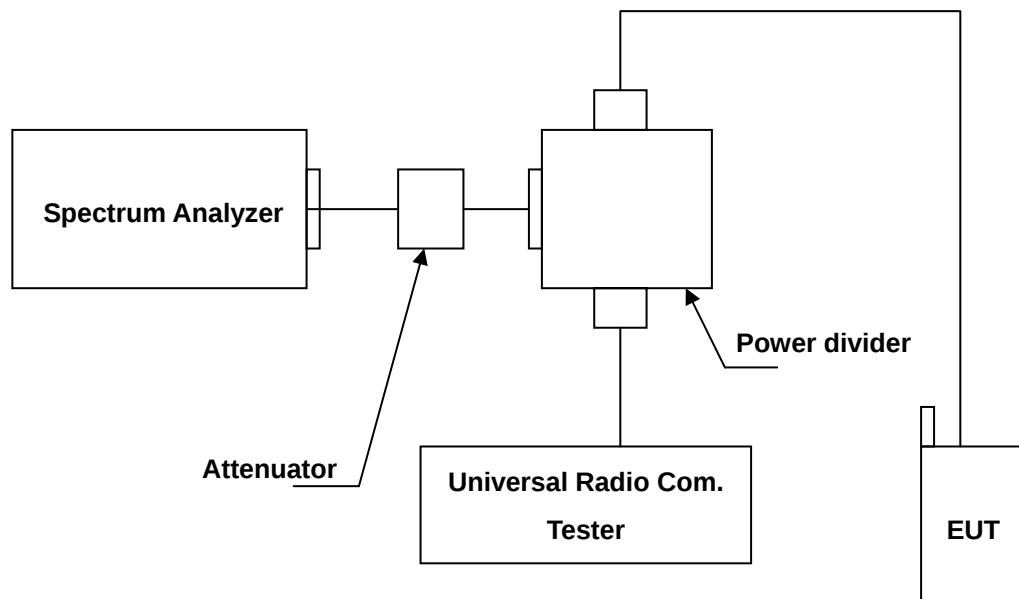
■ Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2016	1 year
Wideband Radio Communication Test	R & S	CMW500	103168	11/04/2016	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE02	TE02	N.C.R.	-----

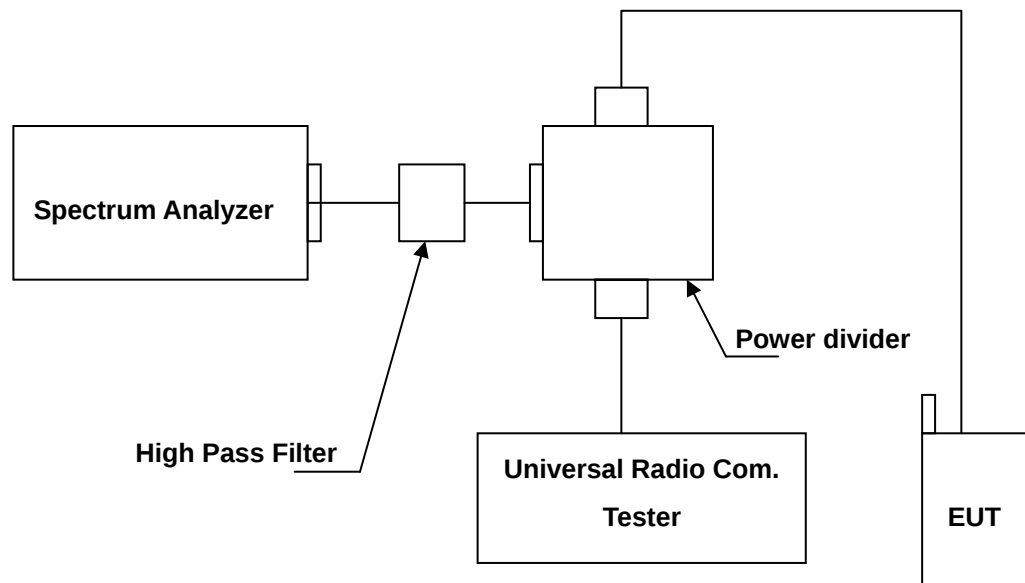
Note: N.C.R. = No Calibration Request.

■ Setup

Below 2.8GHz



Above 2.8GHz



■ Test Procedure

- The EUT was set up for the maximum peak power with LTE / WCDMA link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.).
- The conducted spurious emission used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- When the spectrum scanned from 10MHz to 2.5GHz (Band 7 and Band 41: scanned from 10MHz to 4GHz), it shall be connected to the band reject filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=1MHz.
- When the spectrum scanned from 2.5GHz to 10th harmonic (Band 7 and Band 41: scanned from 4GHz to 10th harmonic), it shall be connected to the high pass filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=1MHz.

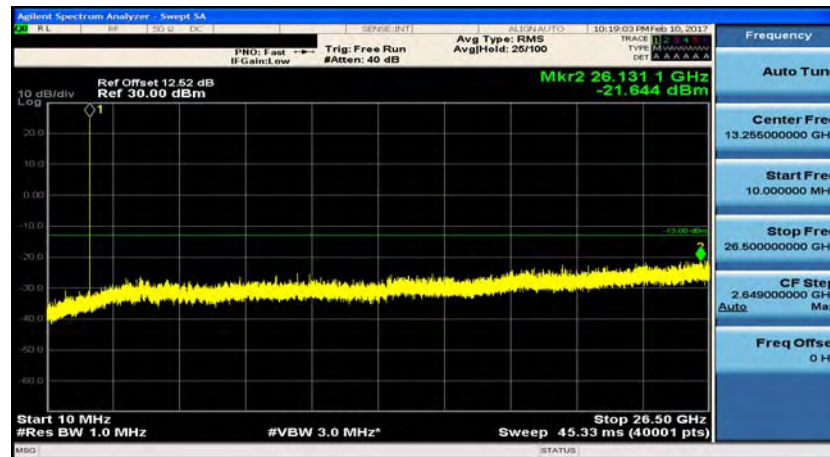
■ Uncertainty

The measurement uncertainty is evaluated as ± 2.24 dB.

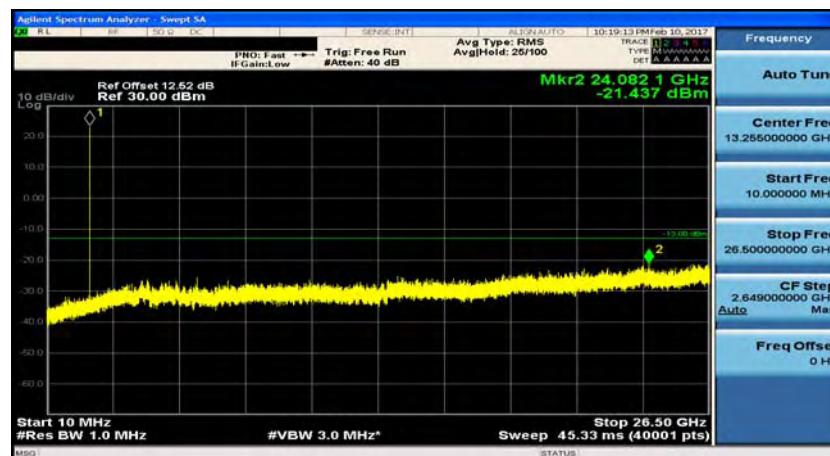


■ Test Graphs

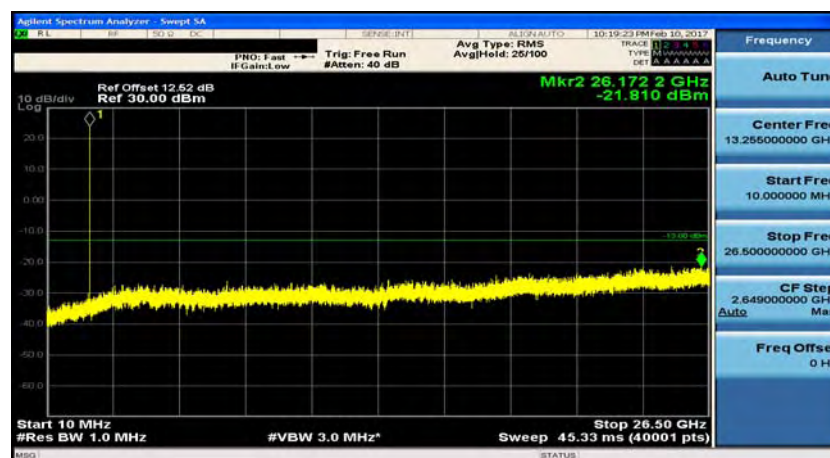
(LTE band 4_Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#3

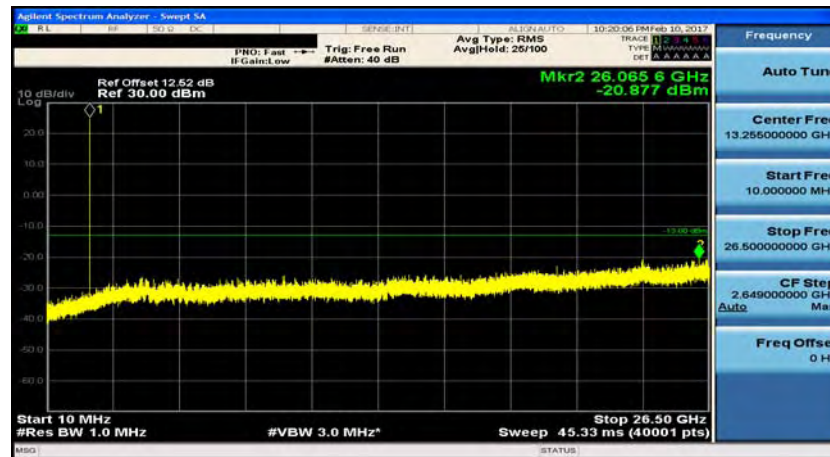


(LTE band 4_Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#5

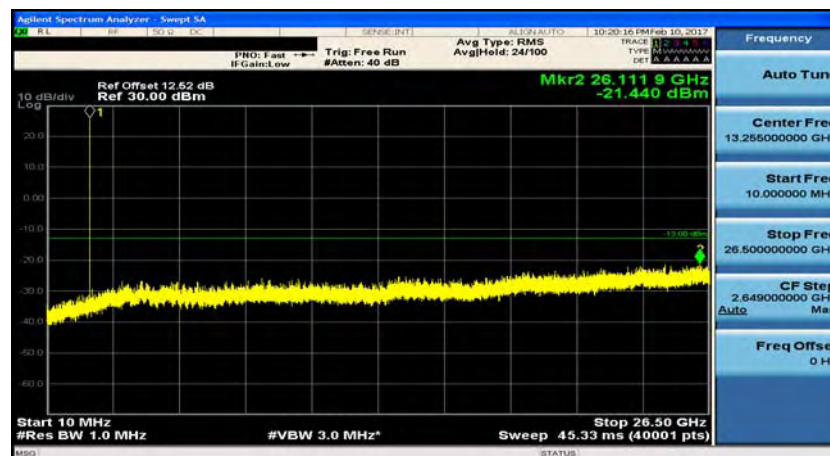




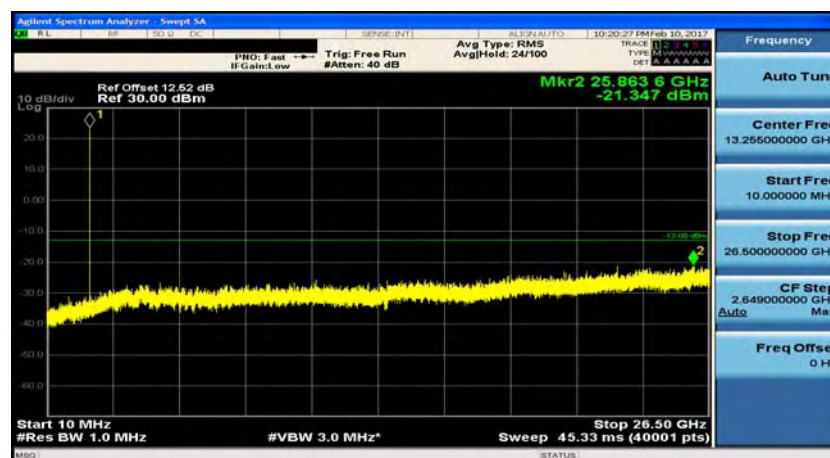
(LTE band 4_Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3

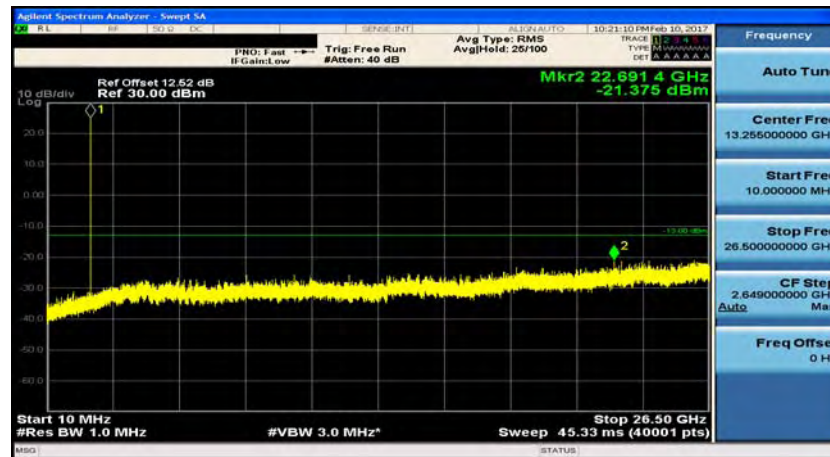


(LTE band 4_Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5

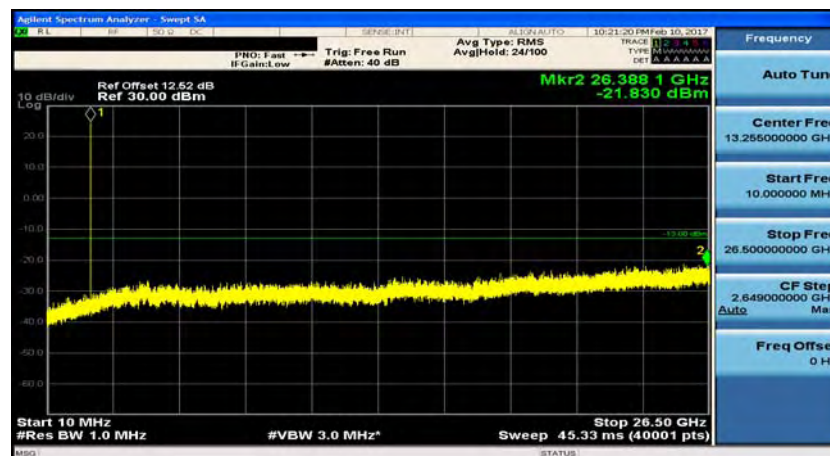




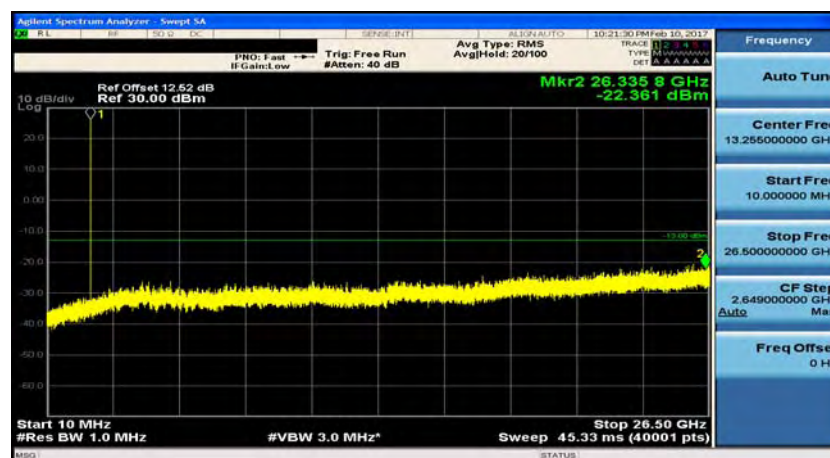
(LTE band 4_Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#3

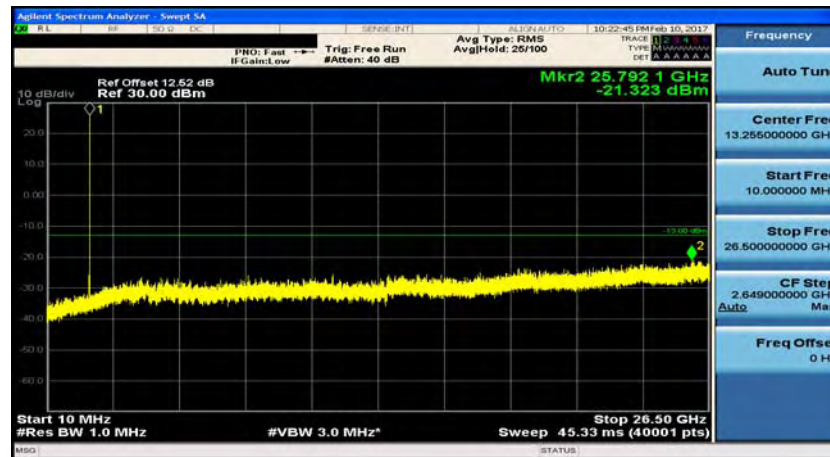


(LTE band 4_Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#5

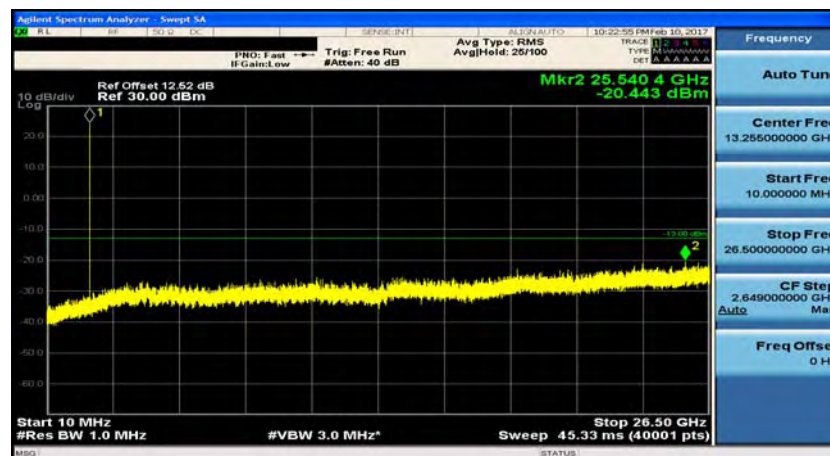




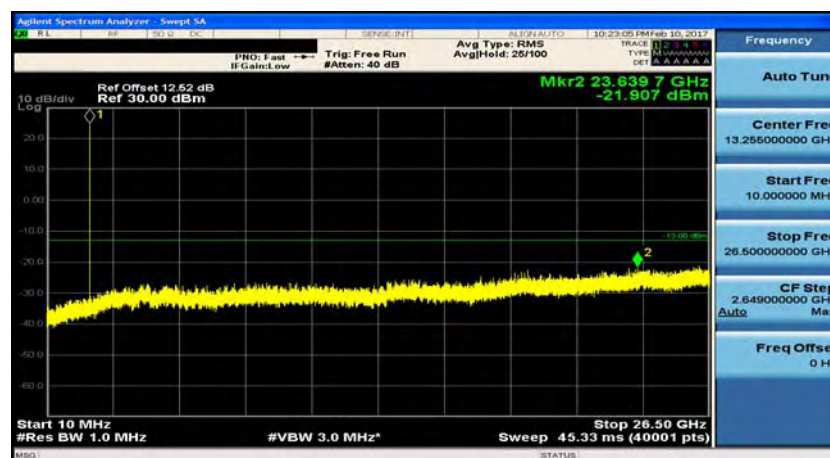
(LTE band 4_Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#7

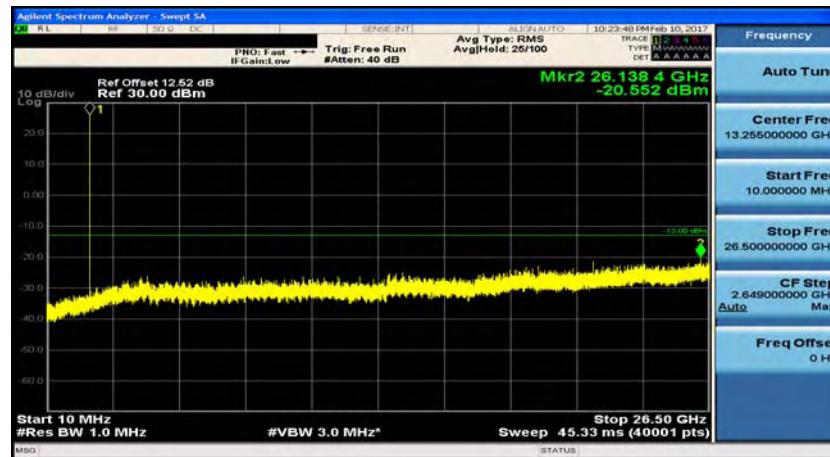


(LTE band 4_Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#14

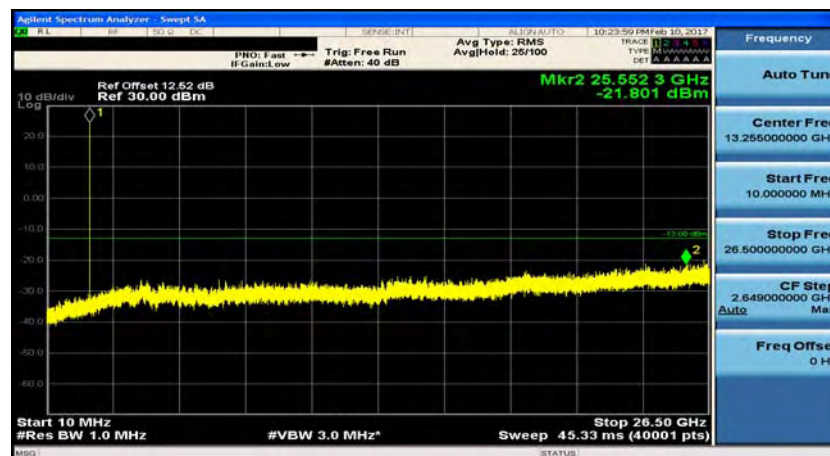




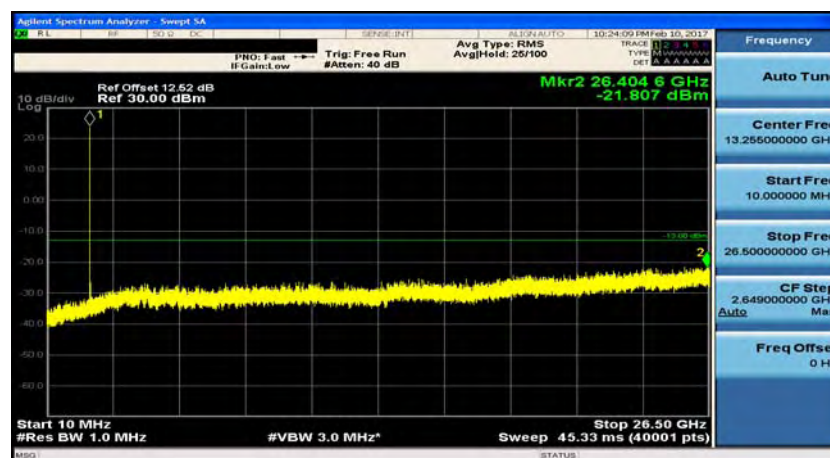
(LTE band 4_Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#7

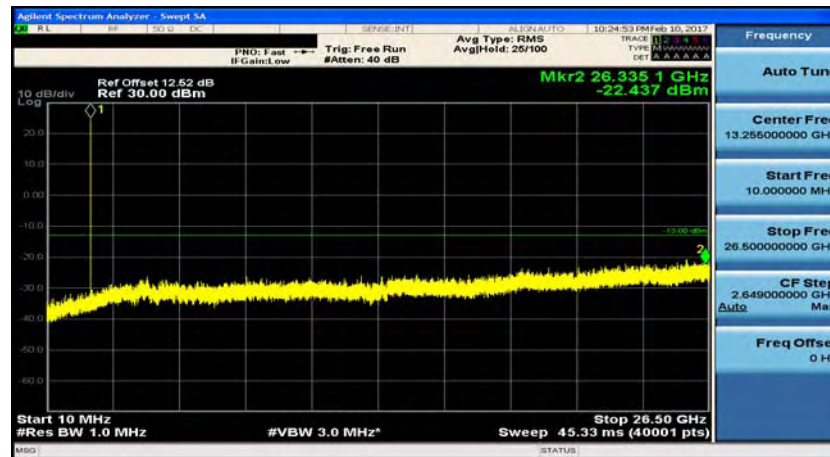


(LTE band 4_Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#14

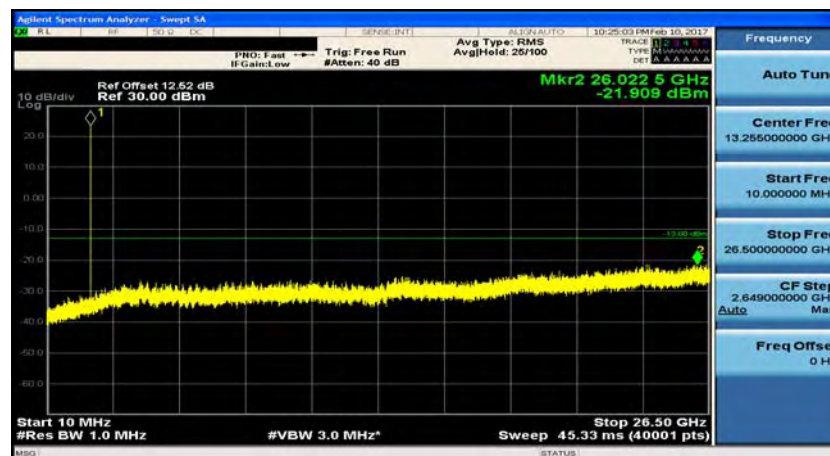




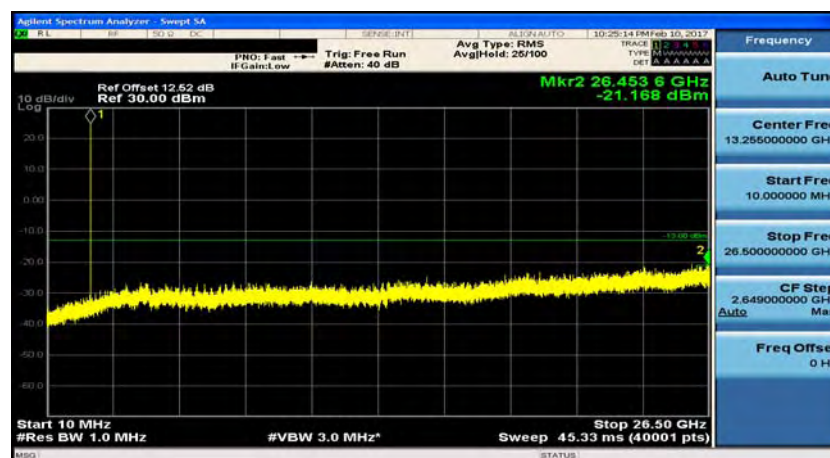
(LTE band 4_Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#7

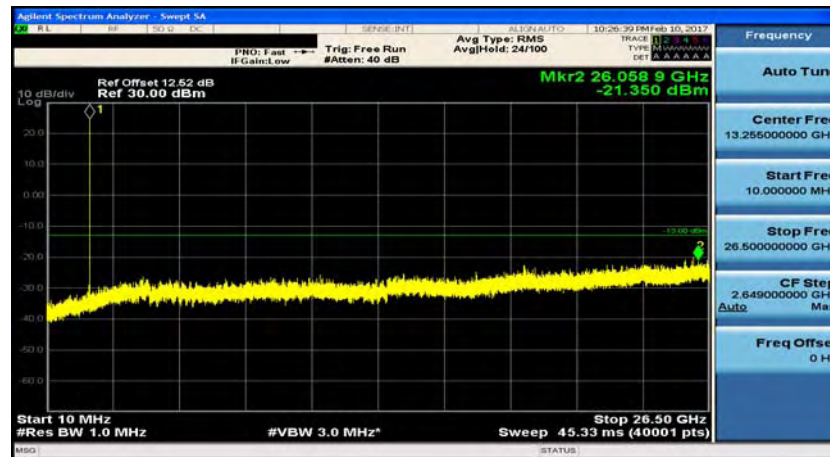


(LTE band 4_Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#14

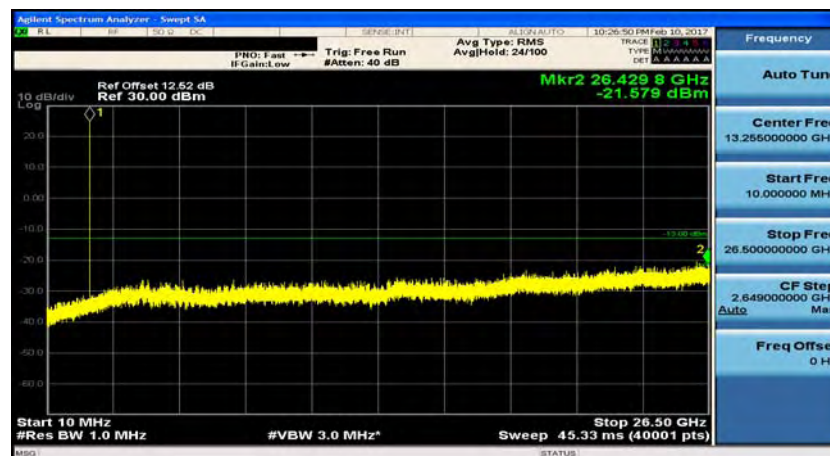




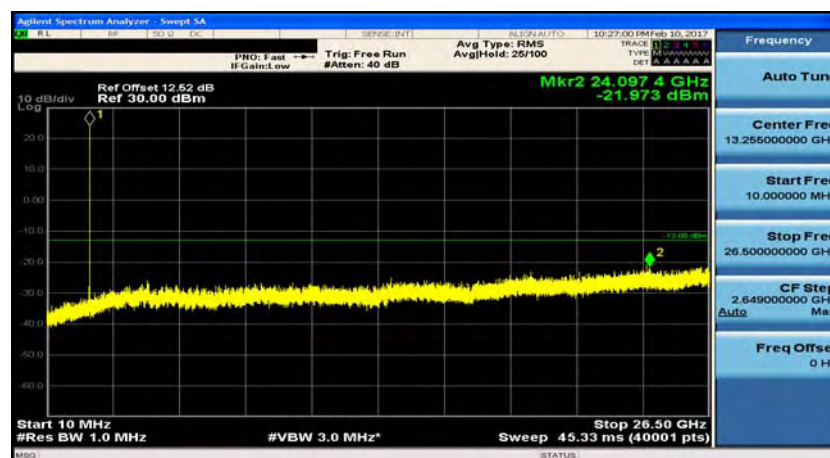
(LTE band 4_Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12

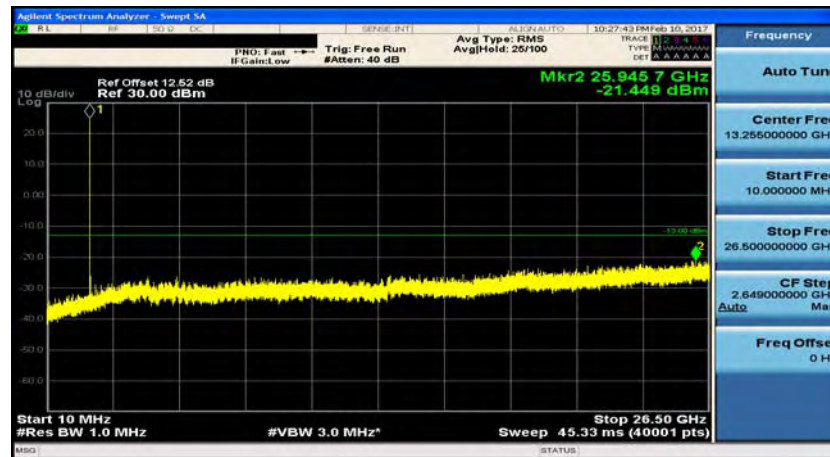


(LTE band 4_Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

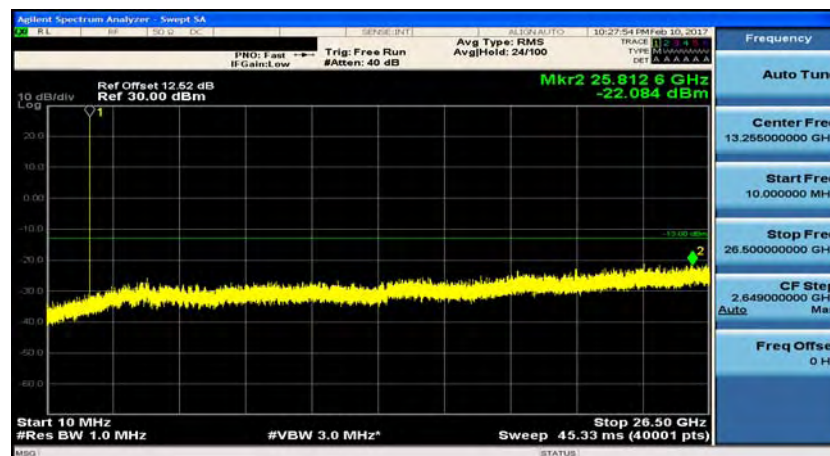




(LTE band 4_Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12

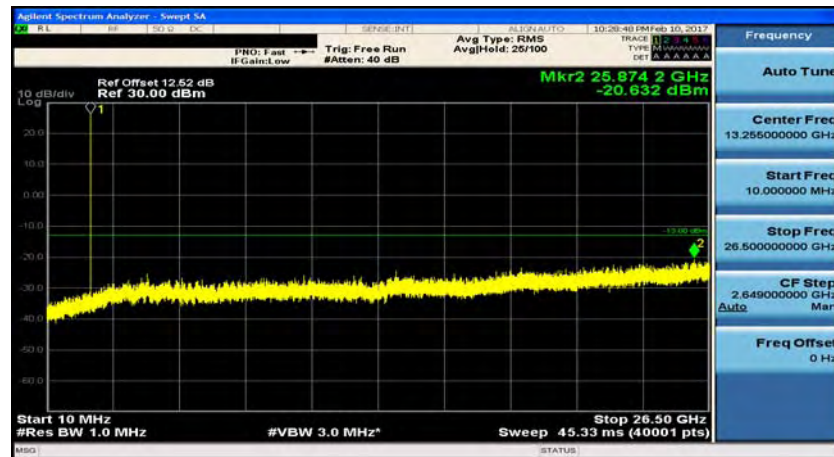


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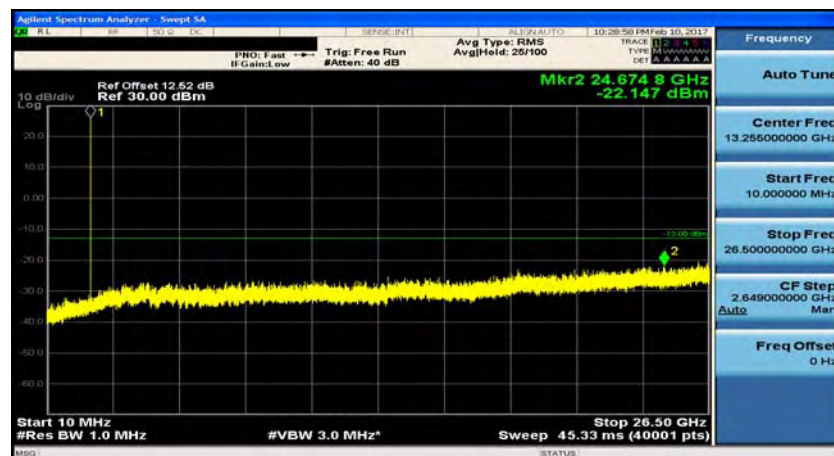




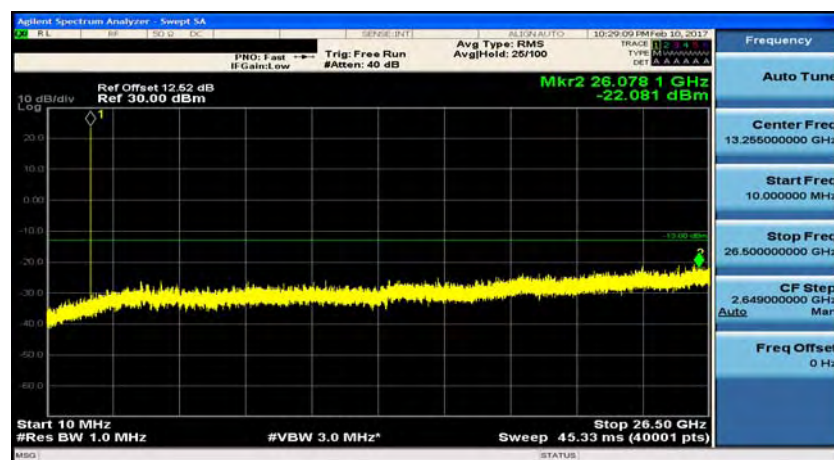
(LTE band 4_Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12

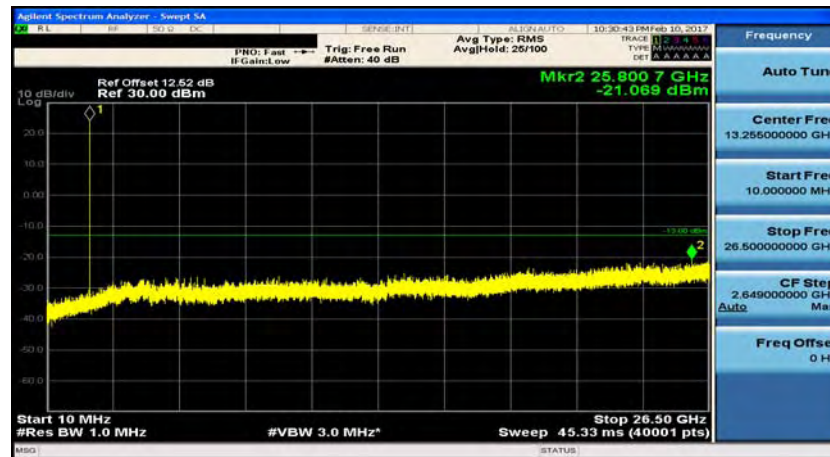


(LTE band 4_Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

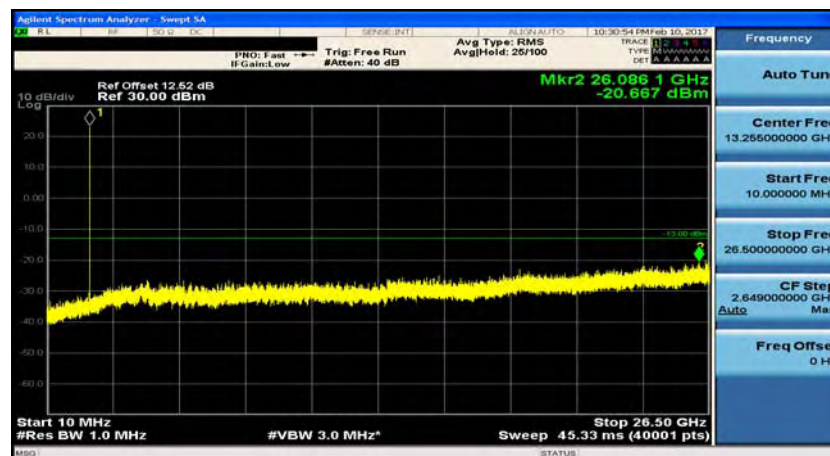




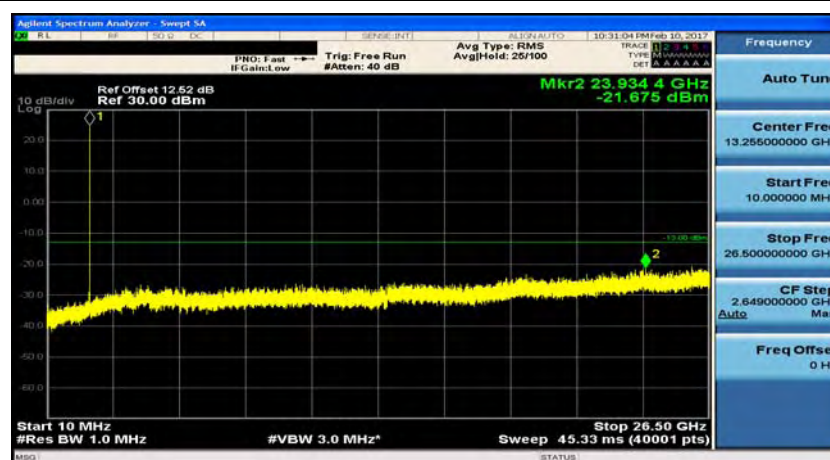
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#0



Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#24

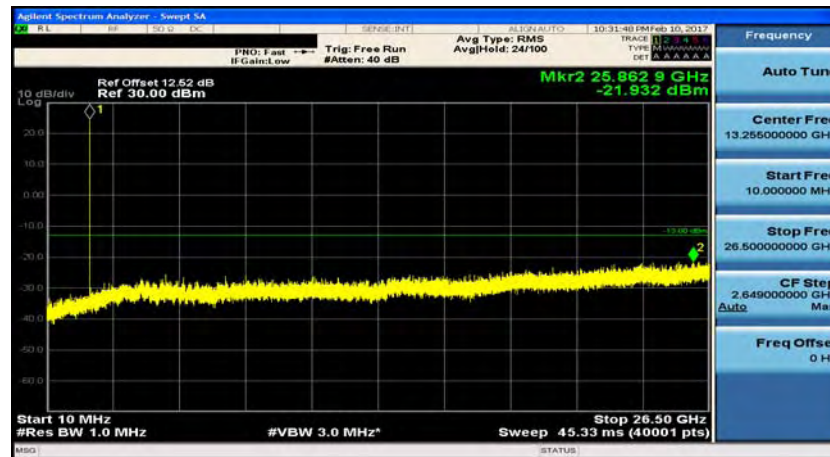


Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#49

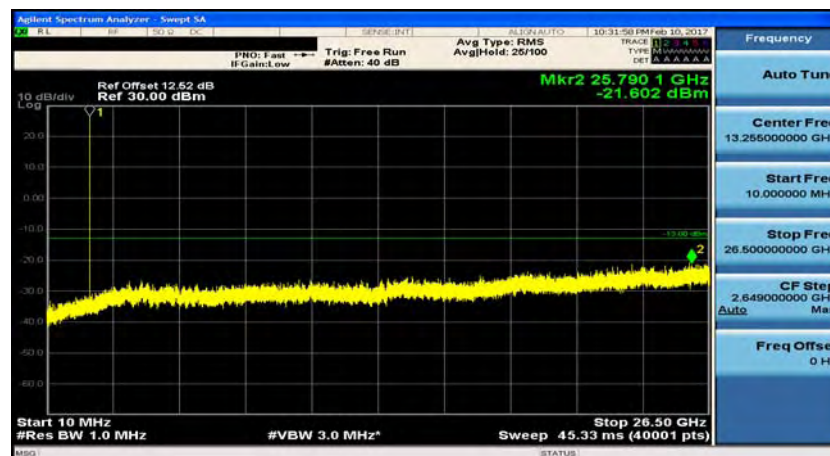




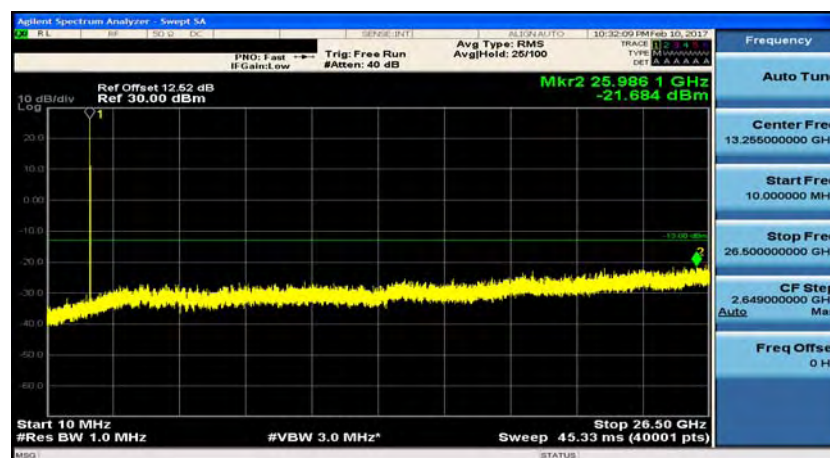
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

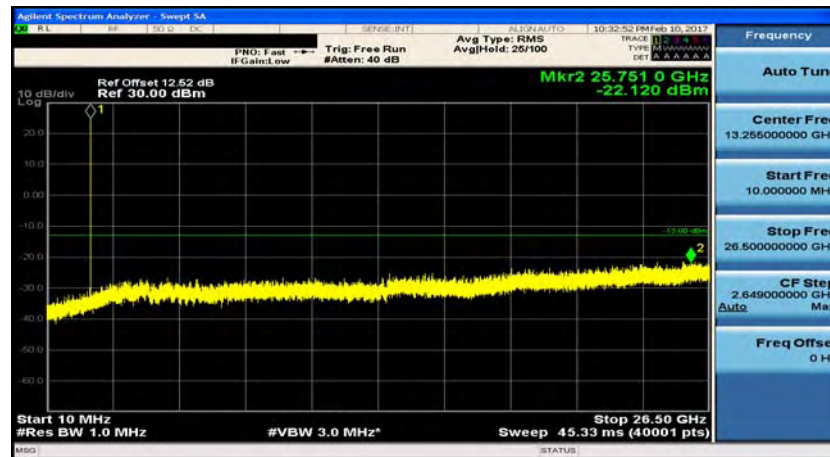


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

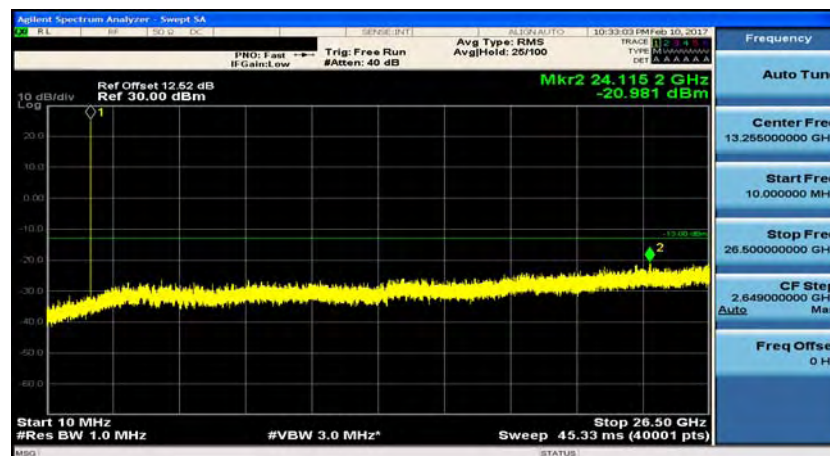




Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#0



Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#24

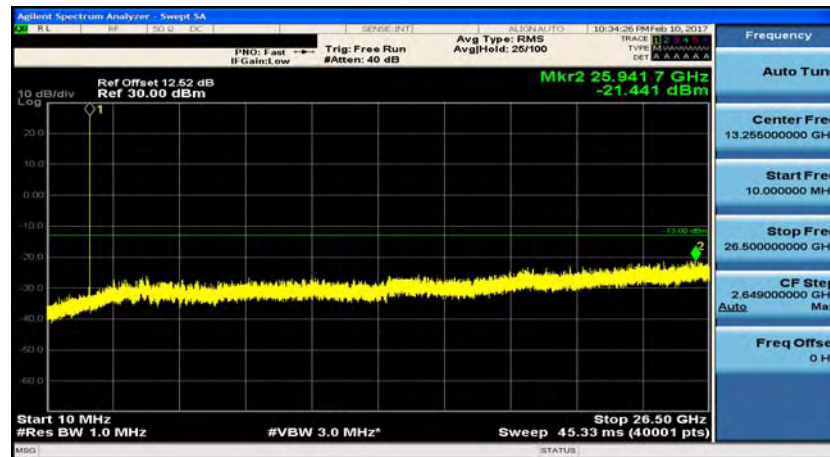


Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#49

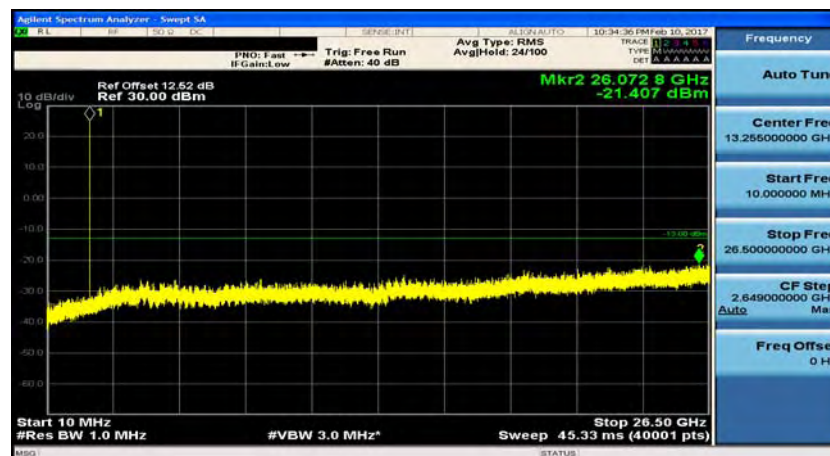




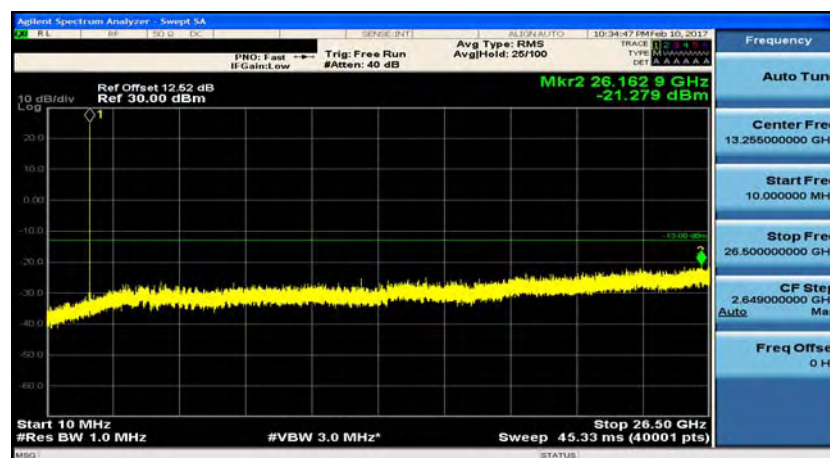
(LTE band 4_Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#37

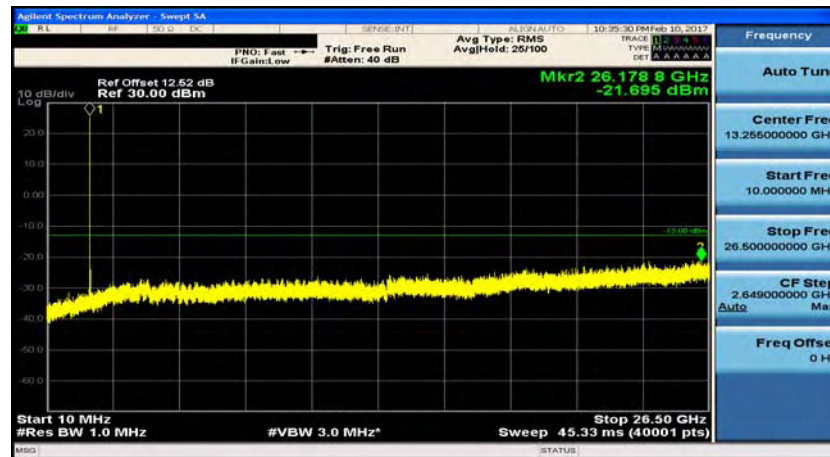


(LTE band 4_Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#74

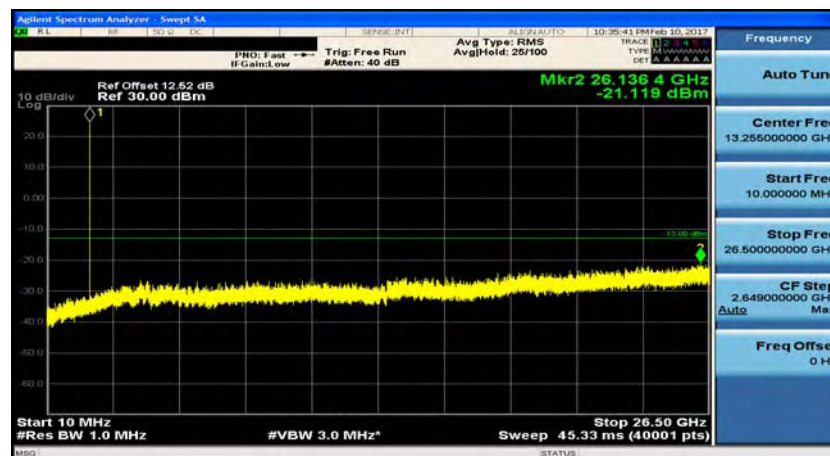




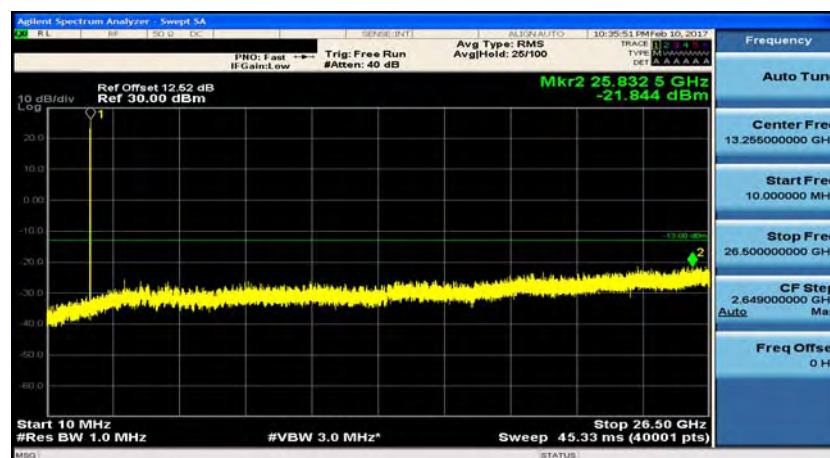
(LTE band 4_Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#37

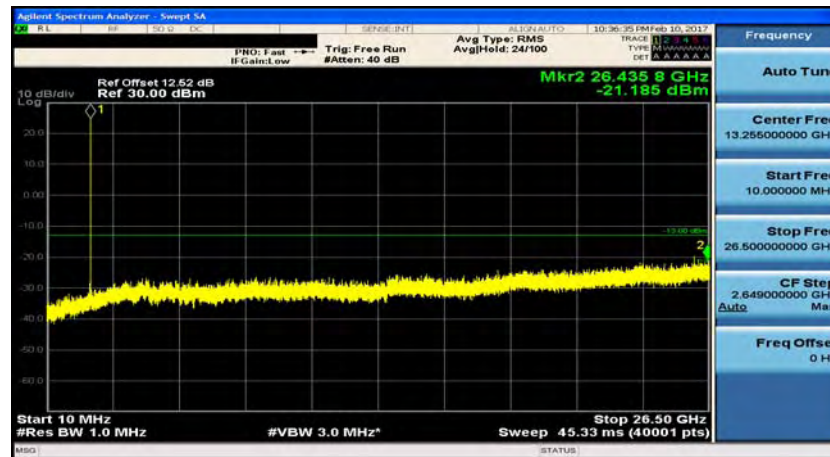


(LTE band 4_Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#74

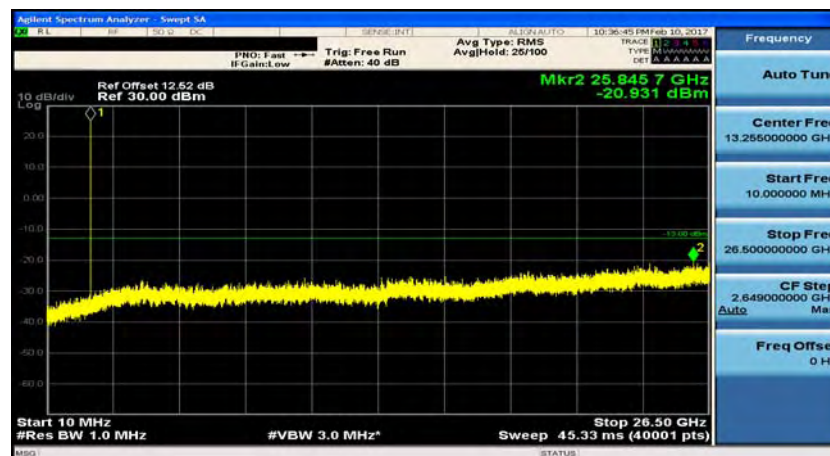




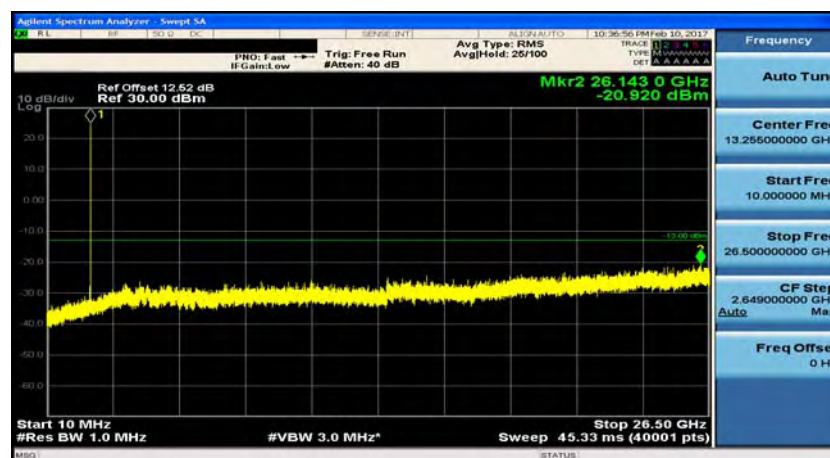
(LTE band 4_Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#37

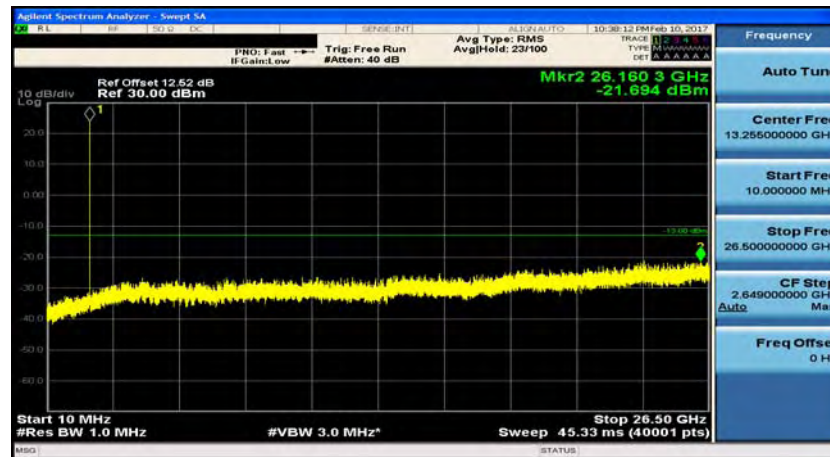


(LTE band 4_Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#74

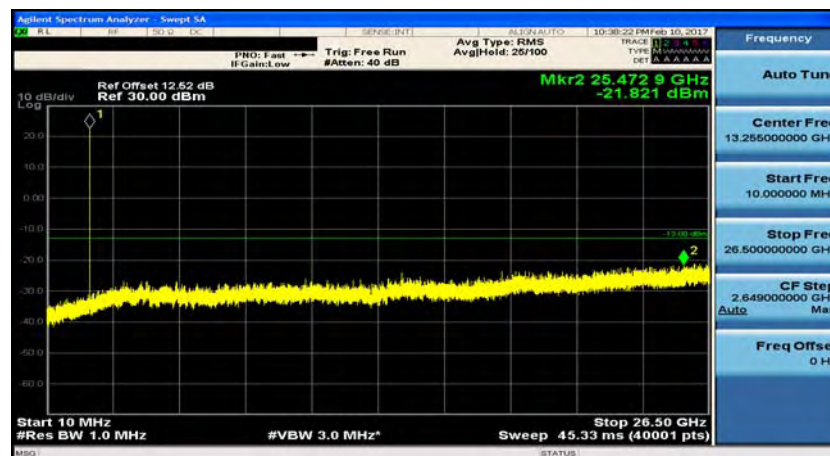




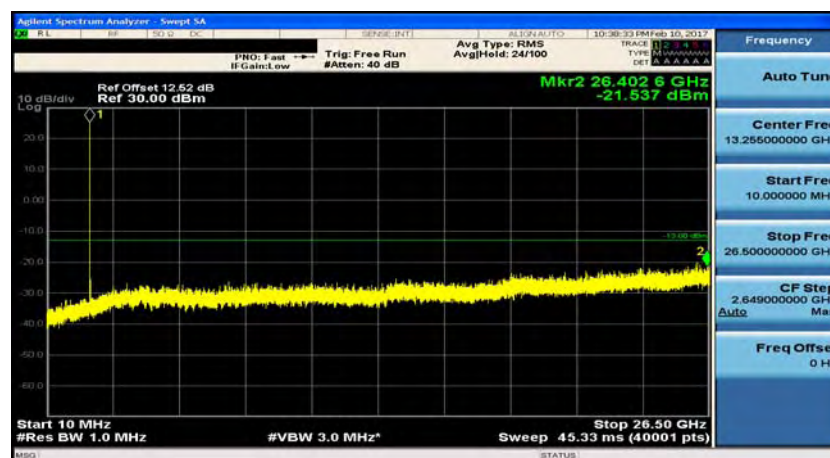
(LTE band 4_Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#49

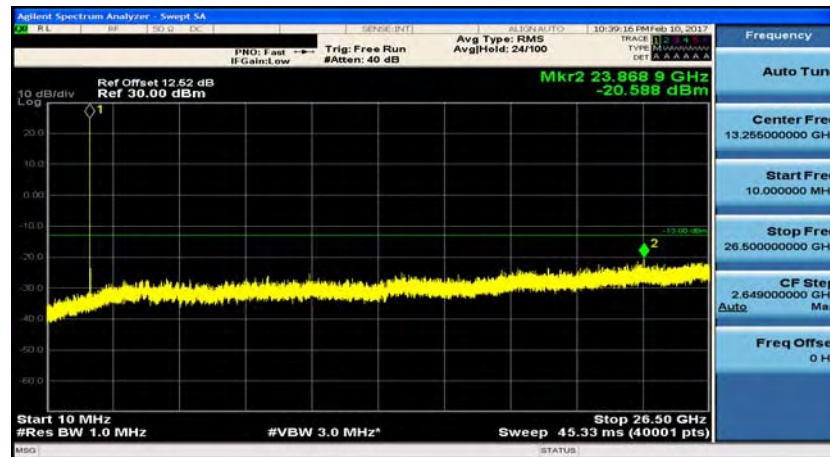


(LTE band 4_Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#99

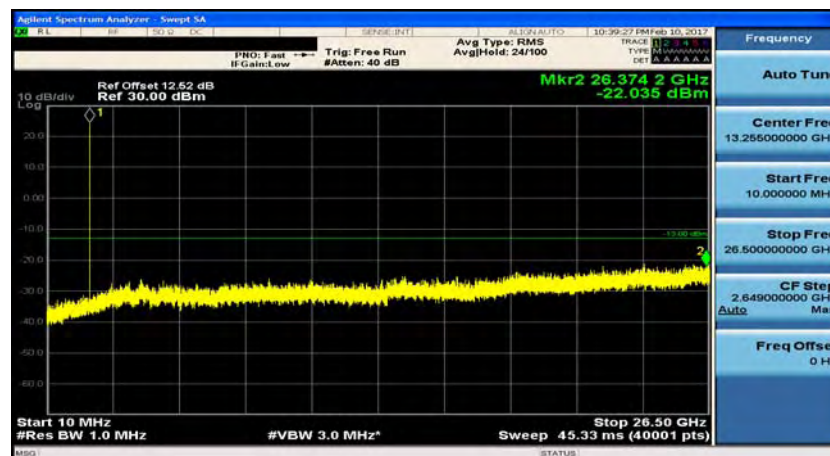




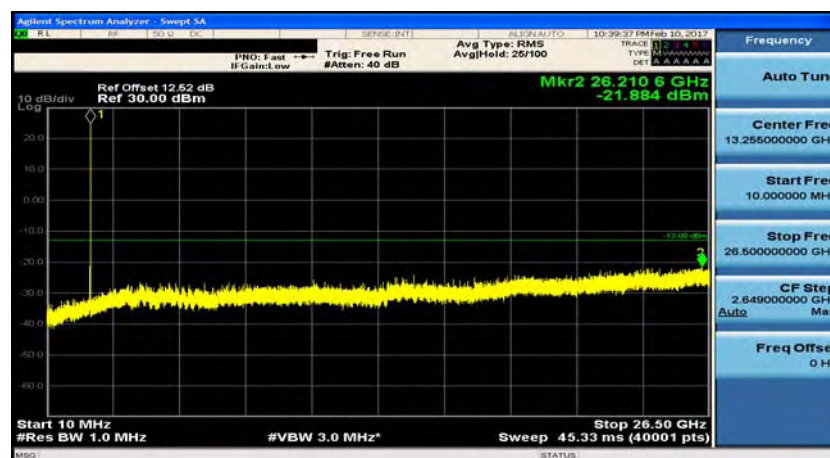
(LTE band 4_Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

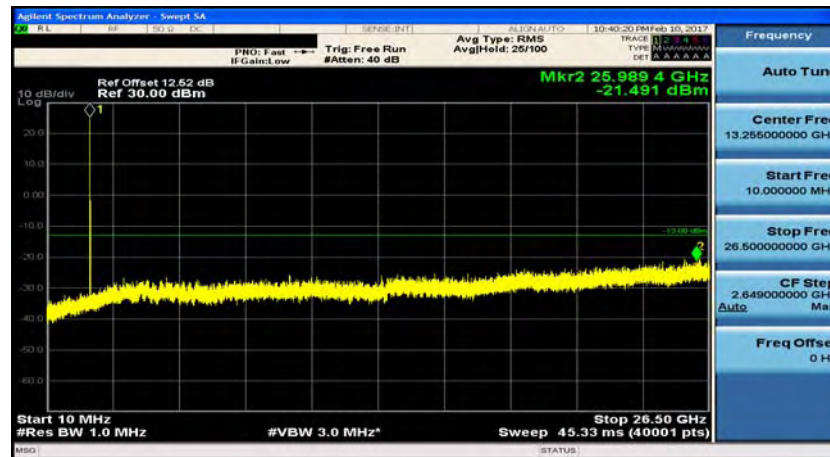


(LTE band 4_Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#99

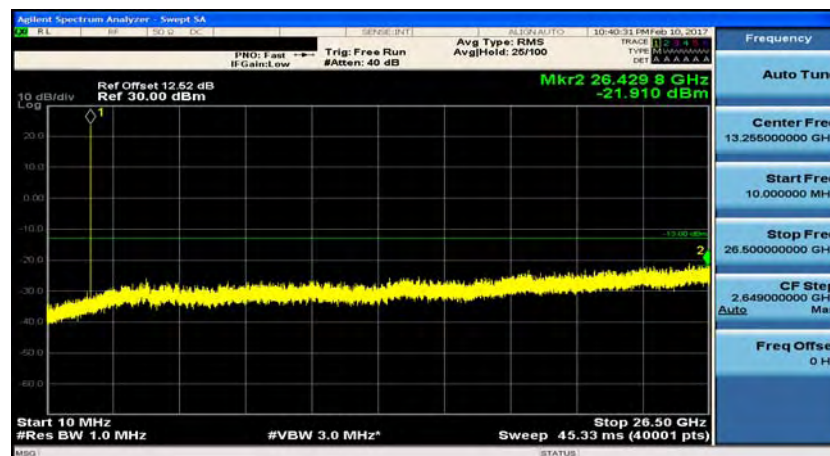




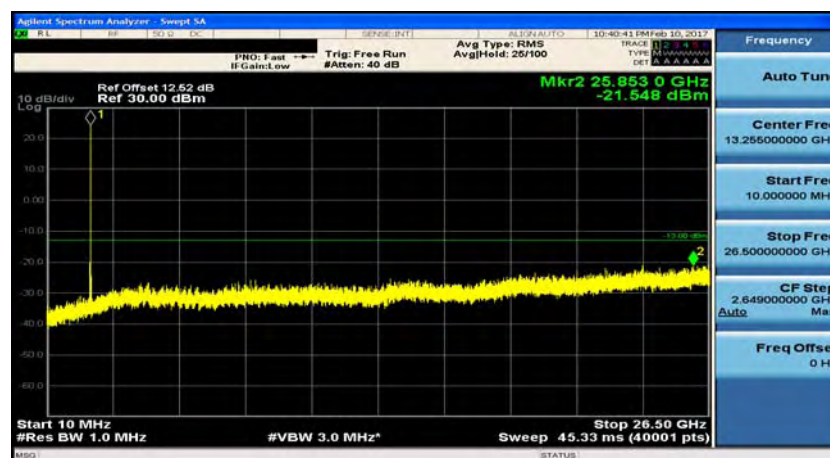
(LTE band 4_Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0



(LTE band 4_Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

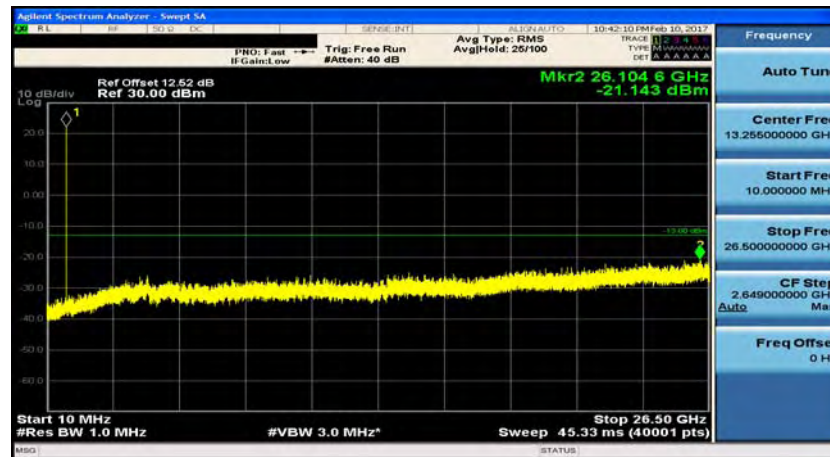


(LTE band 4_Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#99

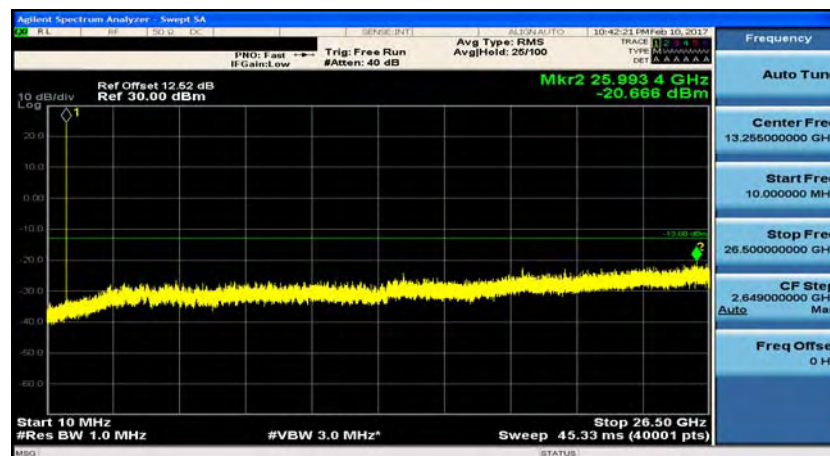




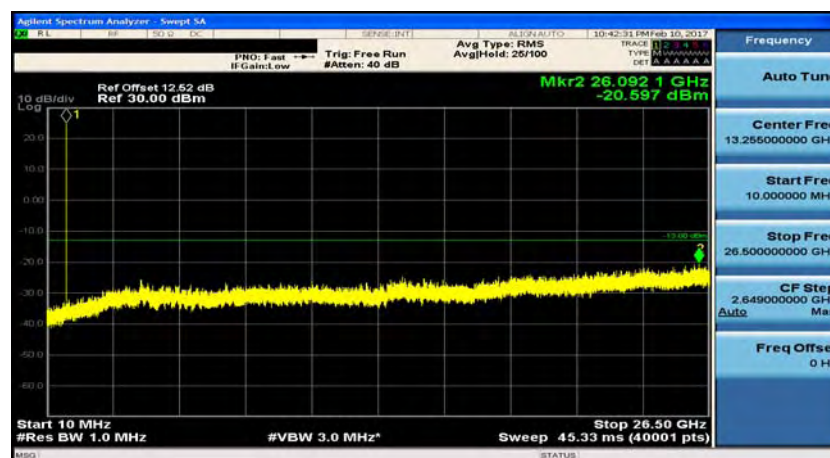
(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12

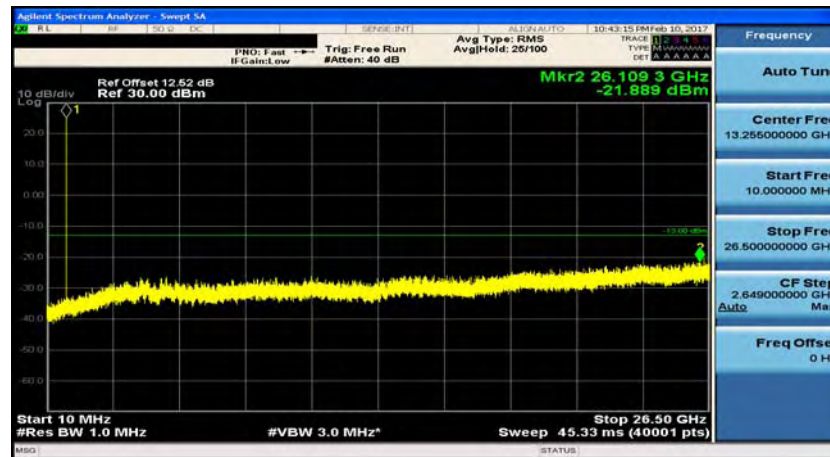


(LTE band 13_Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

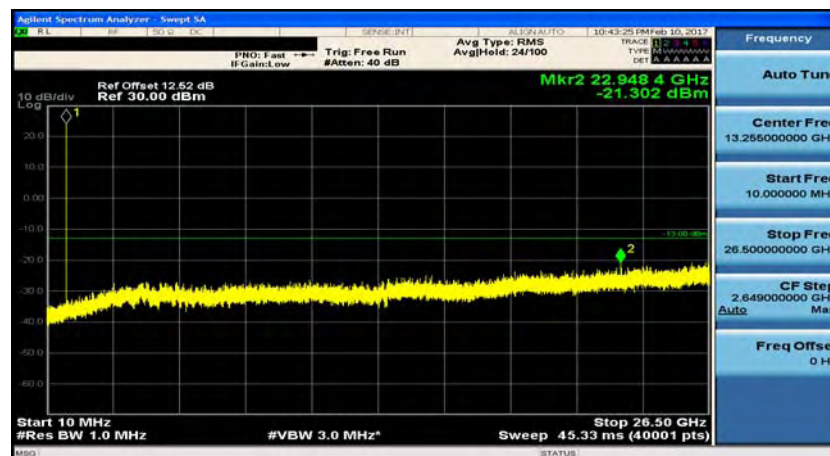




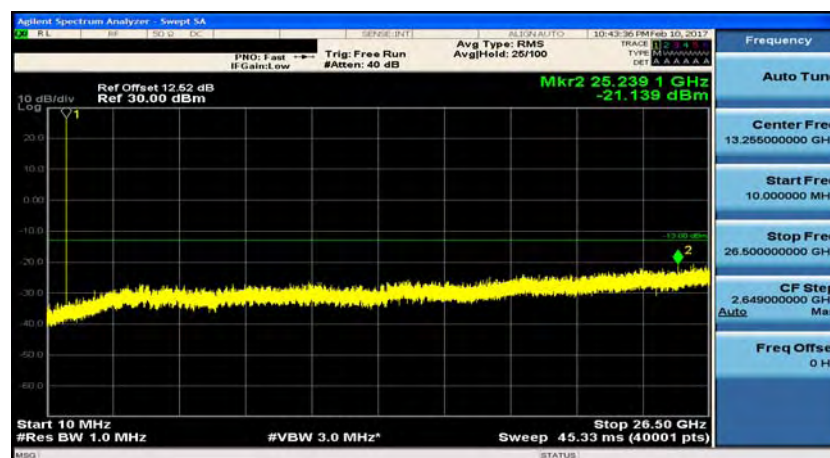
(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12

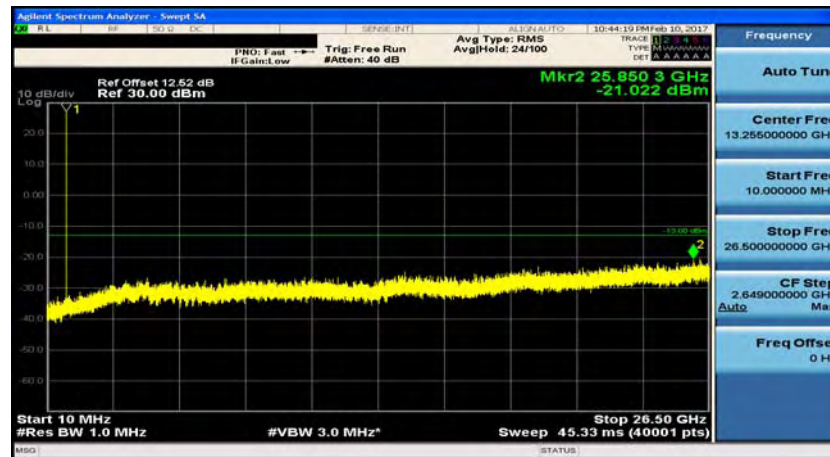


(LTE band 13_Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

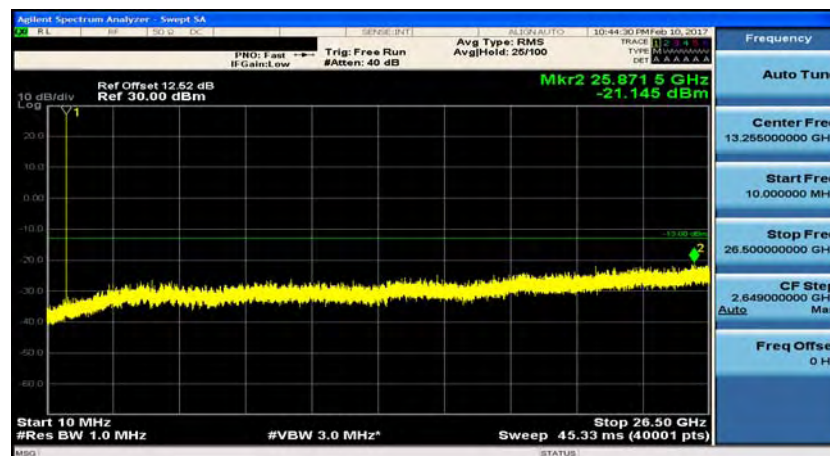




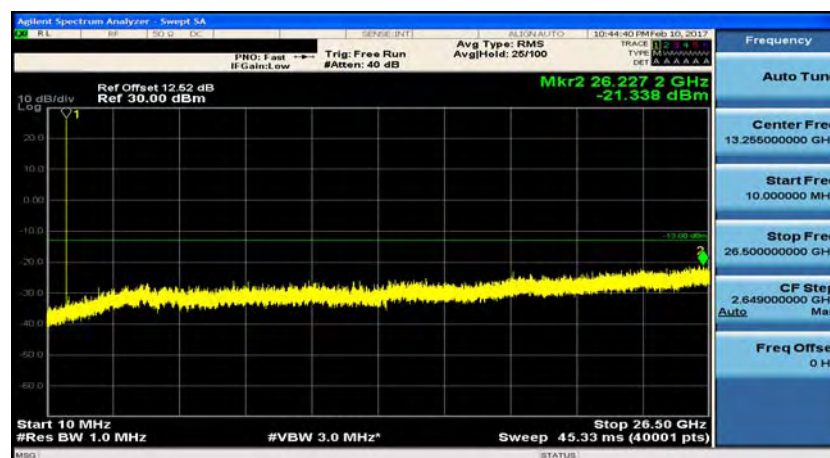
(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12

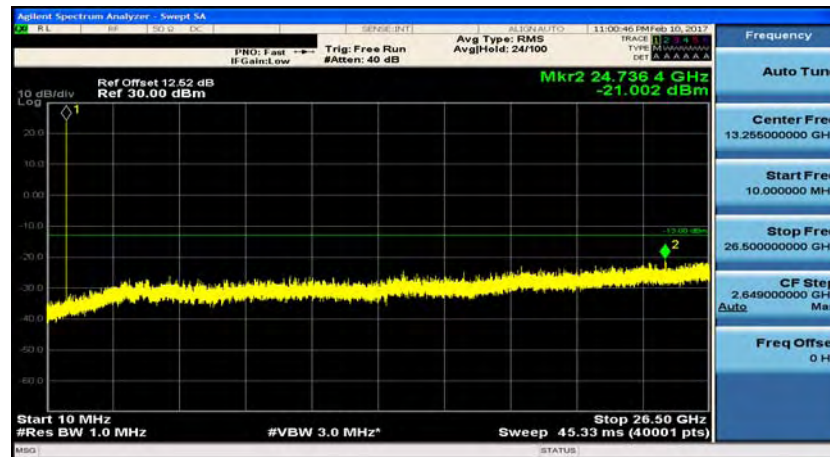


(LTE band 13_Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

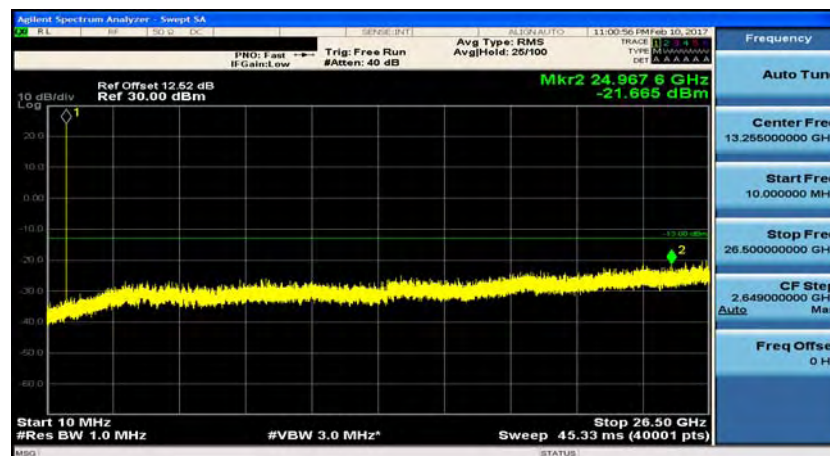




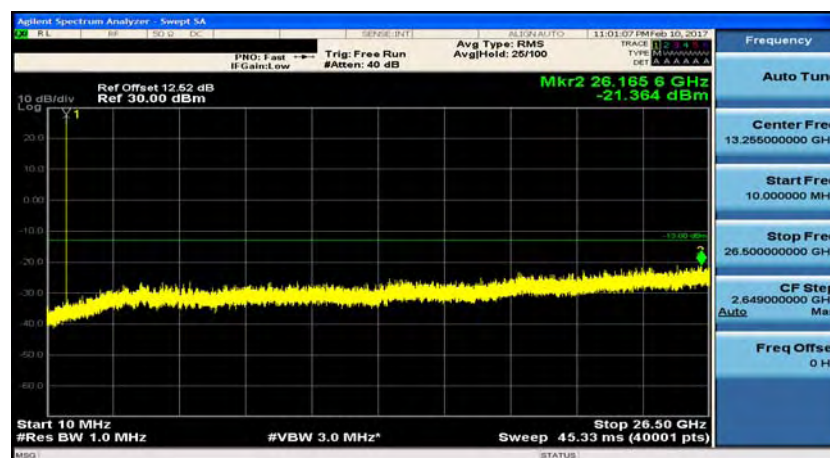
LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24



LTE band 13_Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49



9 Radiated Emission Test

■ Limit

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13dBm

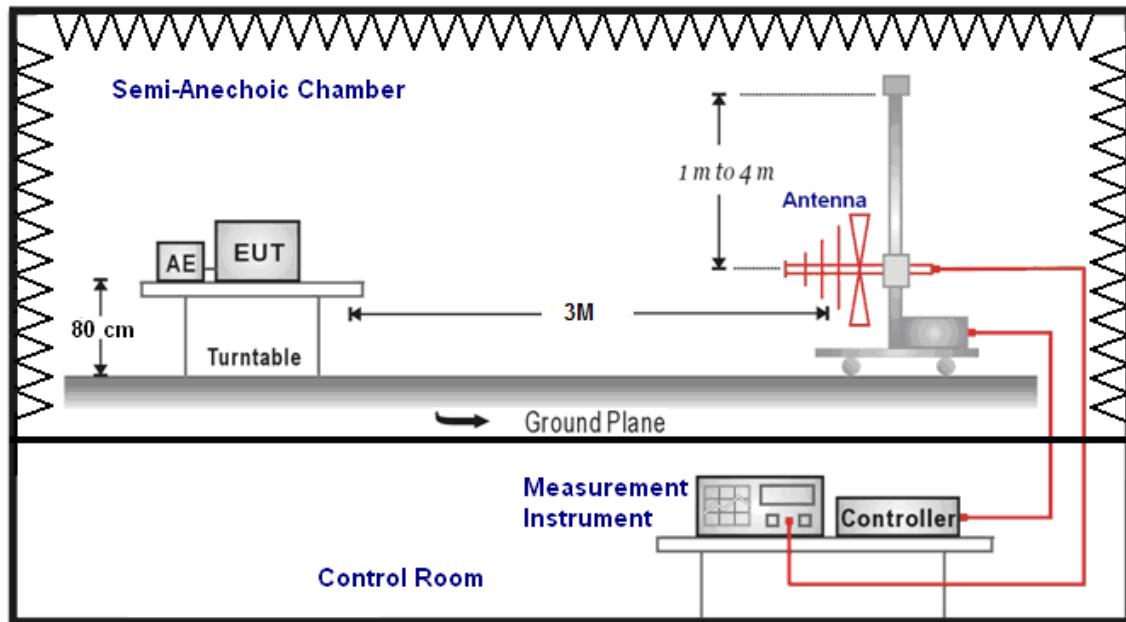
■ Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	03/22/2016	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	03/22/2016	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/11/2016	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/12/2017	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	416	10/13/2016	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	419	11/03/2016	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/06/2016	1 year
Horn Antenna (18~40GHz)	ETS	3116	00086467	09/05/2016	1 year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/18/2016	1 year
Microwave Cable	EMCI	EMC102-KM-KM-1 4000	151001	02/23/2016	1 year
Microwave Cable	EMCI	EMC-104-SM-SM-1 4000	140202	02/23/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-6 00	140301	02/23/2016	1 year
Signal Generator	Agilent	E8257D	MY44320425	02/25/2016	1 year
Test Site	ATL	TE01	888001	08/29/2016	1 year

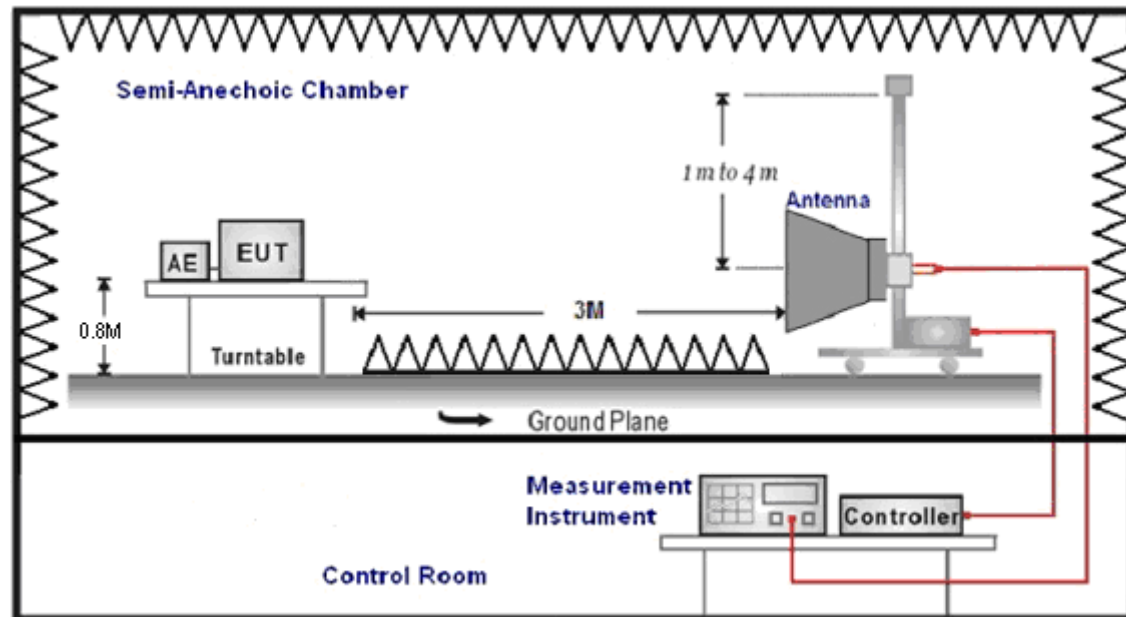
Note: N.C.R. = No Calibration Request.

■ Setup

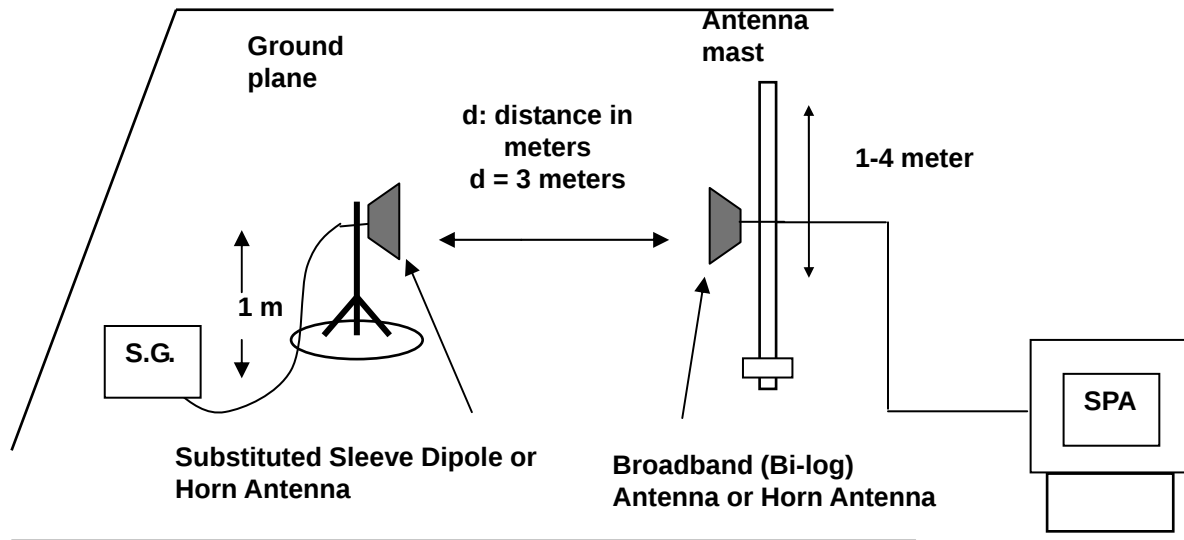
Below 1GHz



Above 1GHz



For Substituted Method Test Set-UP



■ Test Procedure

- The EUT was set up for the maximum power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RWB and VBW is 1MHz.
- Radiation Emission measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution antenna (Note:1 & 2) is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- $E.I.R.P. = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$
- $E.R.P. = E.I.R.P. - 2.15 \text{ dB}$

Note: 1. Below 1 GHz Substituted Method Test : Sleeve dipole antenna to Bi-Log Antenna

2. Above 1 GHz Substituted Method Test : Horn antenna to Horn Antenn

■ Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is $\pm 3.072 \text{ dB}$.



■ Test Result

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1710.7MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_1.4M_QPSK_CH19957	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7228.000	-58.01	10.79	-47.22	-13.00	-34.22	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1710.7MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_1.4M_QPSK_CH19957	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	5500.000	-56.22	4.98	-51.24	-13.00	-38.24	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_1.4M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6532.000	-58.48	8.42	-50.06	-13.00	-37.06	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_1.4M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6136.000	-57.51	6.85	-50.66	-13.00	-37.66	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1754.3MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_1.4M_QPSK_CH20393	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6868.000	-56.45	9.44	-47.01	-13.00	-34.01	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1754.3MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_1.4M_QPSK_CH20393	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6076.000	-58.59	6.60	-51.99	-13.00	-38.99	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_1.4M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6004.000	-60.14	6.32	-53.82	-13.00	-40.82	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_1.4M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	4084.000	-56.35	2.05	-54.30	-13.00	-41.30	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1711.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_3M_QPSK_CH19965	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	5668.000	-57.04	5.43	-51.61	-13.00	-38.61	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1711.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_3M_QPSK_CH19965	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7024.000	-59.57	9.95	-49.62	-13.00	-36.62	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_3M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6304.000	-59.40	7.53	-51.87	-13.00	-38.87	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_3M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6388.000	-57.24	7.87	-49.37	-13.00	-36.37	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1753.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_3M_QPSK_CH20385	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6580.000	-61.12	8.56	-52.56	-13.00	-39.56	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1753.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_3M_QPSK_CH20385	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	8560.000	-61.80	13.14	-48.66	-13.00	-35.66	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_3M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6928.000	-60.97	9.62	-51.35	-13.00	-38.35	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_3M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6316.000	-57.28	7.58	-49.70	-13.00	-36.70	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1712.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_5M_QPSK_CH19975	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7396.000	-60.41	11.52	-48.89	-13.00	-35.89	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1712.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_5M_QPSK_CH19975	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7084.000	-61.57	10.19	-51.38	-13.00	-38.38	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_5M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6460.000	-58.97	8.15	-50.82	-13.00	-37.82	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_5M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6556.000	-59.37	8.49	-50.88	-13.00	-37.88	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1752.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_5M_QPSK_CH20375	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6736.000	-59.85	9.03	-50.82	-13.00	-37.82	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1752.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_5M_QPSK_CH20375	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7180.000	-62.20	10.60	-51.60	-13.00	-38.60	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_5M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	4732.000	-59.64	3.67	-55.97	-13.00	-42.97	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_5M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6820.000	-59.44	9.29	-50.15	-13.00	-37.15	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1715MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_10M_QPSK_CH20000	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6484.000	-58.34	8.25	-50.09	-13.00	-37.09	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1715MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_10M_QPSK_CH20000	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6940.000	-60.77	9.65	-51.12	-13.00	-38.12	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_10M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6928.000	-59.25	9.62	-49.63	-13.00	-36.63	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_10M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7396.000	-61.84	11.52	-50.32	-13.00	-37.32	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1750MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_10M_QPSK_CH20350	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6508.000	-58.69	8.34	-50.35	-13.00	-37.35	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1750MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_10M_QPSK_CH20350	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	5872.000	-58.09	5.96	-52.13	-13.00	-39.13	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_10M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	5824.000	-58.30	5.83	-52.47	-13.00	-39.47	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_10M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7360.000	-60.61	11.35	-49.26	-13.00	-36.26	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1717.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_15M_QPSK_CH20025	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	5920.000	-58.60	6.09	-52.51	-13.00	-39.51	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1717.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_15M_QPSK_CH20025	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	8596.000	-60.07	13.18	-46.89	-13.00	-33.89	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_15M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6448.000	-60.31	8.12	-52.19	-13.00	-39.19	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_15M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	4756.000	-58.69	3.75	-54.94	-13.00	-41.94	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1747.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_15M_QPSK_CH20325	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	8548.000	-61.48	13.14	-48.34	-13.00	-35.34	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1747.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_15M_QPSK_CH20325	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7600.000	-59.46	12.21	-47.25	-13.00	-34.25	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_15M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	4756.000	-58.42	3.75	-54.67	-13.00	-41.67	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_15M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6388.000	-58.12	7.87	-50.25	-13.00	-37.25	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1720MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_20M_QPSK_CH20050	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6700.000	-59.42	8.93	-50.49	-13.00	-37.49	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1720MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_20M_QPSK_CH20050	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6484.000	-56.88	8.25	-48.63	-13.00	-35.63	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_20M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6988.000	-60.41	9.79	-50.62	-13.00	-37.62	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_20M_QPSK_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7444.000	-62.98	11.70	-51.28	-13.00	-38.28	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_20M_QPSK_CH20300	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	4432.000	-56.92	2.79	-54.13	-13.00	-41.13	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_20M_QPSK_CH20300	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	5776.000	-58.57	5.71	-52.86	-13.00	-39.86	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_20M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6484.000	-58.43	8.25	-50.18	-13.00	-37.18	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 4_20M-16QAM_CH20175	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6820.000	-61.92	9.29	-52.63	-13.00	-39.63	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	779.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23205	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	5728.000	-57.40	5.58	-51.82	-13.00	-38.82	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	779.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23205	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7696.000	-61.32	12.47	-48.85	-13.00	-35.85	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23230	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6256.000	-59.41	7.33	-52.08	-13.00	-39.08	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23230	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6448.000	-57.17	8.12	-49.05	-13.00	-36.05	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	784.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23255	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6724.000	-58.37	9.00	-49.37	-13.00	-36.37	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	784.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23255	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7552.000	-59.07	12.08	-46.99	-13.00	-33.99	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M-16QAM_CH23230	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7252.000	-59.68	10.89	-48.79	-13.00	-35.79	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M-16QAM_CH23230	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6748.000	-58.10	9.08	-49.02	-13.00	-36.02	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_10M_QPSK_CH23230	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6400.000	-56.55	7.92	-48.63	-13.00	-35.63	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_10M_QPSK_CH23230	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	6508.000	-54.94	8.34	-46.60	-13.00	-33.60	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_10M_16QAM_CH23230	Date:	02/11/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7168.000	-57.39	10.54	-46.85	-13.00	-33.85	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_10M_16QAM_CH23230	Date:	02/11/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	7204.000	-57.41	10.69	-46.72	-13.00	-33.72	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_10M_QPSK_CH23230	Date:	02/13/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1572.974	-52.67	-5.69	-58.36	-40.00	-18.36	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_10M_QPSK_CH23230	Date:	02/13/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1578.278	-52.28	-5.68	-57.96	-40.00	-17.96	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_10M-16QAM_CH23230	Date:	02/13/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1575.524	-52.03	-5.68	-57.71	-40.00	-17.71	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_10M-16QAM_CH23230	Date:	02/13/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1569.812	-53.32	-5.70	-59.02	-40.00	-19.02	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	779.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23205	Date:	02/13/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.591	-51.67	-5.65	-57.32	-40.00	-17.32	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	779.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23205	Date:	02/13/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1588.070	-51.98	-5.64	-57.62	-40.00	-17.62	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23230	Date:	02/13/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1593.221	-52.49	-5.63	-58.12	-40.00	-18.12	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23230	Date:	02/13/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1570.373	-52.12	-5.71	-57.83	-40.00	-17.83	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	784.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23255	Date:	02/13/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1573.688	-51.62	-5.69	-57.31	-40.00	-17.31	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	784.5MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M_QPSK_CH23255	Date:	02/13/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1587.407	-52.22	-5.64	-57.86	-40.00	-17.86	peak



Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M-16QAM_CH23230	Date:	02/13/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1592.864	-52.12	-5.64	-57.76	-40.00	-17.76	peak

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	782MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4G_BAND 13_5M-16QAM_CH23230	Date:	02/13/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1595.312	-53.16	-5.61	-58.77	-40.00	-18.77	peak