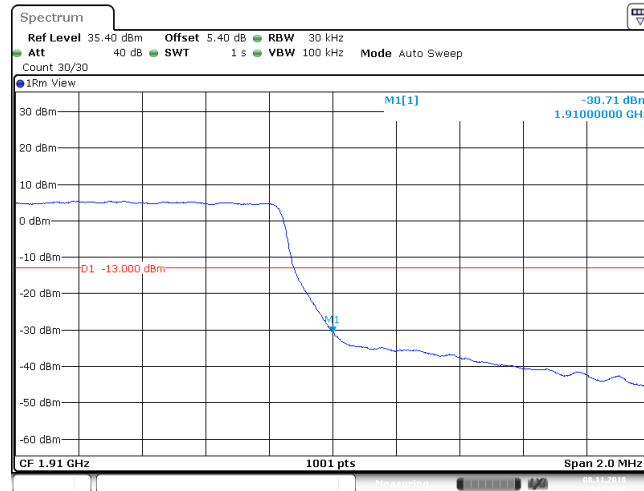
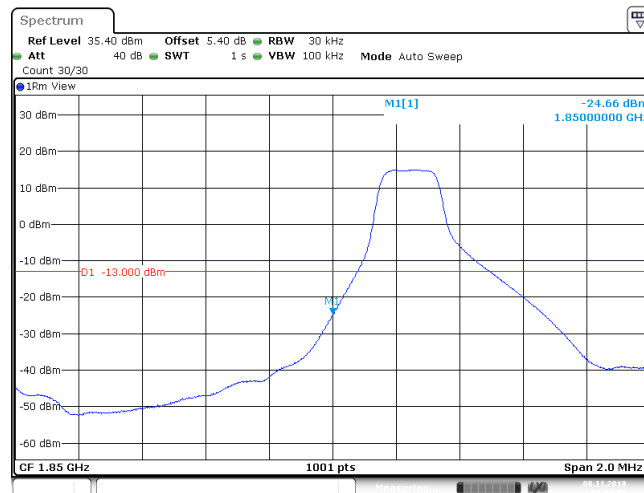


Band2_1.4MHz_16QAM_19193_6RB#0



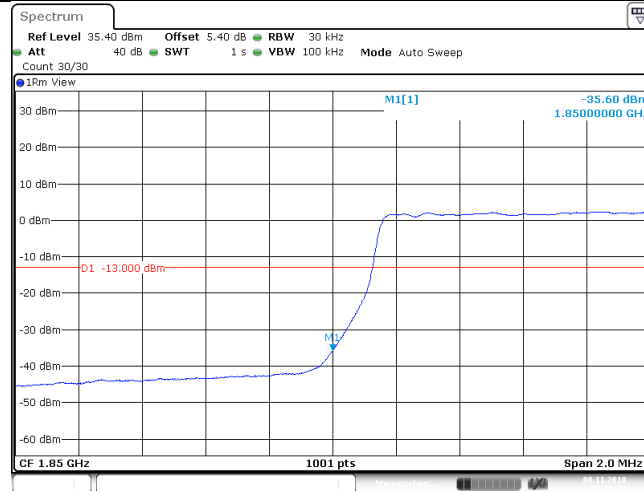
Date: 8 NOV 2018 04:56:45

Band2_3MHz_QPSK_18615_1RB#0



Date: 8 NOV 2018 04:58:57

Band2_3MHz_QPSK_18615_15RB#0



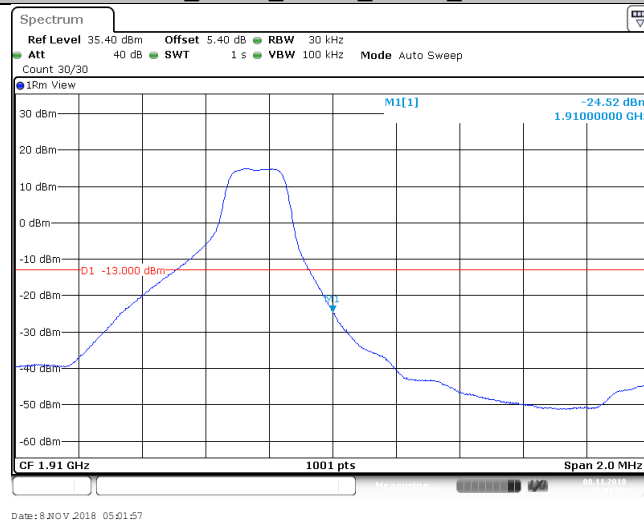
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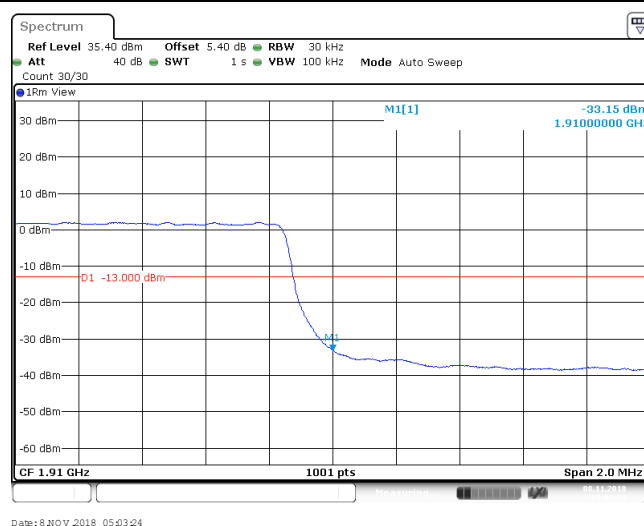
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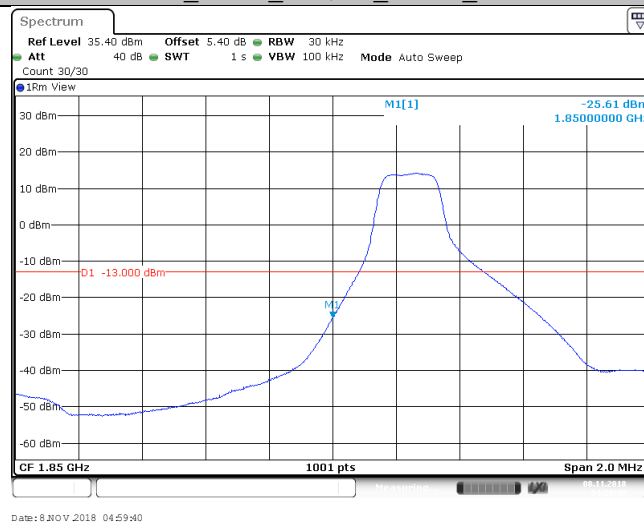
Band2_3MHz_QPSK_19185_1RB#14



Band2_3MHz_QPSK_19185_15RB#0



Band2_3MHz_16QAM_18615_1RB#0

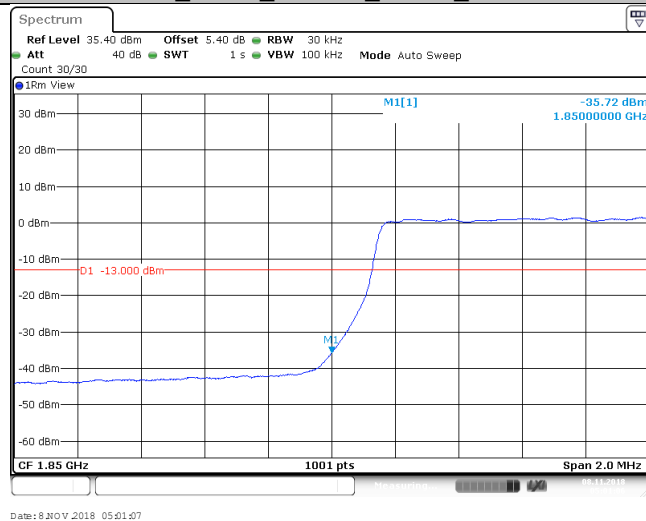


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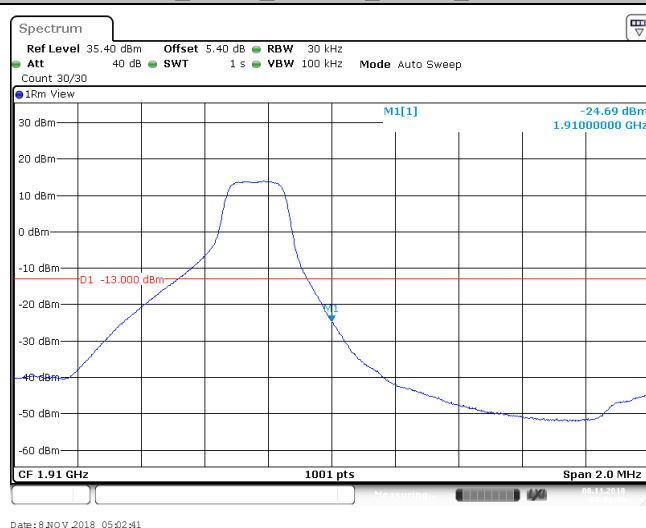
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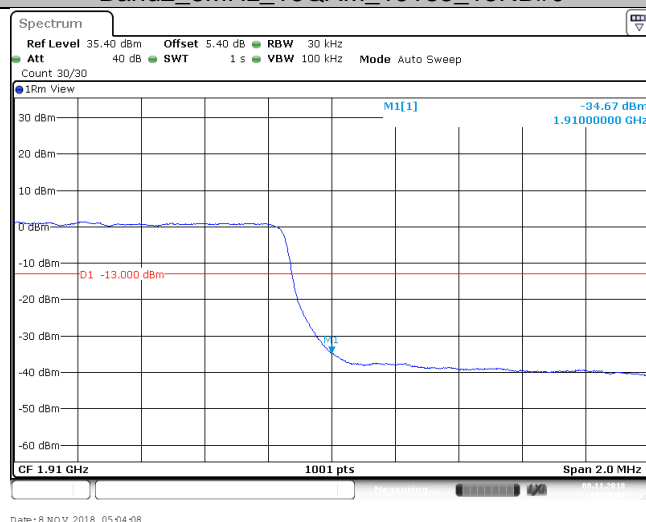
Band2_3MHz_16QAM_18615_15RB#0



Band2_3MHz_16QAM_19185_1RB#14



Band2_3MHz_16QAM_19185_15RB#0



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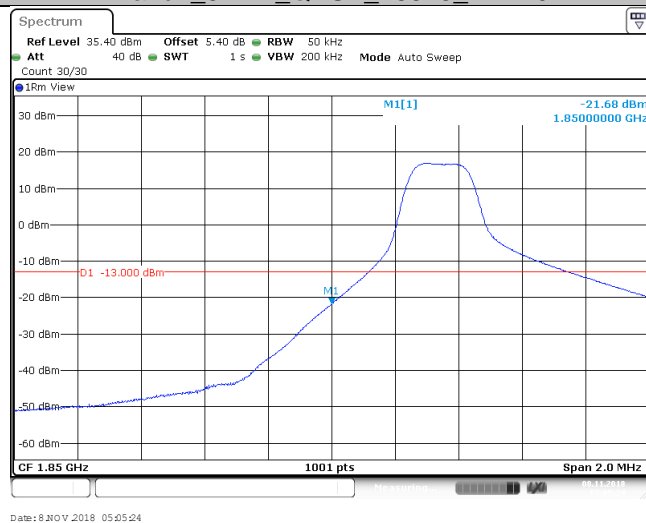
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f +86 (0) 755 2671 0594

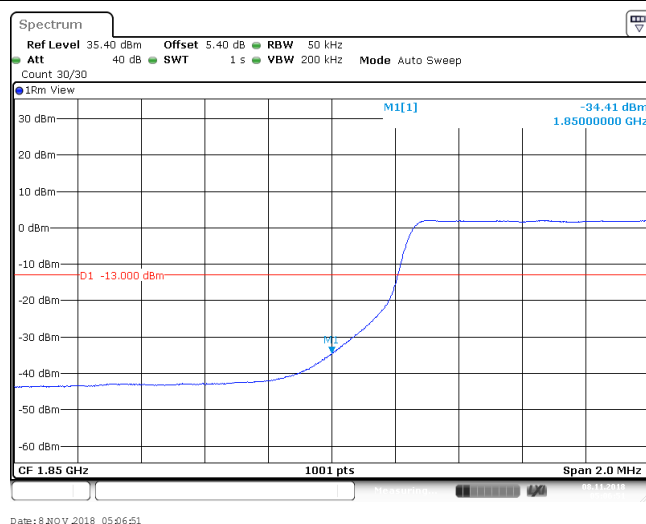
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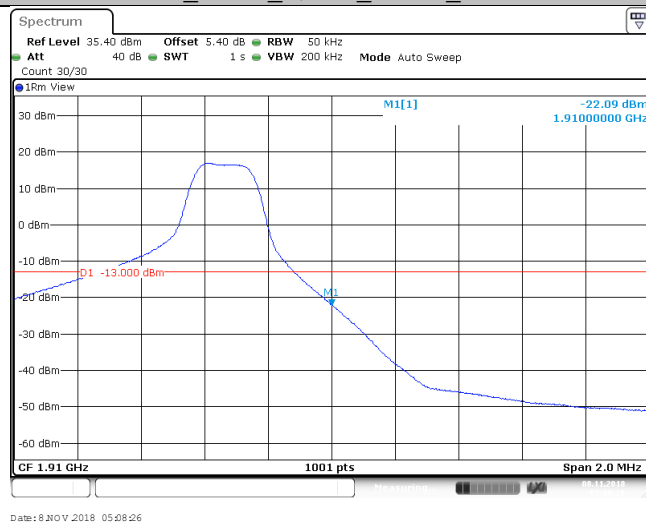
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Band2_5MHz_QPSK_18625_25RB#0



Band2_5MHz_QPSK_19175_1RB#24

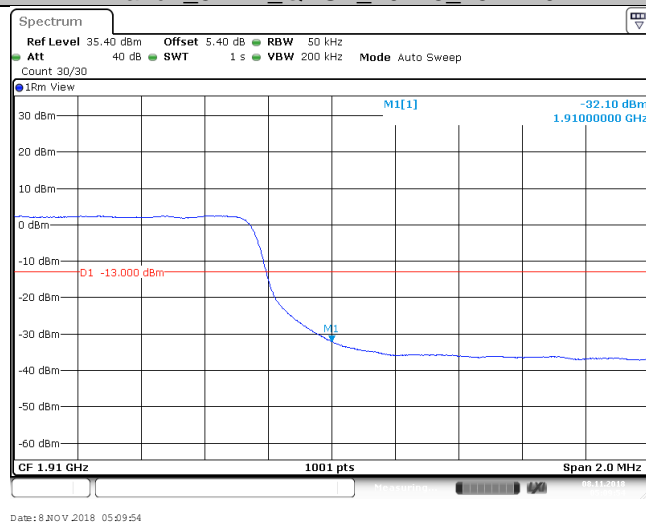


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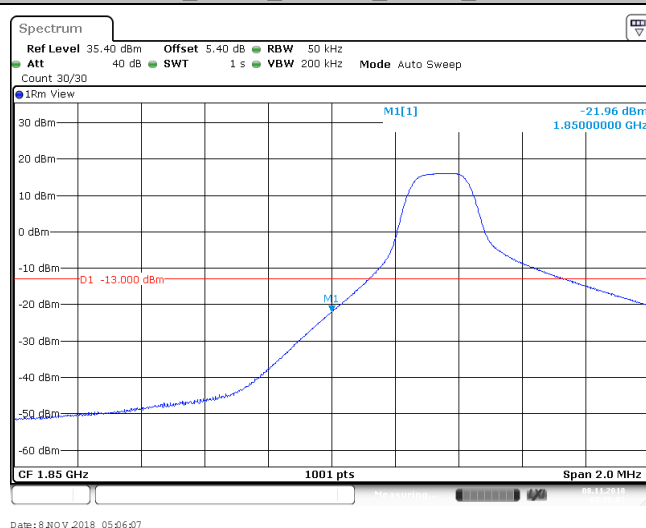
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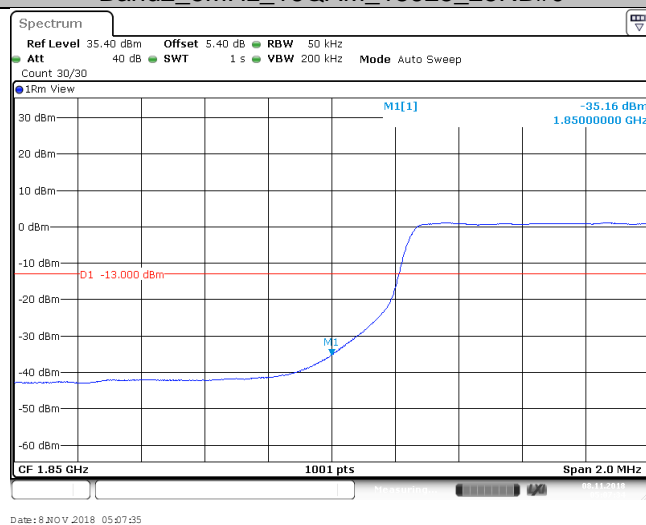
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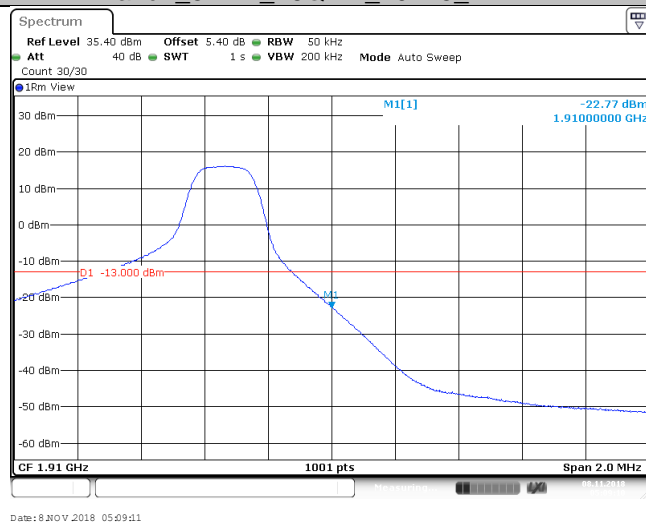


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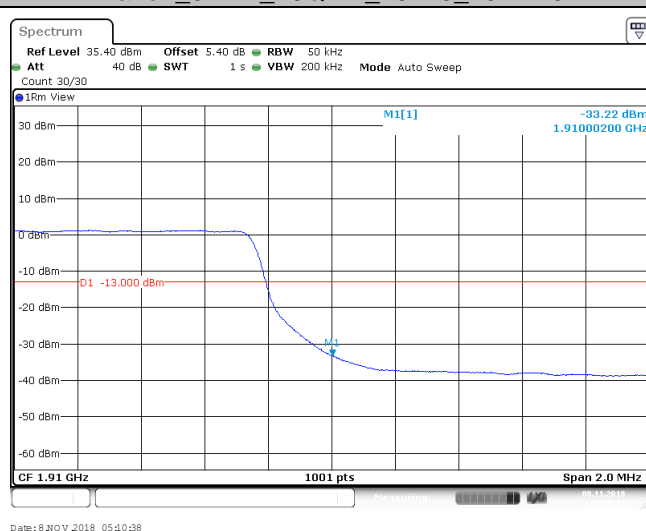
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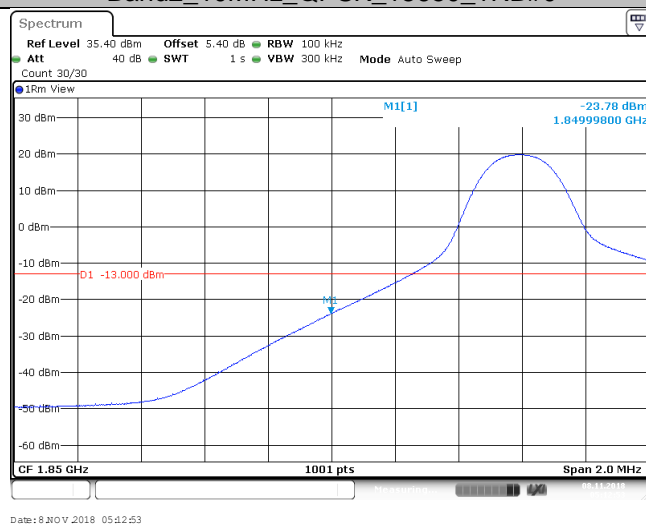
Band2_5MHz_16QAM_19175_1RB#24



Band2_5MHz_16QAM_19175_25RB#0



Band2_10MHz_QPSK_18650_1RB#0

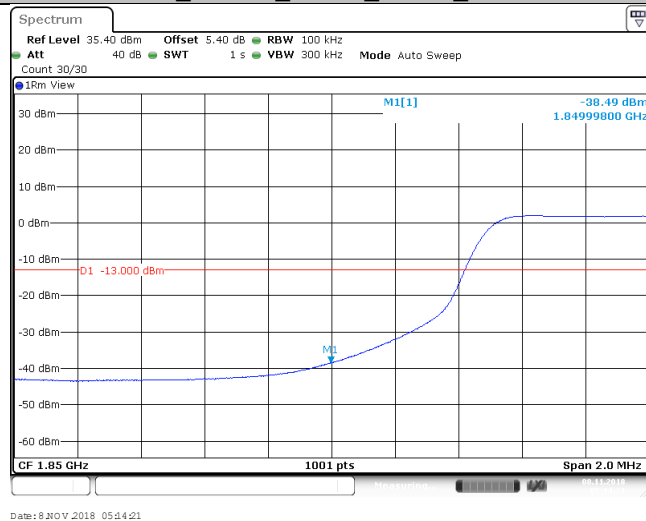


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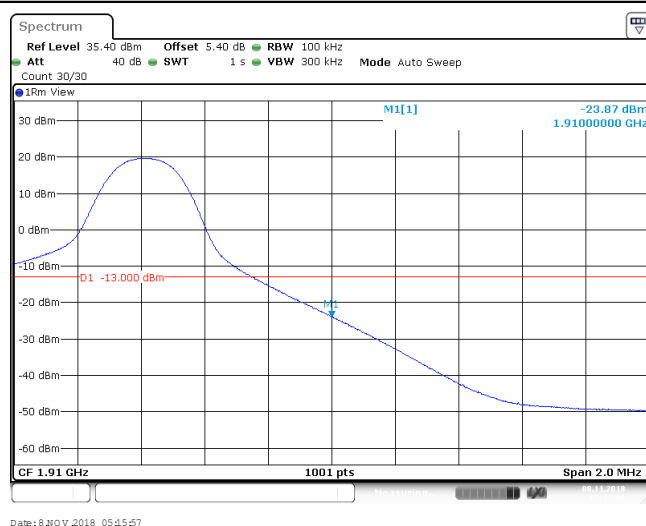
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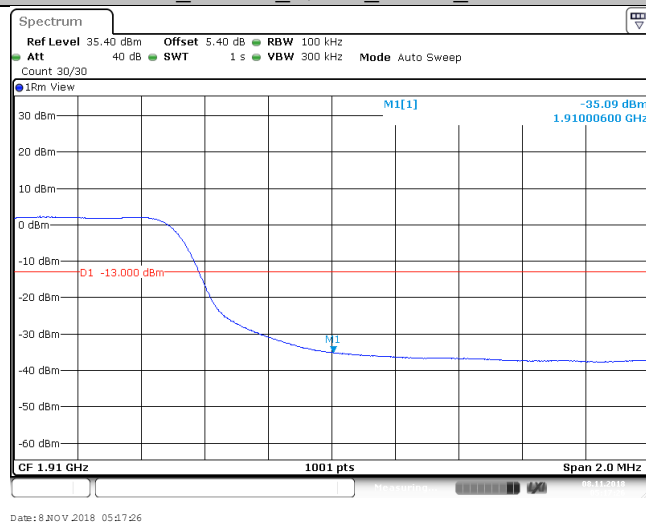
Band2_10MHz_QPSK_18650_50RB#0



Band2_10MHz_QPSK_19150_1RB#49



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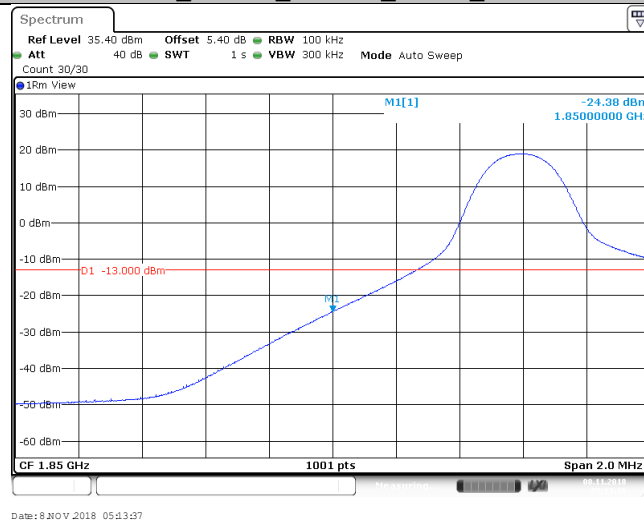


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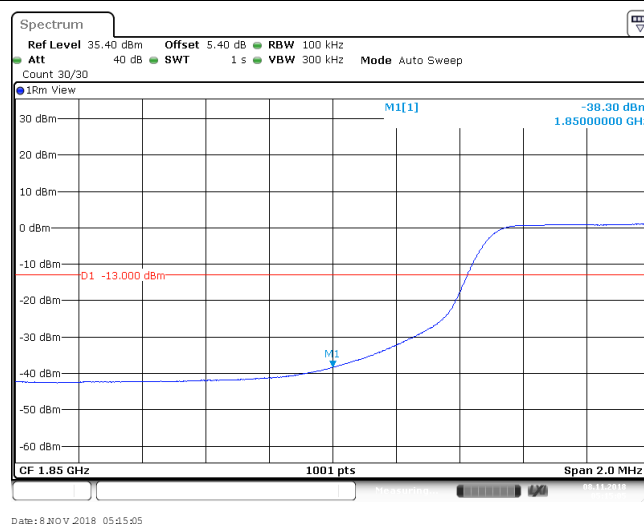
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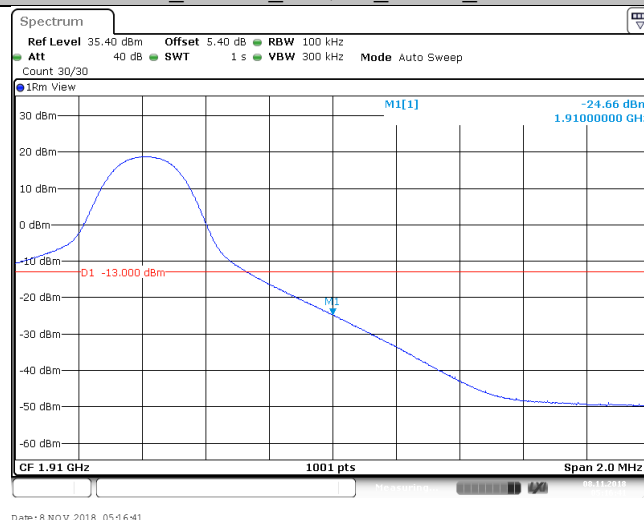
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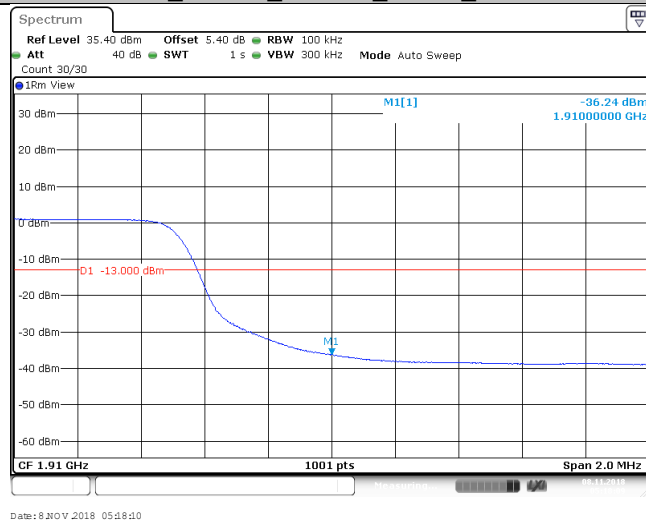


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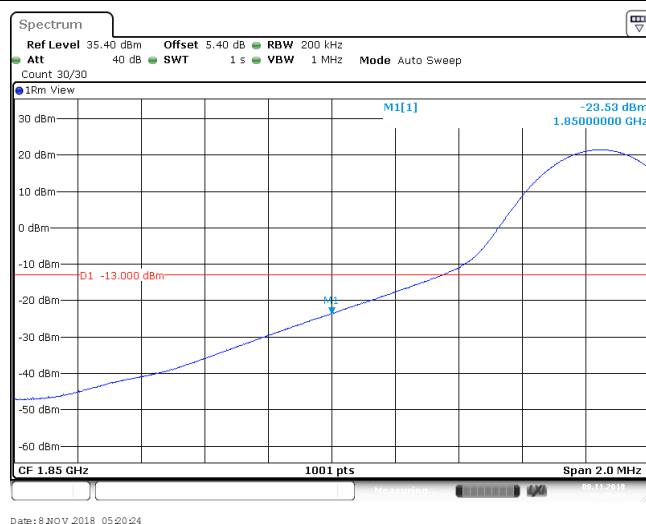
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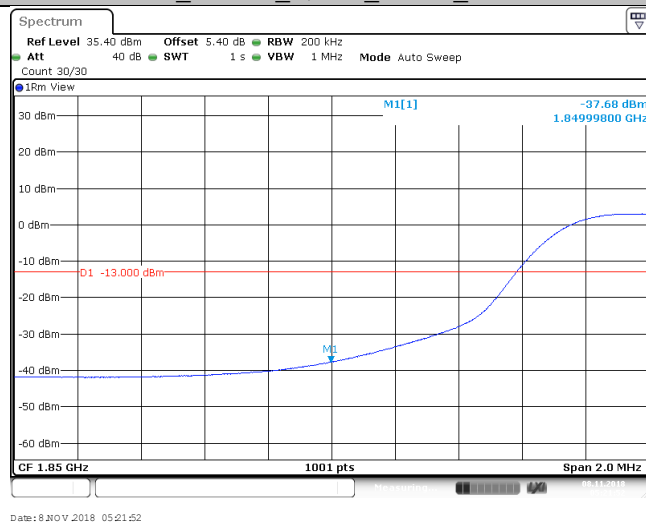
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Band2_15MHz_QPSK_18675_1RB#0



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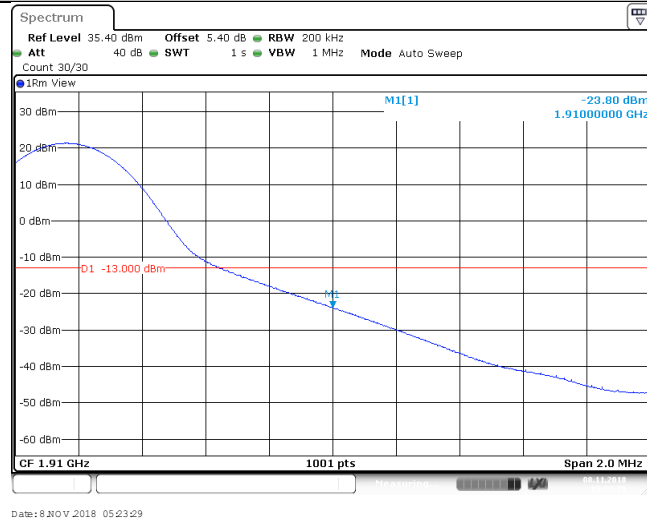


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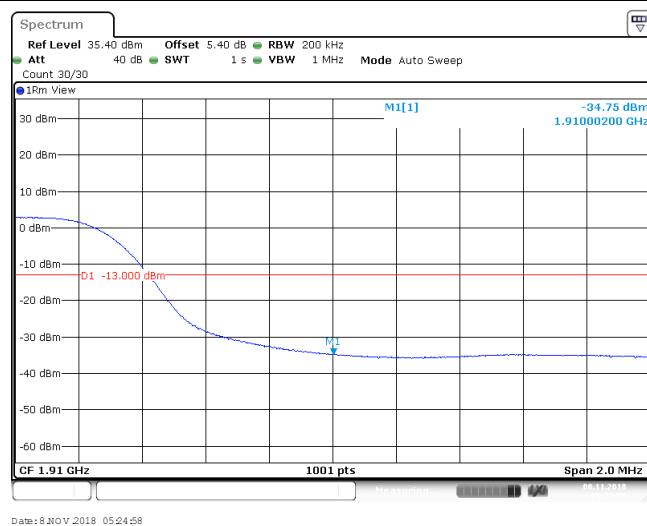
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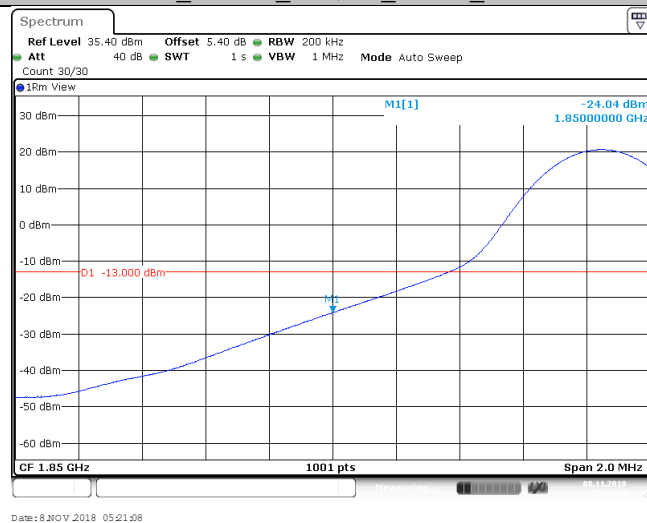
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Band2_15MHz_16QAM_18675_1RB#0

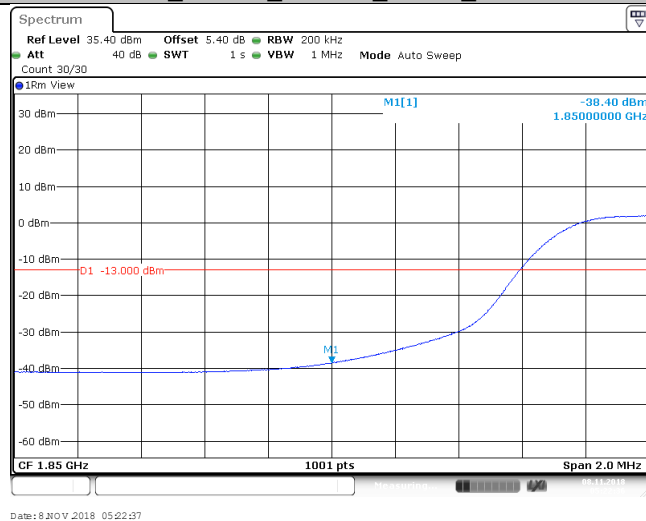


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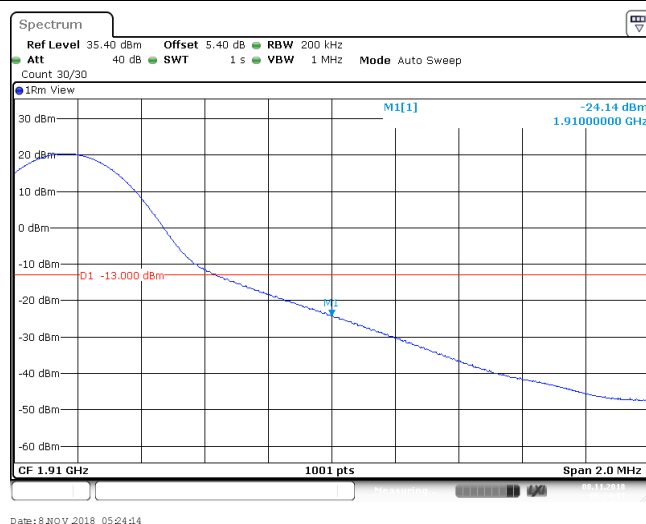
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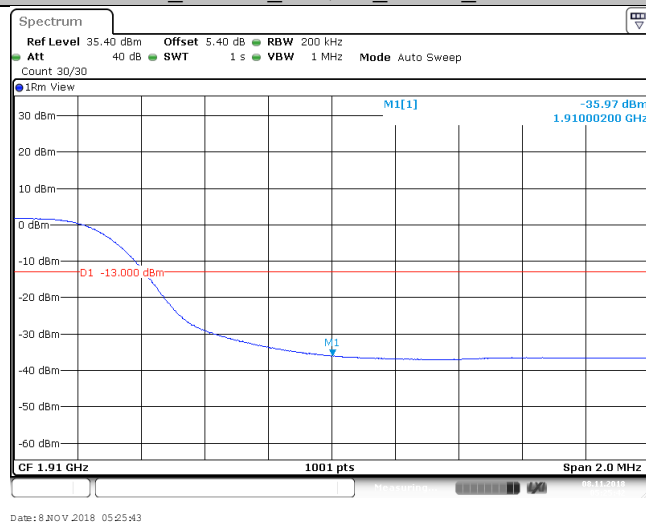
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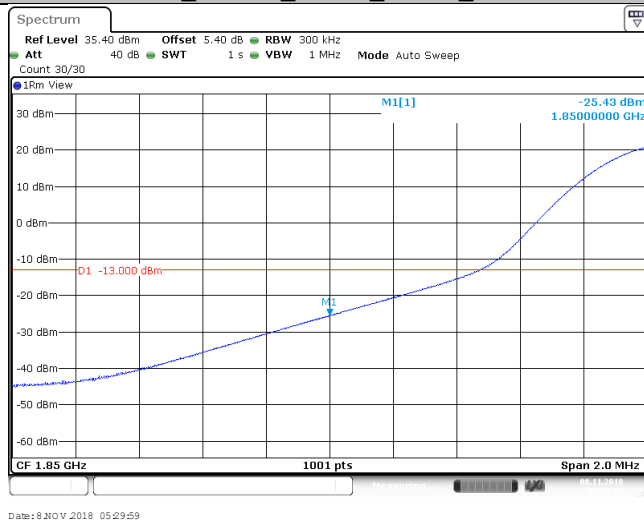


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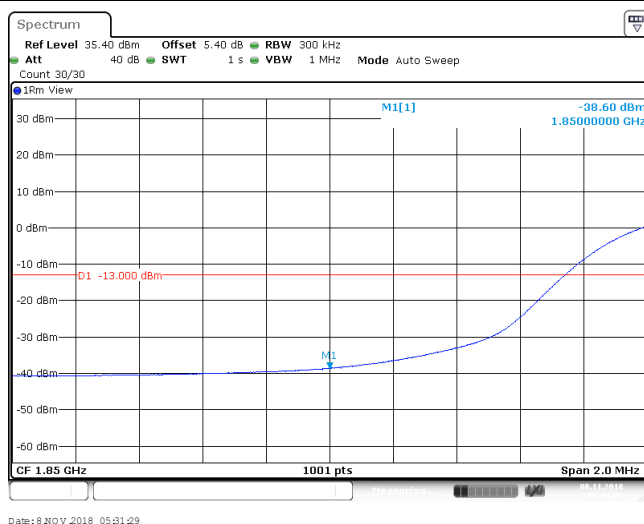
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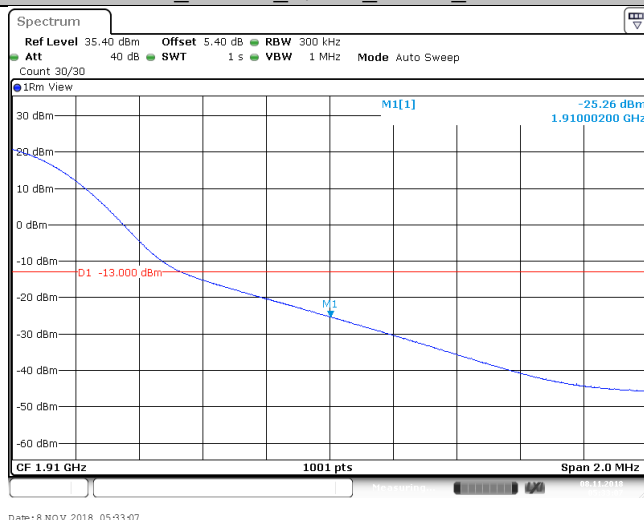
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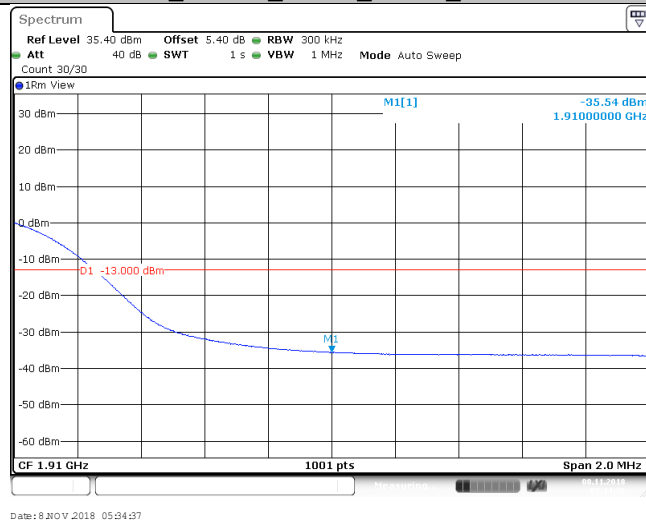


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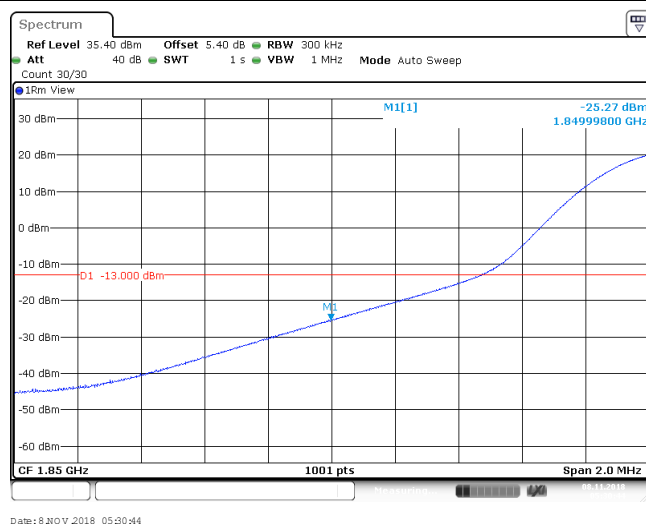
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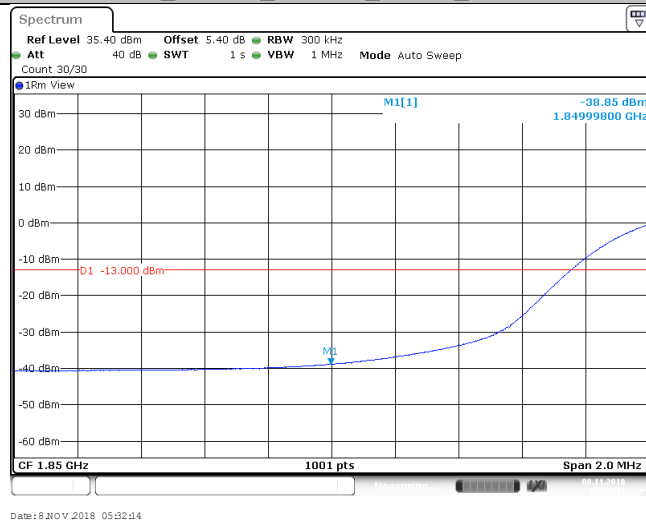
Band2_20MHz_QPSK_19100_100RB#0



Band2_20MHz_16QAM_18700_1RB#0



Band2_20MHz_16QAM_18700_100RB#0



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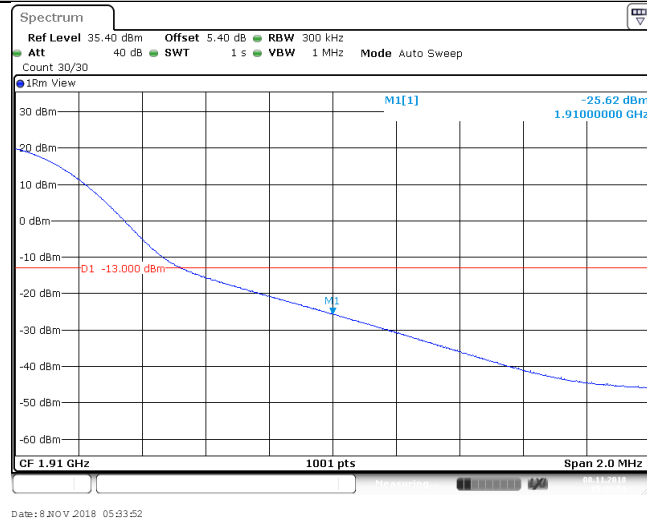
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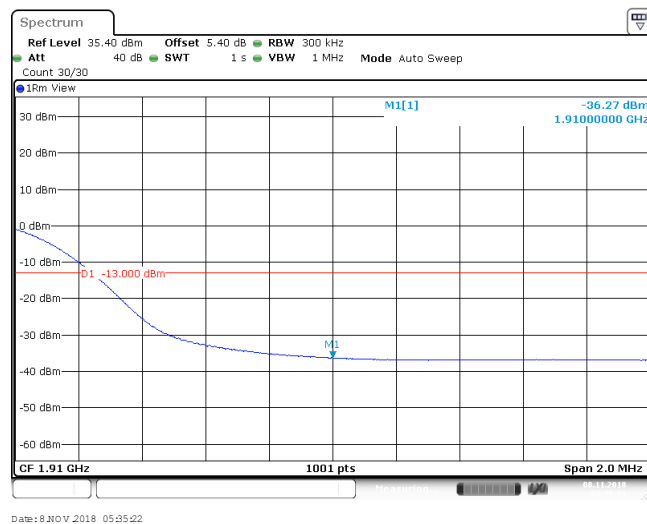
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Band2_20MHz_16QAM_19100_1RB#99



Band2_20MHz_16QAM_19100_100RB#0



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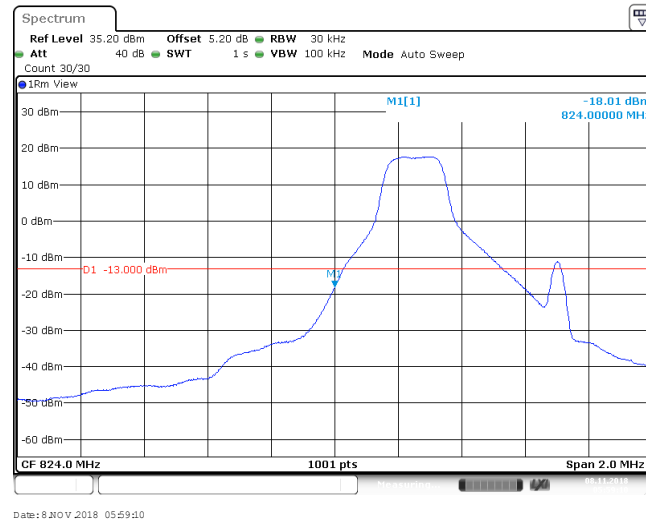
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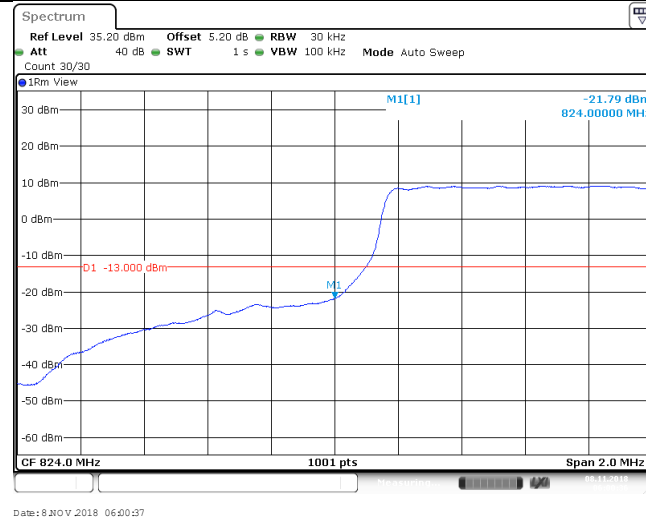
8.6. Measurement Result: LTE Band 5

8.6.1. Plots

Band5_1.4MHz_QPSK_20407_1RB#0



Band5_1.4MHz_QPSK_20407_6RB#0

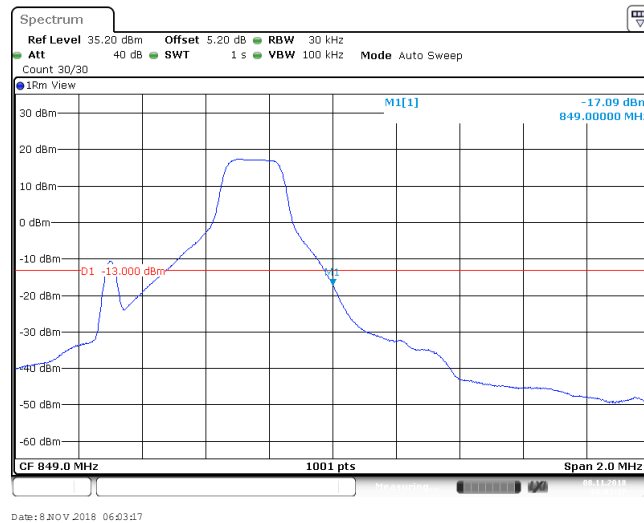


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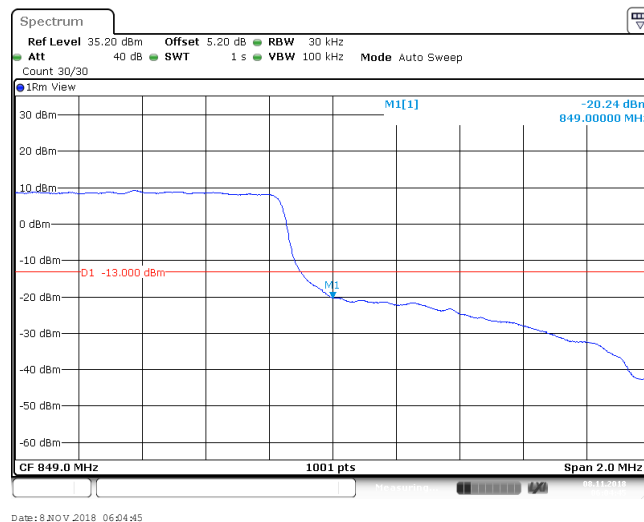
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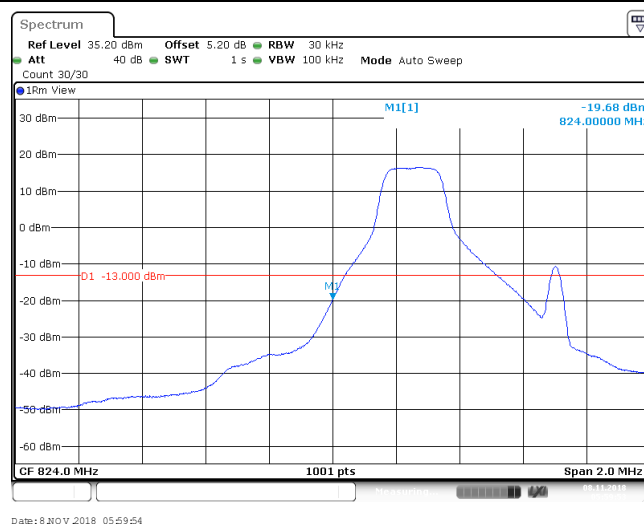
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Band5_1.4MHz_QPSK_20643_6RB#0



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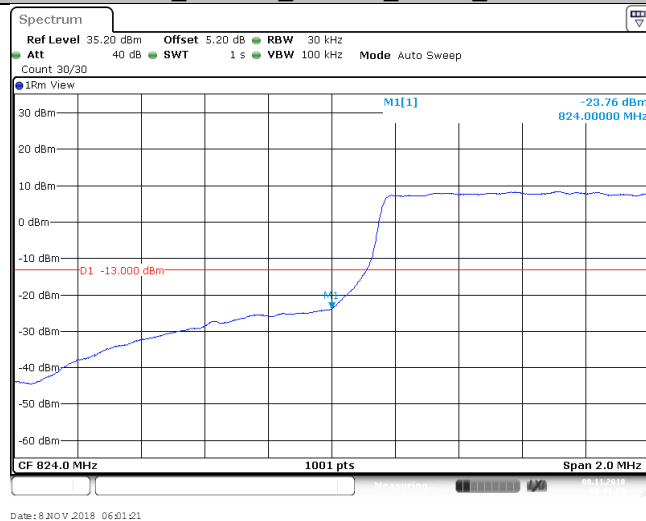


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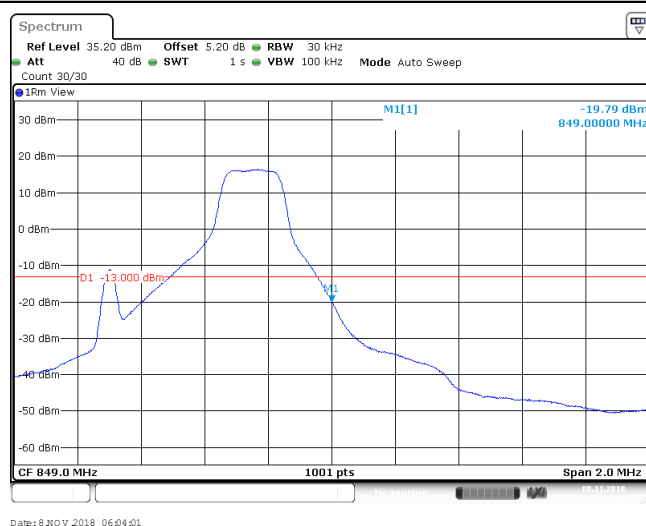
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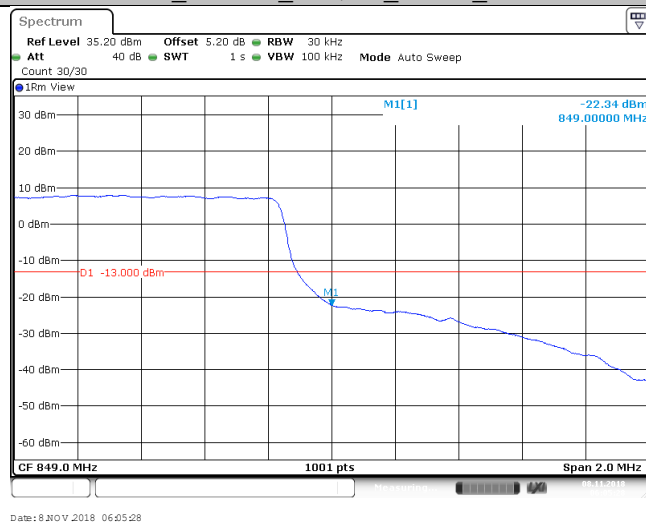
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Band5_1.4MHz_16QAM_20643_1RB#5



Band5_1.4MHz_16QAM_20643_6RB#0



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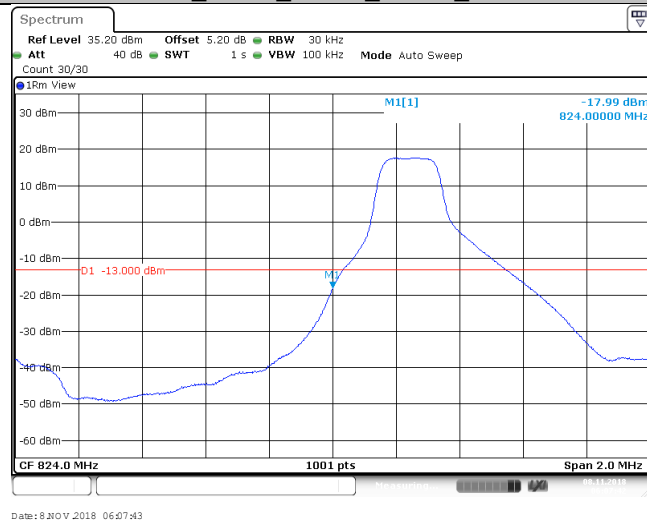
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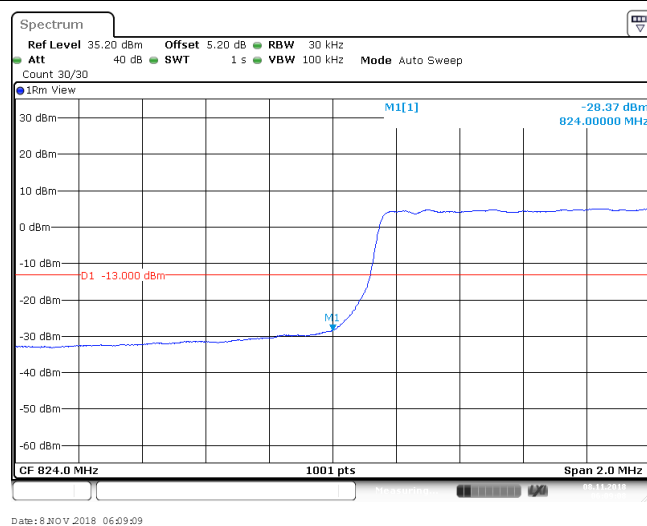
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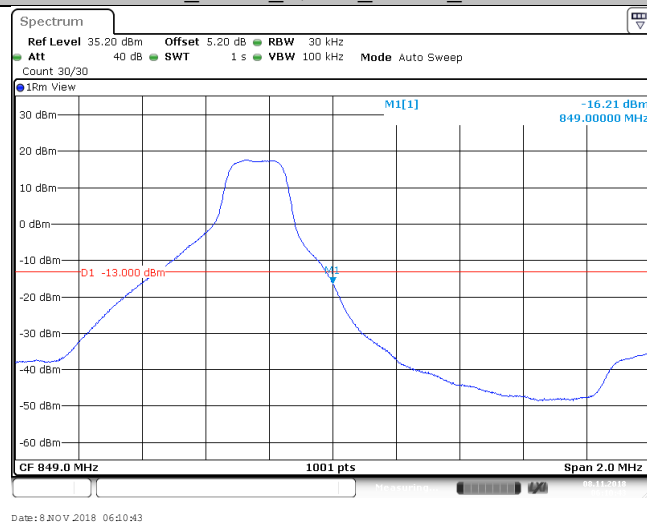
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Band5_3MHz_QPSK_20415_15RB#0



Band5_3MHz_QPSK_20635_1RB#14

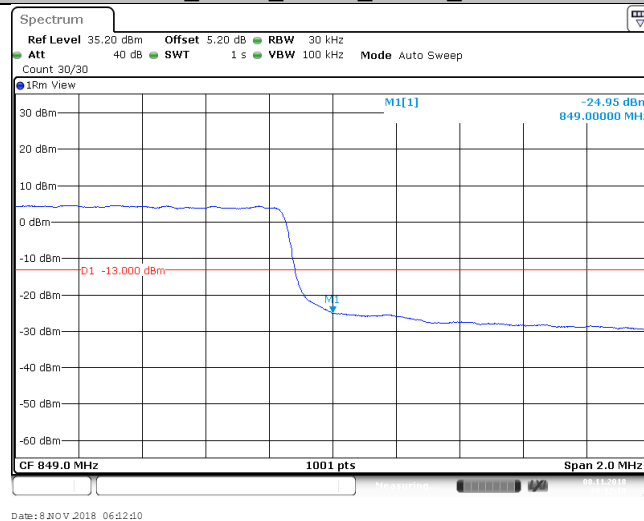


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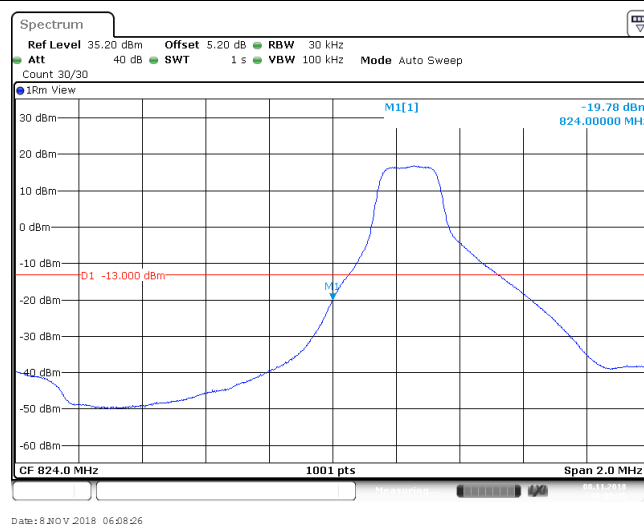
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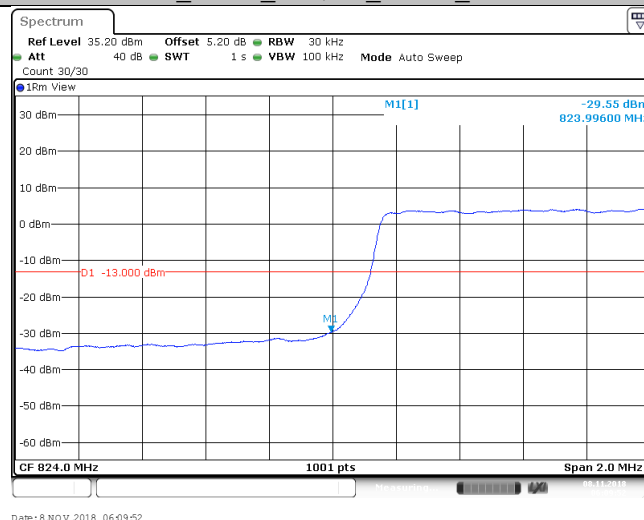
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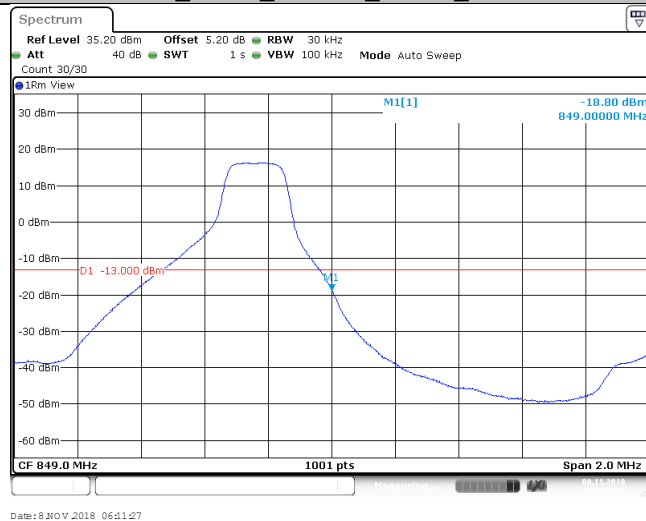


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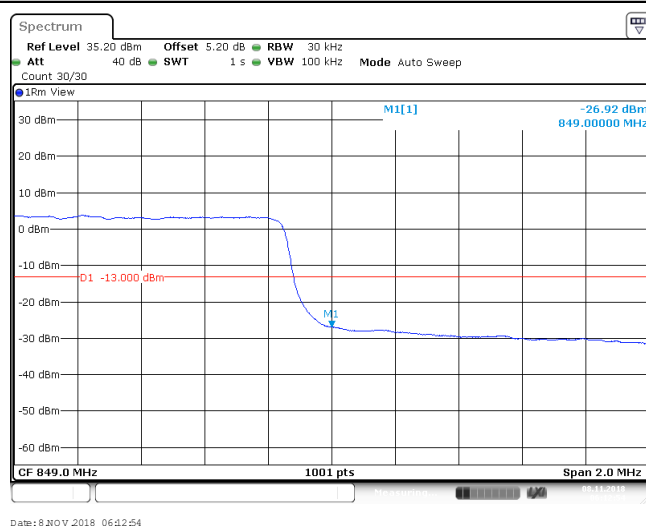
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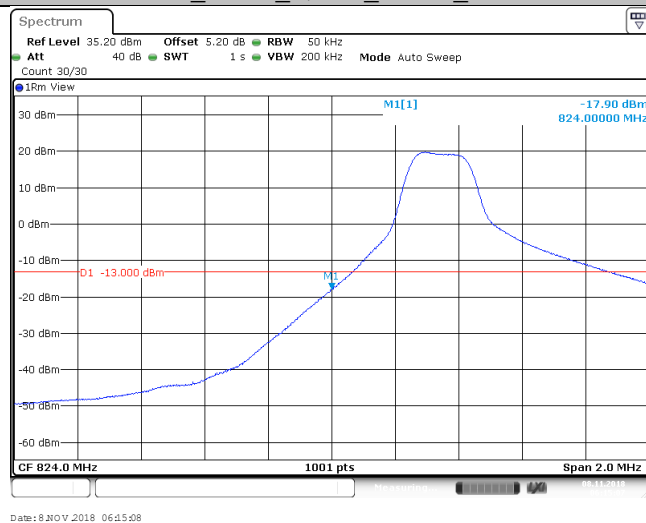
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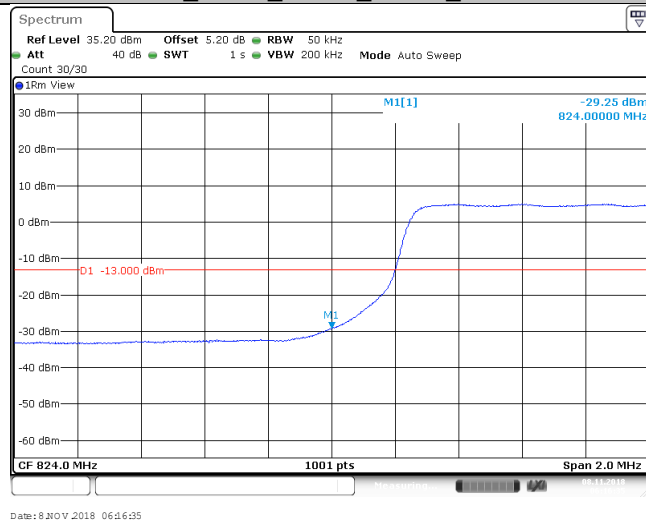


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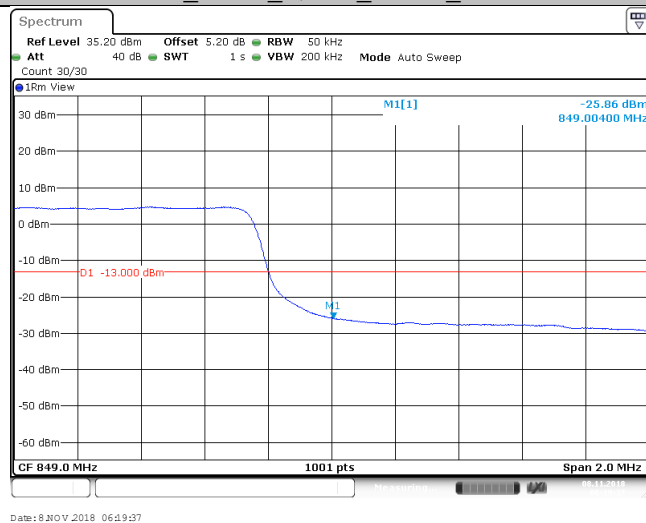
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Band5_5MHz_QPSK_20625_1RB#24



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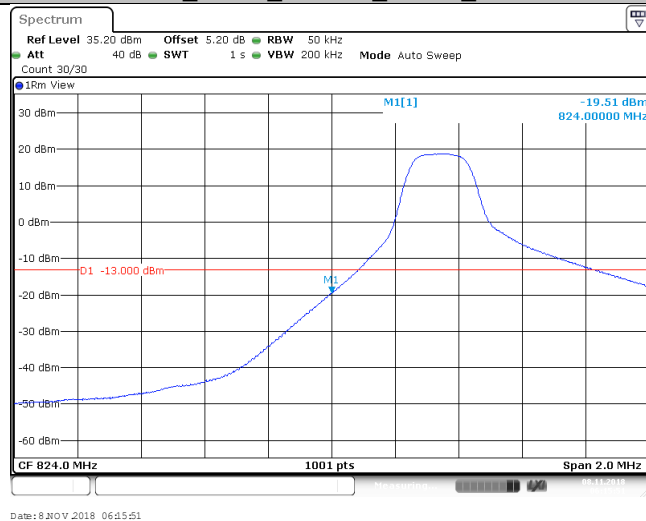


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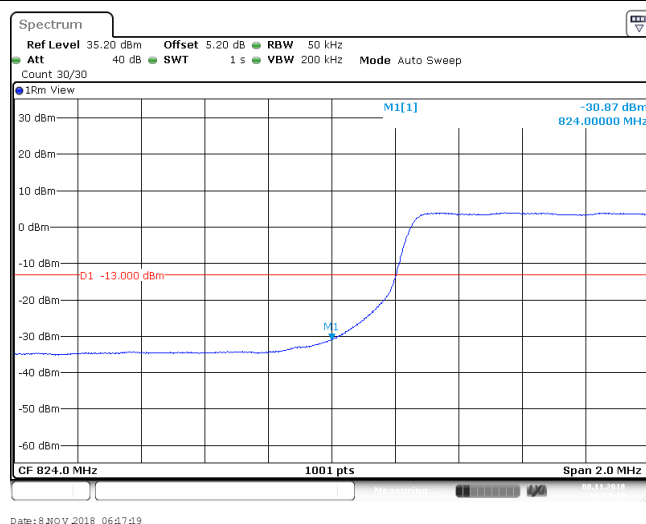
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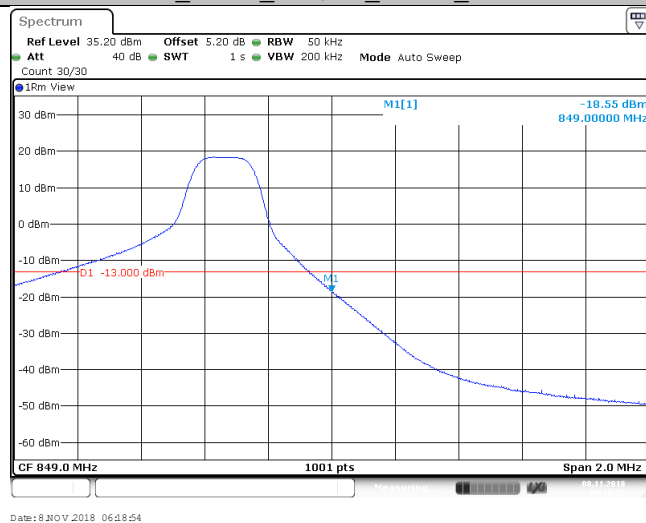
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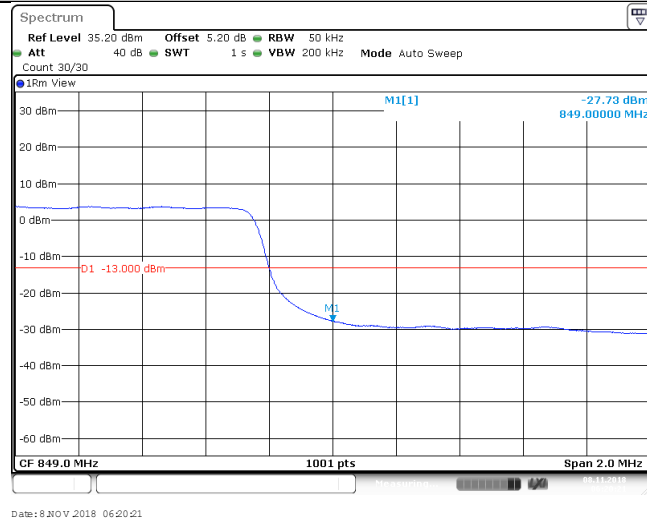


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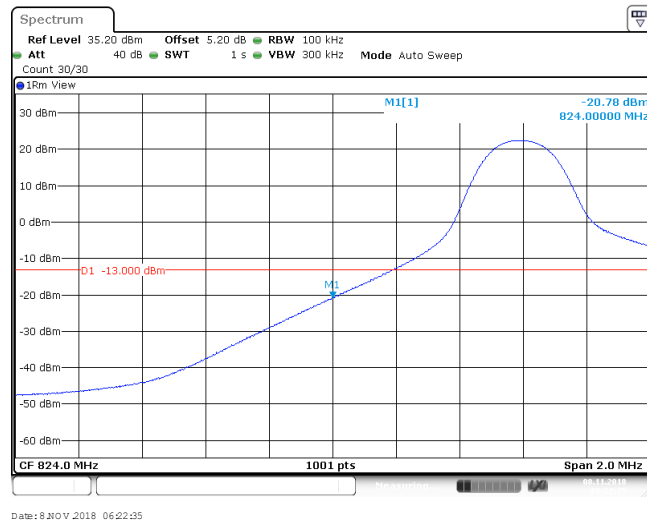
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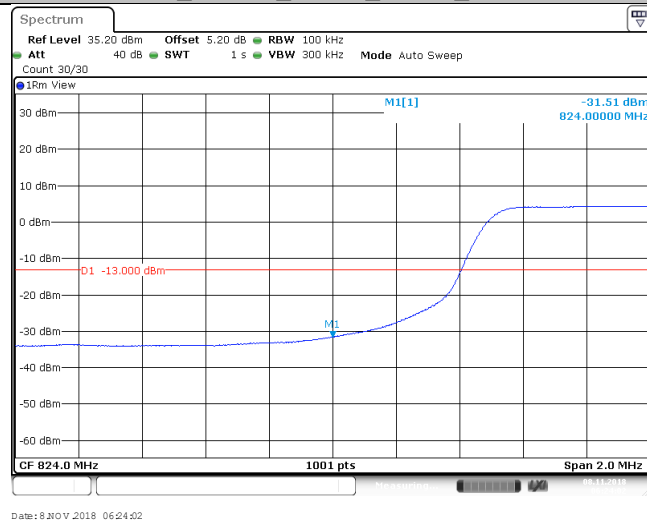
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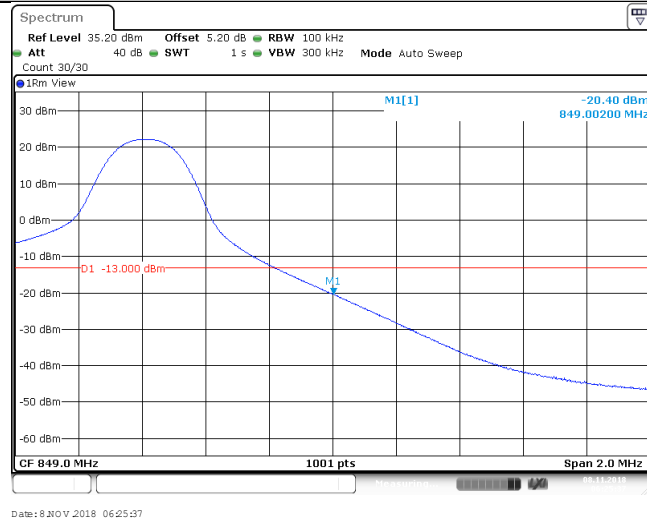


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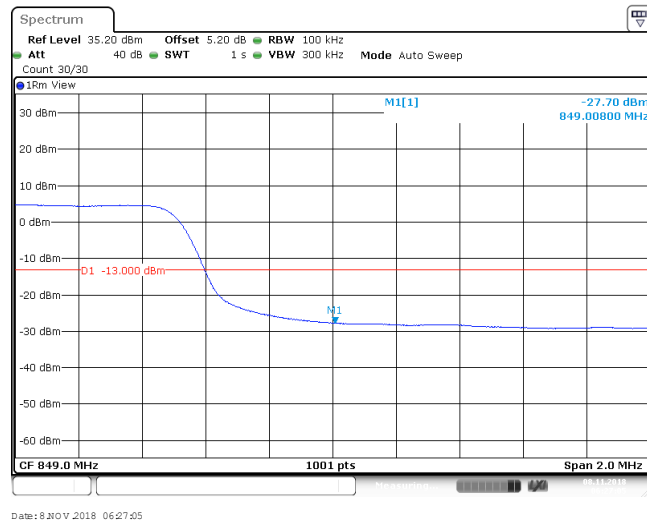
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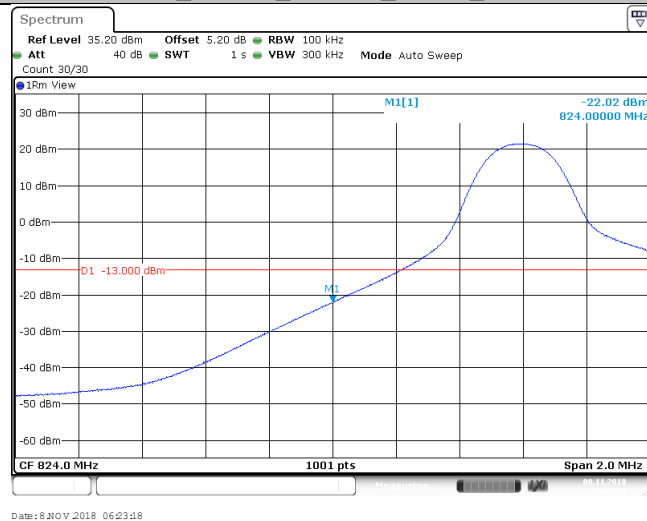
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Band5_10MHz_16QAM_20450_1RB#0

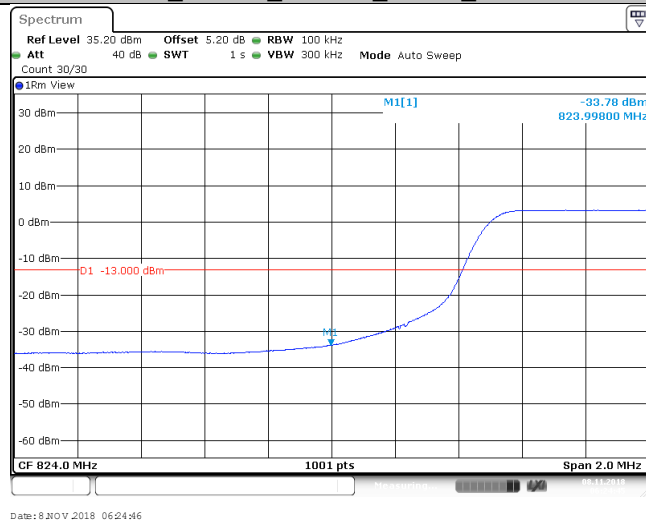


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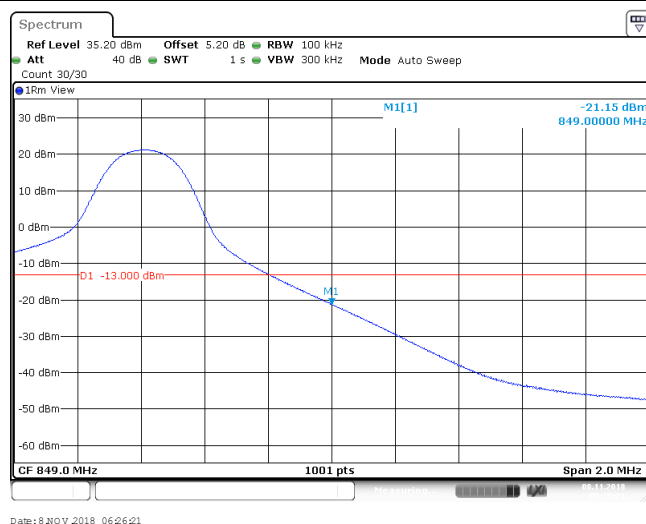
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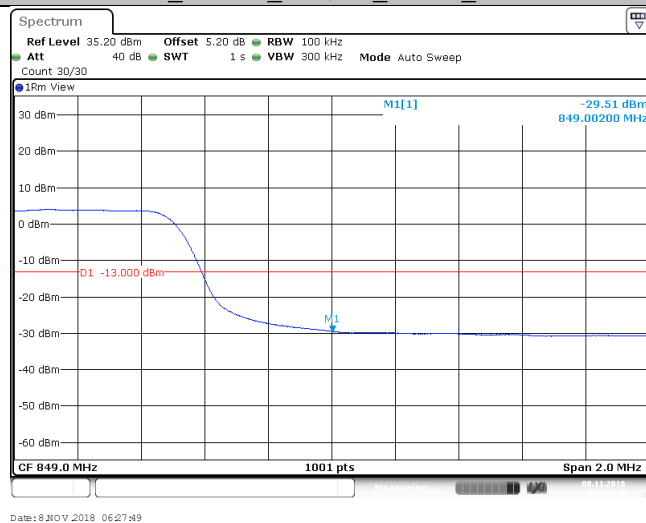
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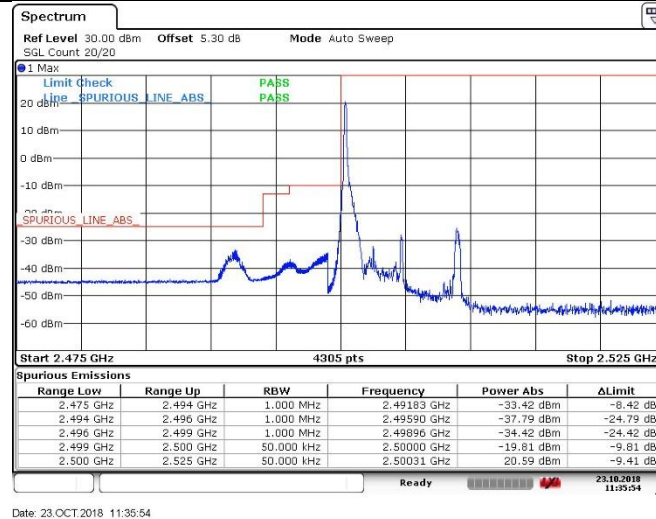
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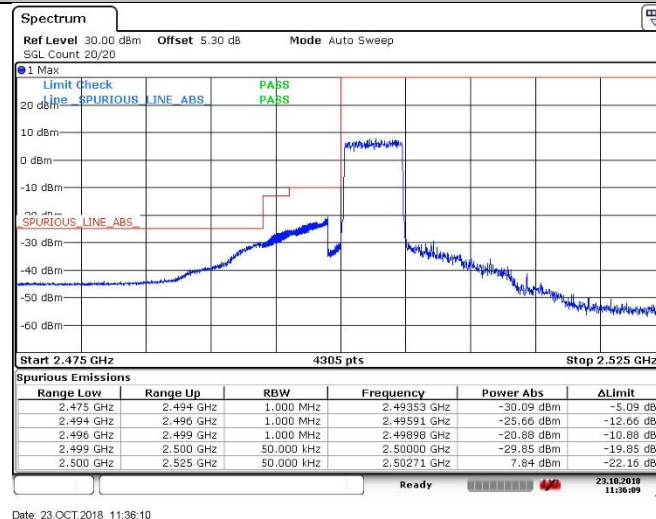
8.7. Measurement Result: LTE Band 7

8.7.1. Plots

BAND 7_5MHz_QPSK_20775_1RB#0



BAND 7_5MHz_QPSK_20775_25RB#0



BAND 7_5MHz_QPSK_21425_1RB#24

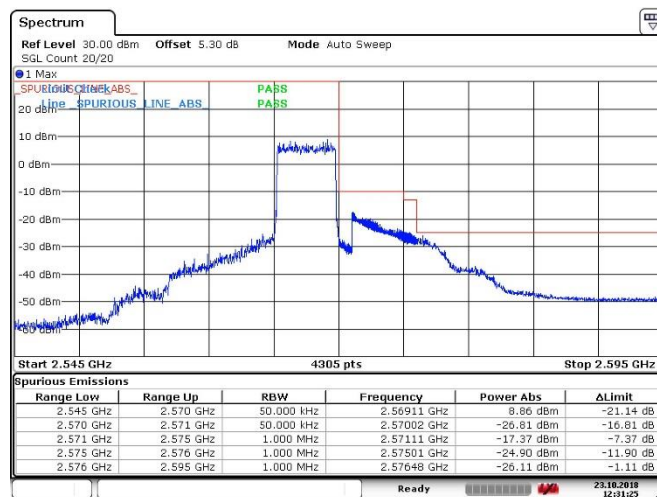
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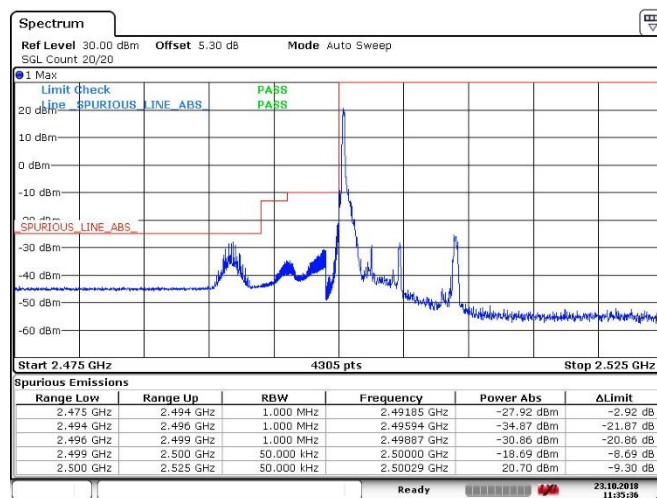
Date: 23.OCT.2018 12:31:49

BAND 7_5MHz_QPSK_21425_25RB#0



Date: 23.OCT.2018 12:31:26

BAND 7_5MHz_16QAM_20775_1RB#0



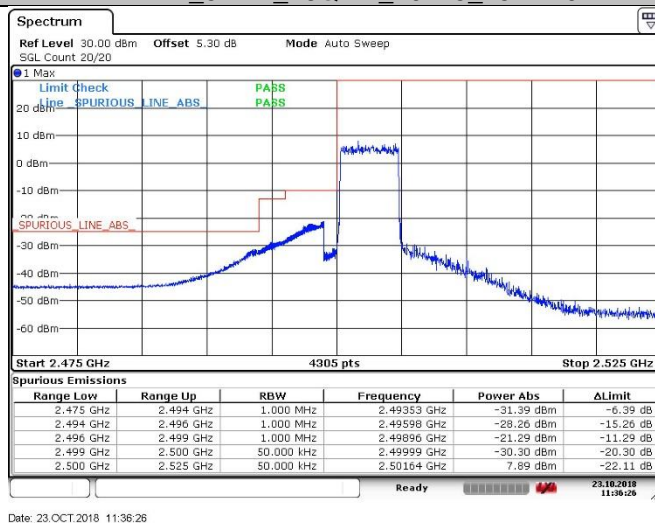
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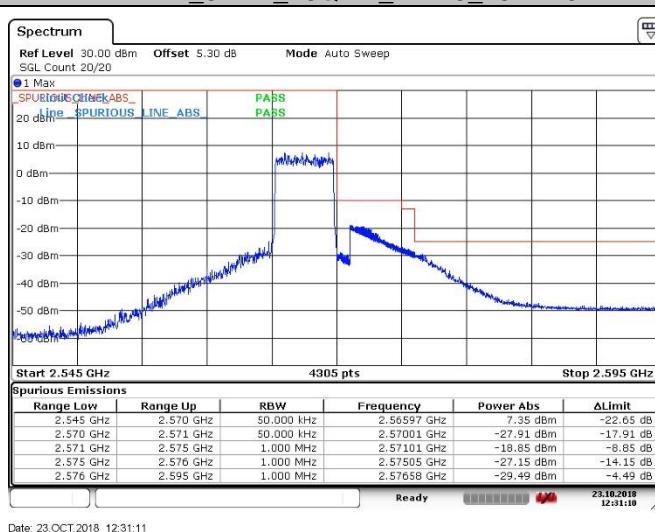
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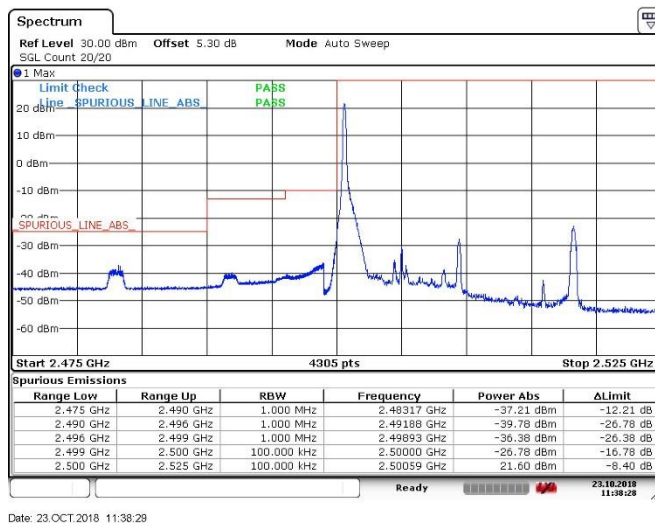


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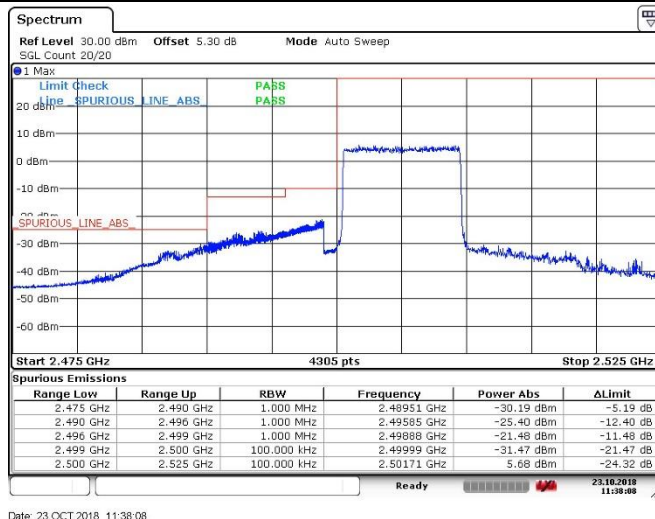
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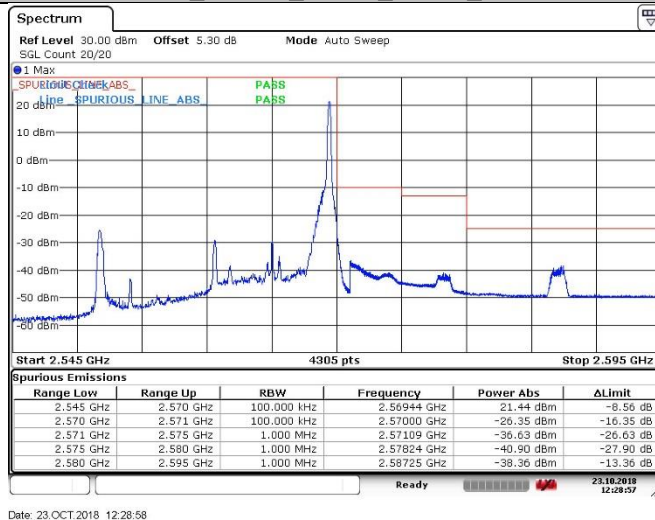
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BAND 7_10MHz_QPSK_20800_50RB#0



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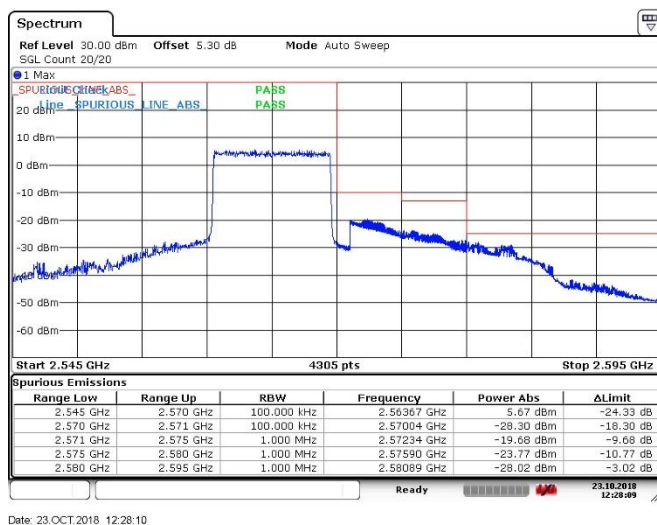
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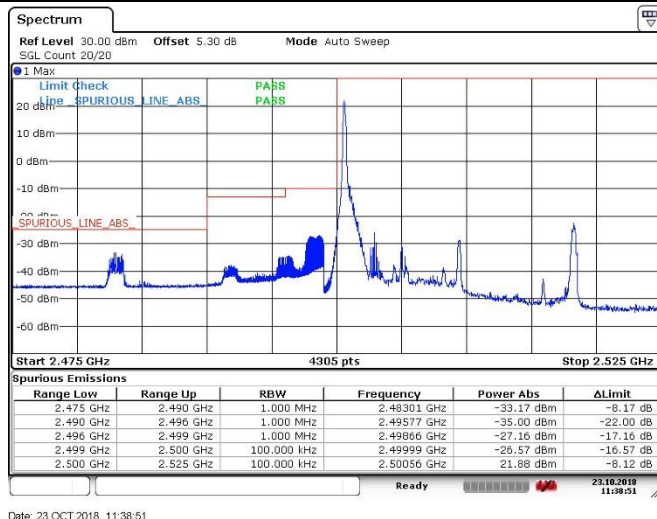
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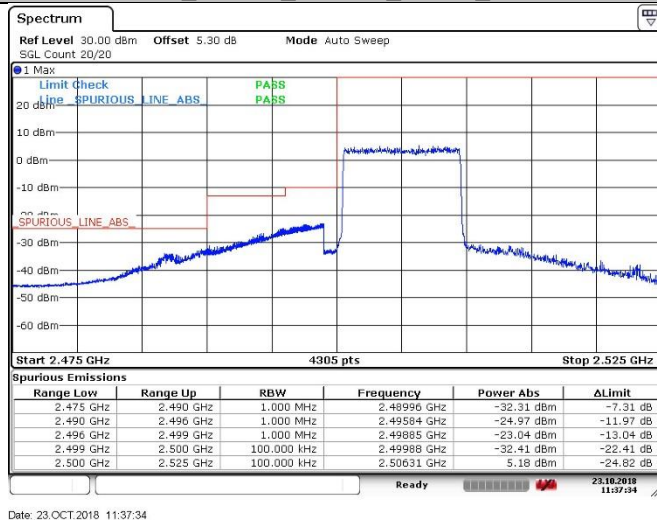
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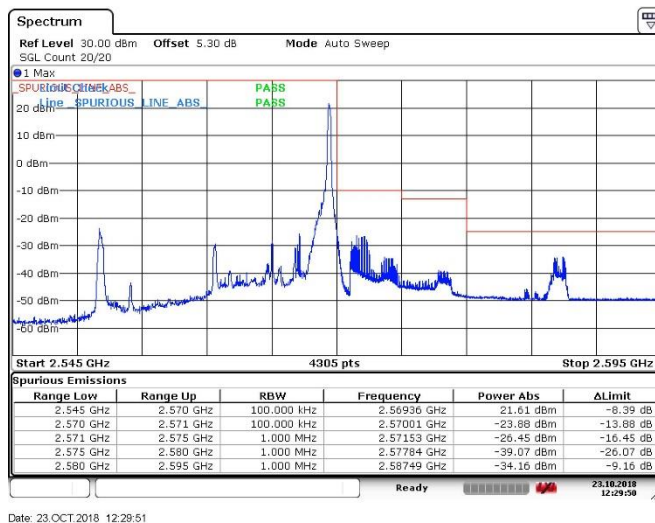


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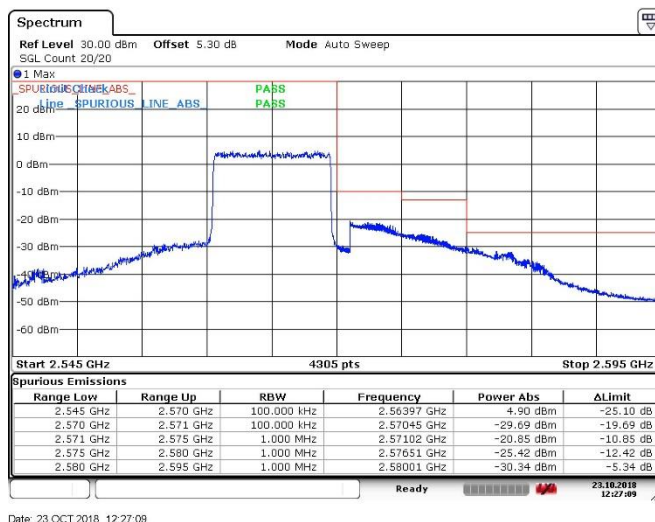
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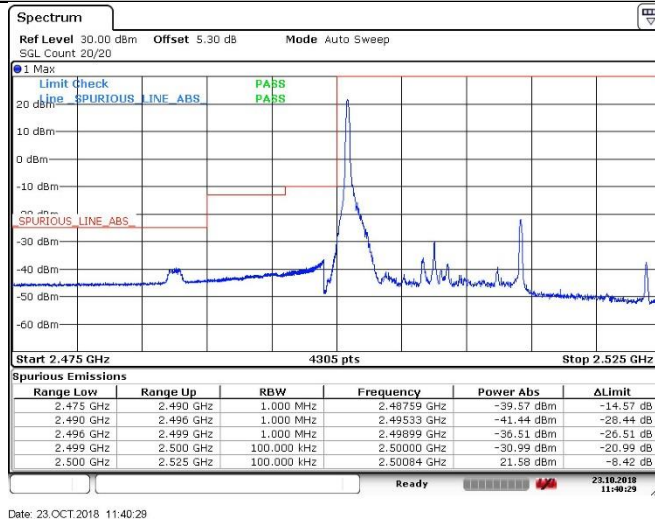
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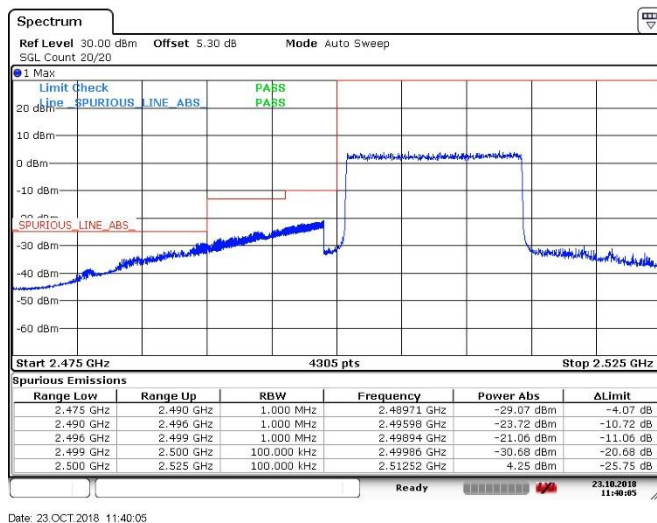


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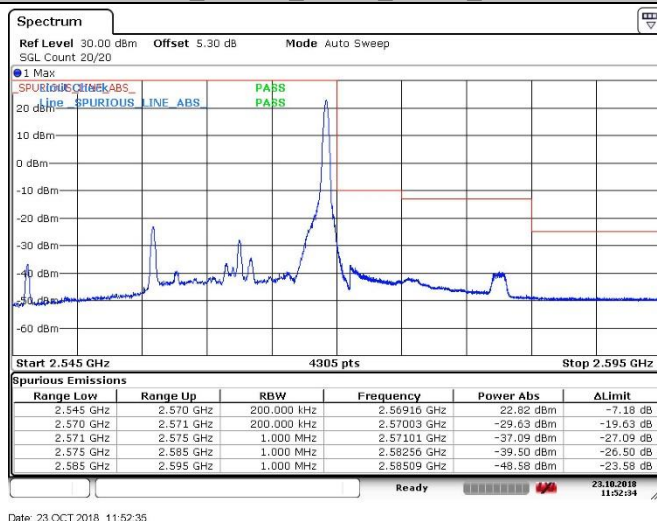
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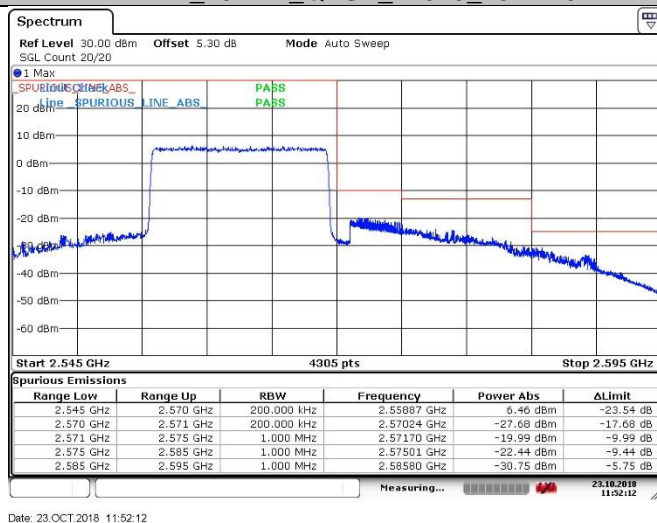
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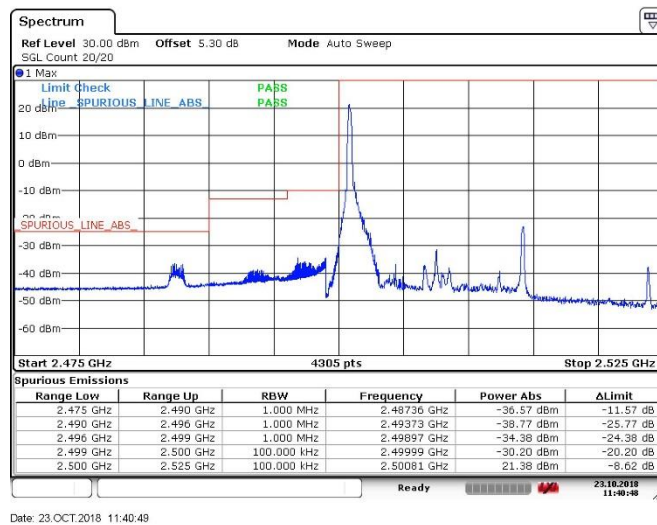


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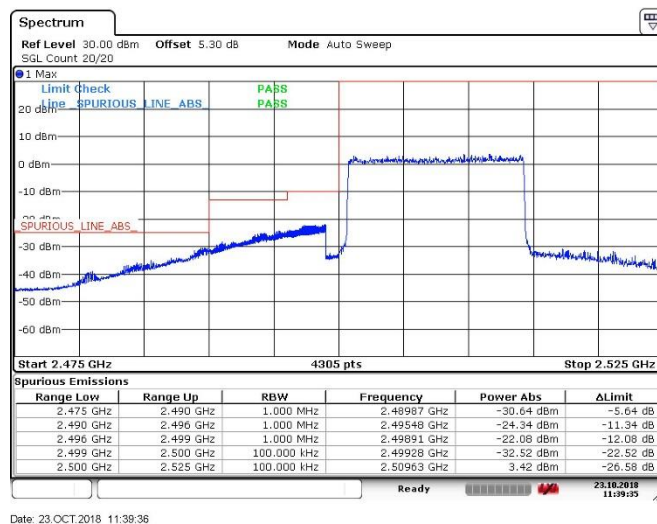
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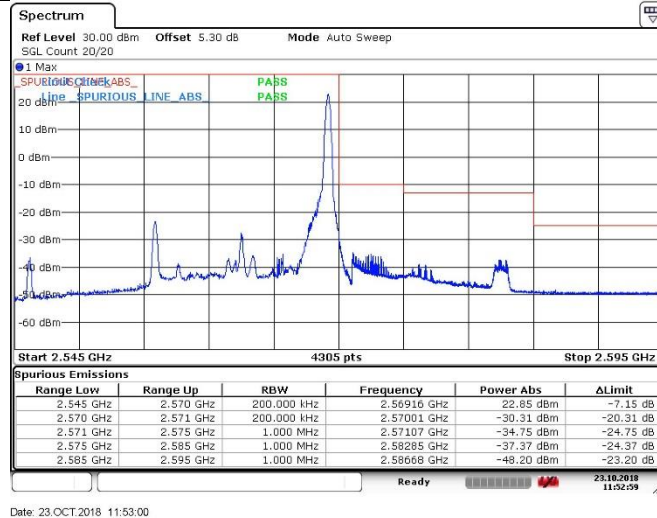
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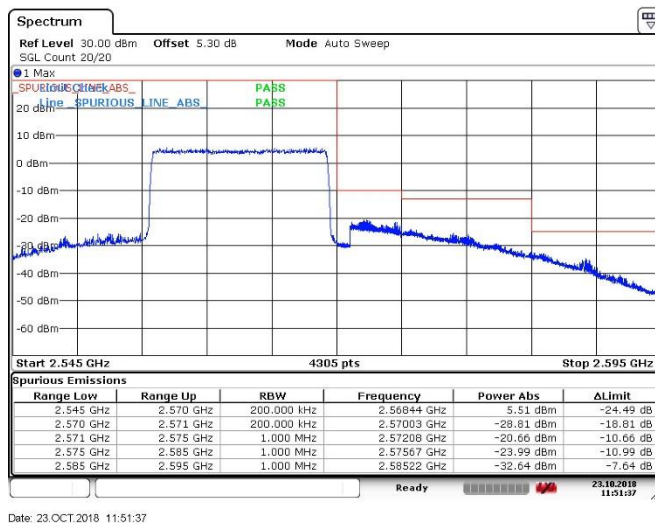


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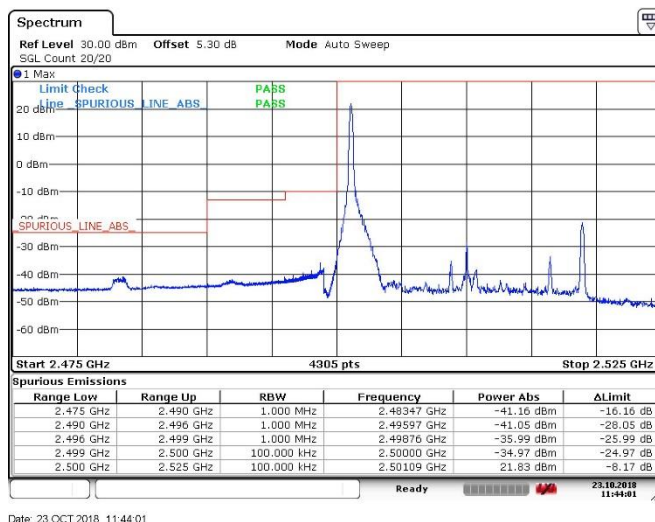
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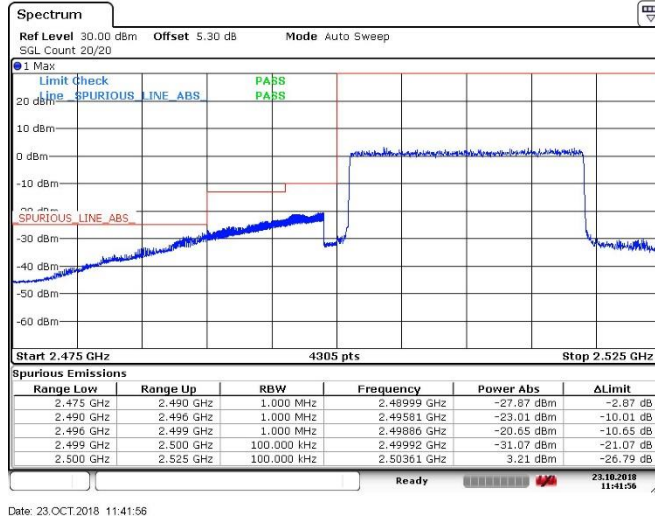
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BAND 7_20MHz_QPSK_20850_1RB#0



BAND 7_20MHz_QPSK_20850_100RB#0

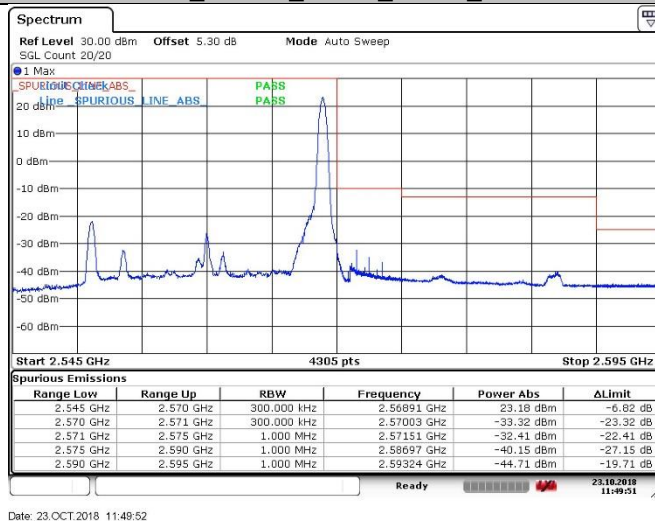


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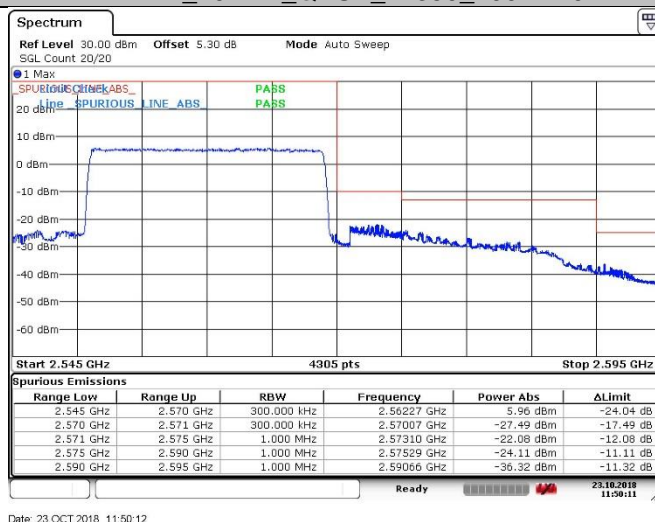
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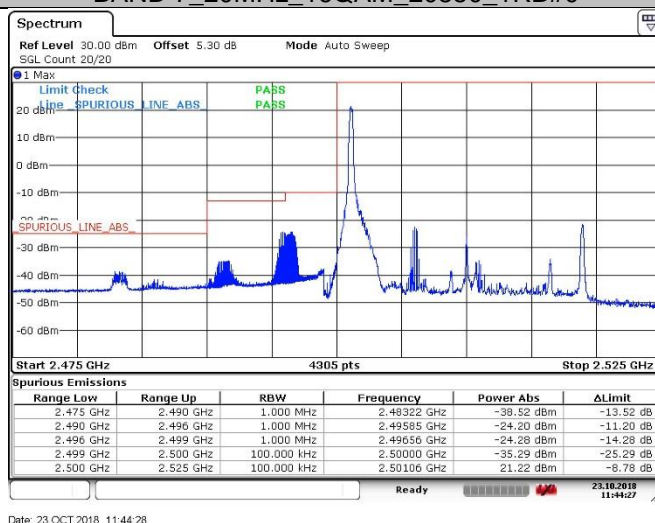
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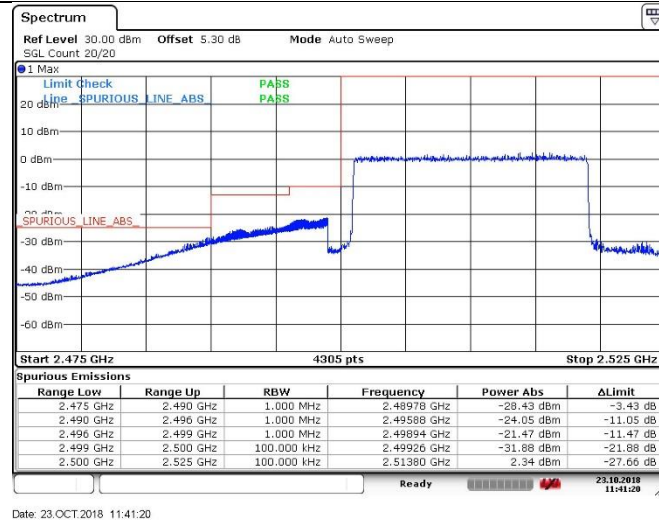


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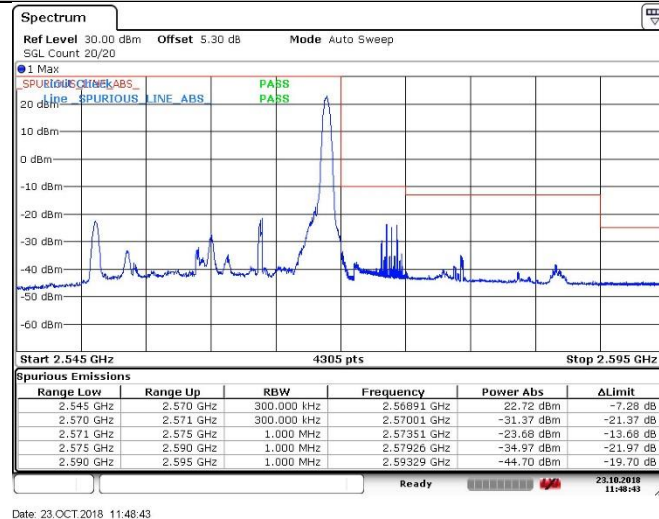
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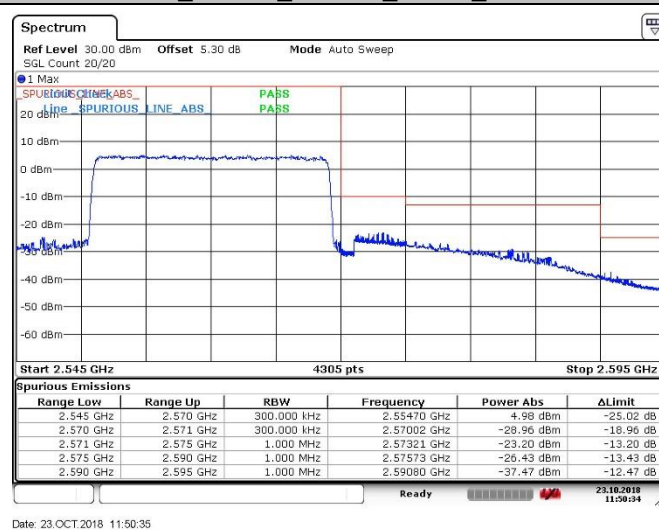
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BAND 7_20MHz_16QAM_21350_1RB#99



BAND 7_20MHz_16QAM_21350_100RB#0



NOTE: The occurrence of the spike on the conducted emission is the signal of the fundamental emission.

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9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

9.1. Standard Applicable

According to FCC §2.1053,

FCC §22.917(a) , §24.238(a) , §27.53 (h) , the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than $43 + 10 \log$ (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm).

§27.53 (c)

(2) On any frequency outside the 776– 788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log$ (P) dB (-13dBm)

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

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

FCC §27.53(c) (5) & FCC §27.53(g)

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

FCC §27.53(h) (3)

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

FCC §27.53(m) (4) (6)

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

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SGS Shenzhen Ltd.

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057

t +86 (0) 755 2601 2053

f +86 (0) 755 2671 0594

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

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

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

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

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9.2. EUT Setup

Radiated Emission Test Set-Up, Frequency Below 1000MHz

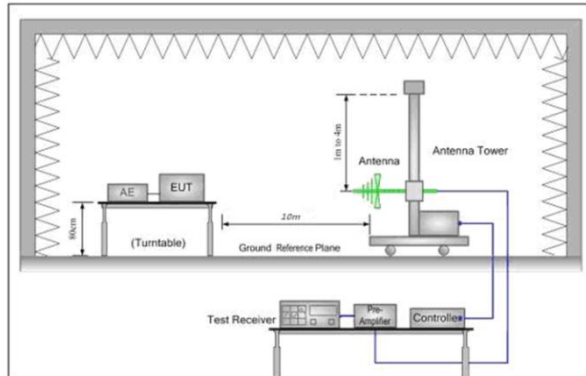


Figure 1. 30MHz to 1GHz

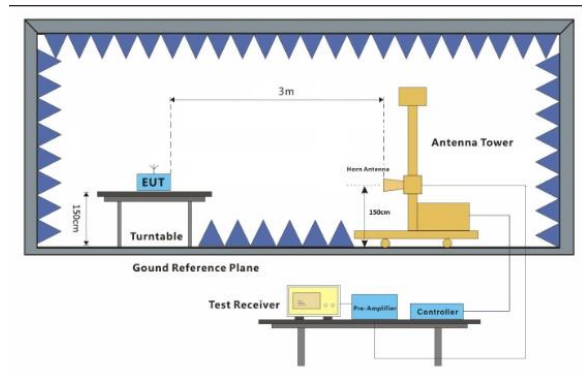


Figure 2. above 1GHz

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.

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

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

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9.3. Measurement Equipment Used:

Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Wideband Radio Communication Tester	Anristu	MT8821C	6201462742	2018/5/2	2019/5/1
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	W005-02	2018/3/13	2019/3/12
EXA Signal Analyzer (10Hz-26.5GHz)	Agilent Technologies Inc	N9010A	SEM004-09	2018/4/13	2019/4/12
Spectrum Analyzer (20Hz-43GHz)	Rohde & Schwarz	FSU43	SEM004-08	2018/4/2	2019/4/1
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017/6/27	2020/6/26
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017/10/17	2020/10/16
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2018/9/25	2019/9/24
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2018/9/27	2019/9/26
Pre-amplifier (26-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2018/4/2	2019/4/1
Band filter	N/A	N/A	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2018/7/12	2019/7/11
Tunable Notch Filter WRCD1700/2000-0.2/40-10EEK	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
Tunable Notch Filter WRCD800/960-0.2/40-10EEK	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
HighPass Filter WHK1.2/15G-10SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
HighPass Filter WHKX10-2700-3000-18000-40SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
HighPass Filter WHKX7.0/26.5G-6SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
Band Reject Filter WRCG 824/849-814/859-40/8SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
Band Reject Filter WRCG 1850/1910-1835/1925-40/8SS	WAINRIGHT Instruments GMBH	N/A	N/A	N/A	N/A
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A

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

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9.4. Measurement Result:

9.5.1. Radiated Spurious Emission Measurement Result: GSM850 Mode (The Worst Case)

9.5.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
61.719000	-75.19	-13.00	62.19	Vertical
122.344000	-81.67	-13.00	68.67	Vertical
352.476500	-77.56	-13.00	64.56	Vertical
1648.125000	-50.99	-13.00	37.99	Vertical
2472.600000	-44.14	-13.00	31.14	Vertical
4121.050000	-50.66	-13.00	37.66	Vertical
61.670500	-69.82	-13.00	56.82	Horizontal
249.996000	-78.17	-13.00	65.17	Horizontal
549.968500	-72.53	-13.00	59.53	Horizontal
1648.350000	-51.29	-13.00	38.29	Horizontal
2472.225000	-45.57	-13.00	32.57	Horizontal
3296.450000	-55.25	-13.00	42.25	Horizontal

9.5.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
63.271000	-75.36	-13.00	62.36	Vertical
124.381000	-82.03	-13.00	69.03	Vertical
326.432000	-78.22	-13.00	65.22	Vertical
1673.325000	-50.47	-13.00	37.47	Vertical
2509.950000	-42.18	-13.00	29.18	Vertical
4183.350000	-50.80	-13.00	37.80	Vertical
60.652000	-70.18	-13.00	57.18	Horizontal
187.479500	-80.01	-13.00	67.01	Horizontal
550.017000	-73.83	-13.00	60.83	Horizontal
1672.950000	-50.12	-13.00	37.12	Horizontal
2509.575000	-43.17	-13.00	30.17	Horizontal
4183.350000	-46.55	-13.00	33.55	Horizontal

9.5.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
72.534500	-75.16	-13.00	62.16	Vertical
125.011500	-81.75	-13.00	68.75	Vertical
345.541000	-72.27	-13.00	59.27	Vertical
1697.400000	-48.30	-13.00	35.30	Vertical
2546.175000	-40.78	-13.00	27.78	Vertical
4243.550000	-52.40	-13.00	39.40	Vertical
60.118500	-69.31	-13.00	56.31	Horizontal
187.479500	-80.72	-13.00	67.72	Horizontal
549.968500	-74.88	-13.00	61.88	Horizontal
1697.700000	-46.85	-13.00	33.85	Horizontal
2546.625000	-44.75	-13.00	31.75	Horizontal
4244.250000	-50.18	-13.00	37.18	Horizontal

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9.5.2. Radiated Spurious Emission Measurement Result: GSM1900 Mode (The Worst Case)

9.5.2.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
61.379500	-74.09	-13.00	61.09	Vertical
340.982000	-74.39	-13.00	61.39	Vertical
550.017000	-70.97	-13.00	57.97	Vertical
3700.700000	-53.58	-13.00	40.58	Vertical
5550.450000	-50.56	-13.00	37.56	Vertical
10663.437500	-50.55	-13.00	37.55	Vertical
60.991500	-69.73	-13.00	56.73	Horizontal
249.996000	-77.71	-13.00	64.71	Horizontal
549.968500	-72.62	-13.00	59.62	Horizontal
3700.350000	-49.90	-13.00	36.90	Horizontal
5550.450000	-47.48	-13.00	34.48	Horizontal
9223.350000	-51.65	-13.00	38.65	Horizontal

9.5.2.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
61.040000	-74.71	-13.00	61.71	Vertical
339.527000	-72.34	-13.00	59.34	Vertical
550.017000	-70.88	-13.00	57.88	Vertical
3759.850000	-50.37	-13.00	37.37	Vertical
5639.350000	-51.74	-13.00	38.74	Vertical
11905.337500	-49.94	-13.00	36.94	Vertical
60.215500	-70.49	-13.00	57.49	Horizontal
249.996000	-78.24	-13.00	65.24	Horizontal
599.972000	-72.98	-13.00	59.98	Horizontal
3759.850000	-46.66	-13.00	33.66	Horizontal
5639.350000	-49.59	-13.00	36.59	Horizontal
8611.900000	-51.44	-13.00	38.44	Horizontal

9.5.2.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
65.114000	-74.11	-13.00	61.11	Vertical
340.982000	-72.33	-13.00	59.33	Vertical
550.017000	-72.32	-13.00	59.32	Vertical
3819.350000	-49.76	-13.00	36.76	Vertical
5729.300000	-52.49	-13.00	39.49	Vertical
10066.000000	-51.08	-13.00	38.08	Vertical
62.543500	-70.21	-13.00	57.21	Horizontal
249.996000	-78.34	-13.00	65.34	Horizontal
550.017000	-72.41	-13.00	59.41	Horizontal
3819.000000	-47.71	-13.00	34.71	Horizontal
5729.300000	-50.40	-13.00	37.40	Horizontal
10072.875000	-50.88	-13.00	37.88	Horizontal

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

9.5.3.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
63.000000	-81.90	-13.00	68.90	Vertical
125.000000	-85.76	-13.00	72.76	Vertical
340.950000	-78.75	-13.00	65.75	Vertical
3702.487500	-67.52	-13.00	54.52	Vertical
6051.750000	-64.95	-13.00	51.95	Vertical
10614.750000	-62.97	-13.00	49.97	Vertical
62.800000	-77.70	-13.00	64.70	Horizontal
104.300000	-88.78	-13.00	75.78	Horizontal
336.350000	-81.35	-13.00	68.35	Horizontal
3706.387500	-67.94	-13.00	54.94	Horizontal
6048.337500	-65.26	-13.00	52.26	Horizontal
9239.512500	-63.47	-13.00	50.47	Horizontal

9.5.3.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.850000	-81.75	-13.00	68.75	Vertical
125.000000	-85.93	-13.00	72.93	Vertical
340.950000	-79.03	-13.00	66.03	Vertical
3758.062500	-67.45	-13.00	54.45	Vertical
6053.700000	-65.11	-13.00	52.11	Vertical
10627.425000	-63.15	-13.00	50.15	Vertical
63.000000	-77.62	-13.00	64.62	Horizontal
104.300000	-88.66	-13.00	75.66	Horizontal
333.400000	-82.18	-13.00	69.18	Horizontal
3758.062500	-67.62	-13.00	54.62	Horizontal
6488.550000	-65.37	-13.00	52.37	Horizontal
10640.100000	-63.30	-13.00	50.30	Horizontal

9.5.3.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.850000	-82.07	-13.00	69.07	Vertical
125.000000	-86.06	-13.00	73.06	Vertical
337.900000	-79.90	-13.00	66.90	Vertical
3813.150000	-67.28	-13.00	54.28	Vertical
7244.175000	-64.65	-13.00	51.65	Vertical
10630.837500	-63.15	-13.00	50.15	Vertical
62.450000	-77.36	-13.00	64.36	Horizontal
104.250000	-89.29	-13.00	76.29	Horizontal
346.950000	-83.69	-13.00	70.69	Horizontal
3812.662500	-67.30	-13.00	54.30	Horizontal
6053.212500	-65.25	-13.00	52.25	Horizontal
10056.075000	-63.95	-13.00	50.95	Horizontal

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

9.5.4.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.400000	-81.48	-13.00	68.48	Vertical
125.000000	-86.10	-13.00	73.10	Vertical
353.100000	-81.24	-13.00	68.24	Vertical
1740.500000	-64.31	-13.00	51.31	Vertical
2709.500000	-57.76	-13.00	44.76	Vertical
4339.162500	-67.06	-13.00	54.06	Vertical
63.150000	-77.65	-13.00	64.65	Horizontal
104.300000	-89.21	-13.00	76.21	Horizontal
333.400000	-84.67	-13.00	71.67	Horizontal
1685.500000	-64.93	-13.00	51.93	Horizontal
2781.000000	-57.48	-13.00	44.48	Horizontal
4304.062500	-66.78	-13.00	53.78	Horizontal

9.5.4.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
65.150000	-82.27	-13.00	69.27	Vertical
125.000000	-85.81	-13.00	72.81	Vertical
348.550000	-81.66	-13.00	68.66	Vertical
1796.000000	-63.62	-13.00	50.62	Vertical
2680.500000	-57.61	-13.00	44.61	Vertical
4303.575000	-67.11	-13.00	54.11	Vertical
62.700000	-77.85	-13.00	64.85	Horizontal
104.250000	-88.83	-13.00	75.83	Horizontal
348.550000	-85.79	-13.00	72.79	Horizontal
1794.500000	-63.71	-13.00	50.71	Horizontal
2812.000000	-57.08	-13.00	44.08	Horizontal
4304.062500	-66.80	-13.00	53.80	Horizontal

9.5.4.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
63.800000	-81.70	-13.00	68.70	Vertical
124.050000	-90.95	-13.00	77.95	Vertical
357.700000	-84.70	-13.00	71.70	Vertical
1775.500000	-64.01	-13.00	51.01	Vertical
2681.500000	-57.61	-13.00	44.61	Vertical
4269.450000	-67.13	-13.00	54.13	Vertical
62.800000	-78.02	-13.00	65.02	Horizontal
104.300000	-89.13	-13.00	76.13	Horizontal
331.850000	-85.32	-13.00	72.32	Horizontal
1836.000000	-63.14	-13.00	50.14	Horizontal
2803.000000	-57.16	-13.00	44.16	Horizontal
4304.550000	-66.76	-13.00	53.76	Horizontal

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

9.5.5.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.750000	-81.98	-13.00	68.98	Vertical
125.000000	-86.26	-13.00	73.26	Vertical
347.300000	-78.23	-13.00	65.23	Vertical
3719.875000	-62.92	-13.00	49.92	Vertical
7157.725000	-64.82	-13.00	51.82	Vertical
10617.675000	-63.06	-13.00	50.06	Vertical
63.250000	-77.97	-13.00	64.97	Horizontal
104.300000	-84.22	-13.00	71.22	Horizontal
333.650000	-81.19	-13.00	68.19	Horizontal
3719.875000	-64.92	-13.00	51.92	Horizontal
6046.550000	-65.31	-13.00	52.31	Horizontal
10627.750000	-63.16	-13.00	50.16	Horizontal

9.5.5.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.650000	-81.22	-13.00	68.22	Vertical
125.000000	-85.57	-13.00	72.57	Vertical
353.500000	-74.15	-13.00	61.15	Vertical
3760.175000	-63.61	-13.00	50.61	Vertical
6051.425000	-64.60	-13.00	51.60	Vertical
10627.100000	-62.39	-13.00	49.39	Vertical
56.600000	-77.38	-13.00	64.38	Horizontal
104.300000	-84.87	-13.00	71.87	Horizontal
334.450000	-83.90	-13.00	70.90	Horizontal
3760.175000	-66.68	-13.00	53.68	Horizontal
6501.225000	-65.23	-13.00	52.23	Horizontal
10627.425000	-62.94	-13.00	49.94	Horizontal

9.5.5.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
63.300000	-82.10	-13.00	69.10	Vertical
125.000000	-86.37	-13.00	73.37	Vertical
350.300000	-78.68	-13.00	65.68	Vertical
3800.150000	-64.86	-13.00	51.86	Vertical
6049.150000	-65.19	-13.00	52.19	Vertical
10650.175000	-63.21	-13.00	50.21	Vertical
62.300000	-77.57	-13.00	64.57	Horizontal
104.300000	-84.55	-13.00	71.55	Horizontal
339.650000	-85.02	-13.00	72.02	Horizontal
3800.150000	-64.35	-13.00	51.35	Horizontal
7240.925000	-65.14	-13.00	52.14	Horizontal
11243.950000	-64.10	-13.00	51.10	Horizontal

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9.5.6. Radiated Spurious Emission Measurement Result: LTE-Band 5 (The Worst Case)

9.5.6.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.906667	-81.75	-13.00	68.75	Vertical
124.966667	-85.62	-13.00	72.62	Vertical
353.260000	-80.62	-13.00	67.62	Vertical
1649.000000	-64.85	-13.00	51.85	Vertical
2600.000000	-57.83	-13.00	44.83	Vertical
4306.012500	-67.11	-13.00	54.11	Vertical
62.386667	-77.48	-13.00	64.48	Horizontal
342.620000	-84.64	-13.00	71.64	Horizontal
1746.000000	-64.33	-13.00	51.33	Horizontal
2803.000000	-57.16	-13.00	44.16	Horizontal
4348.425000	-67.08	-13.00	54.08	Horizontal
7950.562500	-64.01	-13.00	51.01	Horizontal

9.5.6.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.626667	-81.41	-13.00	68.41	Vertical
124.966667	-85.94	-13.00	72.94	Vertical
354.846667	-81.76	-13.00	68.76	Vertical
1703.000000	-64.62	-13.00	51.62	Vertical
2664.000000	-57.78	-13.00	44.78	Vertical
6022.500000	-65.56	-13.00	52.56	Vertical
63.086667	-77.11	-13.00	64.11	Horizontal
104.293333	-83.51	-13.00	70.51	Horizontal
342.666667	-85.17	-13.00	72.17	Horizontal
1657.000000	-65.24	-13.00	52.24	Horizontal
2602.000000	-56.09	-13.00	43.09	Horizontal
6068.812500	-65.70	-13.00	52.70	Horizontal

9.5.6.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
63.180000	-82.05	-13.00	69.05	Vertical
124.966667	-86.26	-13.00	73.26	Vertical
344.160000	-81.44	-13.00	68.44	Vertical
1773.500000	-64.06	-13.00	51.06	Vertical
2683.500000	-57.54	-13.00	44.54	Vertical
6048.825000	-65.22	-13.00	52.22	Vertical
62.293333	-77.98	-13.00	64.98	Horizontal
350.180000	-85.12	-13.00	72.12	Horizontal
1664.000000	-65.25	-13.00	52.25	Horizontal
2670.500000	-58.03	-13.00	45.03	Horizontal
4278.712500	-67.12	-13.00	54.12	Horizontal
7947.150000	-64.00	-13.00	51.00	Horizontal

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

9.5.7.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
63.950000	-81.86	-25.00	56.86	Vertical
125.000000	-85.76	-25.00	60.76	Vertical
344.050000	-79.75	-25.00	54.75	Vertical
5002.000000	-61.90	-25.00	36.90	Vertical
7956.900000	-63.80	-25.00	38.80	Vertical
12505.275000	-63.01	-25.00	38.01	Vertical
62.550000	-77.50	-25.00	52.50	Horizontal
104.300000	-88.69	-25.00	63.69	Horizontal
350.100000	-83.76	-25.00	58.76	Horizontal
5002.000000	-59.69	-25.00	34.69	Horizontal
7247.425000	-64.78	-25.00	39.78	Horizontal
10004.400000	-59.71	-25.00	34.71	Horizontal

9.5.7.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
65.100000	-82.04	-25.00	57.04	Vertical
126.500000	-90.57	-25.00	65.57	Vertical
353.200000	-79.50	-25.00	54.50	Vertical
5052.050000	-60.91	-25.00	35.91	Vertical
7934.150000	-63.95	-25.00	38.95	Vertical
11900.125000	-63.33	-25.00	38.33	Vertical
62.000000	-77.89	-25.00	52.89	Horizontal
104.300000	-84.26	-25.00	59.26	Horizontal
351.650000	-83.47	-25.00	58.47	Horizontal
5052.050000	-56.51	-25.00	31.51	Horizontal
7711.525000	-64.50	-25.00	39.50	Horizontal
10104.175000	-62.59	-25.00	37.59	Horizontal

9.5.7.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.300000	-81.80	-25.00	56.80	Vertical
125.000000	-85.88	-25.00	60.88	Vertical
350.100000	-78.79	-25.00	53.79	Vertical
5102.100000	-63.53	-25.00	38.53	Vertical
7954.625000	-63.82	-25.00	38.82	Vertical
10204.275000	-62.92	-25.00	37.92	Vertical
63.400000	-77.91	-25.00	52.91	Horizontal
104.250000	-88.77	-25.00	63.77	Horizontal
347.050000	-83.07	-25.00	58.07	Horizontal
5102.100000	-56.40	-25.00	31.40	Horizontal
7168.775000	-64.96	-25.00	39.96	Horizontal
10204.275000	-58.38	-25.00	33.38	Horizontal

Remark:

- 1) The disturbance above 12.75GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data had been displayed.
- 2) We have tested all modulation and all Bandwidth , but only the worst case data presented in this report.

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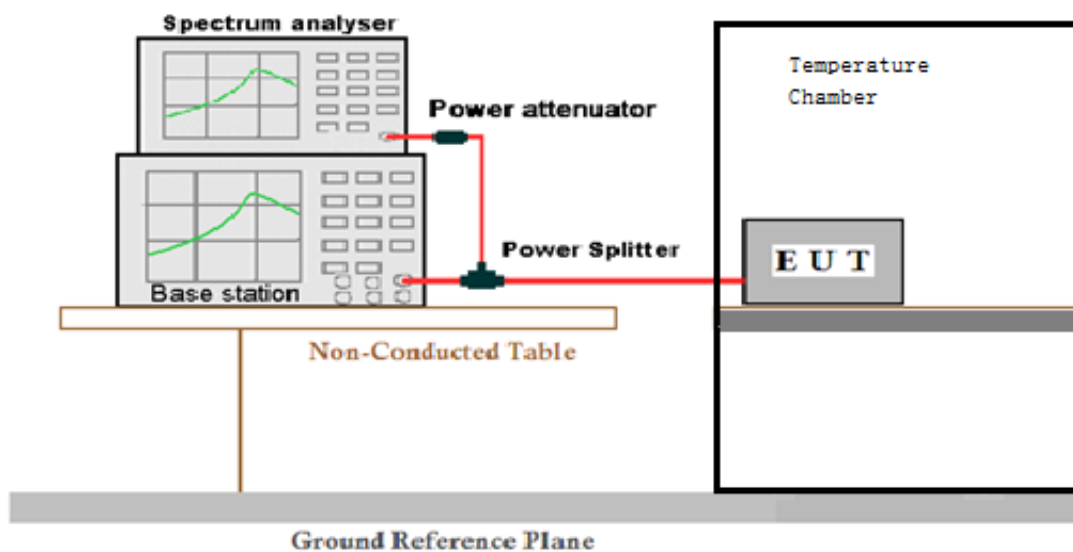
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10. FREQUENCY STABILITY MEASUREMENT

10.1. Standard Applicabl

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

10.2. Test Set-up



Note: Measurement setup for testing on Antenna connector

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10.3. Measurement Procedure

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

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

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

10.4. Measurement Equipment Used

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
Dual Output Mobile Communication DC Source	Agilent Technologies Inc	66311B	W009-09	2018/9/15	2019/9/15
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2018/3/13	2019/3/12
Coaxial Cable	SGS	N/A	SEM031-01	2018/7/12	2019/7/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018/9/2	2019/9/2
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	W006-17	2018/9/10	2019/9/10
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2017/12/4	2018/12/4
Wideband Radio Communication Tester	Anritsu	MT8821C	6201462742	2018/5/2	2019/5/1
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	W005-02	2018/3/13	2019/3/12

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