

## 10. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

### 10.1. Standard Applicable

According to FCC §2.1053,

FCC §22.917(a) , §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).

§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.

FCC §27.53(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC §27.53(c) (5)

Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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## FCC §27.53(h) (3)

Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

## FCC §27.53(m) (4) (6)

For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

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**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	$43 + 10 \log_{10}(p)^{\text{Note}}$
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	$43 + 10 \log_{10}(p)^{\text{Note}}$
2360 - 2365	$43 + 10 \log_{10}(p)$
2365 - 2395	$70 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

**Note:** Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 1.2 for the permitted frequency ranges for various equipment types.

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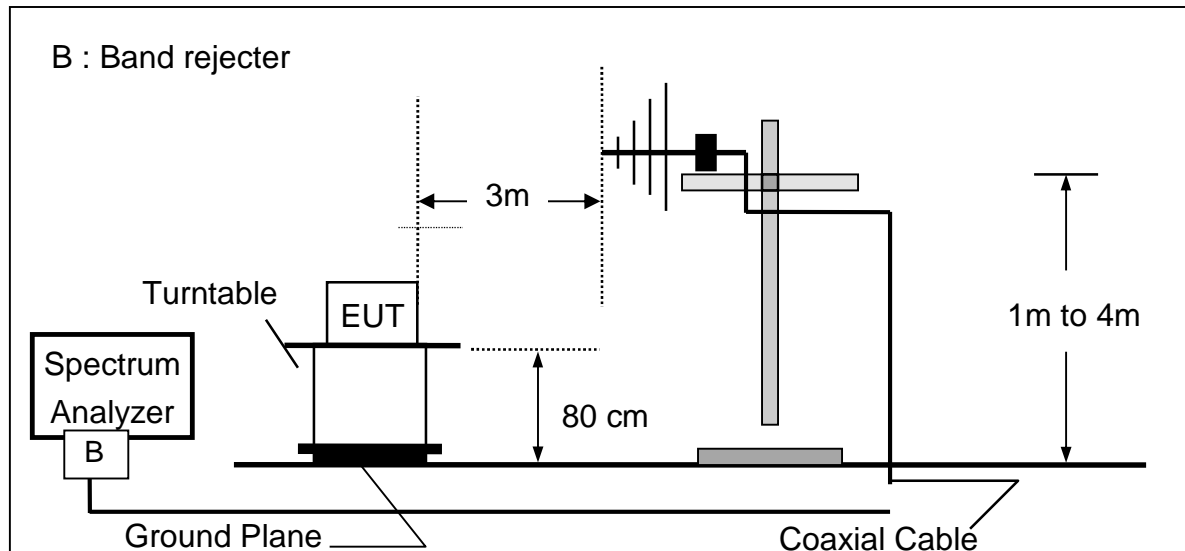
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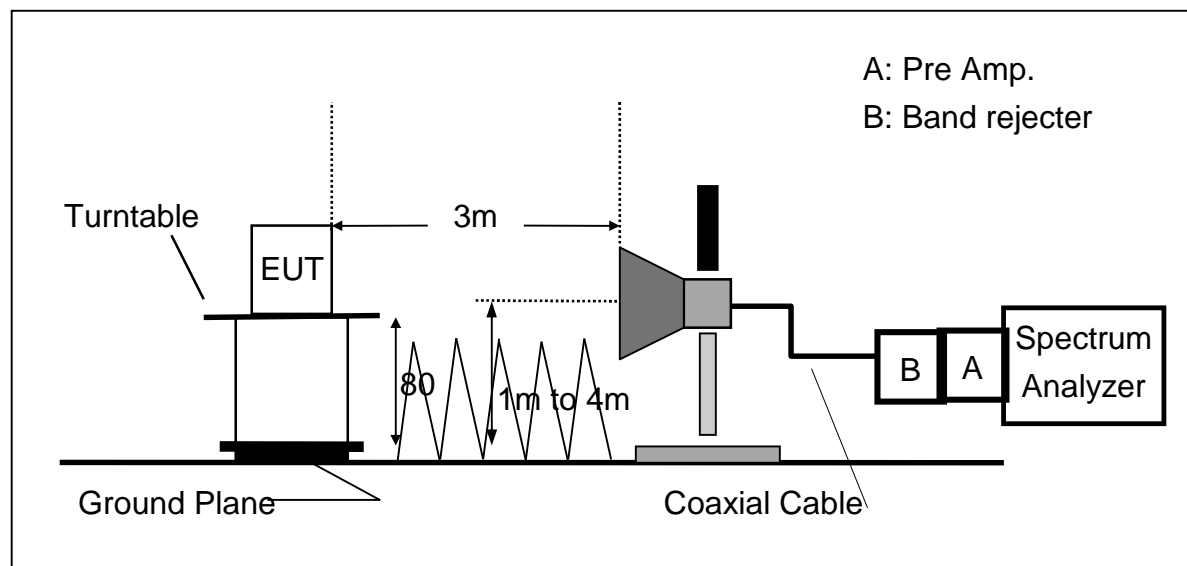
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## 10.2. EUT Setup

### 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.
Broadband Antenna	SCHWAZBECK	VULB 9168	9168-617	10/27/2017	10/26/2018
Horn Antenna	Schwarzbeck	BBHA9120D	1341	05/31/2017	05/30/2018
Loop Antenna	ETS.LINDGREN	6502	148045	09/26/2017	09/25/2018
3m Site NSA	SGS	966 chamber D	N/A	07/06/2017	07/05/2018
Spectrum Analyzer	Agilent	N9010A	MY53400256	10/30/2017	10/29/2018
Radio Communication Analyer	Anritsu	MT8820C	6201107337	06/11/2017	06/10/2018
Pre-Amplifier	EMC Instruments	EMC184045B	980135	10/27/2017	10/26/2018
Pre-Amplifier	EMC Instruments	EMC9135	980234	12/26/2017	12/25/2018
Pre-Amplifier	EMC Instruments	EMC12630SE	980271	12/26/2017	12/25/2018
Attenuator	Marvelous	MVE2213-30	RF28	12/26/2017	12/25/2018
DC Block	PASTERNAK	PE8210	RF81	12/26/2017	12/25/2018
High Pass Filter	Micro-Tronics	G003	RF99	12/26/2017	12/25/2018
Notch Filter	Woken	EWT-54-0037	RF54	12/26/2017	12/25/2018
Coaxial Cable	Huber+Suhner	RG 214/U	W21.01	12/26/2017	12/25/2018
Coaxial Cable	Huber Suhner	EMC106-SM-SM-7200	150703	12/26/2017	12/25/2018

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Horn Antenna	Schwarzbeck	BBHA9120D	1341	05/31/2018	05/30/2019
3m Site NSA	SGS	966 chamber D	N/A	07/06/2018	07/05/2019
Radio Communication Analyer	Anritsu	MT8820C	6201107337	06/11/2018	06/10/2019

*Note: The measurement was taken place with the long duration of the time, and additional equipment list as shown above indicate those equipment of which has been subject to undertake the calibration in intermediate period of time of the measurement.*

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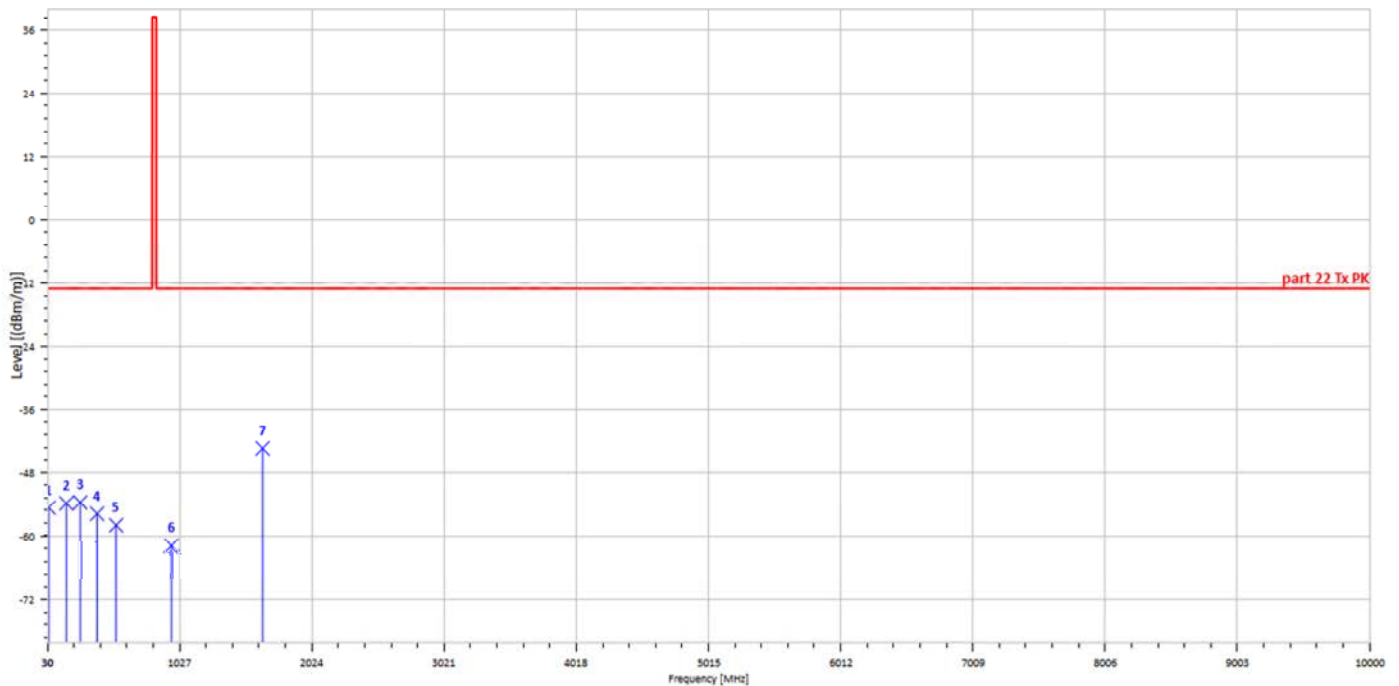
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## 10.5. Measurement Result:

### Radiated Spurious Emission Measurement Result: WCDMA Band 5 Mode

Operation Mode :	WCDMA B5	Test Date :	2018/4/19
Fundamental Frequency :	826.4 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Jerry
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
39.70	S	-54.68	-35.29	-19.03	-0.36	-13	-41.68
172.59	S	-53.87	-47.39	-5.73	-0.75	-13	-40.87
277.35	S	-53.68	-51.00	-1.73	-0.96	-13	-40.68
404.42	S	-55.84	-53.13	-1.42	-1.28	-13	-42.84
547.98	S	-58.01	-55.30	-1.39	-1.32	-13	-45.01
965.08	S	-61.93	-58.16	-1.91	-1.86	-13	-48.93
1652.80	H	-43.40	-47.80	6.84	-2.44	-13	-30.40

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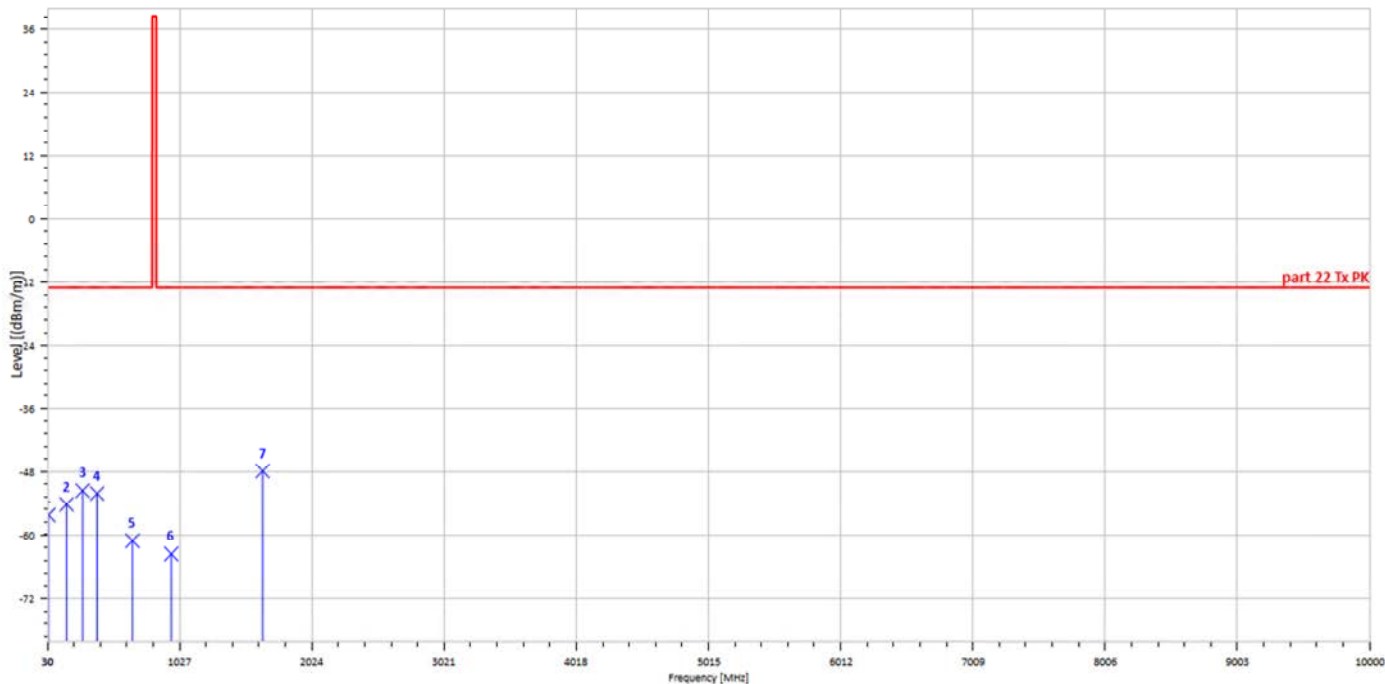
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Operation Mode : WCDMA B5      Test Date : 2018/4/19  
Fundamental Frequency : 826.4 MHz      Temp. / Humi. : 22.7deg\_C/57RH  
Operation Band : Tx CH Low      Test Engineer : Jerry  
EUT Pol. : E1      Measurement Antenna Pol. : Horizontal



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
37.76	S	-56.27	-36.58	-19.35	-0.34	-13	-43.27
174.53	S	-54.24	-48.08	-5.41	-0.75	-13	-41.24
294.81	S	-51.62	-49.03	-1.59	-1.00	-13	-38.62
404.42	S	-52.17	-49.46	-1.42	-1.28	-13	-39.17
671.17	S	-61.14	-57.82	-1.80	-1.52	-13	-48.14
964.11	S	-63.61	-59.84	-1.91	-1.86	-13	-50.61
1652.80	H	-47.90	-52.30	6.84	-2.44	-13	-34.90

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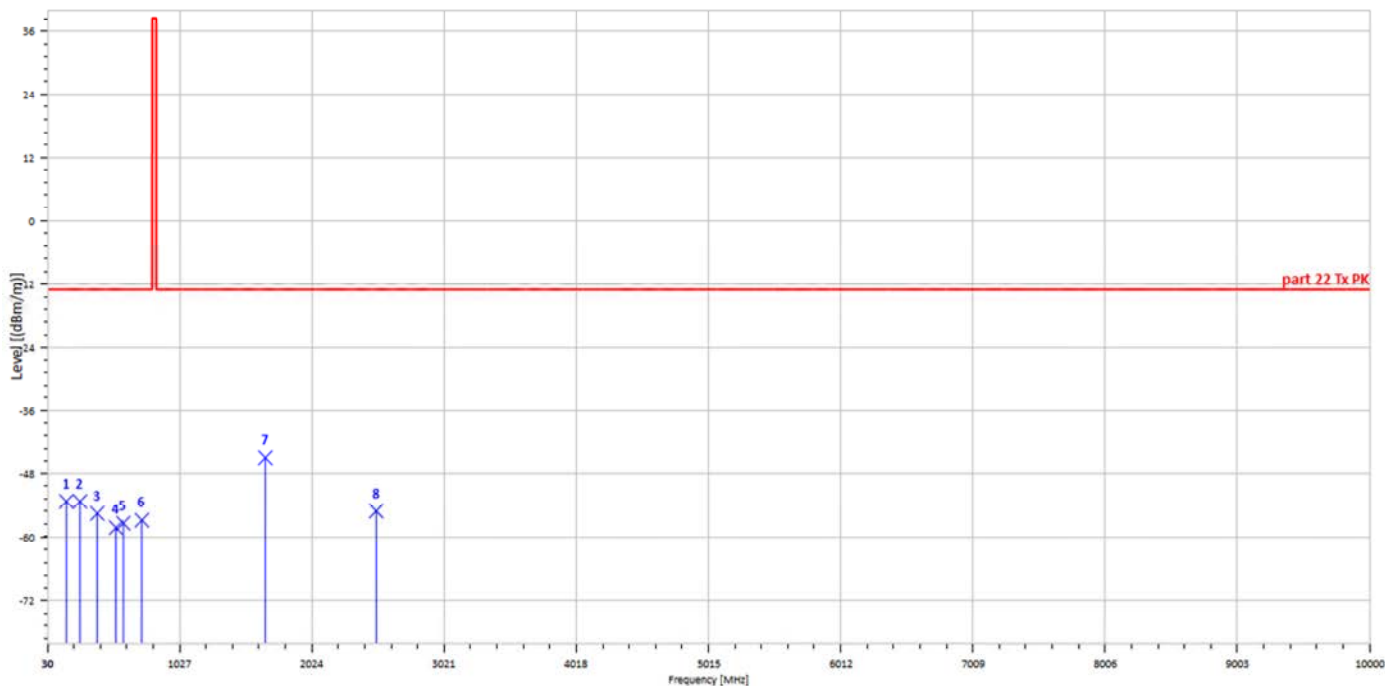
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Operation Mode : WCDMA B5      Test Date : 2018/4/19  
 Fundamental Frequency : 836.6 MHz      Temp. / Humi. : 22.7deg\_C/57RH  
 Operation Band : Tx CH Mid      Test Engineer : Jerry  
 EUT Pol. : E1      Measurement Antenna Pol. : Vertical



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
172.59	S	-53.31	-46.82	-5.73	-0.75	-13	-40.31
275.41	S	-53.30	-50.66	-1.69	-0.95	-13	-40.30
405.39	S	-55.59	-52.88	-1.42	-1.29	-13	-42.59
547.01	S	-58.26	-55.56	-1.39	-1.31	-13	-45.26
602.30	S	-57.45	-54.01	-2.00	-1.44	-13	-44.45
741.98	S	-56.88	-53.16	-2.26	-1.47	-13	-43.88
1673.20	H	-44.95	-49.40	6.90	-2.45	-13	-31.95
2509.80	H	-55.13	-60.45	8.37	-3.04	-13	-42.13

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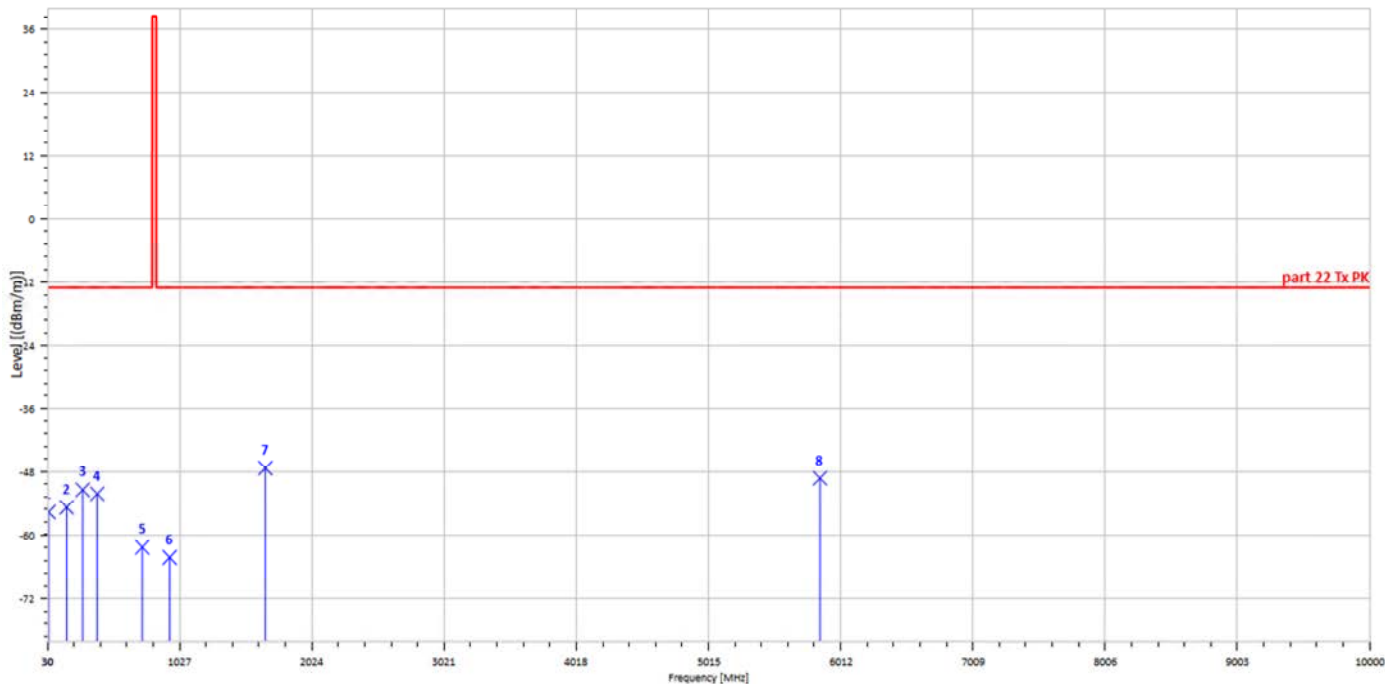
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Operation Mode : WCDMA B5      Test Date : 2018/4/19  
Fundamental Frequency : 836.6 MHz      Temp. / Humi. : 22.7deg\_C/57RH  
Operation Band : Tx CH Mid      Test Engineer : Jerry  
EUT Pol. : E1      Measurement Antenna Pol. : Horizontal



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	-55.71	-36.17	-19.19	-0.35	-13	-42.71
175.50	S	-54.80	-48.81	-5.24	-0.75	-13	-41.80
295.78	S	-51.47	-48.87	-1.60	-1.01	-13	-38.47
405.39	S	-52.23	-49.52	-1.42	-1.29	-13	-39.23
744.89	S	-62.37	-58.59	-2.30	-1.48	-13	-49.37
951.50	S	-64.25	-60.39	-2.00	-1.86	-13	-51.25
1673.20	H	-47.35	-51.80	6.90	-2.45	-13	-34.35
5856.20	H	-49.27	-55.28	10.79	-4.78	-13	-36.27

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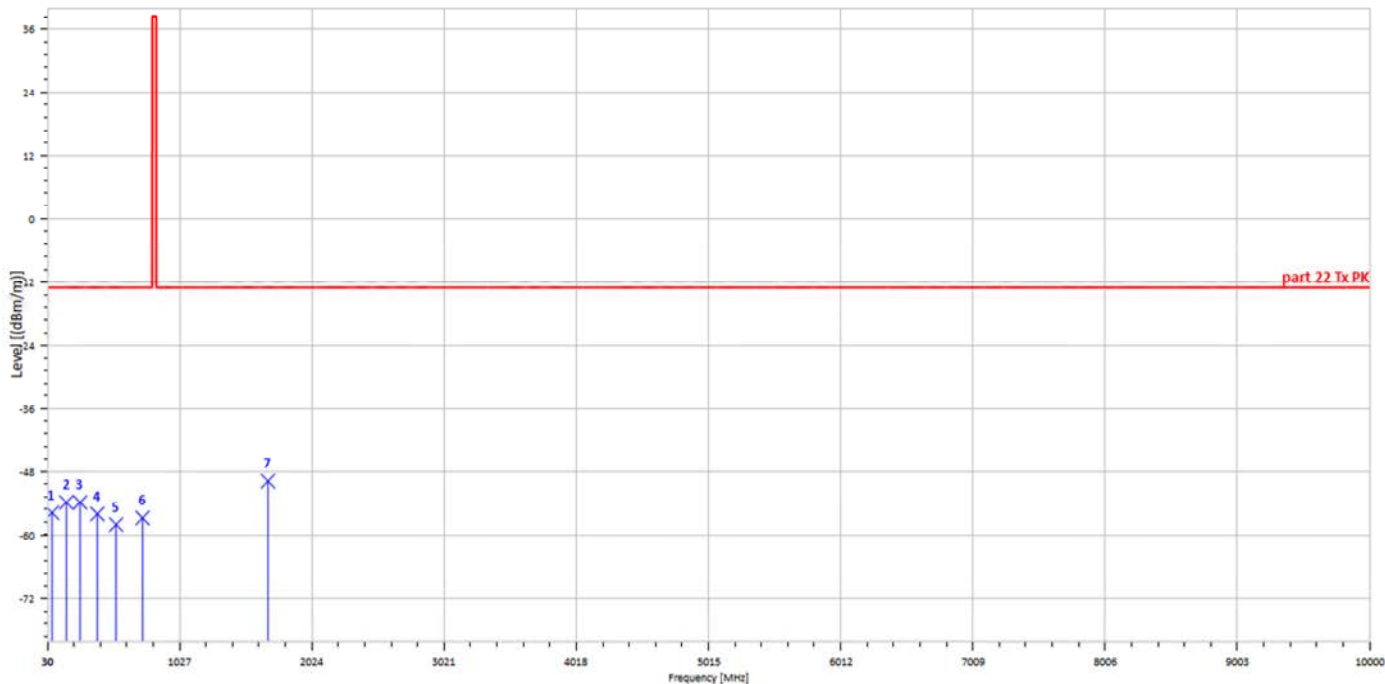
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Operation Mode : WCDMA B5      Test Date : 2018/4/19  
Fundamental Frequency : 846.6 MHz      Temp. / Humi. : 22.7deg\_C/57RH  
Operation Band : Tx CH High      Test Engineer : Jerry  
EUT Pol. : E1      Measurement Antenna Pol. : Vertical



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
64.92	S	-55.84	-41.49	-13.87	-0.48	-13	-42.84
172.59	S	-53.86	-47.38	-5.73	-0.75	-13	-40.86
276.38	S	-53.86	-51.20	-1.71	-0.95	-13	-40.86
406.36	S	-56.07	-53.36	-1.42	-1.29	-13	-43.07
547.98	S	-58.08	-55.37	-1.39	-1.32	-13	-45.08
746.83	S	-56.84	-53.03	-2.32	-1.49	-13	-43.84
1693.20	H	-49.83	-54.31	6.97	-2.49	-13	-36.83

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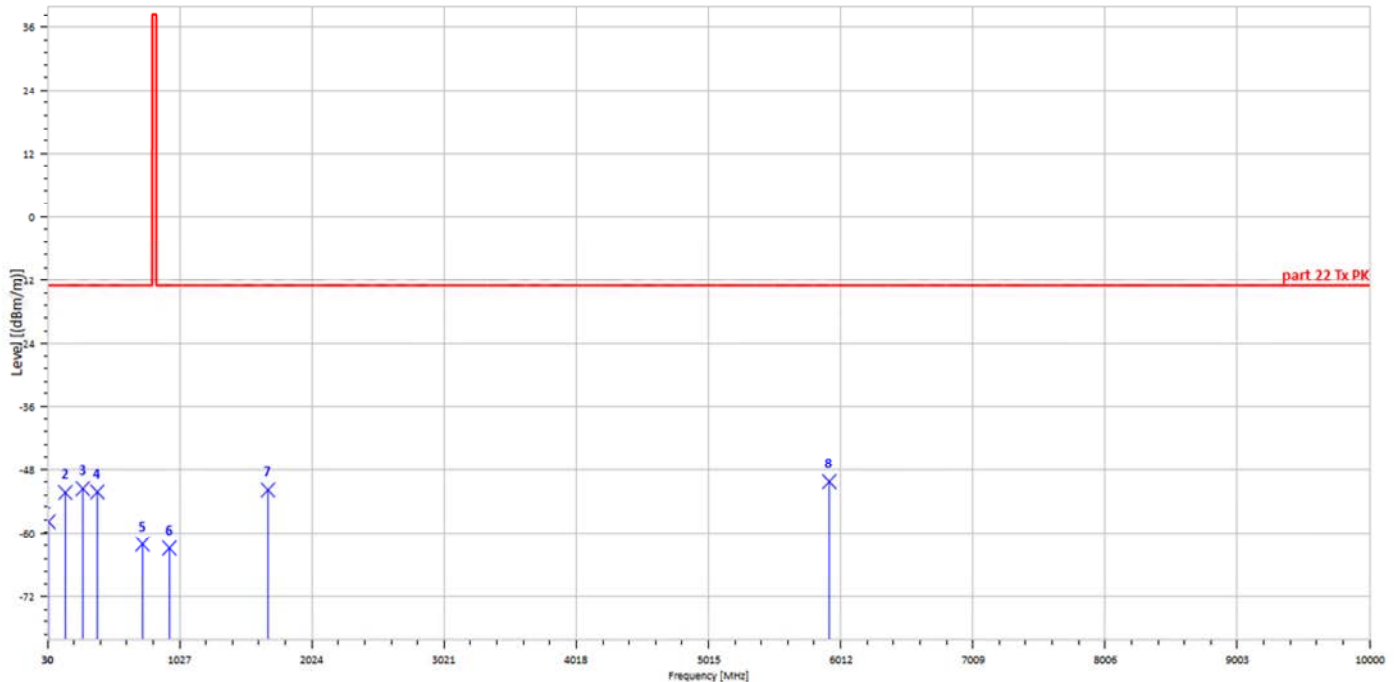
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Operation Mode :	WCDMA B5	Test Date :	2018/4/19
Fundamental Frequency :	846.6 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Jerry
EUT Pol. :	E1	Measurement Antenna Pol. :	Horizontal



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
37.76	S	-57.90	-38.21	-19.35	-0.34	-13	-44.90
164.83	S	-52.32	-44.87	-6.70	-0.75	-13	-39.32
296.75	S	-51.60	-48.99	-1.60	-1.01	-13	-38.60
406.36	S	-52.20	-49.49	-1.42	-1.29	-13	-39.20
746.83	S	-62.16	-58.34	-2.32	-1.49	-13	-49.16
949.56	S	-62.90	-59.05	-2.00	-1.85	-13	-49.90
1693.20	H	-51.85	-56.33	6.97	-2.49	-13	-38.85
5926.20	H	-50.29	-56.33	10.82	-4.79	-13	-37.29

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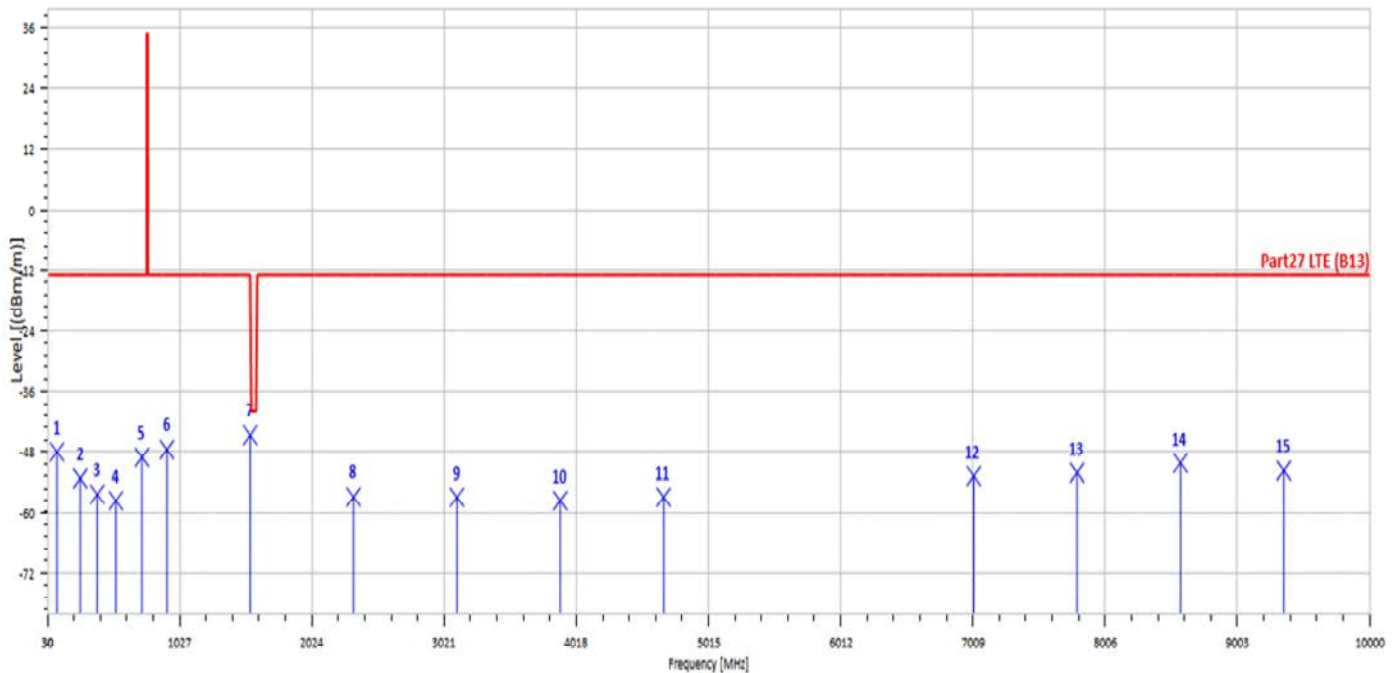
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## Radiated Spurious Emission Measurement Result: LTE-Band 13 (The Worst Case)

Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



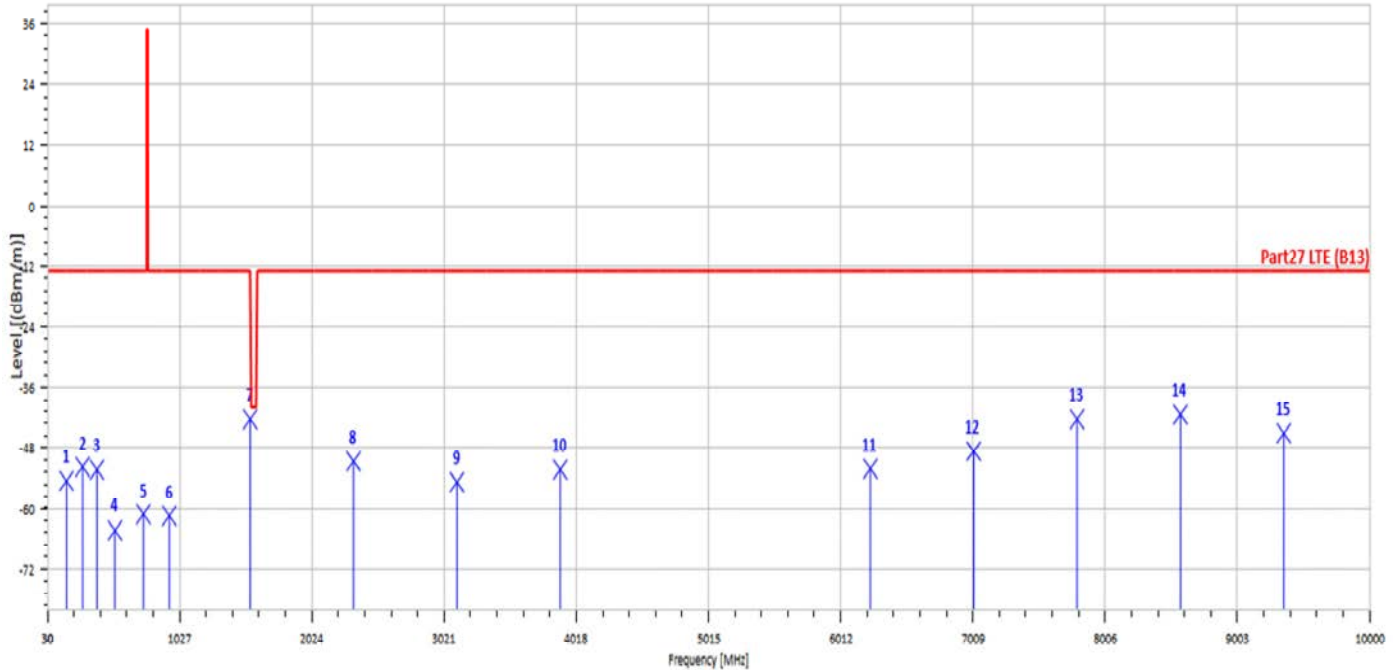
Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit @3m dBm/m	Margin dB
101.78	S	-47.99	-40.76	-6.67	-0.56	-13	-34.99
277.35	S	-53.27	-50.58	-1.73	-0.96	-13	-40.27
405.39	S	-56.39	-53.68	-1.42	-1.29	-13	-43.39
546.04	S	-57.66	-54.97	-1.39	-1.31	-13	-44.66
742.95	S	-49.09	-45.35	-2.27	-1.47	-13	-36.09
931.13	S	-47.54	-43.77	-1.97	-1.79	-13	-34.54
1559.00	H	-44.67	-48.83	6.54	-2.38	-40	-4.67
2338.50	H	-56.92	-62.20	8.22	-2.94	-13	-43.92
3118.00	H	-56.96	-62.98	9.39	-3.37	-13	-43.96
3897.50	H	-57.66	-64.14	10.31	-3.83	-13	-44.66
4677.00	H	-56.96	-63.18	10.44	-4.22	-13	-43.96
7015.50	H	-52.79	-56.88	9.33	-5.24	-13	-39.79
7795.00	H	-52.13	-55.06	8.69	-5.77	-13	-39.13
8574.50	H	-50.21	-54.07	9.74	-5.88	-13	-37.21
9354.00	H	-51.73	-55.53	9.90	-6.10	-13	-38.73

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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Jerry
EUT Pol. :	E2	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
173.56	S	-54.53	-48.21	-5.57	-0.75	-13	-41.53
294.81	S	-51.79	-49.19	-1.59	-1.00	-13	-38.79
403.45	S	-52.36	-49.66	-1.42	-1.28	-13	-39.36
539.25	S	-64.32	-61.67	-1.38	-1.27	-13	-51.32
753.62	S	-61.16	-57.29	-2.33	-1.53	-13	-48.16
948.59	S	-61.48	-57.63	-2.00	-1.85	-13	-48.48
1559.00	H	-42.37	-46.53	6.54	-2.38	-40	-2.37
2338.50	H	-50.70	-55.98	8.22	-2.94	-13	-37.70
3118.00	H	-54.74	-60.76	9.39	-3.37	-13	-41.74
3897.50	H	-52.33	-58.81	10.31	-3.83	-13	-39.33
6236.00	H	-52.14	-57.52	10.33	-4.95	-13	-39.14
7015.50	H	-48.65	-52.73	9.33	-5.24	-13	-35.65
7795.00	H	-42.36	-45.28	8.69	-5.77	-13	-29.36
8574.50	H	-41.43	-45.29	9.74	-5.88	-13	-28.43
9354.00	H	-45.07	-48.86	9.90	-6.10	-13	-32.07

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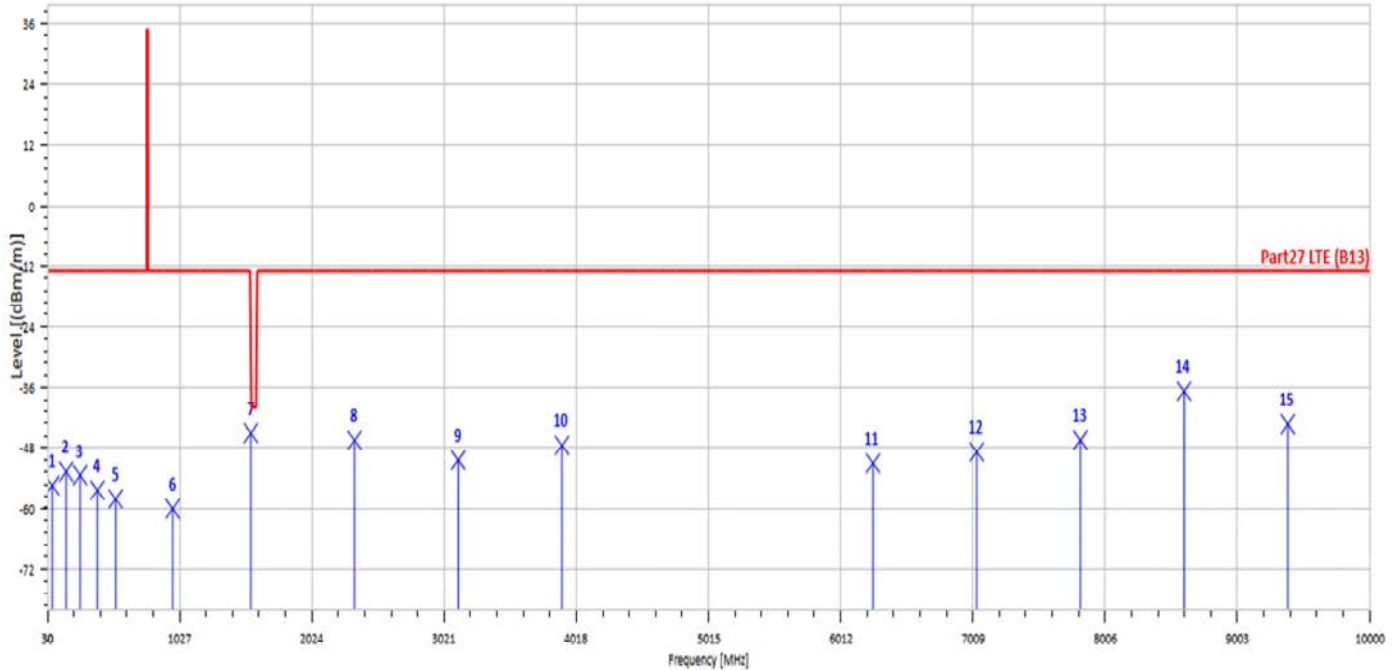
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	782 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



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
65.89	S	-55.41	-41.32	-13.60	-0.49	-13	-42.41
170.65	S	-52.74	-45.92	-6.06	-0.75	-13	-39.74
276.38	S	-53.40	-50.74	-1.71	-0.95	-13	-40.40
406.36	S	-56.35	-53.64	-1.42	-1.29	-13	-43.35
544.10	S	-58.11	-55.43	-1.38	-1.29	-13	-45.11
973.81	S	-60.12	-56.41	-1.85	-1.85	-13	-47.12
1564.00	H	-45.05	-49.21	6.55	-2.39	-40	-5.05
2346.00	H	-46.45	-51.73	8.23	-2.95	-13	-33.45
3128.00	H	-50.46	-56.48	9.41	-3.39	-13	-37.46
3910.00	H	-47.51	-53.98	10.31	-3.84	-13	-34.51
6256.00	H	-51.09	-56.42	10.29	-4.96	-13	-38.09
7038.00	H	-48.81	-52.89	9.30	-5.23	-13	-35.81
7820.00	H	-46.41	-49.52	8.69	-5.58	-13	-33.41
8602.00	H	-36.70	-40.49	9.77	-5.98	-13	-23.70
9384.00	H	-43.32	-47.06	9.87	-6.12	-13	-30.32

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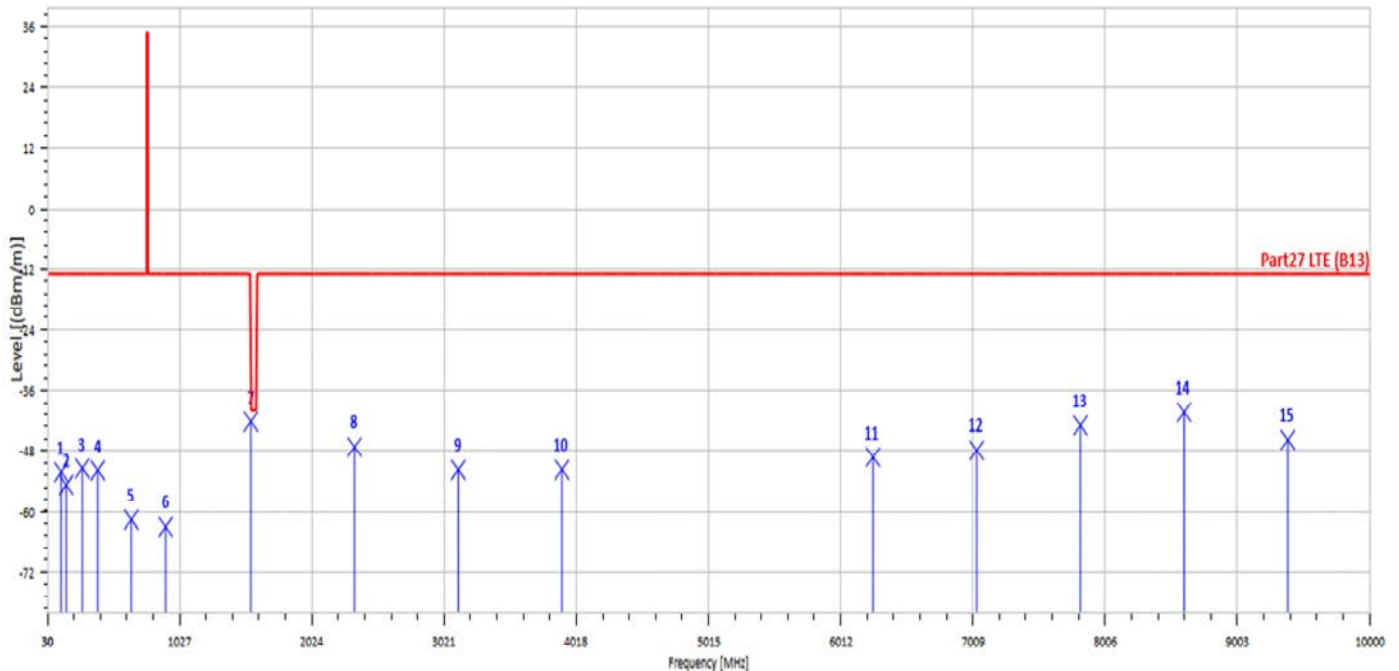
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	782 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



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
133.79	S	-52.22	-43.82	-7.68	-0.72	-13	-39.22
171.62	S	-54.72	-48.07	-5.90	-0.75	-13	-41.72
292.87	S	-51.49	-48.90	-1.59	-1.00	-13	-38.49
409.27	S	-51.88	-49.16	-1.43	-1.29	-13	-38.88
662.44	S	-61.62	-58.27	-1.84	-1.51	-13	-48.62
921.43	S	-63.05	-59.32	-1.95	-1.78	-13	-50.05
1564.00	H	-42.22	-46.39	6.55	-2.39	-40	-2.22
2346.00	H	-47.20	-52.48	8.23	-2.95	-13	-34.20
3128.00	H	-51.77	-57.79	9.41	-3.39	-13	-38.77
3910.00	H	-51.75	-58.22	10.31	-3.84	-13	-38.75
6256.00	H	-49.22	-54.54	10.29	-4.96	-13	-36.22
7038.00	H	-47.89	-51.96	9.30	-5.23	-13	-34.89
7820.00	H	-42.96	-46.06	8.69	-5.58	-13	-29.96
8602.00	H	-40.37	-44.16	9.77	-5.98	-13	-27.37
9384.00	H	-45.78	-49.52	9.87	-6.12	-13	-32.78

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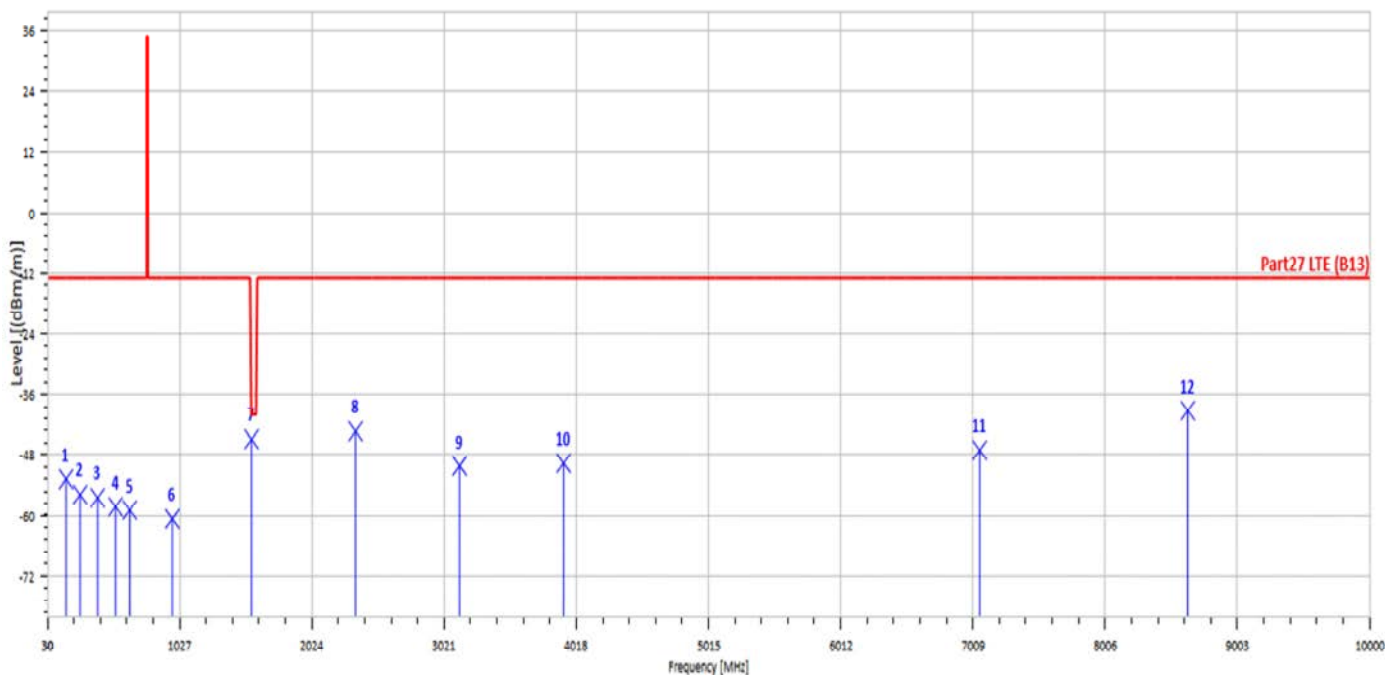
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	784.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



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
170.65	S	-52.82	-46.01	-6.06	-0.75	-13	-39.82
276.38	S	-55.88	-53.21	-1.71	-0.95	-13	-42.88
408.30	S	-56.50	-53.78	-1.43	-1.29	-13	-43.50
543.13	S	-58.29	-55.62	-1.38	-1.29	-13	-45.29
650.80	S	-58.96	-55.62	-1.90	-1.45	-13	-45.96
971.87	S	-60.73	-57.01	-1.86	-1.85	-13	-47.73
1569.00	H	-44.89	-49.07	6.57	-2.39	-40	-4.89
2353.50	H	-43.32	-48.60	8.23	-2.95	-13	-30.32
3138.00	H	-50.20	-56.23	9.43	-3.40	-13	-37.20
3922.50	H	-49.66	-56.12	10.32	-3.86	-13	-36.66
7060.50	H	-47.06	-51.03	9.28	-5.31	-13	-34.06
8629.50	H	-39.24	-43.08	9.81	-5.96	-13	-26.24

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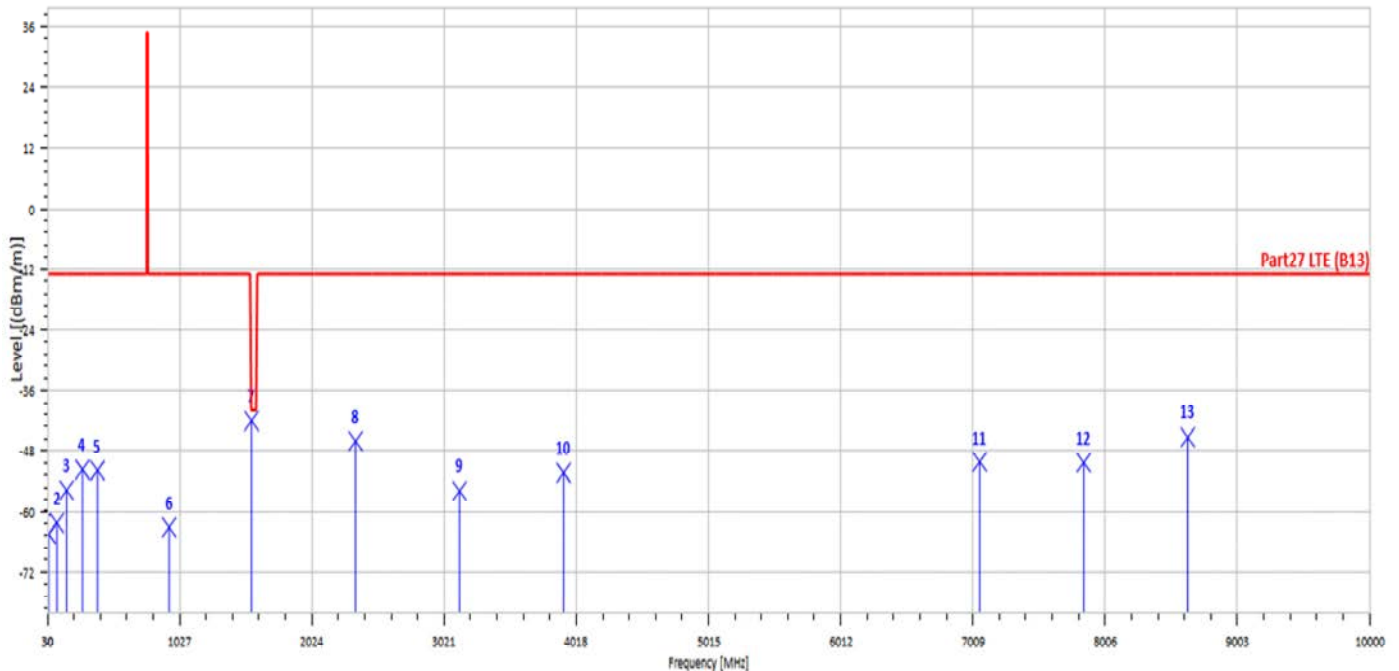
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	784.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit @3m	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm/m	dB
38.73	S	-64.41	-44.87	-19.19	-0.35	-13	-51.41
100.81	S	-62.30	-55.16	-6.58	-0.56	-13	-49.30
174.53	S	-55.78	-49.62	-5.41	-0.75	-13	-42.78
293.84	S	-51.72	-49.13	-1.59	-1.00	-13	-38.72
407.33	S	-51.90	-49.18	-1.43	-1.29	-13	-38.90
947.62	S	-63.11	-59.27	-2.00	-1.85	-13	-50.11
1569.00	H	-42.08	-46.26	6.57	-2.39	-40	-2.08
2353.50	H	-46.03	-51.30	8.23	-2.95	-13	-33.03
3138.00	H	-55.91	-61.94	9.43	-3.40	-13	-42.91
3922.50	H	-52.37	-58.83	10.32	-3.86	-13	-39.37
7060.50	H	-50.21	-54.18	9.28	-5.31	-13	-37.21
7845.00	H	-50.37	-53.45	8.68	-5.61	-13	-37.37
8629.50	H	-45.28	-49.13	9.81	-5.96	-13	-32.28

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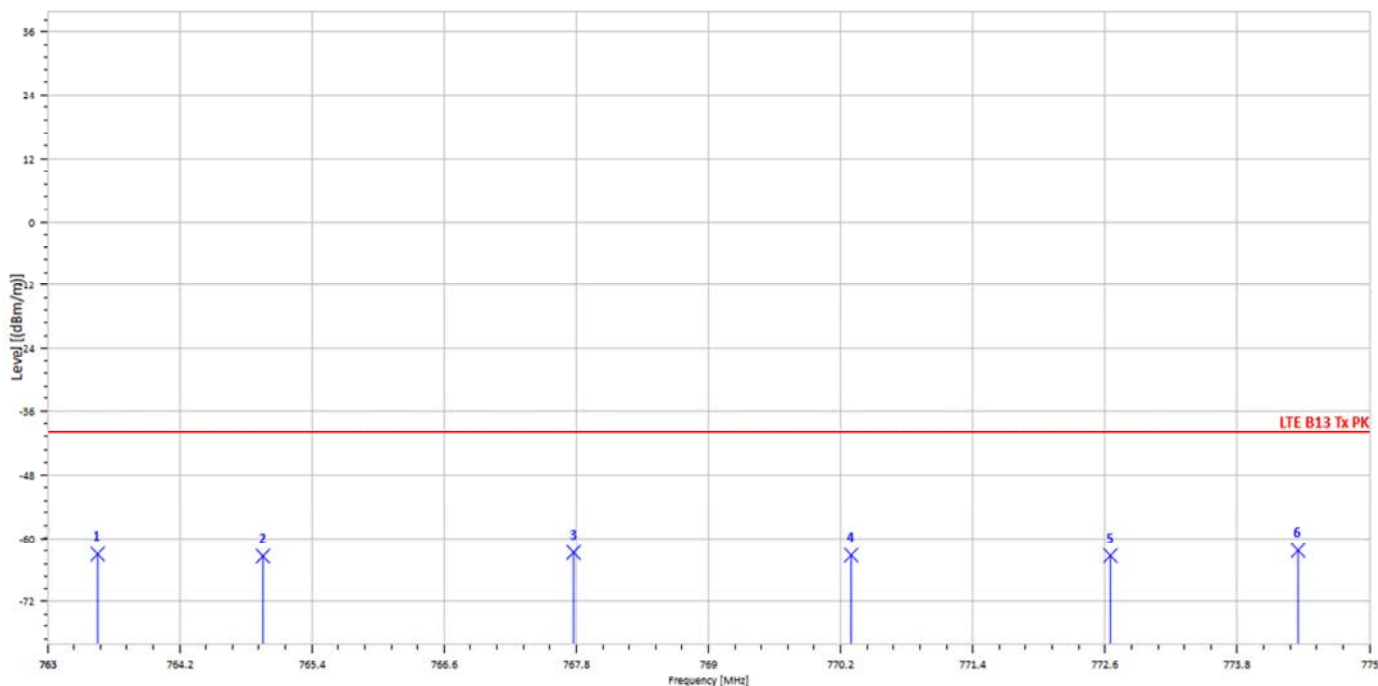
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



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
763.46	S	-63.01	-59.19	-2.24	-1.58	-40	-23.01
764.96	S	-63.41	-59.59	-2.23	-1.59	-40	-23.41
767.78	S	-62.71	-58.91	-2.20	-1.61	-40	-22.71
770.30	S	-63.22	-59.42	-2.18	-1.62	-40	-23.22
772.65	S	-63.31	-59.52	-2.16	-1.63	-40	-23.31
774.35	S	-62.33	-58.55	-2.14	-1.64	-40	-22.33

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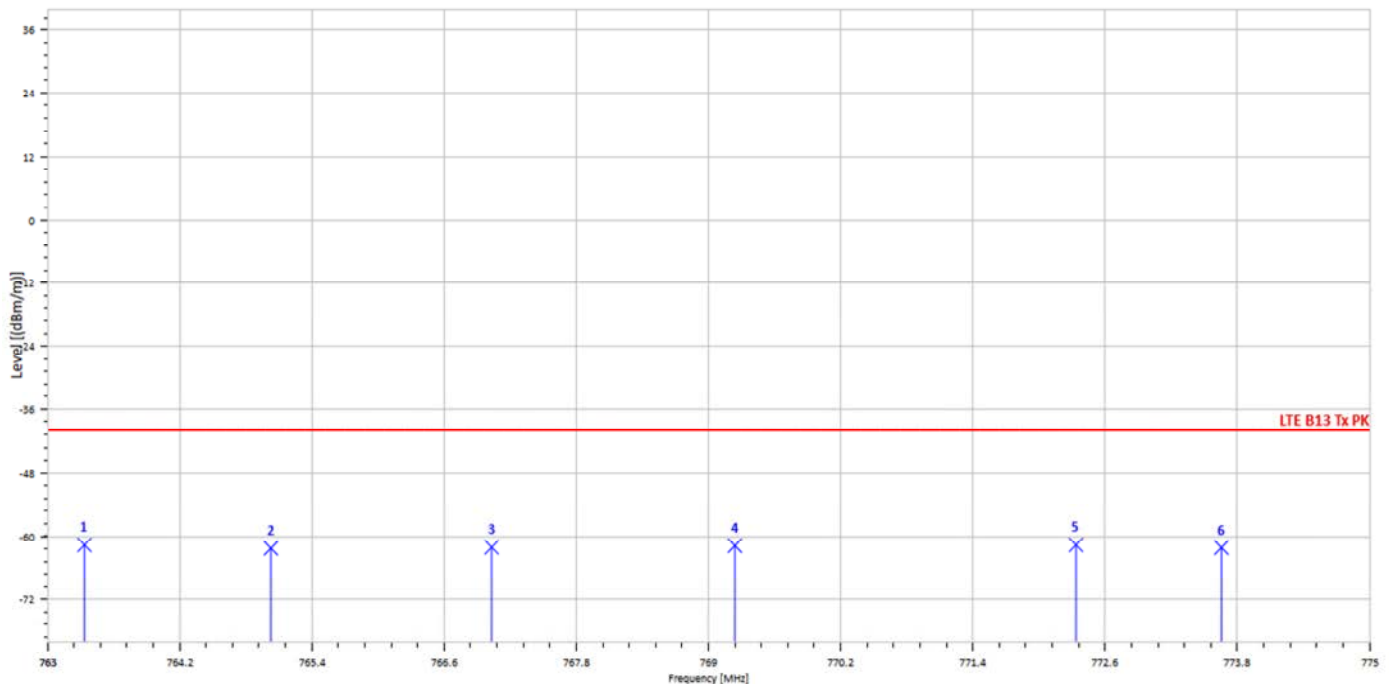
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



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
763.34	S	-61.65	-57.83	-2.24	-1.58	-40	-21.65
765.03	S	-62.29	-58.47	-2.23	-1.59	-40	-22.29
767.03	S	-62.09	-58.28	-2.21	-1.60	-40	-22.09
769.24	S	-61.79	-57.99	-2.19	-1.61	-40	-21.79
772.34	S	-61.64	-57.85	-2.16	-1.63	-40	-21.64
773.66	S	-62.16	-58.38	-2.15	-1.64	-40	-22.16

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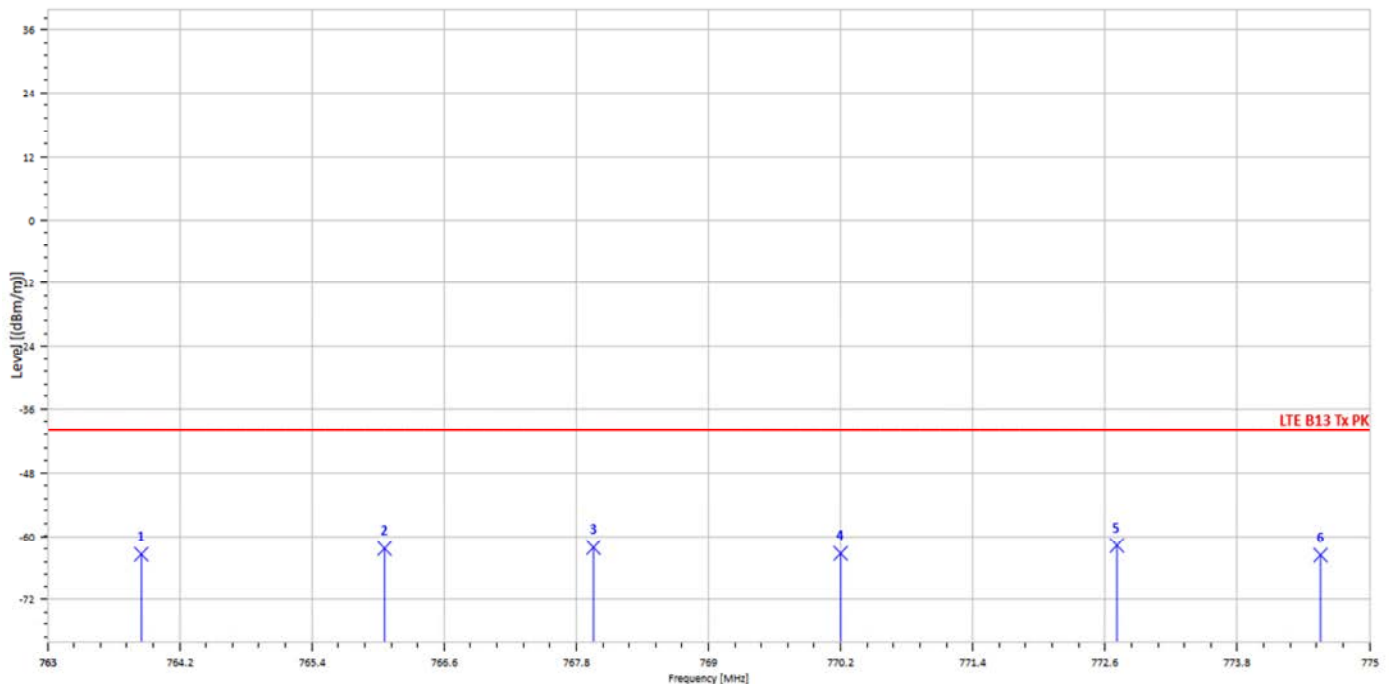
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



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
763.85	S	-63.42	-59.59	-2.24	-1.58	-40	-23.42
766.06	S	-62.34	-58.53	-2.22	-1.60	-40	-22.34
767.96	S	-62.14	-58.33	-2.20	-1.61	-40	-22.14
770.20	S	-63.24	-59.44	-2.18	-1.62	-40	-23.24
772.71	S	-61.76	-57.97	-2.16	-1.63	-40	-21.76
774.56	S	-63.57	-59.80	-2.14	-1.64	-40	-23.57

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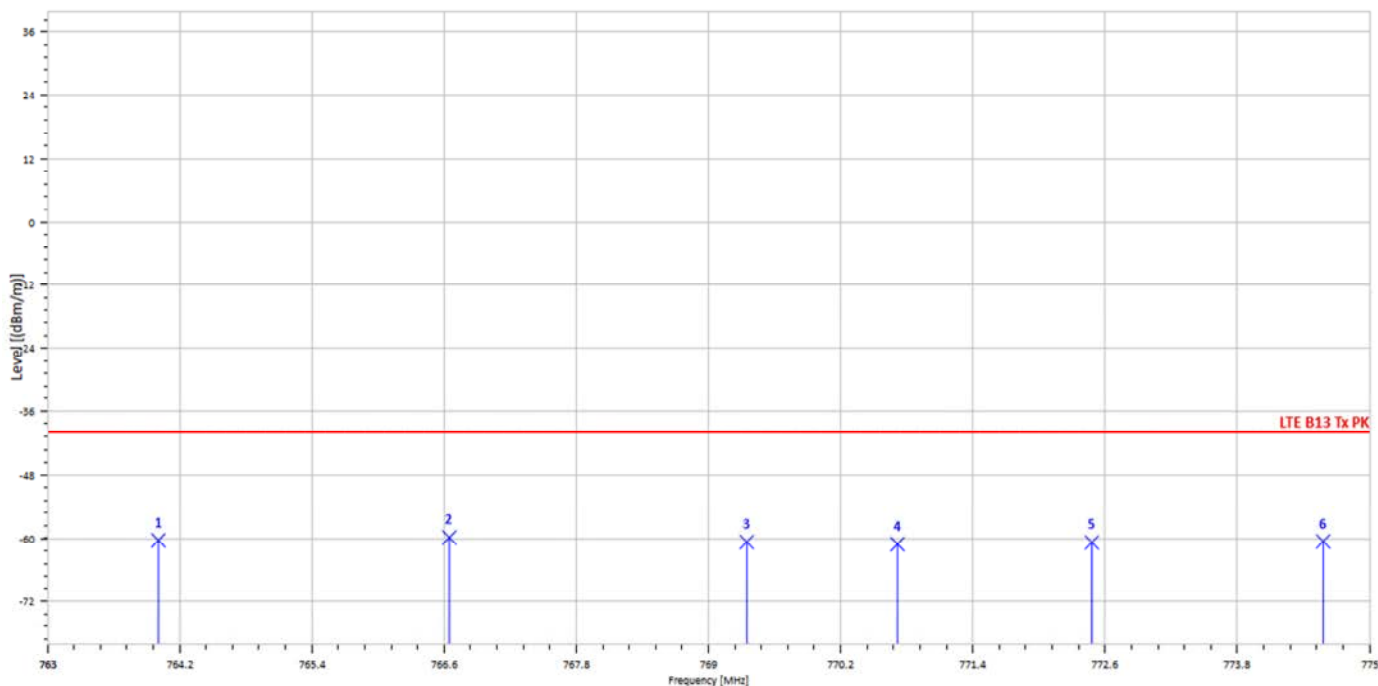
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



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
764.01	S	-60.40	-56.58	-2.24	-1.58	-40	-20.40
766.65	S	-59.86	-56.05	-2.21	-1.60	-40	-19.86
769.35	S	-60.72	-56.92	-2.19	-1.61	-40	-20.72
770.72	S	-61.11	-57.31	-2.17	-1.62	-40	-21.11
772.48	S	-60.79	-57.00	-2.16	-1.63	-40	-20.79
774.58	S	-60.60	-56.82	-2.14	-1.64	-40	-20.60

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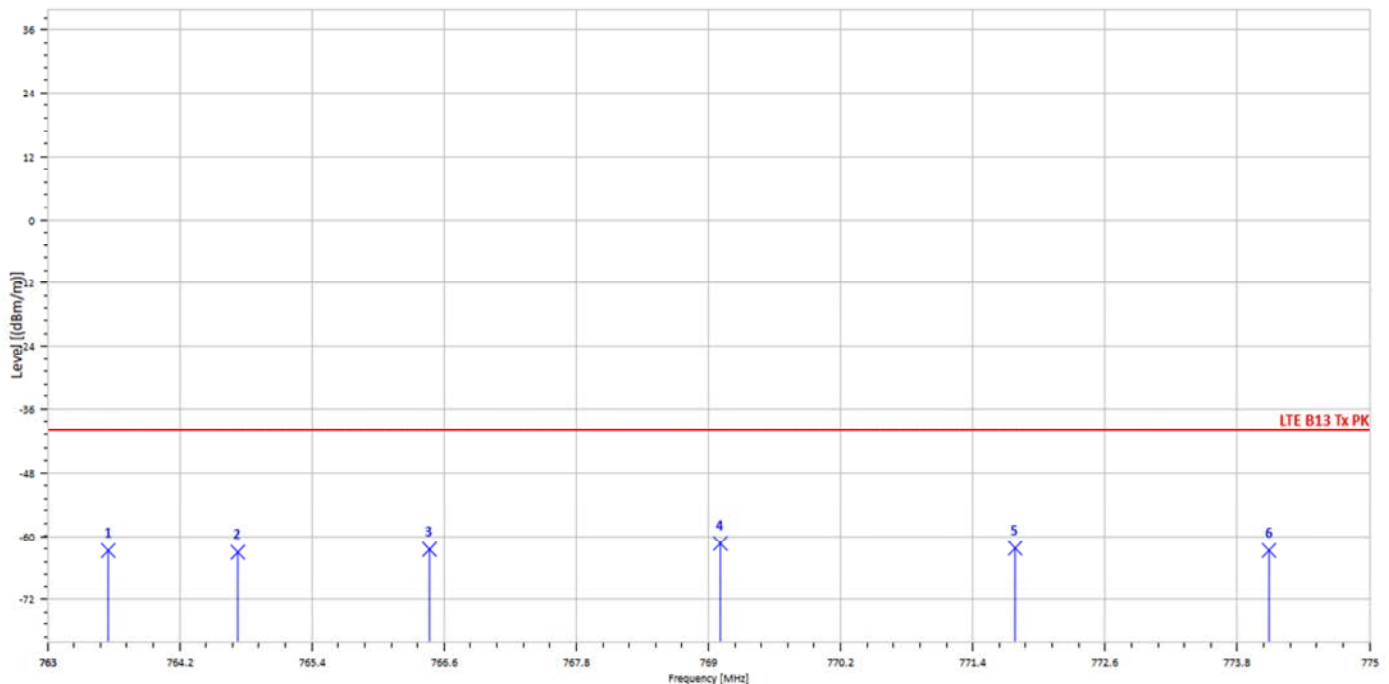
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



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
763.55	S	-62.72	-58.89	-2.24	-1.58	-40	-22.72
764.73	S	-63.04	-59.22	-2.23	-1.59	-40	-23.04
766.47	S	-62.50	-58.69	-2.21	-1.60	-40	-22.50
769.11	S	-61.36	-57.56	-2.19	-1.61	-40	-21.36
771.78	S	-62.26	-58.47	-2.16	-1.63	-40	-22.26
774.09	S	-62.71	-58.93	-2.14	-1.64	-40	-22.71

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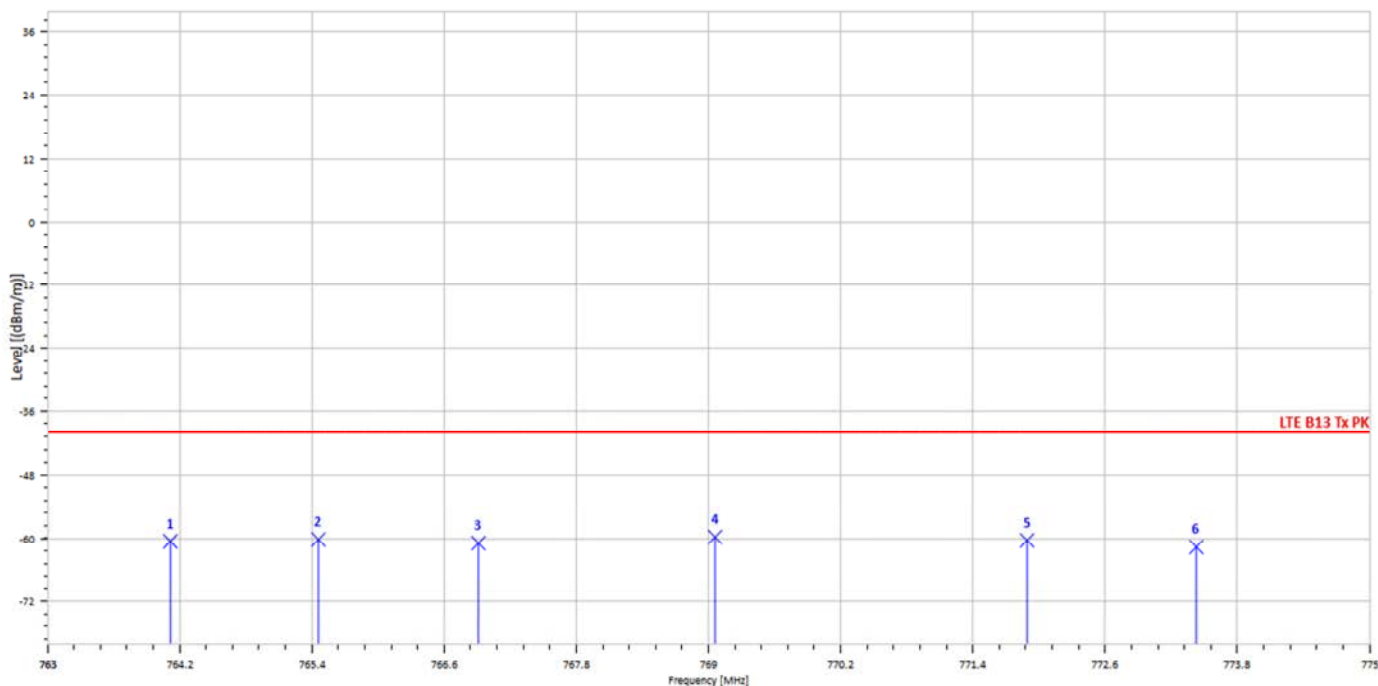
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



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
764.12	S	-60.58	-56.76	-2.24	-1.58	-40	-20.58
765.46	S	-60.25	-56.44	-2.22	-1.59	-40	-20.25
766.91	S	-60.92	-57.11	-2.21	-1.60	-40	-20.92
769.06	S	-59.76	-55.96	-2.19	-1.61	-40	-19.76
771.89	S	-60.40	-56.61	-2.16	-1.63	-40	-20.40
773.43	S	-61.67	-57.89	-2.15	-1.64	-40	-21.67

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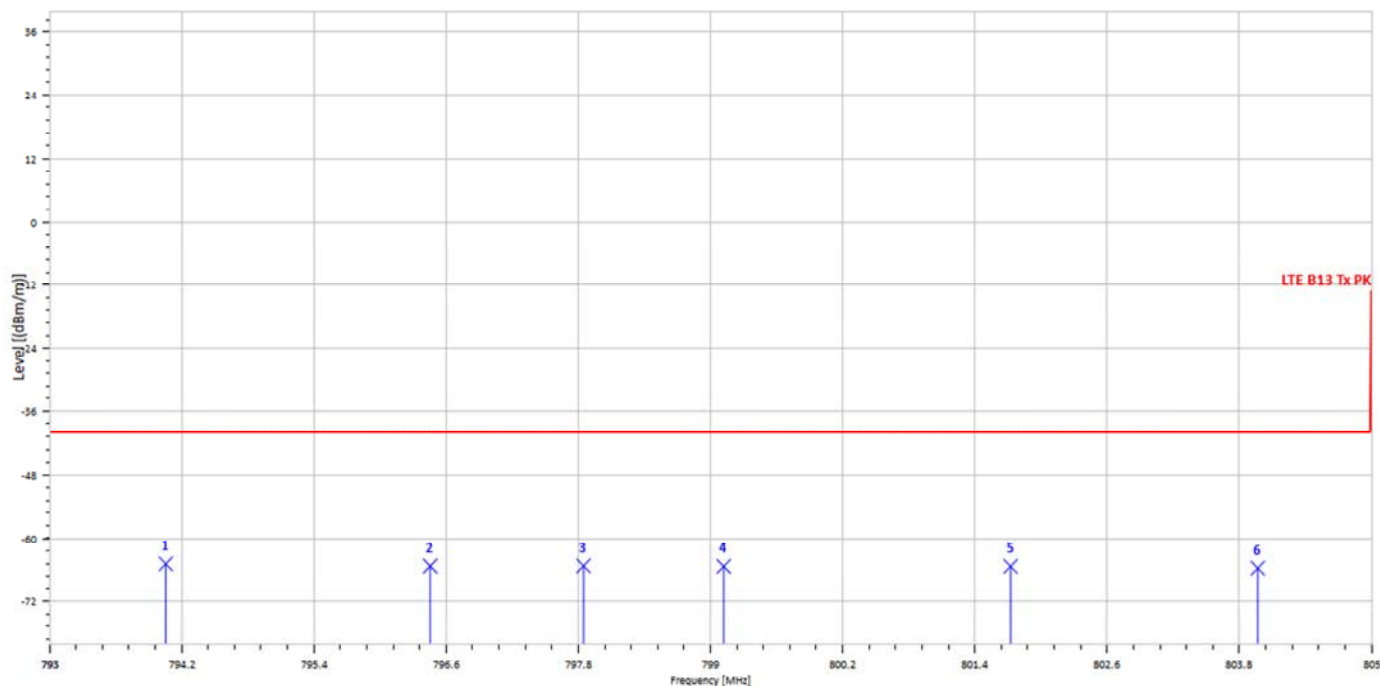
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



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
794.06	S	-64.85	-61.29	-1.96	-1.59	-40	-24.85
796.46	S	-65.28	-61.75	-1.94	-1.59	-40	-25.28
797.85	S	-65.23	-61.71	-1.93	-1.60	-40	-25.23
799.12	S	-65.34	-61.82	-1.92	-1.60	-40	-25.34
801.72	S	-65.33	-61.82	-1.91	-1.60	-40	-25.33
803.97	S	-65.67	-62.16	-1.91	-1.60	-40	-25.67

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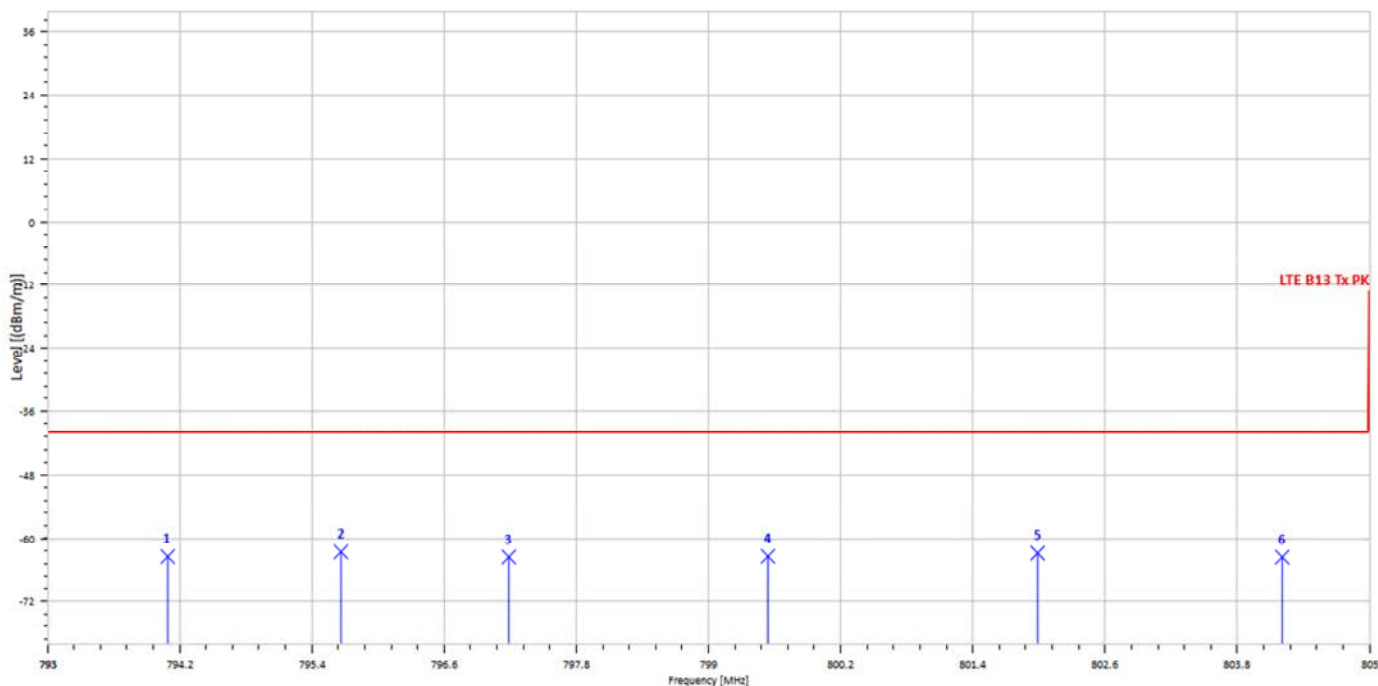
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



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
794.09	S	-63.49	-59.94	-1.96	-1.59	-40	-23.49
795.66	S	-62.61	-59.07	-1.95	-1.59	-40	-22.61
797.19	S	-63.55	-60.03	-1.93	-1.60	-40	-23.55
799.54	S	-63.45	-59.94	-1.91	-1.60	-40	-23.45
801.99	S	-62.84	-59.33	-1.91	-1.60	-40	-22.84
804.21	S	-63.60	-60.08	-1.91	-1.60	-40	-23.60

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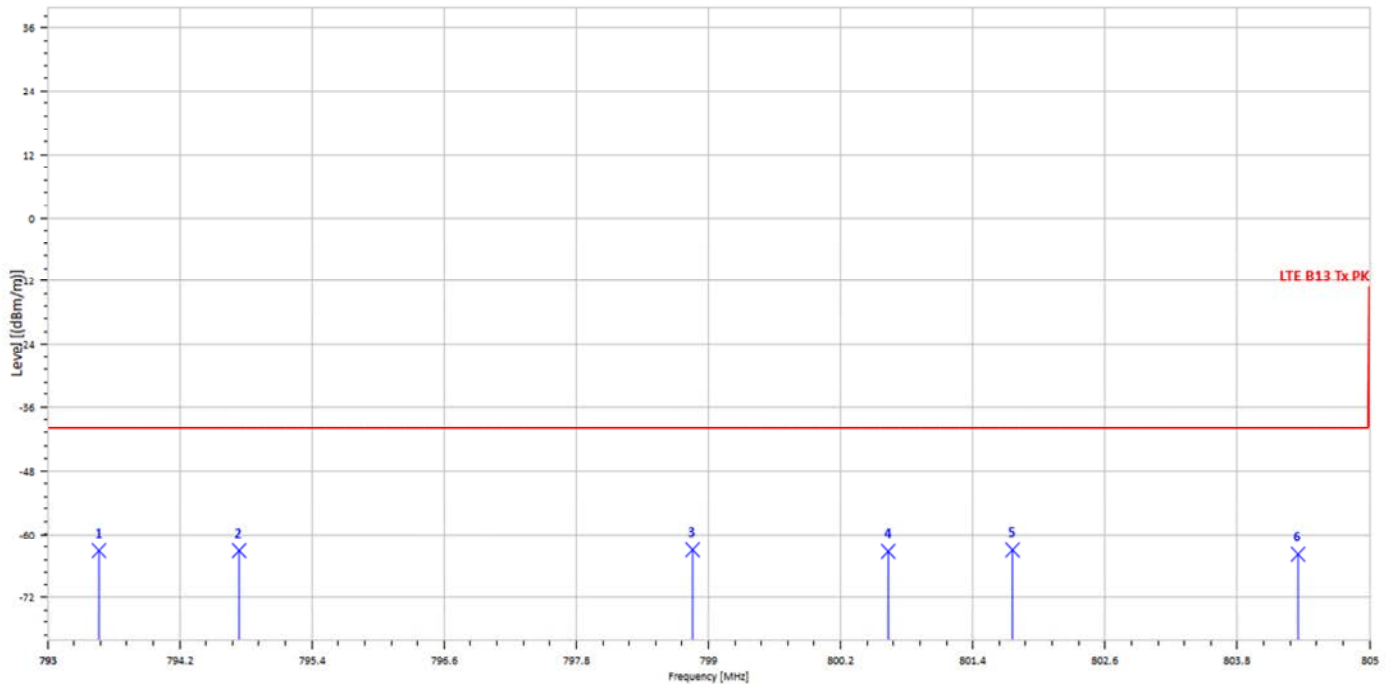
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



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
793.47	S	-63.13	-59.57	-1.97	-1.59	-40	-23.13
794.74	S	-63.14	-59.59	-1.96	-1.59	-40	-23.14
798.86	S	-62.97	-59.46	-1.92	-1.60	-40	-22.97
800.63	S	-63.28	-59.77	-1.91	-1.60	-40	-23.28
801.76	S	-63.02	-59.51	-1.91	-1.60	-40	-23.02
804.35	S	-63.81	-60.30	-1.91	-1.60	-40	-23.81

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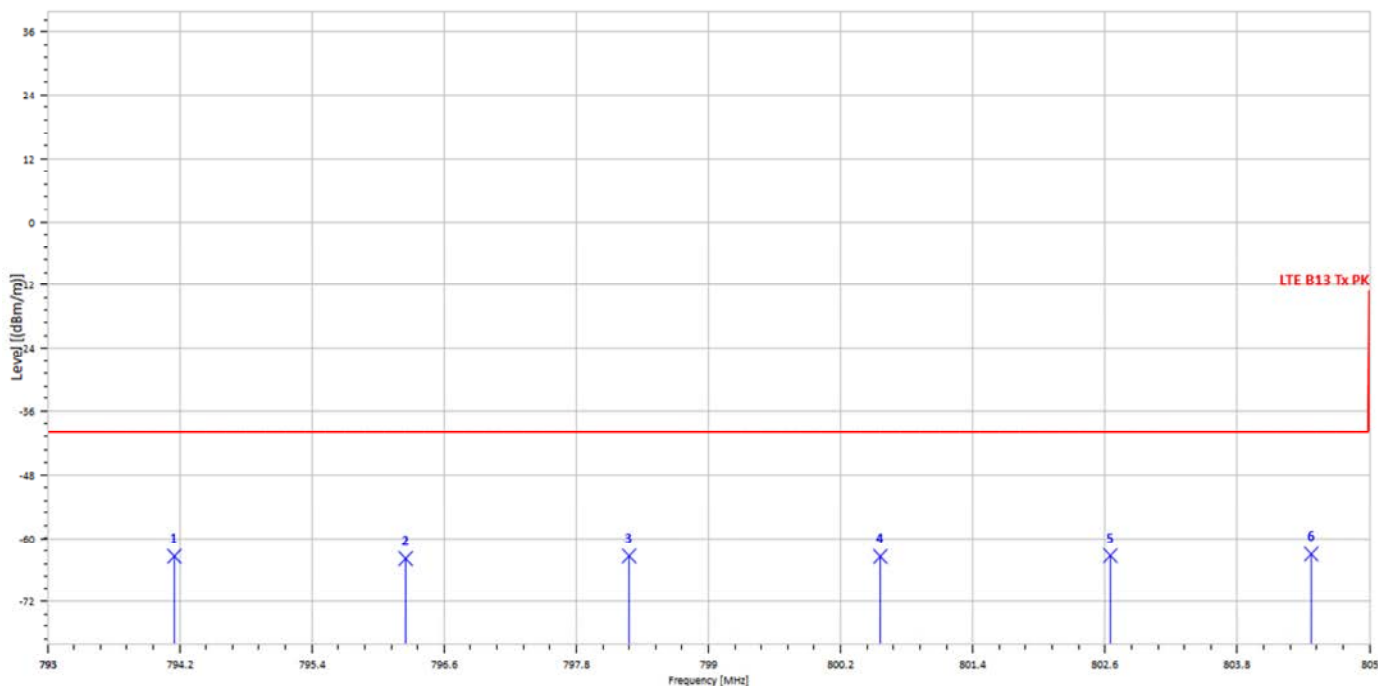
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



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
794.15	S	-63.44	-59.88	-1.96	-1.59	-40	-23.44
796.25	S	-63.86	-60.33	-1.94	-1.59	-40	-23.86
798.28	S	-63.39	-59.87	-1.92	-1.60	-40	-23.39
800.56	S	-63.48	-59.97	-1.91	-1.60	-40	-23.48
802.65	S	-63.32	-59.80	-1.91	-1.60	-40	-23.32
804.47	S	-63.02	-59.51	-1.91	-1.60	-40	-23.02

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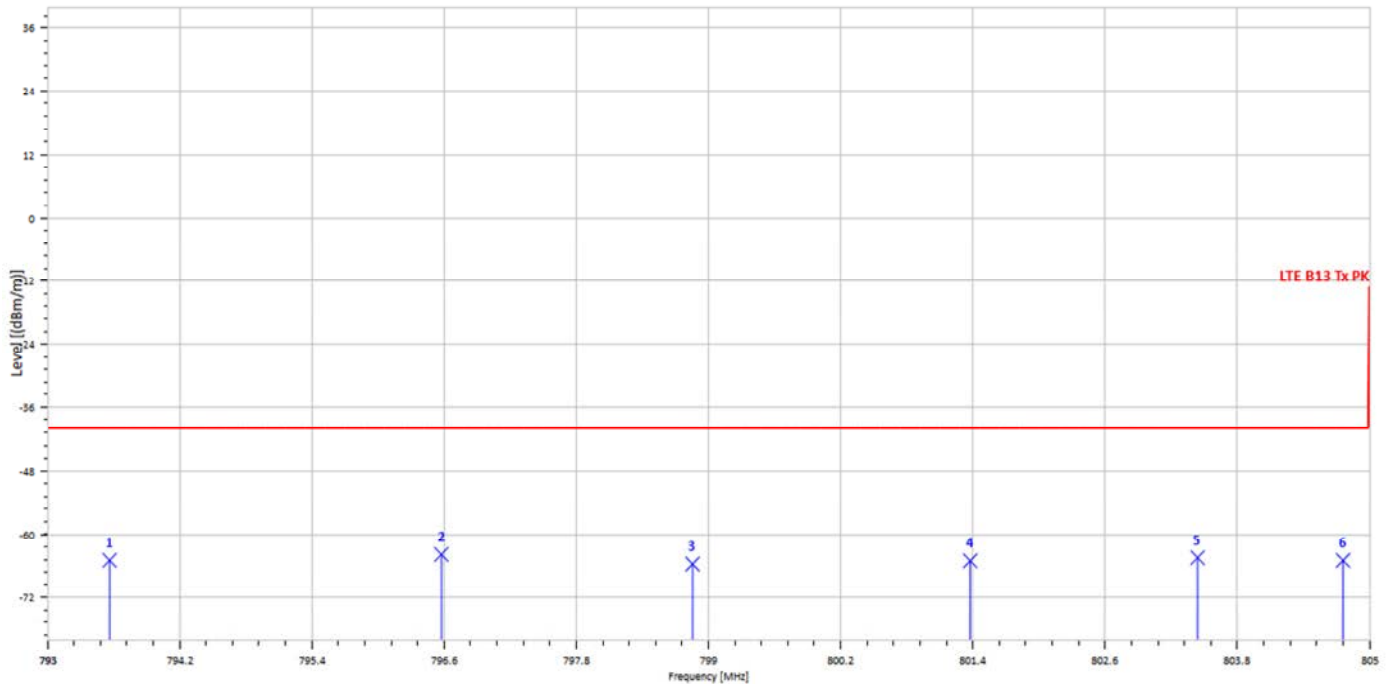
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



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
793.56	S	-64.94	-61.39	-1.97	-1.59	-40	-24.94
796.58	S	-63.83	-60.30	-1.94	-1.60	-40	-23.83
798.86	S	-65.64	-62.12	-1.92	-1.60	-40	-25.64
801.38	S	-65.04	-61.53	-1.91	-1.60	-40	-25.04
803.44	S	-64.46	-60.94	-1.91	-1.60	-40	-24.46
804.76	S	-64.96	-61.44	-1.91	-1.60	-40	-24.96

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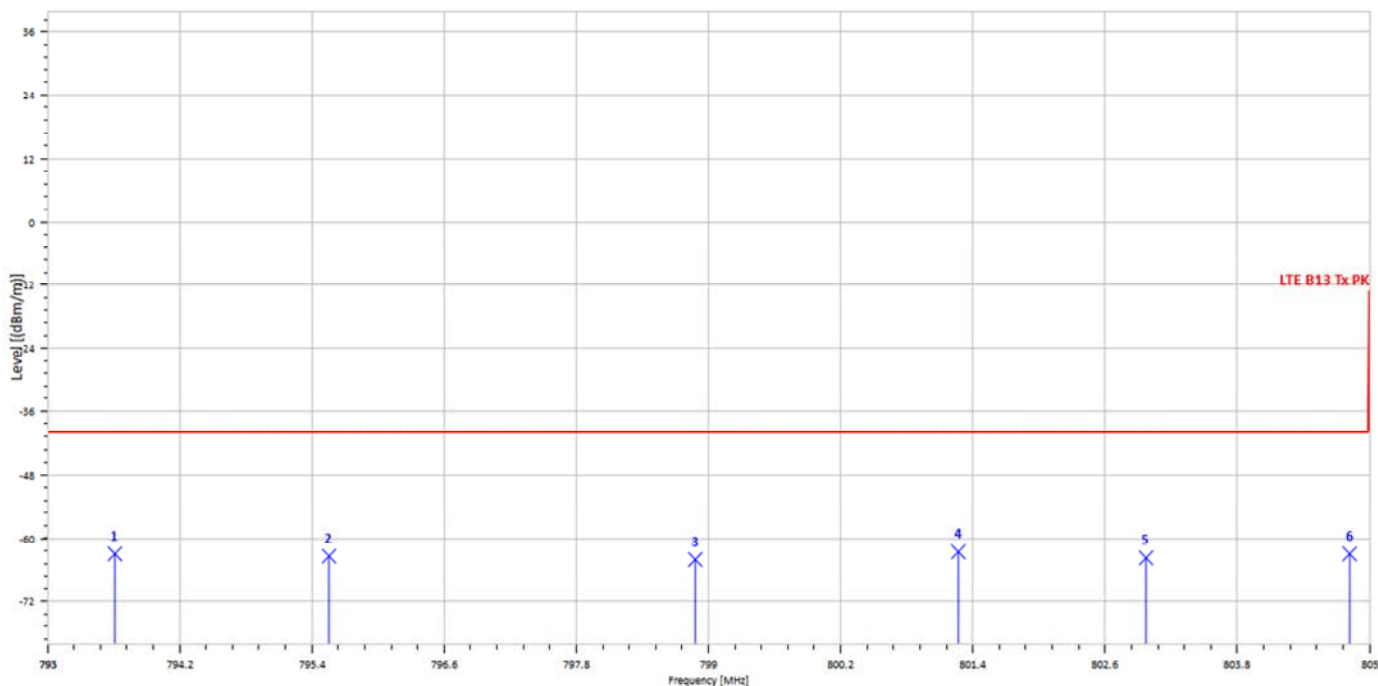
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/4/18
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



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
793.61	S	-62.98	-59.42	-1.97	-1.59	-40	-22.98
795.56	S	-63.41	-59.87	-1.95	-1.59	-40	-23.41
798.88	S	-64.04	-60.52	-1.92	-1.60	-40	-24.04
801.27	S	-62.59	-59.08	-1.91	-1.60	-40	-22.59
802.97	S	-63.73	-60.22	-1.91	-1.60	-40	-23.73
804.82	S	-62.99	-59.47	-1.91	-1.60	-40	-22.99

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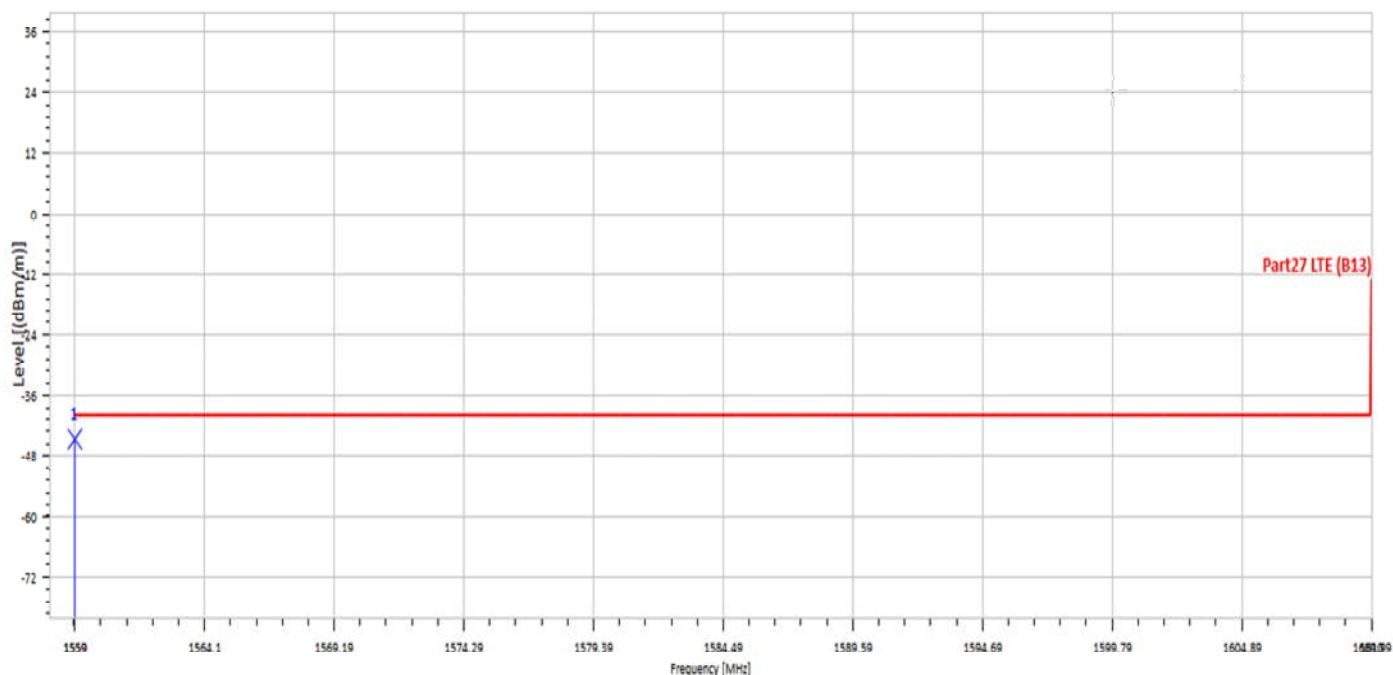
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit @3m	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm/m	dB
1559.00	S	-44.67	-48.83	6.54	-2.38	-40	-4.67

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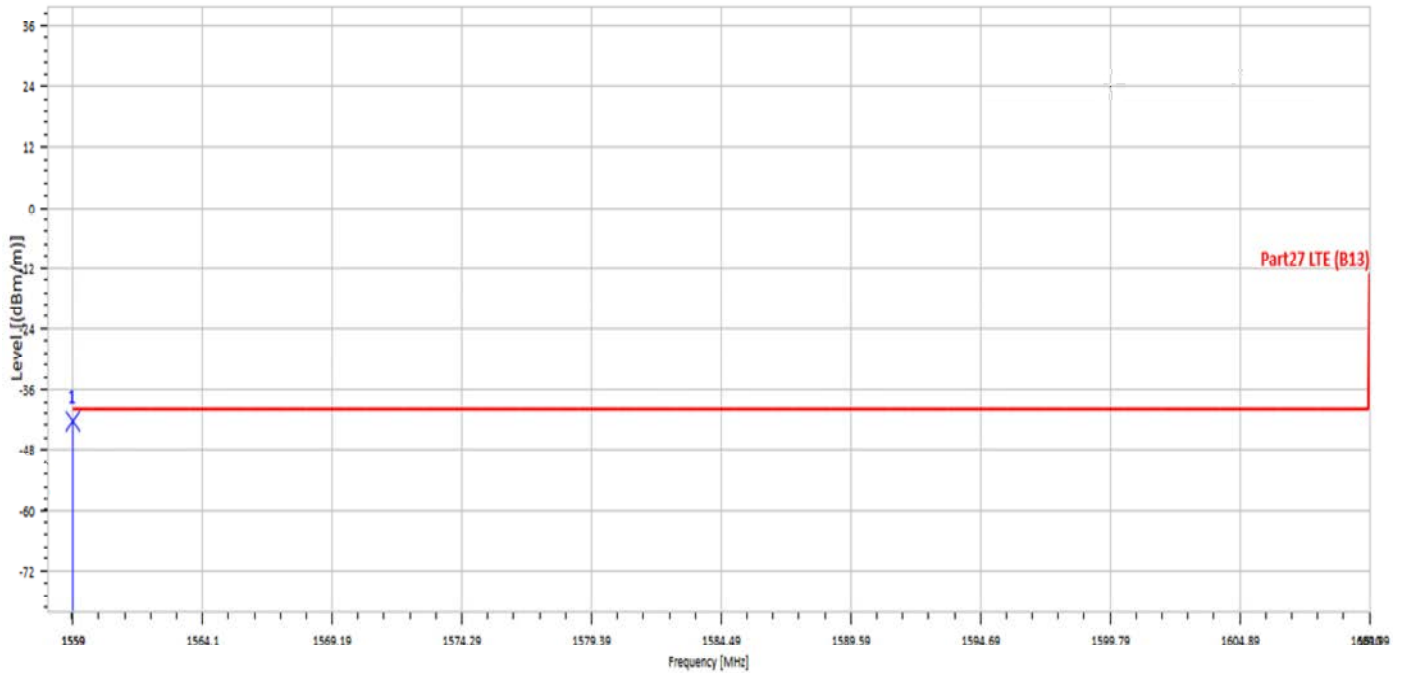
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	779.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Low	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit @3m	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm/m	dB
1559.00	S	-42.37	-46.53	6.54	-2.38	-40	-2.37

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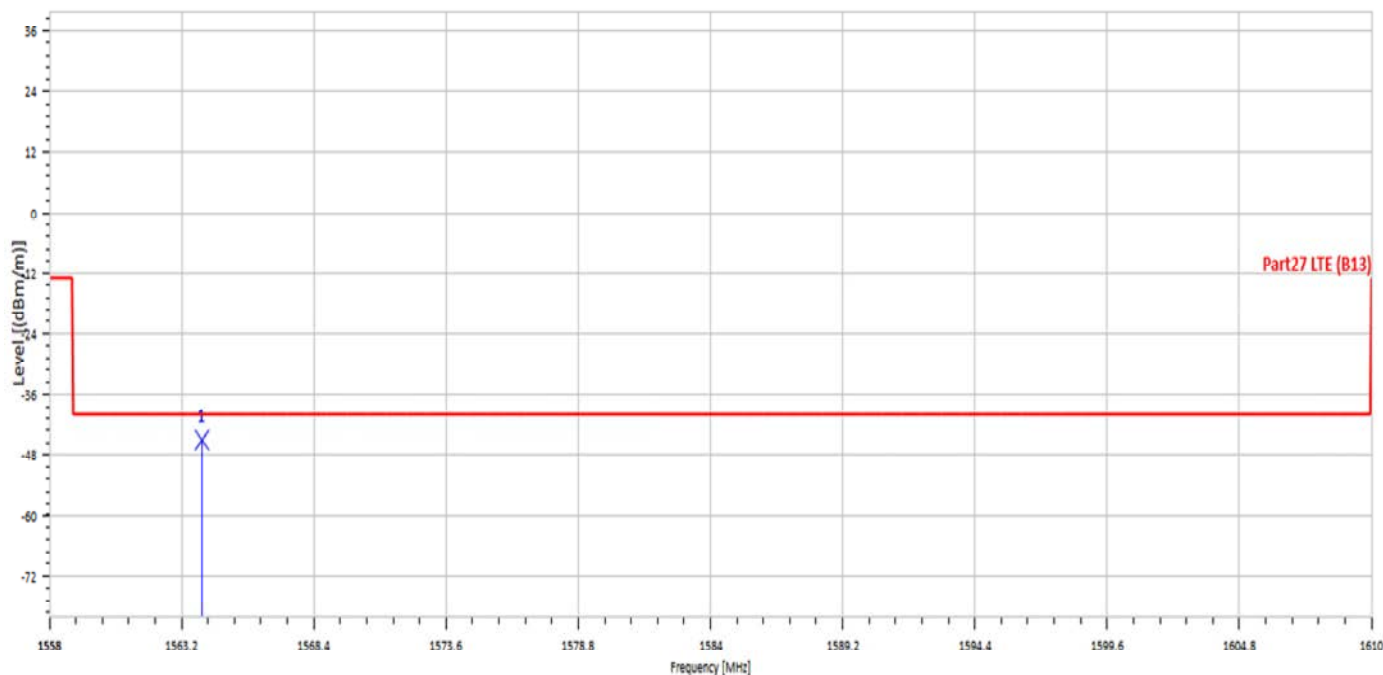
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	782 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit @3m	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm/m	dB
1564.00	H	-45.04	-49.19	6.54	-2.38	-40	-5.04

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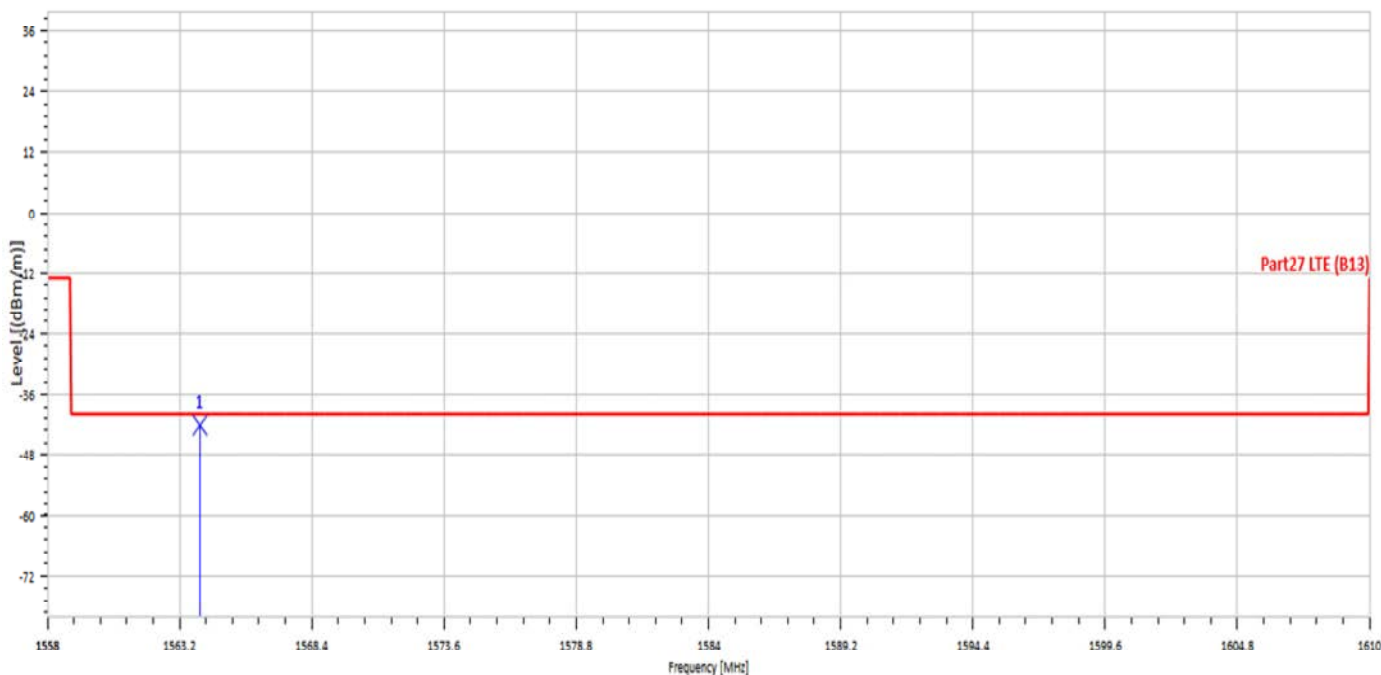
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	782 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH Mid	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



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
1564.00	H	-42.19	-46.35	6.54	-2.38	-40	-2.19

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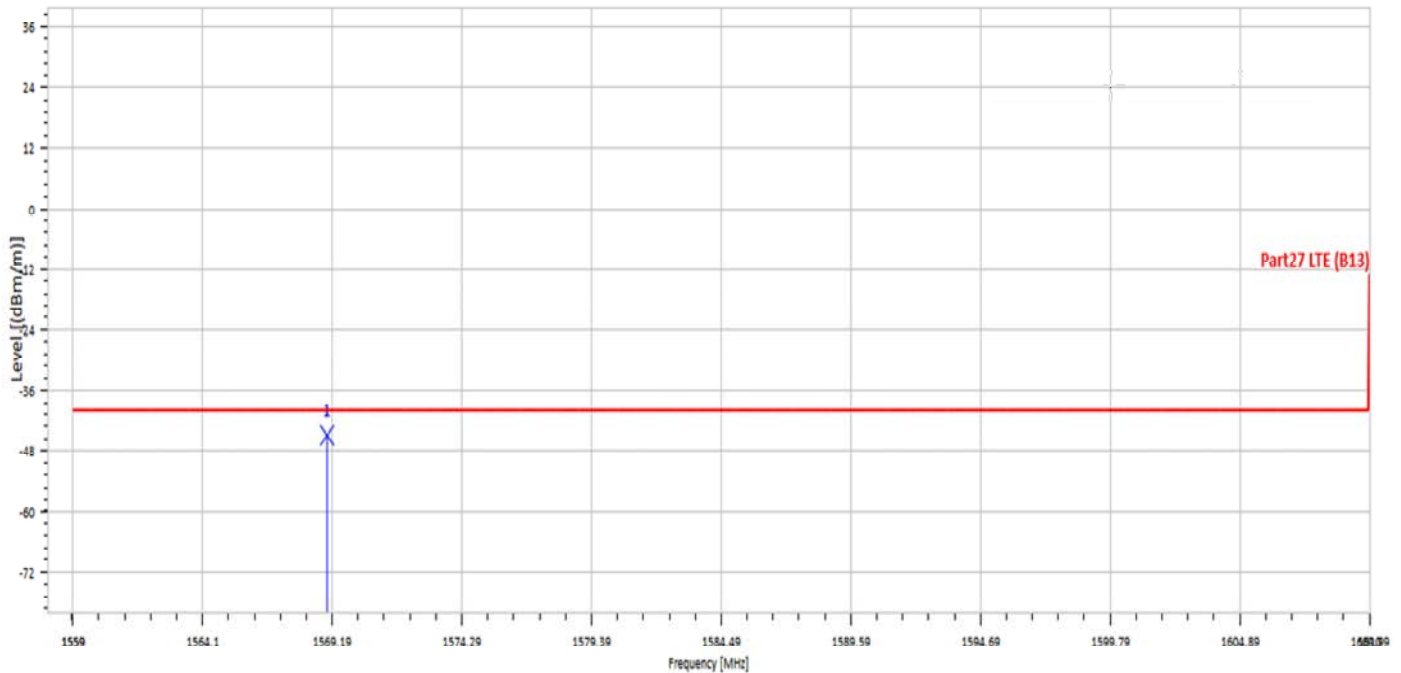
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	784.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical



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
1569.00	S	-44.89	-49.07	6.57	-2.39	-40	-4.89

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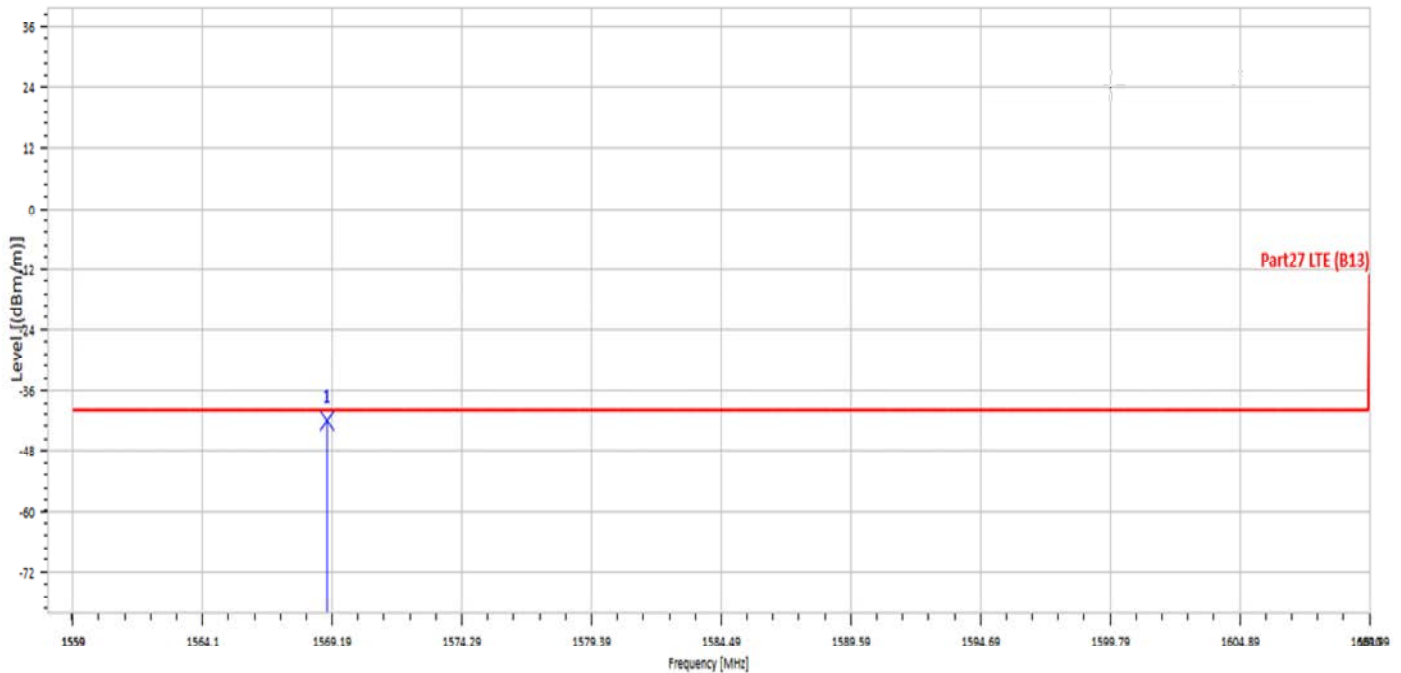
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Operation Mode :	LTEB13 5M QPSK 1.0	Test Date :	2018/7/5
Fundamental Frequency :	784.5 MHz	Temp. / Humi. :	22.7deg_C/57RH
Operation Band :	Tx CH High	Test Engineer :	Jerry
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal



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
1569.00	S	-42.08	-46.26	6.57	-2.39	-40	-2.08

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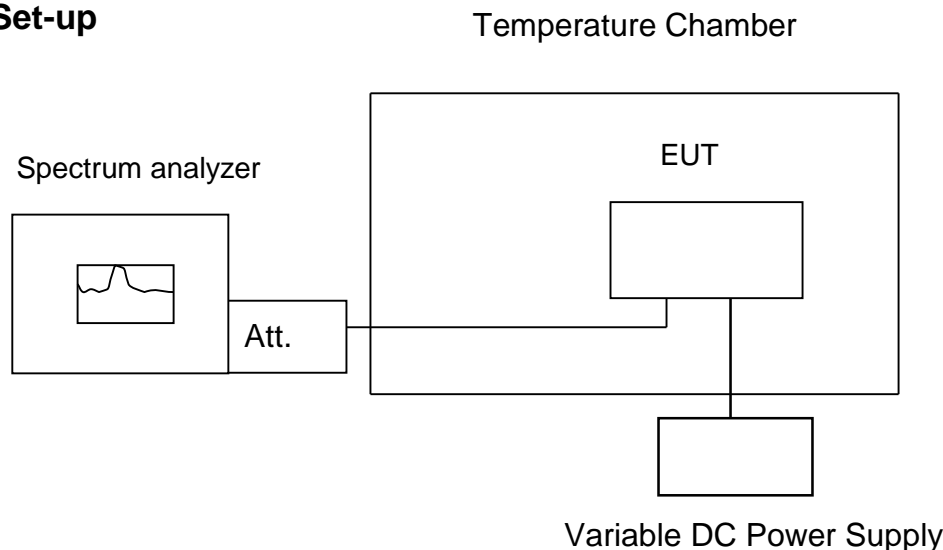


## 11. FREQUENCY STABILITY MEASUREMENT

### 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°C. 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

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EXA Spectrum Analyzer	Agilent	N9010A	MY54200716	2017/10/16	2018/10/15
Radio Communication Analyzer	Anritsu	MT8820C	6201465317	2018/01/17	2019/01/16
Attenuator	Mini-Circuit	BW-S10W2+	2	2018/01/02	2019/1/1
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	2018/01/02	2019/1/1
Coaxial Cables	N/A	WK CE Cable	N/A	2018/01/02	2019/1/1
EXA Spectrum Analyzer	Agilent	N9010A	MY54200716	2017/10/16	2018/10/15
Radio Communication Analyzer	Anritsu	MT8820C	6201465317	2018/01/17	2019/01/16
Attenuator	Mini-Circuit	BW-S10W2+	2	2018/01/02	2019/1/1

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## 11.5. Measurement Result

WCDMA V Mid Channel 836.6 MHz				
Limit: +/- 2.5 ppm				
Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit (Hz)
FREQUENCY ERROR vs. VOLTAGE				
4.37	20	836600010	10	2091
3.8	20	836600020	20	2091
3.7	20	836600009	9	2091
3.6 (End point)	20	836599995	-5	2091
FREQUENCY ERROR vs. Temp.				
3.8	50	836600024	24	2091
3.8	40	836599978	-22	2091
3.8	30	836599983	-17	2091
3.8	20	836599983	-17	2091
3.8	10	836600020	20	2091
3.8	0	836600015	15	2091
3.8	-10	836600018	18	2091
3.8	-20	836600007	7	2091
3.8	-30	836599997	-3	2091

Reference Freq.: LTE B13 Mid Channel 782 MHz 10M QPSK CH 23230				
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
Freq. ERROR vs. VOLTAGE				
4.37	25	782.000012	12	1955
3.8	25	781.999994	-6	1955
3.7	25	782.000003	3	1955
3.6 (End Point)	25	781.999995	-5	1955
Freq. ERROR vs. Temp.				
3.8	-30	782.000019	19	1955
3.8	-20	782.000011	11	1955
3.8	-10	781.999991	-9	1955
3.8	0	782.000021	21	1955
3.8	10	782.000000	0	1955
3.8	20	782.000012	12	1955
3.8	30	782.000008	8	1955
3.8	40	782.000018	18	1955
3.8	50	781.999985	-15	1955

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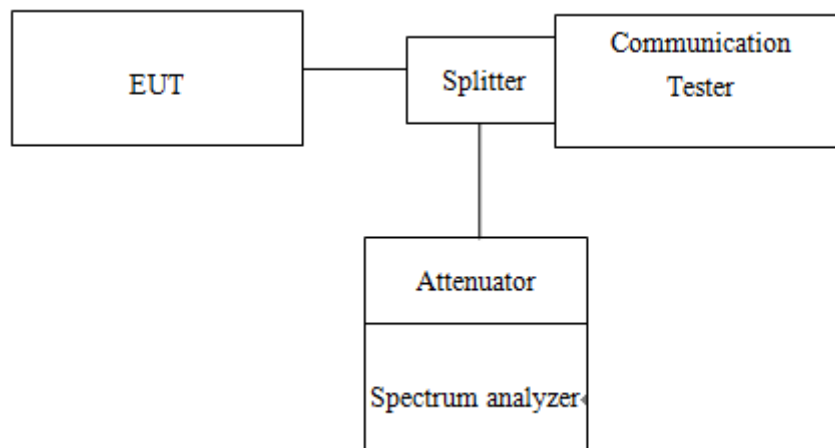
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## 12. PEAK TO AVERAGE RATIO

### 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.

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## 12.4. 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	MY51440113	06/20/2017	06/19/2018
Communication Tester	Anritsu	MT8820C	6201107337	06/11/2017	06/10/2018
Coaxial Cable 30cm	WOKEN	00100A1F1A195C	RF01	12/24/2017	12/23/2018
Temperature Chamber	TERCHY	MHK-120LK	1020582	06/13/2017	06/12/2018
DC Block	PASTERNAK	PE8210	RF29	12/24/2017	12/23/2018
Splitter	RF-LAMBAD	RFLT2W1G18G	RF35	12/24/2017	12/23/2018
Attenuator	WOKEN	218FS-10	RF23	12/24/2017	12/23/2018
DC Power Supply	Agilent	E3640A	MY53140006	05/02/2017	05/01/2018
Spectrum Analyzer	KEYSIGHT	N9010A	MY51440113	06/20/2017	06/19/2018

## 12.5. Measurement Result

### Tabular Results:

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)
		WCDMA V
826.4	4132	2.99
836.6	4183	3.09
846.6	4233	2.72

LTE BAND 13							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	PAPR (dB)		Freq. (MHz)	CH	PAPR (dB)	
		16QAM	Limit			16QAM	Limit
779.5	23205	5.41	13	782.0	23230	4.69	13
782.0	23230	4.81	13				
784.5	23255	5.13	13				

### Measurement Results:

Please refer to next page for test plot

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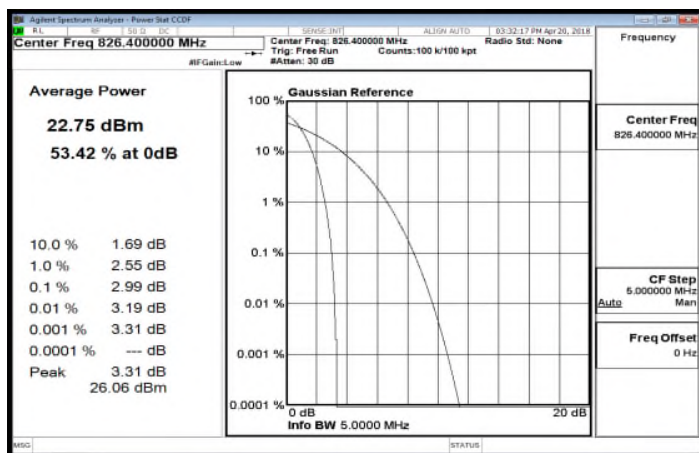
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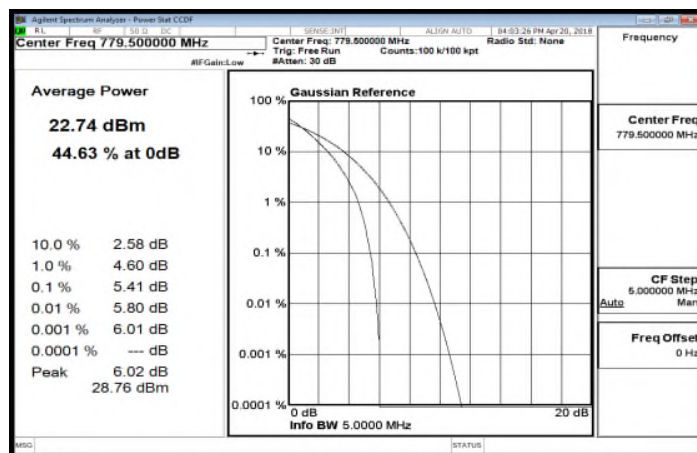
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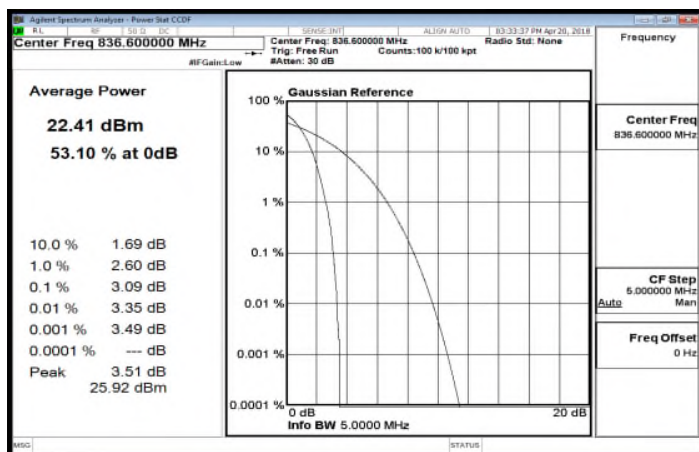
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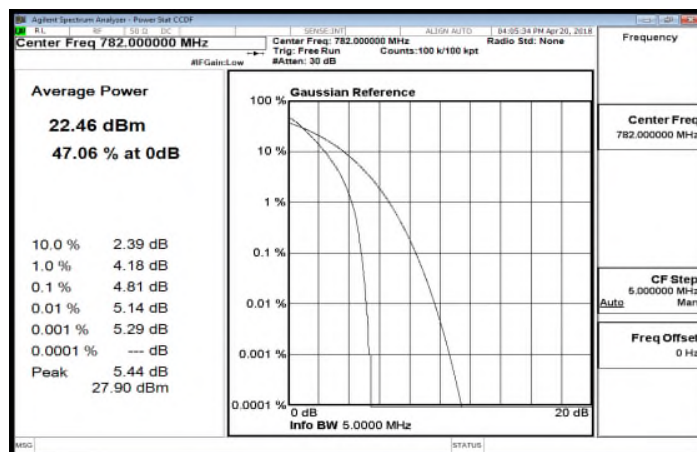
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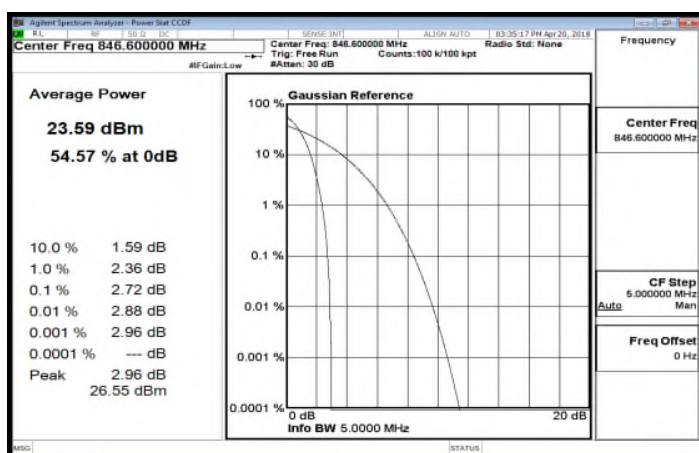
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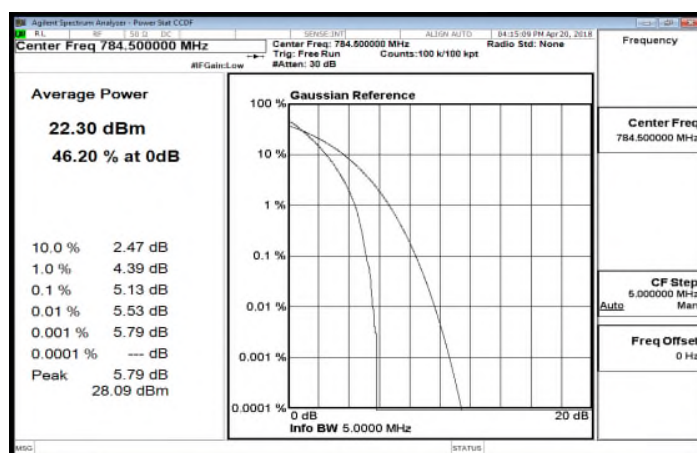
LTE\_Band13\_5MHz\_16QAM\_25\_0\_MidCH23230-782



WCDMA\_B5\_HighCH4233-846.6



LTE\_Band13\_5MHz\_16QAM\_25\_0\_HighCH23255-784.5



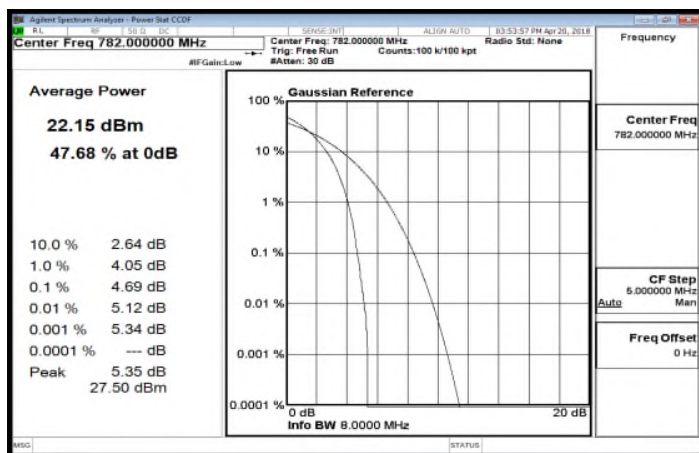
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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## LTE\_Band13\_10MHz\_16QAM\_50\_0\_MidCH23230-782



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