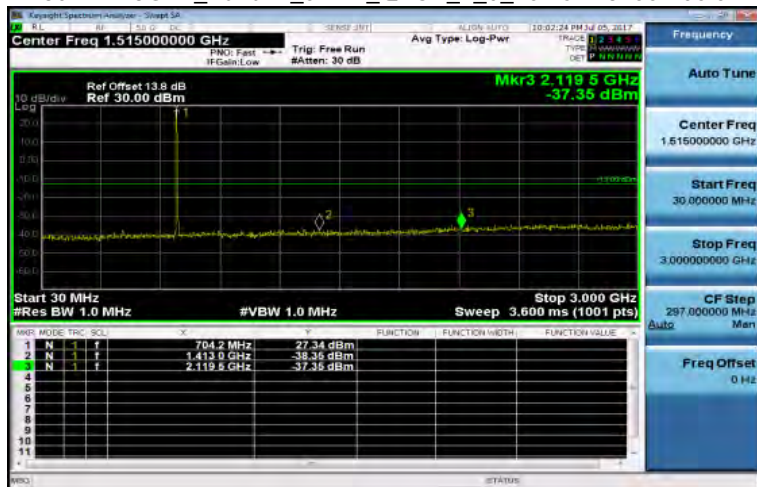
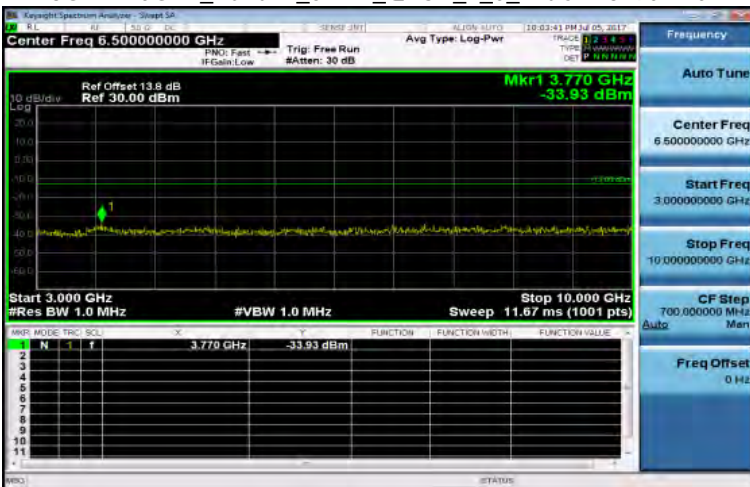


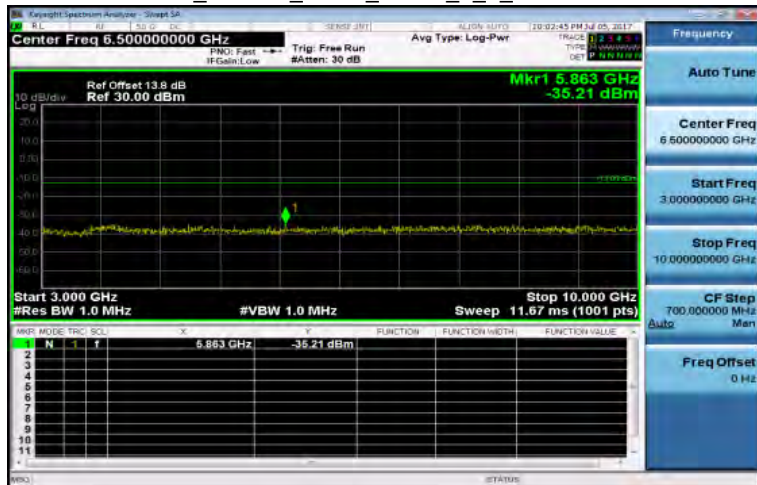
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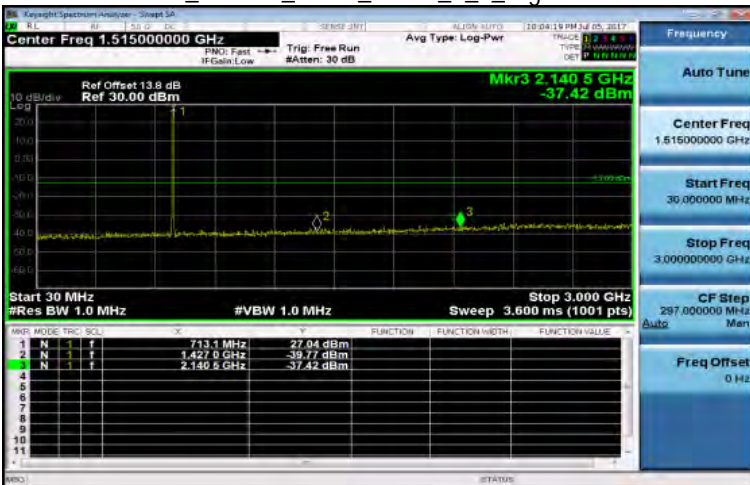
3GHz~10GHz\_Band17\_5MHz\_QPSK\_1\_0\_MidCH23790-710



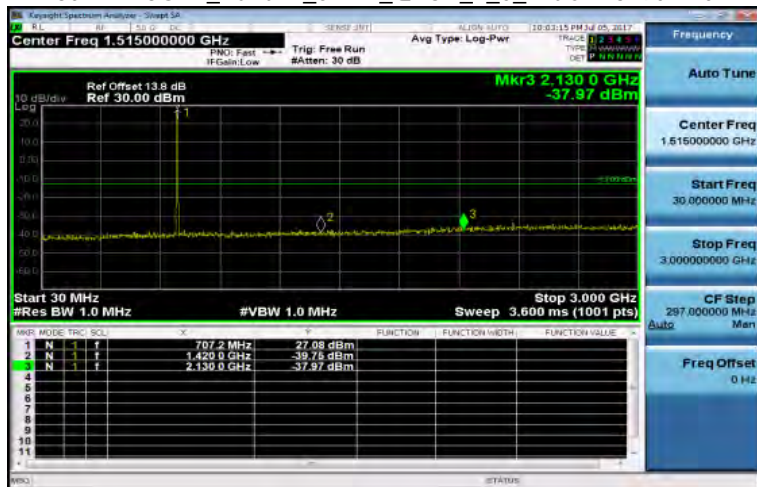
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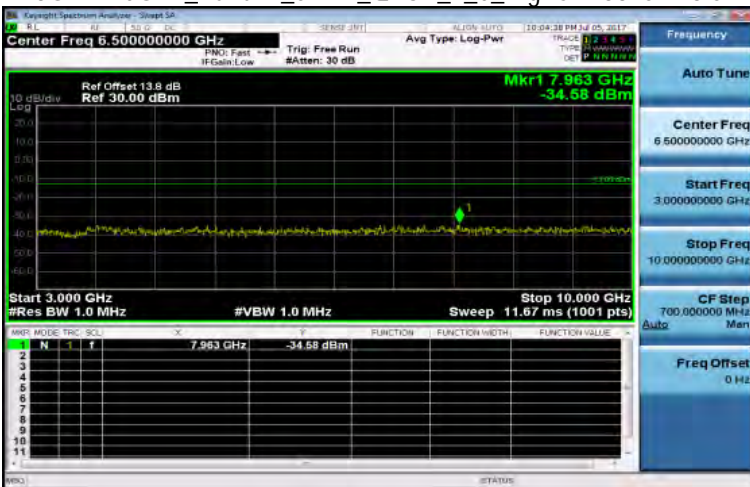
30MHz~3GHz\_Band17\_5MHz\_QPSK\_1\_0\_HighCH23825-713.5



30MHz~3GHz\_Band17\_5MHz\_QPSK\_1\_0\_MidCH23790-710



3GHz~10GHz\_Band17\_5MHz\_QPSK\_1\_0\_HighCH23825-713.5



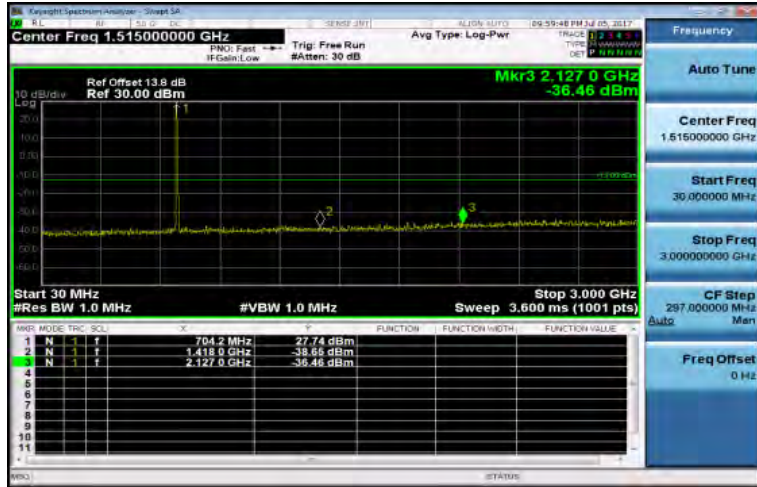
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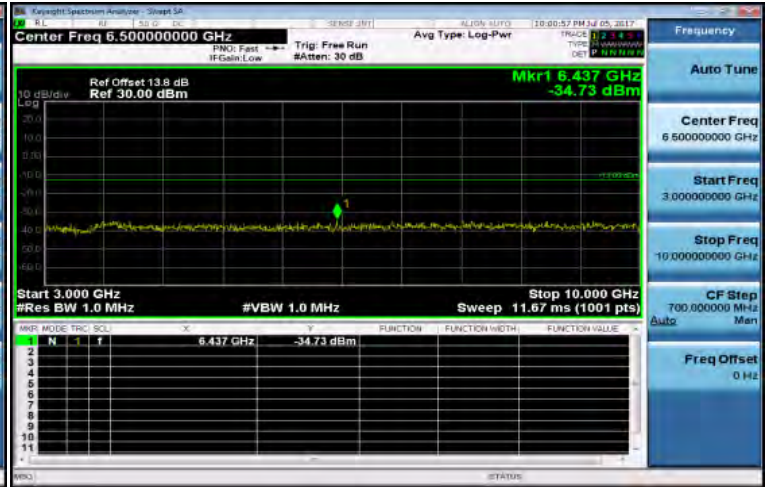
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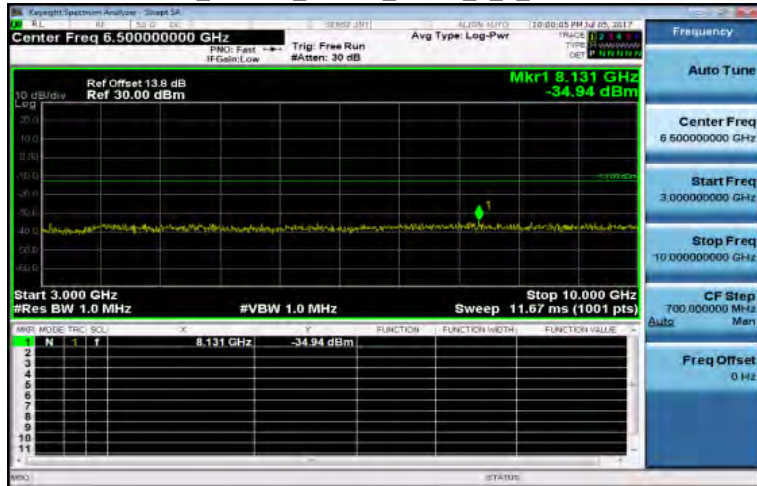
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3GHz~10GHz\_Band17\_10MHz\_QPSK\_1\_0\_MidCH23790-710



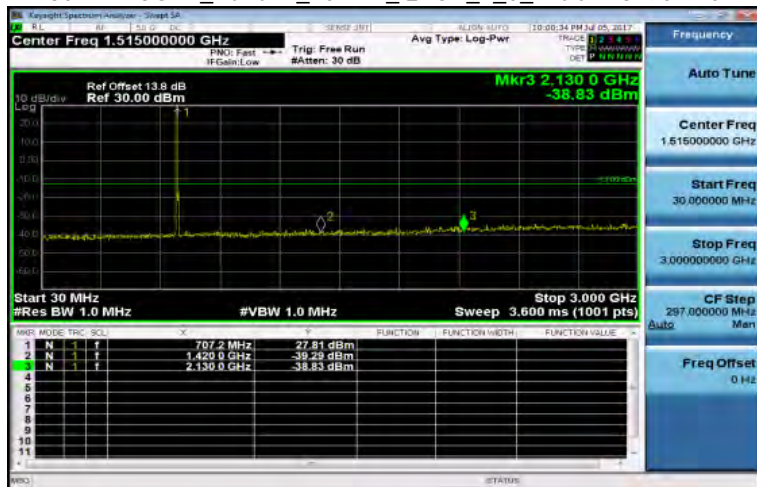
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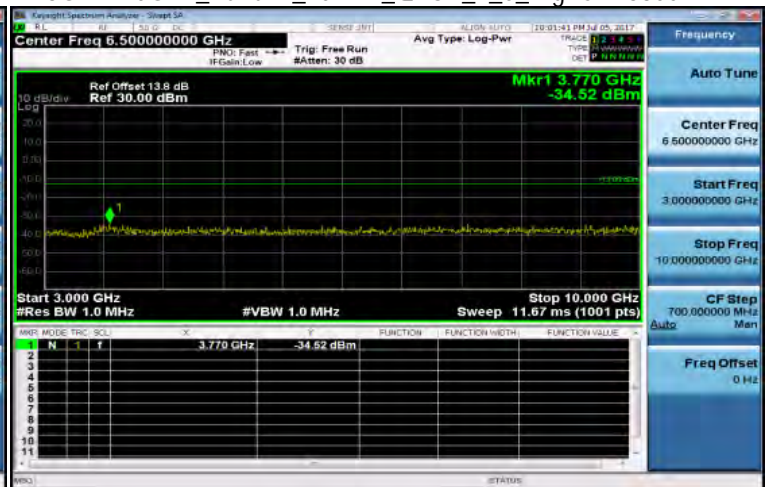
30MHz~3GHz\_Band17\_10MHz\_QPSK\_1\_0\_HighCH23800-711



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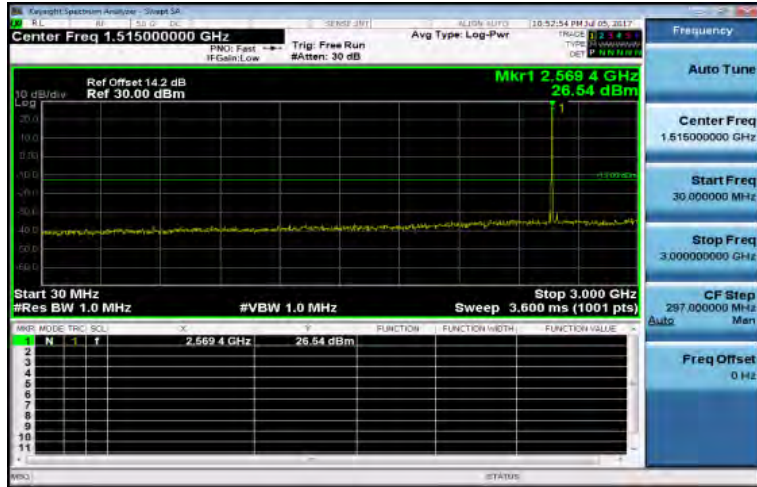
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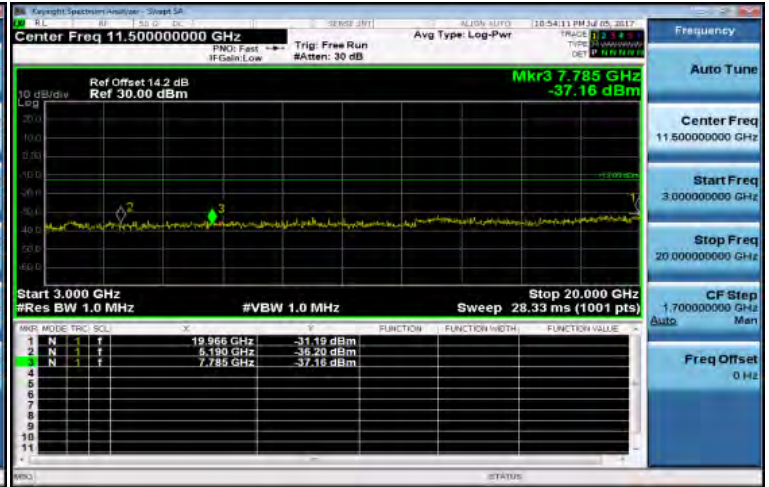
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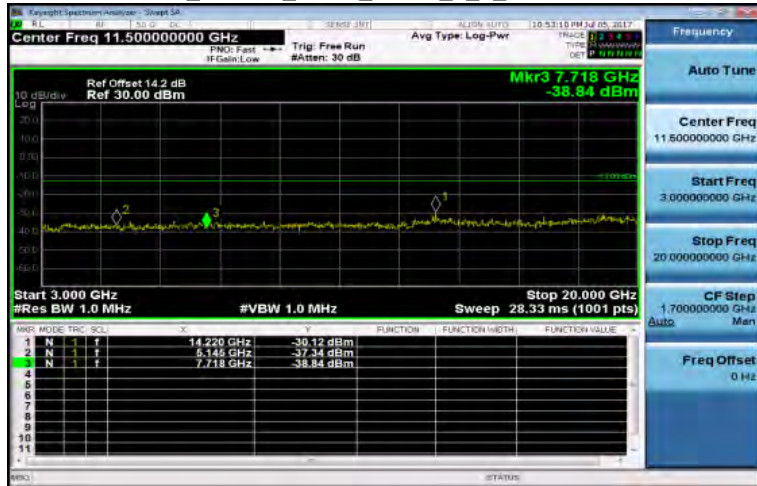
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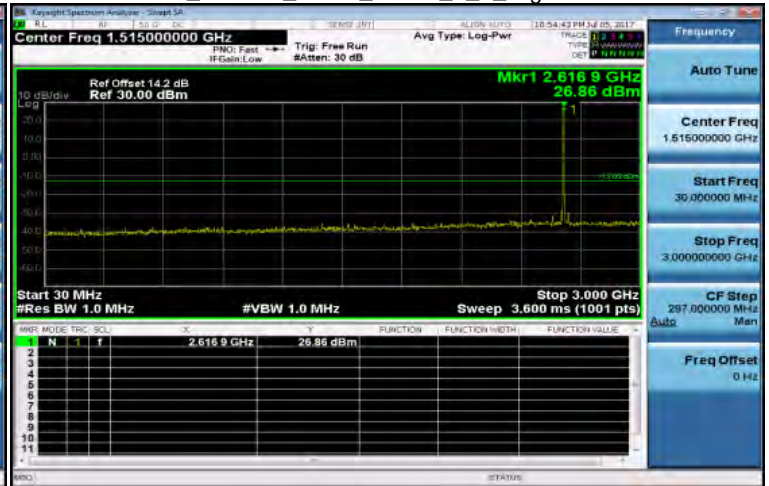
3GHz~10GHz\_Band38\_5MHz\_QPSK\_1\_0\_MidCH38000-2595



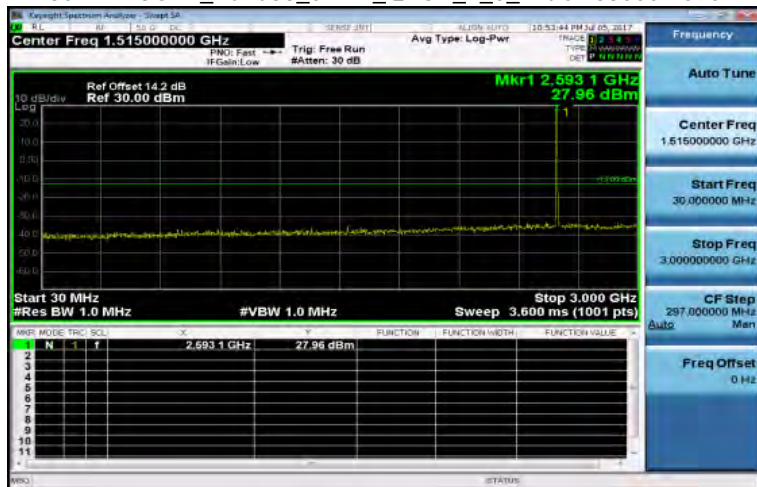
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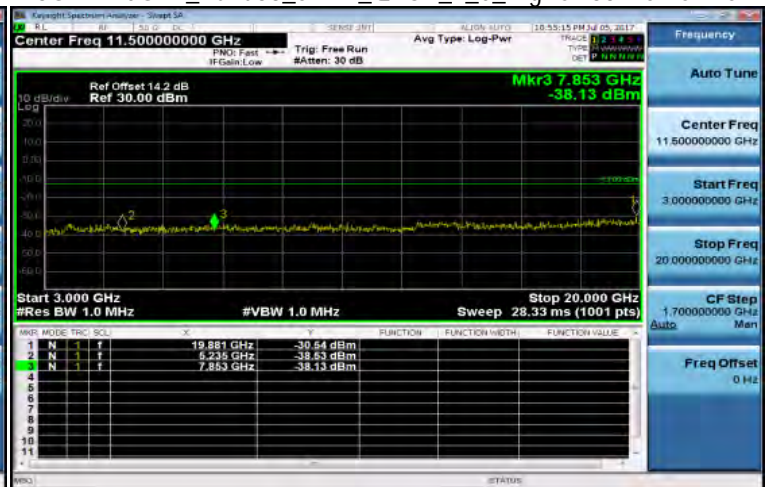
30MHz~3GHz\_Band38\_5MHz\_QPSK\_1\_0\_HighCH38225-2617.5



30MHz~3GHz\_Band38\_5MHz\_QPSK\_1\_0\_MidCH38000-2595



3GHz~10GHz\_Band38\_5MHz\_QPSK\_1\_0\_HighCH38225-2617.5



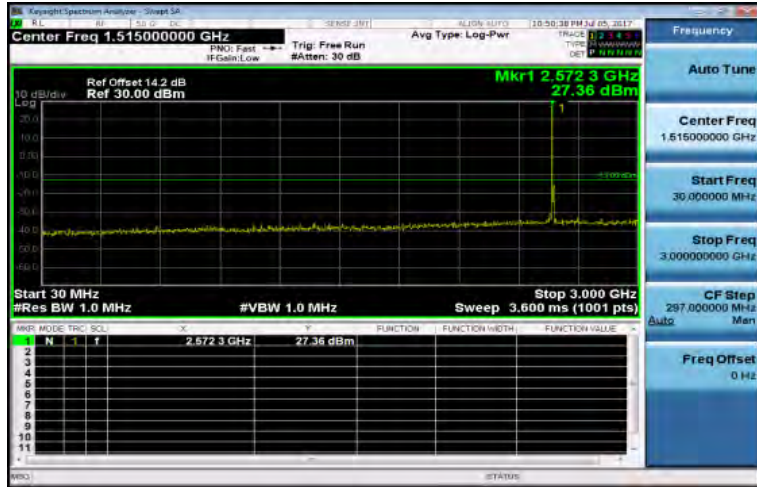
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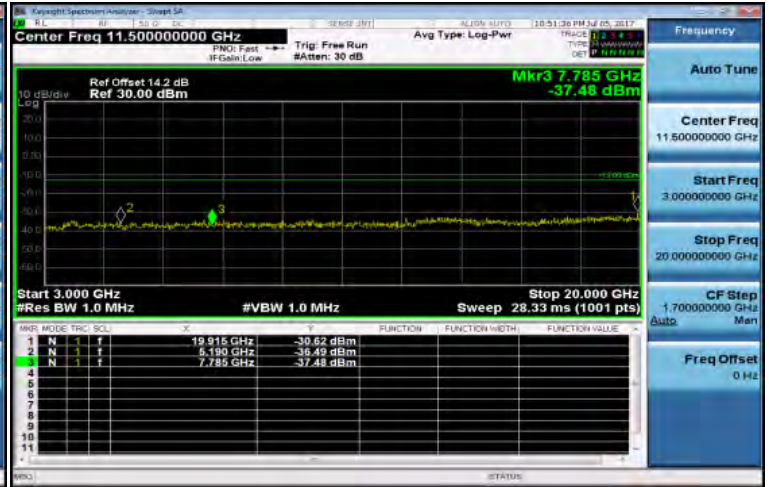
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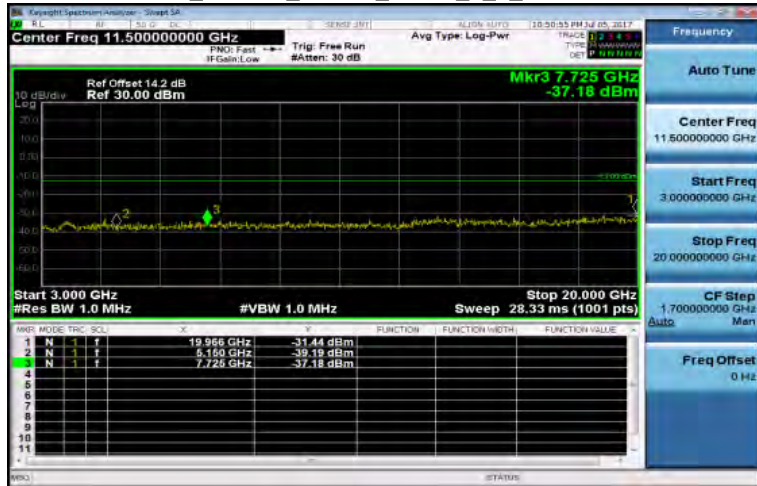
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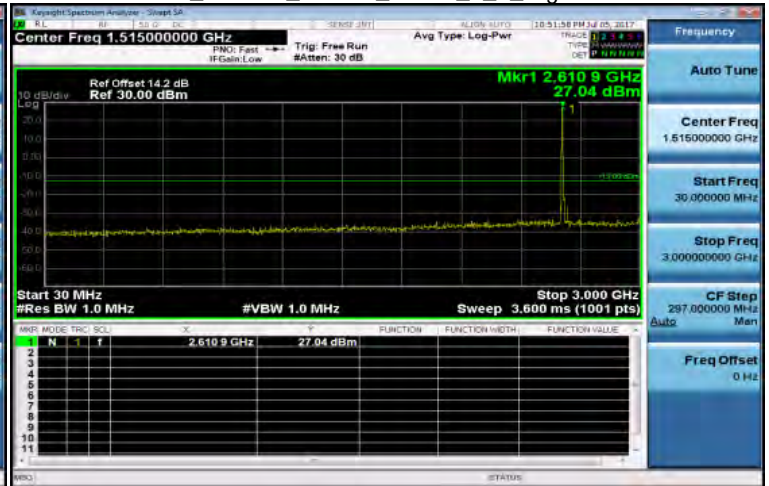
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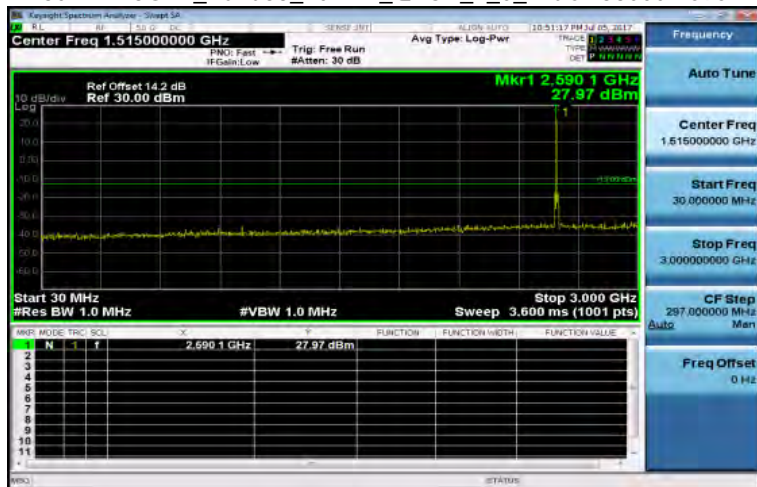
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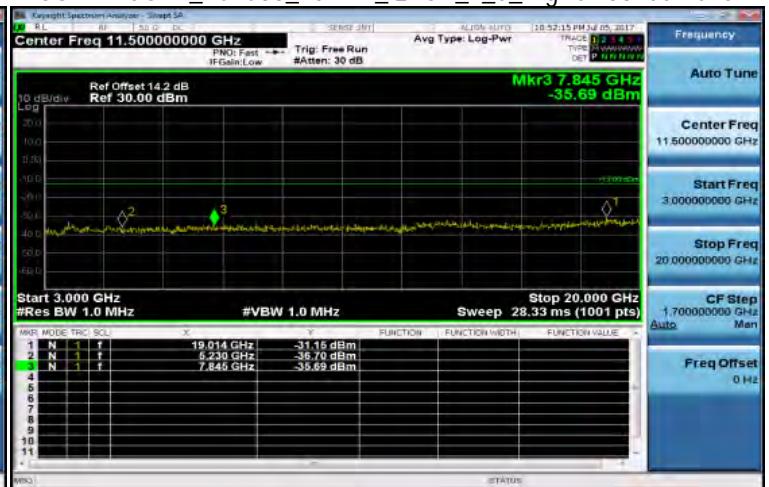
30MHz~3GHz\_Band38\_10MHz\_QPSK\_1\_0\_HighCH38200-2615



30MHz~3GHz\_Band38\_10MHz\_QPSK\_1\_0\_MidCH38000-2595



3GHz~10GHz\_Band38\_10MHz\_QPSK\_1\_0\_HighCH38200-2615



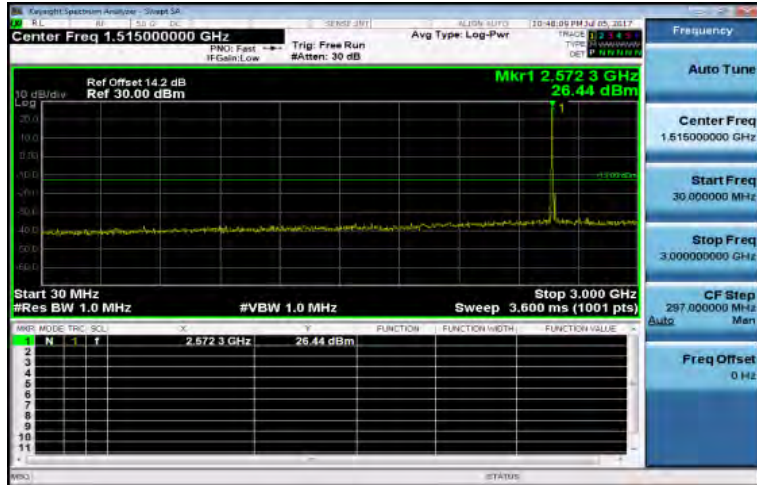
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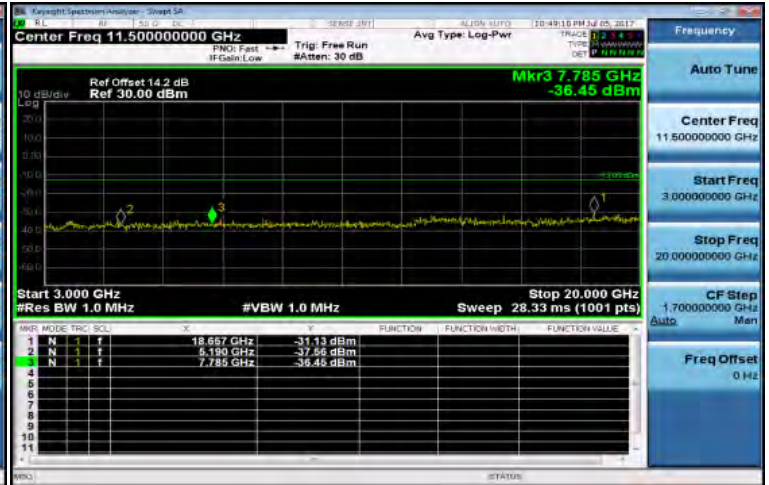
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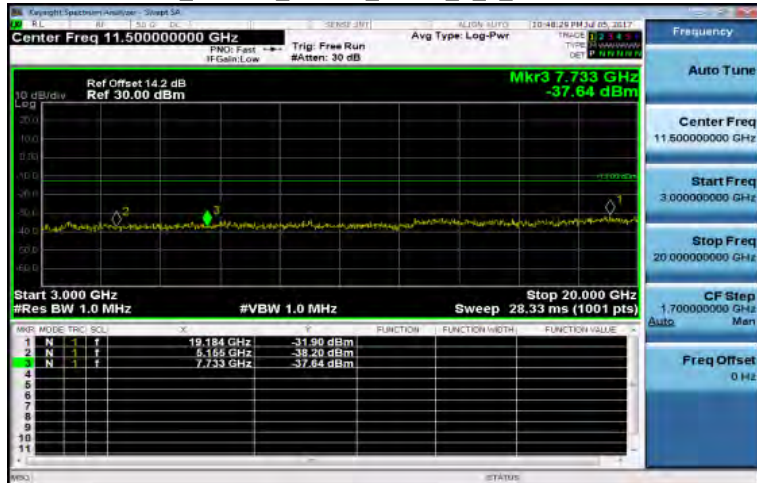
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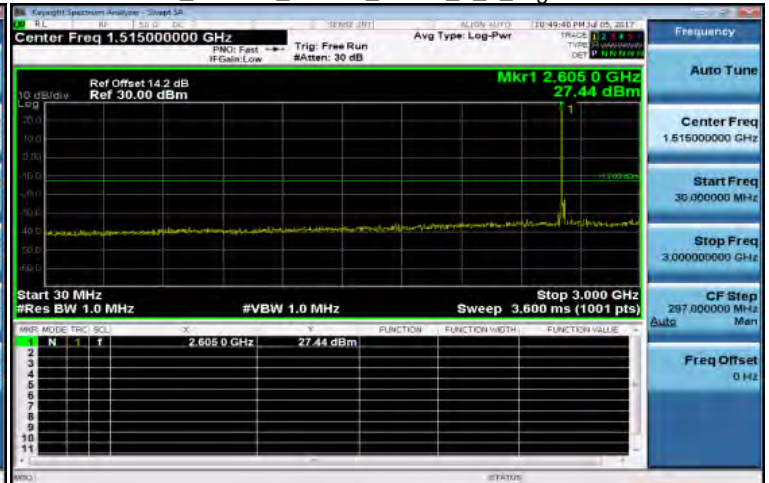
3GHz~10GHz\_Band38\_15MHz\_QPSK\_1\_0\_MidCH38000-2595



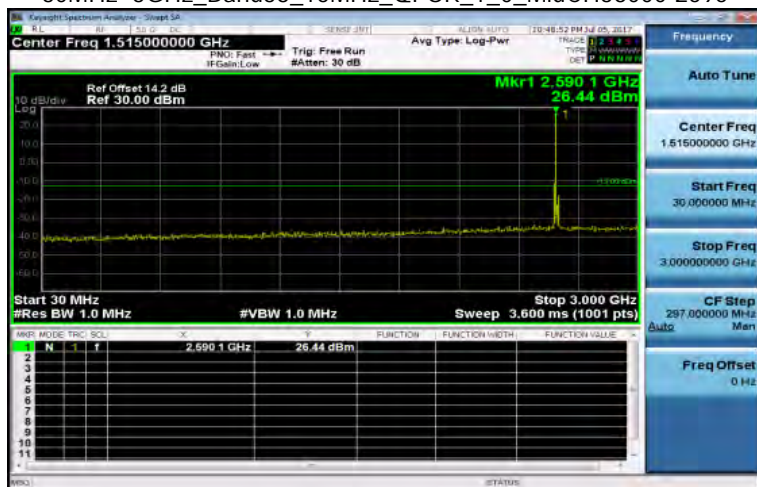
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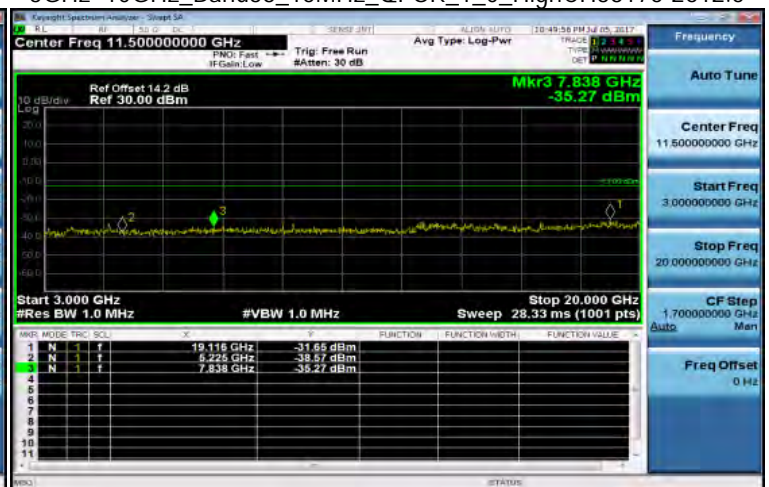
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3GHz~10GHz\_Band38\_15MHz\_QPSK\_1\_0\_HighCH38175-2612.5



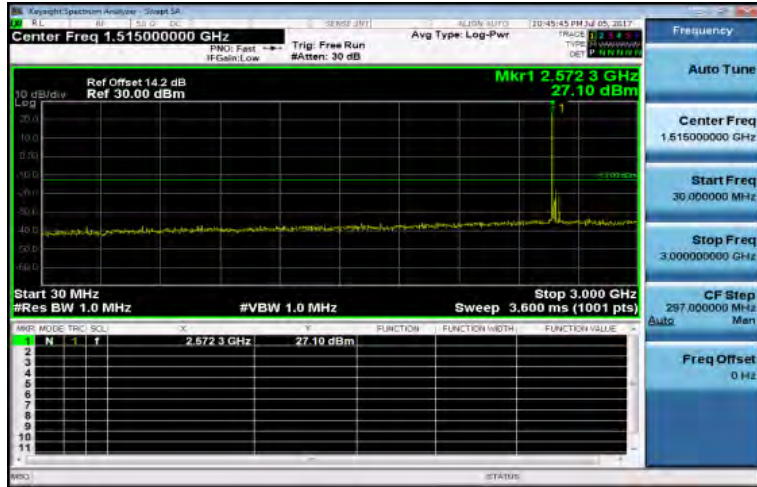
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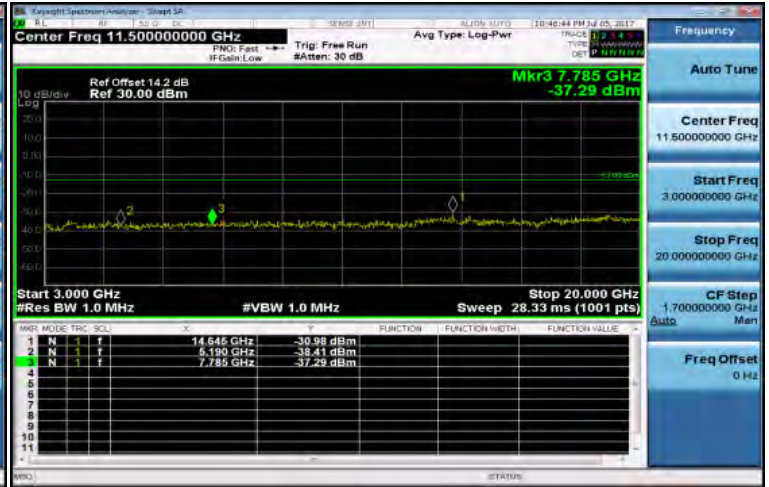
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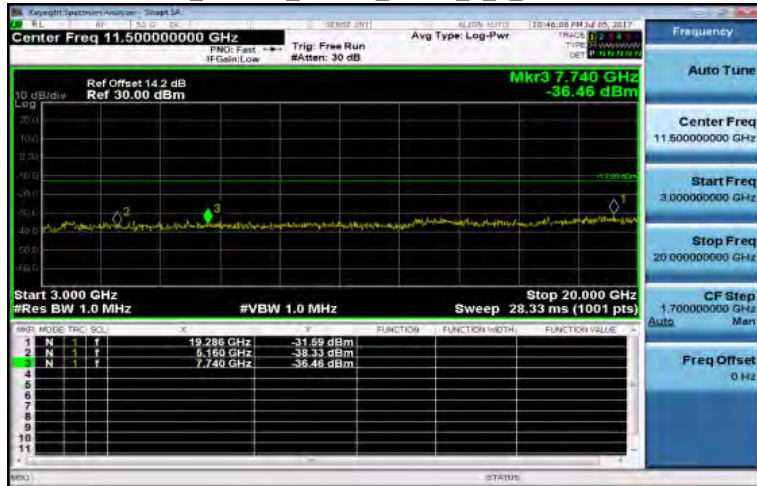
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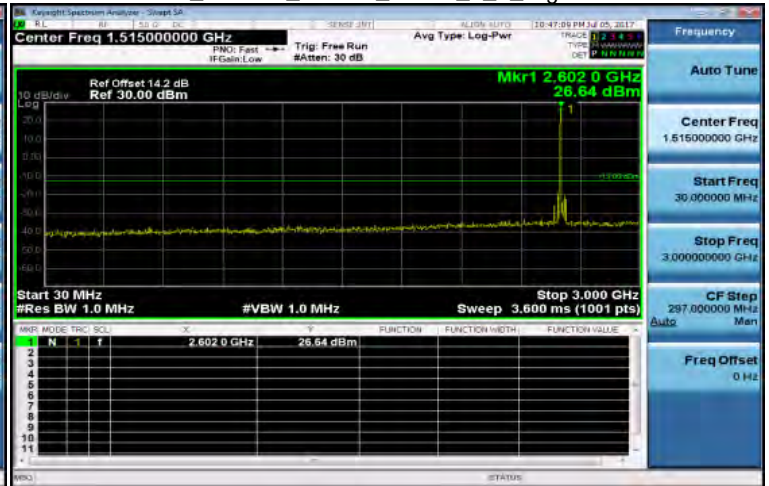
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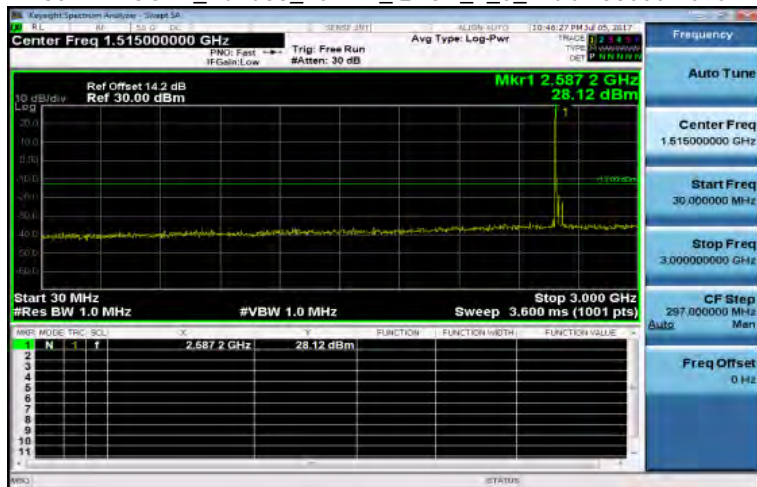
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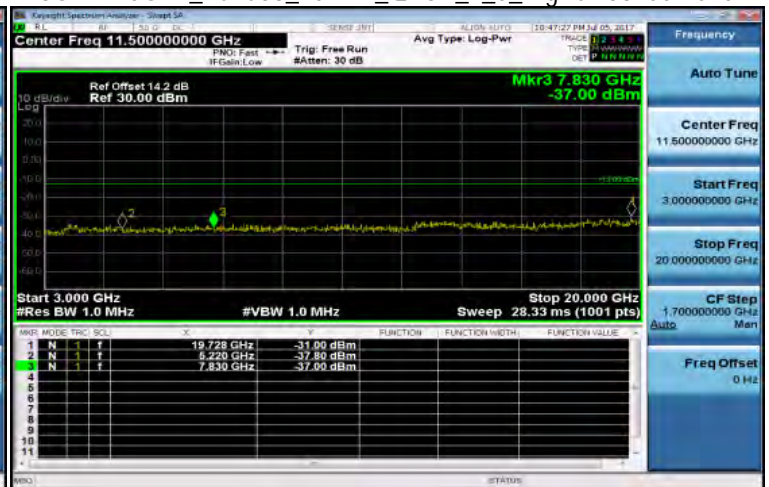
30MHz~3GHz\_Band38\_20MHz\_QPSK\_1\_0\_HighCH38150-2610



30MHz~3GHz\_Band38\_20MHz\_QPSK\_1\_0\_MidCH38000-2595



3GHz~10GHz\_Band38\_20MHz\_QPSK\_1\_0\_HighCH38150-2610



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Band Edge  
GSM\_850MHz\_LowCH128-824.2



GPRS\_850MHz\_HighCH251-848.8



GSM\_850MHz\_HighCH251-848.8



EDGE\_850MHz\_LowCH128-824.2



GPRS\_850MHz\_LowCH128-824.2



EDGE\_850MHz\_HighCH251-848.8



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GSM\_1900MHz\_LowCH512-1850.2



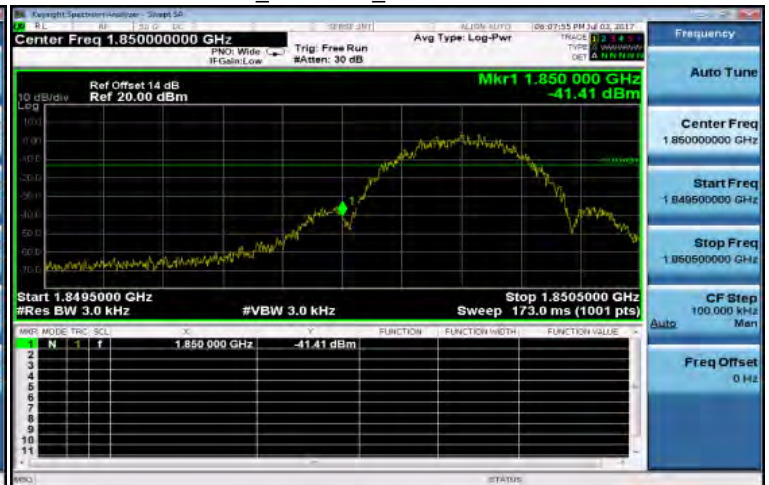
GPRS\_1900MHz\_HighCH810-1909.8



GSM\_1900MHz\_HighCH810-1909.8



EDGE\_1900MHz\_LowCH512-1850.2



GPRS\_1900MHz\_LowCH512-1850.2



EDGE\_1900MHz\_HighCH810-1909.8



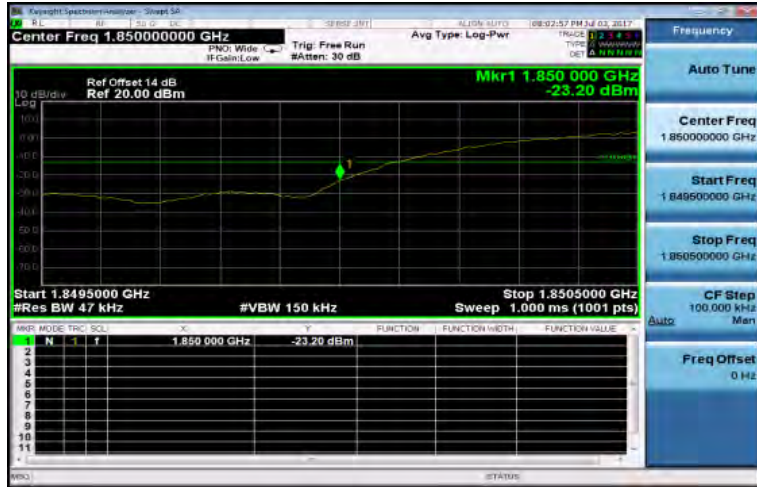
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WCDMA\_B2\_LowCH9262-1852.4



HSDPA\_B2\_HighCH9538-1907.6



WCDMA\_B2\_HighCH9538-1907.6



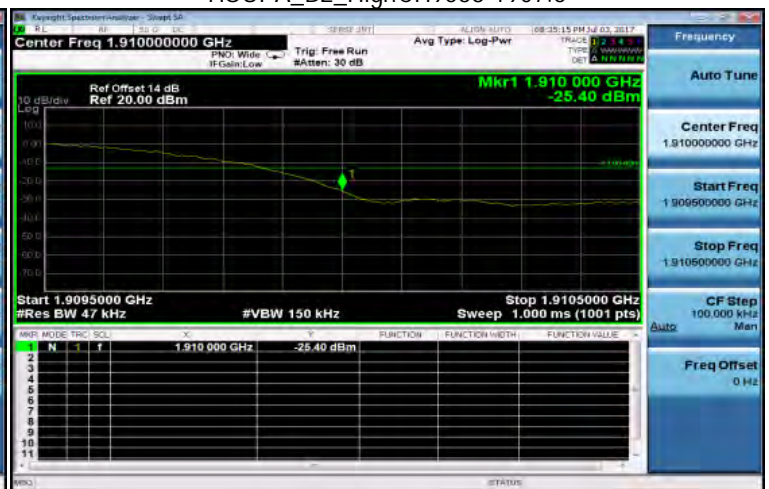
HSUPA\_B2\_LowCH9262-1852.4



HSDPA\_B2\_LowCH9262-1852.4



HSUPA\_B2\_HighCH9538-1907.6



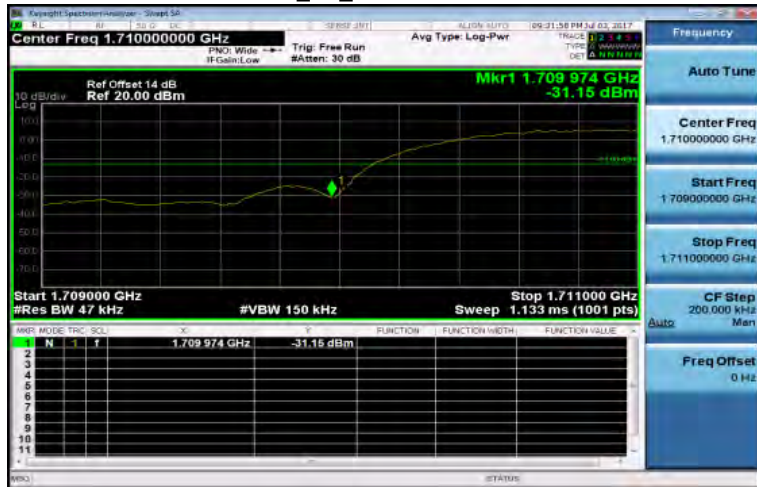
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WCDMA\_B4\_LowCH1312-1712.4



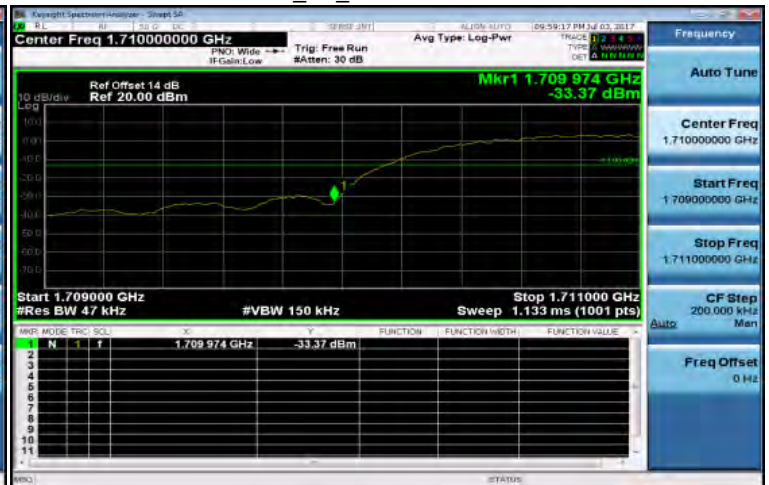
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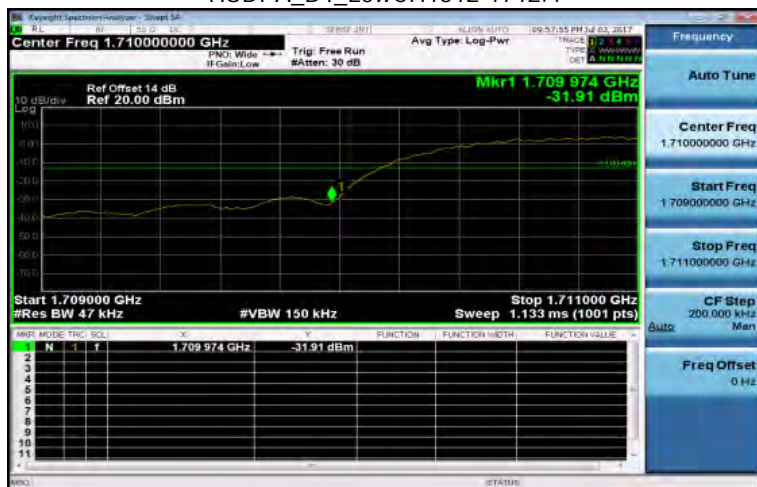
WCDMA\_B4\_HighCH1513-1752.6



HSUPA\_B4\_LowCH1312-1712.4



HSDPA\_B4\_LowCH1312-1712.4



HSUPA\_B4\_HighCH1513-1752.6



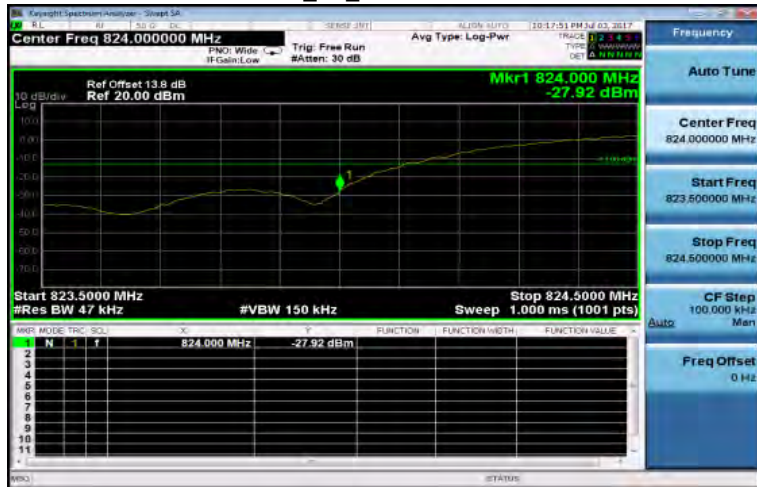
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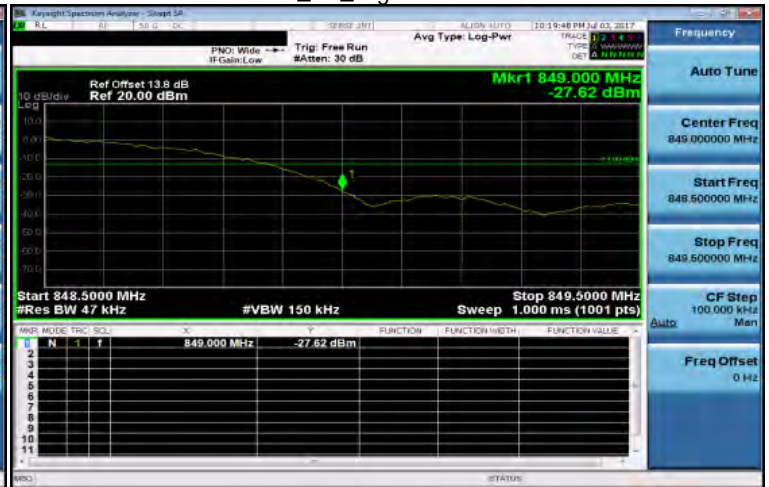
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WCDMA\_B5\_LowCH4132-826.4



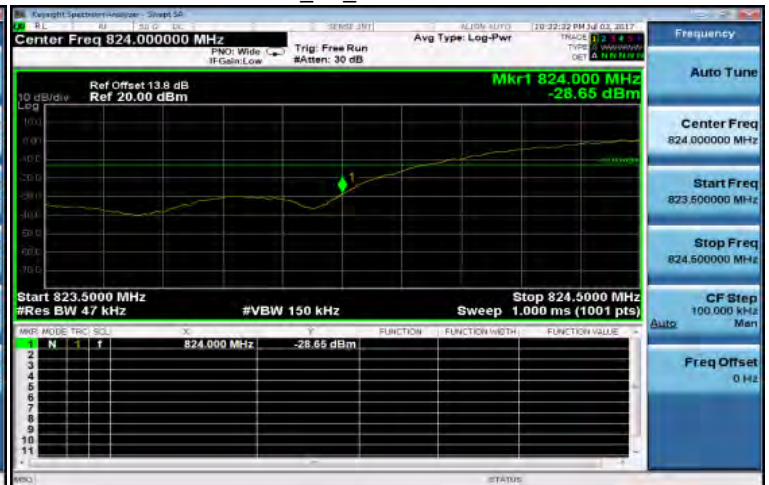
HSDPA\_B5\_HighCH4233-846.6



WCDMA\_B5\_HighCH4233-846.6



HSUPA\_B5\_LowCH4132-826.4



HSDPA\_B5\_LowCH4132-826.4



HSUPA\_B5\_HighCH4233-846.6



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Band2\_1\_4MHz\_QPSK\_1\_0\_LowCH18607-1850.7



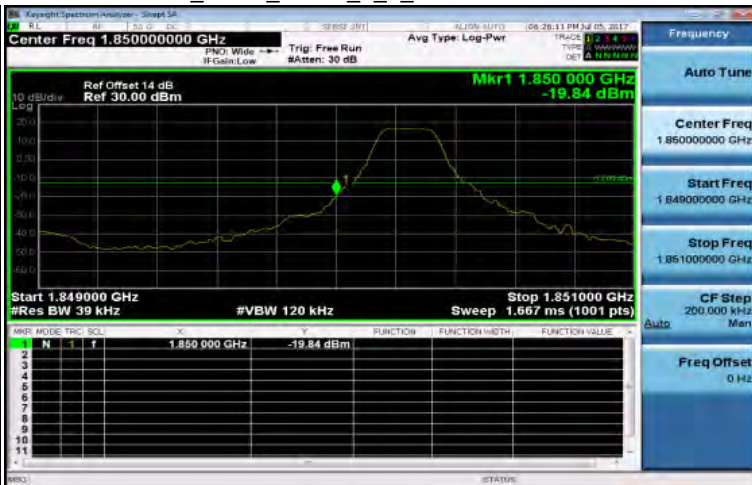
Band2\_1\_4MHz\_QPSK\_6\_0\_HighCH19193-1909.3



Band2\_1\_4MHz\_QPSK\_1\_5\_HighCH19193-1909.3



Band2\_3MHz\_QPSK\_1\_0\_LowCH18615-1851.5



Band2\_1\_4MHz\_QPSK\_6\_0\_LowCH18607-1850.7



Band2\_3MHz\_QPSK\_1\_14\_HighCH19185-1908.5



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Band2\_3MHz\_QPSK\_15\_0\_LowCH18615-1851.5



Band2\_5MHz\_QPSK\_1\_24\_HighCH19175-1907.5



Band2\_3MHz\_QPSK\_15\_0\_HighCH19185-1908.5



Band2\_5MHz\_QPSK\_25\_0\_LowCH18625-1852.5



Band2\_5MHz\_QPSK\_1\_0\_LowCH18625-1852.5



Band2\_5MHz\_QPSK\_25\_0\_HighCH19175-1907.5



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Band2\_10MHz\_QPSK\_1\_0\_LowCH18650-1855



Band2\_10MHz\_QPSK\_50\_0\_HighCH19150-1905



Band2\_10MHz\_QPSK\_1\_49\_HighCH19150-1905



Band2\_15MHz\_QPSK\_1\_0\_LowCH18675-1857.5



Band2\_10MHz\_QPSK\_50\_0\_LowCH18650-1855



Band2\_15MHz\_QPSK\_1\_74\_HighCH19125-1902.5



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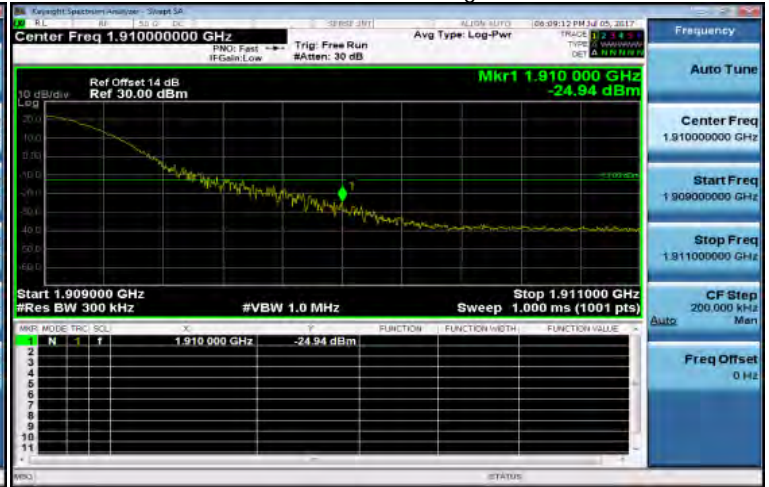
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Band2\_15MHz\_QPSK\_75\_0\_LowCH18675-1857.5



Band2\_20MHz\_QPSK\_1\_99\_HighCH19100-1900



Band2\_15MHz\_QPSK\_75\_0\_HighCH19125-1902.5



Band2\_20MHz\_QPSK\_100\_0\_LowCH18700-1860



Band2\_20MHz\_QPSK\_1\_0\_LowCH18700-1860



Band2\_20MHz\_QPSK\_100\_0\_HighCH19100-1900



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Band4\_1\_4MHz\_QPSK\_1\_0\_LowCH19957-1710.7



Band4\_1\_4MHz\_QPSK\_6\_0\_HighCH20393-1754.3



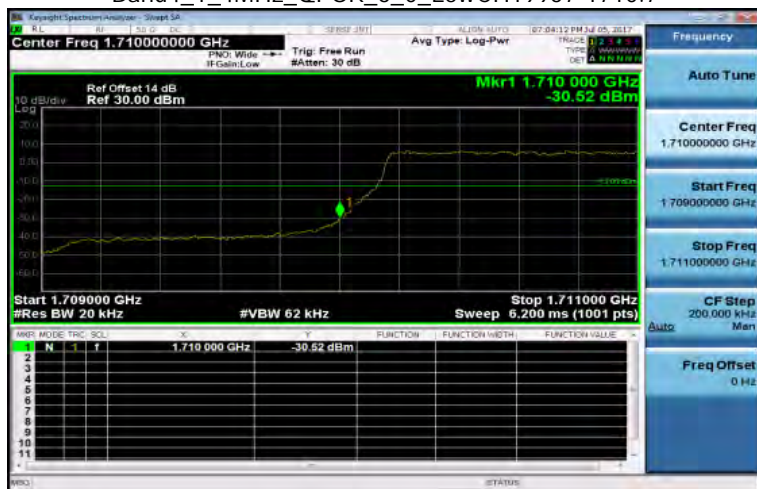
Band4\_1\_4MHz\_QPSK\_1\_5\_HighCH20393-1754.3



Band4\_3MHz\_QPSK\_1\_0\_LowCH19965-1711.5



Band4\_1\_4MHz\_QPSK\_6\_0\_LowCH19957-1710.7



Band4\_3MHz\_QPSK\_1\_14\_HighCH20385-1753.5



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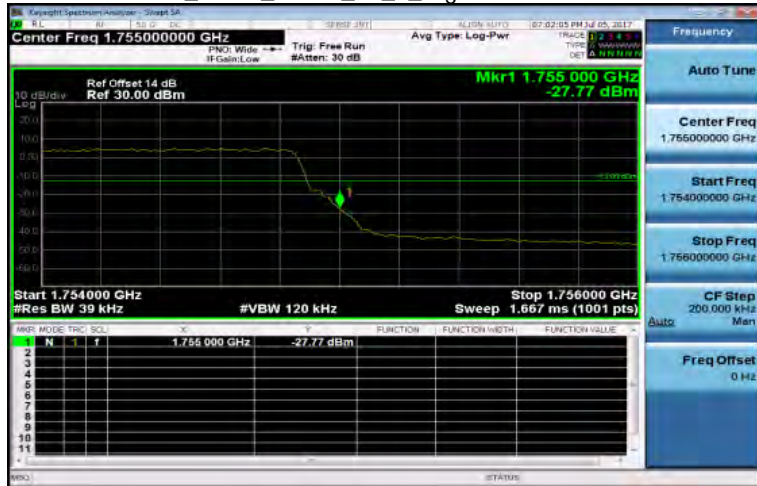
Band4\_3MHz\_QPSK\_15\_0\_LowCH19965-1711.5



Band4\_5MHz\_QPSK\_1\_24\_HighCH20375-1752.5



Band4\_3MHz\_QPSK\_15\_0\_HighCH20385-1753.5



Band4\_5MHz\_QPSK\_25\_0\_LowCH19975-1712.5



Band4\_5MHz\_QPSK\_1\_0\_LowCH19975-1712.5



Band4\_5MHz\_QPSK\_25\_0\_HighCH20375-1752.5



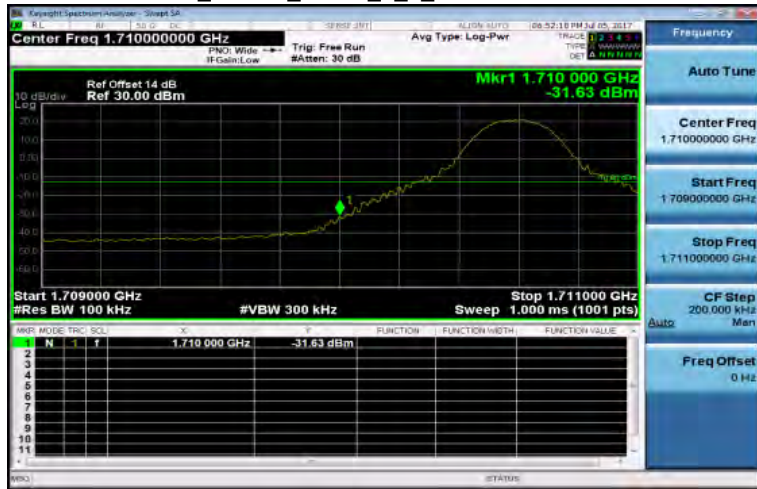
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Band4\_10MHz\_QPSK\_1\_0\_LowCH20000-1715



Band4\_10MHz\_QPSK\_50\_0\_HighCH20350-1750



Band4\_10MHz\_QPSK\_1\_49\_HighCH20350-1750



Band4\_15MHz\_QPSK\_1\_0\_LowCH20025-1717.5



Band4\_10MHz\_QPSK\_50\_0\_LowCH20000-1715



Band4\_15MHz\_QPSK\_1\_74\_HighCH20325-1747.5



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Band4\_15MHz\_QPSK\_75\_0\_LowCH20025-1717.5



Band4\_20MHz\_QPSK\_1\_99\_HighCH20300-1745



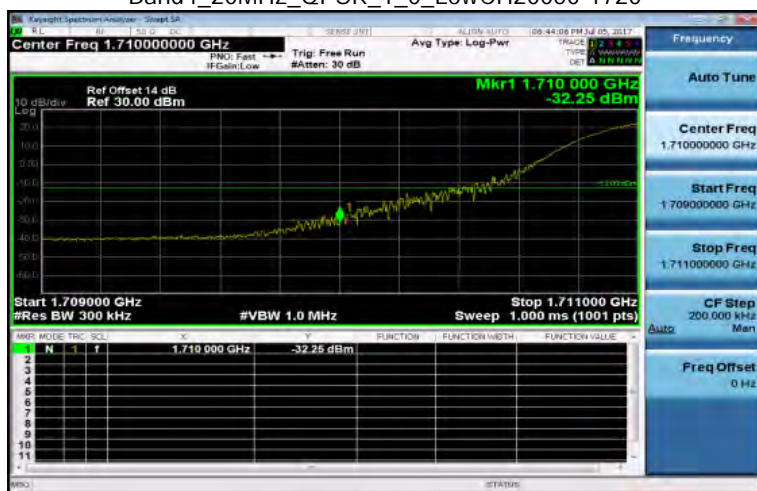
Band4\_15MHz\_QPSK\_75\_0\_HighCH20325-1747.5



Band4\_20MHz\_QPSK\_100\_0\_LowCH20050-1720



Band4\_20MHz\_QPSK\_1\_0\_LowCH20050-1720



Band4\_20MHz\_QPSK\_100\_0\_HighCH20300-1745



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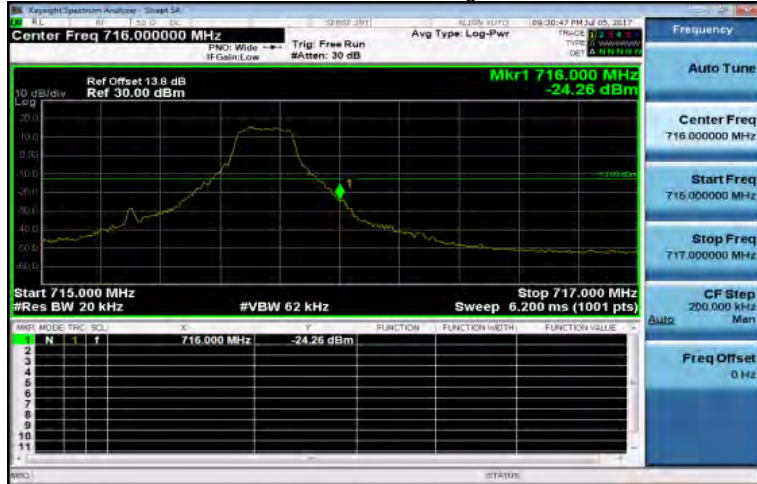
Band12\_1\_4MHz\_QPSK\_1\_0\_LowCH23017-699.7



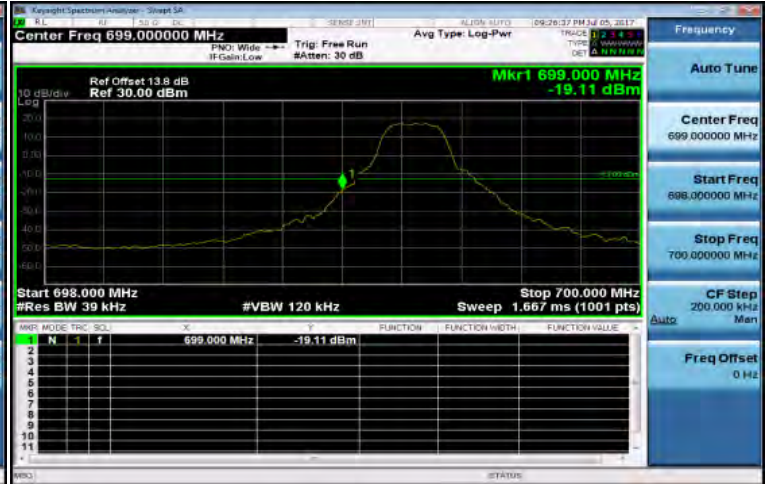
Band12\_1\_4MHz\_QPSK\_6\_0\_HighCH23173-715.3



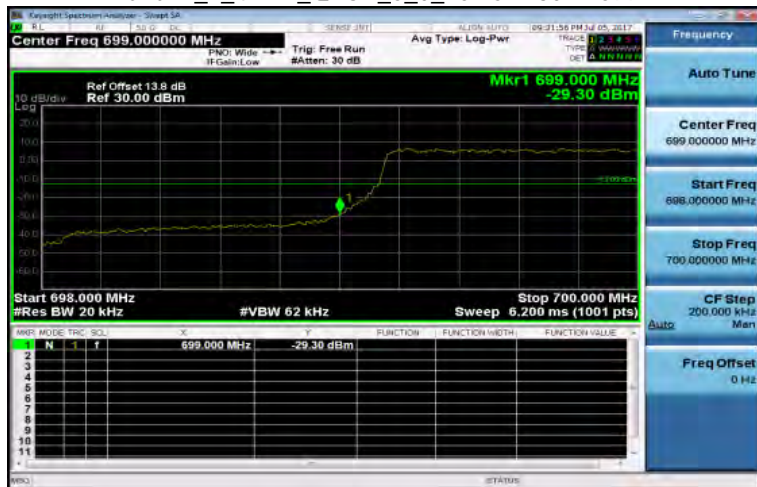
Band12\_1\_4MHz\_QPSK\_1\_5\_HighCH23173-715.3



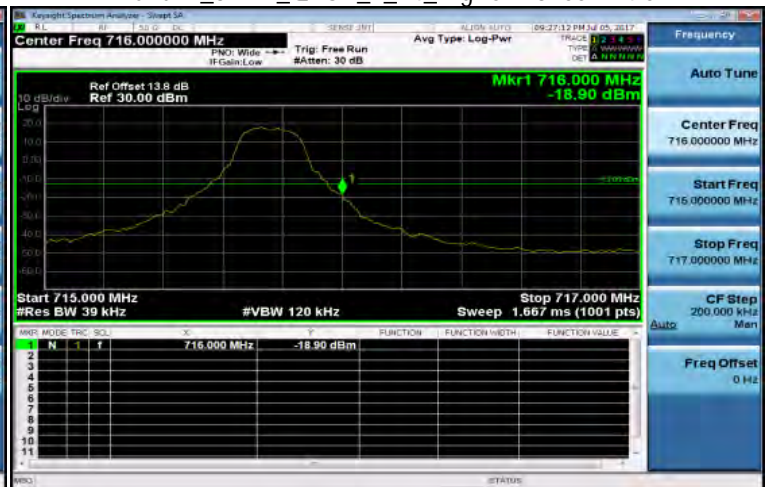
Band12\_3MHz\_QPSK\_1\_0\_LowCH23025-700.5



Band12\_1\_4MHz\_QPSK\_6\_0\_LowCH23017-699.7



Band12\_3MHz\_QPSK\_1\_14\_HighCH23165-714.5



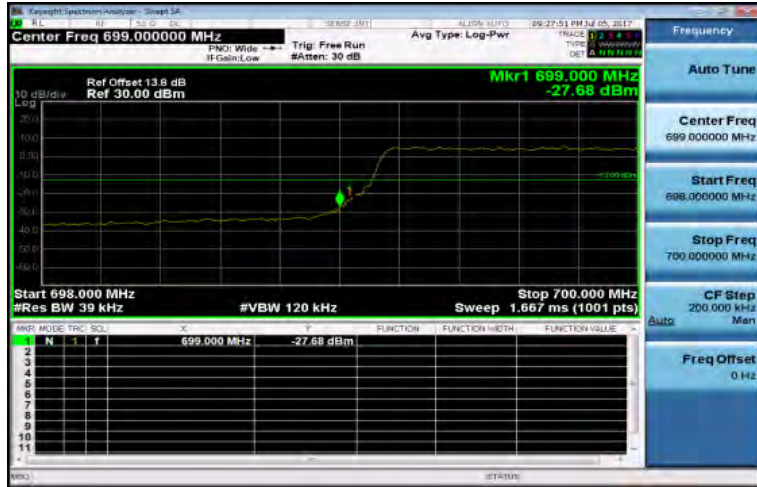
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Band12\_3MHz\_QPSK\_15\_0\_LowCH23025-700.5



Band12\_5MHz\_QPSK\_1\_24\_HighCH23155-713.5



Band12\_3MHz\_QPSK\_15\_0\_HighCH23165-714.5



Band12\_5MHz\_QPSK\_25\_0\_LowCH23035-701.5



Band12\_5MHz\_QPSK\_1\_0\_LowCH23035-701.5



Band12\_5MHz\_QPSK\_25\_0\_HighCH23155-713.5



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Band12\_10MHz\_QPSK\_1\_0\_LowCH23060-704



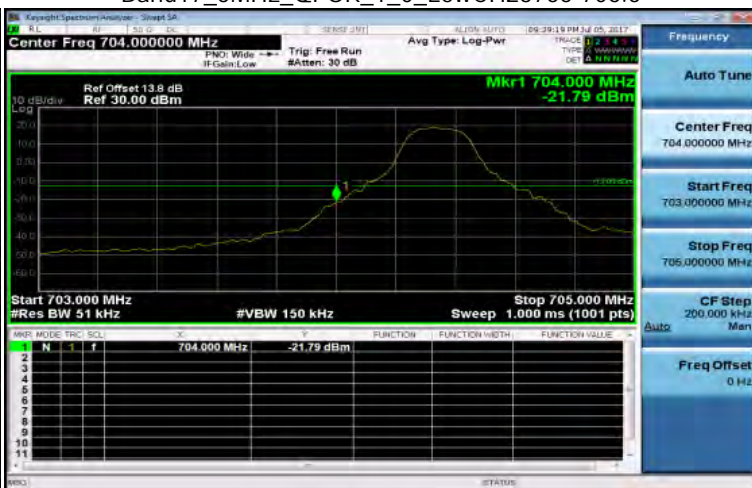
Band12\_10MHz\_QPSK\_50\_0\_HighCH23130-711



Band12\_10MHz\_QPSK\_1\_49\_HighCH23130-711



Band17\_5MHz\_QPSK\_1\_0\_LowCH23755-706.5



Band12\_10MHz\_QPSK\_50\_0\_LowCH23060-704



Band17\_5MHz\_QPSK\_1\_24\_HighCH23825-713.5



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Band17\_5MHz\_QPSK\_25\_0\_LowCH23755-706.5



Band17\_10MHz\_QPSK\_1\_49\_HighCH23800-711



Band17\_5MHz\_QPSK\_25\_0\_HighCH23825-713.5



Band17\_10MHz\_QPSK\_50\_0\_LowCH23780-709



Band17\_10MHz\_QPSK\_1\_0\_LowCH23780-709



Band17\_10MHz\_QPSK\_50\_0\_HighCH23800-711



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## 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(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).

**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 5.2 for the permitted frequency ranges for various equipment types.

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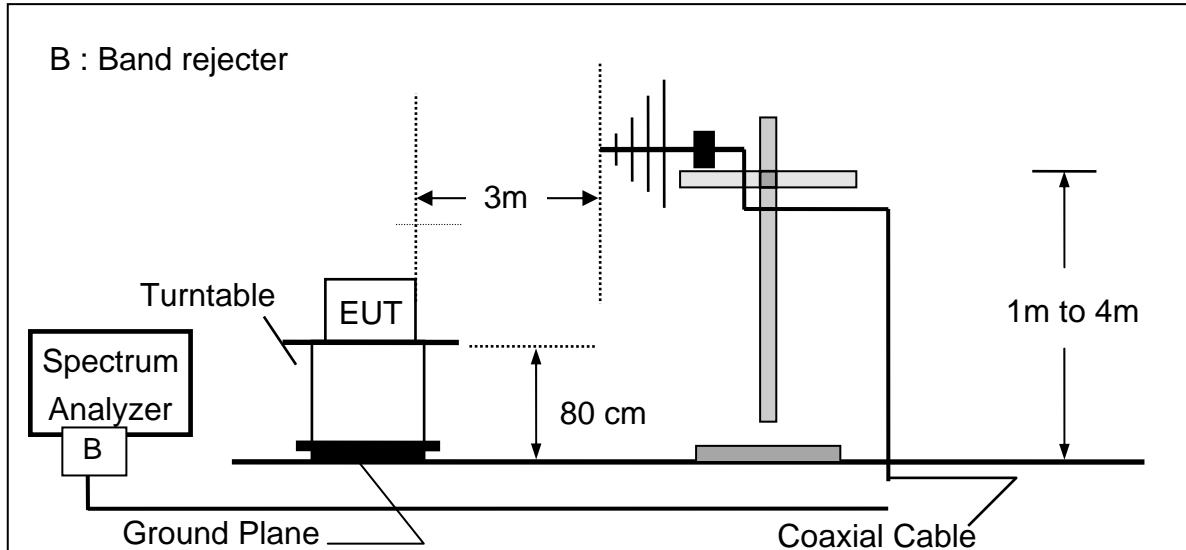
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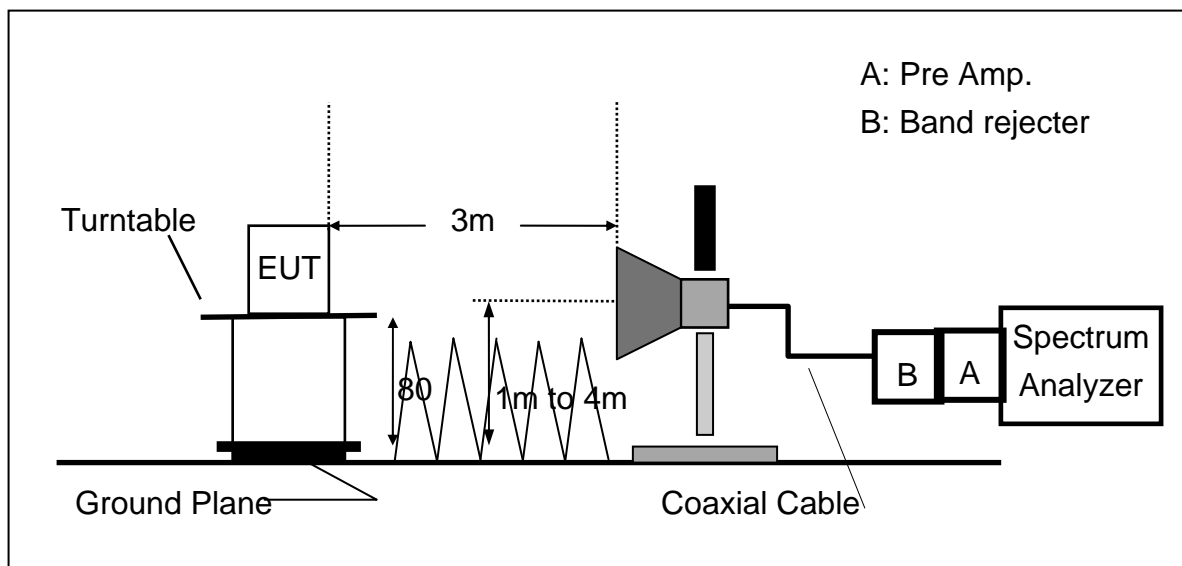


## 10.2. EUT Setup

### 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.
EMI Test Receiver	R&S	ESCI7	100760	05/11/2017	05/10/2018
Spectrum Analyzer	Agilent	E4446A	MY51100003	04/25/2017	04/24/2018
Loop Antenna	ETS-Lindgren	6502	148045	09/20/2016	09/19/2017
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/19/2016	12/18/2017
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/01/2016	07/31/2017
Pre-Amplifier	Agilent	8447D	2944A07676	01/05/2017	01/04/2018
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/05/2017	01/04/2018
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	ChamPro	AM-BS-4500-B	060776-ABS	N.C.R	N.C.R
Controller	ChamPro	EM1000	60776	N.C.R	N.C.R
Low Loss Cable	Huber Suhner	966_RX	9	01/05/2017	01/04/2018
3m Site NSA	SGS	966 chamber	N/A	07/01/2017	06/30/2018
Low Loss Cable	Huber Suhner	966 TX	1	01/05/2017	01/04/2018
Horn Antenna	Schwarzbeck	BBHA9170	184	12/12/2016	12/11/2017
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/05/2017	01/04/2018
Radio Communication Analyzer	R&S	CMU200	102189	02/10/2017	02/09/2018
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018

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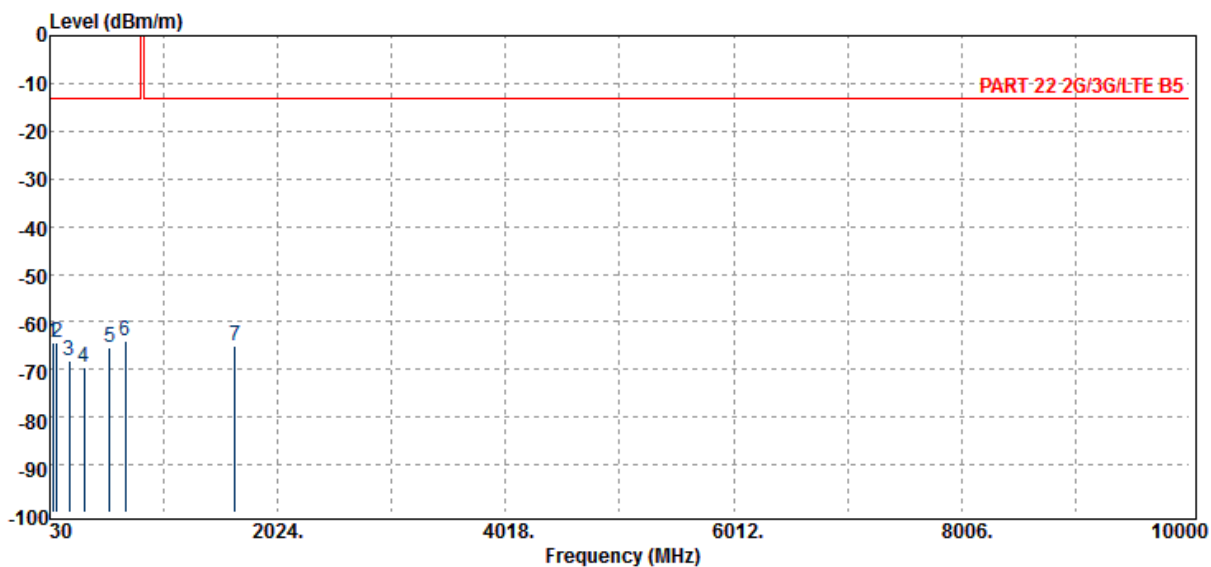
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## 10.5. Measurement Result:

### Radiated Spurious Emission Measurement Result: GSM 850 Mode (The Worst Case)

Operation Band :GPRS 850 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :824.2 MHz Engineer :Tin  
Operation Mode :Tx CH LOW  
EUT Pol. :E2 Plane Measurement Antenna :VERTICAL  
Pol.



Freq. MHz	Note F/H/E/S	ERP dBm	SG Output Level dBm	Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
54.25	S	-64.52	-53.27	-10.18	-1.06	-13.00	-51.52
91.11	S	-64.33	-62.54	-0.57	-1.21	-13.00	-51.33
202.66	S	-68.00	-69.57	3.22	-1.65	-13.00	-55.00
332.64	S	-69.49	-71.37	3.78	-1.91	-13.00	-56.49
553.80	S	-65.40	-66.22	3.56	-2.74	-13.00	-52.40
691.54	S	-64.15	-64.42	3.09	-2.83	-13.00	-51.15
1648.40	H	-65.10	-67.99	7.11	-4.22	-13.00	-52.10

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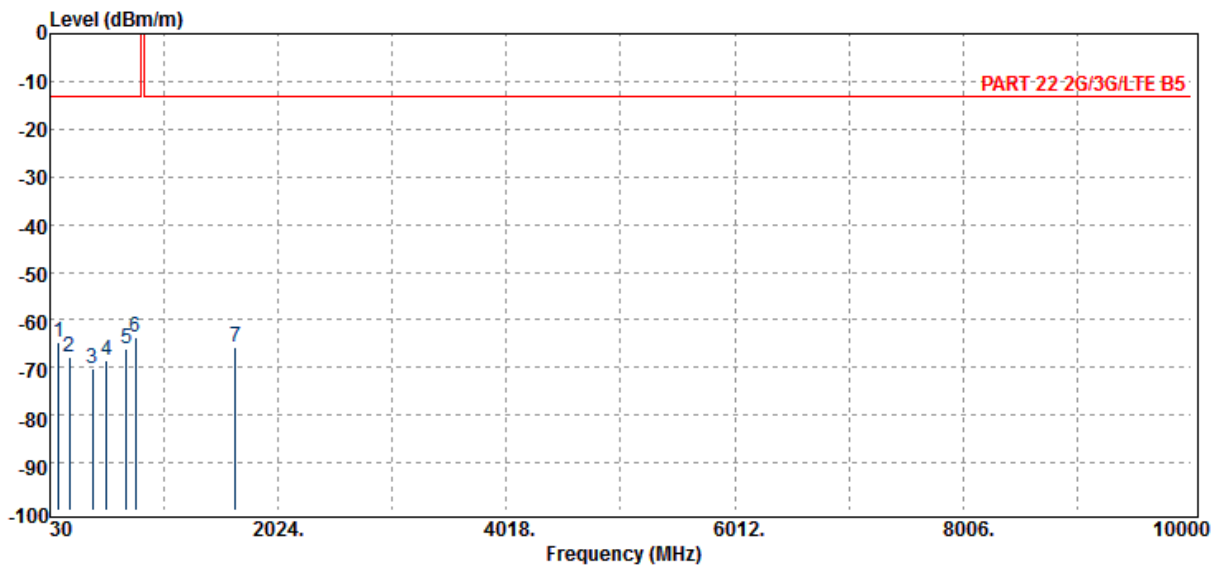
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Operation Band	:GPRS 850	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:824.2 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW		
EUT Pol.	:E2 Plane	Measurement Antenna	:HORIZONTAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
104.69	S	-64.77	-61.46	-2.04	-1.27	-13.00	-51.77
199.75	S	-67.84	-69.30	3.09	-1.63	-13.00	-54.84
403.45	S	-70.25	-71.66	3.81	-2.40	-13.00	-57.25
527.61	S	-68.61	-69.85	3.71	-2.47	-13.00	-55.61
694.45	S	-66.00	-66.21	3.09	-2.88	-13.00	-53.00
773.99	S	-63.50	-63.84	3.26	-2.93	-13.00	-50.50
1648.40	H	-65.64	-68.53	7.11	-4.22	-13.00	-52.64

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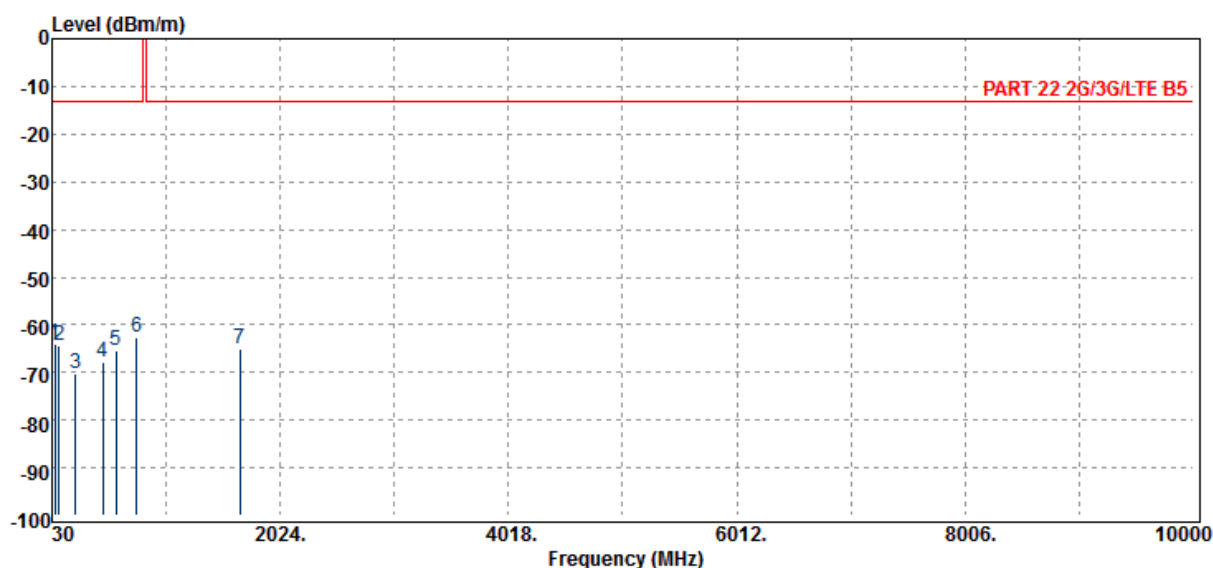
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Operation Band	:GPRS 850	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:836.6 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID		
EUT Pol.	:E2 Plane	Measurement Antenna	:VERTICAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
54.25	S	-63.87	-52.62	-10.18	-1.06	-13.00	-50.87
92.08	S	-64.45	-62.54	-0.69	-1.22	-13.00	-51.45
238.55	S	-70.28	-71.80	3.26	-1.74	-13.00	-57.28
473.29	S	-67.93	-69.45	3.75	-2.23	-13.00	-54.93
587.75	S	-65.52	-66.05	3.32	-2.79	-13.00	-52.52
772.05	S	-62.59	-62.91	3.25	-2.94	-13.00	-49.59
1673.20	H	-65.07	-67.97	7.20	-4.29	-13.00	-52.07

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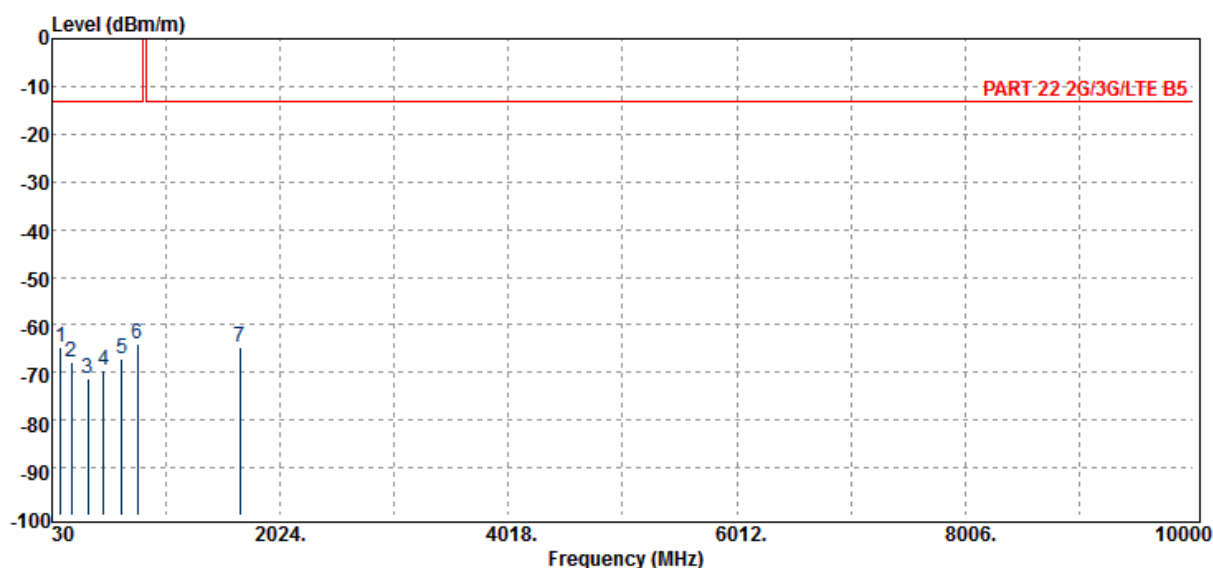
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Fundamental Frequency	:836.6 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID		
EUT Pol.	:E2 Plane	Measurement Antenna	:HORIZONTAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
104.69	S	-64.84	-61.53	-2.04	-1.27	-13.00	-51.84
202.66	S	-67.83	-69.40	3.22	-1.65	-13.00	-54.83
343.31	S	-71.25	-73.09	3.83	-1.99	-13.00	-58.25
482.99	S	-69.58	-71.12	3.79	-2.25	-13.00	-56.58
641.10	S	-67.21	-67.93	3.16	-2.43	-13.00	-54.21
773.99	S	-64.01	-64.34	3.26	-2.93	-13.00	-51.01
1673.20	H	-64.77	-67.68	7.20	-4.29	-13.00	-51.77

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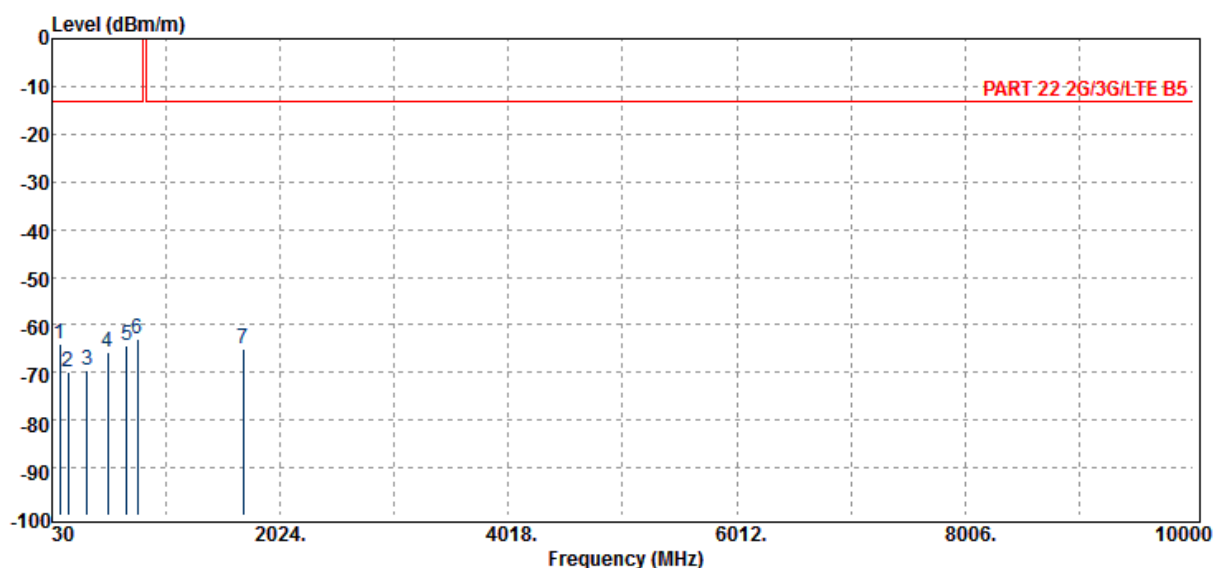
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Fundamental Frequency :848.8 MHz Engineer :Tin  
Operation Mode :Tx CH HIGH  
EUT Pol. :E2 Plane Measurement Antenna :VERTICAL  
Pol.



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
94.99	S	-64.17	-61.90	-1.04	-1.23	-13.00	-51.17
172.59	S	-69.90	-67.93	-0.44	-1.53	-13.00	-56.90
333.61	S	-69.60	-71.47	3.79	-1.92	-13.00	-56.60
516.94	S	-65.79	-67.19	3.76	-2.37	-13.00	-52.79
683.78	S	-64.30	-64.71	3.10	-2.69	-13.00	-51.30
775.93	S	-63.08	-63.43	3.27	-2.92	-13.00	-50.08
1697.60	H	-64.95	-67.93	7.28	-4.31	-13.00	-51.95

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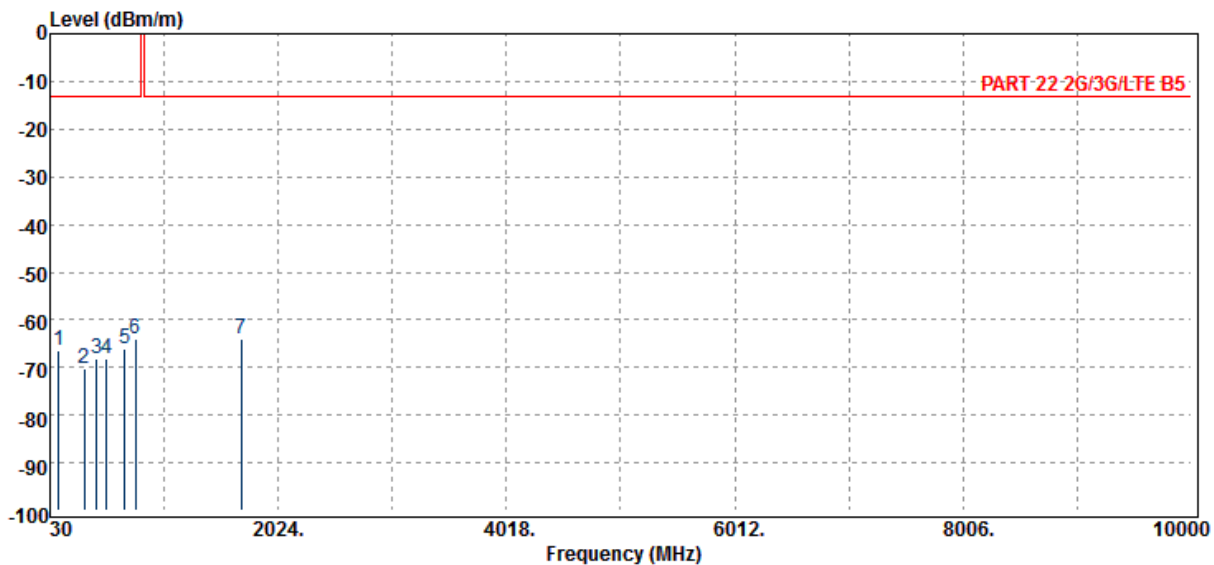
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Operation Band	:GPRS 850	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:848.8 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH		
EUT Pol.	:E2 Plane	Measurement Antenna	:HORIZONTAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
103.72	S	-66.55	-63.33	-1.95	-1.26	-13.00	-53.55
327.79	S	-70.27	-72.12	3.76	-1.92	-13.00	-57.27
435.46	S	-68.20	-69.67	3.69	-2.23	-13.00	-55.20
526.64	S	-68.18	-69.43	3.71	-2.46	-13.00	-55.18
681.84	S	-66.19	-66.64	3.10	-2.65	-13.00	-53.19
773.99	S	-63.86	-64.19	3.26	-2.93	-13.00	-50.86
1697.60	H	-64.16	-67.14	7.28	-4.31	-13.00	-51.16

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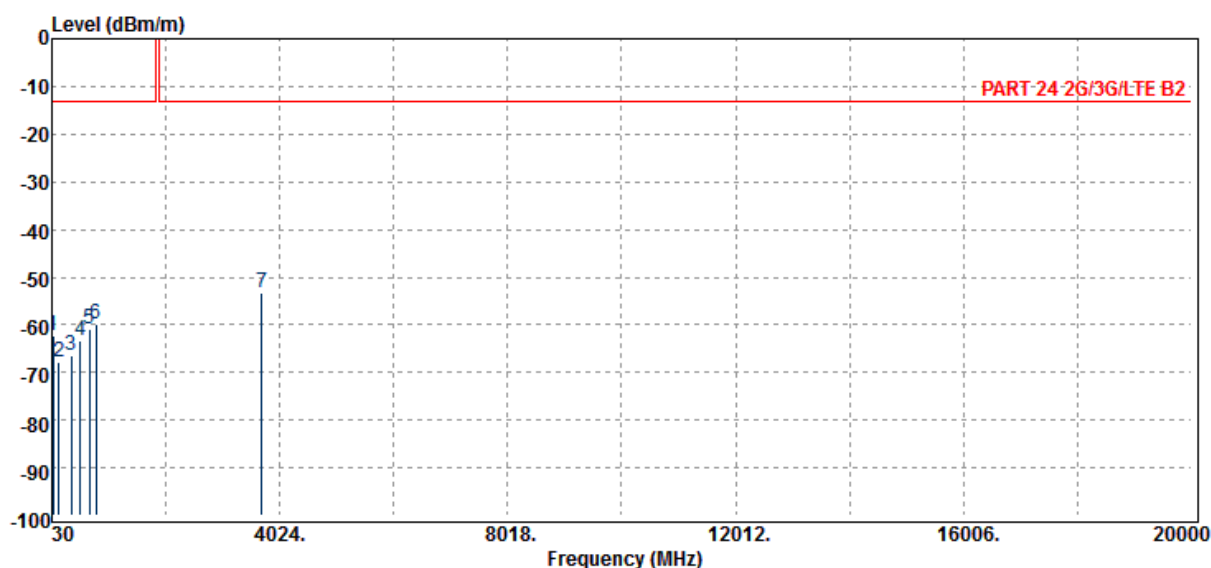
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# Radiated Spurious Emission Measurement Result: GPRS 1900 Mode (The Worst Case)

Operation Band	:GPRS 1900	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:1850.2 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW		
EUT Pol.	:H Plane	Measurement Pol.	Antenna :VERTICAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
57.16	S	-62.42	-54.05	-7.29	-1.07	-13.00	-49.42
159.01	S	-67.98	-66.98	0.47	-1.47	-13.00	-54.98
364.65	S	-66.45	-70.29	6.00	-2.16	-13.00	-53.45
522.76	S	-63.16	-66.62	5.88	-2.42	-13.00	-50.16
686.69	S	-61.03	-63.54	5.25	-2.74	-13.00	-48.03
807.94	S	-59.78	-62.36	5.48	-2.89	-13.00	-46.78
3700.40	H	-53.29	-59.15	12.44	-6.58	-13.00	-40.29

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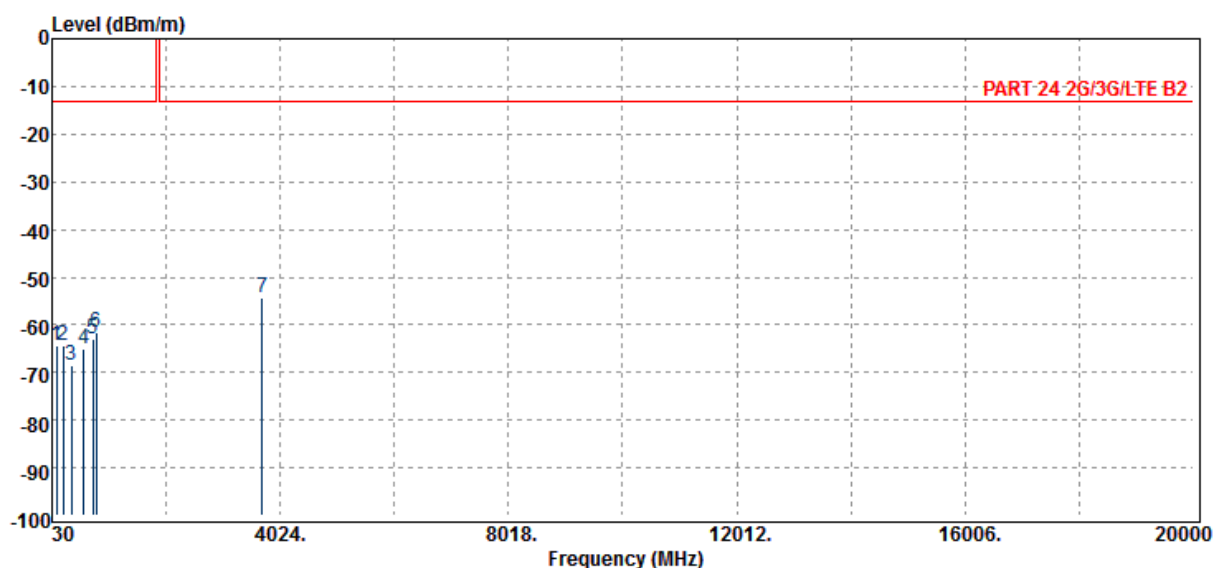
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Operation Band :GPRS 1900 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :1850.2 MHz Engineer :Tin  
Operation Mode :Tx CH LOW  
EUT Pol. :H Plane Measurement Antenna :HORIZONTAL  
Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
103.72	S	-64.42	-63.35	0.20	-1.26	-13.00	-51.42
221.09	S	-64.24	-67.98	5.45	-1.71	-13.00	-51.24
364.65	S	-68.36	-72.20	6.00	-2.16	-13.00	-55.36
587.75	S	-65.18	-67.86	5.47	-2.79	-13.00	-52.18
744.89	S	-62.92	-65.13	5.32	-3.11	-13.00	-49.92
807.94	S	-61.71	-64.29	5.48	-2.89	-13.00	-48.71
3700.40	H	-54.20	-60.06	12.44	-6.58	-13.00	-41.20

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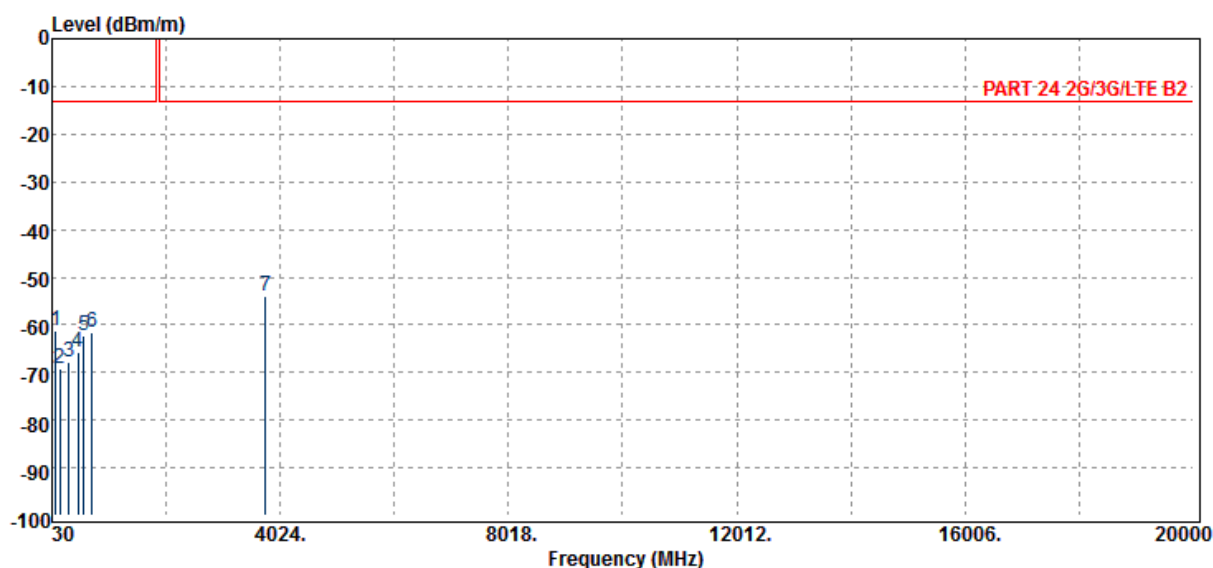
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Operation Band	:GPRS 1900	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:1880 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID		
EUT Pol.	:H Plane	Measurement Antenna	:VERTICAL
		Pol.	



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
94.99	S	-61.40	-61.28	1.11	-1.23	-13.00	-48.40
173.56	S	-69.10	-69.45	1.89	-1.53	-13.00	-56.10
332.64	S	-67.94	-71.96	5.93	-1.91	-13.00	-54.94
482.99	S	-65.91	-69.60	5.94	-2.25	-13.00	-52.91
582.90	S	-62.38	-65.10	5.51	-2.79	-13.00	-49.38
726.46	S	-61.57	-63.76	5.29	-3.10	-13.00	-48.57
3760.00	H	-54.11	-59.96	12.45	-6.60	-13.00	-41.11

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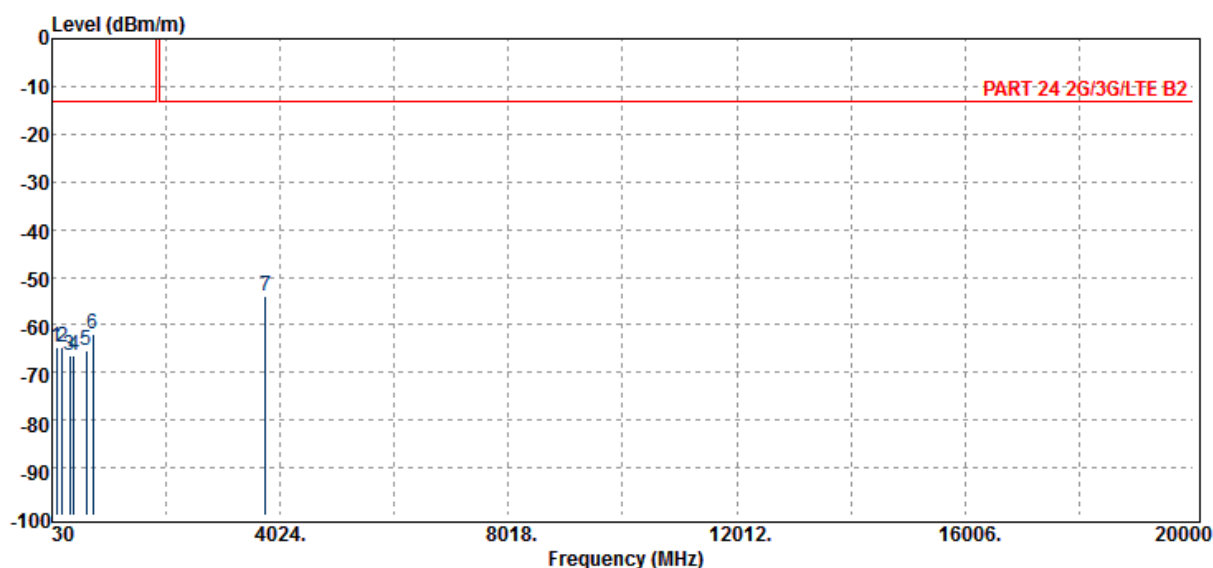
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Operation Band	:GPRS 1900	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:1880 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID		
EUT Pol.	:H Plane	Measurement Antenna	:HORIZONTAL
		Pol.	



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
104.69	S	-64.63	-63.47	0.11	-1.27	-13.00	-51.63
216.24	S	-64.61	-68.47	5.55	-1.69	-13.00	-51.61
337.49	S	-66.49	-70.50	5.95	-1.95	-13.00	-53.49
410.24	S	-66.58	-70.12	5.93	-2.40	-13.00	-53.58
626.55	S	-65.32	-68.16	5.34	-2.49	-13.00	-52.32
745.86	S	-61.81	-64.03	5.32	-3.10	-13.00	-48.81
3760.00	H	-53.82	-59.68	12.45	-6.60	-13.00	-40.82

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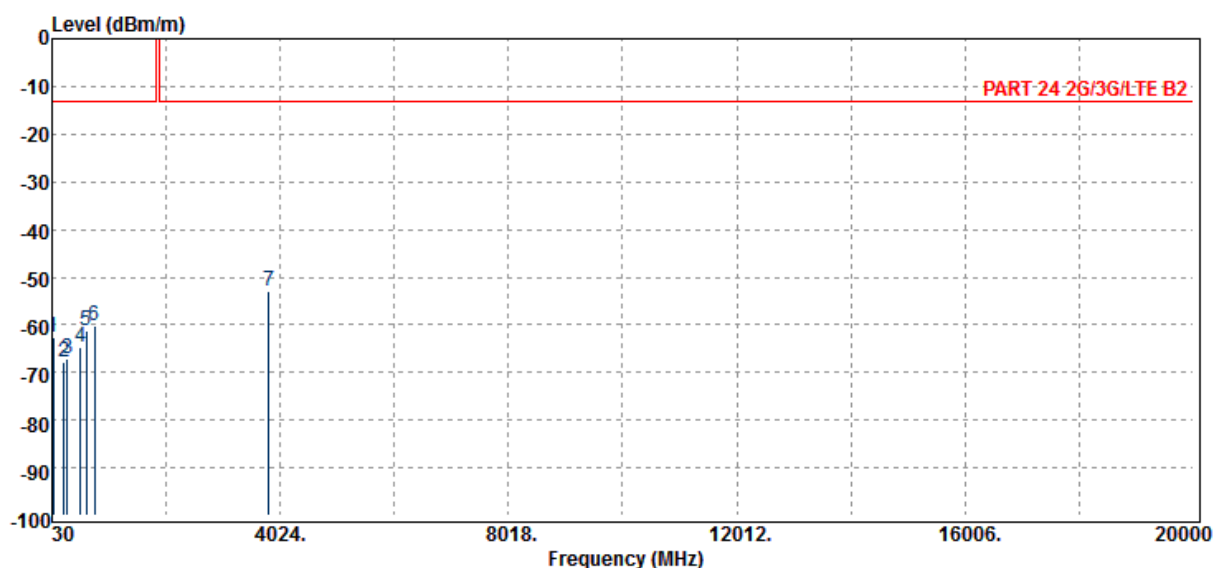
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Operation Band	:GPRS 1900	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:1909.8 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH		
EUT Pol.	:H Plane	Measurement Antenna	:VERTICAL
		Pol.	



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
55.22	S	-62.50	-53.66	-7.78	-1.06	-13.00	-49.50
239.52	S	-67.72	-71.40	5.43	-1.74	-13.00	-54.72
294.81	S	-67.13	-70.86	5.67	-1.94	-13.00	-54.13
524.70	S	-64.56	-67.99	5.87	-2.44	-13.00	-51.56
623.64	S	-61.27	-64.10	5.34	-2.52	-13.00	-48.27
772.05	S	-60.29	-62.75	5.40	-2.94	-13.00	-47.29
3819.60	H	-53.09	-58.91	12.47	-6.65	-13.00	-40.09

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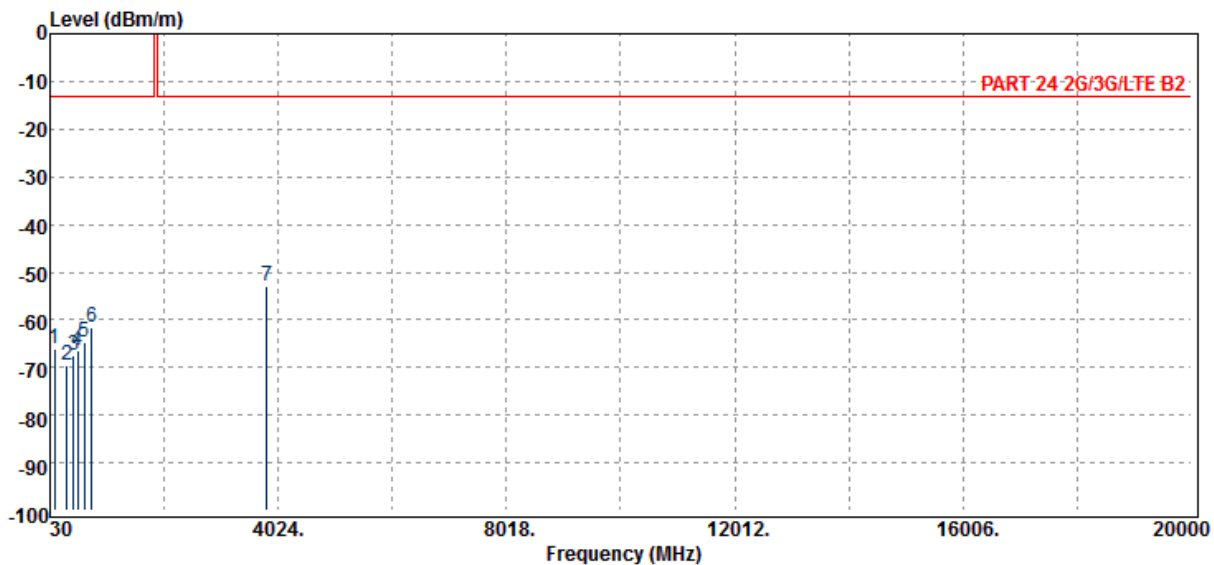
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Operation Band	:GPRS 1900	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:1909.8 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH		
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
104.69	S	-66.10	-64.94	0.11	-1.27	-13.00	-53.10
325.85	S	-69.57	-73.55	5.90	-1.92	-13.00	-56.57
447.10	S	-67.37	-70.98	5.80	-2.19	-13.00	-54.37
515.00	S	-66.44	-70.00	5.92	-2.36	-13.00	-53.44
631.40	S	-64.62	-67.48	5.33	-2.46	-13.00	-51.62
762.35	S	-61.76	-64.13	5.37	-3.00	-13.00	-48.76
3819.60	H	-53.01	-58.83	12.47	-6.65	-13.00	-40.01

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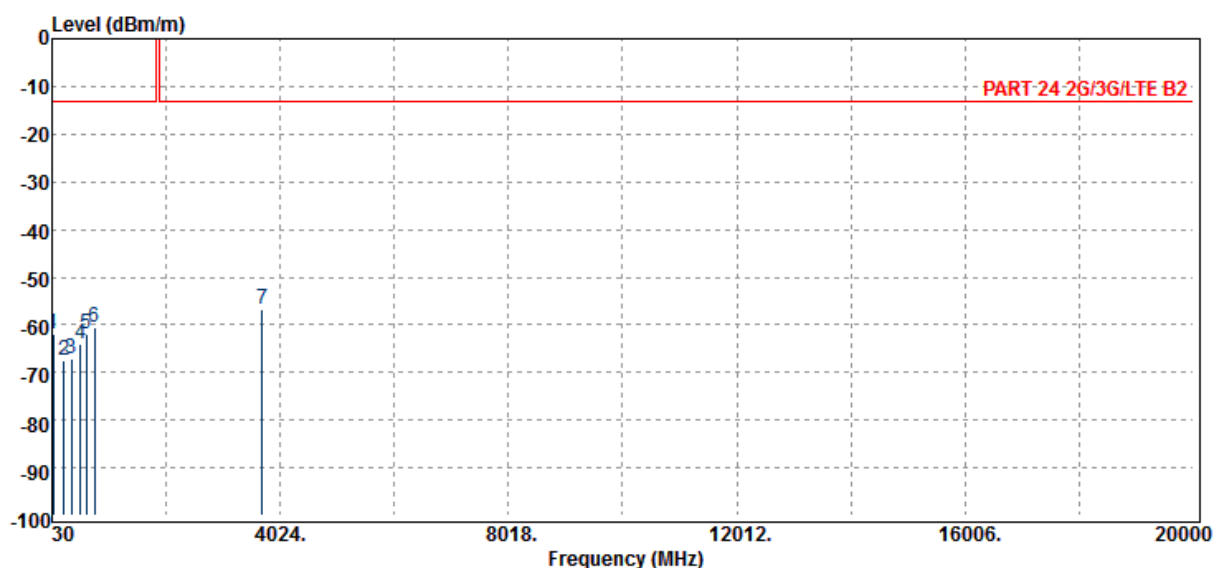
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# Radiated Spurious Emission Measurement Result: WCDMA Band 2 Mode (The Worst Case)

Operation Band :HSDPA B2 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :1852.4 MHz Engineer :Tin  
Operation Mode :Tx CH LOW  
EUT Pol. :H Plane Measurement Antenna :VERTICAL  
Pol.



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
57.16	S	-61.79	-53.42	-7.29	-1.07	-13.00	-48.79
236.61	S	-67.50	-71.14	5.38	-1.73	-13.00	-54.50
367.56	S	-67.12	-70.94	6.00	-2.18	-13.00	-54.12
531.49	S	-64.09	-67.41	5.84	-2.51	-13.00	-51.09
623.64	S	-62.08	-64.90	5.34	-2.52	-13.00	-49.08
774.96	S	-60.45	-62.94	5.41	-2.92	-13.00	-47.45
3704.80	H	-56.70	-62.56	12.44	-6.58	-13.00	-43.70

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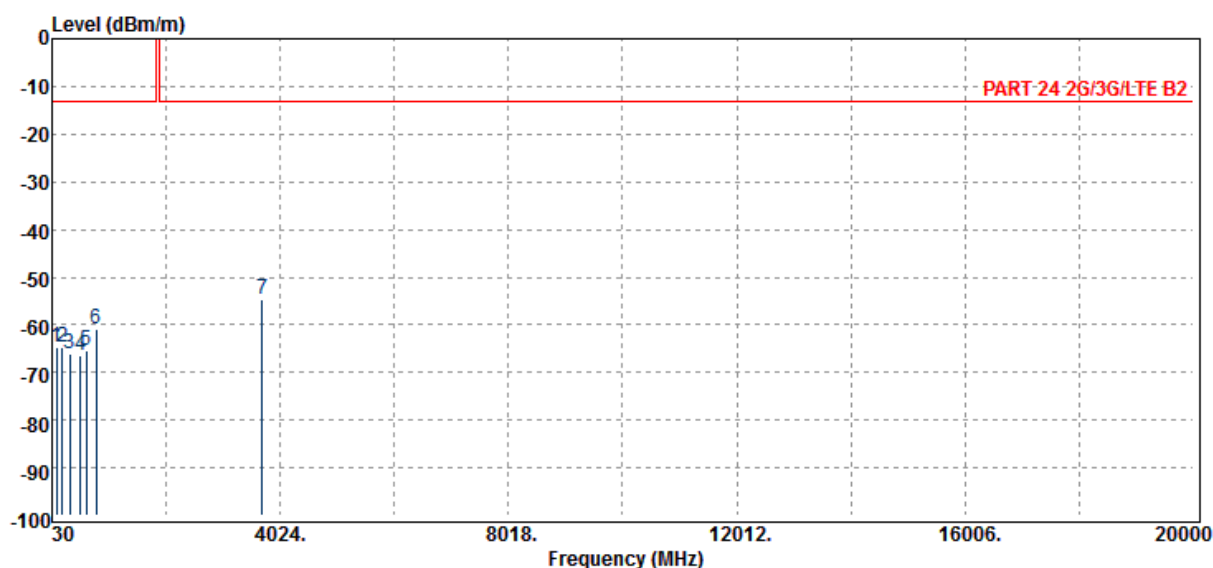
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Operation Band :HSDPA B2 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :1852.4 MHz Engineer :Tin  
Operation Mode :Tx CH LOW  
EUT Pol. :H Plane Measurement Antenna :HORIZONTAL  
Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
104.69	S	-64.54	-63.38	0.11	-1.27	-13.00	-51.54
212.36	S	-64.68	-68.63	5.63	-1.68	-13.00	-51.68
337.49	S	-66.04	-70.05	5.95	-1.95	-13.00	-53.04
531.49	S	-66.34	-69.67	5.84	-2.51	-13.00	-53.34
625.58	S	-65.27	-68.11	5.34	-2.50	-13.00	-52.27
808.91	S	-60.83	-63.41	5.48	-2.89	-13.00	-47.83
3704.80	H	-54.69	-60.55	12.44	-6.58	-13.00	-41.69

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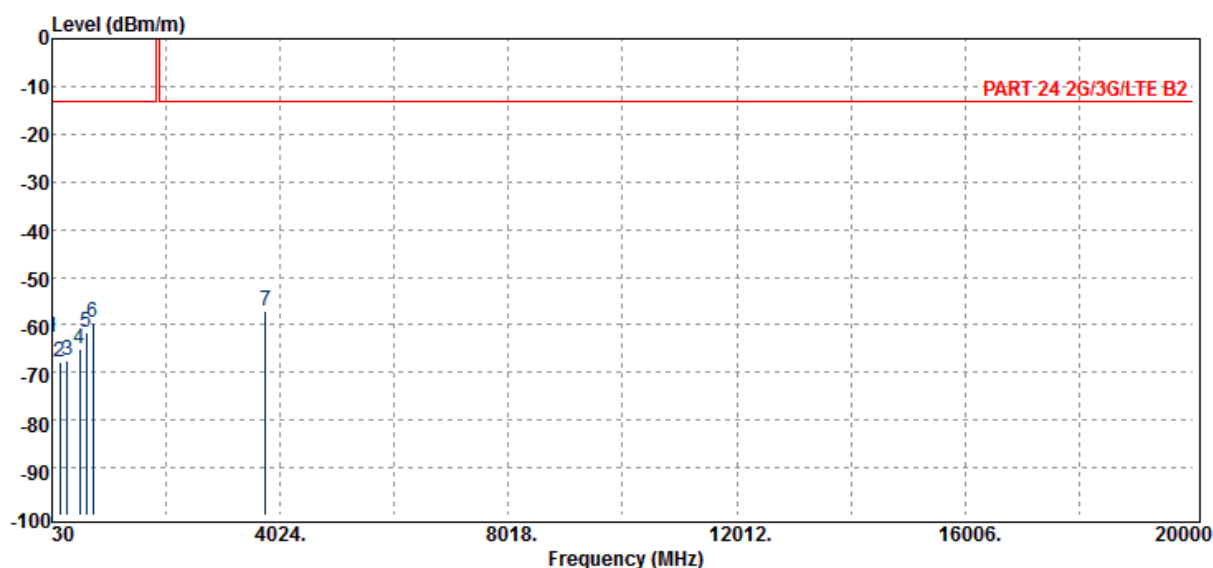
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Operation Band :HSDPA B2 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :1880 MHz Engineer :Tin  
Operation Mode :Tx CH MID  
EUT Pol. :H Plane Measurement Antenna :VERTICAL  
Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
41.64	S	-62.58	-50.89	-10.68	-1.00	-13.00	-49.58
165.80	S	-67.73	-67.17	0.94	-1.50	-13.00	-54.73
294.81	S	-67.57	-71.30	5.67	-1.94	-13.00	-54.57
515.00	S	-64.99	-68.55	5.92	-2.36	-13.00	-51.99
629.46	S	-61.69	-64.55	5.33	-2.47	-13.00	-48.69
750.71	S	-59.50	-61.77	5.33	-3.07	-13.00	-46.50
3760.00	H	-57.12	-62.97	12.45	-6.60	-13.00	-44.12

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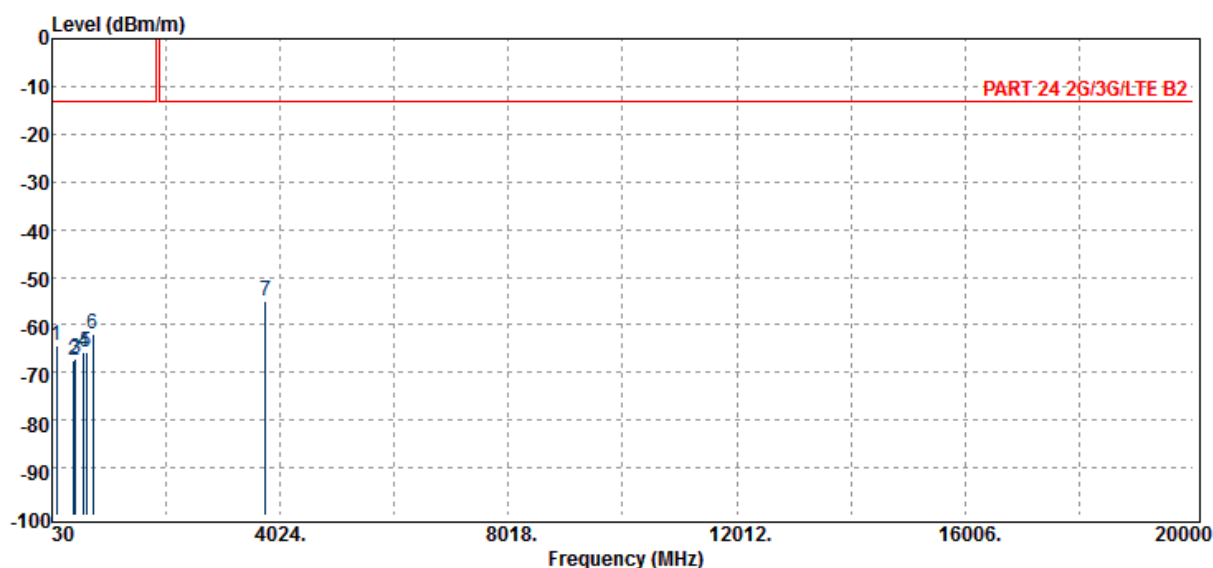
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Operation Band	:HSDPA B2	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:1880 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID		
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
103.72	S	-64.51	-63.45	0.20	-1.26	-13.00	-51.51
413.15	S	-67.50	-71.04	5.92	-2.38	-13.00	-54.50
435.46	S	-67.15	-70.76	5.84	-2.23	-13.00	-54.15
585.81	S	-65.76	-68.45	5.49	-2.79	-13.00	-52.76
629.46	S	-65.63	-68.49	5.33	-2.47	-13.00	-52.63
741.01	S	-62.08	-64.26	5.31	-3.13	-13.00	-49.08
3760.00	H	-54.96	-60.82	12.45	-6.60	-13.00	-41.96

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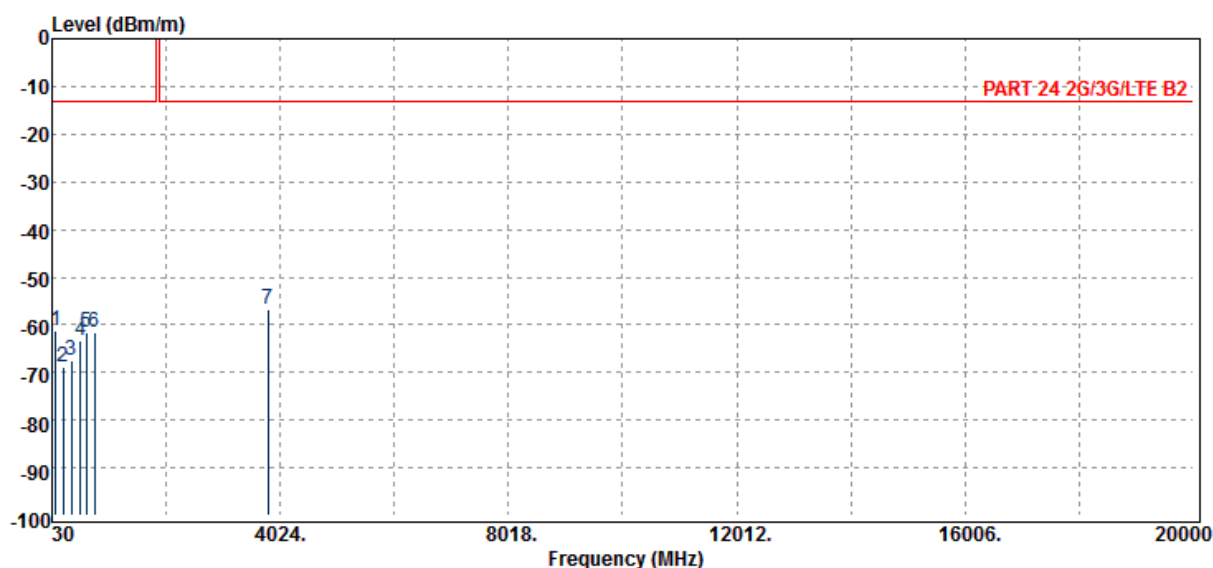
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Operation Band	:HSDPA B2	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:1907.6 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH		
EUT Pol.	:H Plane	Measurement Antenna	:VERTICAL
		Pol.	



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
93.05	S	-61.25	-61.37	1.34	-1.22	-13.00	-48.25
226.91	S	-68.87	-72.48	5.33	-1.72	-13.00	-55.87
376.29	S	-67.54	-71.29	5.99	-2.24	-13.00	-54.54
534.40	S	-63.22	-66.50	5.82	-2.54	-13.00	-50.22
634.31	S	-61.71	-64.57	5.32	-2.45	-13.00	-48.71
767.20	S	-61.67	-64.08	5.39	-2.97	-13.00	-48.67
3815.20	H	-56.81	-62.64	12.46	-6.63	-13.00	-43.81

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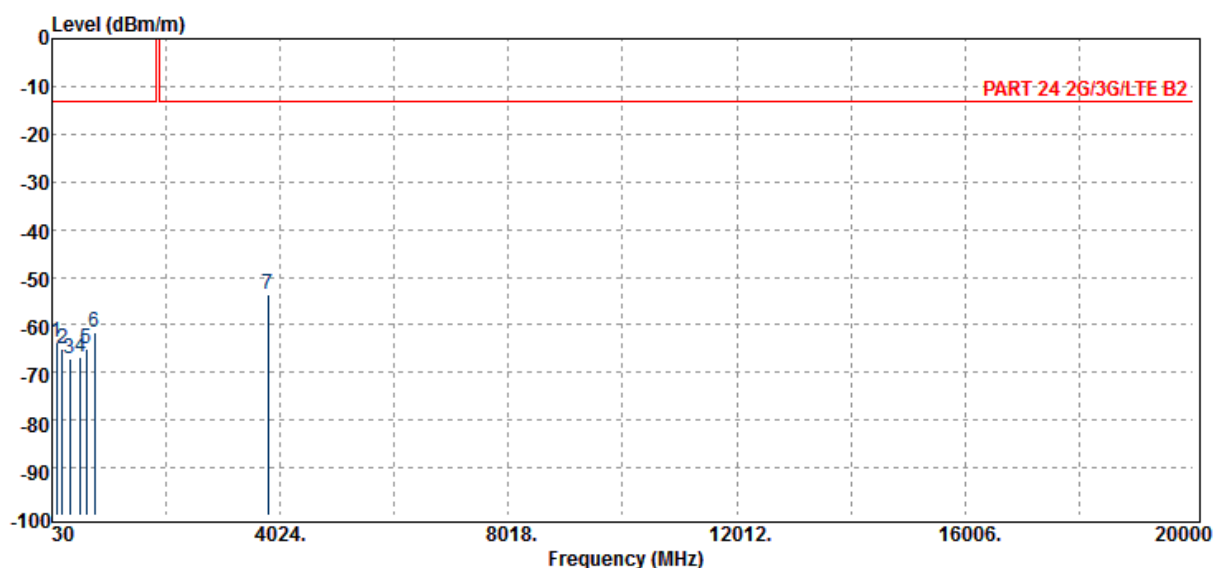
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Operation Band :HSDPA B2 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :1907.6 MHz Engineer :Tin  
Operation Mode :Tx CH HIGH  
EUT Pol. :H Plane Measurement Antenna :HORIZONTAL  
Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
104.69	S	-63.80	-62.65	0.11	-1.27	-13.00	-50.80
214.30	S	-64.90	-68.80	5.59	-1.68	-13.00	-51.90
340.40	S	-67.30	-71.30	5.97	-1.97	-13.00	-54.30
526.64	S	-66.69	-70.09	5.86	-2.46	-13.00	-53.69
631.40	S	-65.07	-67.94	5.33	-2.46	-13.00	-52.07
773.99	S	-61.76	-64.24	5.41	-2.93	-13.00	-48.76
3815.20	H	-53.50	-59.33	12.46	-6.63	-13.00	-40.50

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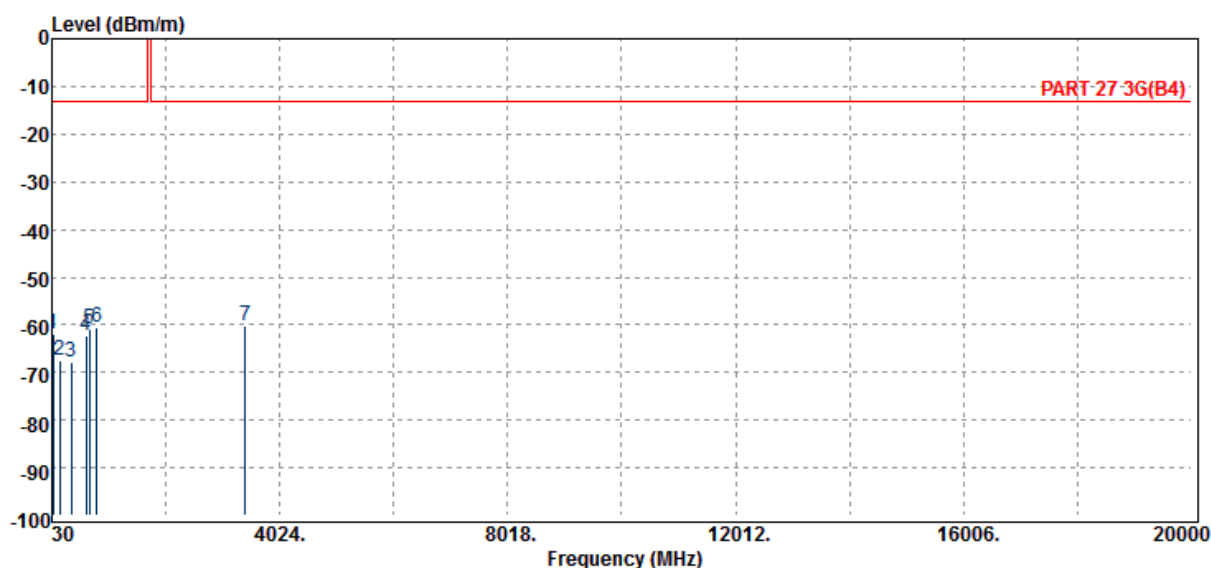
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# Radiated Spurious Emission Measurement Result: WCDMA Band 4 Mode (The Worst Case)

Operation Band :HSDPA B4 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :1712.4 MHz Engineer :Tin  
Operation Mode :Tx CH LOW  
EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
57.16	S	-61.80	-53.44	-7.29	-1.07	-13.00	-48.80
163.86	S	-67.64	-66.95	0.80	-1.49	-13.00	-54.64
362.71	S	-67.82	-71.68	6.00	-2.15	-13.00	-54.82
624.61	S	-62.21	-65.04	5.34	-2.51	-13.00	-49.21
681.84	S	-60.94	-63.54	5.25	-2.65	-13.00	-47.94
818.61	S	-60.58	-63.14	5.46	-2.91	-13.00	-47.58
3424.80	H	-60.13	-66.17	12.27	-6.23	-13.00	-47.13

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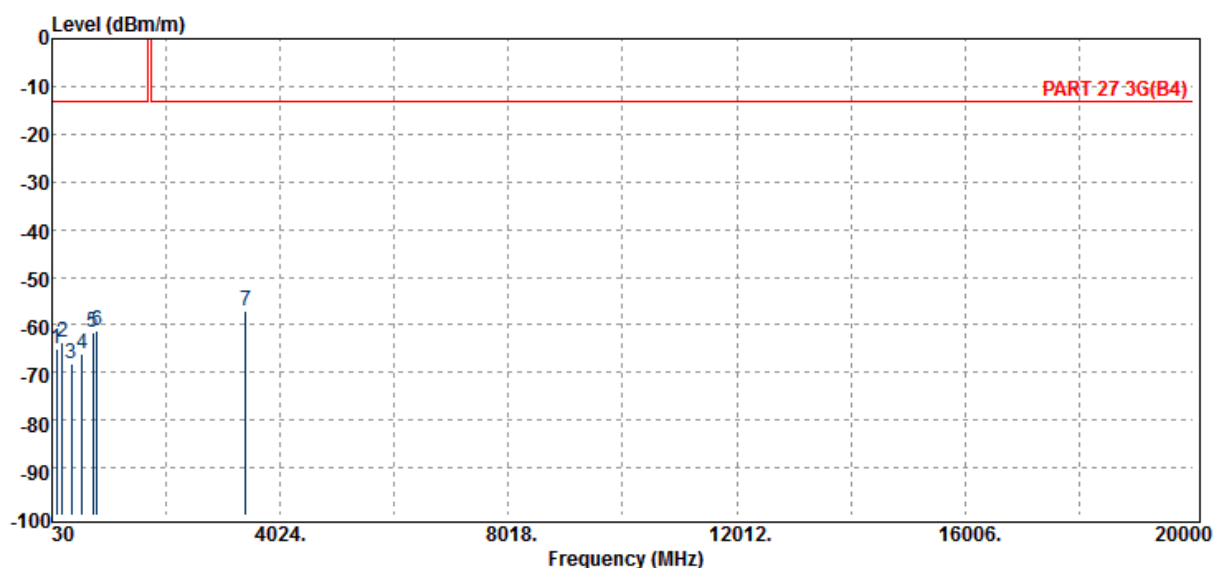
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Operation Band	:HSDPA B4	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:1712.4 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW		
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
104.69	S	-64.90	-63.74	0.11	-1.27	-13.00	-51.90
214.30	S	-63.50	-67.40	5.59	-1.68	-13.00	-50.50
371.44	S	-68.03	-71.81	5.99	-2.21	-13.00	-55.03
550.89	S	-66.13	-69.16	5.73	-2.71	-13.00	-53.13
738.10	S	-61.44	-63.61	5.31	-3.13	-13.00	-48.44
817.64	S	-61.12	-63.68	5.47	-2.90	-13.00	-48.12
3424.80	H	-57.19	-63.23	12.27	-6.23	-13.00	-44.19

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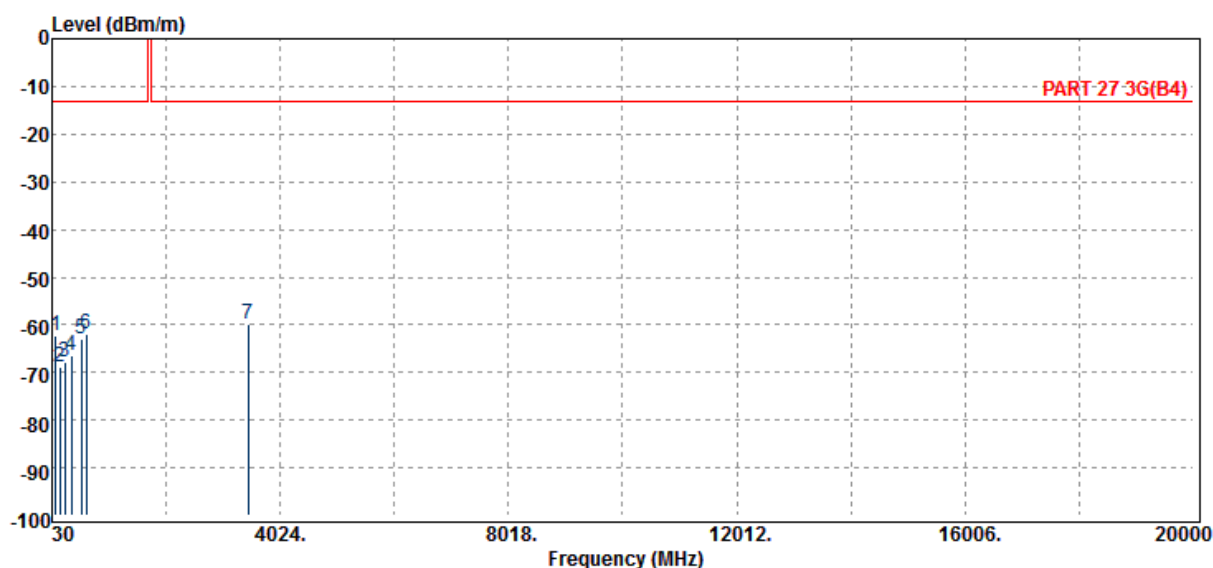
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Operation Band	:HSDPA B4	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:1732.6 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID		
EUT Pol.	:H Plane	Measurement Antenna	:VERTICAL
		Pol.	



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
91.11	S	-62.35	-62.71	1.58	-1.21	-13.00	-49.35
165.80	S	-68.89	-68.33	0.94	-1.50	-13.00	-55.89
248.25	S	-67.86	-71.67	5.56	-1.75	-13.00	-54.86
366.59	S	-66.56	-70.38	6.00	-2.17	-13.00	-53.56
536.34	S	-62.88	-66.12	5.81	-2.56	-13.00	-49.88
626.55	S	-61.92	-64.77	5.34	-2.49	-13.00	-48.92
3465.20	H	-59.71	-65.81	12.34	-6.25	-13.00	-46.71

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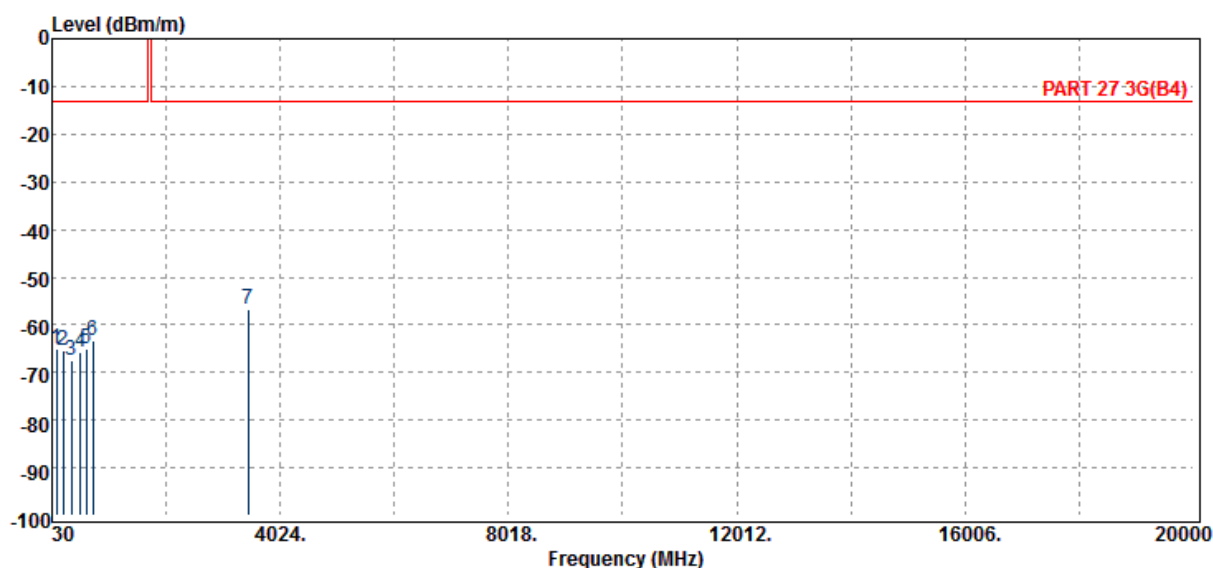
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f (886-2) 2298-0488

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Operation Band :HSDPA B4 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :1732.6 MHz Engineer :Tin  
Operation Mode :Tx CH MID  
EUT Pol. :H Plane Measurement Antenna :HORIZONTAL  
Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
104.69	S	-65.00	-63.84	0.11	-1.27	-13.00	-52.00
222.06	S	-65.24	-68.97	5.43	-1.71	-13.00	-52.24
362.71	S	-67.32	-71.18	6.00	-2.15	-13.00	-54.32
521.79	S	-65.58	-69.06	5.89	-2.41	-13.00	-52.58
631.40	S	-65.22	-68.08	5.33	-2.46	-13.00	-52.22
750.71	S	-63.25	-65.51	5.33	-3.07	-13.00	-50.25
3465.20	H	-56.84	-62.94	12.34	-6.25	-13.00	-43.84

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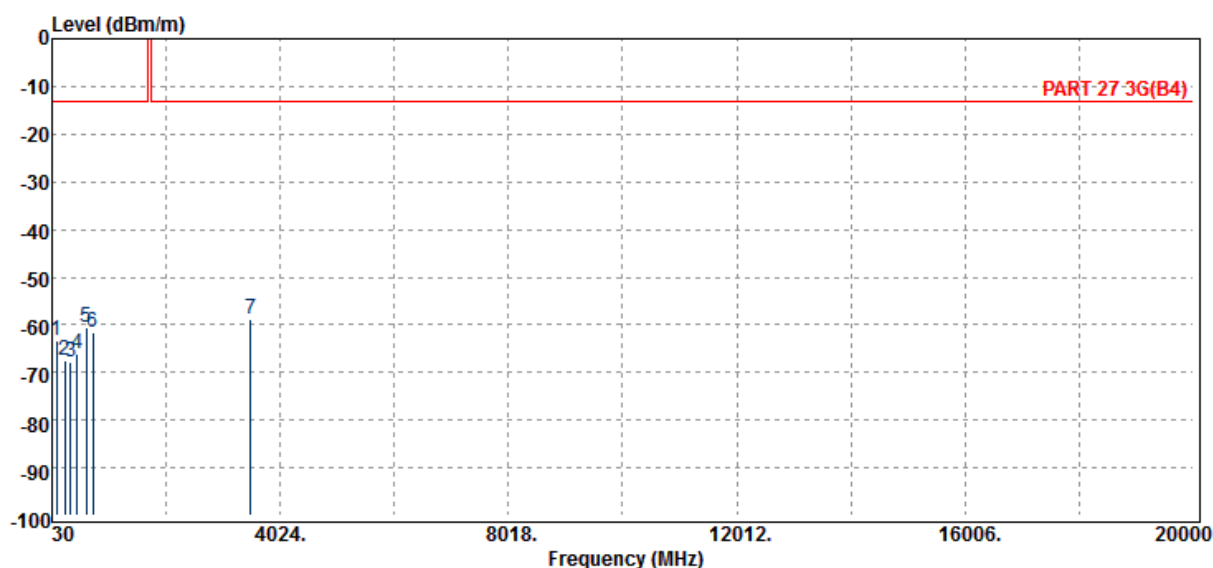
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Operation Band :HSDPA B4 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :1752.6 MHz Engineer :Tin  
Operation Mode :Tx CH HIGH  
EUT Pol. :H Plane Measurement Antenna :VERTICAL  
Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
103.72	S	-63.30	-62.23	0.20	-1.26	-13.00	-50.30
248.25	S	-67.62	-71.43	5.56	-1.75	-13.00	-54.62
359.80	S	-67.96	-71.84	6.00	-2.12	-13.00	-54.96
473.29	S	-66.14	-69.81	5.90	-2.23	-13.00	-53.14
631.40	S	-60.57	-63.43	5.33	-2.46	-13.00	-47.57
744.89	S	-61.44	-63.65	5.32	-3.11	-13.00	-48.44
3505.20	H	-58.73	-64.67	12.40	-6.47	-13.00	-45.73

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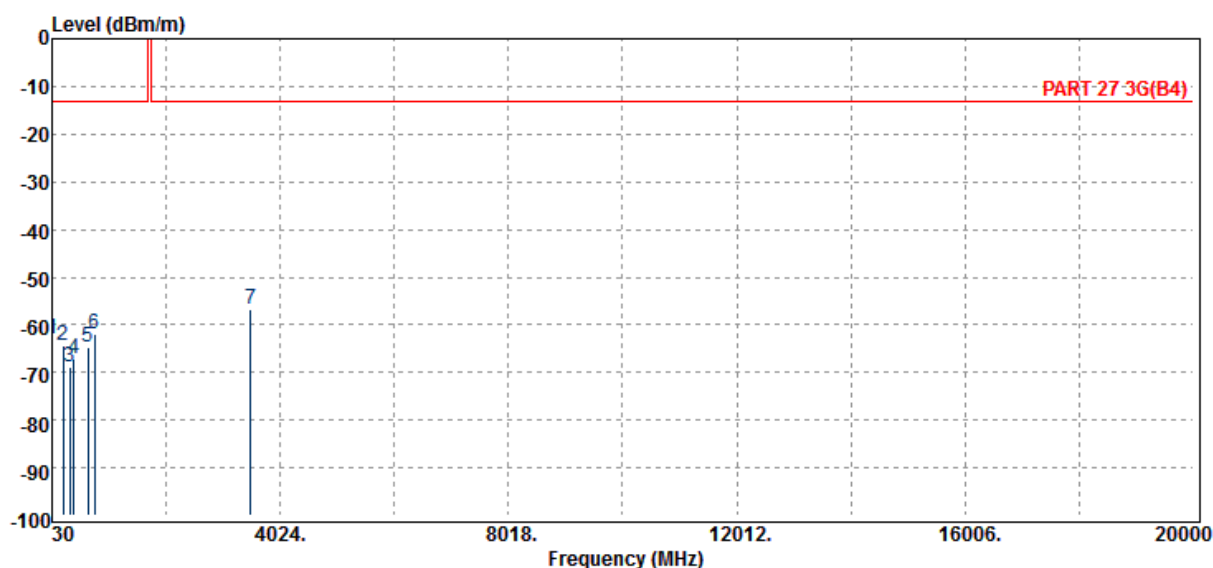
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Operation Band :HSDPA B4 Temp./Humi. :21 deg\_C / 62 RH  
Fundamental Frequency :1752.6 MHz Engineer :Tin  
Operation Mode :Tx CH HIGH  
EUT Pol. :H Plane Measurement Antenna :HORIZONTAL  
Pol.



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
37.76	S	-63.12	-50.97	-11.17	-0.98	-13.00	-50.12
224.00	S	-64.41	-68.09	5.39	-1.71	-13.00	-51.41
335.55	S	-69.01	-73.02	5.95	-1.93	-13.00	-56.01
410.24	S	-67.26	-70.80	5.93	-2.40	-13.00	-54.26
658.56	S	-64.57	-67.47	5.28	-2.38	-13.00	-51.57
772.05	S	-61.86	-64.33	5.40	-2.94	-13.00	-48.86
3505.20	H	-56.87	-62.80	12.40	-6.47	-13.00	-43.87

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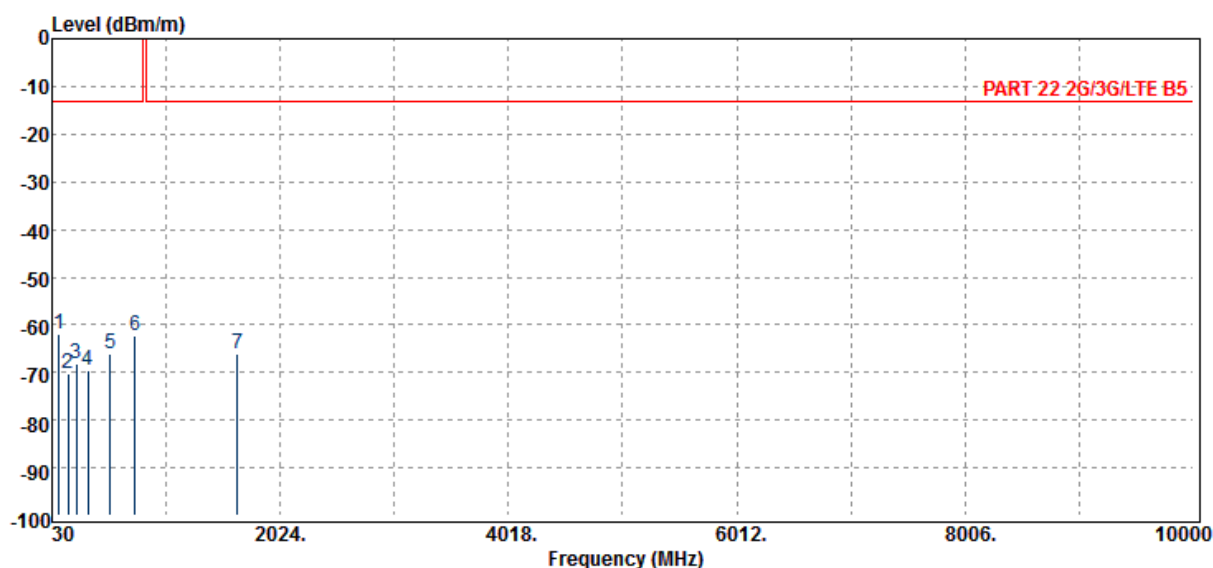
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# Radiated Spurious Emission Measurement Result: WCDMA Band 5 Mode (The Worst Case)

Operation Band	:HSDPA B5	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:826.4 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW		
EUT Pol.	:E2 Plane	Measurement Antenna	:VERTICAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
93.05	S	-61.83	-59.80	-0.81	-1.22	-13.00	-48.83
168.71	S	-70.41	-67.89	-1.00	-1.51	-13.00	-57.41
243.40	S	-68.22	-69.81	3.34	-1.75	-13.00	-55.22
342.34	S	-69.42	-71.26	3.83	-1.99	-13.00	-56.42
542.16	S	-66.09	-67.10	3.63	-2.62	-13.00	-53.09
757.50	S	-62.16	-62.33	3.21	-3.03	-13.00	-49.16
1652.80	H	-65.97	-68.86	7.12	-4.24	-13.00	-52.97

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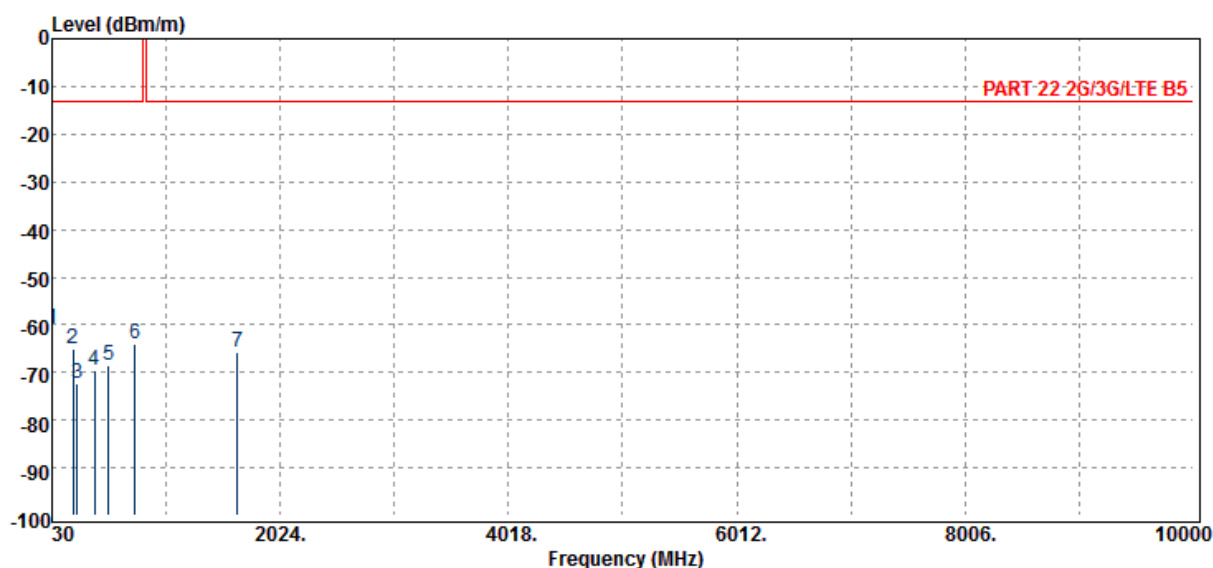
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Operation Band	:HSDPA B5	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:826.4 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW		
EUT Pol.	:E2 Plane	Measurement Antenna	:HORIZONTAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
30.00	S	-60.84	-45.10	-14.78	-0.96	-13.00	-47.84
217.21	S	-64.92	-66.60	3.38	-1.69	-13.00	-51.92
249.22	S	-72.26	-73.93	3.43	-1.76	-13.00	-59.26
400.54	S	-69.58	-71.02	3.82	-2.38	-13.00	-56.58
522.76	S	-68.52	-69.83	3.73	-2.42	-13.00	-55.52
757.50	S	-64.04	-64.22	3.21	-3.03	-13.00	-51.04
1652.80	H	-65.89	-68.77	7.12	-4.24	-13.00	-52.89

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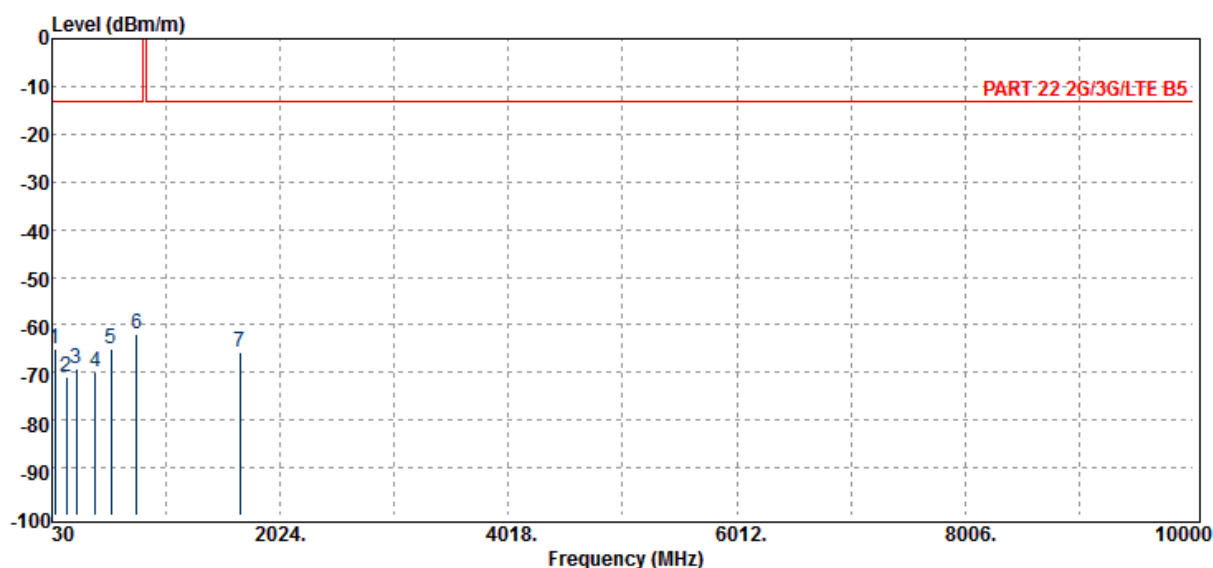
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Operation Band	:HSDPA B5	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:836.6 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID		
EUT Pol.	:E2 Plane	Measurement Antenna	:VERTICAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
54.25	S	-64.96	-53.72	-10.18	-1.06	-13.00	-51.96
158.04	S	-70.77	-67.57	-1.73	-1.47	-13.00	-57.77
239.52	S	-69.21	-70.74	3.28	-1.74	-13.00	-56.21
411.21	S	-69.86	-71.25	3.78	-2.39	-13.00	-56.86
548.95	S	-65.15	-66.06	3.59	-2.69	-13.00	-52.15
769.14	S	-62.09	-62.38	3.24	-2.96	-13.00	-49.09
1673.20	H	-65.68	-68.59	7.20	-4.29	-13.00	-52.68

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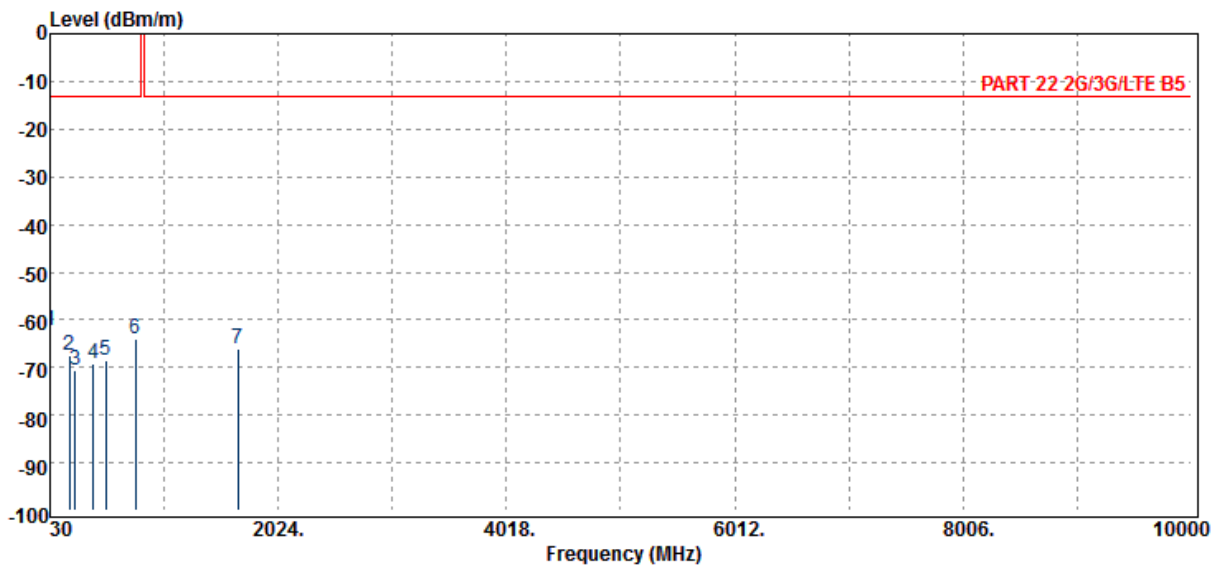
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Operation Band	:HSDPA B5	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:836.6 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID		
EUT Pol.	:E2 Plane	Measurement Antenna	:HORIZONTAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
30.00	S	-62.19	-46.45	-14.78	-0.96	-13.00	-49.19
202.66	S	-67.38	-68.95	3.22	-1.65	-13.00	-54.38
248.25	S	-70.64	-72.30	3.41	-1.75	-13.00	-57.64
408.30	S	-69.10	-70.48	3.79	-2.41	-13.00	-56.10
517.91	S	-68.60	-69.99	3.76	-2.37	-13.00	-55.60
773.99	S	-63.89	-64.22	3.26	-2.93	-13.00	-50.89
1673.20	H	-65.98	-68.89	7.20	-4.29	-13.00	-52.98

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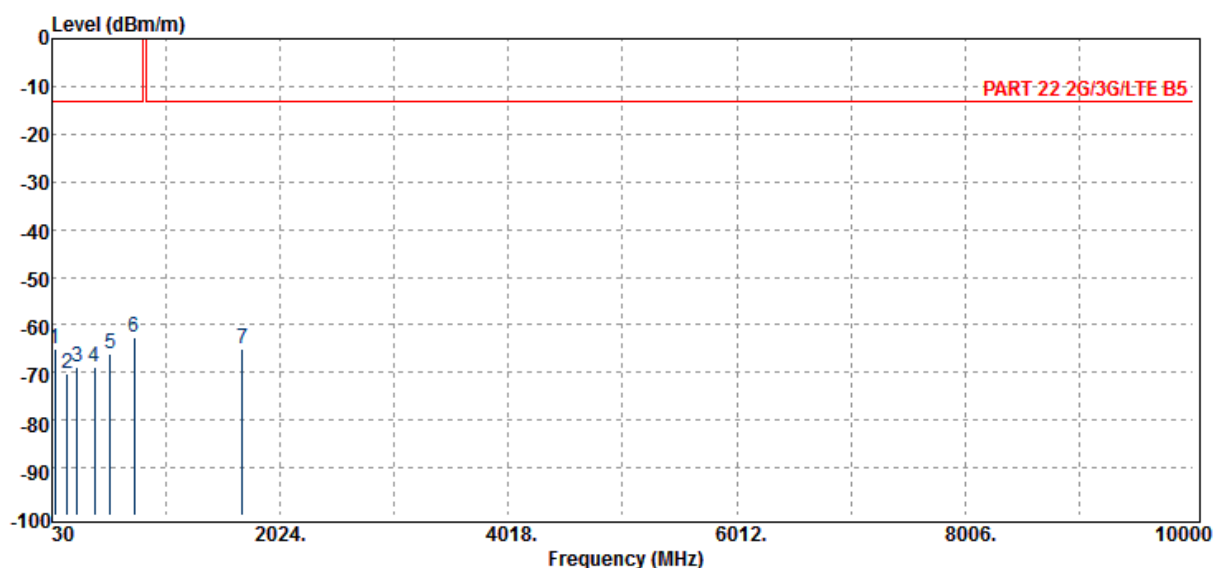
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Operation Band	:HSDPA B5	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:846.6 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH		
EUT Pol.	:E2 Plane	Measurement Antenna	:VERTICAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
54.25	S	-65.05	-53.80	-10.18	-1.06	-13.00	-52.05
159.98	S	-70.15	-67.03	-1.64	-1.48	-13.00	-57.15
248.25	S	-68.98	-70.64	3.41	-1.75	-13.00	-55.98
403.45	S	-68.84	-70.25	3.81	-2.40	-13.00	-55.84
541.19	S	-65.92	-66.94	3.63	-2.61	-13.00	-52.92
745.86	S	-62.56	-62.63	3.17	-3.10	-13.00	-49.56
1693.20	H	-65.12	-68.09	7.27	-4.30	-13.00	-52.12

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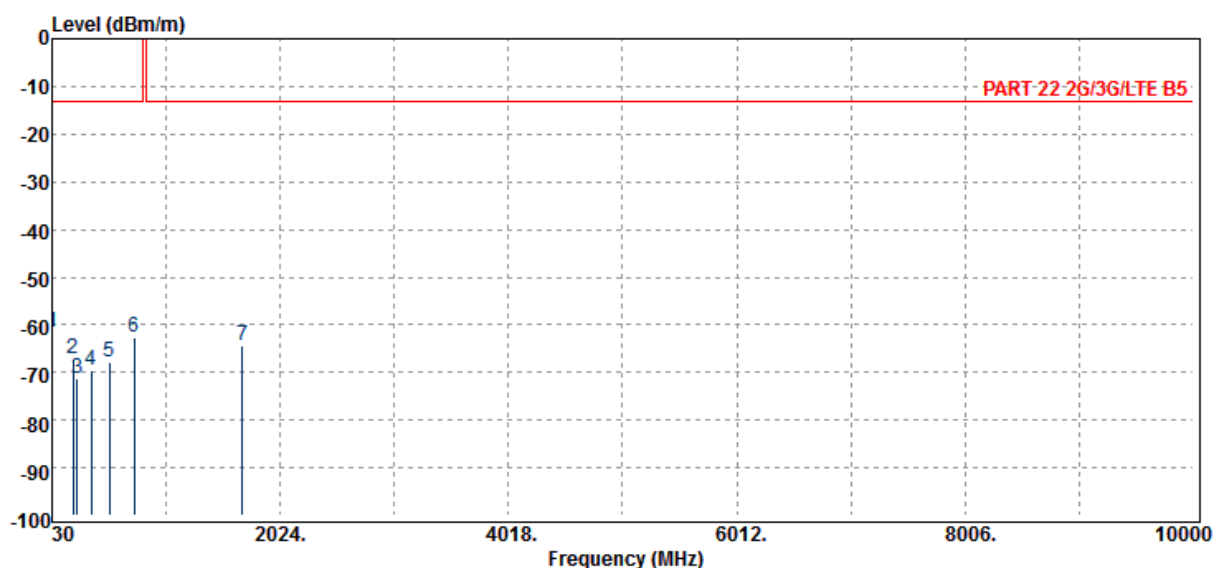
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Operation Band	:HSDPA B5	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:846.6 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH		
EUT Pol.	:E2 Plane	Measurement Antenna	:HORIZONTAL
		Pol.	



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
30.00	S	-61.49	-45.76	-14.78	-0.96	-13.00	-48.49
216.24	S	-67.06	-68.77	3.40	-1.69	-13.00	-54.06
250.19	S	-71.44	-73.13	3.44	-1.76	-13.00	-58.44
371.44	S	-69.58	-71.22	3.84	-2.21	-13.00	-56.58
529.55	S	-67.90	-69.10	3.70	-2.49	-13.00	-54.90
744.89	S	-62.80	-62.86	3.17	-3.11	-13.00	-49.80
1693.20	H	-64.39	-67.35	7.27	-4.30	-13.00	-51.39

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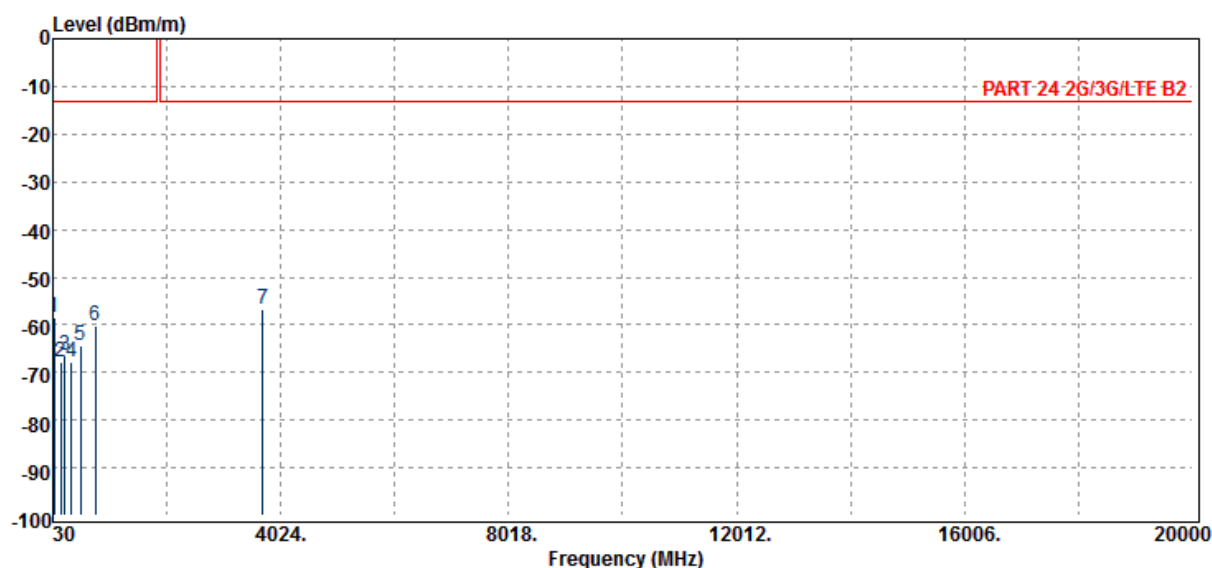
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# Radiated Spurious Emission Measurement Result: LTE-Band 2 (The Worst Case)

Operation Band	:LTE B2	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1855.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW		
EUT Pol.	:H Plane	Measurement Antenna	:VERTICAL
		Pol.	



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
54.25	S	-58.37	-49.27	-8.03	-1.06	-13.00	-45.37
165.80	S	-67.65	-67.09	0.94	-1.50	-13.00	-54.65
239.52	S	-66.53	-70.22	5.43	-1.74	-13.00	-53.53
361.74	S	-67.81	-71.68	6.00	-2.14	-13.00	-54.81
517.91	S	-64.22	-67.76	5.91	-2.37	-13.00	-51.22
773.99	S	-60.19	-62.67	5.41	-2.93	-13.00	-47.19
3710.00	H	-56.77	-62.64	12.44	-6.58	-13.00	-43.77

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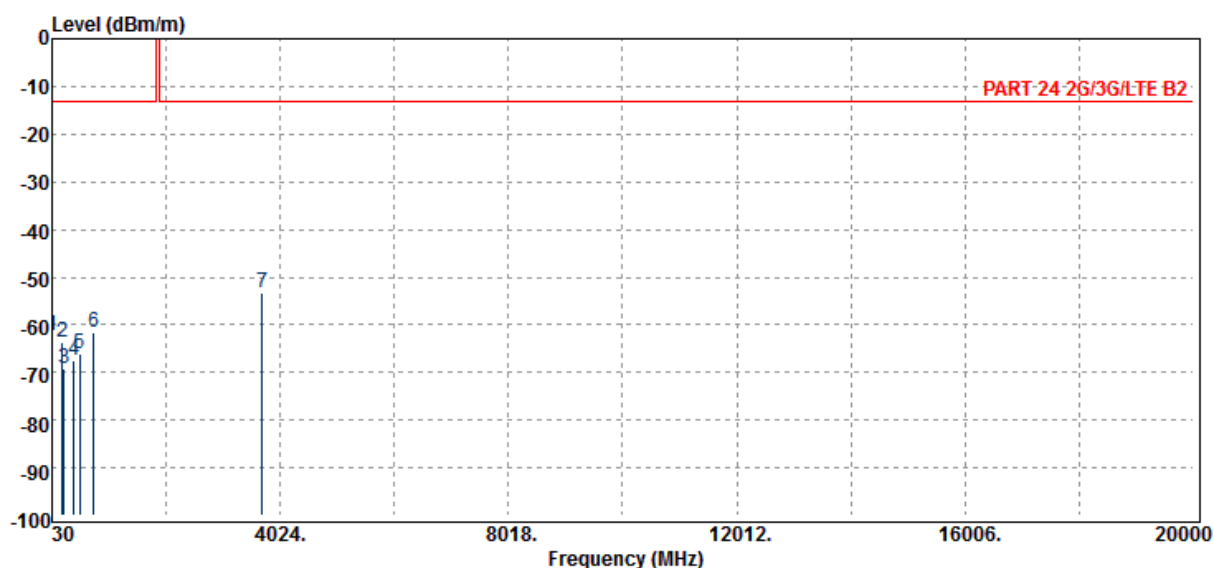
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Operation Band	:LTE B2	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1855.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-62.39	-48.80	-12.63	-0.96	-13.00	-49.39
207.51	S	-63.59	-67.50	5.57	-1.66	-13.00	-50.59
246.31	S	-69.12	-72.91	5.53	-1.75	-13.00	-56.12
410.24	S	-67.35	-70.88	5.93	-2.40	-13.00	-54.35
516.94	S	-66.22	-69.77	5.91	-2.37	-13.00	-53.22
764.29	S	-61.49	-63.88	5.38	-2.99	-13.00	-48.49
3710.00	H	-53.22	-59.09	12.44	-6.58	-13.00	-40.22

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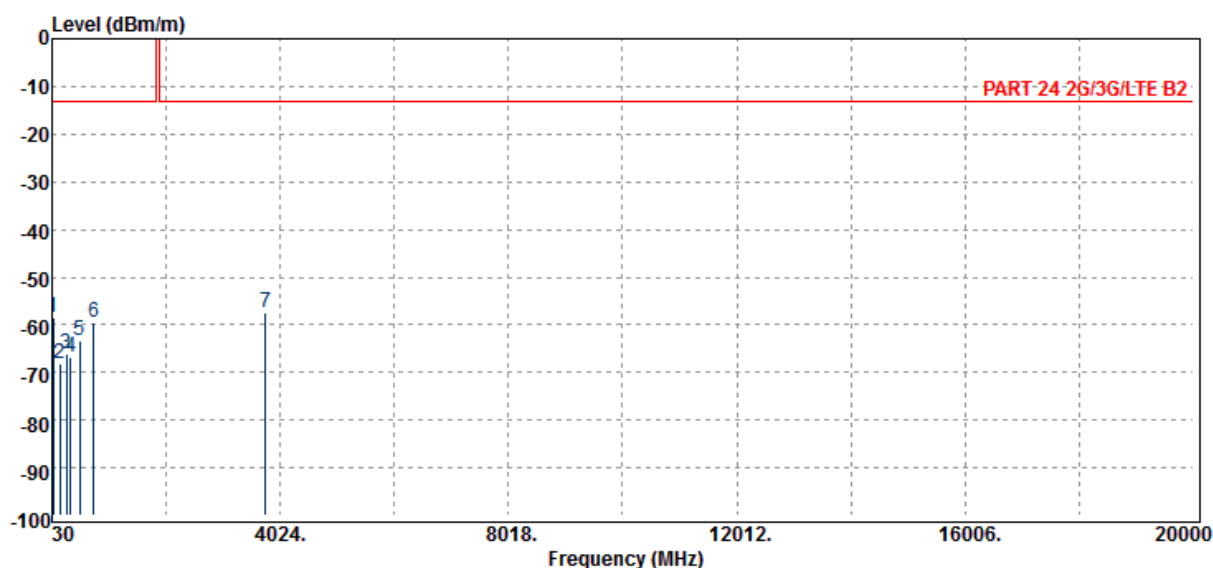
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Operation Band	:LTE B2	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1880.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
54.25	S	-58.63	-49.53	-8.03	-1.06	-13.00	-45.63
168.71	S	-68.09	-67.72	1.15	-1.51	-13.00	-55.09
282.20	S	-66.02	-69.71	5.57	-1.89	-13.00	-53.02
361.74	S	-66.72	-70.59	6.00	-2.14	-13.00	-53.72
517.91	S	-63.35	-66.89	5.91	-2.37	-13.00	-50.35
755.56	S	-59.67	-61.97	5.35	-3.04	-13.00	-46.67
3760.00	H	-57.35	-63.20	12.45	-6.60	-13.00	-44.35

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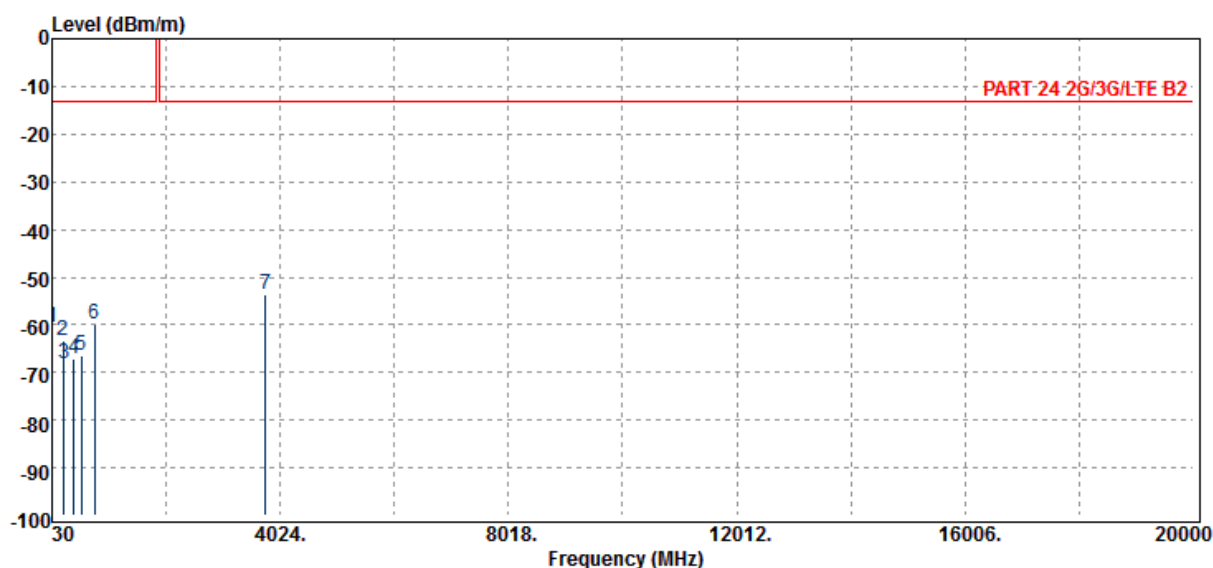
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Operation Band	:LTE B2	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1880.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-60.47	-46.88	-12.63	-0.96	-13.00	-47.47
219.15	S	-63.37	-67.17	5.49	-1.70	-13.00	-50.37
240.49	S	-68.01	-71.71	5.44	-1.74	-13.00	-55.01
406.36	S	-66.99	-70.52	5.95	-2.42	-13.00	-53.99
539.25	S	-66.46	-69.66	5.79	-2.59	-13.00	-53.46
770.11	S	-59.96	-62.40	5.40	-2.95	-13.00	-46.96
3760.00	H	-53.72	-59.58	12.45	-6.60	-13.00	-40.72

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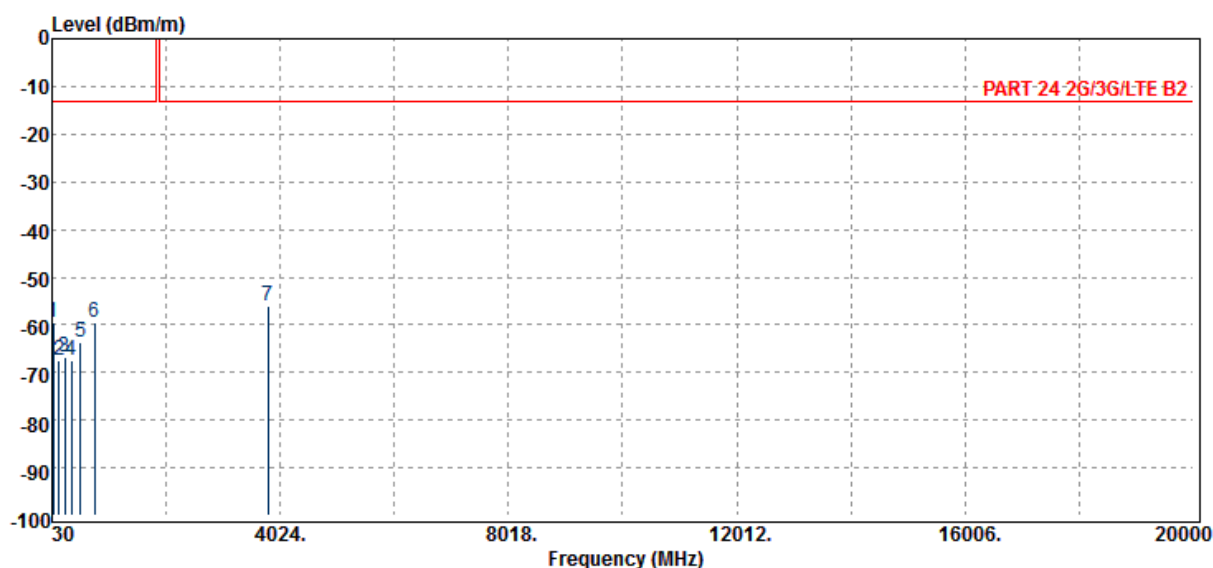
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Operation Band	:LTE B2	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1905.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
54.25	S	-59.35	-50.25	-8.03	-1.06	-13.00	-46.35
159.01	S	-67.50	-66.50	0.47	-1.47	-13.00	-54.50
248.25	S	-66.91	-70.72	5.56	-1.75	-13.00	-53.91
376.29	S	-67.48	-71.23	5.99	-2.24	-13.00	-54.48
527.61	S	-63.64	-67.02	5.86	-2.47	-13.00	-50.64
769.14	S	-59.40	-61.83	5.39	-2.96	-13.00	-46.40
3810.00	H	-56.10	-61.95	12.46	-6.62	-13.00	-43.10

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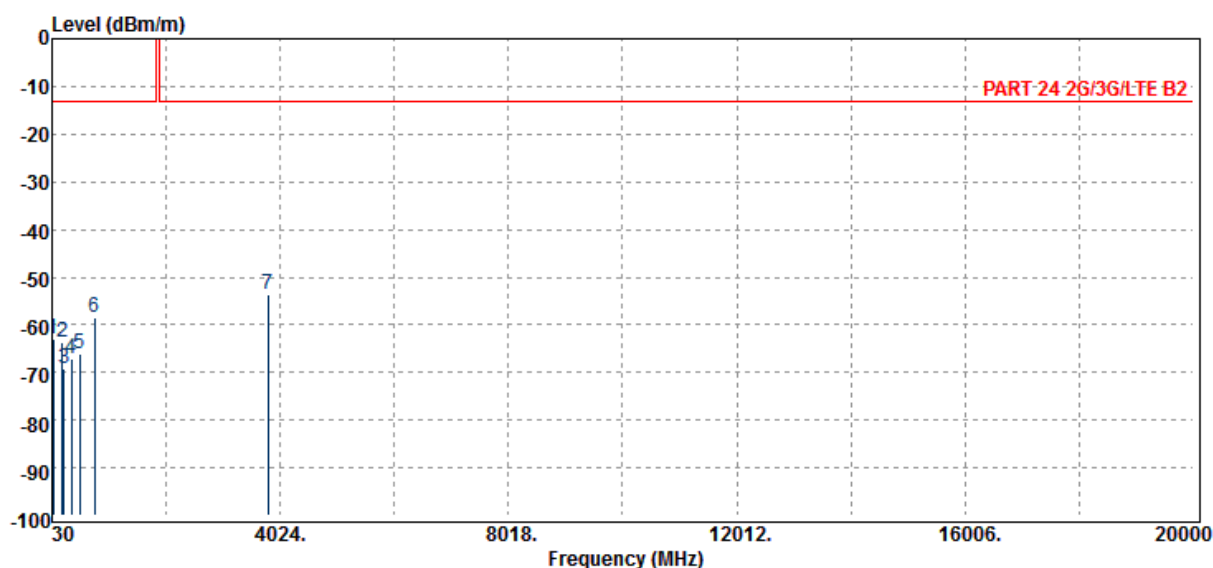
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Operation Band	:LTE B2	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1905.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
54.25	S	-62.84	-53.75	-8.03	-1.06	-13.00	-49.84
207.51	S	-63.52	-67.43	5.57	-1.66	-13.00	-50.52
246.31	S	-69.22	-73.00	5.53	-1.75	-13.00	-56.22
366.59	S	-67.08	-70.90	6.00	-2.17	-13.00	-54.08
517.91	S	-66.18	-69.72	5.91	-2.37	-13.00	-53.18
773.99	S	-58.35	-60.83	5.41	-2.93	-13.00	-45.35
3810.00	H	-53.50	-59.34	12.46	-6.62	-13.00	-40.50

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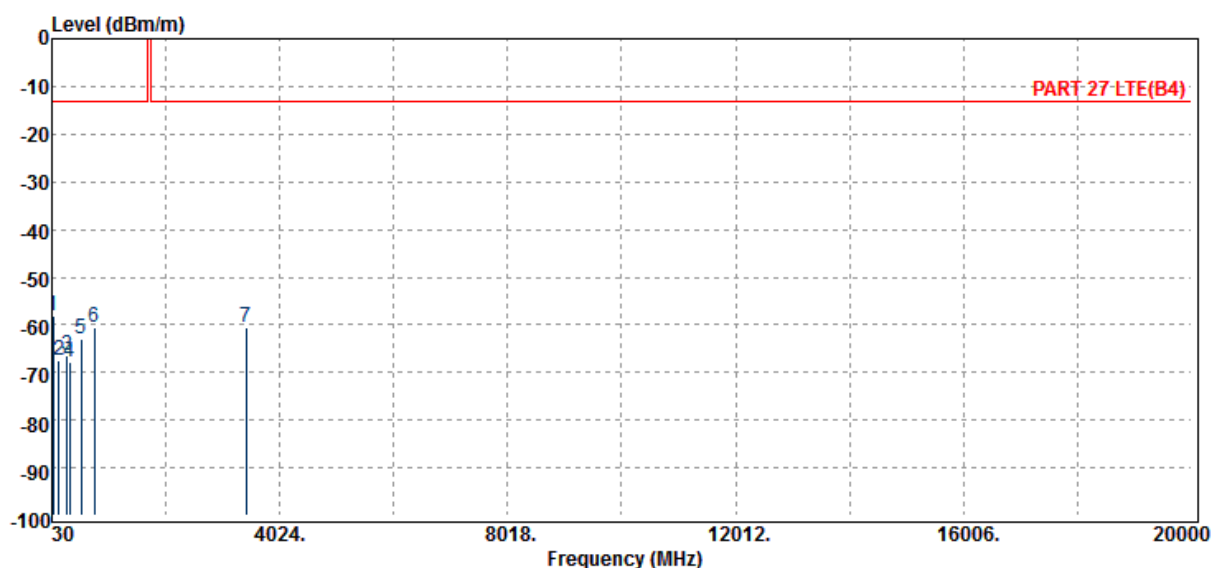
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**Radiated Spurious Emission Measurement Result: LTE-Band 4 (The Worst Case)**

Operation Band	:LTE B4	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1715 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
54.25	S	-57.97	-48.87	-8.03	-1.06	-13.00	-44.97
154.16	S	-67.57	-66.36	0.25	-1.45	-13.00	-54.57
296.75	S	-66.54	-70.30	5.71	-1.95	-13.00	-53.54
337.49	S	-67.69	-71.69	5.95	-1.95	-13.00	-54.69
537.31	S	-62.85	-66.08	5.80	-2.57	-13.00	-49.85
773.99	S	-60.54	-63.02	5.41	-2.93	-13.00	-47.54
3440.00	H	-60.50	-66.58	12.30	-6.22	-13.00	-47.50

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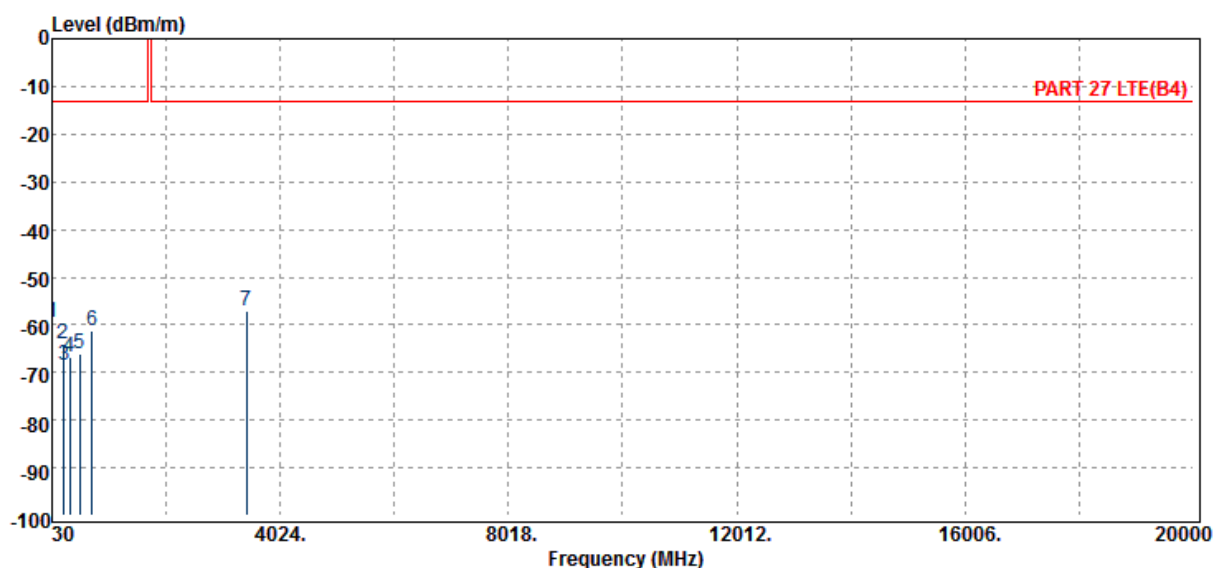
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Operation Band	:LTE B4	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1715 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-59.57	-45.98	-12.63	-0.96	-13.00	-46.57
220.12	S	-63.85	-67.62	5.48	-1.70	-13.00	-50.85
239.52	S	-68.59	-72.28	5.43	-1.74	-13.00	-55.59
335.55	S	-66.62	-70.63	5.95	-1.93	-13.00	-53.62
519.85	S	-66.00	-69.50	5.90	-2.39	-13.00	-53.00
733.25	S	-61.17	-63.35	5.30	-3.12	-13.00	-48.17
3440.00	H	-56.93	-63.01	12.30	-6.22	-13.00	-43.93

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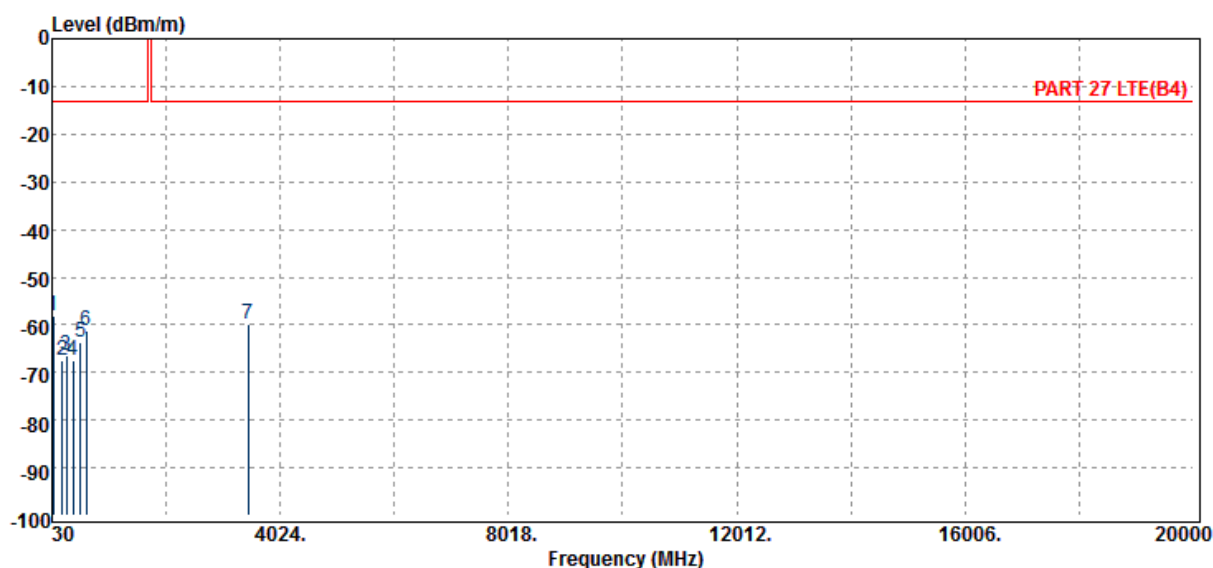
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Operation Band	:LTE B4	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
54.25	S	-58.11	-49.02	-8.03	-1.06	-13.00	-45.11
212.36	S	-67.34	-71.29	5.63	-1.68	-13.00	-54.34
285.11	S	-66.45	-70.13	5.58	-1.90	-13.00	-53.45
400.54	S	-67.52	-71.10	5.97	-2.38	-13.00	-54.52
527.61	S	-63.75	-67.14	5.86	-2.47	-13.00	-50.75
624.61	S	-61.08	-63.92	5.34	-2.51	-13.00	-48.08
3465.00	H	-59.88	-65.98	12.34	-6.25	-13.00	-46.88

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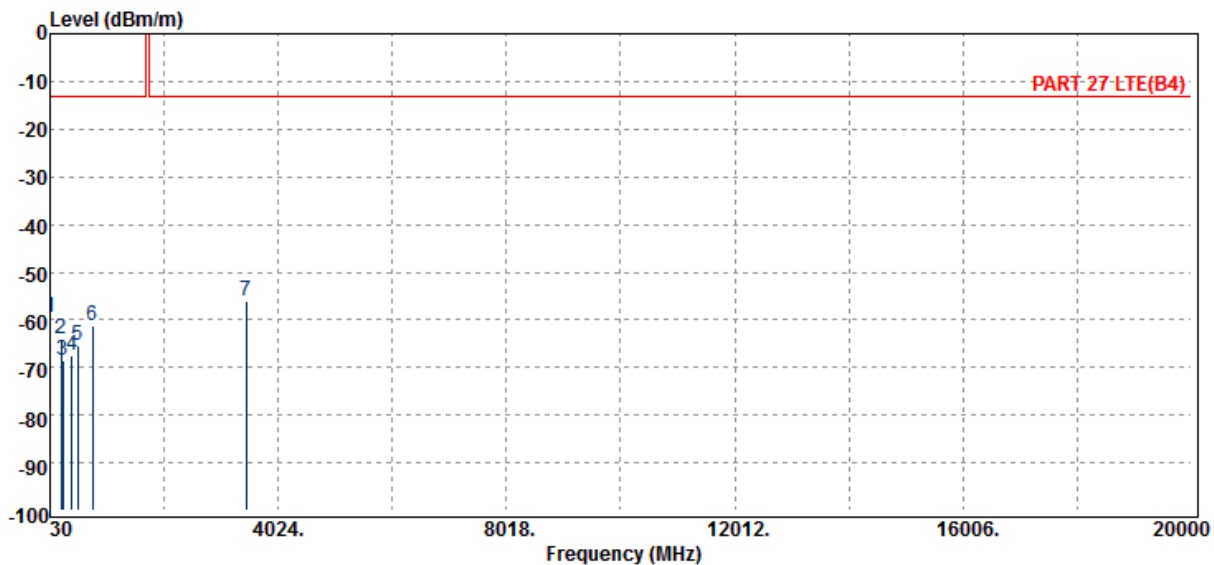
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Operation Band	:LTE B4	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-59.41	-45.82	-12.63	-0.96	-13.00	-46.41
219.15	S	-63.89	-67.69	5.49	-1.70	-13.00	-50.89
251.16	S	-68.57	-72.43	5.62	-1.76	-13.00	-55.57
410.24	S	-67.45	-70.99	5.93	-2.40	-13.00	-54.45
519.85	S	-65.41	-68.92	5.90	-2.39	-13.00	-52.41
770.11	S	-61.15	-63.60	5.40	-2.95	-13.00	-48.15
3465.00	H	-56.10	-62.20	12.34	-6.25	-13.00	-43.10

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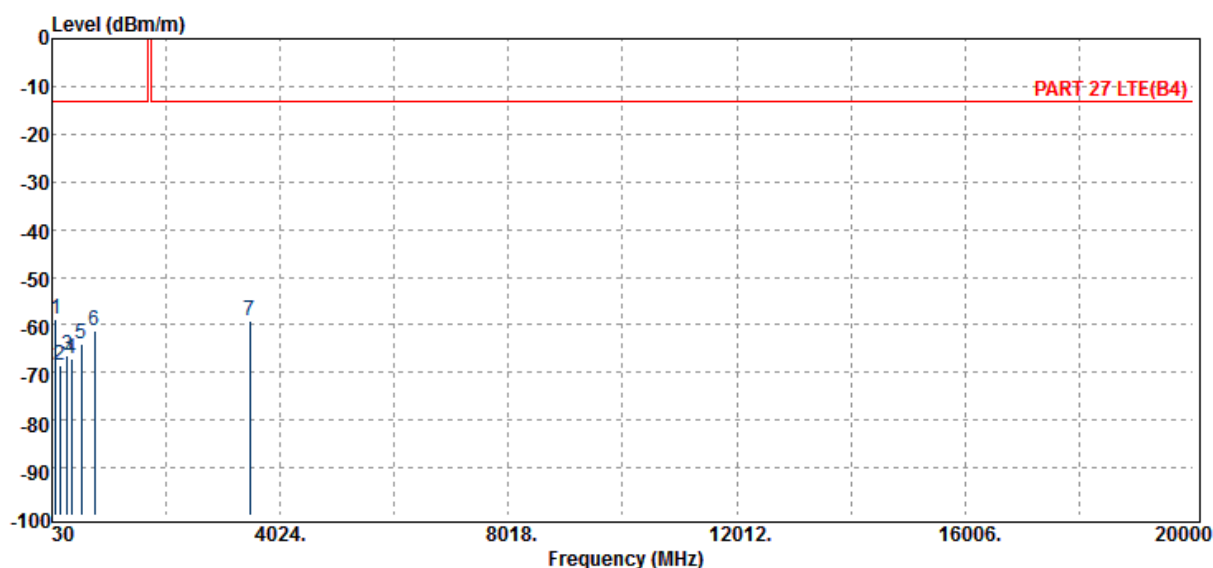
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Operation Band	:LTE B4	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1750 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
95.96	S	-58.99	-58.75	0.99	-1.23	-13.00	-45.99
165.80	S	-68.51	-67.95	0.94	-1.50	-13.00	-55.51
294.81	S	-66.26	-69.99	5.67	-1.94	-13.00	-53.26
369.50	S	-67.25	-71.05	6.00	-2.20	-13.00	-54.25
542.16	S	-63.87	-67.03	5.78	-2.62	-13.00	-50.87
774.96	S	-61.14	-63.63	5.41	-2.92	-13.00	-48.14
3490.00	H	-59.03	-65.06	12.38	-6.35	-13.00	-46.03

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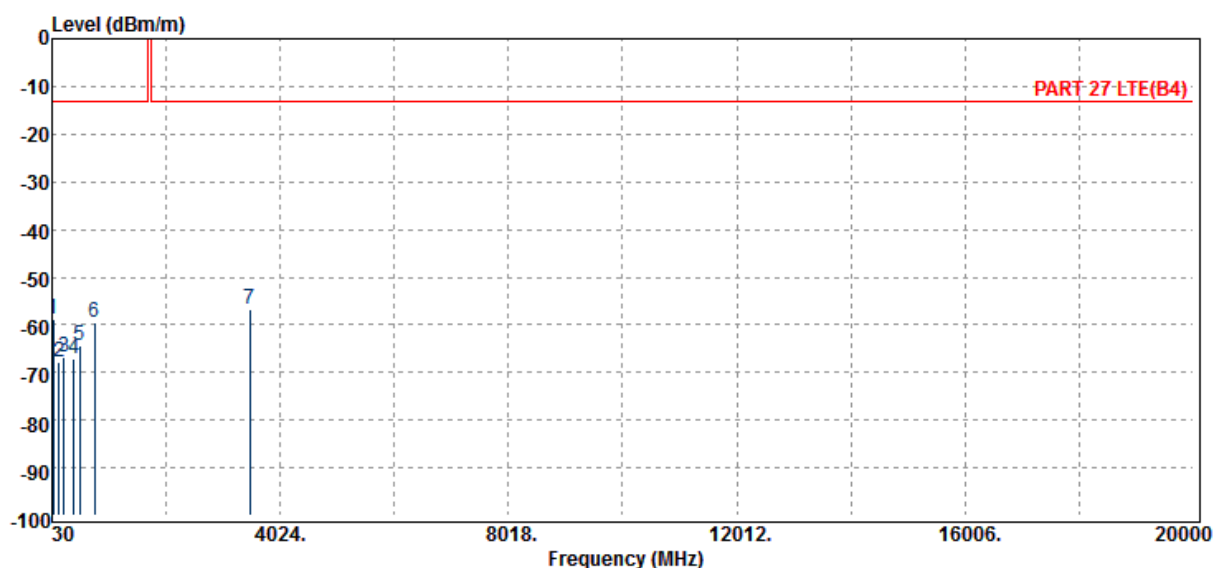
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Operation Band	:LTE B4	Temp./Humi.	:23 deg_C / 62 RH
Fundamental Frequency	:1750 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	10M QPSK RB 1,0
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
54.25	S	-58.84	-49.75	-8.03	-1.06	-13.00	-45.84
154.16	S	-67.88	-66.68	0.25	-1.45	-13.00	-54.88
239.52	S	-66.66	-70.35	5.43	-1.74	-13.00	-53.66
415.09	S	-67.15	-70.70	5.92	-2.37	-13.00	-54.15
519.85	S	-64.29	-67.79	5.90	-2.39	-13.00	-51.29
769.14	S	-59.44	-61.87	5.39	-2.96	-13.00	-46.44
3490.00	H	-56.78	-62.81	12.38	-6.35	-13.00	-43.78

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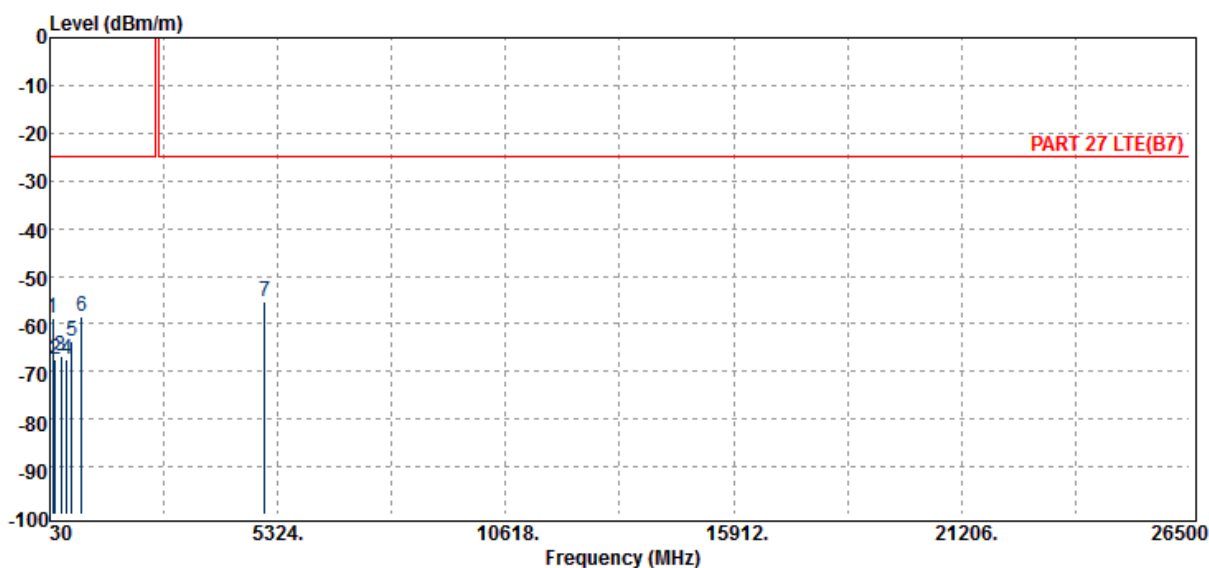
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# Radiated Spurious Emission Measurement Result: LTE-Band 7 (The Worst Case)

Operation Band	:LTE B7	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:2507.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode:	15M 16QAM RB 1,74
EUT Pol.	:H Plane	Measurement Pol.	Antenna :VERTICAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
94.99	S	-58.75	-58.63	1.11	-1.23	-25.00	-33.75
158.04	S	-67.59	-66.55	0.42	-1.47	-25.00	-42.59
294.81	S	-66.91	-70.63	5.67	-1.94	-25.00	-41.91
419.94	S	-67.37	-70.94	5.90	-2.33	-25.00	-42.37
537.31	S	-63.71	-66.95	5.80	-2.57	-25.00	-38.71
772.05	S	-58.53	-60.99	5.40	-2.94	-25.00	-33.53
5015.00	H	-55.26	-60.15	12.71	-7.81	-25.00	-30.26

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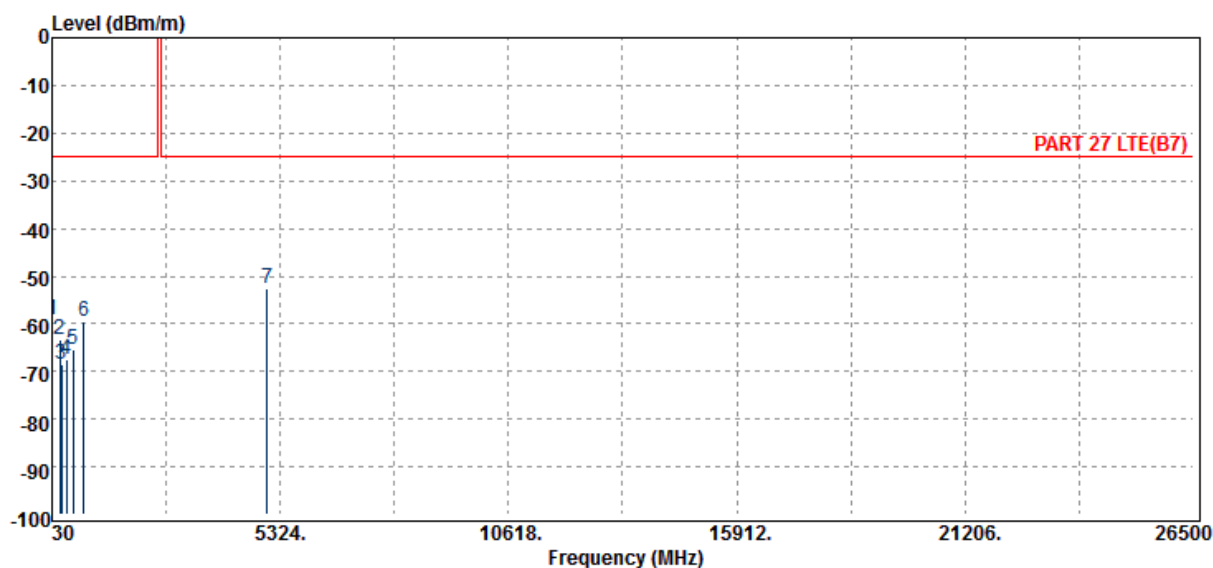
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Operation Band	:LTE B7	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:2507.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode:	15M 16QAM RB 1,74
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-59.08	-45.49	-12.63	-0.96	-25.00	-34.08
220.12	S	-63.27	-67.04	5.48	-1.70	-25.00	-38.27
251.16	S	-68.47	-72.33	5.62	-1.76	-25.00	-43.47
372.41	S	-67.40	-71.18	5.99	-2.21	-25.00	-42.40
519.85	S	-65.34	-68.85	5.90	-2.39	-25.00	-40.34
769.14	S	-59.64	-62.07	5.39	-2.96	-25.00	-34.64
5015.00	H	-52.58	-57.48	12.71	-7.81	-25.00	-27.58

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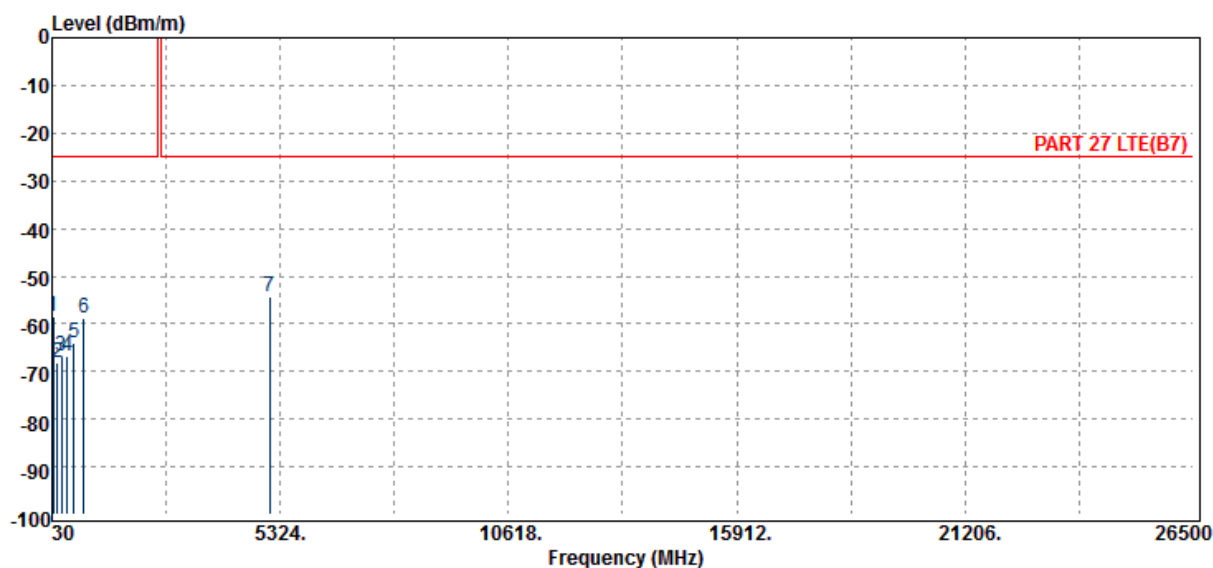
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Operation Band	:LTE B7	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:2535.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	15M 16QAM RB 1,74
EUT Pol.	:H Plane	Measurement Pol.	Antenna :VERTICAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
53.28	S	-58.51	-49.16	-8.29	-1.06	-25.00	-33.51
153.19	S	-68.00	-66.76	0.20	-1.44	-25.00	-43.00
241.46	S	-66.93	-70.65	5.46	-1.74	-25.00	-41.93
390.84	S	-66.67	-70.32	5.98	-2.33	-25.00	-41.67
529.55	S	-63.90	-67.26	5.85	-2.49	-25.00	-38.90
769.14	S	-58.88	-61.32	5.39	-2.96	-25.00	-33.88
5070.00	H	-54.29	-59.16	12.73	-7.86	-25.00	-29.29

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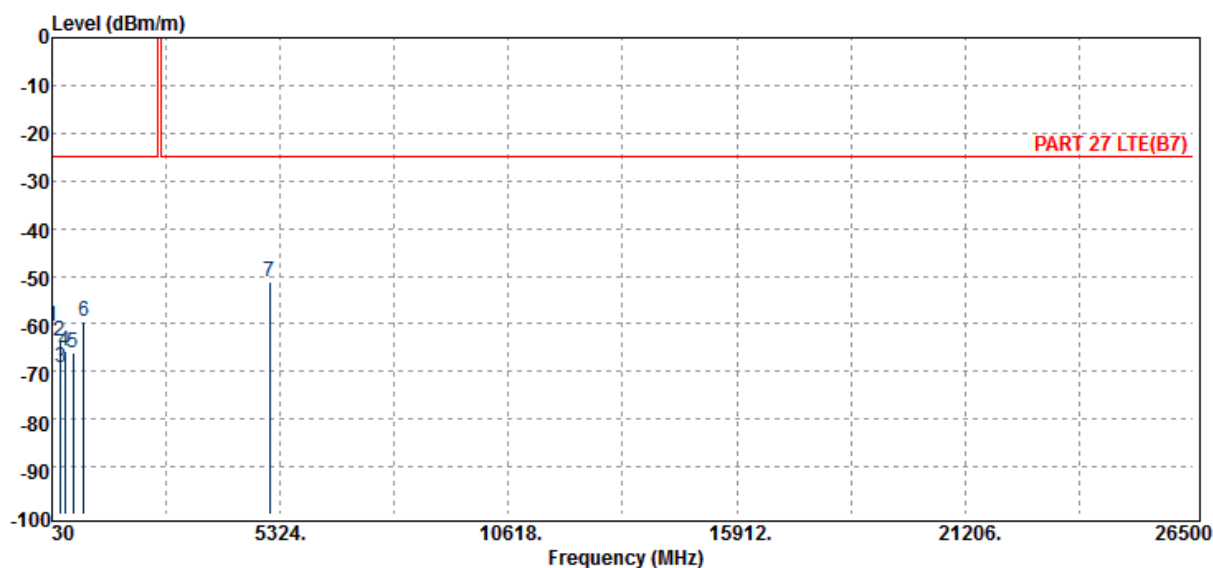
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Operation Band	:LTE B7	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:2535.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	15M 16QAM RB 1,74
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-60.50	-46.91	-12.63	-0.96	-25.00	-35.50
216.24	S	-63.59	-67.45	5.55	-1.69	-25.00	-38.59
240.49	S	-69.17	-72.87	5.44	-1.74	-25.00	-44.17
335.55	S	-65.81	-69.83	5.95	-1.93	-25.00	-40.81
516.94	S	-66.10	-69.65	5.91	-2.37	-25.00	-41.10
769.14	S	-59.40	-61.84	5.39	-2.96	-25.00	-34.40
5070.00	H	-51.09	-55.96	12.73	-7.86	-25.00	-26.09

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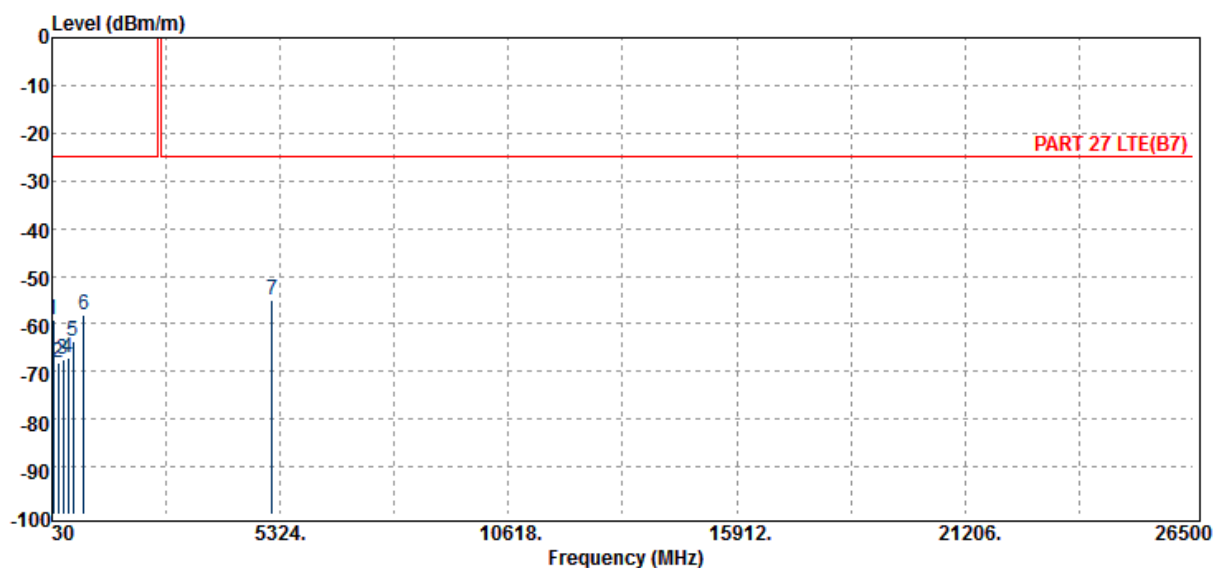
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Operation Band	:LTE B7	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:2562.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	15M 16QAM RB 1,74
EUT Pol.	:H Plane	Measurement Pol.	Antenna :VERTICAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
52.31	S	-59.17	-49.56	-8.55	-1.05	-25.00	-34.17
178.41	S	-68.14	-69.34	2.76	-1.55	-25.00	-43.14
288.99	S	-67.51	-71.17	5.58	-1.92	-25.00	-42.51
396.66	S	-67.16	-70.77	5.97	-2.36	-25.00	-42.16
512.09	S	-63.50	-67.09	5.94	-2.35	-25.00	-38.50
773.99	S	-58.07	-60.56	5.41	-2.93	-25.00	-33.07
5125.00	H	-54.96	-59.81	12.75	-7.91	-25.00	-29.96

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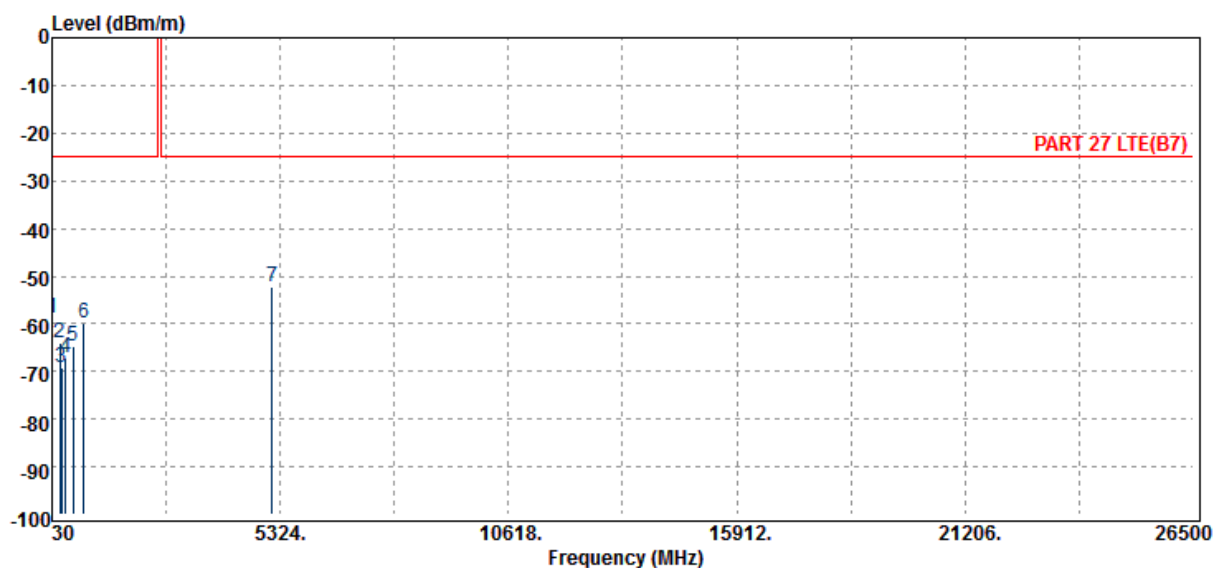
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Operation Band	:LTE B7	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:2562.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	15M 16QAM RB 1,74
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-58.71	-45.12	-12.63	-0.96	-25.00	-33.71
220.12	S	-64.14	-67.91	5.48	-1.70	-25.00	-39.14
243.40	S	-69.11	-72.85	5.49	-1.75	-25.00	-44.11
340.40	S	-67.07	-71.07	5.97	-1.97	-25.00	-42.07
513.06	S	-64.80	-68.38	5.94	-2.35	-25.00	-39.80
772.05	S	-59.82	-62.28	5.40	-2.94	-25.00	-34.82
5125.00	H	-52.17	-57.02	12.75	-7.91	-25.00	-27.17

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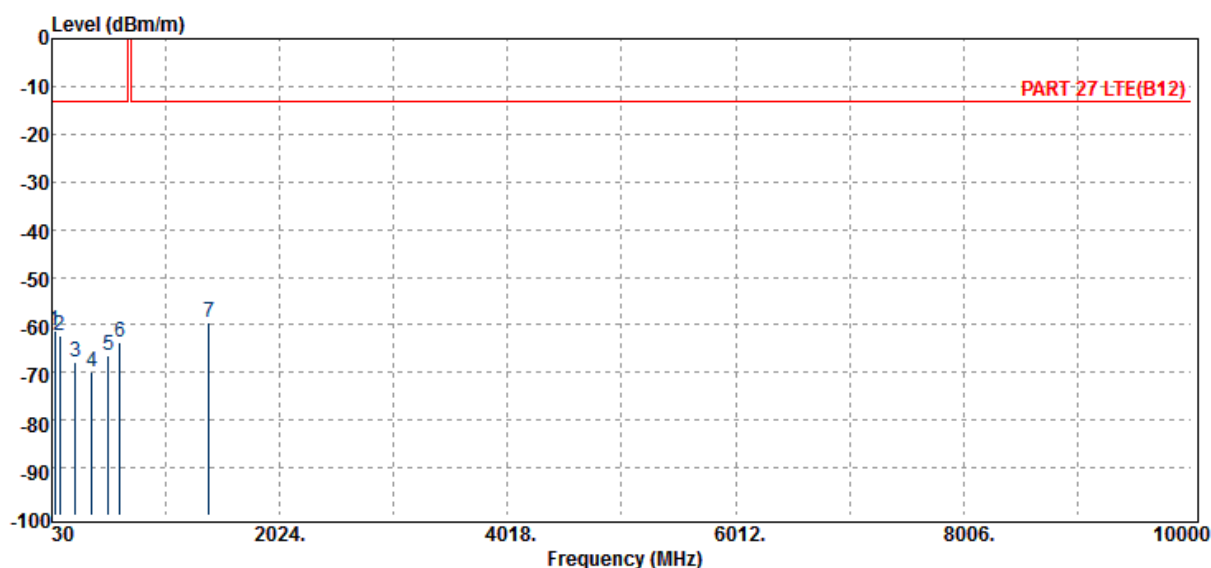
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# Radiated Spurious Emission Measurement Result: LTE-Band 12 (The Worst Case)

Operation Band	:LTE B12	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:700.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode:	3M QPSK RB 1,14
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:VERTICAL



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
55.22	S	-61.23	-50.23	-9.93	-1.06	-13.00	-48.23
94.99	S	-62.21	-59.94	-1.04	-1.23	-13.00	-49.21
236.61	S	-67.70	-69.19	3.23	-1.73	-13.00	-54.70
379.20	S	-69.91	-71.49	3.84	-2.26	-13.00	-56.91
522.76	S	-66.34	-67.66	3.73	-2.42	-13.00	-53.34
621.70	S	-63.60	-64.26	3.20	-2.53	-13.00	-50.60
1401.00	H	-59.60	-63.98	8.28	-3.89	-13.00	-46.60

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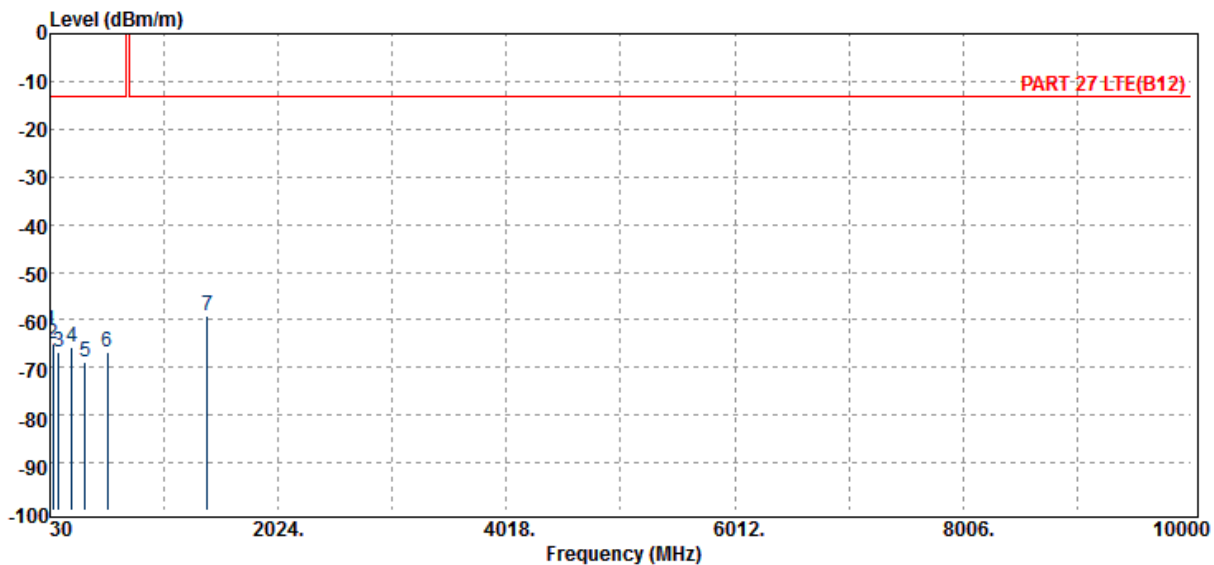
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Operation Band	:LTE B12	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:700.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode:	3M QPSK RB 1,14
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
30.00	S	-62.42	-46.69	-14.78	-0.96	-13.00	-49.42
54.25	S	-64.94	-53.69	-10.18	-1.06	-13.00	-51.94
102.75	S	-66.78	-63.65	-1.87	-1.26	-13.00	-53.78
219.15	S	-65.80	-67.44	3.34	-1.70	-13.00	-52.80
337.49	S	-68.91	-70.77	3.80	-1.95	-13.00	-55.91
529.55	S	-66.87	-68.07	3.70	-2.49	-13.00	-53.87
1401.00	H	-59.18	-63.57	8.28	-3.89	-13.00	-46.18

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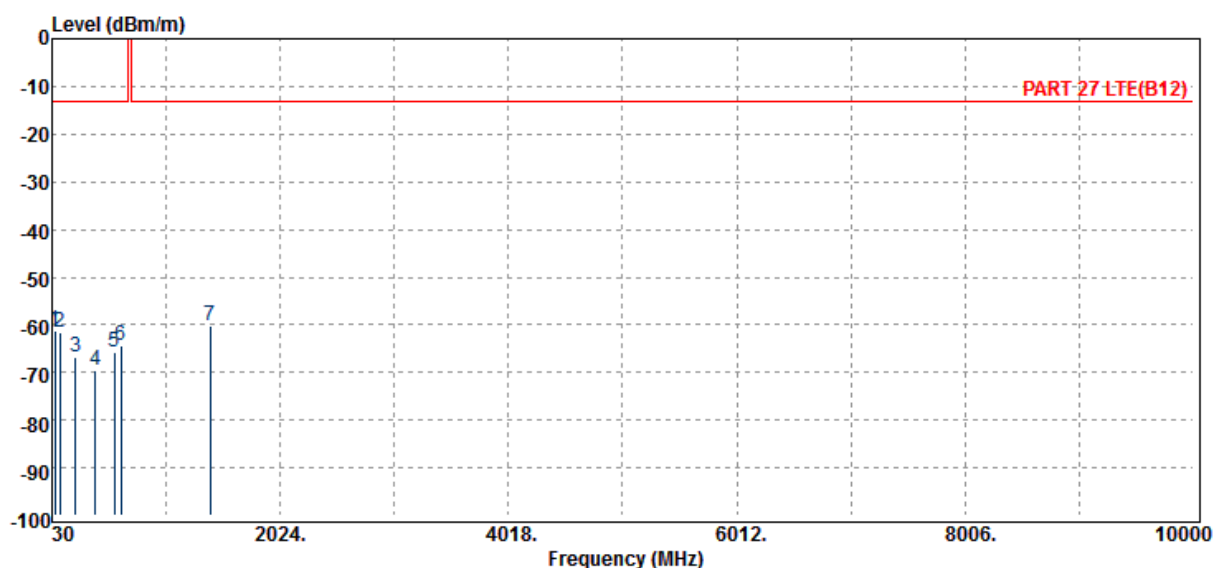
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Operation Band	:LTE B12	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:707.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	3M QPSK RB 1,14
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:VERTICAL



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
55.22	S	-61.18	-50.19	-9.93	-1.06	-13.00	-48.18
94.99	S	-61.74	-59.47	-1.04	-1.23	-13.00	-48.74
236.61	S	-66.94	-68.44	3.23	-1.73	-13.00	-53.94
408.30	S	-69.48	-70.86	3.79	-2.41	-13.00	-56.48
578.05	S	-65.73	-66.34	3.39	-2.78	-13.00	-52.73
634.31	S	-64.41	-65.12	3.17	-2.45	-13.00	-51.41
1415.00	H	-60.23	-64.66	8.34	-3.91	-13.00	-47.23

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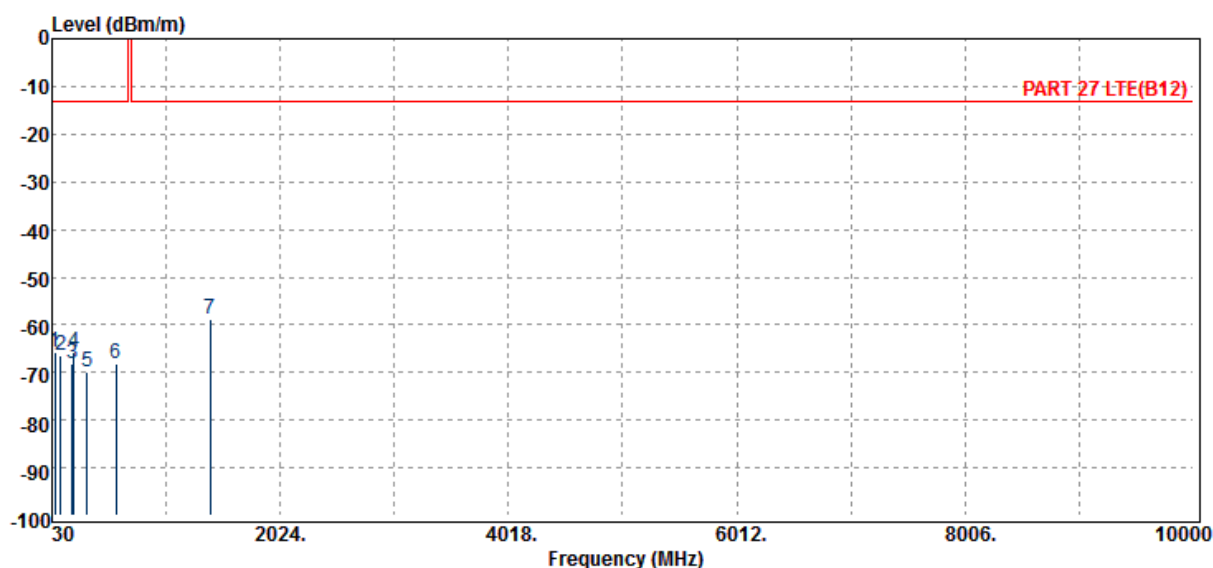
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Operation Band	:LTE B12	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:707.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	3M QPSK RB 1,14
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
54.25	S	-65.82	-54.57	-10.18	-1.06	-13.00	-52.82
102.75	S	-66.36	-63.23	-1.87	-1.26	-13.00	-53.36
204.60	S	-68.08	-69.72	3.30	-1.65	-13.00	-55.08
222.06	S	-65.61	-67.18	3.28	-1.71	-13.00	-52.61
338.46	S	-69.80	-71.65	3.81	-1.95	-13.00	-56.80
585.81	S	-68.11	-68.65	3.34	-2.79	-13.00	-55.11
1415.00	H	-58.78	-63.21	8.34	-3.91	-13.00	-45.78

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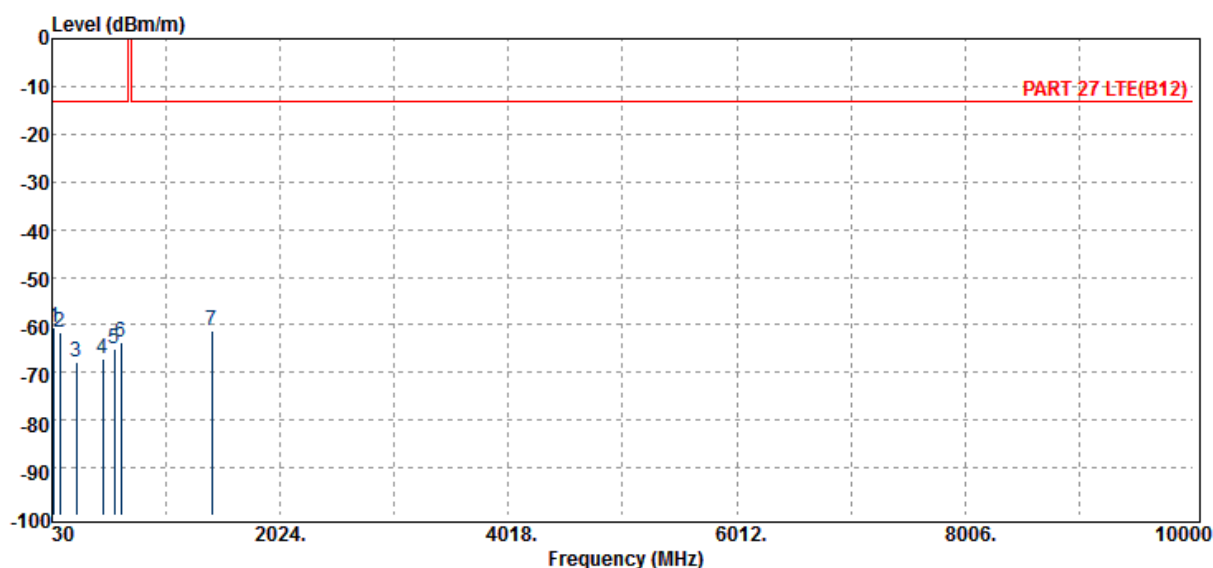
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Operation Band	:LTE B12	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:714.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	3M QPSK RB 1,14
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:VERTICAL



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
51.34	S	-60.45	-48.44	-10.97	-1.05	-13.00	-47.45
94.99	S	-61.62	-59.35	-1.04	-1.23	-13.00	-48.62
240.49	S	-67.65	-69.21	3.29	-1.74	-13.00	-54.65
473.29	S	-67.13	-68.65	3.75	-2.23	-13.00	-54.13
578.05	S	-65.01	-65.62	3.39	-2.78	-13.00	-52.01
634.31	S	-63.81	-64.53	3.17	-2.45	-13.00	-50.81
1429.00	H	-61.09	-65.56	8.40	-3.94	-13.00	-48.09

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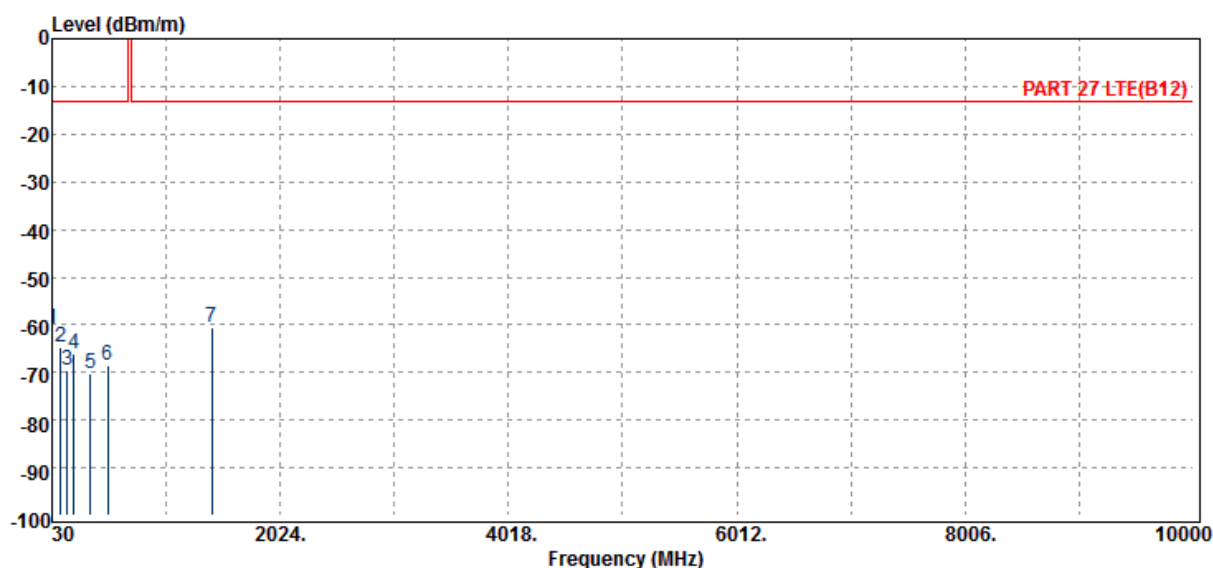
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Operation Band	:LTE B12	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:714.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	3M QPSK RB 1,14
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
30.00	S	-61.07	-45.34	-14.78	-0.96	-13.00	-48.07
103.72	S	-64.68	-61.46	-1.95	-1.26	-13.00	-51.68
160.95	S	-69.66	-66.61	-1.57	-1.48	-13.00	-56.66
219.15	S	-66.20	-67.84	3.34	-1.70	-13.00	-53.20
362.71	S	-70.29	-72.00	3.85	-2.15	-13.00	-57.29
517.91	S	-68.47	-69.86	3.76	-2.37	-13.00	-55.47
1429.00	H	-60.49	-64.95	8.40	-3.94	-13.00	-47.49

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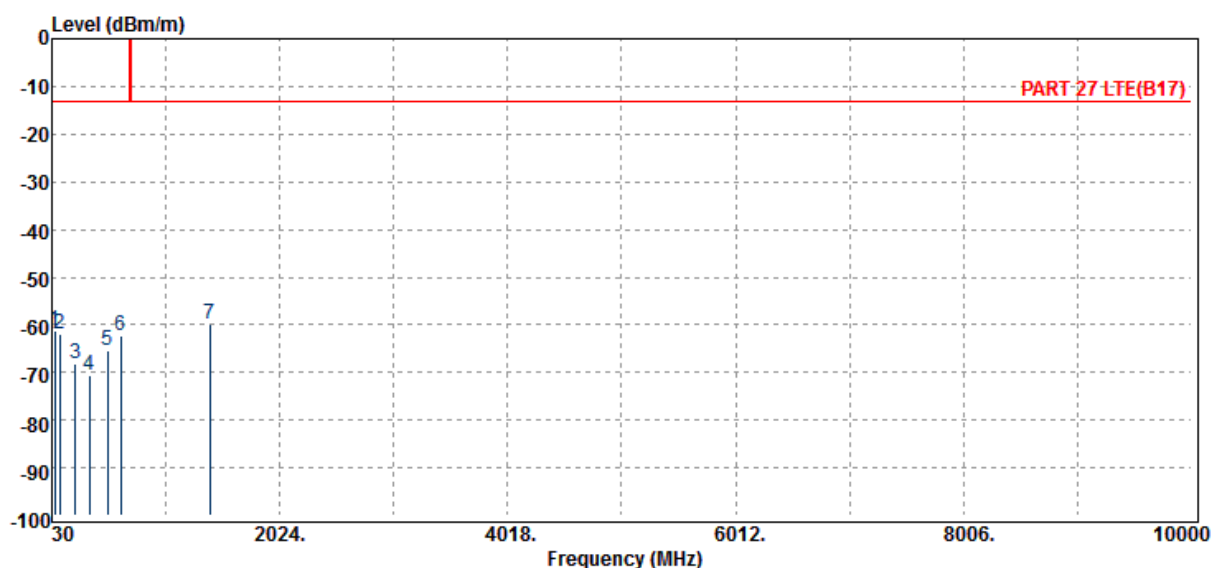
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## Radiated Spurious Emission Measurement Result: LTE-Band 17 (The Worst Case)

Operation Band	:LTE B17	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:706.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode:	5M 16QAM RB 1,24
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:VERTICAL



Freq. MHz	Note F/H/E/S	ERP dBm	SG Output Level dBm	Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
53.28	S	-61.15	-49.65	-10.44	-1.06	-13.00	-48.15
94.99	S	-61.98	-59.71	-1.04	-1.23	-13.00	-48.98
233.70	S	-68.20	-69.64	3.18	-1.73	-13.00	-55.20
356.89	S	-70.61	-72.36	3.86	-2.10	-13.00	-57.61
519.85	S	-65.55	-66.91	3.75	-2.39	-13.00	-52.55
633.34	S	-62.40	-63.12	3.17	-2.46	-13.00	-49.40
1413.00	H	-59.93	-64.35	8.33	-3.91	-13.00	-46.93

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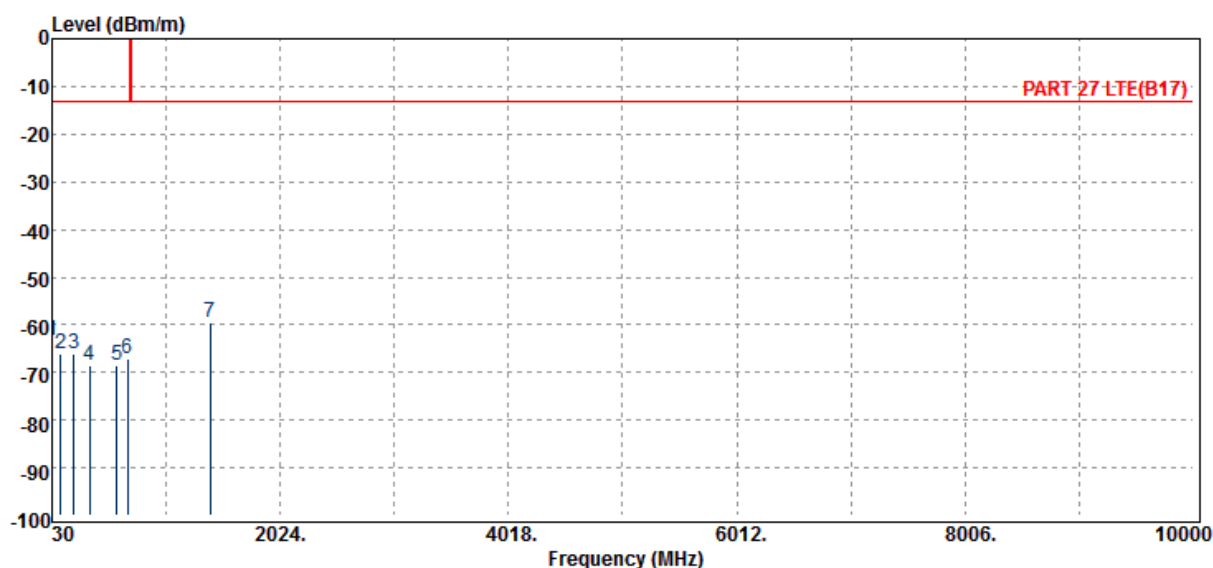
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Operation Band	:LTE B17	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:706.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode:	5M 16QAM RB 1,24
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
30.00	S	-63.35	-47.62	-14.78	-0.96	-13.00	-50.35
104.69	S	-66.07	-62.76	-2.04	-1.27	-13.00	-53.07
222.06	S	-65.93	-67.50	3.28	-1.71	-13.00	-52.93
357.86	S	-68.67	-70.42	3.85	-2.11	-13.00	-55.67
594.54	S	-68.45	-68.95	3.28	-2.78	-13.00	-55.45
686.69	S	-67.08	-67.43	3.10	-2.74	-13.00	-54.08
1413.00	H	-59.46	-63.88	8.33	-3.91	-13.00	-46.46

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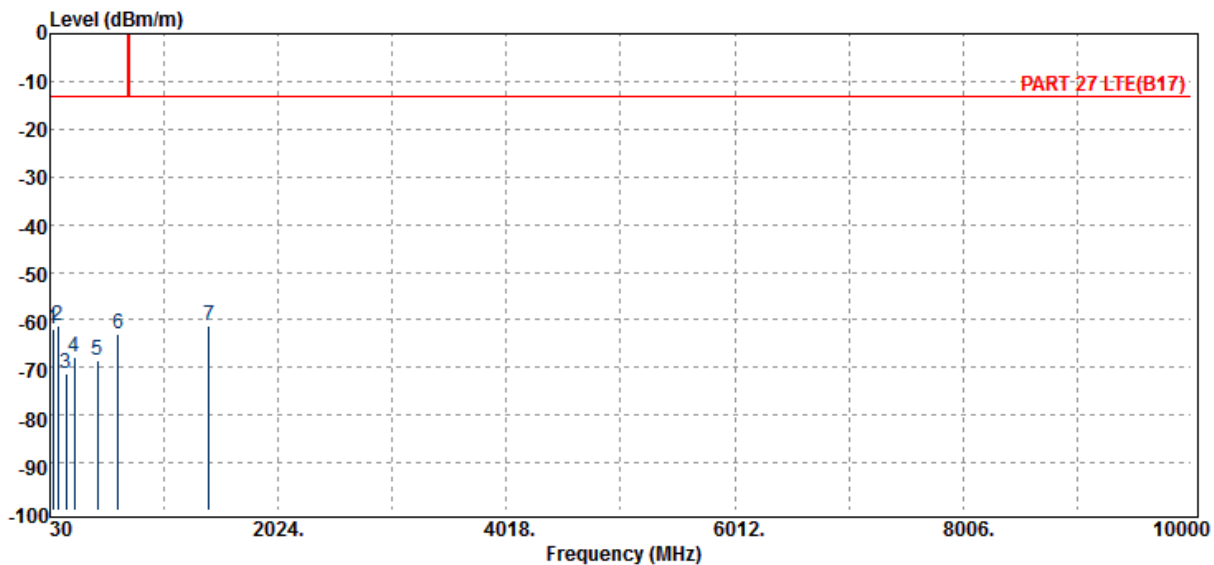
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Operation Band	:LTE B17	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:710.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	5M 16QAM RB 1,24
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:VERTICAL



Freq. MHz	Note F/H/E/S	ERP dBm	SG Output Level dBm	Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
54.25	S	-62.11	-50.86	-10.18	-1.06	-13.00	-49.11
95.96	S	-61.28	-58.89	-1.16	-1.23	-13.00	-48.28
172.59	S	-71.30	-69.33	-0.44	-1.53	-13.00	-58.30
245.34	S	-67.76	-69.38	3.37	-1.75	-13.00	-54.76
447.10	S	-68.36	-69.83	3.65	-2.19	-13.00	-55.36
626.55	S	-63.03	-63.73	3.19	-2.49	-13.00	-50.03
1420.00	H	-61.29	-65.73	8.36	-3.92	-13.00	-48.29

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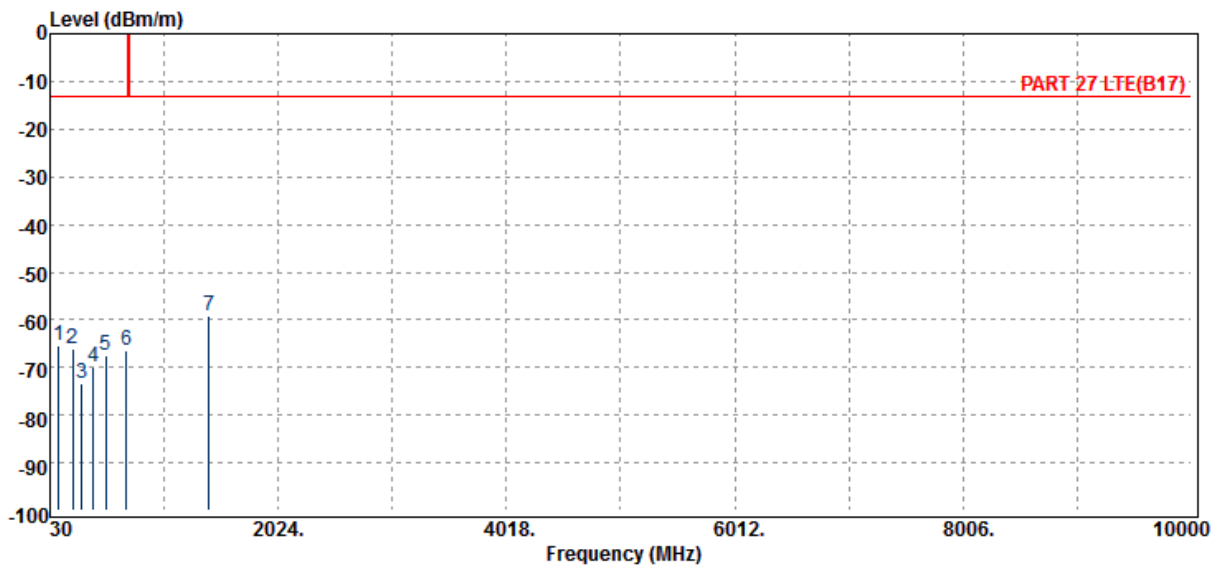
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Operation Band	:LTE B17	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:710.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode:	5M 16QAM RB 1,24
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
104.69	S	-65.32	-62.02	-2.04	-1.27	-13.00	-52.32
231.76	S	-65.93	-67.35	3.14	-1.73	-13.00	-52.93
308.39	S	-73.39	-75.12	3.67	-1.94	-13.00	-60.39
410.24	S	-70.00	-71.39	3.78	-2.40	-13.00	-57.00
519.85	S	-67.53	-68.89	3.75	-2.39	-13.00	-54.53
696.39	S	-66.32	-66.49	3.09	-2.91	-13.00	-53.32
1420.00	H	-59.15	-63.58	8.36	-3.92	-13.00	-46.15

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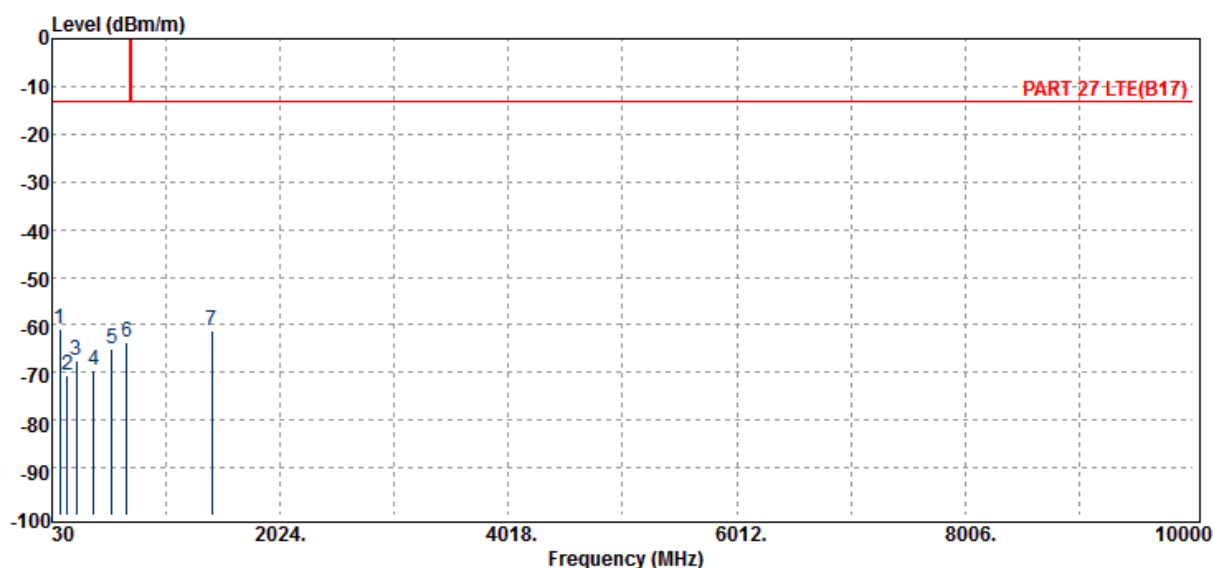
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Operation Band	:LTE B17	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:713.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	5M 16QAM RB 1,24
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:VERTICAL



Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBd	Loss dB	dBm	dB
95.96	S	-60.95	-58.56	-1.16	-1.23	-13.00	-47.95
165.80	S	-70.57	-67.86	-1.21	-1.50	-13.00	-57.57
243.40	S	-67.53	-69.12	3.34	-1.75	-13.00	-54.53
395.69	S	-69.63	-71.10	3.82	-2.35	-13.00	-56.63
555.74	S	-64.96	-65.76	3.55	-2.75	-13.00	-51.96
684.75	S	-63.74	-64.13	3.10	-2.70	-13.00	-50.74
1427.00	H	-61.21	-65.66	8.39	-3.93	-13.00	-48.21

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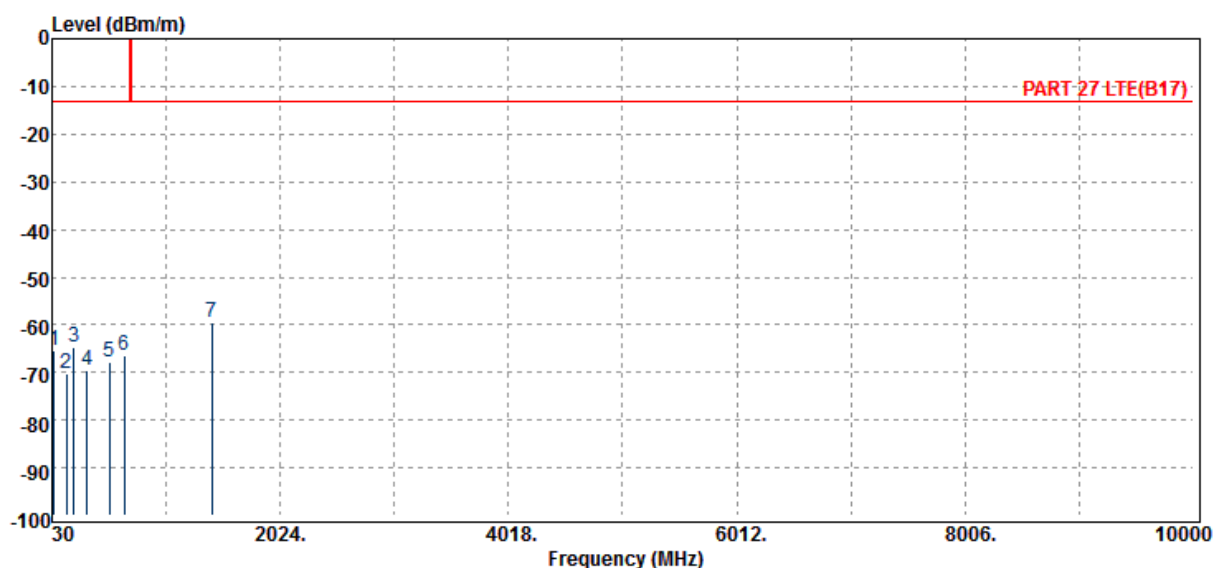
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Operation Band	:LTE B17	Temp./Humi.	:21 deg_C / 62 RH
Fundamental Frequency	:713.5 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode:	5M 16QAM RB 1,24
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq. MHz	Note F/H/E/S	ERP dBm	SG Output Level dBm	Antenna Gain dBd	Cable Loss dB	Limit dBm	Margin dB
46.49	S	-65.50	-52.43	-12.04	-1.03	-13.00	-52.50
154.16	S	-70.39	-67.04	-1.90	-1.45	-13.00	-57.39
224.00	S	-64.75	-66.28	3.24	-1.71	-13.00	-51.75
335.55	S	-69.42	-71.29	3.80	-1.93	-13.00	-56.42
531.49	S	-67.79	-68.96	3.69	-2.51	-13.00	-54.79
660.50	S	-66.53	-67.28	3.13	-2.38	-13.00	-53.53
1427.00	H	-59.68	-64.14	8.39	-3.93	-13.00	-46.68

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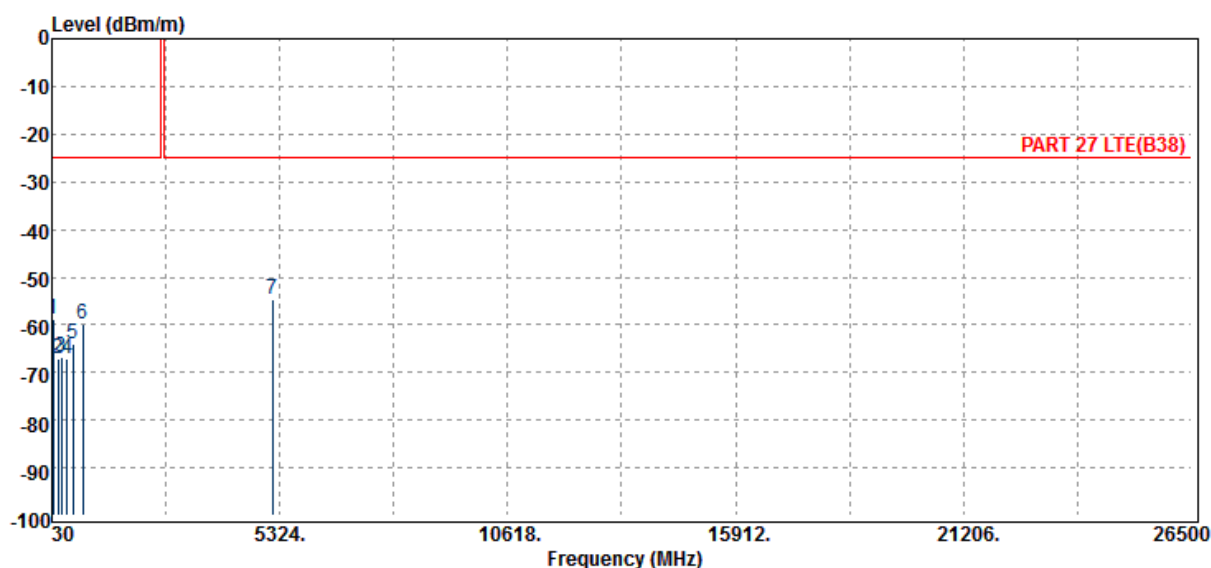
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# Radiated Spurious Emission Measurement Result: LTE-Band 38 (The Worst Case)

Operation Band	:LTE B38	Temp./Humi.	:22 deg_C / 61 RH
Fundamental Frequency	:2575 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode	:10M QPSK RB 1,49
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
53.28	S	-58.93	-49.58	-8.29	-1.06	-25.00	-33.93
177.44	S	-67.11	-68.15	2.59	-1.55	-25.00	-42.11
245.34	S	-66.80	-70.56	5.52	-1.75	-25.00	-41.80
377.26	S	-67.07	-70.82	5.99	-2.24	-25.00	-42.07
527.61	S	-63.94	-67.32	5.86	-2.47	-25.00	-38.94
749.74	S	-60.01	-62.26	5.33	-3.08	-25.00	-35.01
5150.00	H	-54.81	-59.63	12.76	-7.94	-25.00	-29.81

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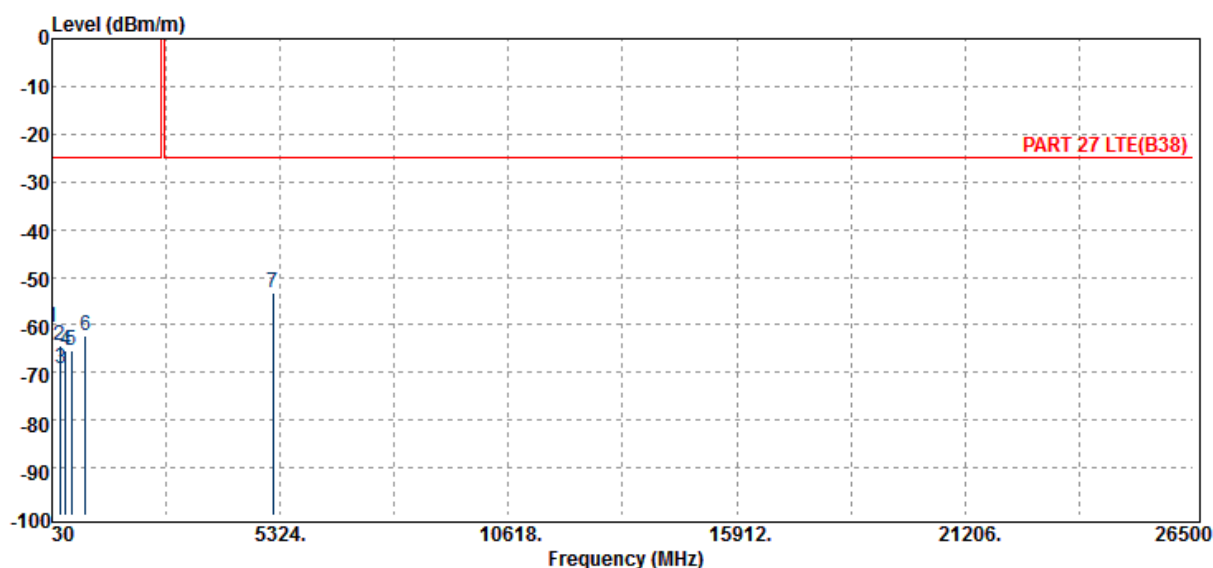
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Operation Band	:LTE B38	Temp./Humi.	:22 deg_C / 61 RH
Fundamental Frequency	:2575 MHz	Engineer	:Tin
Operation Mode	:Tx CH LOW	Mode	:10M QPSK RB 1,49
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-60.68	-47.10	-12.63	-0.96	-25.00	-35.68
217.21	S	-64.38	-68.21	5.53	-1.69	-25.00	-39.38
239.52	S	-69.25	-72.93	5.43	-1.74	-25.00	-44.25
337.49	S	-65.51	-69.52	5.95	-1.95	-25.00	-40.51
485.90	S	-65.34	-69.04	5.95	-2.26	-25.00	-40.34
800.18	S	-62.39	-64.98	5.49	-2.90	-25.00	-37.39
5150.00	H	-53.17	-57.99	12.76	-7.94	-25.00	-28.17

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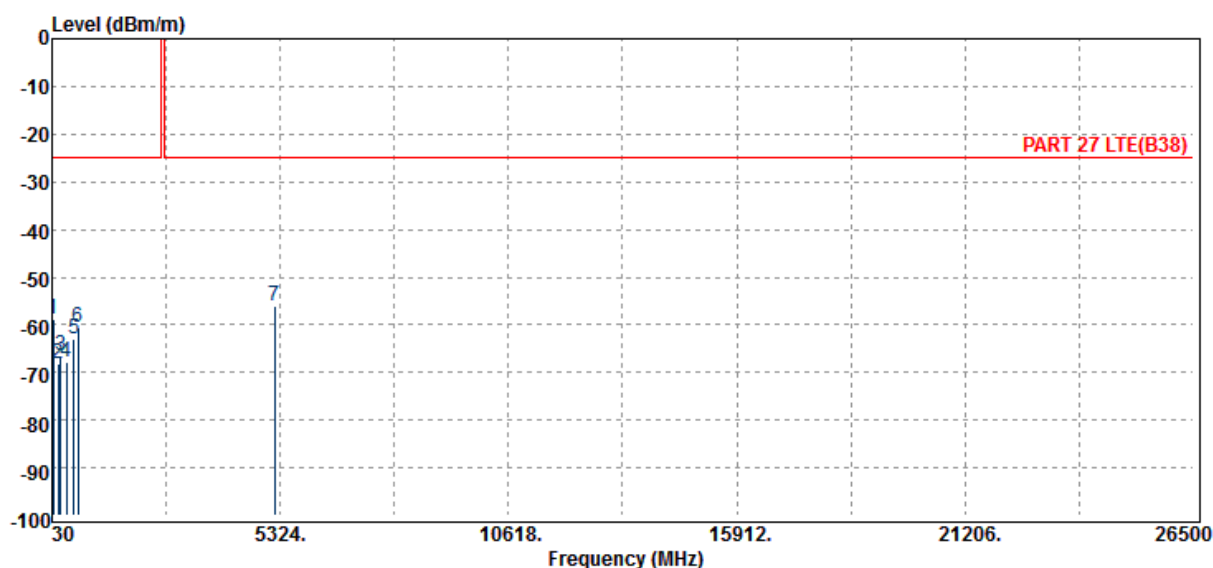
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Operation Band	:LTE B38	Temp./Humi.	:22 deg_C / 61 RH
Fundamental Frequency	:2595.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode	:10M QPSK RB 1,49
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
55.22	S	-58.95	-50.10	-7.78	-1.06	-25.00	-33.95
173.56	S	-68.13	-68.48	1.89	-1.53	-25.00	-43.13
239.52	S	-66.34	-70.03	5.43	-1.74	-25.00	-41.34
362.71	S	-67.67	-71.53	6.00	-2.15	-25.00	-42.67
529.55	S	-62.87	-66.22	5.85	-2.49	-25.00	-37.87
631.40	S	-60.44	-63.30	5.33	-2.46	-25.00	-35.44
5190.00	H	-55.95	-60.78	12.78	-7.95	-25.00	-30.95

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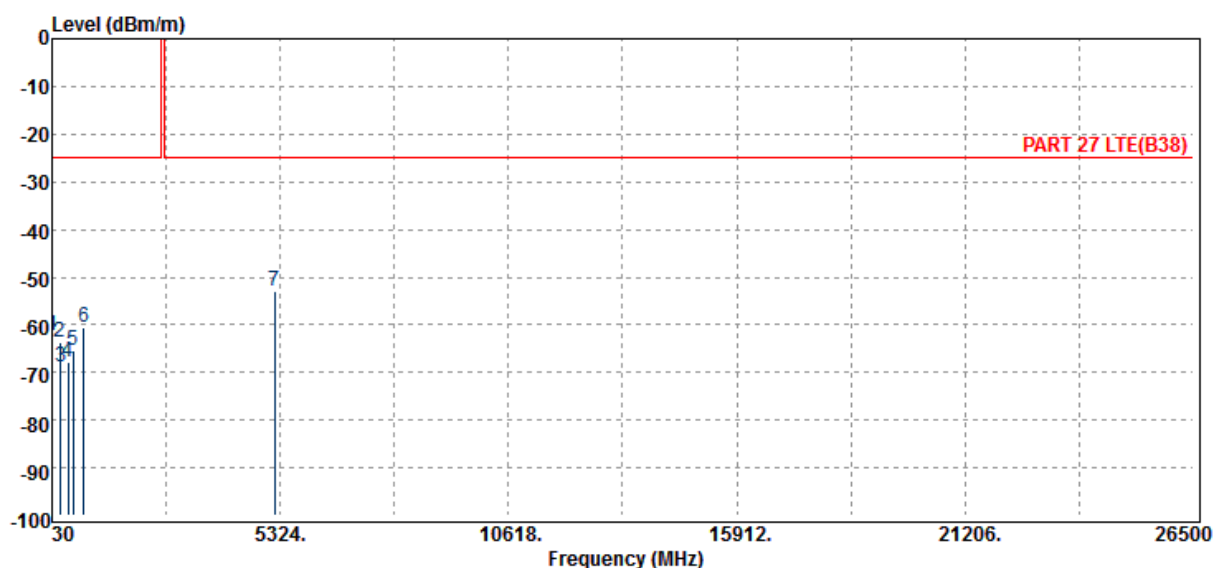
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Operation Band	:LTE B38	Temp./Humi.	:22 deg_C / 61 RH
Fundamental Frequency	:2595.0 MHz	Engineer	:Tin
Operation Mode	:Tx CH MID	Mode	:10M QPSK RB 1,49
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-62.12	-48.54	-12.63	-0.96	-25.00	-37.12
219.15	S	-63.51	-67.31	5.49	-1.70	-25.00	-38.51
240.49	S	-68.78	-72.48	5.44	-1.74	-25.00	-43.78
395.69	S	-67.70	-71.32	5.97	-2.35	-25.00	-42.70
516.94	S	-65.25	-68.80	5.91	-2.37	-25.00	-40.25
773.99	S	-60.50	-62.98	5.41	-2.93	-25.00	-35.50
5190.00	H	-52.94	-57.77	12.78	-7.95	-25.00	-27.94

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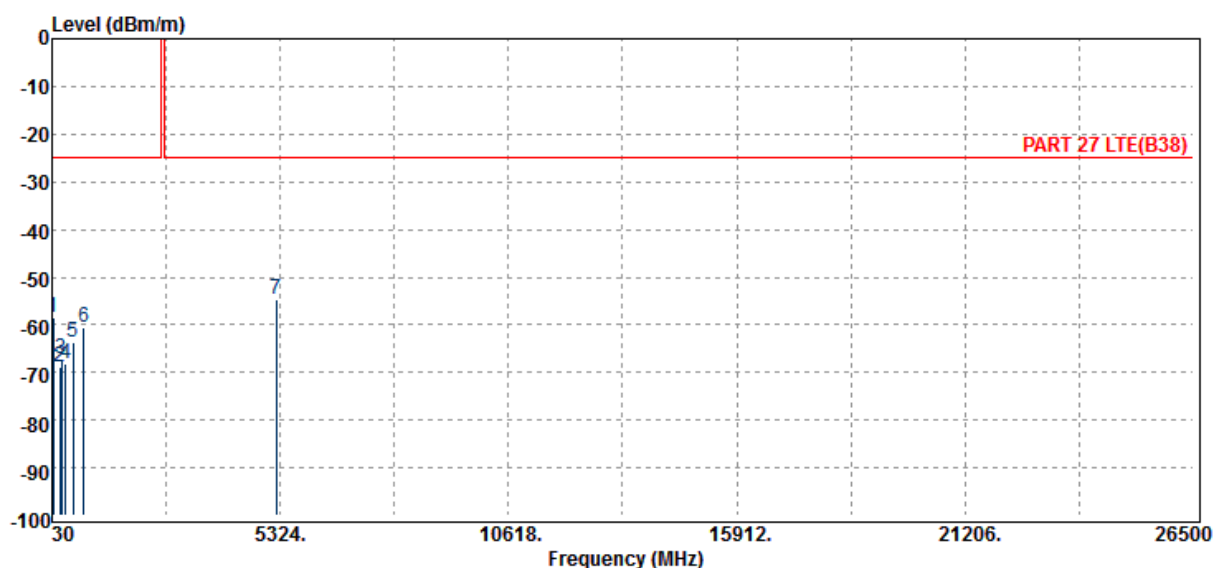
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Operation Band	:LTE B38	Temp./Humi.	:22 deg_C / 61 RH
Fundamental Frequency	:2615 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode	:10M QPSK RB 1,49
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL



Freq. MHz	Note F/H/E/S	EIRP dBm	SG Output Level dBm	Antenna Gain dBi	Cable Loss dB	Limit dBm	Margin dB
52.31	S	-58.47	-48.87	-8.55	-1.05	-25.00	-33.47
216.24	S	-68.82	-72.68	5.55	-1.69	-25.00	-43.82
249.22	S	-67.11	-70.93	5.58	-1.76	-25.00	-42.11
350.10	S	-68.03	-72.00	6.01	-2.05	-25.00	-43.03
527.61	S	-63.79	-67.18	5.86	-2.47	-25.00	-38.79
772.05	S	-60.53	-62.99	5.40	-2.94	-25.00	-35.53
5230.00	H	-54.64	-59.44	12.79	-8.00	-25.00	-29.64

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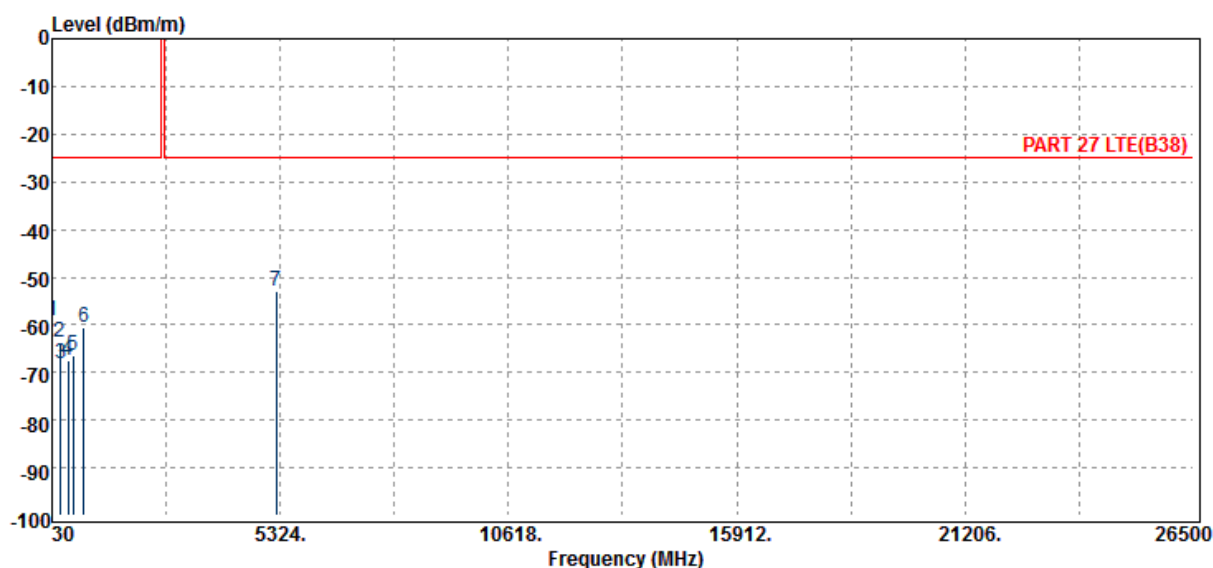
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Operation Band	:LTE B38	Temp./Humi.	:22 deg_C / 61 RH
Fundamental Frequency	:2615 MHz	Engineer	:Tin
Operation Mode	:Tx CH HIGH	Mode	:10M QPSK RB 1,49
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL



Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Output Level dBm	Gain dBi	Loss dB	dBm	dB
30.00	S	-59.28	-45.69	-12.63	-0.96	-25.00	-34.28
219.15	S	-63.72	-67.52	5.49	-1.70	-25.00	-38.72
240.49	S	-68.04	-71.75	5.44	-1.74	-25.00	-43.04
406.36	S	-67.53	-71.06	5.95	-2.42	-25.00	-42.53
513.06	S	-66.56	-70.14	5.94	-2.35	-25.00	-41.56
769.14	S	-60.39	-62.83	5.39	-2.96	-25.00	-35.39
5230.00	H	-53.06	-57.86	12.79	-8.00	-25.00	-28.06

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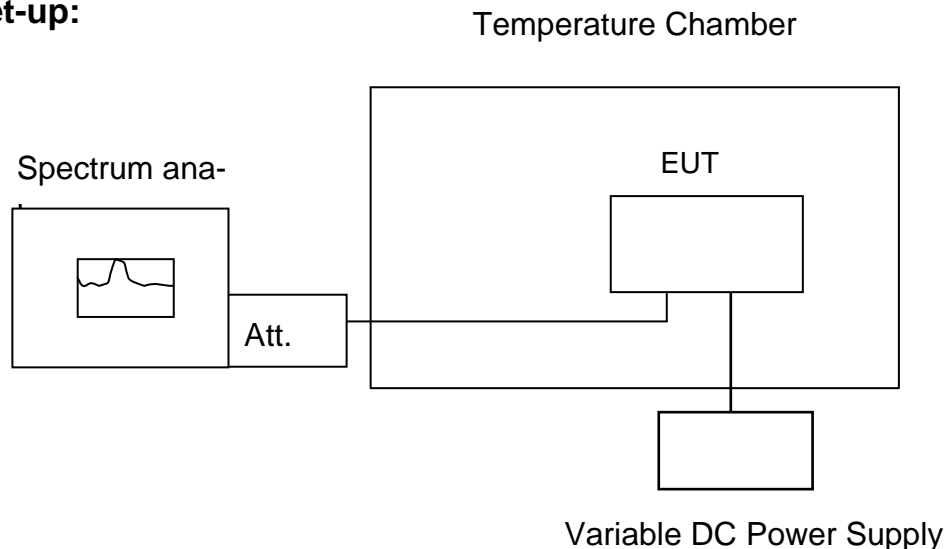
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## 11. FREQUENCY STABILITY MEASUREMENT

### 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

### 11.3. Measurement Procedure:

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

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

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

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#### 11.4. Measurement Equipment Used:

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	03/21/2017	03/20/2018
DC Block	Mini-Circuits	BLK-18-S+	1	01/05/2017	01/04/2018
Coaxial Cable	HUBER+SUHNER	SUCOFLEX 102	23670/2	01/05/2017	01/04/2018
Attenuator	Mini-Circuit	BW-S10W2+	2	01/05/2017	01/04/2018
Splitter	Agilent	11636B	N/A	01/05/2017	01/04/2018
DC Power Supply	Agilent	E3640A	MY52410006	11/21/2016	11/20/2017
Temperature Chamber	TERCHY	MHG-120LF	911009	05/19/2017	05/18/2018
Radio Communication Analyzer	R&S	CMU200	102189	02/10/2017	02/09/2018
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018
Radio Communication Analyzer	R&S	CMU200	102189	02/11/2016	02/10/2017

#### 11.5. Measurement Result:

Reference Frequency: GPRS 850 Mid Channel 836.6 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(MHz)		
FREQUENCY ERROR vs. VOLTAGE				
4.4	20	836600017	6	2091
3.85	20	836600011	0	2091
3.5	20	836600002	-9	2091
2.5 (End point)	20	836600026	15	2091
FREQUENCY ERROR vs. Temp.				
3.85	50	836600014	3	2091
3.85	40	836600006	-5	2091
3.85	30	836600007	-4	2091
3.85	20	836000110	0	2091
3.85	10	836600003	-8	2091
3.85	0	836600016	5	2091
3.85	-10	836600014	3	2091
3.85	-20	836600015	4	2091
3.85	-30	836600006	-5	2091

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Reference Frequency: GPRS 1900 Mid Channel 1880 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(MHz)		
FREQUENCY ERROR vs. VOLTAGE				
4.4	20	1879999995	1	4700
3.85	20	1879999994	0	4700
3.5	20	1880000005	11	4700
2.5 (End point)	20	1880000003	9	4700
FREQUENCY ERROR vs. Temp.				
3.85	50	1880000006	12	4700
3.85	40	1879999998	4	4700
3.85	30	1880000006	12	4700
3.85	20	1879999994	0	4700
3.85	10	1879999989	-5	4700
3.85	0	1880000015	21	4700
3.85	-10	1880000022	28	4700
3.85	-20	1880000014	20	4700
3.85	-30	1880000006	12	4700

Reference Frequency: WCDMA II Mid Channel 1880 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(MHz)		
FREQUENCY ERROR vs. VOLTAGE				
4.4	20	1879999994	-1	4700
3.85	20	1879999995	0	4700
3.5	20	1880000002	7	4700
2.5 (End point)	20	1879999994	-1	4700
FREQUENCY ERROR vs. Temp.				
3.85	50	1879999989	3	4700
3.85	40	1879999996	17	4700
3.85	30	1880000002	-3	4700
3.85	20	1879999995	0	4700
3.85	10	1880000006	21	4700
3.85	0	1880000008	-6	4700
3.85	-10	1879999989	20	4700
3.85	-20	1880000022	22	4700
3.85	-30	1880000004	4	4700

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Reference Frequency: WCDMA IV Mid Channel 1732.6 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(MHz)		
FREQUENCY ERROR vs. VOLTAGE				
4.4	20	1732600000	6	4331
3.85	20	1732599994	0	4331
3.5	20	1732600006	12	4331
2.5 (End point)	20	1732599995	1	4331
FREQUENCY ERROR vs. Temp.				
3.85	50	1732600006	12	4331
3.85	40	1732600005	11	4331
3.85	30	1732599997	3	4331
3.85	20	1732599994	0	4331
3.85	10	1732599995	1	4331
3.85	0	1732600006	12	4331
3.85	-10	1732599995	1	4331
3.85	-20	1732600012	18	4331
3.85	-30	1732600001	7	4331

Reference Frequency: WCDMA V Mid Channel 836.6 MHz				
Limit: +/- 2.5 ppm				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temp. ( )	(MHz)		
FREQUENCY ERROR vs. VOLTAGE				
4.4	20	83659999	-2	2091
3.85	20	836599992	0	2091
3.5	20	836600006	14	2091
2.5 (End point)	20	836600003	11	2091
FREQUENCY ERROR vs. Temp.				
3.85	50	836600006	14	2091
3.85	40	836600005	13	2091
3.85	30	836600004	12	2091
3.85	20	836599992	0	2091
3.85	10	836600002	10	2091
3.85	0	836600006	14	2091
3.85	-10	836600005	13	2091
3.85	-20	836600008	16	2091
3.85	-30	836600003	11	2091

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Reference Freq.:	LTE B2 Mid Channel		1880	MHz 20M QPSK CH 18900
Power Supply Vdc	Temp. ( )	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
Freq. ERROR vs. VOLTAGE				
4.4	25	1880.00003	67.7	4700
3.85	25	1879.99996	0	4700
3.5	25	1880.00002	56.7	4700
2.5 (End Point)	25	1880.00002	63.7	4700
Freq. ERROR vs. Temp.				
3.85	-30	1879.99996	-57.4	4700
3.85	-20	1879.99997	-46.1	4700
3.85	-10	1880.00002	3	4700
3.85	0	1879.99998	-39	4700
3.85	10	1879.99996	-50.7	4700
3.85	20	1880.00002	0	4700
3.85	30	1879.99997	-42.9	4700
3.85	40	1880.00002	8	4700
3.85	50	1879.99998	-32.6	4700

Reference Freq.:	LTE B4 Mid Channel		1732.5	MHz 20M QPSK CH 20175
Power Supply Vdc	Temp. ( )	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
Freq. ERROR vs. VOLTAGE				
4.4	25	1732.49996	-10.1	4331
3.85	25	1732.49997	0	4331
3.5	25	1732.50000	33.1	4331
2.5 (End Point)	25	1732.49997	-0.2	4331
Freq. ERROR vs. Temp.				
3.85	-30	1732.49996	-56.7	4331
3.85	-20	1732.50004	15	4331
3.85	-10	1732.49997	-52.9	4331
3.85	0	1732.50000	-16.8	4331
3.85	10	1732.49997	-54.4	4331
3.85	20	1732.50002	0	4331
3.85	30	1732.49997	-55.9	4331
3.85	40	1732.50001	-9.1	4331
3.85	50	1732.50002	-5.7	4331

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Reference Freq.:	LTE B7 Mid Channel	2535	MHz	10M QPSK CH 21100
Power Supply Vdc	Temp. ( )	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
Freq. ERROR vs. VOLTAGE				
4.4	25	2534.99997	-29.83	6338
3.85	25	2535.00000	0	6338
3.5	25	2535.00001	3.82	6338
2.5 (End Point)	25	2535.00001	6.27	6338
Freq. ERROR vs. Temp.				
3.85	-30	2535.00001	29.5	6338
3.85	-20	2535.00001	30.1	6338
3.85	-10	2534.99999	5.3	6338
3.85	0	2534.99998	0.5	6338
3.85	10	2535.00001	22.7	6338
3.85	20	2534.99998	0	6338
3.85	30	2534.99999	4.3	6338
3.85	40	2534.99998	0.8	6338
3.85	50	2535.00000	16.07	6338

Reference Freq.:	LTE B12 Mid Channel	707.5	MHz	10M QPSK CH 23095
Power Supply Vdc	Temp. ( )	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
Freq. ERROR vs. VOLTAGE				
4.4	25	707.50001	-6.7	1769
3.85	25	707.50001	0	1769
3.5	25	707.50000	-9.2	1769
2.5 (End Point)	25	707.49998	-27.7	1769
Freq. ERROR vs. Temp.				
3.85	-30	707.49999	-21.1	1769
3.85	-20	707.50000	-6.4	1769
3.85	-10	707.49999	-16.2	1769
3.85	0	707.50000	-12.5	1769
3.85	10	707.50001	-2.1	1769
3.85	20	707.50001	0	1769
3.85	30	707.50000	-2.9	1769
3.85	40	707.50000	-11.3	1769
3.85	50	707.50000	-9.8	1769

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Reference Freq.:	LTE B17 Mid Channel		710	MHz 10M QPSK CH 23790
Power Supply Vdc	Temp. ( )	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
Freq. ERROR vs. VOLTAGE				
4.4	25	710.00000	36.9	1775
3.85	25	709.99997	0	1775
3.5	25	710.00001	44.6	1775
2.5 (End Point)	25	709.99997	4.9	1775
Freq. ERROR vs. Temp.				
3.85	-30	709.99997	-34.5	1775
3.85	-20	709.99997	-34.8	1775
3.85	-10	710.00001	2.1	1775
3.85	0	709.99998	-27.9	1775
3.85	10	709.99996	-42.1	1775
3.85	20	710.00001	0	1775
3.85	30	710.00000	-0.9	1775
3.85	40	709.99998	-22.5	1775
3.85	50	709.99998	-22.8	1775

Reference Freq.:	LTE B38 Mid Channel		2595	MHz 10M QPSK CH 38000
Power Supply Vdc	Temp. ( )	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
Freq. ERROR vs. VOLTAGE				
4.4	25	2594.99999	-18.7	6488
3.85	25	2595.00001	0	6488
3.5	25	2594.99998	-24.9	6488
2.5 (End Point)	25	2594.99998	-23.2	6488
Freq. ERROR vs. Temp.				
3.85	-30	2595.00002	54.7	6488
3.85	-20	2595.00002	50	6488
3.85	-10	2594.99997	4.8	6488
3.85	0	2595.00001	37.4	6488
3.85	10	2594.99997	0.4	6488
3.85	20	2594.99997	0	6488
3.85	30	2595.00001	37.06	6488
3.85	40	2594.99998	9.9	6488
3.85	50	2595.00001	43.6	6488

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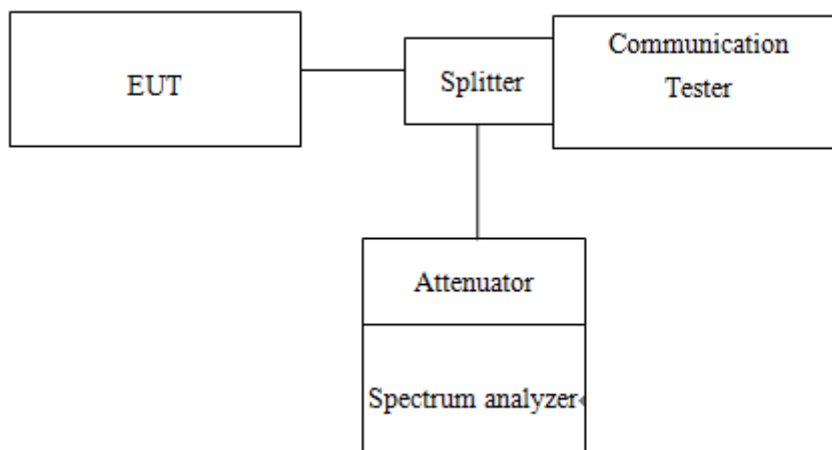
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## 12. PEAK TO AVERAGE RATIO

### 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.
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	03/21/2017	03/20/2018
DC Block	Mini-Circuits	BLK-18-S+	1	01/05/2017	01/04/2018
Coaxial Cable	HUBER+SUHNER	SUCOFLEX 102	23670/2	01/05/2017	01/04/2018
Attenuator	Mini-Circuit	BW-S10W2+	2	01/05/2017	01/04/2018
Splitter	Agilent	11636B	N/A	01/05/2017	01/04/2018
DC Power Supply	Agilent	E3640A	MY52410006	11/21/2016	11/20/2017
Temperature Chamber	TERCHY	MHG-120LF	911009	05/19/2017	05/18/2018
Radio Communication Analyzer	R&S	CMU200	102189	02/10/2017	02/09/2018
Radio Communication Analyzer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018

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## 12.5. Measurement Result

### Tabular Results:

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		GSM 850	GPRS 850	EDGE 850
824.2	128	8.94	8.89	11.58
836.6	190	9.68	10.24	11.62
848.8	251	9.22	9.89	11.81

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		GSM 1900	GPRS 1900	EDGE 1900
1850.2	512	9.51	7.97	11.73
1880	661	9.08	9.28	11.16
1909.8	810	8.87	9.17	11.58

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		WCDMA II	HSDPA II	HSUPA II
1852.4	9262	2.85	3.61	3.38
1880	9400	3.00	3.69	3.76
1907.6	9538	2.87	3.51	3.54

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		WCDMA IV	HSDPA IV	HSUPA IV
1712.4	1312	3.33	4.27	3.95
1732.6	1413	3.29	4.05	4.02
1752.6	1513	3.33	3.92	3.92

Freq. (MHz)	CH	Peak-to-Average Ratio (dB)		
		WCDMA V	HSDPA V	HSUPA V
826.4	4132	3.07	3.93	3.87
836.6	4183	3.03	4.01	4.18
846.6	4233	2.91	3.87	3.95

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LTE BAND 2							
Channel bandwidth: 1.4MHz				Channel bandwidth: 3MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
1850.7	18607	6.35	13	1851.5	18615	6.25	13
1880.0	18900	6.61	13	1880.0	18900	6.56	13
1909.3	19193	6.06	13	1908.5	19185	6.20	13

LTE BAND 2							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
1852.5	18625	6.19	13	1855.0	18650	6.01	13
1880.0	18900	6.50	13	1880.0	18900	6.34	13
1907.5	19175	6.22	13	1905.0	19150	6.20	13

LTE BAND 2							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
1857.5	18675	6.20	13	1860.0	18700	6.59	13
1880.0	18900	6.37	13	1880.0	18900	6.72	13
1902.5	19125	6.41	13	1900.0	19100	6.76	13

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LTE BAND 4							
Channel bandwidth: 1.4MHz				Channel bandwidth: 3MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
1710.7	19957	6.10	13	1711.5	19965	6.18	13
1732.5	20175	6.09	13	1732.5	20175	6.12	13
1754.3	20393	6.13	13	1753.5	20385	6.17	13

LTE BAND 4							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
1712.5	19957	6.05	13	1715.0	20000	5.98	13
1732.5	20175	6.01	13	1732.5	20175	6.02	13
1752.5	20375	6.16	13	1750.0	20350	6.12	13

LTE BAND 4							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
1717.5	20025	6.13	13	1720.0	20050	6.61	13
1732.5	20175	6.18	13	1732.5	20175	6.58	13
1747.5	20325	6.14	13	1745.0	20300	6.59	13

LTE BAND 7							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
2502.5	20775	5.64	13	2505.0	20800	5.84	13
2535.0	21100	5.58	13	2535.0	21100	5.63	13
2567.5	21375	5.62	13	2565.0	21350	5.88	13

LTE BAND 7							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
2507.5	20825	6.16	13	2510	20850	6.65	13
2535	21100	6.02	13	2535	21100	6.64	13
2562.5	21375	6.15	13	2560	21350	6.71	13

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LTE BAND 17							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
706.5	23755	6.01	13	709	23780	6.22	13
710	23790	6.00	13	710	23790	6.03	13
713.5	23825	6.76	13	711	23780	5.97	13

LTE BAND 38							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
2572.5	37775	9.01	13	2575	37800	8.27	13
2595	38000	9.05	13	2595	38000	8.66	13
2617.5	38225	8.12	13	2615	38200	10.16	13

LTE BAND 38							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq. (MHz)	CH	Peak-to-Average		Freq. (MHz)	CH	Peak-to-Average	
		16QAM	Limit			16QAM	Limit
2577.5	37825	7.65	13	2580.0	37850	8.77	13
2595	38000	8.29	13	2595.0	38000	8.64	13
2612.5	38175	8.52	13	2610.0	38150	9.68	13

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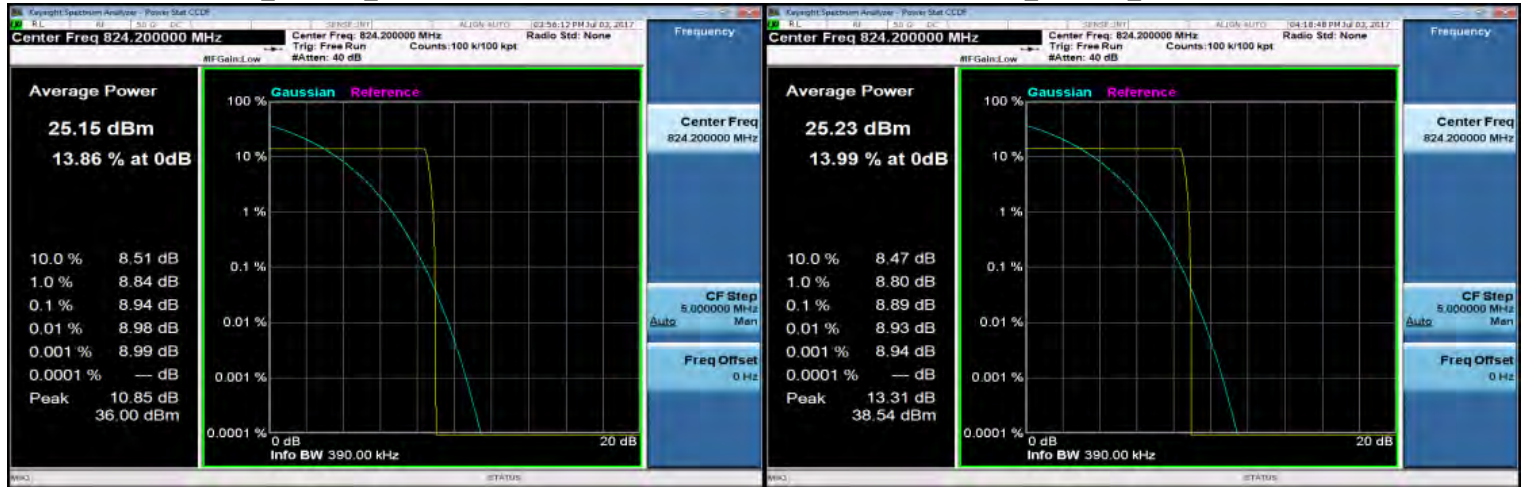
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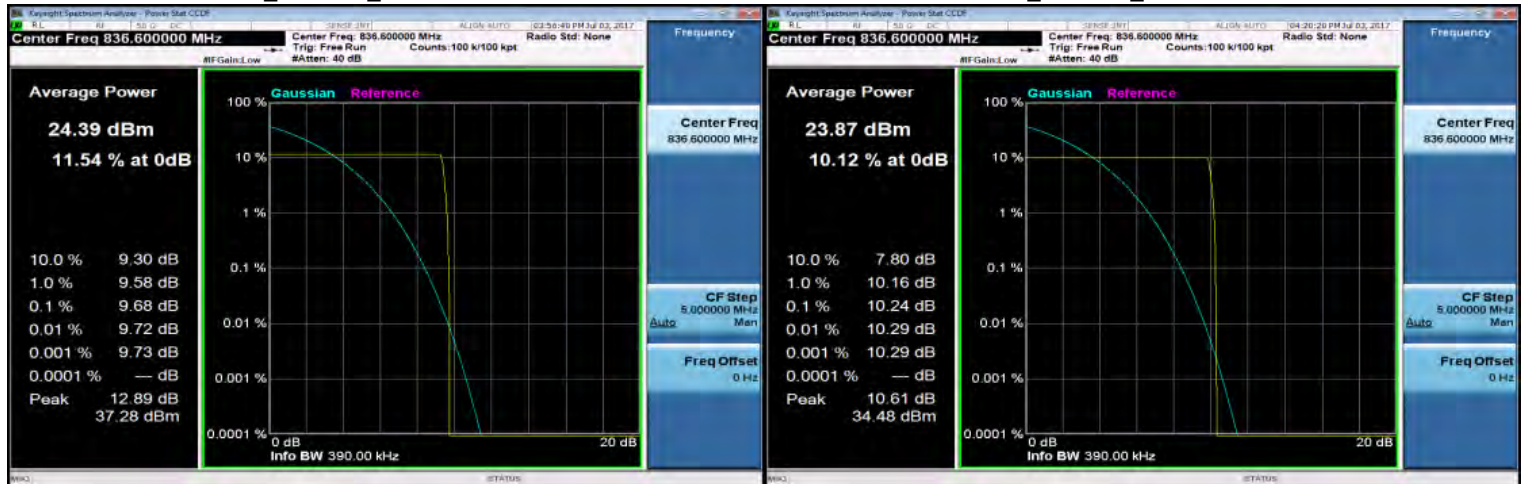
GSM\_850MHz\_LowCH128-824.2

GPRS\_850MHz\_LowCH128-824.2



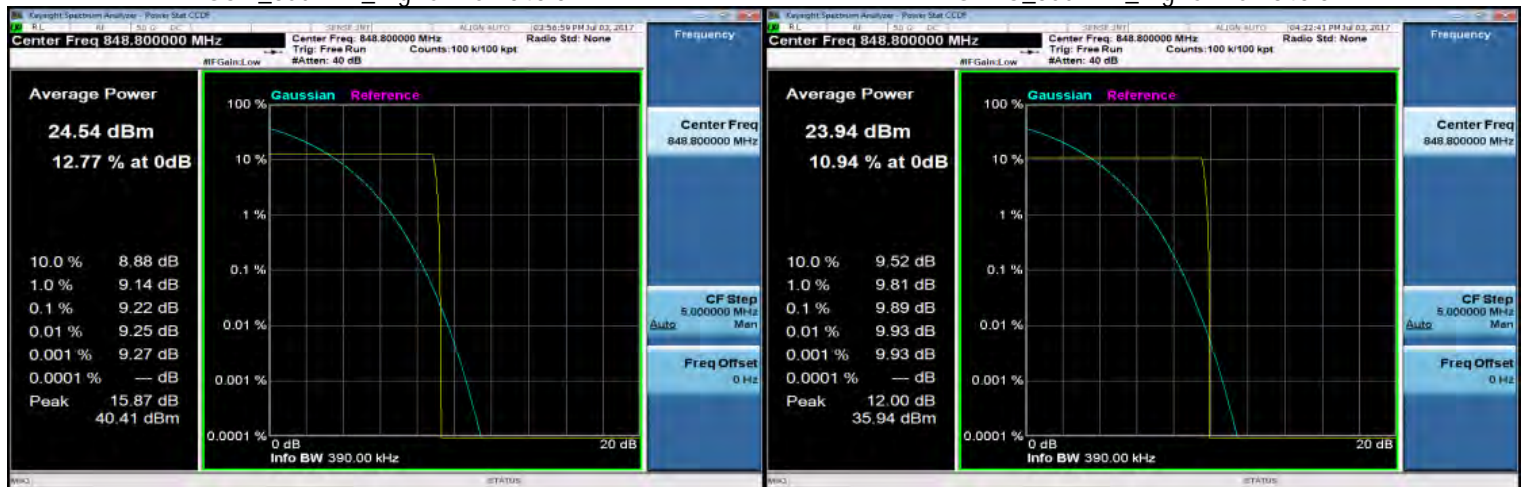
GSM\_850MHz\_MidCH190-836.6

GPRS\_850MHz\_MidCH190-836.6



GSM\_850MHz\_HighCH251-848.8

GPRS\_850MHz\_HighCH251-848.8



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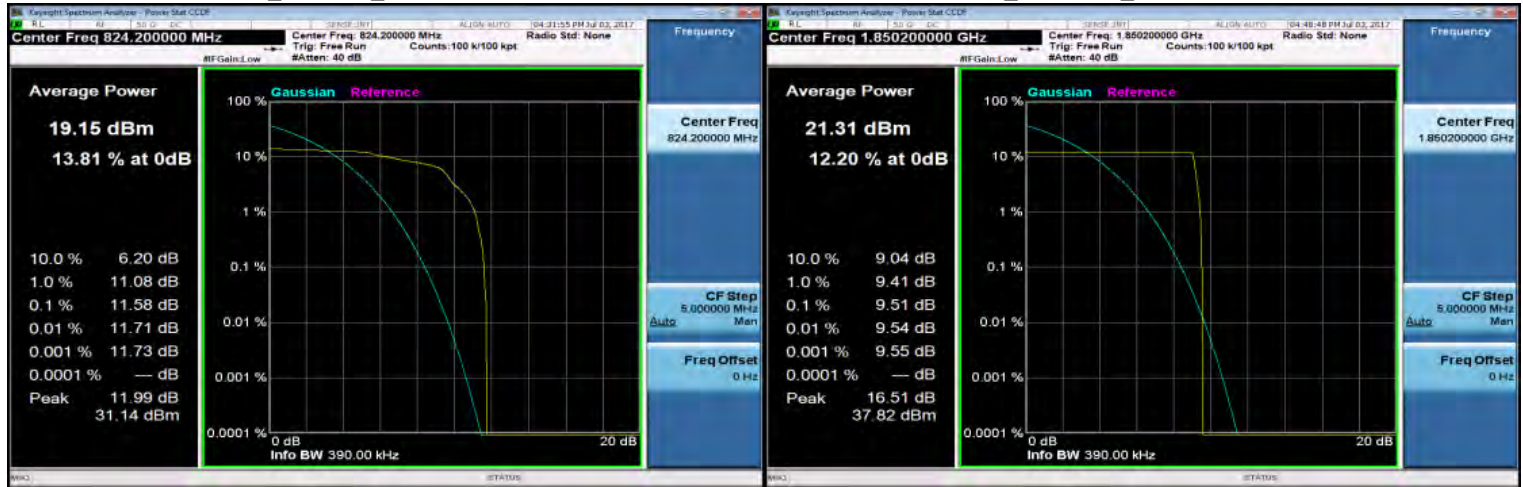
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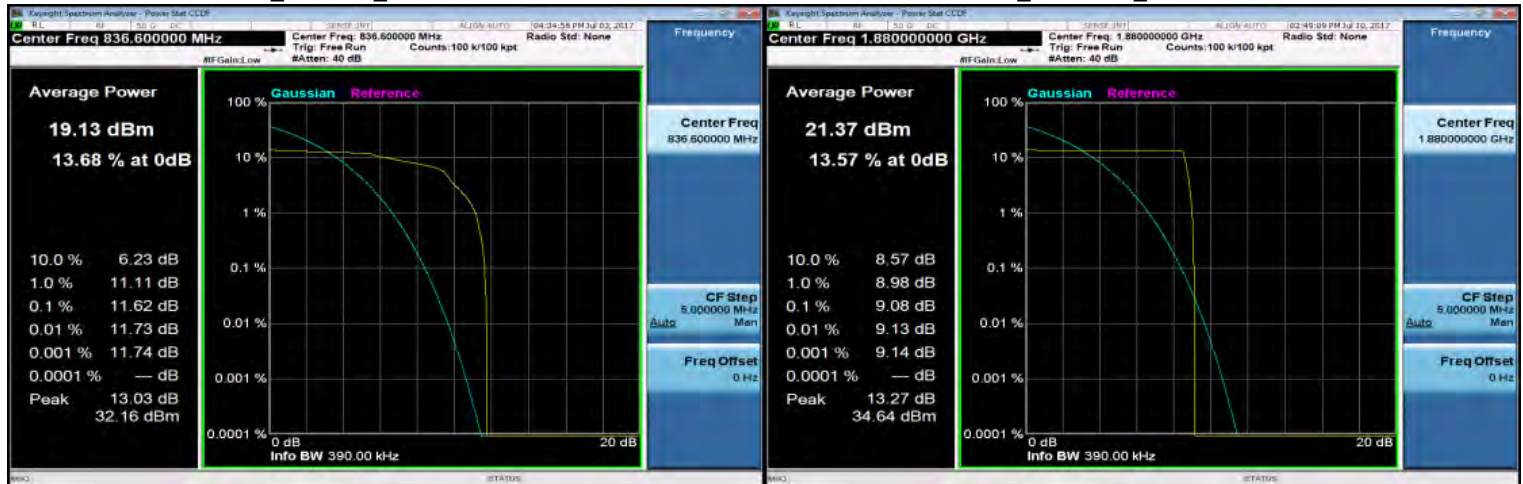
EDGE\_850MHz\_LowCH128-824.2

GSM\_1900MHz\_LowCH512-1850.2



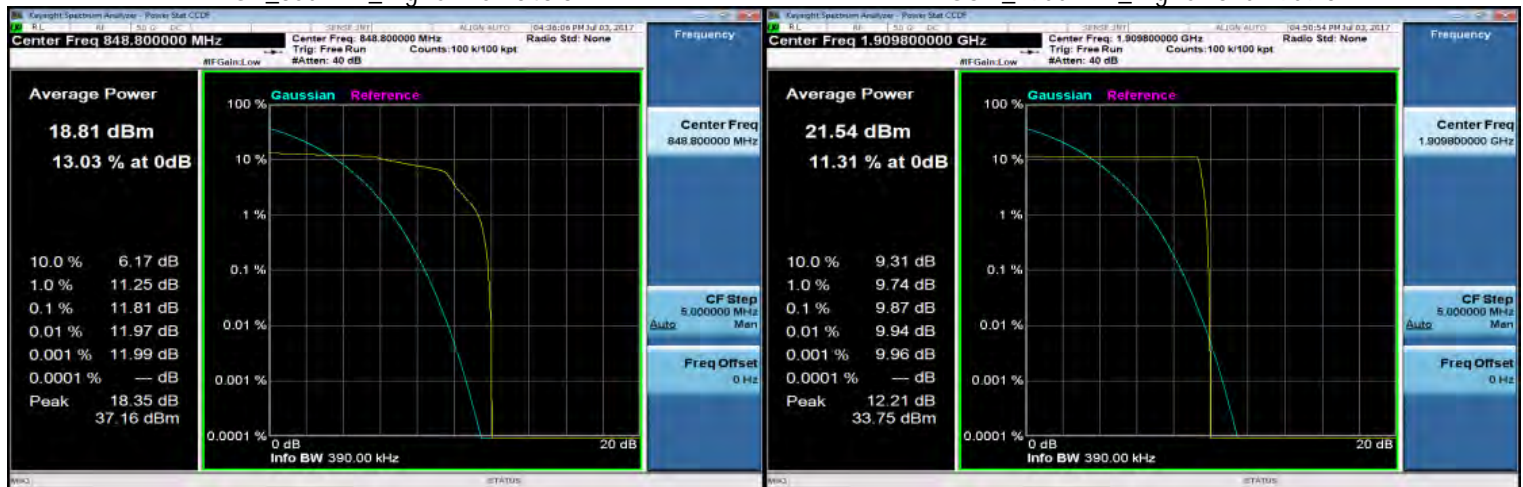
EDGE\_850MHz\_MidCH190-836.6

GSM\_1900MHz\_MidCH661-1880



EDGE\_850MHz\_HighCH251-848.8

GSM\_1900MHz\_HighCH810-1909.8



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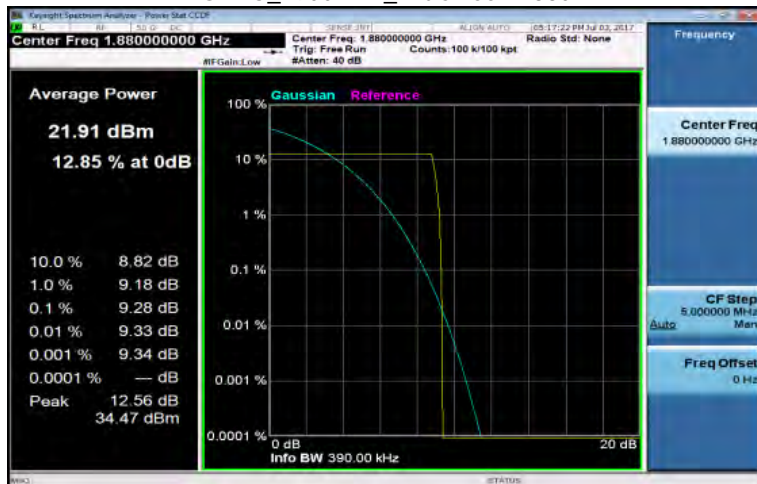
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EDGE\_1900MHz\_LowCH512-1850.2



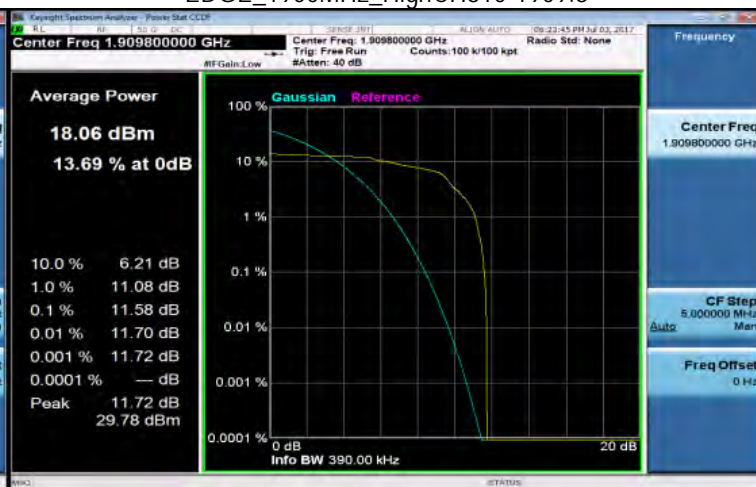
GPRS\_1900MHz\_MidCH661-1880

EDGE\_1900MHz\_MidCH661-1880



GPRS\_1900MHz\_HighCH810-1909.8

EDGE\_1900MHz\_HighCH810-1909.8



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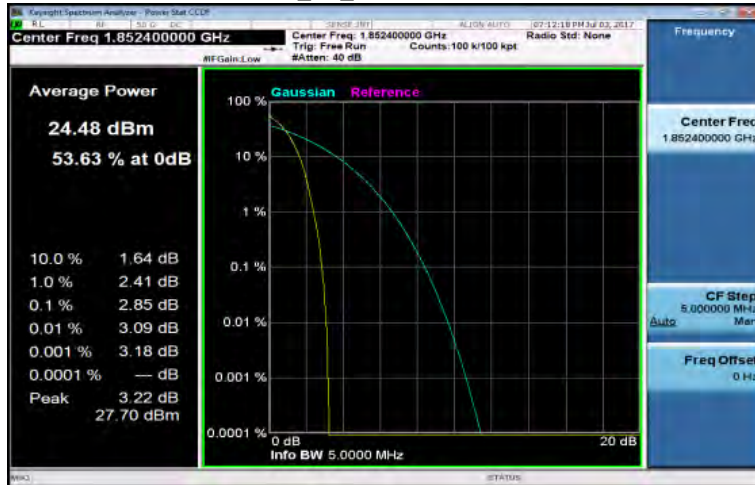
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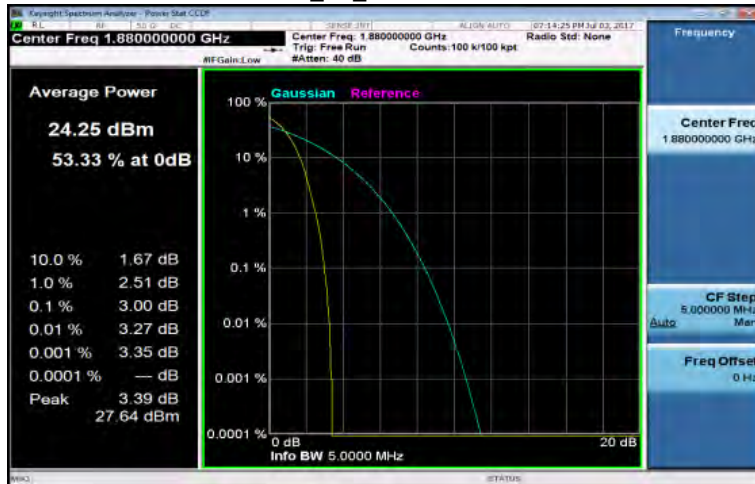
WCDMA\_B2\_LowCH9262-1852.4

HSDPA\_B2\_LowCH9262-1852.4



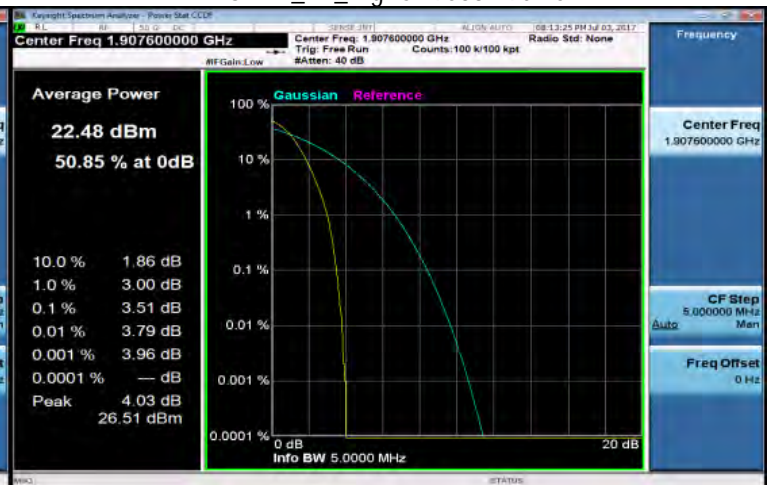
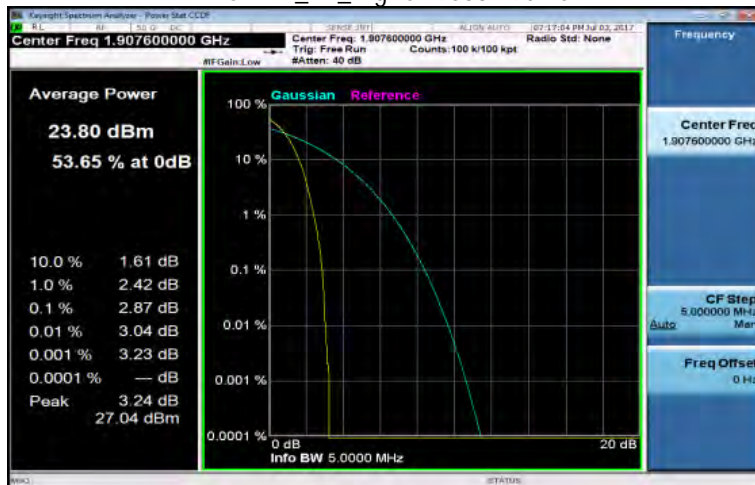
WCDMA\_B2\_MidCH9400-1880

HSDPA\_B2\_MidCH9400-1880



WCDMA\_B2\_HighCH9538-1907.6

HSDPA\_B2\_HighCH9538-1907.6



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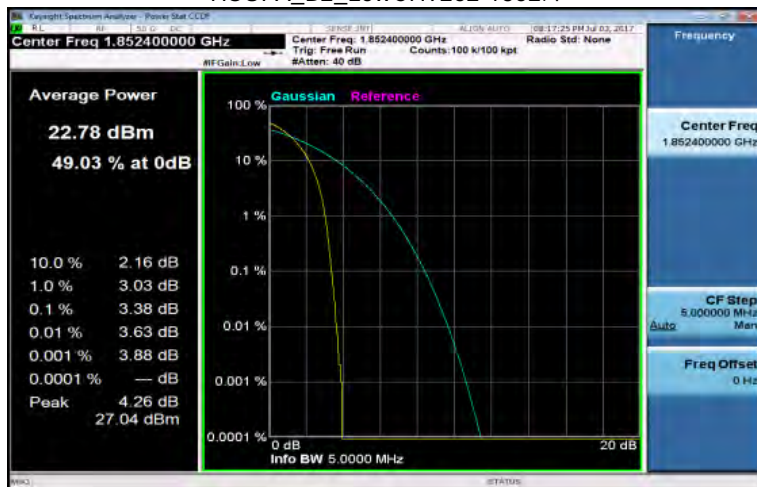
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HSUPA\_B2\_LowCH9262-1852.4

WCDMA\_B4\_LowCH1312-1712.4



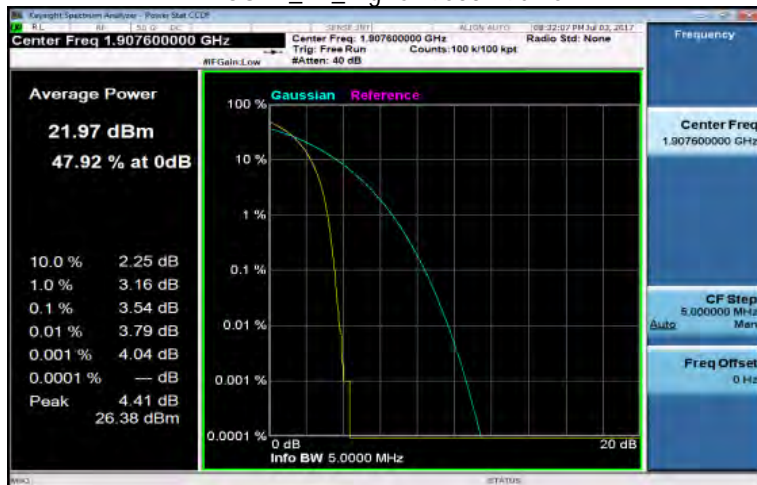
HSUPA\_B2\_MidCH9400-1880

WCDMA\_B4\_MidCH1413-1732.6



HSUPA\_B2\_HighCH9538-1907.6

WCDMA\_B4\_HighCH1513-1752.6



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HSDPA\_B4\_LowCH1312-1712.4



HSUPA\_B4\_LowCH1312-1712.4



HSDPA\_B4\_MidCH1413-1732.6



HSUPA\_B4\_MidCH1413-1732.6



HSDPA\_B4\_HighCH1513-1752.6



HSUPA\_B4\_HighCH1513-1752.6



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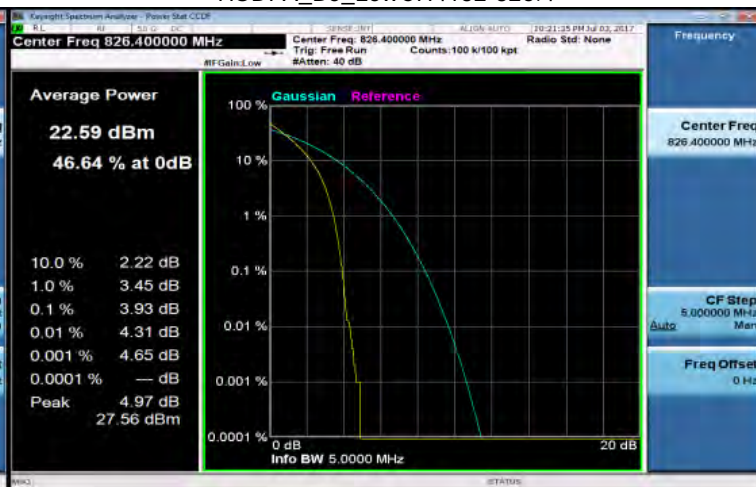
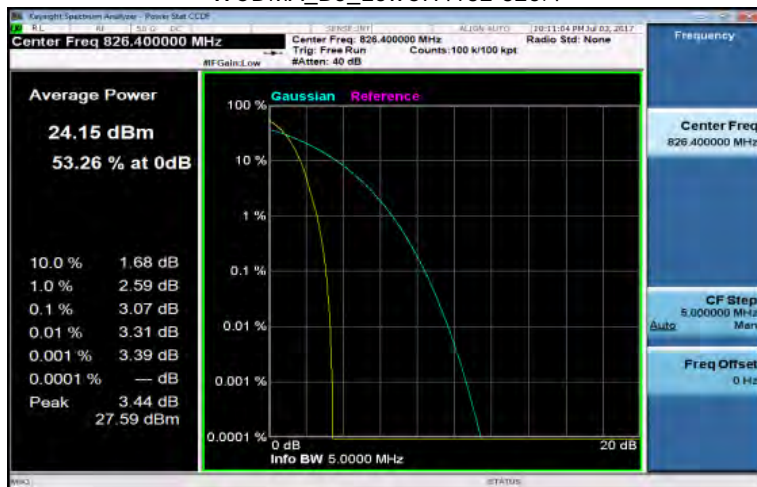
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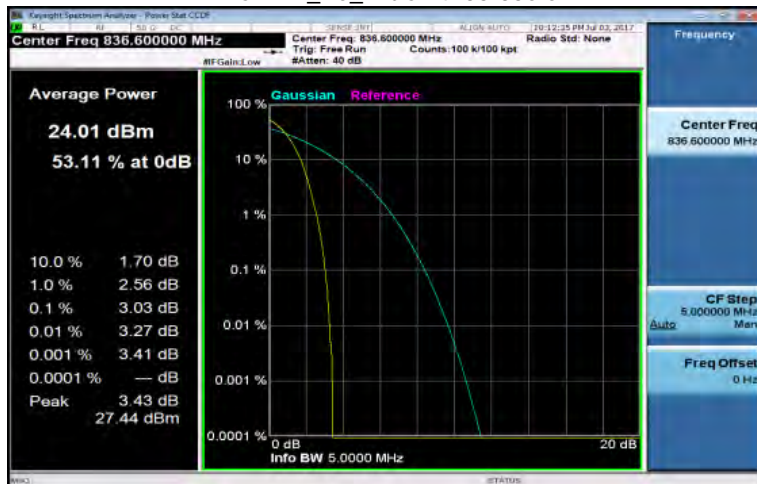
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HSDPA\_B5\_LowCH4132-826.4



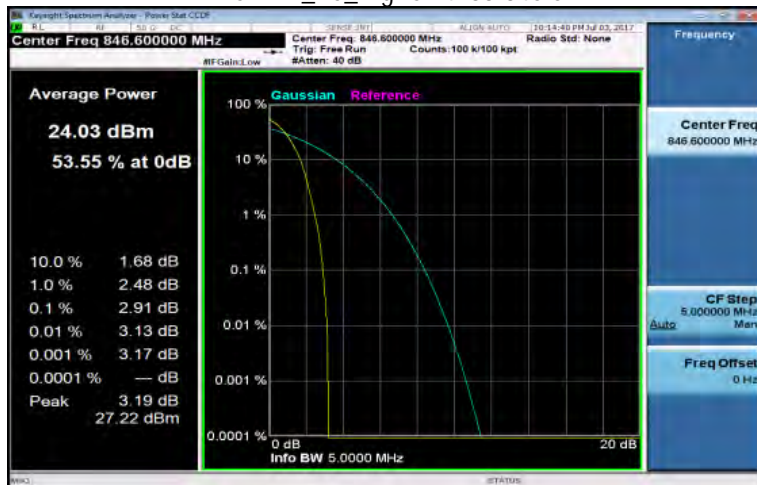
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HSDPA\_B5\_MidCH4183-836.6



WCDMA\_B5\_HighCH4233-846.6

HSDPA\_B5\_HighCH4233-846.6



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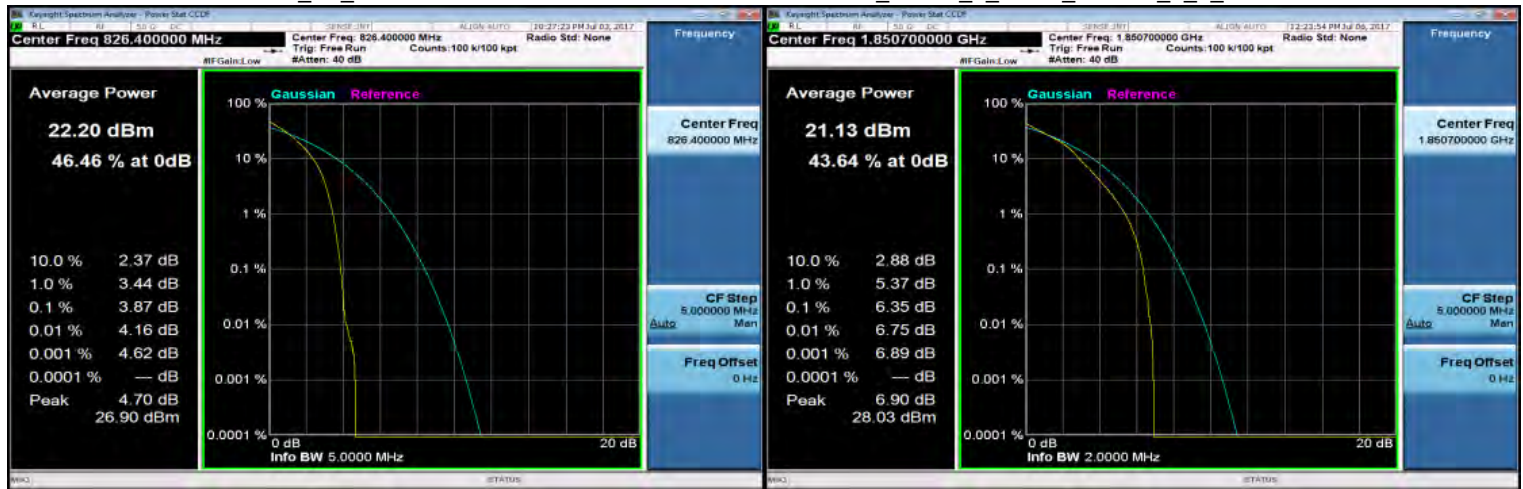
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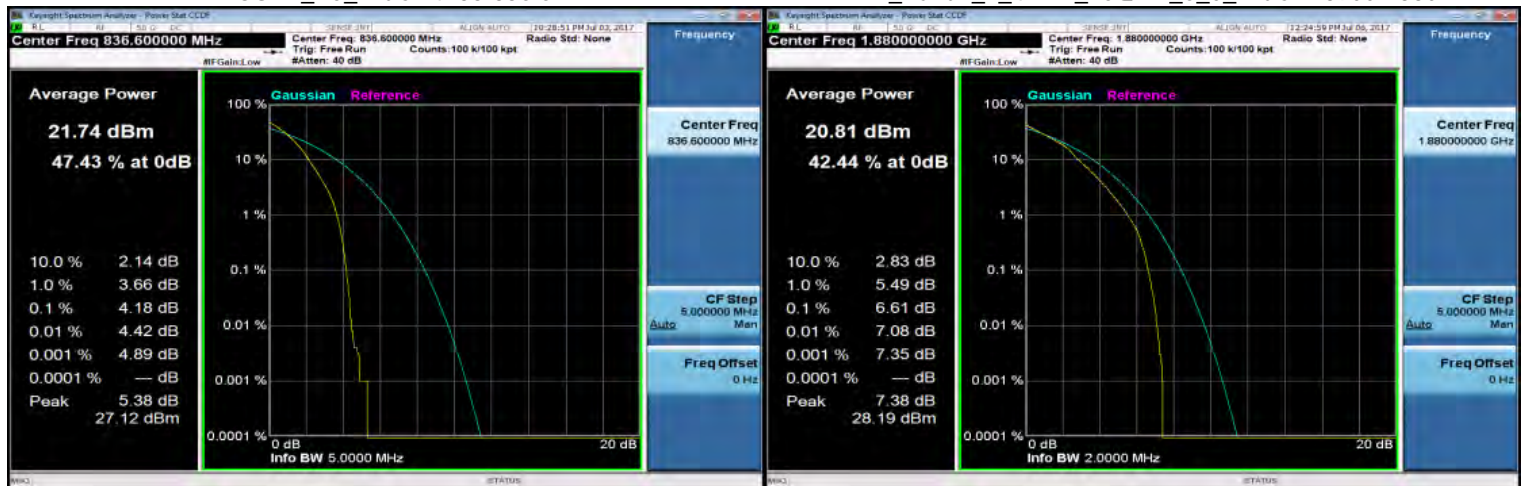
HSUPA\_B5\_LowCH4132-826.4

LTE\_Band2\_1\_4MHz\_16QAM\_6\_0\_LowCH18607-1850.7



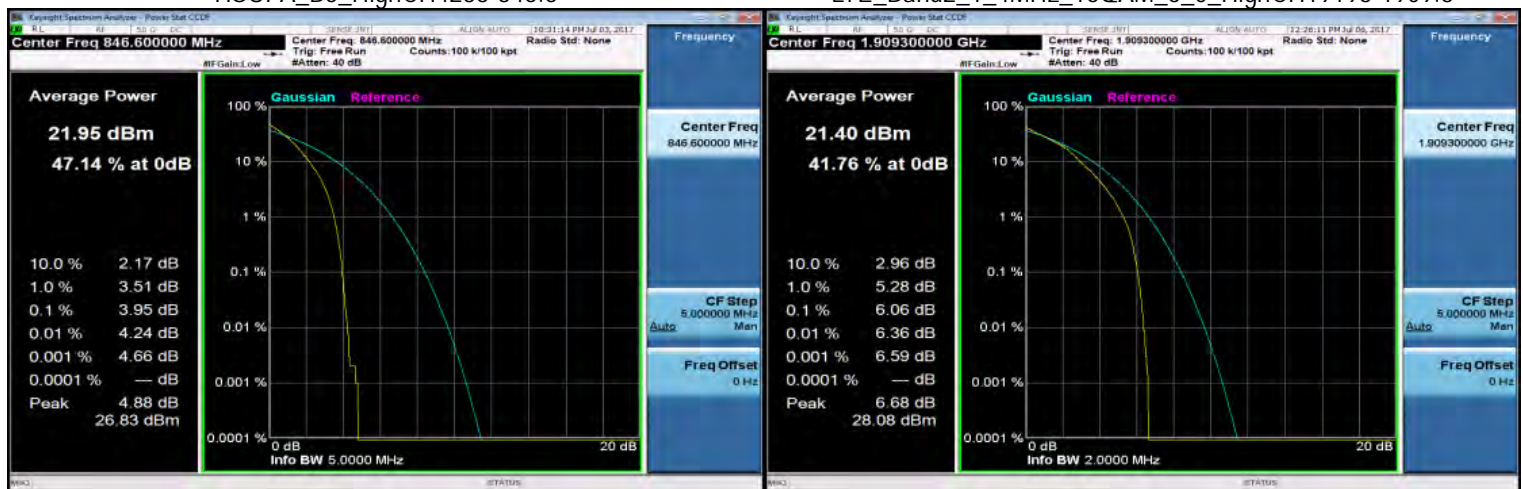
HSUPA\_B5\_MidCH4183-836.6

LTE\_Band2\_1\_4MHz\_16QAM\_6\_0\_MidCH18900-1880



HSUPA\_B5\_HighCH4233-846.6

LTE\_Band2\_1\_4MHz\_16QAM\_6\_0\_HighCH19193-1909.3



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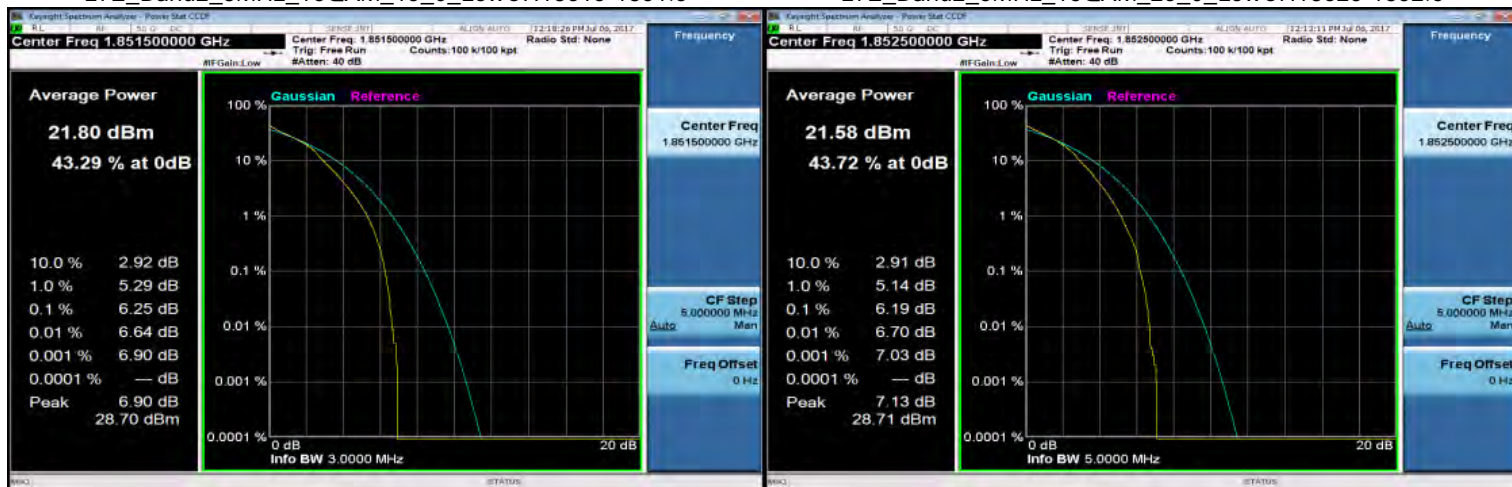
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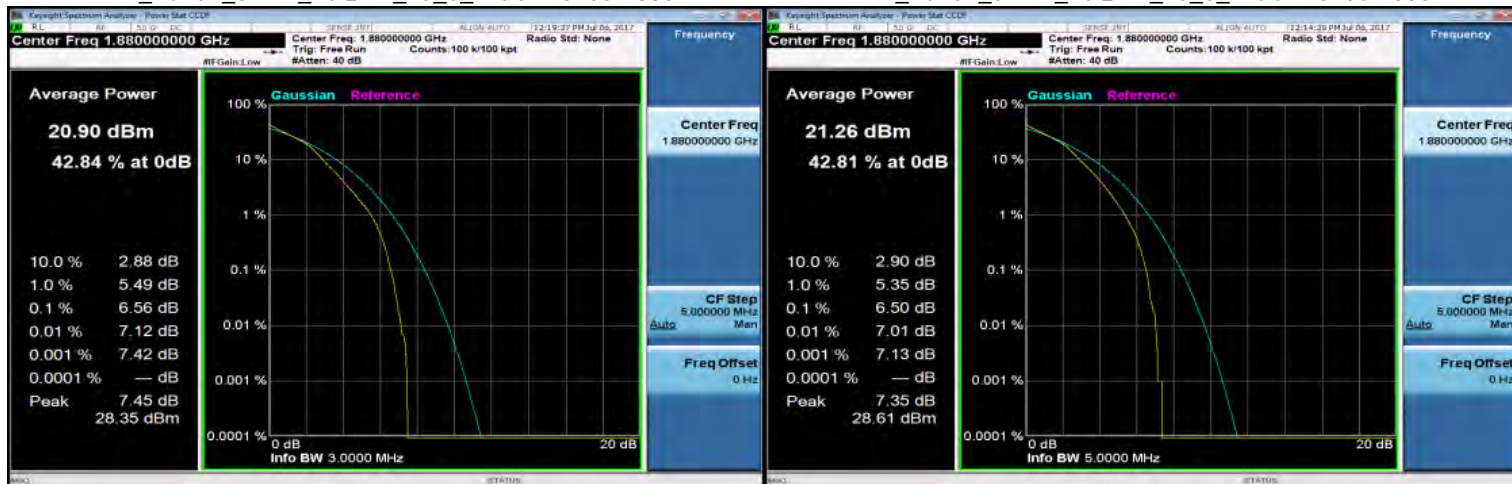
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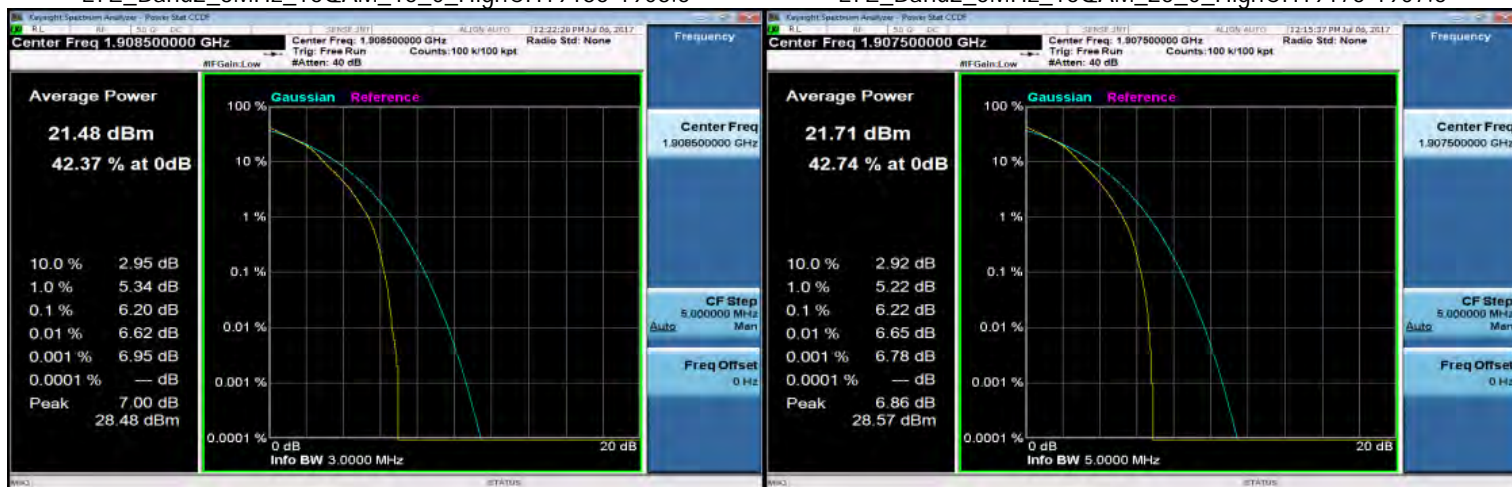
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LTE\_Band2\_5MHz\_16QAM\_25\_0\_MidCH18900-1880



LTE\_Band2\_3MHz\_16QAM\_15\_0\_HighCH19185-1908.5

LTE\_Band2\_5MHz\_16QAM\_25\_0\_HighCH19175-1907.5



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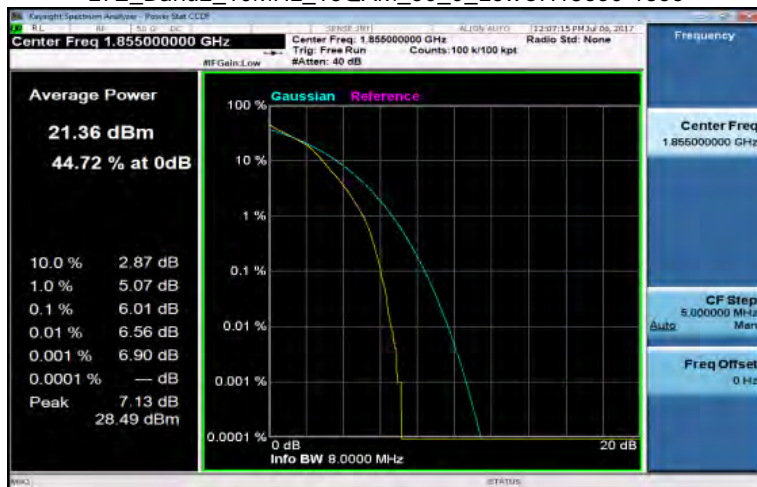
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LTE\_Band2\_10MHz\_16QAM\_50\_0\_LowCH18650-1855

LTE\_Band2\_15MHz\_16QAM\_75\_0\_LowCH18675-1857.5



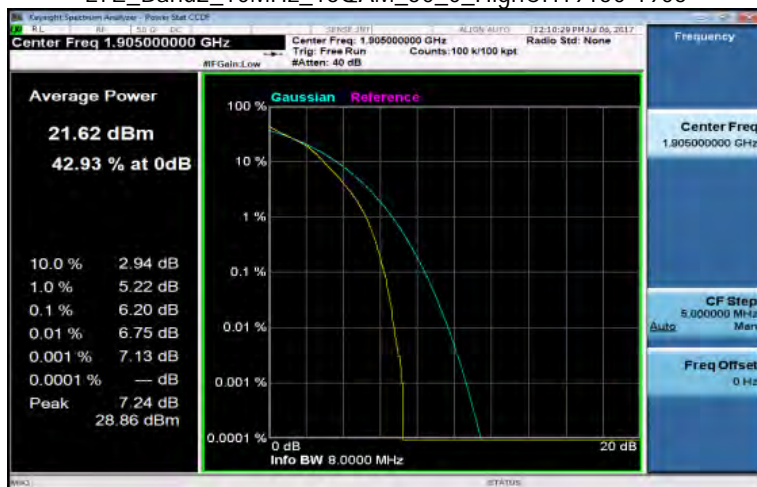
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LTE\_Band2\_10MHz\_16QAM\_50\_0\_HighCH19150-1905

LTE\_Band2\_15MHz\_16QAM\_75\_0\_HighCH19125-1902.5



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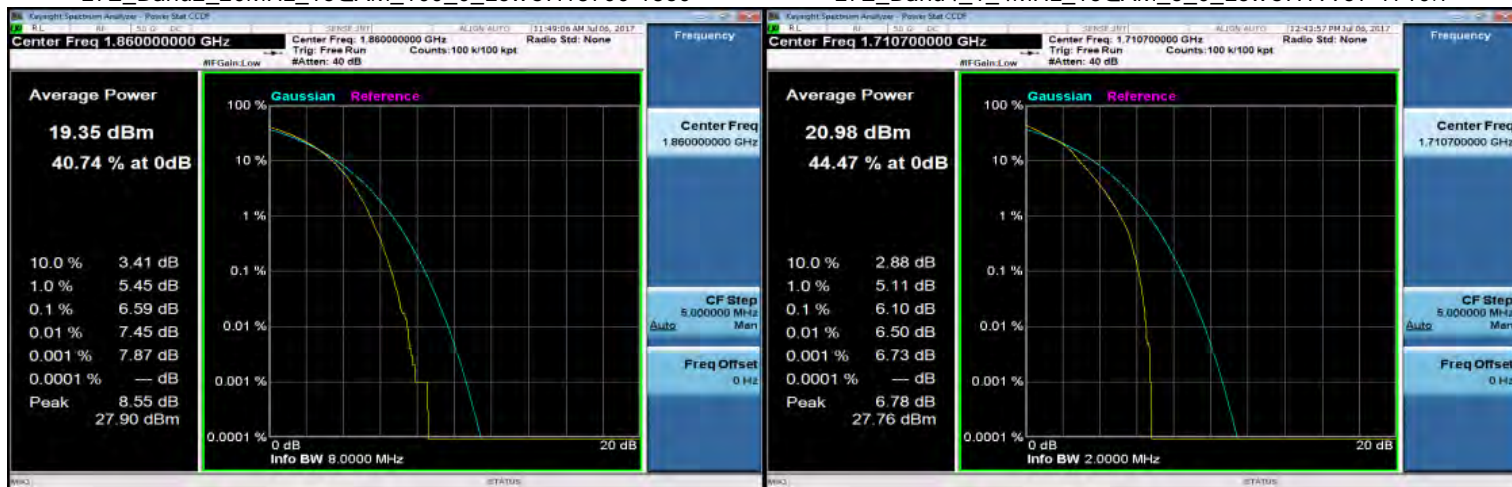
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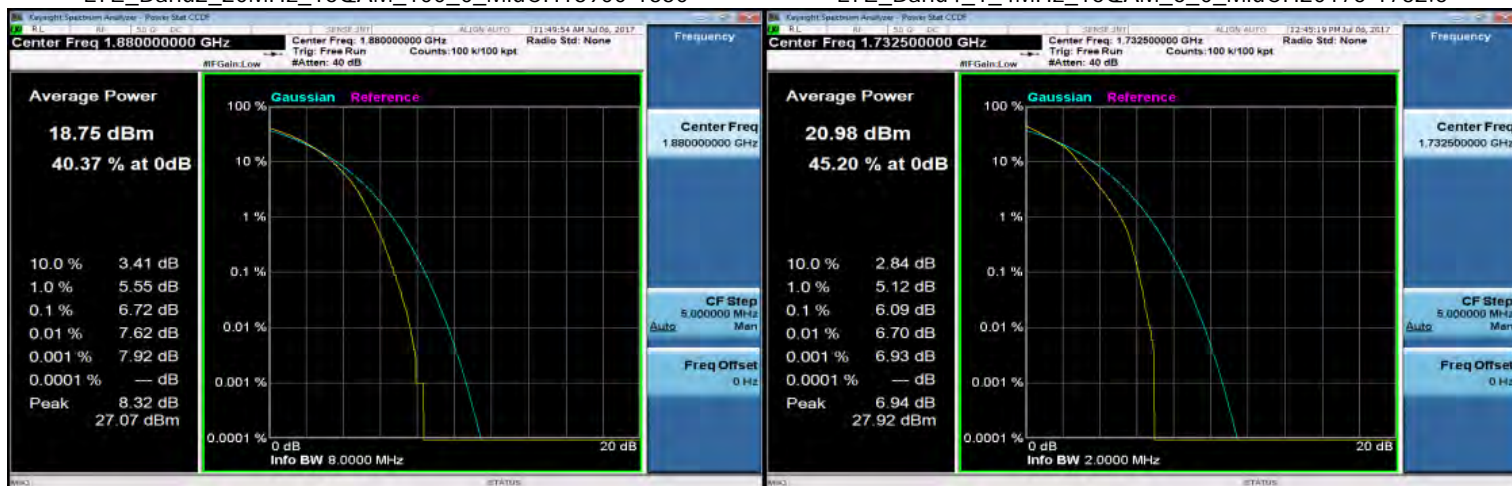
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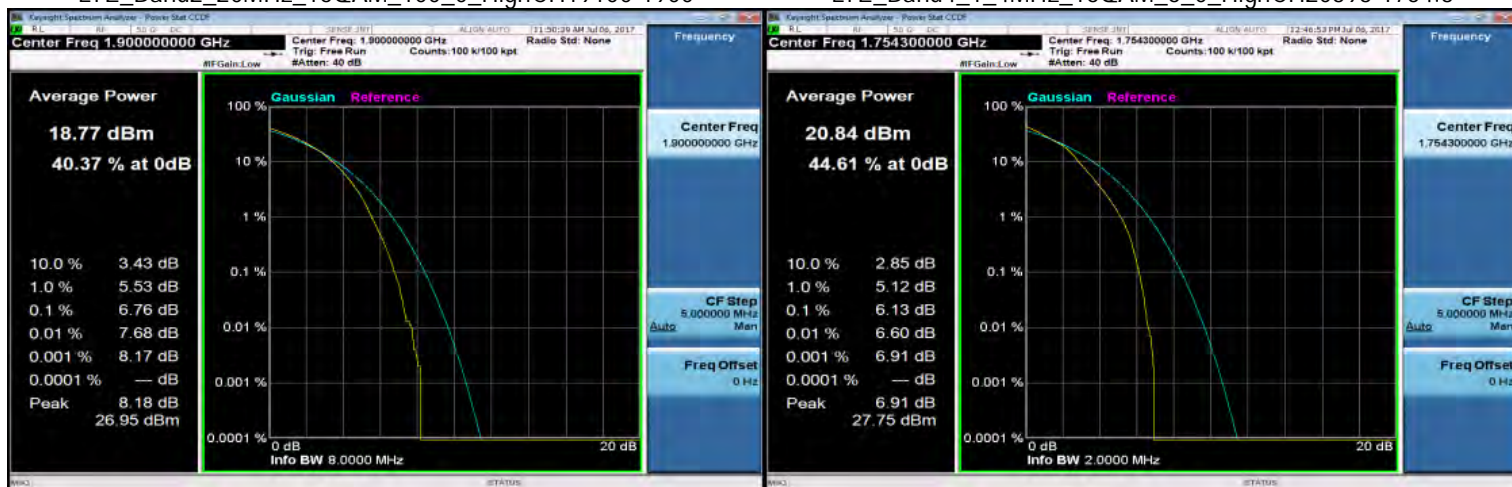
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LTE\_Band4\_1\_4MHz\_16QAM\_6\_0\_MidCH20175-1732.5



LTE\_Band2\_20MHz\_16QAM\_100\_0\_HighCH19100-1900

LTE\_Band4\_1\_4MHz\_16QAM\_6\_0\_HighCH20393-1754.3



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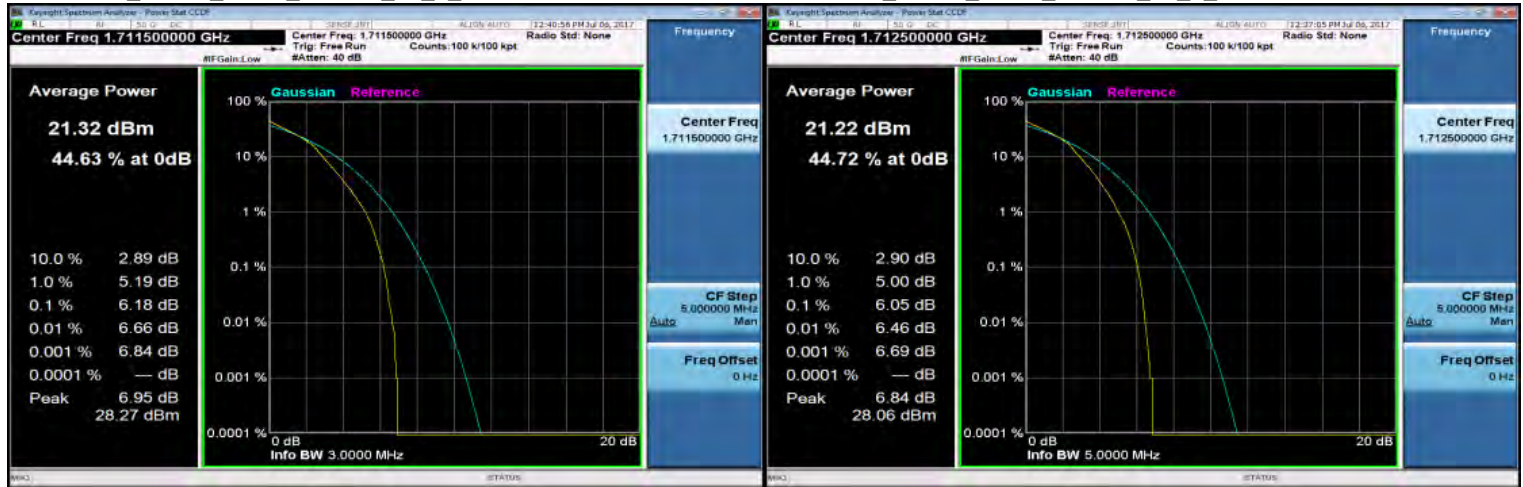
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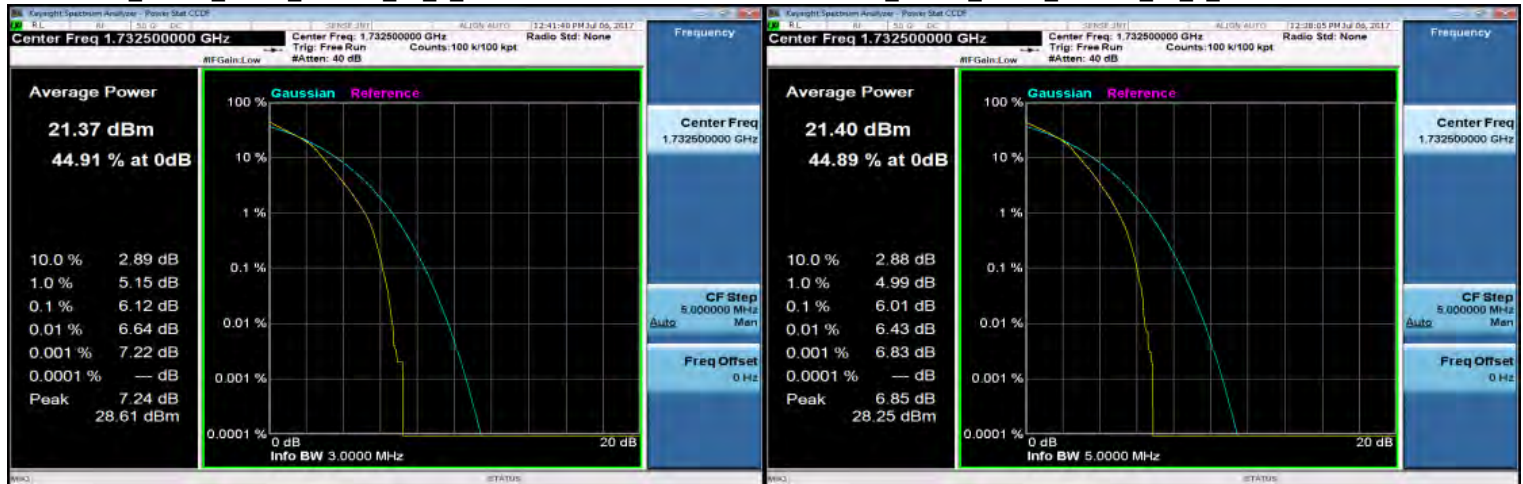
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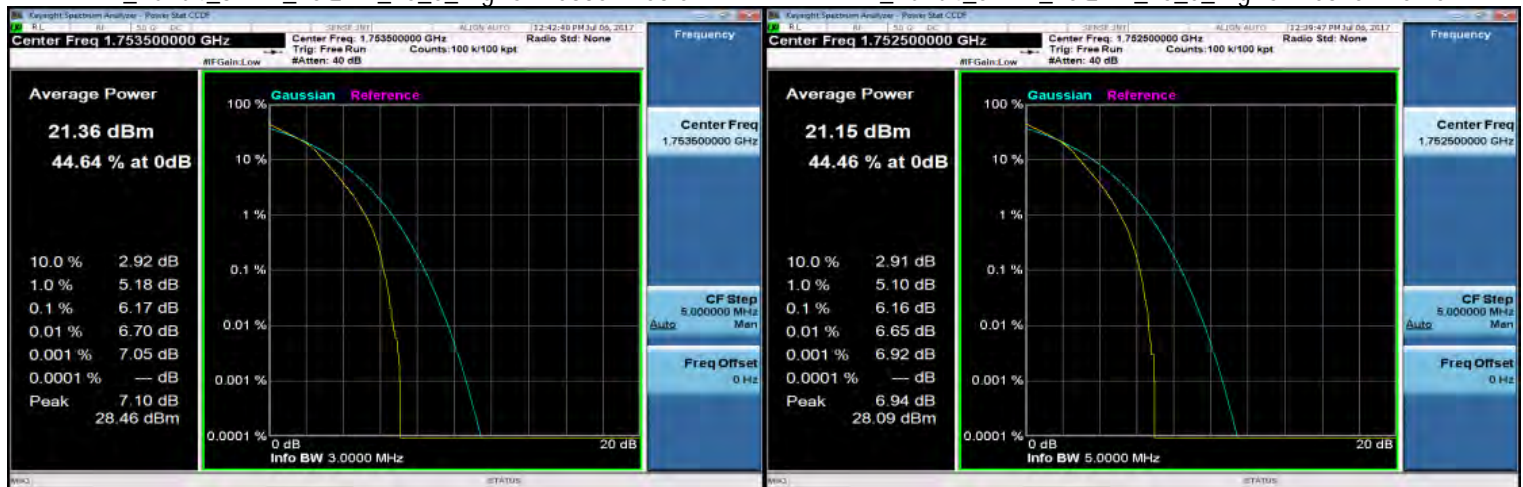
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LTE\_Band4\_5MHz\_16QAM\_25\_0\_MidCH20175-1732.5



LTE\_Band4\_3MHz\_16QAM\_15\_0\_HighCH20385-1753.5

LTE\_Band4\_5MHz\_16QAM\_25\_0\_HighCH20375-1752.5



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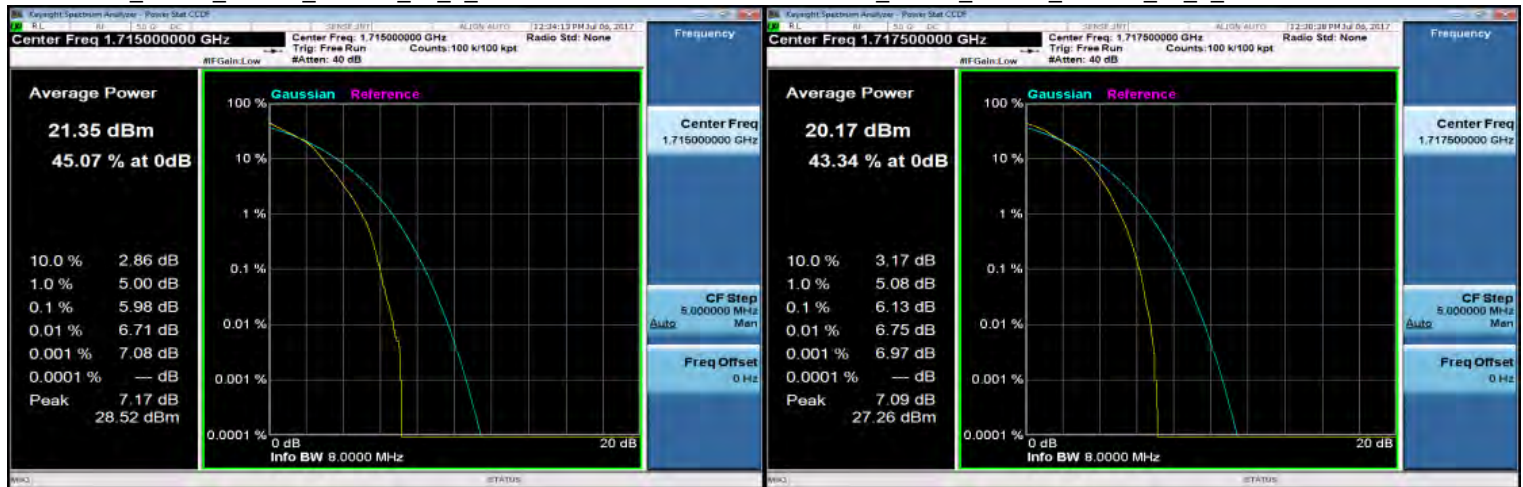
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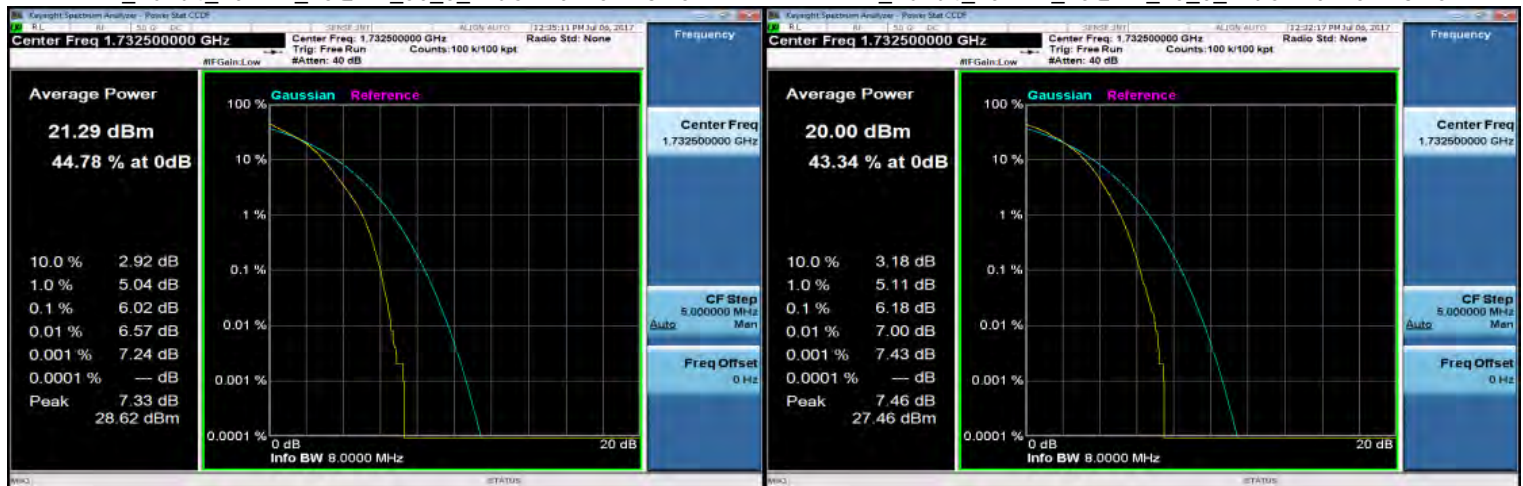
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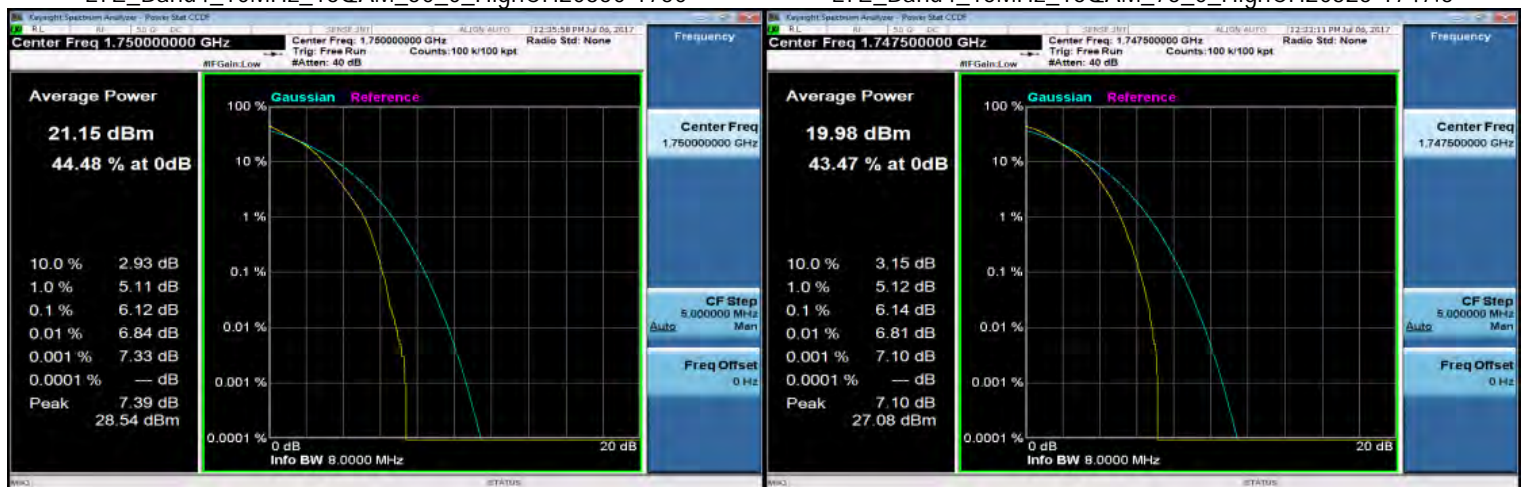
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LTE\_Band4\_15MHz\_16QAM\_75\_0\_MidCH20175-1732.5



LTE\_Band4\_10MHz\_16QAM\_50\_0\_HighCH20350-1750

LTE\_Band4\_15MHz\_16QAM\_75\_0\_HighCH20325-1747.5



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