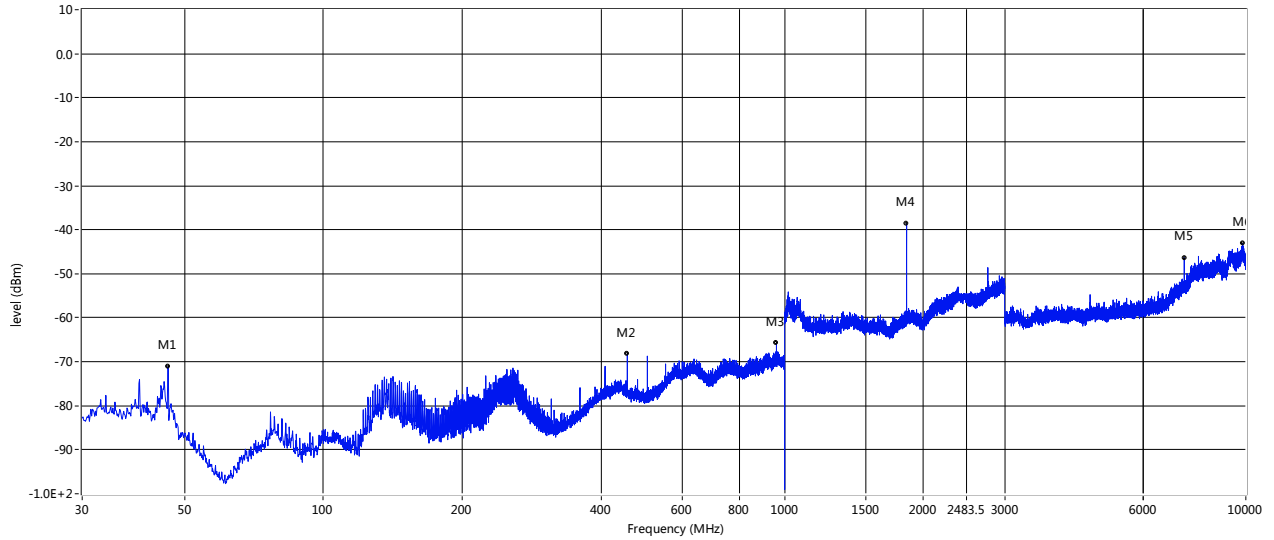




High channel Horizontal

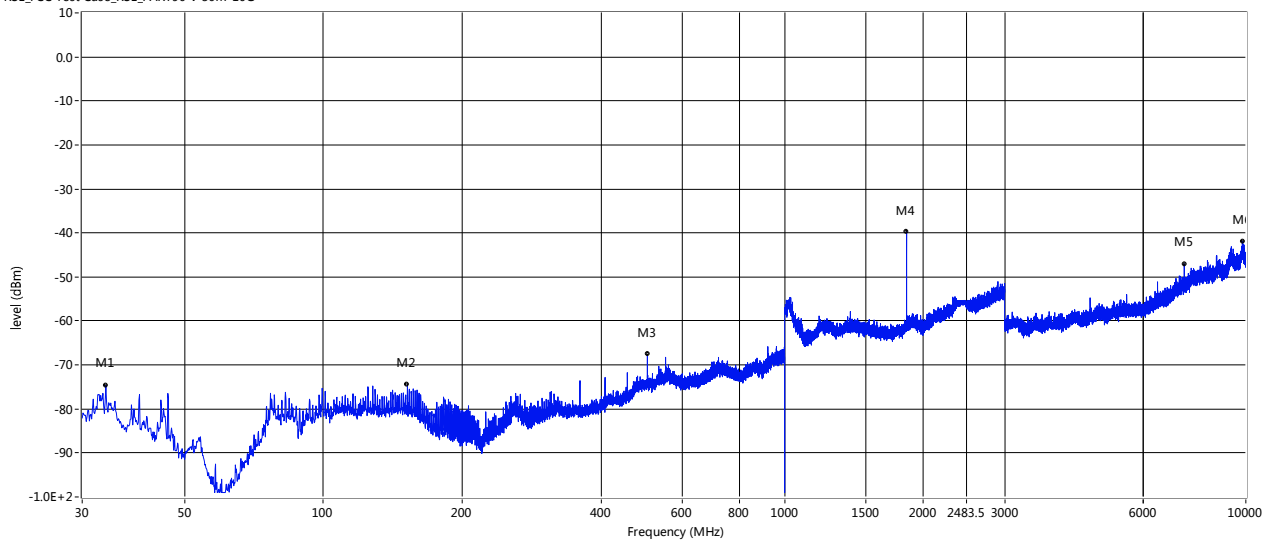
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
46.005	-71.14	-13.0	-58.14	Horizontal	Pass
456.073	-68.29	-13.0	-55.29	Horizontal	Pass
960.109	-65.76	-13.0	-52.76	Horizontal	Pass
1838.500	-38.65	-13.0	-25.65	Horizontal	Pass
7354.000	-46.36	-13.0	-33.36	Horizontal	Pass
9834.625	-43.15	-13.0	-30.15	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

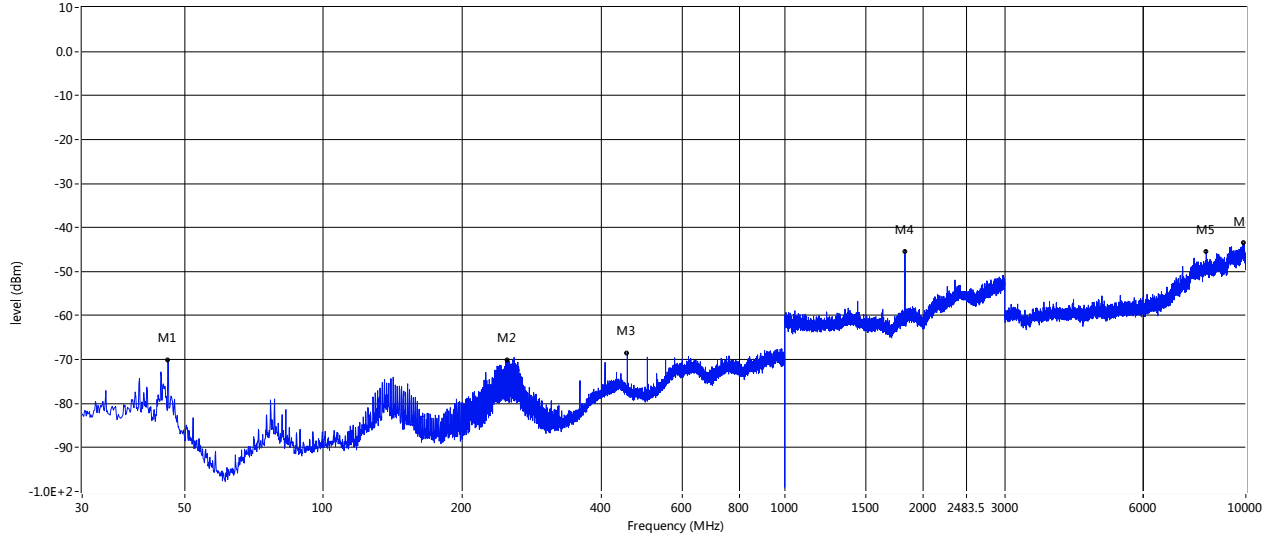


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
33.759	-74.64	-13.0	-61.64	Vertical	Pass
152.099	-74.49	-13.0	-61.49	Vertical	Pass
503.966	-67.57	-13.0	-54.57	Vertical	Pass
1838.500	-39.70	-13.0	-26.70	Vertical	Pass
7354.000	-47.05	-13.0	-34.05	Vertical	Pass
9839.875	-41.96	-13.0	-28.96	Vertical	Pass



Low data rate ISO-18000-62 (40kbps)
Low channel
Horizontal

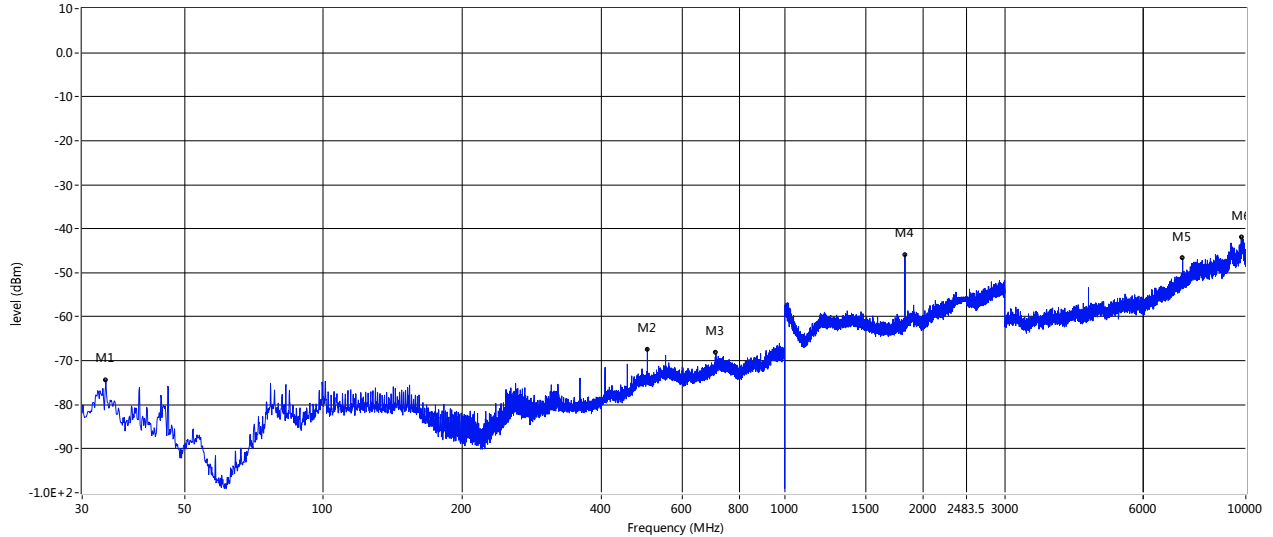
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
46.005	-70.14	-13.0	-57.14	Horizontal	Pass
250.432	-70.13	-13.0	-57.13	Horizontal	Pass
456.073	-68.56	-13.0	-55.56	Horizontal	Pass
1823.500	-45.50	-13.0	-32.50	Horizontal	Pass
8206.250	-45.52	-13.0	-32.52	Horizontal	Pass
9896.750	-43.56	-13.0	-30.56	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

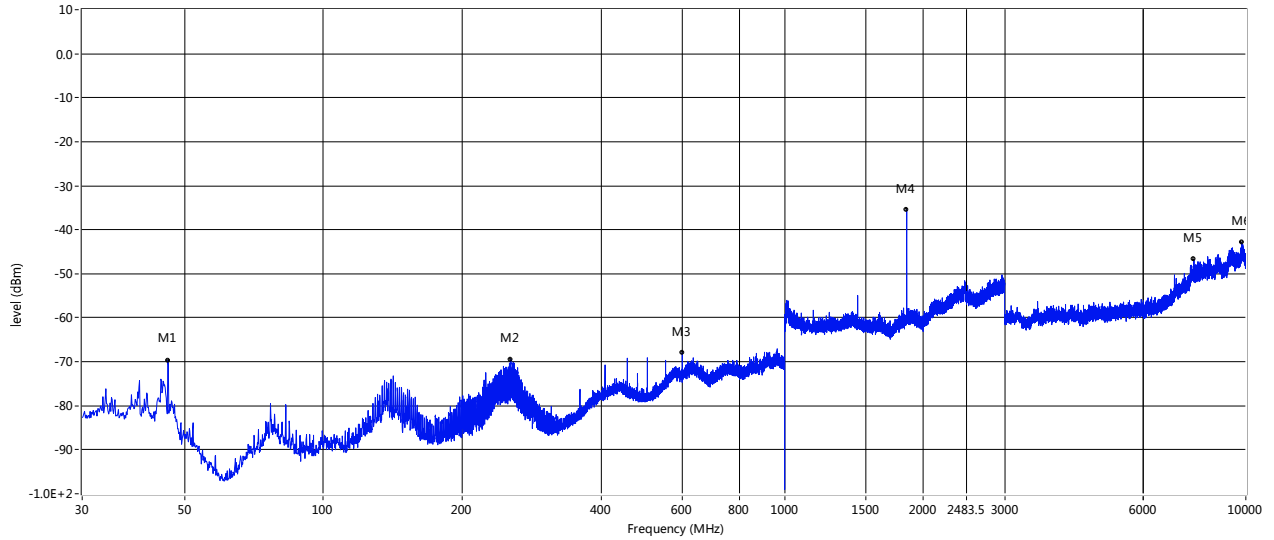


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
33.759	-74.41	-13.0	-61.41	Vertical	Pass
503.966	-67.41	-13.0	-54.41	Vertical	Pass
709.606	-68.28	-13.0	-55.28	Vertical	Pass
1823.500	-45.93	-13.0	-32.93	Vertical	Pass
7294.500	-46.68	-13.0	-33.68	Vertical	Pass
9812.750	-42.03	-13.0	-29.03	Vertical	Pass



High channel Horizontal

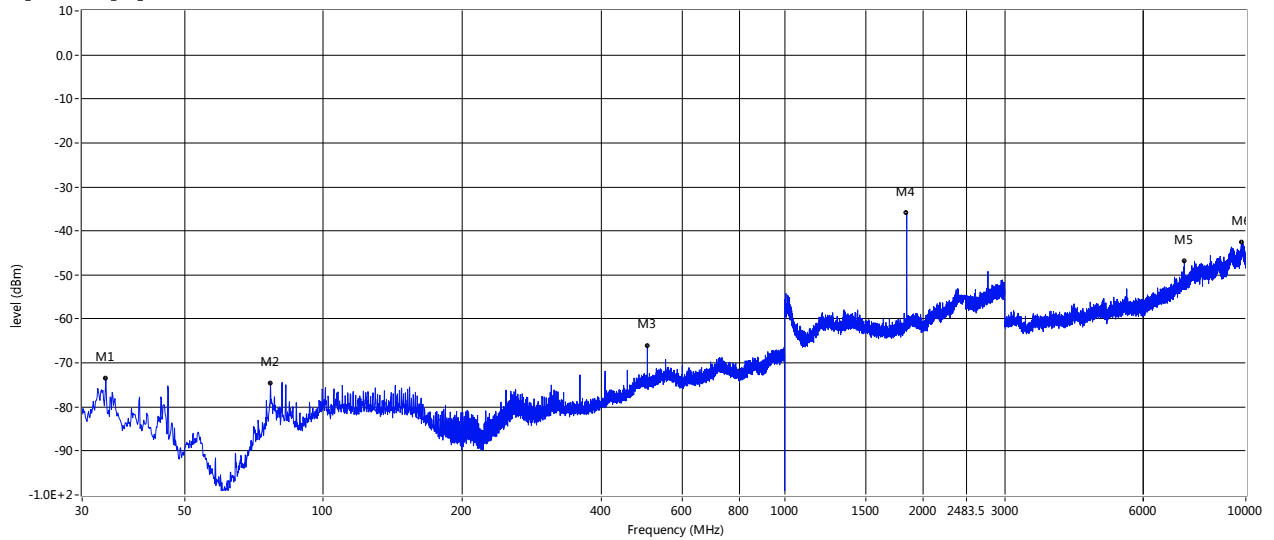
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
46.005	-69.66	-13.0	-56.66	Horizontal	Pass
255.040	-69.47	-13.0	-56.47	Horizontal	Pass
599.996	-67.93	-13.0	-54.93	Horizontal	Pass
1839.500	-35.42	-13.0	-22.42	Horizontal	Pass
7716.250	-46.74	-13.0	-33.74	Horizontal	Pass
9786.500	-42.98	-13.0	-29.98	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

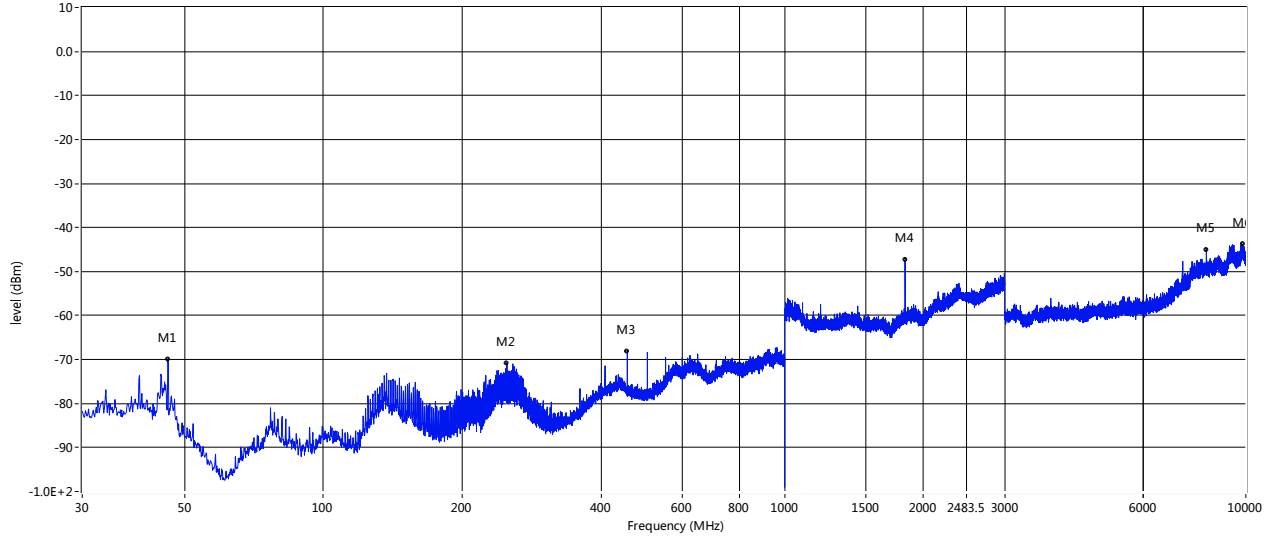


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
33.759	-73.60	-13.0	-60.60	Vertical	Pass
76.802	-74.68	-13.0	-61.68	Vertical	Pass
503.966	-66.11	-13.0	-53.11	Vertical	Pass
1839.500	-35.97	-13.0	-22.97	Vertical	Pass
7358.375	-46.86	-13.0	-33.86	Vertical	Pass
9828.500	-42.63	-13.0	-29.63	Vertical	Pass



High data rate ISO-18000-62 (80kbps)
Low channel
Horizontal

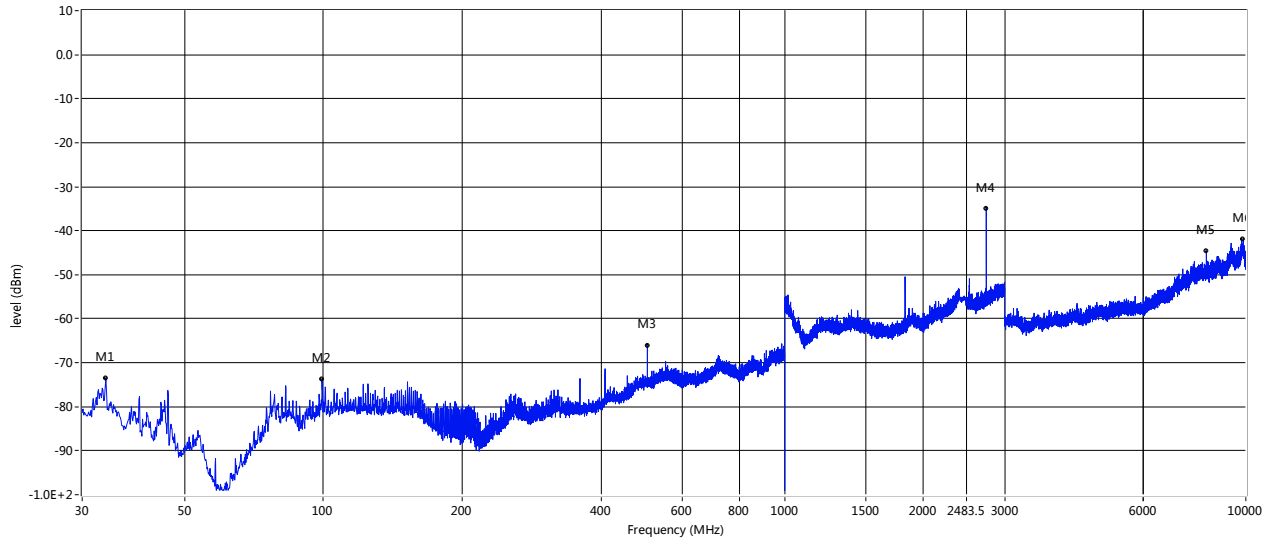
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
46.005	-70.04	-13.0	-57.04	Horizontal	Pass
249.947	-70.88	-13.0	-57.88	Horizontal	Pass
456.073	-68.17	-13.0	-55.17	Horizontal	Pass
1824.500	-47.43	-13.0	-34.43	Horizontal	Pass
8210.625	-45.06	-13.0	-32.06	Horizontal	Pass
9838.125	-43.82	-13.0	-30.82	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

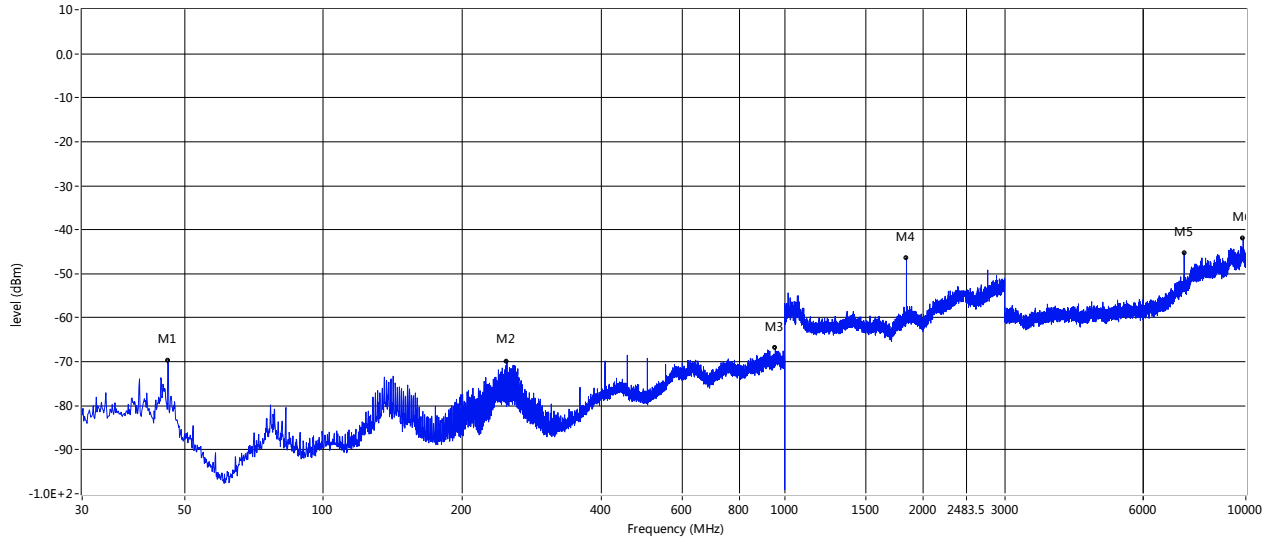


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
33.759	-73.54	-13.0	-60.54	Vertical	Pass
99.355	-73.77	-13.0	-60.77	Vertical	Pass
503.966	-66.12	-13.0	-53.12	Vertical	Pass
2737.000	-34.94	-13.0	-21.94	Vertical	Pass
8210.625	-44.76	-13.0	-31.76	Vertical	Pass
9874.000	-42.01	-13.0	-29.01	Vertical	Pass



High channel Horizontal

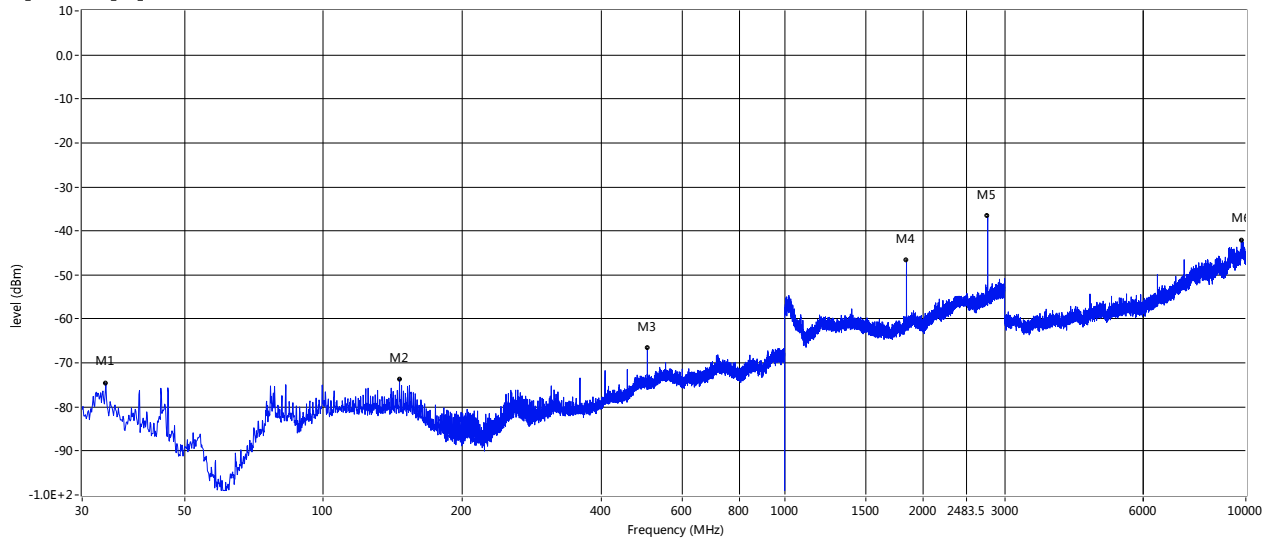
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
46.005	-69.83	-13.0	-56.83	Horizontal	Pass
249.947	-69.88	-13.0	-56.88	Horizontal	Pass
954.774	-66.94	-13.0	-53.94	Horizontal	Pass
1837.750	-46.44	-13.0	-33.44	Horizontal	Pass
7350.500	-45.25	-13.0	-32.25	Horizontal	Pass
9867.000	-41.95	-13.0	-28.95	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

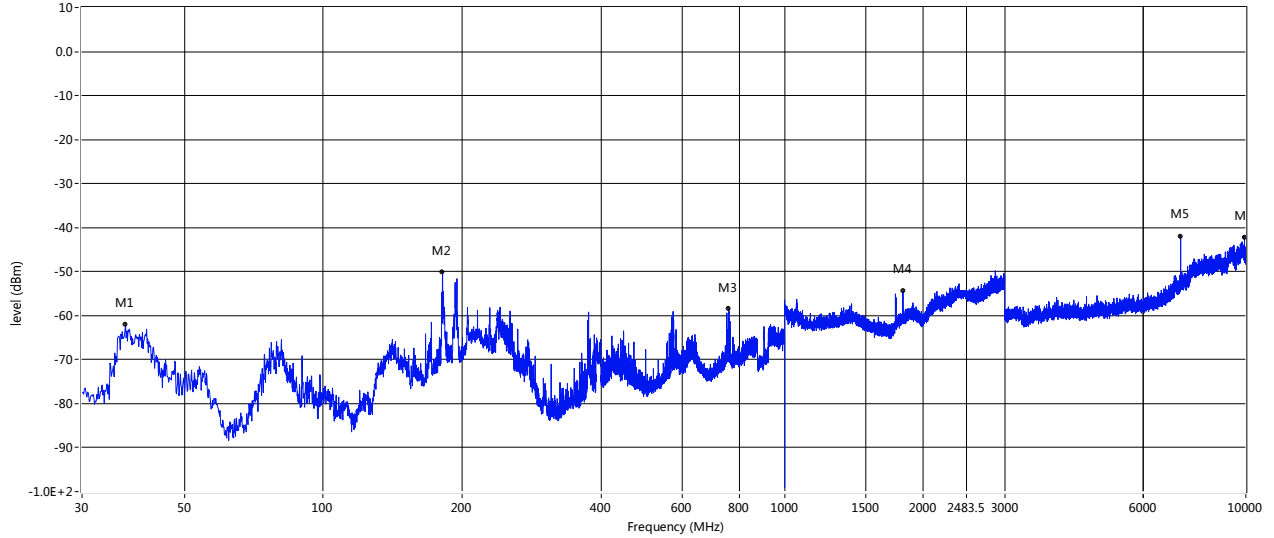


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
33.759	-74.63	-13.0	-61.63	Vertical	Pass
146.279	-73.80	-13.0	-60.80	Vertical	Pass
503.966	-66.68	-13.0	-53.68	Vertical	Pass
1837.500	-46.79	-13.0	-33.79	Vertical	Pass
2756.500	-36.69	-13.0	-23.69	Vertical	Pass
9812.750	-42.14	-13.0	-29.14	Vertical	Pass



Unmodulated ISO-10374
Low channel
Horizontal

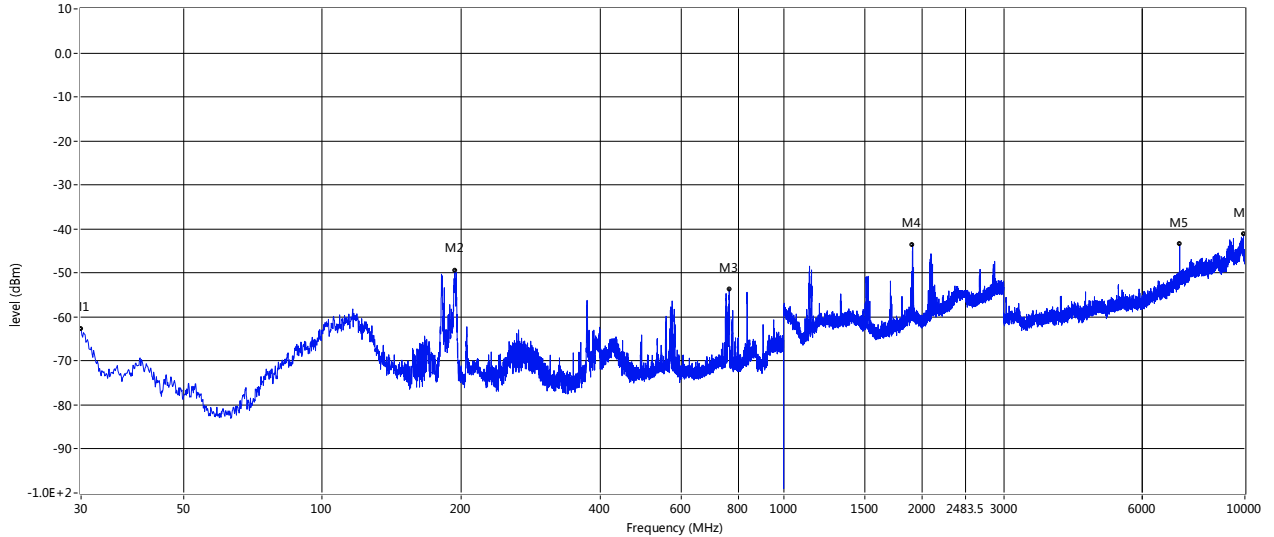
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
37.275	-62.09	-13.0	-49.09	Horizontal	Pass
181.441	-50.25	-13.0	-37.25	Horizontal	Pass
757.500	-58.42	-13.0	-45.42	Horizontal	Pass
1805.500	-54.41	-13.0	-41.41	Horizontal	Pass
7221.875	-42.02	-13.0	-29.02	Horizontal	Pass
9930.875	-42.31	-13.0	-29.31	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

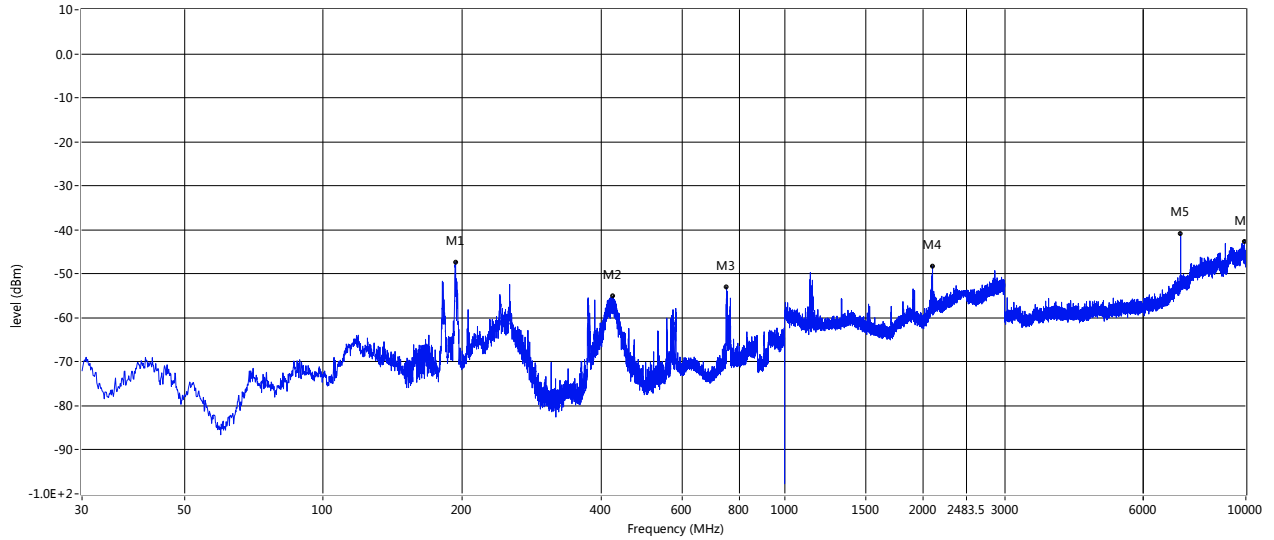


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
30.000	-62.66	-13.0	-49.66	Vertical	Pass
193.688	-49.56	-13.0	-36.56	Vertical	Pass
762.471	-53.82	-13.0	-40.82	Vertical	Pass
1904.250	-43.56	-13.0	-30.56	Vertical	Pass
7221.875	-43.50	-13.0	-30.50	Vertical	Pass
9930.875	-41.23	-13.0	-28.23	Vertical	Pass



High channel Horizontal

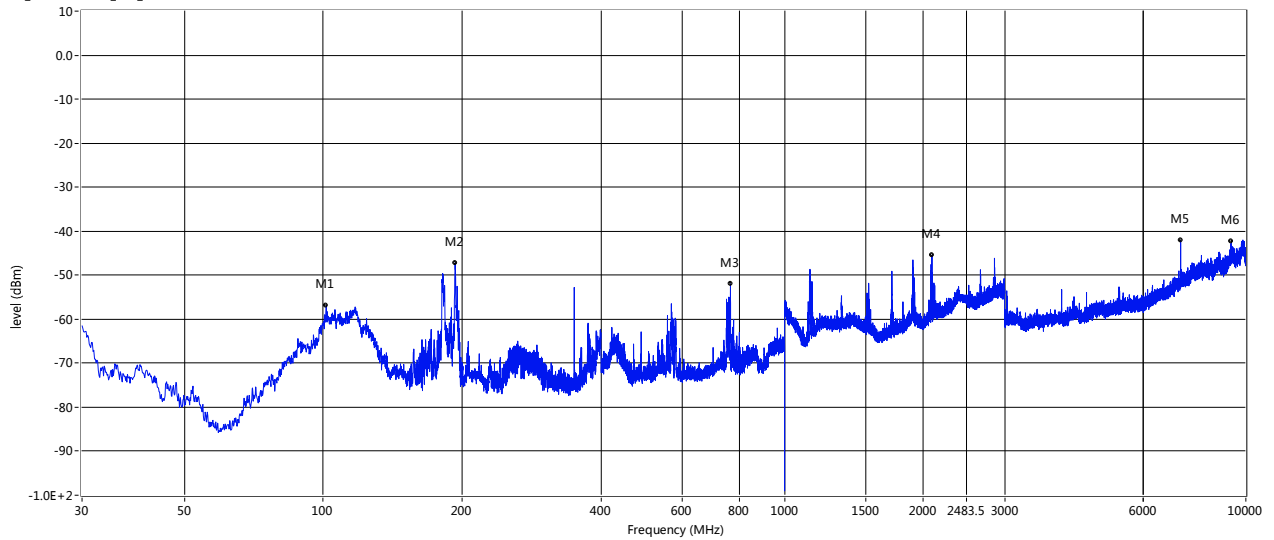
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
193.688	-47.43	-13.0	-34.43	Horizontal	Pass
424.790	-55.10	-13.0	-42.10	Horizontal	Pass
748.770	-53.11	-13.0	-40.11	Horizontal	Pass
2093.000	-48.43	-13.0	-35.43	Horizontal	Pass
7221.875	-40.87	-13.0	-27.87	Horizontal	Pass
9930.875	-42.71	-13.0	-29.71	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

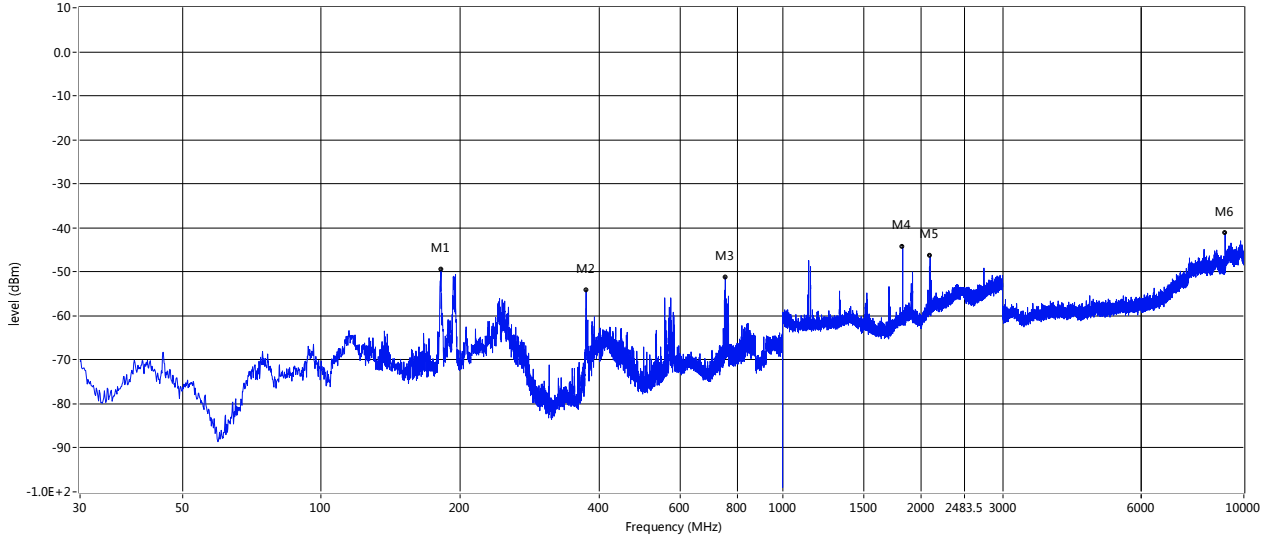


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
101.537	-56.88	-13.0	-43.88	Vertical	Pass
193.081	-47.21	-13.0	-34.21	Vertical	Pass
763.320	-51.99	-13.0	-38.99	Vertical	Pass
2087.250	-45.54	-13.0	-32.54	Vertical	Pass
7221.875	-42.16	-13.0	-29.16	Vertical	Pass
9304.375	-42.40	-13.0	-29.40	Vertical	Pass



Low channel
Horizontal

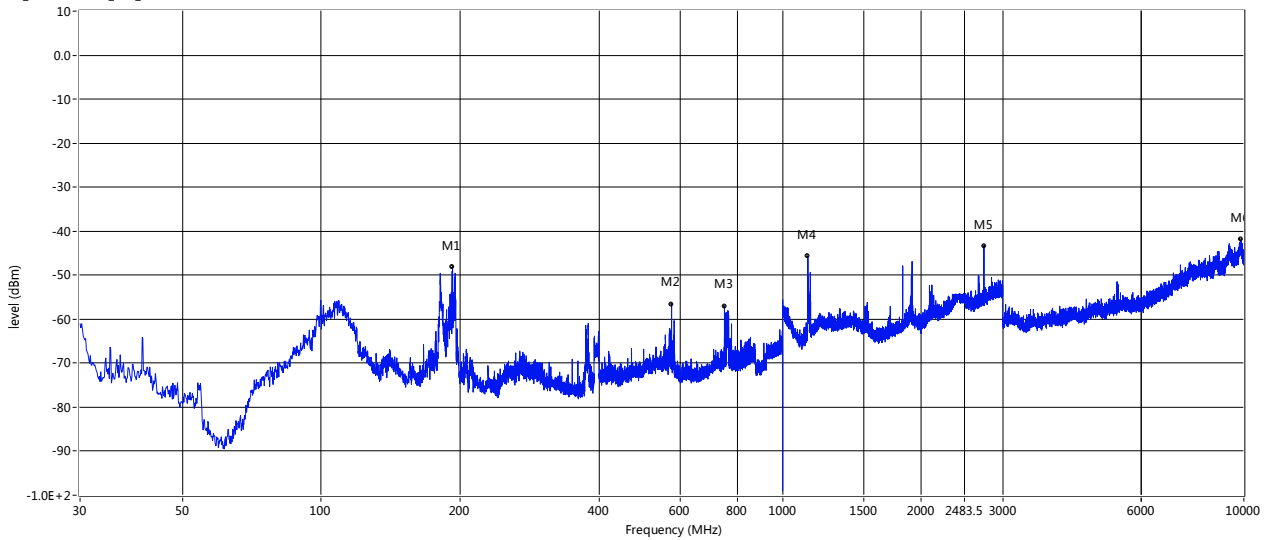
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
181.805	-49.59	-13.0	-36.59	Horizontal	Pass
375.078	-54.30	-13.0	-41.30	Horizontal	Pass
751.559	-51.35	-13.0	-38.35	Horizontal	Pass
1821.500	-44.40	-13.0	-31.40	Horizontal	Pass
2089.000	-46.44	-13.0	-33.44	Horizontal	Pass
9107.500	-41.19	-13.0	-28.19	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

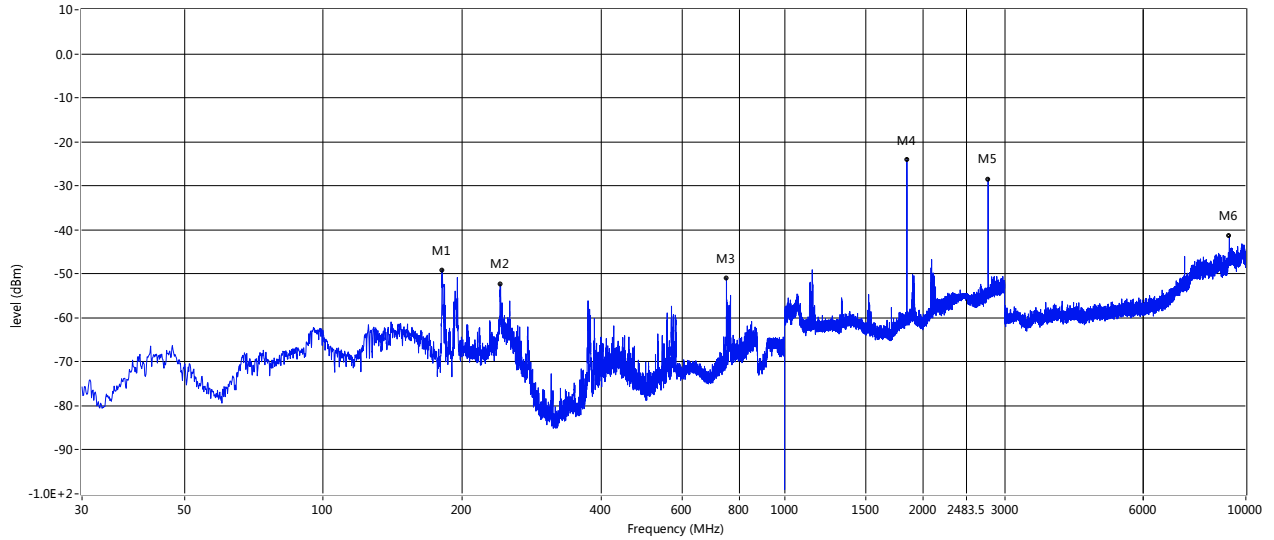


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
192.596	-48.09	-13.0	-35.09	Vertical	Pass
574.776	-56.61	-13.0	-43.61	Vertical	Pass
748.285	-57.11	-13.0	-44.11	Vertical	Pass
1134.750	-45.76	-13.0	-32.76	Vertical	Pass
2732.500	-43.34	-13.0	-30.34	Vertical	Pass
9851.250	-41.96	-13.0	-28.96	Vertical	Pass



High channel Horizontal

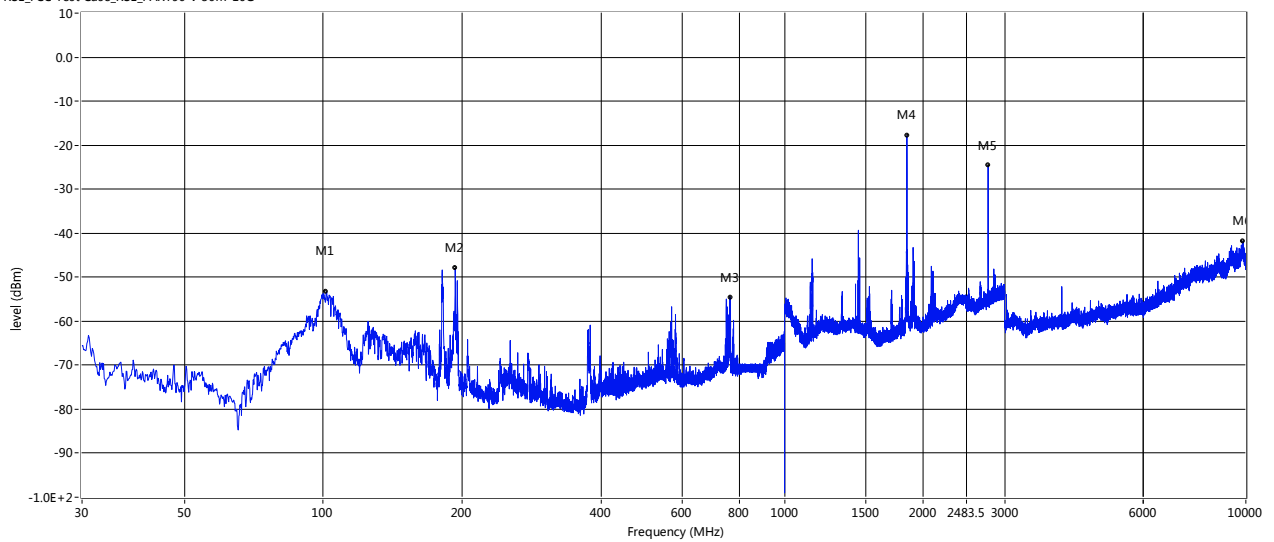
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
180.956	-49.17	-13.0	-36.17	Horizontal	Pass
241.824	-52.43	-13.0	-39.43	Horizontal	Pass
748.285	-51.09	-13.0	-38.09	Horizontal	Pass
1841.750	-24.05	-13.0	-11.05	Horizontal	Pass
2762.500	-28.64	-13.0	-15.64	Horizontal	Pass
9208.125	-41.38	-13.0	-28.38	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

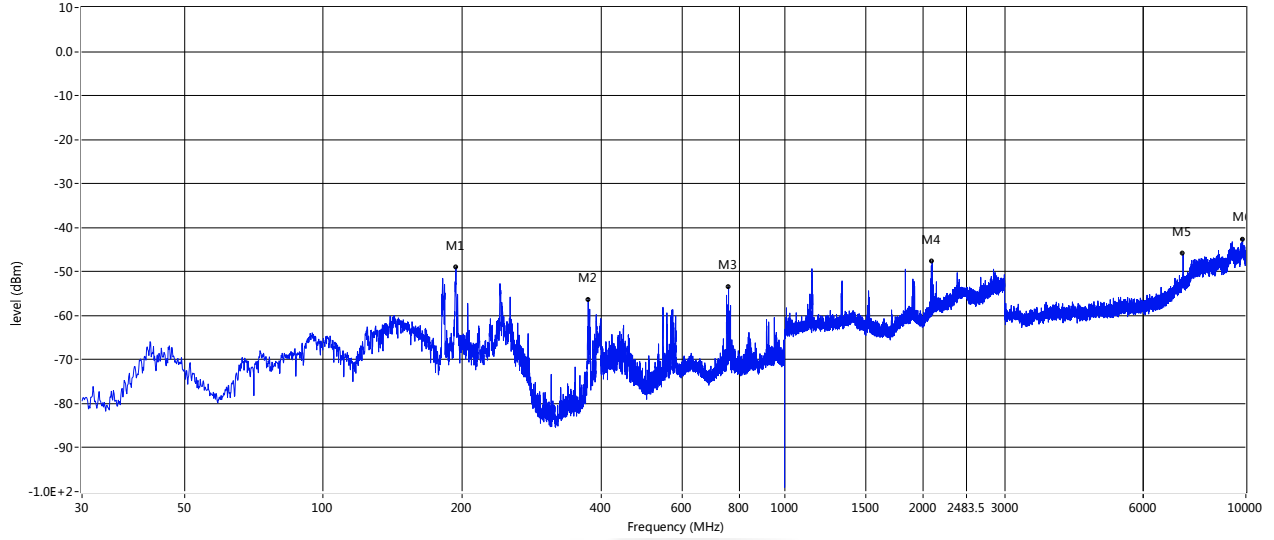


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
101.537	-53.33	-13.0	-40.33	Vertical	Pass
193.202	-48.01	-13.0	-35.01	Vertical	Pass
762.471	-54.55	-13.0	-41.55	Vertical	Pass
1841.500	-17.93	-13.0	-4.93	Vertical	Pass
2762.500	-24.64	-13.0	-11.64	Vertical	Pass
9858.250	-41.90	-13.0	-28.90	Vertical	Pass



TDM
Low channel
Horizontal

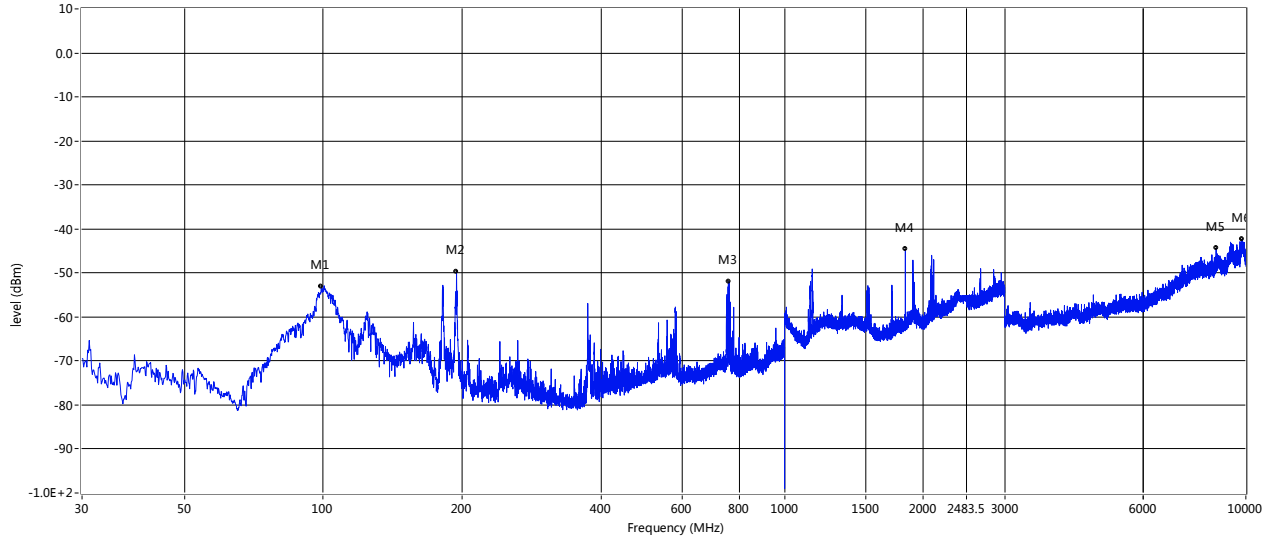
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
193.930	-49.09	-13.0	-36.09	Horizontal	Pass
375.199	-56.39	-13.0	-43.39	Horizontal	Pass
756.166	-53.44	-13.0	-40.44	Horizontal	Pass
2089.000	-47.73	-13.0	-34.73	Horizontal	Pass
7310.250	-46.00	-13.0	-33.00	Horizontal	Pass
9840.750	-42.65	-13.0	-29.65	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

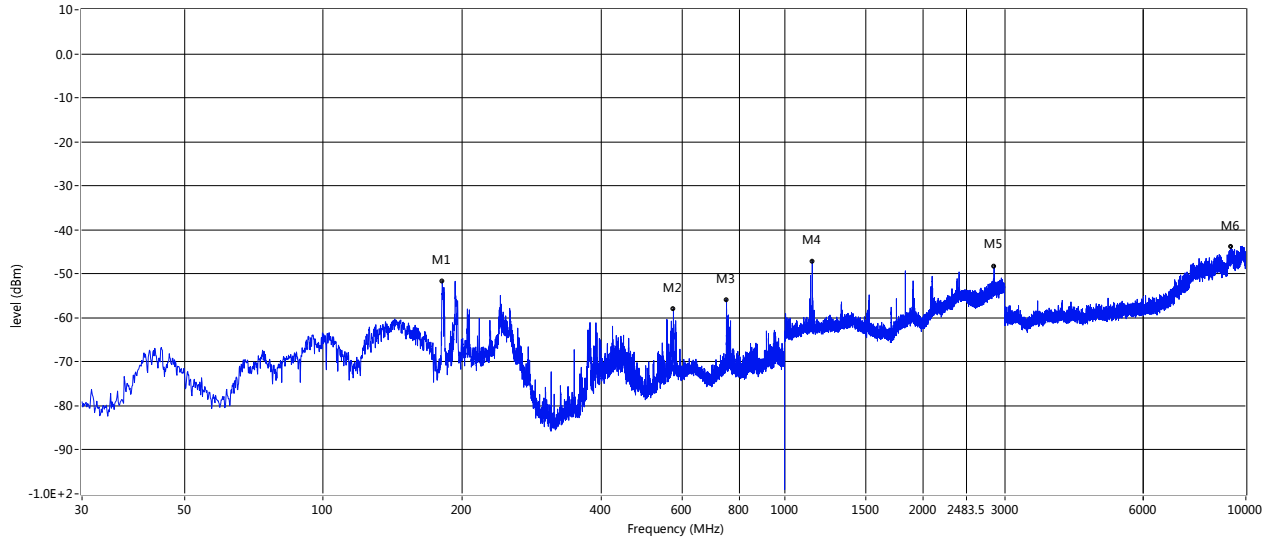


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
98.991	-53.13	-13.0	-40.13	Vertical	Pass
194.536	-49.62	-13.0	-36.62	Vertical	Pass
757.985	-51.92	-13.0	-38.92	Vertical	Pass
1827.500	-44.63	-13.0	-31.63	Vertical	Pass
8621.000	-44.40	-13.0	-31.40	Vertical	Pass
9821.500	-42.35	-13.0	-29.35	Vertical	Pass



High channel Horizontal

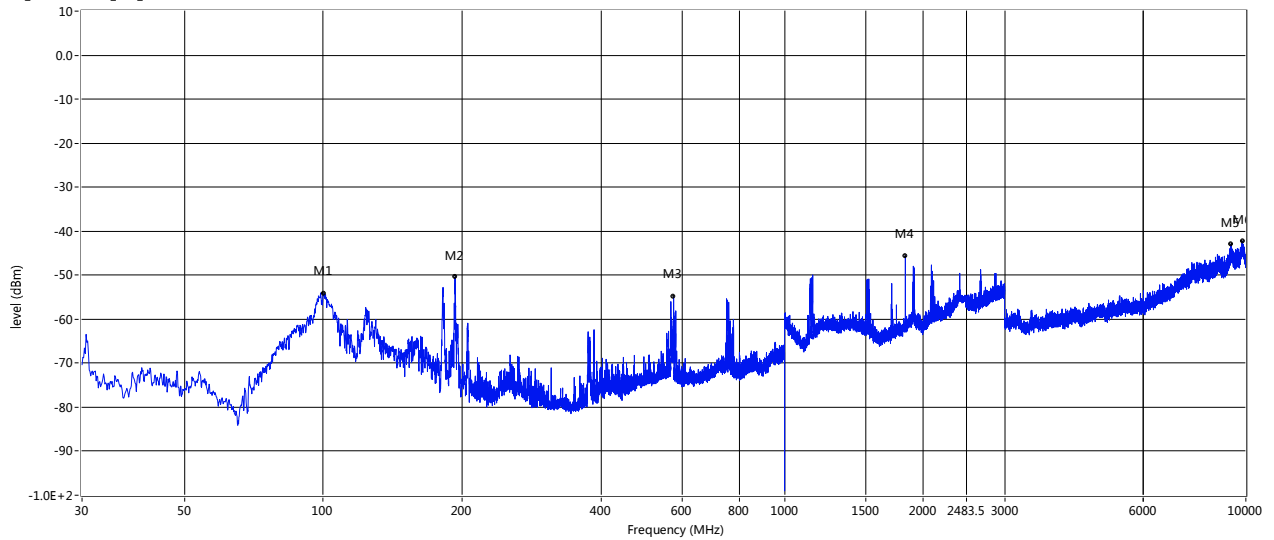
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
181.078	-51.77	-13.0	-38.77	Horizontal	Pass
574.534	-57.98	-13.0	-44.98	Horizontal	Pass
748.406	-55.91	-13.0	-42.91	Horizontal	Pass
1148.500	-47.18	-13.0	-34.18	Horizontal	Pass
2845.750	-48.38	-13.0	-35.38	Horizontal	Pass
9304.375	-43.87	-13.0	-30.87	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

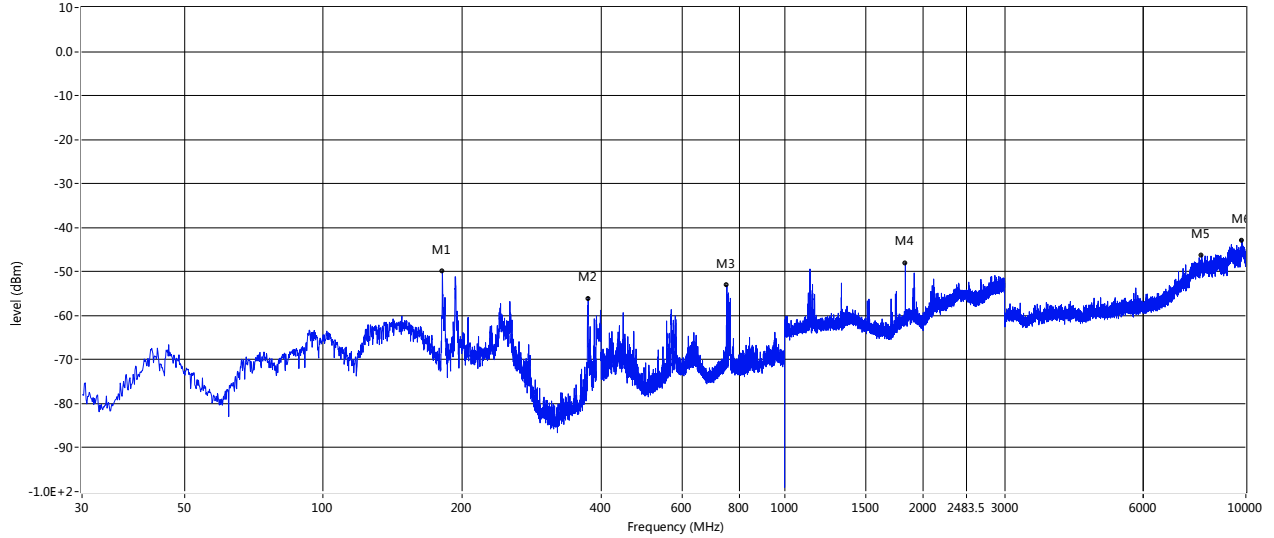


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
100.082	-54.13	-13.0	-41.13	Vertical	Pass
193.081	-50.39	-13.0	-37.39	Vertical	Pass
574.898	-54.91	-13.0	-41.91	Vertical	Pass
1827.500	-45.59	-13.0	-32.59	Vertical	Pass
9277.250	-42.98	-13.0	-29.98	Vertical	Pass
9831.125	-42.26	-13.0	-29.26	Vertical	Pass



Title 21
Low channel
Horizontal

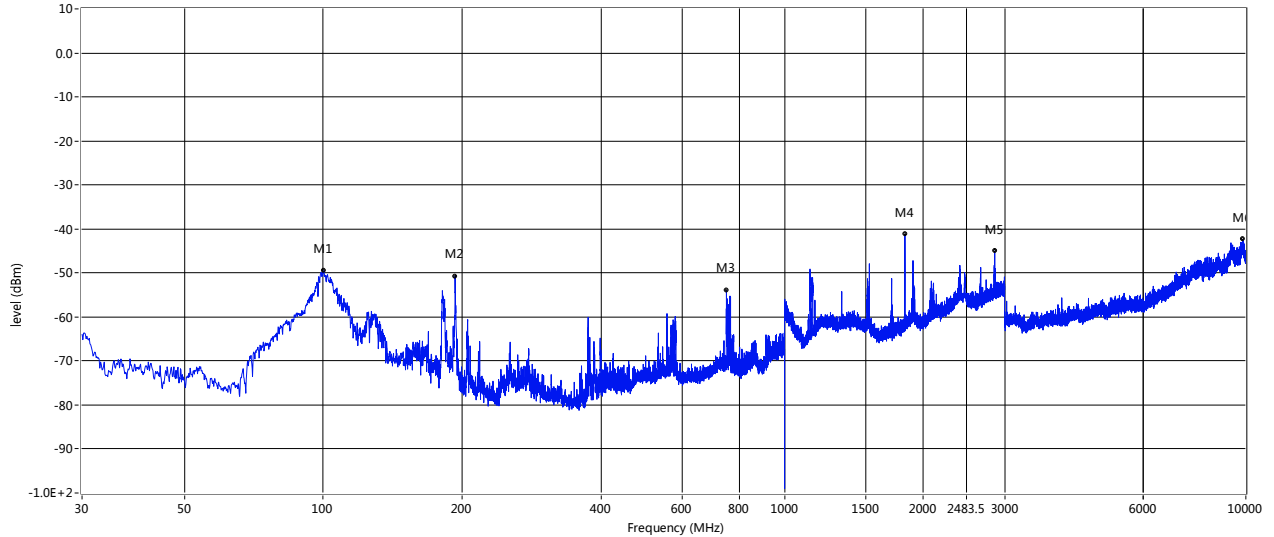
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
181.199	-49.97	-13.0	-36.97	Horizontal	Pass
375.199	-56.12	-13.0	-43.12	Horizontal	Pass
749.861	-53.09	-13.0	-40.09	Horizontal	Pass
1827.500	-48.11	-13.0	-35.11	Horizontal	Pass
8027.750	-46.35	-13.0	-33.35	Horizontal	Pass
9798.750	-42.95	-13.0	-29.95	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G

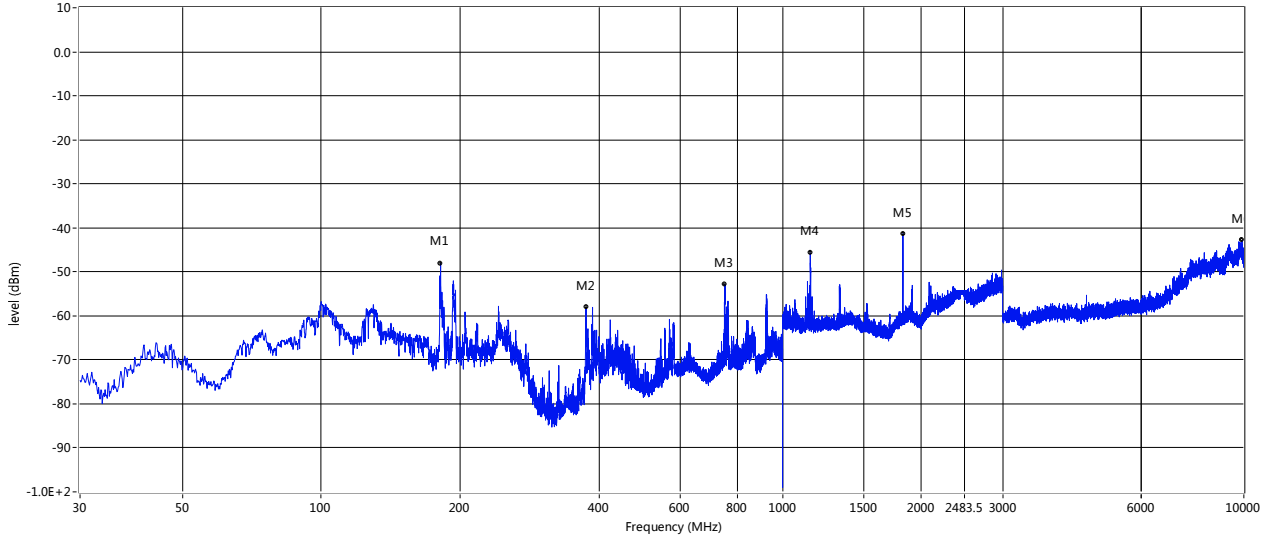


Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
100.082	-49.52	-13.0	-36.52	Vertical	Pass
193.081	-50.73	-13.0	-37.73	Vertical	Pass
748.285	-53.93	-13.0	-40.93	Vertical	Pass
1823.750	-41.22	-13.0	-28.22	Vertical	Pass
2855.250	-45.04	-13.0	-32.04	Vertical	Pass
9849.500	-42.37	-13.0	-29.37	Vertical	Pass



High channel Horizontal

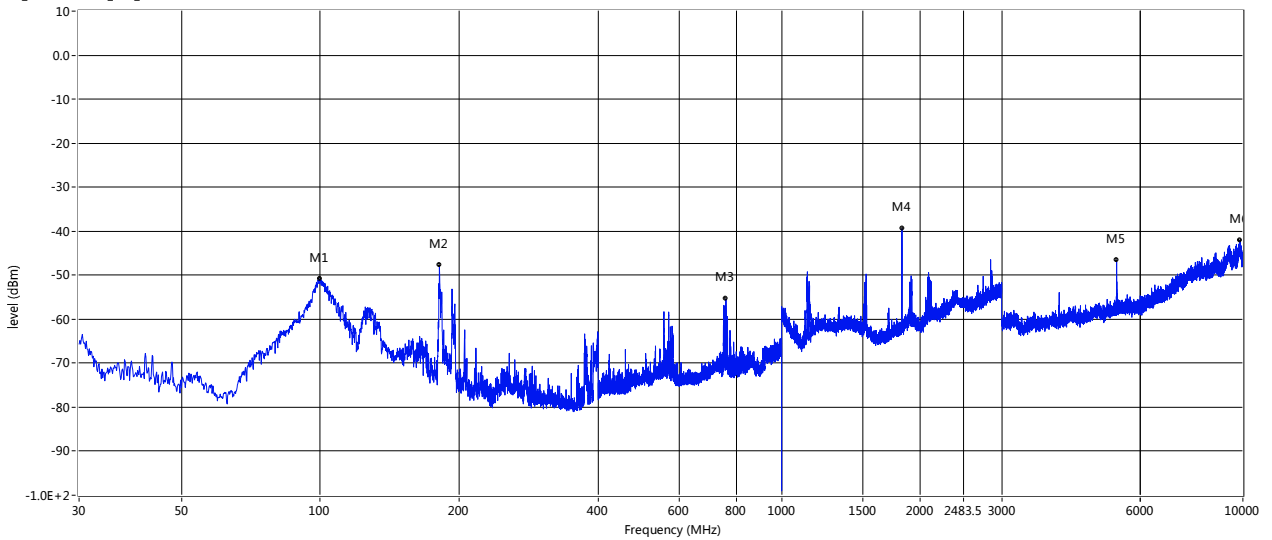
RSE_FCC Test Case_RSE_PART90 H 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
181.441	-48.08	-13.0	-35.08	Horizontal	Pass
375.441	-58.12	-13.0	-45.12	Horizontal	Pass
749.255	-52.86	-13.0	-39.86	Horizontal	Pass
1148.250	-45.79	-13.0	-32.79	Horizontal	Pass
1823.500	-41.36	-13.0	-28.36	Horizontal	Pass
9904.625	-42.84	-13.0	-29.84	Horizontal	Pass

Vertical

RSE_FCC Test Case_RSE_PART90 V 30M-10G



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
99.598	-50.86	-13.0	-37.86	Vertical	Pass
181.199	-47.77	-13.0	-34.77	Vertical	Pass
757.621	-55.43	-13.0	-42.43	Vertical	Pass
1823.500	-39.49	-13.0	-26.49	Vertical	Pass
5324.875	-46.60	-13.0	-33.60	Vertical	Pass
9845.125	-42.18	-13.0	-29.18	Vertical	Pass

7. SPURIOUS EMISSIONS AT ANTENNA TERMINALS

7.1 REQUIREMENT

On any frequency outside the licensee's sub-band edges: $55 + 10 \log(P)$ dB, where (P) is the highest emission (watts) of the transmitter inside the licensee's sub-band.

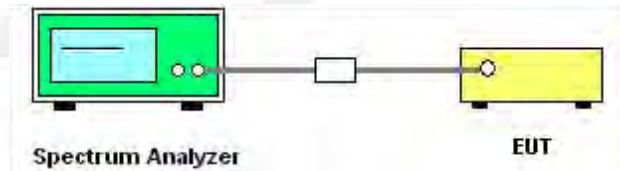
7.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

For Band edge

Spectrum Parameter	Setting
Detector	Peak
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

7.3 TEST SETUP



The EUT which is powered by the adapter and coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, the span is set to be greater than RBW.

7.4 EUT OPERATION CONDITIONS

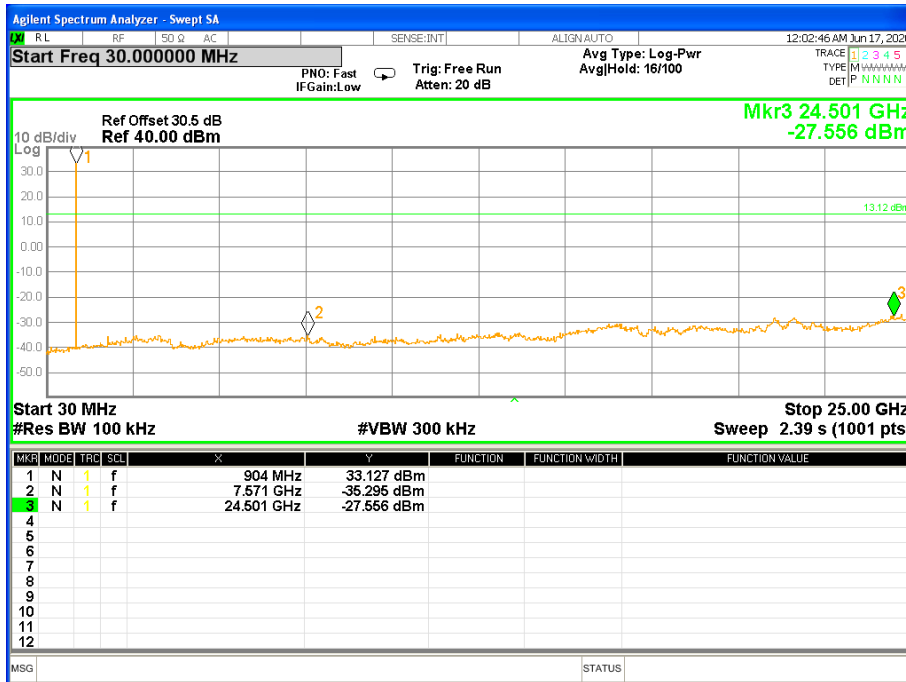
Please refer to section 2.4 of this report.



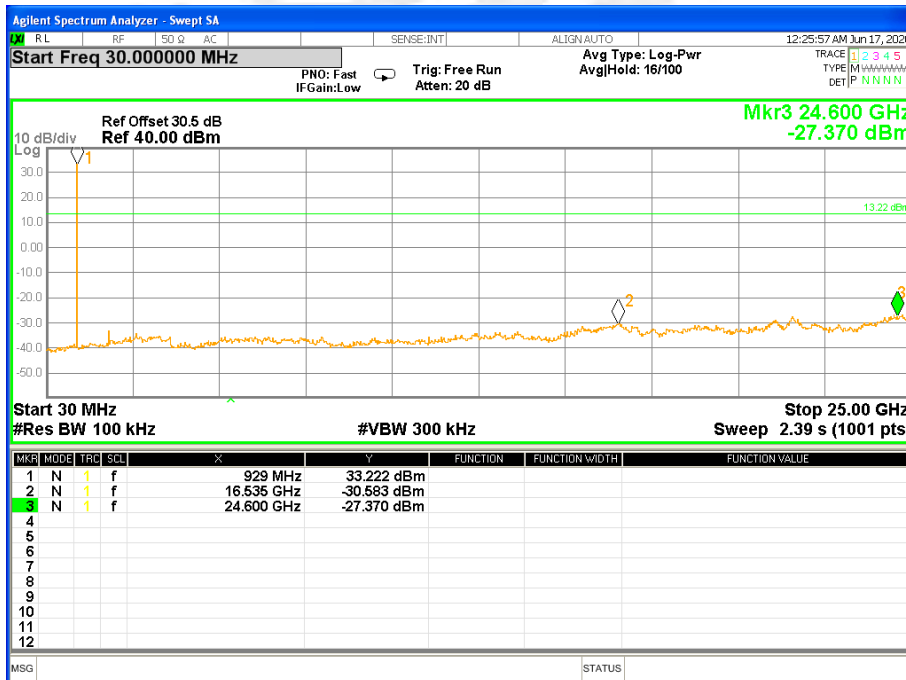
7.5 TEST RESULT

Temperature :	25 °C	Relative Humidity :	50%
Test Mode :	Dense reader mode ISO-18000-63	Test Voltage :	DC 24V

911.25MHz



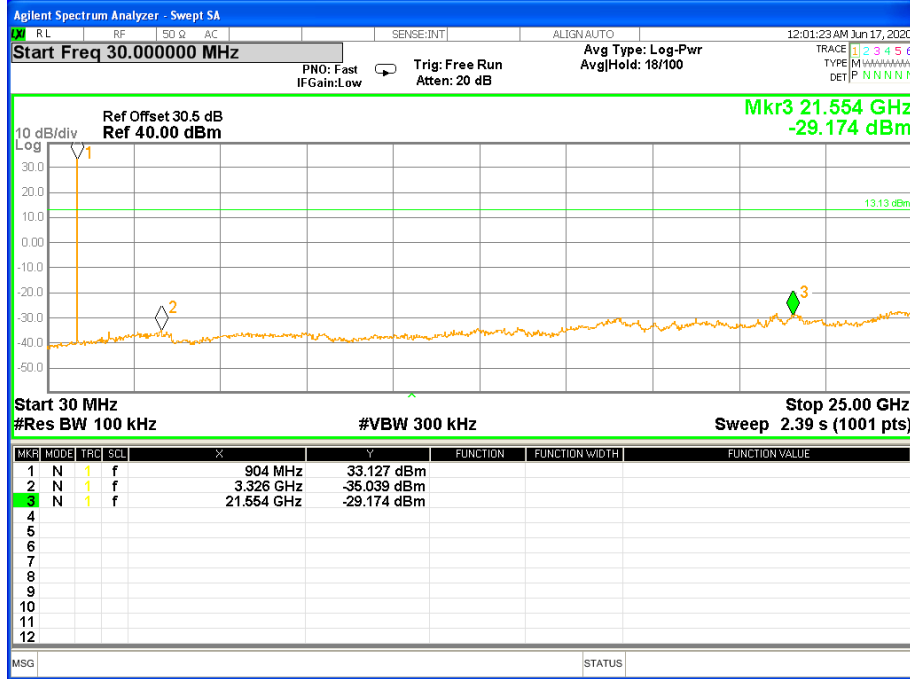
920.25



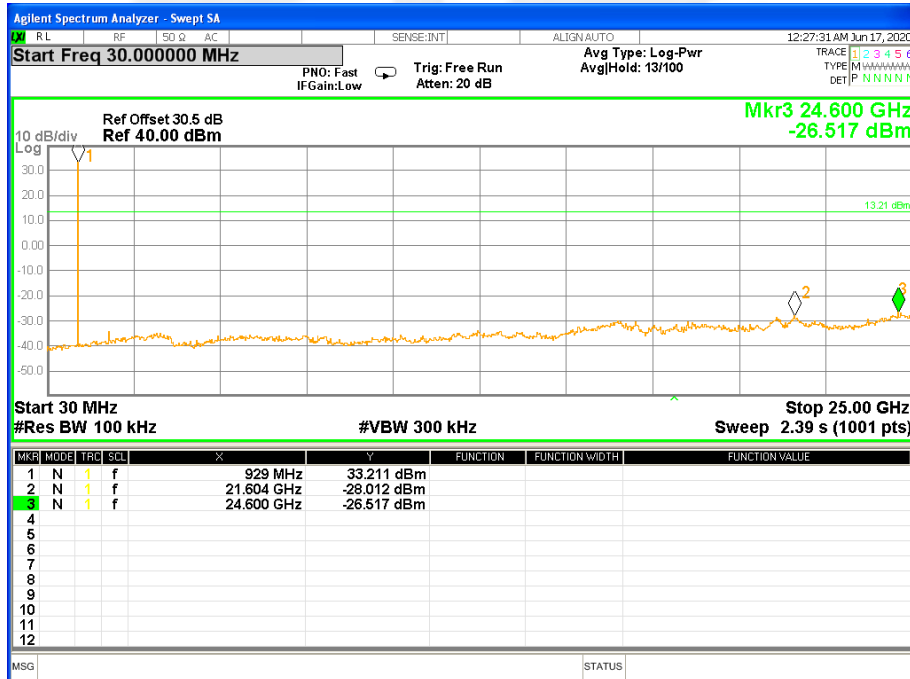


Temperature :	25 °C	Relative Humidity :	50%
Test Mode :	Single reader mode ISO-18000-63	Test Voltage :	DC 24V

911.75MHz



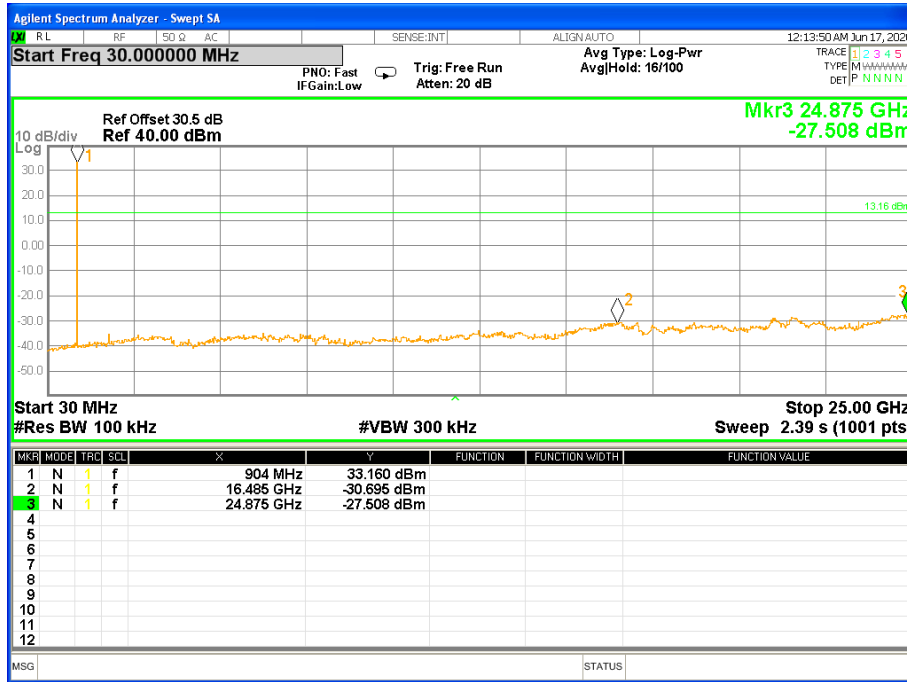
919.25MHz



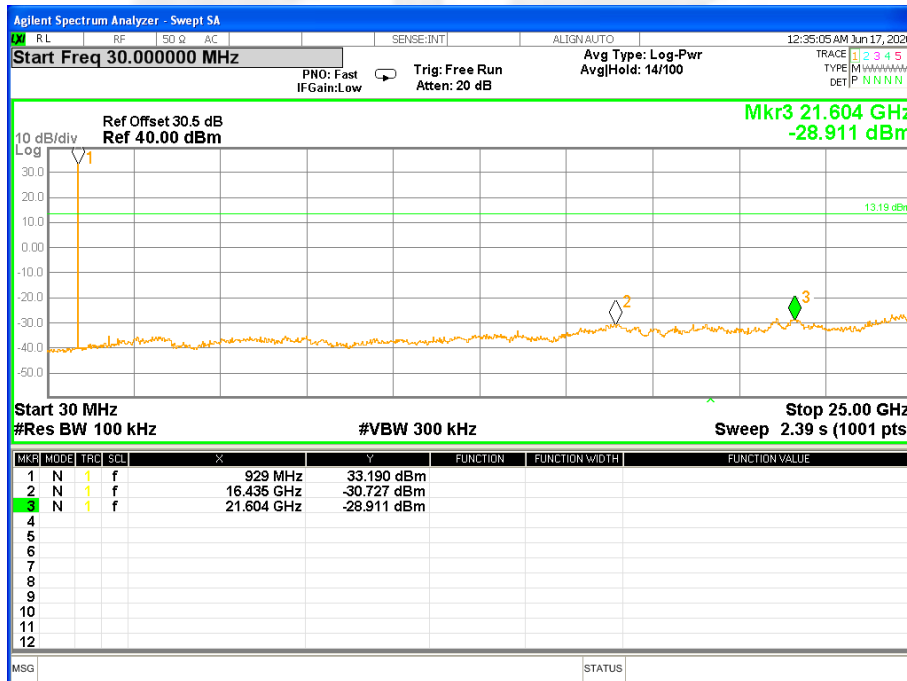


Temperature :	25 °C	Relative Humidity :	50%
Test Mode :	Low data rate ISO-18000-62(40kbps)	Test Voltage :	DC 24V

911.75MHz



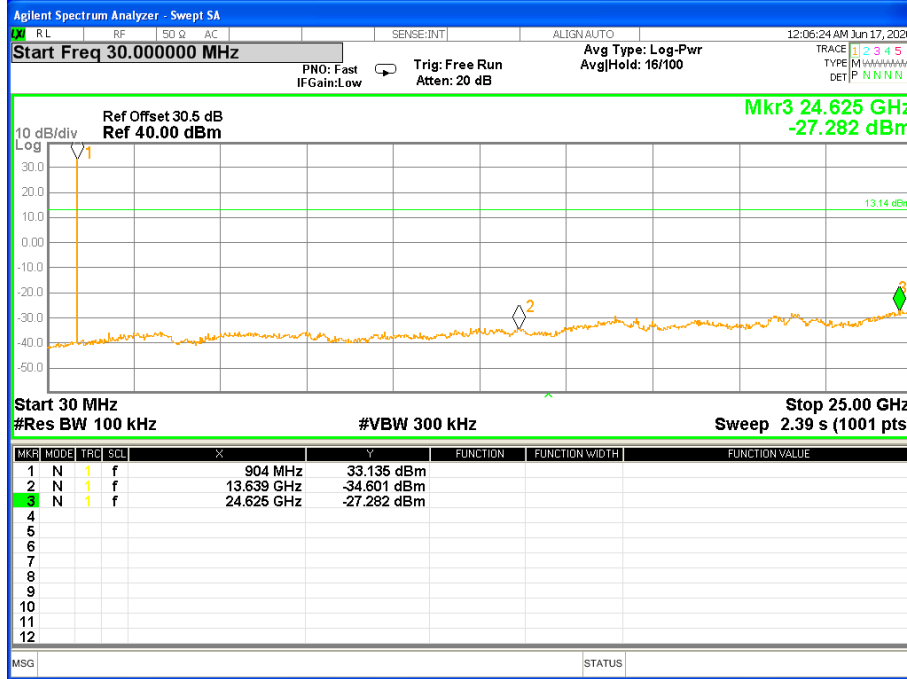
919.75MHz



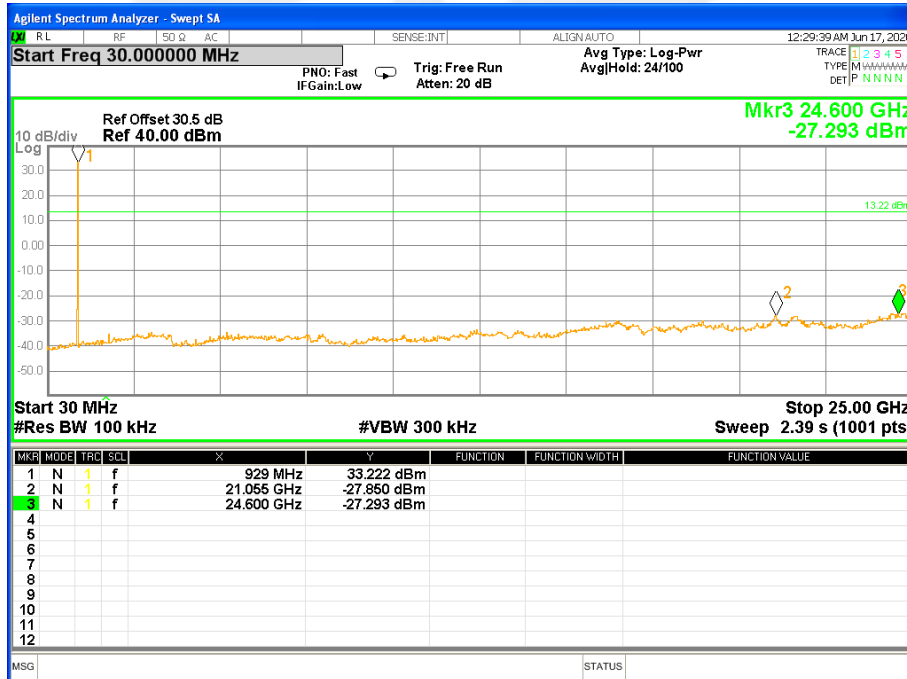


Temperature :	25 °C	Relative Humidity :	50%
Test Mode :	High data rate ISO-18000-62(80kbps)	Test Voltage :	DC 24V

912.75MHz



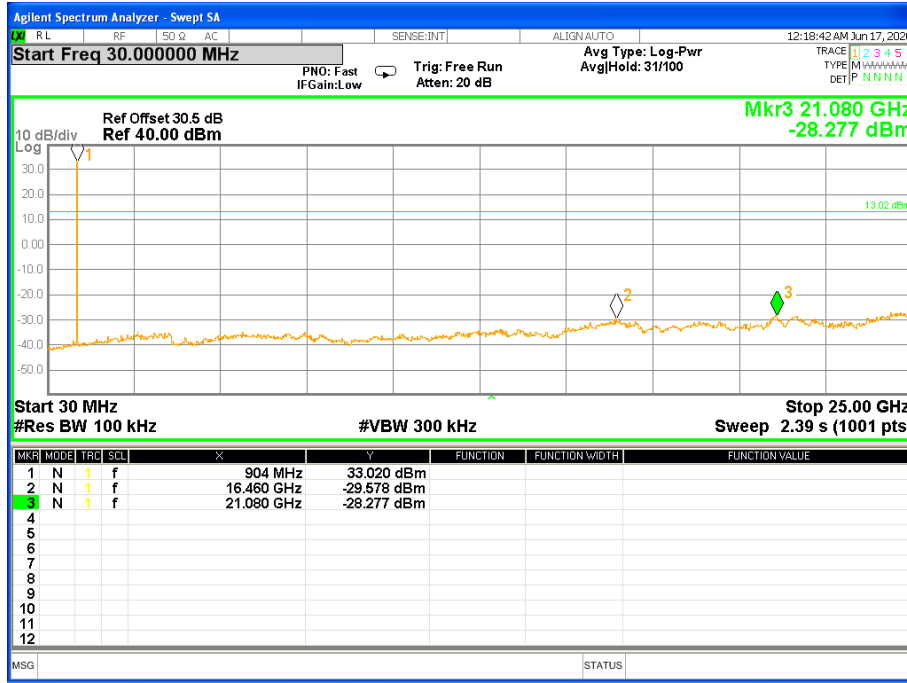
918.75MHz



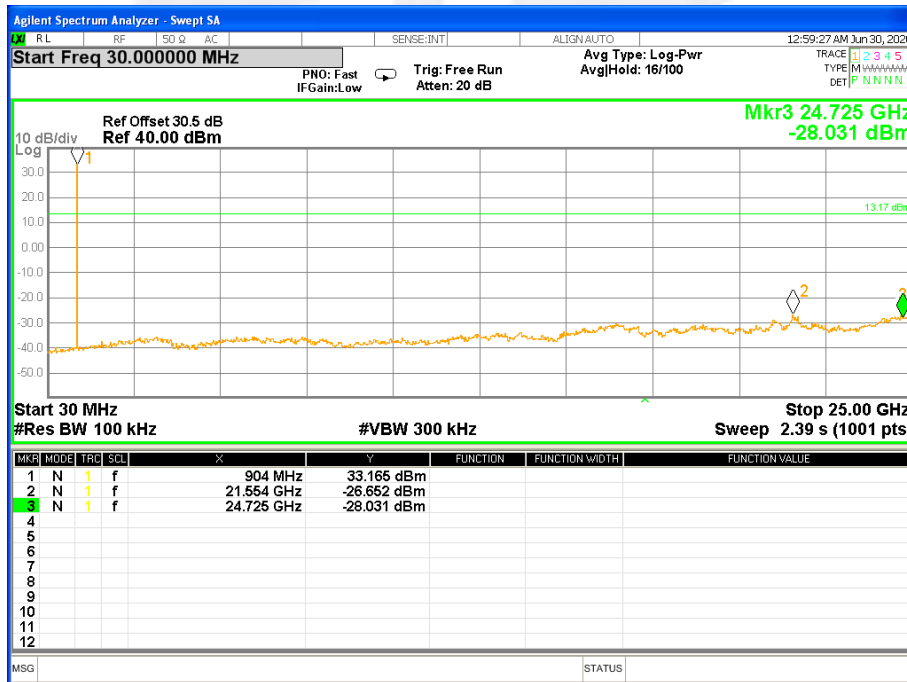


Temperature :	25 °C	Relative Humidity :	50%
Test Mode :	Unmodulated ISO-10374	Test Voltage :	DC 24V

902.75MHz

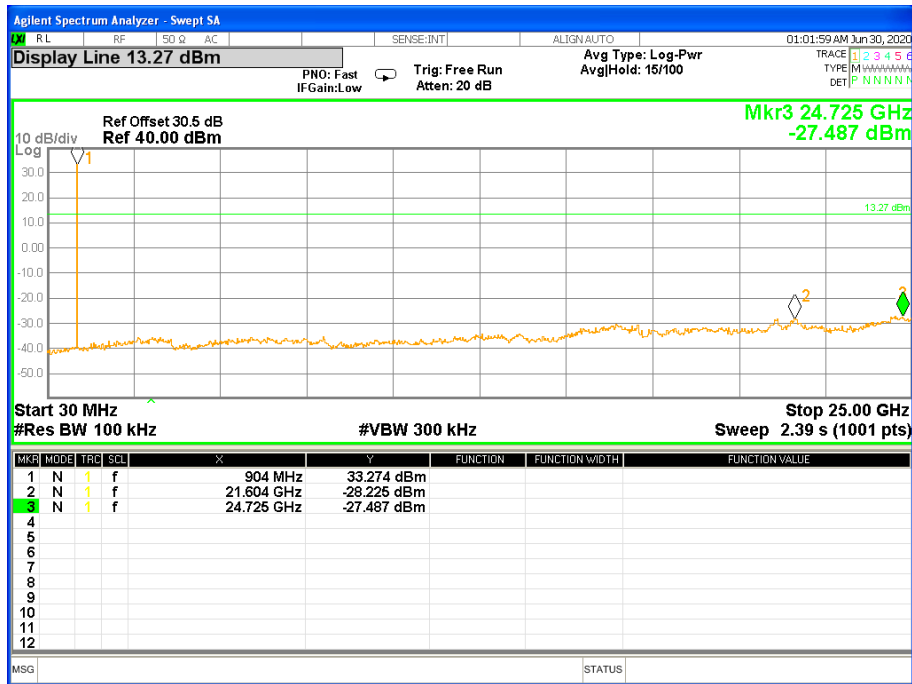


903.25MHz

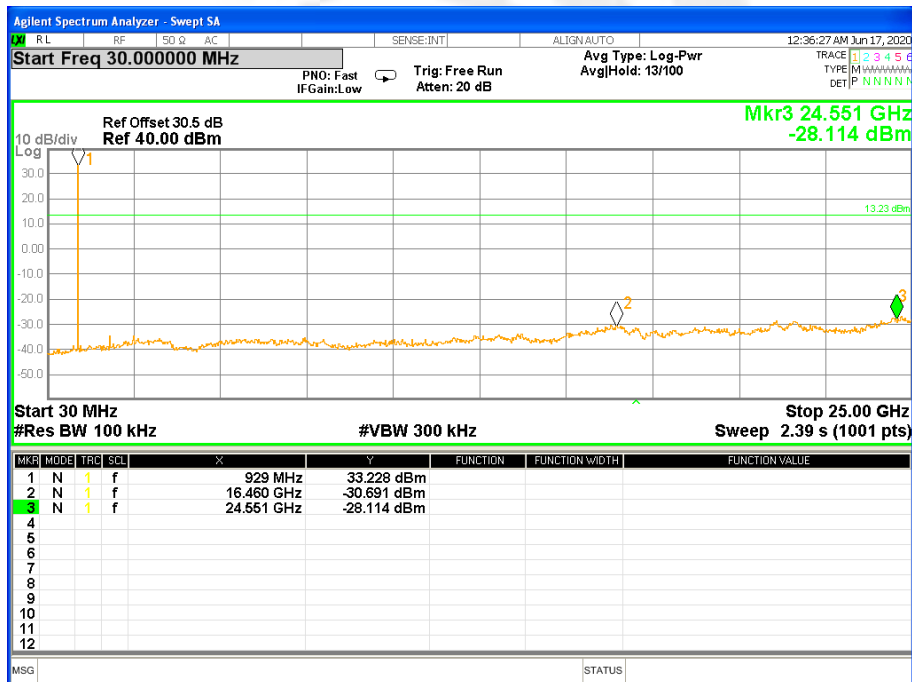




910.75MHz



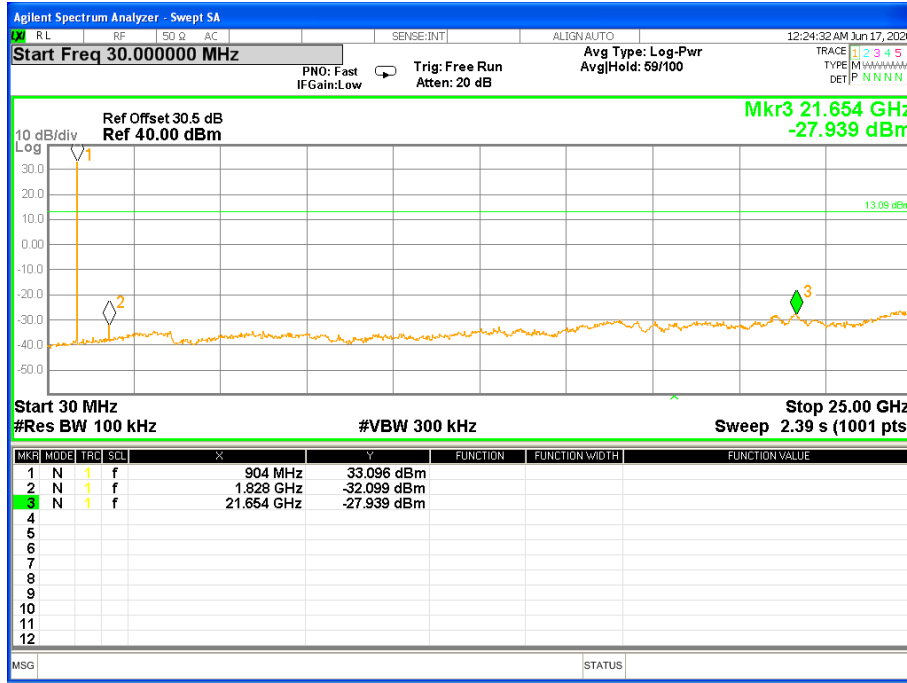
920.75MHz



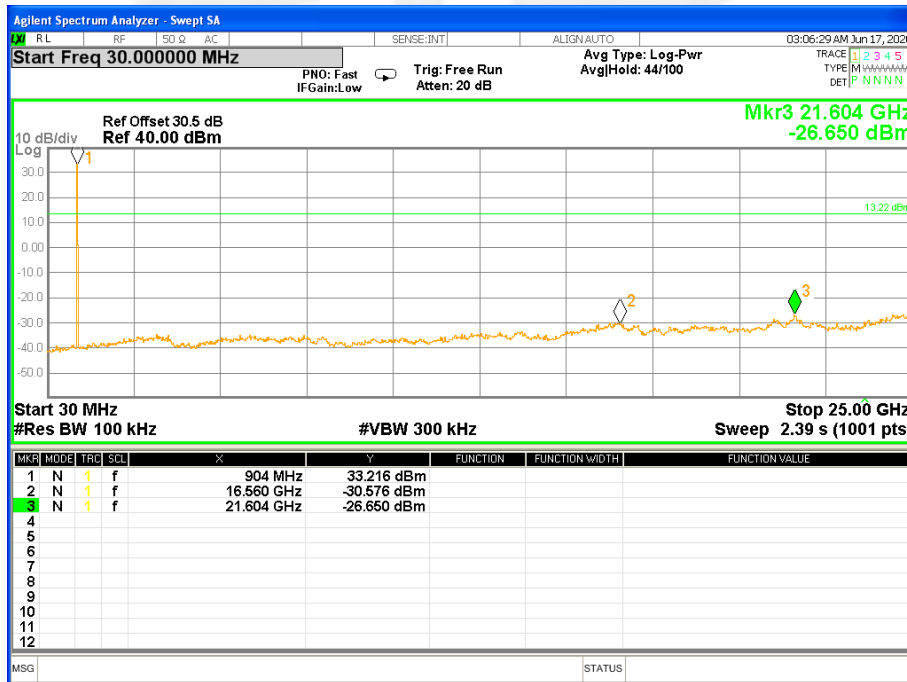


Temperature :	25 °C	Relative Humidity :	50%
Test Mode :	TDM	Test Voltage :	DC 24V

913.75MHz



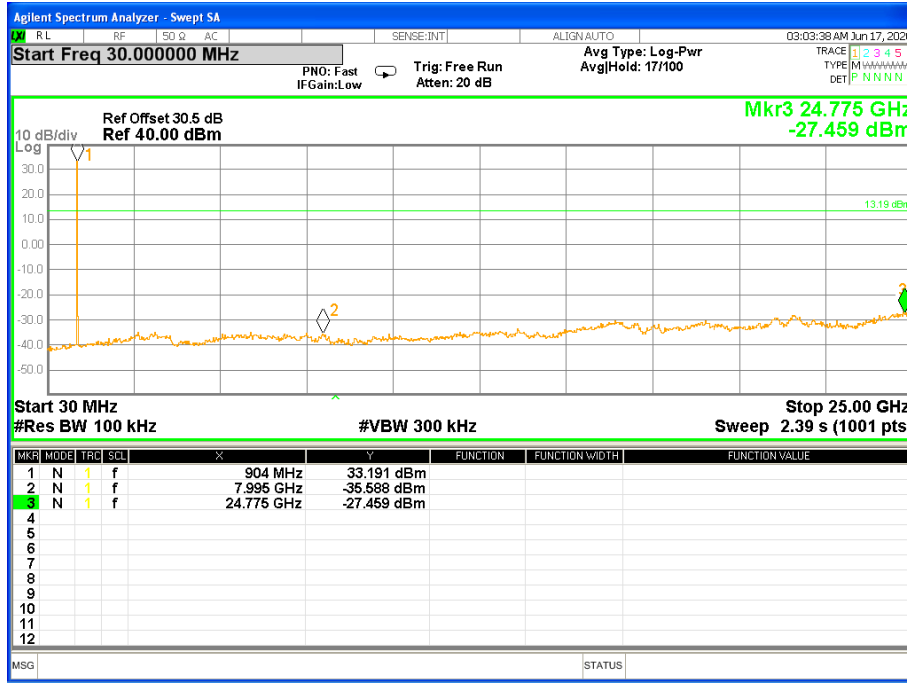
916.25MHz



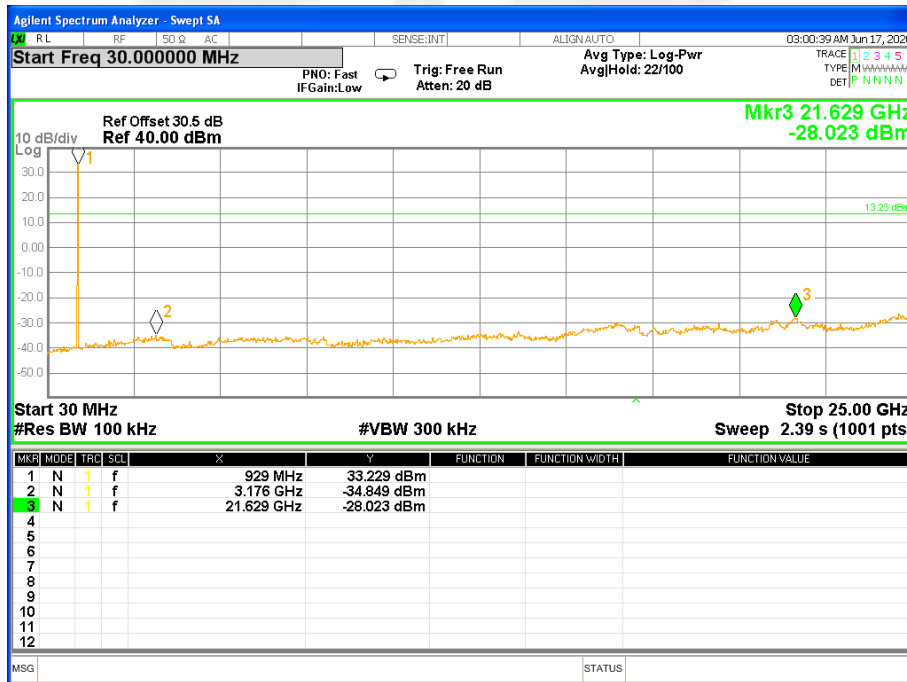


Temperature :	25 °C	Relative Humidity :	50%
Test Mode :	Title 21	Test Voltage :	DC 24V

913.75MHz



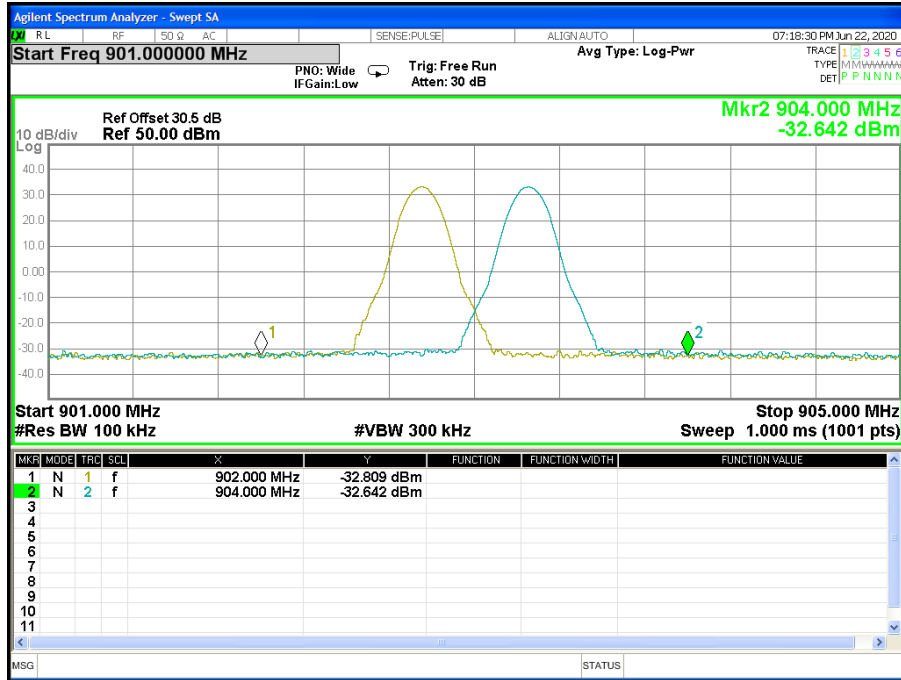
917.75MHz



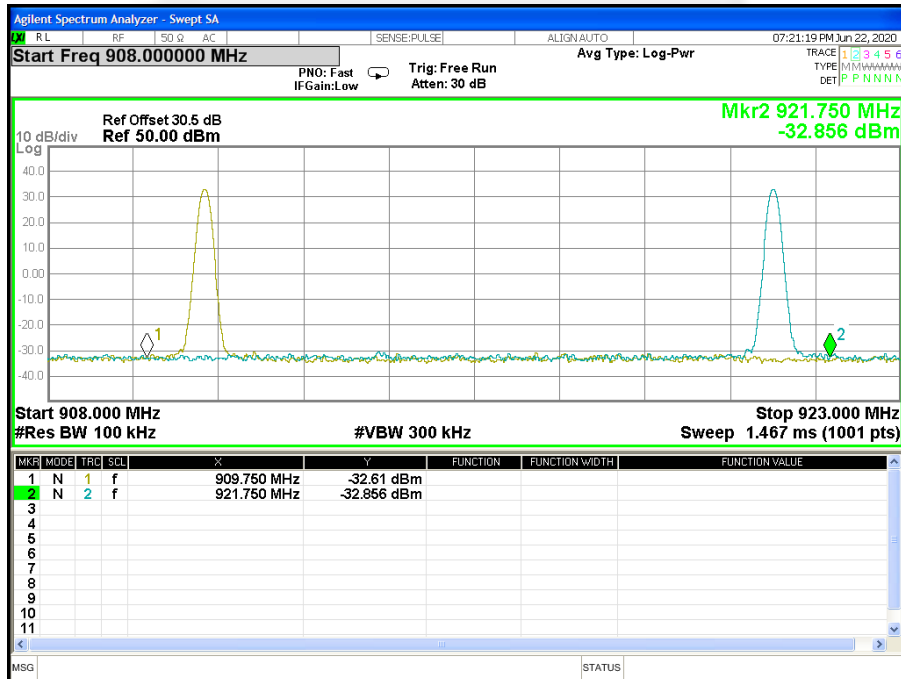


For band edge

Lower and Upper Band Edge-Low band- Unmodulated ISO-10374



Lower and Upper Band Edge-910.75~920.75- Unmodulated ISO-10374





8. RF EXPOSURE COMPLIANCE

8.1 LIMIT

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b).

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

For the purpose of this standard, Industry Canada has adopted the SAR and RF field strength limits established in Health Canada’s RF exposure guideline.

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m ²)	Reference Period (minutes)
0.003-10 ²¹	83	90	-	Instantaneous*
0.1-10	-	0.73/ f	-	6**
1.1-10	87/ f ^{0.5}	-	-	6**
10-20	27.46	0.0728	-2	6
20-48	58.07/ f ^{0.25}	0.1540/ f ^{0.25}	8.944/ f ^{0.5}	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 f ^{0.3417}	0.008335 f ^{0.3417}	0.02619 f ^{0.6834}	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ f ^{1.2}
150000-300000	0.158 f ^{0.5}	4.21 x 10 ⁻⁴ f ^{0.5}	6.67 x 10 ⁻⁵ f	616000/ f ^{1.2}

Note: f is frequency in MHz.

* Based on nerve stimulation (NS).

** Based on specific absorption rate (SAR).



8.2 TEST RESULT

Friss Transmission Formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = antenna power in mW

G = gain of antenna in linear scale

π = 3.1416

R = Distance between observation point and the center of radiator in cm, $R=100$ cm

ANT Gain (G)

Combination gain: 11dBi (gain of antenna in linear scale=12.59)

FCC:

Protocol	MAX Power (dBm)	MAX Power (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
LMS	33.695	2341.53	0.2346	0.6135	Pass

IC:

Protocol	MAX Power (dBm)	MAX Power (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
LMS	33.695	2341.53	0.2346	0.2778	Pass



9. Receiver Spurious Emissions

9.1 TEST LIMIT

Radiated emission measurements shall be performed with the receiver antenna connected to the receiver antenna ports. The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (e.g. local oscillator, intermediate or carrier frequency), or 30 MHz, whichever is higher, to at least five times the highest tunable or local oscillator frequency, whichever is higher, without exceeding 40 GHz.

Spurious emissions from receivers shall not exceed the radiated emissions limits shown in table 3.

Table 3 – Receiver radiated emissions limits

Frequency (MHz)	Field strength ($\mu\text{V}/\text{m}$ at 3 metres)Note 1
30-88	100
88-216	150
216-960	200
Above 960	500

Note 1: Measurements for compliance with the limits in table 3 may be performed at distances other than 3 metres, in accordance with section 6.6.

9.2 TEST PROCEDURE

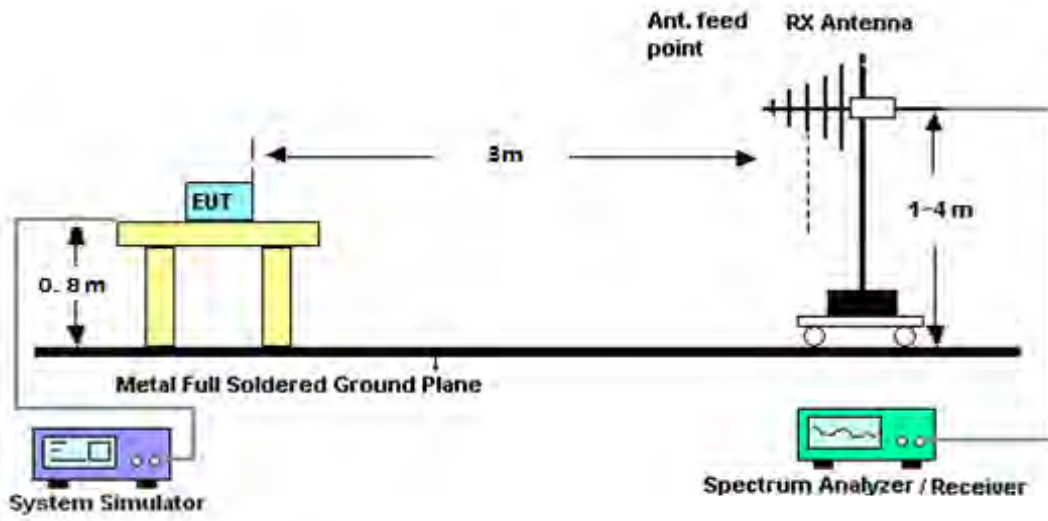
- The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- The EUT was placed on the top of a rotating table 0.8 meters (above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then QuasiPeak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

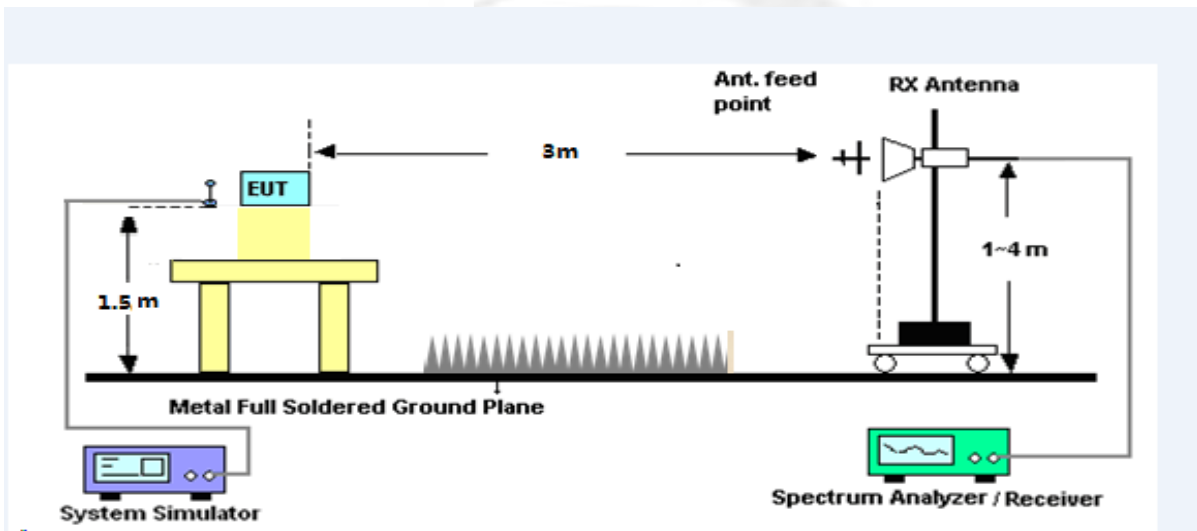
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

9.3 TEST SETUP

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



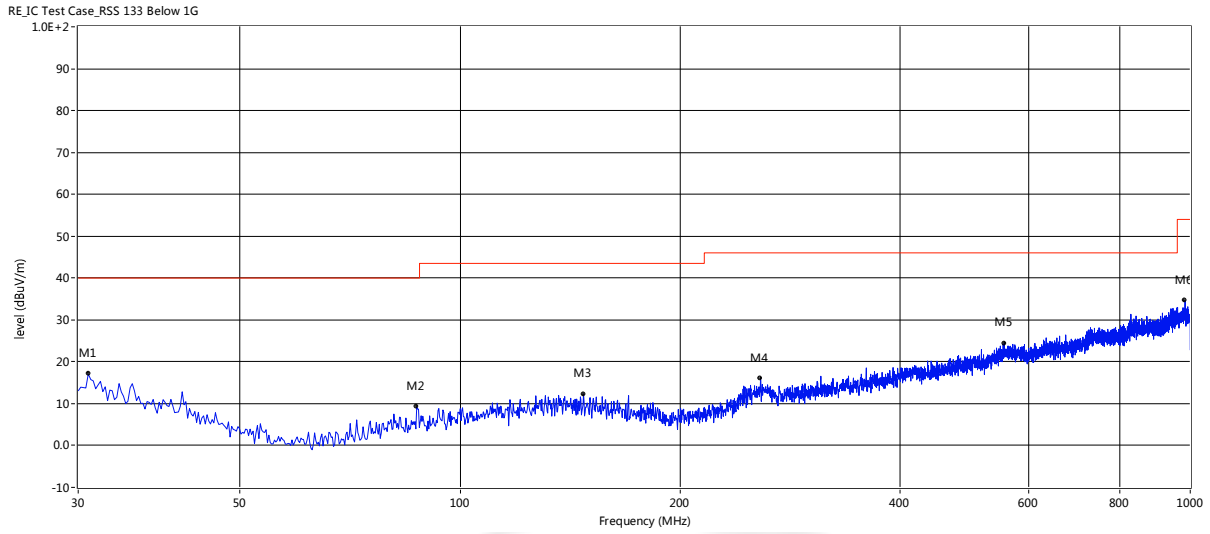


9.4 TEST RESULT

Note: All mode has been tested, only show the worst case in this report.

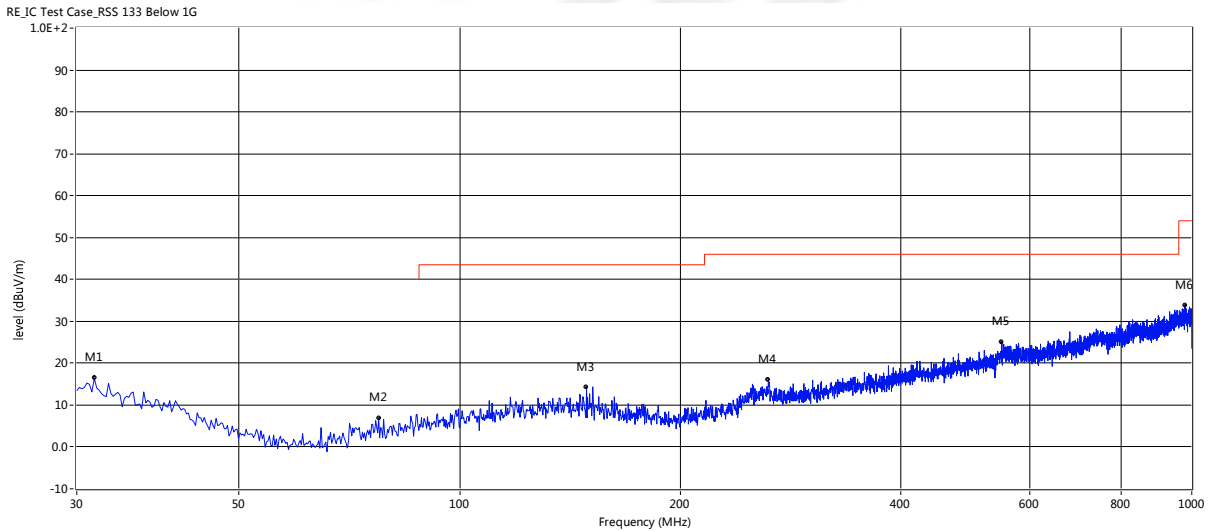
Test result of 30MHz -1GHz:

Dense reader mode ISO-18000-63 Horizontal



Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.485	13.85	40.0	-26.15	Horizontal	Pass
87.230	9.25	40.0	-30.75	Horizontal	Pass
147.612	12.33	43.5	-31.17	Horizontal	Pass
257.950	16.04	46.0	-29.96	Horizontal	Pass
556.468	24.40	46.0	-21.60	Horizontal	Pass
983.753	34.63	54.0	-19.37	Horizontal	Pass

Vertical

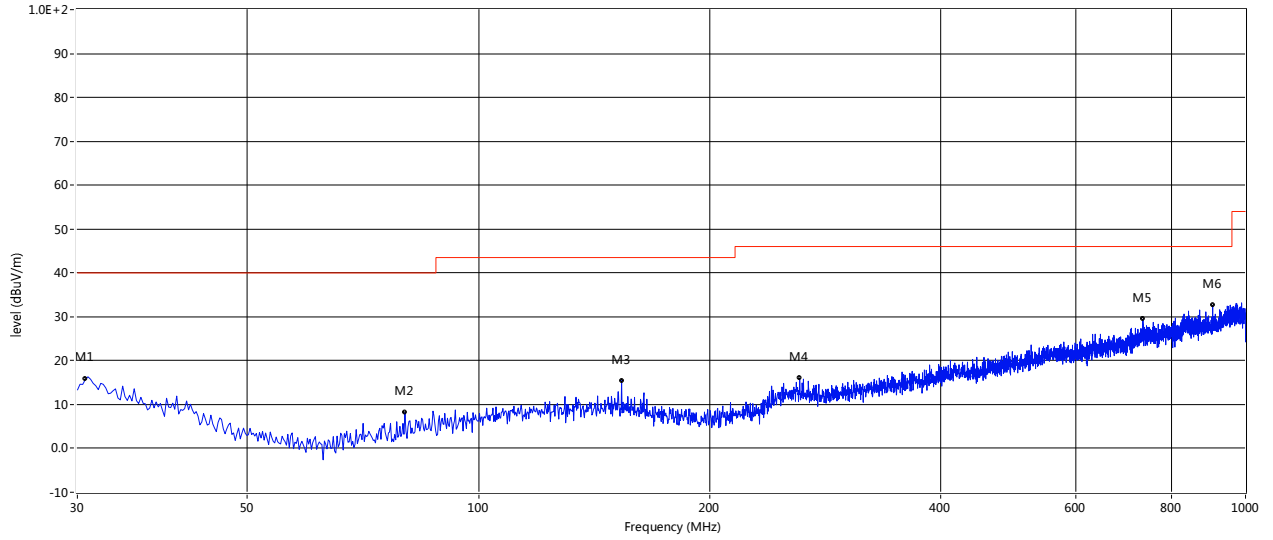


Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
31.212	14.95	40.0	-25.05	Vertical	Pass
77.530	6.91	40.0	-33.09	Vertical	Pass
149.068	14.25	43.5	-29.25	Vertical	Pass
264.013	15.94	46.0	-30.06	Vertical	Pass
550.405	25.11	46.0	-20.89	Vertical	Pass
978.660	33.81	54.0	-20.19	Vertical	Pass



Single reader mode ISO-18000-63
Horizontal

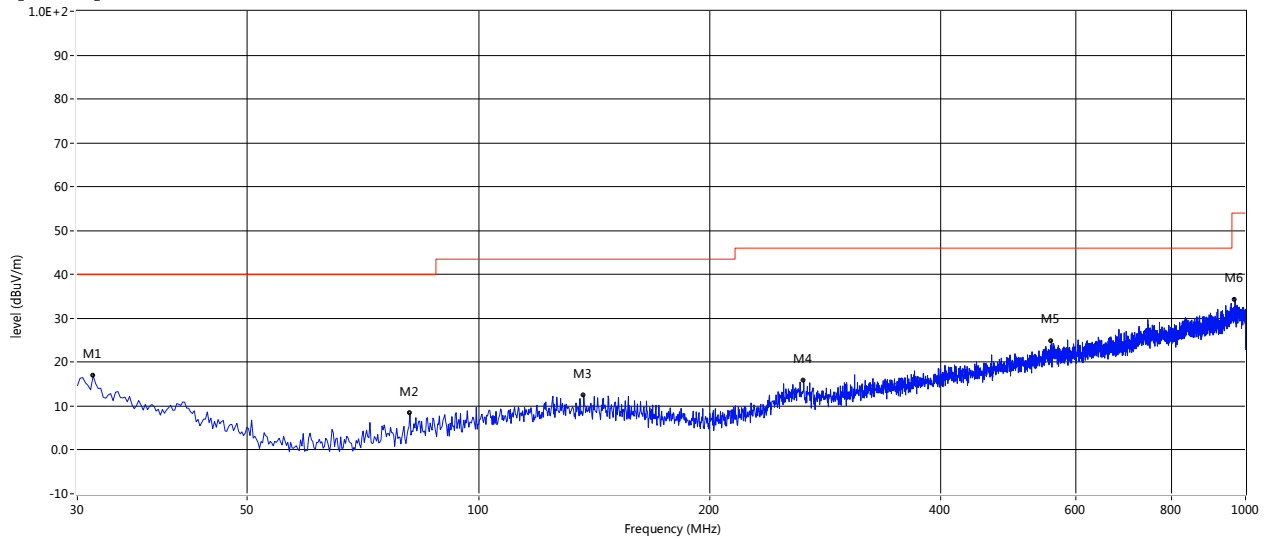
RE_IC Test Case_RSS 133 Below 1G



Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.242	14.63	40.0	-25.37	Horizontal	Pass
80.198	8.17	40.0	-31.83	Horizontal	Pass
153.675	15.44	43.5	-28.06	Horizontal	Pass
262.315	16.01	46.0	-29.99	Horizontal	Pass
734.948	29.44	46.0	-16.56	Horizontal	Pass
906.153	32.56	46.0	-13.44	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Below 1G

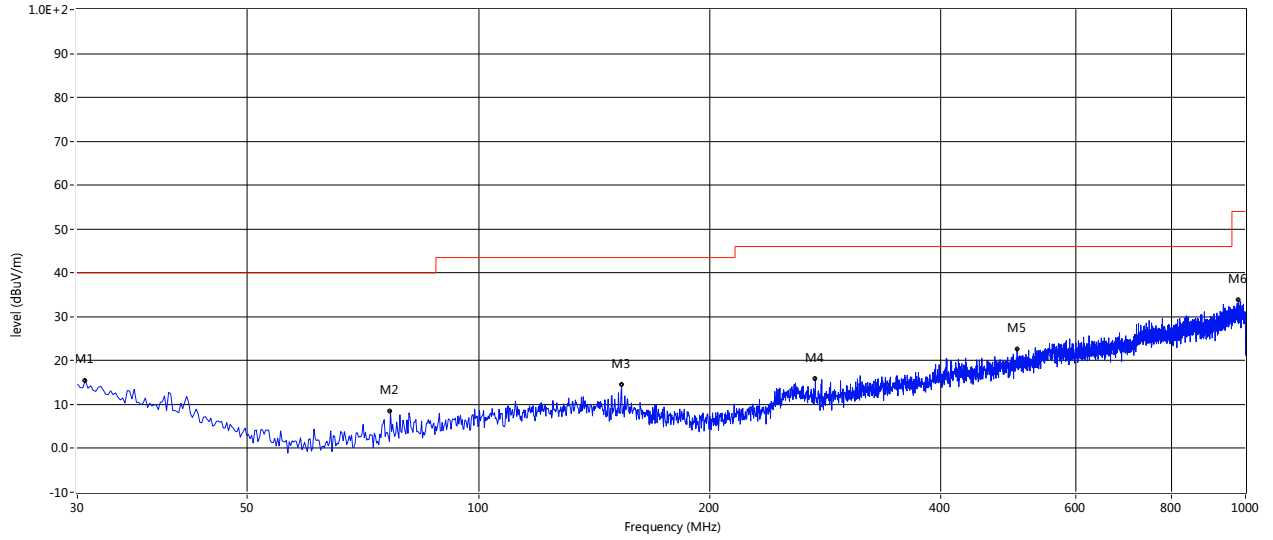


Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.970	14.71	40.0	-25.29	Vertical	Pass
81.410	8.38	40.0	-31.62	Vertical	Pass
137.185	12.35	43.5	-31.15	Vertical	Pass
265.468	15.72	46.0	-30.28	Vertical	Pass
558.165	24.88	46.0	-21.12	Vertical	Pass
968.960	34.32	54.0	-19.68	Vertical	Pass



Low data rate ISO-18000-62 (40kbps)
Horizontal

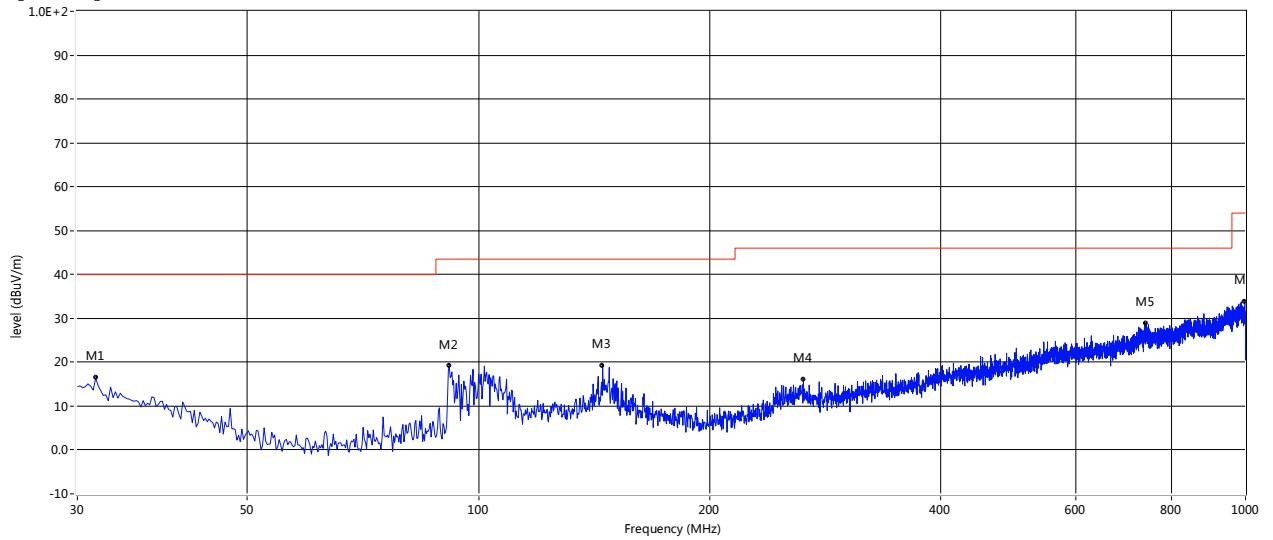
RE_IC Test Case_RSS 133 Below 1G



Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.727	15.47	40.0	-24.53	Horizontal	Pass
76.802	8.36	40.0	-31.64	Horizontal	Pass
153.675	14.38	43.5	-29.12	Horizontal	Pass
274.925	15.83	46.0	-30.17	Horizontal	Pass
503.845	22.48	46.0	-23.52	Horizontal	Pass
979.630	33.72	54.0	-20.28	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Below 1G

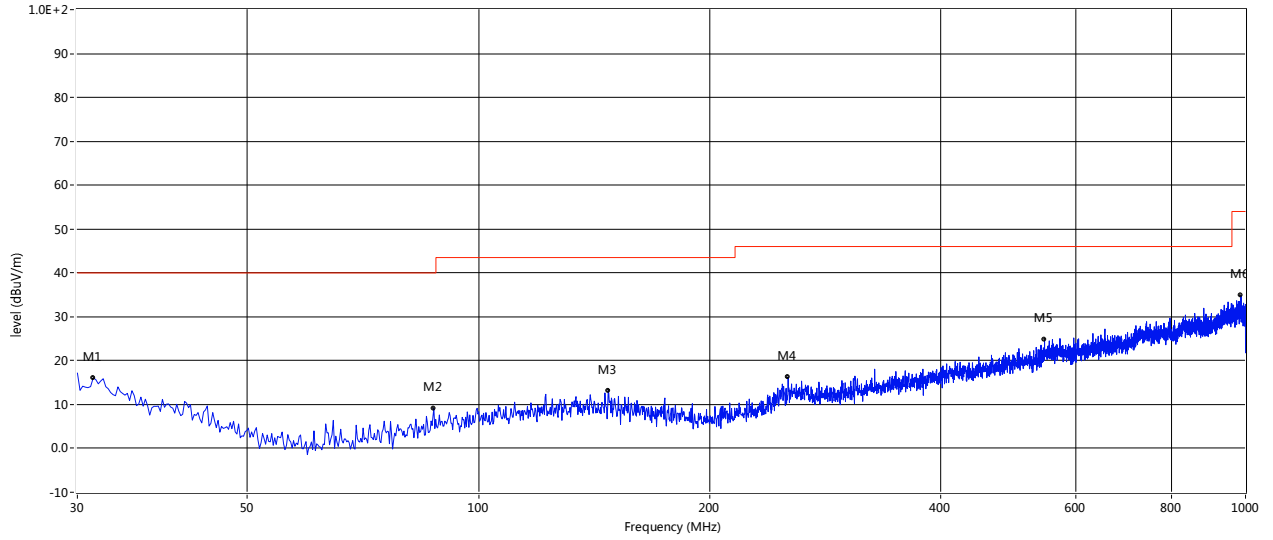


Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
31.698	16.38	40.0	-23.62	Vertical	Pass
91.595	19.16	43.5	-24.34	Vertical	Pass
145.188	19.25	43.5	-24.25	Vertical	Pass
265.225	16.00	46.0	-30.00	Vertical	Pass
740.767	28.85	46.0	-17.15	Vertical	Pass
998.060	33.87	54.0	-20.13	Vertical	Pass



High data rate ISO-18000-62 (80kbps)
Horizontal

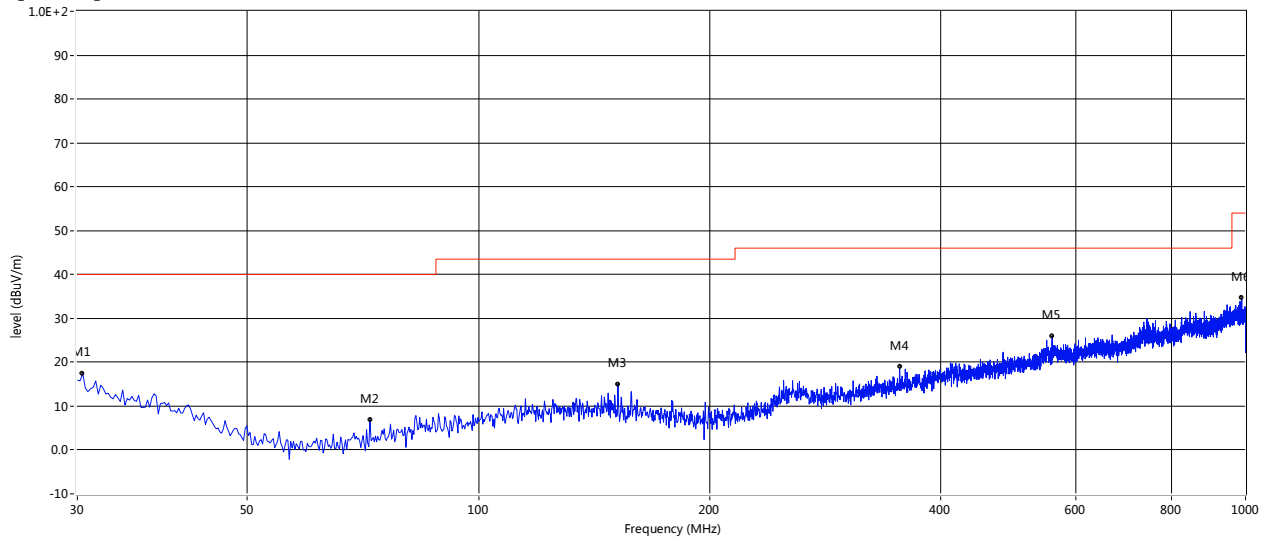
RE_IC Test Case_RSS 133 Below 1G



Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
31.455	16.05	40.0	-23.95	Horizontal	Pass
87.473	9.12	40.0	-30.88	Horizontal	Pass
147.612	13.16	43.5	-30.34	Horizontal	Pass
253.342	16.28	46.0	-29.72	Horizontal	Pass
547.010	24.73	46.0	-21.27	Horizontal	Pass
986.420	34.89	54.0	-19.11	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Below 1G

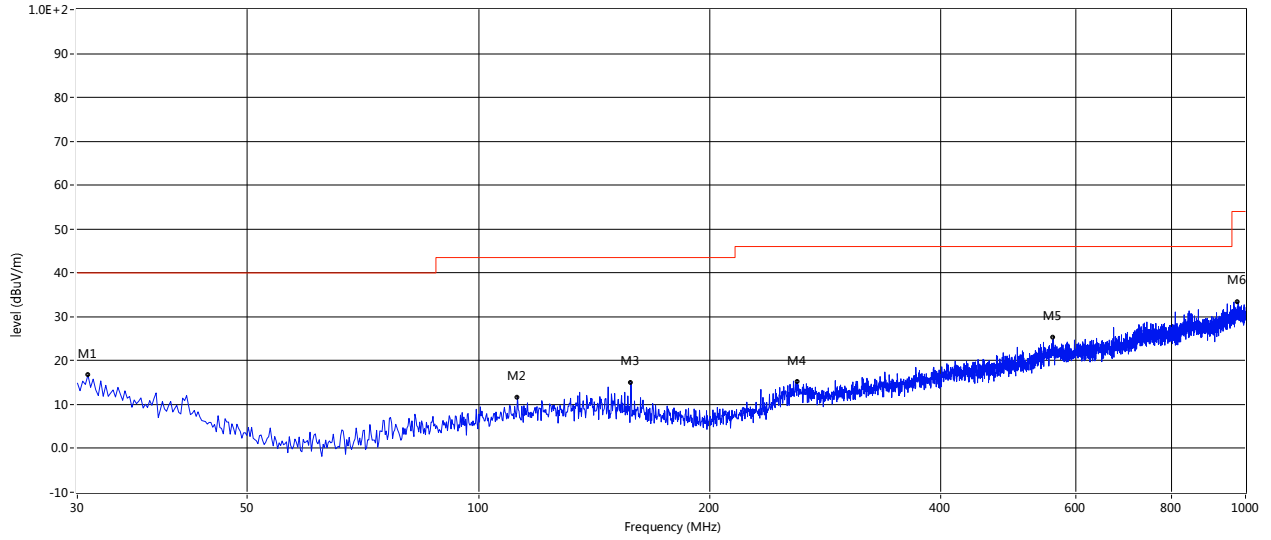


Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.000	15.92	40.0	-24.08	Vertical	Pass
72.195	6.88	40.0	-33.12	Vertical	Pass
151.977	14.92	43.5	-28.58	Vertical	Pass
354.222	18.87	46.0	-27.13	Vertical	Pass
559.620	25.95	46.0	-20.05	Vertical	Pass
988.845	34.60	54.0	-19.40	Vertical	Pass



Unmodulated ISO-10374
Horizontal

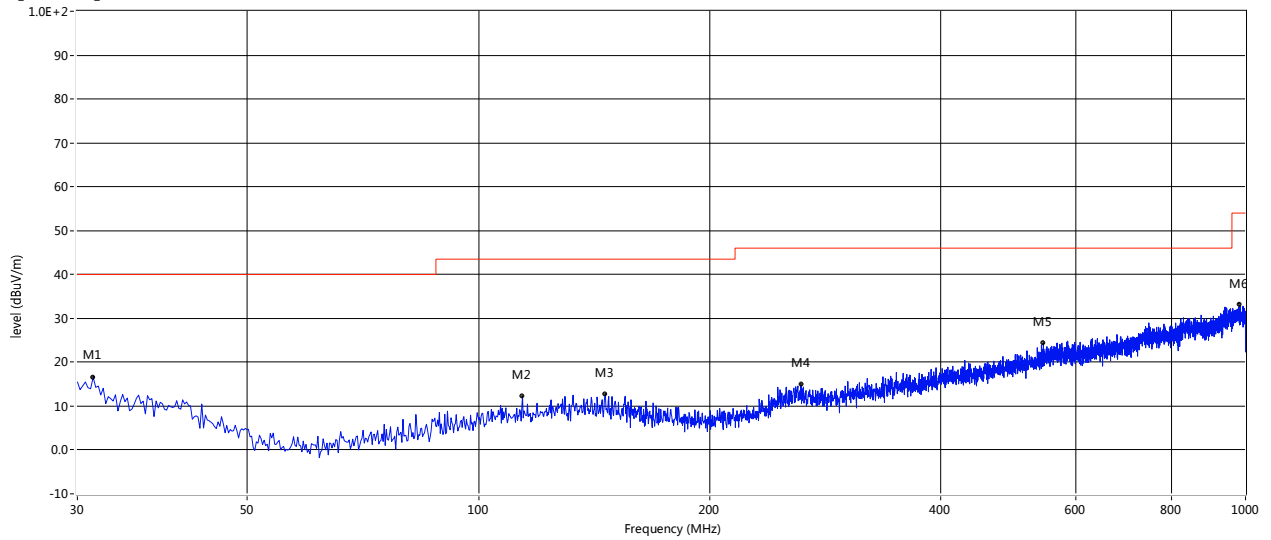
RE_IC Test Case_RSS 133 Below 1G



Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.727	14.59	40.0	-25.41	Horizontal	Pass
112.450	11.63	43.5	-31.87	Horizontal	Pass
158.040	15.02	43.5	-28.48	Horizontal	Pass
260.375	15.17	46.0	-30.83	Horizontal	Pass
561.802	25.14	46.0	-20.86	Horizontal	Pass
977.932	33.43	54.0	-20.57	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Below 1G

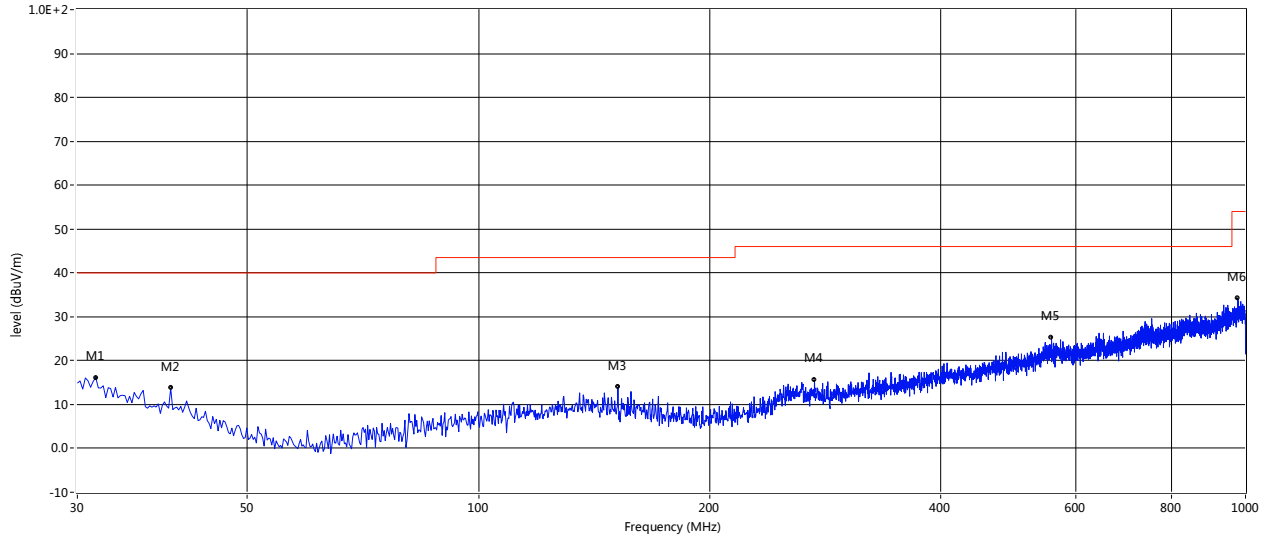


Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
31.455	16.58	40.0	-23.42	Vertical	Pass
114.147	12.25	43.5	-31.25	Vertical	Pass
146.400	12.57	43.5	-30.93	Vertical	Pass
263.528	14.82	46.0	-31.18	Vertical	Pass
545.070	24.39	46.0	-21.61	Vertical	Pass
981.812	33.00	54.0	-21.00	Vertical	Pass



TDM
Horizontal

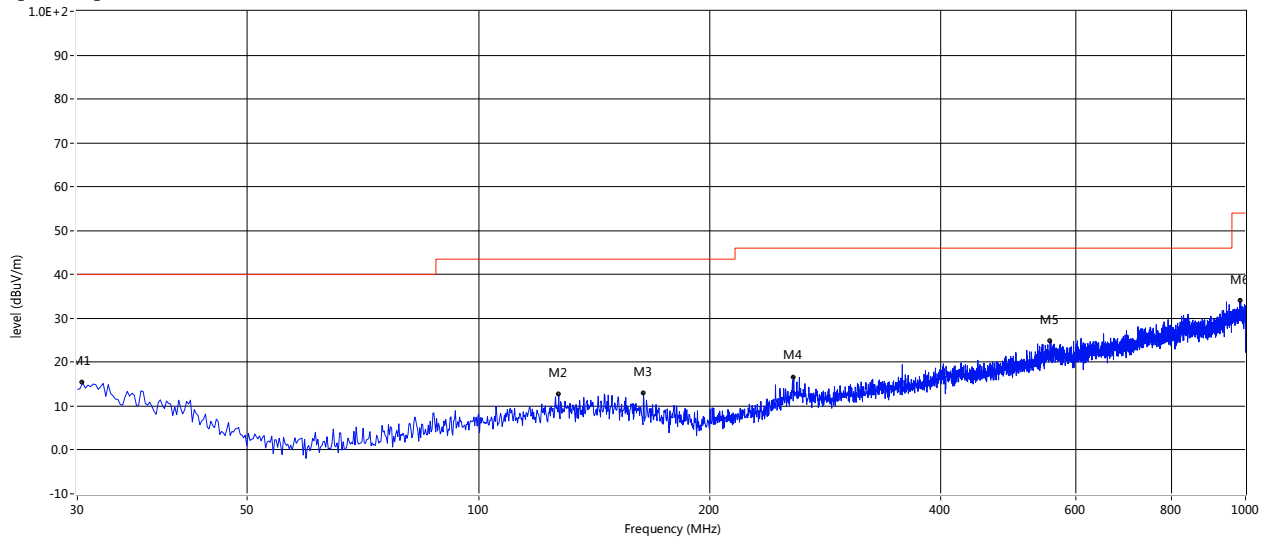
RE_IC Test Case_RSS 133 Below 1G



Frequency (MHz)	Peak Level (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	ANT	Verdict
31.698	16.14	40.0	-23.86	Horizontal	Pass
39.700	13.73	40.0	-26.27	Horizontal	Pass
151.977	13.99	43.5	-29.51	Horizontal	Pass
274.198	15.52	46.0	-30.48	Horizontal	Pass
558.650	25.18	46.0	-20.82	Horizontal	Pass
977.447	34.15	54.0	-19.85	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Below 1G

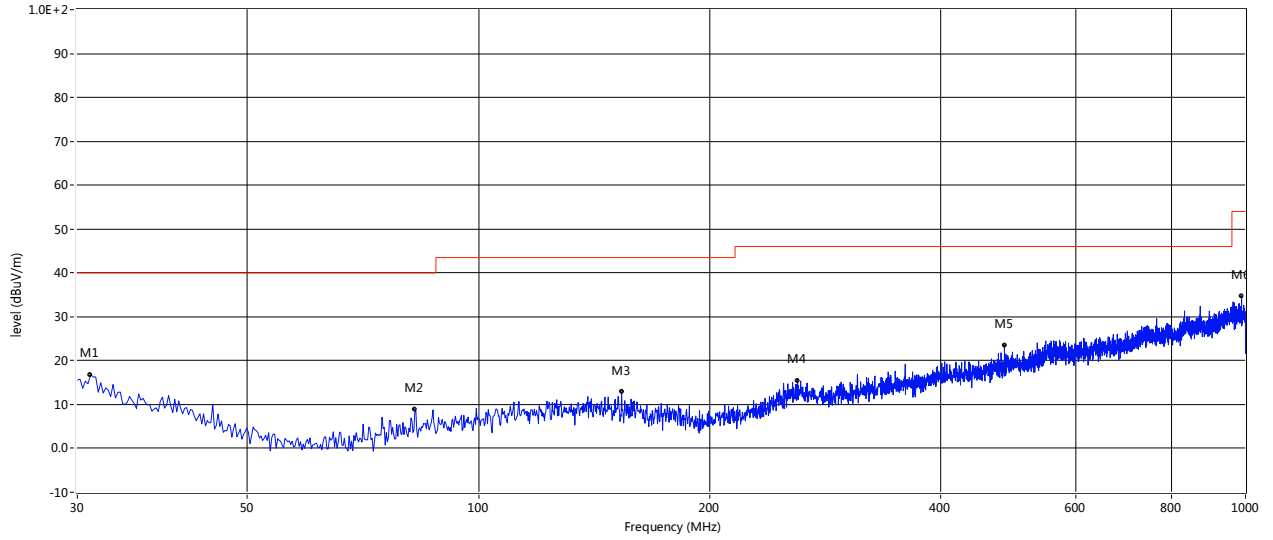


Frequency (MHz)	Peak Level (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	ANT	Verdict
30.485	15.29	40.0	-24.71	Vertical	Pass
127.243	12.59	43.5	-30.91	Vertical	Pass
164.102	12.79	43.5	-30.71	Vertical	Pass
257.707	16.55	46.0	-29.45	Vertical	Pass
556.225	24.76	46.0	-21.24	Vertical	Pass
985.692	33.98	54.0	-20.02	Vertical	Pass



Title 21
Horizontal

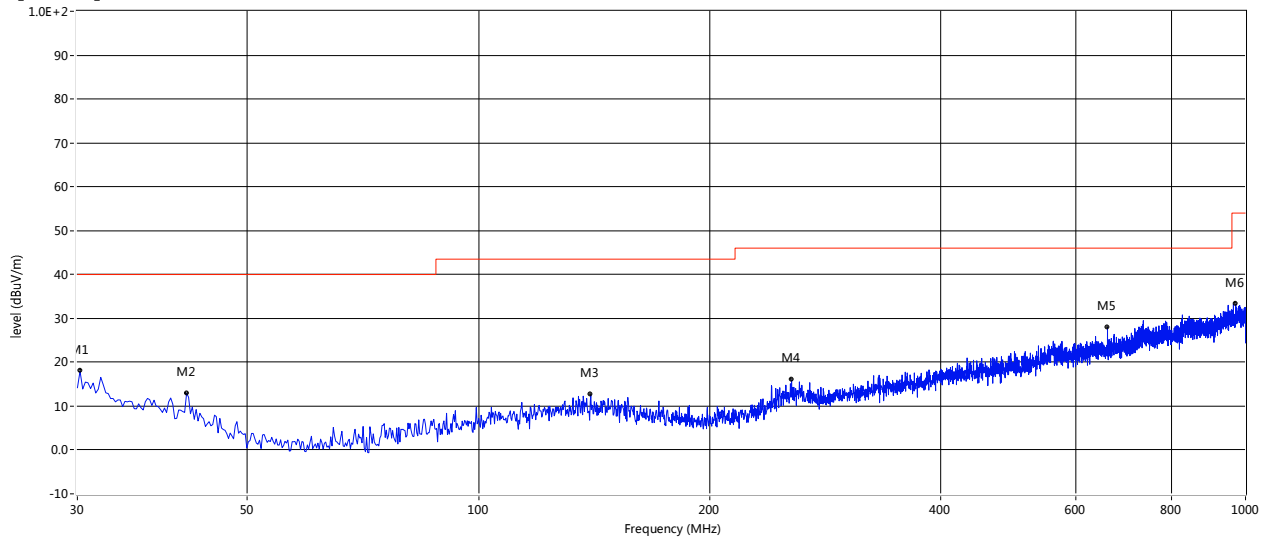
RE_IC Test Case_RSS 133 Below 1G



Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.727	15.32	40.0	-24.68	Horizontal	Pass
82.622	8.77	40.0	-31.23	Horizontal	Pass
153.675	12.86	43.5	-30.64	Horizontal	Pass
260.617	15.43	46.0	-30.57	Horizontal	Pass
484.930	23.42	46.0	-22.58	Horizontal	Pass
988.360	34.63	54.0	-19.37	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Below 1G

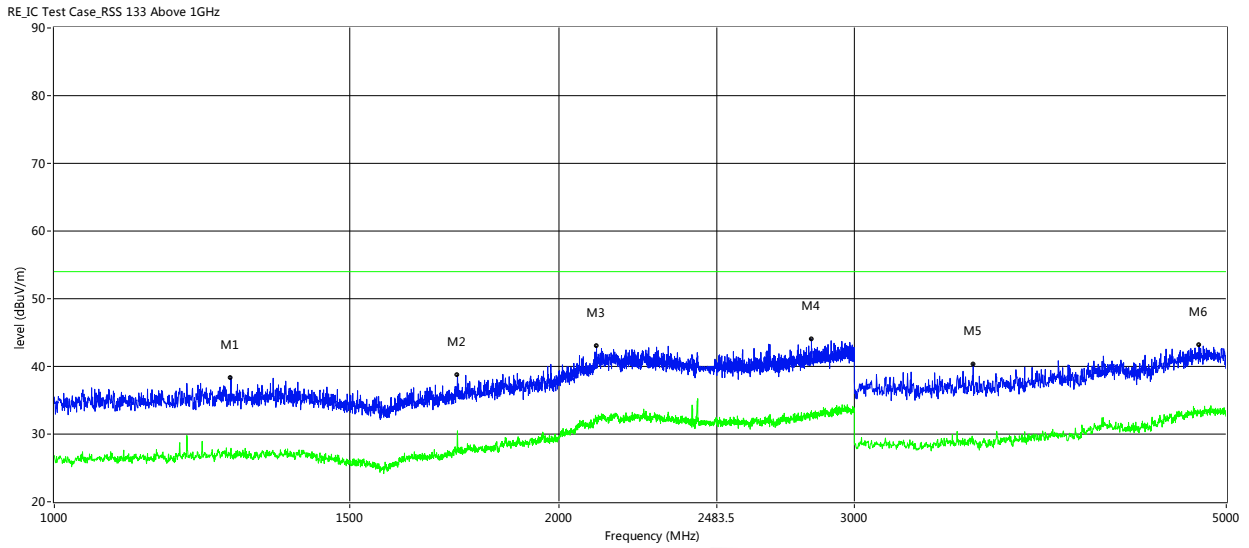


Frequency (MHz)	Peak Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.000	14.08	40.0	-25.92	Vertical	Pass
41.640	12.91	40.0	-27.09	Vertical	Pass
140.095	12.58	43.5	-30.92	Vertical	Pass
256.010	15.95	46.0	-30.05	Vertical	Pass
660.742	27.94	46.0	-18.06	Vertical	Pass
971.143	33.29	54.0	-20.71	Vertical	Pass



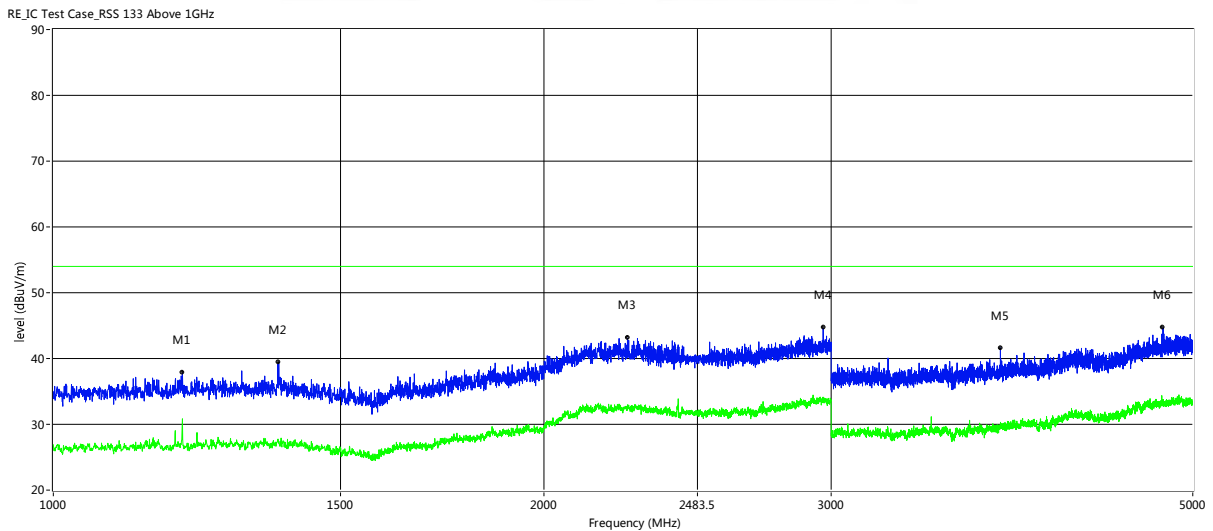
Test result of 1GHz-5GHz:

Dense reader mode ISO-18000-63
Horizontal



Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1274.500	38.35	27.92	74.0	54.0	-26.08	Horizontal	Pass
1739.500	38.73	30.49	74.0	54.0	-23.51	Horizontal	Pass
2105.500	42.95	32.05	74.0	54.0	-21.95	Horizontal	Pass
2828.500	44.05	33.46	74.0	54.0	-20.54	Horizontal	Pass
3532.000	40.34	29.31	74.0	54.0	-24.69	Horizontal	Pass
4816.500	43.10	33.04	74.0	54.0	-20.96	Horizontal	Pass

Vertical

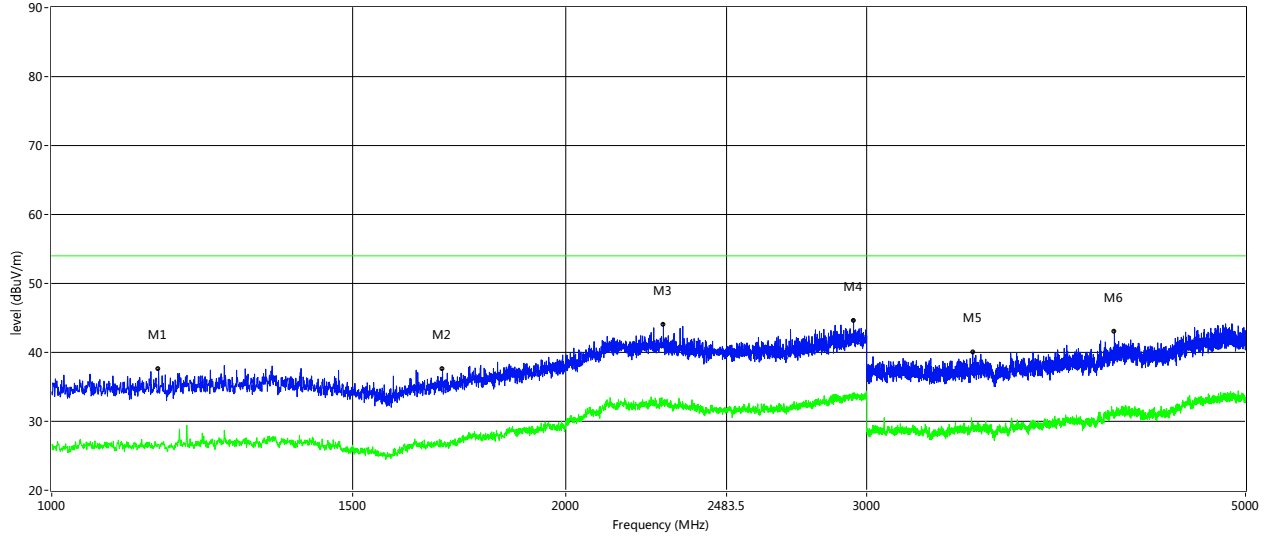


Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1200.000	37.84	30.84	74.0	54.0	-23.16	Vertical	Pass
1375.000	39.46	27.44	74.0	54.0	-26.56	Vertical	Pass
2250.000	43.12	32.96	74.0	54.0	-21.04	Vertical	Pass
2966.500	44.65	33.26	74.0	54.0	-20.74	Vertical	Pass
3810.500	41.63	29.71	74.0	54.0	-24.29	Vertical	Pass
4794.500	44.70	33.78	74.0	54.0	-20.22	Vertical	Pass



Single reader mode ISO-18000-63
Horizontal

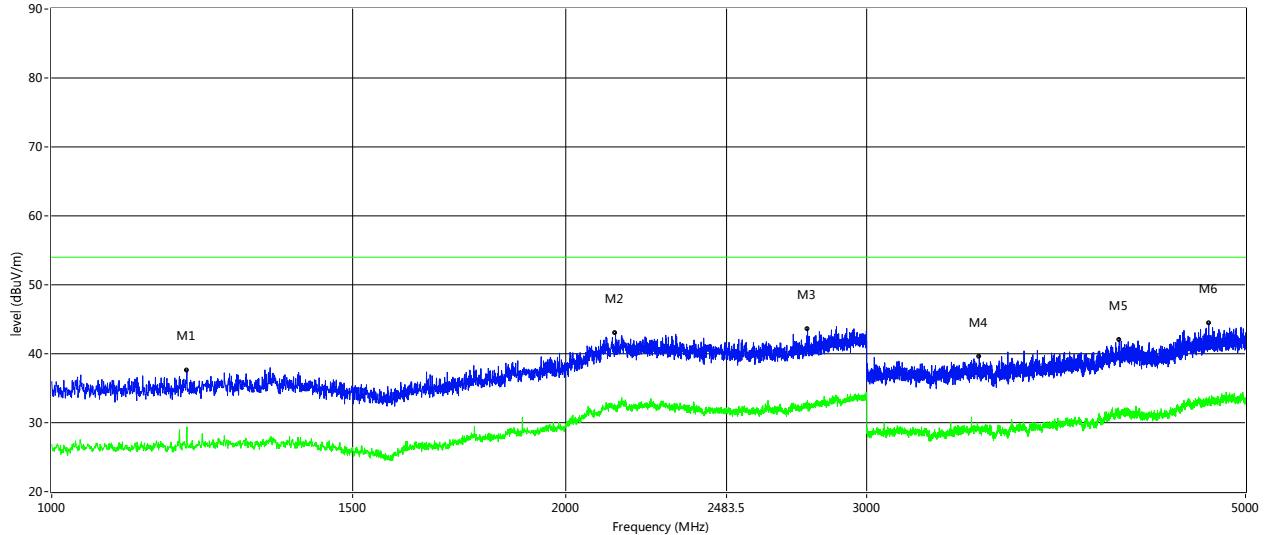
RE_IC Test Case_RSS 133 Above 1GHz



Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1155.000	37.52	26.64	74.0	54.0	-27.36	Horizontal	Pass
1693.500	37.50	26.34	74.0	54.0	-27.66	Horizontal	Pass
2281.000	44.00	32.90	74.0	54.0	-21.10	Horizontal	Pass
2947.500	44.59	33.94	74.0	54.0	-20.06	Horizontal	Pass
3461.500	40.04	29.30	74.0	54.0	-24.70	Horizontal	Pass
4190.000	42.95	31.00	74.0	54.0	-23.00	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Above 1GHz

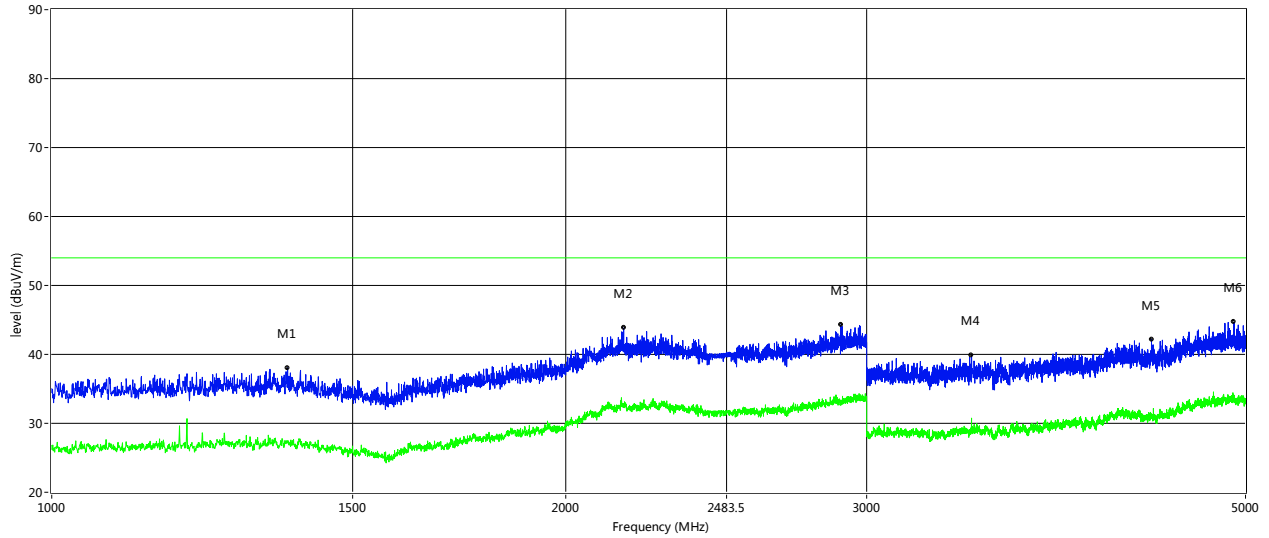


Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1200.000	37.53	29.40	74.0	54.0	-24.60	Vertical	Pass
2138.500	43.02	32.50	74.0	54.0	-21.50	Vertical	Pass
2770.500	43.62	32.71	74.0	54.0	-21.29	Vertical	Pass
3492.000	39.63	29.14	74.0	54.0	-24.86	Vertical	Pass
4217.500	42.00	31.40	74.0	54.0	-22.60	Vertical	Pass
4758.000	44.39	33.21	74.0	54.0	-20.79	Vertical	Pass



Low data rate ISO-18000-62 (40kbps)
Horizontal

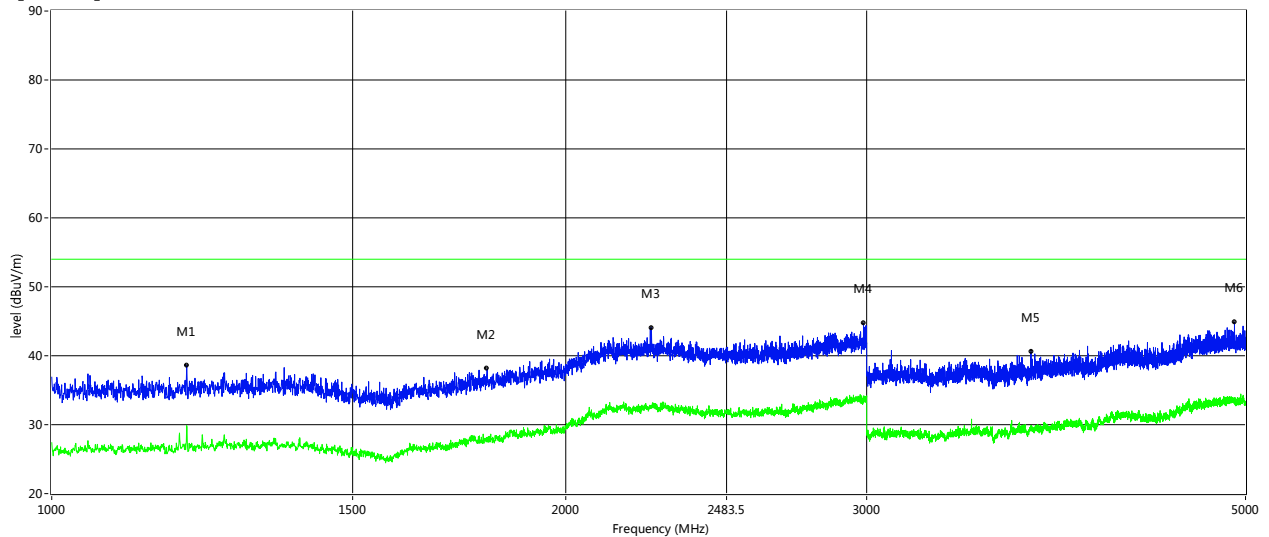
RE_IC Test Case_RSS 133 Above 1GHz



Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1374.500	38.06	27.44	74.0	54.0	-26.56	Horizontal	Pass
2162.000	43.83	32.34	74.0	54.0	-21.66	Horizontal	Pass
2896.500	44.28	33.22	74.0	54.0	-20.78	Horizontal	Pass
3456.000	39.87	30.76	74.0	54.0	-23.24	Horizontal	Pass
4404.500	42.20	31.33	74.0	54.0	-22.67	Horizontal	Pass
4923.000	44.67	33.79	74.0	54.0	-20.21	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Above 1GHz

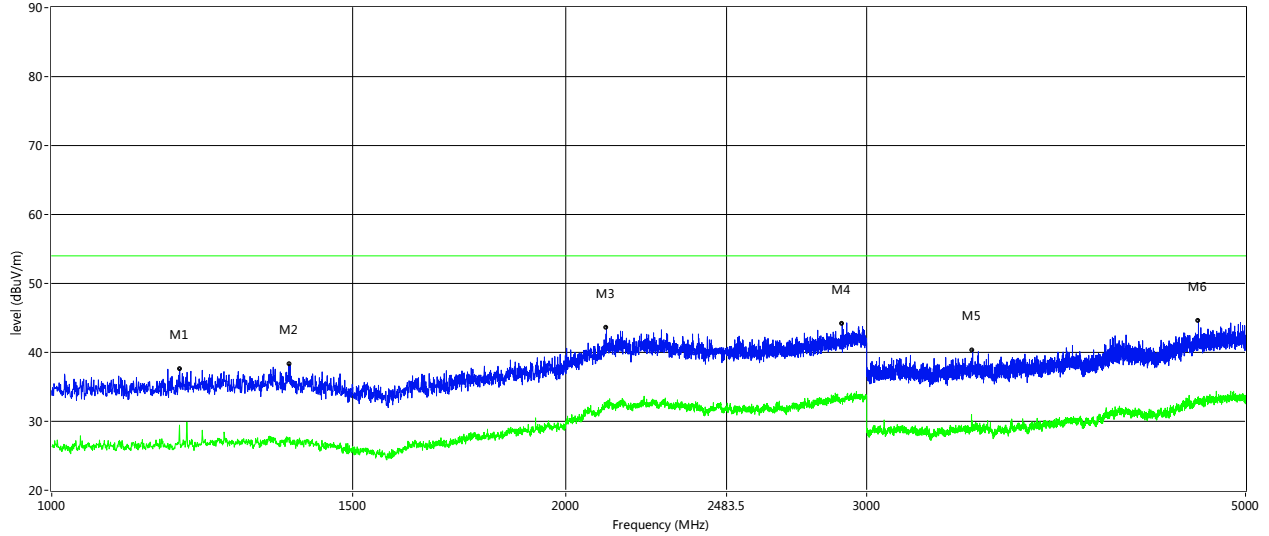


Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1199.500	38.62	29.87	74.0	54.0	-24.13	Vertical	Pass
1798.500	38.08	28.06	74.0	54.0	-25.94	Vertical	Pass
2244.500	44.07	32.38	74.0	54.0	-21.62	Vertical	Pass
2987.500	44.75	33.21	74.0	54.0	-20.79	Vertical	Pass
3744.000	40.60	29.14	74.0	54.0	-24.86	Vertical	Pass
4926.000	44.90	33.54	74.0	54.0	-20.46	Vertical	Pass



High data rate ISO-18000-62 (80kbps)
Horizontal

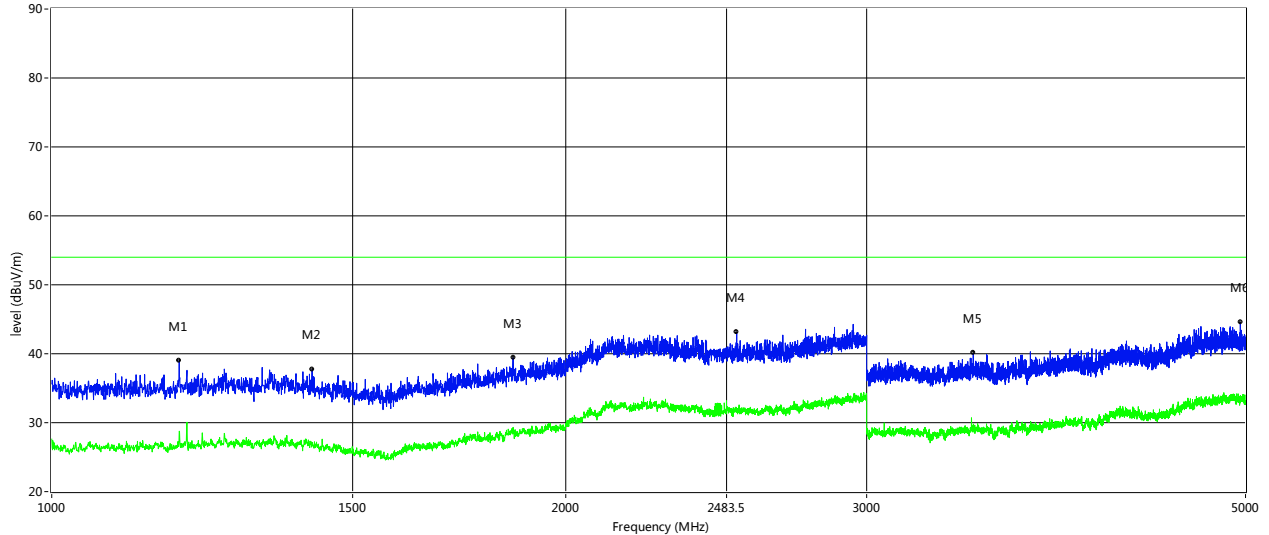
RE_IC Test Case_RSS 133 Above 1GHz



Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1188.500	37.59	27.64	74.0	54.0	-26.36	Horizontal	Pass
1377.000	38.29	27.03	74.0	54.0	-26.97	Horizontal	Pass
2112.500	43.54	32.13	74.0	54.0	-21.87	Horizontal	Pass
2903.000	44.14	33.36	74.0	54.0	-20.64	Horizontal	Pass
3461.000	40.25	28.94	74.0	54.0	-25.06	Horizontal	Pass
4692.500	44.57	32.87	74.0	54.0	-21.13	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Above 1GHz

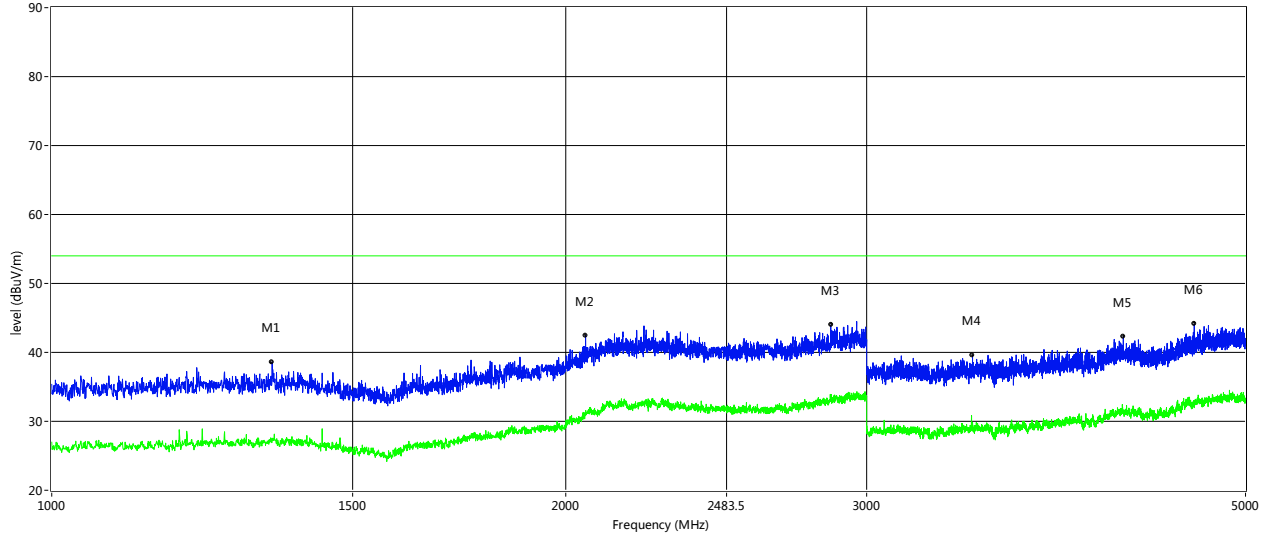


Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1187.500	39.07	28.77	74.0	54.0	-25.23	Vertical	Pass
1420.500	37.70	26.71	74.0	54.0	-27.29	Vertical	Pass
1862.500	39.43	29.32	74.0	54.0	-24.68	Vertical	Pass
2464.000	75.17	66.66	74.0	54.0	12.66	Vertical	Pass
3463.500	40.08	29.01	74.0	54.0	-24.99	Vertical	Pass
4965.000	44.55	33.73	74.0	54.0	-20.27	Vertical	Pass



Unmodulated ISO-10374
Horizontal

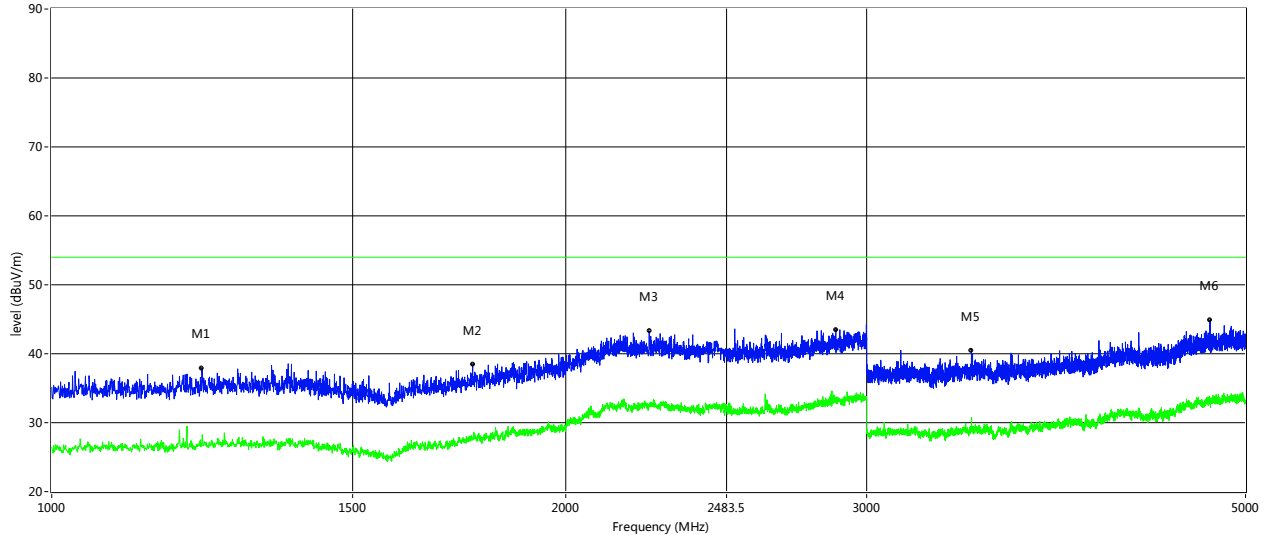
RE_IC Test Case_RSS 133 Above 1GHz



Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1346.000	38.61	27.29	74.0	54.0	-26.71	Horizontal	Pass
2054.000	42.50	31.26	74.0	54.0	-22.74	Horizontal	Pass
2858.500	43.97	32.93	74.0	54.0	-21.07	Horizontal	Pass
3460.500	39.61	29.81	74.0	54.0	-24.19	Horizontal	Pass
4240.500	42.29	31.43	74.0	54.0	-22.57	Horizontal	Pass
4666.000	44.12	32.64	74.0	54.0	-21.36	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Above 1GHz

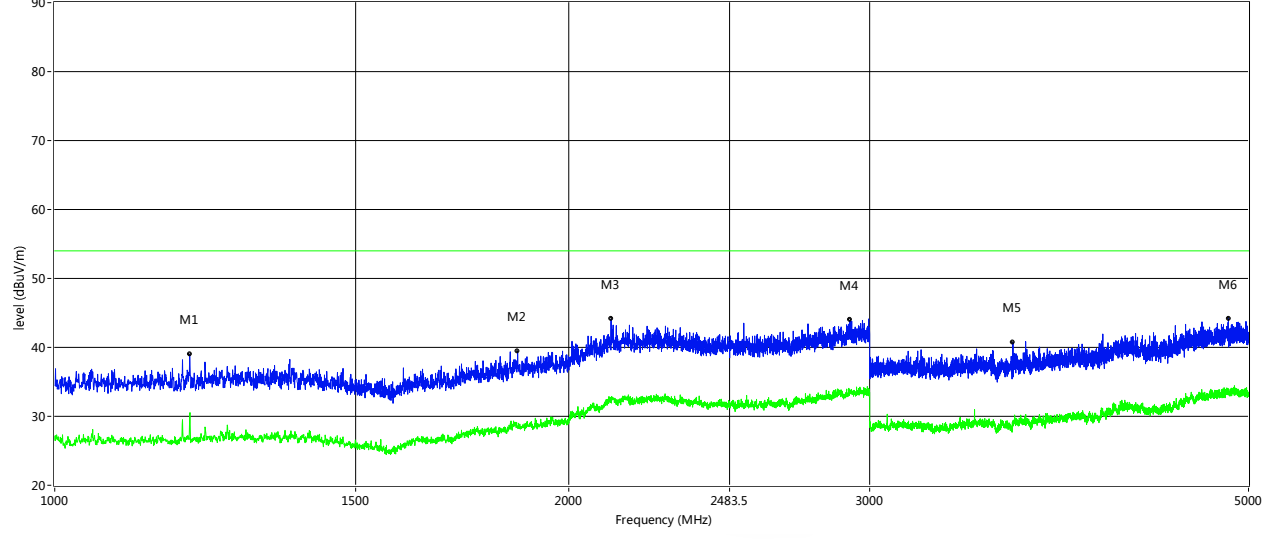


Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1224.500	37.89	27.60	74.0	54.0	-26.40	Vertical	Pass
1764.000	38.41	27.46	74.0	54.0	-26.54	Vertical	Pass
2238.000	43.22	32.52	74.0	54.0	-21.48	Vertical	Pass
2878.000	43.48	33.25	74.0	54.0	-20.75	Vertical	Pass
3455.500	40.44	30.06	74.0	54.0	-23.94	Vertical	Pass
4766.000	44.90	33.10	74.0	54.0	-20.90	Vertical	Pass



TDM
Horizontal

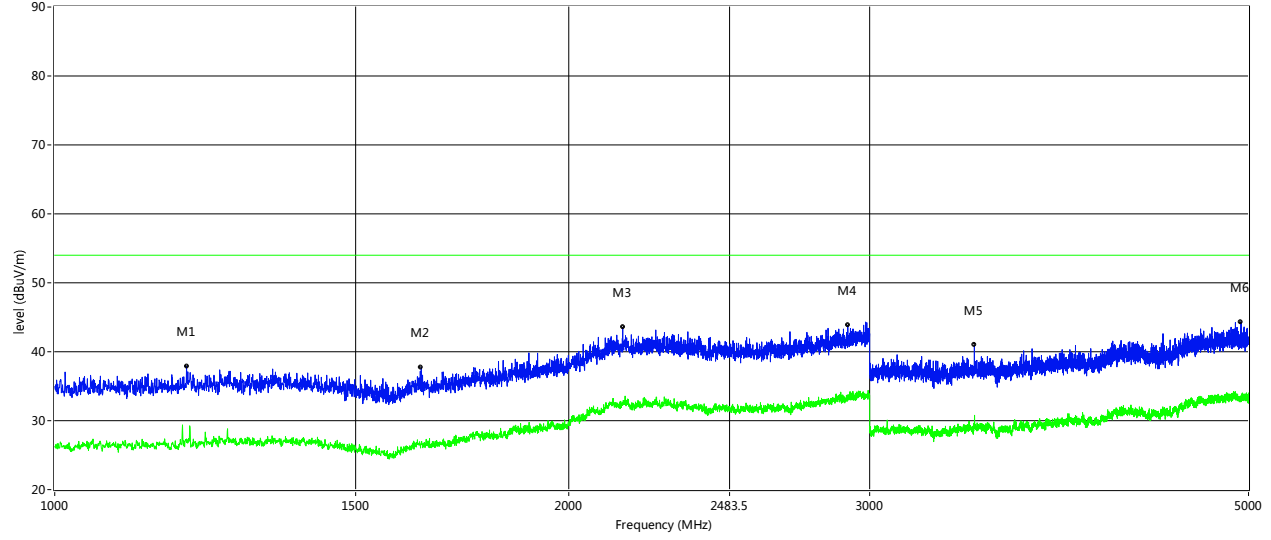
RE_IC Test Case_RSS 133 Above 1GHz



Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1199.500	39.00	30.10	74.0	54.0	-23.90	Horizontal	Pass
1866.500	39.37	28.26	74.0	54.0	-25.74	Horizontal	Pass
2117.000	44.08	32.61	74.0	54.0	-21.39	Horizontal	Pass
2921.500	43.95	33.24	74.0	54.0	-20.76	Horizontal	Pass
3639.500	40.73	29.18	74.0	54.0	-24.82	Horizontal	Pass
4866.000	44.18	33.85	74.0	54.0	-20.15	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Above 1GHz

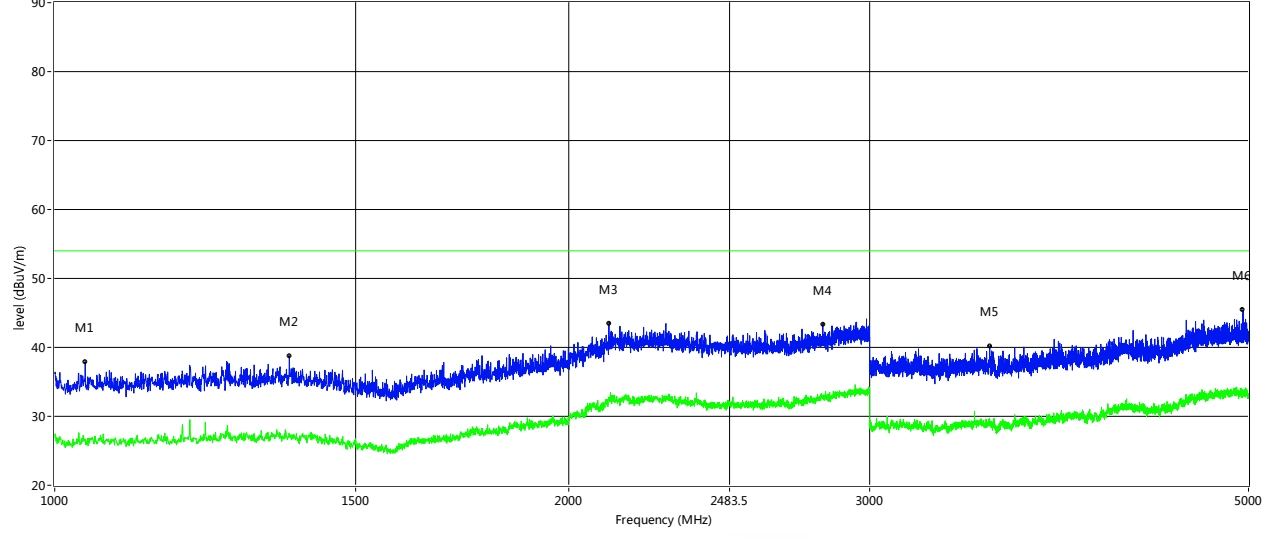


Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1194.500	37.89	27.36	74.0	54.0	-26.64	Vertical	Pass
1639.000	37.74	26.65	74.0	54.0	-27.35	Vertical	Pass
2150.500	43.52	32.57	74.0	54.0	-21.43	Vertical	Pass
2913.000	43.82	33.54	74.0	54.0	-20.46	Vertical	Pass
3455.000	40.93	29.50	74.0	54.0	-24.50	Vertical	Pass
4949.500	44.36	33.54	74.0	54.0	-20.46	Vertical	Pass



Title 21
Horizontal

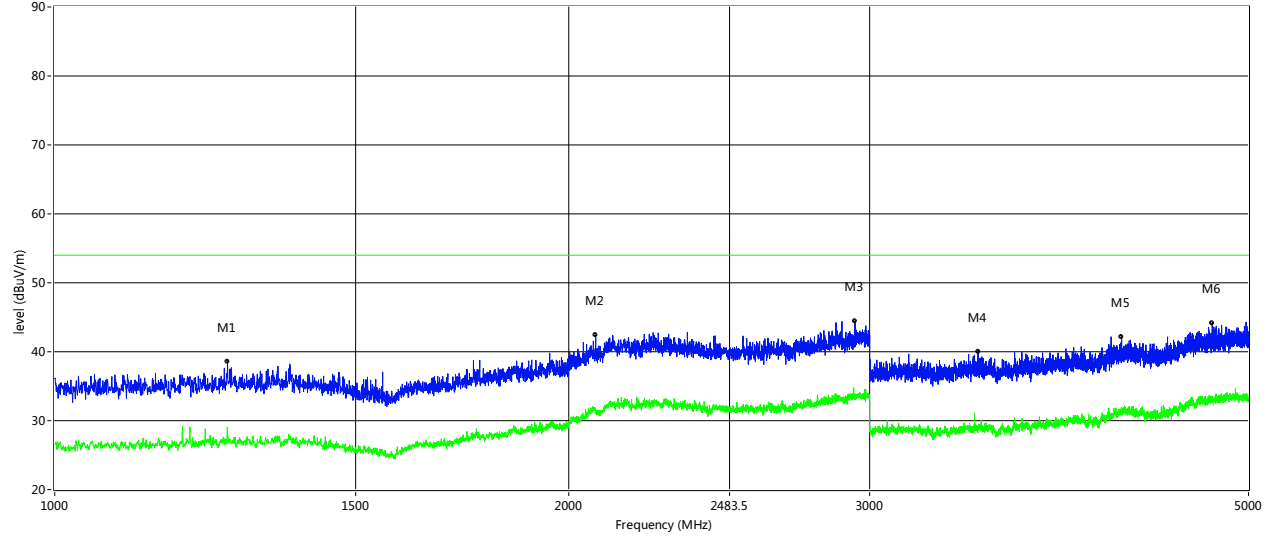
RE_IC Test Case_RSS 133 Above 1GHz



Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1042.000	37.82	26.64	74.0	54.0	-27.36	Horizontal	Pass
1372.000	38.70	27.08	74.0	54.0	-26.92	Horizontal	Pass
2111.000	43.42	32.76	74.0	54.0	-21.24	Horizontal	Pass
2816.500	43.31	32.87	74.0	54.0	-21.13	Horizontal	Pass
3527.500	40.07	29.17	74.0	54.0	-24.83	Horizontal	Pass
4963.000	45.38	33.62	74.0	54.0	-20.38	Horizontal	Pass

Vertical

RE_IC Test Case_RSS 133 Above 1GHz



Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1262.500	38.51	28.53	74.0	54.0	-25.47	Vertical	Pass
2073.500	42.42	31.44	74.0	54.0	-22.56	Vertical	Pass
2941.500	44.46	33.87	74.0	54.0	-20.13	Vertical	Pass
3472.000	39.94	29.28	74.0	54.0	-24.72	Vertical	Pass
4214.000	42.19	31.52	74.0	54.0	-22.48	Vertical	Pass
4761.000	44.12	33.37	74.0	54.0	-20.63	Vertical	Pass



10. PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※

