



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

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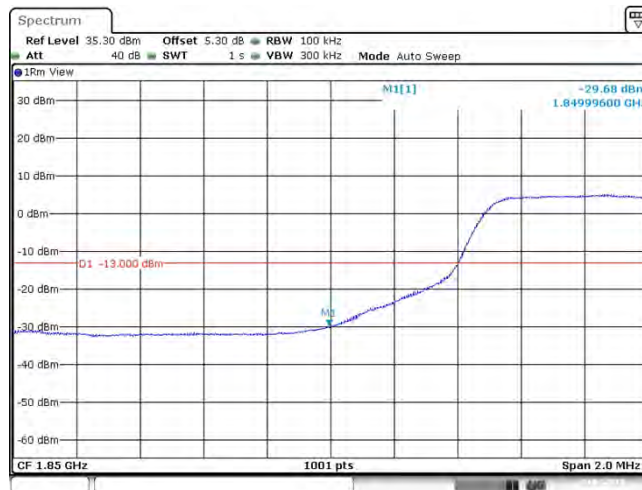
Date: 24 JUL 2018 085944

BAND2_10MHz_QPSK_18650_1RB#0



Date: 24 JUL 2018 010121

BAND2_10MHz_QPSK_18650_50RB#0



Date: 24 JUL 2018 010605

BAND2_10MHz_QPSK_19150_1RB#49



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Date: 24 JUL 2018 01:03:43

BAND2_10MHz_QPSK_19150_50RB#0



Date: 24 JUL 2018 01:08:23

BAND2_10MHz_64QAM_18650_1RB#0



Date: 24 JUL 2018 01:02:52

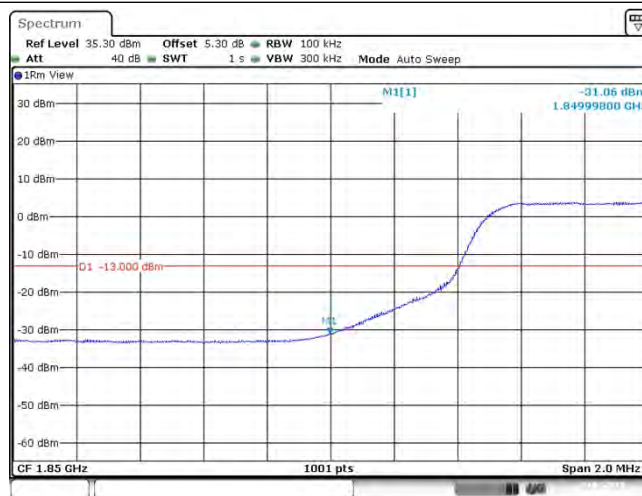
BAND2_10MHz_64QAM_18650_50RB#0



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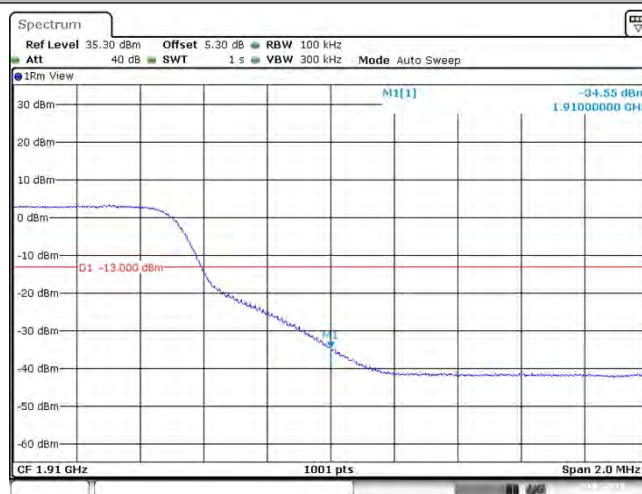
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BAND2_10MHz_64QAM_19150_1RB#49



Date: 24 JUL 2018 01:55:15

BAND2_10MHz_64QAM_19150_50RB#0



Date: 24 JUL 2018 01:59:55

BAND2_10MHz_16QAM_18650_1RB#0

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Date: 24 JUL 2018 01:02:07

BAND2_10MHz_16QAM_18650_50RB#0



Date: 24 JUL 2018 01:06:51

BAND2_10MHz_16QAM_19150_1RB#49



Date: 24 JUL 2018 01:04:29

BAND2_10MHz_16QAM_19150_50RB#0



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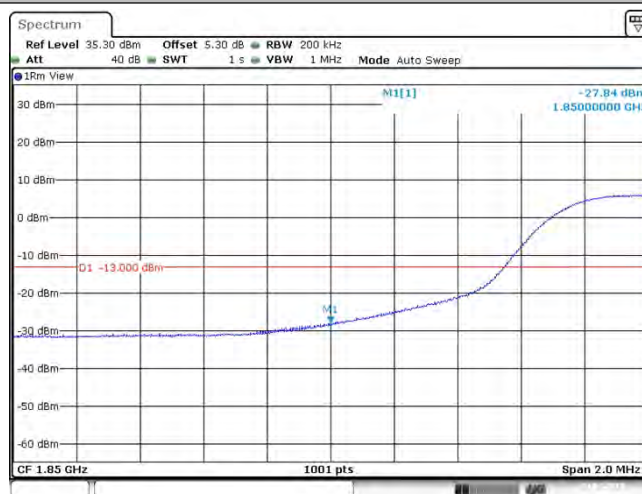
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BAND2_15MHz_QPSK_18675_1RB#0



Date: 24 JUL 2018 01:10:45

BAND2_15MHz_QPSK_18675_75RB#0



Date: 24 JUL 2018 01:15:30

BAND2_15MHz_QPSK_19125_1RB#74



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

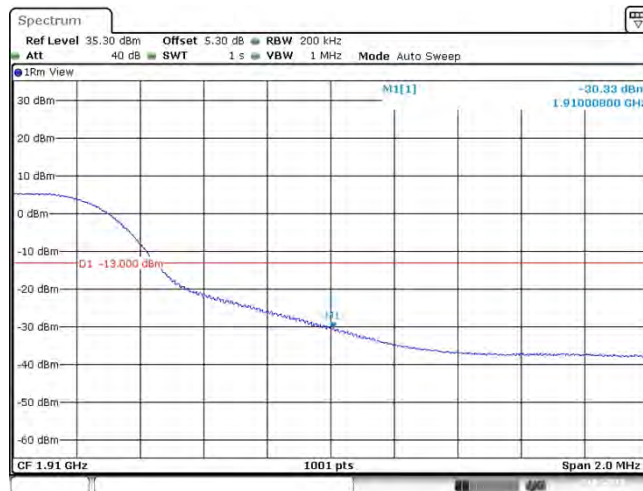
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Date: 24 JUL 2018 01:13:08

BAND2_15MHz_QPSK_19125_75RB#0



Date: 24 JUL 2018 01:17:47

BAND2_15MHz_64QAM_18675_1RB#0



Date: 24 JUL 2018 01:12:17

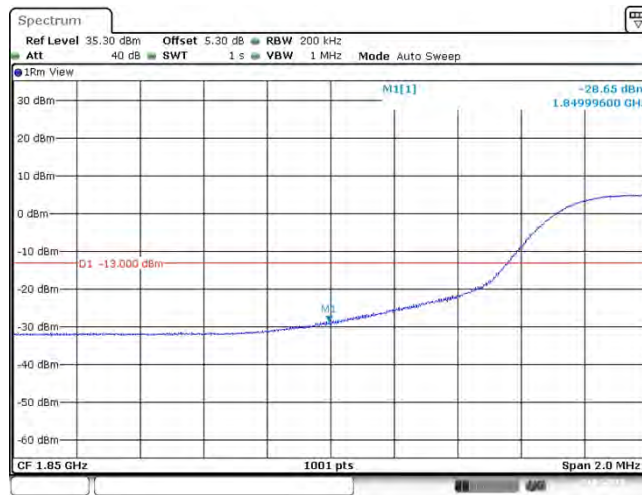
BAND2_15MHz_64QAM_18675_75RB#0



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

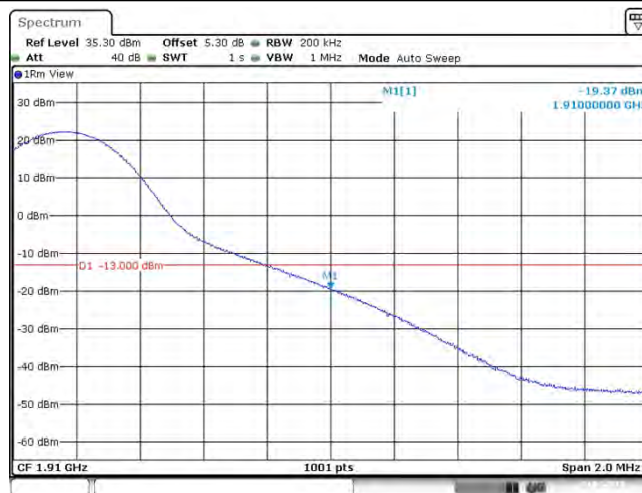
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Date: 24 JUL 2018 01:17:01

BAND2_15MHz_64QAM_19125_1RB#74



Date: 24 JUL 2018 01:14:39

BAND2_15MHz_64QAM_19125_75RB#0



Date: 24 JUL 2018 01:19:18

BAND2_15MHz_16QAM_18675_1RB#0

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Date: 24 JUL 2018 01:11:31

BAND2_15MHz_16QAM_18675_75RB#0



Date: 24 JUL 2018 01:16:15

BAND2_15MHz_16QAM_19125_1RB#74



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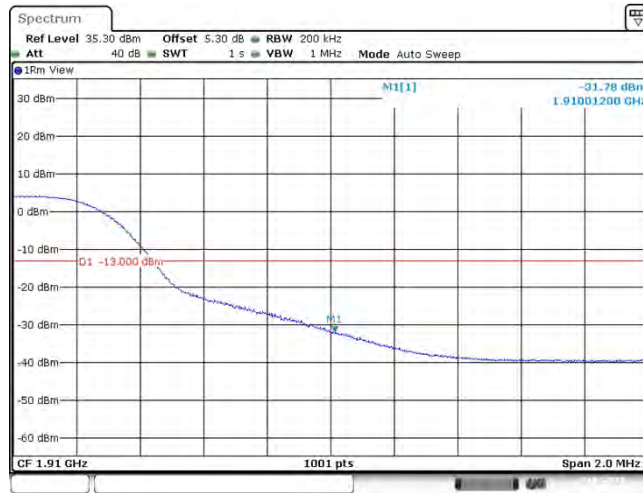
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SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

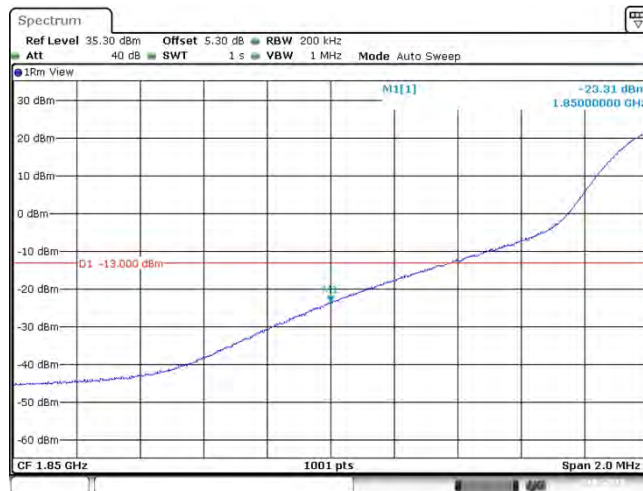
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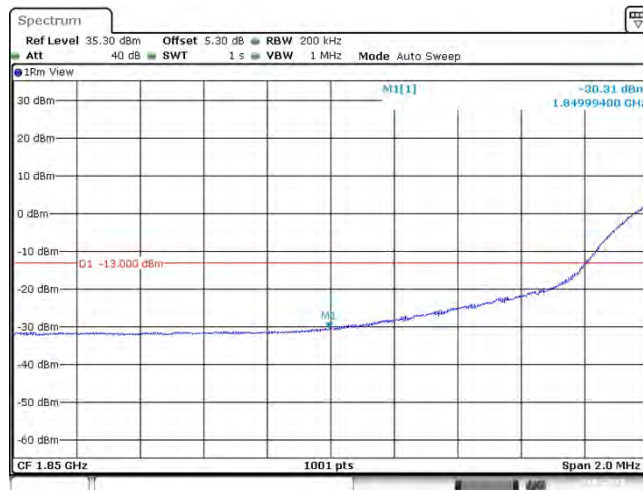
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BAND2_20MHz_QPSK_18700_1RB#0



Date: 24 JUL 2018 01:29:19

BAND2_20MHz_QPSK_18700_100RB#0



Date: 24 JUL 2018 01:24:54

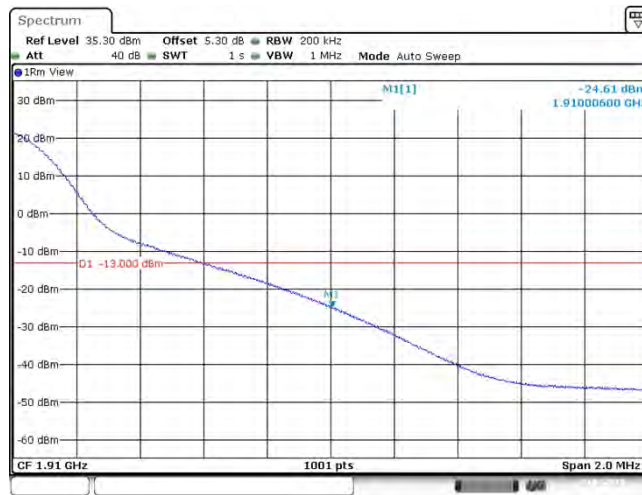
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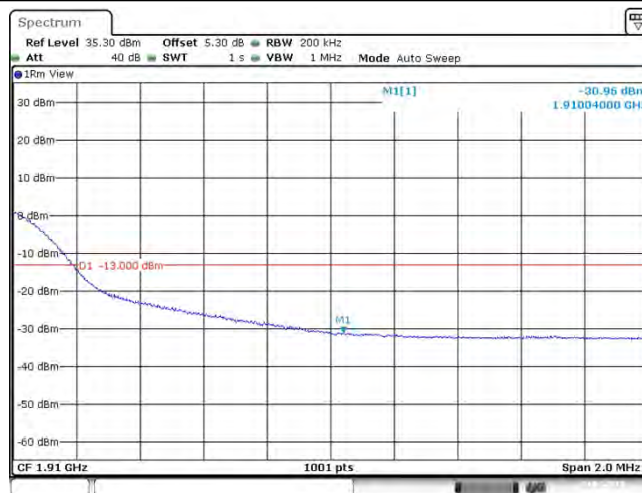
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Date: 24 JUL 2018 01:22:32

BAND2_20MHz_QPSK_19100_100RB#0



Date: 24 JUL 2018 01:27:12

BAND2_20MHz_64QAM_18700_1RB#0



Date: 24 JUL 2018 01:21:41

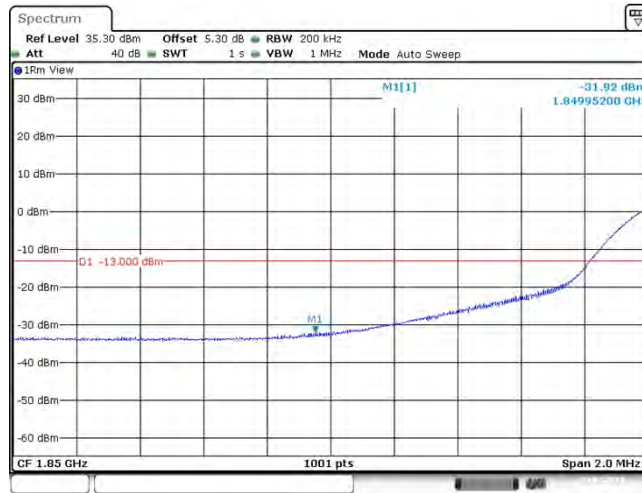
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SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

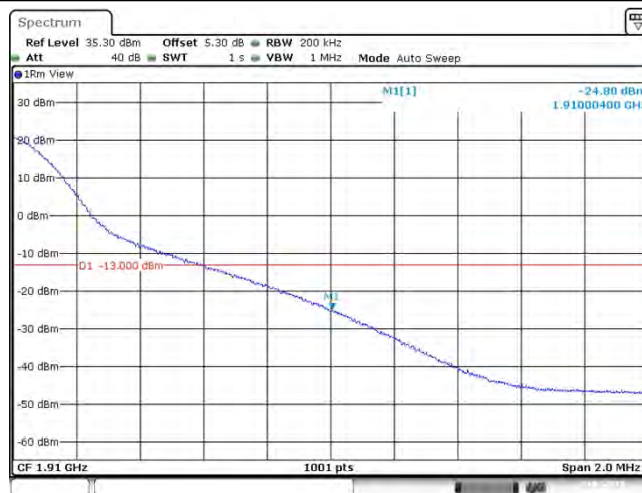
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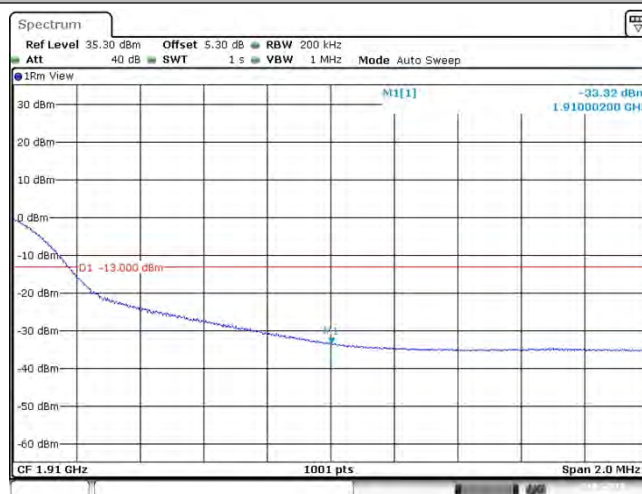
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BAND2_20MHz_64QAM_19100_1RB#99



Date: 24 JUL 2018 01:24:04

BAND2_20MHz_64QAM_19100_100RB#0



Date: 24 JUL 2018 01:28:44

BAND2_20MHz_16QAM_18700_1RB#0

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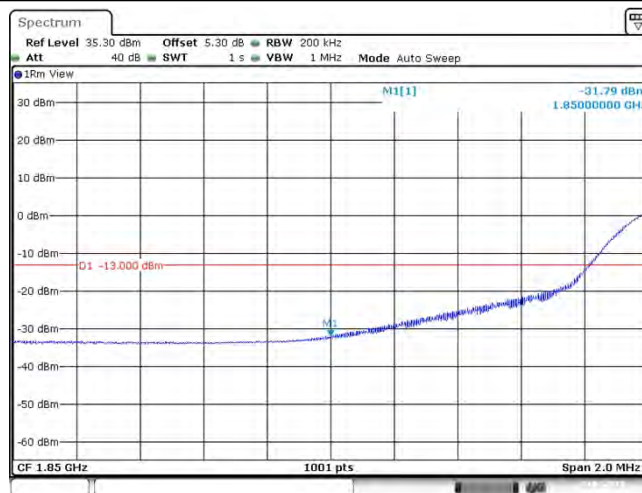
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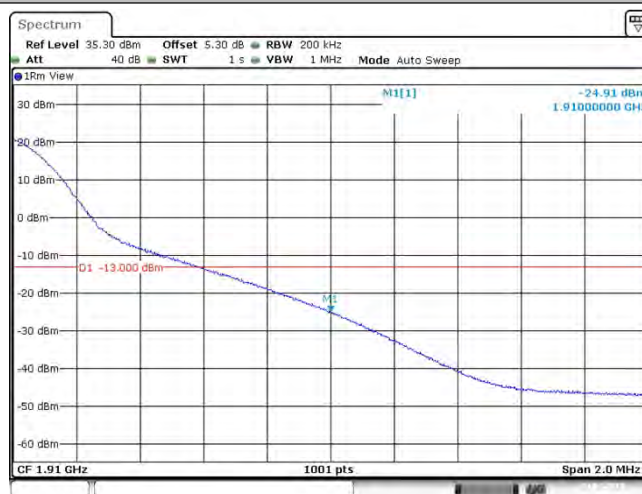
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BAND2_20MHz_16QAM_18700_100RB#0



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BAND2_20MHz_16QAM_19100_1RB#99



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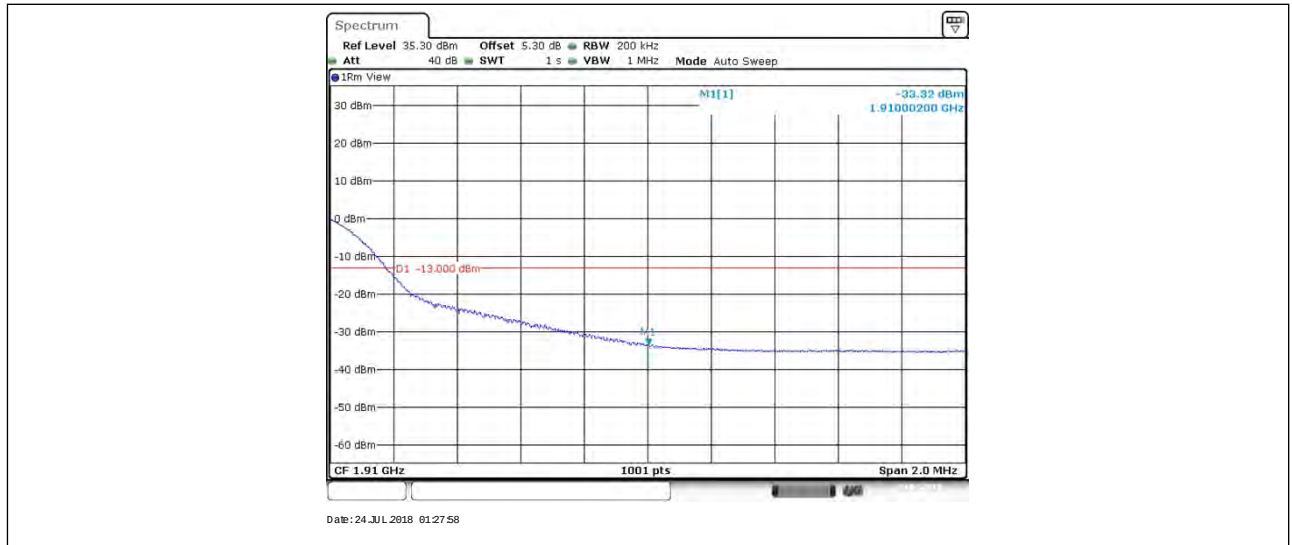
BAND2_20MHz_16QAM_19100_100RB#0



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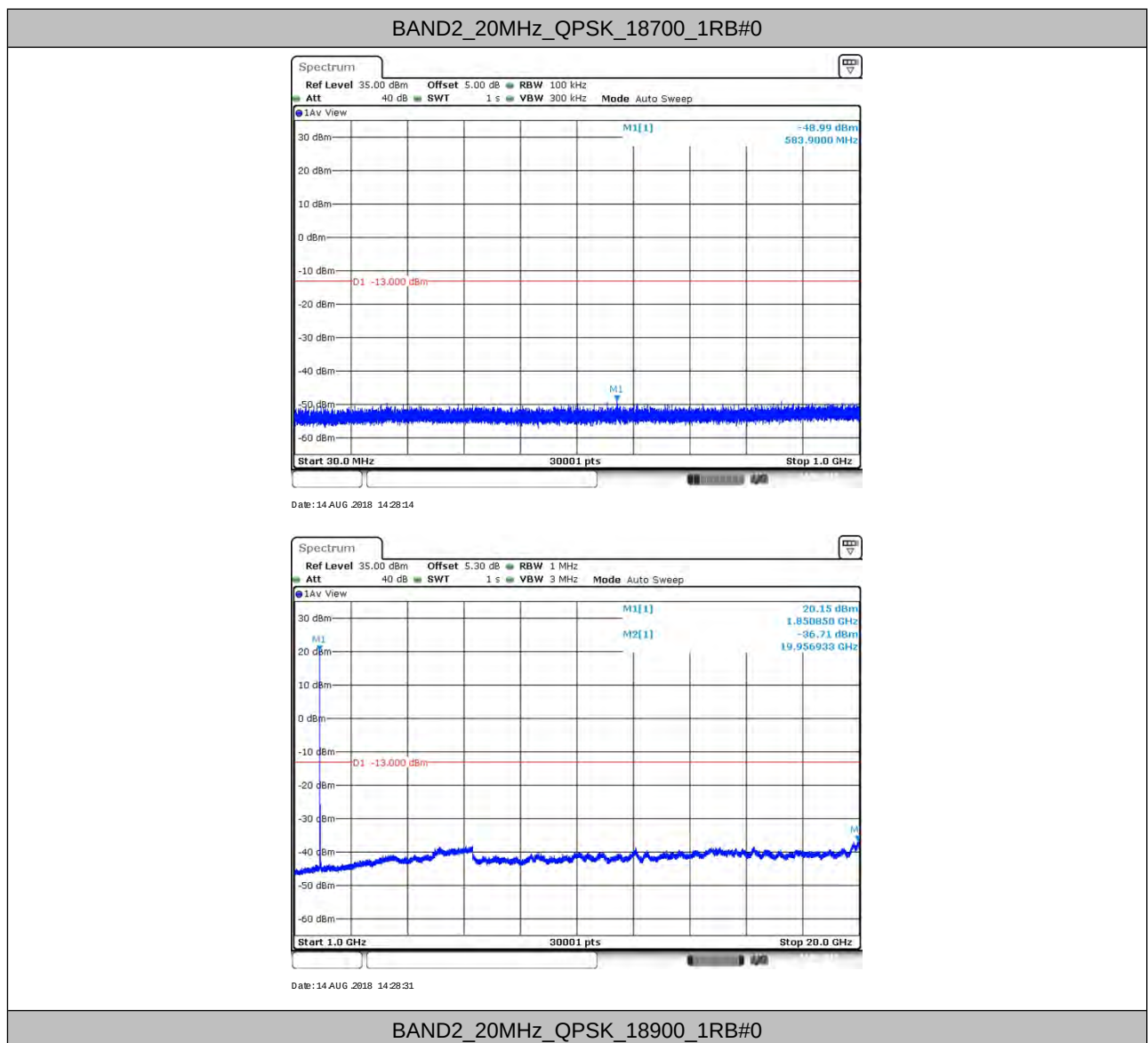


6. Spurious Emission at Antenna Terminal

NOTE1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

NOTE2: only the worst case data displayed in this report.

6.1. Test Plots

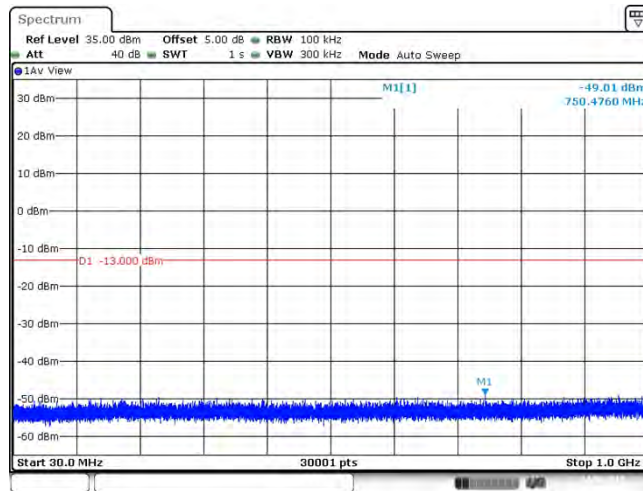




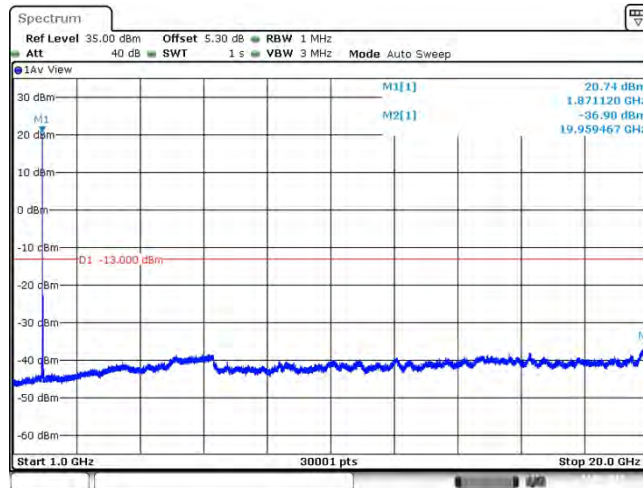
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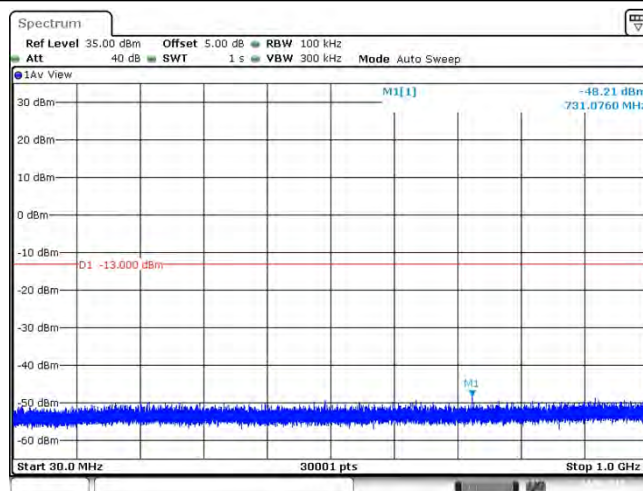


Date: 14 AUG 2018 14:29:25



Date: 14 AUG 2018 14:29:41

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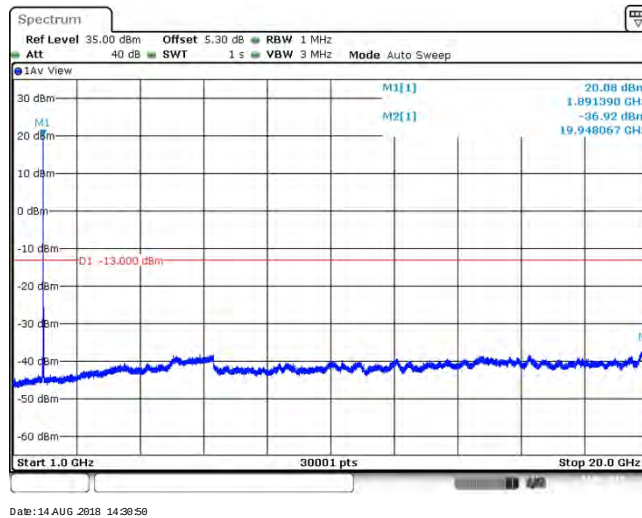
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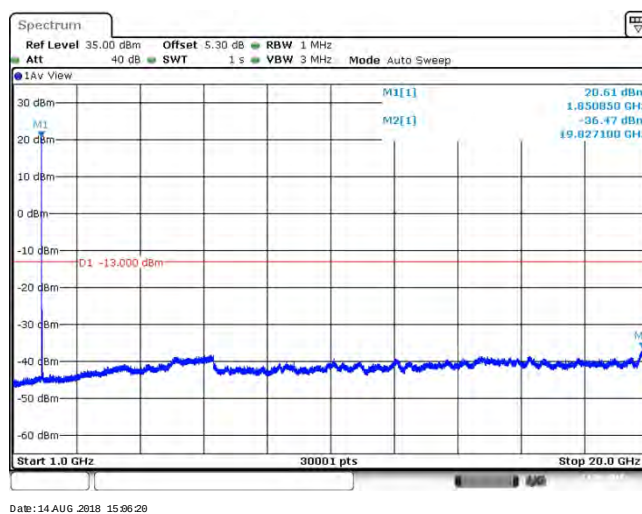
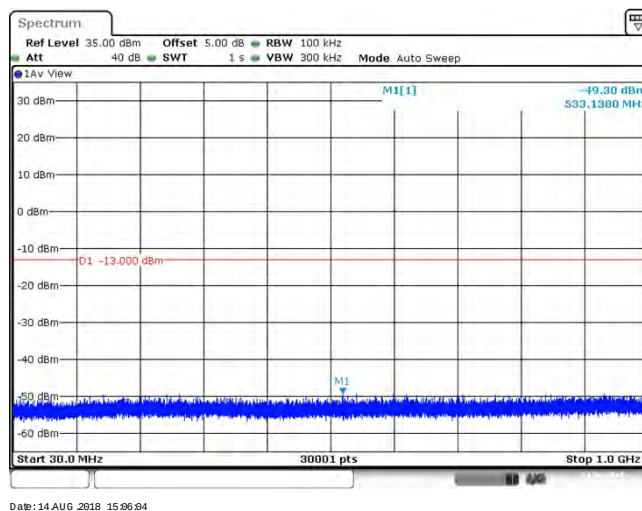
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BAND2_20MHz_64QAM_18700_1RB#0



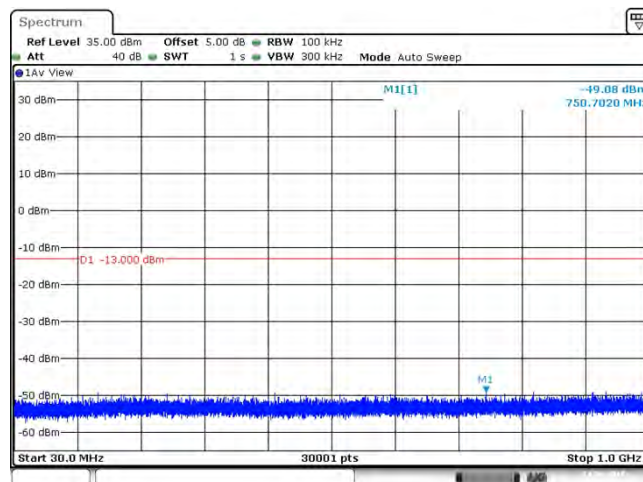
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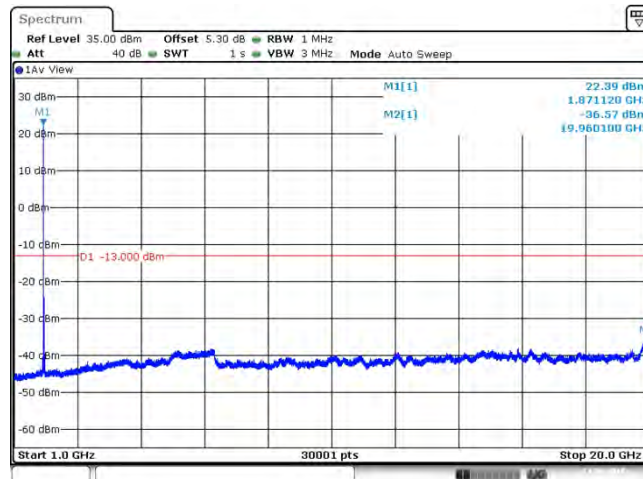
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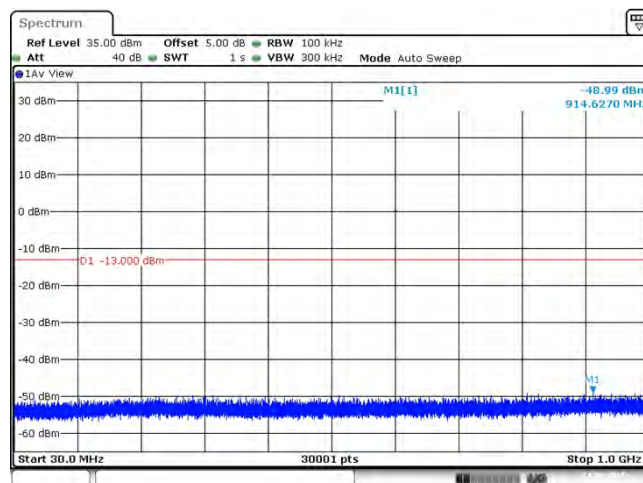


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Date: 14 AUG 2018 15:56:56

BAND2_20MHz_64QAM_19100_1RB#0



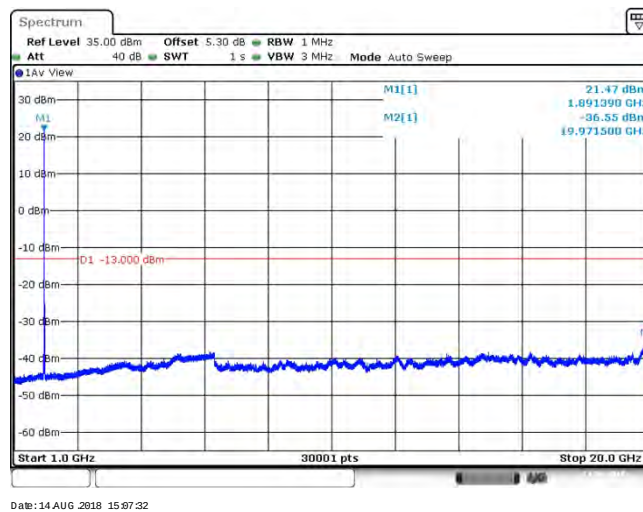
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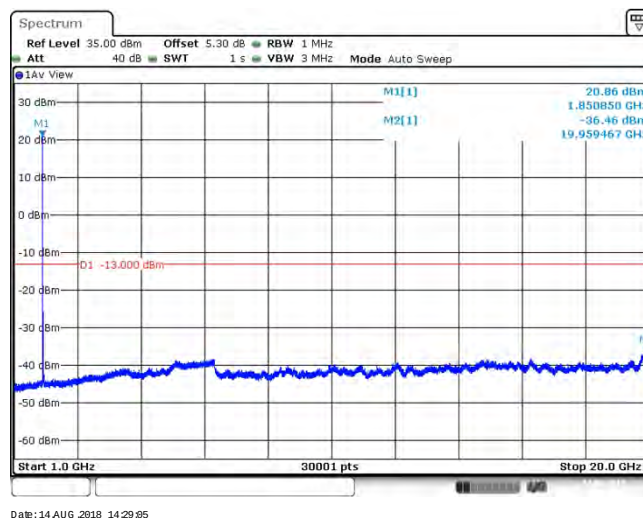
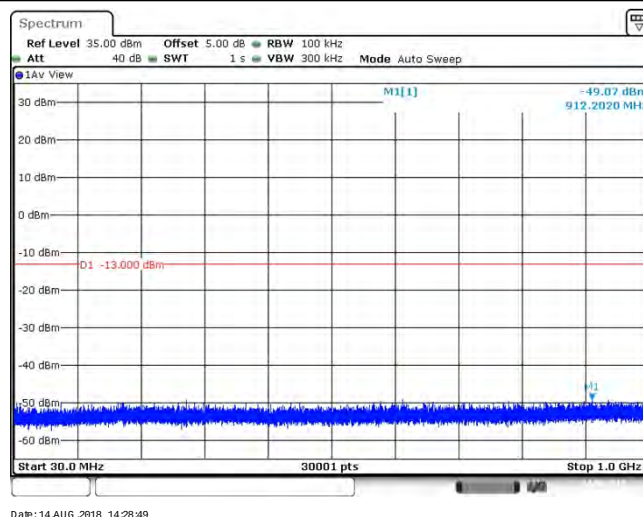
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BAND2_20MHz_16QAM_18700_1RB#0



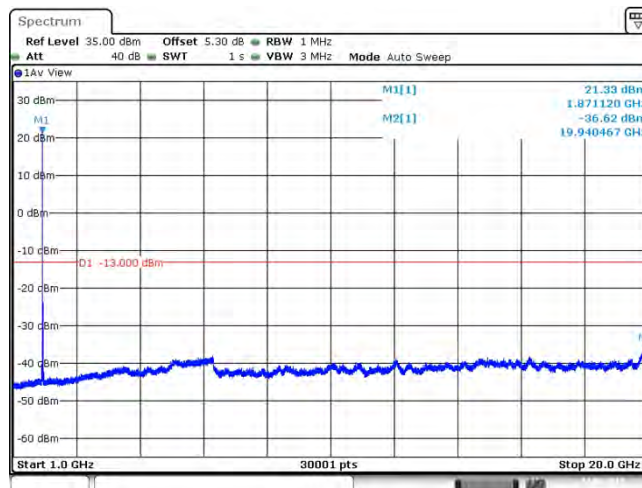
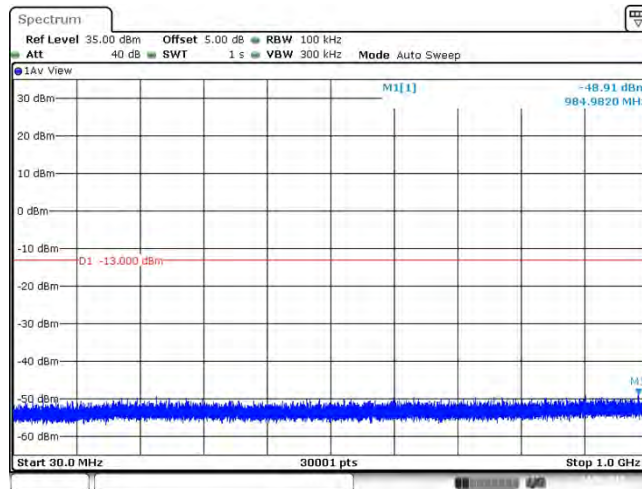
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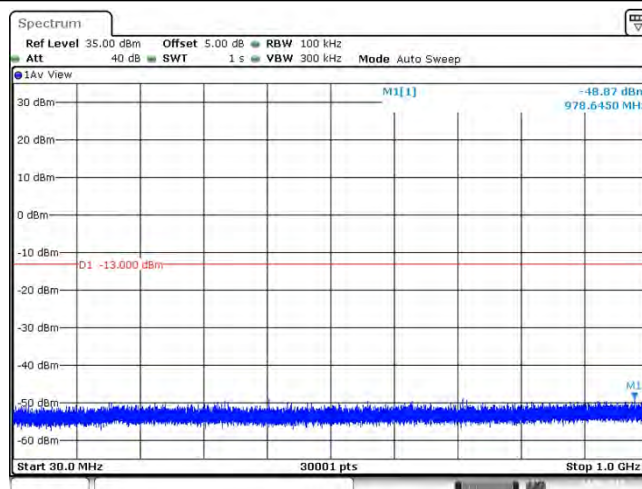
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BAND2_20MHz_16QAM_19100_1RB#0

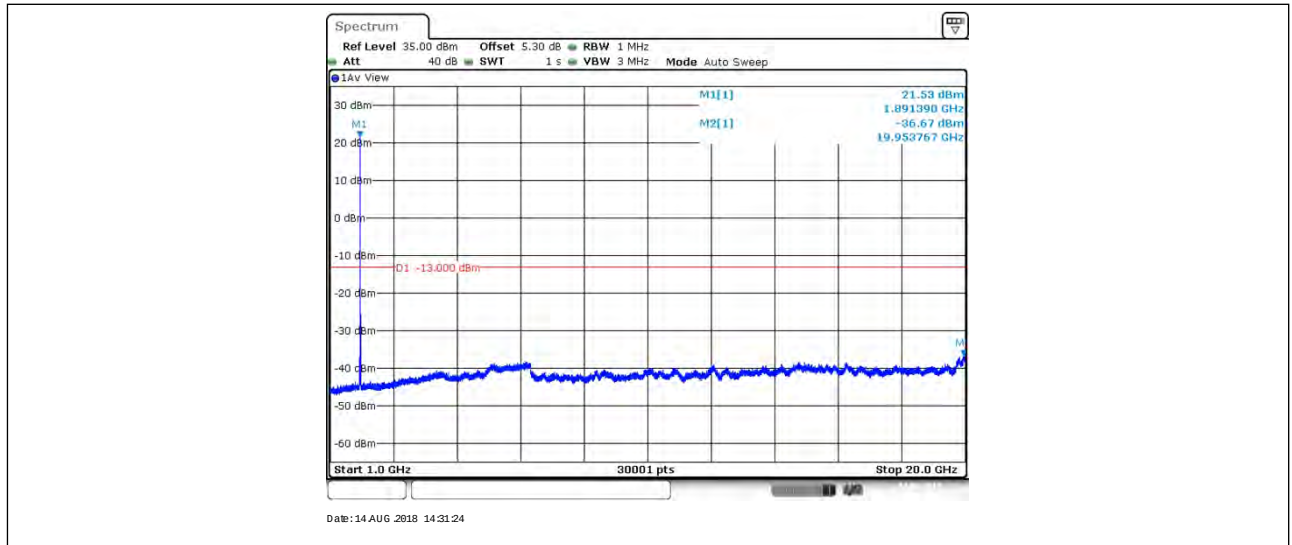




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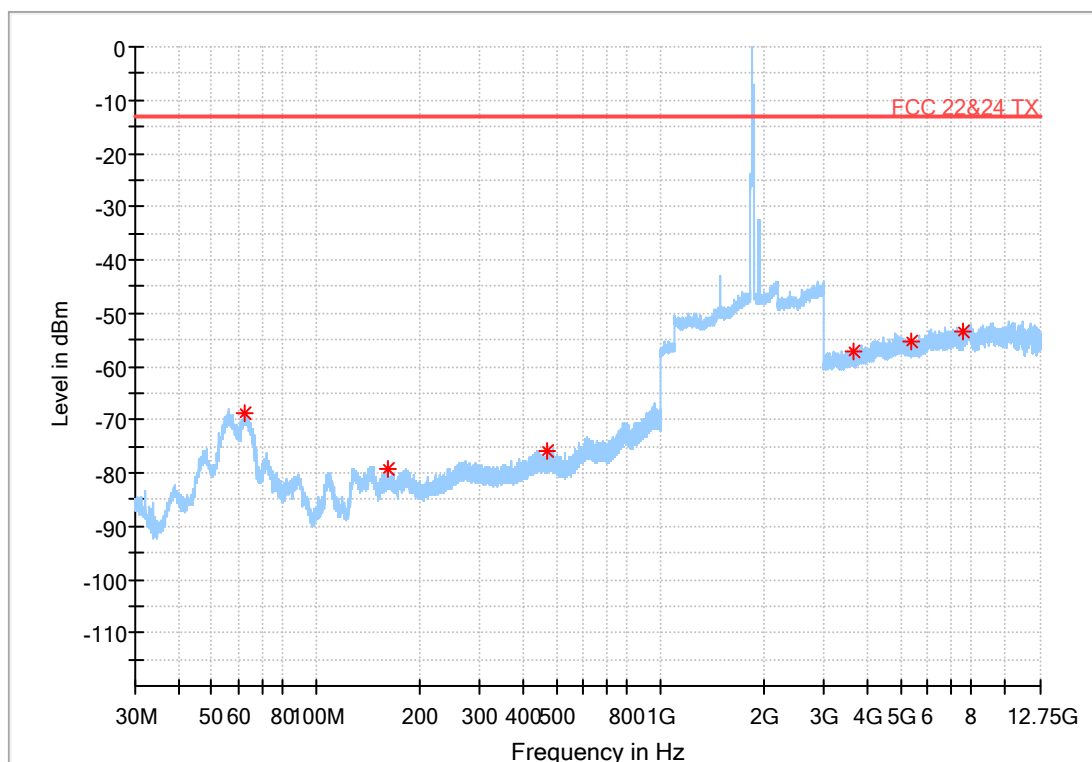
7. Field Strength of Spurious Radiation

7.1. Test BAND = LTE BAND 2 -Main Antenna

7.1.1. Test Mode =LTE/TM1 20MHz

7.1.1.1. Test Channel = LCH_H

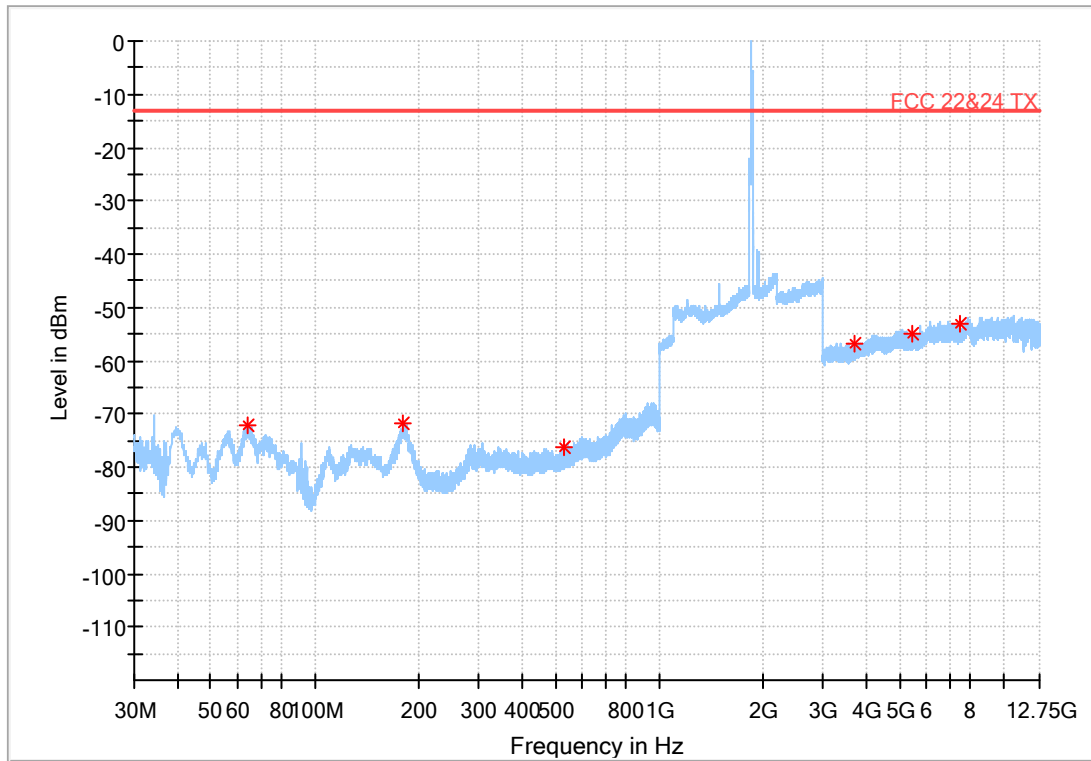
Full Spectrum





7.1.1.2. Test Channel = LCH_V

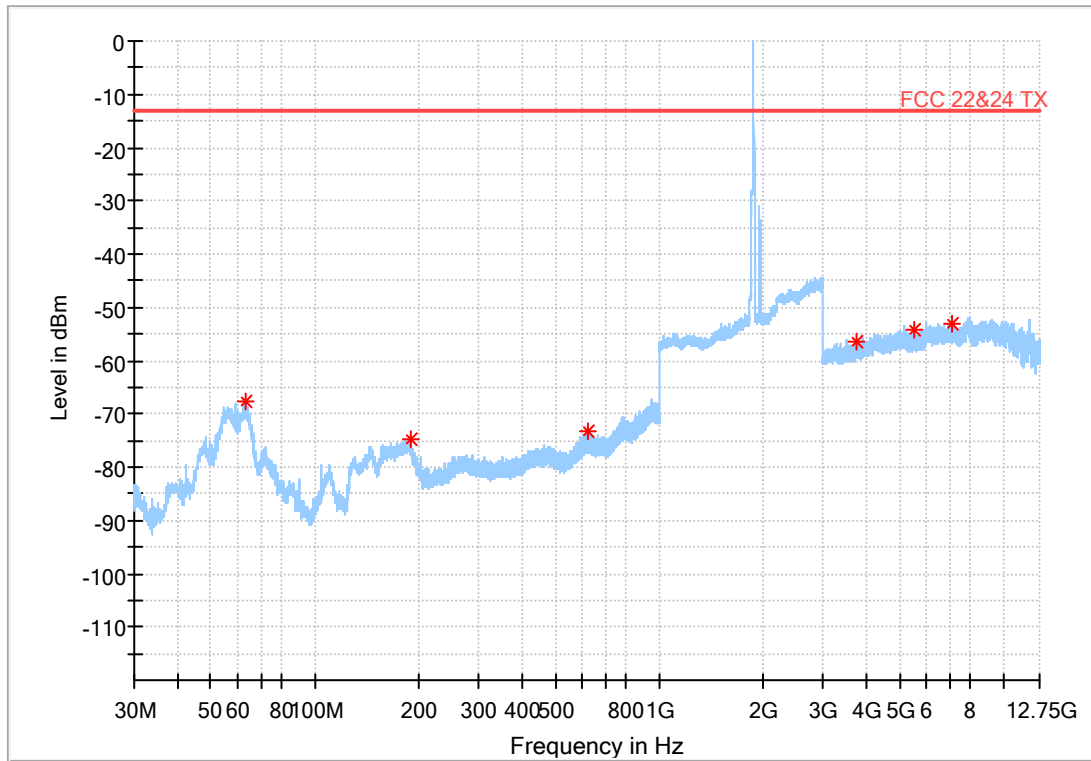
Full Spectrum





7.1.1.3. Test Channel = MCH_H

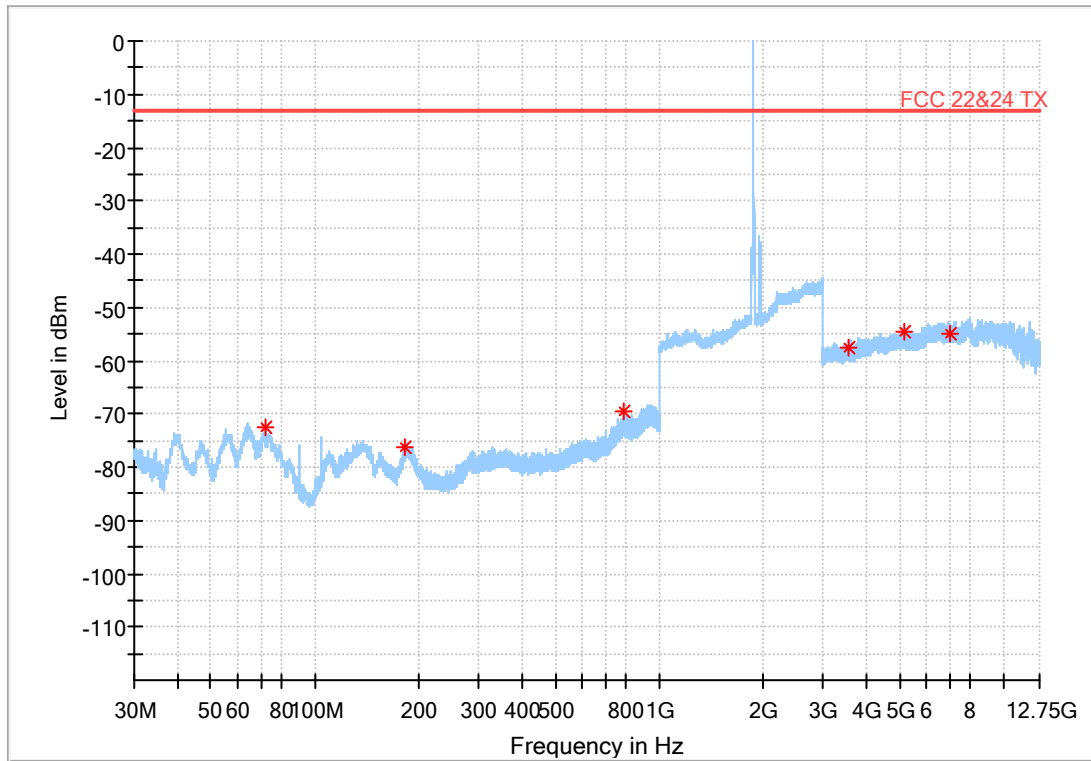
Full Spectrum





7.1.1.4. Test Channel = MCH_V

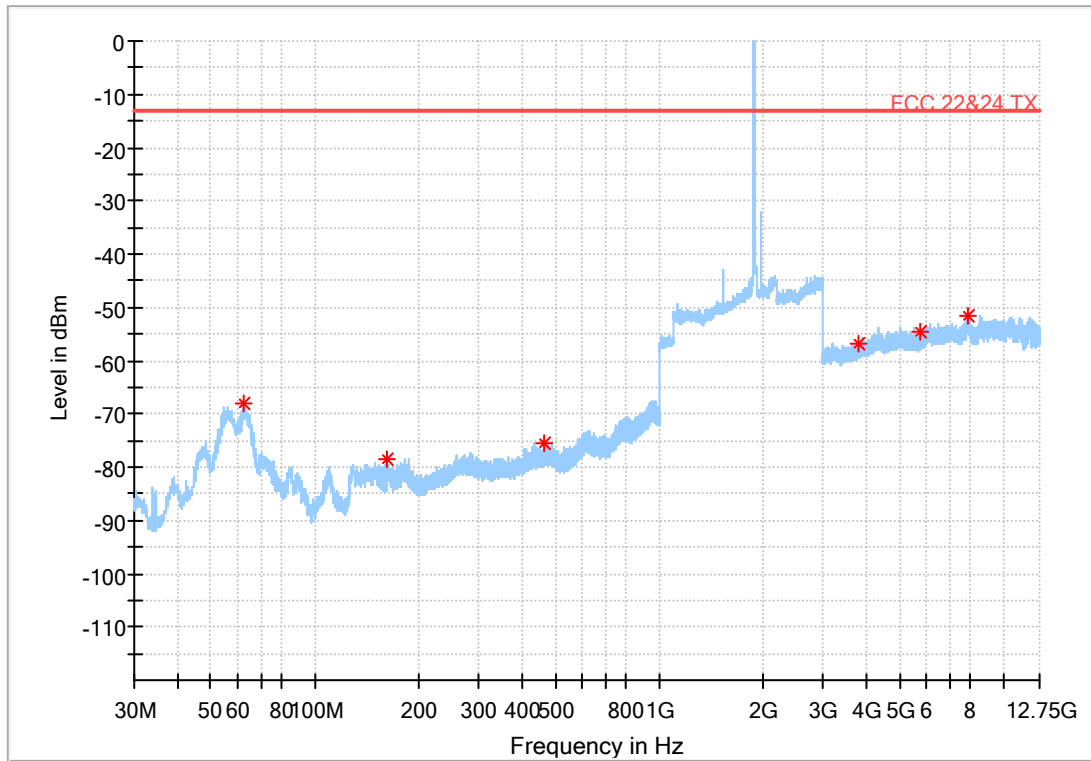
Full Spectrum





7.1.1.5. Test Channel = HCH_H

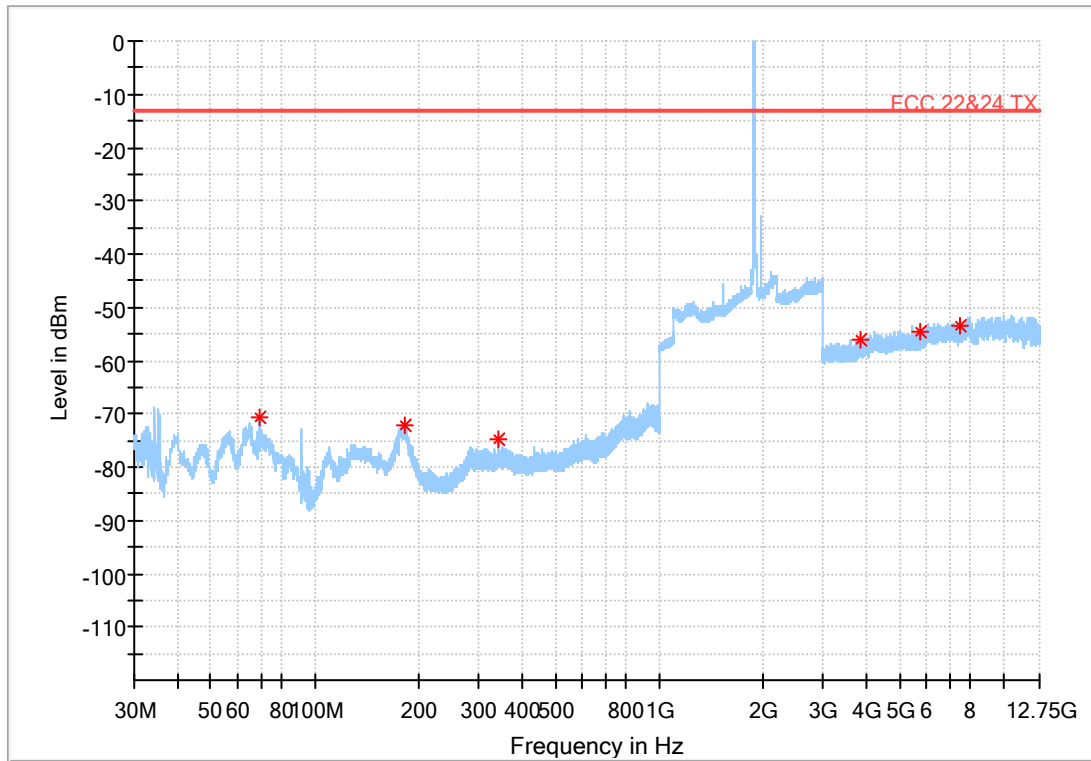
Full Spectrum





7.1.1.6. Test Channel = HCH_V

Full Spectrum



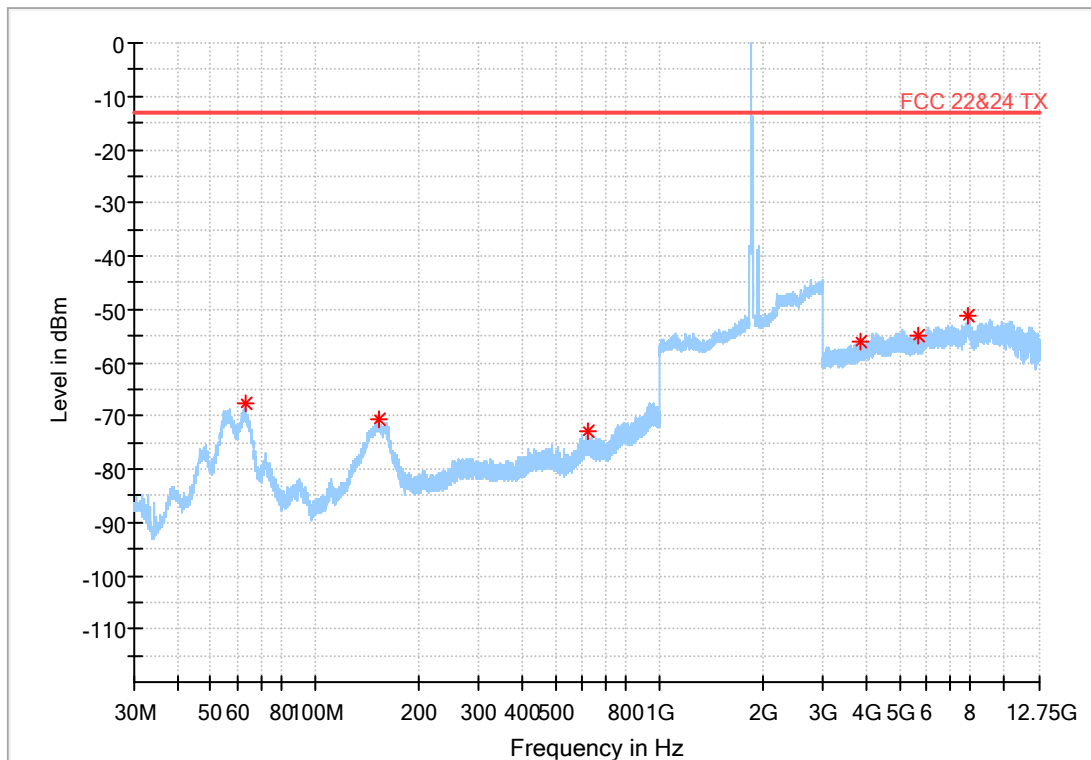


7.2. Test BAND = LTE BAND 2 -Second Antenna

7.2.1. Test Mode =LTE/TM1 20MHz

7.2.1.1. Test Channel = LCH_H

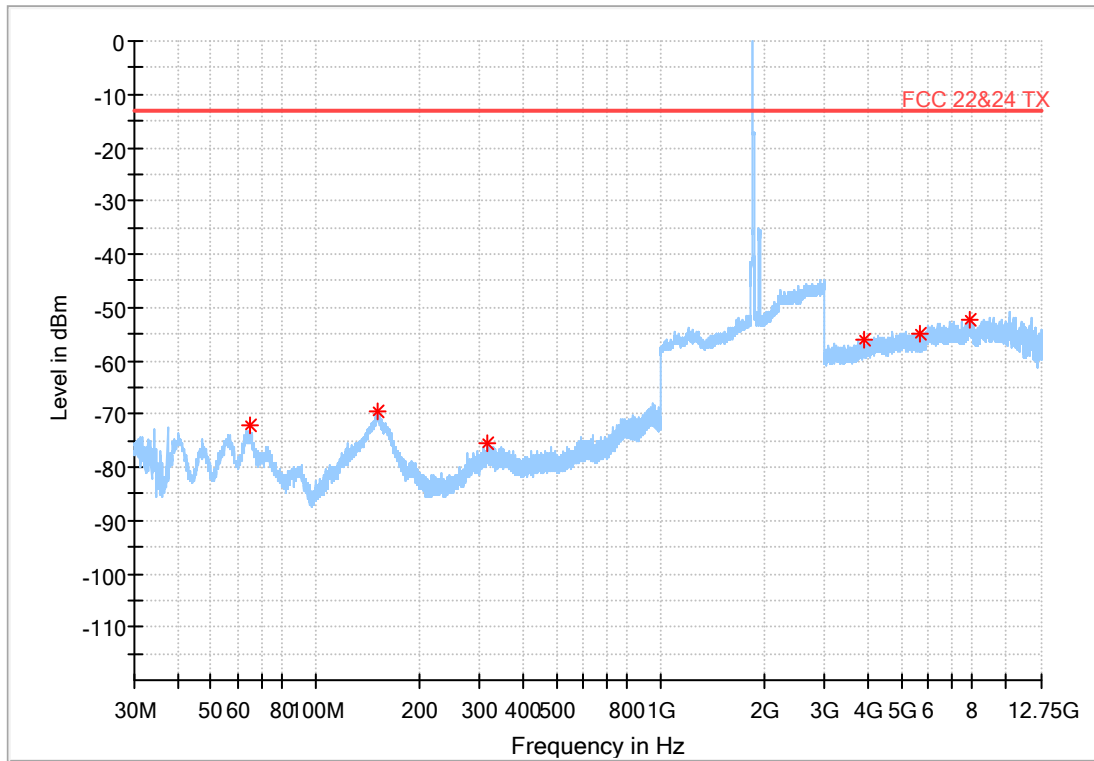
Full Spectrum





7.2.1.2. Test Channel = LCH_V

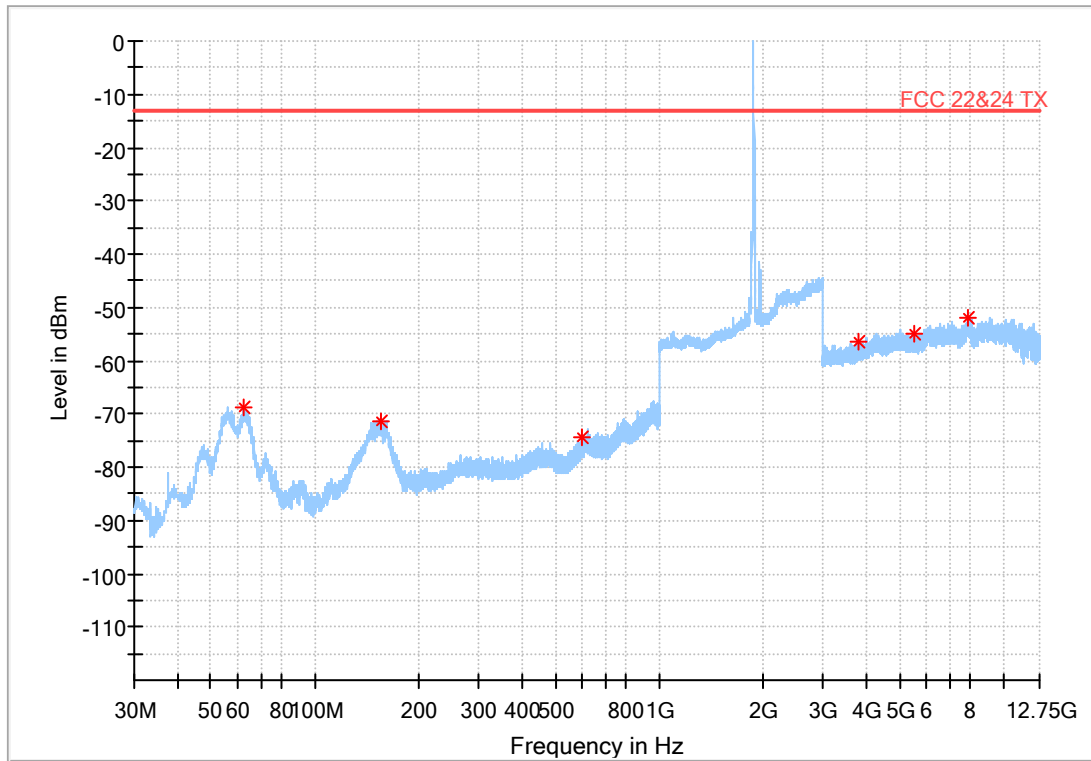
Full Spectrum





7.2.1.3. Test Channel = MCH_H

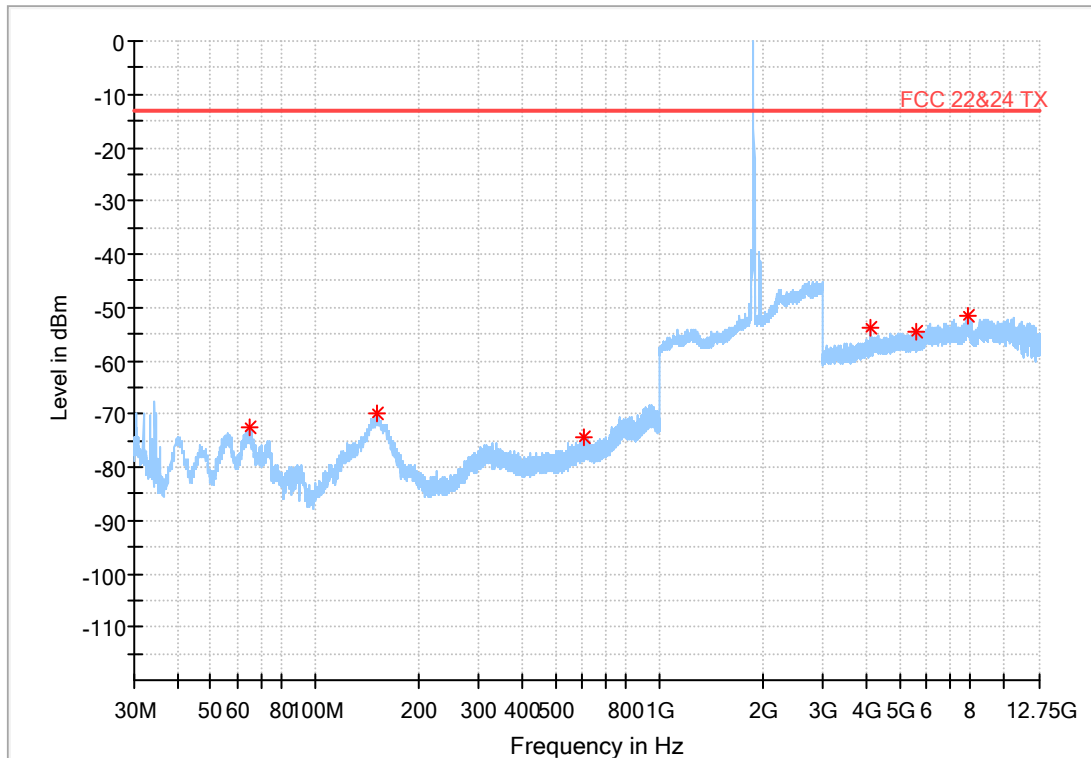
Full Spectrum





7.2.1.4. Test Channel = MCH_V

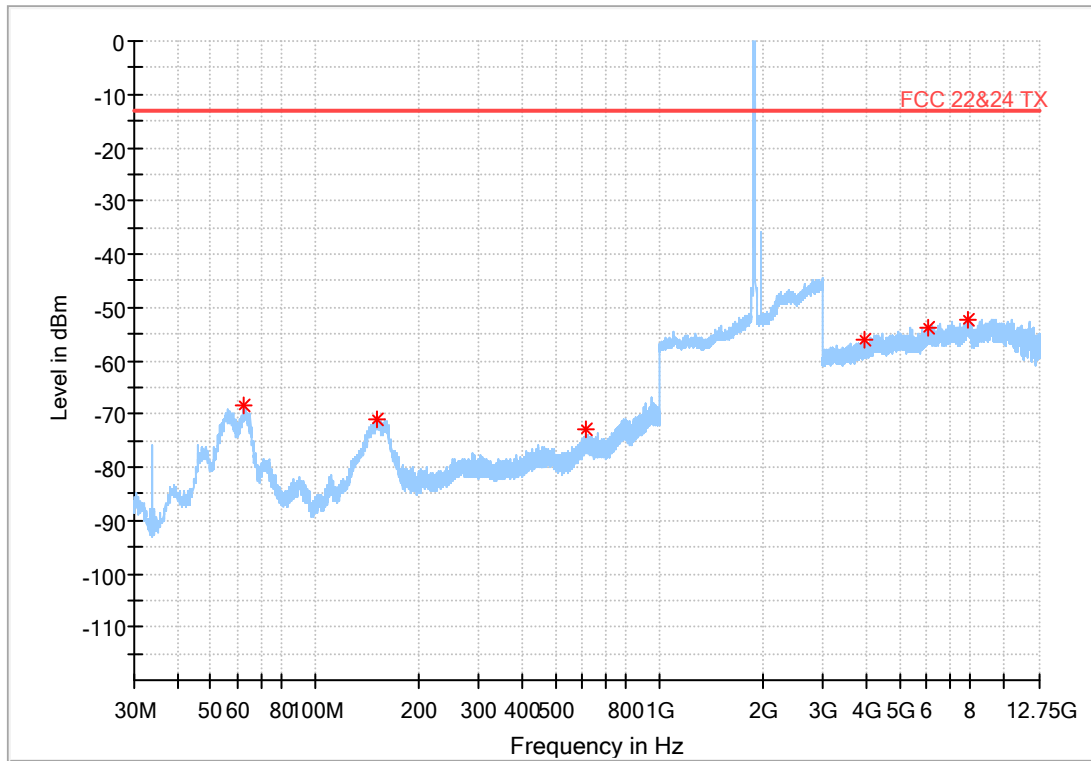
Full Spectrum





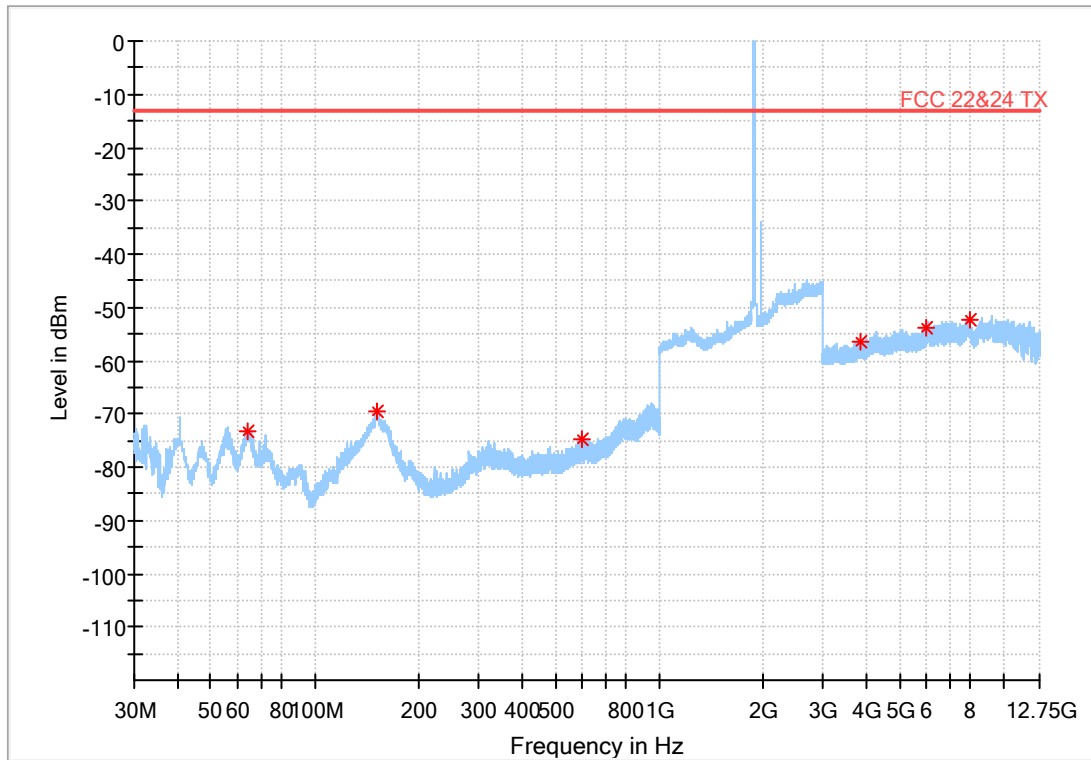
7.2.1.5. Test Channel = HCH_H

Full Spectrum



7.2.1.6. Test Channel = HCH_V

Full Spectrum



NOTE:

- 1) All modes are tested, but the data presented above is the worst case. 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.



8. Frequency Stability

8.1. Frequency Vs Voltage

Voltage										
BAND	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
BAND2	20MHz	QPSK	18700	100RB#0	VL	NT	1.30	0.000699	±2.5	PASS
BAND2	20MHz	QPSK	18700	100RB#0	VN	NT	1.30	0.000699	±2.5	PASS
BAND2	20MHz	QPSK	18700	100RB#0	VH	NT	1.60	0.000860	±2.5	PASS
BAND2	20MHz	QPSK	18900	100RB#0	VL	NT	-1.00	-0.000532	±2.5	PASS
BAND2	20MHz	QPSK	18900	100RB#0	VN	NT	-0.70	-0.000372	±2.5	PASS
BAND2	20MHz	QPSK	18900	100RB#0	VH	NT	-1.20	-0.000638	±2.5	PASS
BAND2	20MHz	QPSK	19100	100RB#0	VL	NT	1.60	0.000842	±2.5	PASS
BAND2	20MHz	QPSK	19100	100RB#0	VN	NT	1.50	0.000789	±2.5	PASS
BAND2	20MHz	QPSK	19100	100RB#0	VH	NT	1.60	0.000842	±2.5	PASS
BAND2	20MHz	64QAM	18700	100RB#0	VL	NT	9.90	0.005323	±2.5	PASS
BAND2	20MHz	64QAM	18700	100RB#0	VN	NT	7.60	0.004086	±2.5	PASS
BAND2	20MHz	64QAM	18700	100RB#0	VH	NT	10.20	0.005484	±2.5	PASS
BAND2	20MHz	64QAM	18900	100RB#0	VL	NT	-1.20	-0.000638	±2.5	PASS
BAND2	20MHz	64QAM	18900	100RB#0	VN	NT	-0.90	-0.000479	±2.5	PASS
BAND2	20MHz	64QAM	18900	100RB#0	VH	NT	-0.30	-0.000160	±2.5	PASS
BAND2	20MHz	64QAM	19100	100RB#0	VL	NT	1.20	0.000632	±2.5	PASS
BAND2	20MHz	64QAM	19100	100RB#0	VN	NT	1.40	0.000737	±2.5	PASS
BAND2	20MHz	64QAM	19100	100RB#0	VH	NT	1.60	0.000842	±2.5	PASS
BAND2	20MHz	16QAM	18700	100RB#0	VL	NT	1.40	0.000753	±2.5	PASS
BAND2	20MHz	16QAM	18700	100RB#0	VN	NT	1.30	0.000699	±2.5	PASS
BAND2	20MHz	16QAM	18700	100RB#0	VH	NT	1.60	0.000860	±2.5	PASS
BAND2	20MHz	16QAM	18900	100RB#0	VL	NT	-0.50	-0.000266	±2.5	PASS
BAND2	20MHz	16QAM	18900	100RB#0	VN	NT	-0.70	-0.000372	±2.5	PASS
BAND2	20MHz	16QAM	18900	100RB#0	VH	NT	-0.80	-0.000426	±2.5	PASS
BAND2	20MHz	16QAM	19100	100RB#0	VL	NT	1.50	0.000789	±2.5	PASS
BAND2	20MHz	16QAM	19100	100RB#0	VN	NT	1.70	0.000895	±2.5	PASS
BAND2	20MHz	16QAM	19100	100RB#0	VH	NT	1.30	0.000684	±2.5	PASS

8.2. Frequency Vs Temperature

Temperature										
BAND	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
BAND2	20MHz	QPSK	18700	100RB#0	NV	-30	1.00	0.000538	±2.5	PASS
BAND2	20MHz	QPSK	18700	100RB#0	NV	-20	1.00	0.000538	±2.5	PASS
BAND2	20MHz	QPSK	18700	100RB#0	NV	0	1.20	0.000645	±2.5	PASS
BAND2	20MHz	QPSK	18700	100RB#0	NV	10	1.10	0.000591	±2.5	PASS
BAND2	20MHz	QPSK	18700	100RB#0	NV	20	0.70	0.000376	±2.5	PASS
BAND2	20MHz	QPSK	18900	100RB#0	NV	-30	-0.50	-0.000266	±2.5	PASS
BAND2	20MHz	QPSK	18900	100RB#0	NV	-20	-1.20	-0.000638	±2.5	PASS



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BAND2	20MHz	QPSK	18900	100RB#0	NV	0	-0.70	-0.000372	±2.5	PASS
BAND2	20MHz	QPSK	18900	100RB#0	NV	10	-1.00	-0.000532	±2.5	PASS
BAND2	20MHz	QPSK	18900	100RB#0	NV	20	-1.00	-0.000532	±2.5	PASS
BAND2	20MHz	QPSK	19100	100RB#0	NV	-30	1.30	0.000684	±2.5	PASS
BAND2	20MHz	QPSK	19100	100RB#0	NV	-20	1.40	0.000737	±2.5	PASS
BAND2	20MHz	QPSK	19100	100RB#0	NV	0	1.60	0.000842	±2.5	PASS
BAND2	20MHz	QPSK	19100	100RB#0	NV	10	1.80	0.000947	±2.5	PASS
BAND2	20MHz	QPSK	19100	100RB#0	NV	20	1.60	0.000842	±2.5	PASS
BAND2	20MHz	64QAM	18700	100RB#0	NV	-30	5.30	0.002849	±2.5	PASS
BAND2	20MHz	64QAM	18700	100RB#0	NV	-20	9.30	0.005000	±2.5	PASS
BAND2	20MHz	64QAM	18700	100RB#0	NV	0	8.70	0.004677	±2.5	PASS
BAND2	20MHz	64QAM	18700	100RB#0	NV	10	9.10	0.004892	±2.5	PASS
BAND2	20MHz	64QAM	18700	100RB#0	NV	20	7.50	0.004032	±2.5	PASS
BAND2	20MHz	64QAM	18900	100RB#0	NV	-30	-0.70	-0.000372	±2.5	PASS
BAND2	20MHz	64QAM	18900	100RB#0	NV	-20	-0.80	-0.000426	±2.5	PASS
BAND2	20MHz	64QAM	18900	100RB#0	NV	0	-0.90	-0.000479	±2.5	PASS
BAND2	20MHz	64QAM	18900	100RB#0	NV	10	-0.50	-0.000266	±2.5	PASS
BAND2	20MHz	64QAM	18900	100RB#0	NV	20	-1.20	-0.000638	±2.5	PASS
BAND2	20MHz	64QAM	19100	100RB#0	NV	-30	1.10	0.000579	±2.5	PASS
BAND2	20MHz	64QAM	19100	100RB#0	NV	-20	1.30	0.000684	±2.5	PASS
BAND2	20MHz	64QAM	19100	100RB#0	NV	0	1.30	0.000684	±2.5	PASS
BAND2	20MHz	64QAM	19100	100RB#0	NV	10	1.50	0.000789	±2.5	PASS
BAND2	20MHz	64QAM	19100	100RB#0	NV	20	1.20	0.000632	±2.5	PASS
BAND2	20MHz	16QAM	18700	100RB#0	NV	-30	1.10	0.000591	±2.5	PASS
BAND2	20MHz	16QAM	18700	100RB#0	NV	-20	1.60	0.000860	±2.5	PASS
BAND2	20MHz	16QAM	18700	100RB#0	NV	0	1.20	0.000645	±2.5	PASS
BAND2	20MHz	16QAM	18700	100RB#0	NV	10	1.30	0.000699	±2.5	PASS
BAND2	20MHz	16QAM	18700	100RB#0	NV	20	1.10	0.000591	±2.5	PASS
BAND2	20MHz	16QAM	18900	100RB#0	NV	-30	-0.90	-0.000479	±2.5	PASS
BAND2	20MHz	16QAM	18900	100RB#0	NV	-20	-0.70	-0.000372	±2.5	PASS
BAND2	20MHz	16QAM	18900	100RB#0	NV	0	-0.70	-0.000372	±2.5	PASS
BAND2	20MHz	16QAM	18900	100RB#0	NV	10	-0.30	-0.000160	±2.5	PASS
BAND2	20MHz	16QAM	18900	100RB#0	NV	20	-0.60	-0.000319	±2.5	PASS
BAND2	20MHz	16QAM	19100	100RB#0	NV	-30	1.50	0.000789	±2.5	PASS
BAND2	20MHz	16QAM	19100	100RB#0	NV	-20	1.40	0.000737	±2.5	PASS
BAND2	20MHz	16QAM	19100	100RB#0	NV	0	2.00	0.001053	±2.5	PASS
BAND2	20MHz	16QAM	19100	100RB#0	NV	10	1.30	0.000684	±2.5	PASS
BAND2	20MHz	16QAM	19100	100RB#0	NV	20	1.40	0.000737	±2.5	PASS

The End