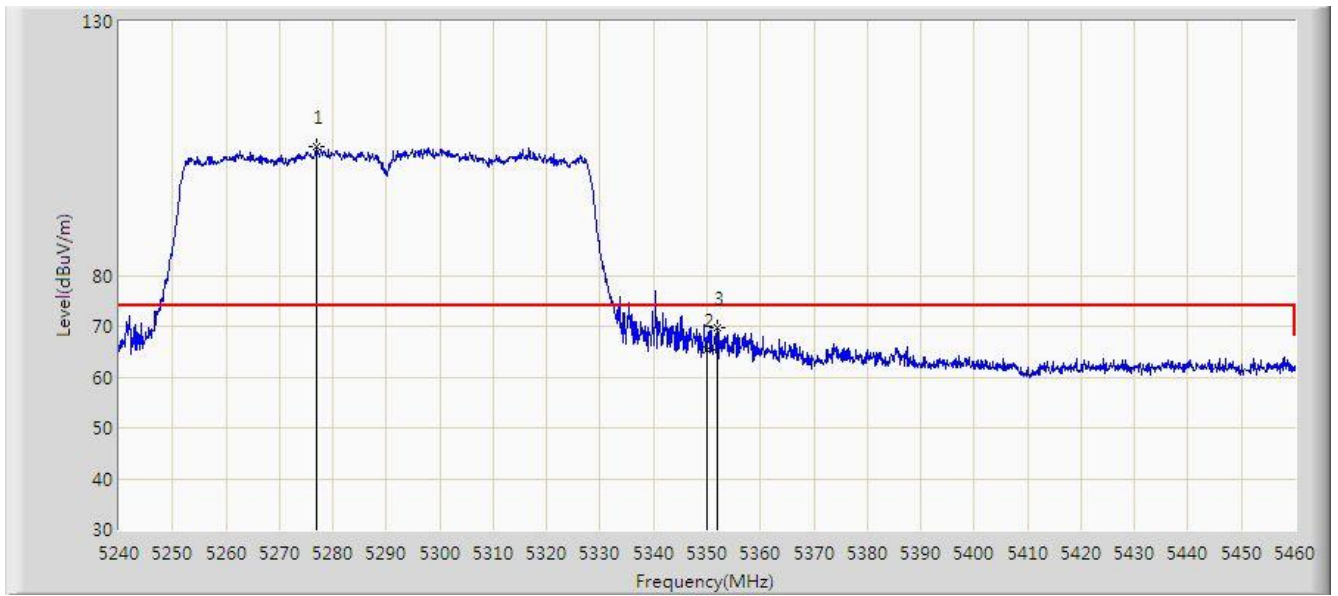


Site: AC1	Time: 2019/12/03 - 04:27
Limit: FCC_Part 15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5290MHz	

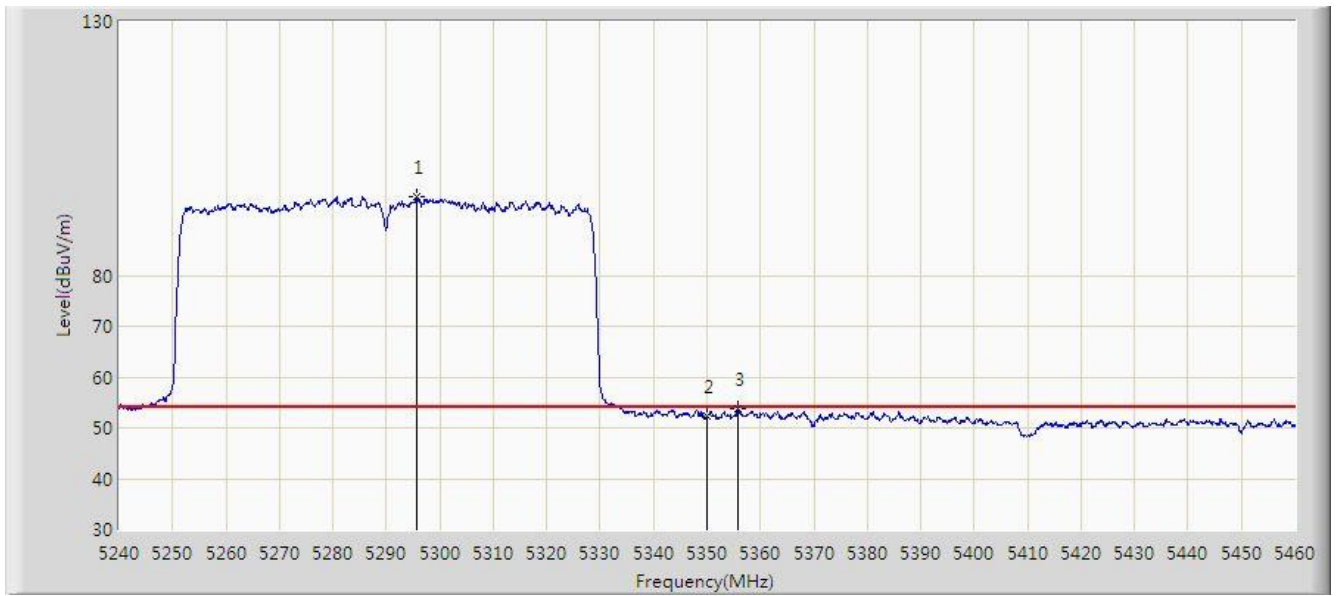


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5276.960	105.421	98.935	N/A	N/A	6.486	PK
2			5350.000	65.420	58.792	-8.580	74.000	6.629	PK
3			5351.870	69.566	62.950	-4.434	74.000	6.617	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/12/03 - 04:25
Limit: FCC_Part 15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5290MHz	

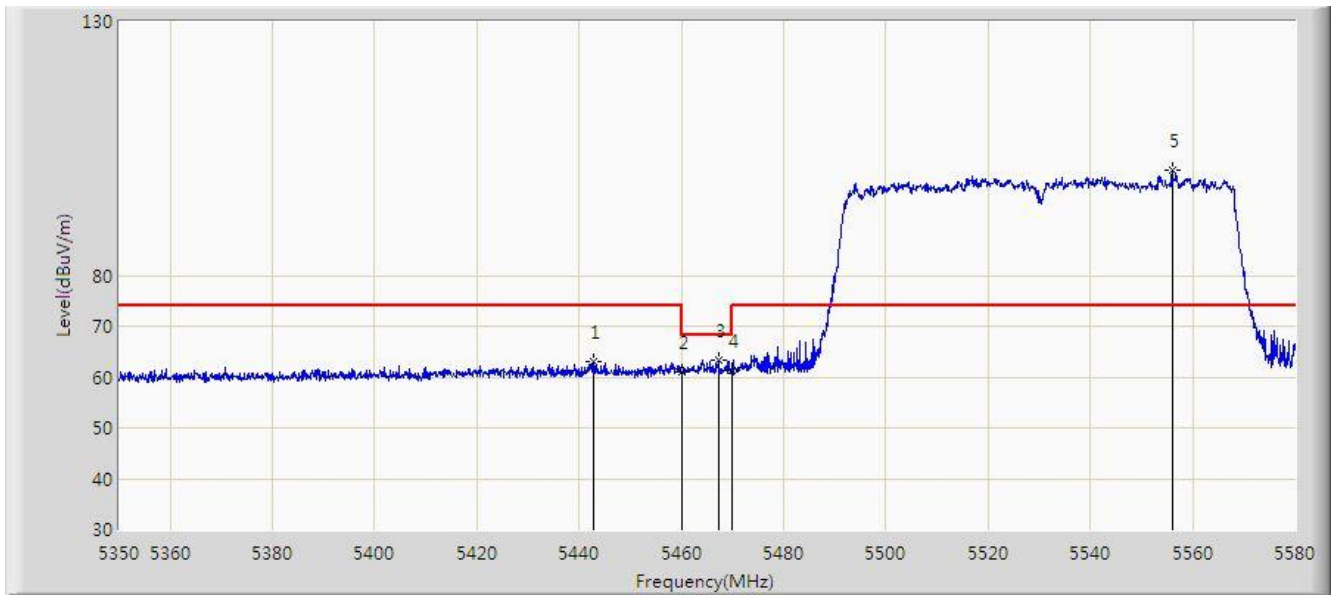


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5295.660	95.368	88.797	N/A	N/A	6.570	AV
2			5350.000	52.300	45.672	-1.700	54.000	6.629	AV
3			5355.720	53.653	47.043	-0.347	54.000	6.610	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/12/03 - 04:35
Limit: FCC_Part 15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5530MHz	

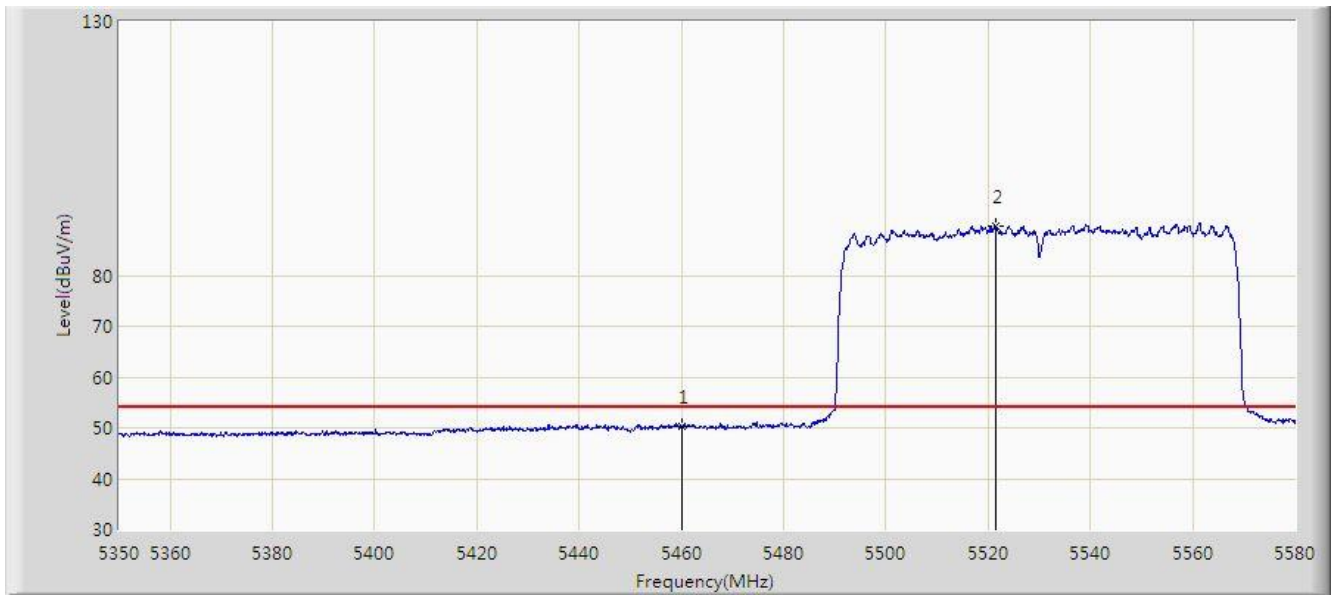


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5442.805	62.993	55.998	-11.007	74.000	6.995	PK
2			5460.000	61.142	54.165	-12.858	74.000	6.978	PK
3			5467.185	63.389	56.383	-4.811	68.200	7.006	PK
4			5470.000	61.416	54.399	-6.784	68.200	7.016	PK
5		*	5555.965	100.789	93.561	N/A	N/A	7.228	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/12/03 - 04:36
Limit: FCC_Part 15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5530MHz	

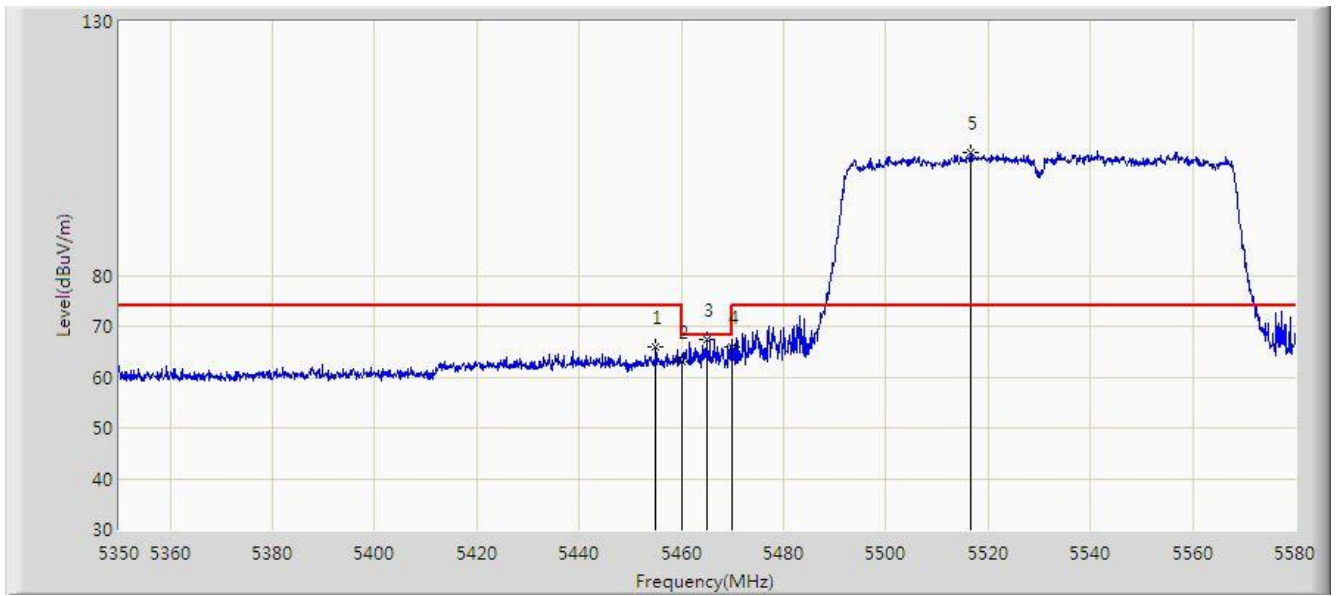


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5460.000	50.332	43.355	-3.668	54.000	6.978	AV
2		*	5521.350	89.816	82.736	N/A	N/A	7.080	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/12/03 - 04:32
Limit: FCC_Part 15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5530MHz	

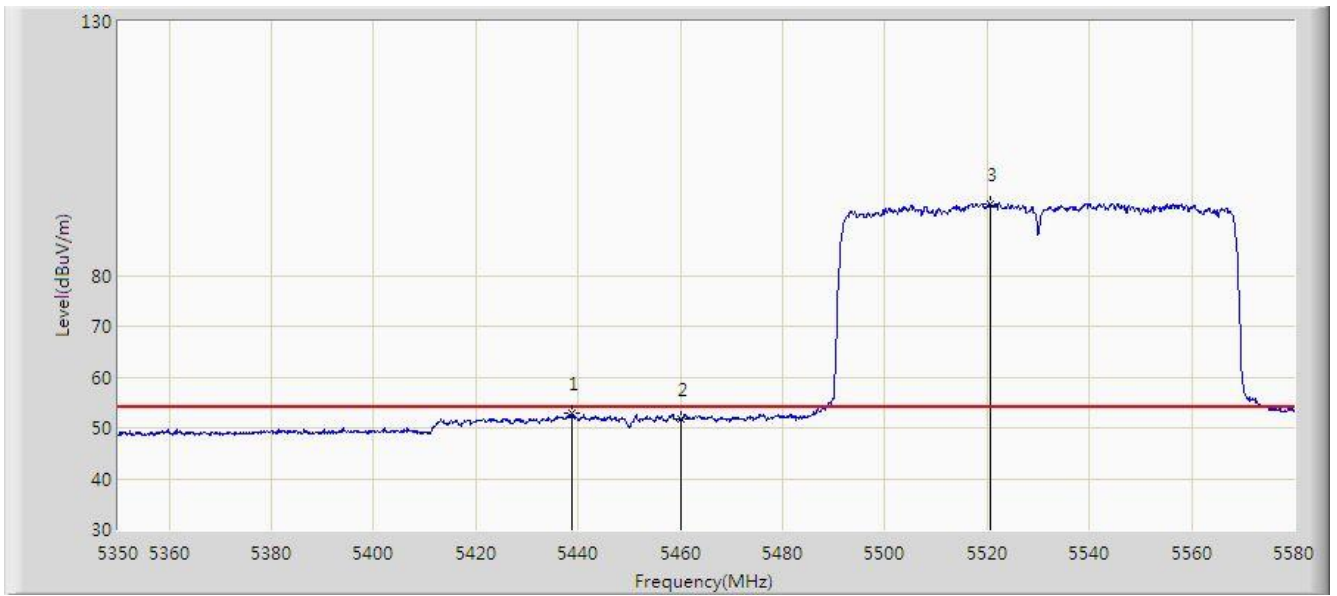


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5454.995	65.918	58.961	-8.082	74.000	6.958	PK
2			5460.000	63.006	56.029	-10.994	74.000	6.978	PK
3			5465.115	67.459	60.461	-0.741	68.200	6.998	PK
4			5470.000	65.828	58.811	-2.372	68.200	7.016	PK
5		*	5516.635	104.216	97.067	N/A	N/A	7.149	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/12/03 - 04:34
Limit: FCC_Part 15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5530MHz	

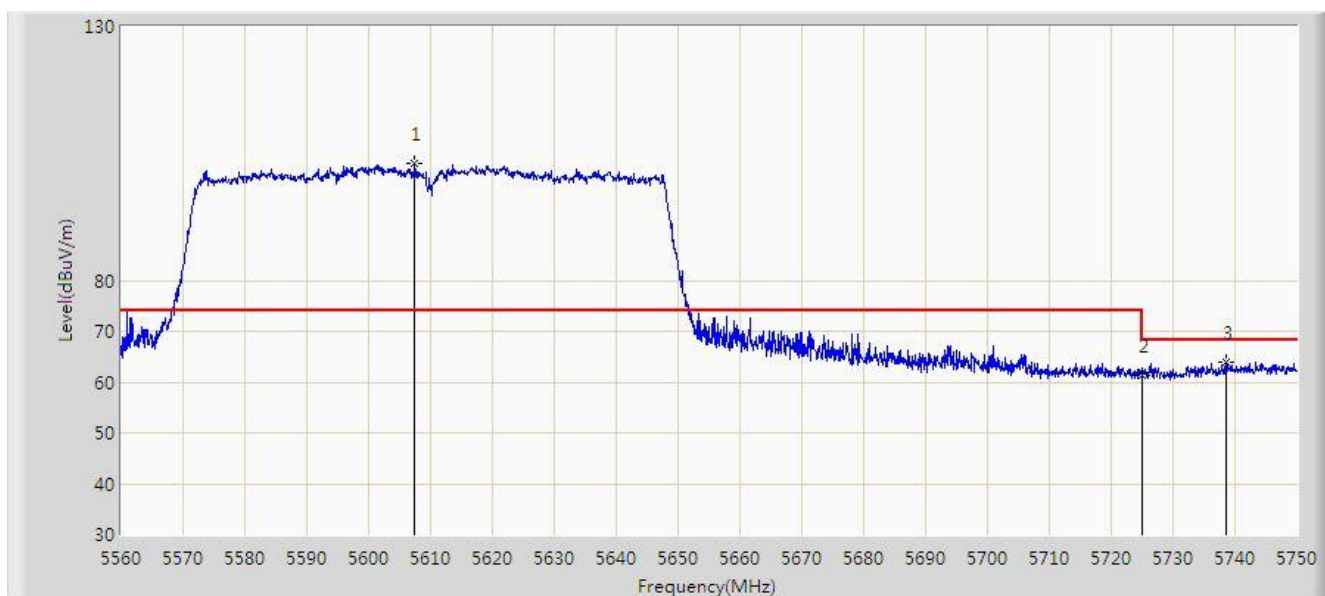


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5438.895	52.839	45.829	-1.161	54.000	7.009	AV
2			5460.000	51.740	44.763	-2.260	54.000	6.978	AV
3		*	5520.545	94.183	87.091	N/A	N/A	7.092	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/12/03 - 04:40
Limit: FCC_Part 15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5610MHz	

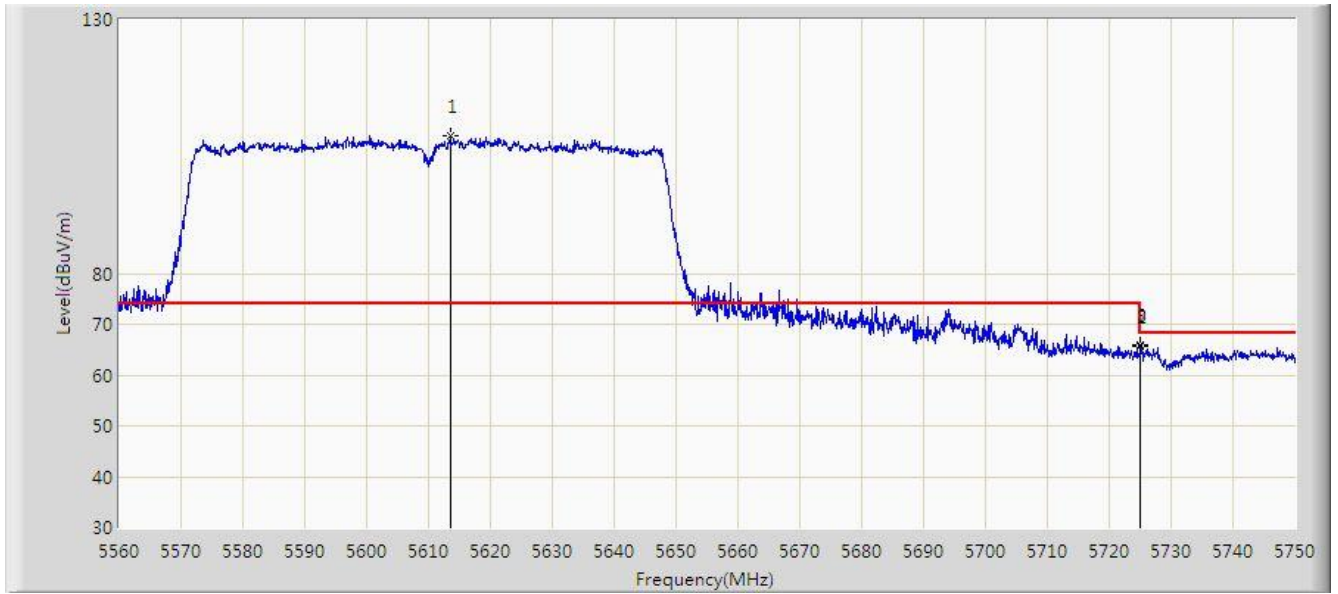


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5607.405	102.979	95.908	N/A	N/A	7.071	PK
2			5725.000	61.422	54.090	-6.778	68.200	7.332	PK
3			5738.600	63.822	56.403	-4.378	68.200	7.419	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/12/03 - 04:38
Limit: FCC_Part 15.209_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5610MHz	

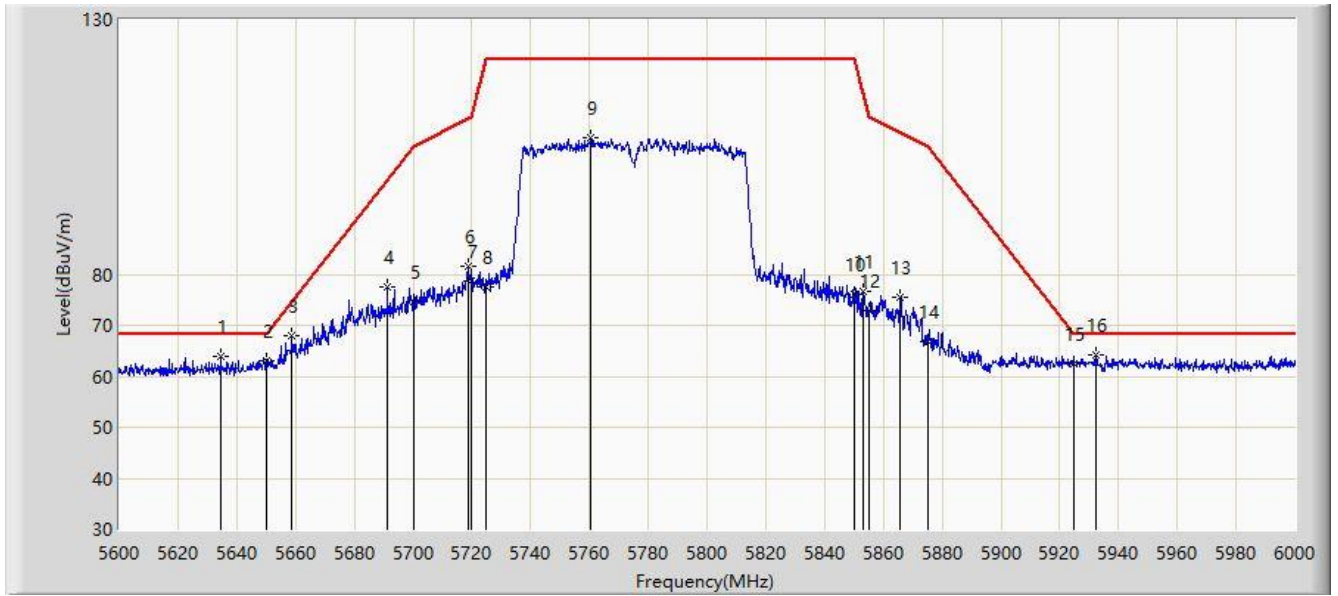


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5613.580	107.071	100.015	N/A	N/A	7.057	PK
2			5725.000	65.559	58.227	-2.641	68.200	7.332	PK
3			5725.015	65.836	58.504	-2.364	68.200	7.332	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/11/30 - 04:11
Limit: FCC_Part 15.407_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5775MHz	

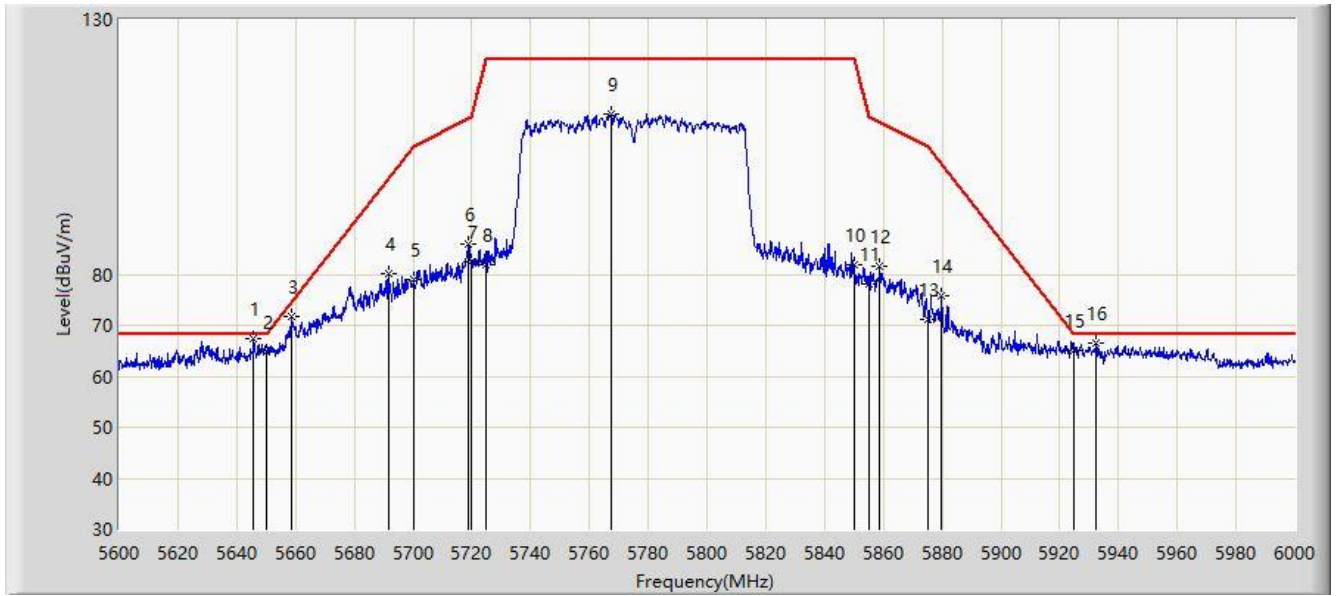


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5634.600	63.951	56.972	-4.249	68.200	6.979	PK
2			5650.000	62.962	55.822	-5.238	68.200	7.140	PK
3			5658.800	67.999	58.986	-6.737	74.736	9.012	PK
4			5691.200	77.481	68.450	-21.230	98.712	9.031	PK
5			5700.000	74.549	67.334	-30.651	105.200	7.215	PK
6			5718.800	81.467	72.447	-28.997	110.465	9.020	PK
7			5720.000	78.751	71.478	-32.049	110.800	7.273	PK
8			5725.000	77.451	70.119	-44.749	122.200	7.332	PK
9			5760.600	106.667	99.234	N/A	N/A	7.432	PK
10			5850.000	76.196	68.504	-46.004	122.200	7.692	PK
11			5853.200	76.776	67.435	-38.126	114.903	9.341	PK
12			5855.000	73.033	65.389	-37.767	110.800	7.644	PK
13			5865.600	75.532	66.244	-32.297	107.830	9.288	PK
14			5875.000	66.905	59.303	-38.295	105.200	7.602	PK
15			5925.000	62.358	54.532	-5.842	68.200	7.826	PK
16		*	5932.200	64.156	56.370	-4.044	68.200	7.786	PK

Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: AC1	Time: 2019/11/30 - 04:10
Limit: FCC_Part 15.407_RE(3m)	Engineer: Larry Yan
Probe: AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at Channel 5775MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5645.800	67.343	60.293	-0.857	68.200	7.050	PK
2			5650.000	64.878	57.738	-3.322	68.200	7.140	PK
3			5658.800	71.748	64.436	-2.988	74.736	7.311	PK
4			5691.600	80.158	71.127	-18.849	99.007	9.031	PK
5			5700.000	78.977	71.762	-26.223	105.200	7.215	PK
6			5719.000	86.008	76.986	-24.513	110.520	9.022	PK
7			5720.000	82.360	75.087	-28.440	110.800	7.273	PK
8			5725.000	81.973	74.641	-40.227	122.200	7.332	PK
9			5767.200	111.333	103.850	N/A	N/A	7.483	PK
10			5850.000	81.780	74.088	-40.420	122.200	7.692	PK
11			5855.000	78.024	70.380	-32.776	110.800	7.644	PK
12			5858.600	81.710	72.423	-28.081	109.791	9.287	PK
13			5875.000	71.128	63.526	-34.072	105.200	7.602	PK
14			5879.800	75.657	66.234	-25.977	101.634	9.424	PK
15			5925.000	65.195	57.369	-3.005	68.200	7.826	PK
16			5932.400	66.391	58.606	-1.809	68.200	7.785	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

7.10. AC Conducted Emissions Measurement

7.10.1. TestLimit

FCC Part 15.207 Limits		
Frequency (MHz)	QP (dB μ V)	AV (dB μ V)
0.15 - 0.50	66 - 56	56 – 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

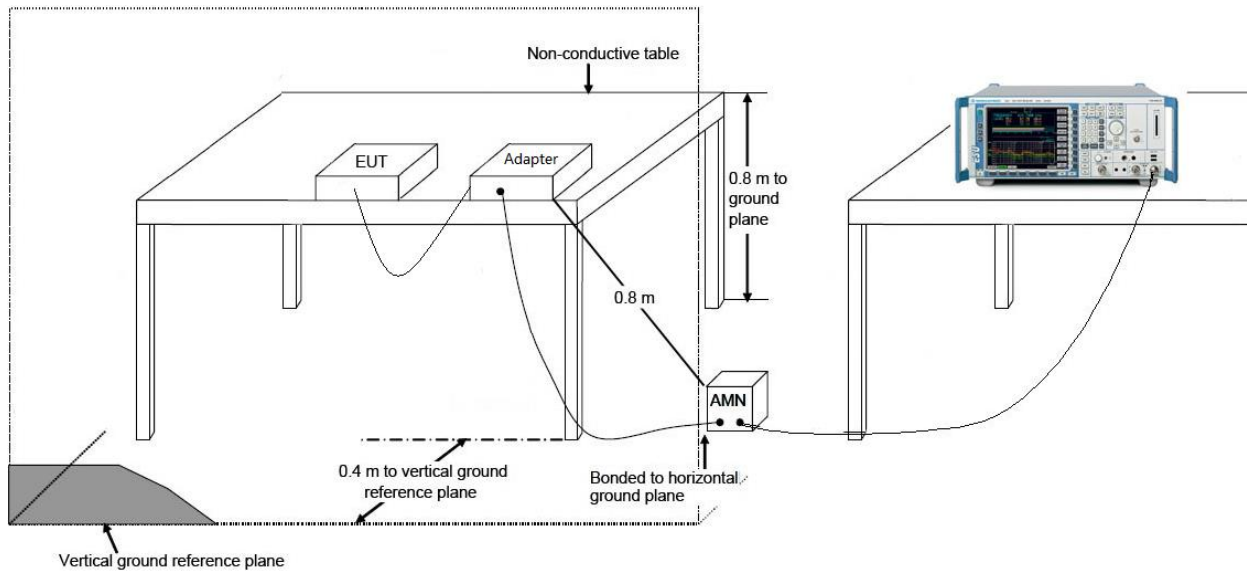
7.10.2. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to KDB 789033 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

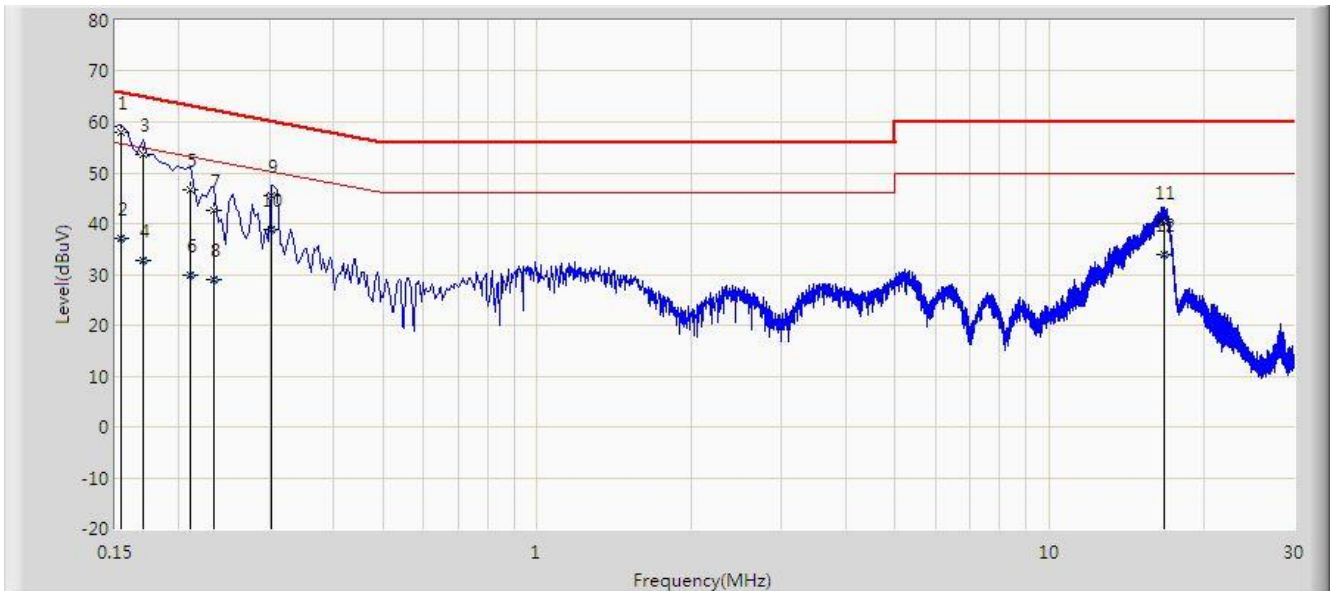
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

7.10.3. Test Setup



7.10.4. Test Result

Site: SR2	Time: 2020/02/05 - 12:03
Limit: FCC_Part15.207_CE_AC Power	Engineer: Milo Li
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode 1	

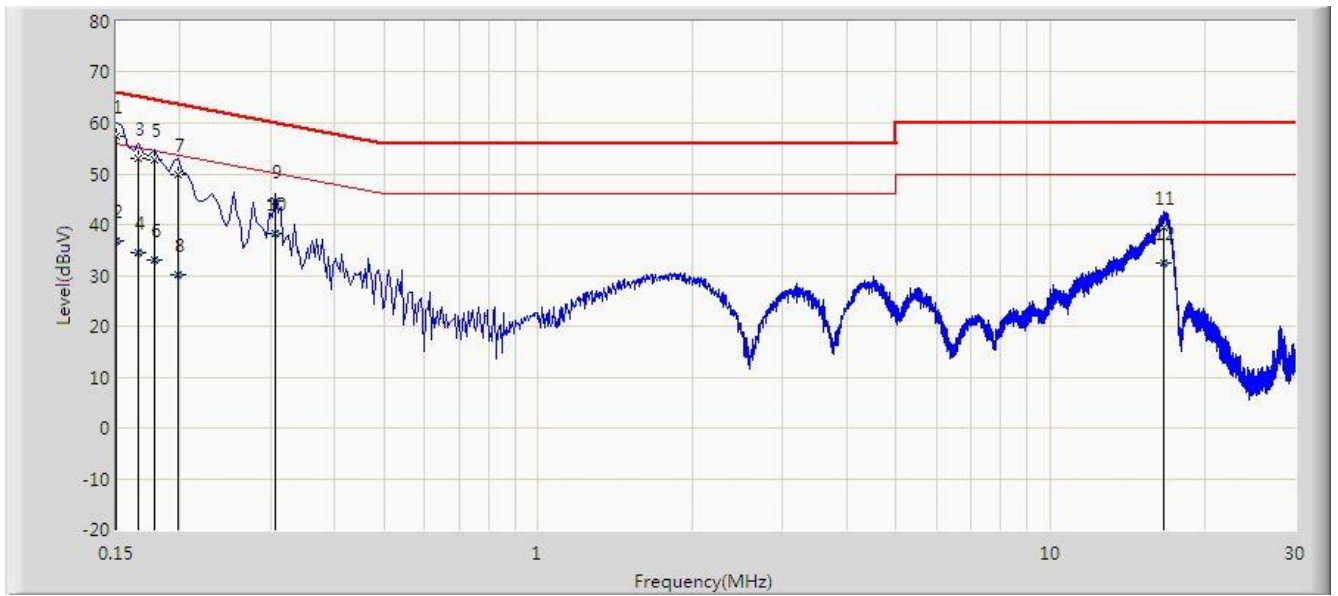


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.154	58.026	47.286	-7.756	65.781	10.740	QP
2			0.154	36.986	26.246	-18.795	55.781	10.740	AV
3			0.170	53.486	43.408	-11.475	64.960	10.078	QP
4			0.170	32.804	22.727	-22.156	54.960	10.078	AV
5			0.210	46.533	36.564	-16.673	63.205	9.969	QP
6			0.210	29.868	19.899	-23.338	53.205	9.969	AV
7			0.234	42.674	32.723	-19.632	62.307	9.951	QP
8			0.234	29.038	19.087	-23.269	52.307	9.951	AV
9			0.302	45.472	35.466	-14.716	60.188	10.006	QP
10			0.302	38.725	28.720	-11.462	50.188	10.006	AV
11			16.702	40.307	30.236	-19.693	60.000	10.071	QP
12			16.702	33.987	23.916	-16.013	50.000	10.071	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Site: SR2	Time: 2020/02/05 - 12:04
Limit: FCC_Part15.207_CE_AC Power	Engineer: Milo Li
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: FastMile 4G Gateway	Power: AC 120V/60Hz
Test Mode 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.150	57.438	46.270	-8.562	66.000	11.168	QP
2			0.150	36.854	25.685	-19.146	56.000	11.168	AV
3			0.166	53.110	43.023	-12.048	65.158	10.087	QP
4			0.166	34.408	24.321	-20.750	55.158	10.087	AV
5			0.178	52.748	42.690	-11.830	64.578	10.058	QP
6			0.178	32.952	22.894	-21.626	54.578	10.058	AV
7			0.198	49.777	39.773	-13.917	63.694	10.005	QP
8			0.198	30.057	20.052	-23.637	53.694	10.005	AV
9			0.306	44.631	34.622	-15.448	60.078	10.009	QP
10			0.306	38.271	28.262	-11.808	50.078	10.009	AV
11			16.642	39.338	29.266	-20.662	60.000	10.073	QP
12			16.642	32.423	22.350	-17.577	50.000	10.073	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

8. CONCLUSION

The data collected relate only the item(s) tested and show that the device is compliance with Part 15E of the FCC Rules.

The End

Appendix A - Test Setup Photograph

Refer to “1911RSU040-UT” file.

Appendix B - EUT Photograph

Refer to "1911RSU040-UE" file.