

Test Report No.50117032 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 50117032AppendixD)

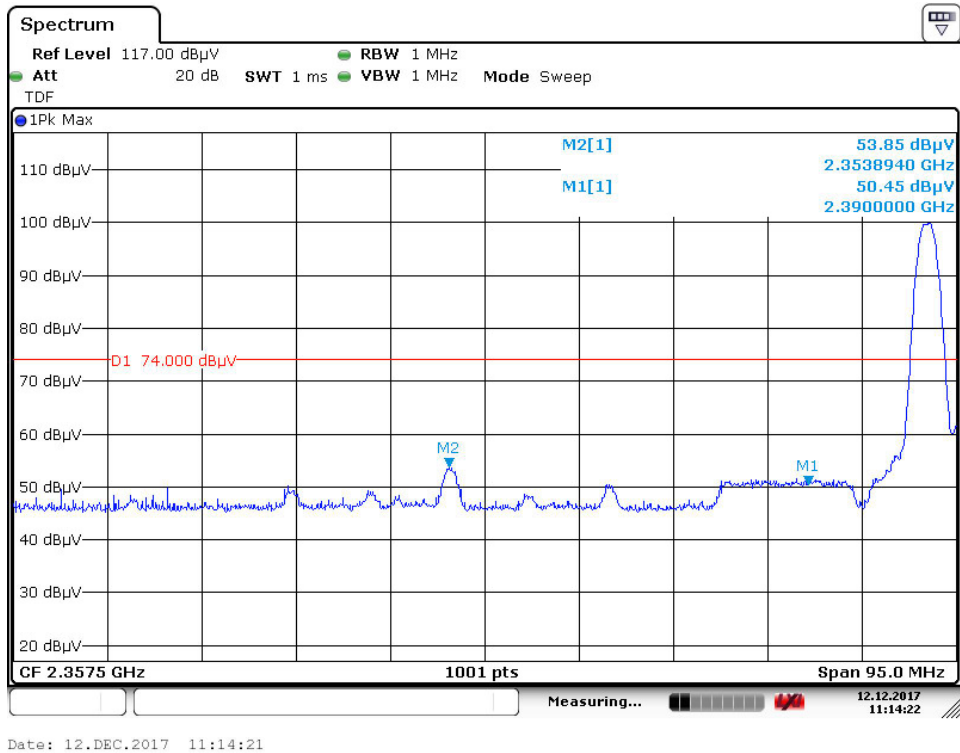
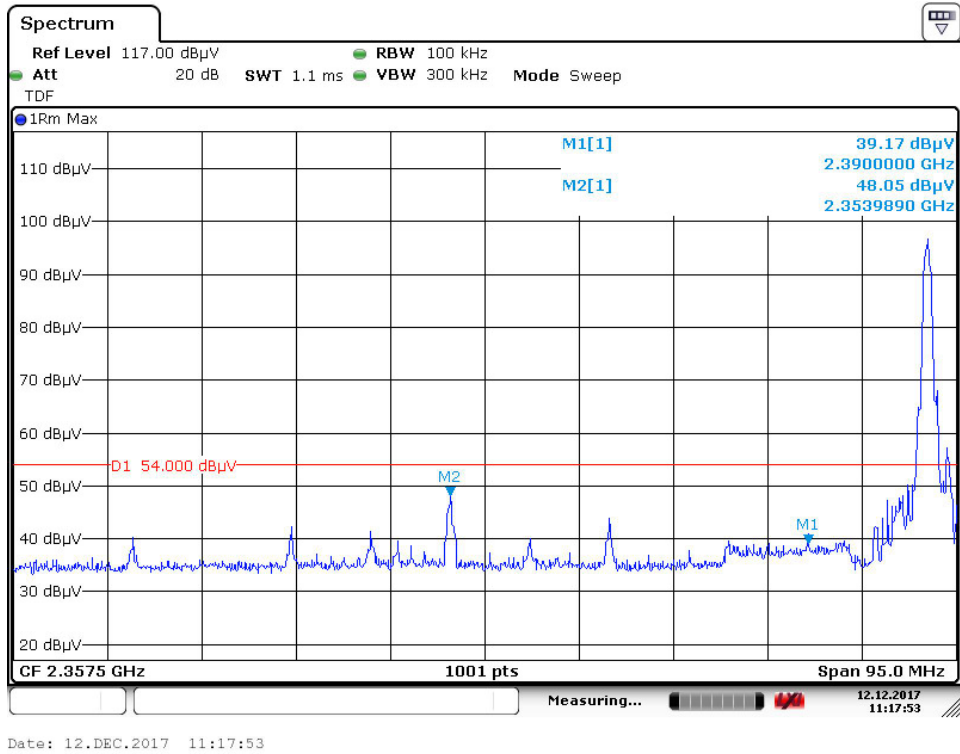
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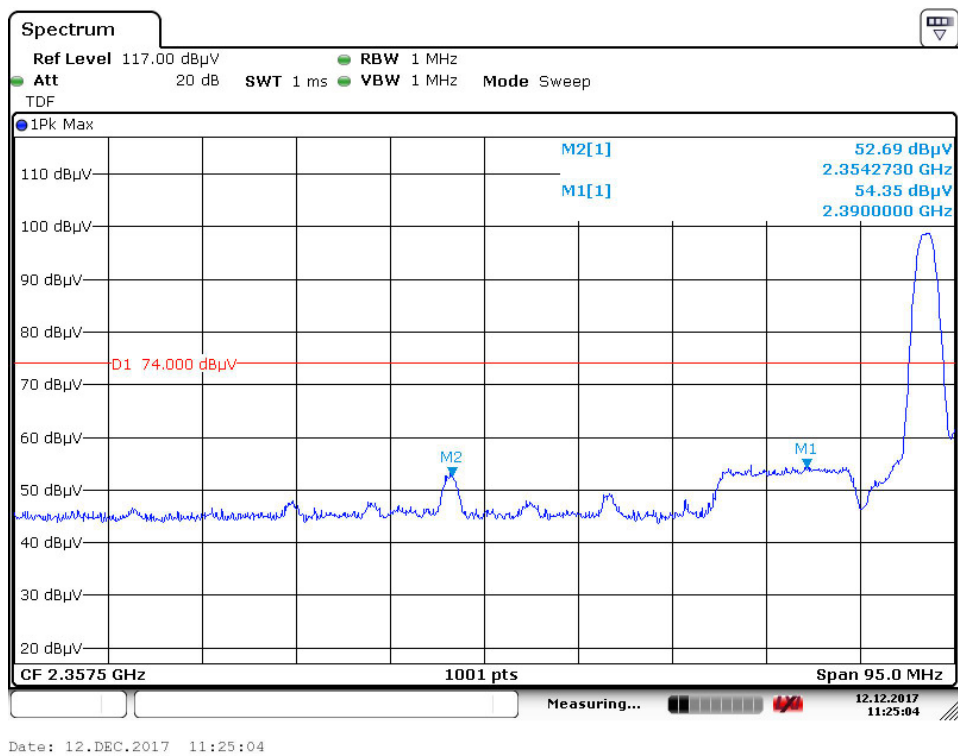
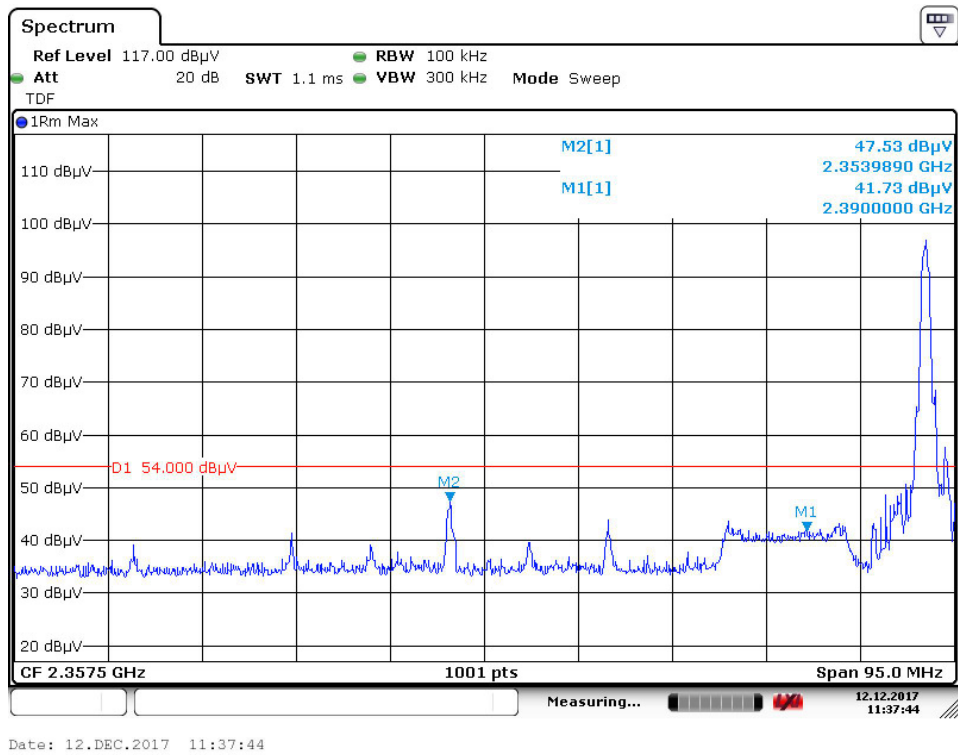
Radiated Bandedge (GFSK)

Low Channel (Hor)



Spurious Emissions, Band Edge, 2.35-2.5G

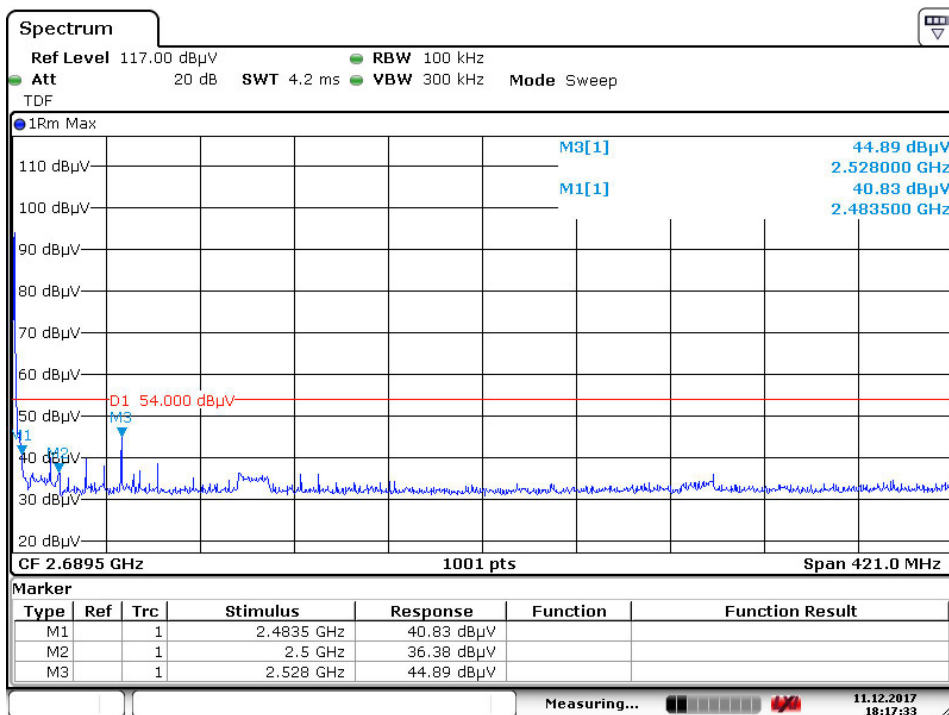
Low Channel (Ver)



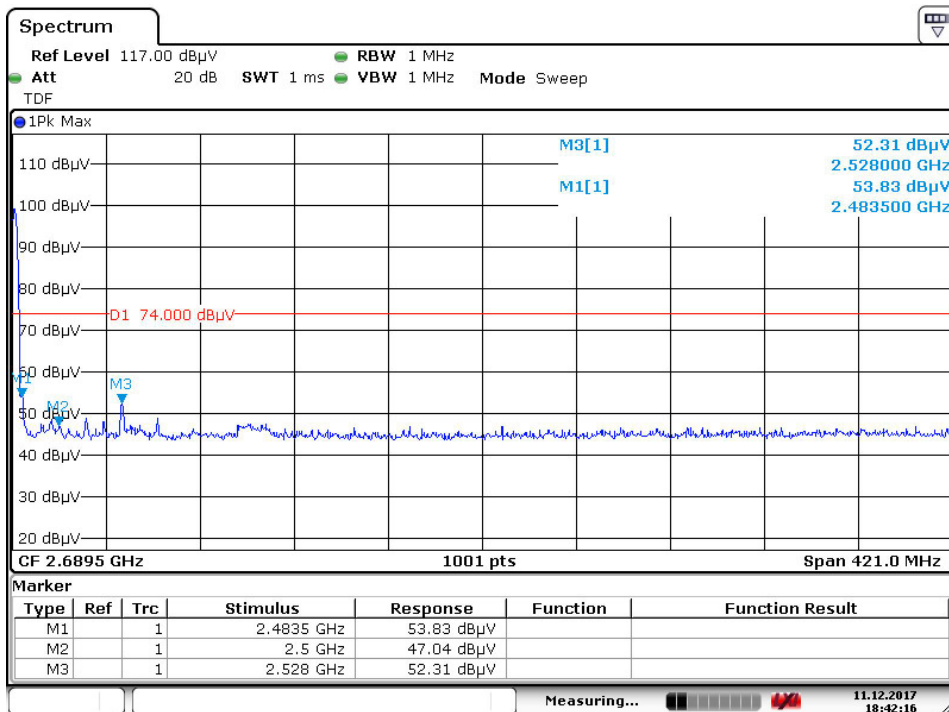
Spurious Emissions, Band Edge, 2.35-2.5G

Radiated Bandedge (GFSK)

High Channel (Hor)



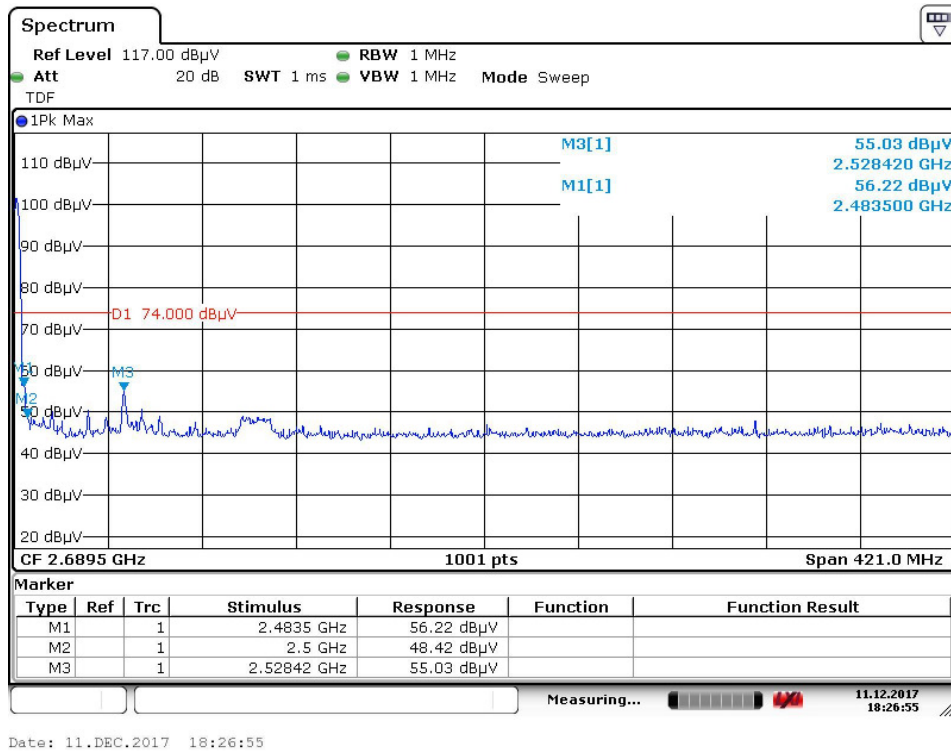
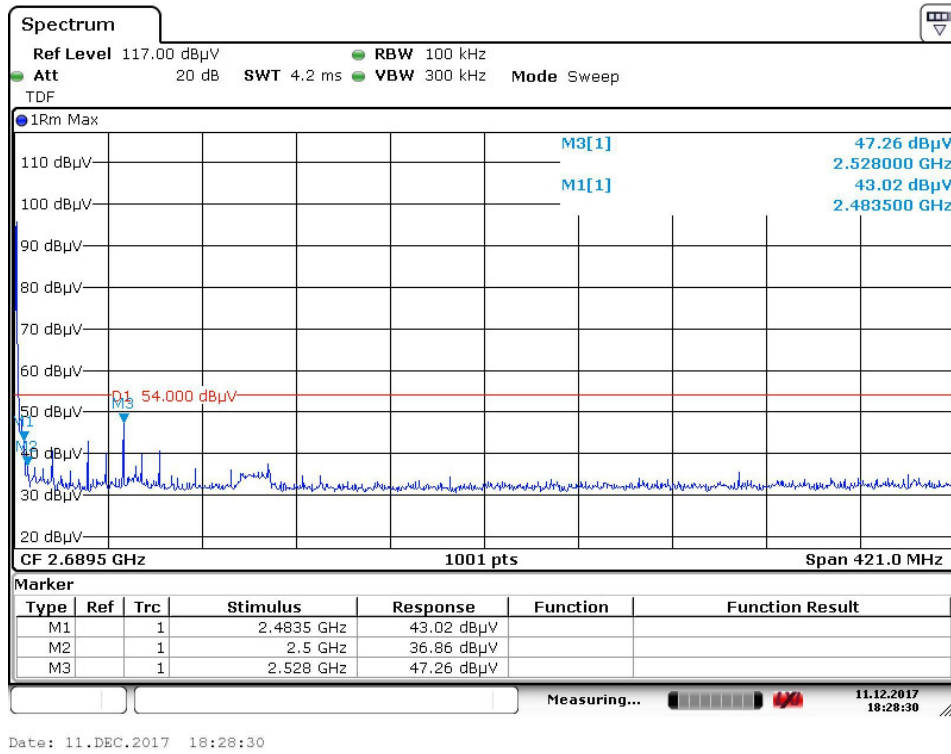
Date: 11.DEC.2017 18:17:33



Date: 11.DEC.2017 18:42:16

Spurious Emissions, Band Edge, 2.35-2.5G

High Channel (Ver)



Spurious Emissions, Band Edge, 2.35-2.5G

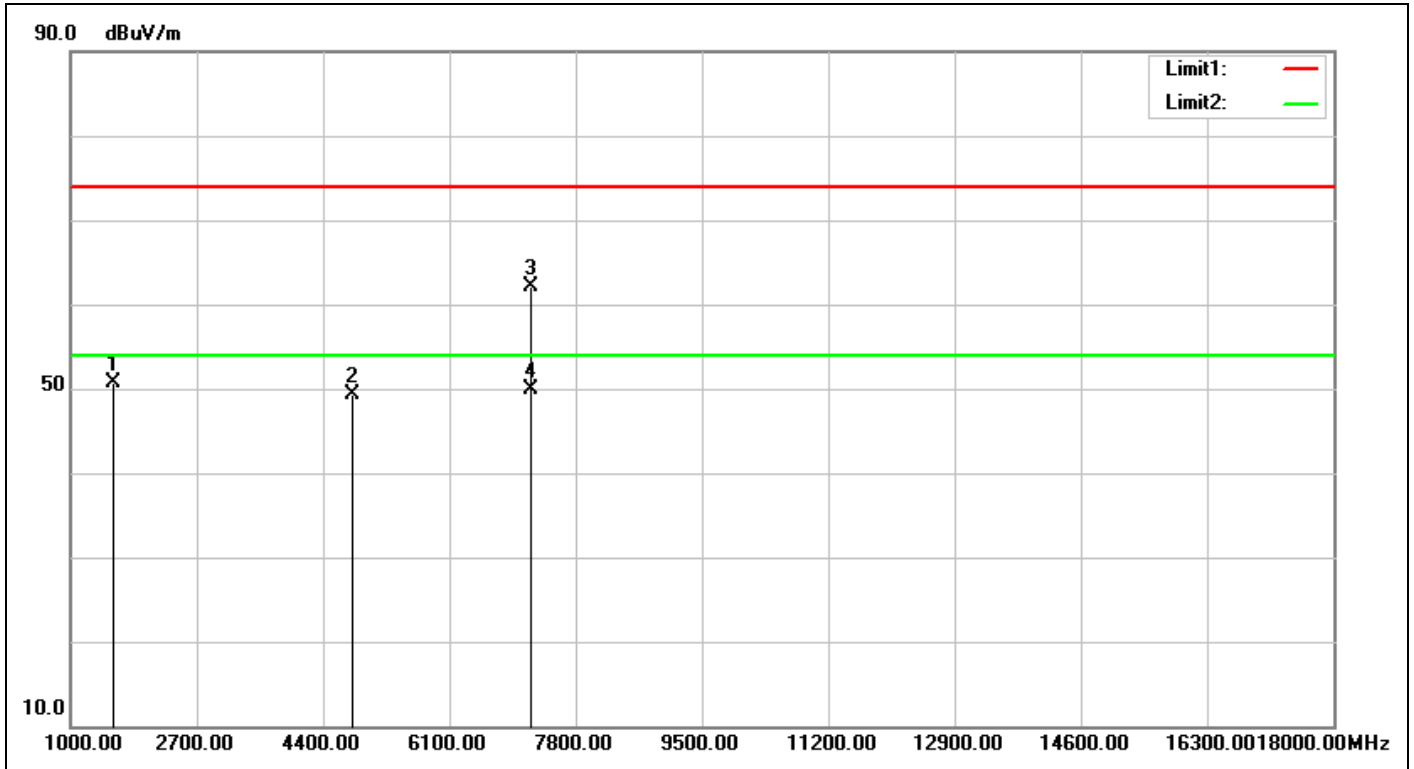
Spurious Emissions, TX Mode, 1-18G



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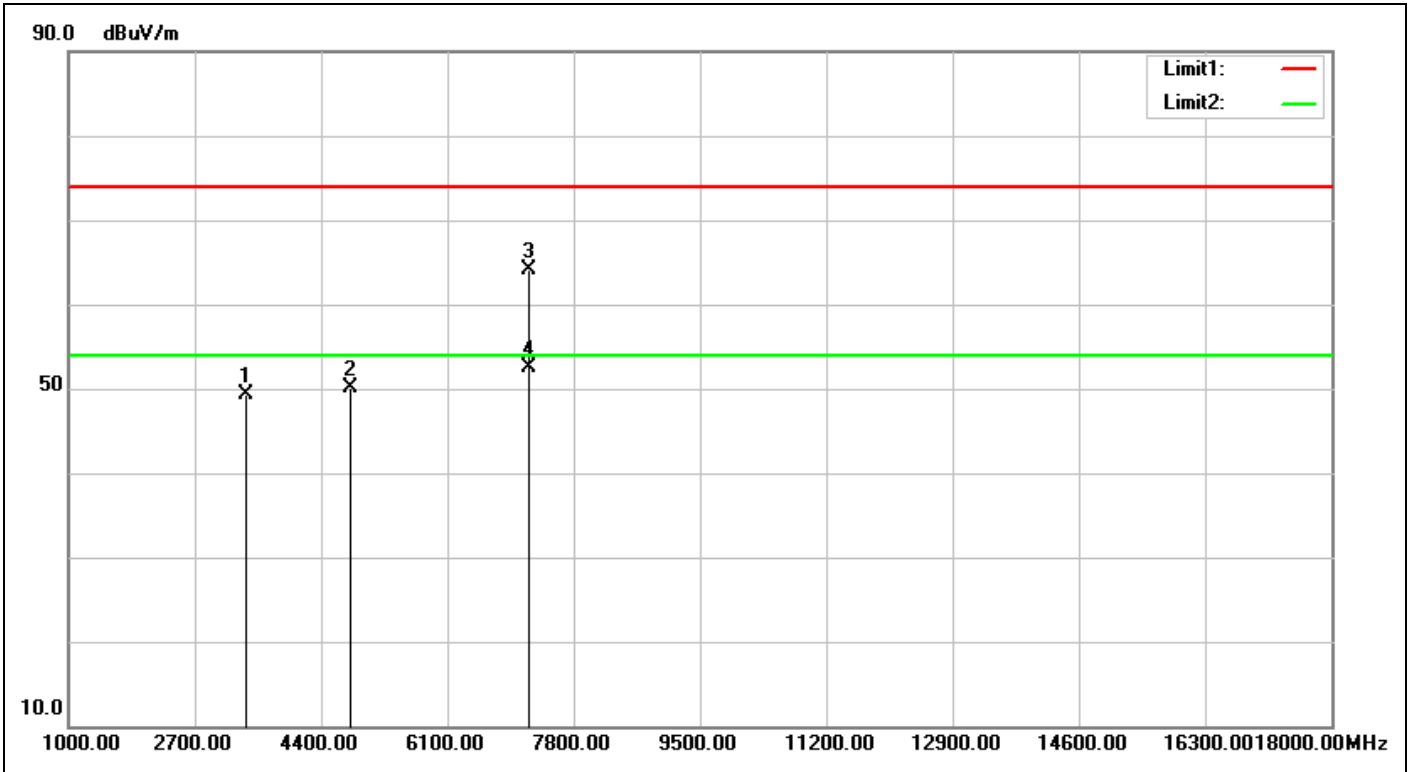
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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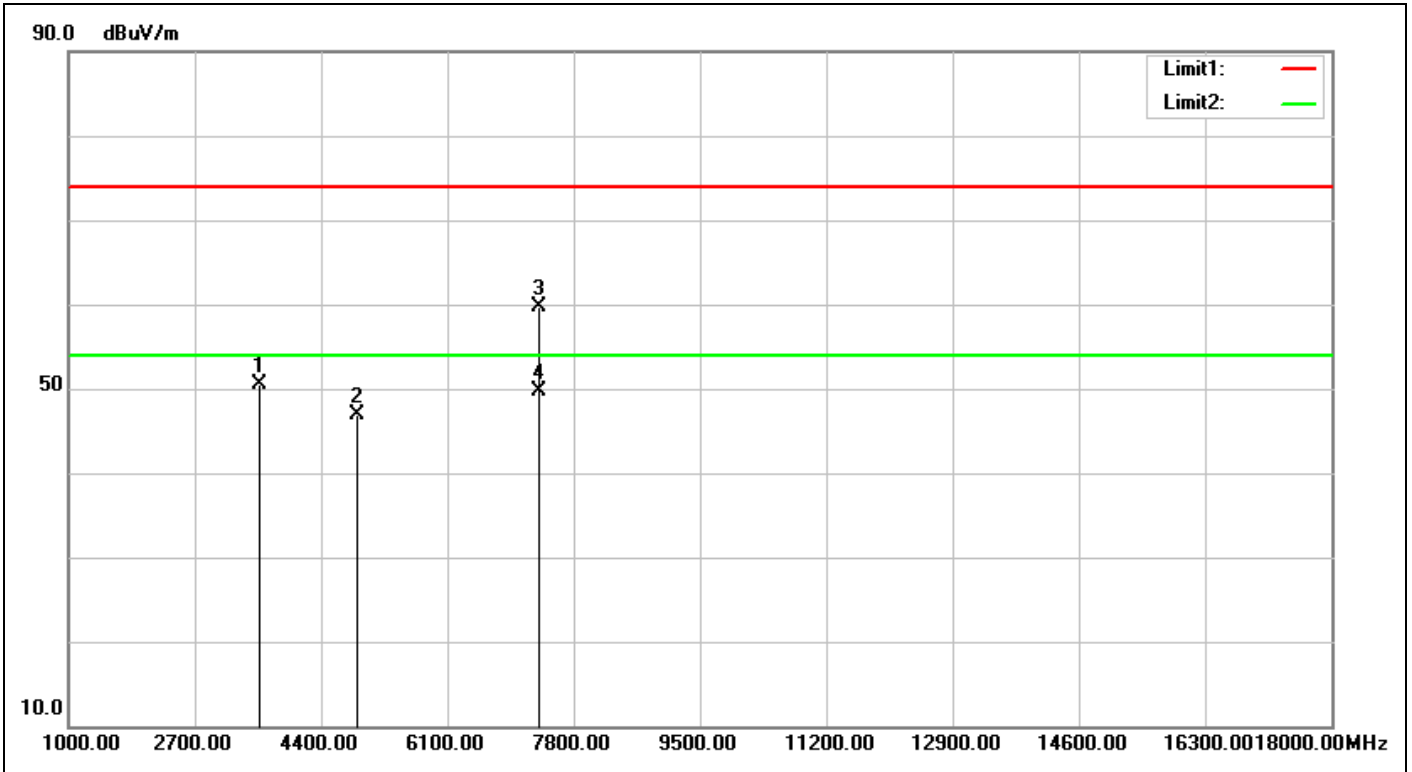
Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 11:38:36
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1578.000	-10.00	60.66	50.66	74.00	-23.34	peak	100	100	
2	4804.000	-2.71	51.97	49.26	74.00	-24.74	peak	100	125	
3	7206.000	5.29	56.77	62.06	74.00	-11.94	peak	100	258	
4	7206.000	5.29	44.63	49.92	54.00	-4.08	AVG	100	258	



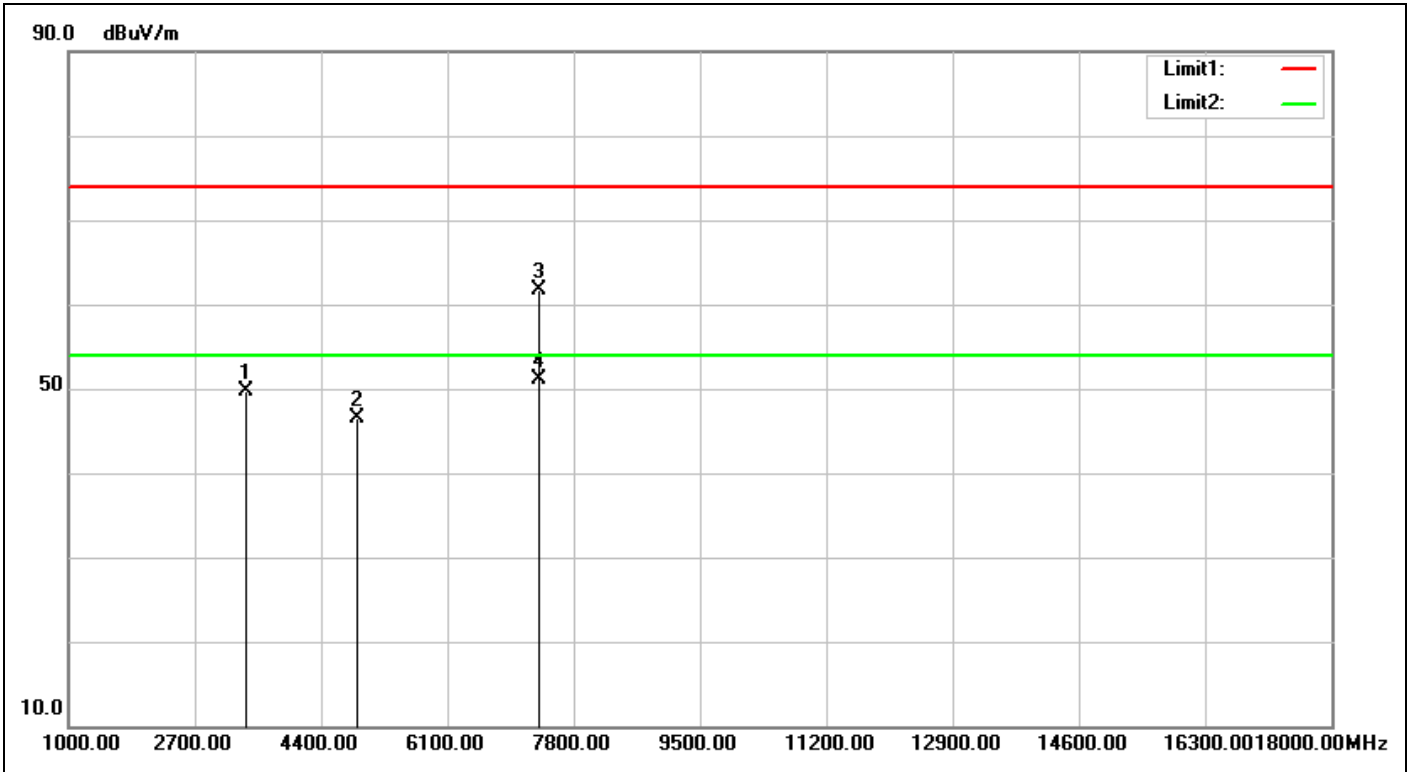
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Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 11:39:39
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3380.000	-6.25	55.52	49.27	74.00	-24.73	peak			
2	4804.000	-2.71	52.72	50.01	74.00	-23.99	peak	100	174	
3	7206.000	5.29	58.76	64.05	74.00	-9.95	peak	105	161	
4	7206.000	5.29	47.23	52.52	54.00	-1.48	AVG	105	161	



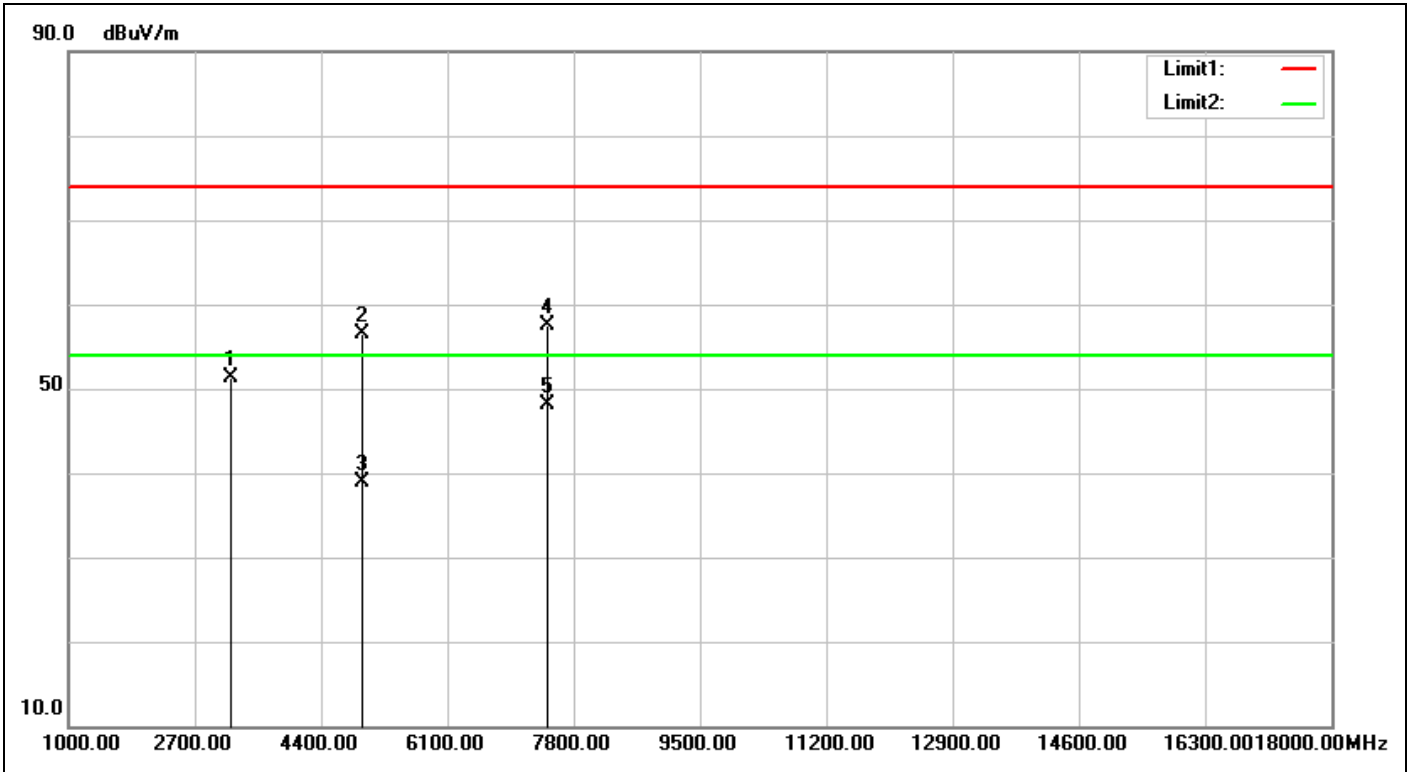
Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 13:09:51
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3567.000	-6.09	56.65	50.56	74.00	-23.44	peak			
2	4880.000	-2.50	49.34	46.84	74.00	-27.16	peak			
3	7320.000	5.59	54.02	59.61	74.00	-14.39	peak	146	255	
4	7320.000	5.59	44.11	49.70	54.00	-4.30	AVG	146	255	



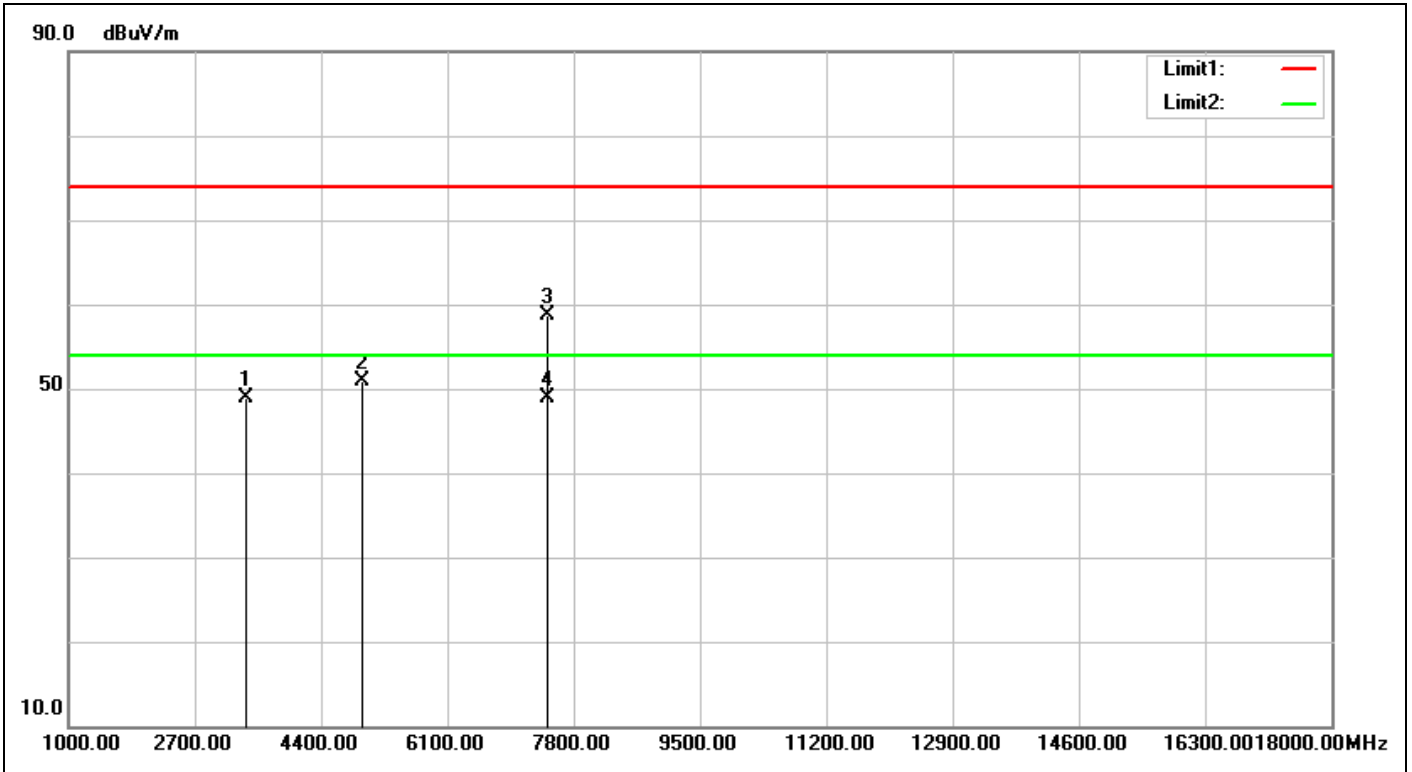
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Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 13:10:54
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3380.000	-6.25	55.93	49.68	74.00	-24.32	peak			
2	4880.000	-2.50	48.96	46.46	74.00	-27.54	peak			
3	7320.000	5.59	56.08	61.67	74.00	-12.33	peak	109	162	
4	7320.000	5.59	45.42	51.01	54.00	-2.99	AVG	109	162	



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 13:32:38
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3176.000	-6.41	57.75	51.34	74.00	-22.66	peak	100	114	
2	4960.000	-2.29	58.89	56.60	74.00	-17.40	peak	100	34	
3	4960.000	-2.29	41.18	38.89	54.00	-15.11	AVG	100	34	
4	7440.000	5.90	51.59	57.49	74.00	-16.51	peak	132	130	
5	7440.000	5.90	42.25	48.15	54.00	-5.85	AVG	132	130	



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 13:33:41
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3380.000	-6.25	55.19	48.94	74.00	-25.06	peak	100	138	
2	4960.000	-2.29	53.20	50.91	74.00	-23.09	peak	100	120	
3	7440.000	5.90	52.88	58.78	74.00	-15.22	peak	116	307	
4	7440.000	5.90	43.08	48.98	54.00	-5.02	AVG	116	307	

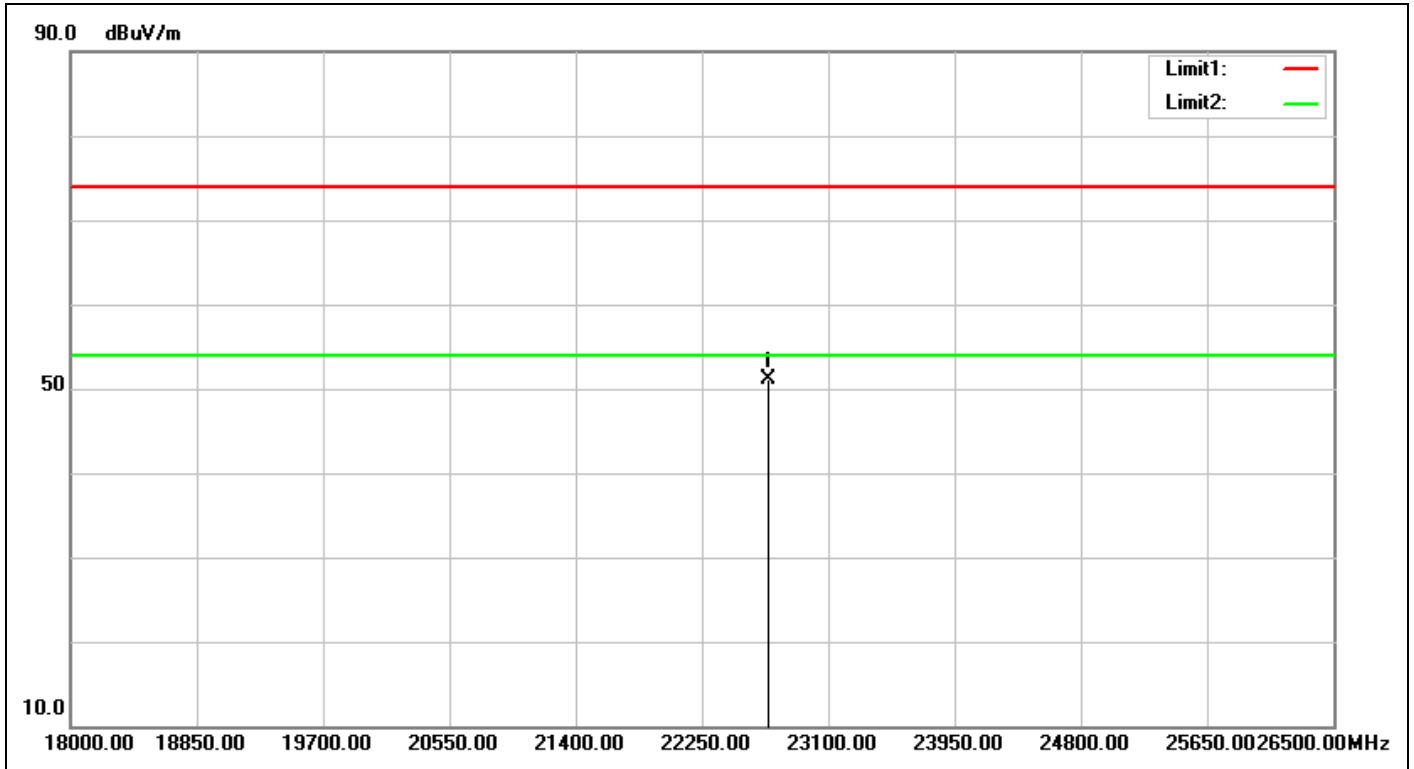
Spurious Emissions, TX Mode, 18-26G



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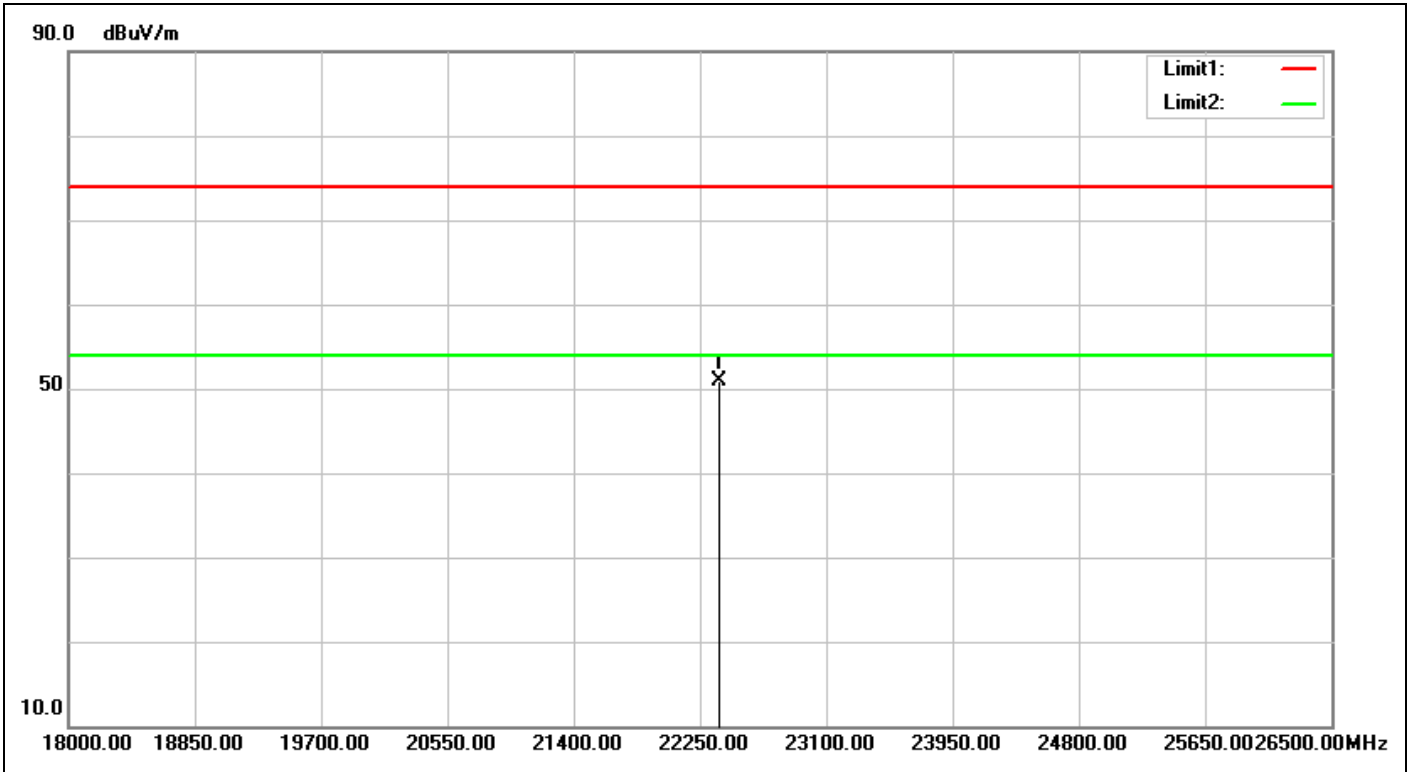
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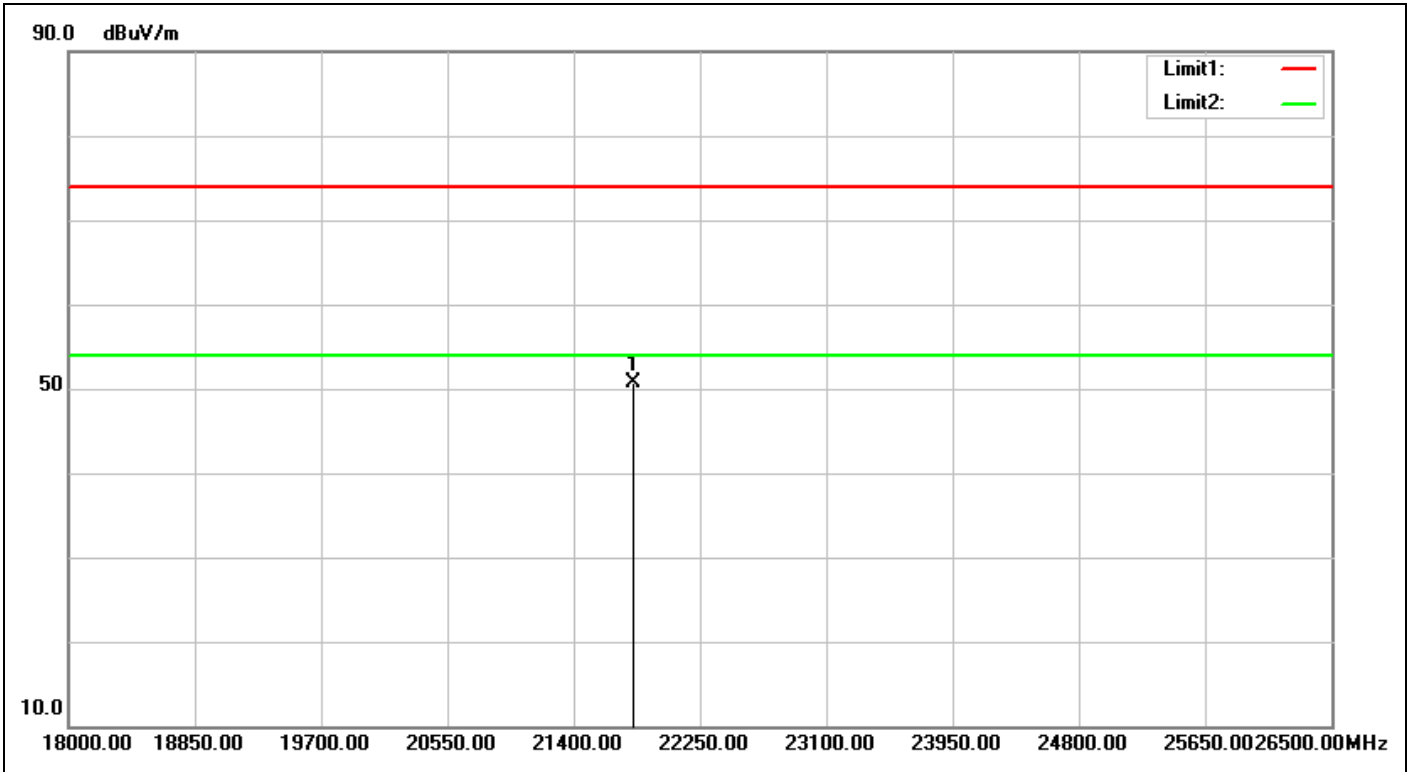
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Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 14:29:43
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22692.000	32.12	19.01	51.13	74.00	-22.87	peak	100	145	



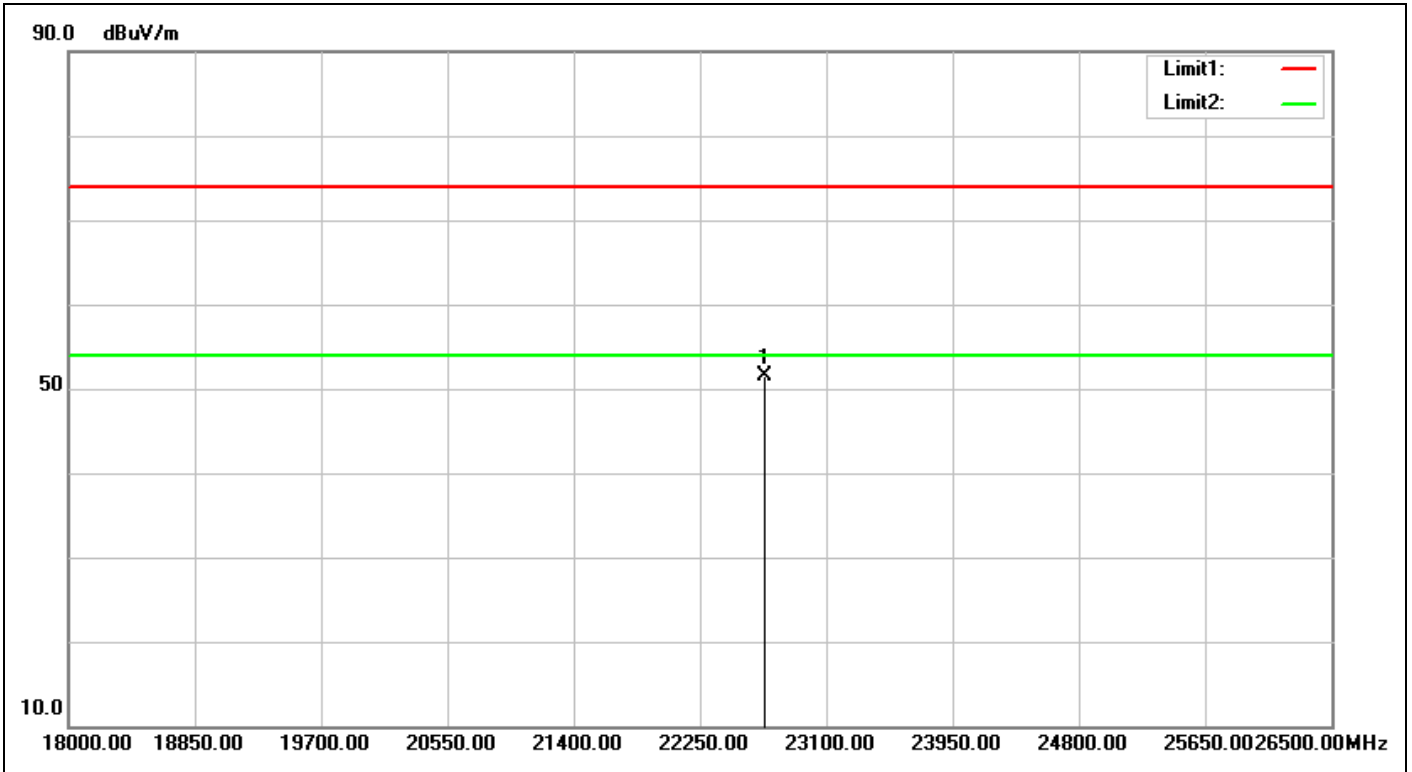
Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 14:30:46
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22377.500	32.32	18.58	50.90	74.00	-23.10	peak	100	179	



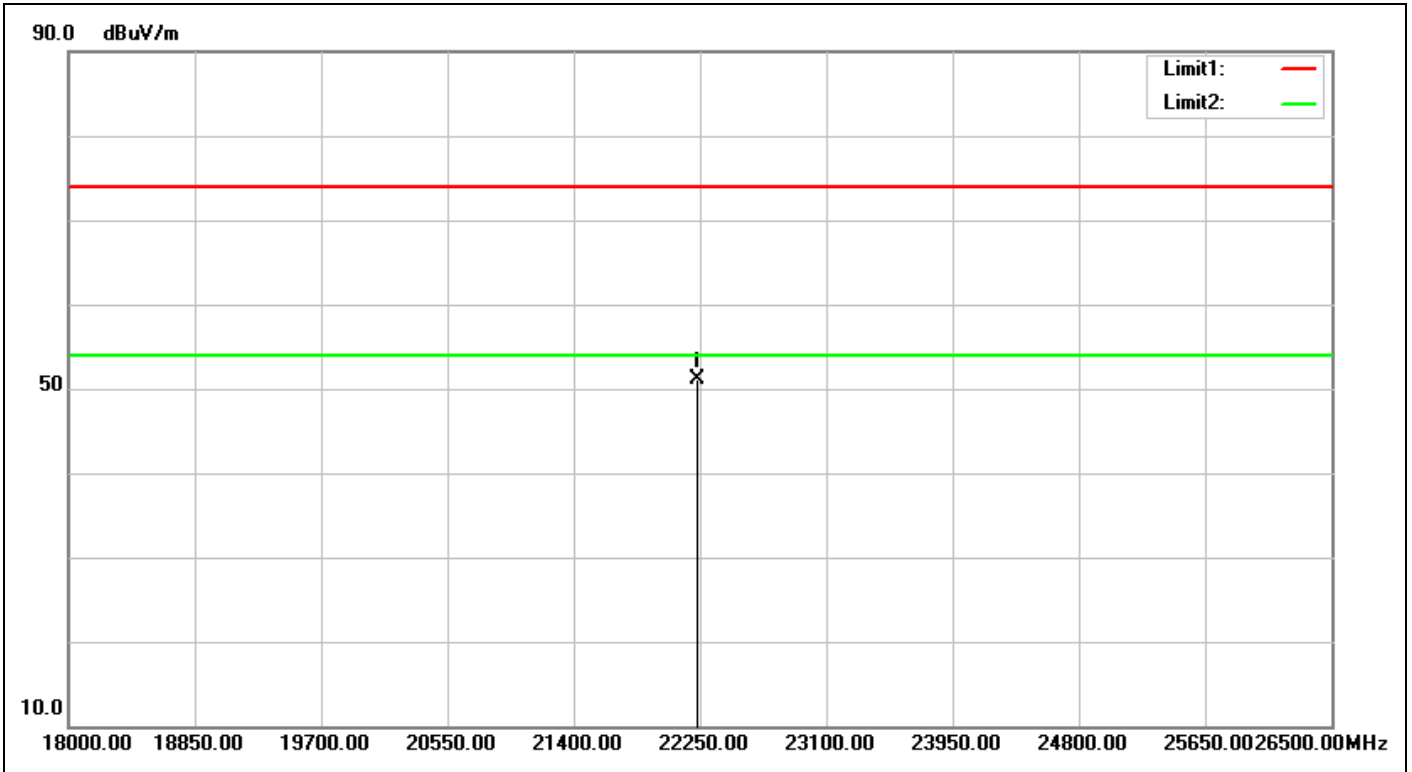
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Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 14:33:21
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21799.500	32.36	18.32	50.68	74.00	-23.32	peak	100	123	



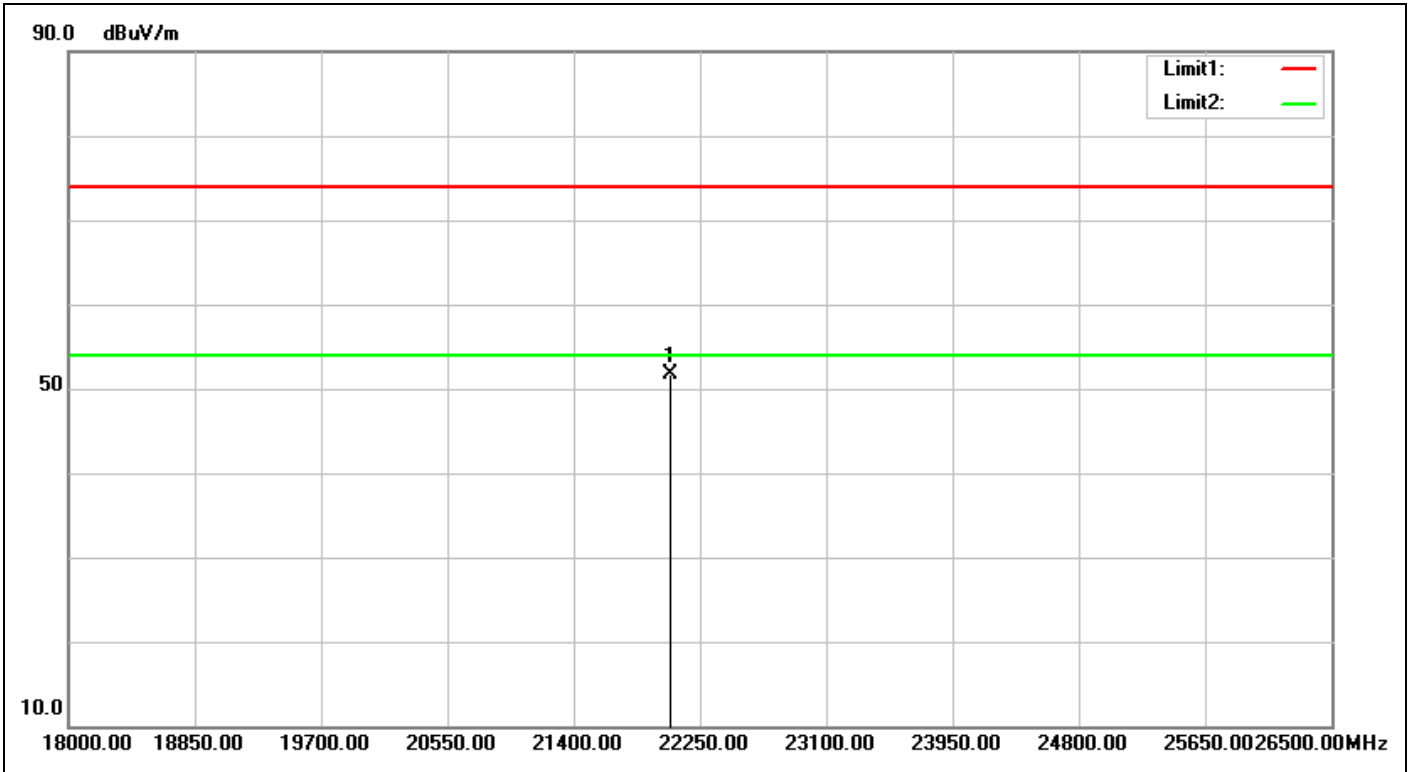
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Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 14:34:23
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22683.500	32.13	19.29	51.42	74.00	-22.58	peak	100	94	



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 14:37:59
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22233.000	32.42	18.69	51.11	74.00	-22.89	peak	100	192	



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 14:39:02
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22054.500	32.54	19.12	51.66	74.00	-22.34	peak	100	346	

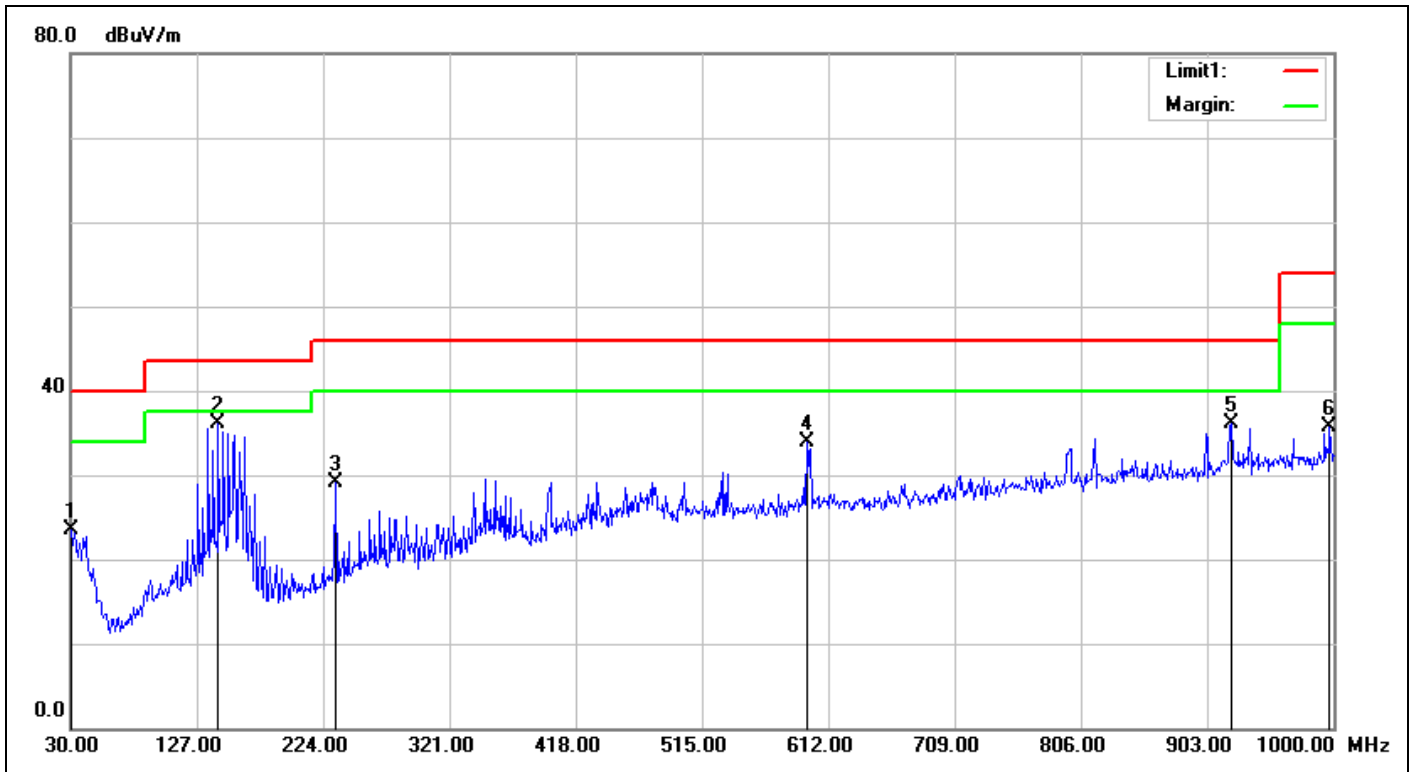
Spurious Emissions, TX Mode, 30M-1G



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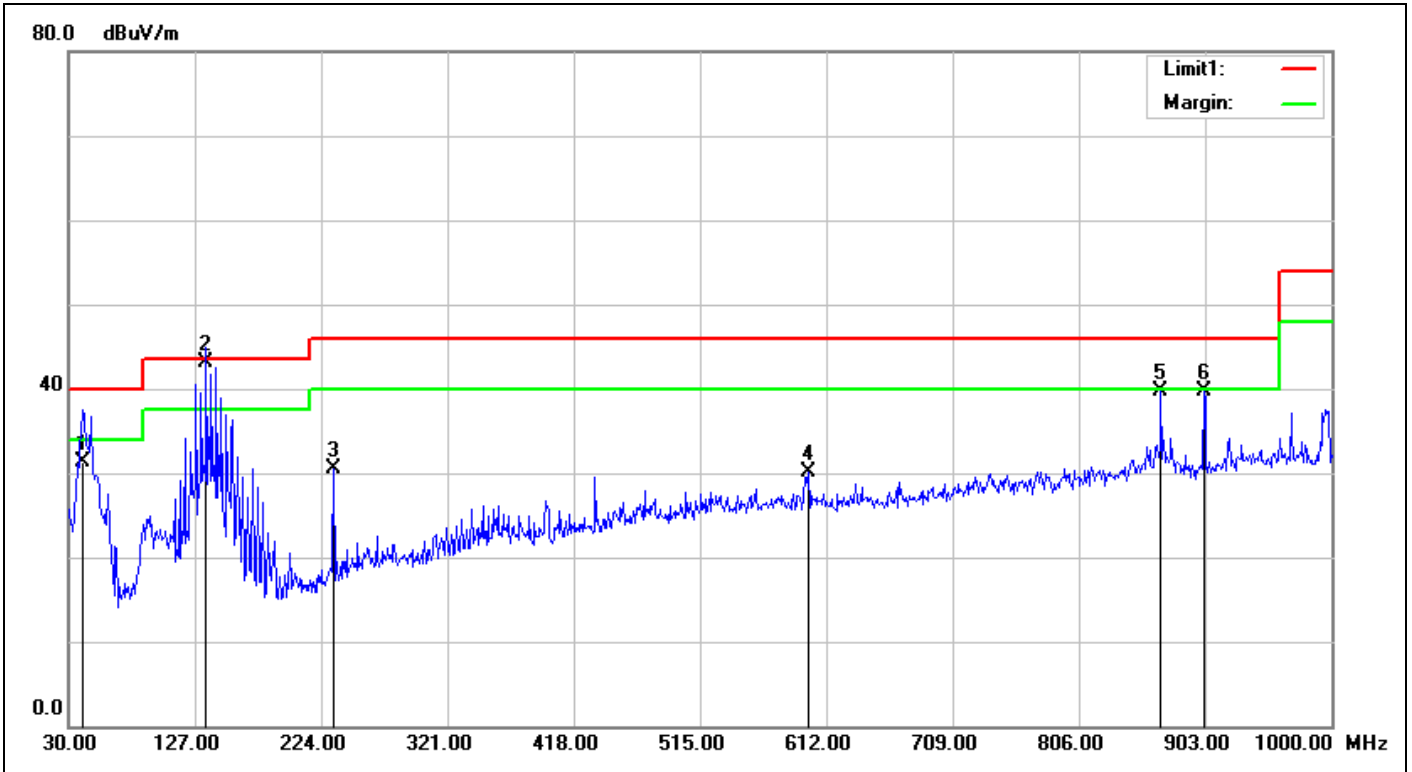
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Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 10:01:59
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.25	23.79	23.54	40.00	-16.46	QP	100	156	
2	143.4900	-7.12	43.22	36.10	43.50	-7.40	QP	100	113	
3	233.7000	-7.29	36.47	29.18	46.00	-16.82	QP	100	169	
4	595.5100	0.03	33.93	33.96	46.00	-12.04	QP	100	273	
5	921.4300	4.68	31.33	36.01	46.00	-9.99	QP	100	214	
6	997.0900	5.72	29.96	35.68	54.00	-18.32	QP	100	142	



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 10:03:02
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	40.6700	-6.25	37.55	31.30	40.00	-8.70	QP	100	354	
2	135.7300	-7.08	50.28	43.20	43.50	-0.30	QP	100	223	
3	233.7000	-7.29	37.75	30.46	46.00	-15.54	QP	100	234	
4	598.4200	0.06	30.08	30.14	46.00	-15.86	QP	100	312	
5	869.0500	3.85	35.83	39.68	46.00	-6.32	QP	100	237	
6	902.0300	4.12	35.56	39.68	46.00	-6.32	QP	100	239	

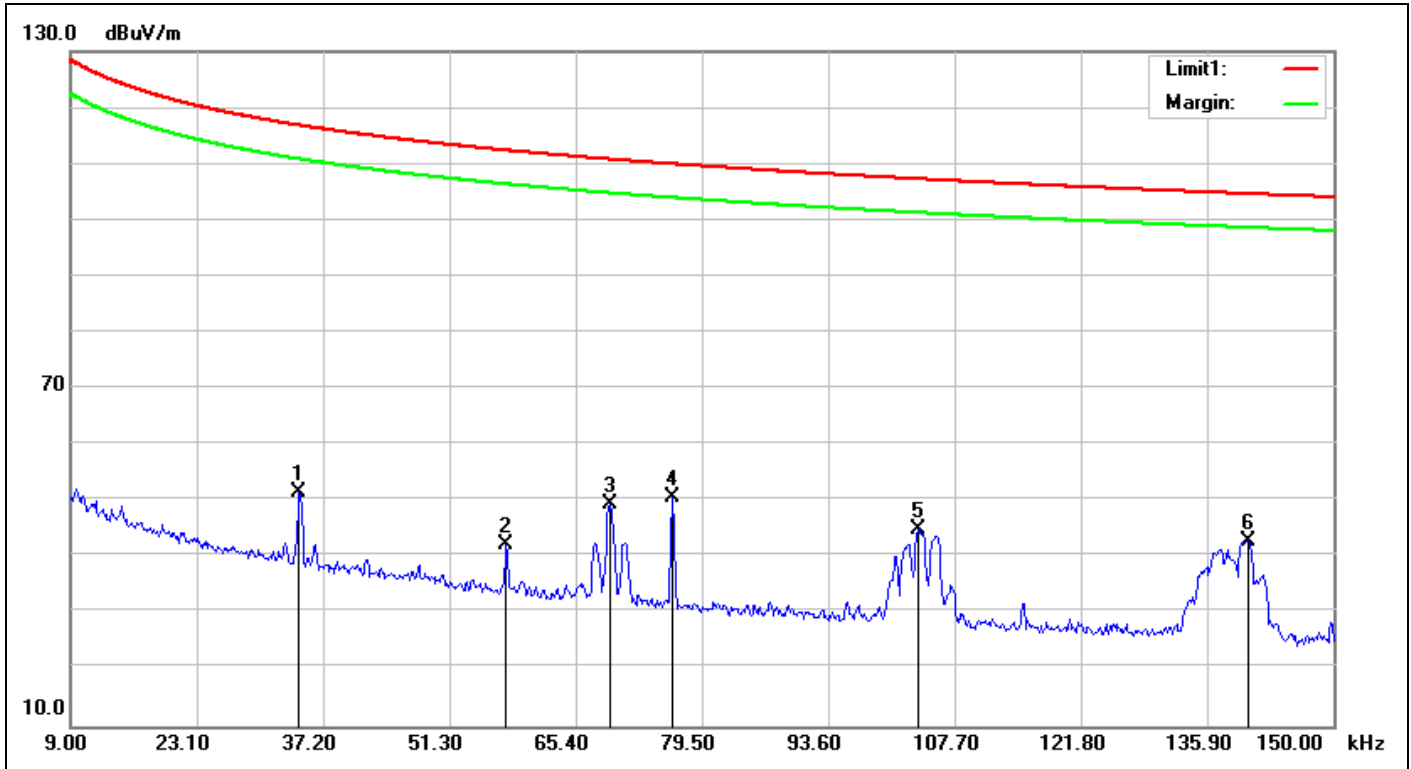
Spurious Emissions, TX Mode, 9k-30M



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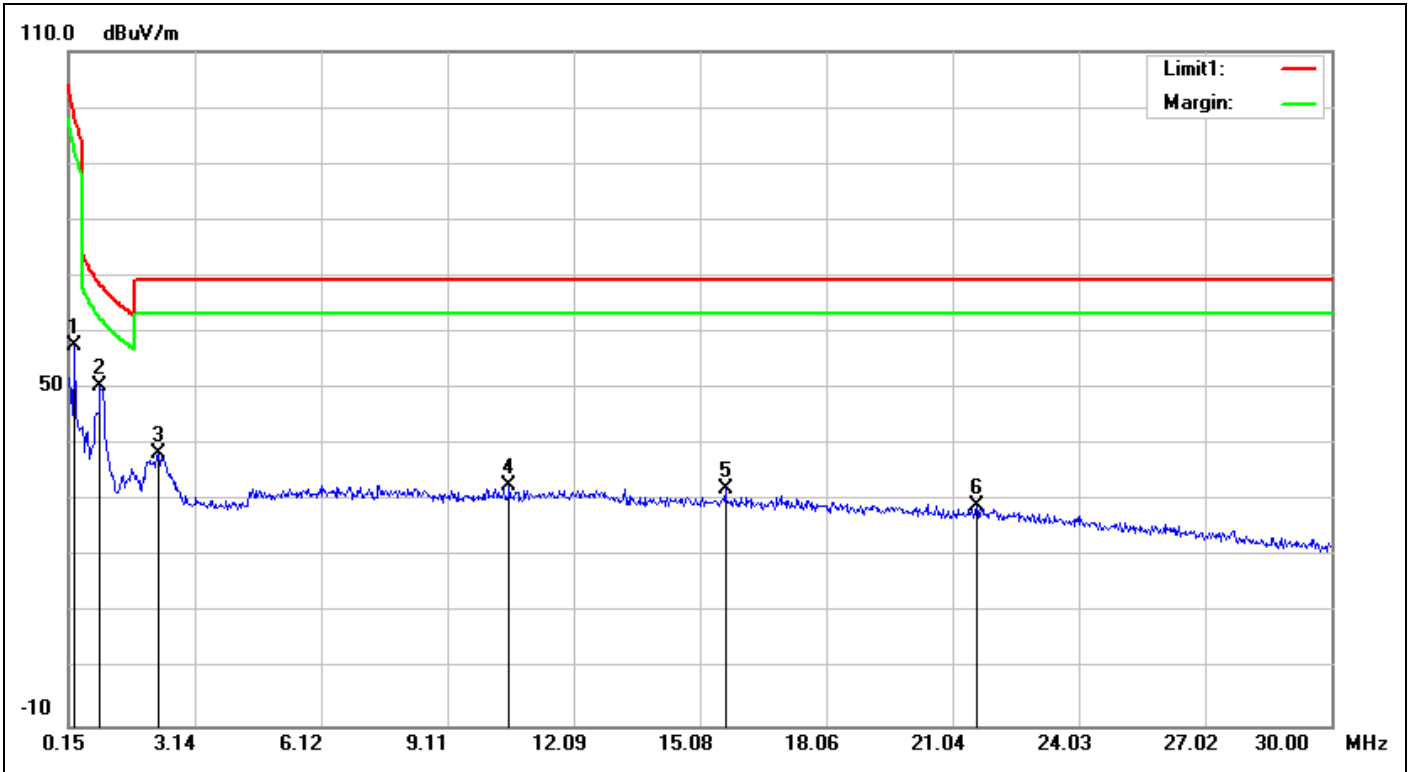
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Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC2.8_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/12/12 10:37:38
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0345	19.97	31.70	51.67	116.83	-65.16	QP	100	166	
2	0.0576	19.38	22.90	42.28	112.39	-70.11	QP	100	149	
3	0.0692	19.31	30.02	49.33	110.79	-61.46	QP	100	168	
4	0.0762	19.27	31.33	50.60	109.96	-59.36	QP	100	147	
5	0.1036	19.13	25.77	44.90	107.29	-62.39	QP	100	176	
6	0.1405	19.09	23.86	42.95	104.64	-61.69	QP	100	182	

Spurious Emissions, TX Mode, 9k-30M



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC2.8_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/12/12 10:44:03
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.2992	18.94	38.78	57.72	98.08	-40.36	QP	100	176	
2	0.8962	18.96	31.45	50.41	68.57	-18.16	QP	100	190	
3	2.2693	18.69	19.62	38.31	69.50	-31.19	QP	100	190	
4	10.5676	20.32	12.49	32.81	69.50	-36.69	QP	100	40	
5	15.6720	21.22	10.88	32.10	69.50	-37.40	QP	100	56	
6	21.6121	22.10	6.93	29.03	69.50	-40.47	QP	100	152	

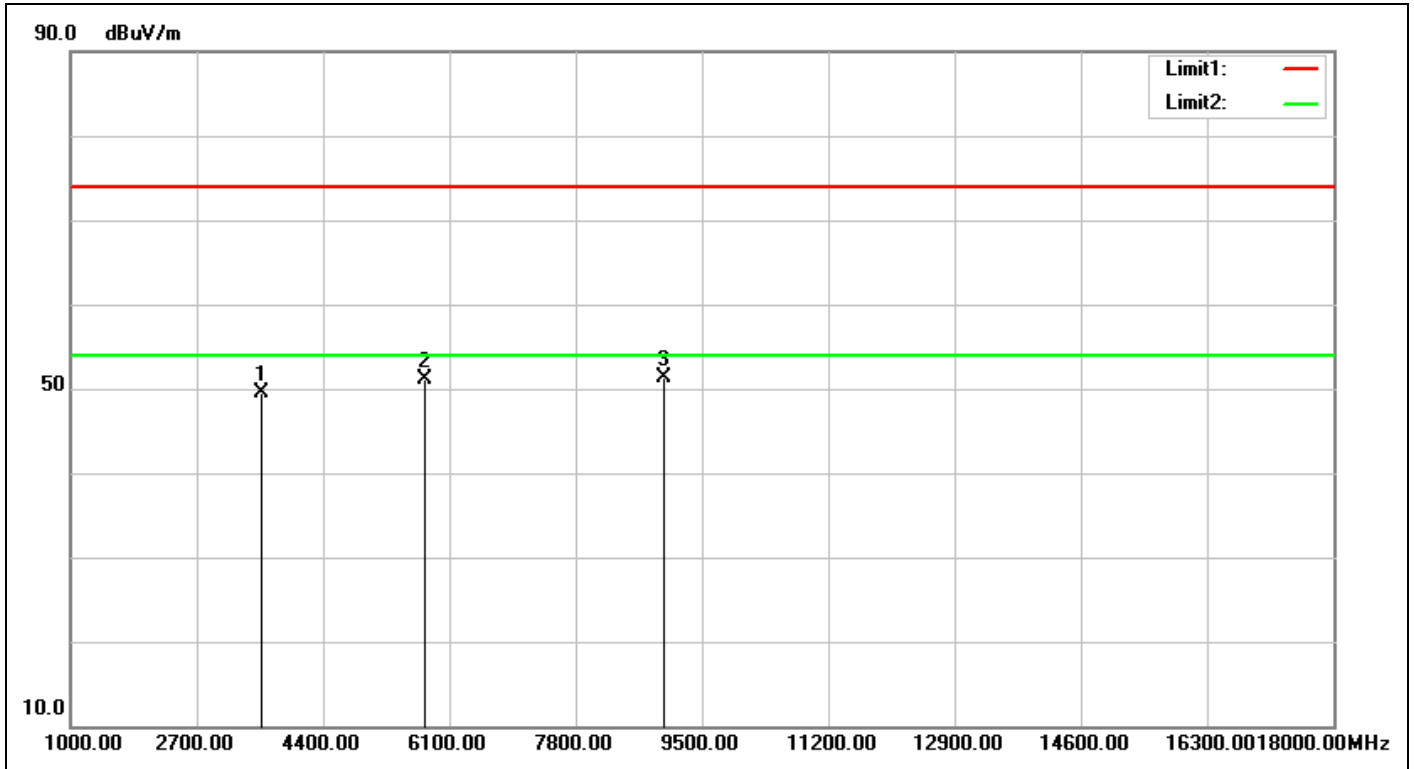
Spurious Emissions, RX Mode, 1-18G



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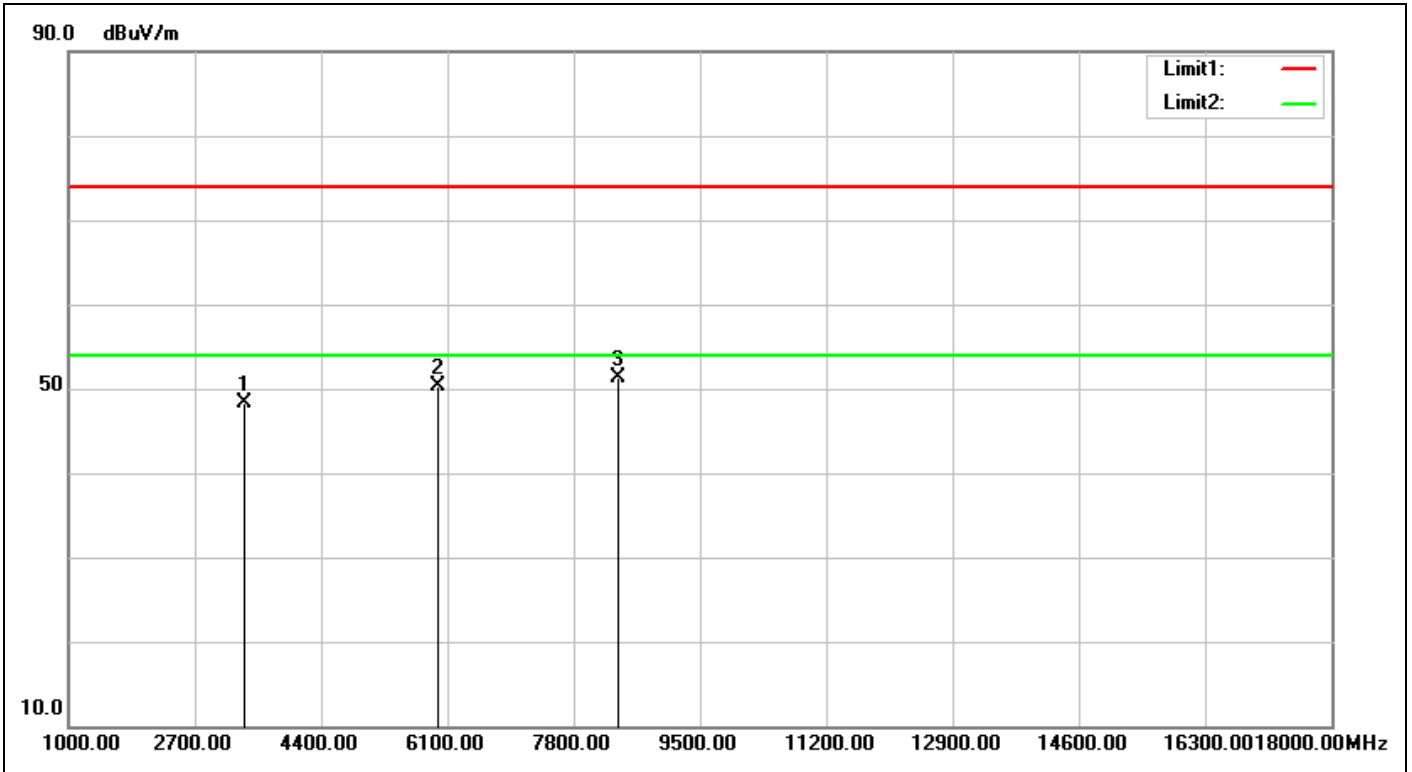
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 14:06:57
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-RX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3567.000	-6.72	56.31	49.59	74.00	-24.41	peak	100	291	
2	5777.000	0.93	50.15	51.08	74.00	-22.92	peak	100	100	
3	8990.000	5.46	45.92	51.38	74.00	-22.62	peak	100	327	



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 14:08:00
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-RX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3363.000	-6.93	55.31	48.38	74.00	-25.62	peak	100	99	
2	5981.000	2.25	48.11	50.36	74.00	-23.64	peak	100	113	
3	8395.000	5.31	45.94	51.25	74.00	-22.75	peak	100	91	

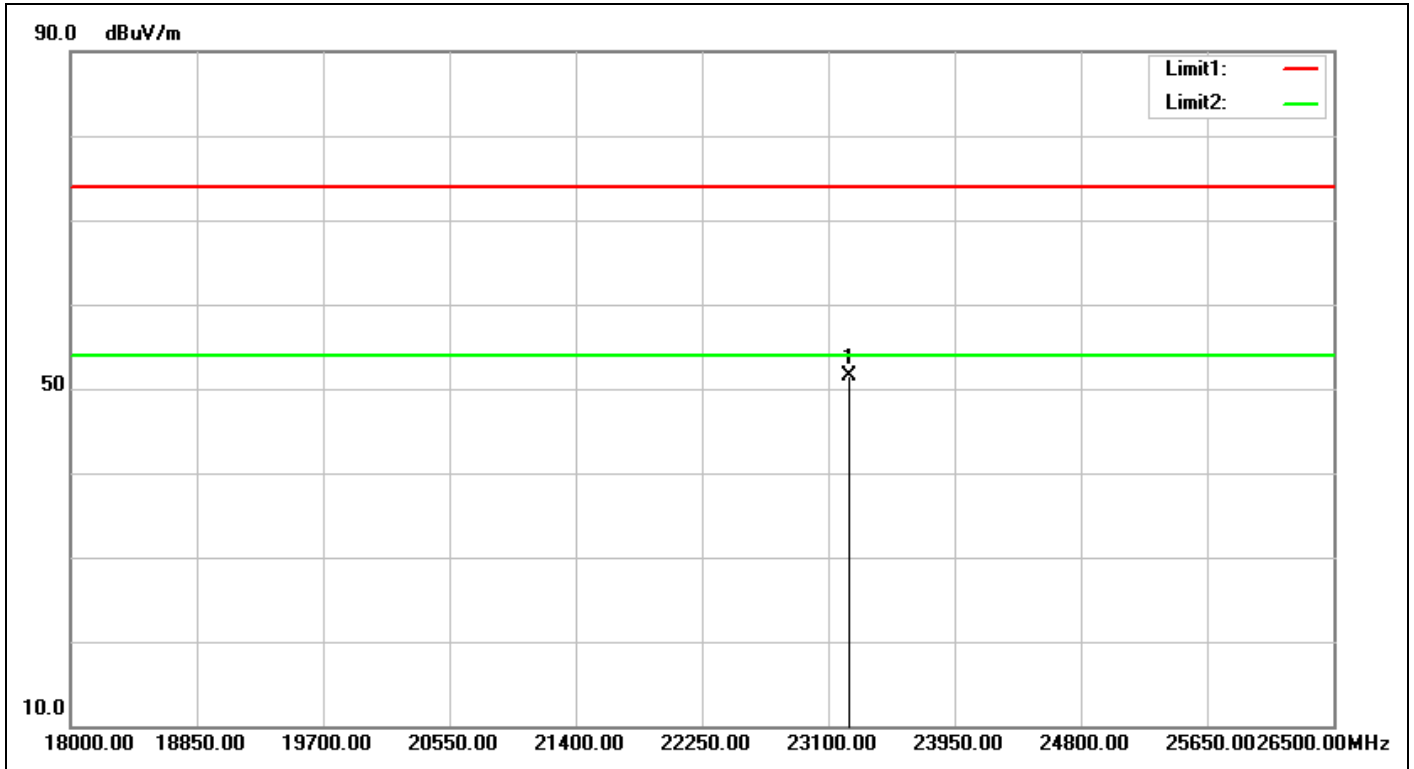
Spurious Emissions, RX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

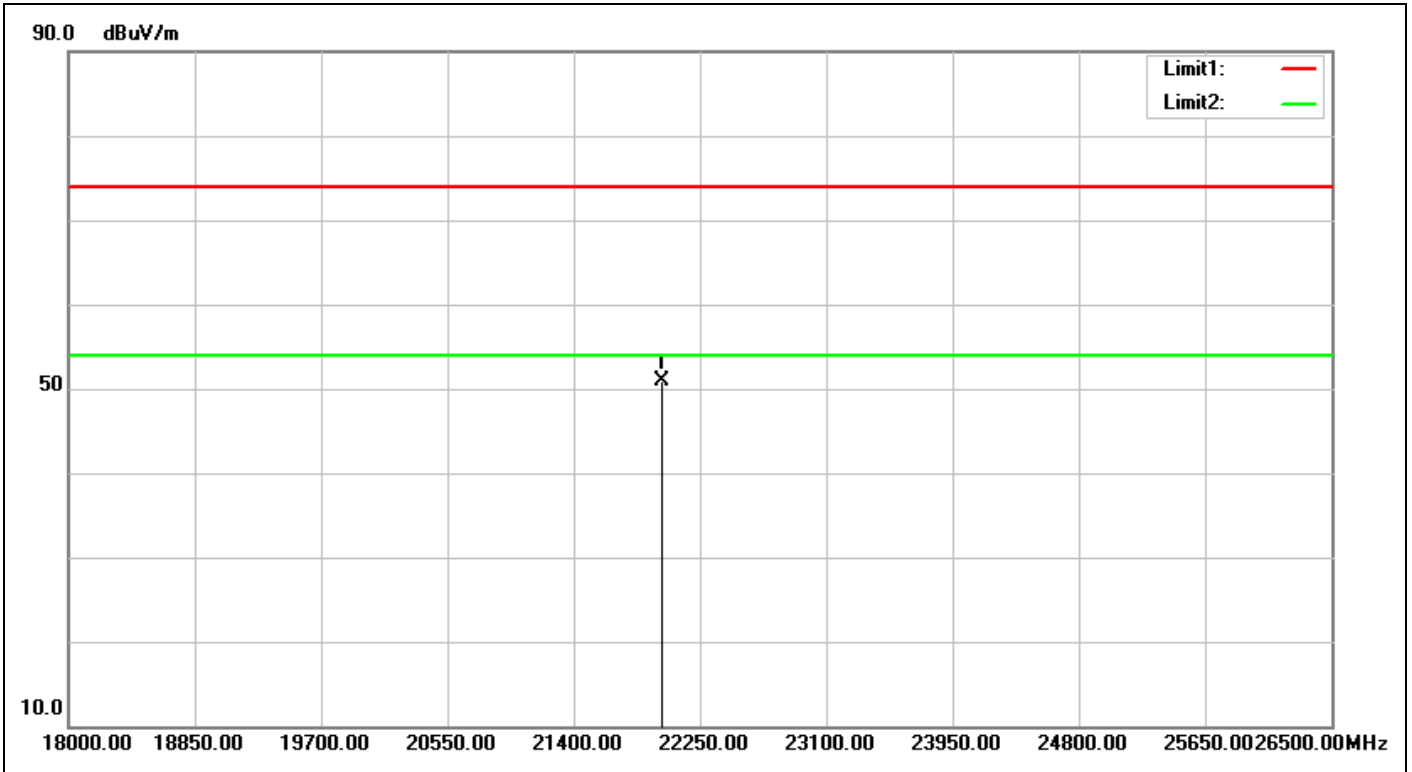
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 14:25:49
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-RX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23236.000	32.17	19.26	51.43	74.00	-22.57	peak	100	134	



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 14:26:52
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-RX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21995.000	32.58	18.38	50.96	74.00	-23.04	peak	100	307	

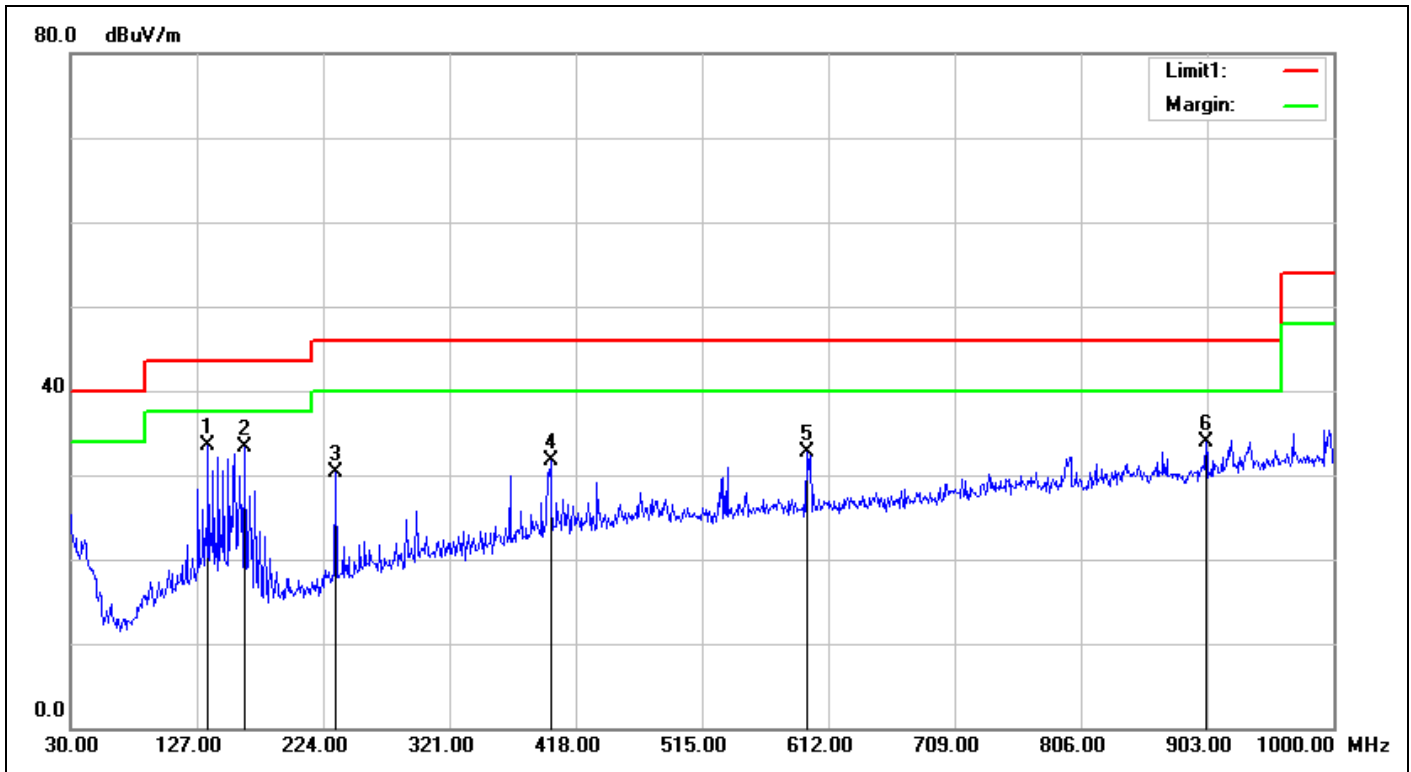
Spurious Emissions, RX Mode, 30M-1G



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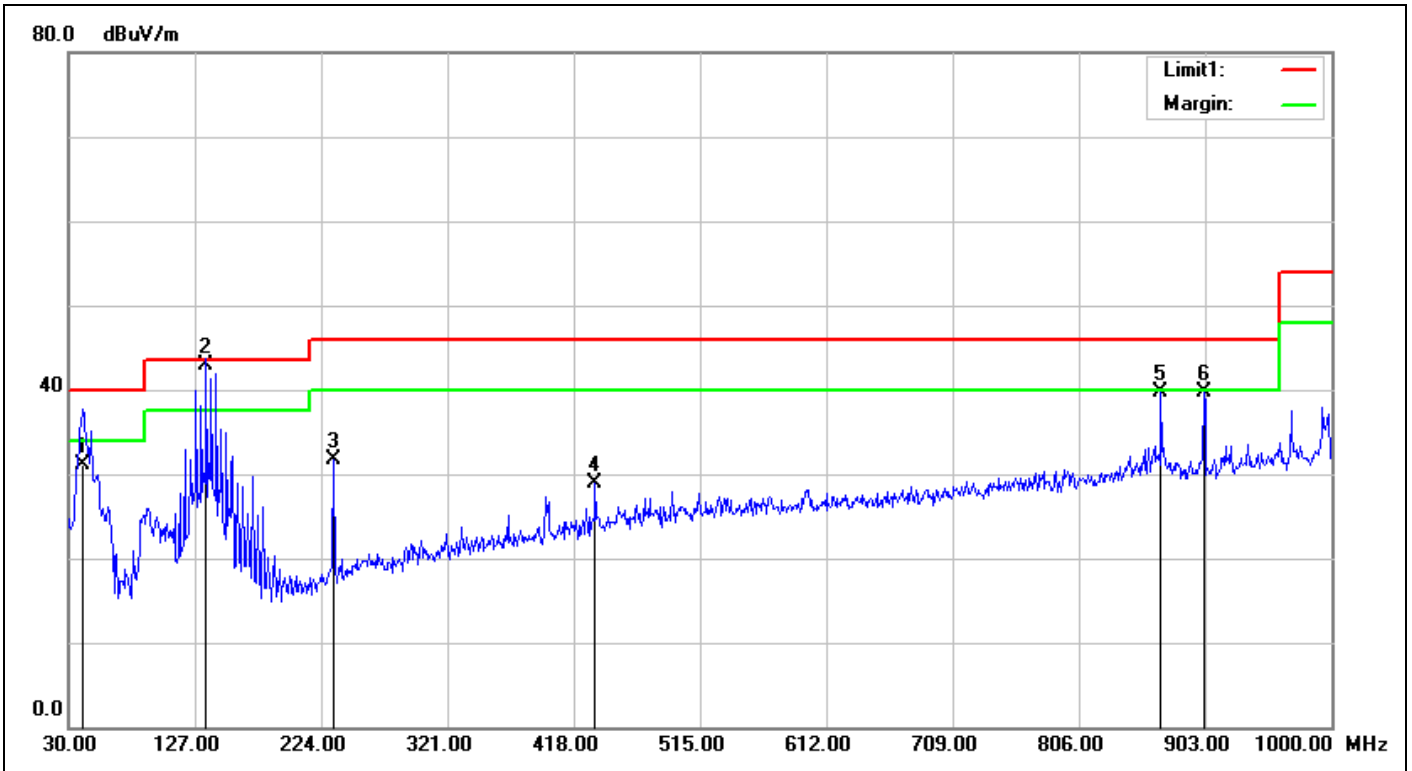
Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/12 10:14:59
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-RX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	135.7300	-7.08	40.58	33.50	43.50	-10.00	QP	100	123	
2	163.8600	-8.43	41.82	33.39	43.50	-10.11	QP	100	238	
3	233.7000	-7.29	37.51	30.22	46.00	-15.78	QP	100	160	
4	398.6000	-2.45	34.22	31.77	46.00	-14.23	QP	100	206	
5	595.5100	0.03	32.68	32.71	46.00	-13.29	QP	100	134	
6	902.0300	4.12	29.88	34.00	46.00	-12.00	QP	100	158	

Spurious Emissions, RX Mode, 30M-1G



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/12 10:16:02
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-RX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	40.6700	-6.25	37.45	31.20	40.00	-8.80	QP	100	245	
2	135.7300	-7.08	50.08	43.00	43.50	-0.50	QP	100	231	
3	233.7000	-7.29	38.94	31.65	46.00	-14.35	QP	100	239	
4	434.4900	-2.06	30.95	28.89	46.00	-17.11	QP	100	167	
5	869.0500	3.85	35.85	39.70	46.00	-6.30	QP	100	239	
6	902.0300	4.12	35.57	39.69	46.00	-6.31	QP	100	242	

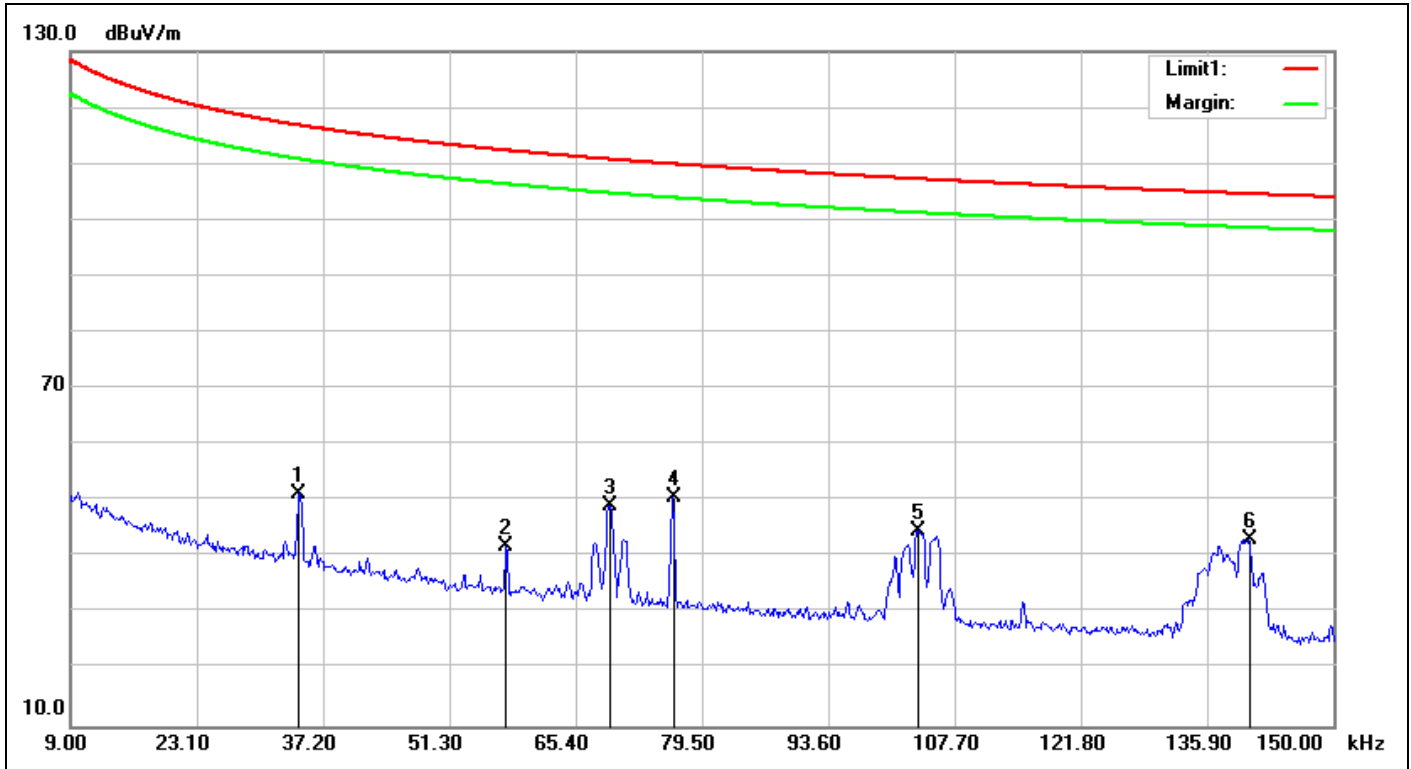
Spurious Emissions, RX Mode, 9K-30M



TUV Rheinland Taiwan Ltd.

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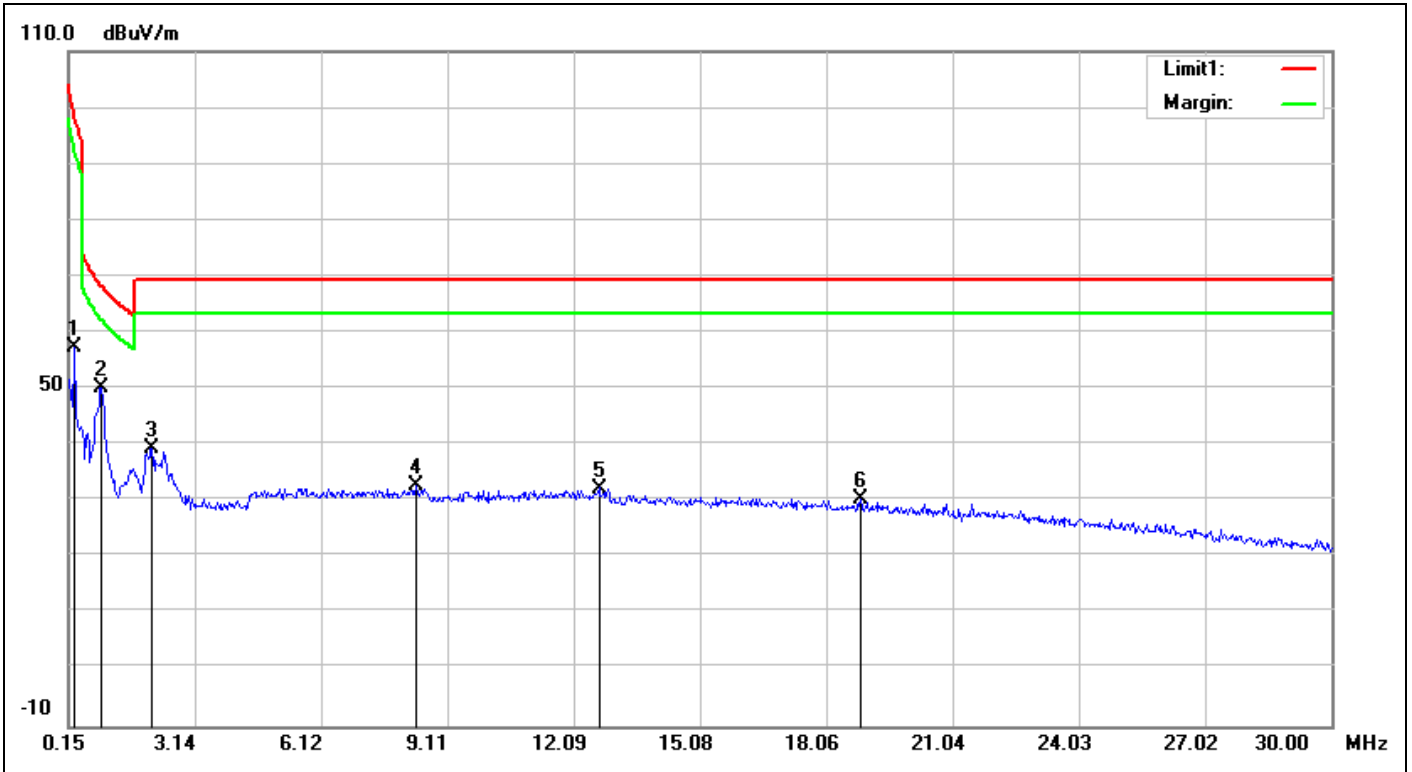
Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC2.8_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/12/12 10:38:42
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-RX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0345	19.97	31.41	51.38	116.83	-65.45	QP	100	162	
2	0.0576	19.38	22.62	42.00	112.39	-70.39	QP	100	157	
3	0.0692	19.31	29.87	49.18	110.79	-61.61	QP	100	165	
4	0.0763	19.27	31.33	50.60	109.94	-59.34	QP	100	149	
5	0.1036	19.13	25.66	44.79	107.29	-62.50	QP	100	176	
6	0.1406	19.09	24.09	43.18	104.64	-61.46	QP	100	189	

Spurious Emissions, RX Mode, 9k-30M



Service No.:	114071491	Test Distance:	3m
Test Standard:	NCC2.8_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/12/12 10:45:07
Applicant:	AtechOEM Inc.	Test Rating:	DC 5V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BL-4011 QAM	Test Engineer:	George Yang
Test Mode:	2440-RX		
Remark:			

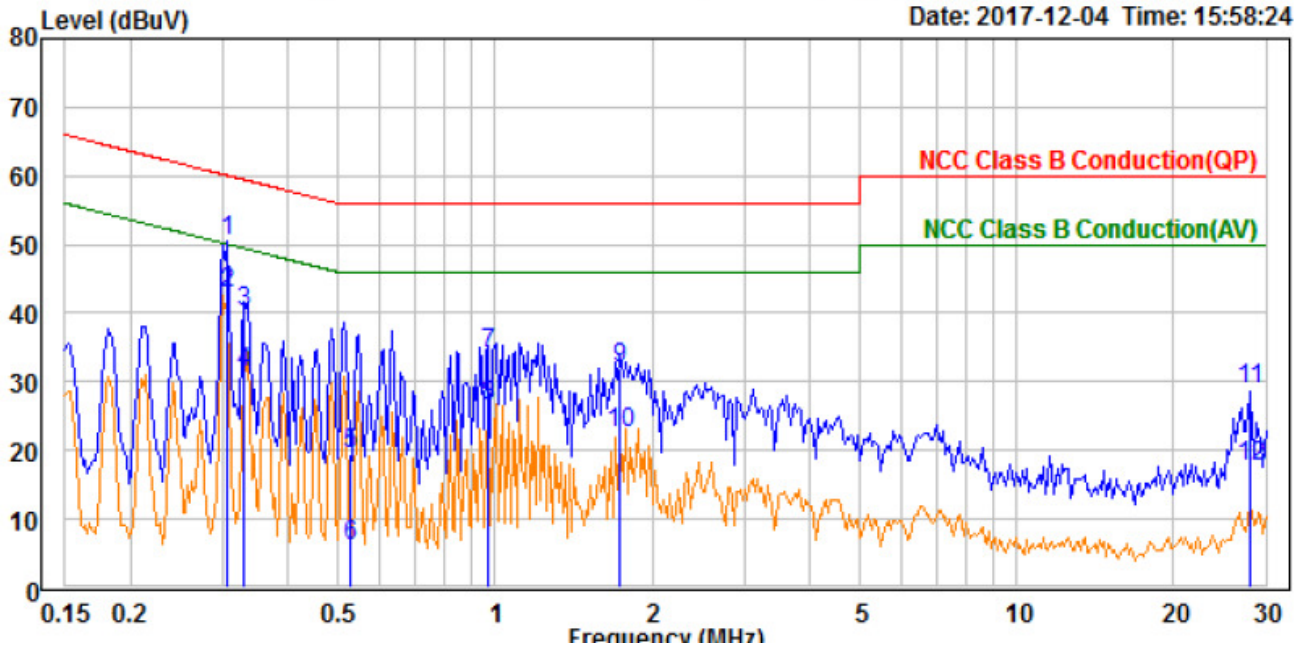
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.2993	18.94	38.55	57.49	98.08	-40.59	QP	100	165	
2	0.9261	18.97	31.15	50.12	68.29	-18.17	QP	100	181	
3	2.1201	18.72	20.50	39.22	69.50	-30.28	QP	100	184	
4	8.3588	20.07	12.77	32.84	69.50	-36.66	QP	100	320	
5	12.6870	20.70	11.60	32.30	69.50	-37.20	QP	100	154	
6	18.8660	21.79	8.42	30.21	69.50	-39.29	QP	100	208	

Mains Spurious Emissions



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Date: 2017-12-04 Time: 15:58:24



Trace: 1

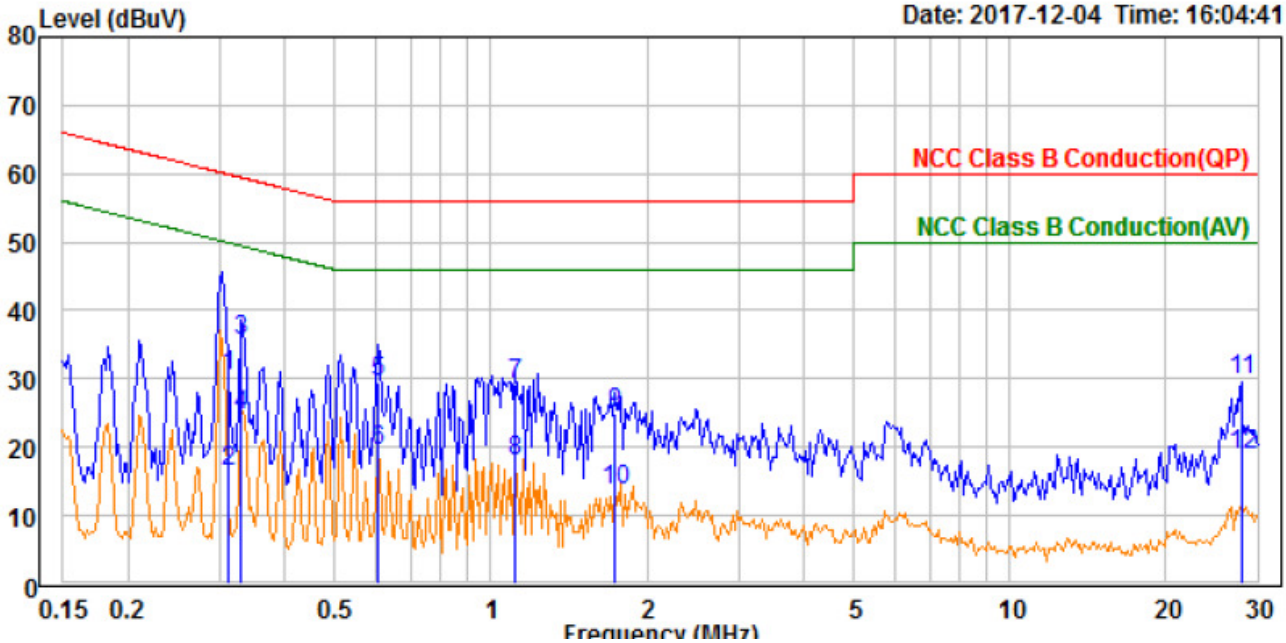
Site : Conduction room
 Condition : NCC Class B Conduction(QP) line1
 Test Engineer: George Yang
 Applicant : AtechOEM Inc.
 Product : Bluetooth Module
 Model No. : BL-4011 QAM
 Test Rating : 110Vac/60Hz
 Tmp/Hum : 23.2°C / 47%
 Memo : Mains

	Read Freq	Level	Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.305	40.77	9.66	50.43	60.10	-9.67	QP
2	0.305	33.29	9.66	42.95	50.10	-7.15	Average
3	0.330	30.55	9.66	40.21	59.44	-19.23	QP
4	0.330	21.64	9.66	31.30	49.44	-18.14	Average
5	0.528	9.76	9.66	19.42	56.00	-36.58	QP
6	0.528	-3.51	9.66	6.15	46.00	-39.85	Average
7	0.972	24.36	9.67	34.03	56.00	-21.97	QP
8	0.972	16.90	9.67	26.57	46.00	-19.43	Average
9	1.732	22.33	9.69	32.02	56.00	-23.98	QP
10	1.732	12.90	9.69	22.59	46.00	-23.41	Average
11	28.000	19.11	9.79	28.90	60.00	-31.10	QP
12	28.000	7.95	9.79	17.74	50.00	-32.26	Average



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Date: 2017-12-04 Time: 16:04:41



Trace: 1
 Site : Conduction room
 Condition : NCC Class B Conduction(QP) neutral
 Test Engineer: George Yang
 Applicant : AtechOEM Inc.
 Product : Bluetooth Module
 Model No. : BL-4011 QAM
 Test Rating : 110Vac/60Hz
 Tmp/Hum : 23.2°C / 47%
 Memo : Mains

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.312	20.87	9.66	30.53	59.92	-29.39	QP
2	0.312	6.86	9.66	16.52	49.92	-33.40	Average
3	0.330	25.95	9.66	35.61	59.46	-23.85	QP
4	0.330	15.10	9.66	24.76	49.46	-24.70	Average
5	0.605	19.70	9.66	29.36	56.00	-26.64	QP
6	0.605	9.90	9.66	19.56	46.00	-26.44	Average
7	1.117	19.43	9.68	29.11	56.00	-26.89	QP
8	1.117	8.21	9.68	17.89	46.00	-28.11	Average
9	1.733	15.16	9.70	24.86	56.00	-31.14	QP
10	1.733	4.07	9.70	13.77	46.00	-32.23	Average
11	27.999	20.01	9.89	29.90	60.00	-30.10	QP
12	27.999	8.90	9.89	18.79	50.00	-31.21	Average