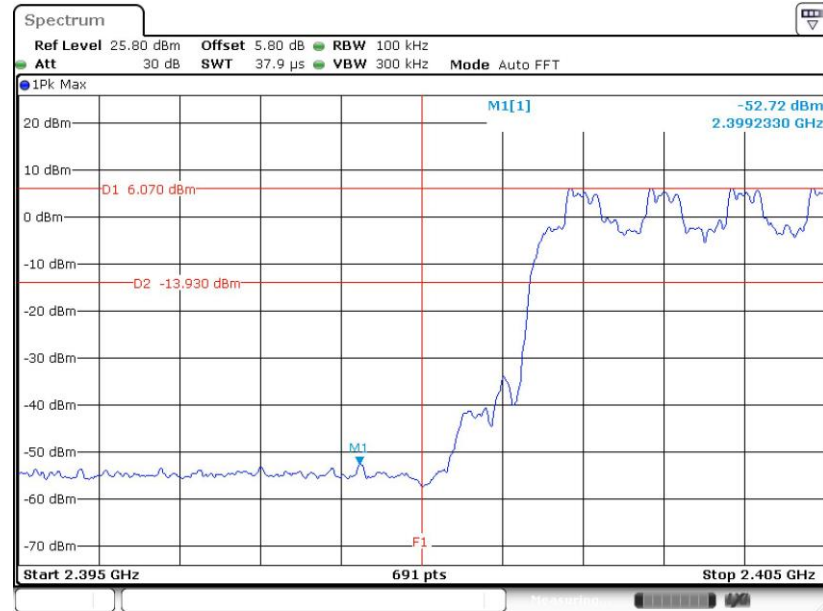




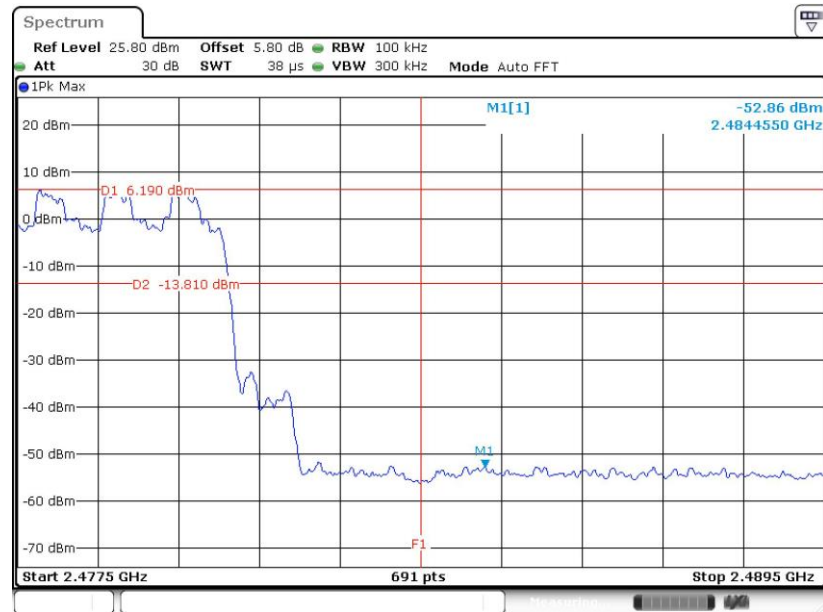
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Hopping Mode Low Band Edge Plot



Date: 15.OCT.2021 19:51:57

Hopping Mode High Band Edge Plot



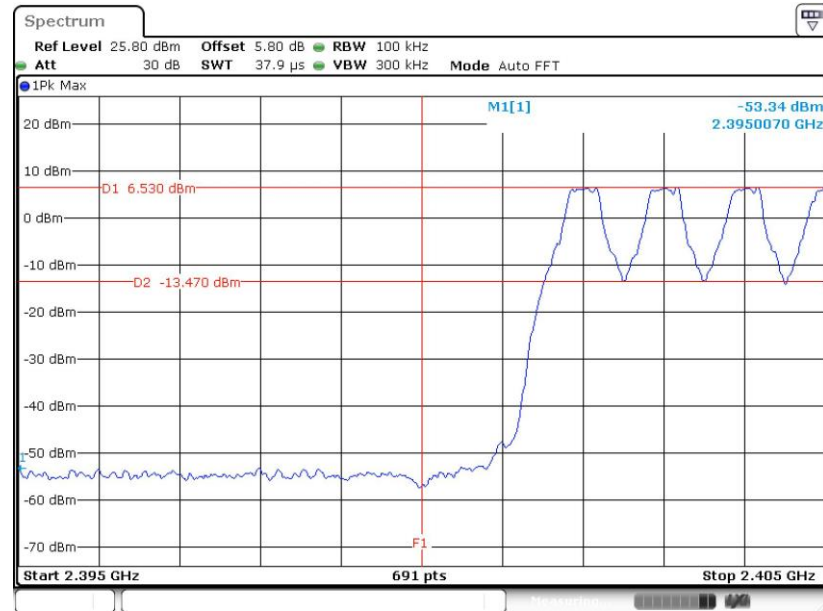
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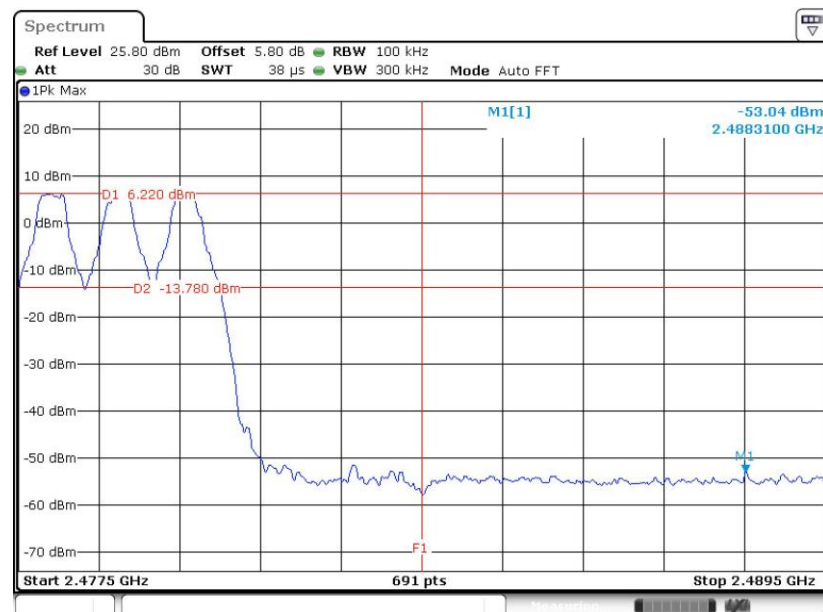
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Hopping Mode Low Band Edge Plot



Date: 15.OCT.2021 22:29:46

Hopping Mode High Band Edge Plot

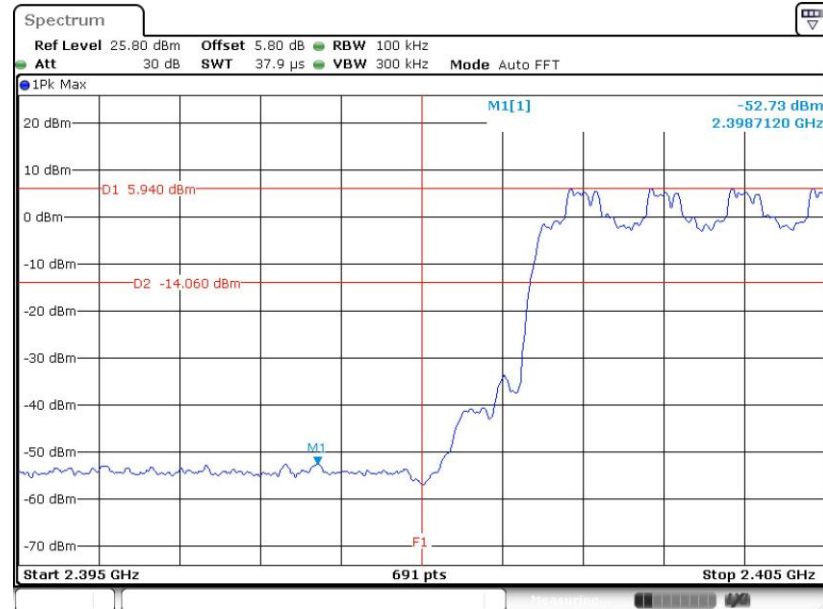


Date: 15.OCT.2021 21:26:30



<2Mbps>

Hopping Mode Low Band Edge Plot



Date: 15.OCT.2021 21:41:36

Hopping Mode High Band Edge Plot

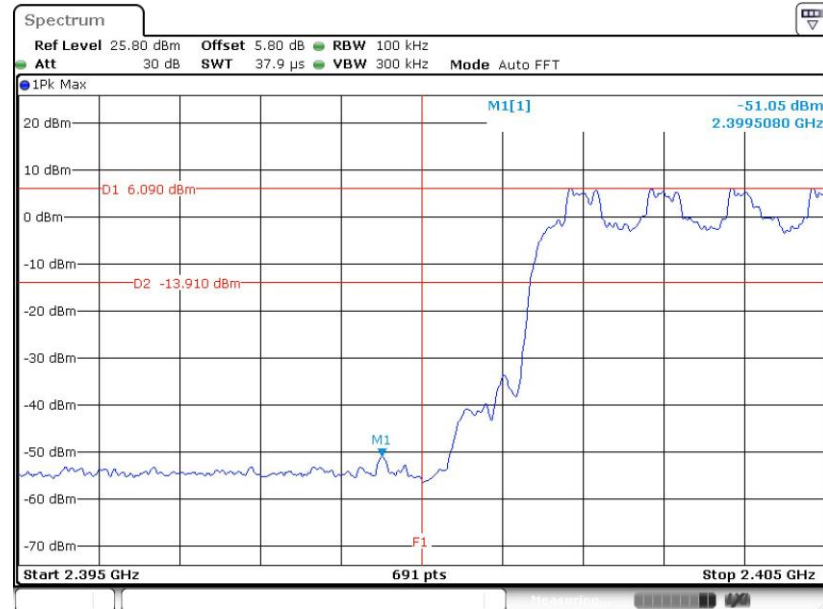


Date: 15.OCT.2021 22:02:59



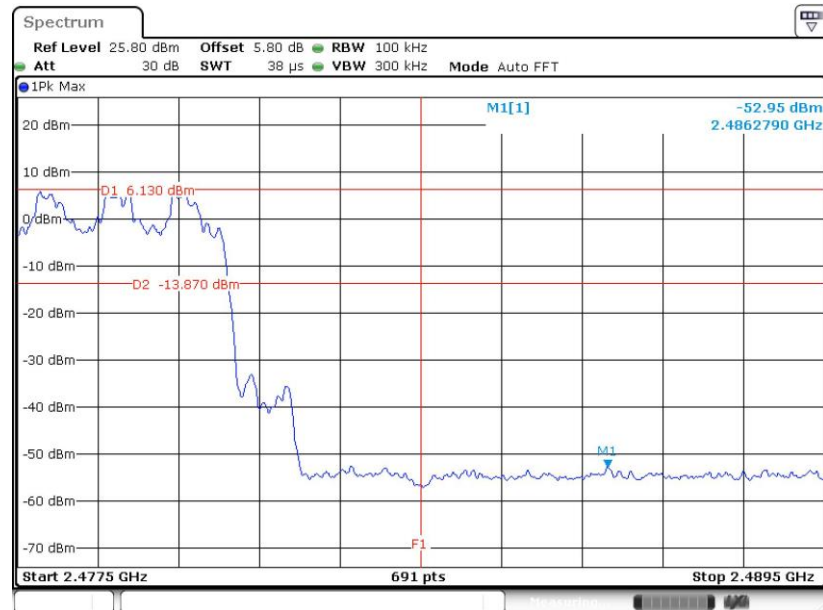
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Hopping Mode Low Band Edge Plot



Date: 15.OCT.2021 22:14:25

Hopping Mode High Band Edge Plot



Date: 15.OCT.2021 22:26:48

3.7 Conducted Spurious Emission Measurement

3.7.1 Limit of Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

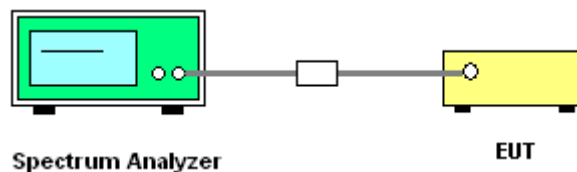
3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Procedure

1. The testing follows ANSI C63.10-2013 clause 7.8.8.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW = 300kHz, scan up through 10th harmonic. All harmonics / spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.7.4 Test Setup



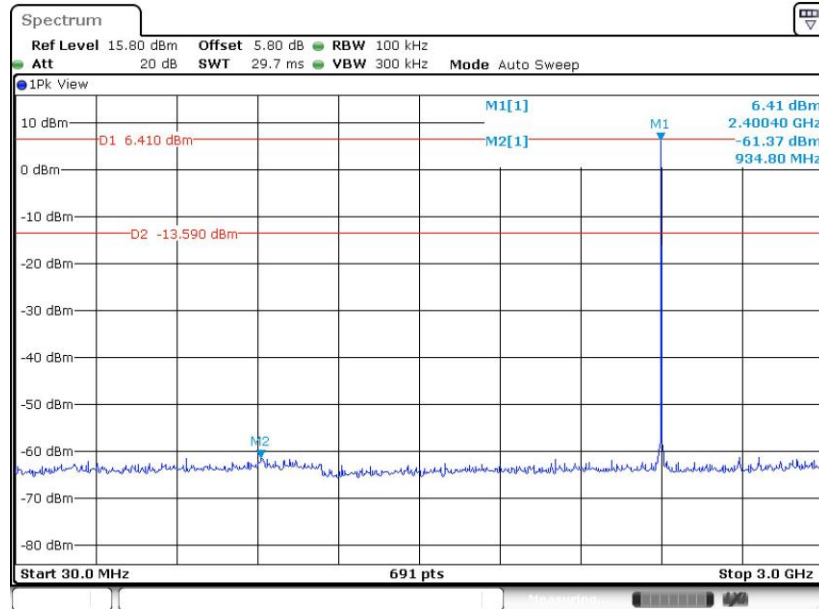


3.7.5 Test Result of Conducted Spurious Emission

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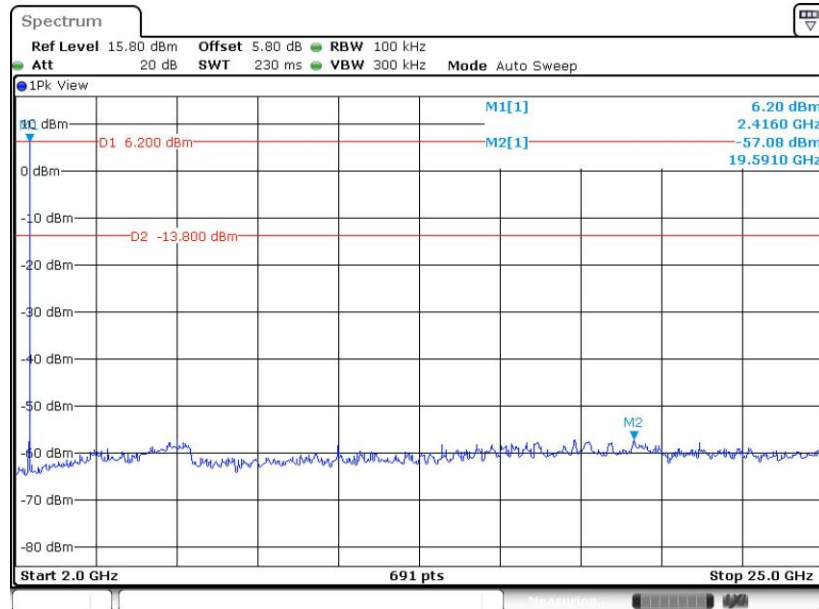
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CSE Plot on Ch 00 between 30MHz ~ 3 GHz



Date: 15.OCT.2021 18:43:54

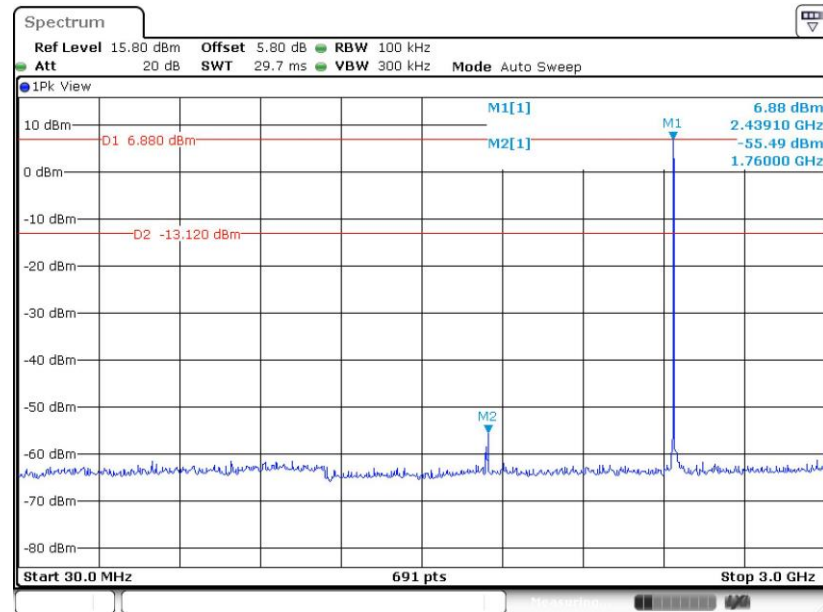
CSE Plot on Ch 00 between 2 GHz ~ 25 GHz



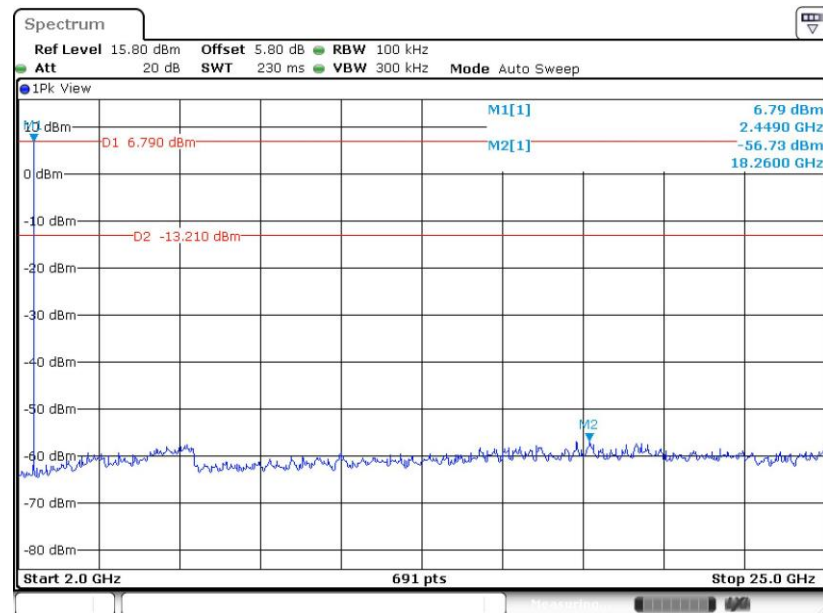
Date: 15.OCT.2021 18:44:24



CSE Plot on Ch 39 between 30MHz ~ 3 GHz

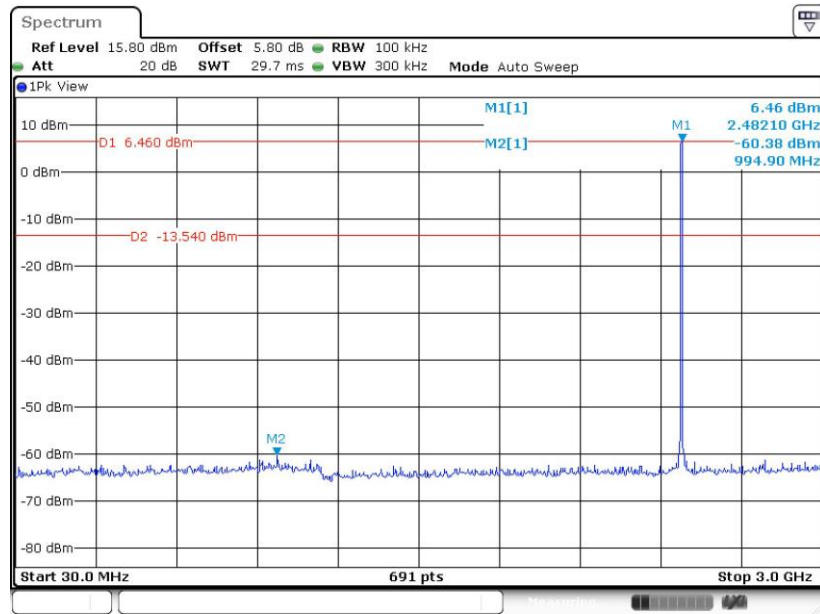


CSE Plot on Ch 39 between 2 GHz ~ 25 GHz



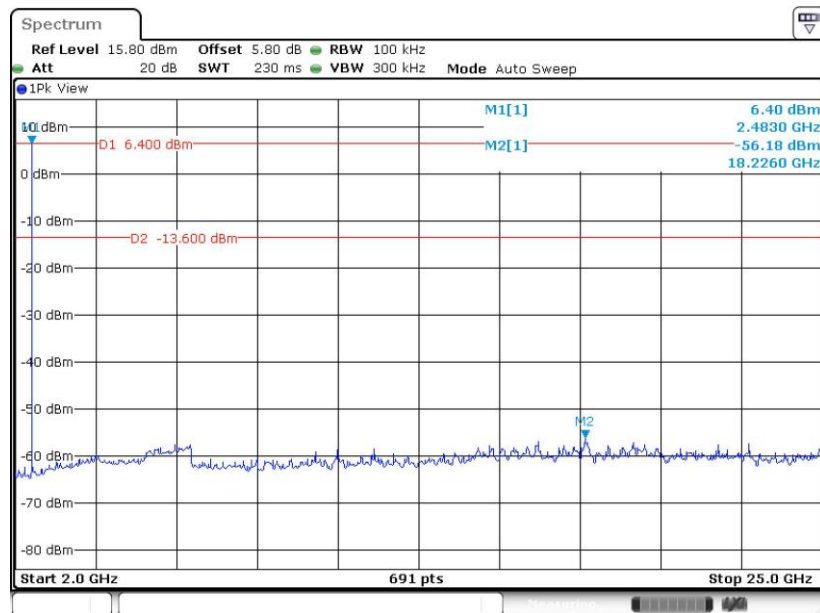


CSE Plot on Ch 78 between 30MHz ~ 3 GHz



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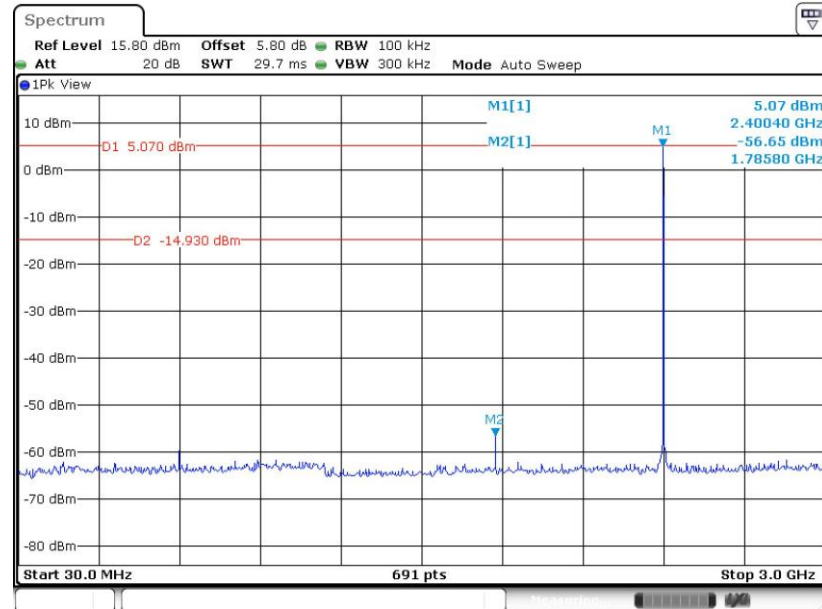
CSE Plot on Ch 78 between 2 GHz ~ 25 GHz



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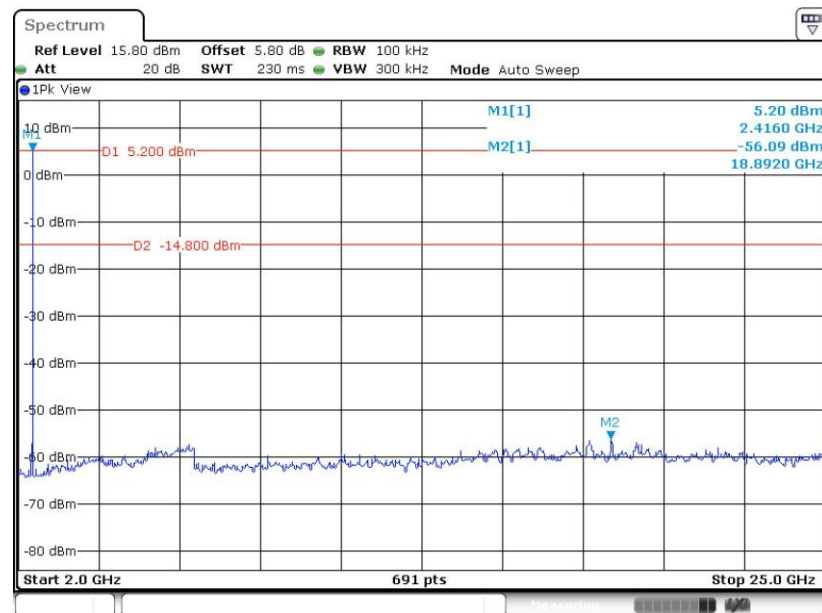
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CSE Plot on Ch 00 between 30MHz ~ 3 GHz



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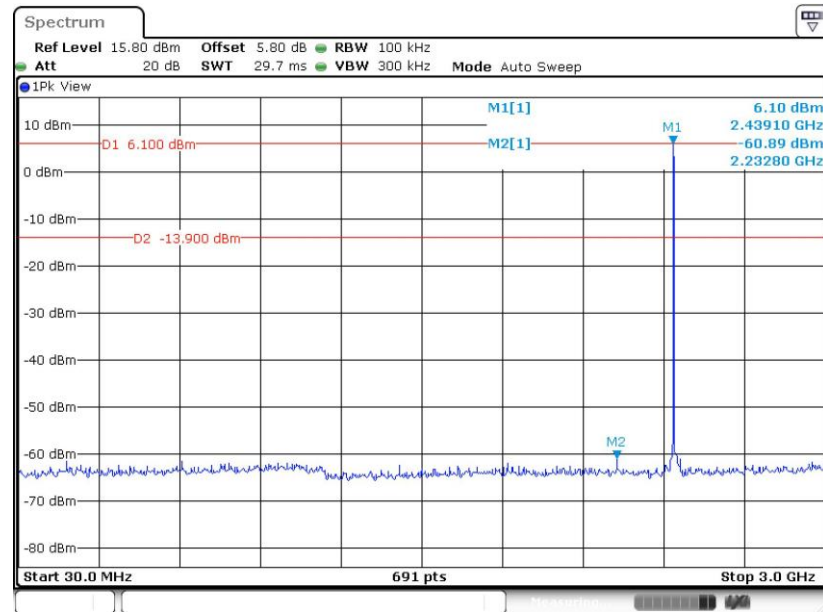
CSE Plot on Ch 00 between 2 GHz ~ 25 GHz



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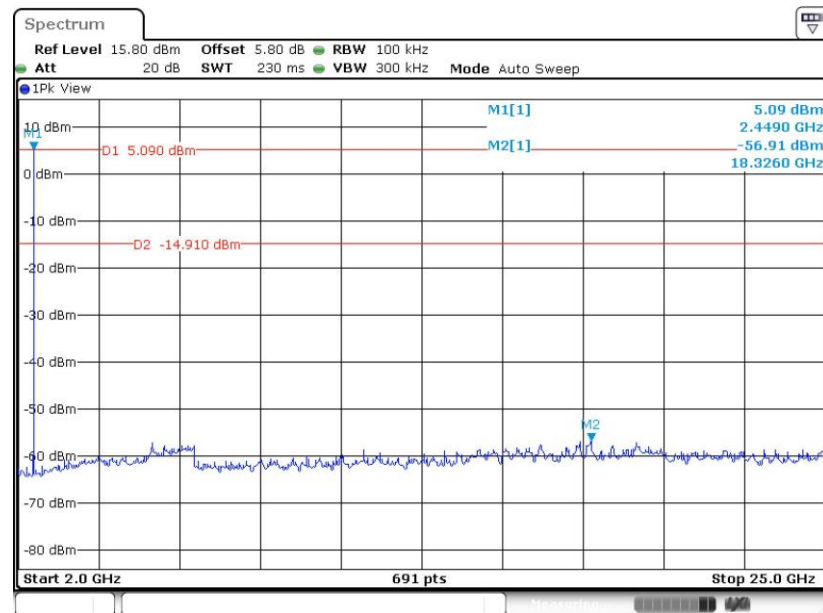


CSE Plot on Ch 39 between 30MHz ~ 3 GHz



Date: 15.OCT.2021 19:24:36

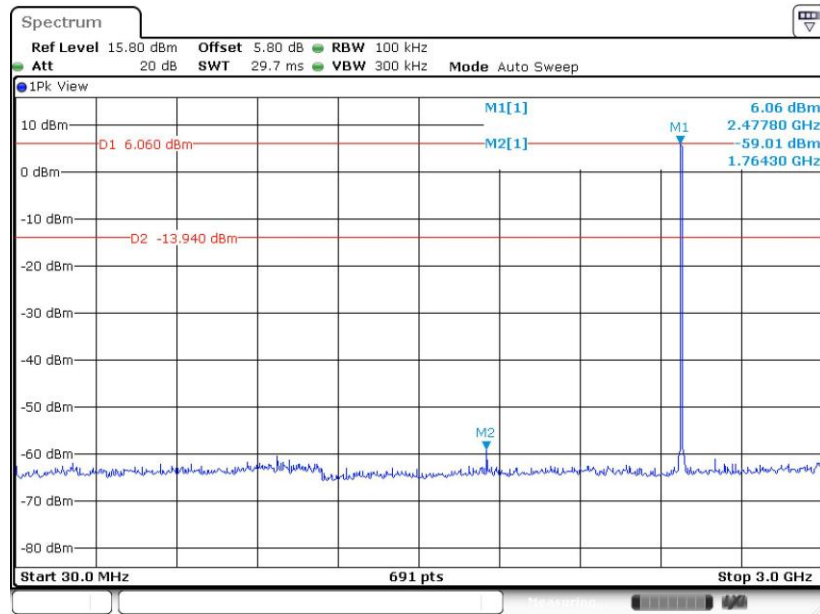
CSE Plot on Ch 39 between 2 GHz ~ 25 GHz



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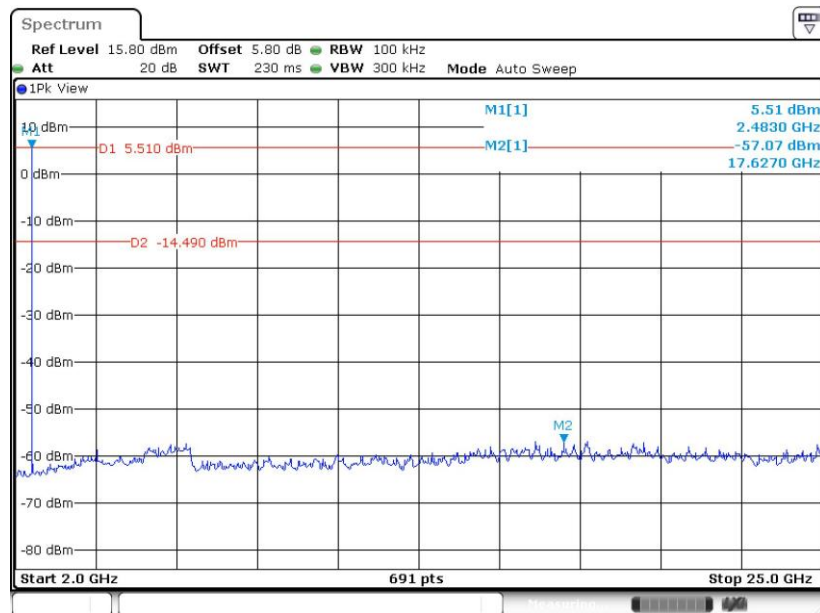


CSE Plot on Ch 78 between 30MHz ~ 3 GHz



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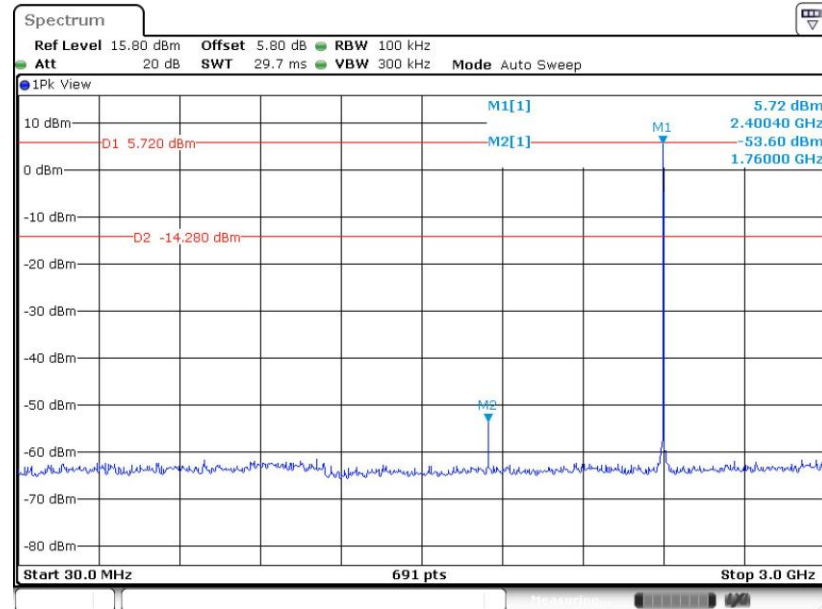
CSE Plot on Ch 78 between 2 GHz ~ 25 GHz



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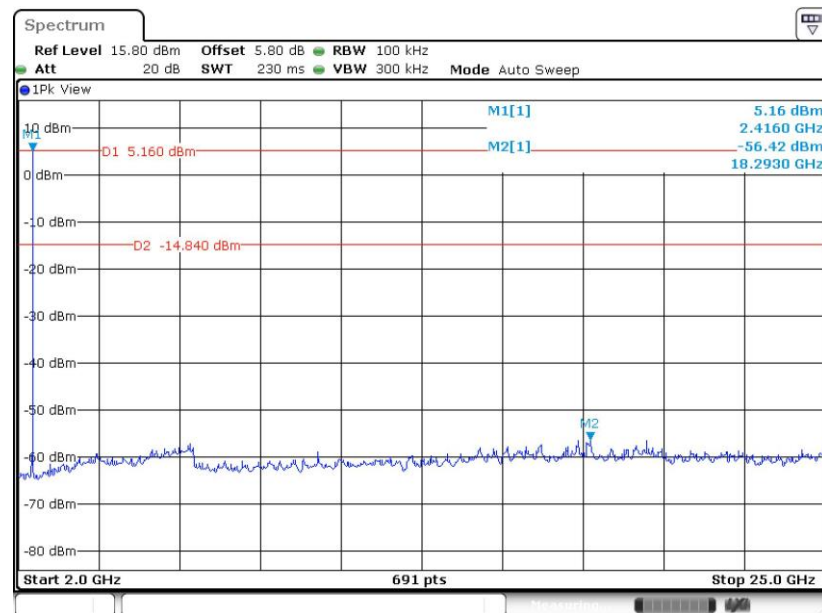
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CSE Plot on Ch 00 between 30MHz ~ 3 GHz



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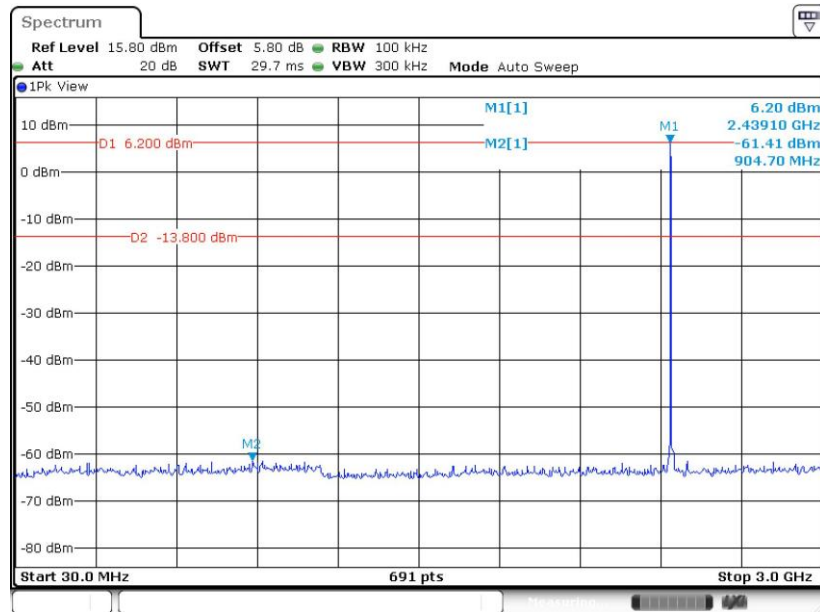
CSE Plot on Ch 00 between 2 GHz ~ 25 GHz



Date: 15.OCT.2021 19:50:06

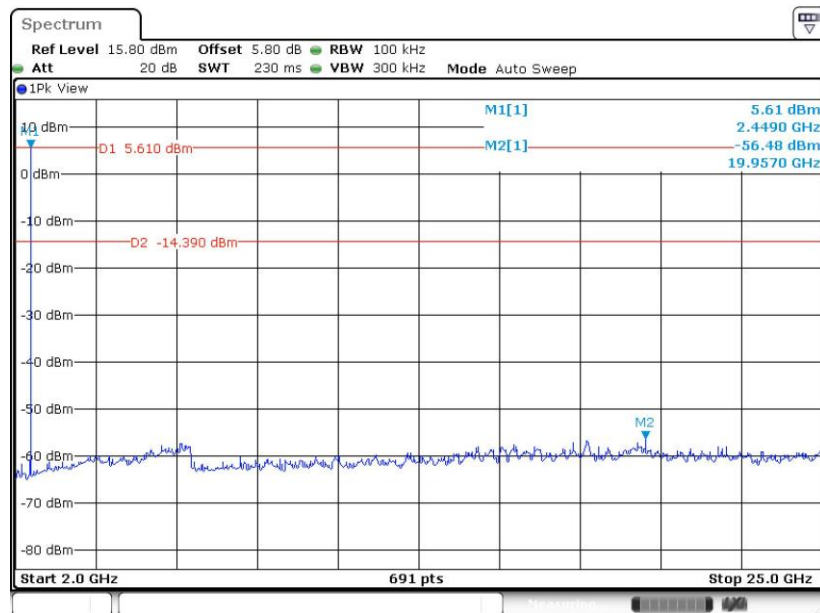


CSE Plot on Ch 39 between 30MHz ~ 3 GHz



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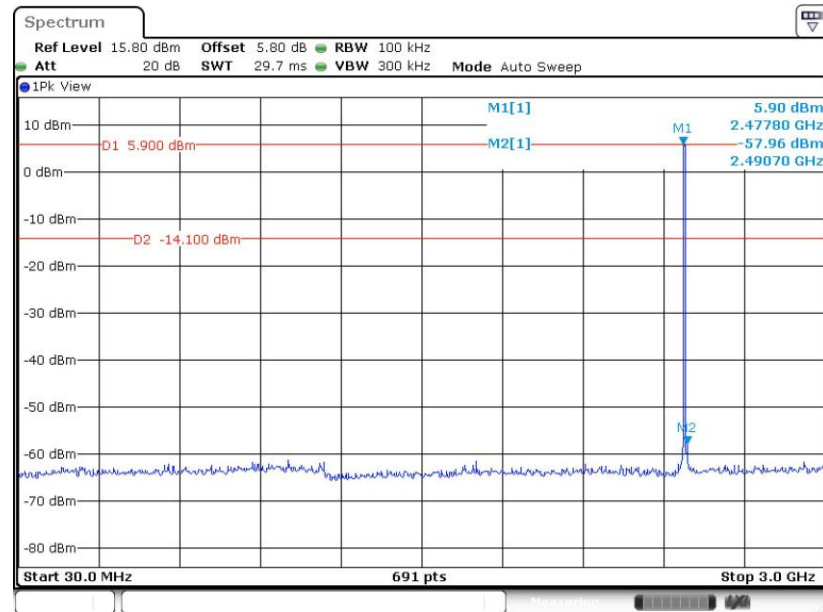
CSE Plot on Ch 39 between 2 GHz ~ 25 GHz



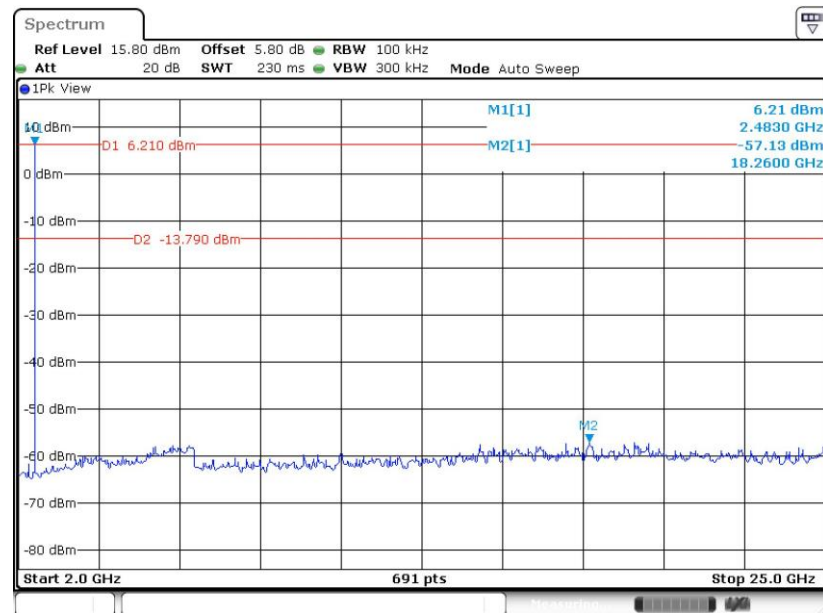
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CSE Plot on Ch 78 between 30MHz ~ 3 GHz



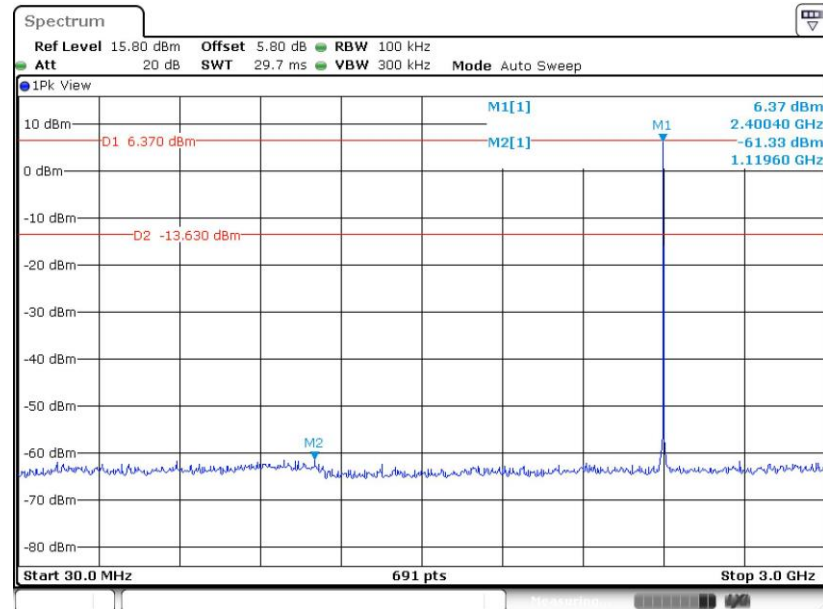
CSE Plot on Ch 78 between 2 GHz ~ 25 GHz



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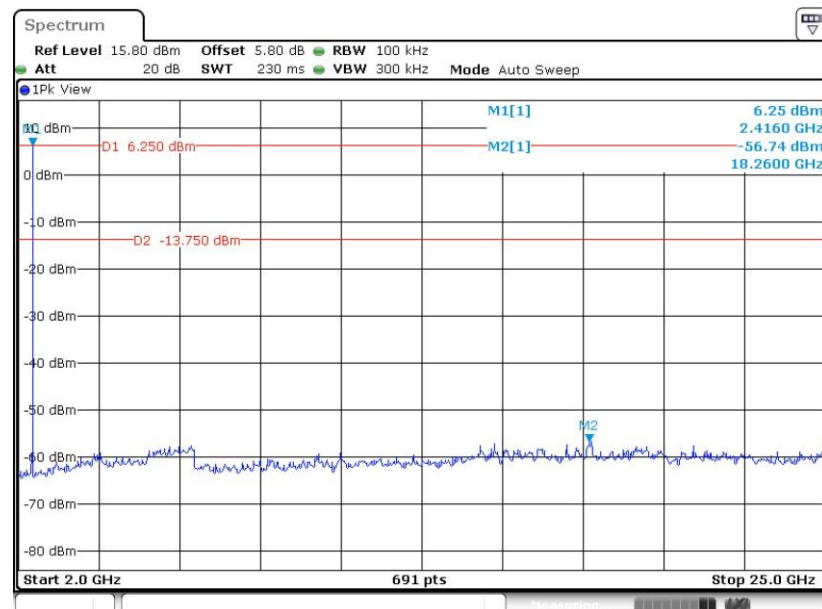
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CSE Plot on Ch 00 between 30MHz ~ 3 GHz



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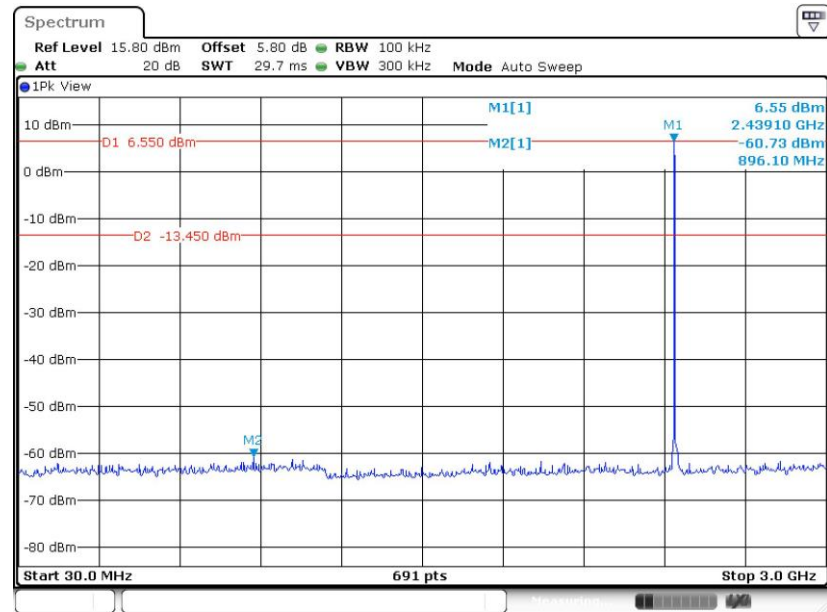
CSE Plot on Ch 00 between 2 GHz ~ 25 GHz



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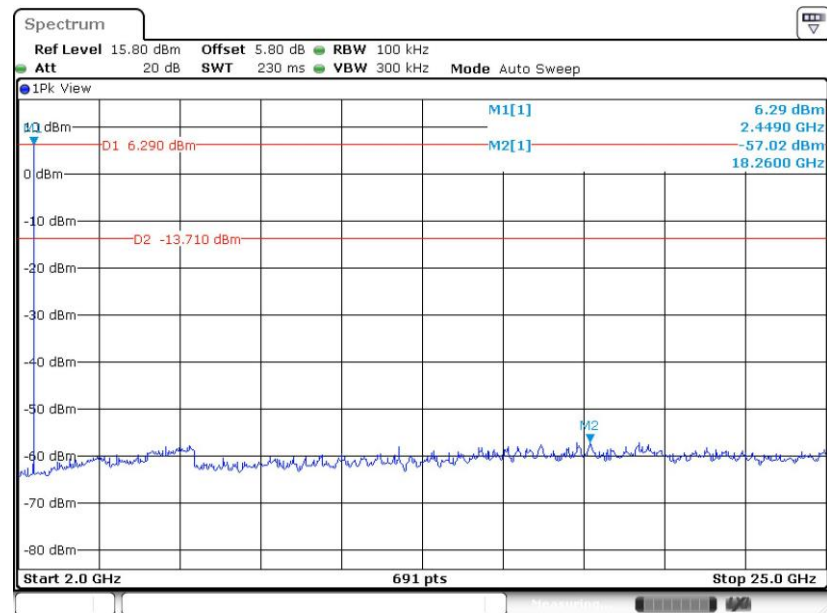


CSE Plot on Ch 39 between 30MHz ~ 3 GHz



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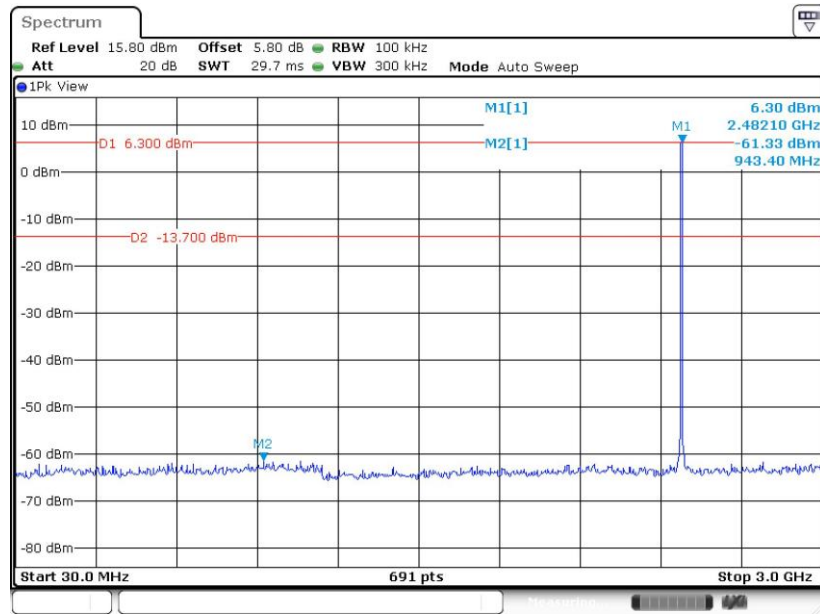
CSE Plot on Ch 39 between 2 GHz ~ 25 GHz



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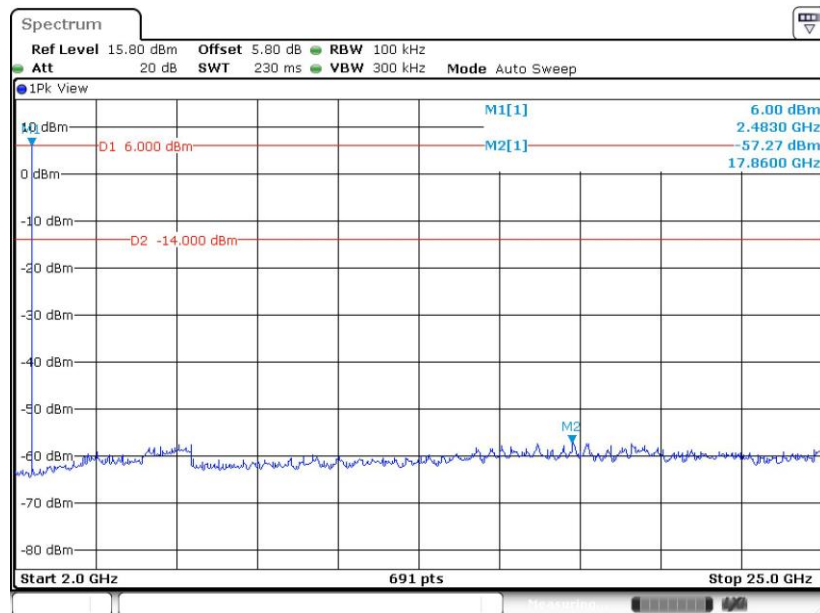


CSE Plot on Ch 78 between 30MHz ~ 3 GHz



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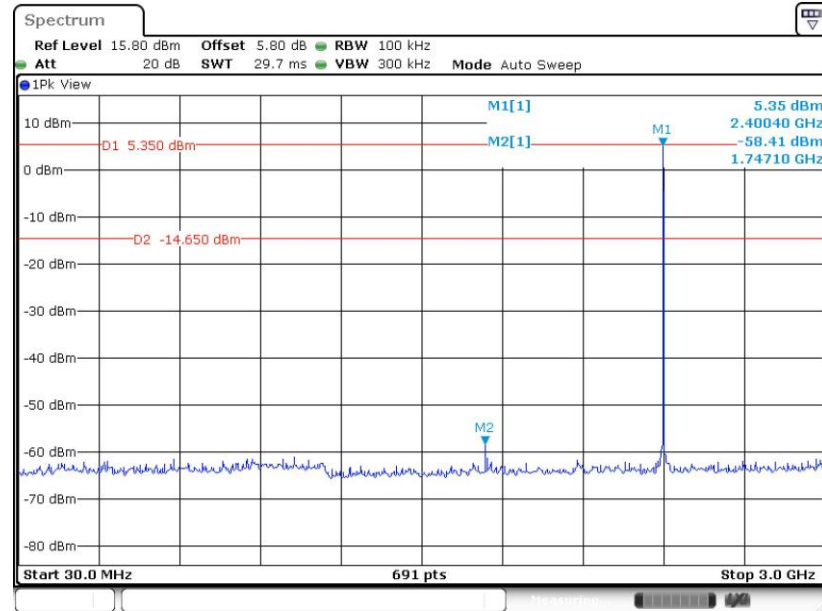
CSE Plot on Ch 78 between 2 GHz ~ 25 GHz



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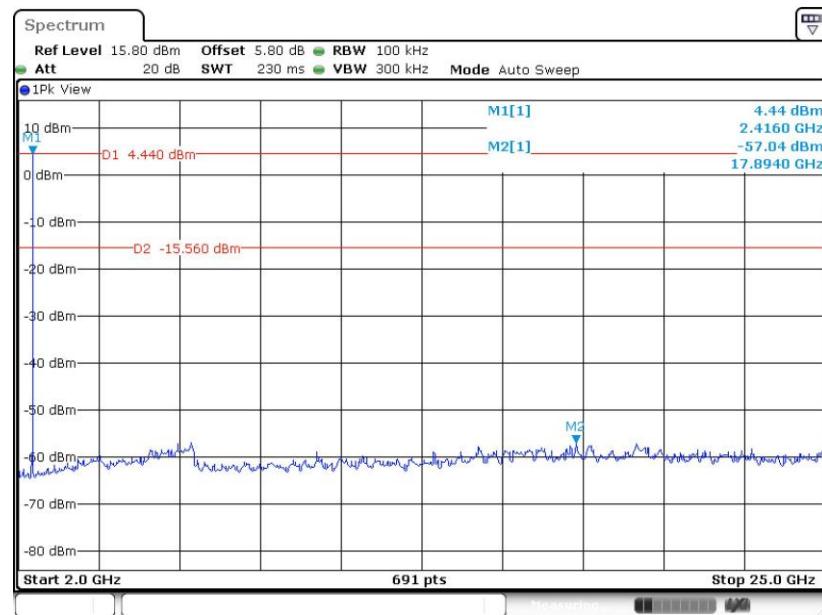
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CSE Plot on Ch 00 between 30MHz ~ 3 GHz



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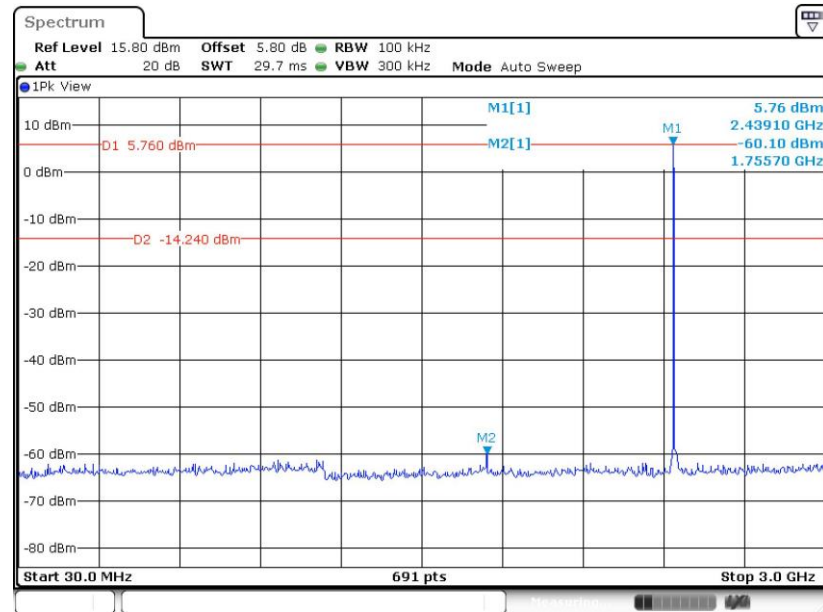
CSE Plot on Ch 00 between 2 GHz ~ 25 GHz



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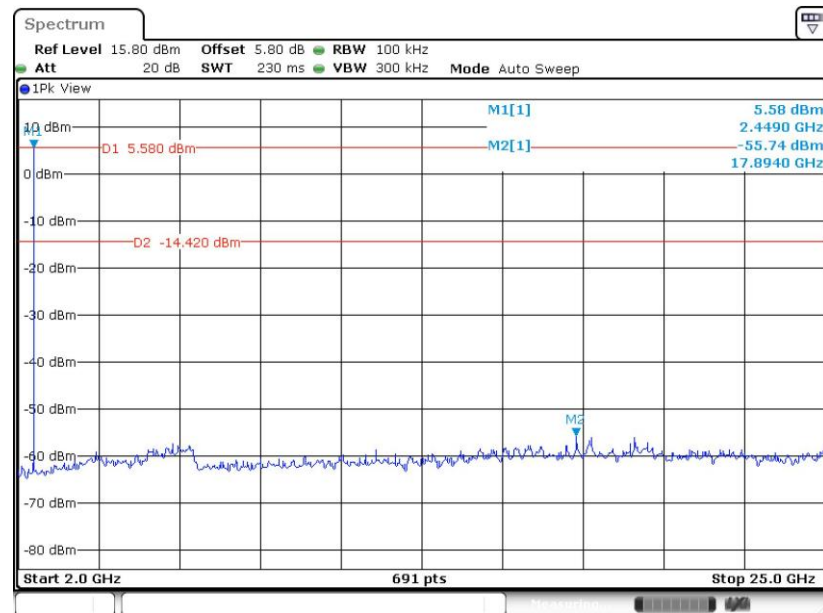


CSE Plot on Ch 39 between 30MHz ~ 3 GHz



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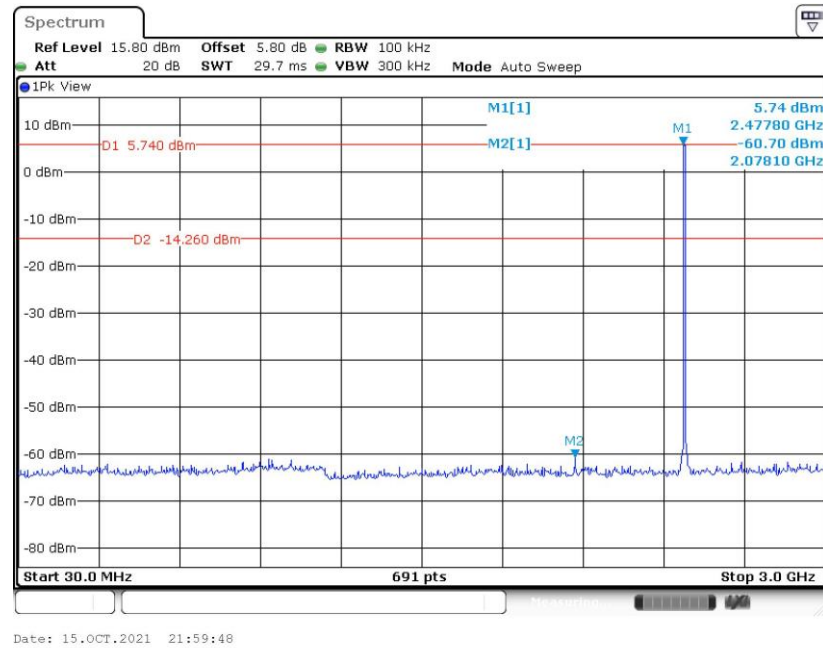
CSE Plot on Ch 39 between 2 GHz ~ 25 GHz



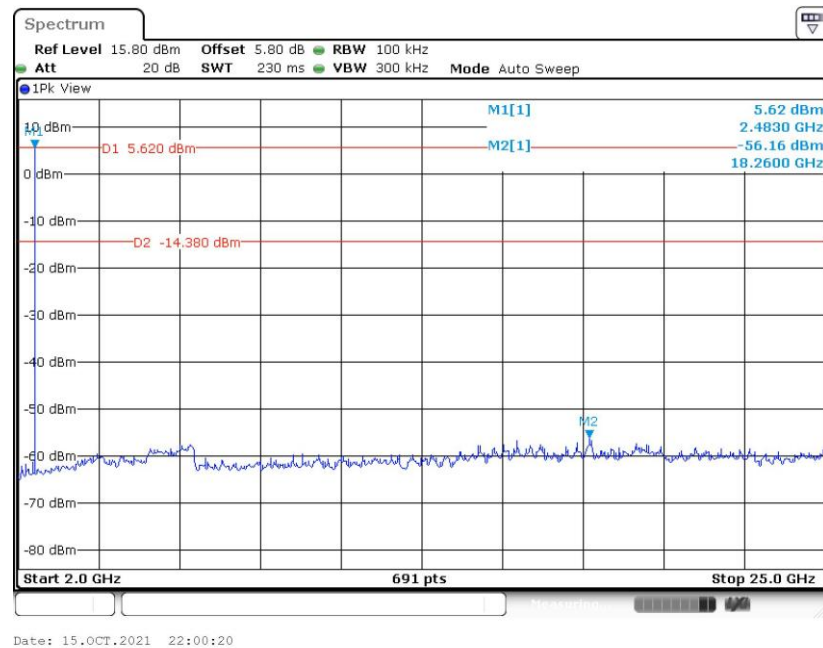
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CSE Plot on Ch 78 between 30MHz ~ 3 GHz

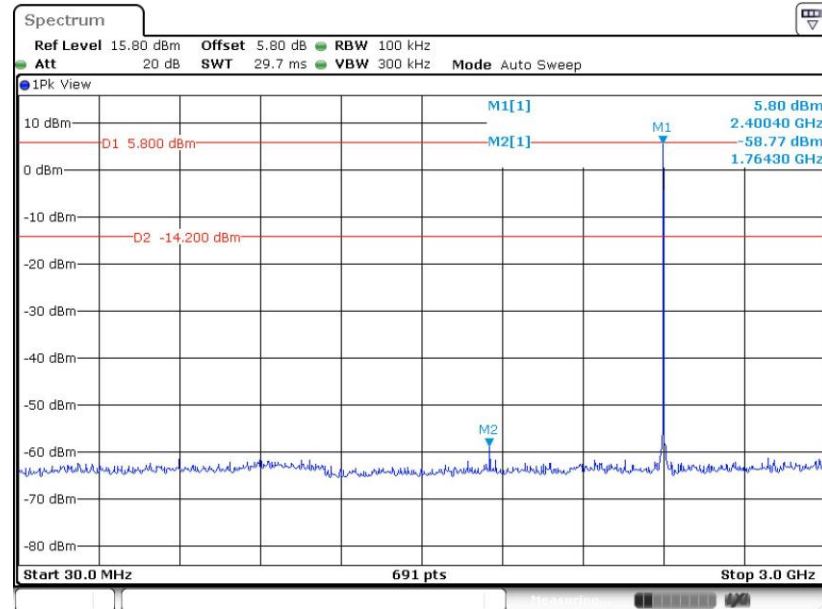


CSE Plot on Ch 78 between 2 GHz ~ 25 GHz



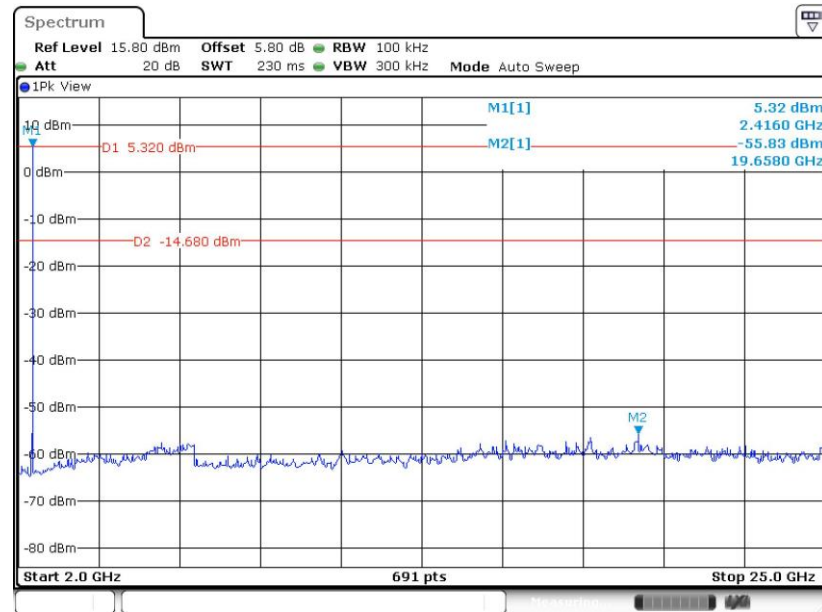
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CSE Plot on Ch 00 between 30MHz ~ 3 GHz



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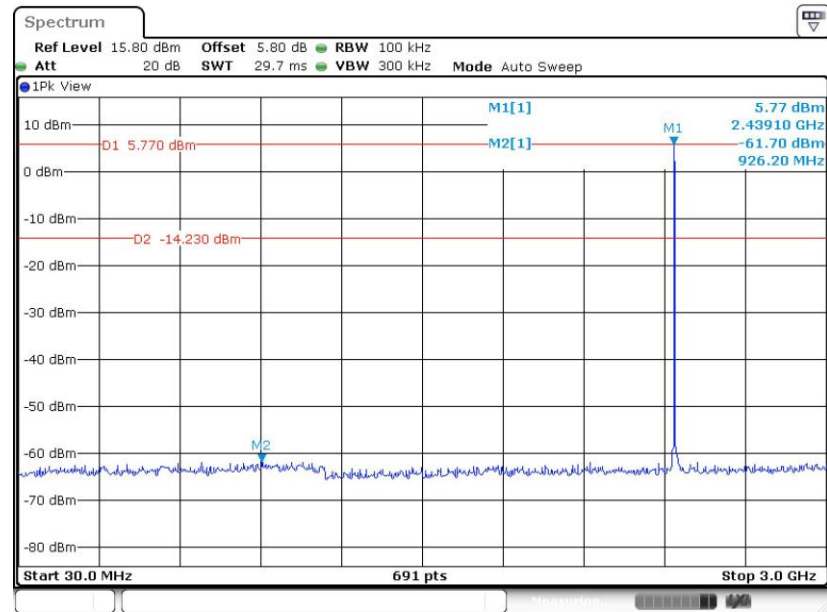
CSE Plot on Ch 00 between 2 GHz ~ 25 GHz



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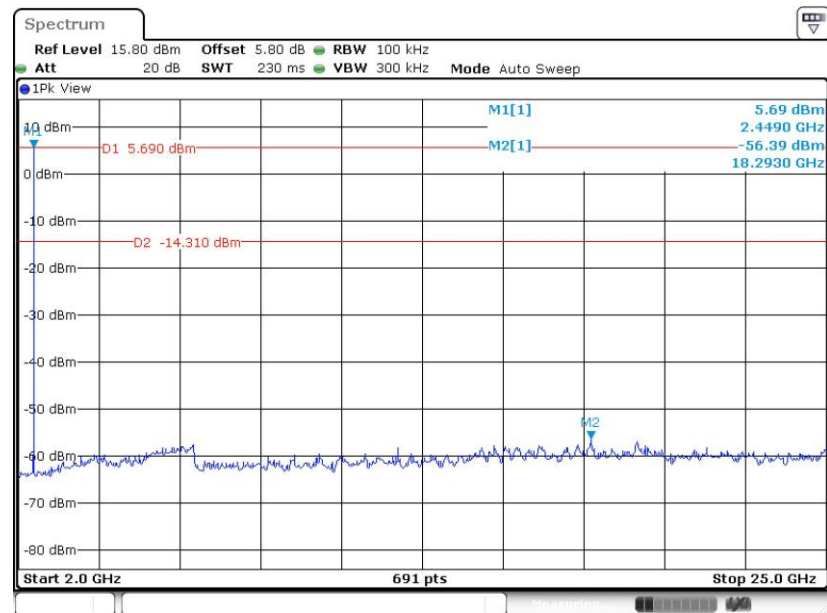


CSE Plot on Ch 39 between 30MHz ~ 3 GHz



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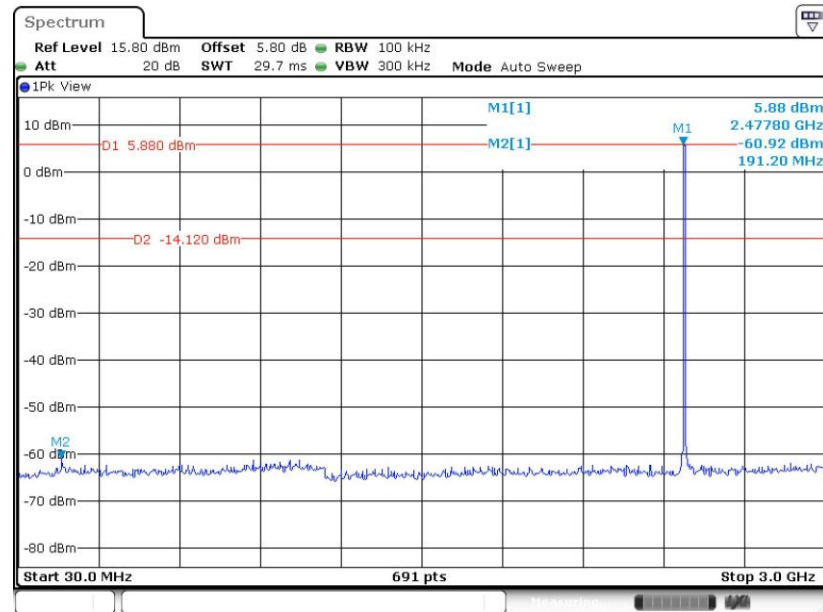
CSE Plot on Ch 39 between 2 GHz ~ 25 GHz



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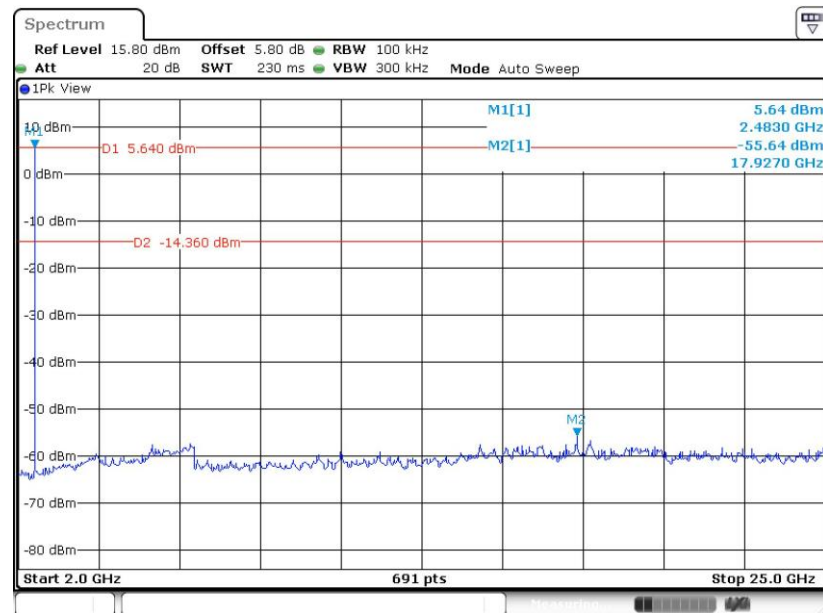


CSE Plot on Ch 78 between 30MHz ~ 3 GHz



Date: 15.OCT.2021 22:22:57

CSE Plot on Ch 78 between 2 GHz ~ 25 GHz



Date: 15.OCT.2021 22:23:39

3.8 Radiated Band Edges and Spurious Emission Measurement

3.8.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.8.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

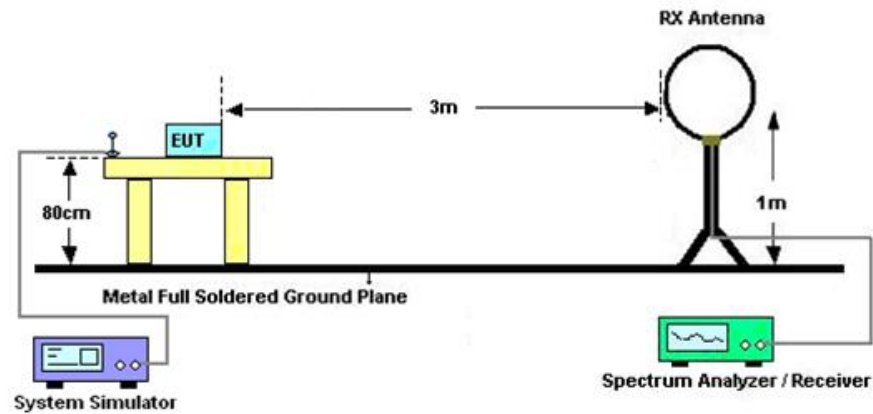
3.8.3 Test Procedures

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz, RBW=1MHz for $f > 1$ GHz ; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold for peak
 - (3) For average measurement: use duty cycle correction factor method per 15.35(c).
Duty cycle = On time/100 milliseconds
On time = $N_1 * L_1 + N_2 * L_2 + \dots + N_{n-1} * L_{n-1} + N_n * L_n$
Where N_1 is number of type 1 pulses, L_1 is length of type 1 pulses, etc.
Average Emission Level = Peak Emission Level + $20 * \log(\text{Duty cycle})$
6. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
7. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
8. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

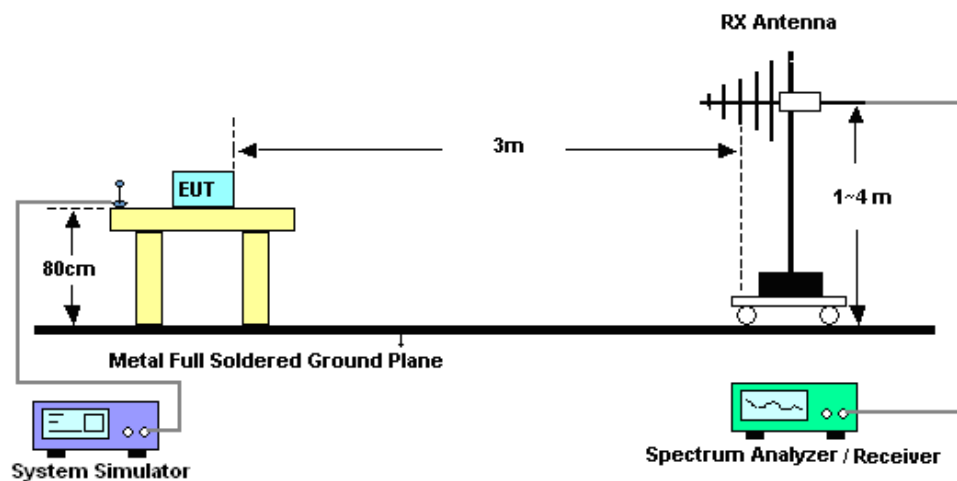
Note: The average levels were calculated from the peak level corrected with duty cycle correction factor (-24.79dB) derived from $20 \log(\text{dwell time}/100\text{ms})$. This correction is only for signals that hop with the fundamental signal, such as band-edge and harmonic. Other spurious signals that are independent of the hopping signal would not use this correction.

3.8.4 Test Setup

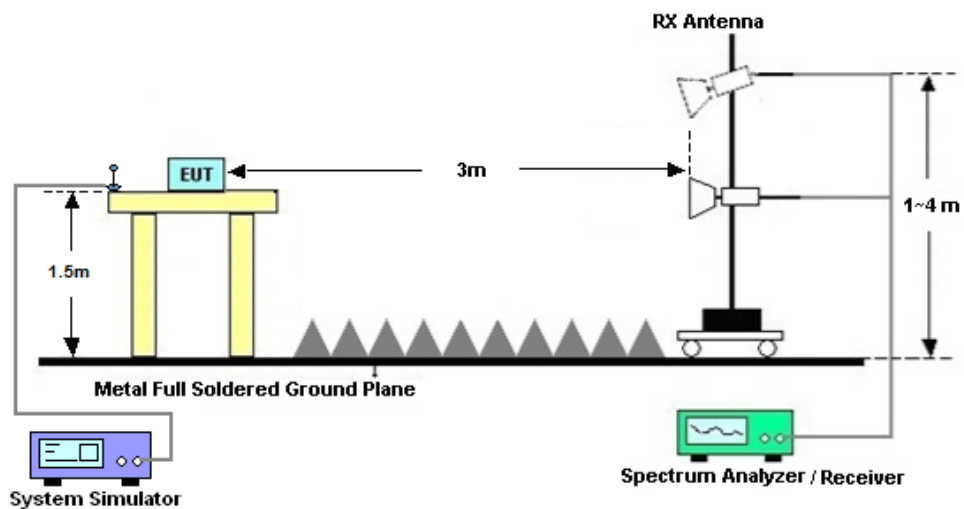
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



**3.8.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.8.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and Appendix D.

3.8.7 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C and Appendix D.

3.8.8 Duty cycle correction factor for average measurement

Please refer to Appendix E.

3.9 AC Conducted Emission Measurement

3.9.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

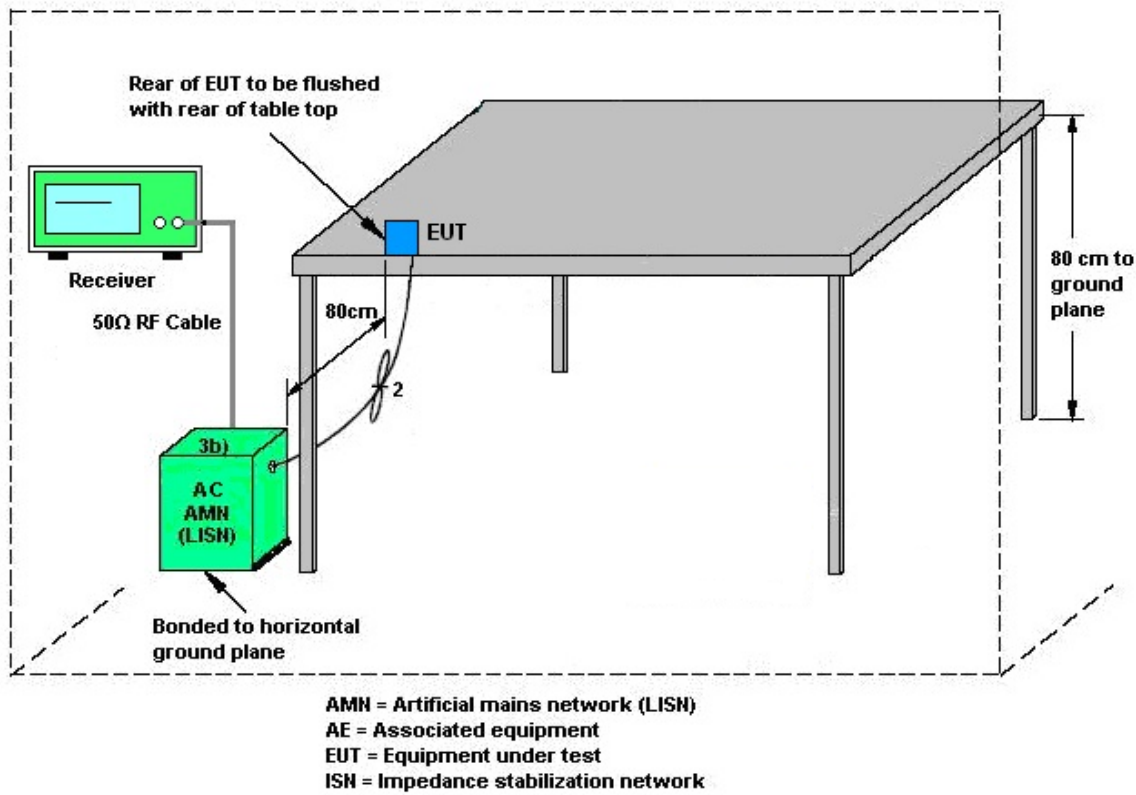
3.9.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.9.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.9.4 Test Setup



3.9.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.10 Antenna Requirements

3.10.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.10.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.10.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 15, 2020	Oct. 08, 2021~ Oct. 15, 2021	Oct. 14, 2021	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 14, 2021		Oct. 13, 2022	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 07, 2021	Oct. 08, 2021~ Oct. 15, 2021	Jan. 06, 2022	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 07, 2021	Oct. 08, 2021~ Oct. 15, 2021	Jan. 06, 2022	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 12, 2021	Oct. 08, 2021~ Oct. 15, 2021	Jul. 11, 2022	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz; Max 30dBm	Oct. 16, 2021	Jan. 06, 2022	Oct. 15, 2022	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz~44GHz	Apr. 12, 2021	Jan. 06, 2022	Apr. 11, 2022	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Jan. 06, 2022	Oct. 29, 2022	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz~1GHz	May 27, 2021	Jan. 06, 2022	May 26, 2022	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 25, 2021	Jan. 06, 2022	Apr. 24, 2022	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 05, 2022	Jan. 06, 2022	Jan. 04, 2023	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Apr. 12, 2021	Jan. 06, 2022	Apr. 11, 2022	Radiation (03CH06-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2022	Jan. 06, 2022	Jan. 04, 2023	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jul. 30, 2021	Jan. 06, 2022	Jul. 29, 2022	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Apr. 13, 2021	Jan. 06, 2022	Apr. 12, 2022	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jan. 06, 2022	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 06, 2022	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 06, 2022	NCR	Radiation (03CH06-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 21, 2021	Jan. 16, 2022	Apr. 20, 2022	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 14, 2021	Jan. 16, 2022	Oct. 13, 2022	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 13, 2021	Jan. 16, 2022	Apr. 12, 2022	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000811	AC 0V~300V, 45Hz~1000Hz	Oct. 14, 2021	Jan. 16, 2022	Oct. 13, 2022	Conduction (CO01-KS)

NCR: No Calibration Required

5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.94dB
---	--------

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
---	-------

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
---	-------

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
---	-------

----- THE END -----



Appendix A. Conducted Test Results

Bluetooth-Ant.1

Test Engineer:	You Zhou	Temperature:	20~26	°C
Test Date:	2021/10/08~2021/10/15	Relative Humidity:	40~51	%

TEST RESULTS DATA**20dB and 99% Occupied Bandwidth and Hopping Channel Separation**

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	20db BW (MHz)	99% Bandwidth (MHz)	Hopping Channel Separation Measurement (KHz)	Hopping Channel Separation Measurement Limit (MHz)	Pass/Fail
DH	1Mbps	1	0	2402	0.857	0.758	998.550	0.5711	Pass
DH	1Mbps	1	39	2441	0.860	0.758	998.600	0.5731	Pass
DH	1Mbps	1	78	2480	0.857	0.761	998.600	0.5711	Pass
2DH	2Mbps	1	0	2402	1.233	1.137	998.600	0.8220	Pass
2DH	2Mbps	1	39	2441	1.233	1.137	998.600	0.8220	Pass
2DH	2Mbps	1	78	2480	1.242	1.143	998.600	0.8278	Pass
3DH	3Mbps	1	0	2402	1.211	1.117	998.600	0.8075	Pass
3DH	3Mbps	1	39	2441	1.216	1.123	998.600	0.8104	Pass
3DH	3Mbps	1	78	2480	1.216	1.123	998.600	0.8104	Pass

TEST RESULTS DATA**Dwell Time**

Mod.	Hopping Channel Number Rate	Hops Over Occupancy Time(hops)	Package Transfer Time (msec) (MHz)	Dwell Time (sec)	Limits (sec)	Pass/Fail
Nomal	79	106.67	2.89	0.31	0.4	Pass
AFH	20	53.33	2.89	0.15	0.4	Pass

TEST RESULTS DATA**Peak Power Table**

DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
DH1	0	1	7.35	20.97	Pass
	39	1	7.12	20.97	Pass
	78	1	6.98	20.97	Pass

2DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
2DH1	0	1	6.04	20.97	Pass
	39	1	6.32	20.97	Pass
	78	1	6.27	20.97	Pass

3DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
3DH1	0	1	6.23	20.97	Pass
	39	1	6.51	20.97	Pass
	78	1	6.43	20.97	Pass

TEST RESULTS DATA**Number of Hopping Frequency**

Number of Hopping (Channel)	Adaptive Frequency Hopping (Channel)	Limits (Channel)	Pass/Fail
79	79	> 15	Pass

Bluetooth-Ant.2

Test Engineer:	You Zhou	Temperature:	20~26	°C
Test Date:	2021/10/08~2021/10/15	Relative Humidity:	40~51	%

TEST RESULTS DATA**20dB and 99% Occupied Bandwidth and Hopping Channel Separation**

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	20db BW (MHz)	99% Bandwidth (MHz)	Hopping Channel Separation Measurement (KHz)	Hopping Channel Separation Measurement Limit (MHz)	Pass/Fail
DH	1Mbps	1	0	2402	0.857	0.758	1002.900	0.5711	Pass
DH	1Mbps	1	39	2441	0.860	0.758	1002.900	0.5731	Pass
DH	1Mbps	1	78	2480	0.860	0.758	994.200	0.5731	Pass
2DH	2Mbps	1	0	2402	1.233	1.140	998.600	0.8220	Pass
2DH	2Mbps	1	39	2441	1.233	1.140	998.600	0.8220	Pass
2DH	2Mbps	1	78	2480	1.237	1.143	998.600	0.8249	Pass
3DH	3Mbps	1	0	2402	1.211	1.120	998.600	0.8075	Pass
3DH	3Mbps	1	39	2441	1.211	1.120	998.600	0.8075	Pass
3DH	3Mbps	1	78	2480	1.216	1.123	998.600	0.8104	Pass

TEST RESULTS DATA**Dwell Time**

Mod.	Hopping Channel Number Rate	Hops Over Occupancy Time(hops)	Package Transfer Time (msec) (MHz)	Dwell Time (sec)	Limits (sec)	Pass/Fail
Nomal	79	106.67	2.90	0.31	0.4	Pass
AFH	20	53.33	2.90	0.15	0.4	Pass

TEST RESULTS DATA**Peak Power Table**

DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
DH1	0	1	6.66	20.97	Pass
	39	1	6.96	20.97	Pass
	78	1	6.82	20.97	Pass

2DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
2DH1	0	1	5.82	20.97	Pass
	39	1	6.23	20.97	Pass
	78	1	6.10	20.97	Pass

3DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
3DH1	0	1	6.01	20.97	Pass
	39	1	6.38	20.97	Pass
	78	1	6.26	20.97	Pass

TEST RESULTS DATA**Number of Hopping Frequency**

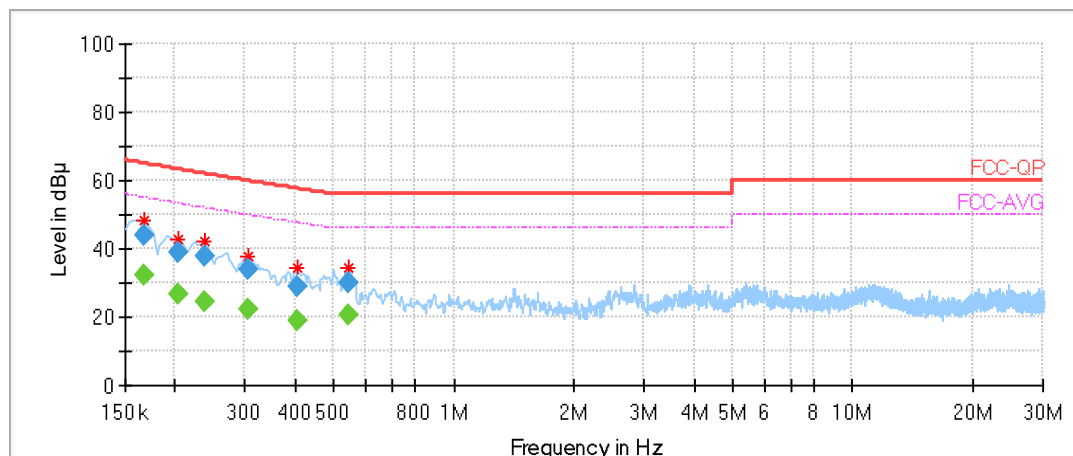
Number of Hopping (Channel)	Adaptive Frequency Hopping (Channel)	Limits (Channel)	Pass/Fail
79	79	> 15	Pass



Appendix B. AC Conducted Emission Test Results

Test Engineer :	Amos Zhang	Temperature :	24.2~25.6°C
		Relative Humidity :	37~39%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum

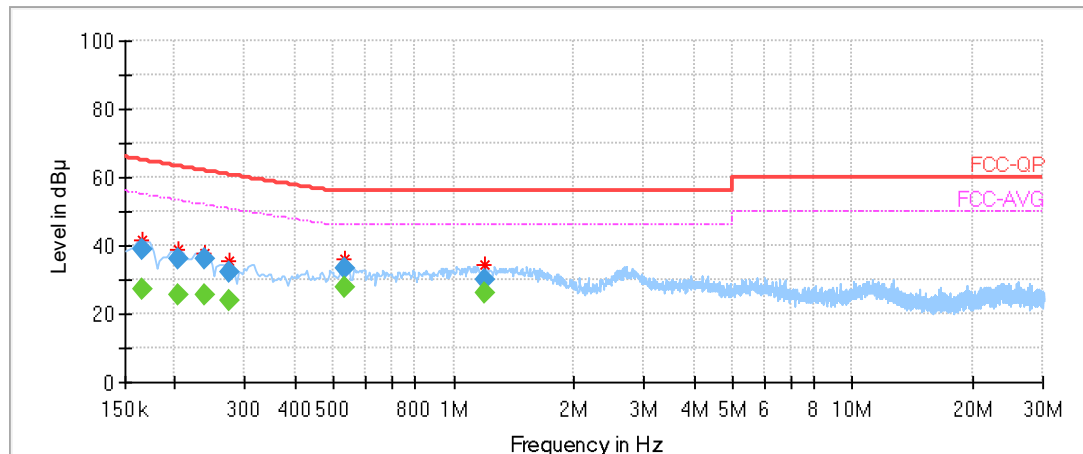


Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.166462	---	31.97	55.06	23.08	L1	OFF	20.0
0.166462	44.14	---	65.07	20.93	L1	OFF	20.0
0.203006	---	26.79	53.30	26.51	L1	OFF	20.0
0.203006	38.98	---	63.33	24.35	L1	OFF	20.0
0.238069	---	24.60	51.93	27.32	L1	OFF	19.9
0.238069	37.84	---	61.97	24.13	L1	OFF	19.9
0.306000	---	22.04	49.84	27.80	L1	OFF	19.9
0.306000	33.95	---	59.88	25.93	L1	OFF	19.9
0.405975	---	18.89	47.59	28.70	L1	OFF	19.9
0.405975	28.91	---	57.62	28.70	L1	OFF	19.9
0.542494	---	20.46	46.00	25.54	L1	OFF	19.8
0.542494	30.02	---	56.00	25.98	L1	OFF	19.8

Test Engineer :	Amos Zhang	Temperature :	24.2~25.6°C
		Relative Humidity :	37~39%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.164925	---	26.95	55.14	28.19	N	OFF	20.2
0.164925	39.03	---	65.15	26.12	N	OFF	20.2
0.203719	---	25.80	53.27	27.47	N	OFF	20.2
0.203719	36.04	---	63.30	27.26	N	OFF	20.2
0.237300	---	25.38	51.96	26.57	N	OFF	20.1
0.237300	36.33	---	62.00	25.67	N	OFF	20.1
0.272362	---	24.10	50.80	26.70	N	OFF	20.1
0.272362	32.49	---	60.84	28.35	N	OFF	20.1
0.531356	---	27.70	46.00	18.30	N	OFF	19.9
0.531356	33.11	---	56.00	22.89	N	OFF	19.9
1.195526	---	25.95	46.00	20.05	N	OFF	19.8
1.195526	30.26	---	56.00	25.75	N	OFF	19.8

Note:

- Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
- Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)



Appendix C. Radiated Spurious Emission

Test Engineer :	Henry Li	Temperature :	22~23°C
		Relative Humidity :	41~42%

2.4GHz 2400~2483.5MHz

BT---ANT 1 (Band Edge @ 3m)

BT	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH00 2402MHz		2351.60	54.57	-19.43	74	48.87	32.05	7.1	33.45	102	138	P	H
		2351.60	29.78	-24.22	54	-	-	-	-	-	-	A	H
		2402.00	100.34	-	-	94.42	32.2	7.16	33.44	102	138	P	H
		2402.00	75.55	-	-	-	-	-	-	-	-	A	H
		2381.50	54.92	-19.08	74	47.95	33.29	7.13	33.45	367	291	P	V
		2381.50	30.13	-23.87	54	-	-	-	-	-	-	A	V
		2402.00	97.15	-	-	89.93	33.5	7.16	33.44	367	291	P	V
		2402.00	72.36	-	-	-	-	-	-	-	-	A	V
BT CH 39 2441MHz		2334.7	53.93	-20.07	74	48.32	32	7.07	33.46	105	134	P	H
		2334.7	29.14	-24.86	54	-	-	-	-	-	-	A	H
		2442	99.58	-	-	93.78	32	7.23	33.43	105	134	P	H
		2442	74.79	-	-	-	-	-	-	-	-	A	H
		2488.06	53.71	-20.29	74	48.13	31.7	7.3	33.42	105	134	P	H
		2488.06	28.92	-25.08	54	-	-	-	-	-	-	A	H
		2386.96	55.87	-18.13	74	48.66	33.5	7.16	33.45	299	50	P	V
		2386.96	31.08	-22.92	54	-	-	-	-	-	-	A	V
		2442	96.07	-	-	89.16	33.11	7.23	33.43	299	50	P	V
		2442	71.28	-	-	-	-	-	-	-	-	A	V
		2498.38	55.20	-18.80	74	48.59	32.73	7.3	33.42	299	50	P	V
		2498.38	30.41	-23.59	54	-	-	-	-	-	-	A	V



BT CH 78 2480MHz		2480	97.18	-	-	91.54	31.8	7.27	33.43	102	131	P	H
		2480	72.39	-	-	-	-	-	-	-	-	A	H
		2491.96	53.95	-20.05	74	48.37	31.7	7.3	33.42	102	131	P	H
		2491.96	29.16	-24.84	54	-	-	-	-	-	-	A	H
		2480	96.15	-	-	89.45	32.86	7.27	33.43	345	299	P	V
		2480	71.36	-	-	-	-	-	-	-	-	A	V
		2487.1	55.05	-18.95	74	48.34	32.86	7.27	33.42	345	299	P	V
		2487.1	30.26	-23.74	54	-	-	-	-	-	-	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

BT---ANT 1 (Harmonic @ 3m)

BT	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
BT CH 00 2402MHz		4806	40.37	-33.63	74	56.99	34.96	10.24	61.82	100	360	P	H
		4806	39.03	-34.97	74	55.77	34.84	10.24	61.82	100	360	P	V
BT CH 39 2441MHz		4884	40.38	-33.62	74	56.79	35.04	10.32	61.77	100	360	P	H
		7320	42.63	-31.37	74	55.06	36.86	12.77	62.06	100	360	P	H
		4884	38.82	-35.18	74	55.44	34.83	10.32	61.77	100	360	P	V
		7320	42.55	-31.45	74	55.44	36.4	12.77	62.06	100	360	P	V
BT CH 78 2480MHz		4962	41.28	-32.72	74	57.42	35.14	10.43	61.71	100	360	P	H
		7440	41.64	-32.36	74	53.94	36.89	12.88	62.07	100	360	P	H
		4962	39.63	-34.37	74	56.1	34.81	10.43	61.71	100	360	P	V
		7440	42.99	-31.01	74	55.71	36.47	12.88	62.07	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz---ANT 2

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH00 2402MHz		2327.68	55.23	-18.77	74	49.7	31.95	7.04	33.46	247	338	P	H
	*	2327.68	30.44	-23.56	54	-	-	-	-	-	-	A	H
		2402	99.21	-	-	93.29	32.2	7.16	33.44	247	338	P	H
		2402	74.42	-	-	-	-	-	-	-	-	A	H
		2381.63	55.09	-18.91	74	48.12	33.29	7.13	33.45	281	0	P	V
	*	2381.63	30.30	-23.70	54	-	-	-	-	-	-	A	V
		2402	100.81	-	-	93.59	33.5	7.16	33.44	281	0	P	V
		2402	76.02	-	-	-	-	-	-	-	-	A	V
BT CH 39 2441MHz		2389.17	53.98	-20.02	74	48.12	32.15	7.16	33.45	261	343	P	H
	*	2389.17	29.19	-24.81	54	-	-	-	-	-	-	A	H
		2442	97.67	-	-	91.87	32	7.23	33.43	261	343	P	H
		2442	72.88	-	-	-	-	-	-	-	-	A	H
		2494.3	53.92	-20.08	74	48.34	31.7	7.3	33.42	261	343	P	H
		2494.3	29.13	-24.87	54	-	-	-	-	-	-	A	H
		2381.63	55.36	-18.64	74	48.39	33.29	7.13	33.45	300	6	P	V
	*	2381.63	30.57	-23.43	54	-	-	-	-	-	-	A	V
		2442	100.48	-	-	93.57	33.11	7.23	33.43	300	6	P	V
		2442	75.69	-	-	-	-	-	-	-	-	A	V
		2488.84	54.86	-19.14	74	48.25	32.73	7.3	33.42	300	6	P	V
		2488.84	30.07	-23.93	54	-	-	-	-	-	-	A	V



BT CH 78 2480MHz		2487.82	54.73	-19.27	74	49.15	31.7	7.3	33.42	300	342	P	H
	*	2487.82	29.94	-24.06	54	-	-	-	-	-	-	A	H
		2480	98.04	-	-	92.4	31.8	7.27	33.43	300	342	P	H
		2480	73.25	-	-	-	-	-	-	-	-	A	H
		2491.96	54.44	-19.56	74	47.83	32.73	7.3	33.42	264	360	P	V
	*	2491.96	29.65	-24.35	54	-	-	-	-	-	-	A	V
		2480	100.82	-	-	94.12	32.86	7.27	33.43	264	360	P	V
		2480	76.03	-	-	-	-	-	-	-	-	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz---ANT 2

BT (Harmonic @ 3m)

BT	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
BT CH 00 2402MHz		4806	39.19	-34.81	74	55.81	34.96	10.24	61.82	100	360	P	H
		4806	40.18	-33.82	74	56.92	34.84	10.24	61.82	100	360	P	V
BT CH 39 2441MHz		4882	40.53	-33.47	74	56.94	35.04	10.32	61.77	100	360	P	H
		7320	41.89	-32.11	74	54.32	36.86	12.77	62.06	100	360	P	H
		4882	41.76	-32.24	74	58.38	34.83	10.32	61.77	100	360	P	V
		7320	41.8	-32.2	74	54.69	36.4	12.77	62.06	100	360	P	V
BT CH 78 2480MHz		4962	40.07	-33.93	74	56.21	35.14	10.43	61.71	100	360	P	H
		7440	41.86	-32.14	74	54.16	36.89	12.88	62.07	100	360	P	H
		4962	40.66	-33.34	74	57.13	34.81	10.43	61.71	100	360	P	V
		7440	42.34	-31.66	74	55.06	36.47	12.88	62.07	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

2.4GHz BT (LF)

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz BT LF		30	21.07	-18.93	40	27.12	24.6	0.58	31.23	-	-	P	H
		160.95	19	-24.5	43.5	32.31	15.97	2.04	31.32	-	-	P	H
		291.9	26.17	-19.83	46	35.66	19.34	2.77	31.6	-	-	P	H
		323.91	26.26	-19.74	46	35.18	19.8	2.92	31.64	-	-	P	H
		620.73	25.73	-20.27	46	28.09	24.86	4.06	31.28	-	-	P	H
		892.33	28.38	-17.62	46	28.04	26.65	4.87	31.18	-	-	P	H
		30.97	26.98	-13.02	40	33.6	24.04	0.59	31.25	-	-	P	V
		191.02	17.6	-25.9	43.5	31.66	15.04	2.24	31.34	-	-	P	V
		280.26	21.34	-24.66	46	30.76	19.4	2.71	31.53	-	-	P	V
		518.88	22.86	-23.14	46	26.6	24	3.7	31.44	-	-	P	V
		751.68	27.73	-18.27	46	28.68	25.7	4.46	31.11	-	-	P	V
		896.21	28.32	-17.68	46	27.92	26.68	4.88	31.16	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

**Note symbol**

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	P eak or A verage
H/V	H orizontal or V ertical



A calculation example for radiated spurious emission is shown as below:

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 00 2402MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)

2. Level(dBμV/m) =

Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix D. Radiated Spurious Emission Plots

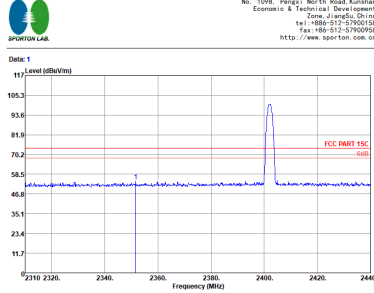
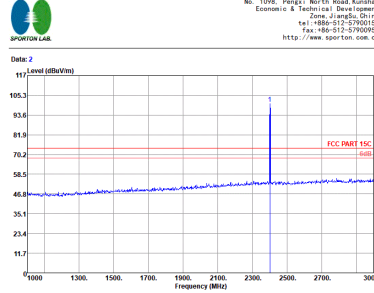
Note symbol

-L	Low channel location
-R	High channel location

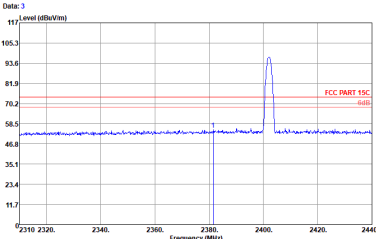
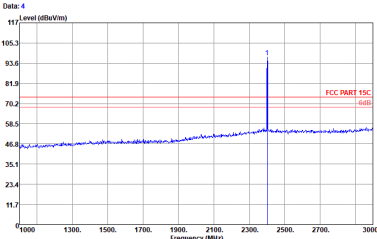


2.4GHz 2400~2483.5MHz--ANT 1

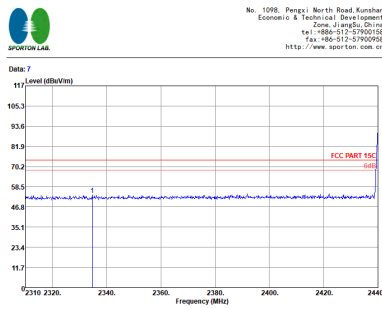
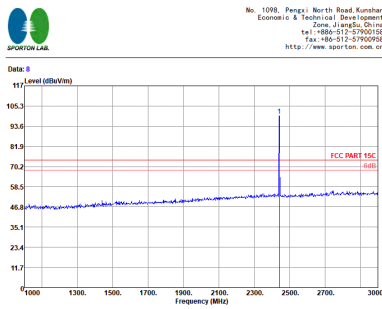
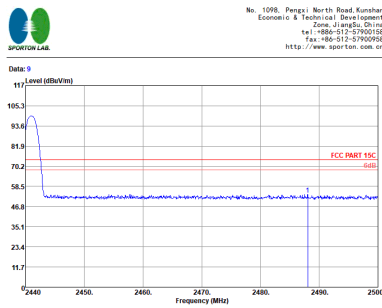
BT(Band Edge @ 3m)

BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m																																																																			
ANT	BT CH00 2402MHz																																																																			
1	Horizontal	Fundamental																																																																		
Peak	 No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900108 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030904-KS Condition : FCC PART 15C 3a 3117.58 75957 HORIZONTAL Project : R08 1000.000KHz VBR 1000.000KHz SRT Auto Mode : 1 Plane : 2 Full-directivity IME1 : K2 ANT : ANT 1 DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pow</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th>MHz</th><th>dBV/m</th><th>dB</th><th>dBV/m</th><th>dB/m</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2301.60</td><td>54.57</td><td>-19.43</td><td>74.00</td><td>48.87</td><td>32.05</td><td>7.10</td><td>33.45</td><td>102</td><td>138 Peak</td><td>HORIZONTAL</td></tr></table>  No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900108 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030904-KS Condition : FCC PART 15C 3a 3117.58 75957 HORIZONTAL Project : R08 1000.000KHz VBR 1000.000KHz SRT Auto Mode : 1 Plane : 2 Full-directivity IME1 : K2 ANT : ANT 1 DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pow</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th>MHz</th><th>dBV/m</th><th>dB</th><th>dBV/m</th><th>dB/m</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2402.00</td><td>100.34</td><td></td><td>94.42</td><td>32.20</td><td>7.16</td><td>33.44</td><td>102</td><td>138 Peak</td><td>HORIZONTAL</td></tr></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pow	T/Pos	Remark	Pol/Phase	MHz	dBV/m	dB	dBV/m	dB/m	dB	dB	cm	deg			1	2301.60	54.57	-19.43	74.00	48.87	32.05	7.10	33.45	102	138 Peak	HORIZONTAL	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pow	T/Pos	Remark	Pol/Phase	MHz	dBV/m	dB	dBV/m	dB/m	dB	dB	cm	deg			1	2402.00	100.34		94.42	32.20	7.16	33.44	102	138 Peak	HORIZONTAL
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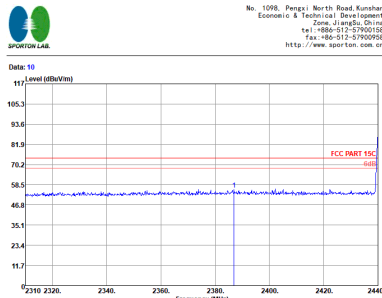
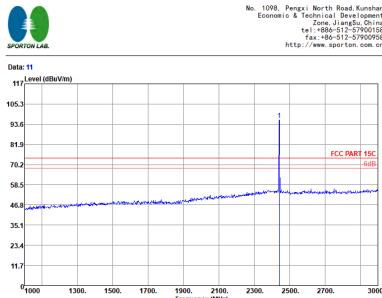
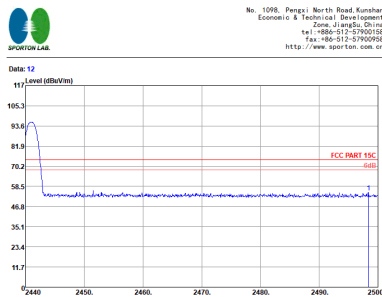


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Peak	 No. 109B, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China Tel: +86-512-57900158 Fax: +86-512-57900058 http://www.sporton.com.cn Date: 3  Site : 030904-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000.000000 VSR:1000.000000 SMT:Auto Plane : (FRE)MST16042 Mode : 1 Plane : 1 Full-directivity : 1 Ant 1 : ANT 1 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>Line</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Poss</th><th>T/Poss</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>dB</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2381.50</td><td>54.92</td><td>-19.08</td><td>74.00</td><td>47.95</td><td>33.29</td><td>7.13</td><td>33.45</td><td>367</td><td>291 Peak</td><td>VERTICAL</td></tr></table>	Freq	Level	Limit	Line	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas	MHz	dBuV/m	dB	dBuV/m	dB	dB	dB	cm	deg			1	2381.50	54.92	-19.08	74.00	47.95	33.29	7.13	33.45	367	291 Peak	VERTICAL	 No. 109B, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China Tel: +86-512-57900158 Fax: +86-512-57900058 http://www.sporton.com.cn Date: 4  Site : 030904-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000.000000 VSR:1000.000000 SMT:Auto Plane : (FRE)MST16042 Mode : 1 Plane : 1 Full-directivity : 1 Ant 1 : ANT 1 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>Line</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Poss</th><th>T/Poss</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>dB</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2402.00</td><td>97.15</td><td></td><td>89.93</td><td>33.50</td><td>7.16</td><td>33.44</td><td>367</td><td>291 Peak</td><td>VERTICAL</td></tr></table>	Freq	Level	Limit	Line	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas	MHz	dBuV/m	dB	dBuV/m	dB	dB	dB	cm	deg			1	2402.00	97.15		89.93	33.50	7.16	33.44	367	291 Peak	VERTICAL
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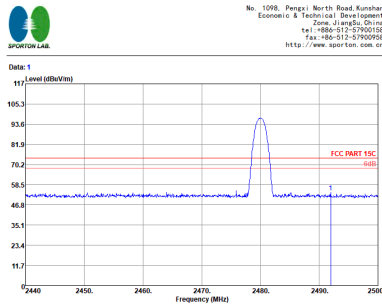
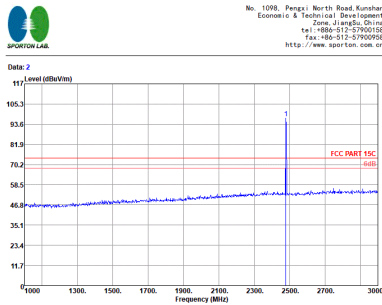


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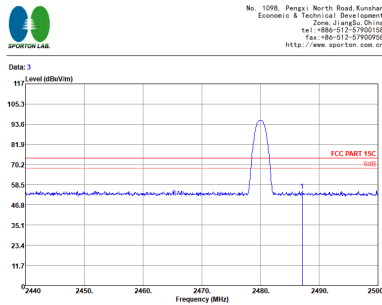
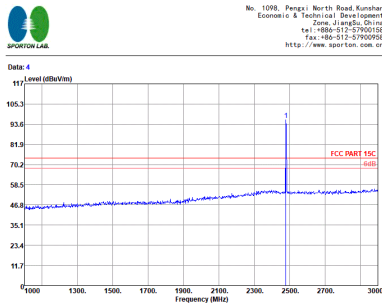


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Peak	 No. 1098, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030904-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000.000000 VSR-1000.000000 SMT-Auto Model : FR170214042 Plane : 2 Full-directivity : 2 Ant 1 : ANT 1 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2386.96</td><td>55.87</td><td>-18.13</td><td>74.00</td><td>48.66</td><td>33.50</td><td>7.16</td><td>33.45</td><td>299</td><td>50 Peak</td><td>VERTICAL</td></tr></table>  No. 1098, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030904-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000.000000 VSR-1000.000000 SMT-Auto Model : FR170214042 Plane : 2 Full-directivity : 2 Ant 1 : ANT 1 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2442.00</td><td>96.07</td><td></td><td>89.16</td><td>33.11</td><td>7.23</td><td>33.43</td><td>299</td><td>50 Peak</td><td>VERTICAL</td></tr></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100kHz	dBm/100kHz	dBm/100kHz	dBm/100kHz	dBm/100kHz	dBm/100kHz	cm	deg			1	2386.96	55.87	-18.13	74.00	48.66	33.50	7.16	33.45	299	50 Peak	VERTICAL	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100kHz	dBm/100kHz	dBm/100kHz	dBm/100kHz	dBm/100kHz	dBm/100kHz	cm	deg			1	2442.00	96.07		89.16	33.11	7.23	33.43	299	50 Peak	VERTICAL	Left blank
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BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m																																																												
ANT	BT CH78 2480MHz																																																												
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Peak	 No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030804-KS Condition : FCC PART 15C 3m 3117 SN 70957 HORIZONT Project : RF170813-01A Mode : 2 Plane : E Antenna : Full-directivity Ant 1 : ANT 1 Ant 2 : DMS <table><thead><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dB</th><th>dB</th><th>dB</th><th>dB</th><th>on</th><th>deg</th></tr></thead><tbody><tr><td>1</td><td>2481.96</td><td>53.95</td><td>-20.05</td><td>74.00</td><td>48.37</td><td>31.70</td><td>7.30</td><td>33.42</td><td>102 131 Peak</td></tr></tbody></table>  No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030804-KS Condition : FCC PART 15C 3m 3117 SN 70957 HORIZONT Project : RF170813-01A Mode : 2 Plane : E Antenna : Full-directivity Ant 1 : ANT 1 Ant 2 : DMS <table><thead><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dB</th><th>dB</th><th>dB</th><th>dB</th><th>on</th><th>deg</th></tr></thead><tbody><tr><td>1</td><td>2480.00</td><td>97.18</td><td>91.54</td><td>31.80</td><td>7.27</td><td>33.43</td><td>102</td><td>131 Peak</td><td>HORIZONT</td></tr></tbody></table>	Freq	Level	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dB	dB	dB	dB	on	deg	1	2481.96	53.95	-20.05	74.00	48.37	31.70	7.30	33.42	102 131 Peak	Freq	Level	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dB	dB	dB	dB	on	deg	1	2480.00	97.18	91.54	31.80	7.27	33.43	102	131 Peak	HORIZONT
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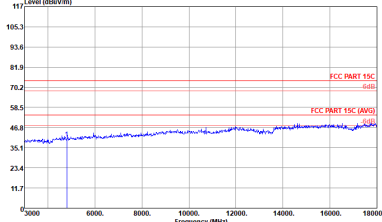
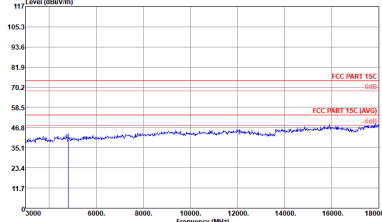
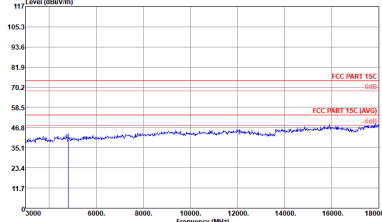


BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m																																																													
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Peak	 No. 1098, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China Tel: +86-512-57900158 Fax: +86-512-57900958 http://www.sparton.com.cn SPORTON LAB. Date: 3 Level (dBm/100kHz) Frequency (MHz) FCC PART 15C 81.9 dBm Site : 030904-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000.0000kHz VBR:1000.0000kHz SMT:Auto Plane : E Mode : 3 Full-directivity Ant 1 : ANT 1 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Poss</th><th>T/Poss</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dB</th><th>dB</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2487.10</td><td>55.05</td><td>-18.95</td><td>74.00</td><td>48.34</td><td>32.86</td><td>7.27</td><td>33.42</td><td>345 299 Peak VERTICAL</td></tr></table>	Freq	Level	Limit	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dB	dB	dB	dB	cm	deg	1	2487.10	55.05	-18.95	74.00	48.34	32.86	7.27	33.42	345 299 Peak VERTICAL	 No. 1098, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China Tel: +86-512-57900158 Fax: +86-512-57900958 http://www.sparton.com.cn SPORTON LAB. Date: 4 Level (dBm/100kHz) Frequency (MHz) FCC PART 15C 81.9 dBm Site : 030904-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000.0000kHz VBR:1000.0000kHz SMT:Auto Plane : E Mode : 3 Full-directivity Ant 1 : ANT 1 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Poss</th><th>T/Poss</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dB</th><th>dB</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2480.00</td><td>96.15</td><td>89.45</td><td>32.86</td><td>7.27</td><td>33.43</td><td>345</td><td>299 Peak</td><td>VERTICAL</td></tr></table>	Freq	Level	Limit	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dB	dB	dB	dB	cm	deg	1	2480.00	96.15	89.45	32.86	7.27	33.43	345	299 Peak	VERTICAL
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2.4GHz 2400~2483.5MHz---ANT 1

BT (Harmonic @ 3m)

BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m																																																																									
ANT	BT CH00 2402MHz																																																																									
1	Horizontal						Vertical																																																																			
Peak Avg.	 No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 Fax: +86-512-57900058 http://www.sporton.co.uk.cn Date: 9  Site : 030806-K3 Condition : FCC PART 15C 3m 3117 SN 75957 HORIZONTAL Project : RFR 1000 000000 VSR 1000 000000 SRT Auto Model : FRI-BE214042 Plane : 1 Full-directivity : 1 Ant : 1 Ant : 1 Ant : 1 <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm</th><th>dB</th><th>dBm</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>4806.00</td><td>40.37</td><td>-33.63</td><td>74.00</td><td>56.99</td><td>34.96</td><td>10.24</td><td>61.82</td><td>100</td><td>360</td><td>Peak</td><td>HORIZONTAL</td></tr></table> <td colspan="6">  No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 Fax: +86-512-57900058 http://www.sporton.co.uk.cn Date: 10  Site : 030806-K3 Condition : FCC PART 15C 3m 3117 SN 75957 VERTICAL Project : RFR 1000 000000 VSR 1000 000000 SRT Auto Model : FRI-BE214042 Plane : 1 Full-directivity : 1 Ant : 1 Ant : 1 Ant : 1 <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm</th><th>dB</th><th>dBm</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>4806.00</td><td>39.03</td><td>-34.97</td><td>74.00</td><td>55.77</td><td>34.84</td><td>10.24</td><td>61.82</td><td>100</td><td>360</td><td>Peak</td><td>VERTICAL</td></tr></table> </td>						Freq	Level	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm	dB	dBm	dB	cm	deg			1	4806.00	40.37	-33.63	74.00	56.99	34.96	10.24	61.82	100	360	Peak	HORIZONTAL	 No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 Fax: +86-512-57900058 http://www.sporton.co.uk.cn Date: 10  Site : 030806-K3 Condition : FCC PART 15C 3m 3117 SN 75957 VERTICAL Project : RFR 1000 000000 VSR 1000 000000 SRT Auto Model : FRI-BE214042 Plane : 1 Full-directivity : 1 Ant : 1 Ant : 1 Ant : 1 <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm</th><th>dB</th><th>dBm</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>4806.00</td><td>39.03</td><td>-34.97</td><td>74.00</td><td>55.77</td><td>34.84</td><td>10.24</td><td>61.82</td><td>100</td><td>360</td><td>Peak</td><td>VERTICAL</td></tr></table>						Freq	Level	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm	dB	dBm	dB	cm	deg			1	4806.00	39.03	-34.97	74.00	55.77	34.84	10.24	61.82	100	360	Peak	VERTICAL
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BT

2.4GHz 2400~2483.5MHz Harmonic @ 3m

ANT

BT CH39 2441MHz

1

Horizontal

SPORTON LAB.

No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China
Tel: +86-512-57900158
Fax: +86-512-57900258
http://www.sporton.com.cn

Date: 17

Level (dBmV)

117

105.3

93.6

81.9

78.2

58.5

46.8

35.1

23.4

11.7

Frequency (MHz)

2000

6000

8000

10000

12000

14000

16000

18000

FCC PART 15C (dBi)

FCC PART 15C (dBi)

Site

Condition

Project

Mode

Plane

Full-directivity

HW

ANT

SW

030H0-KS

FCC PART 15C 3m 3117.5M 75957 HORIZONTAL

RBR-1500, 500MHz VSW-1000, 500MHz SWT-Auto

(FR) #R214042

2

2

Full-directivity

HW

ANT 1

SW0

Freq

Level

Over Limit

ReadAntenna

Cable Preamp

A/Pos

T/Pos

Remark

Pol/Phas

MHz

dBuV/m

dBuV/m

dBuV/m

dBuV/m

cm

deg

1

4884.00

40.38

-33.62

74.00

56.79

35.04

10.32

61.77

100

360

Peak

HORIZONTAL

2

7320.00

42.63

-31.37

74.00

55.06

36.86

12.77

62.06

100

360

Peak

HORIZONTAL

SPORTON LAB.

No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China
Tel: +86-512-57900158
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http://www.sporton.com.cn

Date: 18

Level (dBmV)

117

105.3

93.6

81.9

78.2

58.5

46.8

35.1

23.4

11.7

Frequency (MHz)

2000

6000

8000

10000

12000

14000

16000

18000

FCC PART 15C (dBi)

FCC PART 15C (dBi)

Site

Condition

Project

Mode

Plane

Full-directivity

HW

ANT

SW

030H0-KS

FCC PART 15C 3m 3117.5M 75957 VERTICAL

RBR-1500, 500MHz VSW-1000, 500MHz SWT-Auto

(FR) #R214042

2

2

Full-directivity

HW

ANT 1

SW0

Freq

Level

Over Limit

ReadAntenna

Cable Preamp

A/Pos

T/Pos

Remark

Pol/Phas

MHz

dBuV/m

dBuV/m

dBuV/m

dBuV/m

cm

deg

1

4884.00

38.82

-35.18

74.00

55.44

34.83

10.32

61.77

100

360

Peak

VERTICAL

2

7320.00

42.55

-31.45

74.00

55.44

36.40

12.77

62.06

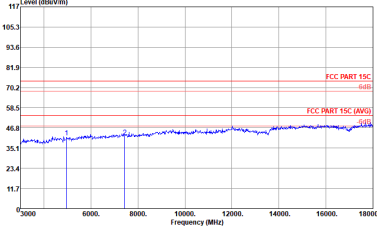
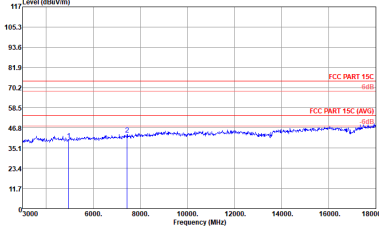
100

360

Peak

VERTICAL



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1	Horizontal	Vertical																																																																																								
Peak Avg.	 No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Data: 9  Site : 030H04-K5 Condition : FCC PART 15C 3m 3117 SN 70957 HORIZONTAL Project : RF170813-01A Mode : 2 Plane : E Full-directivity : 1 Ant 1 : ANT 1 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Poss</th><th>T/Poss</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>4962.00</td><td>41.28</td><td>-32.72</td><td>74.00</td><td>57.42</td><td>35.14</td><td>10.43</td><td>61.71</td><td>100</td><td>360 Peak HORIZONTAL</td></tr><tr><td>2</td><td>7440.00</td><td>41.64</td><td>-32.36</td><td>74.00</td><td>53.84</td><td>36.89</td><td>12.88</td><td>62.07</td><td>100</td><td>360 Peak HORIZONTAL</td></tr></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dBm/100kHz	dBm/100kHz	dB	cm	deg			1	4962.00	41.28	-32.72	74.00	57.42	35.14	10.43	61.71	100	360 Peak HORIZONTAL	2	7440.00	41.64	-32.36	74.00	53.84	36.89	12.88	62.07	100	360 Peak HORIZONTAL	 No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Data: 90  Site : 030H04-K5 Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RF170813-01A Mode : 2 Plane : E Full-directivity : 1 Ant 1 : ANT 1 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Poss</th><th>T/Poss</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>4962.00</td><td>39.63</td><td>-34.37</td><td>74.00</td><td>56.10</td><td>34.81</td><td>10.43</td><td>61.71</td><td>100</td><td>360 Peak VERTICAL</td></tr><tr><td>2</td><td>7440.00</td><td>42.99</td><td>-31.01</td><td>74.00</td><td>55.71</td><td>35.47</td><td>12.88</td><td>62.07</td><td>100</td><td>360 Peak VERTICAL</td></tr></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dBm/100kHz	dBm/100kHz	dB	cm	deg			1	4962.00	39.63	-34.37	74.00	56.10	34.81	10.43	61.71	100	360 Peak VERTICAL	2	7440.00	42.99	-31.01	74.00	55.71	35.47	12.88	62.07	100	360 Peak VERTICAL
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas																																																																															
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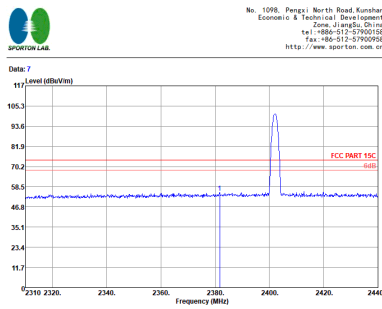
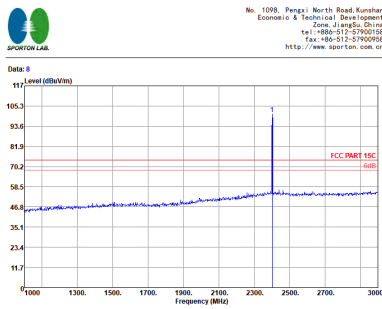


2.4GHz 2400~2483.5MHz---ANT 2

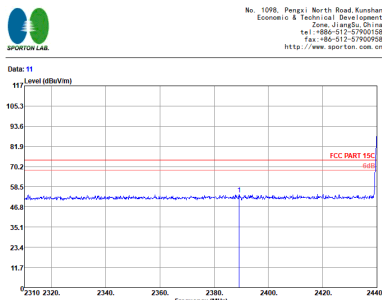
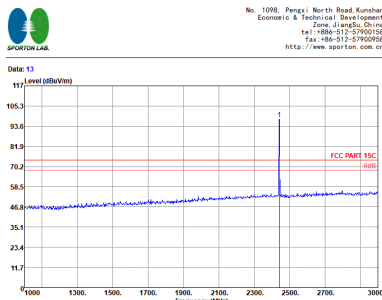
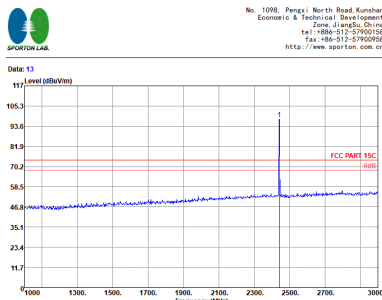
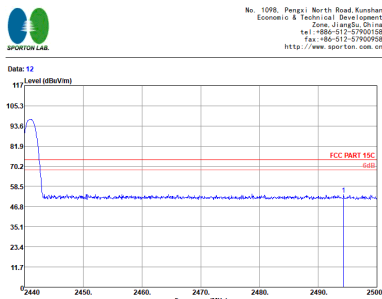
BT (Band Edge @ 3m)

BT		2.4GHz 2400~2483.5MHz Band Edge @ 3m																																																																			
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Peak	No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57600158 fax: +86-512-57600958 http://www.sporton.com.cn Date: 6 Level (dBV/m) 117 105.3 93.0 81.0 70.0 58.5 46.8 35.1 23.4 11.7 2310 2320 2340 2360 2380 2400 2420 2440 Frequency (MHz) FCC PART 15C dBm Site : 030906-KS Condition : FCC PART 15C 3m 3117 SN 75957 HORIZONTAL Project : RBR 1000 000KHz VBR 1000 000KHz SRT Auto Mode : 10 Plane : Z Full-directivity IME1 : #2 ANT : ANT 2 DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pow</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th>MHz</th><th>dBV/m</th><th>dB</th><th>dBV/m</th><th>dB/n</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2327.68</td><td>55.23</td><td>-18.77</td><td>74.00</td><td>49.70</td><td>31.95</td><td>7.04</td><td>33.46</td><td>247</td><td>338 Peak</td><td>HORIZONTAL</td></tr></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pow	T/Pos	Remark	Pol/Phase	MHz	dBV/m	dB	dBV/m	dB/n	dB	dB	cm	deg			1	2327.68	55.23	-18.77	74.00	49.70	31.95	7.04	33.46	247	338 Peak	HORIZONTAL	No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57600158 fax: +86-512-57600958 http://www.sporton.com.cn Date: 6 Level (dBV/m) 117 105.3 93.0 81.0 70.0 58.5 46.8 35.1 23.4 11.7 2300 2320 2340 2360 2380 2400 2420 2440 2460 2480 2500 Frequency (MHz) FCC PART 15C dBm Site : 030906-KS Condition : FCC PART 15C 3m 3117 SN 75957 HORIZONTAL Project : RBR 1000 000KHz VBR 1000 000KHz SRT Auto Mode : 10 Plane : Z Full-directivity IME1 : #2 ANT : ANT 2 DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pow</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th>MHz</th><th>dBV/m</th><th>dB</th><th>dBV/m</th><th>dB/n</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2402.00</td><td>99.21</td><td></td><td>93.29</td><td>32.20</td><td>7.16</td><td>33.44</td><td>247</td><td>338 Peak</td><td>HORIZONTAL</td></tr></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pow	T/Pos	Remark	Pol/Phase	MHz	dBV/m	dB	dBV/m	dB/n	dB	dB	cm	deg			1	2402.00	99.21		93.29	32.20	7.16	33.44	247	338 Peak	HORIZONTAL
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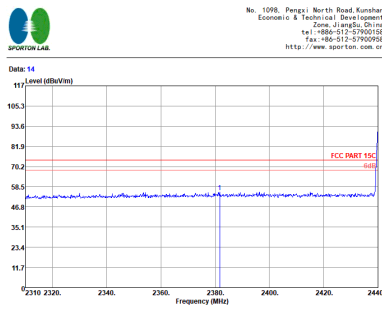
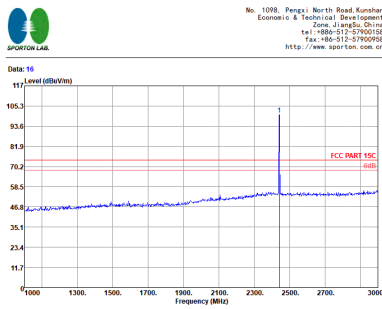
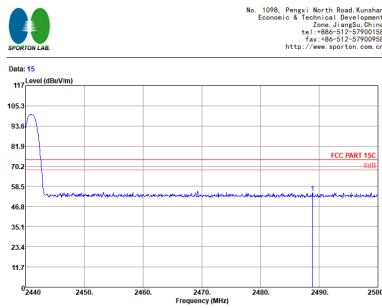


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Peak	 No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB. Date: 7 Level (dBm/100kHz) Frequency (MHz) FCC PART 15C dBm Site : 030806-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RF01021642 Mode : 10 Plane : Z Antenna : Full-directivity IME1 : 83 ANT : DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2381.63</td><td>55.09</td><td>-18.91</td><td>74.00</td><td>48.12</td><td>33.29</td><td>7.13</td><td>33.45</td><td>281</td><td>0 Peak VERTICAL</td></tr></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dBm/100kHz	dB	dB	cm	deg			1	2381.63	55.09	-18.91	74.00	48.12	33.29	7.13	33.45	281	0 Peak VERTICAL	 No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn SPORTON LAB. Date: 8 Level (dBm/100kHz) Frequency (MHz) FCC PART 15C dBm Site : 030806-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RF01021642 Mode : 10 Plane : Z Antenna : Full-directivity IME1 : 83 ANT : DMS <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dBm/100kHz</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2402.00</td><td>100.81</td><td>93.59</td><td>33.50</td><td>7.16</td><td>33.44</td><td>281</td><td>0</td><td>Peak VERTICAL</td><td></td></tr></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dBm/100kHz	dB	dB	cm	deg			1	2402.00	100.81	93.59	33.50	7.16	33.44	281	0	Peak VERTICAL	
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Peak	 No. 1098, Pengji North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030904-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL RBM 1000 0000Hz VSW: 1000.0000Hz SMT: Auto Project : (FR)R214042 Mode : 11 Plane : 2 Full-directivity Ant 2 Ant 2 Ant 2 Ant 2 <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm</th><th>dBm</th><th>dBm</th><th>dBm</th><th>dB</th><th>cm</th><th>deg</th><th></th></tr><tr><td>1</td><td>2381.63</td><td>55.36</td><td>-18.64</td><td>74.00</td><td>48.39</td><td>33.29</td><td>7.13</td><td>33.45</td><td>300</td><td>6 Peak</td><td>VERTICAL</td></tr></table>  No. 1098, Pengji North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030904-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL RBM 1000 0000Hz VSW: 1000.0000Hz SMT: Auto Project : (FR)R214042 Mode : 11 Plane : 2 Full-directivity Ant 2 Ant 2 Ant 2 Ant 2 <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm</th><th>dBm</th><th>dBm</th><th>dBm</th><th>dB</th><th>cm</th><th>deg</th><th></th></tr><tr><td>1</td><td>2442.00</td><td>100.48</td><td>93.57</td><td>33.11</td><td>7.23</td><td>33.43</td><td>300</td><td>6 Peak</td><td>VERTICAL</td></tr></table>	Freq	Level	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm	dBm	dBm	dBm	dB	cm	deg		1	2381.63	55.36	-18.64	74.00	48.39	33.29	7.13	33.45	300	6 Peak	VERTICAL	Freq	Level	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm	dBm	dBm	dBm	dB	cm	deg		1	2442.00	100.48	93.57	33.11	7.23	33.43	300	6 Peak	VERTICAL	Left blank
	Freq	Level	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark	Pol/Phas																																																			
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Peak	No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030904-K5 Condition : FCC PART 15C 3m 3117 SN 70957 HORIZONT Project : R88-1000, 0000kHz VSW: 1000, 0000kHz SMT: Auto Plane : 13 Mode : 13 Plane : 13 Full-directivity Ant 1 : ANT 2 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dB</th><th>dB</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2487.82</td><td>54.73</td><td>-19.27</td><td>74.00</td><td>49.15</td><td>31.70</td><td>7.30</td><td>33.42</td><td>300 342 Peak</td></tr></table> No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Site : 030904-K5 Condition : FCC PART 15C 3m 3117 SN 70957 HORIZONT Project : R88-1000, 0000kHz VSW: 1000, 0000kHz SMT: Auto Plane : 13 Mode : 13 Plane : 13 Full-directivity Ant 1 : ANT 2 Ant : DMS <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100kHz</th><th>dB</th><th>dBm/100kHz</th><th>dB</th><th>dB</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2480.00</td><td>98.04</td><td>92.40</td><td>31.80</td><td>7.27</td><td>33.43</td><td>300</td><td>342 Peak</td><td>HORIZONT</td></tr></table>					Freq	Level	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dB	dB	dB	dB	cm	deg	1	2487.82	54.73	-19.27	74.00	49.15	31.70	7.30	33.42	300 342 Peak	Freq	Level	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100kHz	dB	dBm/100kHz	dB	dB	dB	dB	cm	deg	1	2480.00	98.04	92.40	31.80	7.27	33.43	300	342 Peak	HORIZONT
Freq	Level	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas																																																								
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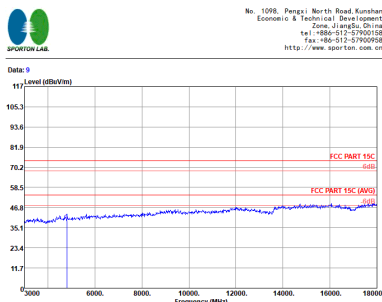
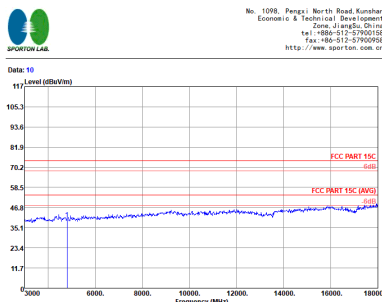


BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m																																																																											
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Peak	No. 1098, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 Fax: +86-512-57900058 http://www.sporton.com.cn SPORTON LAB. Date: 7 Level (dBm/100m) Frequency (MHz) FCC PART 15C 81.9 dBm Site : 030906-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000.000MHz VBR:1000.000MHz SMT:Auto Plane : 13 Mode : 1 Full-directivity Ant 2 Ant 1 Ant 0 <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2480.00</td><td>94.12</td><td>81.9</td><td>94.12</td><td>32.86</td><td>7.27</td><td>33.43</td><td>264</td><td>360 Peak</td><td>VERTICAL</td></tr></table>					Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100m	dBm/100m	dBm/100m	dBm/100m	dBm/100m	dBm/100m	dBm/100m	deg			1	2480.00	94.12	81.9	94.12	32.86	7.27	33.43	264	360 Peak	VERTICAL	No. 1098, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 Fax: +86-512-57900058 http://www.sporton.com.cn SPORTON LAB. Date: 8 Level (dBm/100m) Frequency (MHz) FCC PART 15C 81.9 dBm Site : 030906-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000.000MHz VBR:1000.000MHz SMT:Auto Plane : 13 Mode : 1 Full-directivity Ant 2 Ant 1 Ant 0 <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>dBm/100m</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>2480.00</td><td>100.82</td><td>94.12</td><td>32.86</td><td>7.27</td><td>33.43</td><td>264</td><td>360 Peak</td><td>VERTICAL</td><td></td></tr></table>					Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm/100m	dBm/100m	dBm/100m	dBm/100m	dBm/100m	dBm/100m	dBm/100m	deg			1	2480.00	100.82	94.12	32.86	7.27	33.43	264	360 Peak	VERTICAL	
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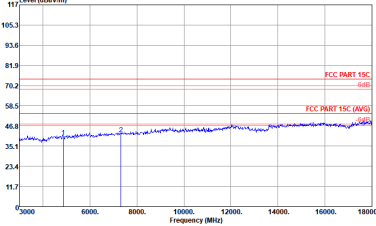
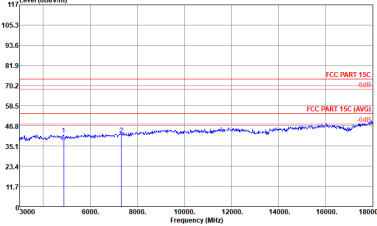


2.4GHz 2400~2483.5MHz---ANT 2

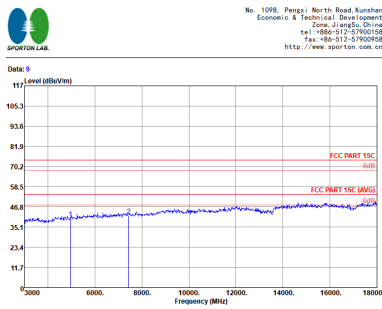
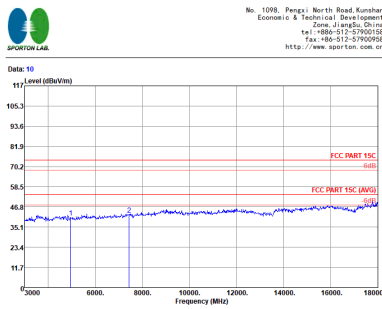
BT (Harmonic @ 3m)

BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m																																																															
ANT	BT CH00 2402MHz																																																															
2	Horizontal	Vertical																																																														
Peak Avg.	 No. 1090, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 Fax: +86-512-57900058 http://www.sporton.co.uk.cn SPORTON LAB. Date: 9 117 Level (dBm) 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 FCC PART 15C (dBm) FCC PART 15C (Avg) Frequency (MHz) Site: 032004-K3 Condition: FCC PART 15C 3m 3117 SN 75957 HORIZONTAL Project: RRM 1000.000000 VSWR 1000.000000 SRT:Auto Model: (FRE)RE214642 Plane: Z Full-directivity: #3 Ant: ANT 2 DMS <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm</th><th>dB</th><th>dBm</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>4806.00</td><td>39.19</td><td>-34.81</td><td>74.00</td><td>55.81</td><td>34.96</td><td>10.24</td><td>61.82</td><td>100</td><td>360</td><td>Peak</td><td>HORIZONTAL</td></tr></table>	Freq	Level	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm	dB	dBm	dB	cm	deg			1	4806.00	39.19	-34.81	74.00	55.81	34.96	10.24	61.82	100	360	Peak	HORIZONTAL	 No. 1090, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 Fax: +86-512-57900058 http://www.sporton.co.uk.cn SPORTON LAB. Date: 10 117 Level (dBm) 105.3 93.6 81.9 70.2 58.5 46.8 35.1 23.4 11.7 FCC PART 15C (dBm) FCC PART 15C (Avg) Frequency (MHz) Site: 032004-K3 Condition: FCC PART 15C 3m 3117 SN 75957 VERTICAL Project: RRM 1000.000000 VSWR 1000.000000 SRT:Auto Model: (FRE)RE214642 Plane: Z Full-directivity: #3 Ant: ANT 2 DMS <table><tr><th>Freq</th><th>Level</th><th>Limit</th><th>ReadAntenna</th><th>Cable Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBm</th><th>dB</th><th>dBm</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>4806.00</td><td>40.18</td><td>-33.82</td><td>74.00</td><td>56.92</td><td>34.84</td><td>10.24</td><td>61.82</td><td>100</td><td>360</td><td>Peak</td><td>VERTICAL</td></tr></table>	Freq	Level	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBm	dB	dBm	dB	cm	deg			1	4806.00	40.18	-33.82	74.00	56.92	34.84	10.24	61.82	100	360	Peak	VERTICAL
	Freq	Level	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark	Pol/Phas																																																							
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Peak Avg.	 No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Date: 17  Site : 030H04-K5 Condition : FCC PART 15C 3m 3117 SN 70957 HORIZONTAL Project : RRM-1000, 000KHz, VSW: 1000, 000KHz, SMT: Auto RFI: RFI214042 Plane : 1 Mode : 2 Full-directivity : 2 Ant: 2 Ant: 2 Ant: 2 <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>dBuV</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>4882.00</td><td>40.53</td><td>-33.47</td><td>74.00</td><td>56.94</td><td>35.04</td><td>10.32</td><td>61.77</td><td>100</td><td>360 Peak</td><td>HORIZONTAL</td></tr><tr><td>2</td><td>7320.00</td><td>41.89</td><td>-32.11</td><td>74.00</td><td>54.32</td><td>36.86</td><td>12.77</td><td>62.06</td><td>100</td><td>360 Peak</td><td>HORIZONTAL</td></tr></table>  No. 1098, Pengzi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900958 http://www.sporton.com.cn Date: 19  Site : 030H04-K5 Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000, 000KHz, VSW: 1000, 000KHz, SMT: Auto RFI: RFI214042 Plane : 1 Mode : 2 Full-directivity : 2 Ant: 2 Ant: 2 Ant: 2 <table><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>dBuV</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr><tr><td>1</td><td>4882.00</td><td>41.76</td><td>-32.24</td><td>74.00</td><td>58.38</td><td>34.83</td><td>10.32</td><td>61.77</td><td>100</td><td>360 Peak</td><td>VERTICAL</td></tr><tr><td>2</td><td>7320.00</td><td>41.86</td><td>-32.10</td><td>74.00</td><td>54.69</td><td>36.40</td><td>12.77</td><td>62.06</td><td>100</td><td>360 Peak</td><td>VERTICAL</td></tr></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg			1	4882.00	40.53	-33.47	74.00	56.94	35.04	10.32	61.77	100	360 Peak	HORIZONTAL	2	7320.00	41.89	-32.11	74.00	54.32	36.86	12.77	62.06	100	360 Peak	HORIZONTAL	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	Pol/Phas	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg			1	4882.00	41.76	-32.24	74.00	58.38	34.83	10.32	61.77	100	360 Peak	VERTICAL	2	7320.00	41.86	-32.10	74.00	54.69	36.40	12.77	62.06	100	360 Peak	VERTICAL
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1	4882.00	41.76	-32.24	74.00	58.38	34.83	10.32	61.77	100	360 Peak	VERTICAL																																																																																		
2	7320.00	41.86	-32.10	74.00	54.69	36.40	12.77	62.06	100	360 Peak	VERTICAL																																																																																		

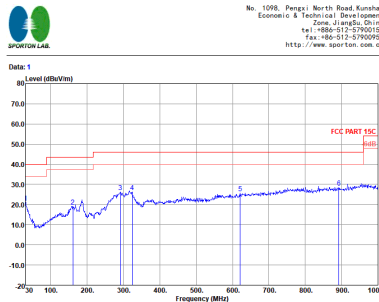
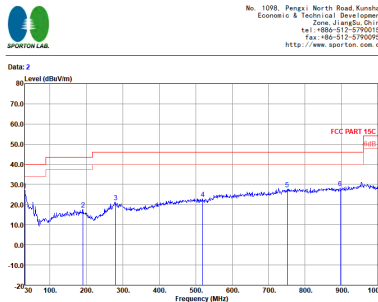


BT	2.4GHz 2400~2483.5MHz Harmonic @ 3m																																																																																								
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Peak Avg.	 No. 1098, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900158 http://www.sporton.com.cn Site : 032004-KS Condition : FCC PART 15C 3m 3117 SN 70957 HORIZONTAL Project : RRM-1000.000MHz VSW:1000.000kHz SMT:Auto Polar : 12 Plane : 2 Full-directivity Ant : 2 Ant : DMS <table><thead><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Poss</th><th>T/Poss</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>dBuV</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr></thead><tbody><tr><td>1 4962.00</td><td>40.07</td><td>-33.93</td><td>74.00</td><td>56.71</td><td>35.14</td><td>10.43</td><td>61.71</td><td>100</td><td>360 Peak</td><td>HORIZONTAL</td></tr><tr><td>2 7440.00</td><td>41.86</td><td>-32.14</td><td>74.00</td><td>54.16</td><td>36.89</td><td>12.88</td><td>62.07</td><td>100</td><td>360 Peak</td><td>HORIZONTAL</td></tr></tbody></table>  No. 1098, Pengxi North Road, Kunshan Economic & Technical Development Zone, Jiangsu, China tel: +86-512-57900158 fax: +86-512-57900158 http://www.sporton.com.cn Site : 032004-KS Condition : FCC PART 15C 3m 3117 SN 70957 VERTICAL Project : RRM-1000.000MHz VSW:1000.000kHz SMT:Auto Polar : 12 Plane : 2 Full-directivity Ant : 2 Ant : DMS <table><thead><tr><th>Freq</th><th>Level</th><th>Over</th><th>Limit</th><th>ReadAntenna</th><th>Cable</th><th>Preamp</th><th>A/Poss</th><th>T/Poss</th><th>Remark</th><th>Pol/Phas</th></tr><tr><th>MHz</th><th>dBuV/m</th><th>dB</th><th>dBuV/m</th><th>dBuV</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th><th></th><th></th></tr></thead><tbody><tr><td>1 4962.00</td><td>40.66</td><td>-33.34</td><td>74.00</td><td>57.13</td><td>34.81</td><td>10.43</td><td>61.71</td><td>100</td><td>360 Peak</td><td>VERTICAL</td></tr><tr><td>2 7440.00</td><td>42.34</td><td>-31.66</td><td>74.00</td><td>55.56</td><td>36.47</td><td>12.88</td><td>62.07</td><td>100</td><td>360 Peak</td><td>VERTICAL</td></tr></tbody></table>	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg			1 4962.00	40.07	-33.93	74.00	56.71	35.14	10.43	61.71	100	360 Peak	HORIZONTAL	2 7440.00	41.86	-32.14	74.00	54.16	36.89	12.88	62.07	100	360 Peak	HORIZONTAL	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Poss	T/Poss	Remark	Pol/Phas	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg			1 4962.00	40.66	-33.34	74.00	57.13	34.81	10.43	61.71	100	360 Peak	VERTICAL	2 7440.00	42.34	-31.66	74.00	55.56	36.47	12.88	62.07	100	360 Peak	VERTICAL
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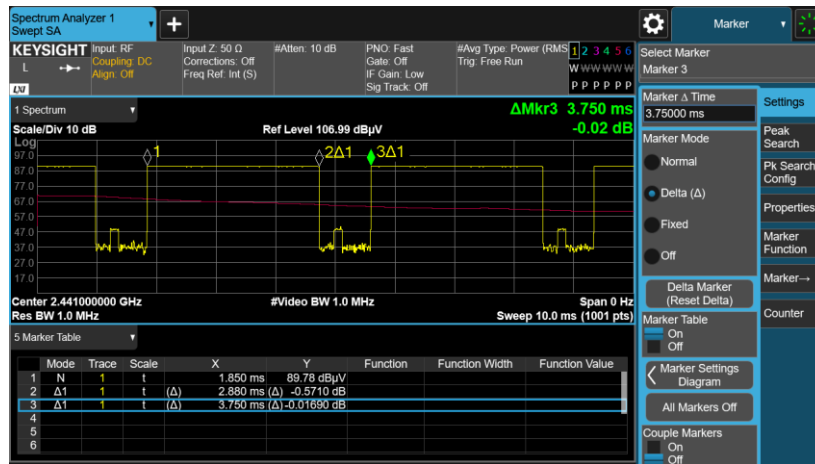
Emission below 1GHz

2.4GHz BT (LF)

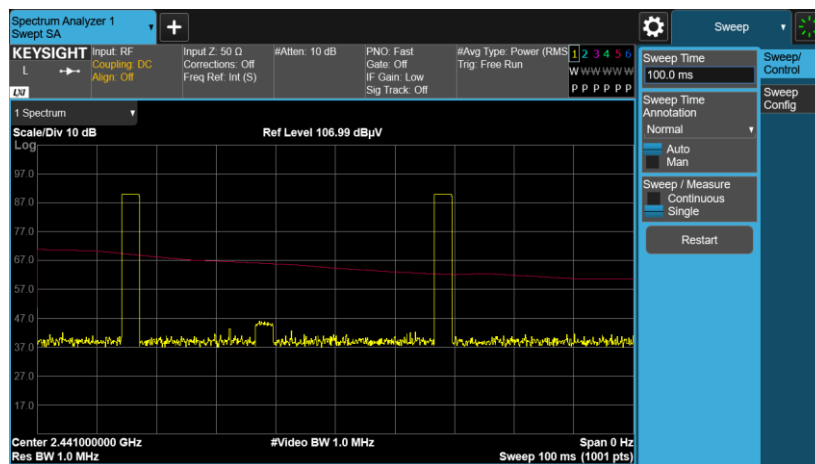
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Appendix E. Duty Cycle Plots

DH5 on time (One Pulse) Plot on Channel 39



DH5 on time (Count Pulses) Plot on Channel 39



Note:

1. Worst case Duty cycle = on time/100 milliseconds = $2 * 2.88 / 100 = 5.76 \%$
2. Worst case Duty cycle correction factor = $20 * \log(\text{Duty cycle}) = -24.79 \text{ dB}$
3. DH5 has the highest duty cycle worst case and is reported.