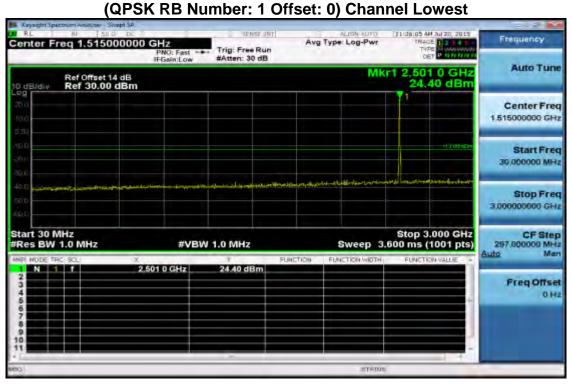
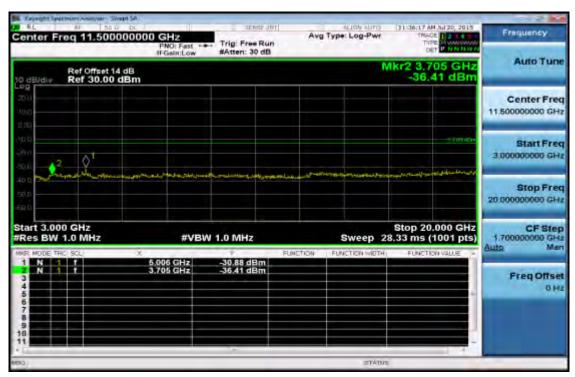


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Out of Band emission at antenna terminals-5MHz BW LTE-Band 7





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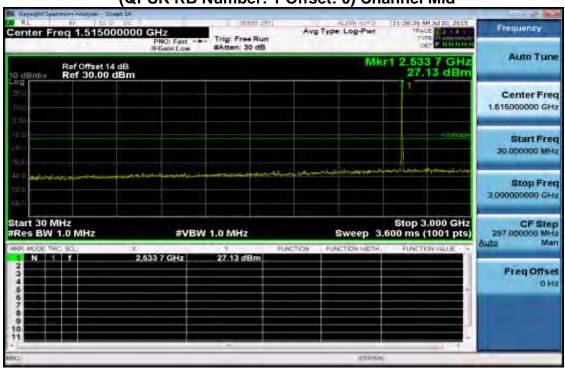
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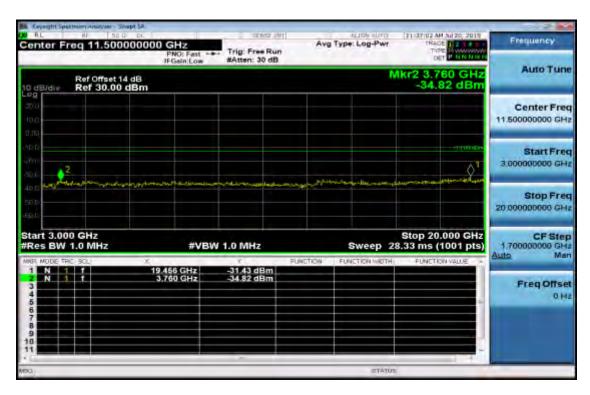


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#### Out of Band emission at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Mid





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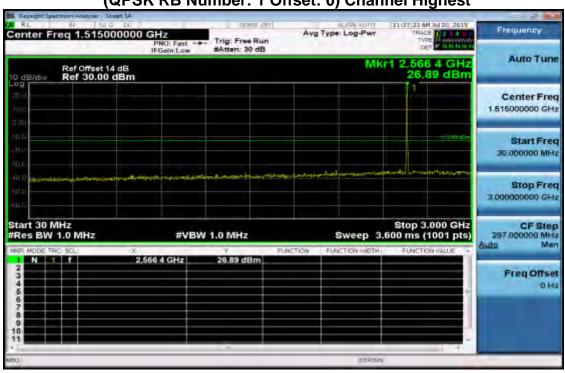
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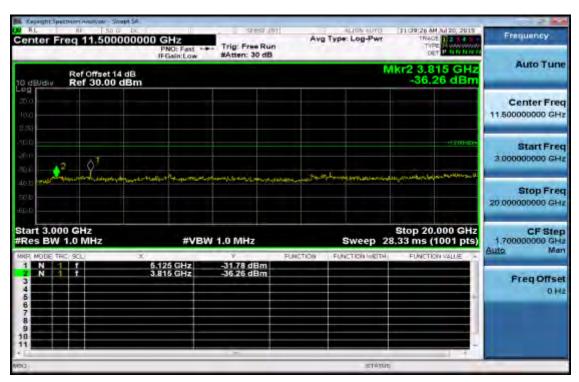


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Out of Band emission at antenna terminals-5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Highest





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## Band edge emission at antenna terminals –5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest



Band edge emission at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 24) Channel Highest



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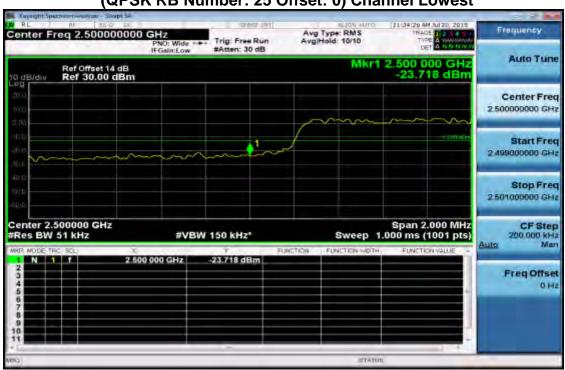
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Band edge emission at antenna terminals –5MHz BW LTE-Band 7 (QPSK RB Number: 25 Offset: 0) Channel Lowest



Band edge emission at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 25 Offset: 0) Channel Highest



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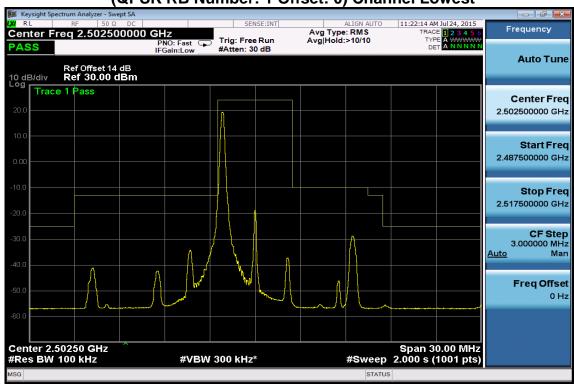
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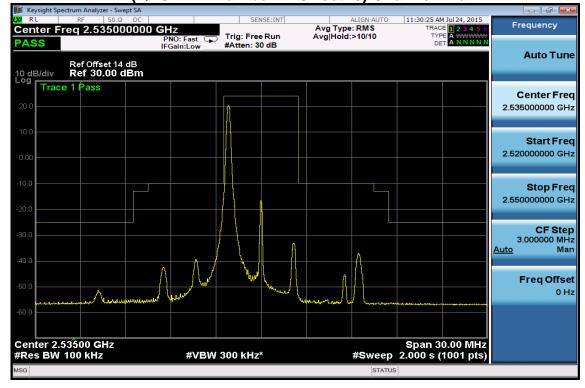
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## Emission Mask at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest



Emission Mask at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Mid



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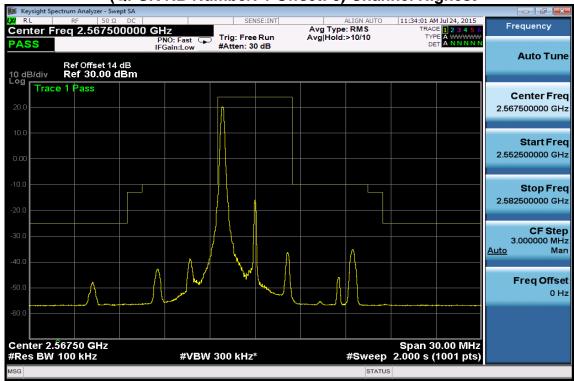
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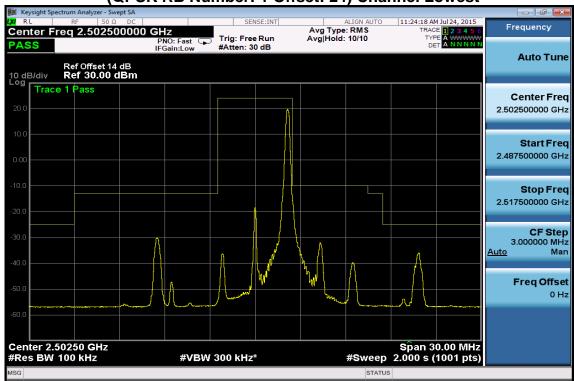
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Emission Mask at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Highest



Emission Mask at antenna terminals –5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 24) Channel Lowest



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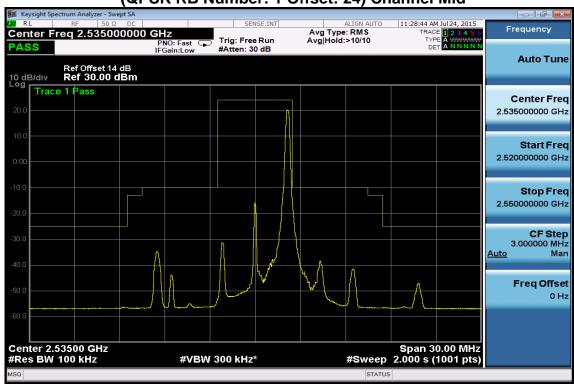
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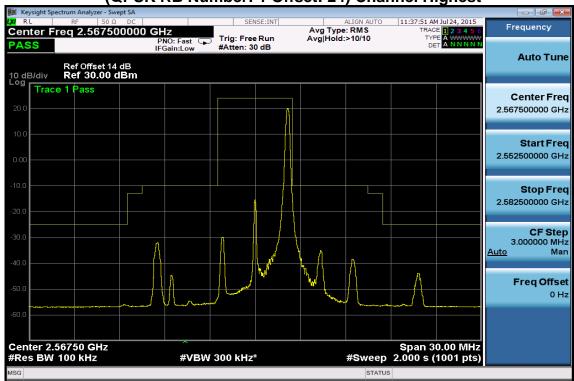
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Emission Mask at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 24) Channel Mid



Emission Mask at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 24) Channel Highest



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#### Emission Mask at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 25 Offset: 0) Channel Lowest



Emission Mask at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 25 Offset: 0) Channel Mid



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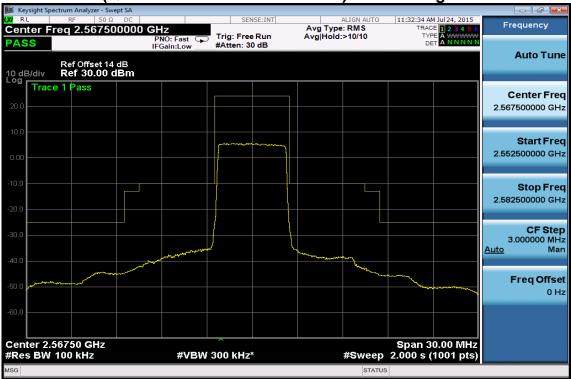
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Emission Mask at antenna terminals -5MHz BW LTE-Band 7 (QPSK RB Number: 25 Offset: 0) Channel Highest



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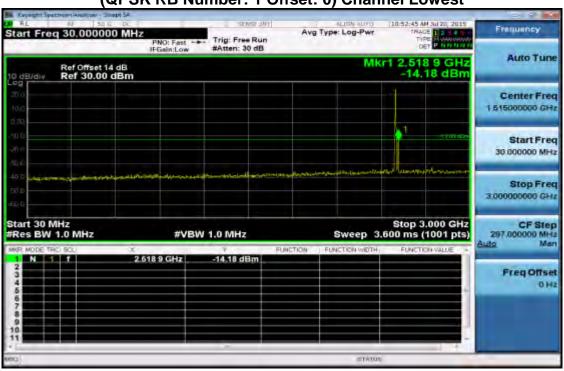
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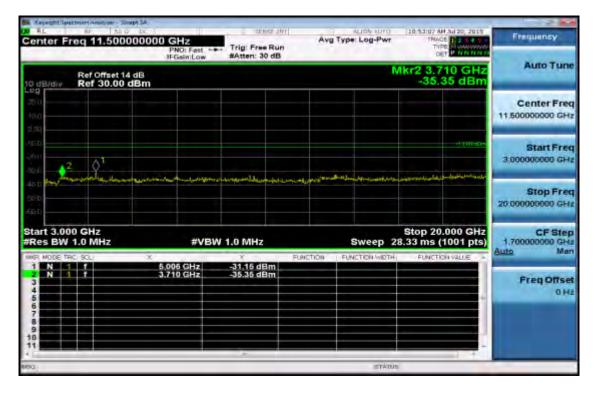


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Out of Band emission at antenna terminals-10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest





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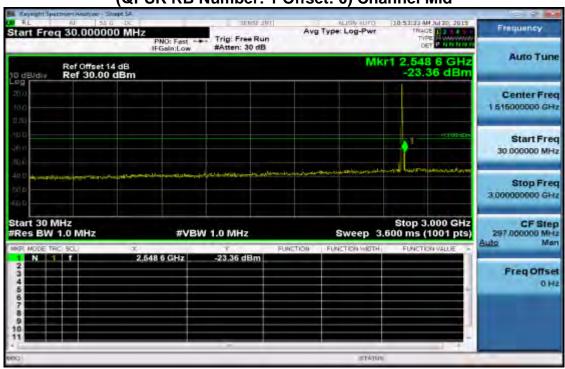
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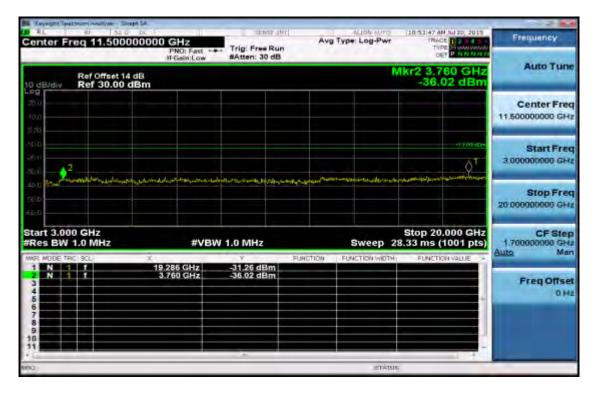


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### Out of Band emission at antenna terminals-10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Mid





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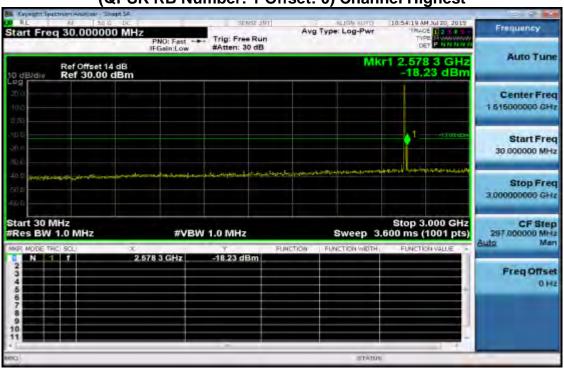
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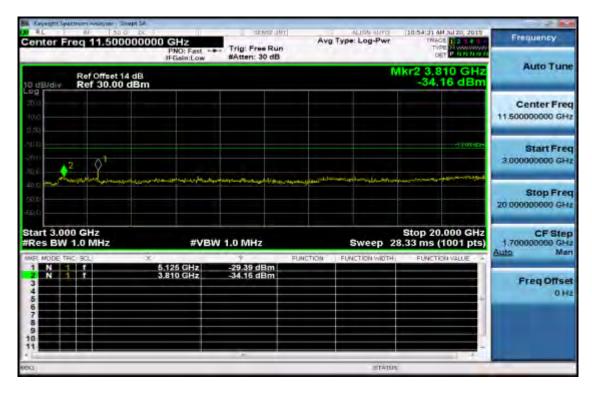


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Out of Band emission at antenna terminals-10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Highest





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# Band edge emission at antenna terminals –10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest



Band edge emission at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 49) Channel Highest



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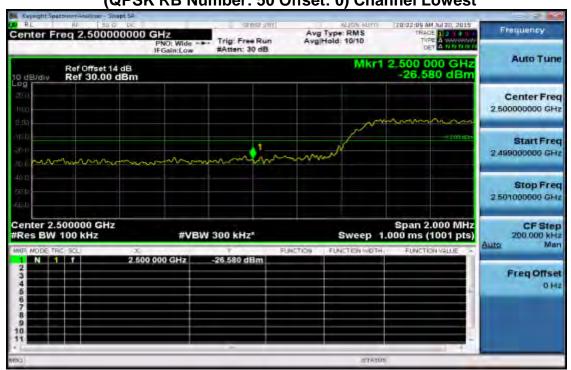
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Band edge emission at antenna terminals –10MHz BW LTE-Band 7 (QPSK RB Number: 50 Offset: 0) Channel Lowest



Band edge emission at antenna terminals –10MHz BW LTE-Band 7 (QPSK RB Number: 50 Offset: 0) Channel Highest



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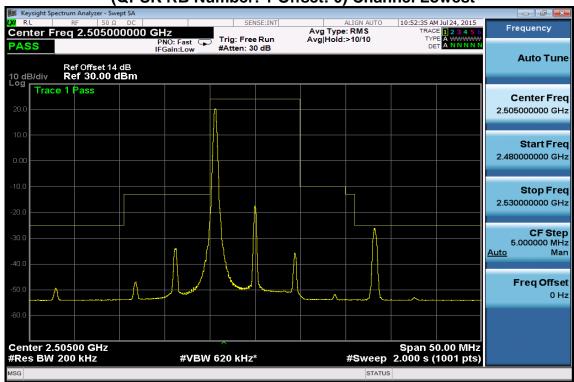
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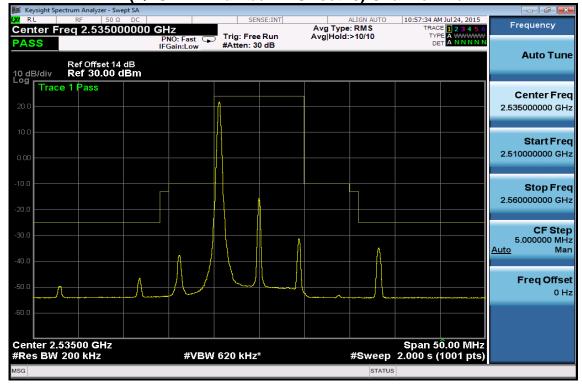
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## Emission Mask at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest



Emission Mask at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Mid



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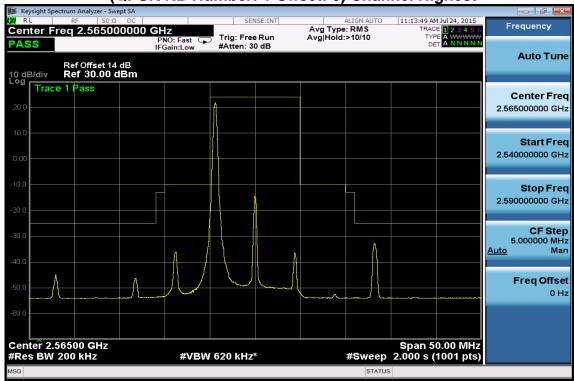
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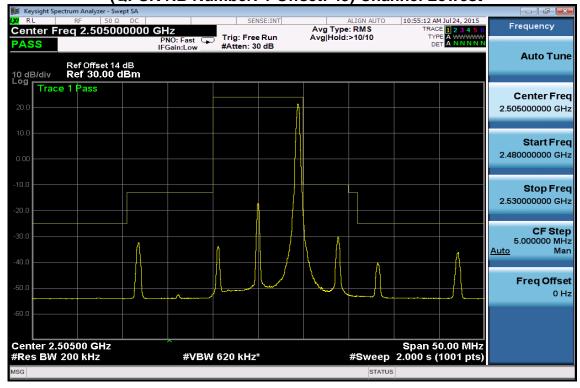
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Emission Mask at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Highest



Emission Mask at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 49) Channel Lowest



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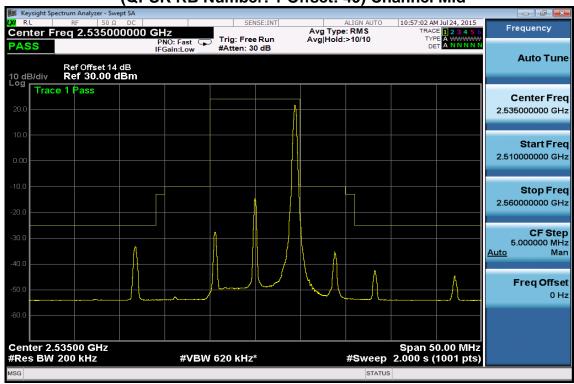
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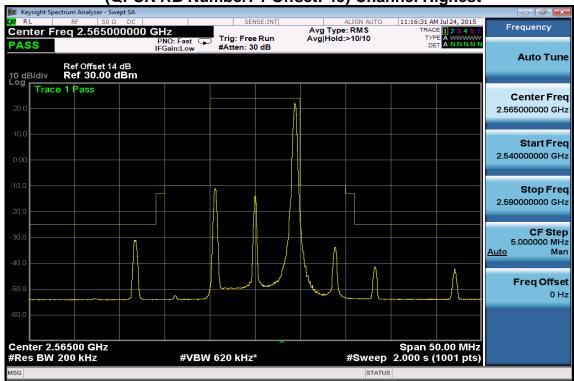
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Emission Mask at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 49) Channel Mid



Emission Mask at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 49) Channel Highest



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Emission Mask at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 50 Offset: 0) Channel Lowest



Emission Mask at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 50 Offset: 0) Channel Mid



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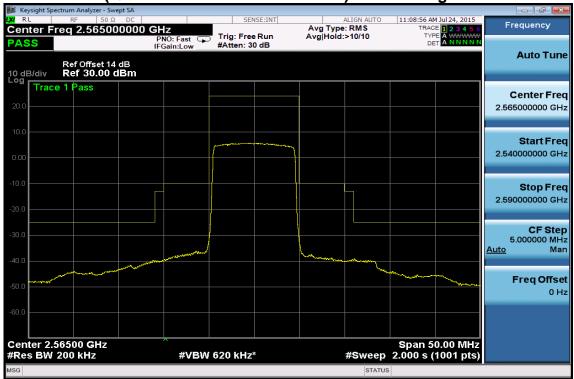
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Emission Mask at antenna terminals -10MHz BW LTE-Band 7 (QPSK RB Number: 50 Offset: 0) Channel Highest



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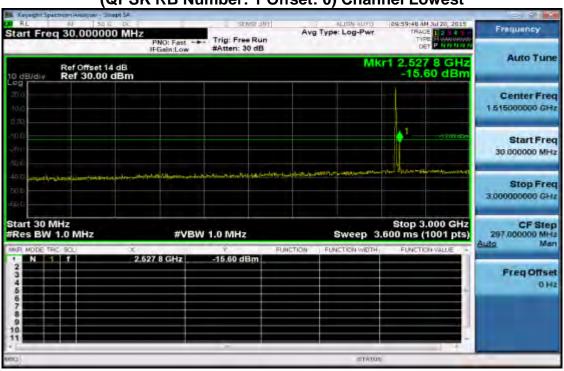
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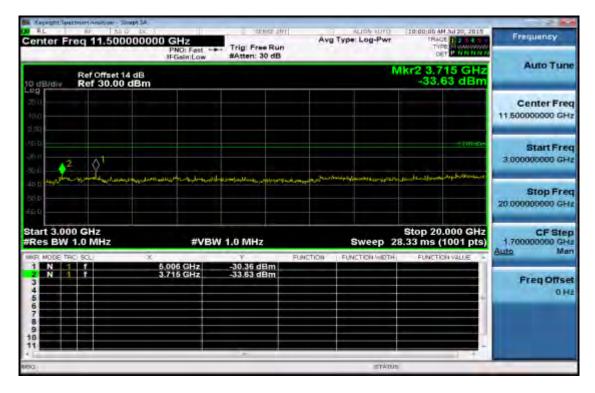


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Out of Band emission at antenna terminals-15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest





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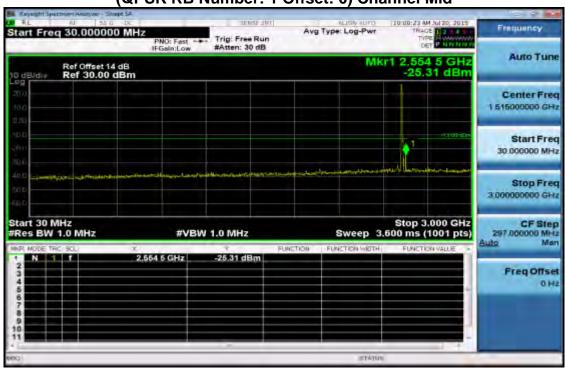
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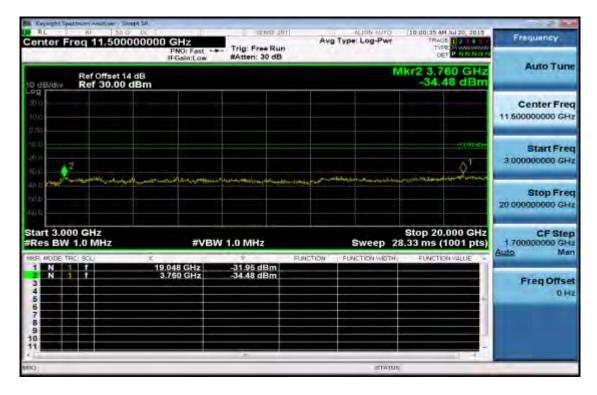


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Out of Band emission at antenna terminals-15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Mid





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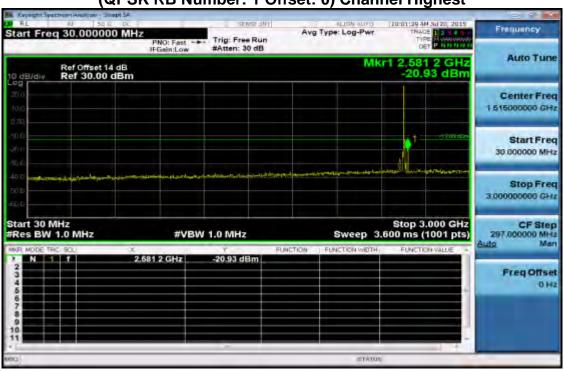
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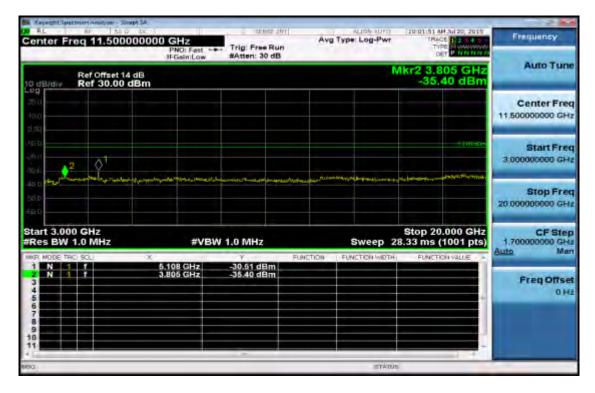


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Out of Band emission at antenna terminals-15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Highest





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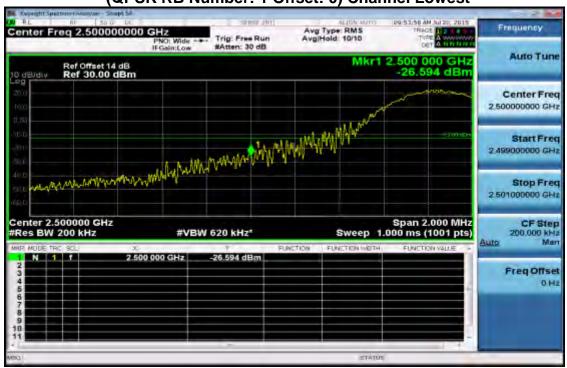
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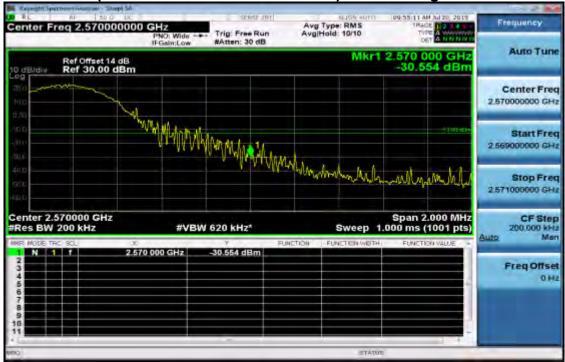
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Band edge emission at antenna terminals –15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest



Band edge emission at antenna terminals -15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 74) Channel Highest



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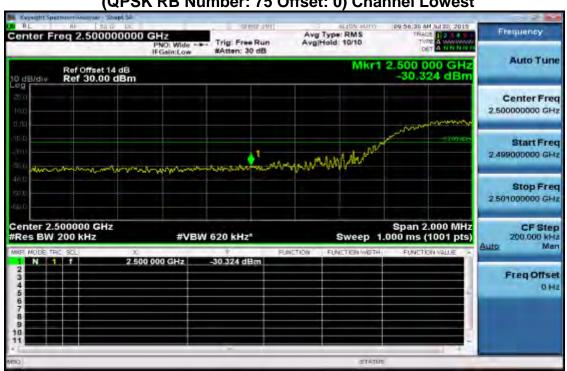
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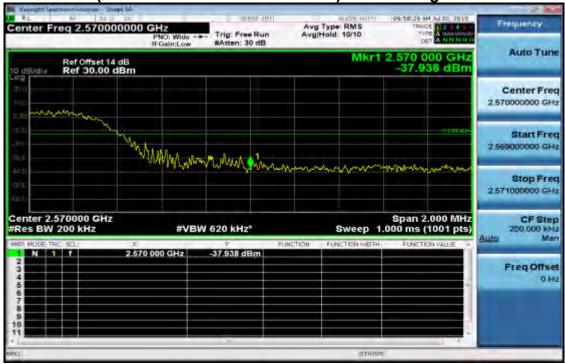
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Band edge emission at antenna terminals –15MHz BW LTE-Band 7 (QPSK RB Number: 75 Offset: 0) Channel Lowest



Band edge emission at antenna terminals -15MHz BW LTE-Band 7 (QPSK RB Number: 75 Offset: 0) Channel Highest



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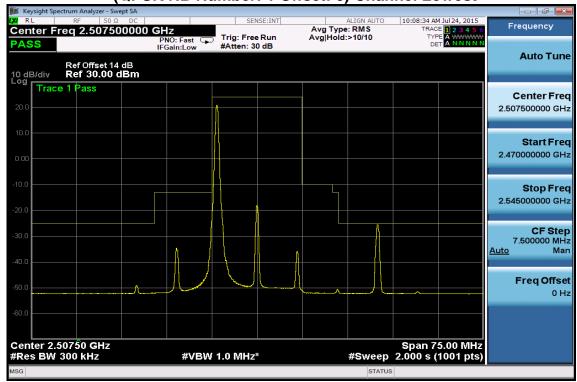
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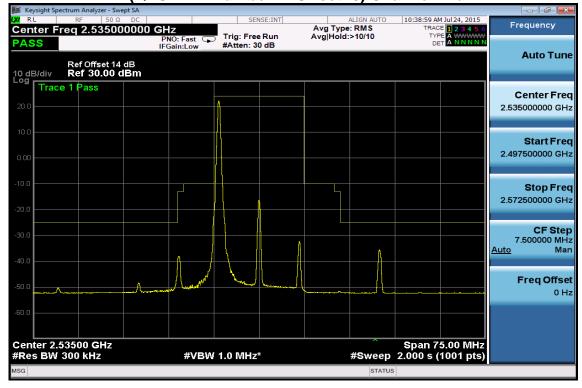
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# Emission Mask at antenna terminals –15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest



Emission Mask at antenna terminals –15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Mid



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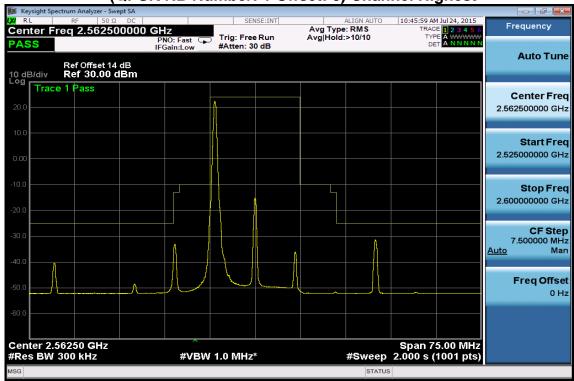
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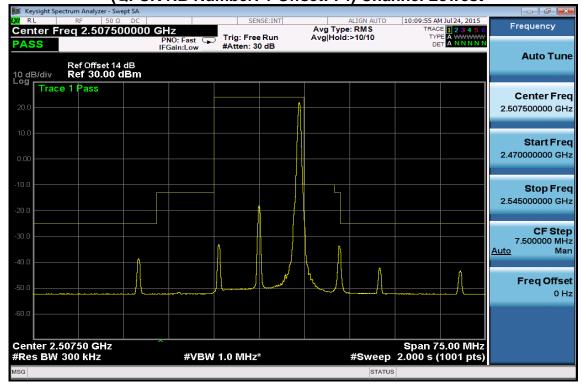
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Emission Mask at antenna terminals -15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Highest



Emission Mask at antenna terminals -15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 74) Channel Lowest



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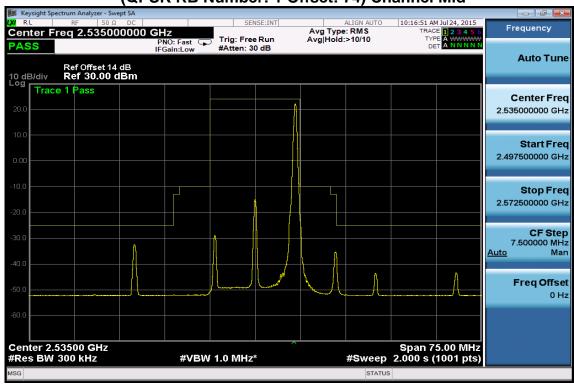
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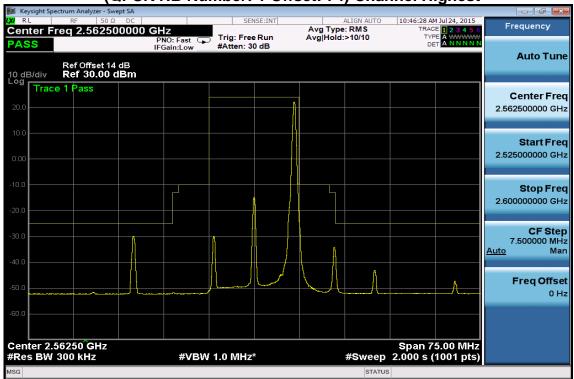
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Emission Mask at antenna terminals -15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 74) Channel Mid



Emission Mask at antenna terminals -15MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 74) Channel Highest



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Emission Mask at antenna terminals -15MHz BW LTE-Band 7 (QPSK RB Number: 75 Offset: 0) Channel Lowest



Emission Mask at antenna terminals -15MHz BW LTE-Band 7 (QPSK RB Number: 75 Offset: 0) Channel Mid



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Emission Mask at antenna terminals -15MHz BW LTE-Band 7 (QPSK RB Number: 75 Offset: 0) Channel Highest



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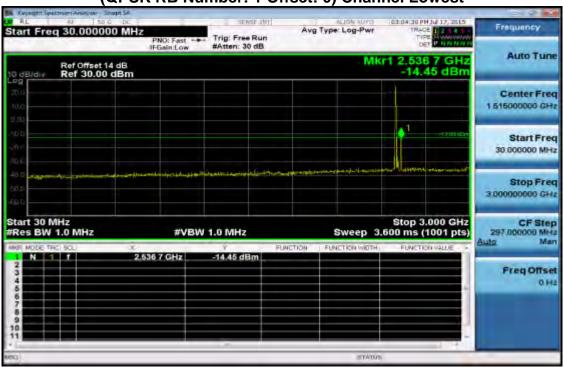
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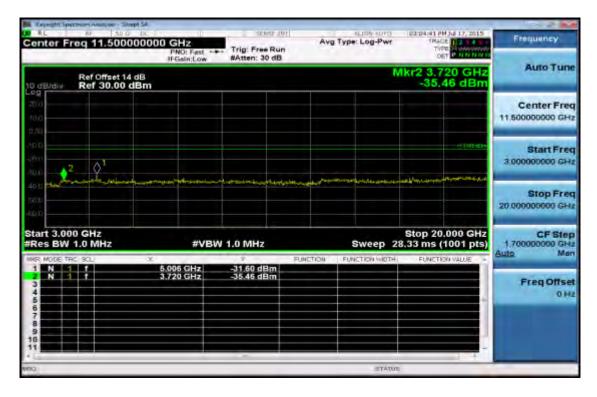


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#### Out of Band emission at antenna terminals-20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest





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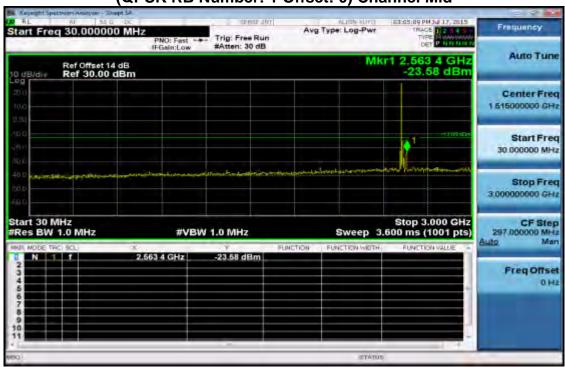
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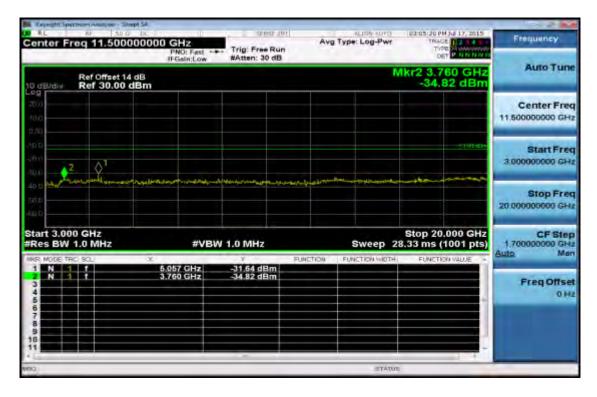


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#### Out of Band emission at antenna terminals-20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Mid





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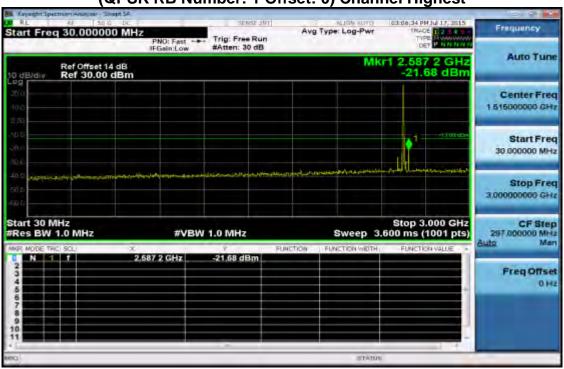
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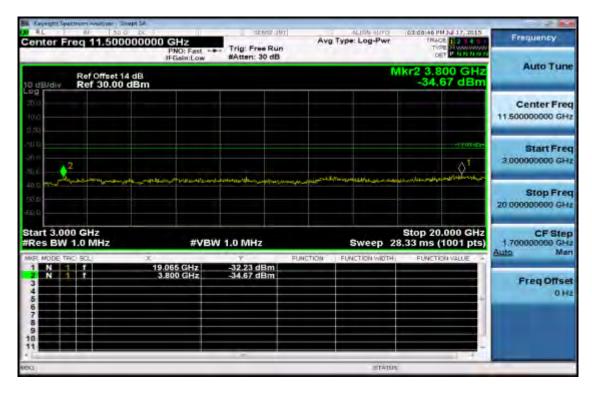


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Out of Band emission at antenna terminals-20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Highest





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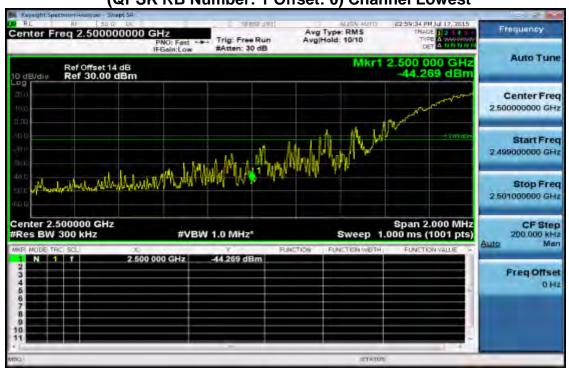
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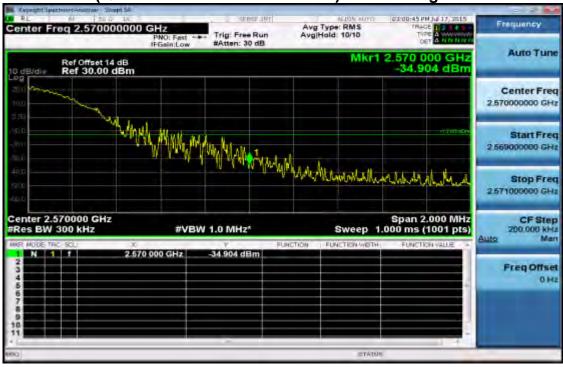
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## Band edge emission at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest



Band edge emission at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 99) Channel Highest



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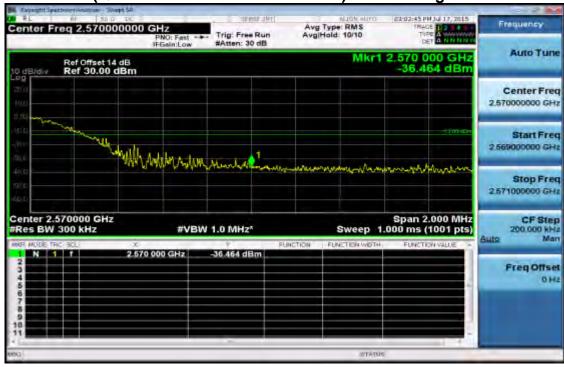
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Band edge emission at antenna terminals –20MHz BW LTE-Band 7 (QPSK RB Number: 100 Offset: 0) Channel Lowest



Band edge emission at antenna terminals –20MHz BW LTE-Band 7 (QPSK RB Number: 100 Offset: 0) Channel Highest



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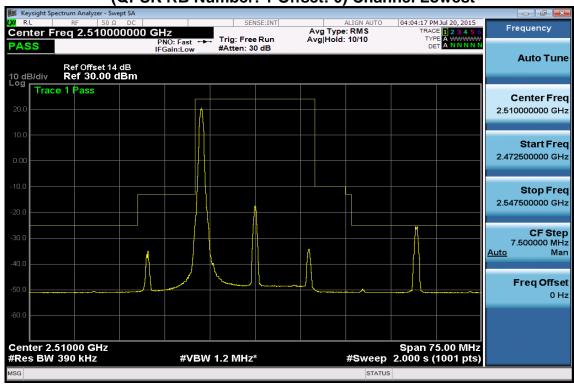
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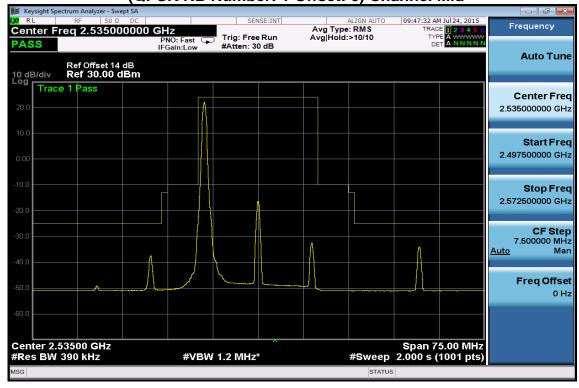
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Emission Mask at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Lowest



Emission Mask at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Mid



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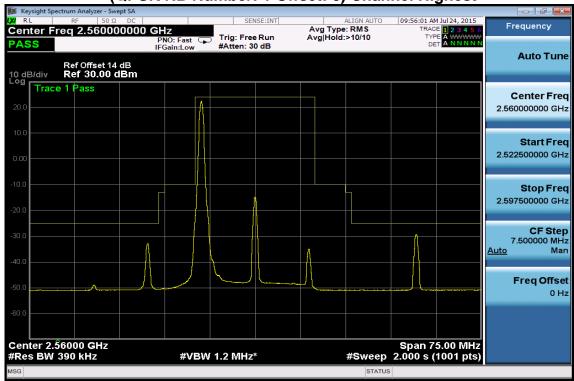
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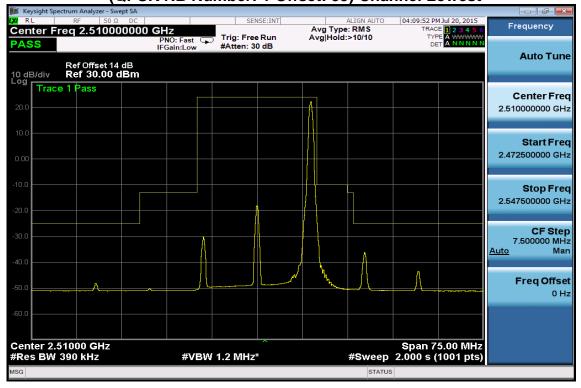
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Emission Mask at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 0) Channel Highest



Emission Mask at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 99) Channel Lowest



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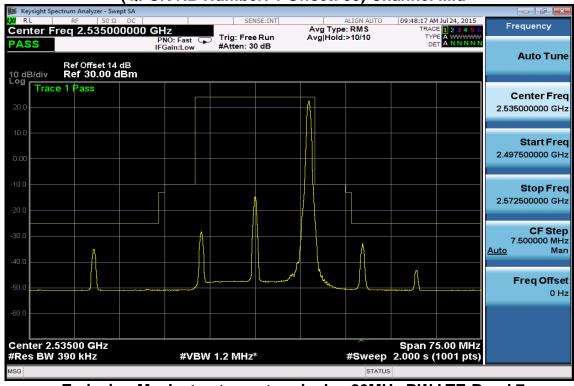
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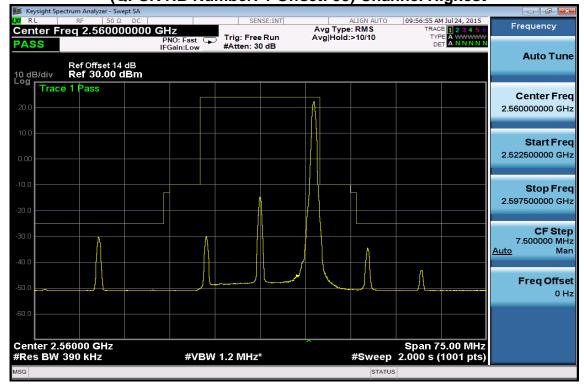
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Emission Mask at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 99) Channel Mid



Emission Mask at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 1 Offset: 99) Channel Highest



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Emission Mask at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 100 Offset: 0) Channel Lowest



Emission Mask at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 100 Offset: 0) Channel Mid



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Emission Mask at antenna terminals -20MHz BW LTE-Band 7 (QPSK RB Number: 100 Offset: 0) Channel Highest



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### 10. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

# 10.1. Standard Applicable

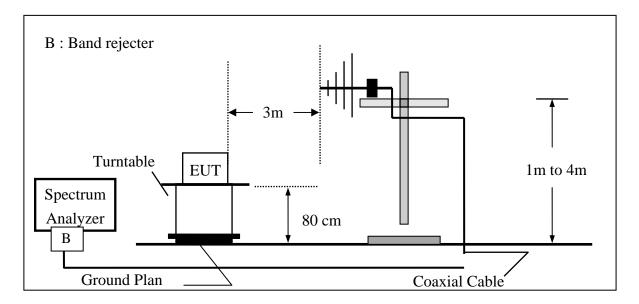
According to FCC §2.1053,

FCC §24.238(a), §27.53(h), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm).

FCC §27.53 (m) (4) shall not be less than 55 +10log(mean output power in watt) dBc below the mean power output outside a license's frequency block (-25dBm).

# 10.2. EUT Setup

Radiated Emission Test Set-Up, Frequency Below 1000MHz



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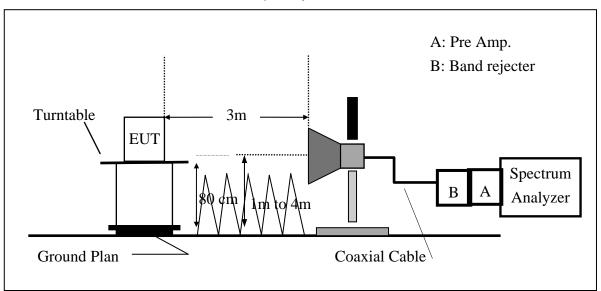
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# Radiated Emission Test Set-UP Frequency Over 1 GHz



### 10.3. Measurement Procedure:

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note: "F": denotes Fundamental Frequency.; "H": denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---": denotes Noise Floor.

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### 10.4. Measurement Equipment Used:

ERF	P, EIRP MEASUR	EMENT EQUIPM	IENT List 966 C	hamber	
EQUIPMENT TYPE	MFR	MODEL	SERIAL	LAST CAL.	CAL DUE.
		NUMBER	NUMBER		
EMI Test Receiver	R&S	ESU 40	100363	04/09/2015	04/08/2016
Broadband Anten- na	TESEQ	CBL 6112D	35240	12/05/2014	12/04/2015
Broadband Anten- na	TESEQ	CBL 6112D	35243	11/14/2014	11/13/2015
Horn Antenna	ETS-Lindgren	3117	00143272	12/08/2014	12/07/2015
Horn Antenna	ETS-Lindgren	3117	00143280	09/23/2014	09/22/2015
Horn Antenna	ETS-Lindgren	3160-09	00117911	11/13/2014	11/12/2015
Horn Antenna	ETS-Lindgren	3160-09	00117910	11/13/2014	11/12/2015
Pre Amplifier	EMC Instruments	EMC330	980096	12/19/2014	12/18/2015
Pre Amplifier	EMC Instruments	EMC0011830	980199	12/19/2014	12/18/2015
Pre Amplifier	R&S	SCU-18	10204	12/19/2014	12/18/2015
Pre Amplifier	R&S	SCU-26	100780	12/19/2014	12/18/2015
Pre Amplifier	EMC Instruments	EMC184045B	980135	12/19/2014	12/18/2015
Coaxial Cable	Huber+Suhner	RG 214/U	966Rx 9K-30M	12/19/2014	12/18/2015
Coaxial Cable	Huber+Suhner	RG 214/U SUCOFLEX 104	966Rx 30M-3G	12/19/2014	12/18/2015
Coaxial Cable	Huber+Suhner	SUCOFLEX 104	966Rx 1G-18G	12/19/2014	12/18/2015
Coaxial Cable	Huber+Suhner	mini 141-12 SUCOFLEX 104	966Rx 18G-40G	12/19/2014	12/18/2015
Coaxial Cable	Huber+Suhner	SUCOFLEX 104	966Tx 30M-18G	12/19/2014	12/18/2015
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	966Tx 18G-40G	12/19/2014	12/18/2015
Attenuator	WOKEN	218FS-10	RF27	12/19/2014	12/18/2015
Communication Tester	Anritsu	MT8820C	6201107337	05/27/2015	05/26/2016
Site NSA	SGS	966 Chamber C	SAC-C	03/04/2015	03/03/2016
Site VSWR	SGS	966 Chamber C	SAC-C	03/04/2015	03/03/2016
DC Power Supply	HOLA	DP-3003	D7070035	05/04/2015	05/03/2016
Controller	MF	MF-7802	N/A	N.C.R.	N.C.R.
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.
Turn Table	MF	N/A	N/A	N.C.R.	N.C.R.
Test Software	World-Pallas	Dr. E	V 3.0 Lite	N.C.R.	N.C.R.

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#### 10.5. Measurement Result:

Radiated Spurious Emission Measurement Result: HSUPA II Mode

**ARFCN** :CH 9262 :2015-08-01 **Test Date** 

:HSUPA B2 Temp./Humi. :25 deg\_C / 61 RH **Operation Band** 

Fundamental Frequen-:1852.4 MHz

Engineer

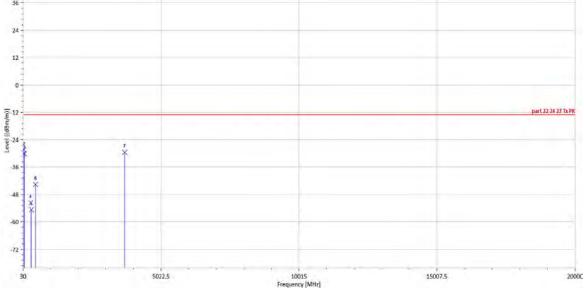
:Ashton

**Operation Mode** 

:TX LOW

Measurement





Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
36.48	S	-30.20	-14.70	-14.81	-0.69	-13.00	-17.20
60.77	S	-28.30	-26.41	-0.93	-0.95	-13.00	-15.30
76.96	S	-30.01	-29.32	0.39	-1.08	-13.00	-17.01
311.77	S	-51.59	-55.11	5.64	-2.12	-13.00	-38.59
337.68	S	-54.66	-58.15	5.60	-2.11	-13.00	-41.66
489.90	S	-43.59	-46.97	6.11	-2.73	-13.00	-30.59
3704.51	Н	-29.46	-31.21	8.68	-6.93	-13.00	-16.46

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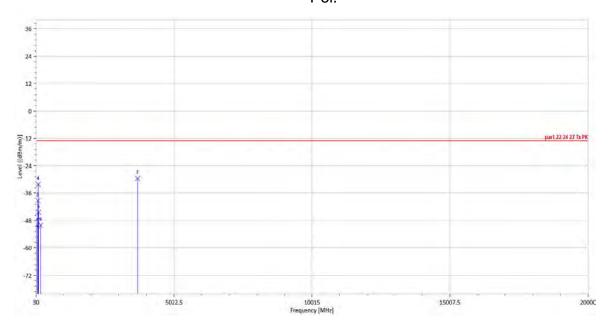
**ARFCN** :CH 9262 **Test Date** :2015-08-01

:HSUPA B2 **Operation Band** Temp./Humi. :25 deg\_C / 61 RH

Fundamental Frequen-:1852.4 MHz Engineer :Ashton

**Operation Mode** :TX LOW

Antenna :HORIZONTAL Measurement EUT Pol. :H Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
36.48	S	-49.51	-34.01	-14.81	-0.69	-13.00	-36.51
64.01	S	-50.30	-48.78	-0.53	-0.99	-13.00	-37.30
96.39	S	-39.33	-37.36	-0.80	-1.17	-13.00	-26.33
110.97	S	-32.11	-29.40	-1.43	-1.28	-13.00	-19.11
122.30	S	-44.37	-42.13	-0.93	-1.31	-13.00	-31.37
195.18	S	-49.99	-54.41	6.10	-1.68	-13.00	-36.99
3704.51	Н	-29.56	-31.30	8.68	-6.93	-13.00	-16.56

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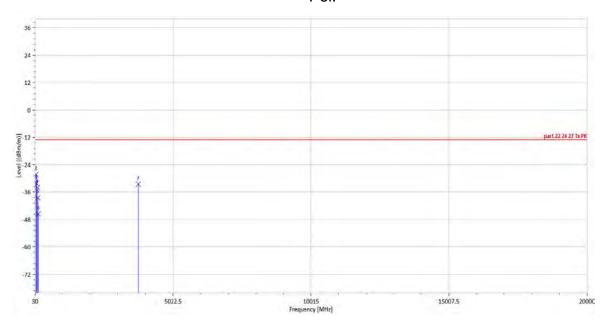
**ARFCN** :CH 9400 **Test Date** :2015-08-01

**Operation Band** :HSUPA B2 Temp./Humi. :25 deg\_C / 61 RH

Fundamental Frequen-:1880.0 MHz Engineer :Ashton

**Operation Mode** :TX MID

Antenna :VERTICAL Measurement EUT Pol. :H Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
33.24	S	-31.72	-13.47	-17.54	-0.70	-13.00	-18.72
67.25	S	-28.22	-27.07	-0.13	-1.02	-13.00	-15.22
80.20	S	-32.12	-31.51	0.46	-1.06	-13.00	-19.12
115.83	S	-33.93	-31.37	-1.26	-1.30	-13.00	-20.93
132.02	S	-38.41	-36.98	-0.06	-1.37	-13.00	-25.41
144.98	S	-45.53	-45.70	1.68	-1.51	-13.00	-32.53
3764.61	Н	-32.50	-34.36	8.71	-6.84	-13.00	-19.50

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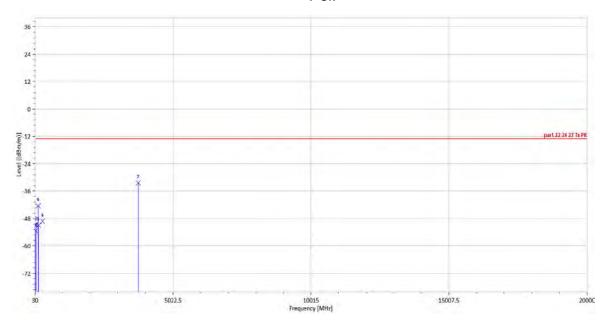
**ARFCN** :CH 9400 **Test Date** :2015-08-01

**Operation Band** :HSUPA B2 Temp./Humi. :25 deg\_C / 61 RH

Fundamental Frequen-:1880.0 MHz Engineer :Ashton

**Operation Mode** :TX MID

Antenna :HORIZONTAL Measurement EUT Pol. :H Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
31.62	S	-50.80	-31.17	-18.94	-0.69	-13.00	-37.80
55.91	S	-53.44	-49.84	-2.66	-0.93	-13.00	-40.44
67.25	S	-50.73	-49.58	-0.13	-1.02	-13.00	-37.73
141.74	S	-42.40	-42.19	1.19	-1.40	-13.00	-29.40
154.69	S	-50.91	-52.37	2.93	-1.47	-13.00	-37.91
306.91	S	-49.22	-52.75	5.64	-2.11	-13.00	-36.22
3764.61	Н	-32.39	-34.26	8.71	-6.84	-13.00	-19.39

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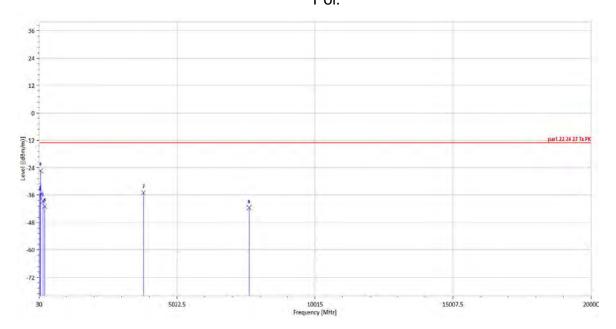
**ARFCN** :CH 9538 **Test Date** :2015-08-01

:HSUPA B2 **Operation Band** Temp./Humi. :25 deg\_C / 61 RH

Fundamental Frequen-:1907.6 MHz Engineer :Ashton

**Operation Mode** :TX HIGH

Antenna :VERTICAL Measurement EUT Pol. :H Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
36.48	S	-32.90	-17.40	-14.81	-0.69	-13.00	-19.90
47.81	S	-36.40	-29.15	-6.37	-0.88	-13.00	-23.40
76.96	S	-35.52	-34.83	0.39	-1.08	-13.00	-22.52
83.44	S	-25.31	-24.47	0.27	-1.11	-13.00	-12.31
172.50	S	-38.60	-42.06	5.00	-1.54	-13.00	-25.60
237.28	S	-40.84	-44.40	5.43	-1.87	-13.00	-27.84
3809.68	Н	-34.95	-36.76	8.72	-6.92	-13.00	-21.95
7641.07	Н	-41.45	-43.23	11.74	-9.96	-13.00	-28.45

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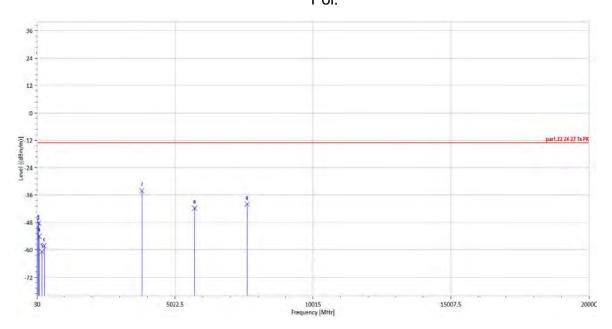
**ARFCN** :CH 9538 **Test Date** :2015-08-01

:HSUPA B2 **Operation Band** Temp./Humi. :25 deg\_C / 61 RH

Fundamental Frequen-:1907.6 MHz Engineer :Ashton

**Operation Mode** :TX HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :H Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
31.62	S	-47.33	-27.70	-18.94	-0.69	-13.00	-34.33
55.91	S	-49.75	-46.16	-2.66	-0.93	-13.00	-36.75
81.82	S	-48.31	-47.58	0.36	-1.09	-13.00	-35.31
112.59	S	-54.03	-51.39	-1.37	-1.27	-13.00	-41.03
203.27	S	-60.77	-65.05	6.00	-1.73	-13.00	-47.77
293.96	S	-58.16	-61.70	5.60	-2.06	-13.00	-45.16
3824.71	Н	-34.05	-35.85	8.73	-6.92	-13.00	-21.05
5732.89	Н	-41.75	-43.95	10.39	-8.19	-13.00	-28.75
7641.07	Н	-39.98	-41.76	11.74	-9.96	-13.00	-26.98

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### Radiated Spurious Emission Measurement Result: 15MHz BW LTE-Band 4(The Worst Case)

:CH 20050 QPSK BW Test Date **ARFCN** 

:2015-08-01 20 RB 1 0

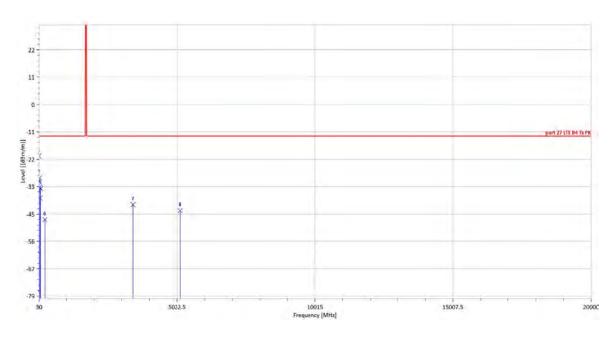
**Operation Band** :LTE B4 Temp./Humi. :25 deg\_C / 61 RH

Fundamental Frequen-:1720.0 MHz Engineer :Ashton

:TX LOW Operation Mode

Antenna :VERTICAL Measurement EUT Pol. :E1 Plan

Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
34.86	S	-21.27	-4.42	-16.13	-0.72	-13.00	-8.27
42.95	S	-30.30	-19.81	-9.69	-0.80	-13.00	-17.30
55.91	S	-34.11	-30.52	-2.66	-0.93	-13.00	-21.11
68.86	S	-38.56	-37.60	0.07	-1.03	-13.00	-25.56
80.20	S	-34.73	-34.13	0.46	-1.06	-13.00	-21.73
243.76	S	-47.49	-50.90	5.18	-1.78	-13.00	-34.49
3429.05	Н	-41.31	-43.13	8.37	-6.56	-13.00	-28.31
5148.58	Н	-43.77	-46.46	10.09	-7.40	-13.00	-30.77

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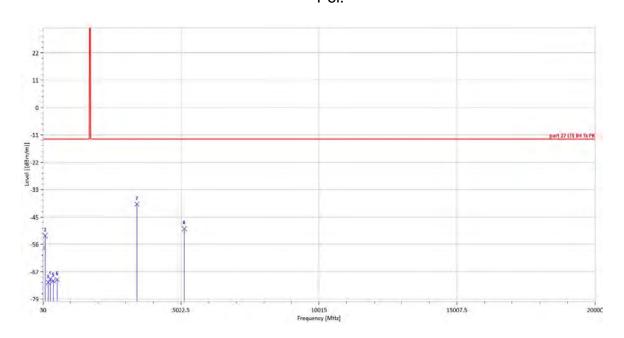
:CH 20050 QPSK BW Test Date **ARFCN** :2015-08-01 20 RB 1 0

:25 deg\_C / 61 RH :LTE B4 Temp./Humi. **Operation Band** 

Fundamental Frequen-:1720.0 MHz Engineer :Ashton

:TX LOW **Operation Mode** 

Antenna :HORIZONTAL Measurement EUT Pol. :E1 Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
33.24	S	-57.95	-39.70	-17.54	-0.70	-13.00	-44.95
107.73	S	-52.84	-50.19	-1.40	-1.25	-13.00	-39.84
214.61	S	-72.19	-76.57	6.15	-1.77	-13.00	-59.19
293.96	S	-70.78	-74.32	5.60	-2.06	-13.00	-57.78
410.55	S	-71.53	-74.48	5.44	-2.49	-13.00	-58.53
548.20	S	-71.02	-74.30	6.12	-2.84	-13.00	-58.02
3429.05	Н	-39.89	-41.71	8.37	-6.56	-13.00	-26.89
5148.58	Н	-49.99	-52.68	10.09	-7.40	-13.00	-36.99

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:CH 20175 QPSK BW Test Date **ARFCN** :2015-08-01

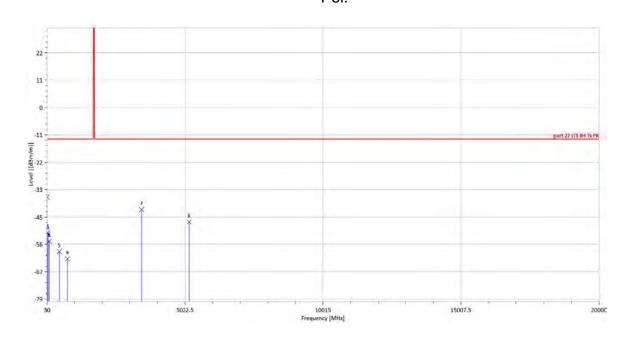
20 RB 1 0

:25 deg\_C / 61 RH :LTE B4 Temp./Humi. **Operation Band** 

Fundamental Frequen-:1732.5 MHz Engineer :Ashton

**Operation Mode** :TX MID

Antenna :VERTICAL Measurement EUT Pol. :E1 Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
33.24	S	-36.94	-18.70	-17.54	-0.70	-13.00	-23.94
47.81	S	-51.58	-44.32	-6.37	-0.88	-13.00	-38.58
72.10	S	-52.21	-51.45	0.26	-1.03	-13.00	-39.21
107.73	S	-55.25	-52.60	-1.40	-1.25	-13.00	-42.25
483.42	S	-59.44	-63.03	6.05	-2.46	-13.00	-46.44
776.53	S	-62.38	-66.45	7.34	-3.27	-13.00	-49.38
3454.09	Н	-42.07	-43.94	8.45	-6.58	-13.00	-29.07
5181.97	Н	-47.26	-50.14	10.11	-7.23	-13.00	-34.26

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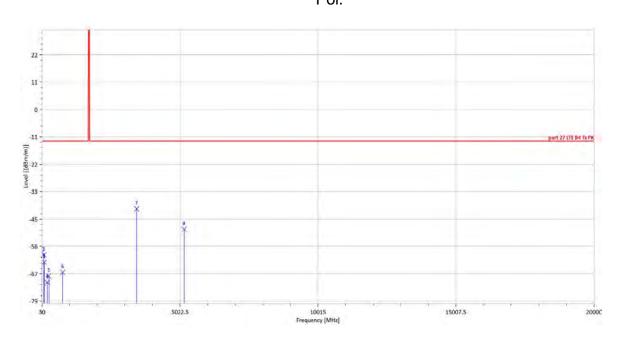
:CH 20175 QPSK BW Test Date **ARFCN** :2015-08-01 20 RB 1 0

:25 deg\_C / 61 RH :LTE B4 Temp./Humi. **Operation Band** 

Fundamental Frequen-:1732.5 MHz Engineer :Ashton

**Operation Mode** :TX MID

Antenna :HORIZONTAL Measurement EUT Pol. :E1 Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
33.24	S	-58.92	-40.68	-17.54	-0.70	-13.00	-45.92
93.16	S	-59.93	-58.31	-0.45	-1.17	-13.00	-46.93
107.73	S	-63.06	-60.41	-1.40	-1.25	-13.00	-50.06
216.23	S	-71.33	-75.70	6.16	-1.79	-13.00	-58.33
281.00	S	-68.72	-72.17	5.46	-2.01	-13.00	-55.72
779.77	S	-67.19	-71.25	7.35	-3.28	-13.00	-54.19
3454.09	Н	-40.99	-42.86	8.45	-6.58	-13.00	-27.99
5181.97	Н	-49.44	-52.32	10.11	-7.23	-13.00	-36.44

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**Operation Band** 

FCC ID: HFS-K4-024G

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:CH 20300 QPSK BW Test Date **ARFCN** :2015-08-01

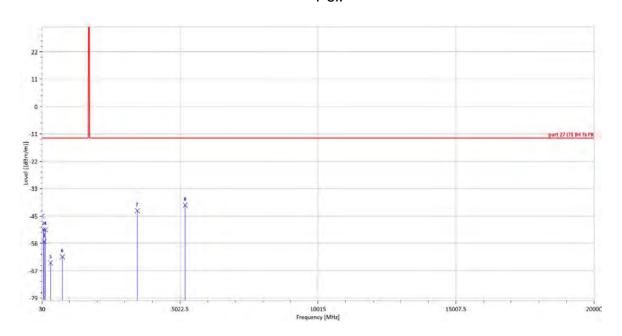
20 RB 1 0 :25 deg\_C / 61 RH :LTE B4

Temp./Humi.

Fundamental Frequen-:1745.0 MHz Engineer :Ashton

**Operation Mode** :TX HIGH

Antenna :VERTICAL Measurement EUT Pol. :E1 Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
33.24	S	-45.25	-27.01	-17.54	-0.70	-13.00	-32.25
80.20	S	-50.80	-50.20	0.46	-1.06	-13.00	-37.80
107.73	S	-55.68	-53.03	-1.40	-1.25	-13.00	-42.68
148.21	S	-50.83	-51.52	2.16	-1.46	-13.00	-37.83
347.40	S	-64.47	-67.87	5.59	-2.19	-13.00	-51.47
773.29	S	-62.00	-65.94	7.34	-3.40	-13.00	-49.00
3479.13	Н	-43.01	-44.87	8.53	-6.67	-13.00	-30.01
5215.36	Н	-40.69	-43.51	10.13	-7.31	-13.00	-27.69

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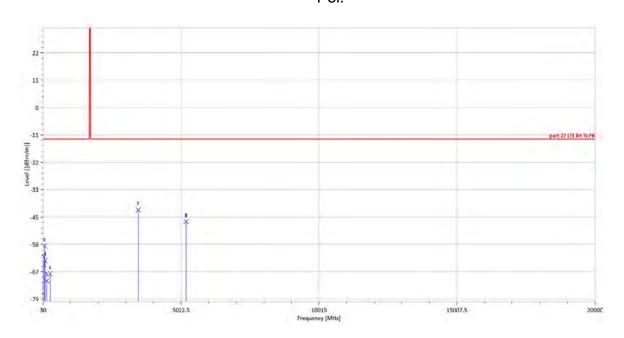
:CH 20300 QPSK BW Test Date **ARFCN** :2015-08-01 20 RB 1 0

:25 deg\_C / 61 RH :LTE B4 Temp./Humi. **Operation Band** 

Fundamental Frequen-:1745.0 MHz Engineer :Ashton

**Operation Mode** :TX HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :E1 Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
31.62	S	-61.14	-41.51	-18.94	-0.69	-13.00	-48.14
46.19	S	-64.59	-56.38	-7.39	-0.82	-13.00	-51.59
83.44	S	-57.03	-56.19	0.27	-1.11	-13.00	-44.03
102.87	S	-63.16	-60.67	-1.27	-1.22	-13.00	-50.16
161.17	S	-71.45	-73.41	3.63	-1.67	-13.00	-58.45
289.10	S	-68.61	-72.12	5.55	-2.04	-13.00	-55.61
3479.13	Н	-42.20	-44.06	8.53	-6.67	-13.00	-29.20
5215.36	Н	-47.07	-49.89	10.13	-7.31	-13.00	-34.07

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# Radiated Spurious Emission Measurement Result: LTE-Band 7(The Worst Case)

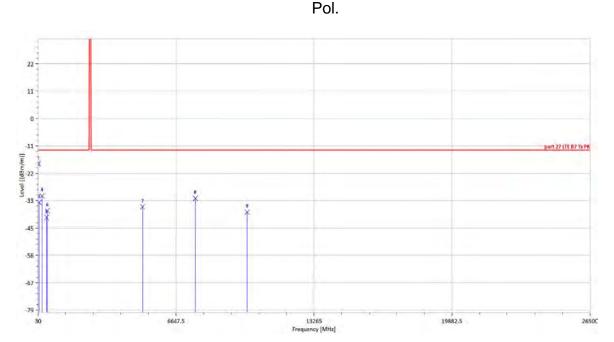
:CH 20850 16QAM BW Test Date **ARFCN** :2015-08-01 20 RB 1 99

:24 deg\_C / 59 RH :LTE B7 Temp./Humi. **Operation Band** 

Fundamental Frequen-:2510.0 MHz Engineer :Ashton

:TX LOW **Operation Mode** 

Antenna :VERTICAL Measurement EUT Pol. :H Plan



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
33.24	S	-18.45	-0.21	-17.54	-0.70	-13.00	-5.45
38.10	S	-18.93	-4.70	-13.50	-0.73	-13.00	-5.93
80.20	S	-34.60	-33.99	0.46	-1.06	-13.00	-21.60
221.09	S	-31.94	-36.25	6.11	-1.81	-13.00	-18.94
449.42	S	-40.79	-43.97	5.77	-2.59	-13.00	-27.79
488.28	S	-38.03	-41.39	6.09	-2.73	-13.00	-25.03
5043.41	Н	-36.45	-39.04	10.03	-7.44	-13.00	-23.45
7579.30	Н	-32.95	-34.60	11.68	-10.03	-13.00	-19.95
10070.12	Н	-38.63	-40.35	13.10	-11.38	-13.00	-25.63

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:CH 20850 16QAM BW Test Date **ARFCN** :2015-08-01

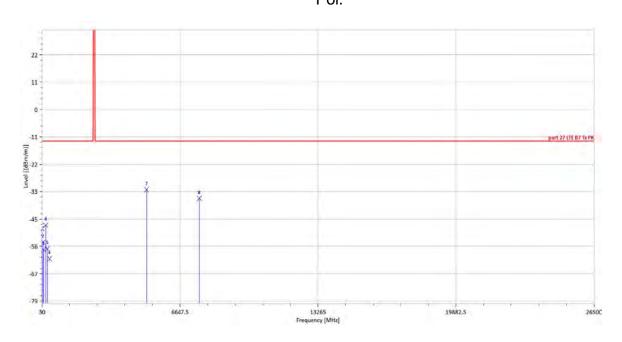
20 RB 1 99

:24 deg\_C / 59 RH :LTE B7 Temp./Humi. **Operation Band** 

Fundamental Frequen-:2510.0 MHz Engineer :Ashton

:TX LOW **Operation Mode** 

Antenna :HORIZONTAL Measurement EUT Pol. :H Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
30.00	S	-49.04	-28.05	-20.35	-0.64	-13.00	-36.04
72.10	S	-54.84	-54.07	0.26	-1.03	-13.00	-41.84
104.49	S	-57.79	-55.24	-1.31	-1.24	-13.00	-44.79
206.51	S	-47.76	-52.11	6.07	-1.73	-13.00	-34.76
279.38	S	-57.37	-60.81	5.44	-2.00	-13.00	-44.37
395.98	S	-61.55	-64.52	5.37	-2.40	-13.00	-48.55
5043.41	Н	-33.08	-35.67	10.03	-7.44	-13.00	-20.08
7579.30	Н	-36.65	-38.30	11.68	-10.03	-13.00	-23.65

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:CH 21100 16QAM BW Test Date **ARFCN** :2015-08-01

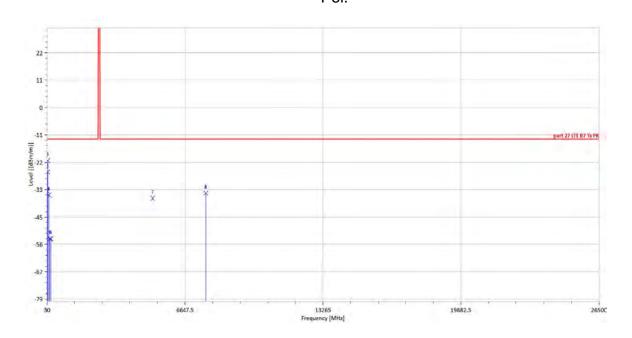
20 RB 1 99

:24 deg\_C / 59 RH :LTE B7 Temp./Humi. **Operation Band** 

Fundamental Frequen-:2535 MHz Engineer :Ashton

:TX MID **Operation Mode** 

Antenna :VERTICAL Measurement EUT Pol. :H Plan Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
33.24	S	-34.29	-16.05	-17.54	-0.70	-13.00	-21.29
60.77	S	-26.54	-24.65	-0.93	-0.95	-13.00	-13.54
67.25	S	-21.85	-20.70	-0.13	-1.02	-13.00	-8.85
120.68	S	-36.13	-33.79	-1.06	-1.29	-13.00	-23.13
159.55	S	-54.06	-55.98	3.44	-1.52	-13.00	-41.06
211.37	S	-54.17	-58.55	6.15	-1.77	-13.00	-41.17
5101.84	Н	-37.43	-40.22	10.06	-7.27	-13.00	-24.43
7649.42	Н	-35.32	-37.08	11.75	-9.98	-13.00	-22.32

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:24 deg\_C / 59 RH

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:CH 21100 16QAM BW Test Date **ARFCN** 

:LTE B7

:2015-08-01 20 RB 1 99 Temp./Humi.

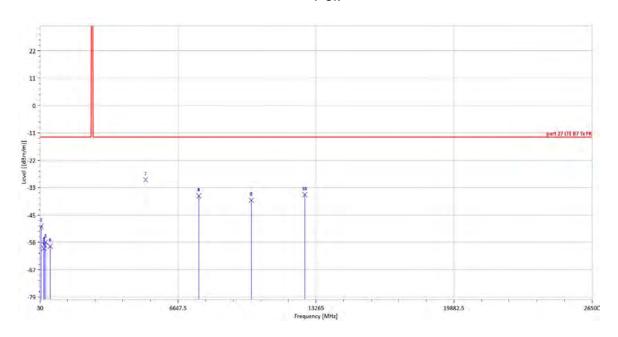
Fundamental Frequen-:2535 MHz Engineer :Ashton

**Operation Band** 

**Operation Mode** :TX MID

Antenna :HORIZONTAL Measurement EUT Pol. :H Plan

Pol.



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
N / L I	E/LI/E/6	dD.vo	•			dD.ma	٩D
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
31.62	S	-50.61	-30.98	-18.94	-0.69	-13.00	-37.61
81.82	S	-49.79	-49.06	0.36	-1.09	-13.00	-36.79
209.75	S	-58.99	-63.40	6.14	-1.74	-13.00	-45.99
230.80	S	-57.38	-61.26	5.71	-1.83	-13.00	-44.38
297.20	S	-56.35	-59.90	5.62	-2.07	-13.00	-43.35
530.38	S	-58.02	-61.42	6.15	-2.75	-13.00	-45.02
5101.84	Н	-30.57	-33.36	10.06	-7.27	-13.00	-17.57
7649.42	Н	-37.26	-39.03	11.75	-9.98	-13.00	-24.26
10170.28	Н	-39.05	-40.65	13.10	-11.50	-13.00	-26.05
12724.54	Н	-36.79	-37.05	13.14	-12.88	-13.00	-23.79

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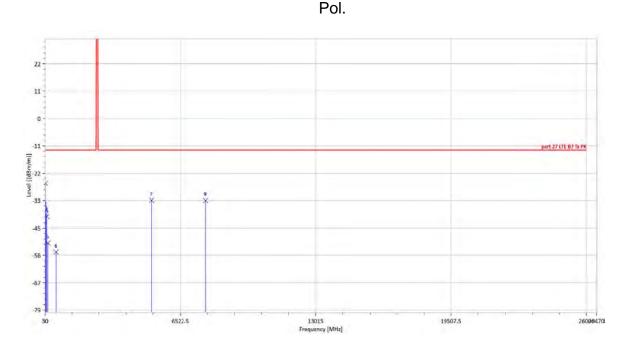
20 RB 1 99

:24 deg\_C / 59 RH :LTE B7 Temp./Humi. **Operation Band** 

Fundamental Frequen-:2560.0 MHz Engineer :Ashton

**Operation Mode** :TX HIGH

Antenna :VERTICAL Measurement EUT Pol. :H Plan



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
47.81	S	-26.60	-19.35	-6.37	-0.88	-13.00	-13.60
57.53	S	-37.72	-34.78	-2.01	-0.93	-13.00	-24.72
81.82	S	-39.34	-38.61	0.36	-1.09	-13.00	-26.34
110.97	S	-40.43	-37.72	-1.43	-1.28	-13.00	-27.43
162.79	S	-51.41	-53.67	3.83	-1.58	-13.00	-38.41
574.11	S	-55.09	-58.40	6.29	-2.98	-13.00	-42.09
5148.58	Н	-33.70	-36.39	10.09	-7.40	-13.00	-20.70
7731.22	Н	-33.81	-35.64	11.83	-10.00	-13.00	-20.81

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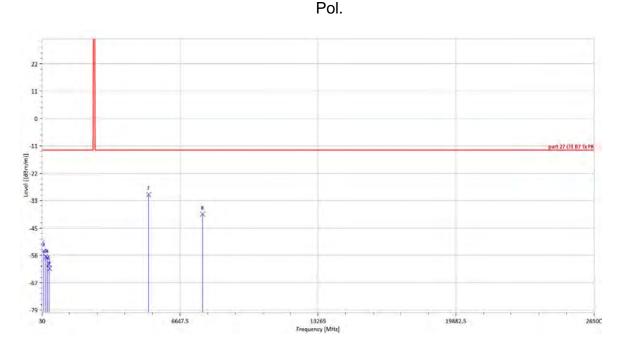
20 RB 1 99

:24 deg\_C / 59 RH :LTE B7 Temp./Humi. **Operation Band** 

Fundamental Frequen-:2560.0 MHz Engineer :Ashton

**Operation Mode** :TX HIGH

Antenna :HORIZONTAL Measurement EUT Pol. :H Plan



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
31.62	S	-51.33	-31.70	-18.94	-0.69	-13.00	-38.33
109.35	S	-54.69	-51.98	-1.44	-1.27	-13.00	-41.69
208.13	S	-56.98	-61.36	6.11	-1.73	-13.00	-43.98
285.86	S	-57.40	-60.88	5.51	-2.03	-13.00	-44.40
363.59	S	-60.07	-63.27	5.52	-2.32	-13.00	-47.07
402.45	S	-61.82	-64.63	5.37	-2.57	-13.00	-48.82
5148.58	Н	-31.43	-34.12	10.09	-7.40	-13.00	-18.43
7731.22	Н	-39.43	-41.26	11.83	-10.00	-13.00	-26.43

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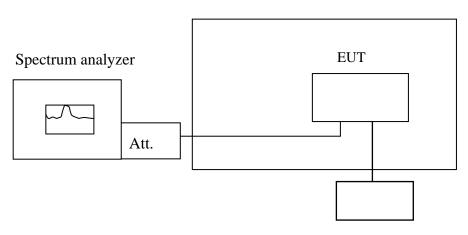
### 11. FREQUENCY STABILITY MEASUREMENT

### 11.1. Standard Applicable:

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

# 11.2. Test Set-up:

### Temperature Chamber



Variable DC Power Supply

**Note:** Measurement setup for testing on Antenna connector

#### 11.3. Measurement Procedure:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Set chamber temperature to 25 . Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint as declared by the manufacturer, record the maximum frequency change.

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# 11.4. Measurement Equipment Used:

Conduc	Conducted Emission (measured at antenna port) Test Site								
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.				
TYPE		NUMBER	NUMBER	CAL.					
Spectrum Analyzer	Agilent	N9010A	MY53400256	10/15/2014	10/14/2015				
Communication Tester	Anritsu	MT8820C	6201107337	05/27/2015	05/26/2016				
Coaxial Cable 30cm	WOKEN	00100A1F1A 195C	RF01	12/19/2014	12/18/2015				
Temperature Chamber	TERCHY	MHK-120LK	1020582	06/18/2015	06/17/2016				
DC Block	PASTERNACK	PE8210	RF29	12/19/2014	12/18/2015				
Splitter	RF-LAMBAD	RFLT2W1G1 8G	RF35	12/19/2014	12/18/2015				
Attenuator	WOKEN	218FS-10	RF23	12/19/2014	12/18/2015				
DC Power Supply	Agilent	E3640A	MY53140006	05/04/2015	05/03/2016				

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#### 11.5. Measurement Result:

#### FREQUENCY FRROR vs. VOI TAGE

REQUENCT ERROR VS. VOLTAGE								
Reference Frequency: WCDMA II Mid Channel 1880 MHz								
	Limit: +/- 2.5 ppm							
Power Supply	Environment	Frequency						
Vdc	Temperature ( )	(MHz)	Delta (Hz)	Limit (Hz)				
4.4	20	1880000003	-2	4700				
3.8	20	1880000005	0	4700				
3.2	20	1879999996	-9	4700				
2.9 (End point)	20	1879999997	-8	4700				

### FREQUENCY ERROR vs. TEMPERATURE

R	Reference Frequency: WCDMA II Mid Channel 1880								
	Limit: +/- 2.5 ppm								
Power Supply	Environment	Frequency							
Vdc	Temperature ( )	(MHz)	Delta (Hz)	Limit (Hz)					
3.8	50	1880000012	7	4700					
3.8	40	1880000010	5	4700					
3.8	30	1880000007	2	4700					
3.8	20	1880000005	0	4700					
3.8	10	1879999996	-9	4700					
3.8	0	1879999999	-6	4700					
3.8	-10	1879999994	-11	4700					
3.8	-20	1879999993	-12	4700					
3.8	-30	1879999990	-15	4700					

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#### FREQUENCY ERROR vs. VOLTAGE

	TREQUEROT ERROR VOLVOETAGE						
Reference	Frequency:	LTE B4 Mid Chan- nel	1732.5	MHz 20M QPSK CH 20175			
		Limit: +/- 2	.5 ppm				
Power Sup- ply	Environment	Frequency					
Vdc	Temperature ( )	(MHz)	Delta (Hz)	Limit (Hz)			
4.40	25	1732.499986	-5.00	4331			
3.8	25	1732.499991	0.00	4331			
3.20	25	1732.499988	-3.00	4331			
2.9 (End Point)	25	1732.499990	-1.00	4331			

#### FREQUENCY ERROR vs. TEMPERATURE

Reference	ce Frequency:	LTE B4 Mid Chan- nel	1732.5	MHz 20M QPSK CH 20175
			- 2.5 ppm	
Power Supply	Environment	Frequency	Dolto (III-)	Limit (LIP)
Vdc	Temperature ( )	(MHz)	Delta (Hz)	Limit (Hz)
3.8	-30	1732.499961	-11.00	4331
3.8	-20	1732.499955	-17.00	4331
3.8	-10	1732.499966	-6.00	4331
3.8	0	1732.499969	-3.00	4331
3.8	10	1732.499976	4.00	4331
3.8	20	1732.499972	0.00	4331
3.8	30	1732.499980	8.00	4331
3.8	40	1732.499983	11.00	4331
3.8	50	1732.499982	10.00	4331

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#### FREQUENCY ERROR vs. VOLTAGE

TREGOLINOT ERROR VS. VOLTAGE								
Reference Frequency:		LTE B7 Mid Chan- nel 2535.0		MHz 20M QPSK CH 21100				
		Limit: +/- 2	.5 ppm					
Power Sup- ply	Environment	Frequency						
Vdc	Temperature ( )	(MHz)	Delta (Hz)	Limit (Hz)				
4.40	25	2534.999983	-6.00	6338				
3.8	25	2534.999989	0.00	6338				
3.20	25	2534.999993	4.00	6338				
2.9 (End Point)	25	2534.999992	3.00	6338				

#### FREQUENCY ERROR vs. TEMPERATURE

Reference	ce Frequency:	LTE B7 Mid Channel	2535.0	MHz 20M QPSK CH 21100						
	Limit: +/- 2.5 ppm									
Power Supply	Environment	Frequency								
Vdc	Temperature ( )	(MHz)	Delta (Hz)	Limit (Hz)						
3.8	-30	2534.999985	-19.00	6338						
3.8	-20	2534.999990	-14.00	6338						
3.8	-10	2534.999993	-11.00	6338						
3.8	0	2534.999997	-7.00	6338						
3.8	10	2534.999999	-5.00	6338						
3.8	20	2535.000004	0.00	6338						
3.8	30	2534.999996	-8.00	6338						
3.8	40	2535.000002	-2.00	6338						
3.8	50	2535.000002	-2.00	6338						

Note: The battery is rated 3.8V dc.

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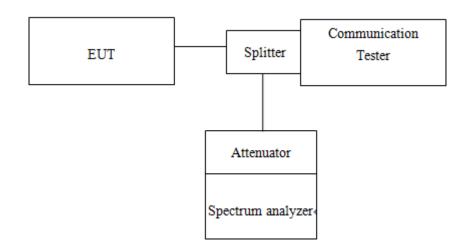
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### 12. PEAK TO AVERAGE RATIO

### 12.1. Standard Applicable

The peak-to-average ration (PAR) of the transmission may not exceed 13dB.

### 12.2. Test SET-UP



#### 12.3. Measurement Procedure

- 1. KDB 971168 D01 is employed as the following procedure is proper adjusted accordingly:
- 2. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth; & internal =1ms
- 3. Set the number of counts to a value that stabilizes the measured CCDF curve.

# 12.4. Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.				
TYPE		NUMBER	NUMBER	CAL.					
Spectrum Analyzer	Agilent	N9010A	MY53400256	10/15/2014	10/14/2015				
Communication Tester	Anritsu	MT8820C	6201107337	05/27/2015	05/26/2016				
Coaxial Cable 30cm	WOKEN	00100A1F1A 195C	RF01	12/19/2014	12/18/2015				
Temperature Chamber	TERCHY	MHK-120LK	1020582	06/18/2015	06/17/2016				
DC Block	PASTERNACK	PE8210	RF29	12/19/2014	12/18/2015				
Splitter	RF-LAMBAD	RFLT2W1G1 8G	RF35	12/19/2014	12/18/2015				
Attenuator	WOKEN	218FS-10	RF23	12/19/2014	12/18/2015				
DC Power Supply	Agilent	E3640A	MY53140006	05/04/2015	05/03/2016				

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#### 12.5. Measurement Result

#### **Tabular Results:**

Frequency			Peak-to-Average Ratio (dB)				
(MHz)	CII	WCDMA II	HSDPA II	HSUPA II			
1712.40	1312	3.16	3.74	3.64			
1732.60	1413	3.24	3.63	3.85			
1752.6	1513	2.96	4.11	3.80			

			LTE B	AND 4			
Channel bandwidth: 1.4MHz				Cha	nnel bar	ndwidth: 3N	lHz
Frequency CH		Peak-to-Average Ra- tio (dB)		Frequency	СН	Peak-to-Average Ra- tio (dB)	
(MHz)		16QAM	LIMIT	(MHz)		16QAM	LIMIT
1710.7	19957	6.26	13	1711.5	19965	6.40	13
1732.5	20175	6.66	13	1732.5	20175	6.51	13
1754.3	20393	6.62	13	1753.5	20385	6.52	13

LTE BAND 4									
Channel bandwidth: 5MHz				Chai	nnel ban	dwidth: 10N	ЛНz		
Frequency CH		Peak-to-Average Ra- tio (dB)		Frequency	СН	Peak-to-Average Ra- tio (dB)			
(MHz)		16QAM LIMIT	(MHz)	•	16QAM	LIMIT			
1712.5	19957	6.14	13	1715.0	20000	6.27	13		
1732.5	20175	6.26	13	1732.5	20175	6.22	13		
1752.5	20375	6.23	13	1750.0	20350	6.25	13		

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LTE BAND 4									
Cha	nnel baı	ndwidth: 15	MHz	Chai	nnel ban	dwidth: 20N	ИHz		
Frequency CH		Peak-to-Average Ra- tio (dB)		Frequency	СН	Peak-to-Average Ra- tio (dB)			
(MHz)		16QAM	LIMIT	(MHz)		16QAM	LIMIT		
1717.5	20025	6.16	13	1720.0	20050	5.69	13		
1732.5	20175	6.21	13	1732.5	20175	5.78	13		
1747.5	20325	6.16	13	1745.0	20300	5.70	13		

LTE BAND 7									
Channel bandwidth: 5MHz				Chai	nnel ban	dwidth: 10N	ЛНz		
Frequency			Frequency	СН	Peak-to-Average Ra- tio (dB)				
(MHz)		16QAM	LIMIT	(MHz)		16QAM	LIMIT		
2502.5	20775	5.39	13	2505.0	20800	5.69	13		
2535.0	21100	6.22	13	2535.0	21100	6.28	13		
2567.5	21425	6.17	13	2565.0	21400	6.23	13		

LTE BAND 7									
Channel bandwidth: 15MHz				Chai	nnel ban	dwidth: 20N	ЛHz		
Frequency		Peak-to-Average Ra- tio (dB)		Frequency	СН	Peak-to-Average Ra- tio (dB)			
(MHz)		16QAM	LIMIT	(MHz)		16QAM	LIMIT		
2507.5	20425	6.12	13	2510.0	20850	5.79	13		
2535.0	20525	6.19	13	2535.0	21100	5.73	13		
2562.5	20625	6.35	13	2560.0	21350	5.78	13		

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#### **Measurement Results:**

#### **WCDMA Band II Channel Low**



#### WCDMA Band II Channel Mid



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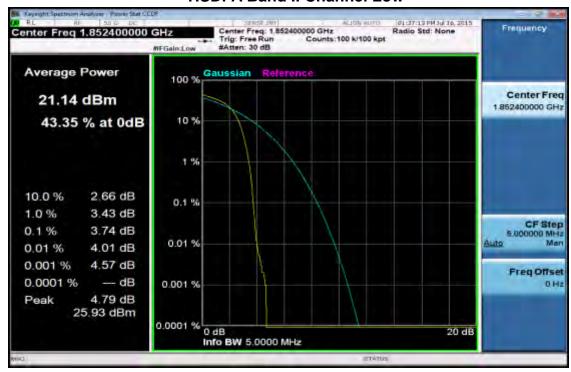
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# **WCDMA Band II Channel High**



### **HSDPA Band II Channel Low**



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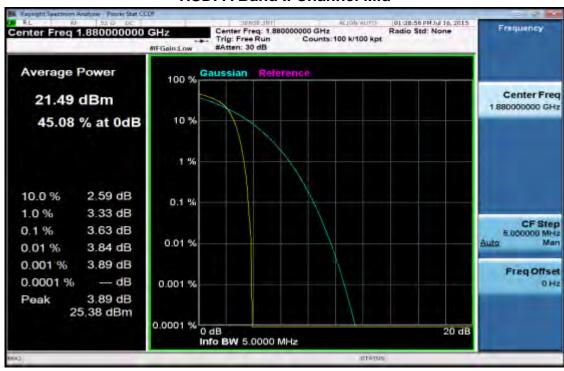
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#### **HSDPA Band II Channel Mid**



### **HSDPA Band II Channel High**



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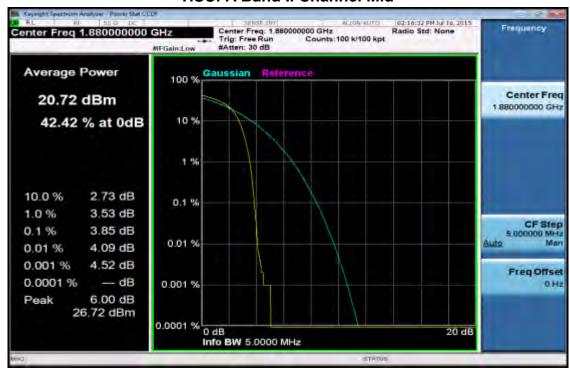
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#### **HSUPA Band II Channel Low**



#### **HSUPA Band II Channel Mid**



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### **HSUPA Band II Channel High**



### 1.4MHz BW LTE-Band 4(16QAM Number: 6 Offset: 0) Channel Low



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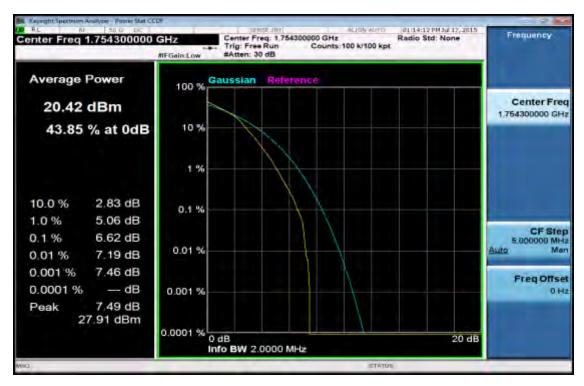
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### 1.4MHz BW LTE-Band 4(16QAM Number: 6 Offset: 0) Channel Mid



## 1.4MHz BW LTE-Band 4(16QAM Number: 6 Offset: 0) Channel High



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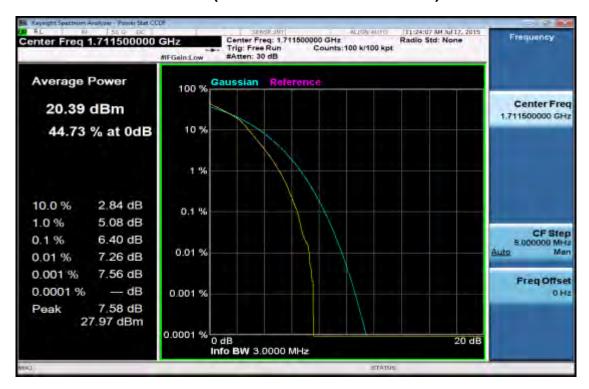
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### 3MHz BW LTE-Band 4(16QAM Number: 15 Offset: 0) Channel Low



## 3MHz BW LTE-Band 4(16QAM Number: 15 Offset: 0) Channel Mid



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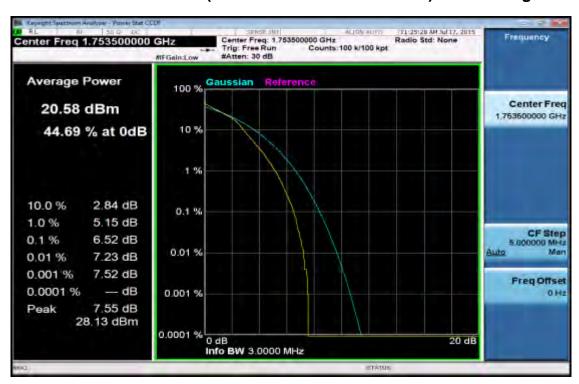
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#### 3MHz BW LTE-Band 4(16QAM Number: 15 Offset: 0) Channel High



## 5MHz BW LTE-Band 4(16QAM Number: 25 Offset: 0) Channel Low



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### 5MHz BW LTE-Band 4(16QAM Number: 25 Offset: 0) Channel Mid



### 5MHz BW LTE-Band 4(16QAM Number: 25 Offset: 0) Channel High



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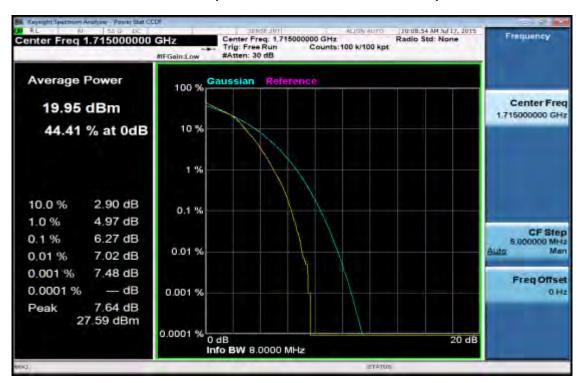
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### 10MHz BW LTE-Band 4(16QAM Number: 50 Offset: 0) Channel Low



### 10MHz BW LTE-Band 4(16QAM Number: 50 Offset: 0) Channel Mid



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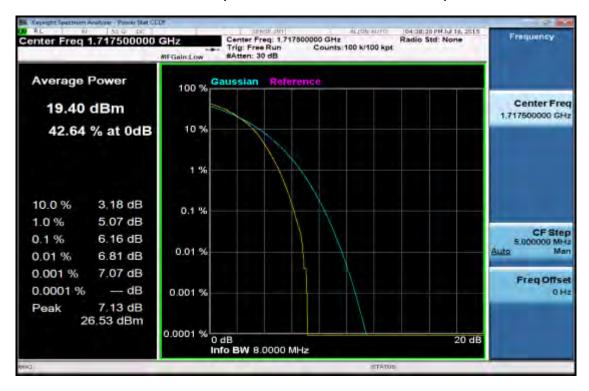
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### 10MHz BW LTE-Band 4(16QAM Number: 50 Offset: 0) Channel High



# 15MHz BW LTE-Band 4(16QAM Number: 75 Offset: 0) Channel Low



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### 15MHz BW LTE-Band 4(16QAM Number: 75 Offset: 0) Channel Mid



### 15MHz BW LTE-Band 4(16QAM Number: 75 Offset: 0) Channel High



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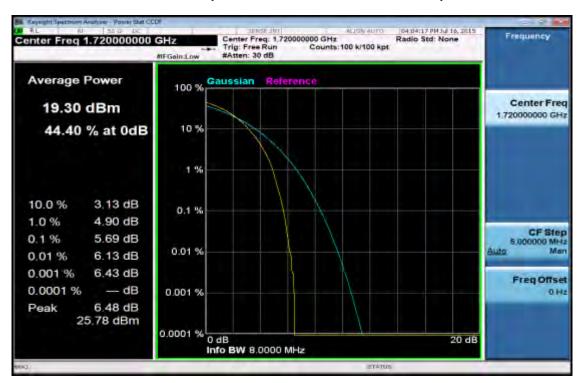
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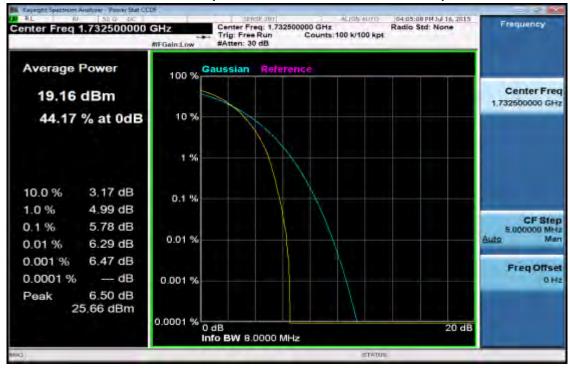
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### 20MHz BW LTE-Band 4(16QAM Number: 100 Offset: 0) Channel Low



### 20MHz BW LTE-Band 4(16QAM Number: 100 Offset: 0) Channel Mid



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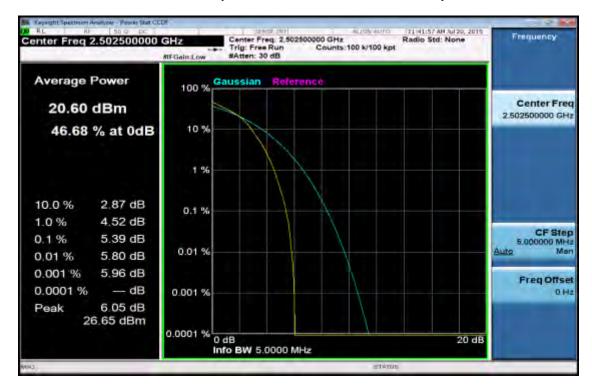
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### 20MHz BW LTE-Band 4(16QAM Number: 100 Offset: 0) Channel High



5MHz BW LTE-Band 7(16QAM Number: 25 Offset: 0) Channel Low



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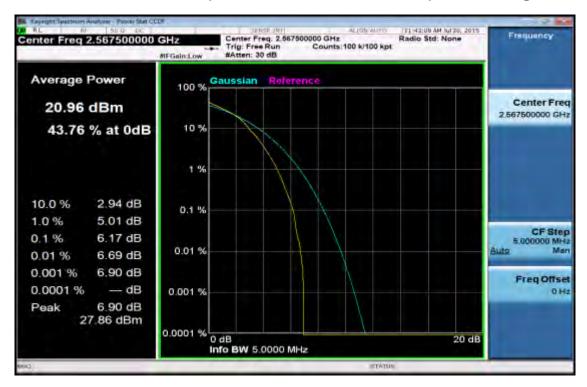
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5MHz BW LTE-Band 7(16QAM Number: 25 Offset: 0) Channel Mid



### 5MHz BW LTE-Band 7(16QAM Number: 25 Offset: 0) Channel High



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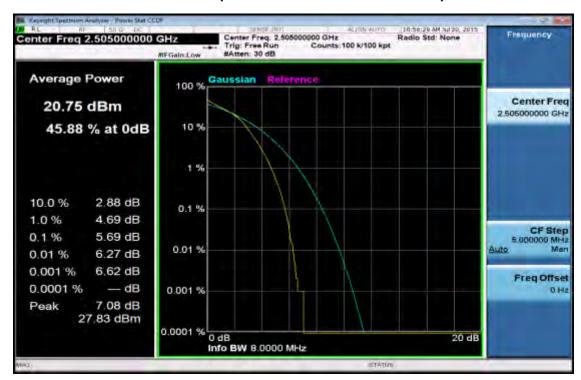
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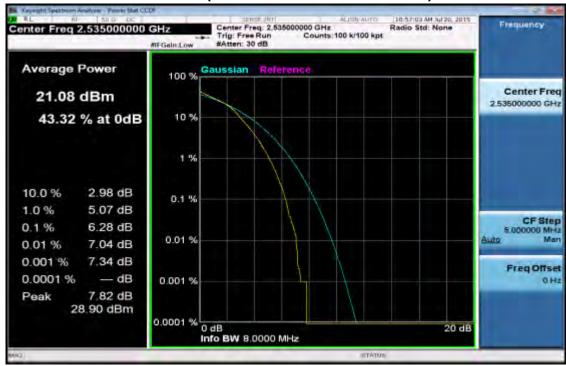
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#### 10MHz BW LTE-Band 7(16QAM Number: 50 Offset: 0) Channel Low



#### 10MHz BW LTE-Band 7(16QAM Number: 50 Offset: 0) Channel Mid



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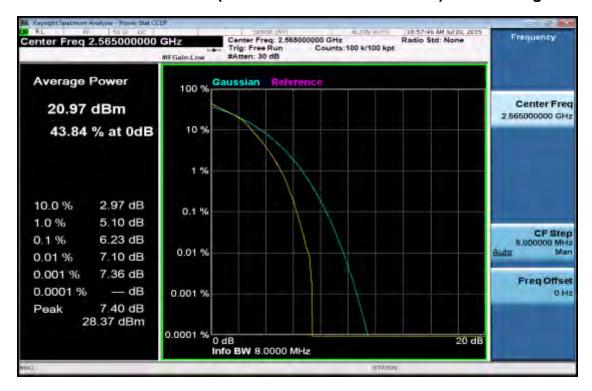
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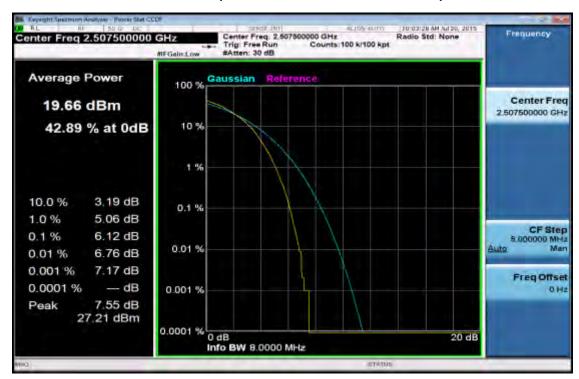
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#### 10MHz BW LTE-Band 7(16QAM Number: 50 Offset: 0) Channel High



### 15MHz BW LTE-Band 7(16QAM Number: 75 Offset: 0) Channel Low



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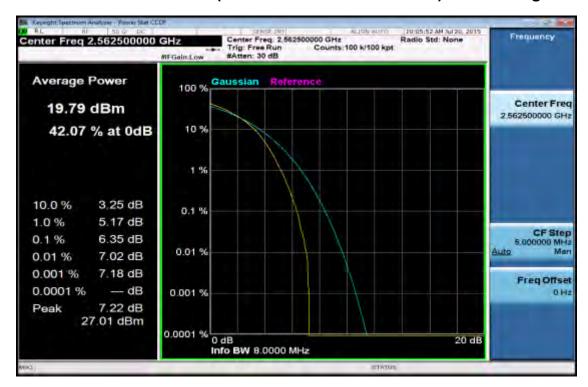
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#### 15MHz BW LTE-Band 7(16QAM Number: 75 Offset: 0) Channel Mid



### 15MHz BW LTE-Band 7(16QAM Number: 75 Offset: 0) Channel High



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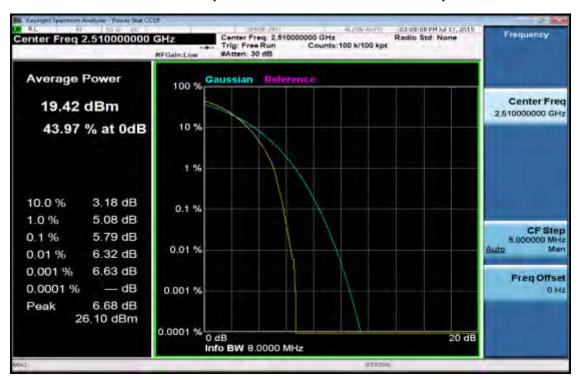
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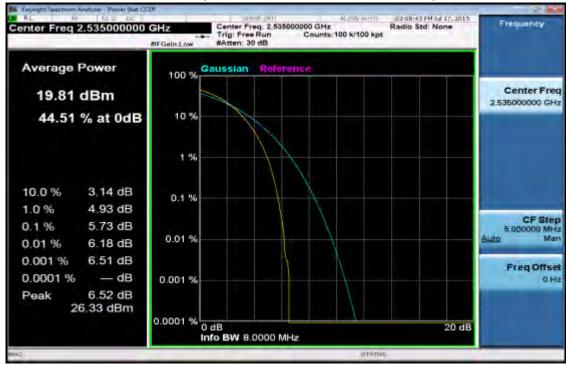
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#### 20MHz BW LTE-Band 7(16QAM Number: 100 Offset: 0) Channel Low



### 20MHz BW LTE-Band 7(16QAM Number: 100 Offset: 0) Channel Mid



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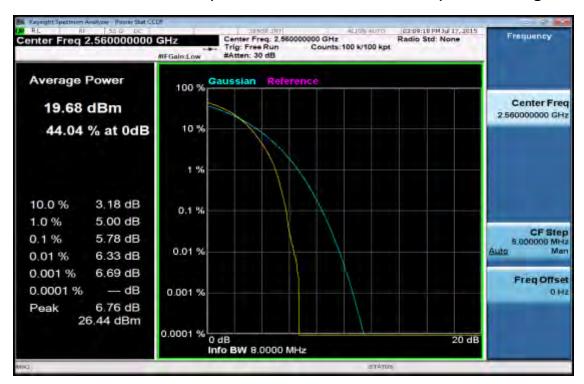
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### 20MHz BW LTE-Band 7(16QAM Number: 100 Offset: 0) Channel High



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