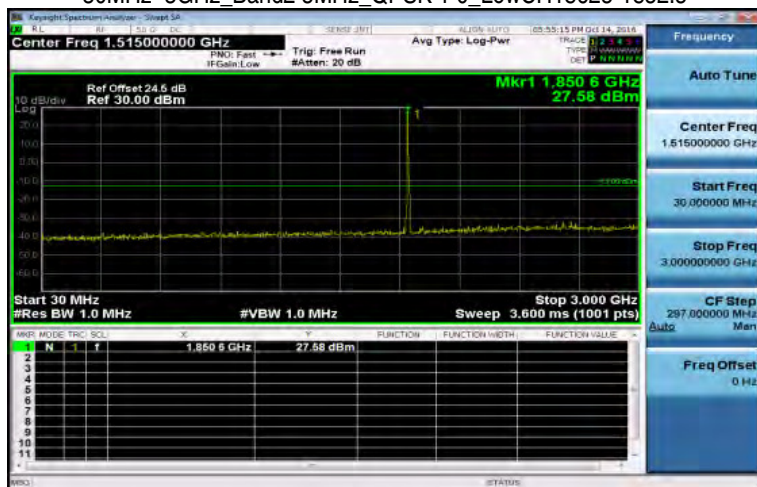
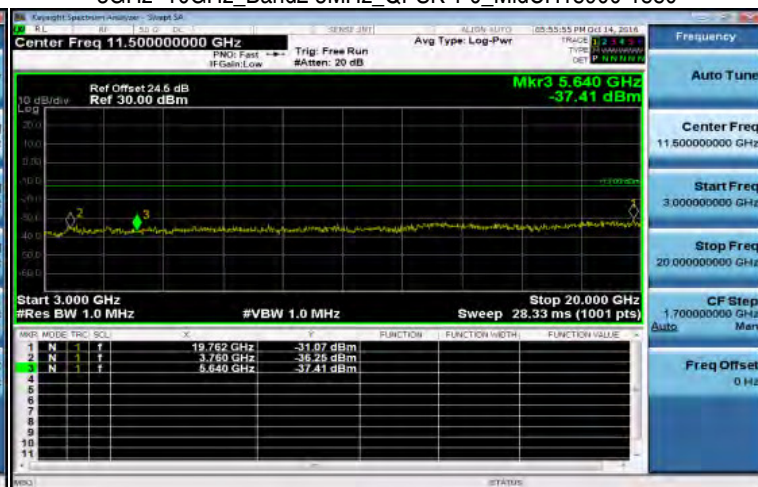


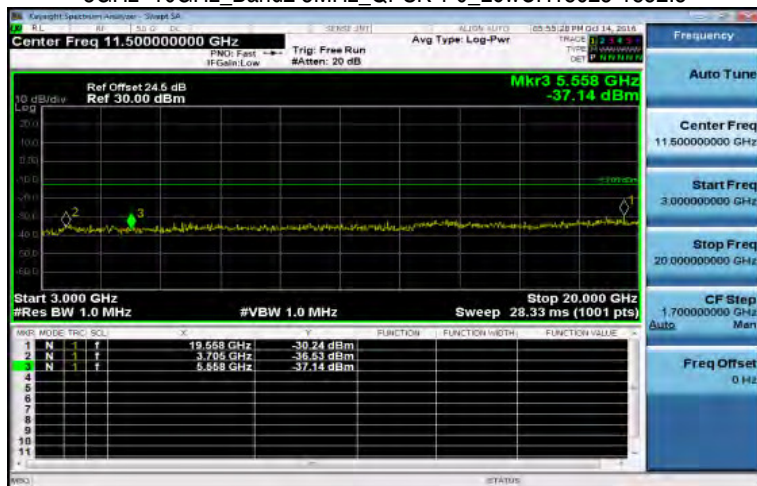
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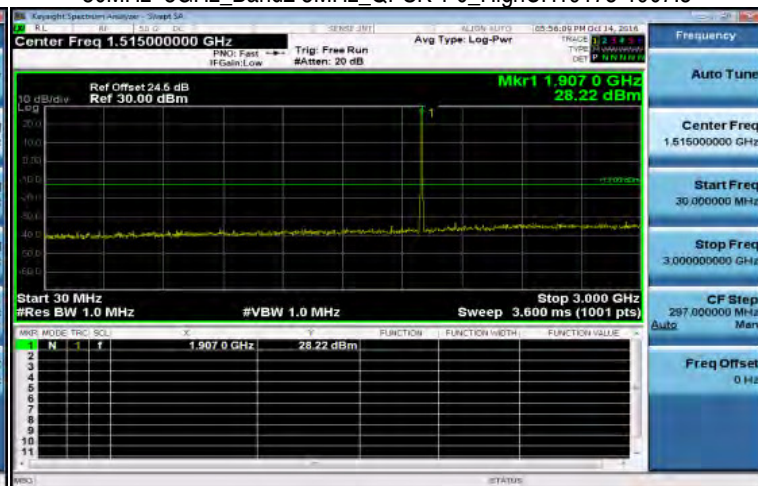
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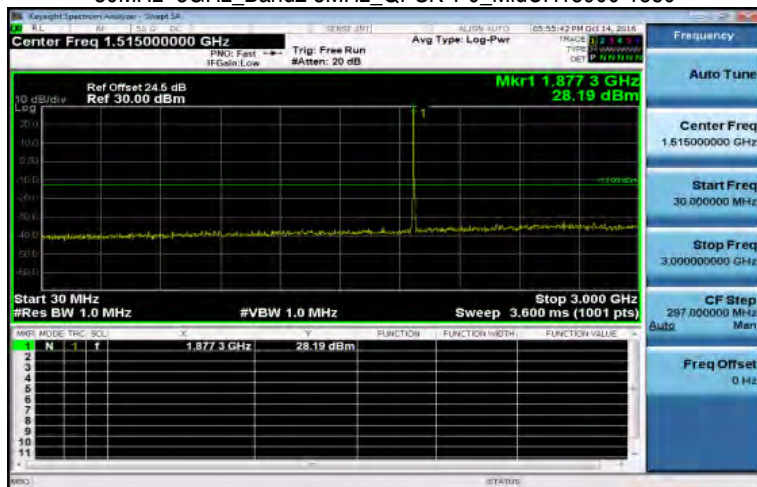
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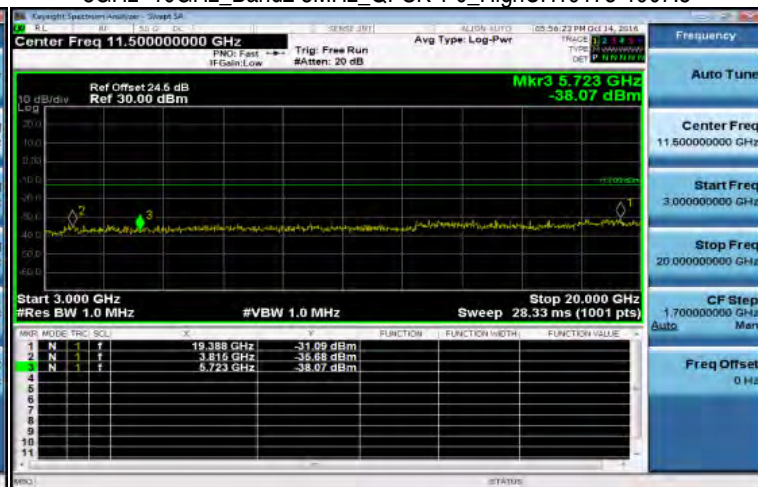
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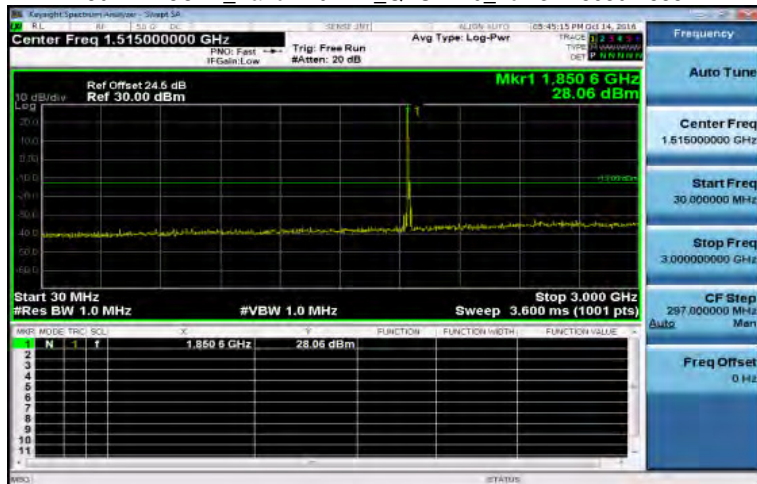


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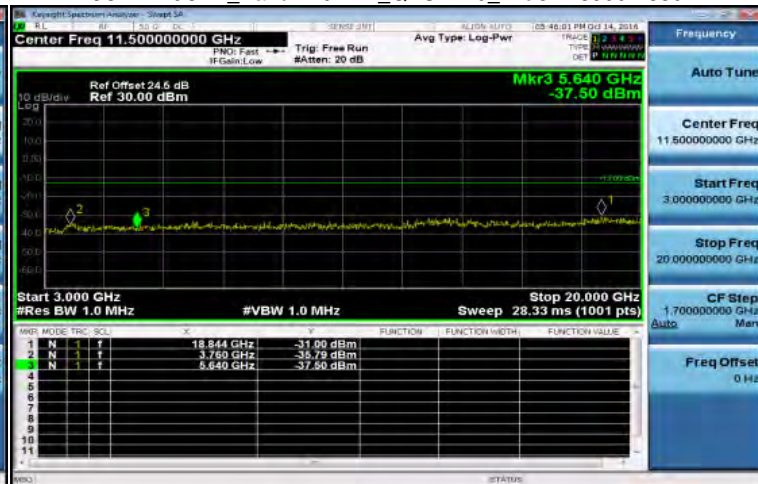
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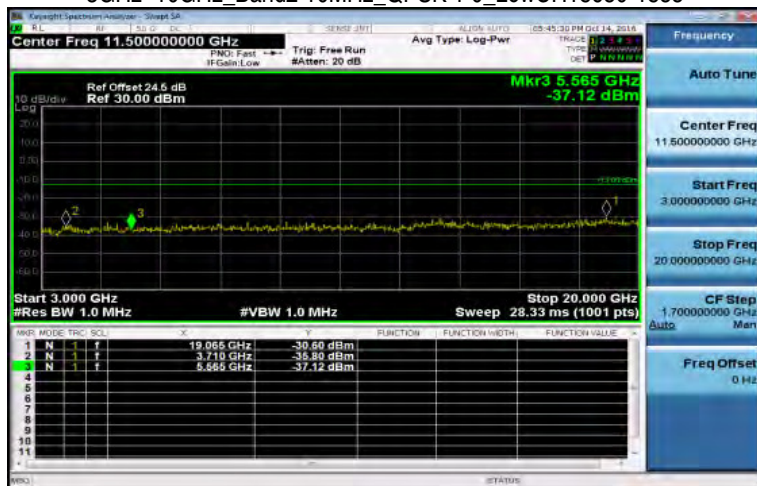
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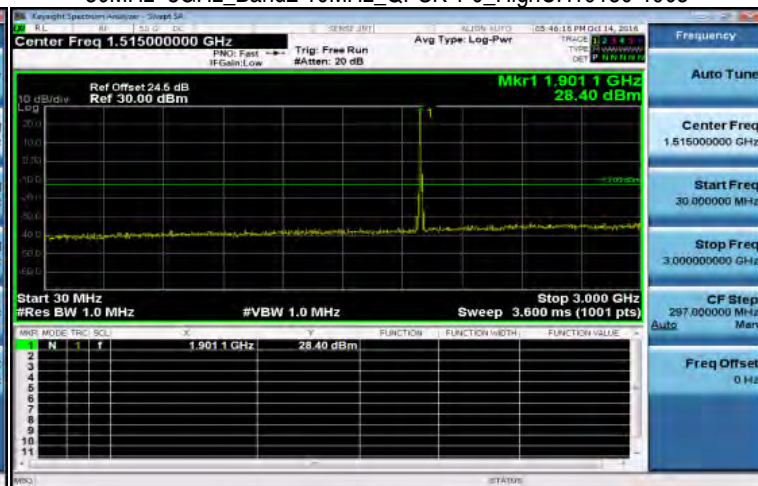
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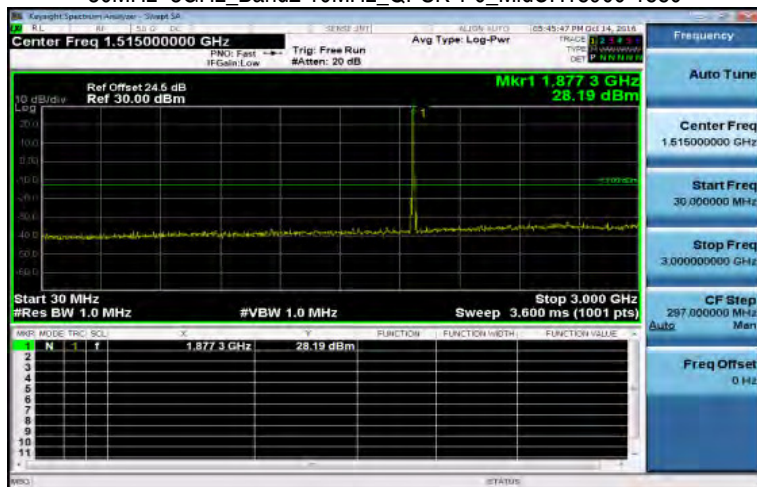
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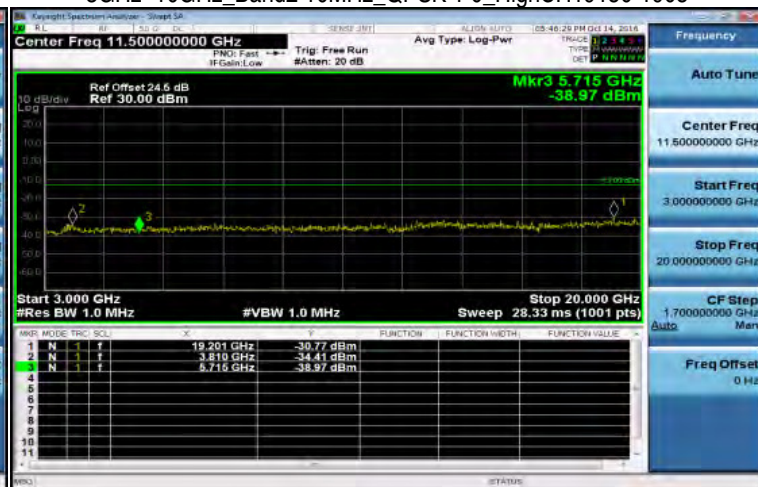
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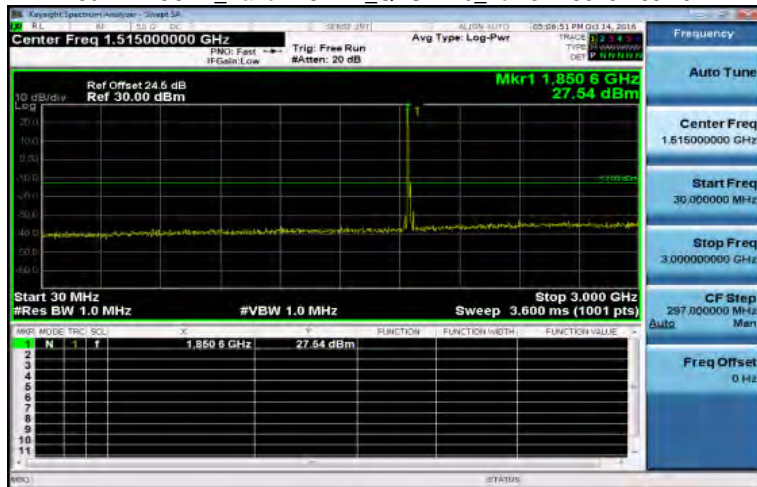


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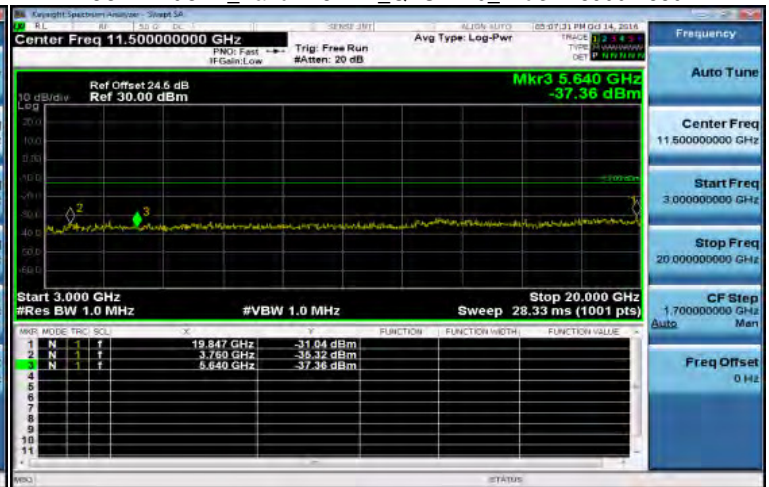
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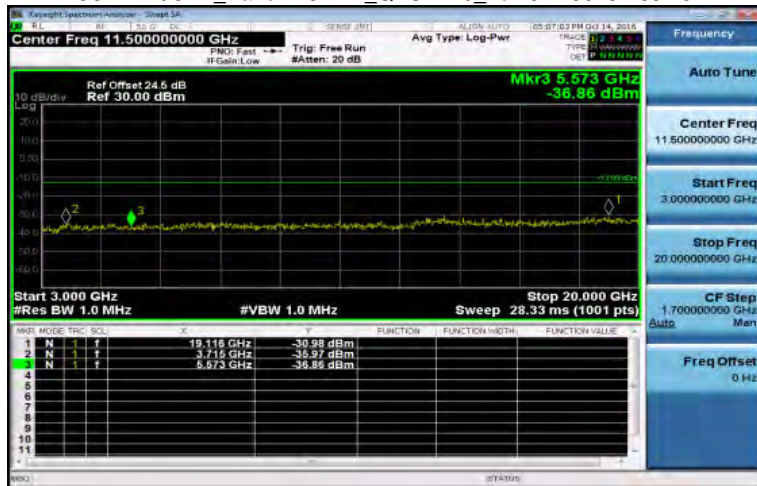
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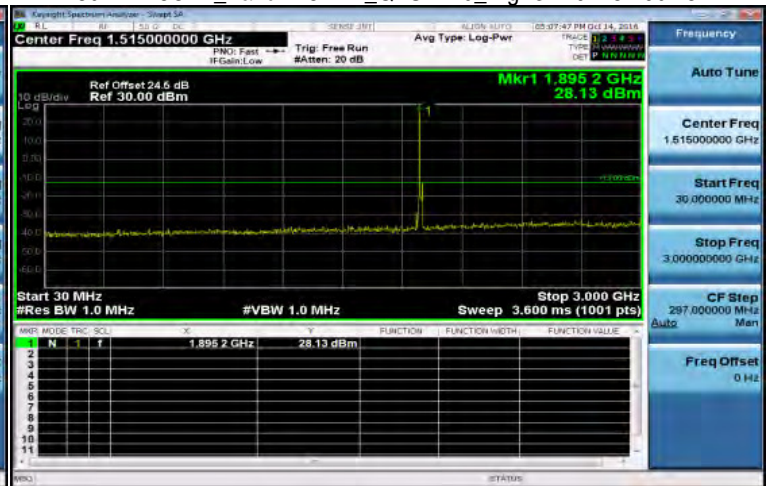
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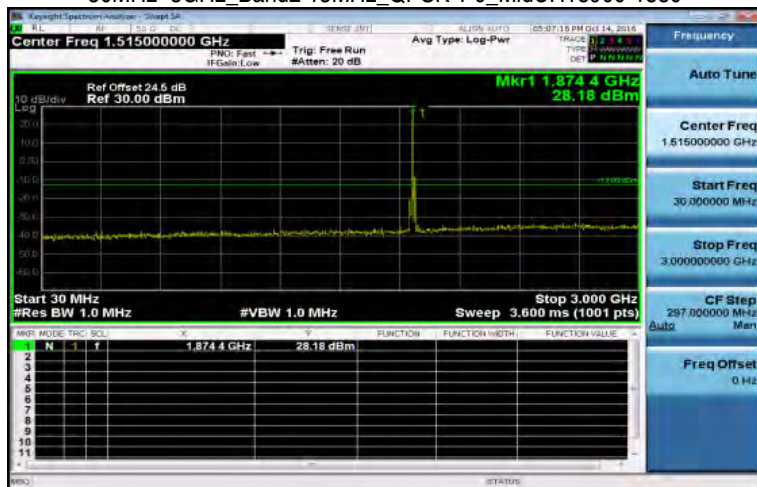
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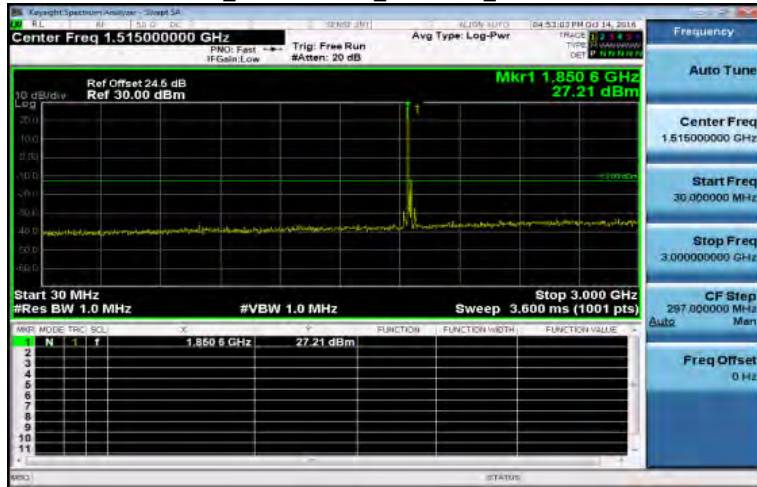


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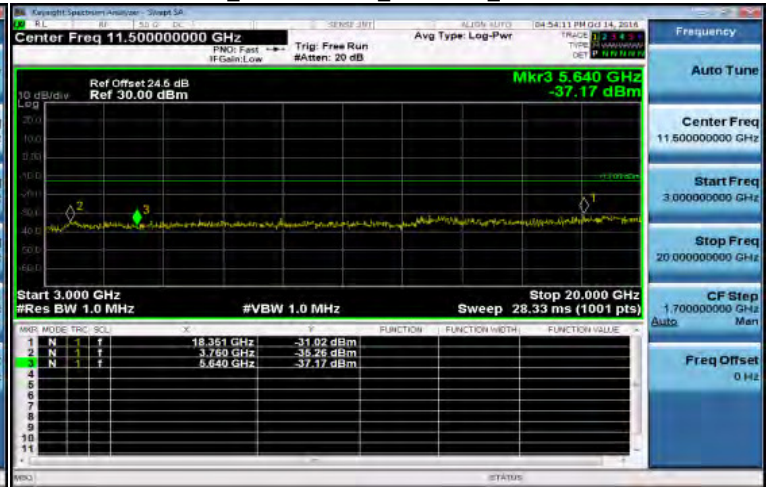
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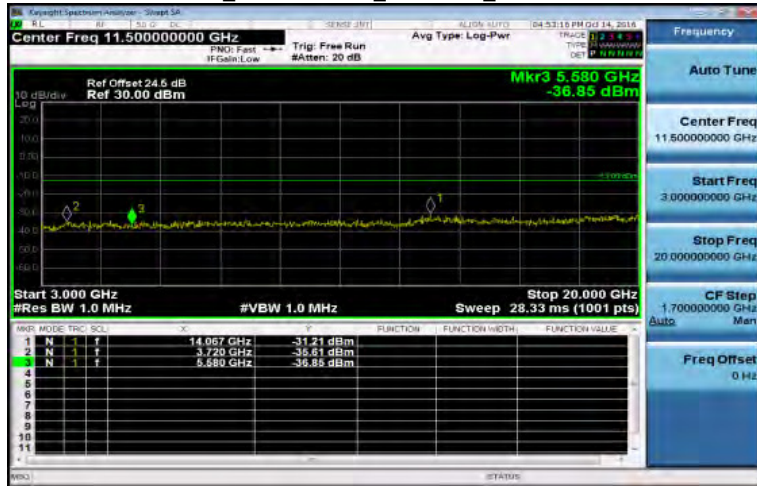
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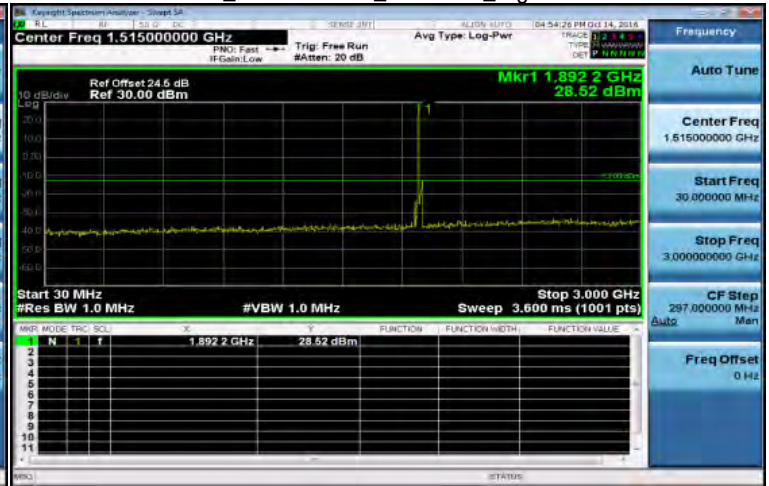
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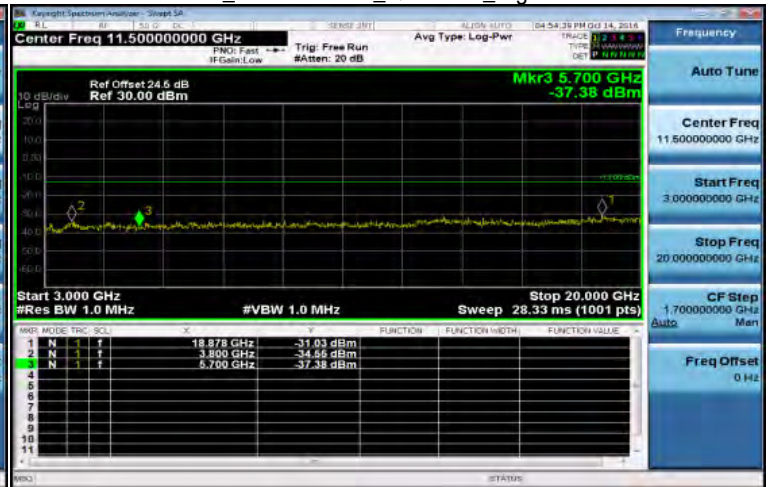
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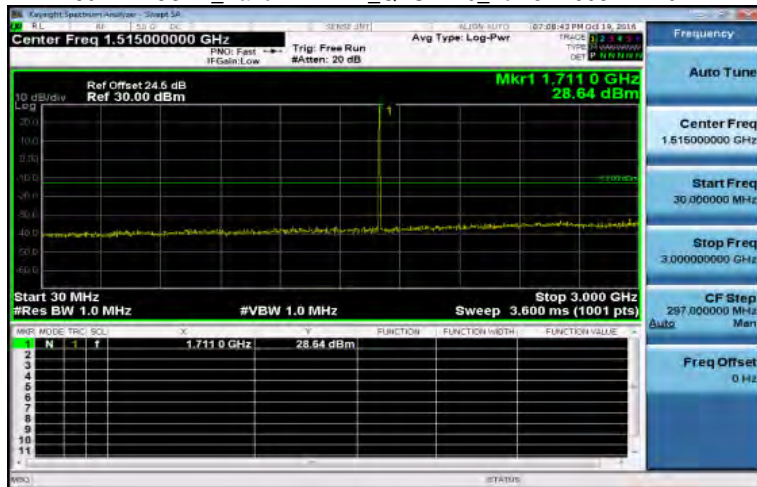


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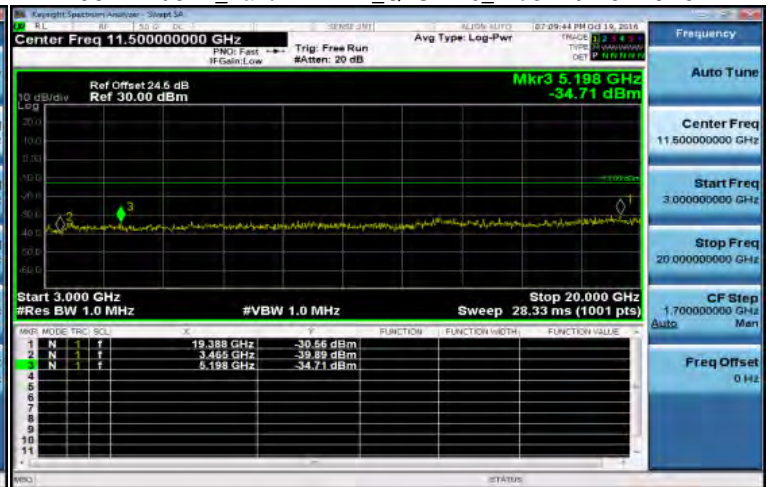
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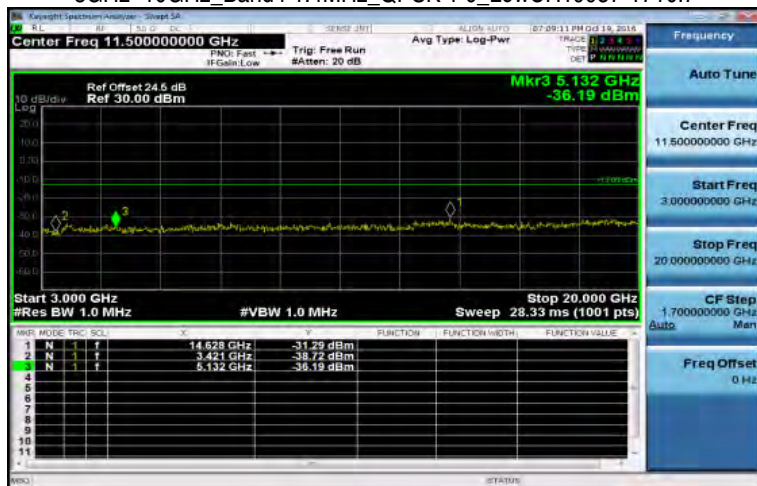
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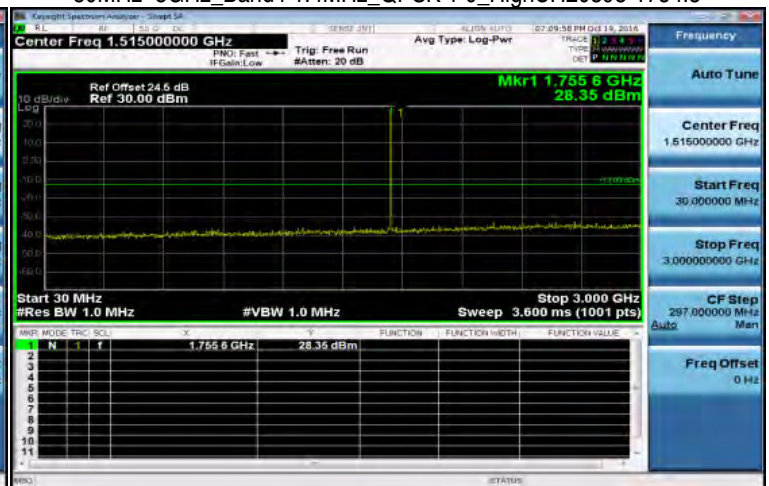
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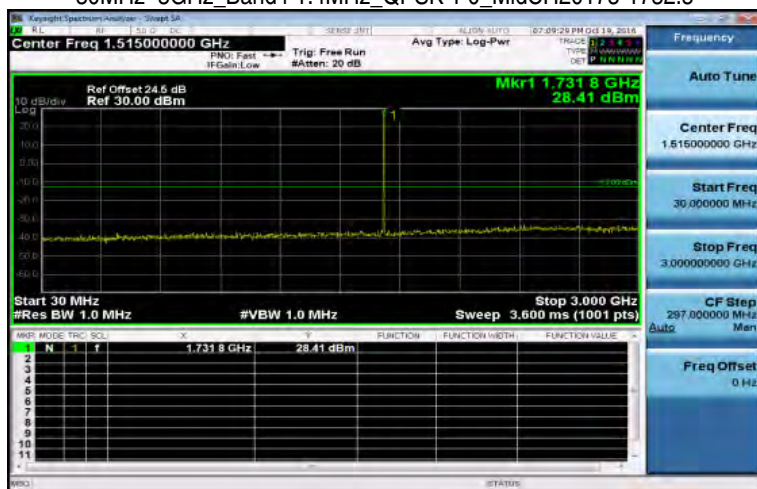
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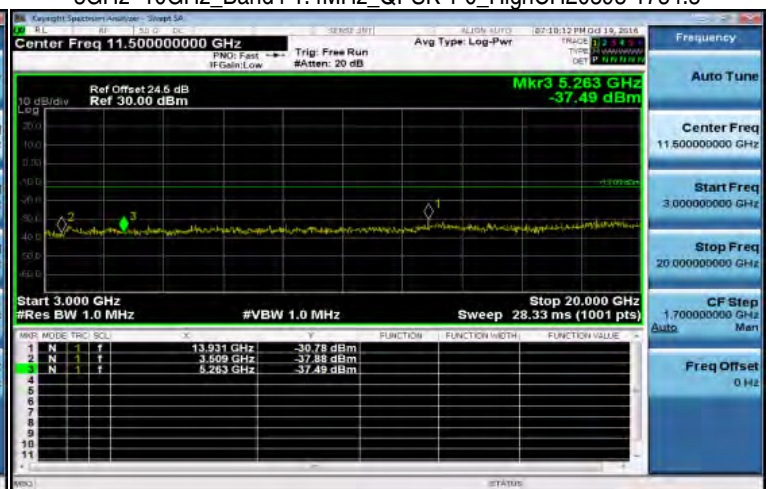
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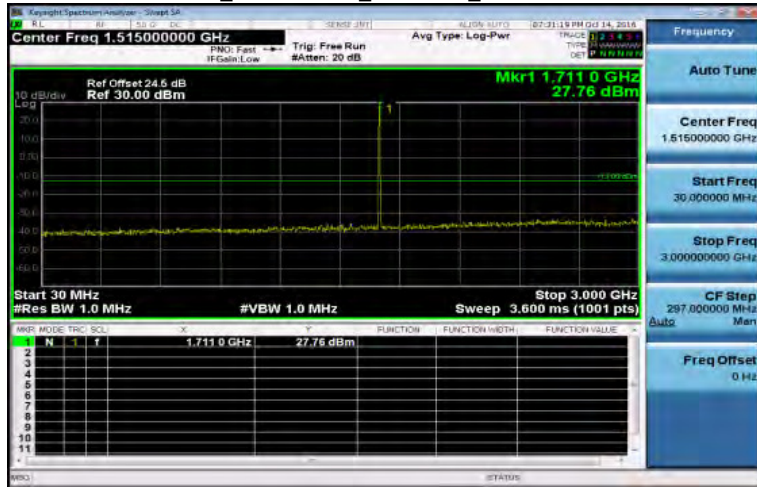


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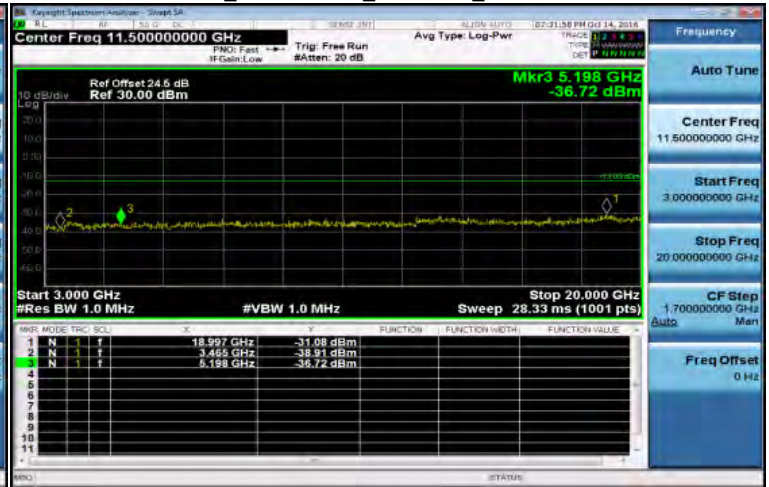
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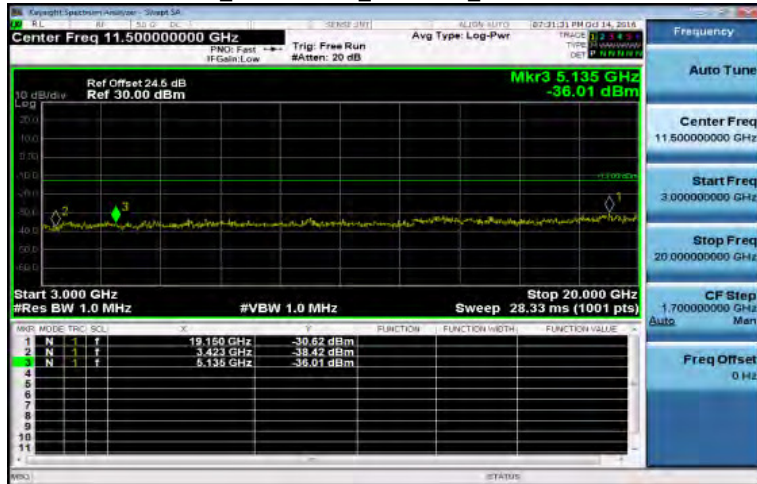
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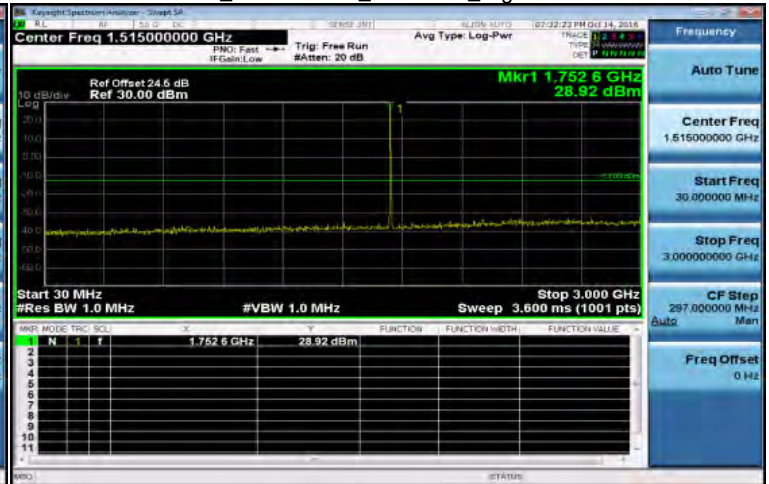
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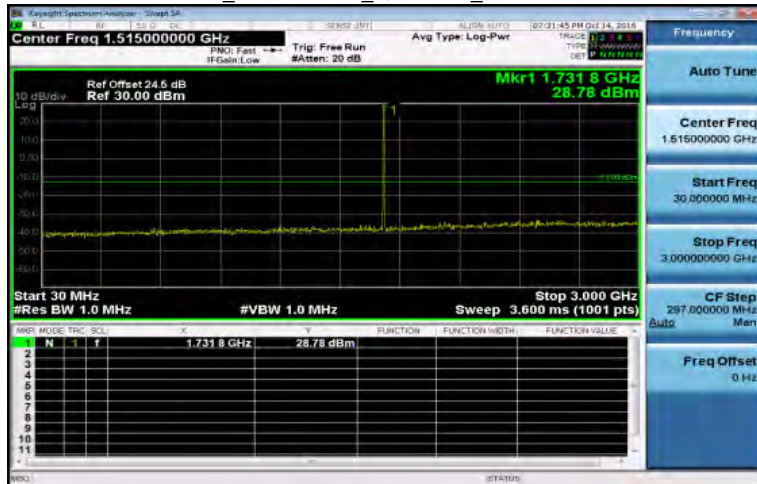
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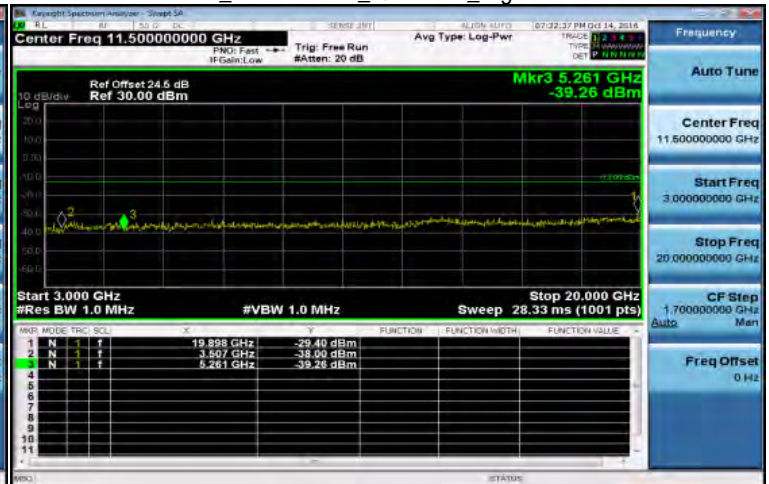
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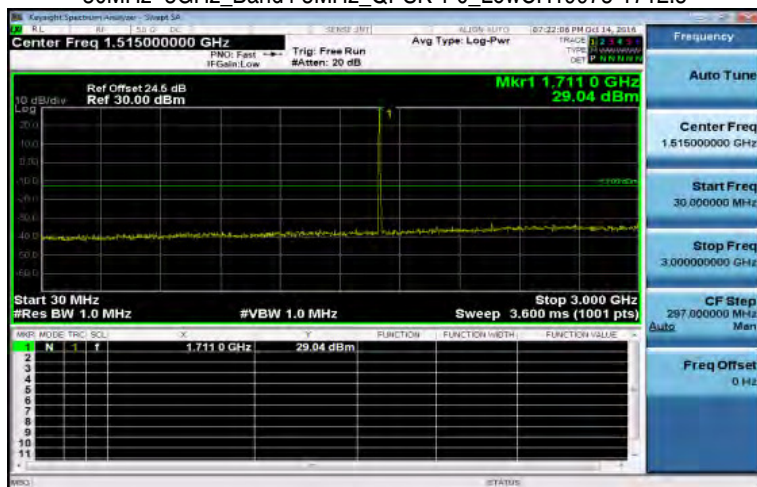


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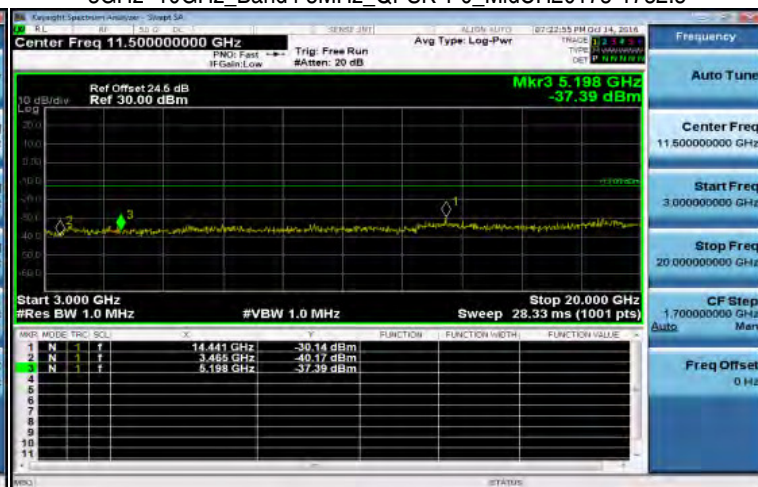
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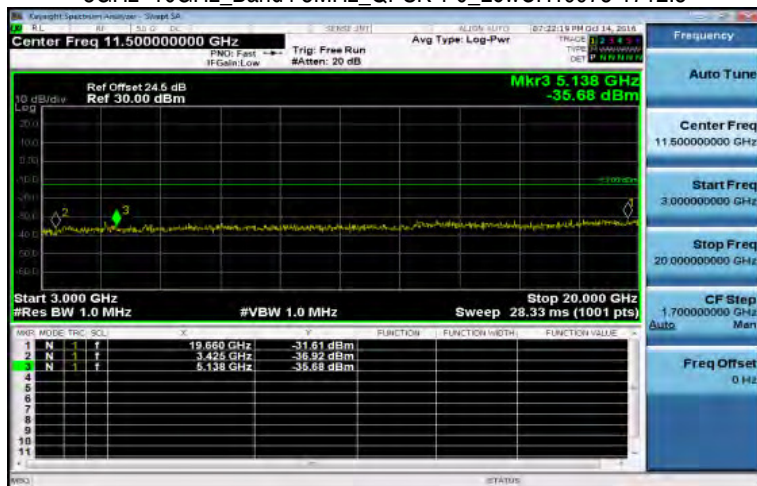
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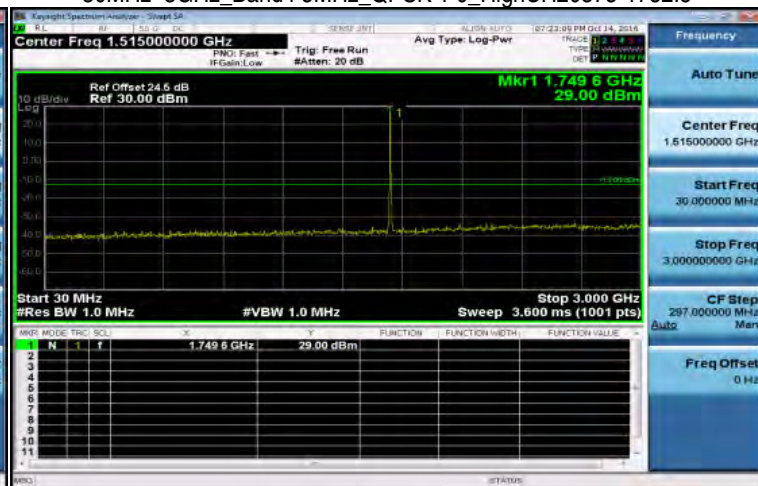
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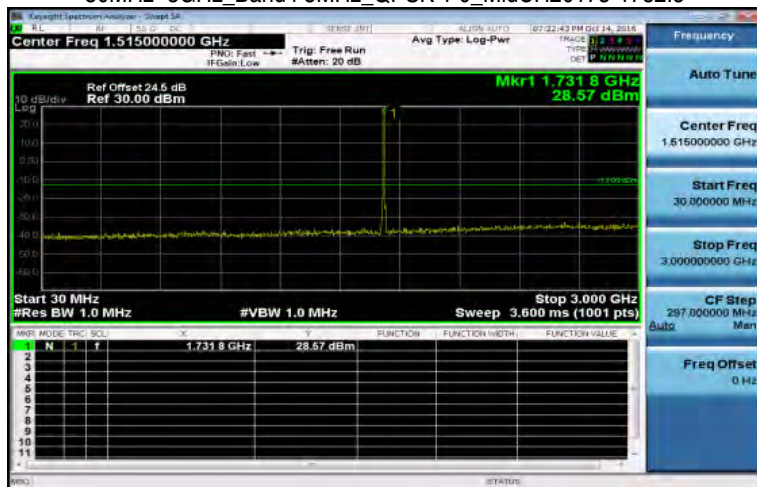
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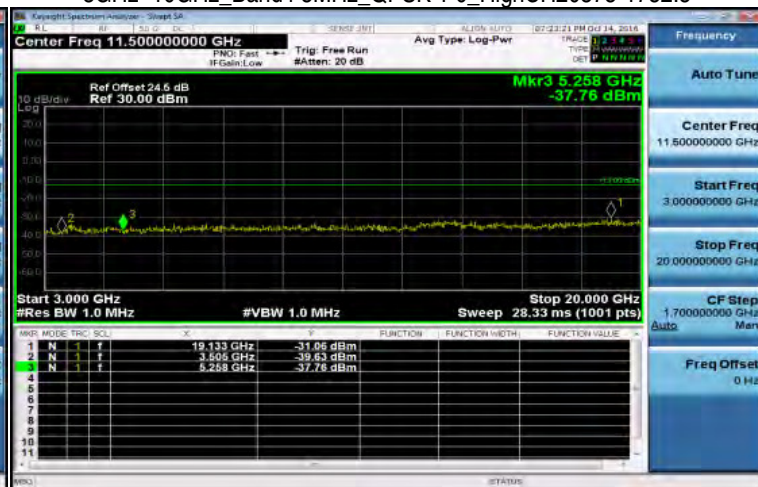
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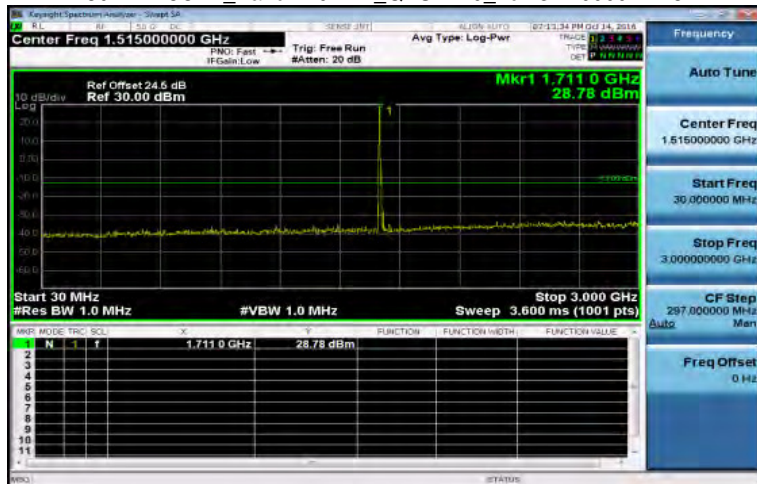


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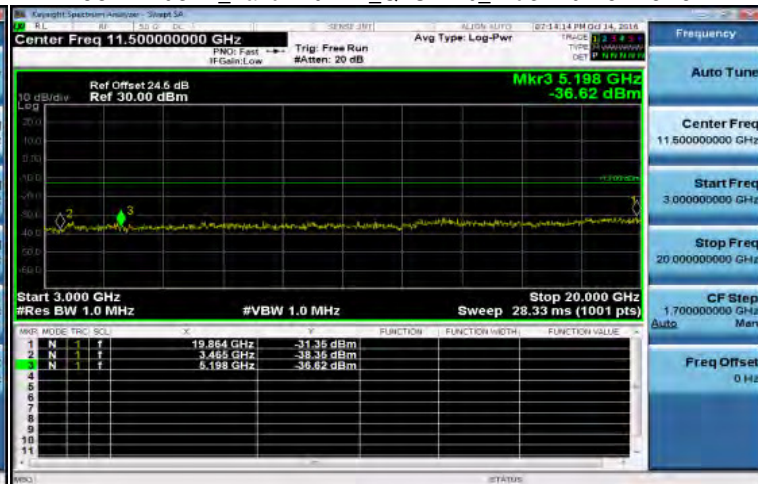
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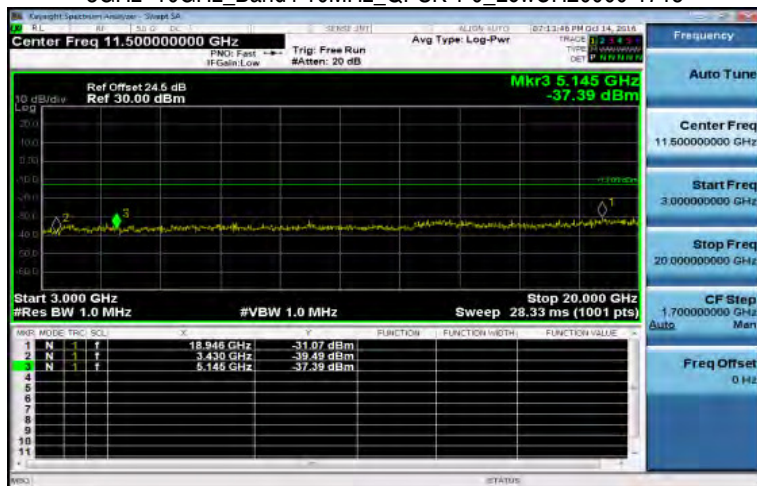
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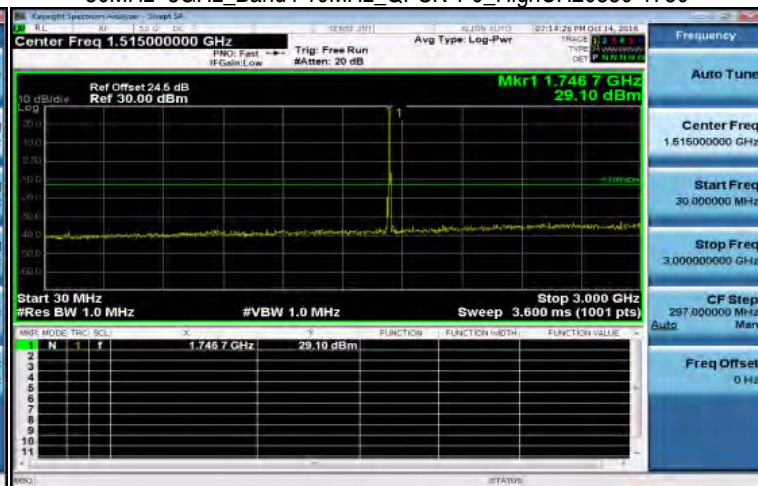
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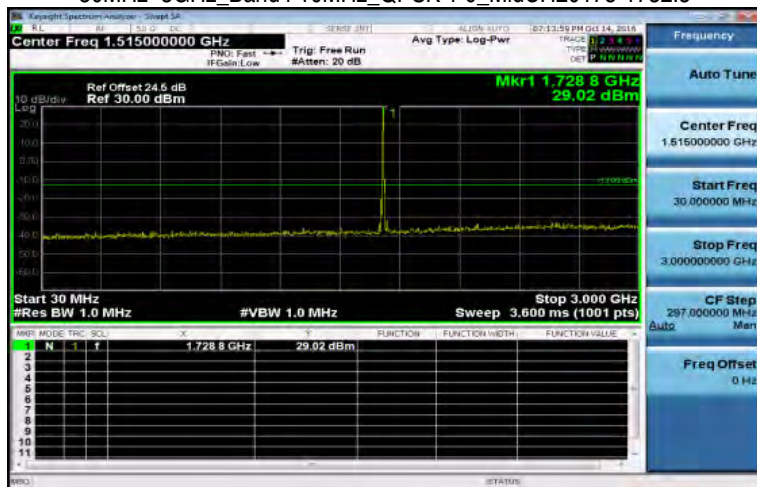
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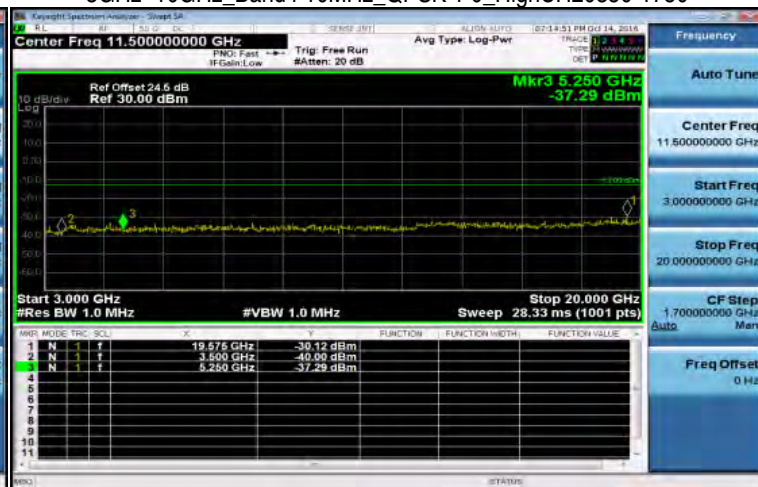
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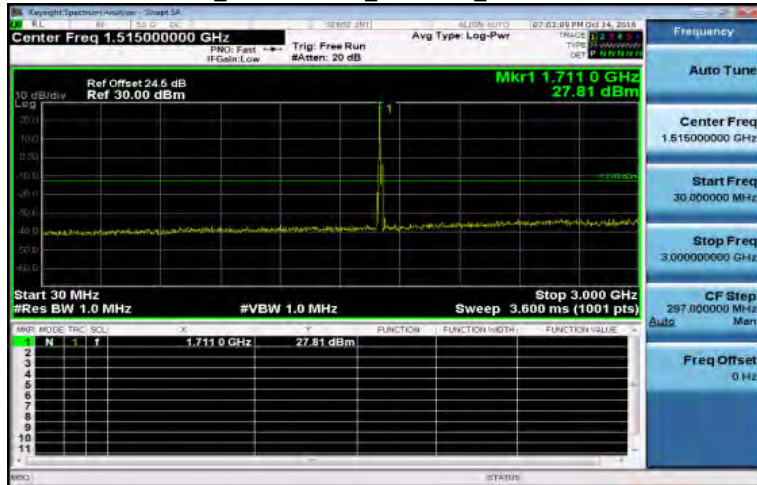


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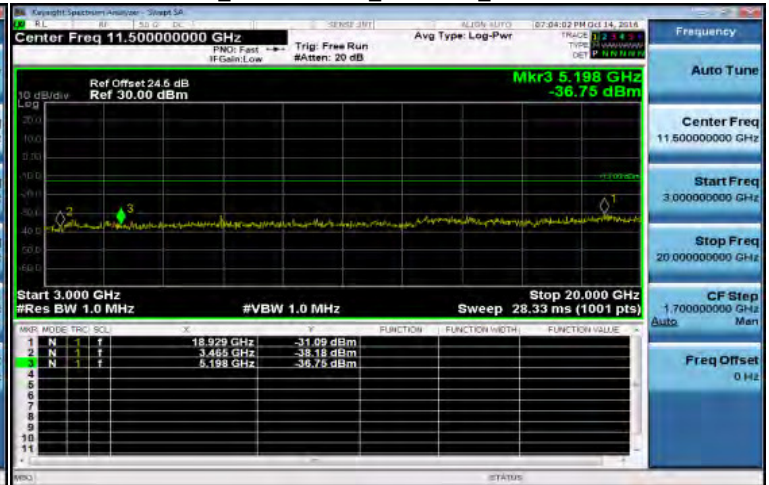
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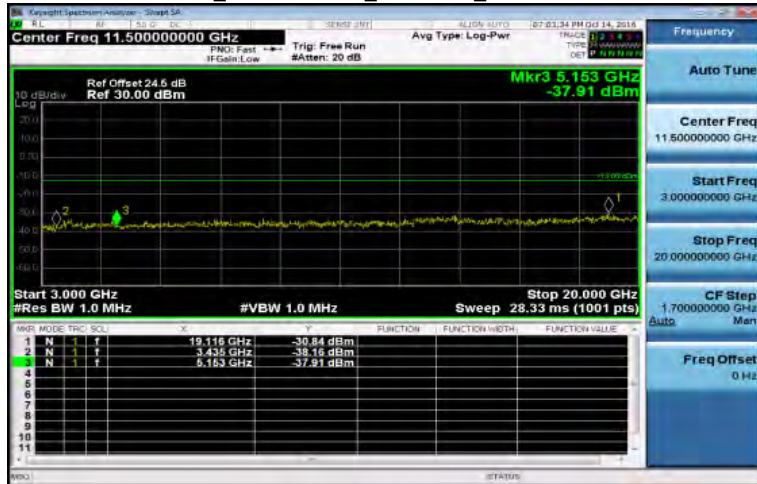
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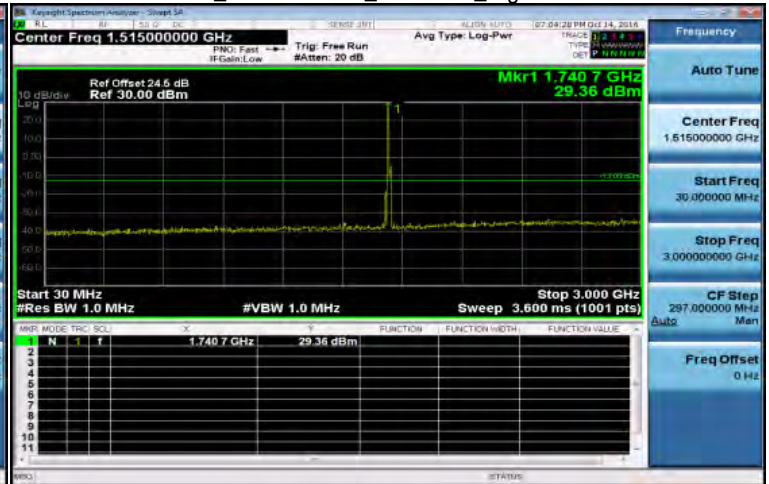
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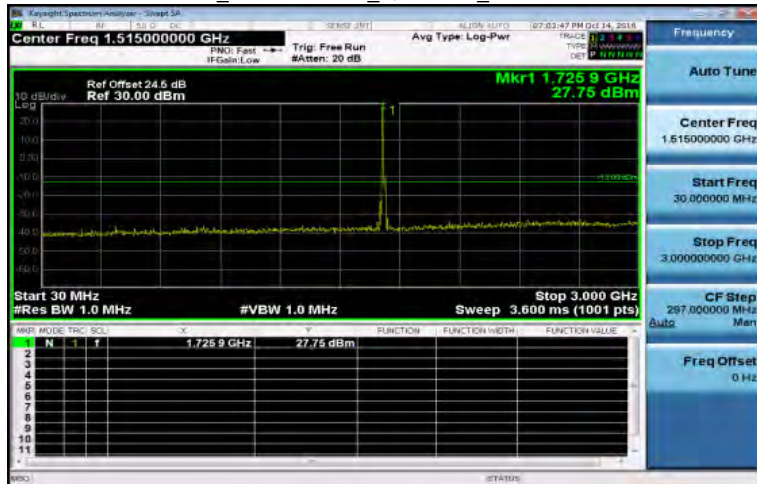
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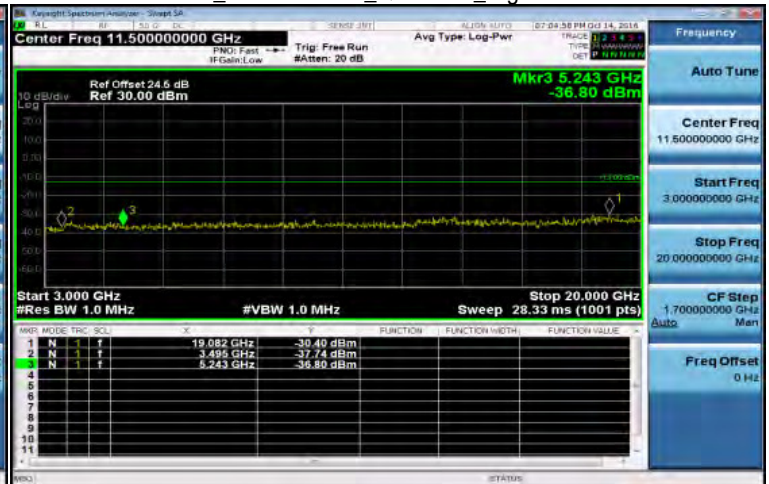
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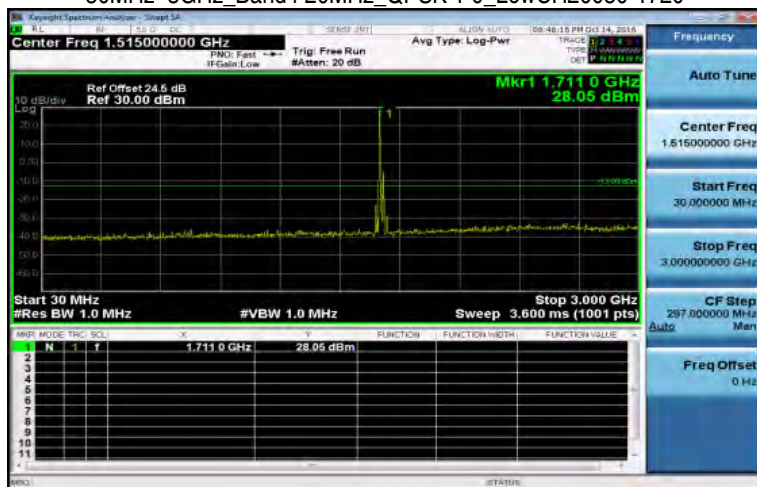


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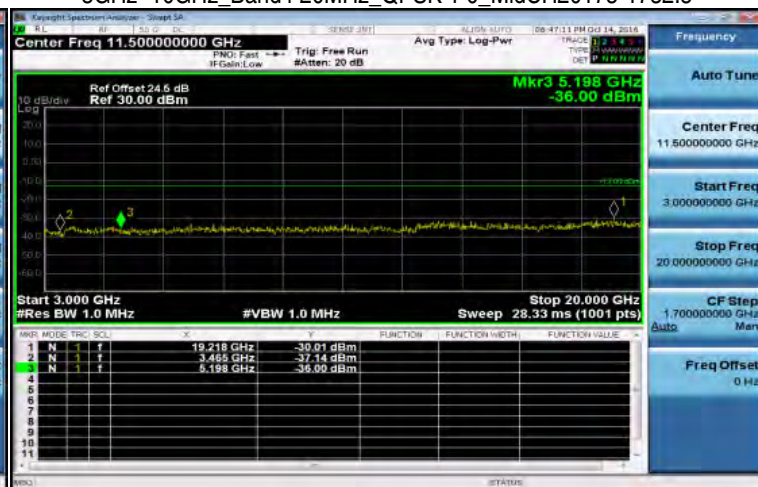
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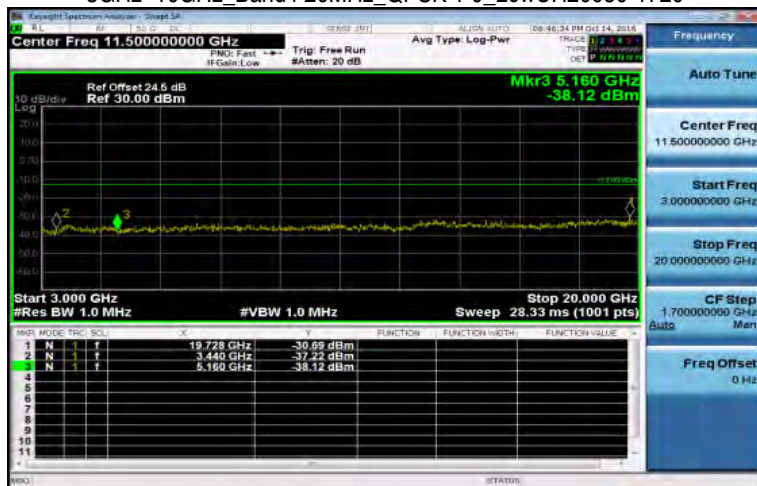
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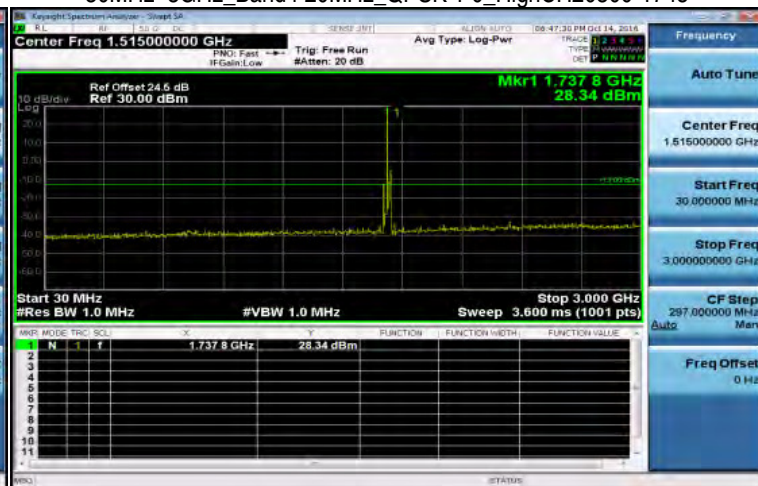
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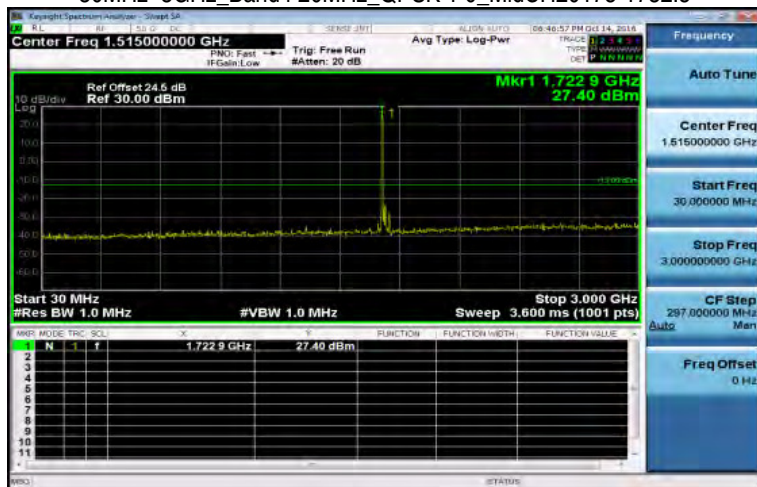
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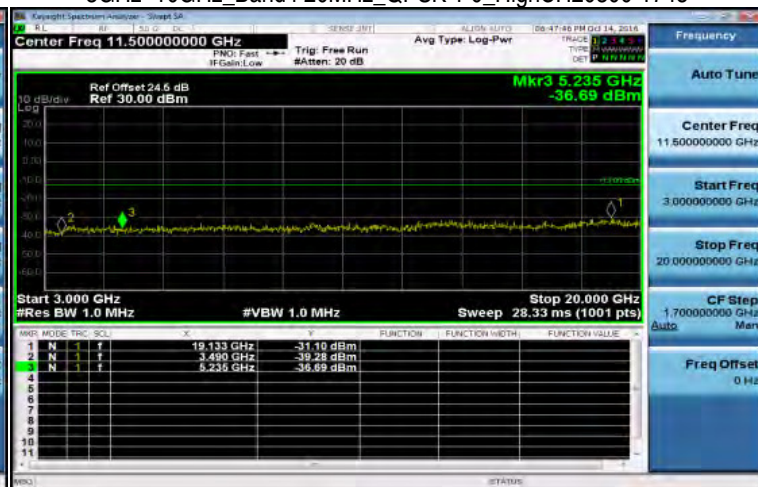
30MHz~3GHz_Band4 20MHz_QPSK 1 0_HighCH20300-1745



30MHz~3GHz_Band4 20MHz_QPSK 1 0_MidCH20175-1732.5



3GHz~10GHz_Band4 20MHz_QPSK 1 0_HighCH20300-1745



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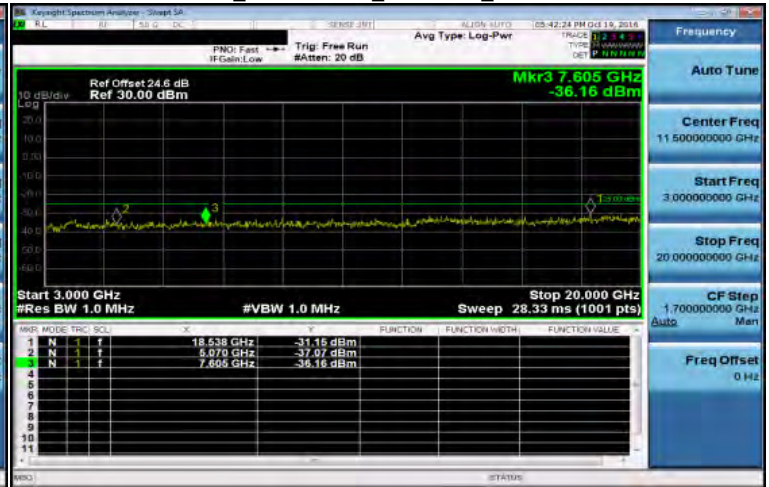
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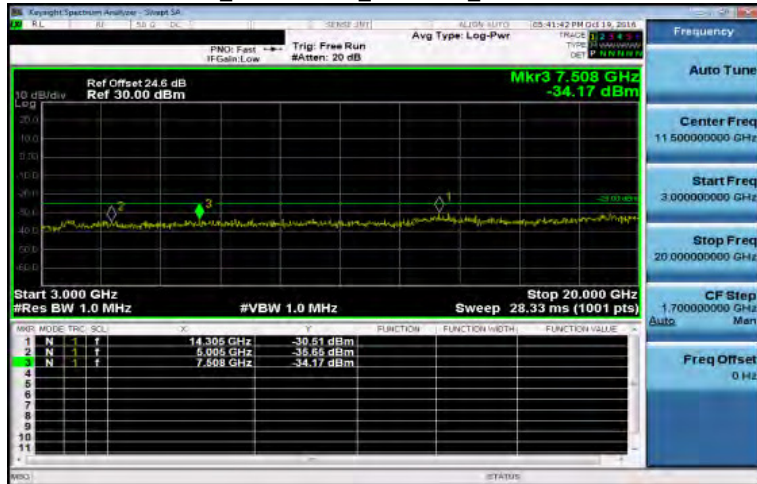
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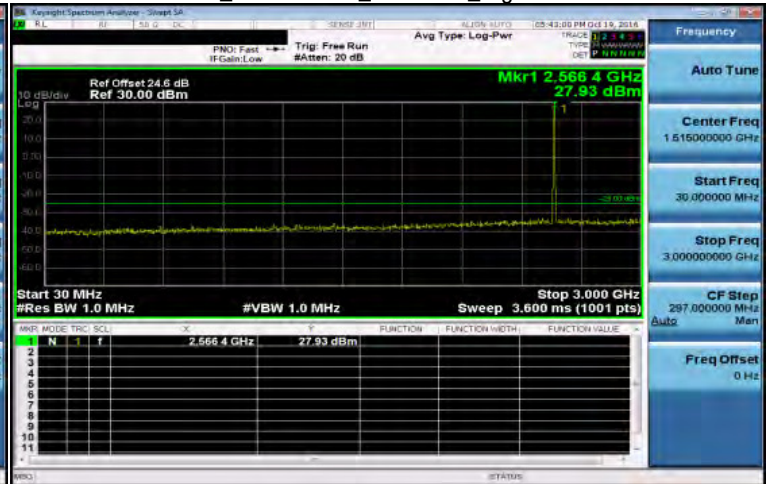
3GHz~10GHz_Band7 5MHz_QPSK 1 0_MidCH21100-2535



3GHz~10GHz_Band7 5MHz_QPSK 1 0_LowCH20775-2502.5



30MHz~3GHz_Band7 5MHz_QPSK 1 0_HighCH21425-2567.5



30MHz~3GHz_Band7 5MHz_QPSK 1 0_MidCH21100-2535



3GHz~10GHz_Band7 5MHz_QPSK 1 0_HighCH21425-2567.5



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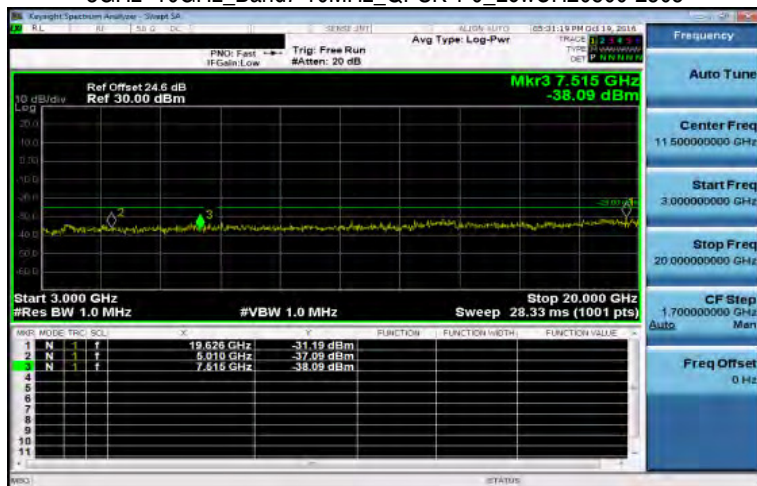
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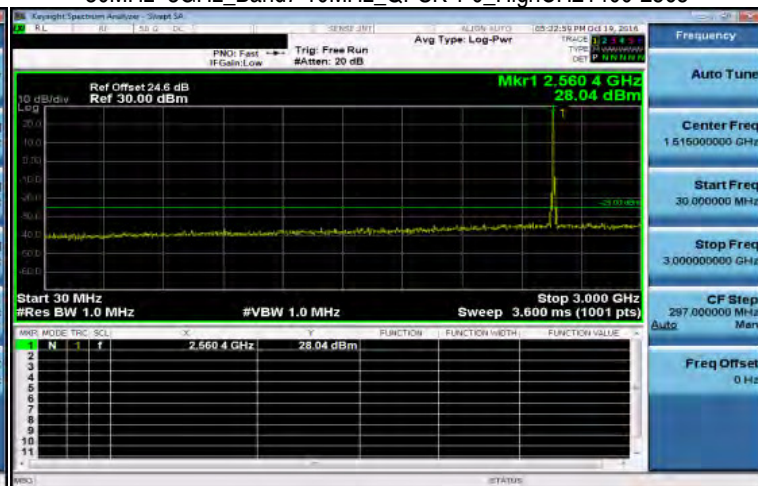
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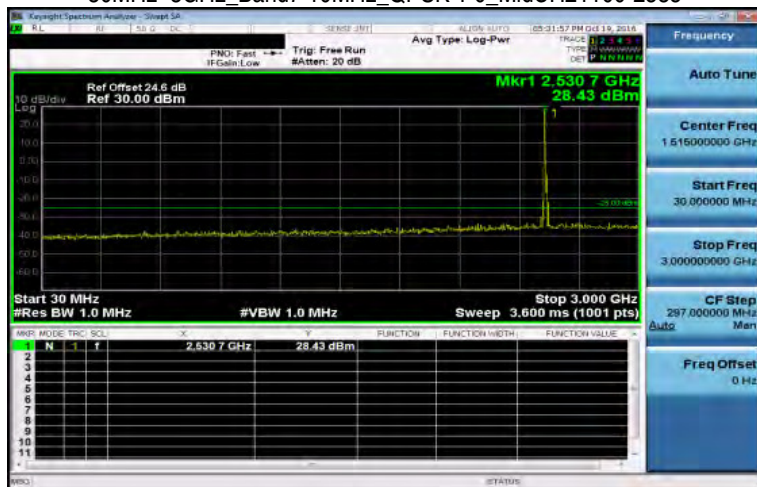
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30MHz~3GHz_Band7 10MHz_QPSK 1 0_HighCH21400-2565



30MHz~3GHz_Band7 10MHz_QPSK 1 0_MidCH21100-2535



3GHz~10GHz_Band7 10MHz_QPSK 1 0_HighCH21400-2565



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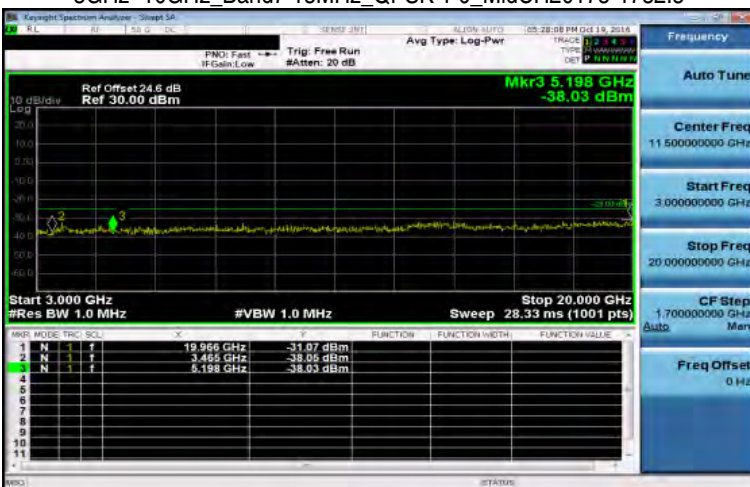
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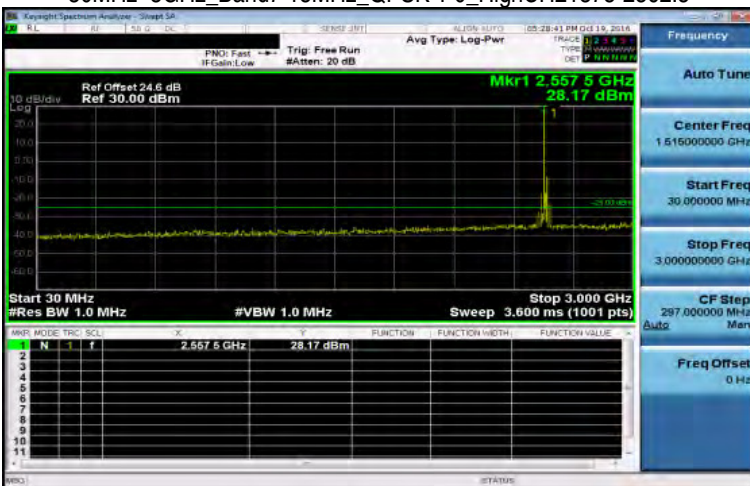
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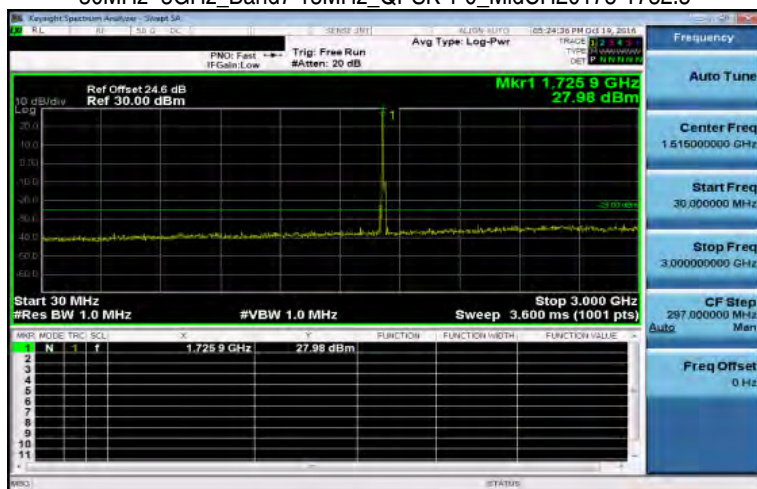
3GHz~10GHz_Band7 15MHz_QPSK 1 0_LowCH20825-2507.5



30MHz~3GHz_Band7 15MHz_QPSK 1 0_HighCH21375-2562.5



30MHz~3GHz_Band7 15MHz_QPSK 1 0_MidCH20175-1732.5



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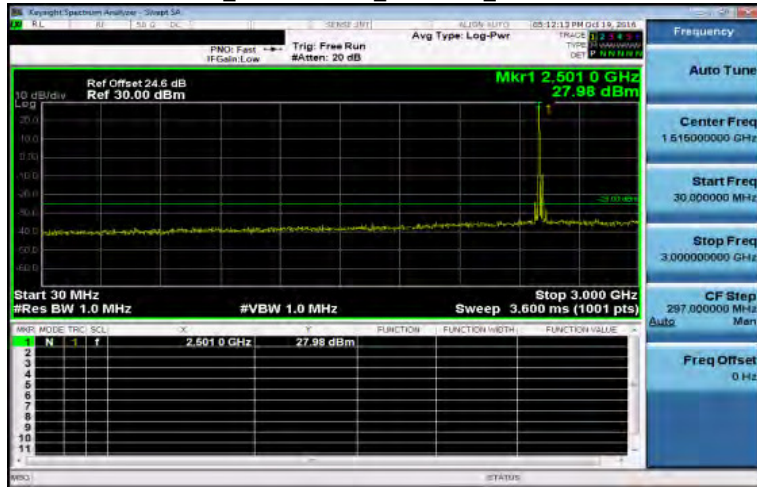


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30MHz~3GHz_Band7 20MHz_QPSK 1 0_LowCH20850-2510



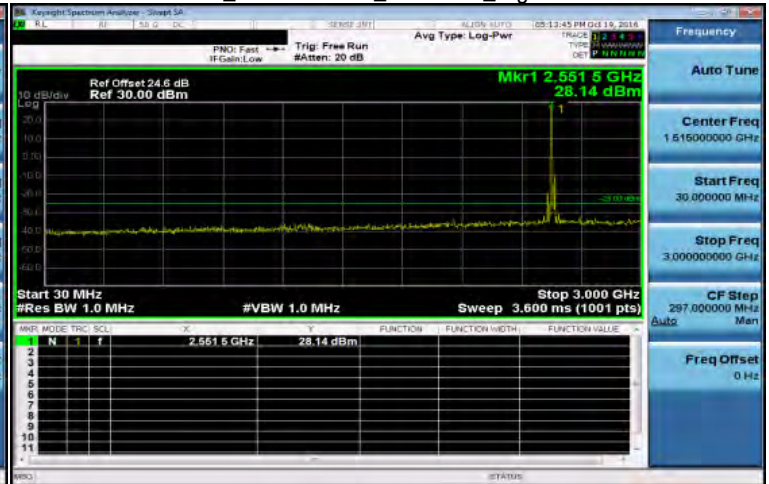
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3GHz~10GHz_Band7 20MHz_QPSK 1 0_LowCH20850-2510



30MHz~3GHz_Band7 20MHz_QPSK 1 0_HighCH21350-2560



30MHz~3GHz_Band7 20MHz_QPSK 1 0_MidCH21100-2535



3GHz~10GHz_Band7 20MHz_QPSK 1 0_HighCH21350-2560

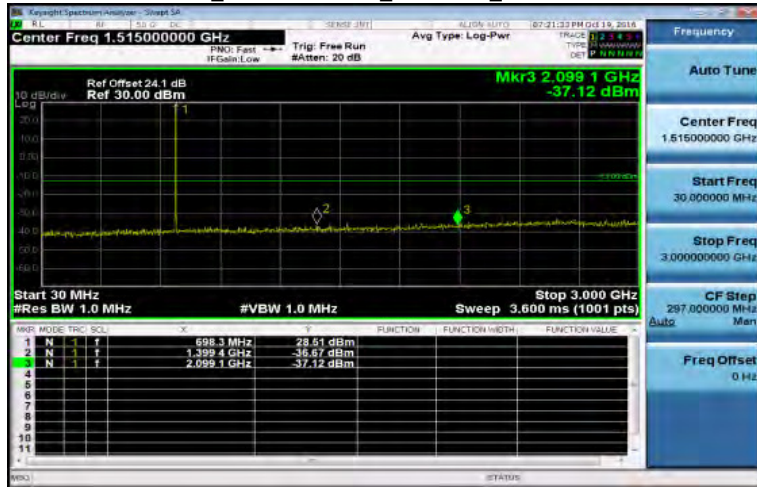


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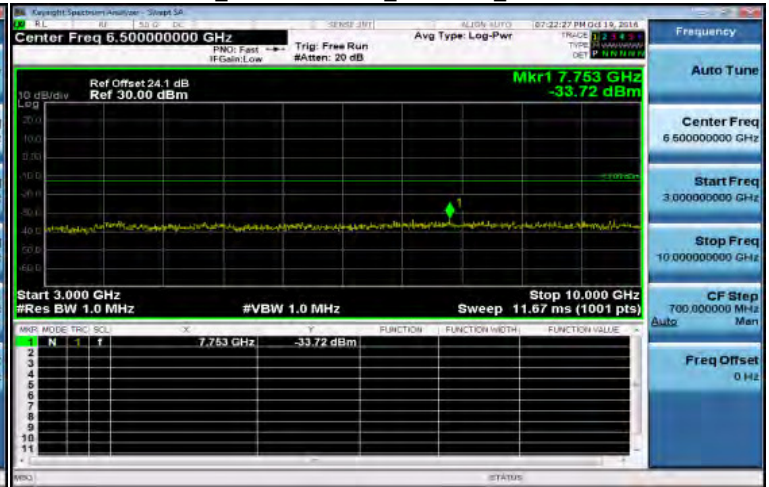
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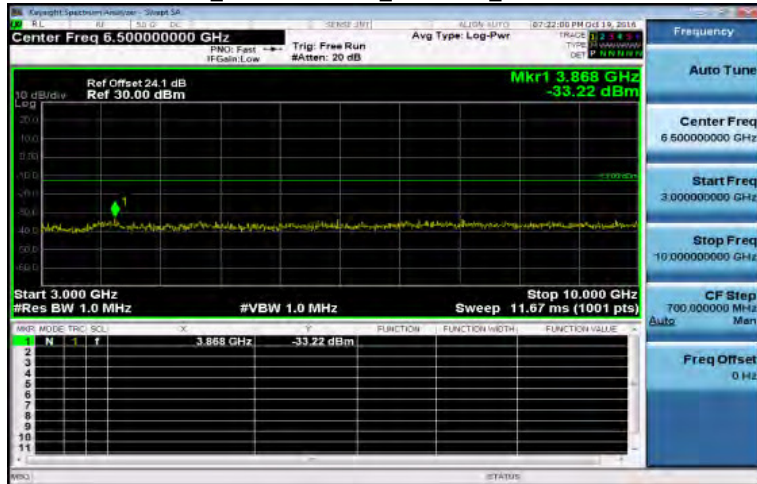
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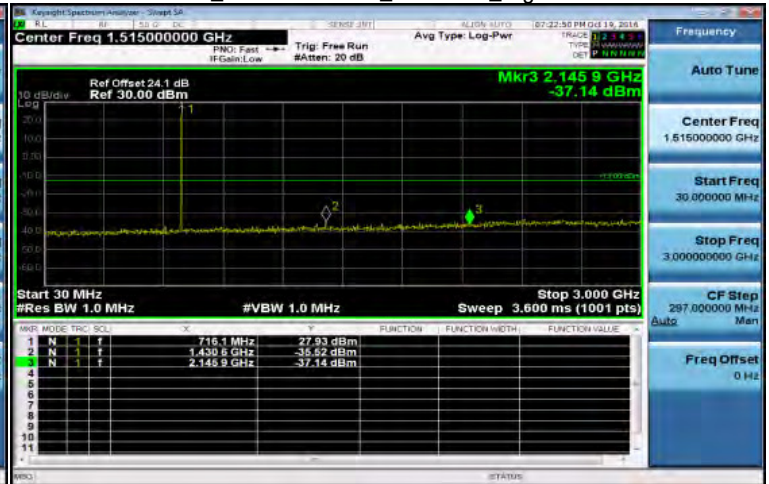
3GHz~10GHz_Band12 1.4MHz_QPSK 1 0_MidCH23095-707.5



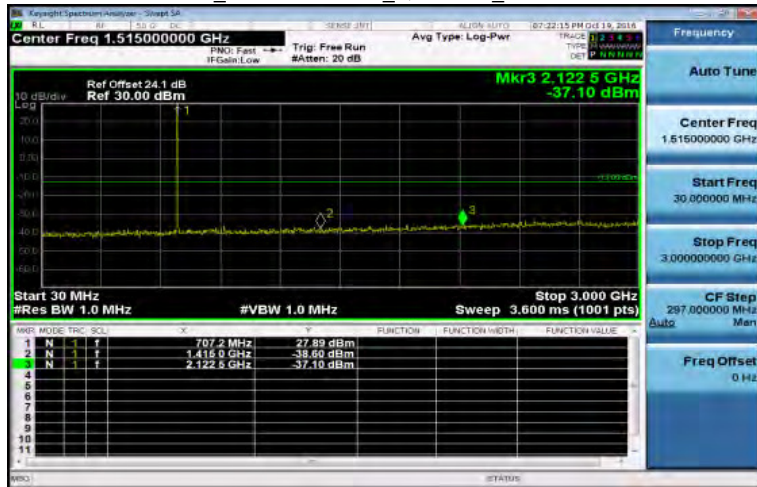
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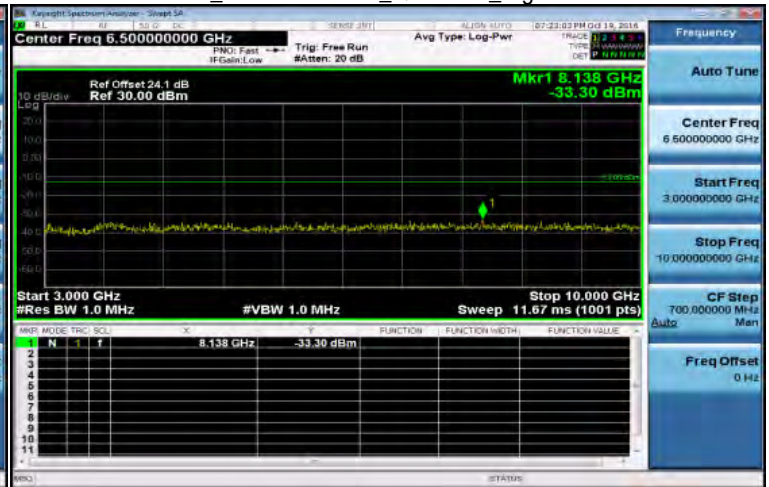
30MHz~3GHz_Band12 1.4MHz_QPSK 1 0_HighCH23173-715.3



30MHz~3GHz_Band12 1.4MHz_QPSK 1 0_MidCH23095-707.5



3GHz~10GHz_Band12 1.4MHz_QPSK 1 0_HighCH23173-715.3

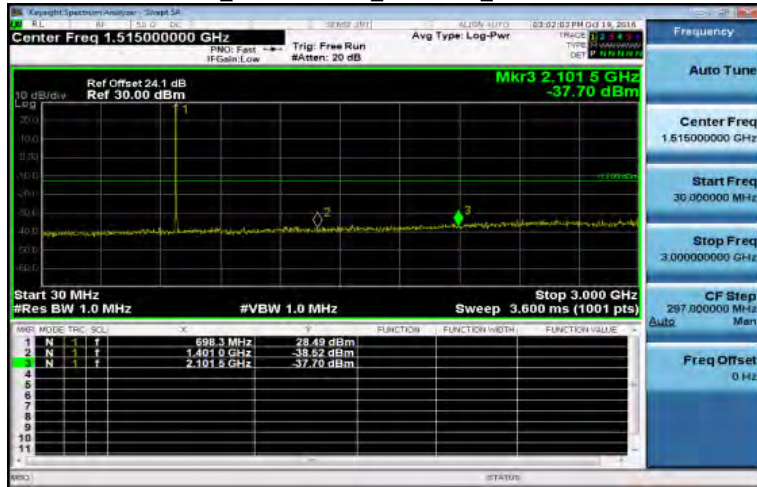


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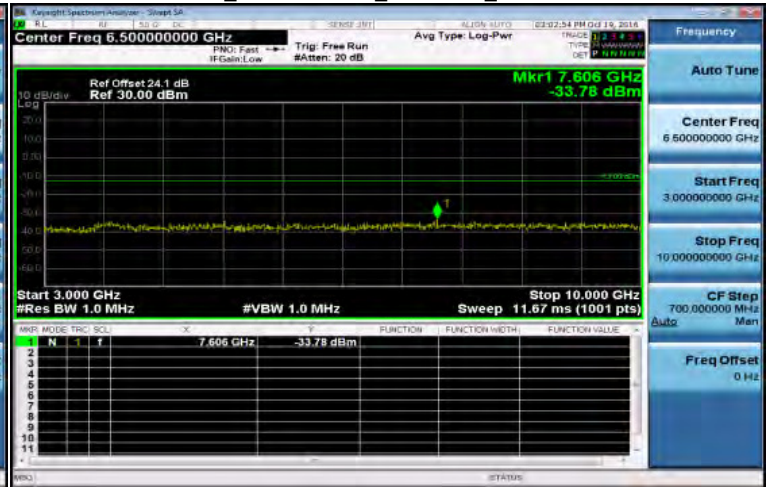
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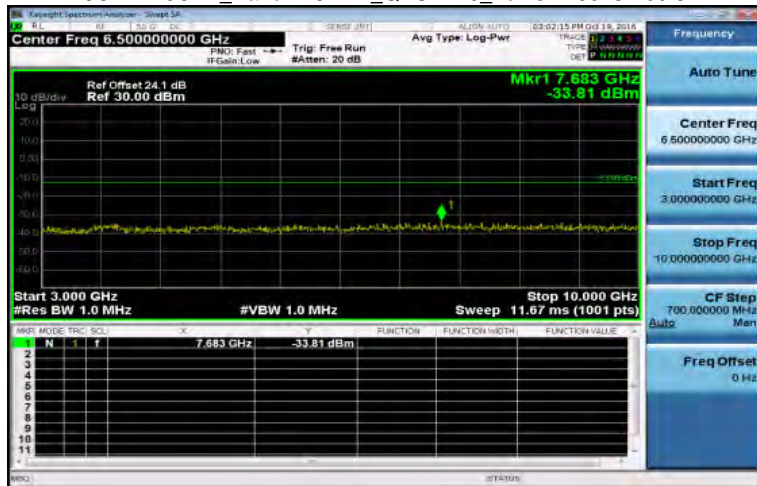
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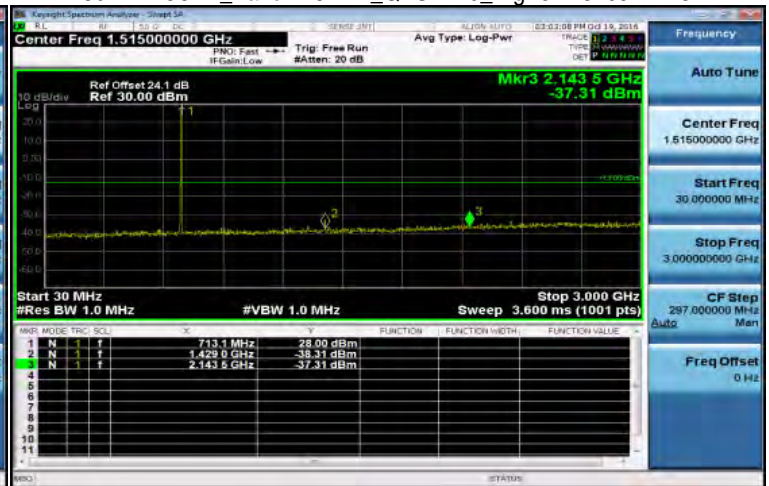
3GHz~10GHz_Band12 3MHz_QPSK 1 0_MidCH23095-707.5



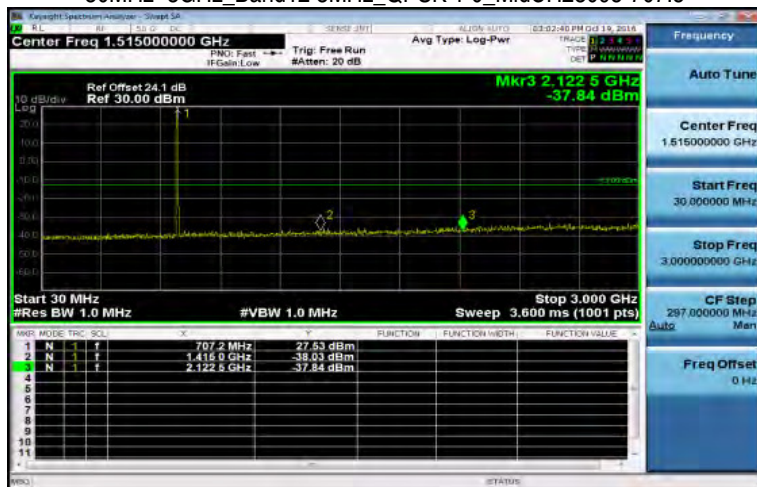
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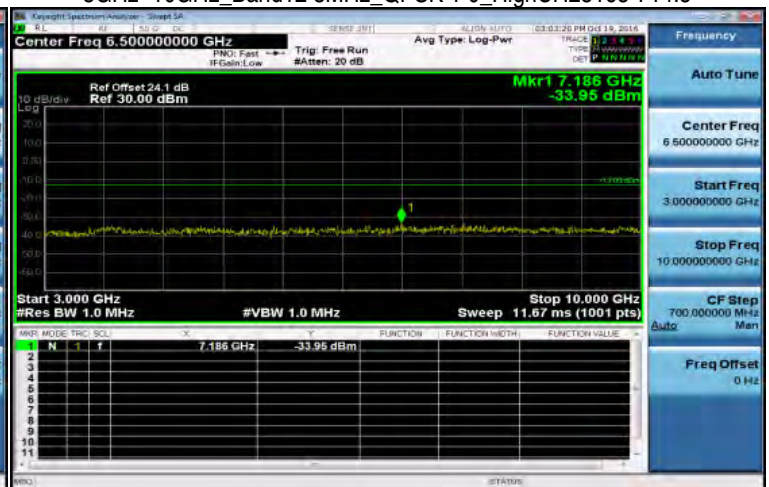
30MHz~3GHz_Band12 3MHz_QPSK 1 0_HighCH23165-714.5



30MHz~3GHz_Band12 3MHz_QPSK 1 0_MidCH23095-707.5



3GHz~10GHz_Band12 3MHz_QPSK 1 0_HighCH23165-714.5



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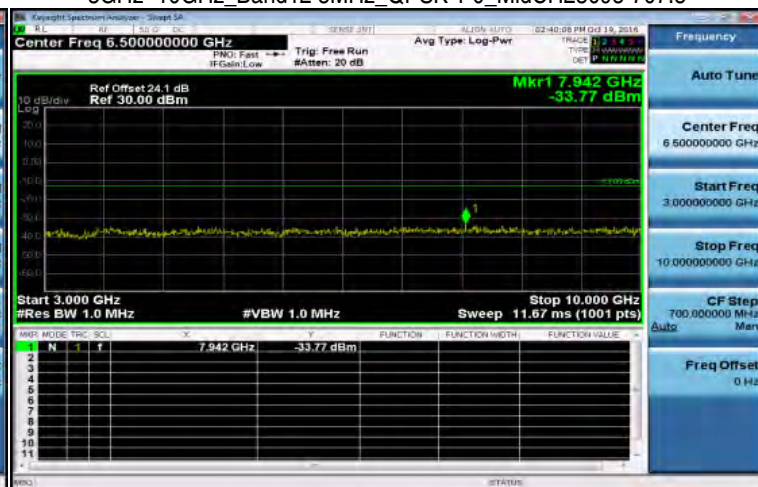
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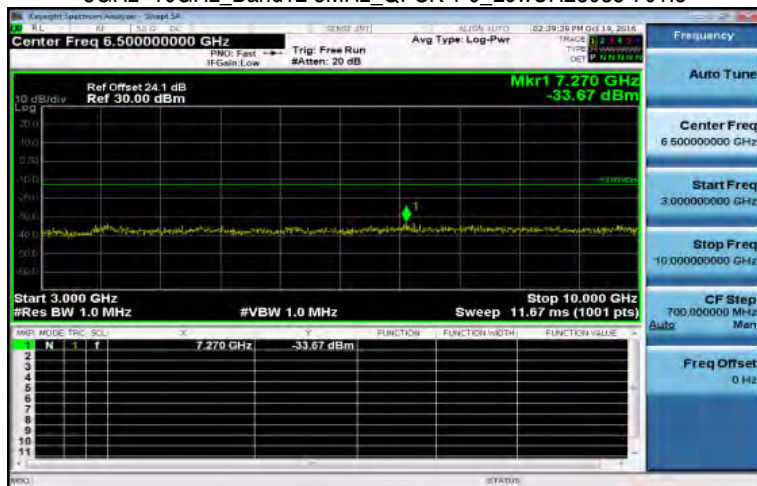
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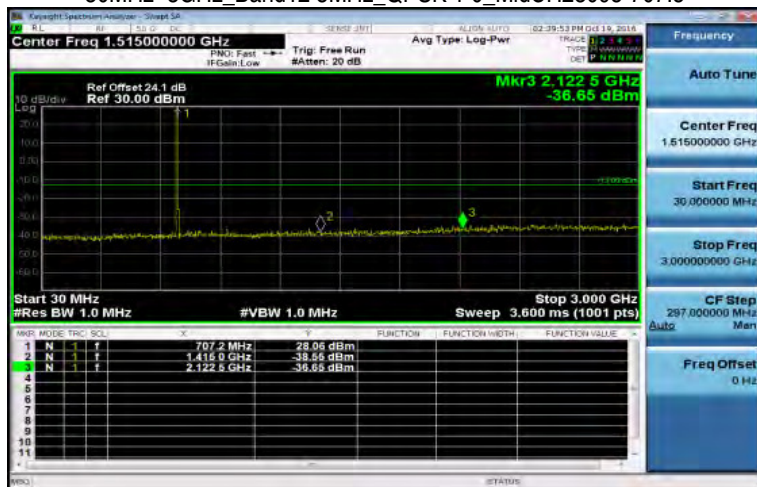
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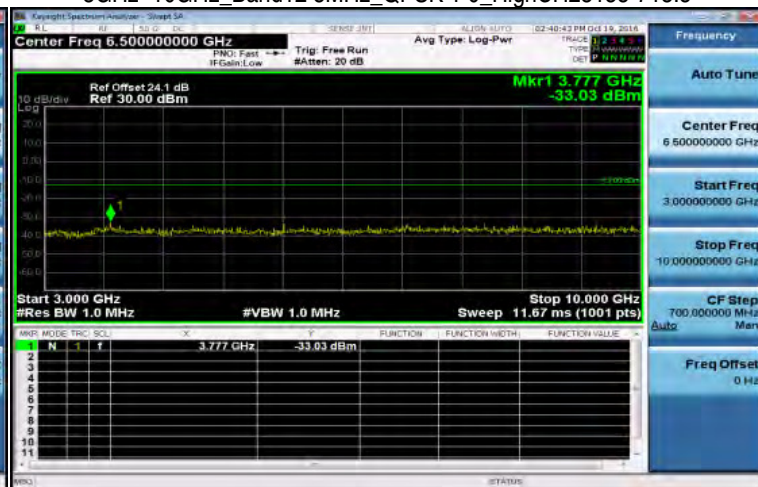
30MHz~3GHz_Band12 5MHz_QPSK 1 0_HighCH23155-713.5



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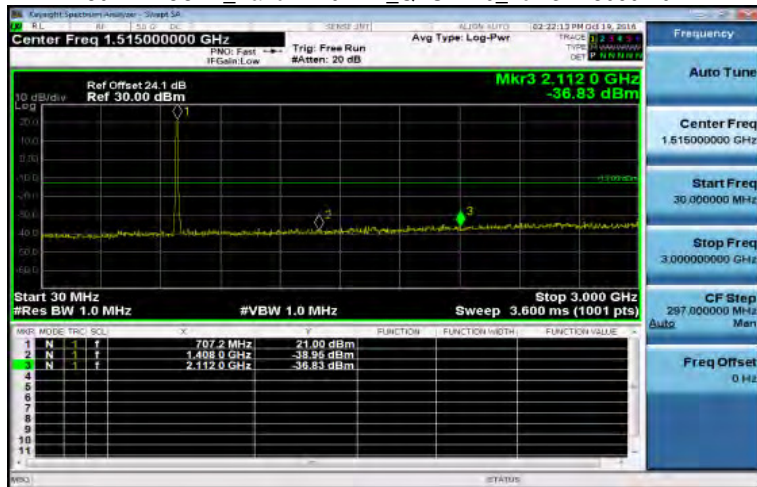


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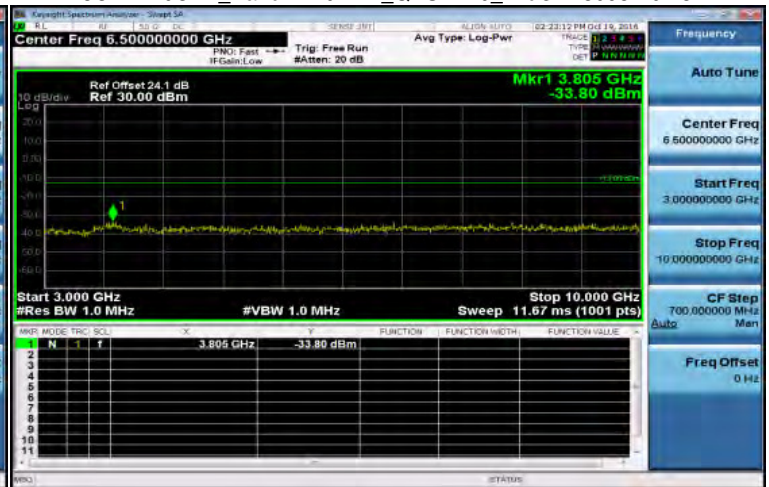
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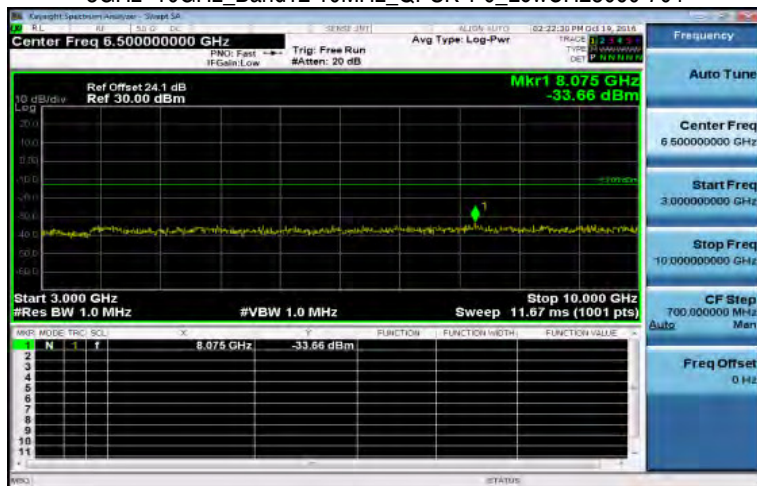
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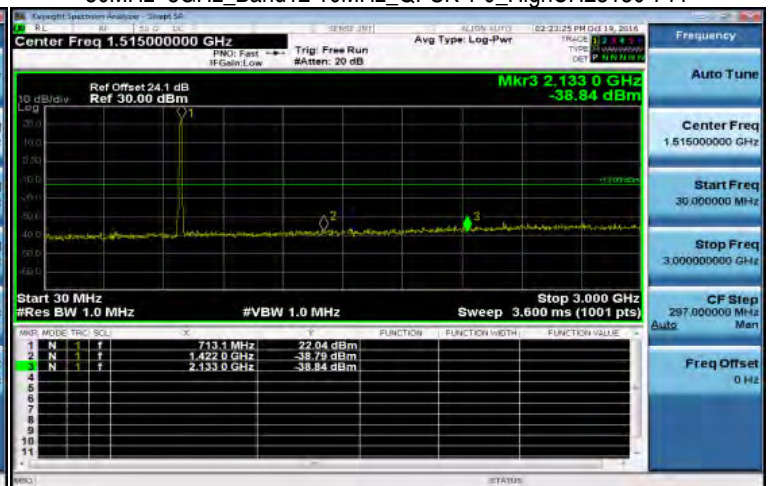
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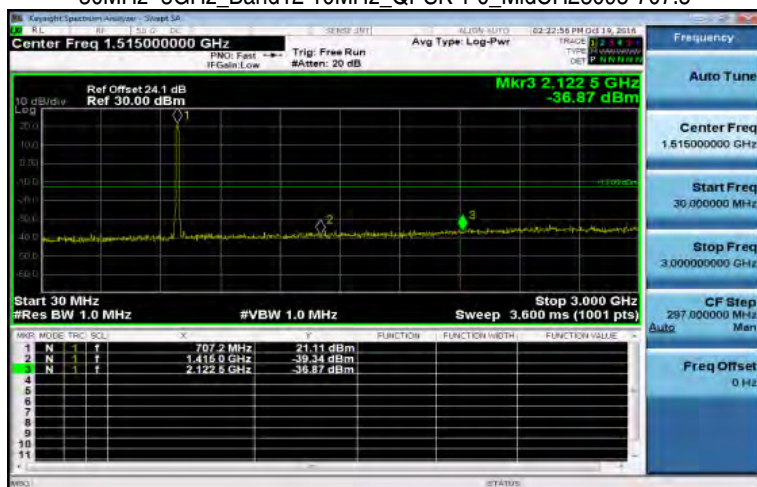
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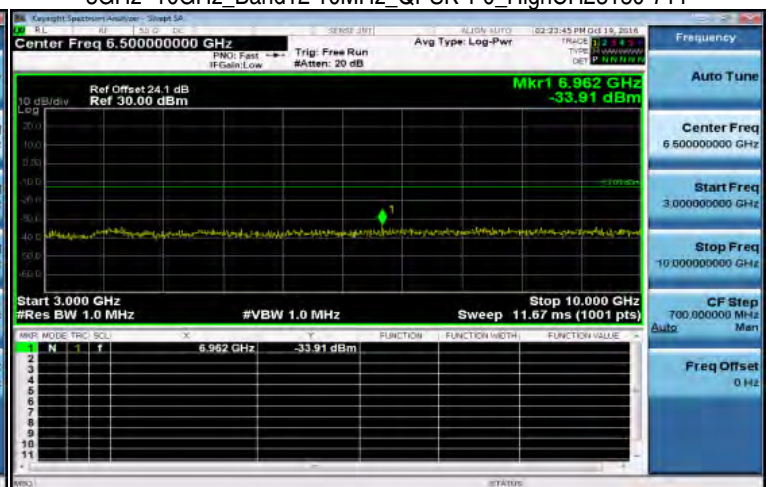
30MHz~3GHz_Band12 10MHz_QPSK 1 0_HighCH23130-711



30MHz~3GHz_Band12 10MHz_QPSK 1 0_MidCH23095-707.5



3GHz~10GHz_Band12 10MHz_QPSK 1 0_HighCH23130-711



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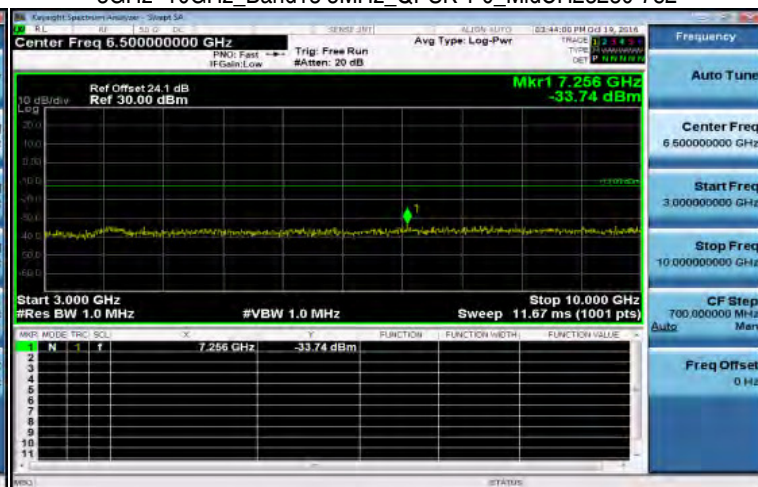
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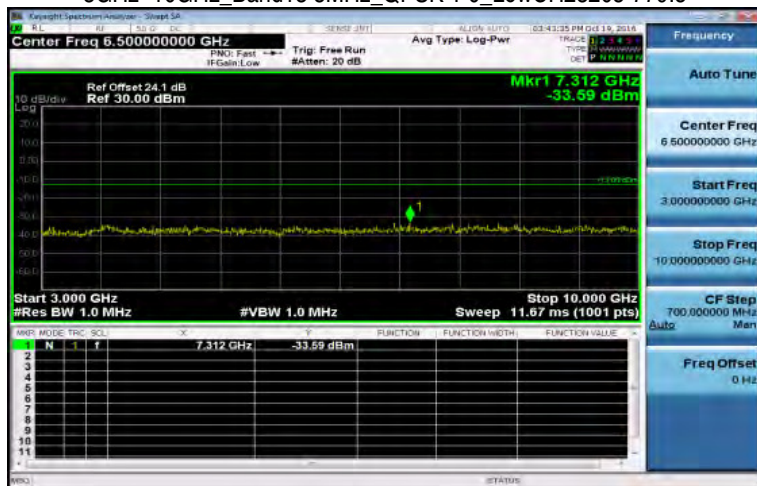
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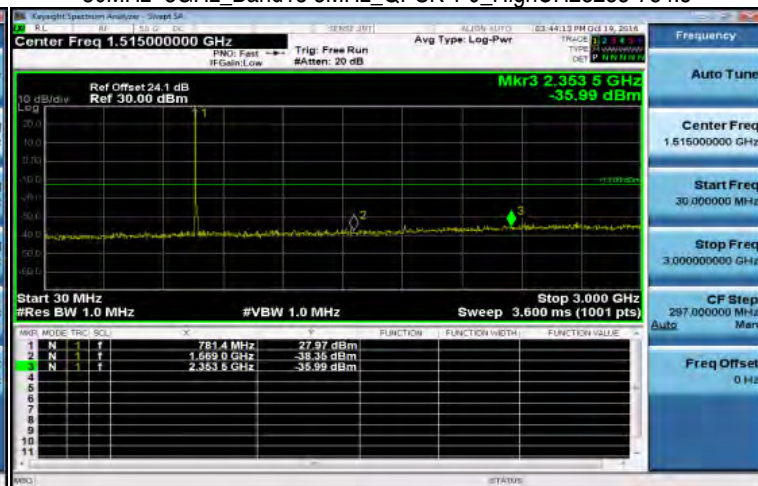
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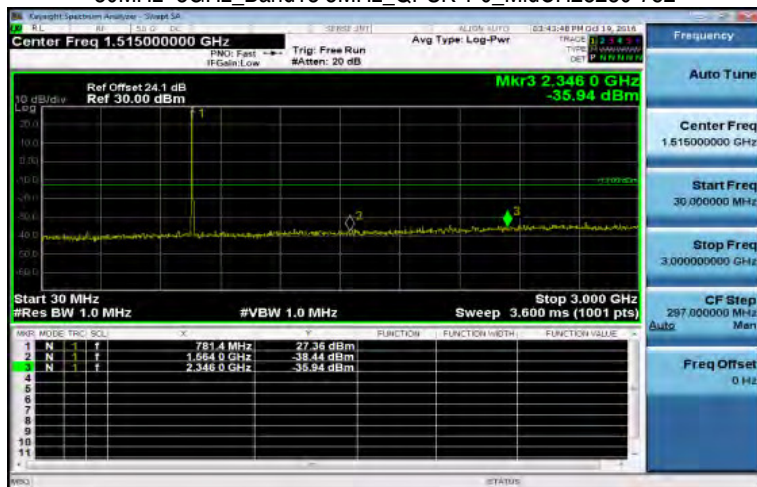
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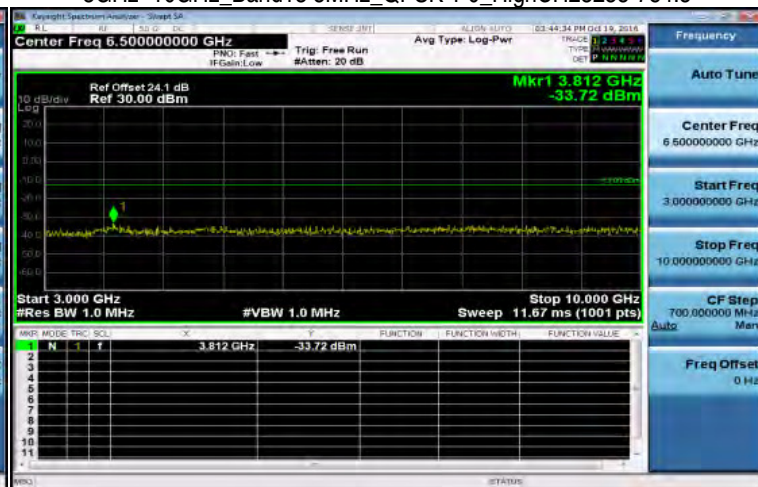
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30MHz~3GHz_Band13 5MHz_QPSK 1 0_MidCH23230-782



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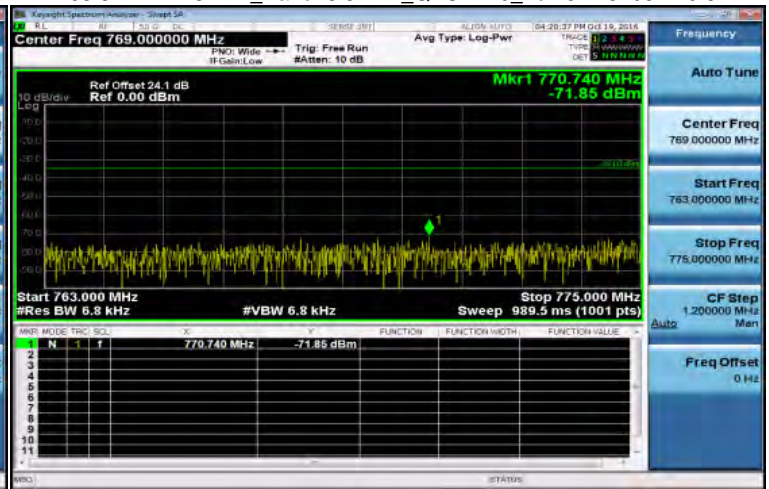
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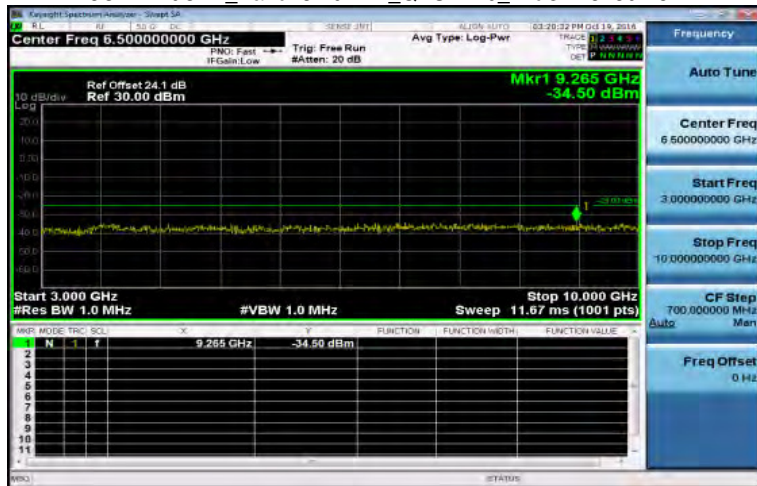
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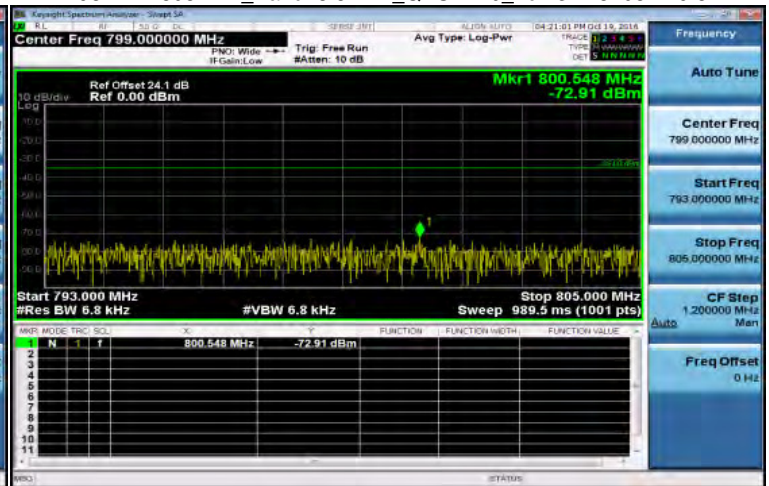
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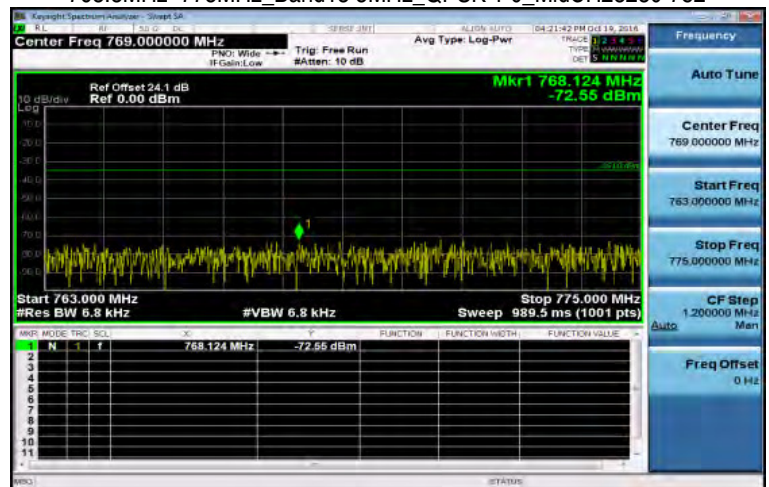
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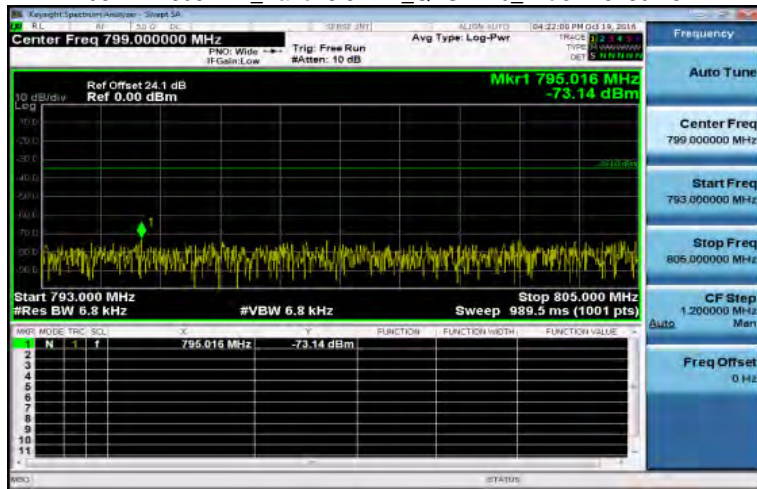


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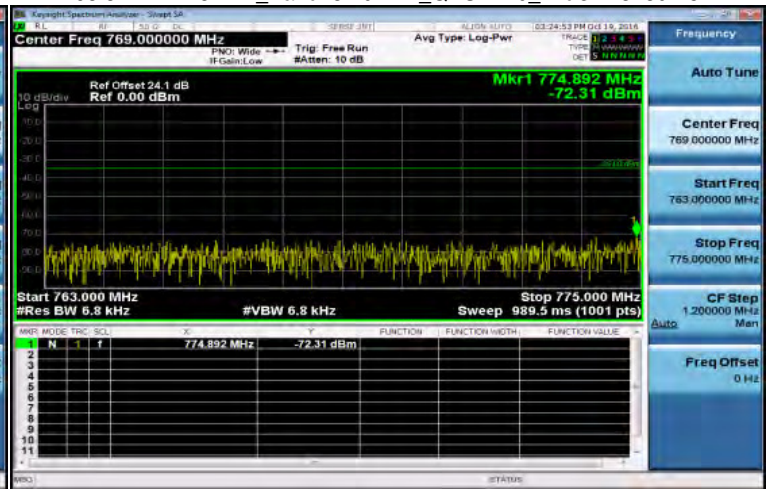
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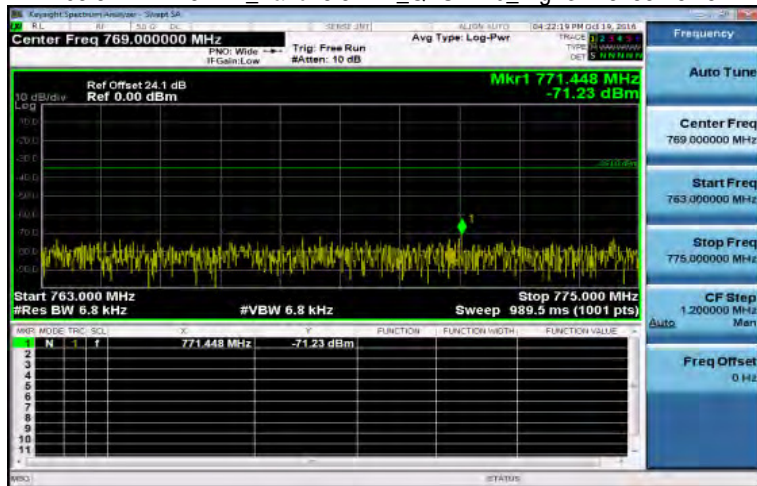
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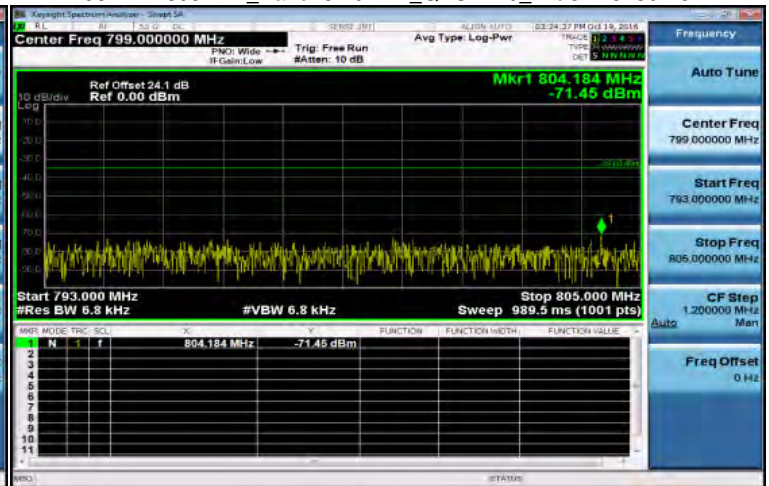
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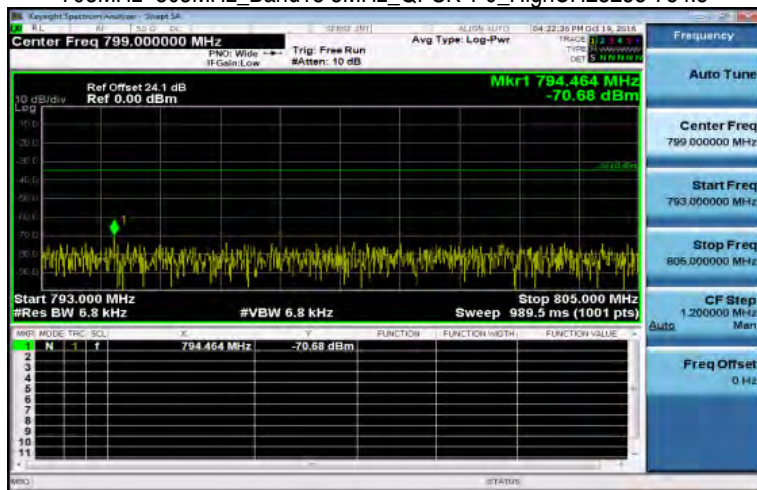
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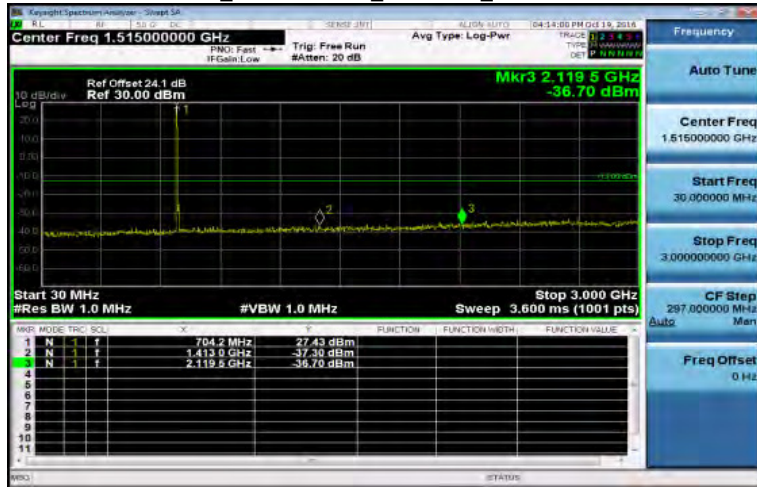


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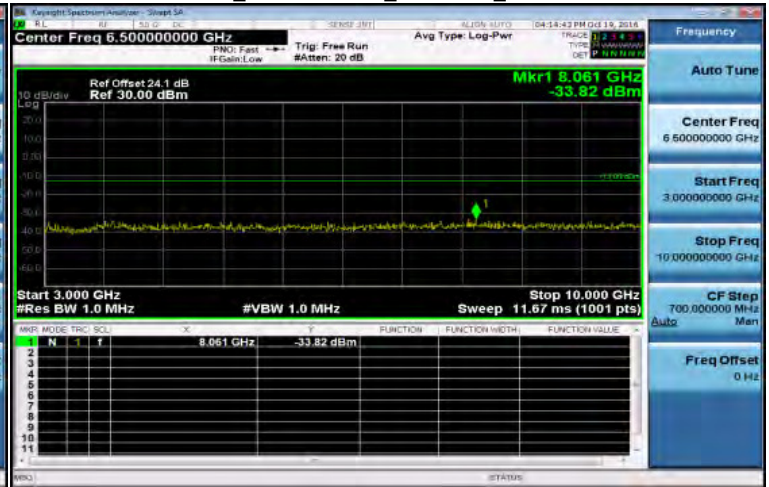
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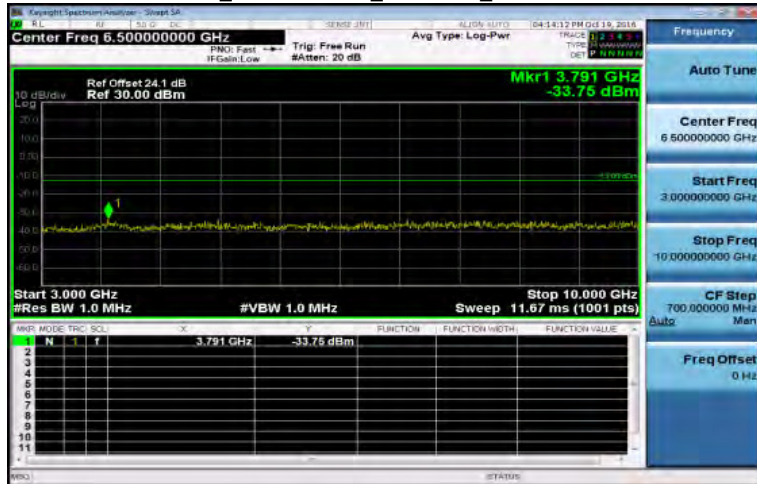
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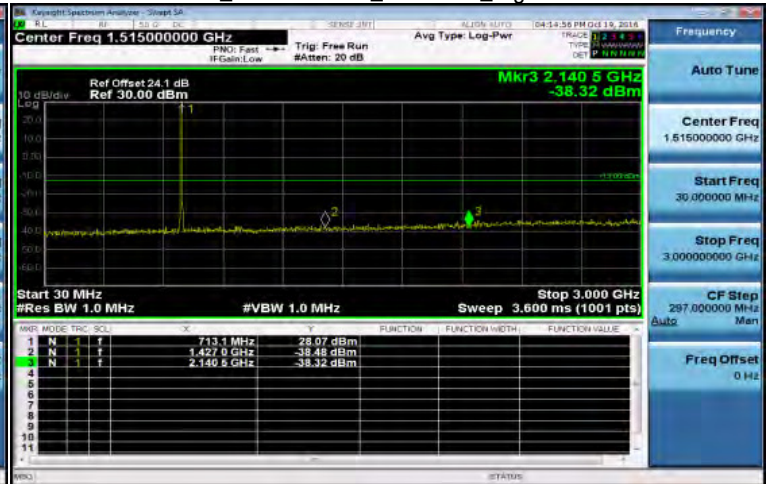
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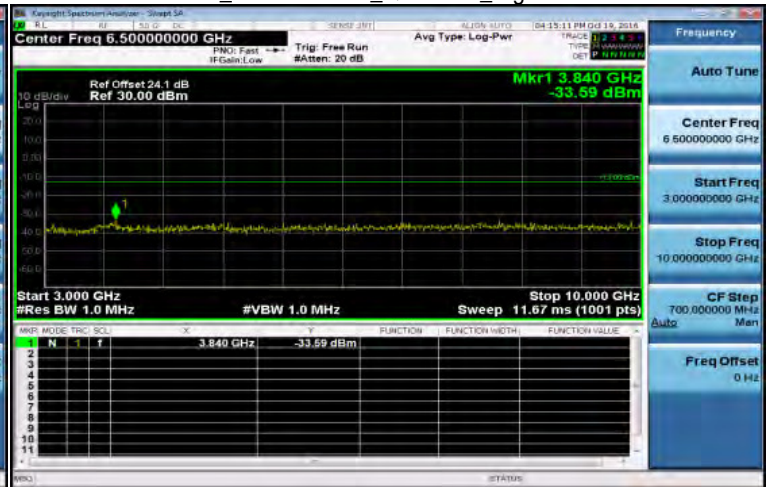
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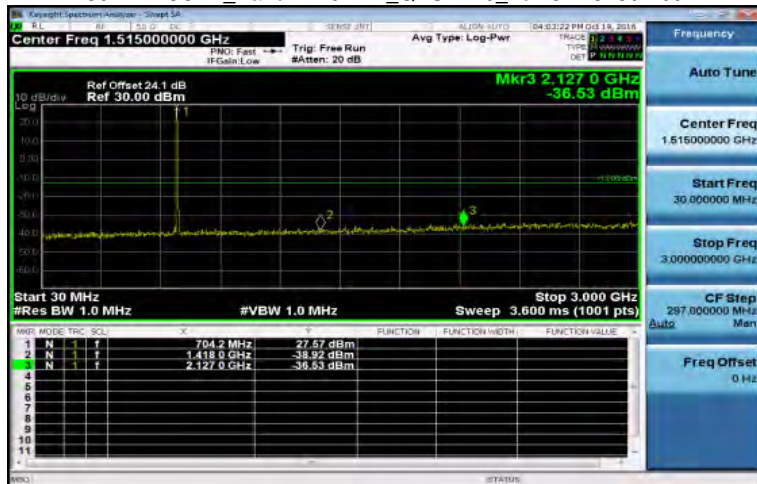


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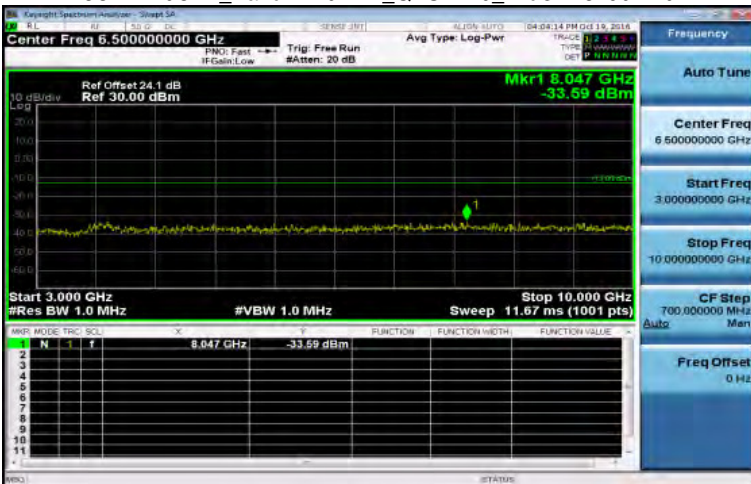
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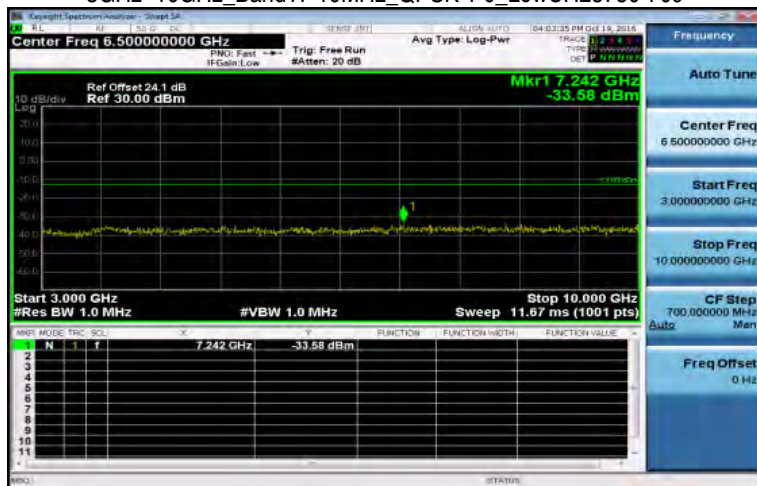
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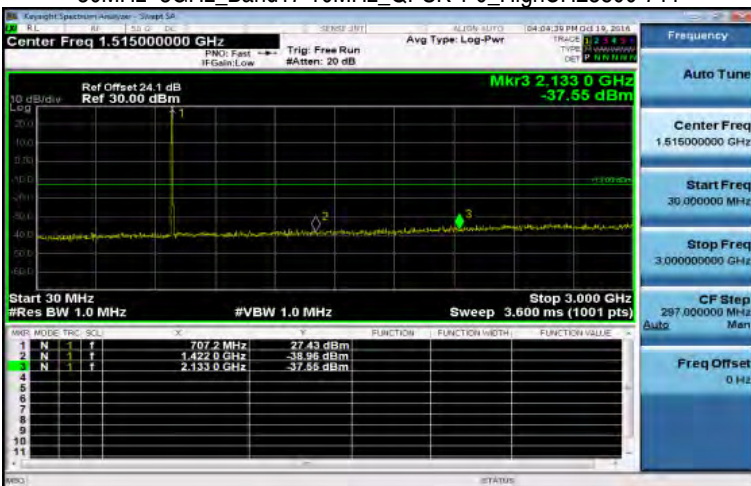
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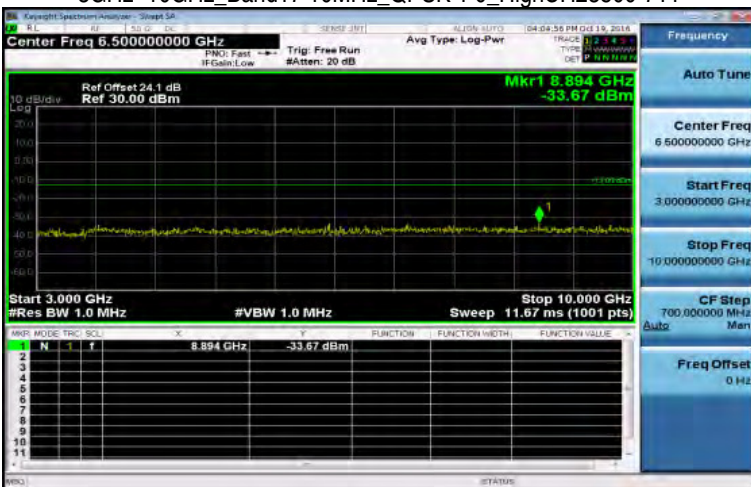
30MHz~3GHz_Band17 10MHz_QPSK 1 0_HighCH23800-711



30MHz~3GHz_Band17 10MHz_QPSK 1 0_MidCH23790-710



3GHz~10GHz_Band17 10MHz_QPSK 1 0_HighCH23800-711



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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(g)(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 $55 + 10 \log$ (mean output power in watt) dBc below the mean power output outside a license's frequency block (-25dBm).

§27.53 (c)

(2) On any frequency outside the 776– 788 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 (-13dBm)

(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;

§27.53 (f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

Table 2 — Unwanted Emissions for Mobile, Portable and Low-Power Fixed Subscriber Equipment

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2288	$70 + 10 \log_{10}(p)$
2288 - 2292	$67 + 10 \log_{10}(p)$
2292 - 2296	$61 + 10 \log_{10}(p)$
2296 - 2300	$55 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)$ ^{Note}
2320 - 2324	$55 + 10 \log_{10}(p)$
2324 - 2328	$61 + 10 \log_{10}(p)$
2328 - 2337	$67 + 10 \log_{10}(p)$
2337 - 2341	$61 + 10 \log_{10}(p)$
2341 - 2345	$55 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)$ ^{Note}
2360 - 2365	$43 + 10 \log_{10}(p)$
2365 - 2395	$70 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

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f (886-2) 2298-0488

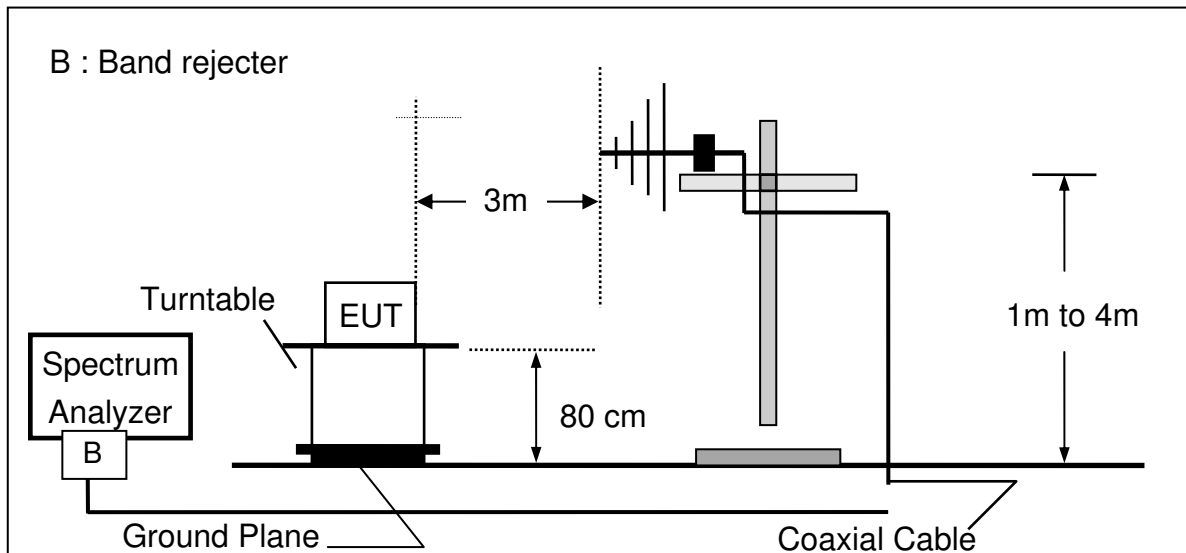
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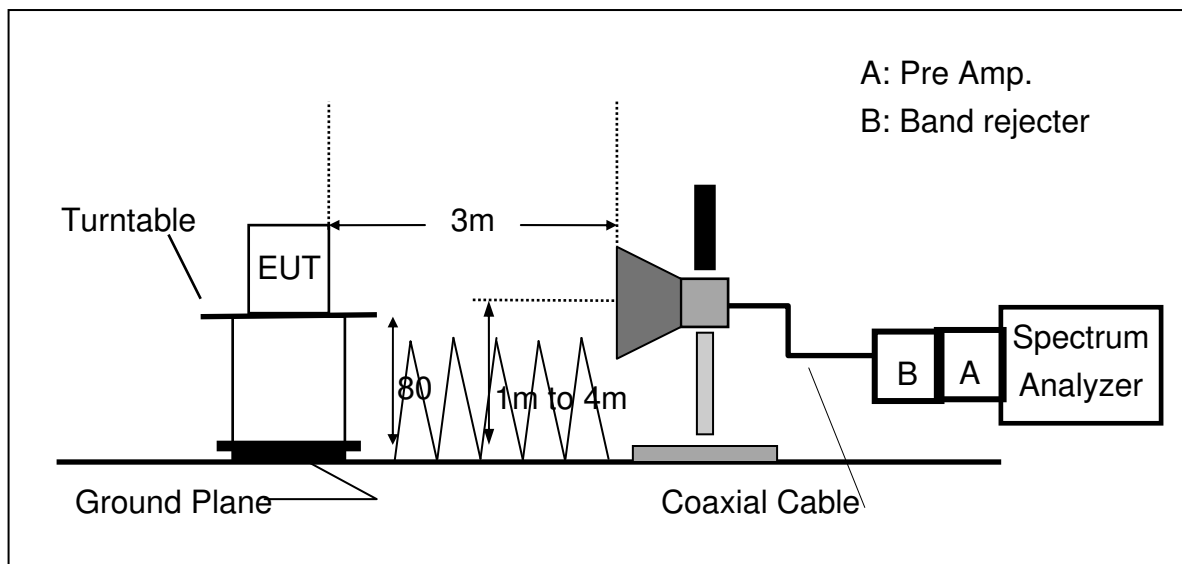
Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 5.2 for the permitted frequency ranges for various equipment types.

10.2. EUT Setup

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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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.

$$\text{ERP (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBd)} + \text{Cable Loss(dB)}$$

$$\text{EIRP (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBi)} + \text{Cable Loss(dB)}$$

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:

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Test Receiver	R&S	ESU 40	100363	04/12/2016	04/11/2017
Broadband Antenna	TESEQ	CBL 6112D	35240	11/03/2016	11/02/2017
Broadband Antenna	TESEQ	CBL 6112D	35243	11/09/2016	11/08/2017
Horn Antenna	ETS-Lindgren	3117	00143272	12/16/2015	12/15/2016
Horn Antenna	ETS-Lindgren	3117	00143279	11/05/2015	11/04/2016
Horn Antenna	Schwarzbeck	BBHA9170	184	12/11/2015	12/10/2016
Horn Antenna	Schwarzbeck	BBHA9170	185	07/18/2016	07/17/2017
Pre Amplifier	EMC Instruments	EMC330	980096	12/12/2015	12/11/2016
Pre Amplifier	EMC Instruments	EMC0011830	980199	12/12/2015	12/11/2016
Pre Amplifier	R&S	SCU-18	10204	12/12/2015	12/11/2016
Pre Amplifier	R&S	SCU-26	100780	12/12/2015	12/11/2016
Pre Amplifier	EMC Instruments	EMC184045B	980135	12/12/2015	12/11/2016
Coaxial Cable	Huber+Suhner	RG 214/U	966Rx 9K-30M	12/12/2015	12/11/2016
Coaxial Cable	Huber+Suhner	RG 214/U SUCOFLEX 104	966Rx 30M-3G	12/12/2015	12/11/2016
Coaxial Cable	Huber+Suhner	SUCOFLEX 104	966Rx 1G-18G	12/12/2015	12/11/2016
Coaxial Cable	Huber+Suhner	mini 141-12 SUCOFLEX 104	966Rx 18G-40G	12/12/2015	12/11/2016
Coaxial Cable	Huber+Suhner	SUCOFLEX 104	966Tx 30M-18G	12/12/2015	12/11/2016
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	966Tx 18G-40G	12/12/2015	12/11/2016
Attenuator	WOKEN	218FS-10	RF27	12/12/2015	12/11/2016
Communication Tester	Anritsu	MT8820C	6201107337	05/25/2016	05/24/2017
Site NSA	SGS	966 Chamber C	SAC-C	03/04/2016	03/03/2017
Site VSWR	SGS	966 Chamber C	SAC-C	03/04/2016	03/03/2017
DC Power Supply	HOLA	DP-3003	D7070035	05/04/2016	05/03/2017
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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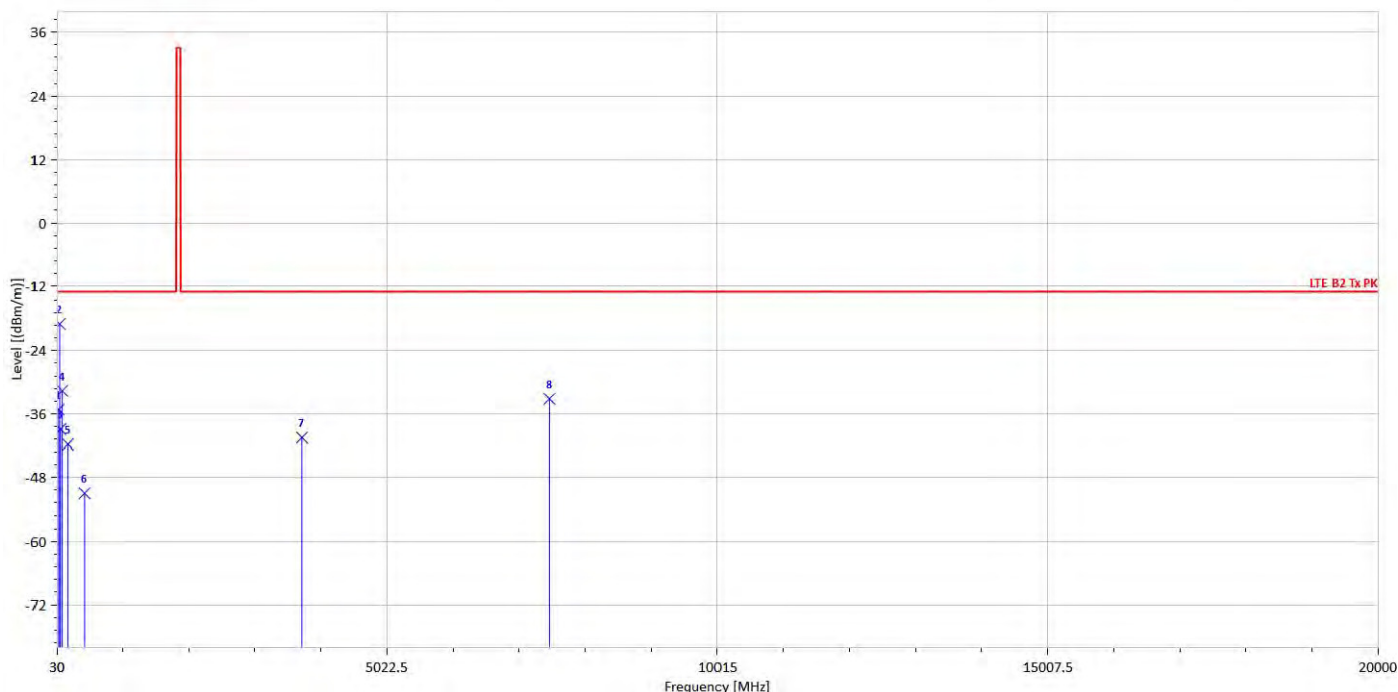
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10.5. Measurement Result:

Radiated Spurious Emission Measurement Result: LTE-Band 2 (The Worst Case)

Operation Mode :	LTE B2 BW 20M 16QAM RB1,99	Test Date :	2016/10/28
Fundamental Frequency :	1860.0 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Ashton
EUT Pol. :	E1	Measurement Antenna Pol. :	Vertical



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
58.13	S	-35.16	-32.30	-1.67	-1.19	-13	-22.16
73.65	S	-19.00	-18.06	0.51	-1.45	-13	-6.00
84.32	S	-38.89	-37.76	0.38	-1.52	-13	-25.89
112.45	S	-31.58	-28.68	-1.15	-1.76	-13	-18.58
199.75	S	-41.76	-45.17	5.84	-2.44	-13	-28.76
453.89	S	-50.98	-53.39	6.28	-3.87	-13	-37.98
3737.00	H	-40.50	-45.58	12.30	-7.22	-13	-27.50
7482.00	H	-33.13	-33.63	10.72	-10.22	-13	-20.13

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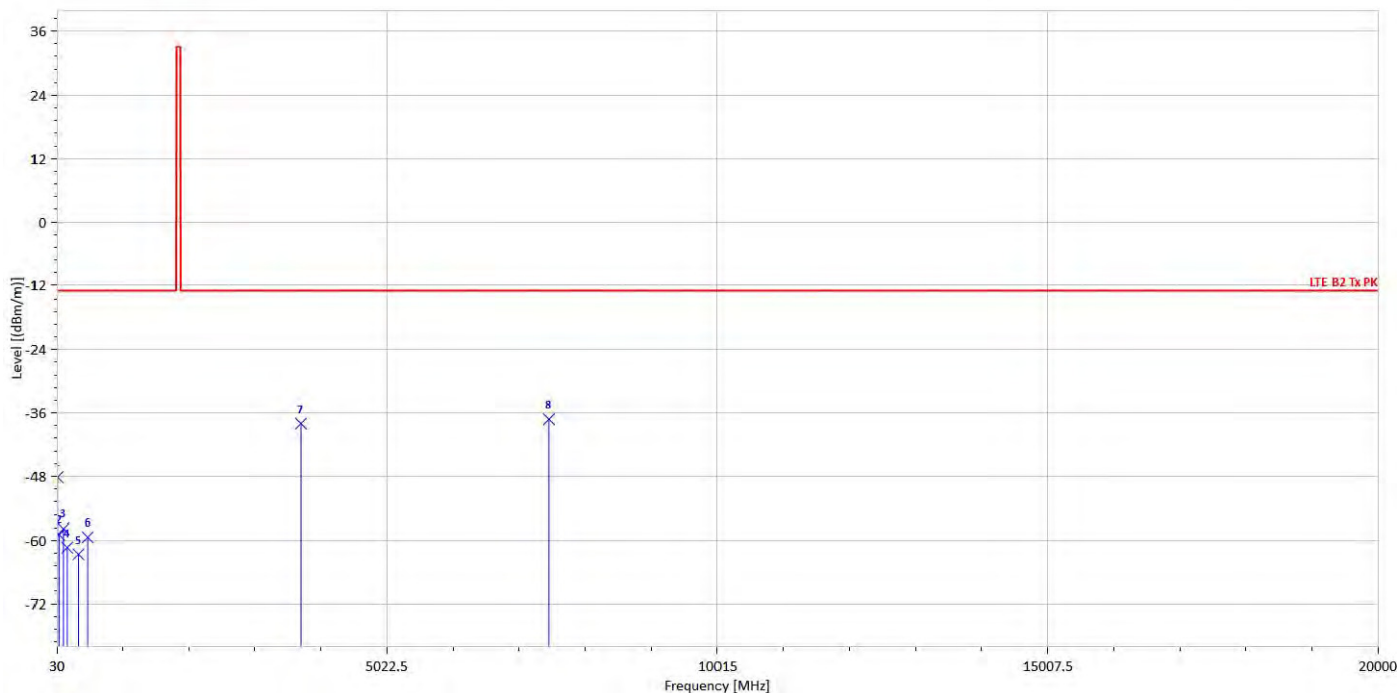
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Operation Mode : LTE B2 BW 20M 16QAM RB1,99
Fundamental Frequency : 1860.0 MHz
Operation Band : Tx CH Low
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
40.67	S	-48.09	-35.75	-11.34	-1.00	-13	-35.09
64.92	S	-58.94	-57.38	-0.27	-1.29	-13	-45.94
130.88	S	-57.82	-55.95	0.00	-1.87	-13	-44.82
189.08	S	-61.38	-65.20	6.14	-2.32	-13	-48.38
360.77	S	-62.65	-65.23	5.86	-3.28	-13	-49.65
502.39	S	-59.41	-61.79	6.39	-4.01	-13	-46.41
3723.00	H	-38.03	-43.20	12.30	-7.13	-13	-25.03
7475.00	H	-37.22	-37.70	10.73	-10.25	-13	-24.22

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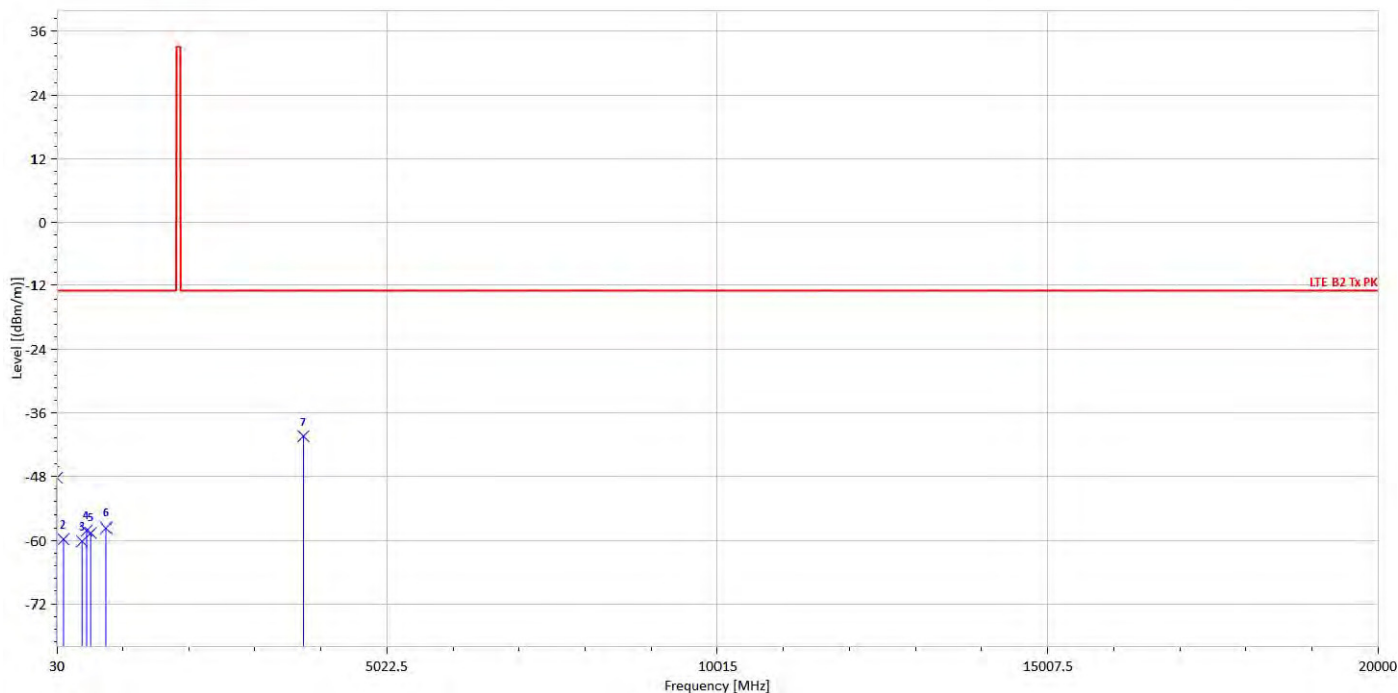
f (886-2) 2298-0488

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Operation Mode : LTE B2 BW 20M 16QAM RB1,99
Fundamental Frequency : 1880 MHz
Operation Band : Tx CH Mid
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
30.97	S	-48.22	-27.93	-19.41	-0.88	-13	-35.22
131.85	S	-59.77	-57.98	0.12	-1.91	-13	-46.77
416.06	S	-60.16	-62.42	5.92	-3.66	-13	-47.16
485.90	S	-58.14	-60.71	6.36	-3.78	-13	-45.14
548.95	S	-58.56	-60.91	6.42	-4.06	-13	-45.56
780.78	S	-57.67	-60.10	7.65	-5.22	-13	-44.67
3765.00	H	-40.10	-45.19	12.30	-7.21	-13	-27.10
7559.00	H	-37.52	-37.88	10.69	-10.33	-13	-24.52

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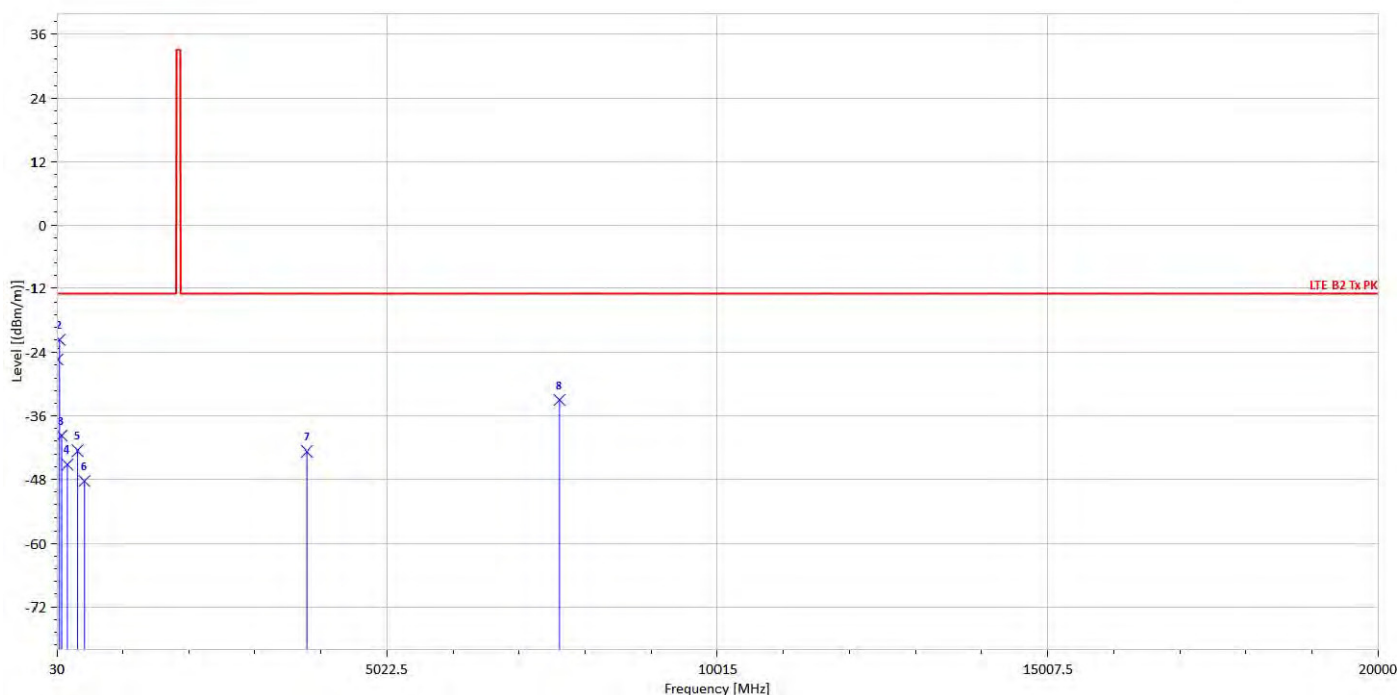
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Operation Mode : LTE B2 BW 20M 16QAM RB1,99
Fundamental Frequency : 1900 MHz
Operation Band : Tx CH High
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Vertical



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
38.73	S	-25.41	-11.52	-12.88	-1.01	-13	-12.41
70.74	S	-21.64	-20.67	0.43	-1.40	-13	-8.64
102.75	S	-39.76	-37.08	-0.99	-1.69	-13	-26.76
191.02	S	-45.11	-48.87	6.15	-2.39	-13	-32.11
348.16	S	-42.55	-45.25	5.89	-3.19	-13	-29.55
452.92	S	-48.27	-50.75	6.28	-3.81	-13	-35.27
3814.00	H	-42.68	-47.73	12.30	-7.25	-13	-29.68
7636.00	H	-32.95	-33.22	10.67	-10.40	-13	-19.95

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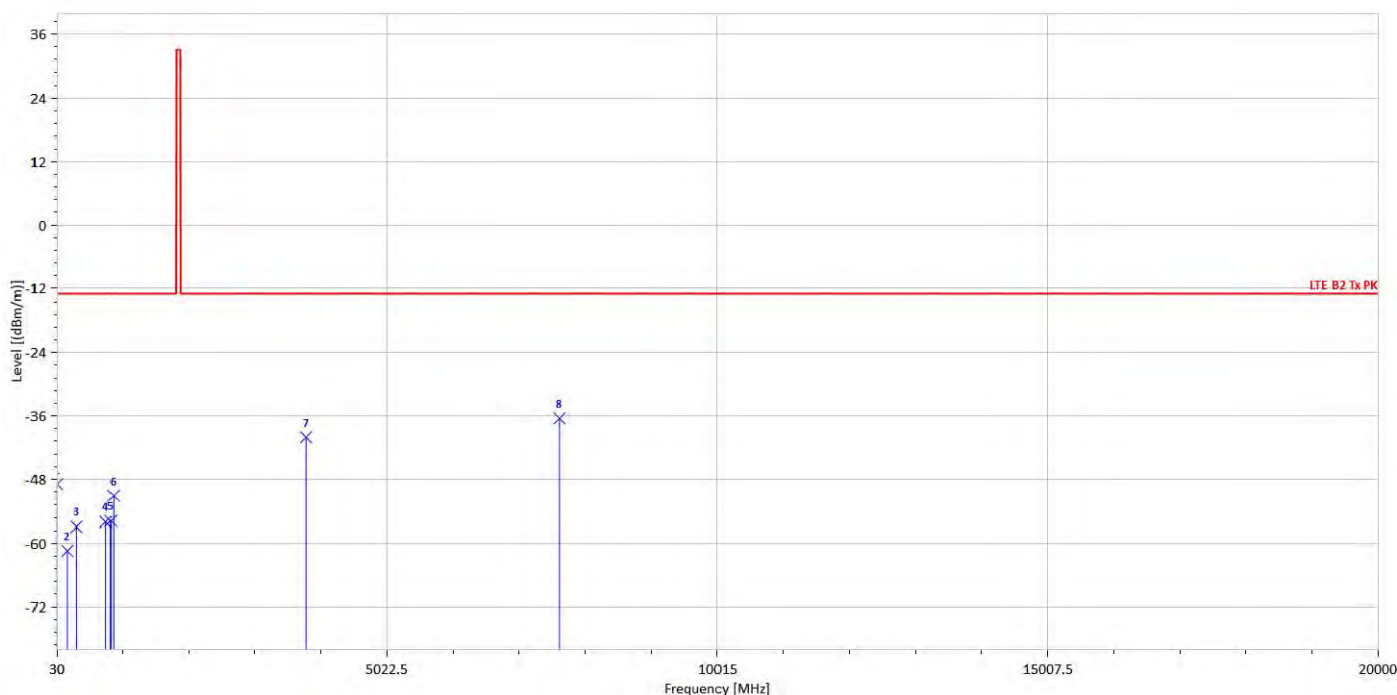
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Operation Mode : LTE B2 BW 20M 16QAM RB1,99
Fundamental Frequency : 1900 MHz
Operation Band : Tx CH High
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
33.88	S	-48.87	-31.05	-16.88	-0.93	-13	-35.87
191.02	S	-61.45	-65.21	6.15	-2.39	-13	-48.45
329.73	S	-56.93	-59.78	5.92	-3.06	-13	-43.93
773.99	S	-56.01	-58.81	7.64	-4.84	-13	-43.01
848.68	S	-55.80	-58.26	7.60	-5.15	-13	-42.80
889.42	S	-51.09	-53.51	7.75	-5.33	-13	-38.09
3800.00	H	-40.08	-45.15	12.30	-7.22	-13	-27.08
7636.00	H	-36.47	-36.74	10.67	-10.40	-13	-23.47

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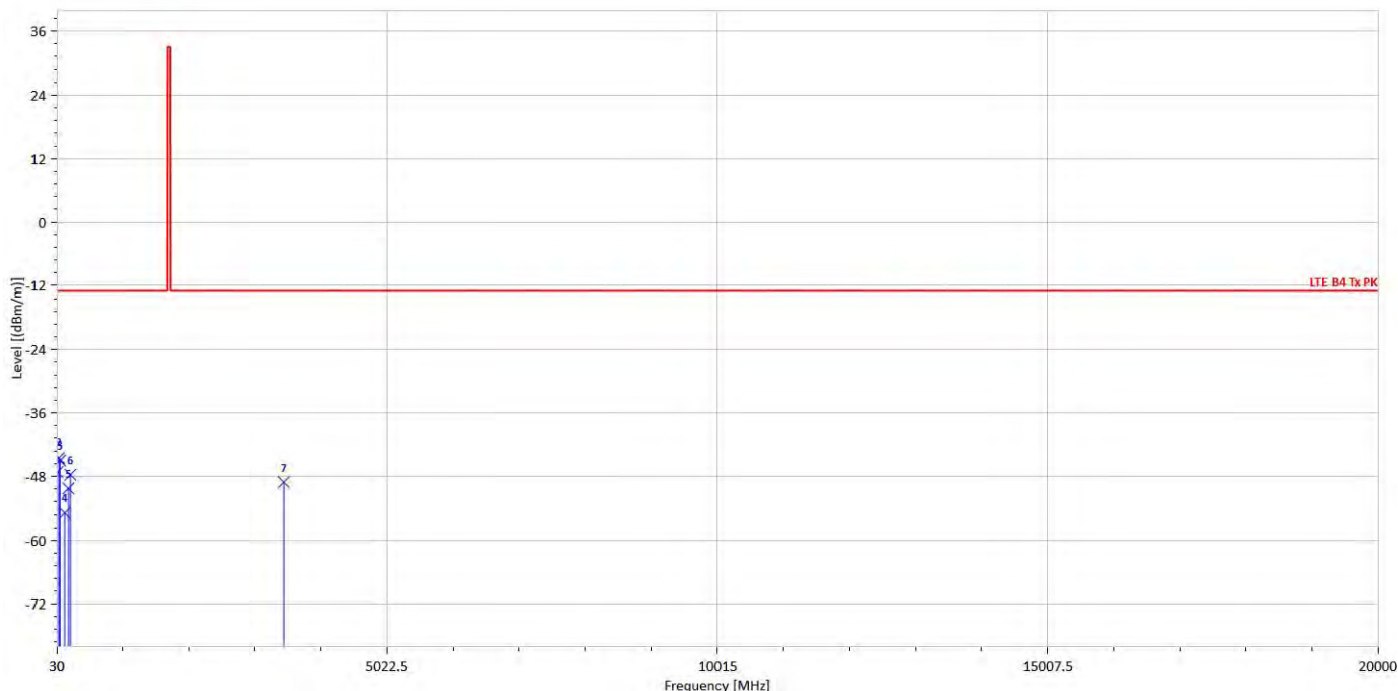
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Radiated Spurious Emission Measurement Result: LTE-Band 4 (The Worst Case)

Operation Mode :	LTE B4 BW 20M 16QAM RB1,99	Test Date :	2016/10/28
Fundamental Frequency :	1710.7 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Ashton
EUT Pol. :	E1	Measurement Antenna Pol. :	Vertical



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
40.67	S	-47.13	-46.37	0.00	-0.75	-13	-34.13
62.98	S	-44.42	-43.44	0.00	-0.98	-13	-31.42
80.44	S	-44.93	-43.86	0.00	-1.08	-13	-31.93
151.25	S	-54.89	-53.59	0.00	-1.31	-13	-41.89
207.51	S	-50.23	-48.56	0.00	-1.67	-13	-37.23
237.58	S	-47.62	-45.78	0.00	-1.84	-13	-34.62
3460.00	H	-49.04	-54.37	12.22	-6.89	-13	-36.04

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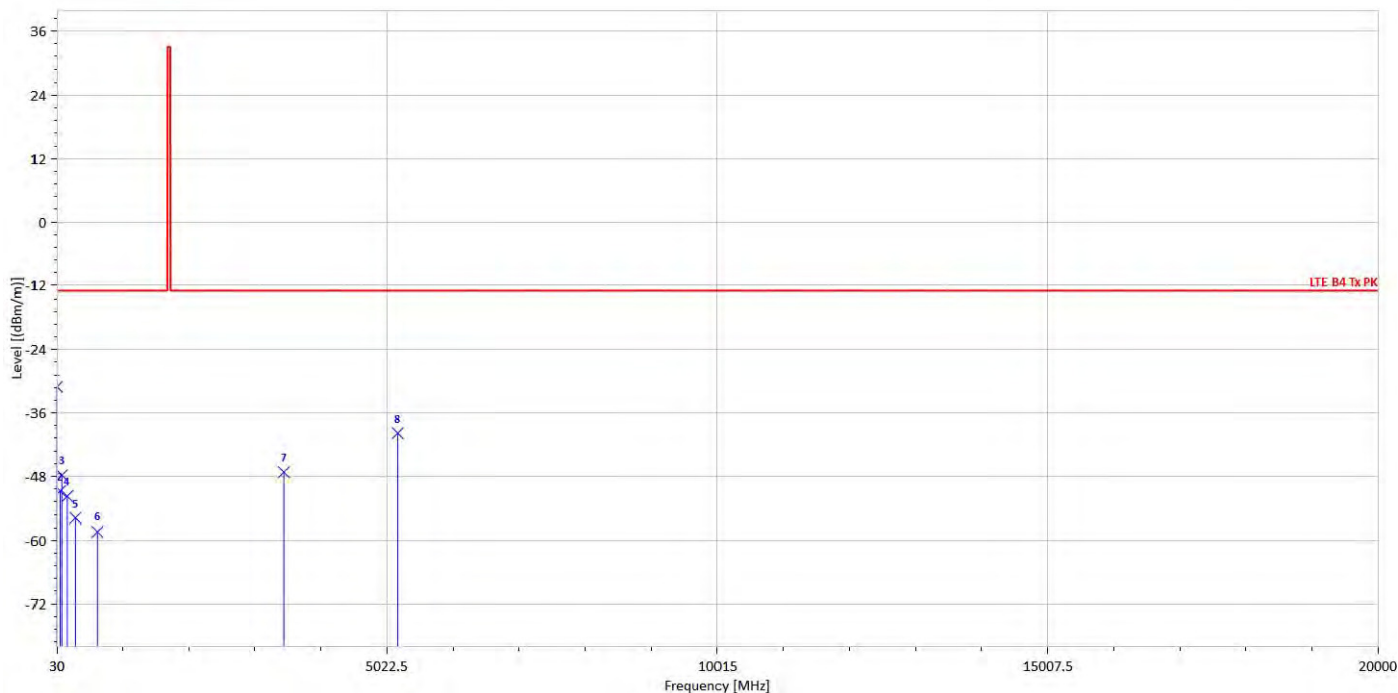
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Operation Mode : LTE B4 BW 20M 16QAM RB1,99
Fundamental Frequency : 1710.7 MHz
Operation Band : Tx CH Low
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
31.94	S	-31.02	-30.35	0.00	-0.67	-13	-18.02
81.41	S	-50.73	-49.66	0.00	-1.07	-13	-37.73
107.60	S	-47.70	-46.49	0.00	-1.21	-13	-34.70
189.08	S	-51.73	-50.14	0.00	-1.59	-13	-38.73
314.21	S	-55.85	-53.77	0.00	-2.09	-13	-42.85
650.80	S	-58.39	-55.74	0.00	-2.66	-13	-45.39
3460.00	H	-47.13	-52.47	12.22	-6.89	-13	-34.13
5190.00	H	-39.87	-43.83	12.41	-8.45	-13	-26.87

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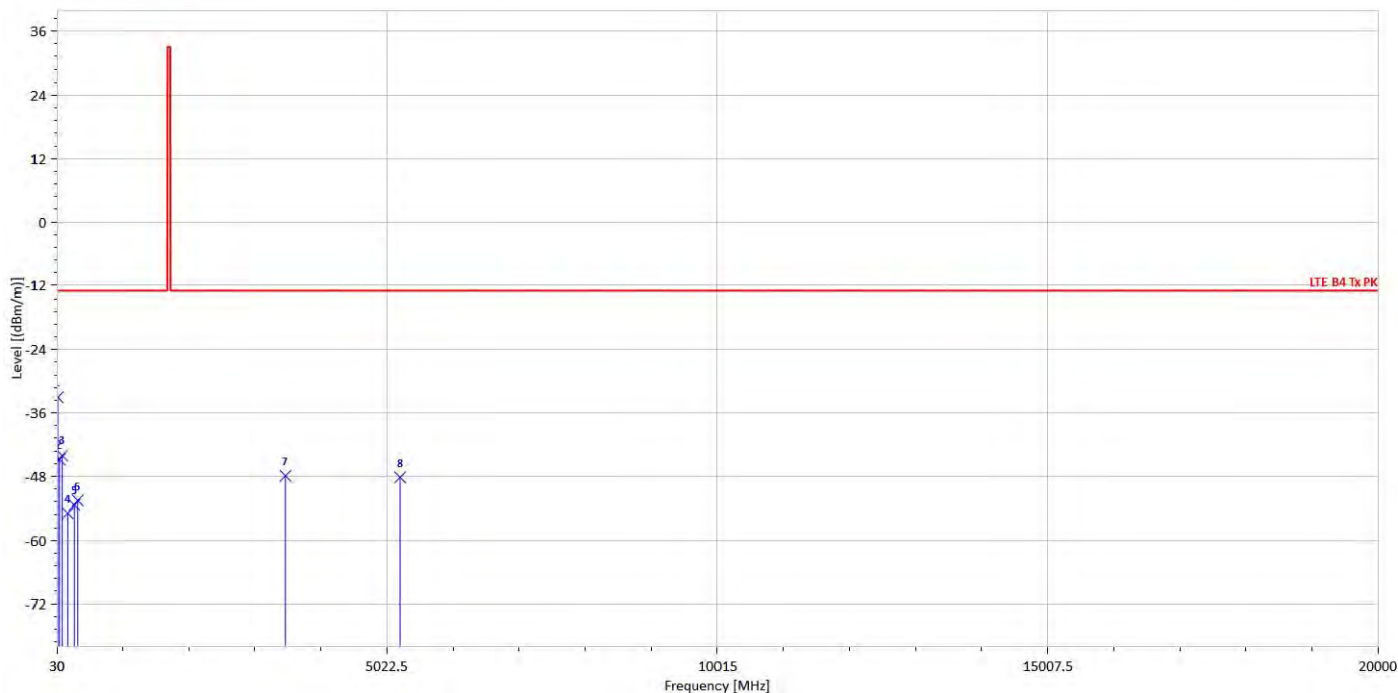
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Operation Mode : LTE B4 BW 20M 16QAM RB1,99
Fundamental Frequency : 1732.5 MHz
Operation Band : Tx CH Mid
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Vertical



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
44.55	S	-33.02	-32.20	0.00	-0.83	-13	-20.02
69.77	S	-44.70	-43.72	0.00	-0.98	-13	-31.70
111.48	S	-43.96	-42.73	0.00	-1.23	-13	-30.96
197.81	S	-55.02	-53.39	0.00	-1.63	-13	-42.02
298.69	S	-53.42	-51.41	0.00	-2.01	-13	-40.42
350.10	S	-52.53	-50.46	0.00	-2.08	-13	-39.53
3485.00	H	-47.85	-53.23	12.27	-6.88	-13	-34.85
5225.00	H	-48.13	-52.03	12.44	-8.53	-13	-35.13

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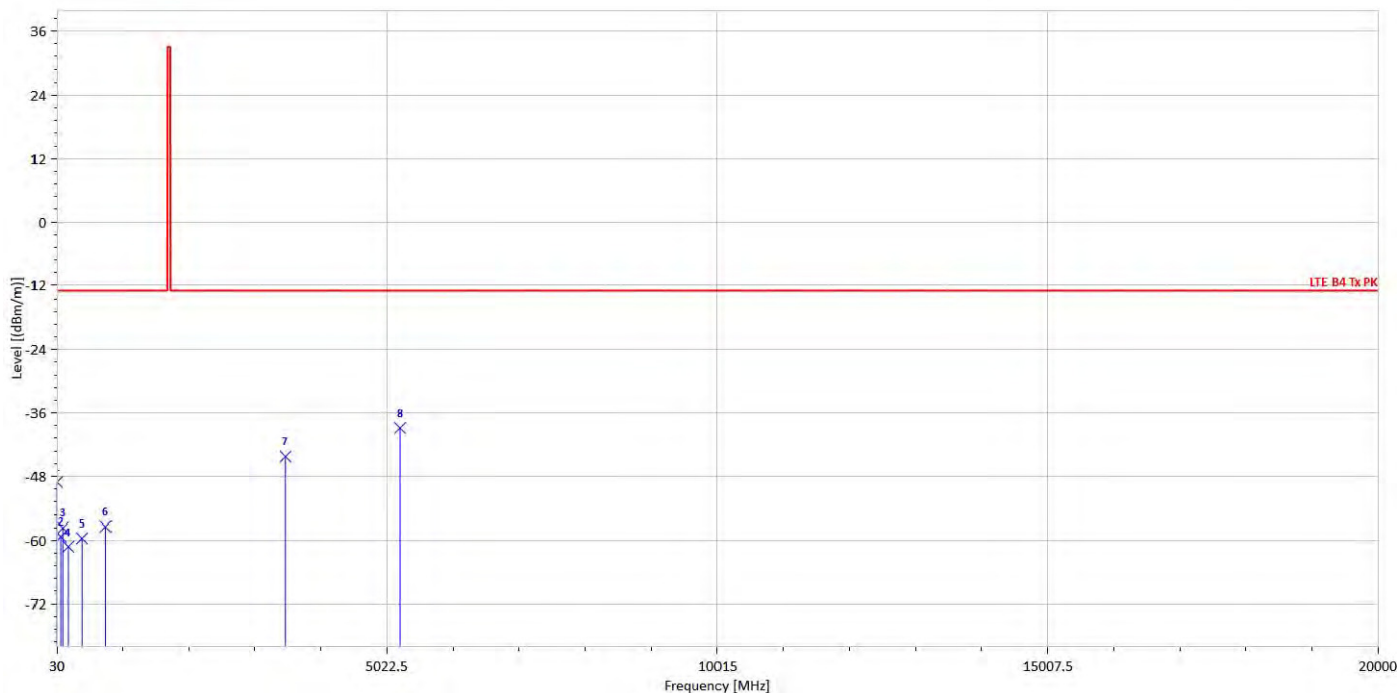
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Operation Mode : LTE B4 BW 20M 16QAM RB1,99
Fundamental Frequency : 1732.5 MHz
Operation Band : Tx CH Mid
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
31.94	S	-49.03	-48.37	0.00	-0.67	-13	-36.03
91.11	S	-59.31	-58.19	0.00	-1.12	-13	-46.31
122.15	S	-57.67	-56.40	0.00	-1.27	-13	-44.67
205.57	S	-61.21	-59.54	0.00	-1.67	-13	-48.21
415.09	S	-59.64	-57.41	0.00	-2.23	-13	-46.64
772.05	S	-57.44	-54.11	0.00	-3.33	-13	-44.44
3485.00	H	-44.17	-49.56	12.27	-6.88	-13	-31.17
5225.00	H	-38.88	-42.79	12.44	-8.53	-13	-25.88

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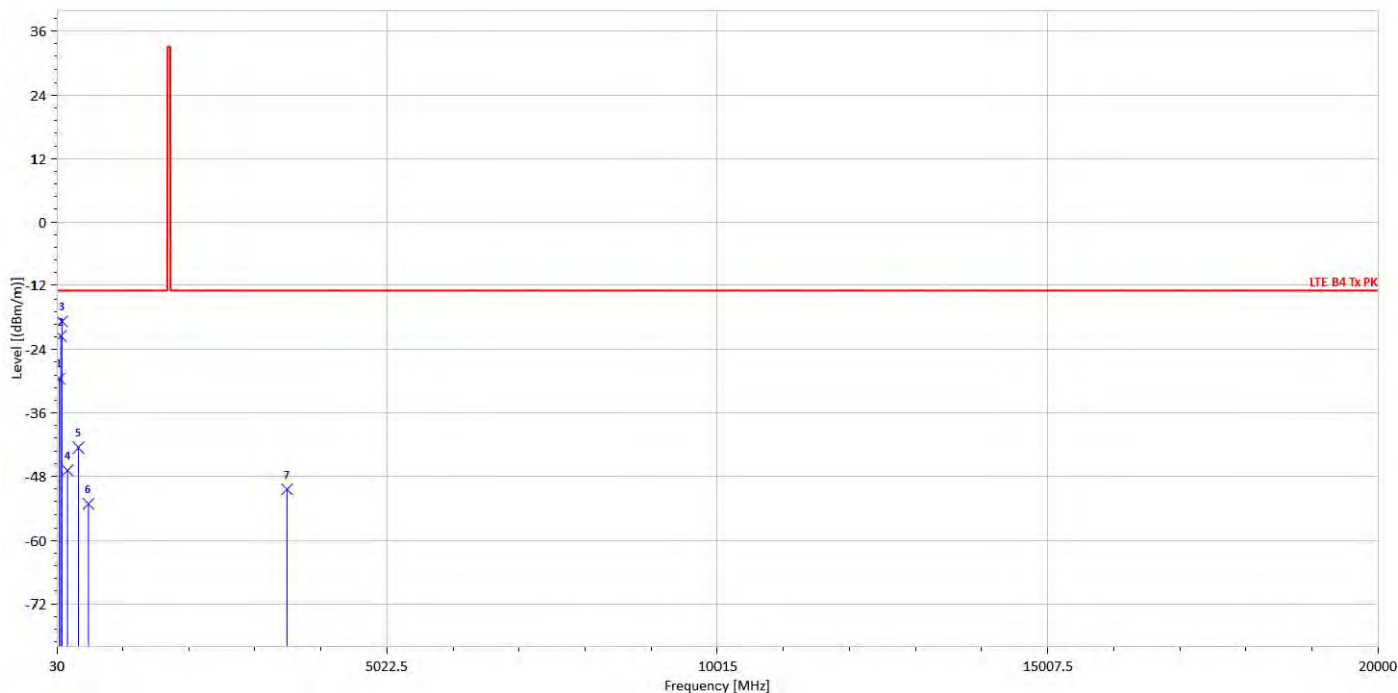
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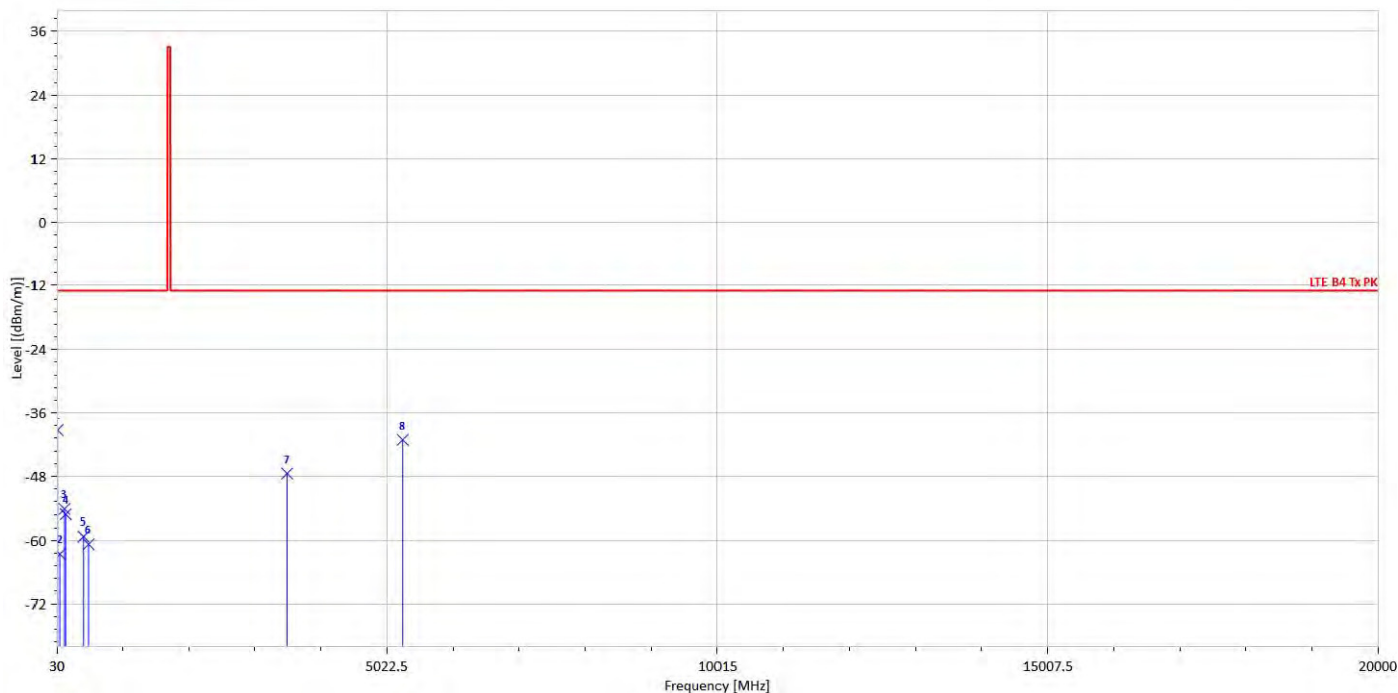
Operation Mode : LTE B4 BW 20M 16QAM RB1,99
Fundamental Frequency : 1745 MHz
Operation Band : Tx CH High
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Vertical



Operation Mode : LTE B4 BW 20M 16QAM RB1,99
Fundamental Frequency : 1745 MHz
Operation Band : Tx CH High
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
40.67	S	-39.27	-38.52	0.00	-0.75	-13	-26.27
75.59	S	-62.63	-61.61	0.00	-1.02	-13	-49.63
146.40	S	-54.15	-52.68	0.00	-1.47	-13	-41.15
165.80	S	-55.17	-53.63	0.00	-1.54	-13	-42.17
437.40	S	-59.28	-56.78	0.00	-2.50	-13	-46.28
515.00	S	-60.75	-58.22	0.00	-2.53	-13	-47.75
3510.00	H	-47.40	-52.70	12.30	-7.00	-13	-34.40
5265.00	H	-41.15	-45.05	12.46	-8.56	-13	-28.15

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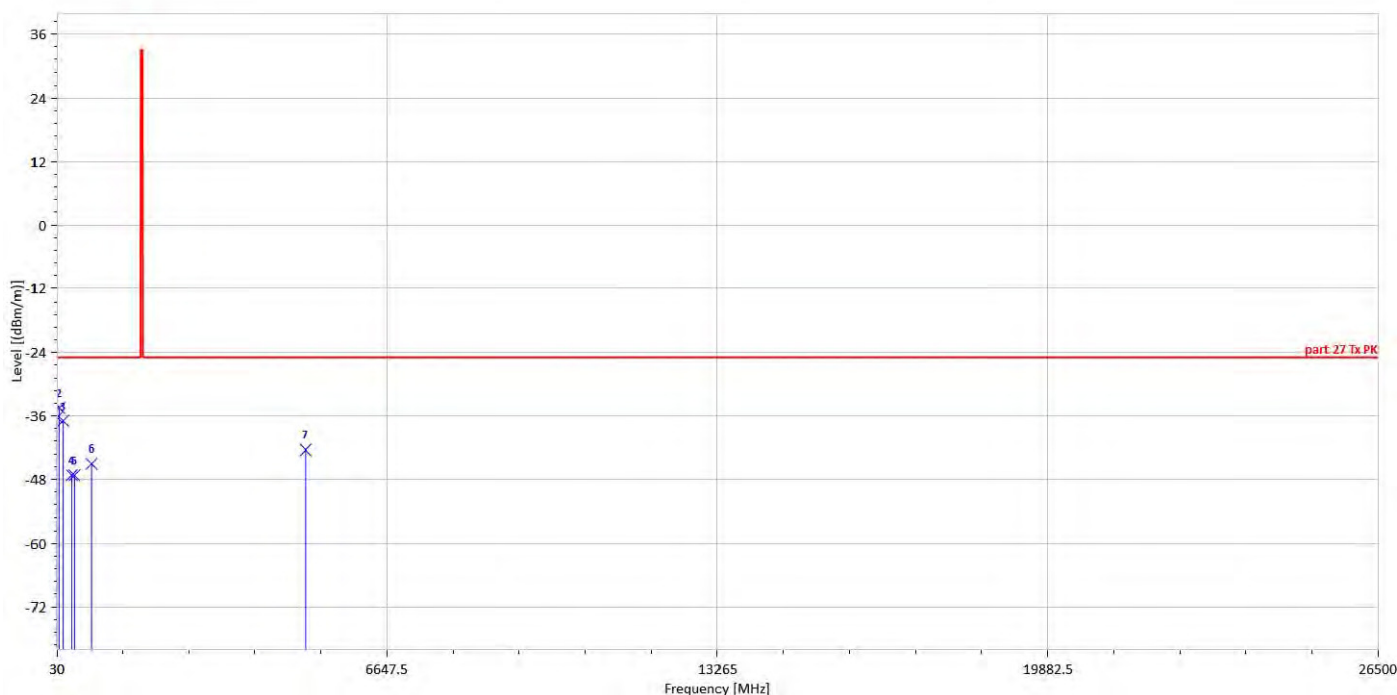
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Radiated Spurious Emission Measurement Result: LTE-Band 7 (The Worst Case)

Operation Mode :	LTE B7 BW 20M QPSK RB1,99	Test Date :	2016/10/28
Fundamental Frequency :	2510 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Ashton
EUT Pol. :	E1	Measurement Antenna Pol. :	Vertical



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
33.88	S	-36.30	-18.74	-16.88	-0.68	-25	-11.30
76.56	S	-34.47	-34.05	0.58	-1.00	-25	-9.47
158.04	S	-36.94	-38.80	3.38	-1.52	-25	-11.94
333.61	S	-47.13	-50.80	5.91	-2.24	-25	-22.13
386.96	S	-47.15	-50.62	5.79	-2.31	-25	-22.15
734.22	S	-44.99	-49.59	7.61	-3.01	-25	-19.99
5020.00	H	-42.41	-46.42	12.31	-8.30	-25	-17.41

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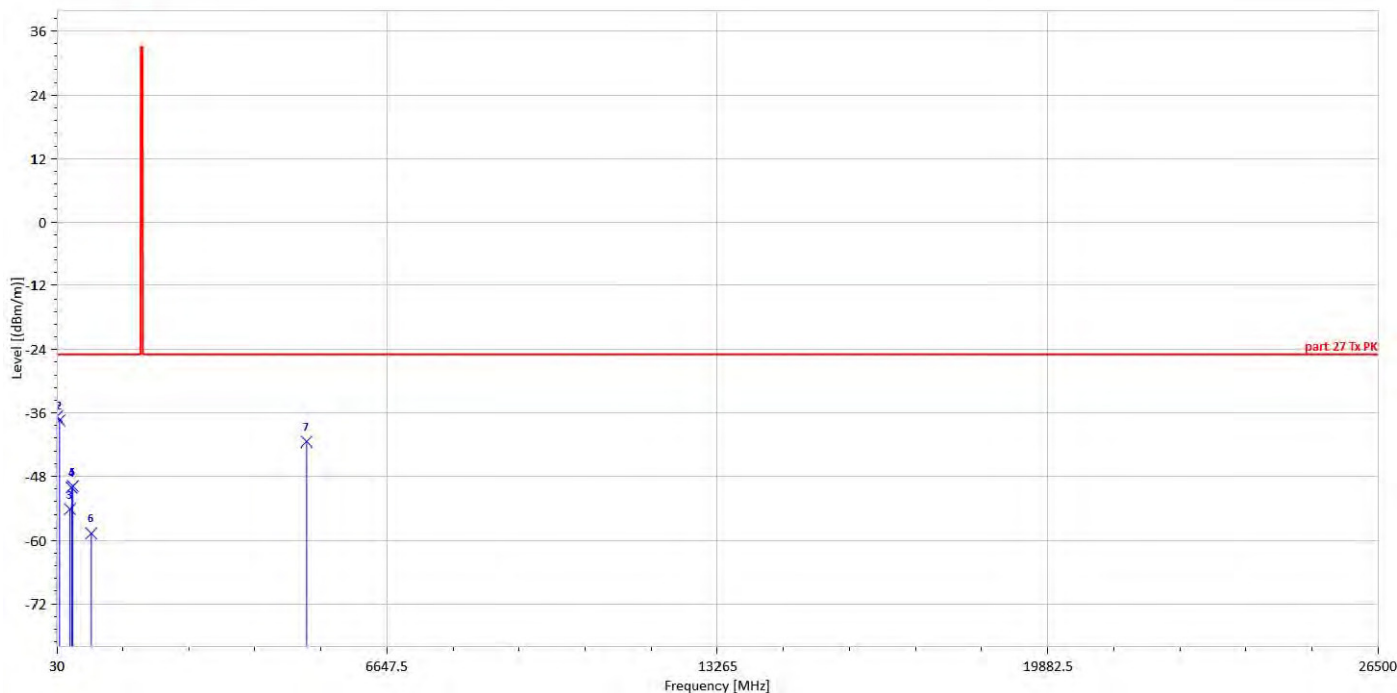
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Operation Mode : LTE B7 BW 20M QPSK RB1,99
Fundamental Frequency : 2510 MHz
Operation Band : Tx CH Low
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
33.88	S	-36.67	-19.10	-16.88	-0.68	-25	-11.67
83.35	S	-37.43	-36.79	0.45	-1.08	-25	-12.43
294.81	S	-54.20	-58.09	5.90	-2.01	-25	-29.20
328.76	S	-50.09	-54.00	5.92	-2.01	-25	-25.09
353.98	S	-49.78	-53.42	5.88	-2.23	-25	-24.78
728.40	S	-58.65	-63.07	7.61	-3.19	-25	-33.65
5039.00	H	-41.45	-45.43	12.32	-8.34	-25	-16.45

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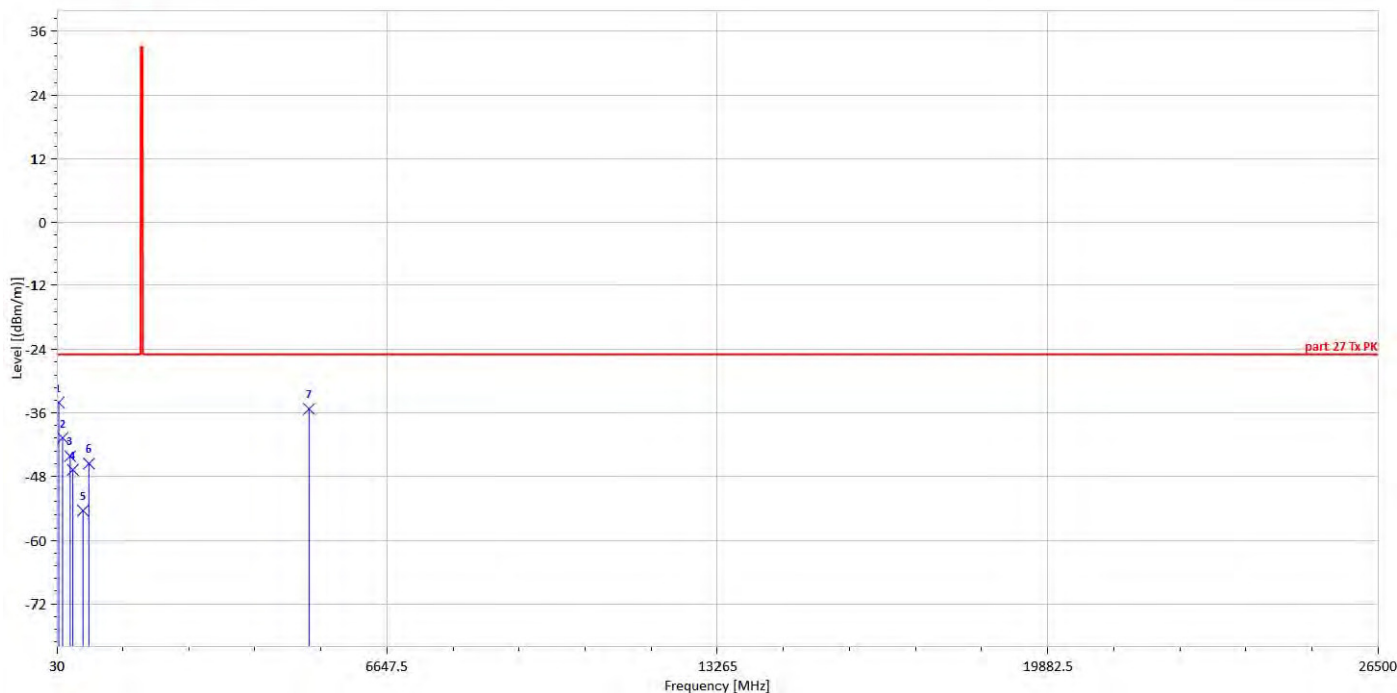
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Operation Mode : LTE B7 BW 20M QPSK RB1,99
Fundamental Frequency : 2535 MHz
Operation Band : Tx CH Mid
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Vertical



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
68.80	S	-34.00	-33.31	0.25	-0.94	-25	-9.00
147.37	S	-40.77	-41.54	2.16	-1.40	-25	-15.77
300.63	S	-44.08	-48.05	5.95	-1.98	-25	-19.08
353.98	S	-46.69	-50.34	5.88	-2.23	-25	-21.69
561.56	S	-54.50	-58.17	6.52	-2.85	-25	-29.50
680.87	S	-45.49	-50.08	7.40	-2.81	-25	-20.49
5088.00	H	-35.25	-39.22	12.35	-8.38	-25	-10.25

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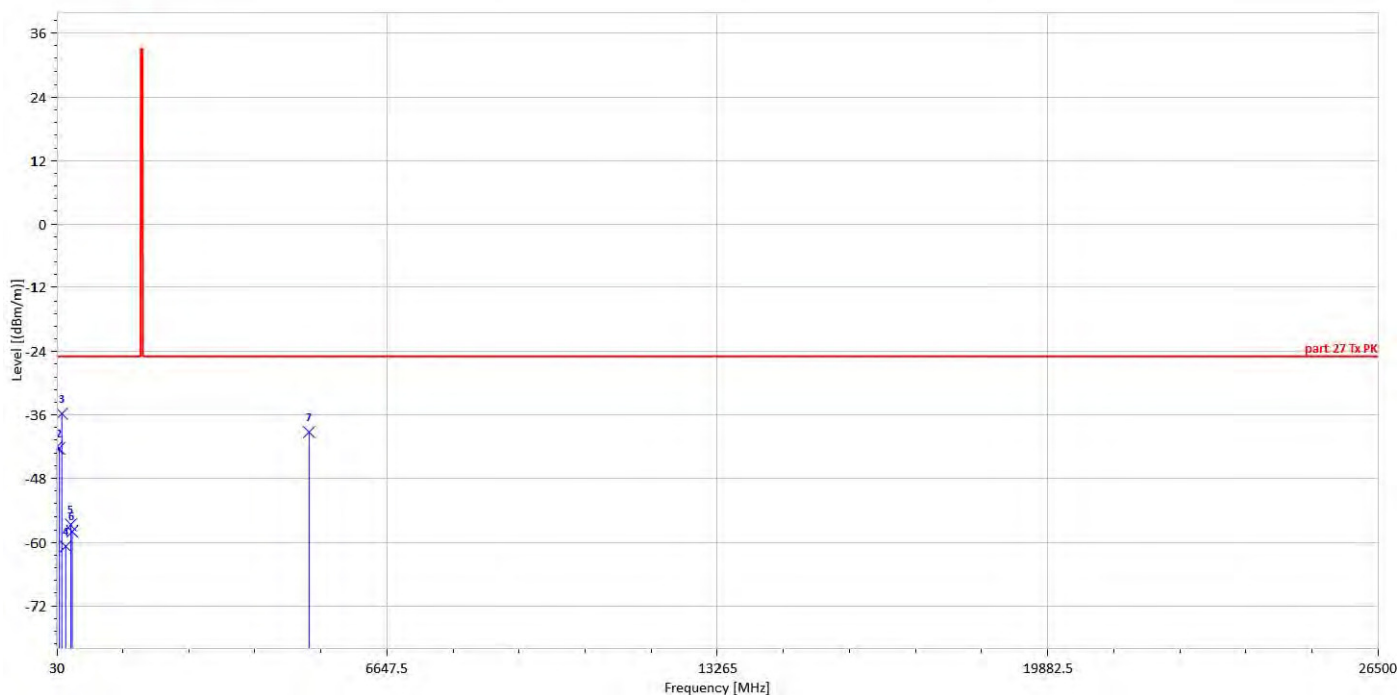
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Operation Mode : LTE B7 BW 20M QPSK RB1,99
Fundamental Frequency : 2535 MHz
Operation Band : Tx CH Mid
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
33.88	S	-42.07	-24.50	-16.88	-0.68	-25	-17.07
79.47	S	-42.33	-41.93	0.66	-1.06	-25	-17.33
132.82	S	-35.75	-34.67	0.24	-1.32	-25	-10.75
210.42	S	-60.74	-65.12	6.08	-1.70	-25	-35.74
314.21	S	-56.74	-60.59	5.94	-2.09	-25	-31.74
341.37	S	-57.92	-61.73	5.90	-2.10	-25	-32.92
5088.00	H	-39.28	-43.26	12.35	-8.38	-25	-14.28

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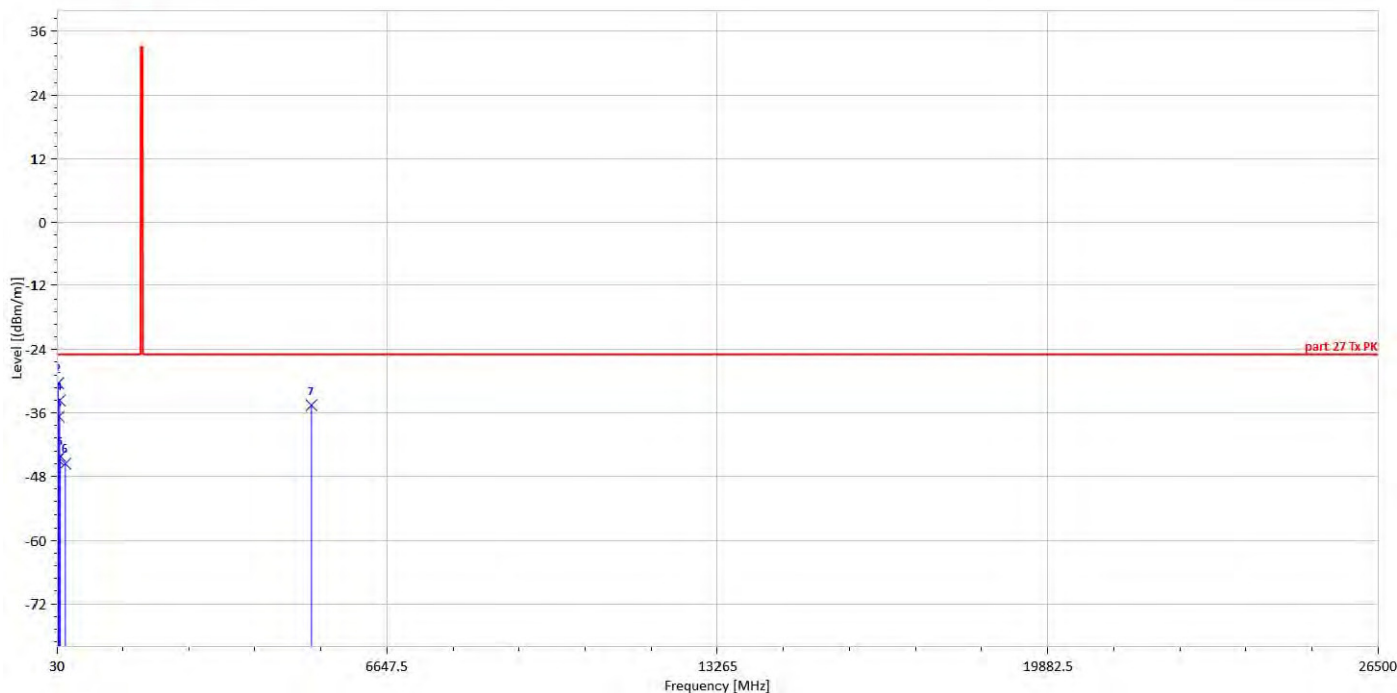
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Operation Mode : LTE B7 BW 20M QPSK RB1,99
Fundamental Frequency : 2560 MHz
Operation Band : Tx CH High
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Vertical



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
47.46	S	-44.67	-37.40	-6.49	-0.77	-25	-19.67
55.22	S	-30.32	-26.65	-2.83	-0.85	-25	-5.32
69.77	S	-36.73	-36.13	0.38	-0.98	-25	-11.73
86.26	S	-33.61	-32.78	0.25	-1.07	-25	-8.61
99.84	S	-44.08	-42.03	-0.88	-1.17	-25	-19.08
201.69	S	-45.53	-49.73	5.87	-1.66	-25	-20.53
5137.00	H	-34.52	-38.49	12.38	-8.41	-25	-9.52

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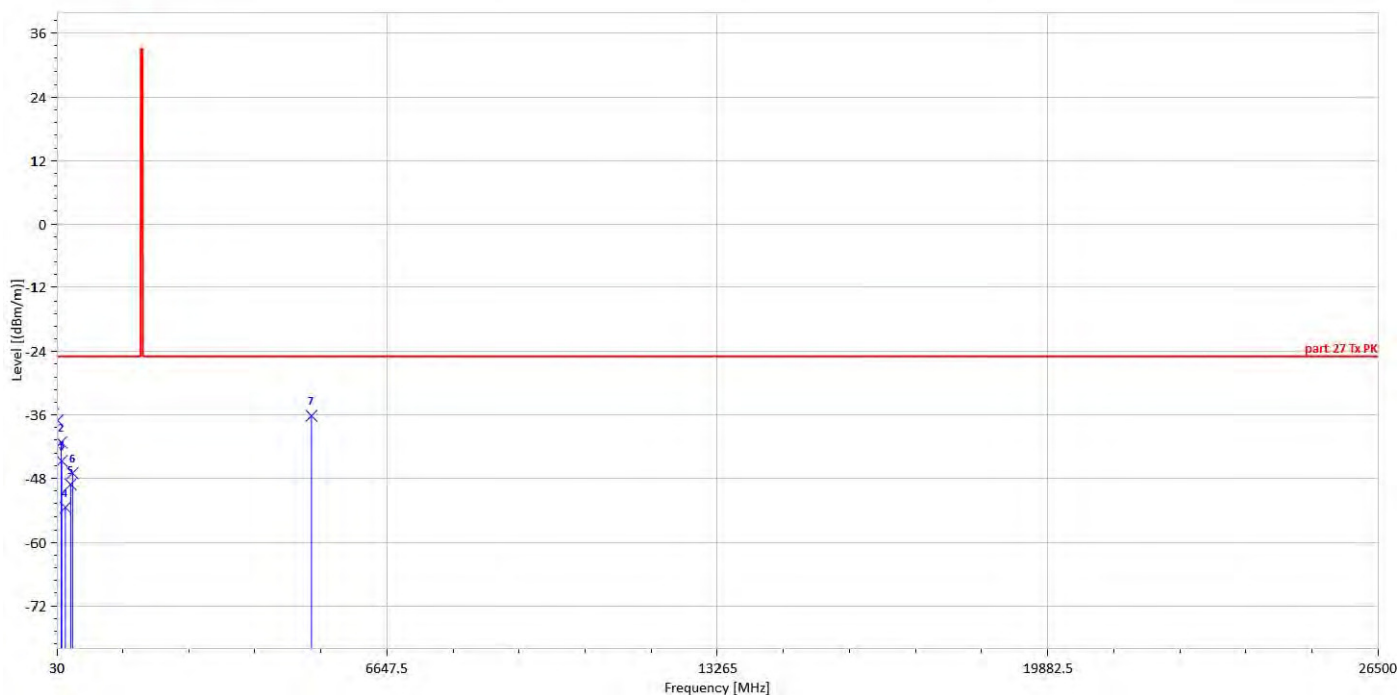
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Operation Mode : LTE B7 BW 20M QPSK RB1,99
Fundamental Frequency : 2560 MHz
Operation Band : Tx CH High
EUT Pol. : E1

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
42.61	S	-37.06	-26.44	-9.85	-0.76	-25	-12.06
118.27	S	-41.23	-39.04	-0.89	-1.30	-25	-16.23
129.91	S	-44.61	-43.20	-0.12	-1.29	-25	-19.61
202.66	S	-53.47	-57.69	5.89	-1.67	-25	-28.47
309.36	S	-49.10	-53.06	5.94	-1.98	-25	-24.10
349.13	S	-46.93	-50.74	5.89	-2.08	-25	-21.93
5137.00	H	-36.17	-40.14	12.38	-8.41	-25	-11.17

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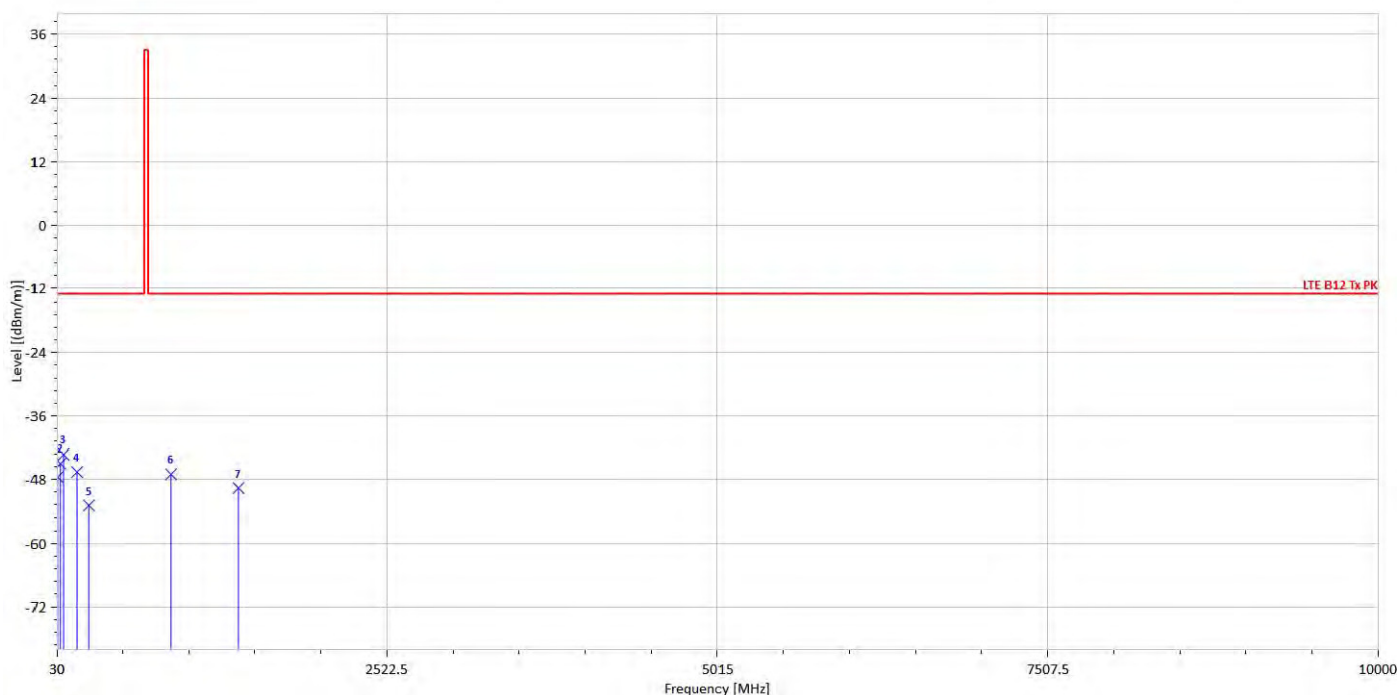
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Radiated Spurious Emission Measurement Result: LTE-Band 12 (The Worst Case)

Operation Mode :	LTE B12 BW 5M QPSK RB1,24	Test Date :	2016/10/28
Fundamental Frequency :	701.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



Freq.	Note	ERP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
35.82	S	-47.52	-29.40	-17.39	-0.73	-13	-34.52
57.16	S	-44.98	-39.90	-4.21	-0.87	-13	-31.98
81.41	S	-43.24	-40.60	-1.57	-1.07	-13	-30.24
184.23	S	-46.56	-48.68	3.76	-1.64	-13	-33.56
274.44	S	-52.92	-54.44	3.43	-1.91	-13	-39.92
895.24	S	-47.00	-49.00	5.63	-3.62	-13	-34.00
1403.00	H	-49.59	-51.12	5.88	-4.36	-13	-36.59

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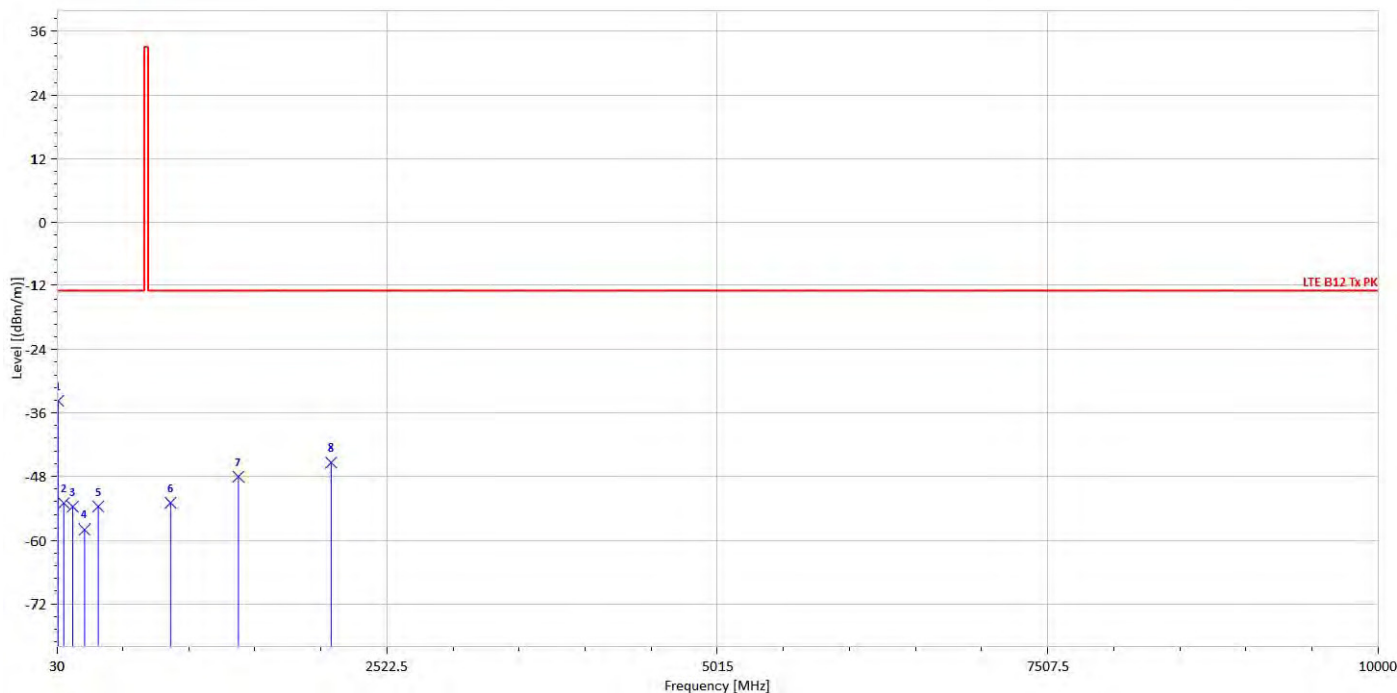
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Member of SGS Group

Operation Mode : LTE B12 BW 5M QPSK RB1,24
Fundamental Frequency : 701.5 MHz
Operation Band : Tx CH Low
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq. MHz	Note F/H/E/S	ERP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
39.70	S	-33.69	-18.71	-14.24	-0.73	-13	-20.69
83.35	S	-53.05	-50.27	-1.70	-1.08	-13	-40.05
151.25	S	-53.73	-52.94	0.51	-1.31	-13	-40.73
241.46	S	-57.95	-59.59	3.50	-1.86	-13	-44.95
346.22	S	-53.69	-55.28	3.75	-2.16	-13	-40.69
892.33	S	-52.99	-55.13	5.61	-3.47	-13	-39.99
1403.00	H	-48.00	-49.53	5.88	-4.36	-13	-35.00
2104.50	H	-45.31	-47.96	8.01	-5.37	-13	-32.31

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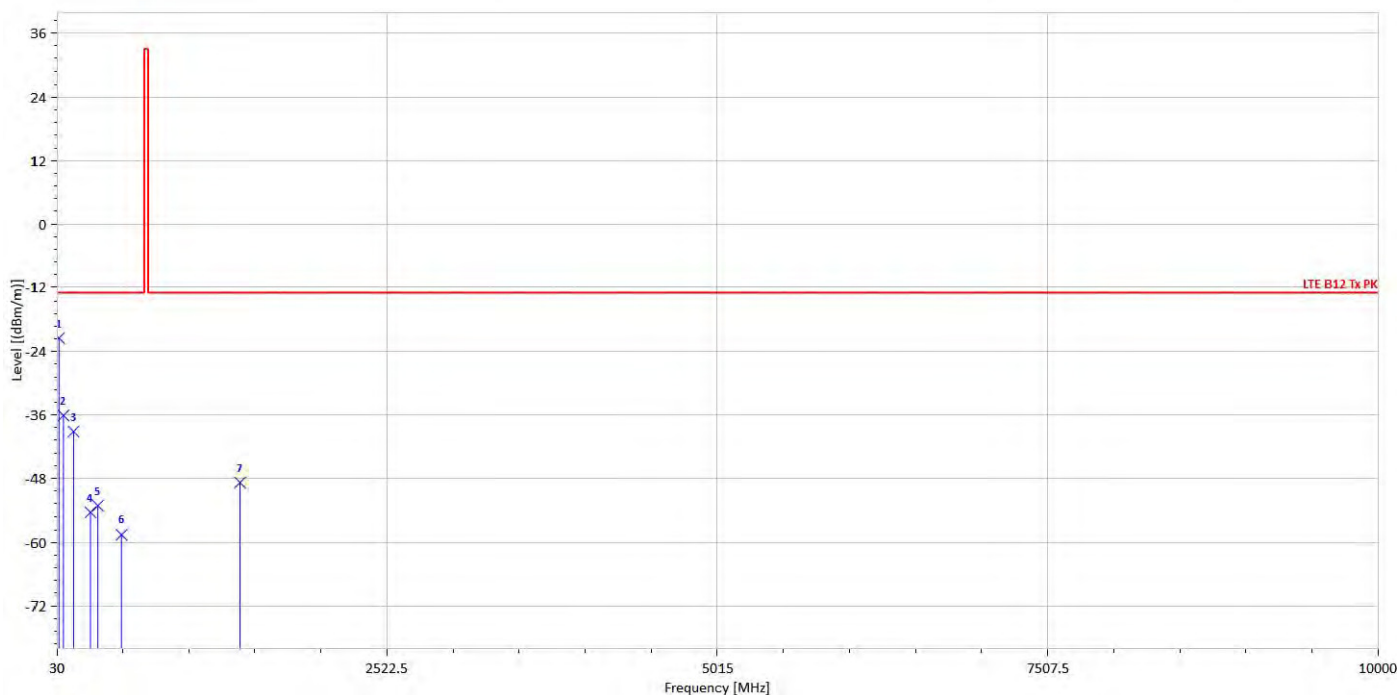
f (886-2) 2298-0488

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Operation Mode : LTE B12 BW 5M QPSK RB1,24
Fundamental Frequency : 707.5 MHz
Operation Band : Tx CH Mid
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Vertical



Freq. MHz	Note F/H/E/S	ERP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
46.49	S	-21.50	-11.48	-9.25	-0.77	-13	-8.50
80.44	S	-36.11	-33.52	-1.51	-1.08	-13	-23.11
158.04	S	-39.19	-38.90	1.23	-1.52	-13	-26.19
287.05	S	-54.42	-56.09	3.68	-2.01	-13	-41.42
343.31	S	-53.17	-54.62	3.75	-2.30	-13	-40.17
516.94	S	-58.53	-60.39	4.25	-2.39	-13	-45.53
1415.00	H	-48.74	-50.29	5.93	-4.38	-13	-35.74

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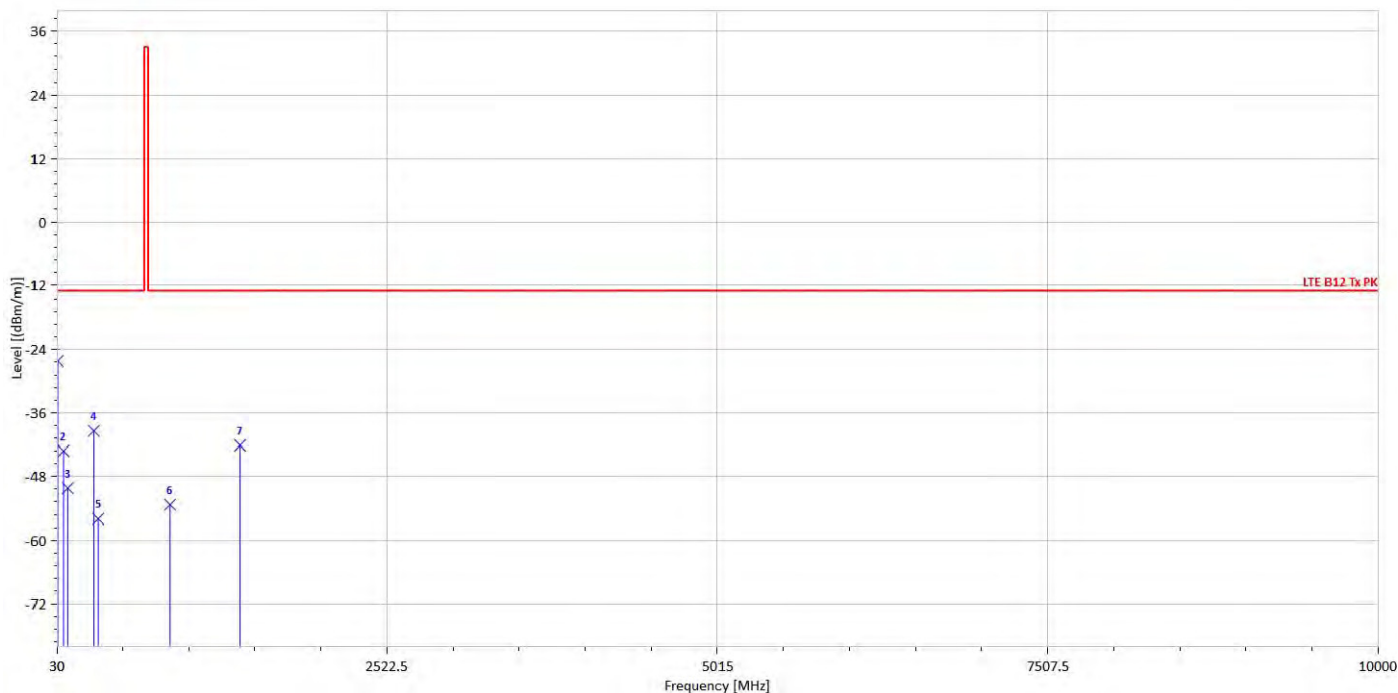
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Operation Mode : LTE B12 BW 5M QPSK RB1,24
Fundamental Frequency : 707.5 MHz
Operation Band : Tx CH Mid
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq. MHz	Note F/H/E/S	ERP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
36.79	S	-26.24	-8.92	-16.61	-0.71	-13	-13.24
81.41	S	-43.16	-40.52	-1.57	-1.07	-13	-30.16
113.42	S	-50.20	-45.71	-3.26	-1.24	-13	-37.20
312.27	S	-39.42	-41.10	3.79	-2.11	-13	-26.42
346.22	S	-56.01	-57.60	3.75	-2.16	-13	-43.01
887.48	S	-53.35	-55.53	5.60	-3.41	-13	-40.35
1415.00	H	-42.11	-43.66	5.93	-4.38	-13	-29.11

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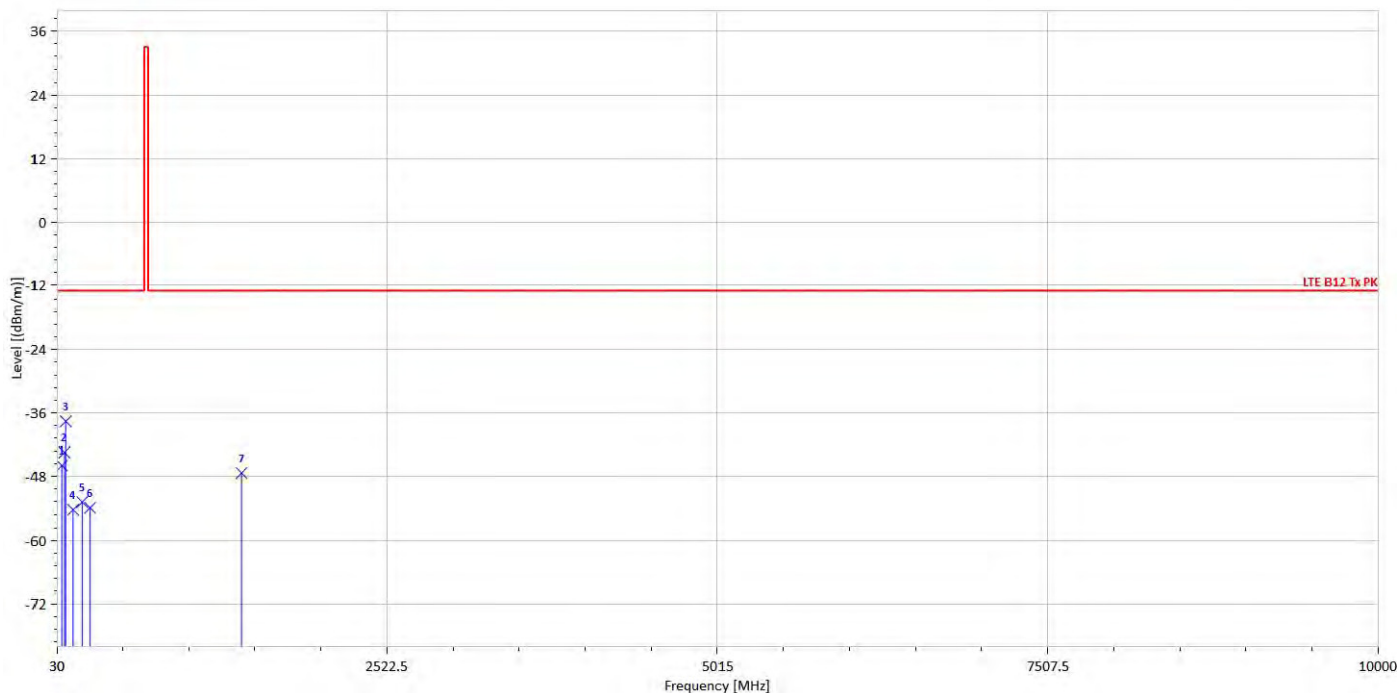
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Operation Mode : LTE B12 BW 5M QPSK RB1,24
Fundamental Frequency : 713.5 MHz
Operation Band : Tx CH High
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Vertical



Freq. MHz	Note F/H/E/S	ERP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
68.80	S	-45.89	-43.06	-1.90	-0.94	-13	-32.89
88.20	S	-43.39	-40.26	-2.03	-1.10	-13	-30.39
97.90	S	-37.60	-33.59	-2.85	-1.16	-13	-24.60
154.16	S	-54.31	-53.55	0.82	-1.58	-13	-41.31
224.00	S	-52.85	-55.38	4.28	-1.75	-13	-39.85
284.14	S	-53.94	-55.64	3.65	-1.95	-13	-40.94
1427.00	H	-47.31	-48.89	5.97	-4.39	-13	-34.31

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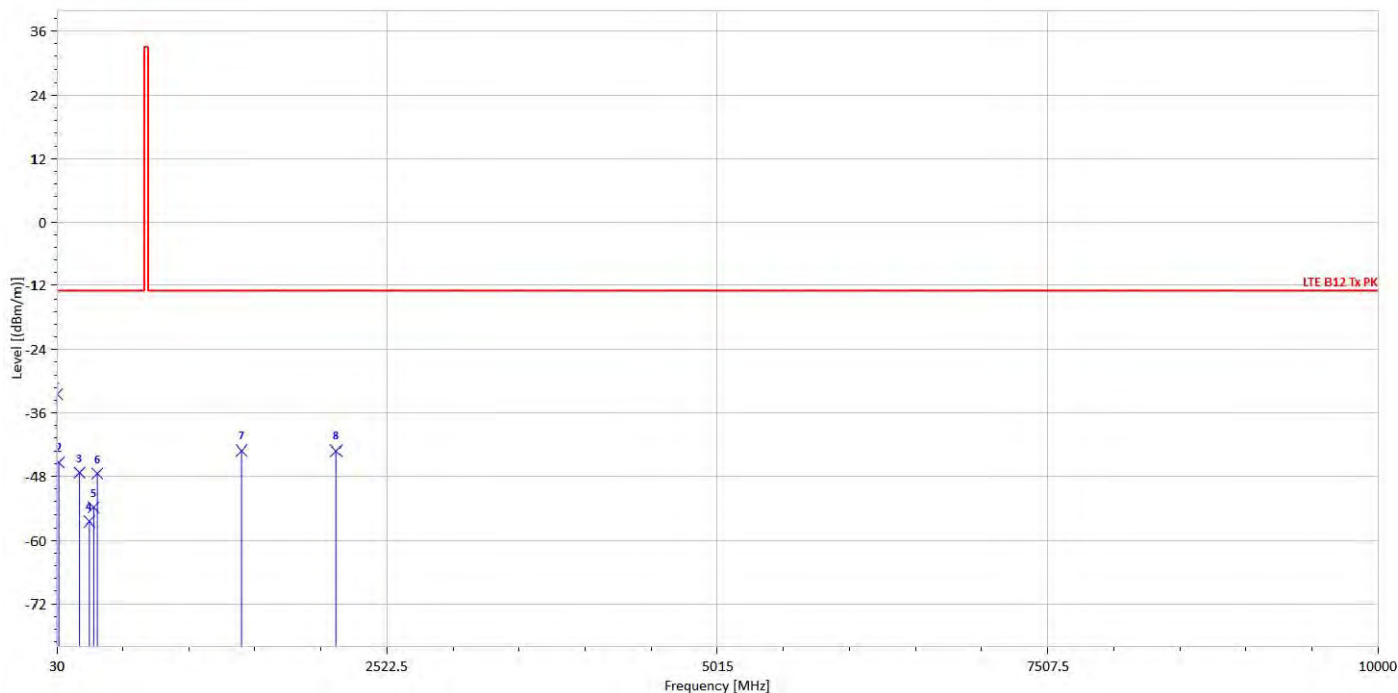
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Operation Mode : LTE B12 BW 5M QPSK RB1,24
Fundamental Frequency : 713.5 MHz
Operation Band : Tx CH High
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq. MHz	Note F/H/E/S	ERP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
31.94	S	-32.44	-11.06	-20.71	-0.67	-13	-19.44
45.52	S	-45.29	-34.64	-9.85	-0.80	-13	-32.29
203.63	S	-47.22	-49.31	3.76	-1.67	-13	-34.22
278.32	S	-56.49	-58.06	3.55	-1.98	-13	-43.49
311.30	S	-53.86	-55.62	3.79	-2.03	-13	-40.86
339.43	S	-47.39	-49.07	3.75	-2.08	-13	-34.39
1427.00	H	-43.09	-44.67	5.97	-4.39	-13	-30.09
2140.50	H	-43.12	-45.70	8.03	-5.46	-13	-30.12

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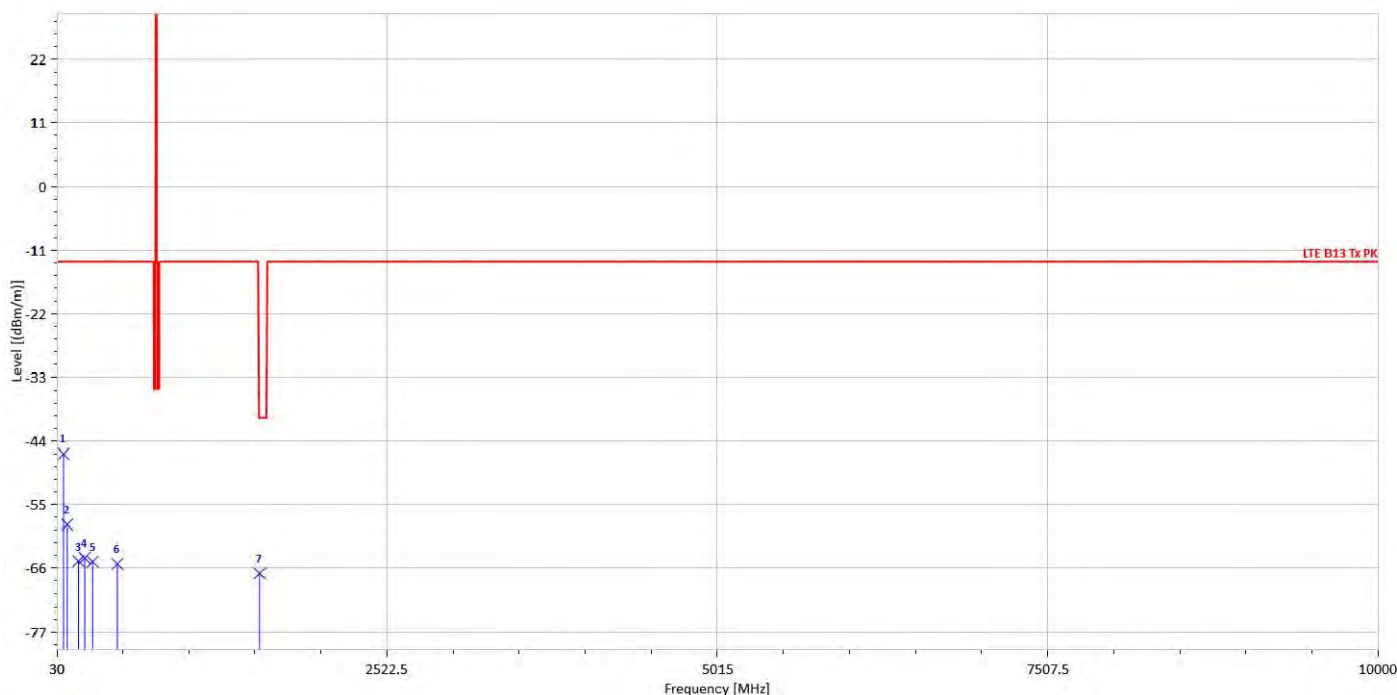
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Radiated Spurious Emission Measurement Result: LTE-Band 13 (The Worst Case)

Operation Mode :	LTEB13 5M QPSK RB1,24	Test Date :	2016/10/28
Fundamental Frequency :	782.0 MHz	Temp. / Humi. :	22.7 deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



Freq.	Note	ERP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
81.41	S	-46.20	-43.55	-1.57	-1.07	-13	-33.20
109.54	S	-58.46	-53.83	-3.40	-1.24	-13	-45.46
194.90	S	-64.76	-66.98	3.86	-1.64	-13	-51.76
242.43	S	-64.22	-65.86	3.46	-1.81	-13	-51.22
303.54	S	-64.88	-66.59	3.80	-2.08	-13	-51.88
484.93	S	-65.26	-67.09	4.20	-2.37	-13	-52.26
1564.00	H	-66.90	-68.76	6.47	-4.60	-40	-26.90

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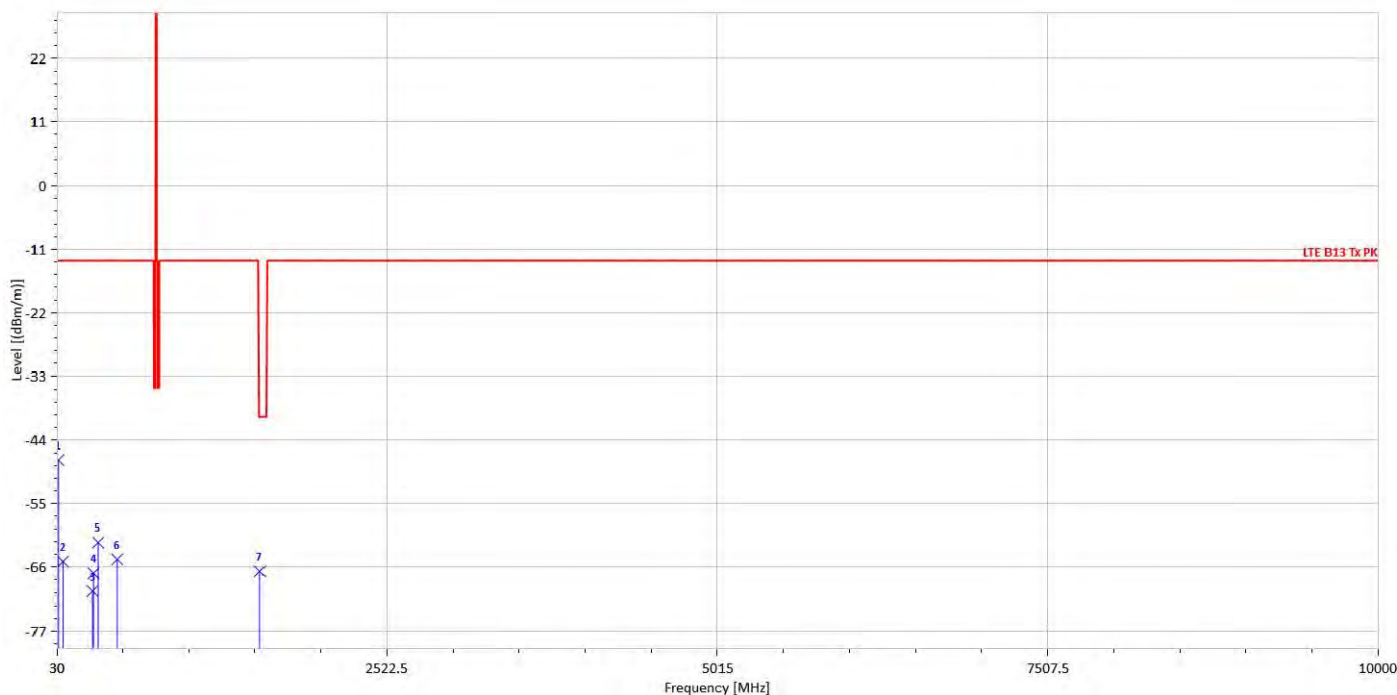
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Operation Mode :	LTEB13 5M QPSK RB1,24	Test Date :	2016/10/28
Fundamental Frequency :	782.0 MHz	Temp. / Humi. :	22.7 deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



Freq.	Note	ERP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
42.61	S	-47.41	-34.65	-12.00	-0.76	-13	-34.41
76.56	S	-65.03	-62.45	-1.57	-1.00	-13	-52.03
302.57	S	-70.16	-71.92	3.80	-2.04	-13	-57.16
310.33	S	-67.08	-68.90	3.79	-1.96	-13	-54.08
345.25	S	-61.70	-63.27	3.75	-2.18	-13	-48.70
483.96	S	-64.62	-66.47	4.20	-2.36	-13	-51.62
1564.00	H	-66.73	-68.60	6.47	-4.60	-40	-26.73

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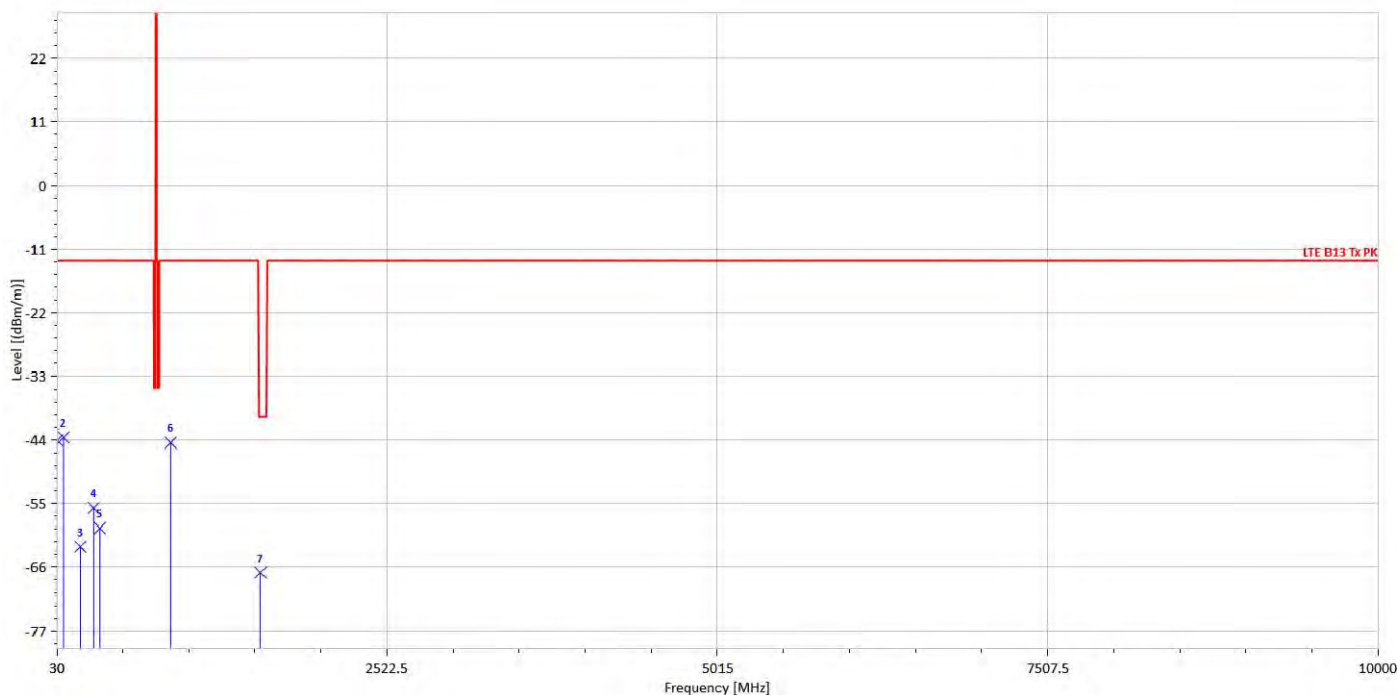
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Operation Mode :	LTEB13 5M QPSK RB1,24	Test Date :	2016/10/28
Fundamental Frequency :	784.5 MHz	Temp. / Humi. :	22.7 deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



Freq.	Note	ERP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
35.82	S	-49.55	-31.43	-17.39	-0.73	-13	-36.55
85.29	S	-65.68	-62.76	-1.84	-1.08	-13	-52.68
111.48	S	-68.05	-63.47	-3.34	-1.23	-13	-55.05
191.02	S	-68.65	-71.04	4.00	-1.62	-13	-55.65
483.96	S	-64.59	-66.44	4.20	-2.36	-13	-51.59
553.80	S	-65.36	-66.88	4.30	-2.78	-13	-52.36
1569.00	H	-67.01	-68.88	6.48	-4.61	-40	-27.01

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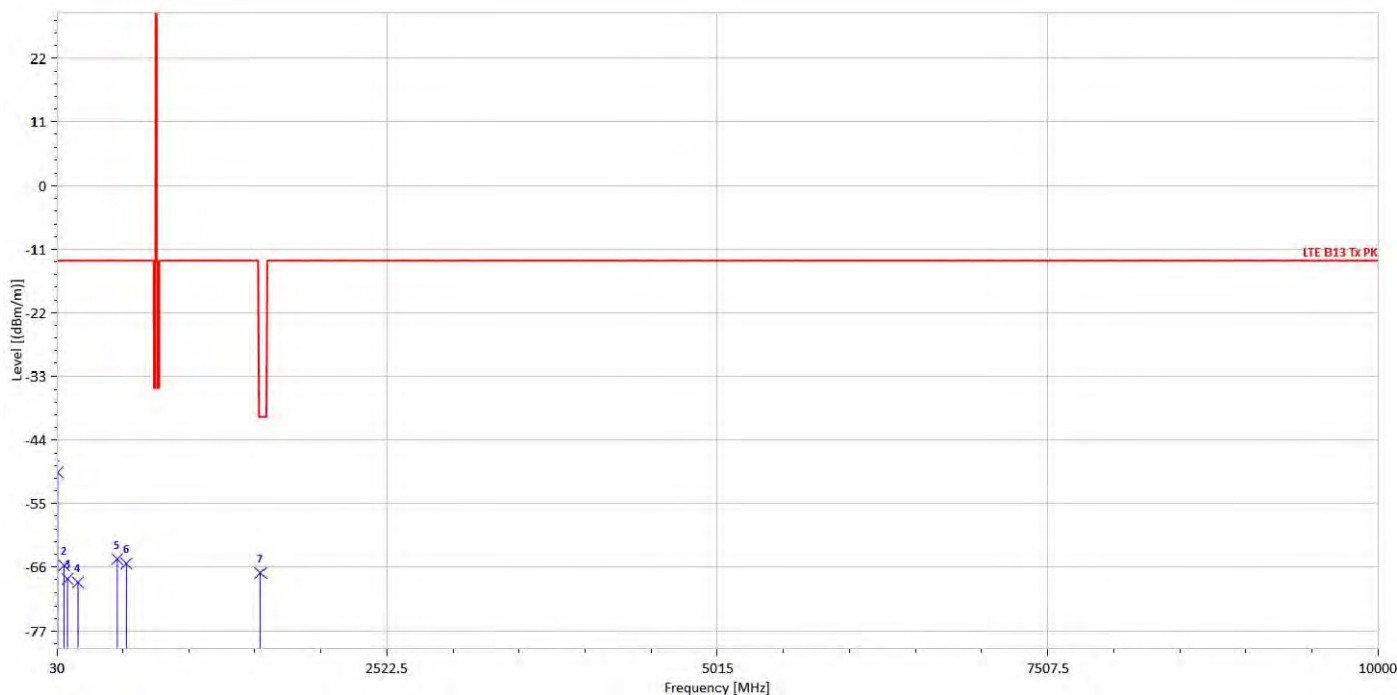
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Operation Mode :	LTEB13 5M QPSK RB1,24	Test Date :	2016/10/28
Fundamental Frequency :	784.5 MHz	Temp. / Humi. :	22.7 deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



Freq.	Note	ERP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
32.91	S	-44.13	-23.58	-19.87	-0.67	-13	-31.13
81.41	S	-43.62	-40.98	-1.57	-1.07	-13	-30.62
209.45	S	-62.43	-64.63	3.89	-1.69	-13	-49.43
311.30	S	-55.81	-57.57	3.79	-2.03	-13	-42.81
358.83	S	-59.23	-60.84	3.72	-2.10	-13	-46.23
892.33	S	-44.51	-46.66	5.61	-3.47	-13	-31.51
1569.00	H	-66.96	-68.83	6.48	-4.61	-40	-26.96

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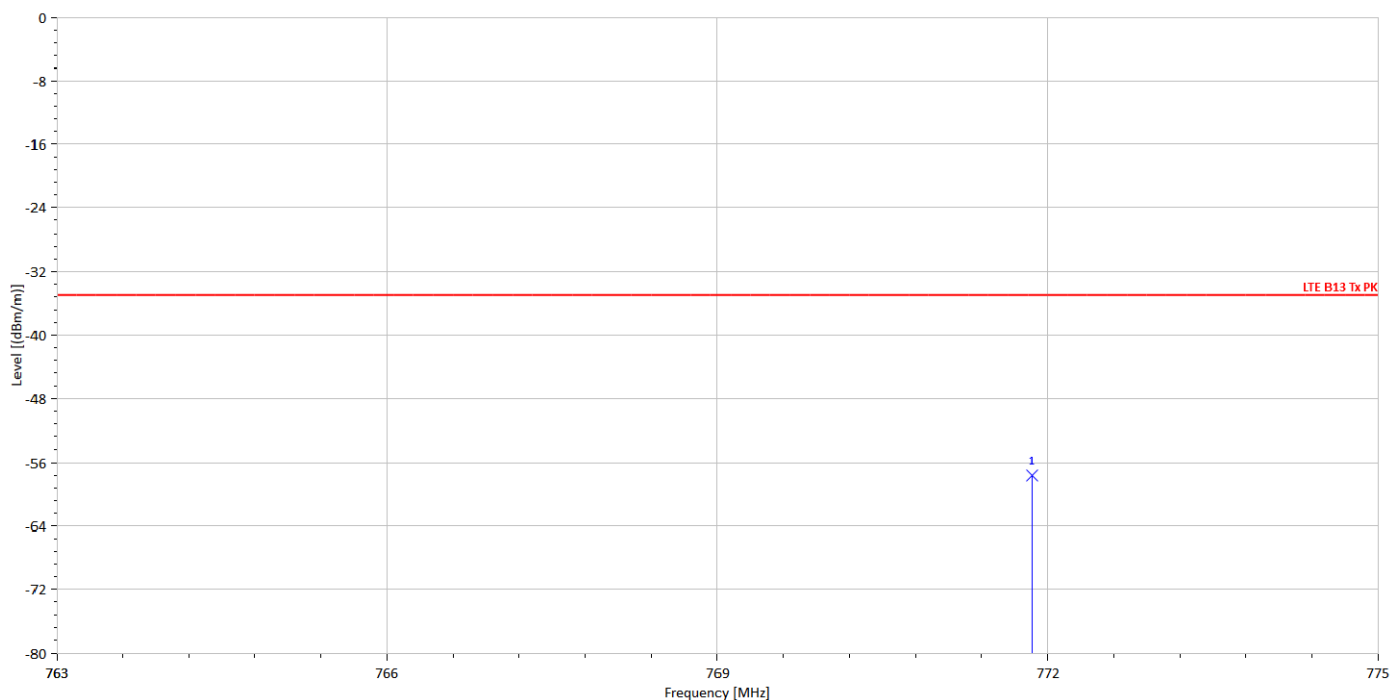
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Operation Mode :	LTEB13 5M QPSK RB1,24	Test Date :	2016/10/28
Fundamental Frequency :	782.0 MHz	Temp. / Humi. :	22.7 deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



Freq.	Note	ERP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
771.86	S	-57.62	-59.77	5.49	-3.34	-35	-22.62

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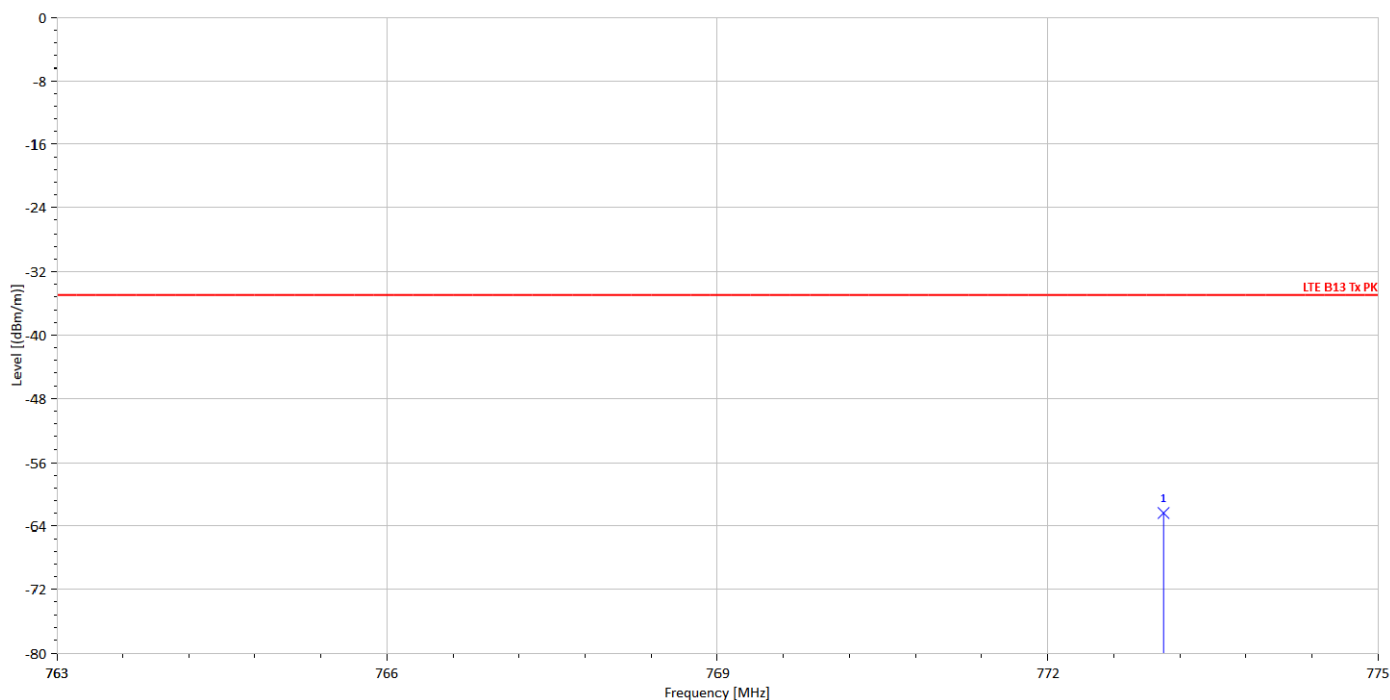
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Operation Mode :	LTEB13 5M QPSK RB1,24	Test Date :	2016/10/28
Fundamental Frequency :	782.0 MHz	Temp. / Humi. :	22.7 deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



Freq.	Note	ERP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
773.06	S	-62.40	-64.78	5.49	-3.11	-35	-27.40

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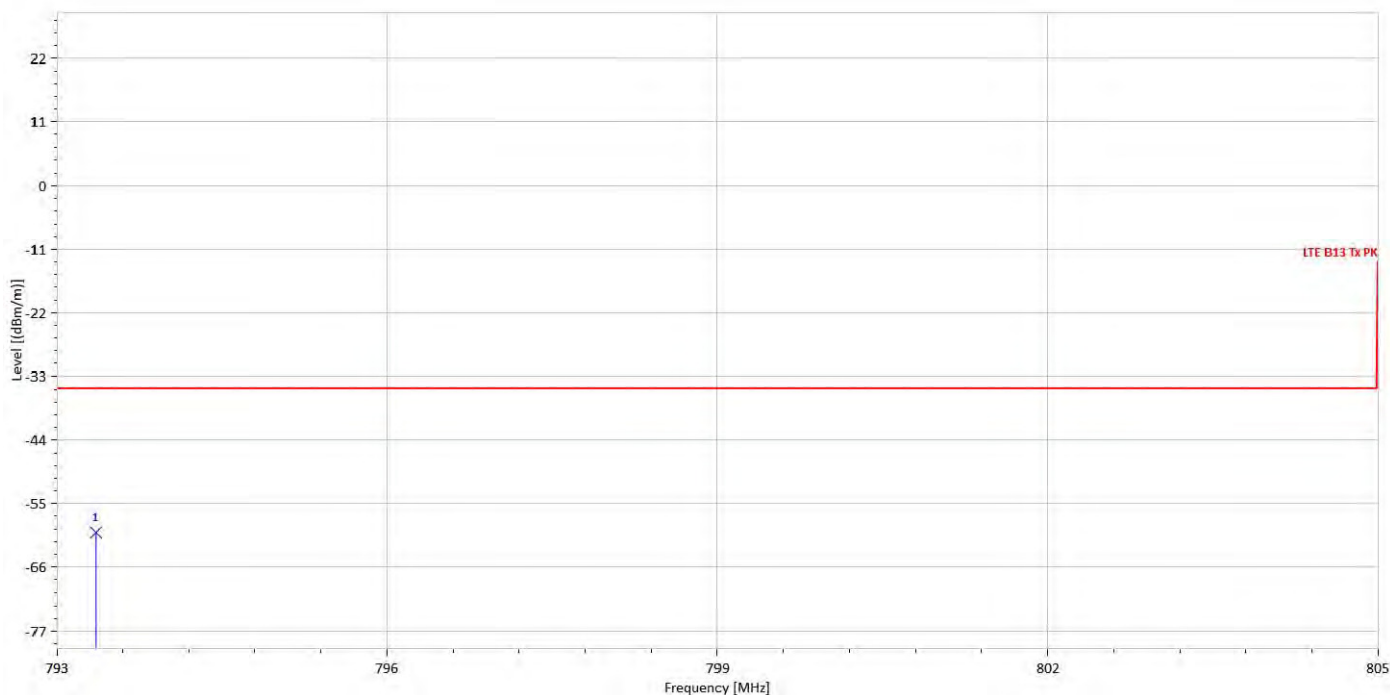
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Operation Mode :	LTEB13 5M QPSK RB1,24	Test Date :	2016/10/28
Fundamental Frequency :	782.0 MHz	Temp. / Humi. :	22.7 deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



Freq.	Note	ERP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
793.36	S	-59.93	-62.21	5.51	-3.23	-35	-24.93

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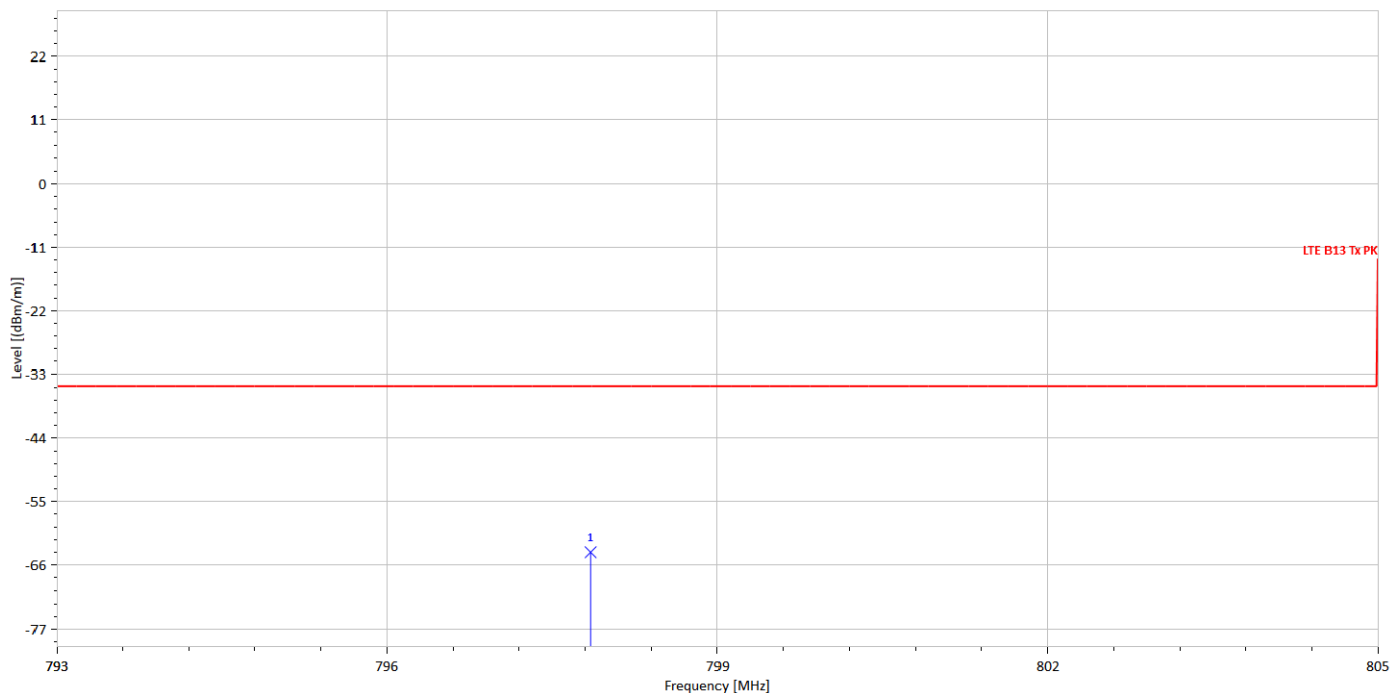
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Operation Mode :	LTEB13 5M QPSK RB1,24	Test Date :	2016/10/28
Fundamental Frequency :	782.0 MHz	Temp. / Humi. :	22.7 deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



Freq.	Note	ERP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
797.85	S	-63.73	-66.05	5.52	-3.20	-35	-28.73

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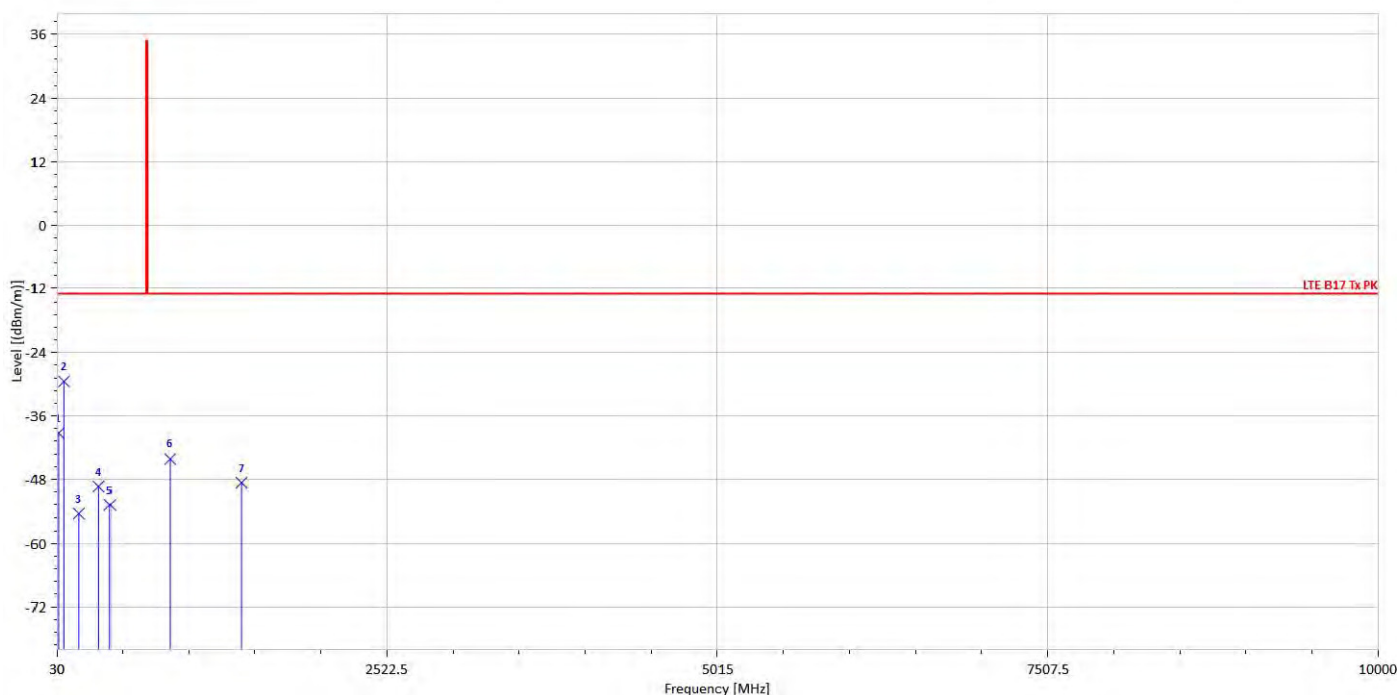
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Radiated Spurious Emission Measurement Result: LTE-Band 17 (The Worst Case)

Operation Mode :	LTE B17 BW 10M QPSK RB1,49	Test Date :	2016/10/28
Fundamental Frequency :	709 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Ashton
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
43.58	S	-39.28	-27.21	-11.26	-0.80	-13	-26.28
84.32	S	-29.42	-26.56	-1.77	-1.09	-13	-16.42
197.81	S	-54.47	-56.60	3.76	-1.63	-13	-41.47
348.16	S	-49.31	-50.90	3.74	-2.15	-13	-36.31
431.58	S	-52.80	-54.39	3.93	-2.35	-13	-39.80
889.42	S	-44.06	-46.45	5.60	-3.22	-13	-31.06
1426.80	H	-48.58	-50.16	5.97	-4.39	-13	-35.58

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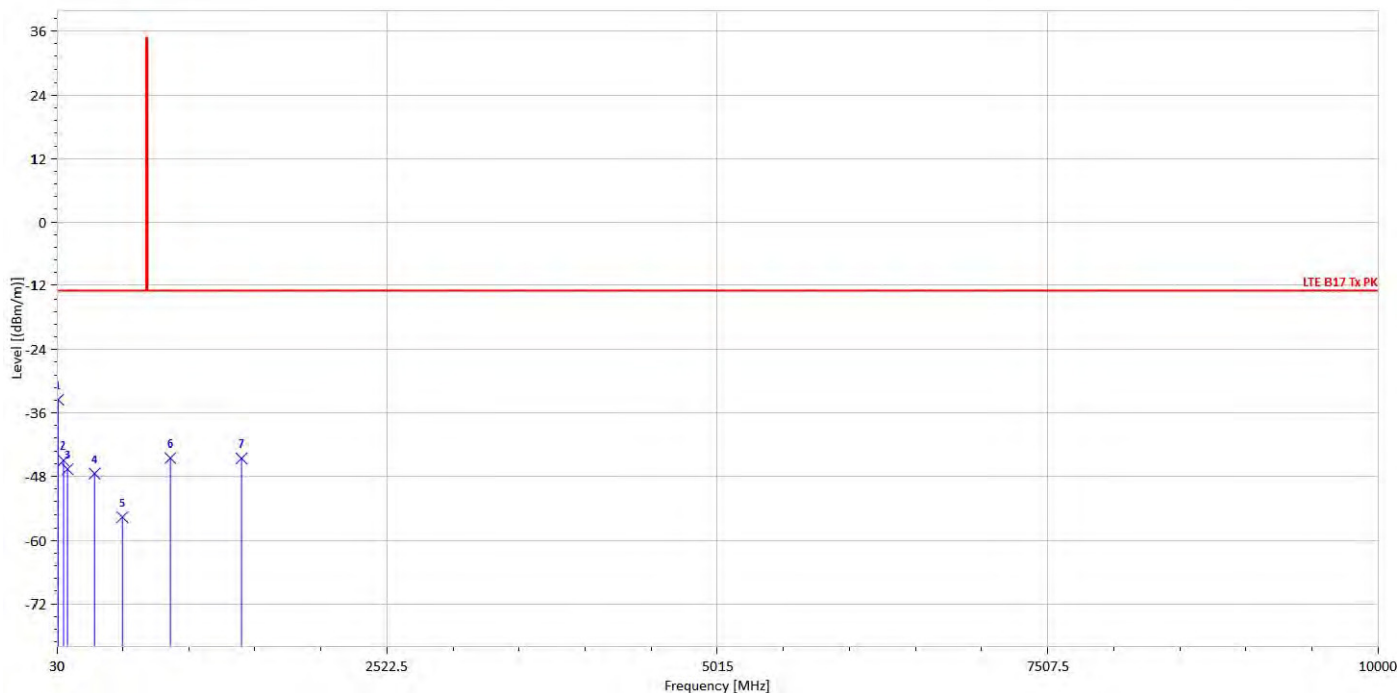
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Operation Mode : LTE B17 BW 10M QPSK RB1,49
Fundamental Frequency : 709 MHz
Operation Band : Tx CH Low
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
39.70	S	-33.46	-18.49	-14.24	-0.73	-13	-20.46
81.41	S	-44.90	-42.25	-1.57	-1.07	-13	-31.90
111.48	S	-46.56	-41.98	-3.34	-1.23	-13	-33.56
318.09	S	-47.40	-49.16	3.78	-2.02	-13	-34.40
523.73	S	-55.74	-57.29	4.25	-2.70	-13	-42.74
890.39	S	-44.44	-46.72	5.61	-3.33	-13	-31.44
1 426.80	H	-44.51	-46.09	5.97	-4.39	-13	-31.51

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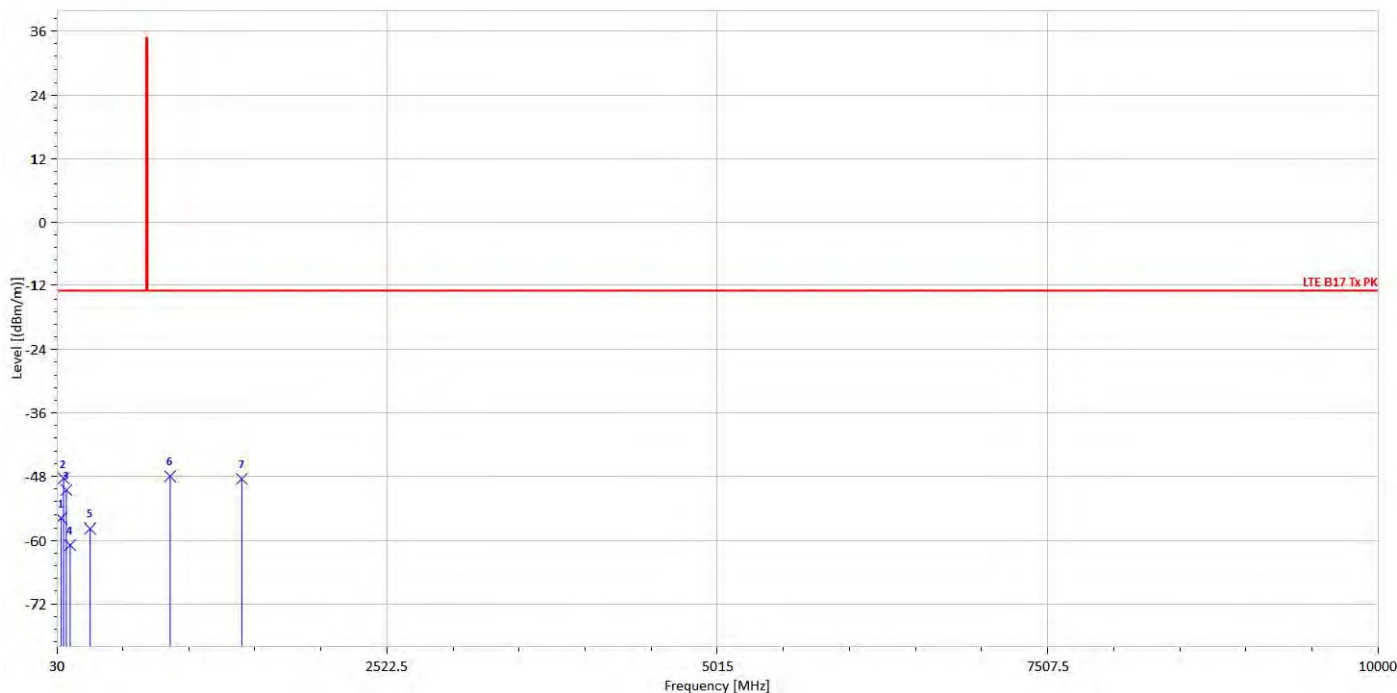
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Operation Mode : LTE B17 BW 10M QPSK RB1,49
Fundamental Frequency : 710 MHz
Operation Band : Tx CH Mid
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Vertical



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
62.01	S	-55.90	-52.10	-2.81	-1.00	-13	-42.90
81.41	S	-48.32	-45.68	-1.57	-1.07	-13	-35.32
102.75	S	-50.56	-46.23	-3.14	-1.19	-13	-37.56
131.85	S	-60.91	-57.54	-2.03	-1.34	-13	-47.91
284.14	S	-57.77	-59.47	3.65	-1.95	-13	-44.77
888.45	S	-47.92	-50.27	5.60	-3.25	-13	-34.92
1 428.60	H	-48.43	-50.02	5.98	-4.40	-13	-35.43

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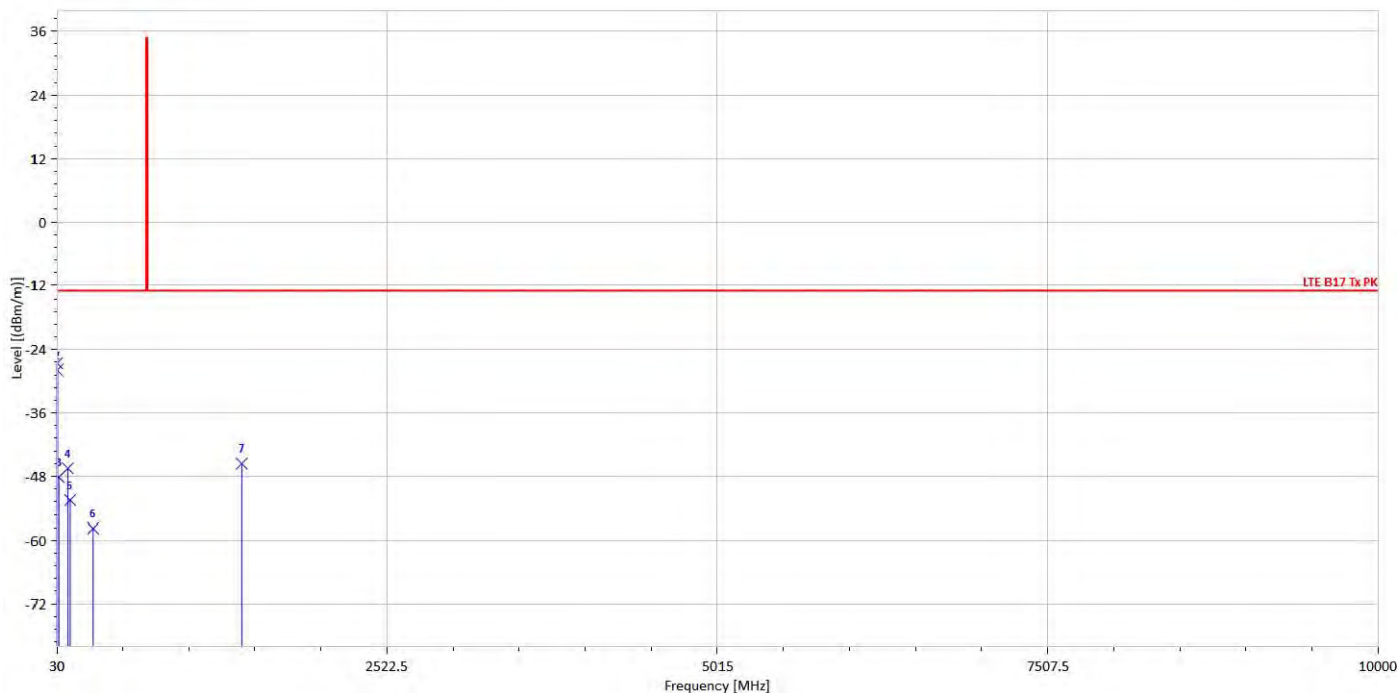
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Operation Mode : LTE B17 BW 10M QPSK RB1,49
Fundamental Frequency : 710 MHz
Operation Band : Tx CH Mid
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
30.97	S	-26.67	-4.47	-21.56	-0.65	-13	-13.67
35.82	S	-27.92	-9.80	-17.39	-0.73	-13	-14.92
45.52	S	-48.09	-37.44	-9.85	-0.80	-13	-35.09
114.39	S	-46.41	-41.95	-3.21	-1.25	-13	-33.41
131.85	S	-52.46	-49.09	-2.03	-1.34	-13	-39.46
307.42	S	-57.74	-59.46	3.79	-2.08	-13	-44.74
1428.60	H	-45.50	-47.08	5.98	-4.40	-13	-32.50

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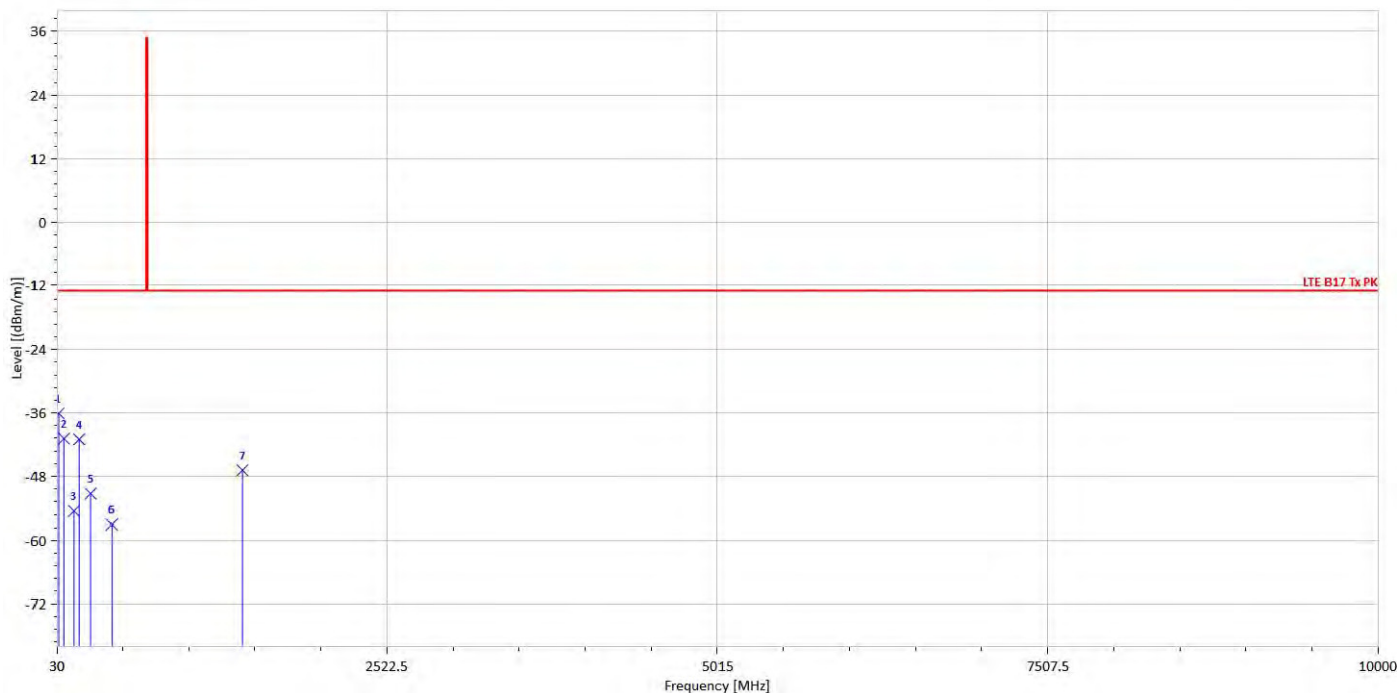
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Operation Mode : LTE B17 BW 10M QPSK RB1,49
Fundamental Frequency : 711 MHz
Operation Band : Tx CH High
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Vertical



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
44.55	S	-36.08	-24.74	-10.52	-0.83	-13	-23.08
84.32	S	-40.90	-38.04	-1.77	-1.09	-13	-27.90
160.95	S	-54.54	-54.73	1.55	-1.36	-13	-41.54
200.72	S	-41.06	-43.11	3.70	-1.65	-13	-28.06
288.02	S	-51.24	-52.92	3.69	-2.00	-13	-38.24
446.13	S	-57.05	-58.67	4.08	-2.47	-13	-44.05
1 434.00	H	-46.78	-48.37	6.00	-4.40	-13	-33.78

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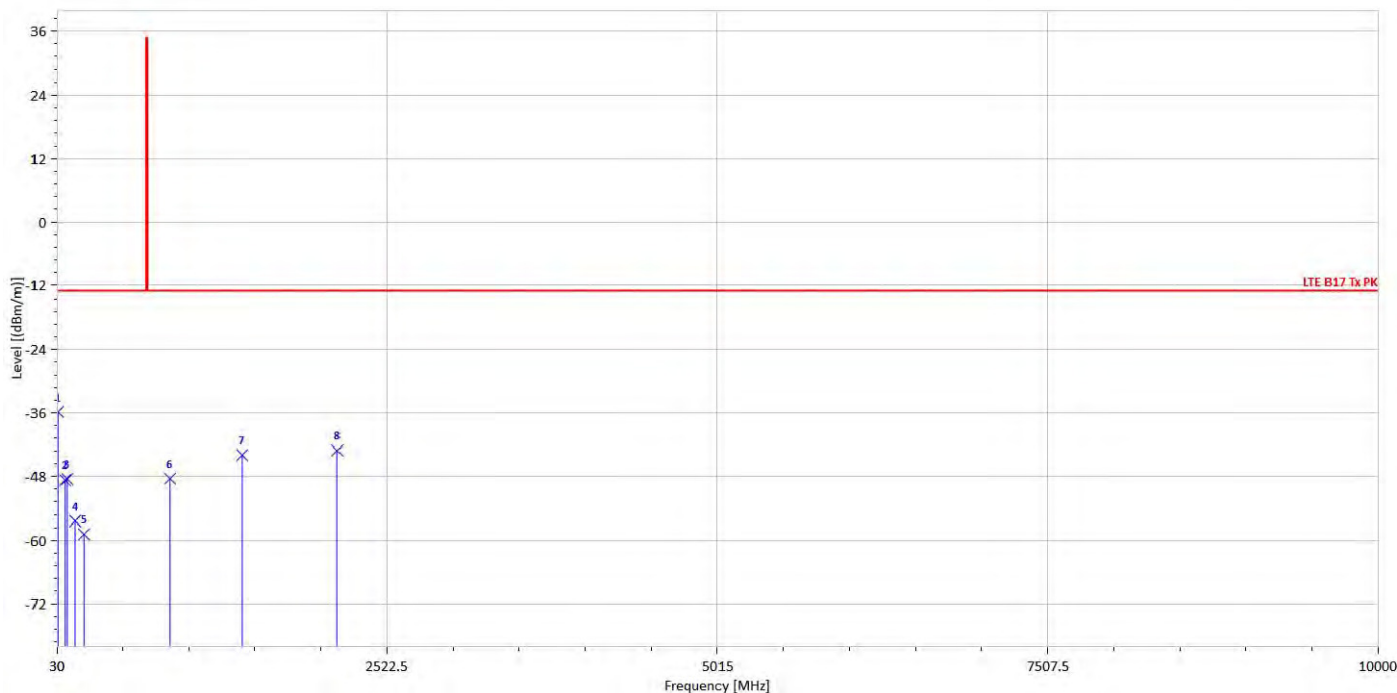
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Operation Mode : LTE B17 BW 10M QPSK RB1,49
Fundamental Frequency : 711 MHz
Operation Band : Tx CH High
EUT Pol. : E2

Test Date : 2016/10/28
Temp. / Humi. : 22.7deg_C/57RH
Test Engineer : Ashton
Measurement Antenna Pol. : Horizontal



Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level dBm	Gain dBi	Loss dB	@3m dBm/m	dB
38.73	S	-35.81	-20.08	-15.03	-0.70	-13	-22.81
93.05	S	-48.66	-45.10	-2.43	-1.14	-13	-35.66
109.54	S	-48.46	-43.83	-3.40	-1.24	-13	-35.46
169.68	S	-56.40	-57.54	2.53	-1.40	-13	-43.40
237.58	S	-58.85	-60.71	3.69	-1.84	-13	-45.85
887.48	S	-48.38	-50.56	5.60	-3.41	-13	-35.38
1431.80	H	-43.90	-45.49	5.99	-4.40	-13	-30.90
2148.00	H	-43.07	-45.65	8.04	-5.46	-13	-30.07

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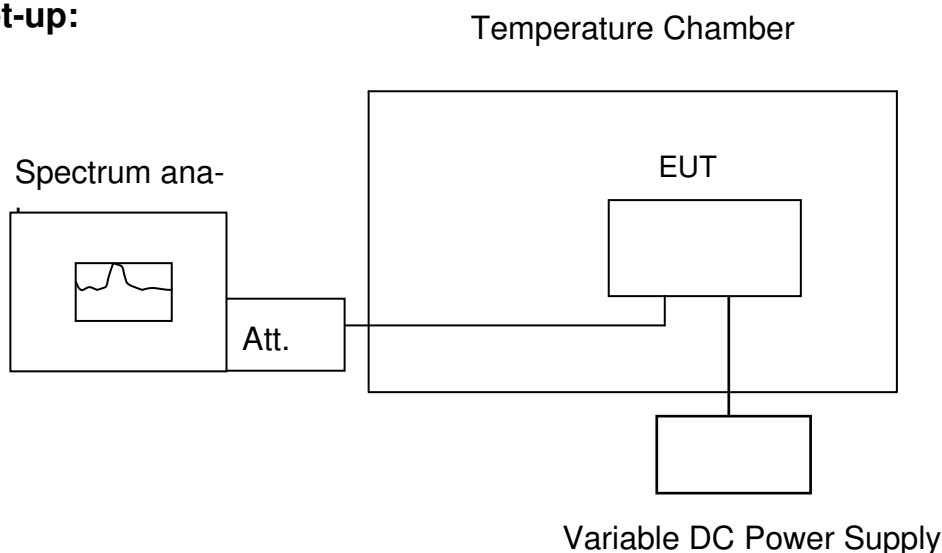
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11. FREQUENCY STABILITY MEASUREMENT

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:



Note: Measurement setup for testing on Antenna connector

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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

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11.4. Measurement Equipment Used:

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	KEYSIGHT	N9010A	MY54510568	04/14/2016	04/13/2017
Communication Tester	Anritsu	MT8820C	6201107337	05/25/2016	05/24/2017
Coaxial Cable 30cm	WOKEN	00100A1F1 A195C	RF01	12/12/2015	12/11/2016
Temperature Chamber	TERCHY	MHK-120LK	1020582	06/16/2016	06/15/2017
DC Block	PASTERNAK	PE8210	RF29	12/12/2015	12/11/2016
Splitter	RF-LAMBDA	RFLT2W1G 18G	RF35	12/12/2015	12/11/2016
Attenuator	WOKEN	218FS-10	RF23	12/12/2015	12/11/2016
DC Power Supply	Agilent	E3640A	MY53140006	05/04/2016	05/03/2017
Communication Tester	Anritsu	MT8820C	6201107337	05/25/2016	05/24/2017

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11.5. Measurement Result:

FREQUENCY ERROR vs. VOLTAGE

Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz	10M QPSK CH
					18900
Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency			
Vdc	Temperature (		Delta (Hz)		Limit (Hz)

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FREQUENCY ERROR vs. VOLTAGE

Reference Frequency:		LTE B4 Mid Channel	1732.5	MHz	10M QPSK CH 20175
Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency			
Vdc	Temperature (		Delta (Hz)		Limit (Hz)

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FREQUENCY ERROR vs. VOLTAGE

Reference Frequency:		LTE B7 Mid Channel	2535.0	MHz	10M QPSK CH 21100
Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency	Delta (Hz)		Limit (Hz)
Vdc	Temperature (				

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FREQUENCY ERROR vs. VOLTAGE

Reference Frequency:		LTE B12 Mid Channel	707.5	MHz	10M QPSK CH 23095
Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency	Delta (Hz)		Limit (Hz)
Vdc	Temperature (				

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FREQUENCY ERROR vs. VOLTAGE

Reference Frequency:		LTE B13 Mid Channel	782.0	MHz	10M QPSK CH 23230
Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency	Delta (Hz)		Limit (Hz)
Vdc	Temperature (				

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FREQUENCY ERROR vs. VOLTAGE

Reference Frequency:		LTE B17 Mid Channel	710.0	MHz	10M QPSK CH 23790
Limit: +/- 2.5 ppm					
Power Supply	Environment	Frequency			
Vdc	Temperature (		Delta (Hz)		Limit (Hz)

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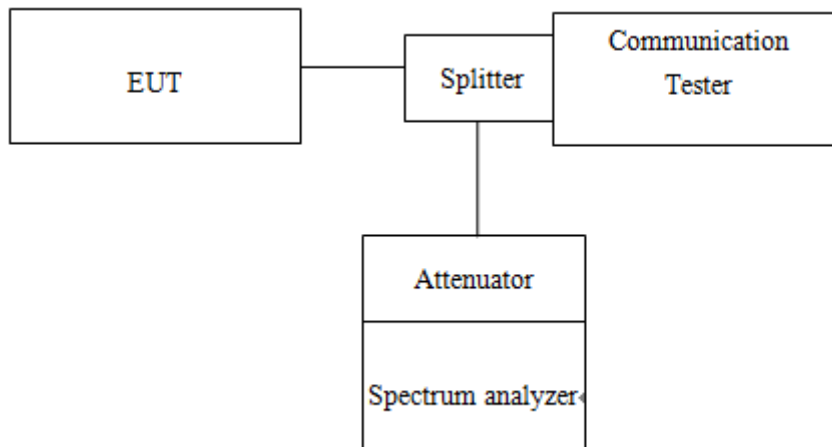
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12. PEAK TO AVERAGE RATIO

12.1. Standard Applicable

The peak-to-average ratio (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 $\geq$ 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 TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Communication Tester	Anritsu	MT8820C	6201107337	05/25/2016	05/24/2017
DC Block	PASTERNAK	PE8210	RF29	12/12/2015	12/11/2016
Splitter	RF-LAMBDA	RFLT2W1G 18G	RF35	12/12/2015	12/11/2016
Attenuator	WOKEN	218FS-10	RF23	12/12/2015	12/11/2016
DC Power Supply	Agilent	E3640A	MY53140006	05/04/2016	05/03/2017

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12.5. Measurement Result

Tabular Results:

LTE BAND 2							
Channel bandwidth: 1.4MHz				Channel bandwidth: 3MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
1850.7	18607	6.25	13	1851.5	18615	6.51	13
1880.0	18900	5.97	13	1880.0	18900	6.18	13
1909.3	19193	5.32	13	1908.5	19185	5.80	13

LTE BAND 2							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
1852.5	18625	6.47	13	1855.0	18650	6.28	13
1880.0	18900	6.03	13	1880.0	18900	6.08	13
1907.5	19175	5.76	13	1905.0	19150	5.93	13

LTE BAND 2							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
1857.5	18675	6.43	13	1860.0	18700	6.93	13
1880.0	18900	6.18	13	1880.0	18900	6.74	13
1902.5	19125	6.46	13	1900.0	19100	7.05	13

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LTE BAND 4							
Channel bandwidth: 1.4MHz				Channel bandwidth: 3MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
1710.7	19957	6.46	13	1711.5	19965	6.62	13
1732.5	20175	6.50	13	1732.5	20175	6.52	13
1754.3	20393	6.07	13	1753.5	20385	6.24	13

LTE BAND 4							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
1712.5	19957	6.50	13	1715.0	20000	6.32	13
1732.5	20175	6.35	13	1732.5	20175	6.34	13
1752.5	20375	6.16	13	1750.0	20350	6.21	13

LTE BAND 4							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
1717.5	20025	6.48	13	1720.0	20050	6.79	13
1732.5	20175	6.44	13	1732.5	20175	8.05	13
1747.5	20325	6.30	13	1745.0	20300	6.85	13

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LTE BAND 7							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
2502.5	20775	5.72	13	2505.0	20800	5.83	13
2535.0	21100	5.88	13	2535.0	21100	6.00	13
2567.5	21425	5.88	13	2565.0	21400	5.93	13

LTE BAND 7							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
2507.5	20425	6.04	13	2510.0	20850	6.56	13
2535.0	20525	6.44	13	2535.0	21100	6.60	13
2562.5	20625	6.18	13	2560.0	21350	6.67	13

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LTE BAND 12							
Channel bandwidth: 1.4MHz				Channel bandwidth: 3MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
699.7	23017	5.85	13	700.5	23025	6.04	13
707.5	23095	5.17	13	707.5	23095	5.46	13
715.3	23173	5.27	13	714.5	23165	5.71	13

LTE BAND 12							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
701.5	23035	5.80	13	704.0	23060	5.73	13
707.5	23095	5.63	13	707.5	23095	5.58	13
713.5	23155	5.74	13	711.0	23130	5.95	13

LTE BAND 13							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
779.5	23205	6.02	13	782.0	23230	5.96	13
782.0	23230	6.02	13				13
784.5	23255	6.15	13				13

LTE BAND 17							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		Freq. (MHz)	CH	Peak-to-Average Ratio (dB)	
		16QAM	LIMIT			16QAM	LIMIT
706.5	23755	5.35	13	709.0	23780	5.59	13
710.0	23790	5.71	13	710.0	23790	5.70	13
713.5	23825	5.51	13	711.0	23780	5.69	13

Measurement Results:

Please refer to next page.

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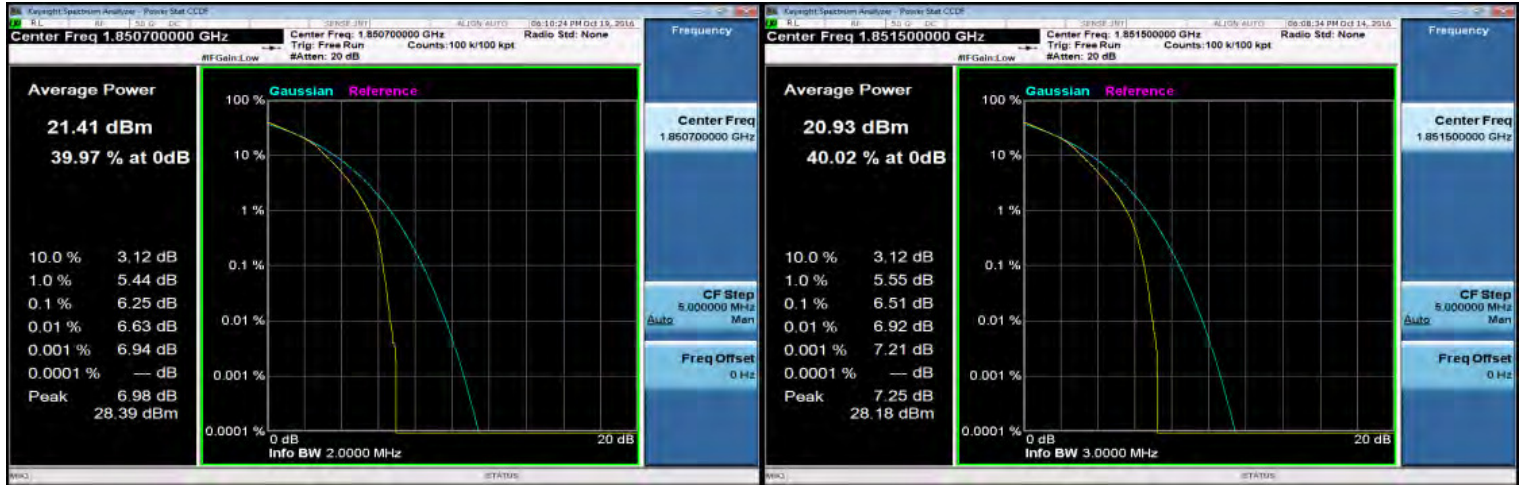
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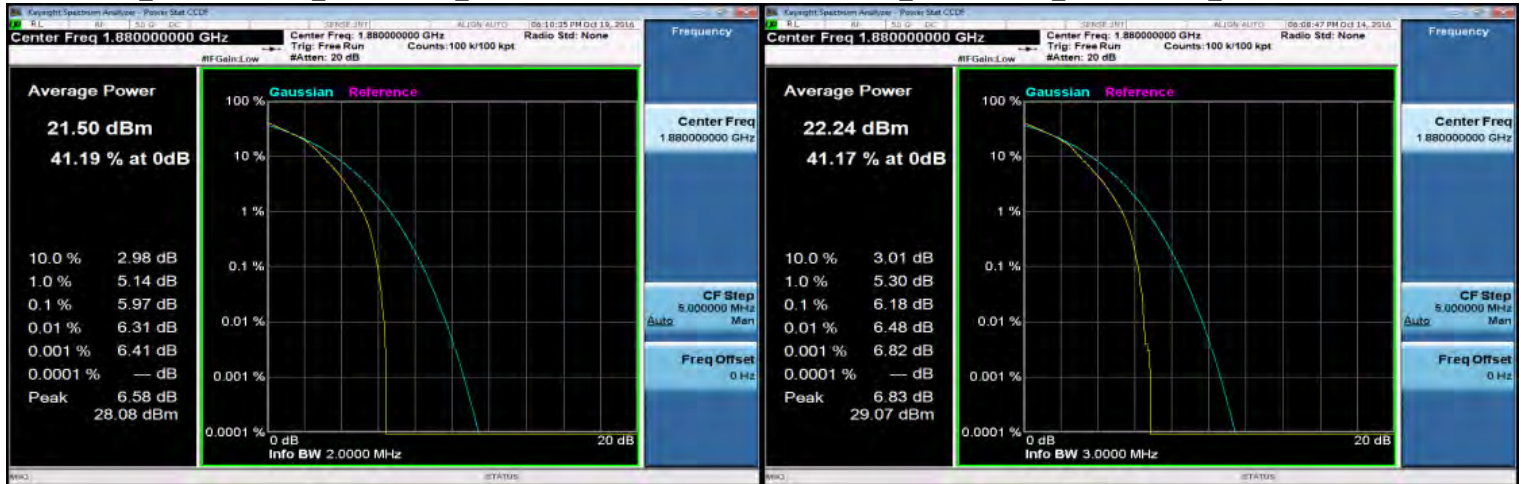
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LTE_Band2 3MHz_16-QAM 15 0_LowCH18615-1851.5



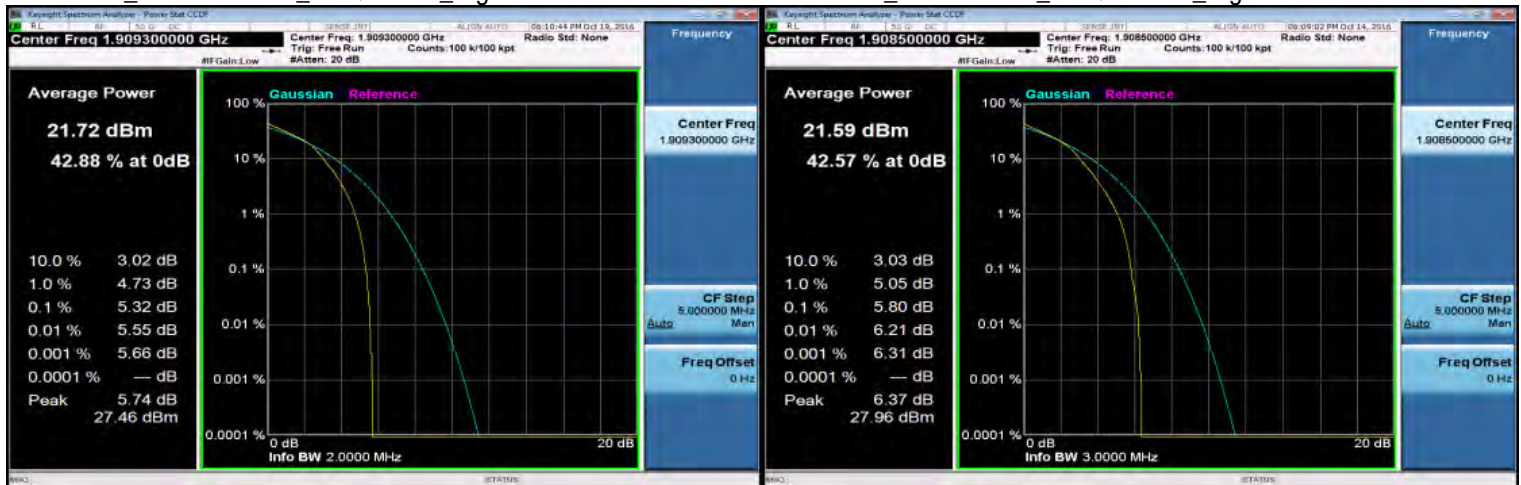
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LTE_Band2 3MHz_16-QAM 15 0_MidCH18900-1880



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LTE_Band2 3MHz_16-QAM 15 0_HighCH19185-1908.5



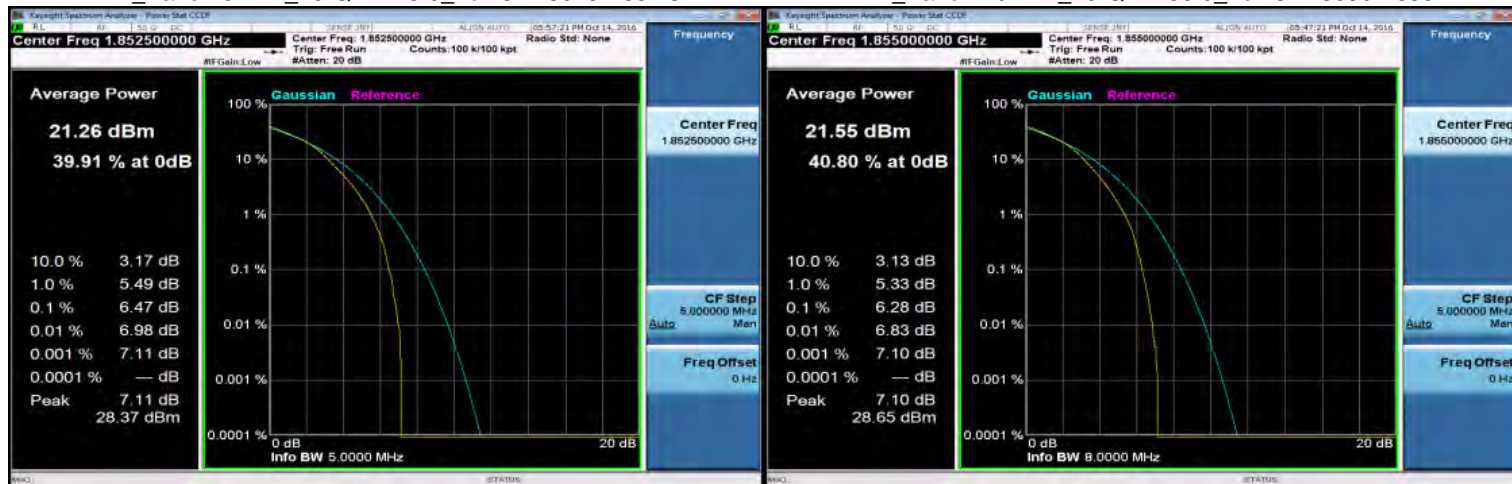
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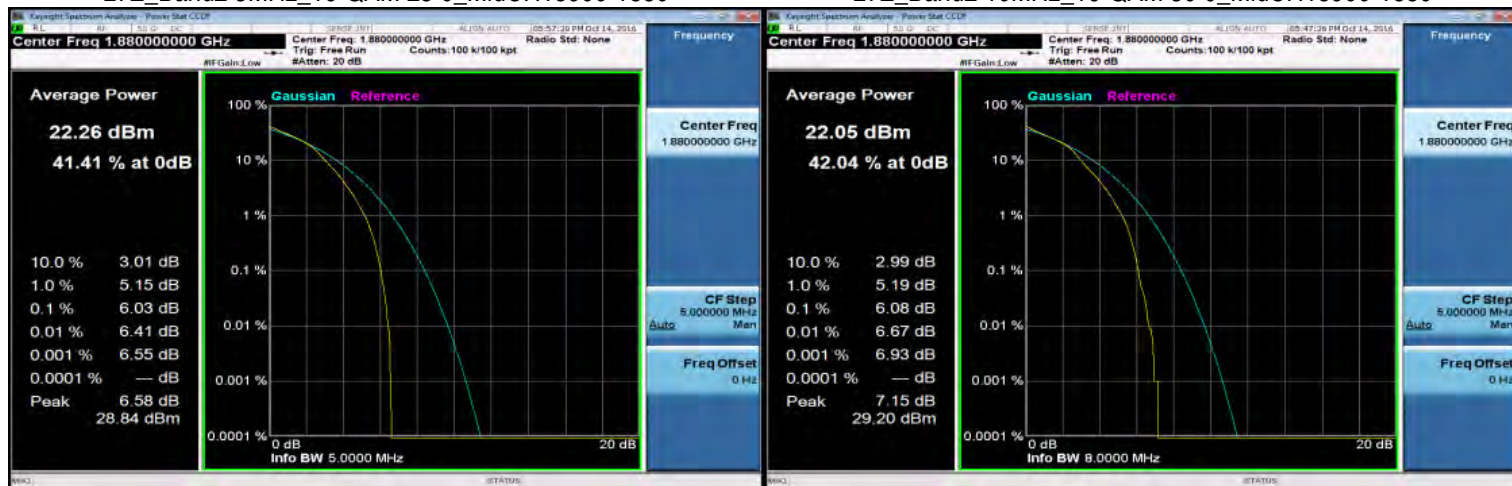
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LTE_Band2 10MHz_16-QAM 50 0_LowCH18650-1855



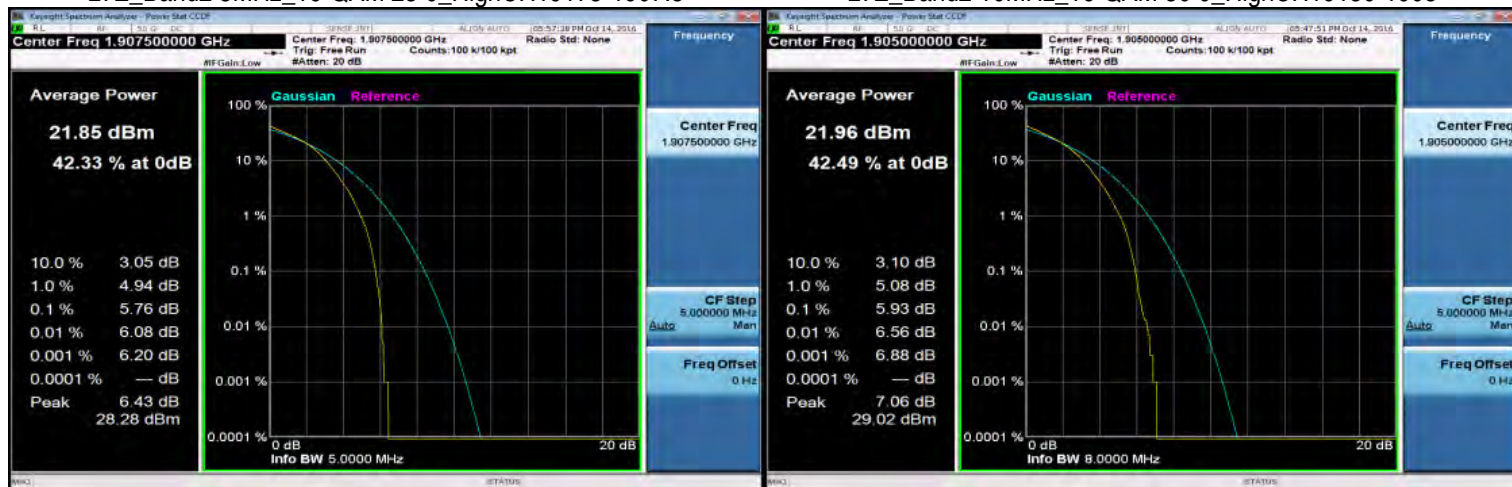
LTE_Band2 5MHz_16-QAM 25 0_MidCH18900-1880

LTE_Band2 10MHz_16-QAM 50 0_MidCH18900-1880



LTE_Band2 5MHz_16-QAM 25 0_HighCH19175-1907.5

LTE_Band2 10MHz_16-QAM 50 0_HighCH19150-1905



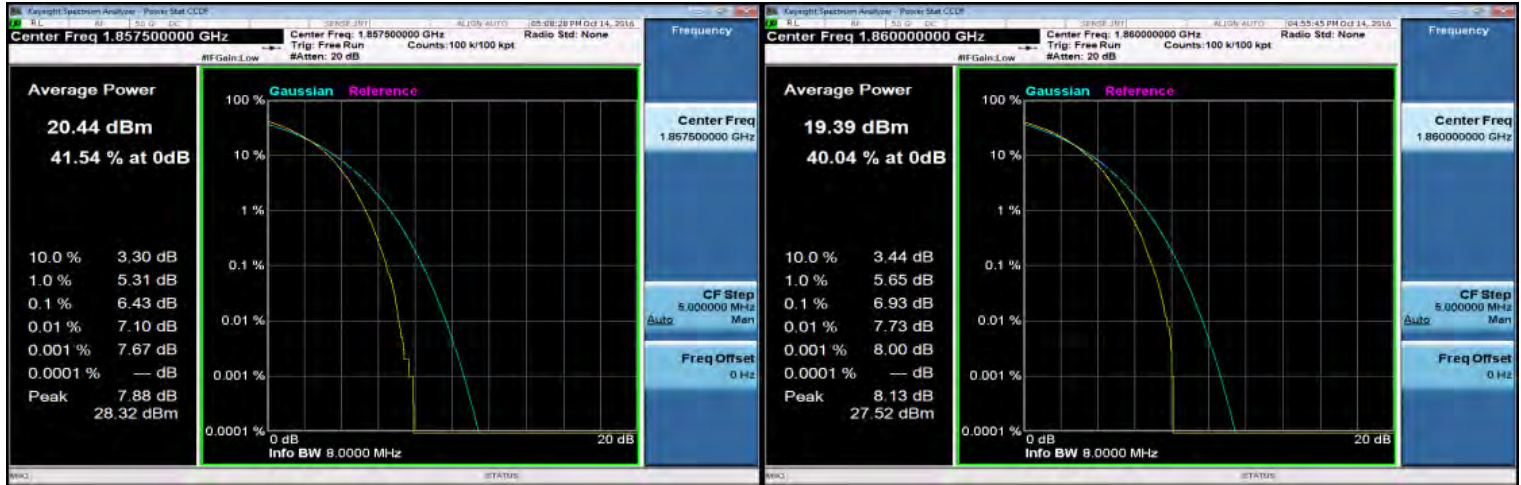
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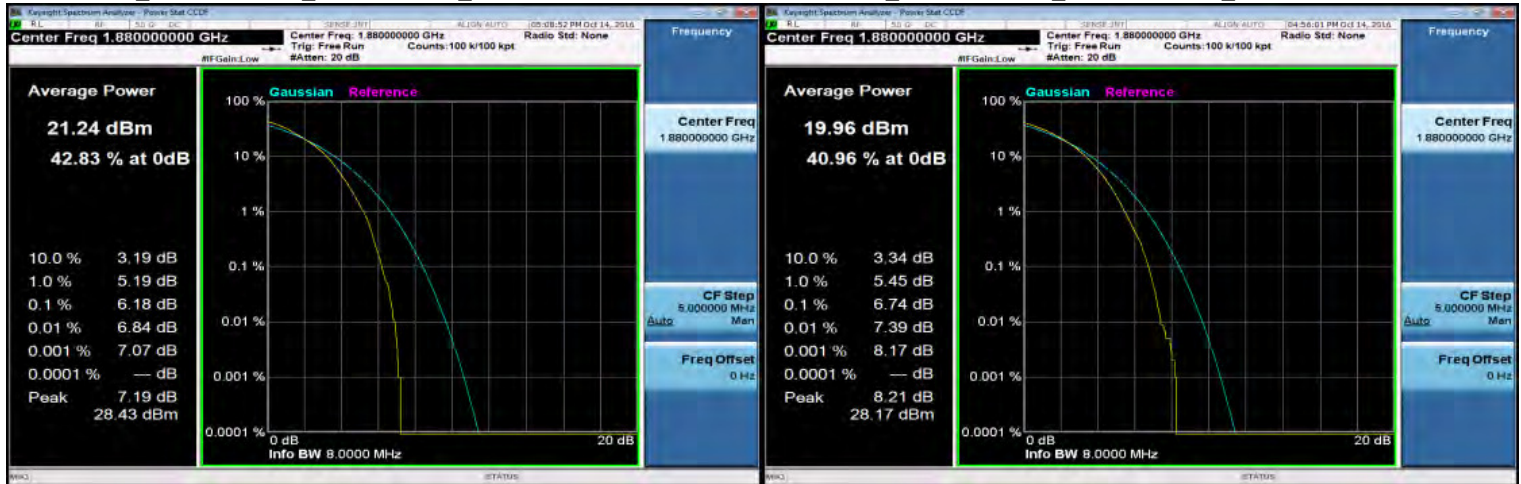
LTE_Band2 15MHz_16-QAM 75 0_LowCH18675-1857.5

LTE_Band2 20MHz_16-QAM 100 0_LowCH18700-1860



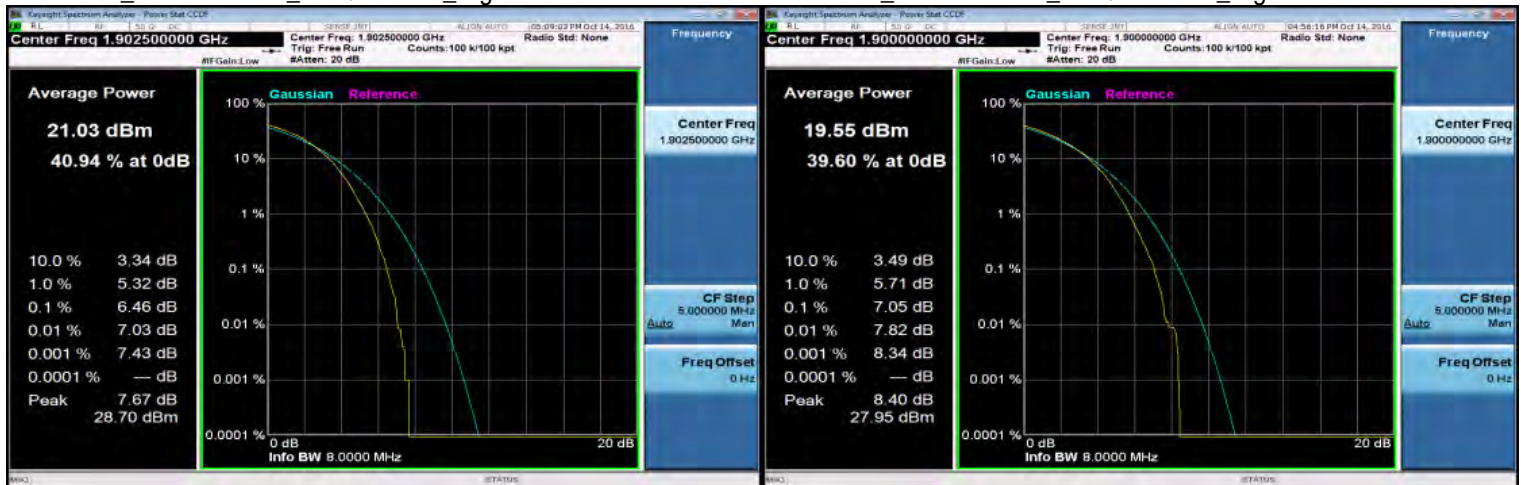
LTE_Band2 15MHz_16-QAM 75 0_MidCH18900-1880

LTE_Band2 20MHz_16-QAM 100 0_MidCH18900-1880



LTE_Band2 15MHz_16-QAM 75 0_HighCH19125-1902.5

LTE_Band2 20MHz_16-QAM 100 0_HighCH19100-1900



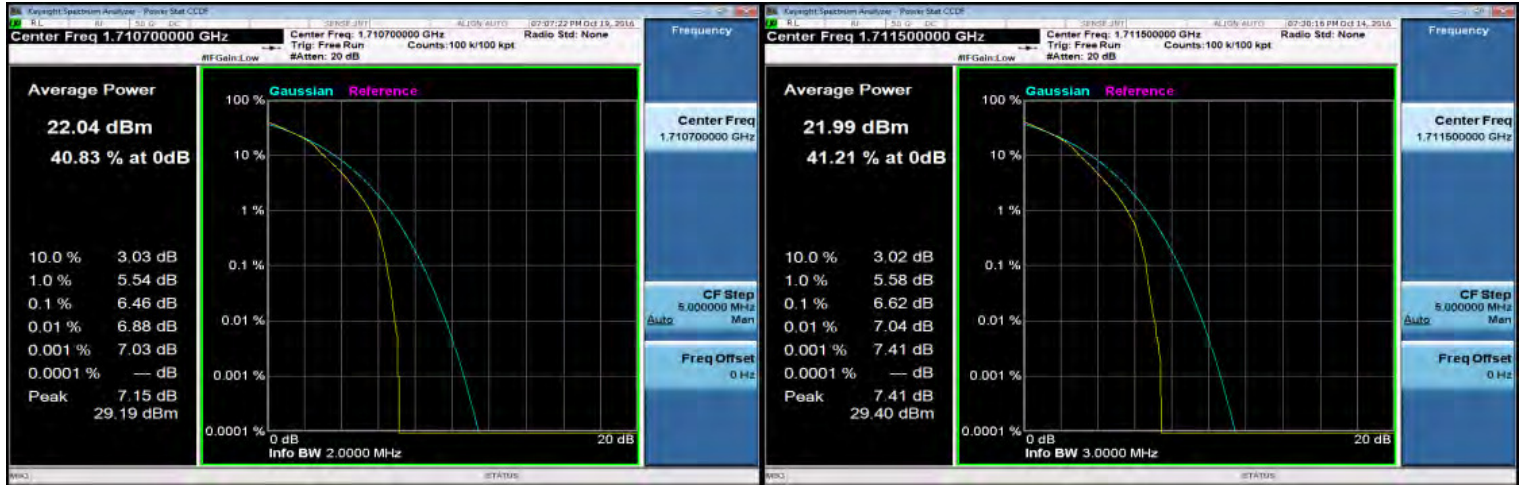
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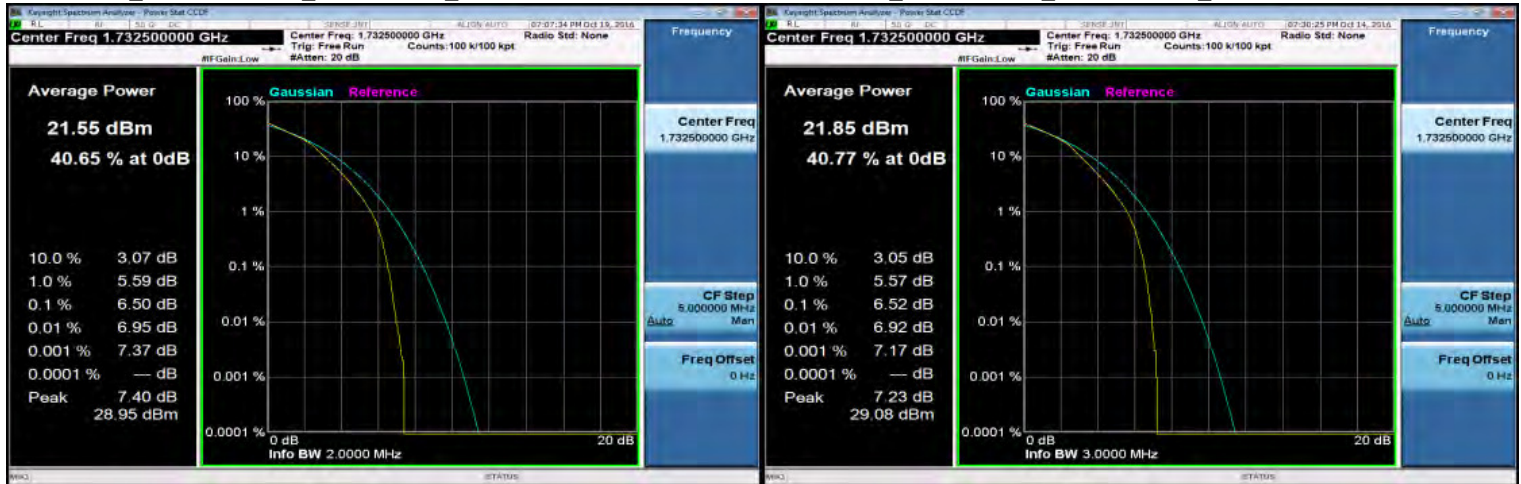
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LTE_Band4 3MHz_16-QAM 15 0_LowCH19965-1711.5



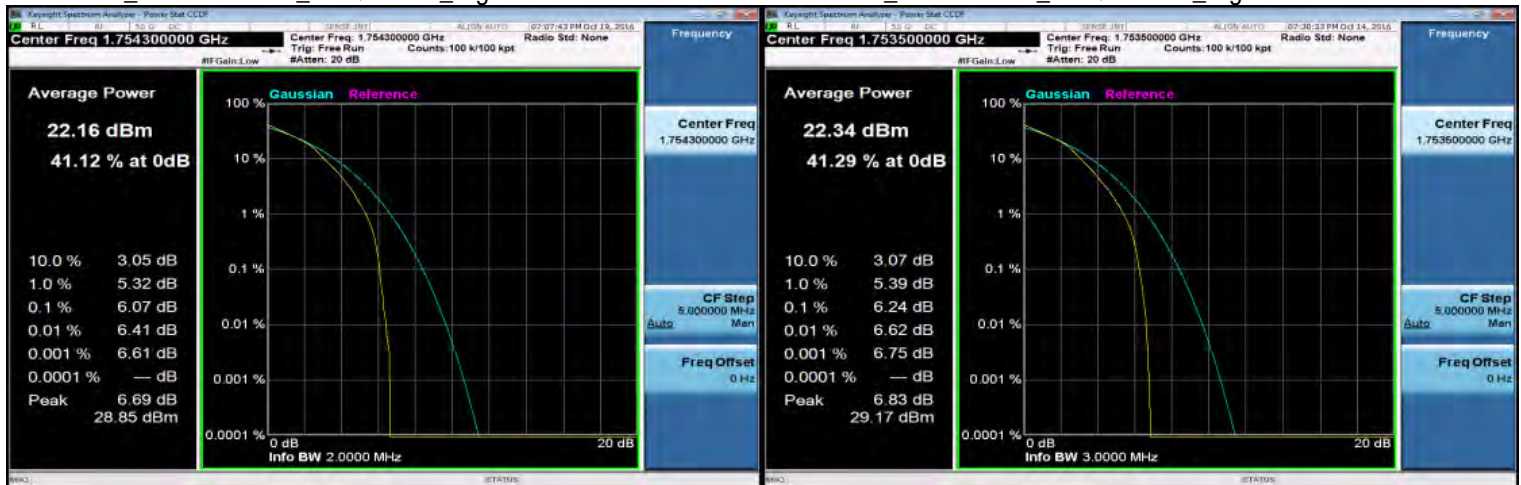
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LTE_Band4 3MHz_16-QAM 15 0_MidCH20175-1732.5



LTE_Band4 1.4MHz_16-QAM 6 0_HighCH20393-1754.3

LTE_Band4 3MHz_16-QAM 15 0_HighCH20385-1753.5



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LTE_Band4 5MHz_16-QAM 25 0_LowCH19975-1712.5



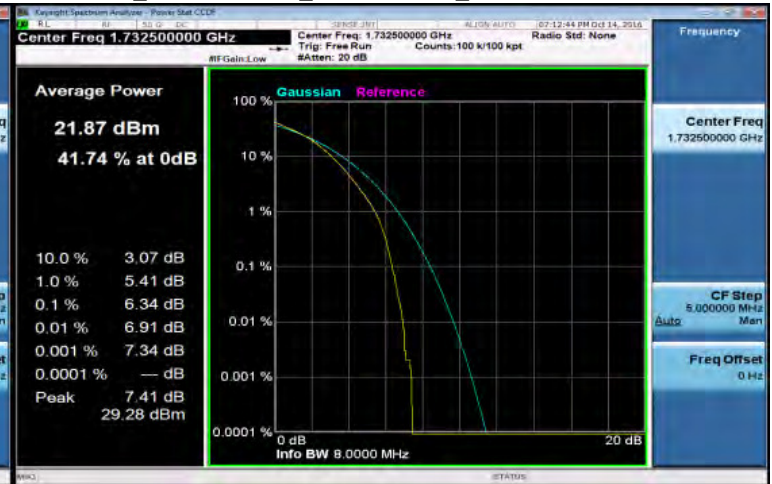
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LTE_Band4 5MHz_16-QAM 25 0_MidCH20175-1732.5



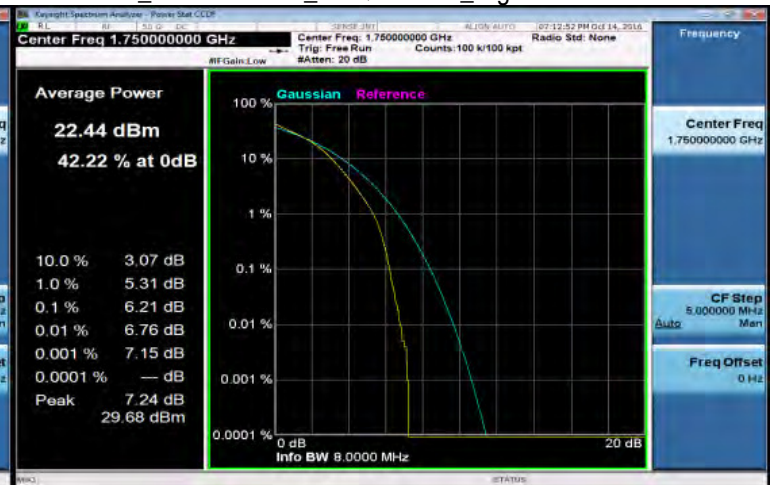
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LTE_Band4 5MHz_16-QAM 25 0_HighCH20375-1752.5



LTE_Band4 10MHz_16-QAM 50 0_HighCH20350-1750



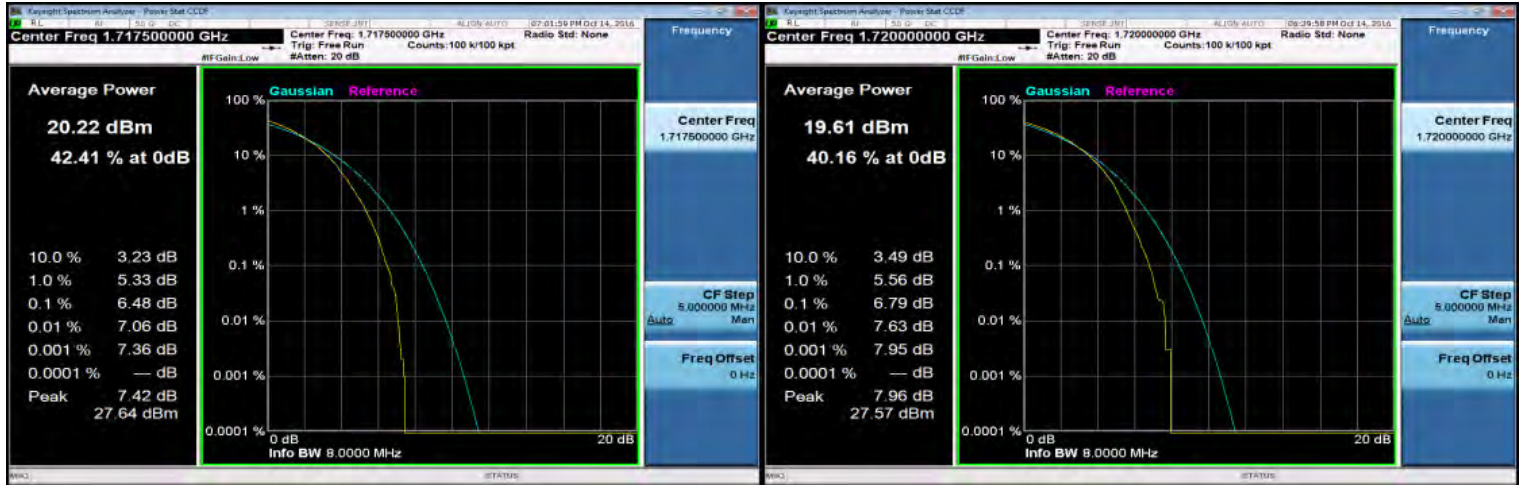
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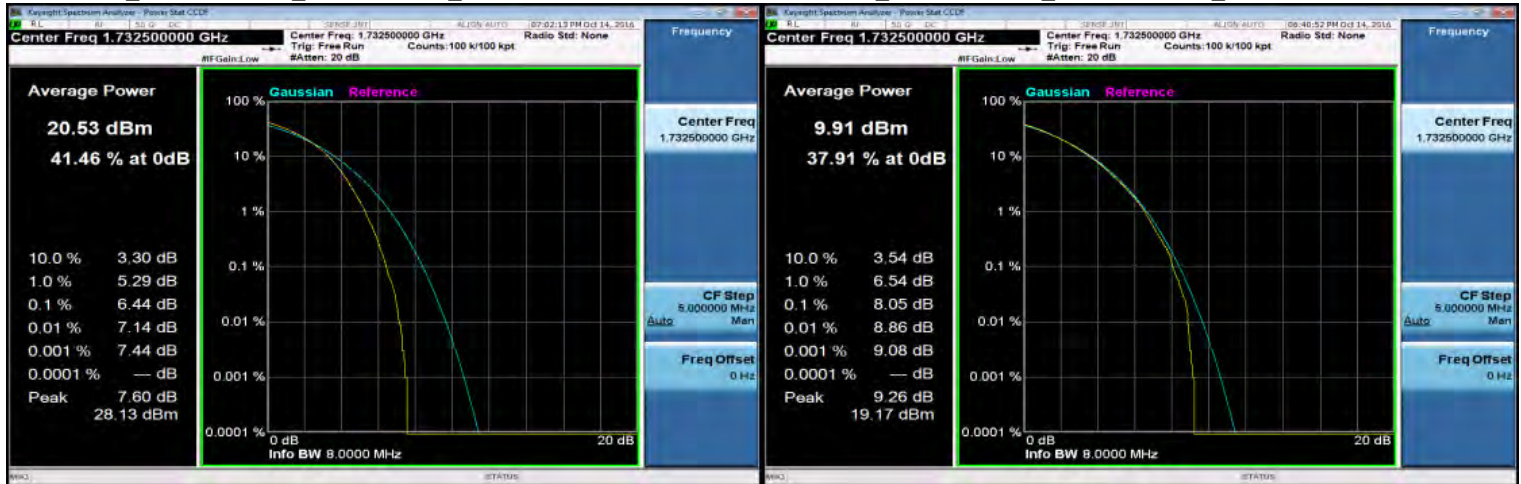
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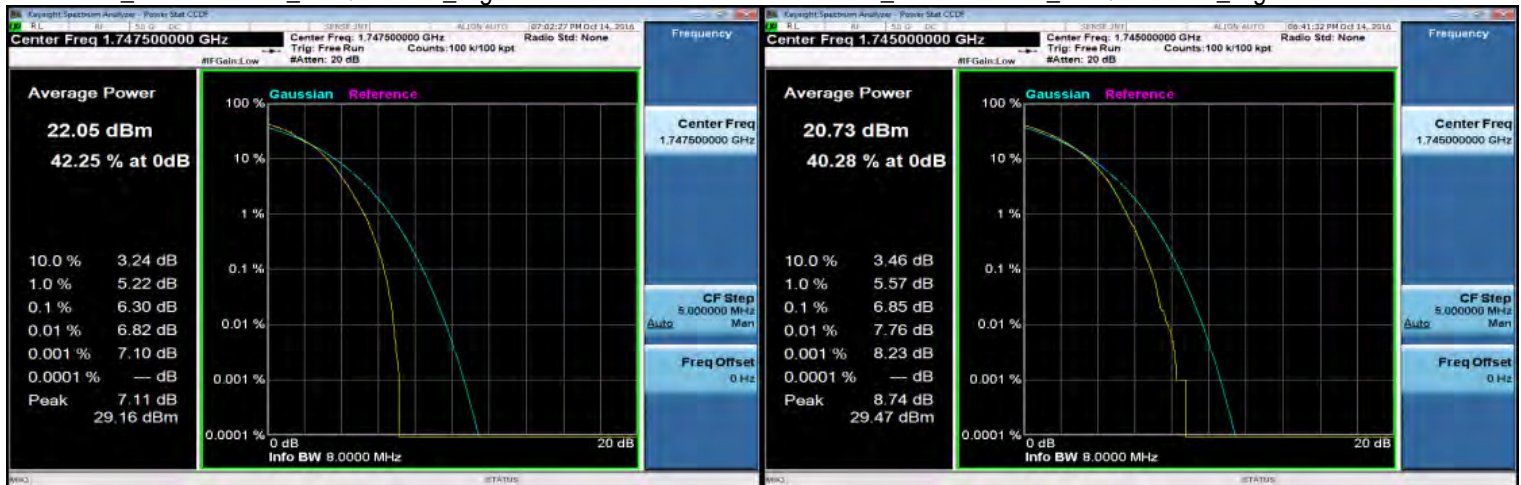
LTE_Band4 15MHz_16-QAM 75 0_MidCH20175-1732.5

LTE_Band4 20MHz_16-QAM 100 0_MidCH20175-1732.5



LTE_Band4 15MHz_16-QAM 75 0_HighCH20325-1747.5

LTE_Band4 20MHz_16-QAM 100 0_HighCH20300-1745



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LTE_Band7 5MHz_16-QAM 25 0_LowCH20775-2502.5



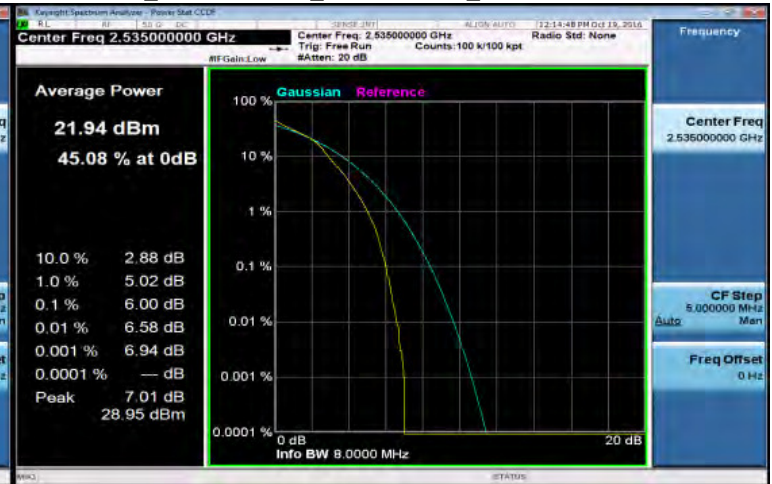
LTE_Band7 10MHz_16-QAM 50 0_LowCH20800-2505



LTE_Band7 5MHz_16-QAM 25 0_MidCH21100-2535



LTE_Band7 10MHz_16-QAM 50 0_MidCH21100-2535



LTE_Band7 5MHz_16-QAM 25 0_HighCH21425-2567.5



LTE_Band7 10MHz_16-QAM 50 0_HighCH21400-2565



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LTE_Band7 15MHz_16-QAM 75 0_LowCH20825-2507.5



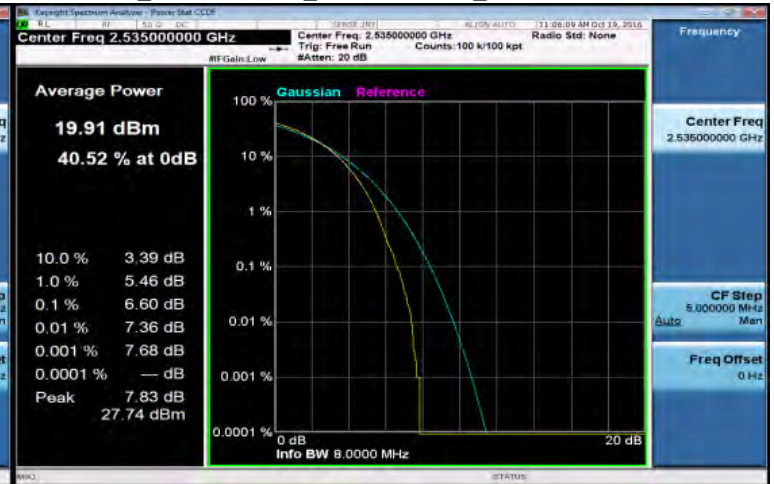
LTE_Band7 20MHz_16-QAM 100 0_LowCH20850-2510



LTE_Band7 15MHz_16-QAM 75 0_MidCH20175-1732.5



LTE_Band7 20MHz_16-QAM 100 0_MidCH21100-2535



LTE_Band7 15MHz_16-QAM 75 0_HighCH21375-2562.5



LTE_Band7 20MHz_16-QAM 100 0_HighCH21350-2560



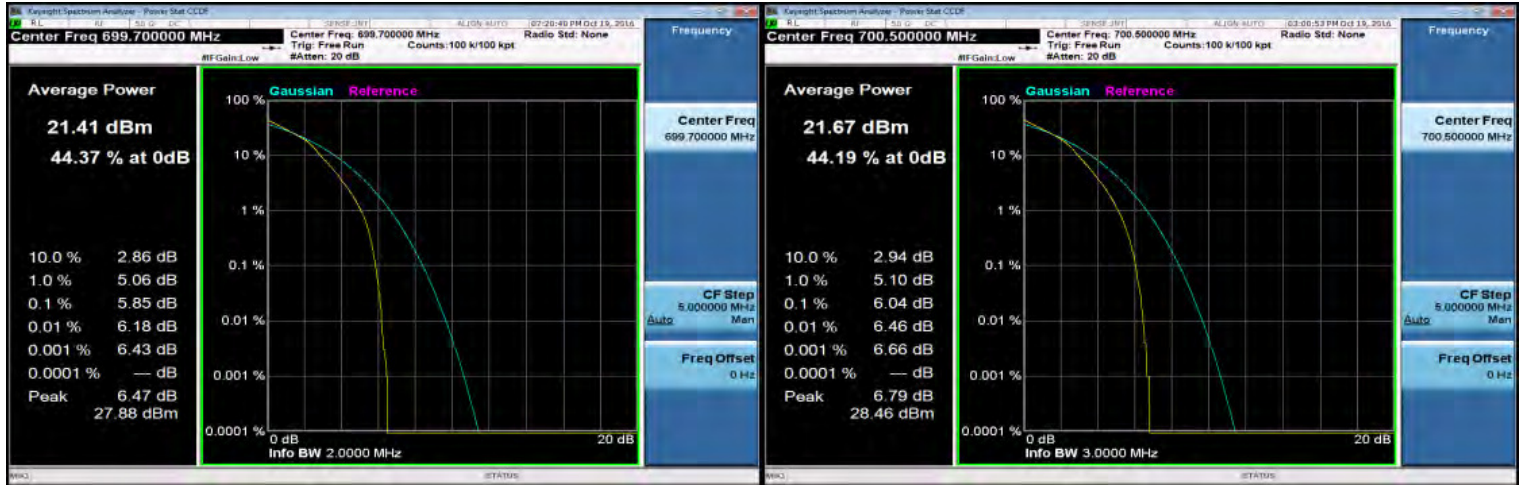
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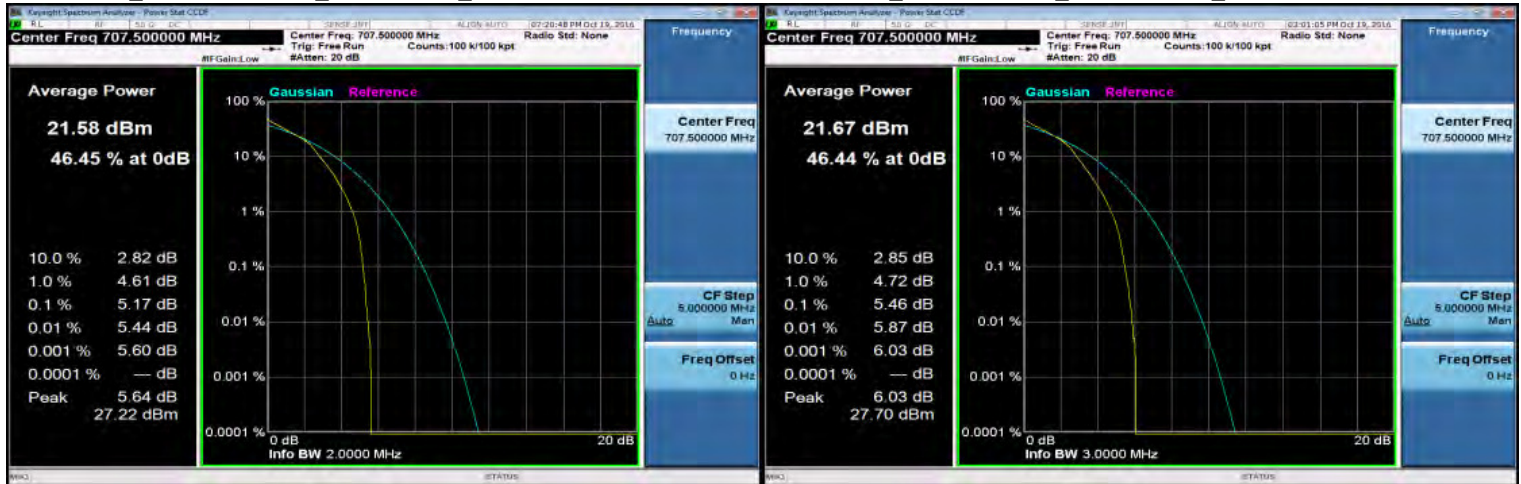
LTE_Band12 1.4MHz_16-QAM 6 0_LowCH23017-699.7

LTE_Band12 3MHz_16-QAM 15 0_LowCH23025-700.5



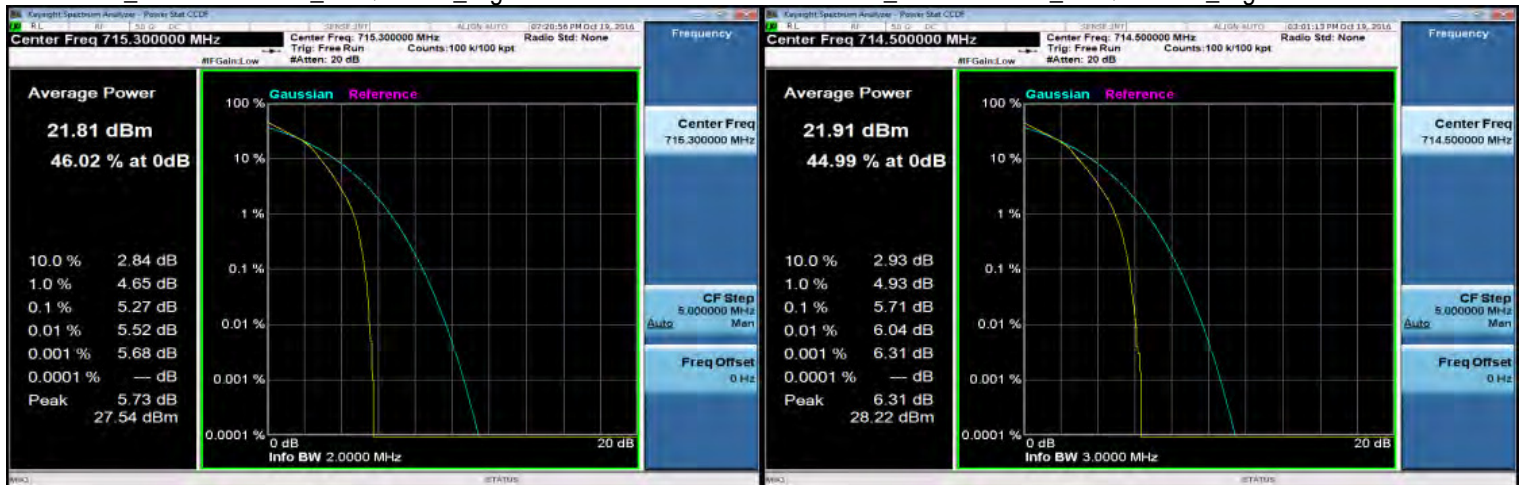
LTE_Band12 1.4MHz_16-QAM 6 0_MidCH23095-707.5

LTE_Band12 3MHz_16-QAM 15 0_MidCH23095-707.5



LTE_Band12 1.4MHz_16-QAM 6 0_HighCH23173-715.3

LTE_Band12 3MHz_16-QAM 15 0_HighCH23165-714.5

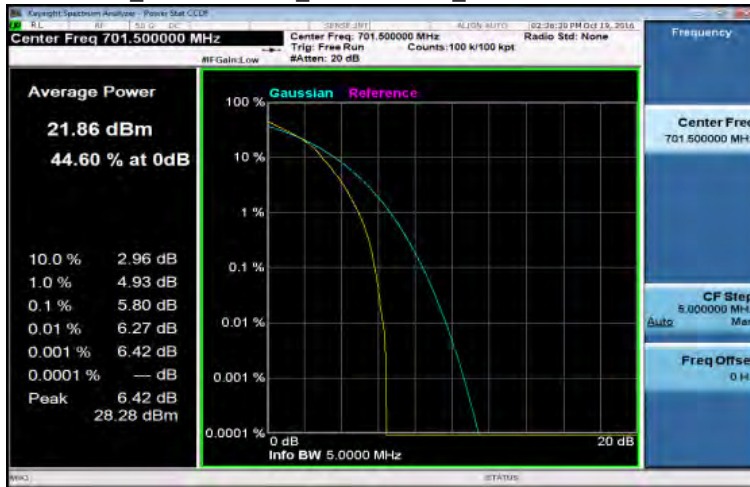


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LTE_Band12 10MHz_16-QAM 50 0_LowCH23060-704



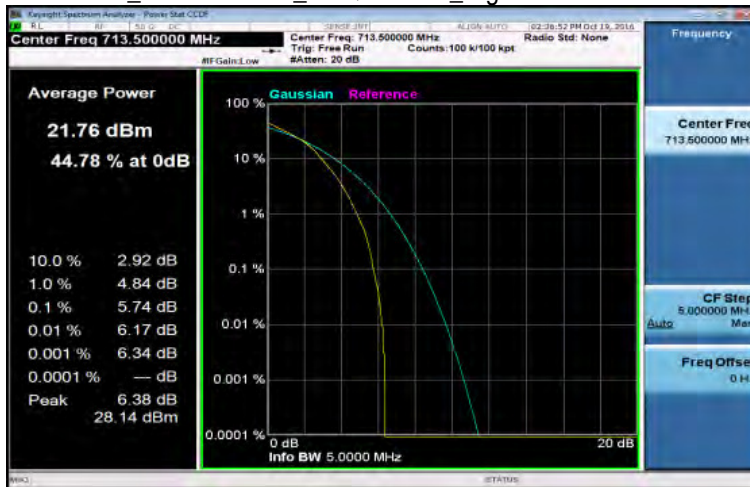
LTE_Band12 5MHz_16-QAM 25 0_MidCH23095-707.5



LTE_Band12 10MHz_16-QAM 50 0_MidCH23095-707.5



LTE_Band12 5MHz_16-QAM 25 0_HighCH23155-713.5



LTE_Band12 10MHz_16-QAM 50 0_HighCH23130-711



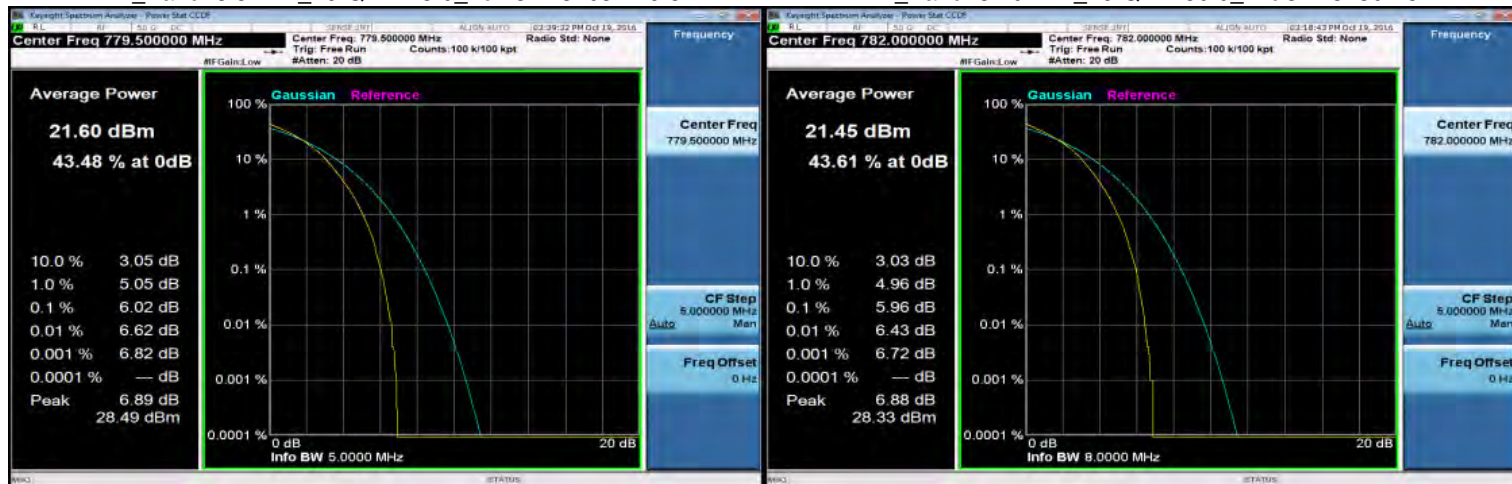
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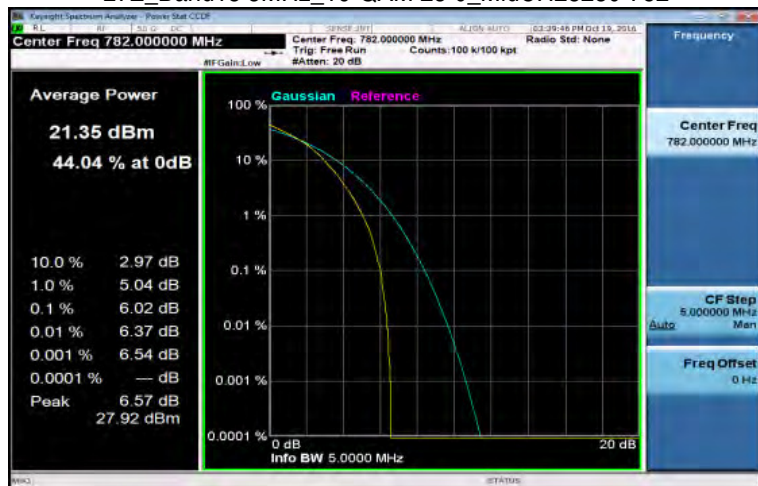
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LTE_Band13 5MHz_16-QAM 25 0_LowCH23205-779.5

LTE_Band13 10MHz_16-QAM 50 0_MidCH23230-782



LTE_Band13 5MHz_16-QAM 25 0_MidCH23230-782



LTE_Band13 5MHz_16-QAM 25 0_HighCH23255-784.5



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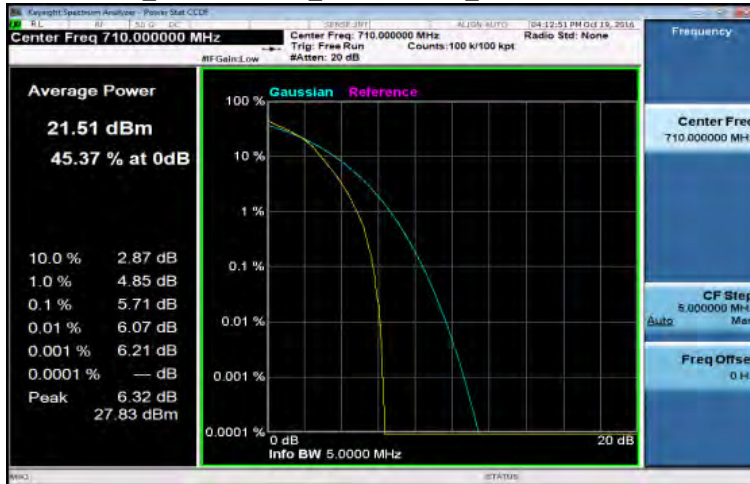
LTE_Band17 5MHz_16-QAM 25 0_LowCH23755-706.5



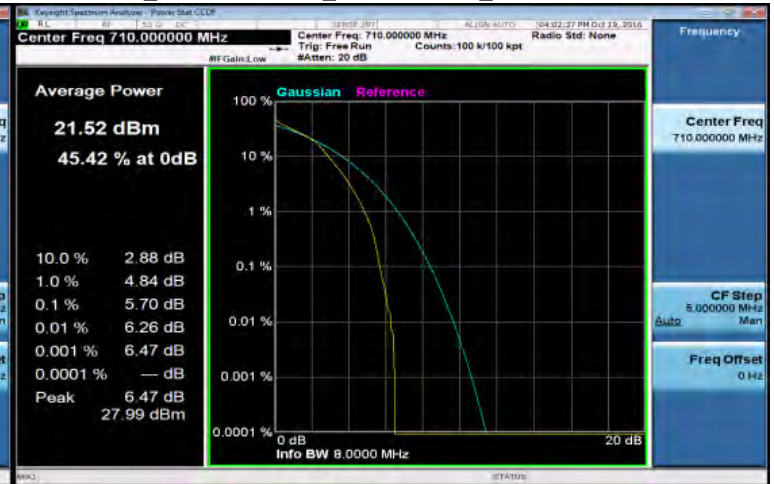
LTE_Band17 10MHz_16-QAM 50 0_LowCH23780-709



LTE_Band17 5MHz_16-QAM 25 0_MidCH23790-710



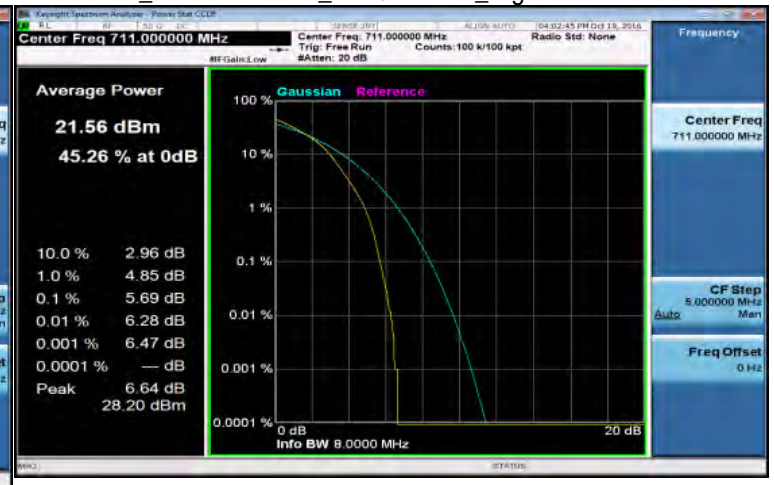
LTE_Band17 10MHz_16-QAM 50 0_MidCH23790-710



LTE_Band17 5MHz_16-QAM 25 0_HighCH23825-713.5



LTE_Band17 10MHz_16-QAM 50 0_HighCH23800-711



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