

Test Report No.10045004 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 10045004AppendixD)

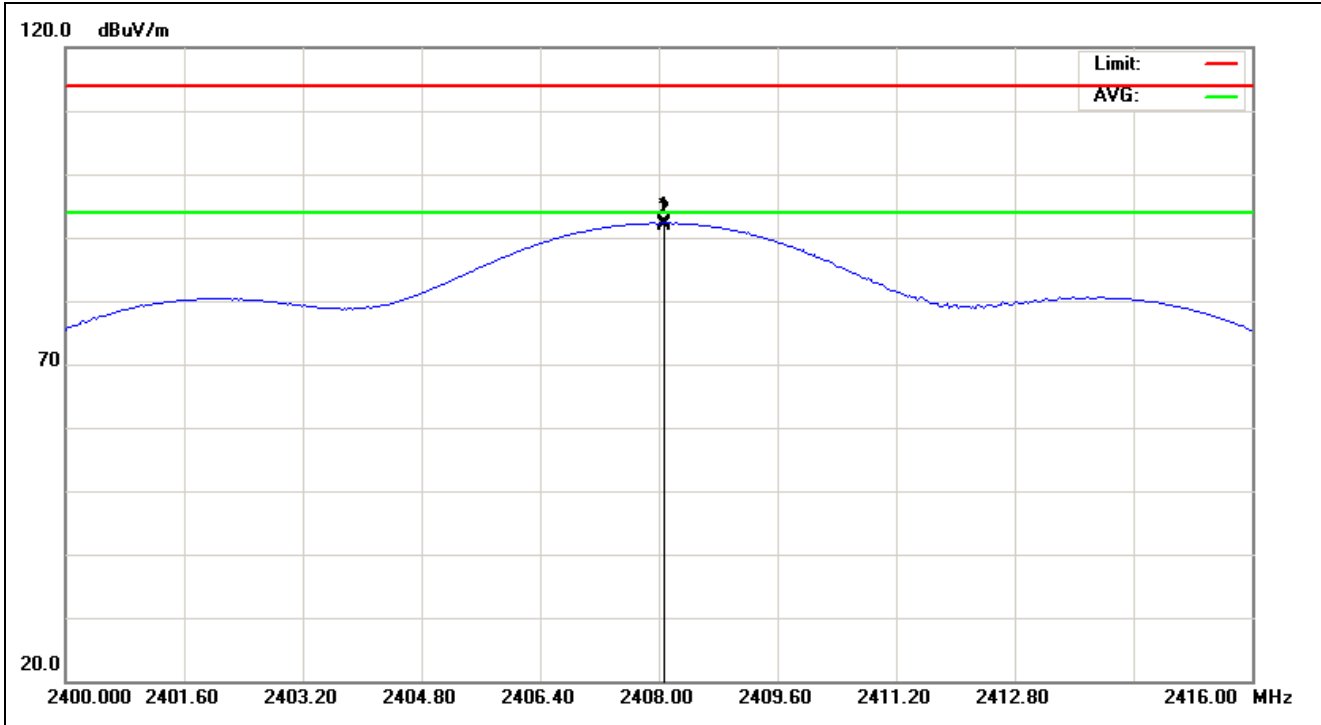
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Radiated Emissions, Fundamental and Band Edges

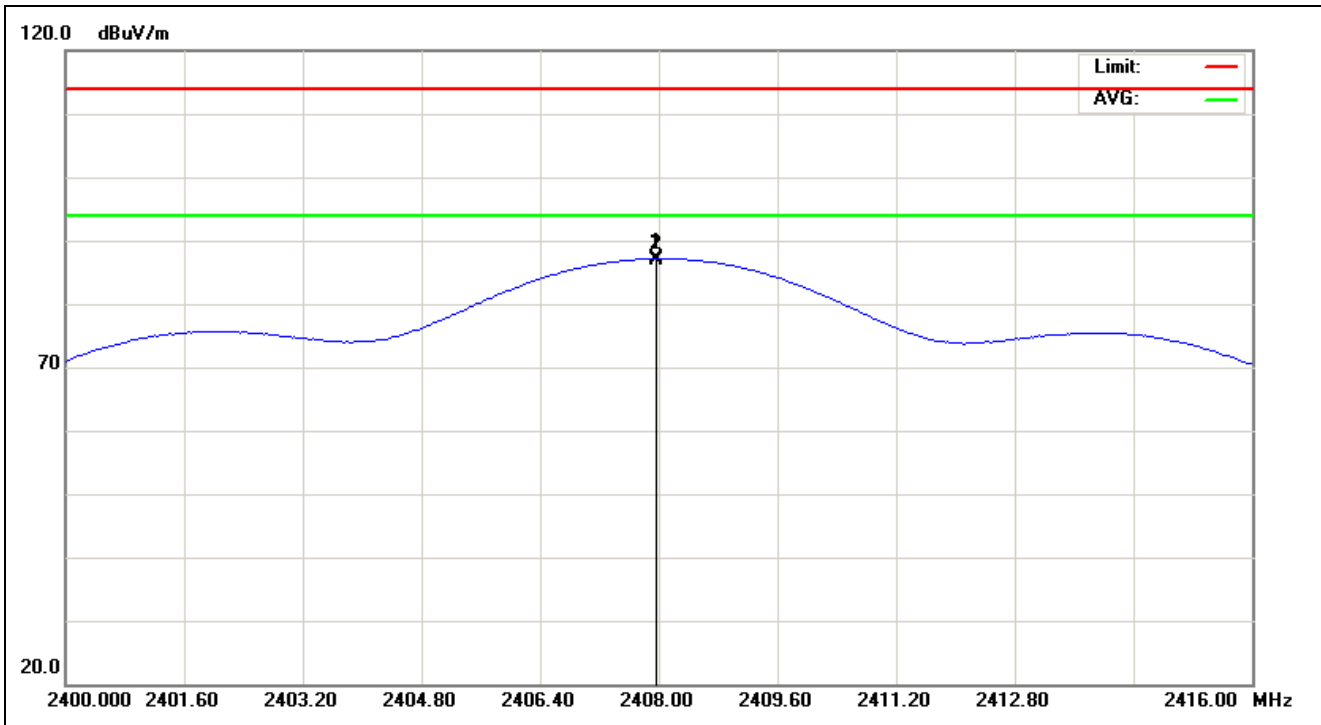


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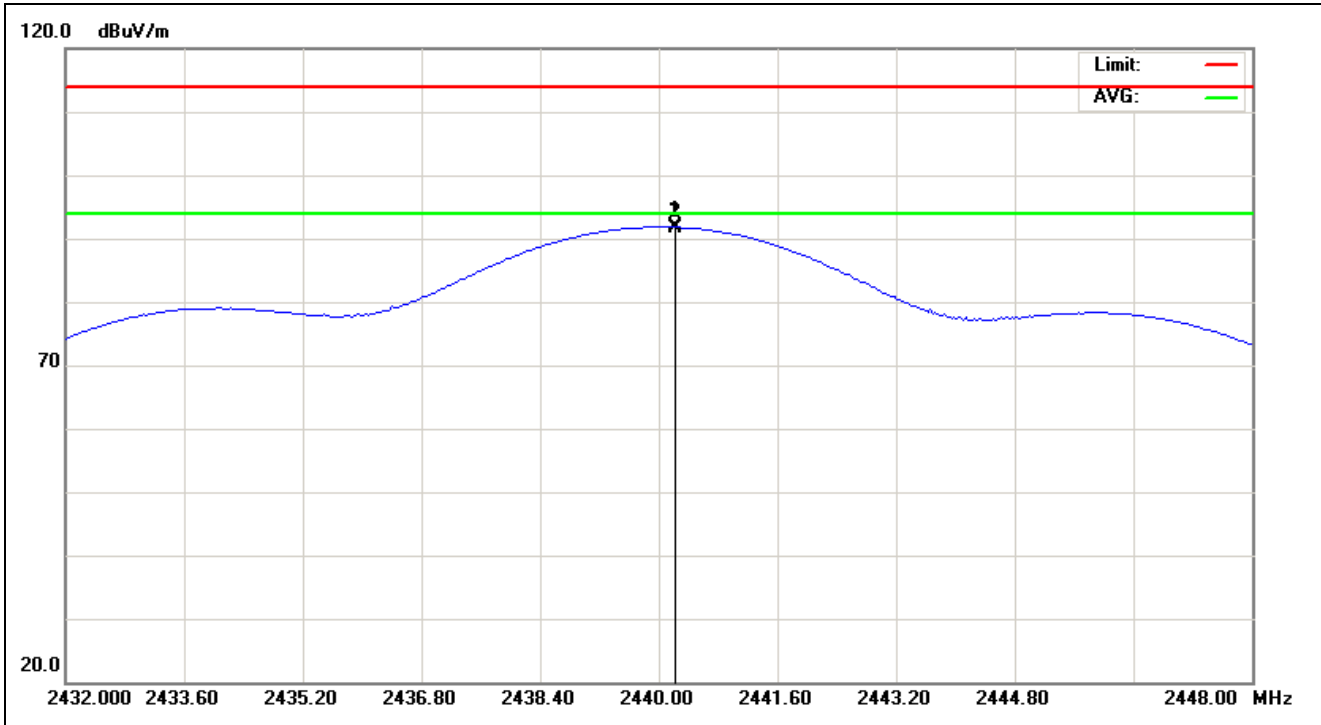
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC 15.249_2.4-2.5G_3m PK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/27 14:35:41
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2408		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2408.077	-7.96	100.28	92.32	114.00	-21.68	peak			
2	2408.077	-7.96	99.93	91.97	94.00	-2.03	AVG			



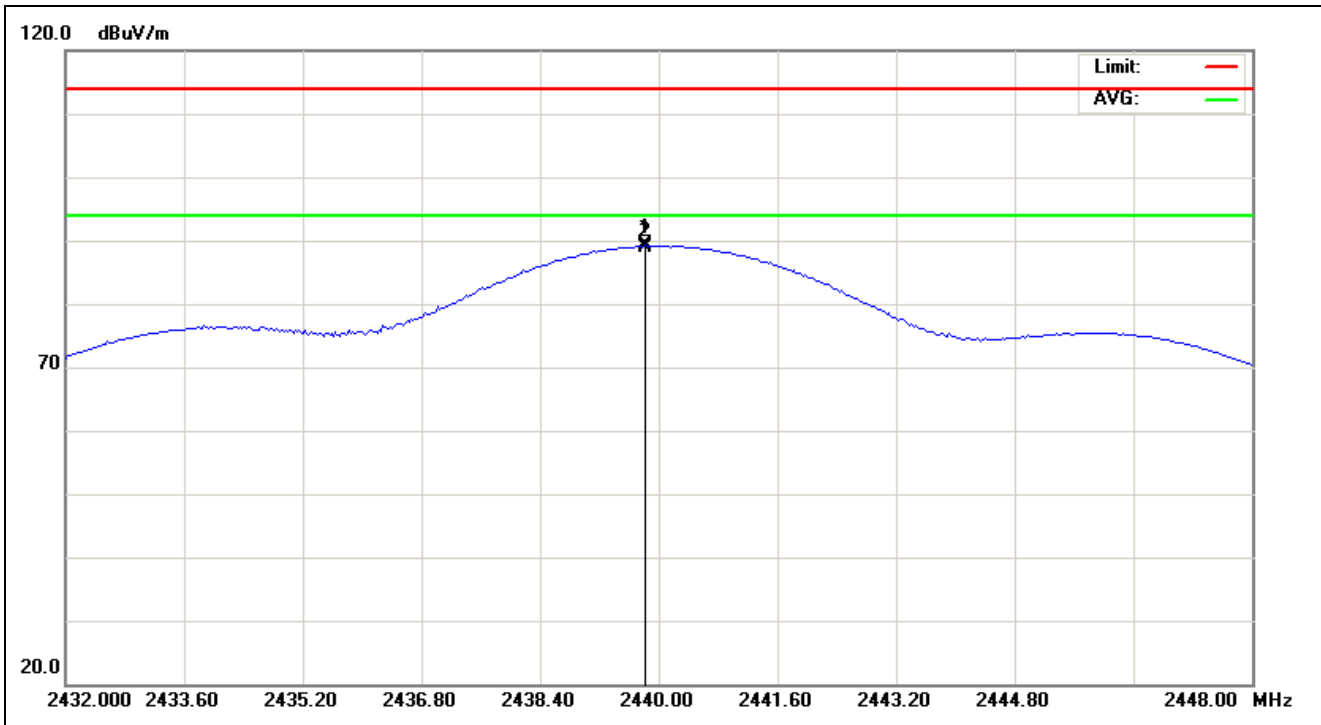
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC 15.249_2.4-2.5G_3m PK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/27 14:45:02
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2408		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2407.974	-7.96	95.11	87.15	114.00	-26.85	peak			
2	2407.974	-7.96	94.86	86.90	94.00	-7.10	AVG			



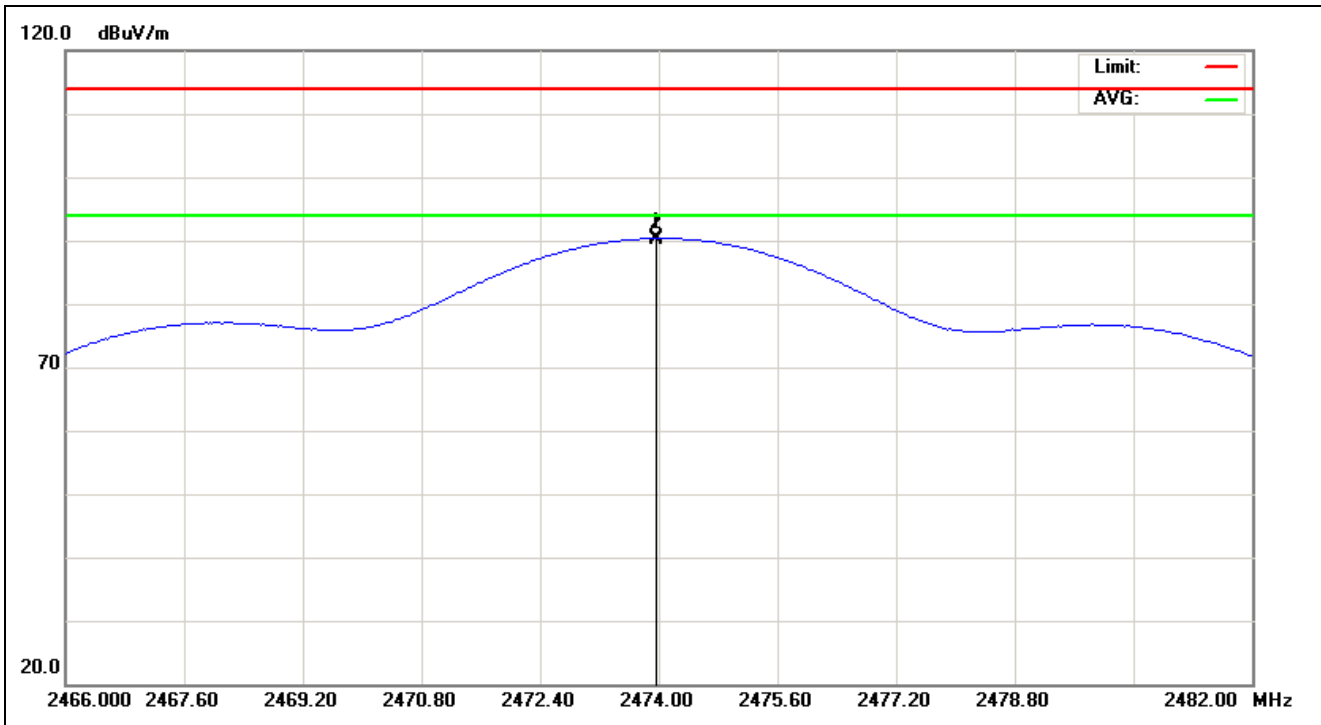
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC 15.249_2.4-2.5G_3m PK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/27 14:38:56
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2440		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2440.231	-7.92	99.83	91.91	114.00	-22.09	peak			
2	2440.231	-7.92	99.51	91.59	94.00	-2.41	AVG			



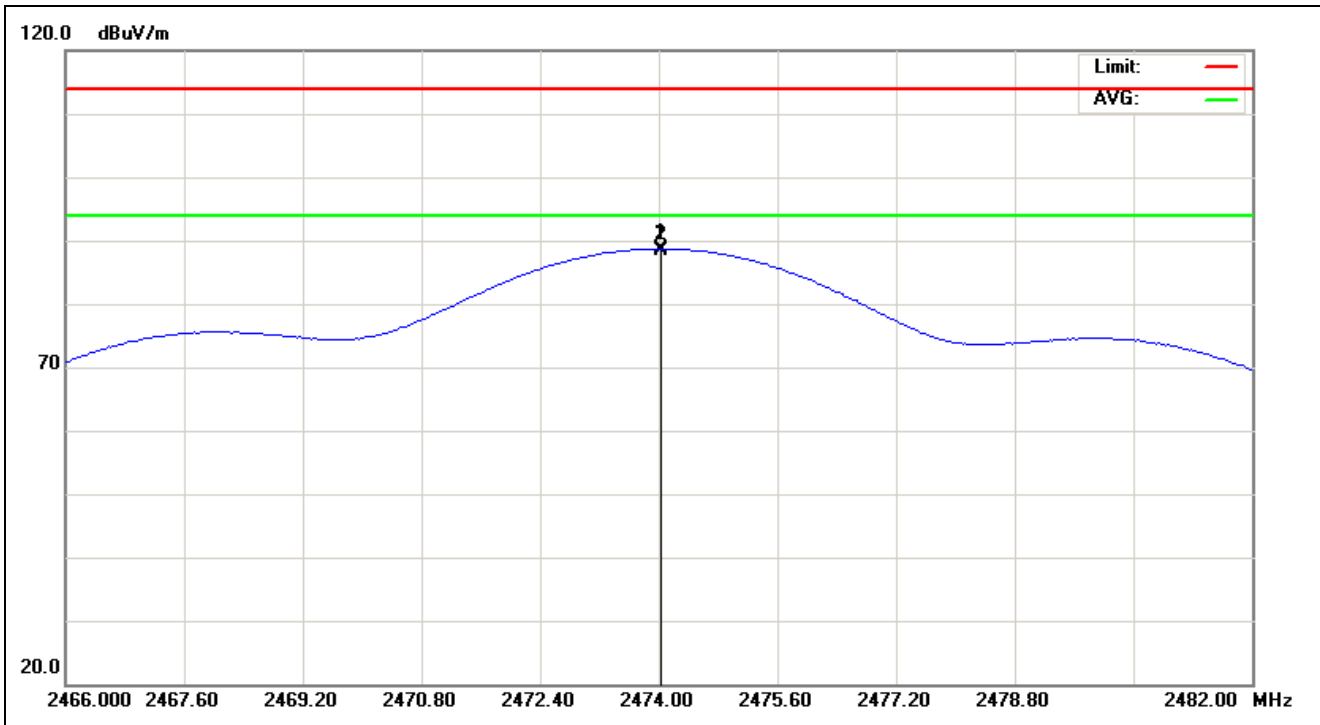
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC 15.249_2.4-2.5G_3m PK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/27 14:39:55
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2440		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2439.821	-7.92	97.21	89.29	114.00	-24.71	peak			
2	2439.821	-7.92	96.69	88.77	94.00	-5.23	AVG			



Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC 15.249_2.4-2.5G_3m PK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/27 14:42:37
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2474		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2473.974	-7.89	98.24	90.35	114.00	-23.65	peak			
2	2473.974	-7.89	97.99	90.10	94.00	-3.90	AVG			

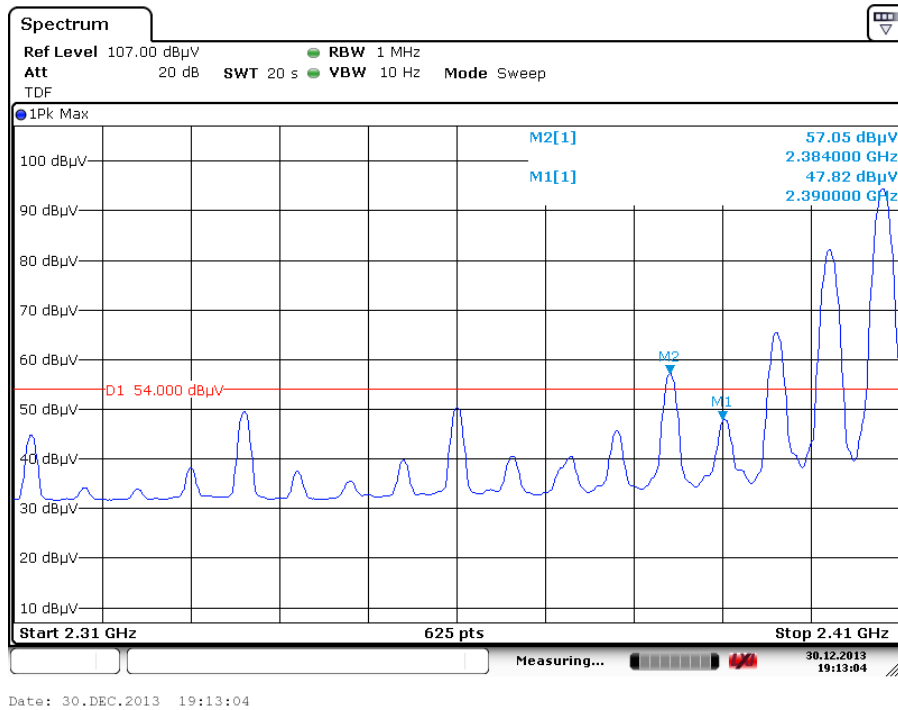
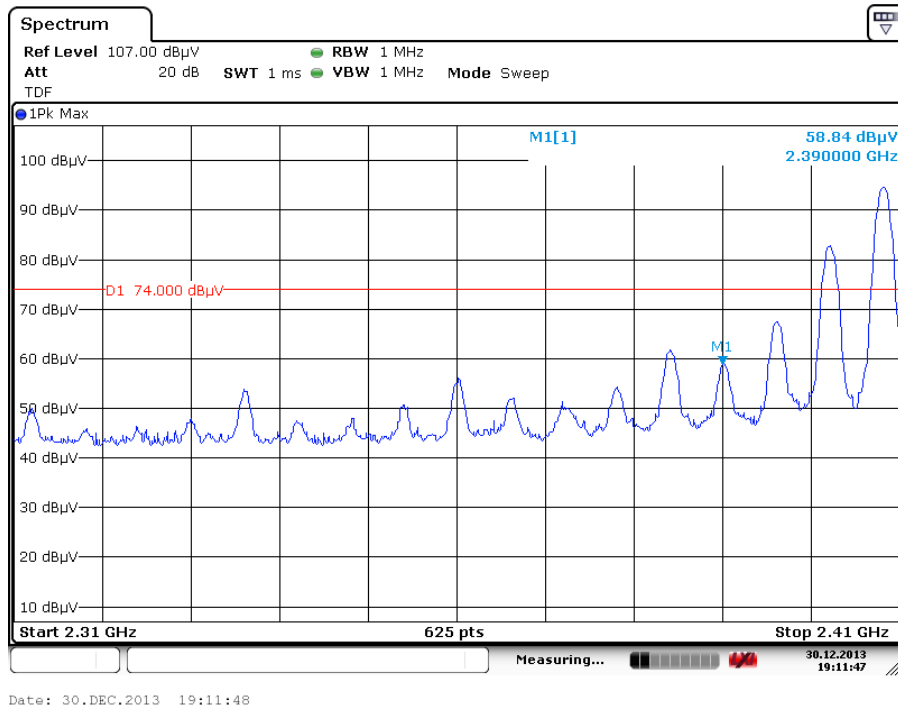


Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC 15.249_2.4-2.5G_3m PK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/27 14:43:27
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2474		
Remark:			

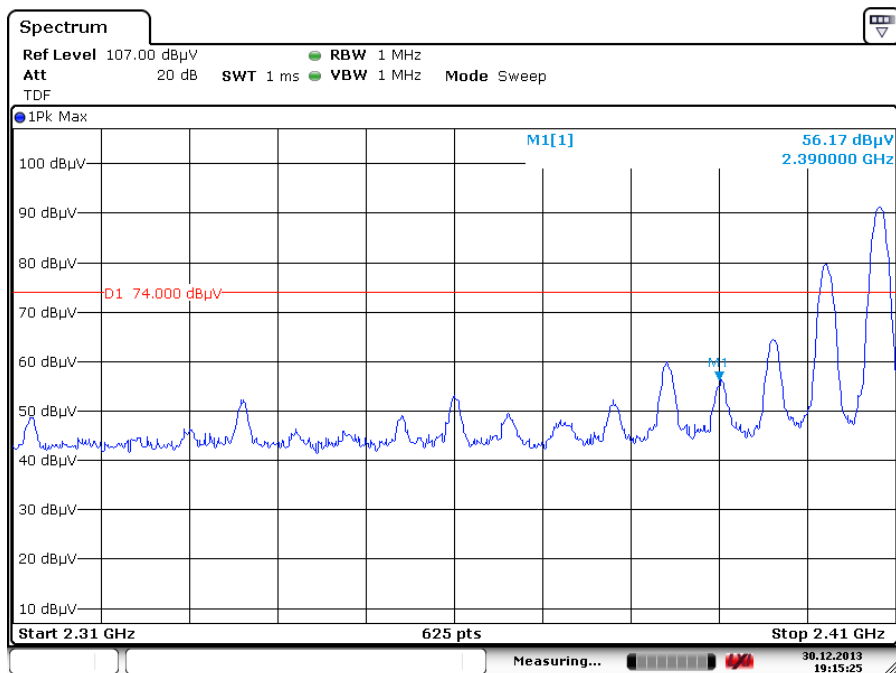
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2474.026	-7.89	96.58	88.69	114.00	-25.31	peak			
2	2474.026	-7.89	96.35	88.46	94.00	-5.54	AVG			

Radiated Bandedge

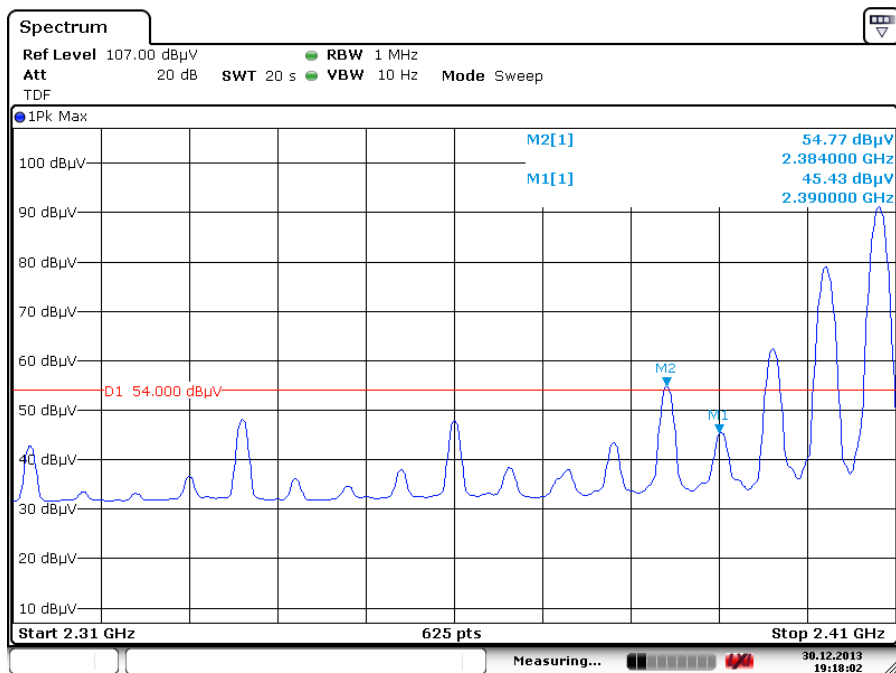
Low Channel (Hor)



Low Channel (Ver)

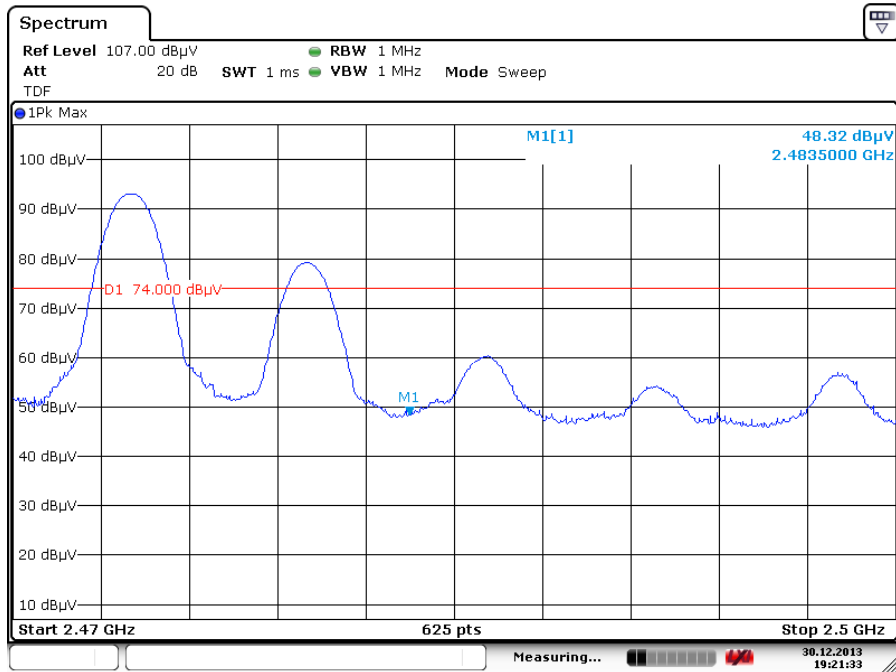


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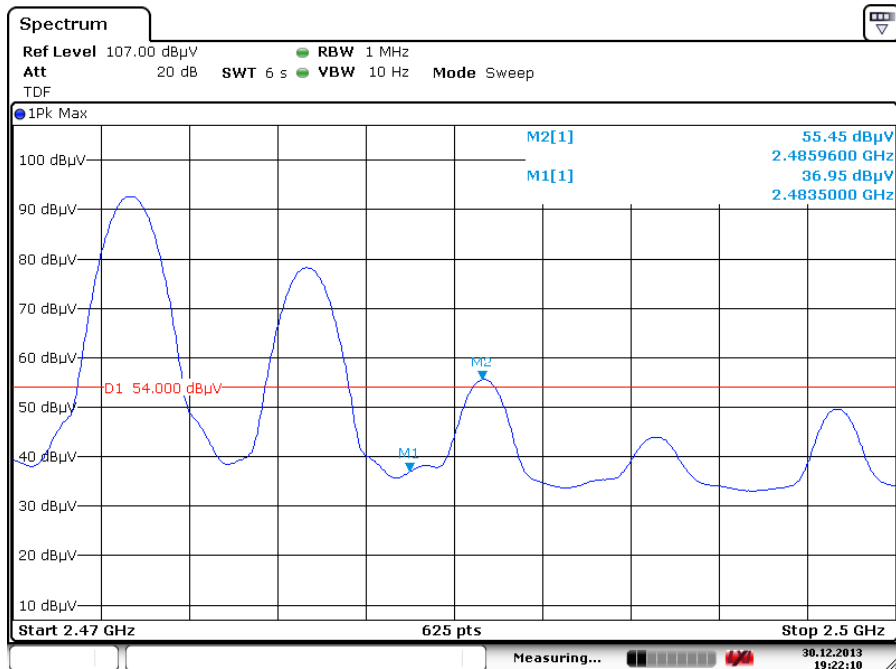


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High Channel (Hor)

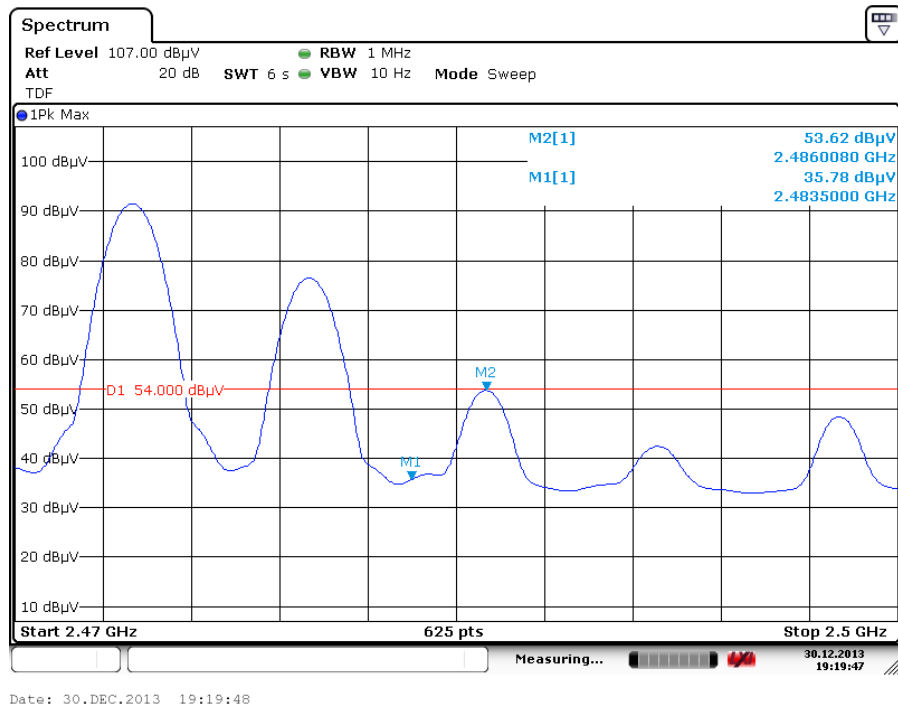
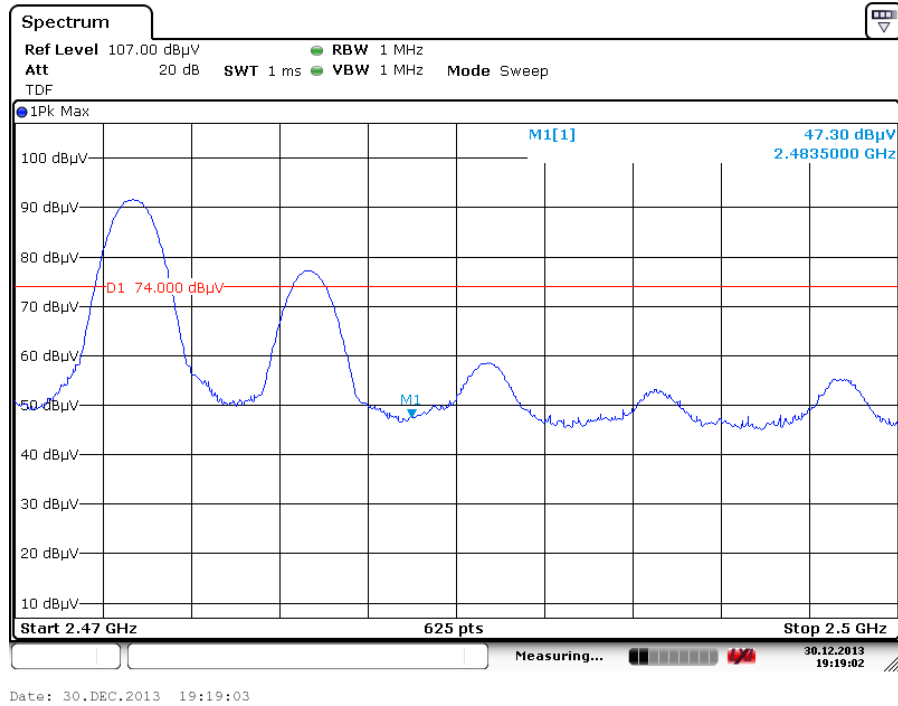


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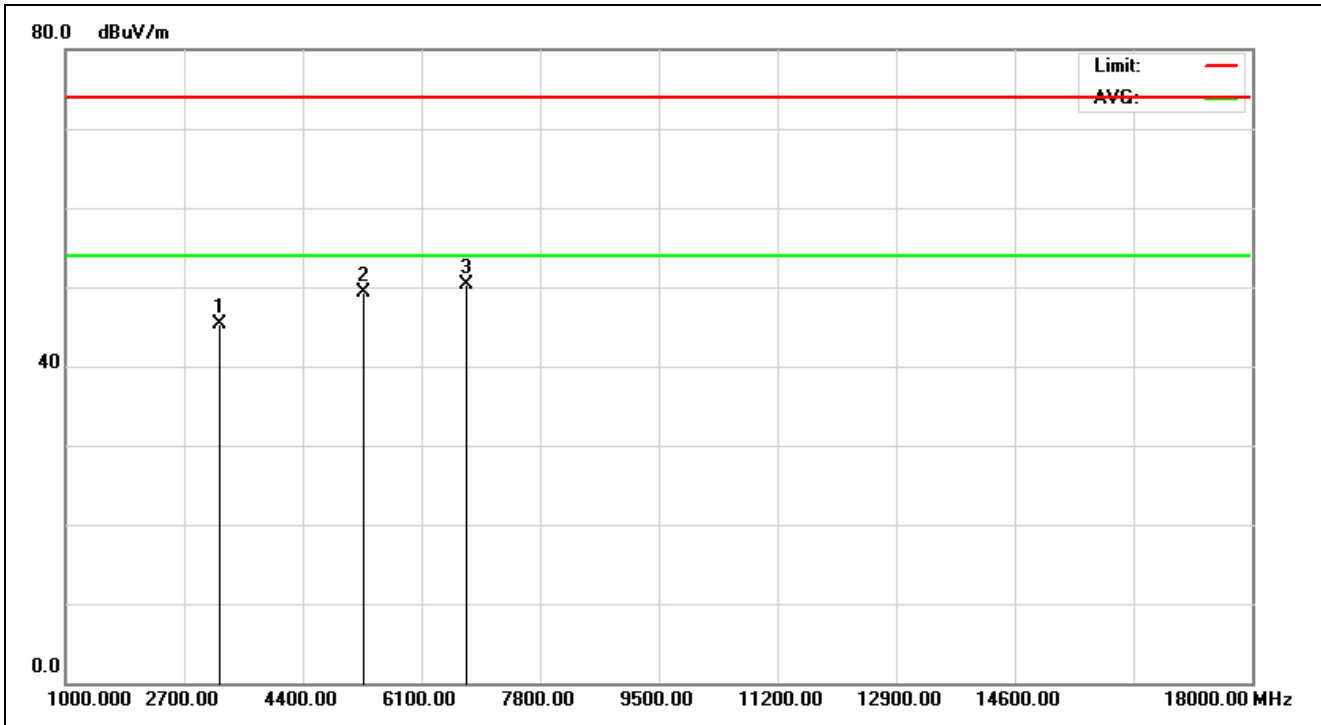
High Channel (Ver)



Spurious Emissions, TX Mode, 1-18G

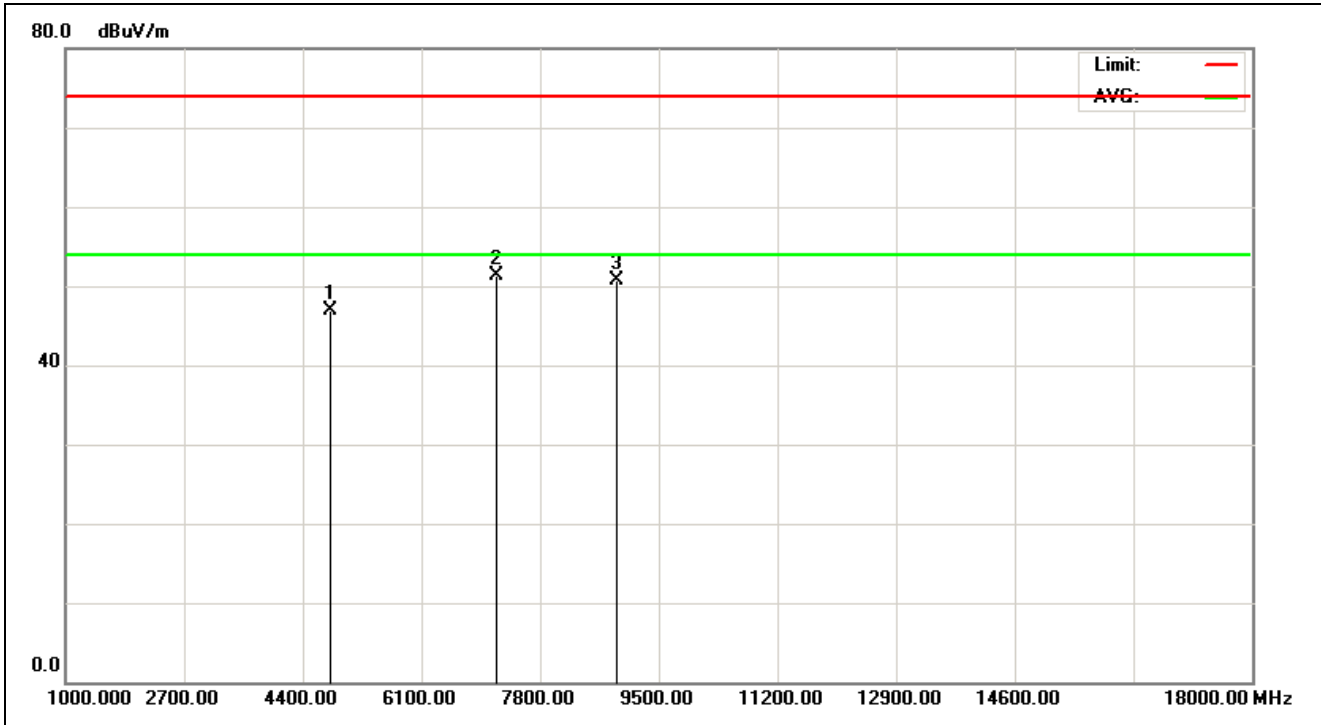


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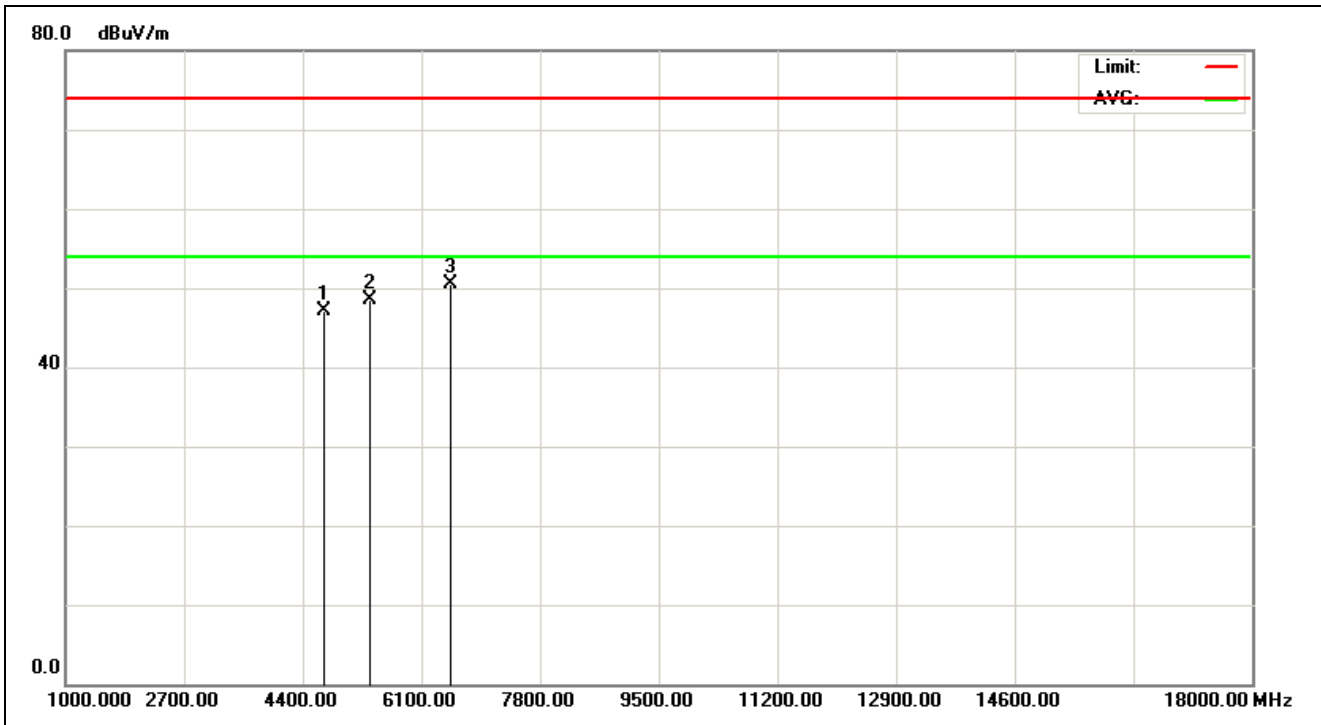
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/27 14:11:27
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2408		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3206.731	-6.00	51.38	45.38	74.00	-28.62	peak	100	346	
2	5277.243	-0.73	50.10	49.37	74.00	-24.63	peak	100	269	
3	6748.397	5.16	45.15	50.31	74.00	-23.69	peak	100	45	



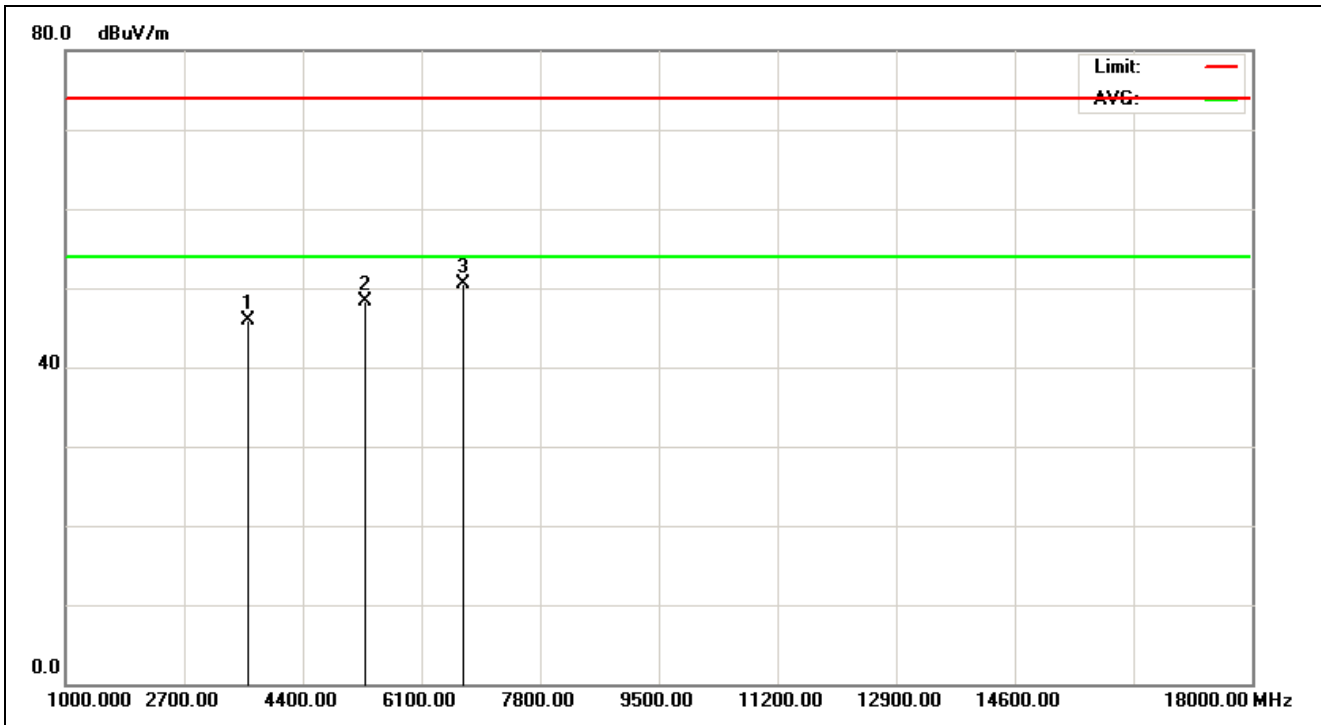
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/27 14:12:29
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2408		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4786.859	-2.64	49.52	46.88	74.00	-27.12	peak	100	219	
2	7184.295	5.38	45.93	51.31	74.00	-22.69	peak	100	344	
3	8900.641	6.79	43.84	50.63	74.00	-23.37	peak	100	142	



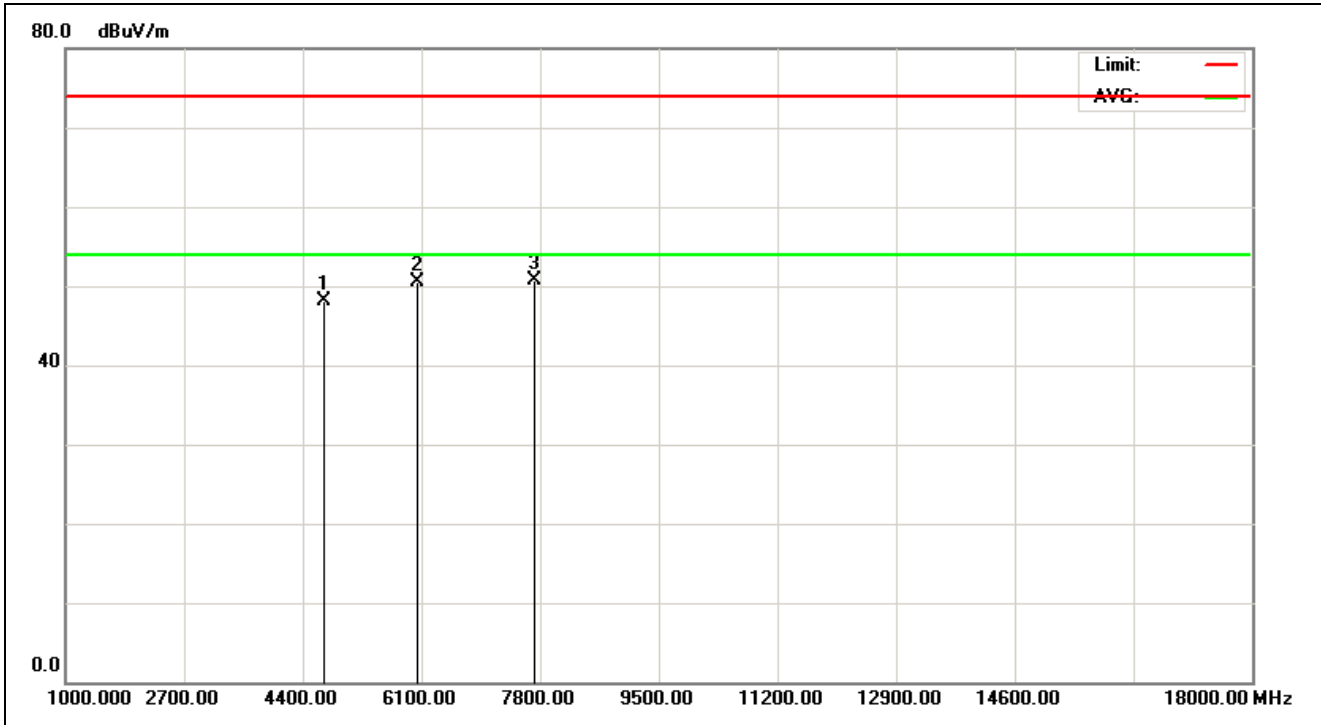
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/27 14:14:23
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2440		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4705.128	-2.84	49.93	47.09	74.00	-26.91	peak	100	13	
2	5358.974	-0.34	48.90	48.56	74.00	-25.44	peak	100	37	
3	6530.449	5.43	45.12	50.55	74.00	-23.45	peak	100	91	



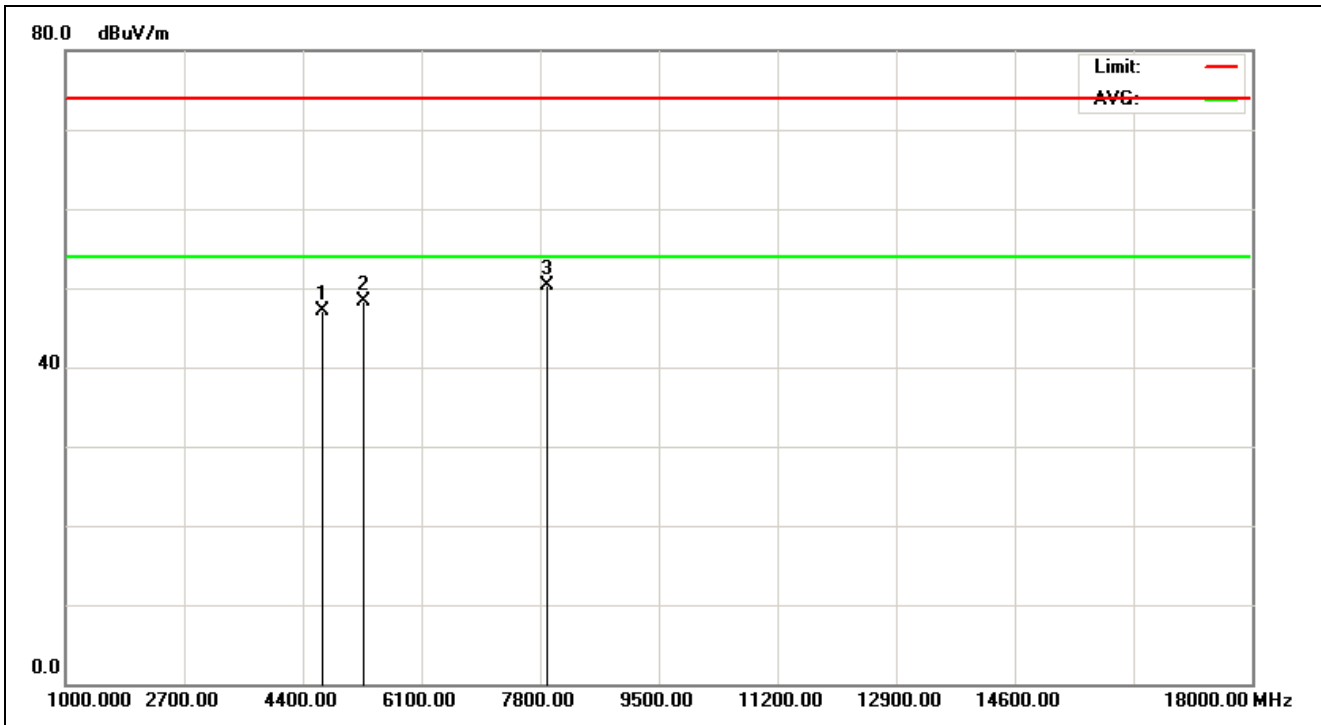
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/27 14:15:25
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2440		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3615.385	-5.55	51.37	45.82	74.00	-28.18	peak	100	89	
2	5304.487	-0.61	48.99	48.38	74.00	-25.62	peak	100	289	
3	6693.910	5.24	45.34	50.58	74.00	-23.42	peak	100	57	



Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/27 14:25:27
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2474		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4705.128	-2.84	50.86	48.02	74.00	-25.98	peak	100	295	
2	6040.064	3.85	46.60	50.45	74.00	-23.55	peak	100	66	
3	7729.167	6.15	44.48	50.63	74.00	-23.37	peak	100	175	



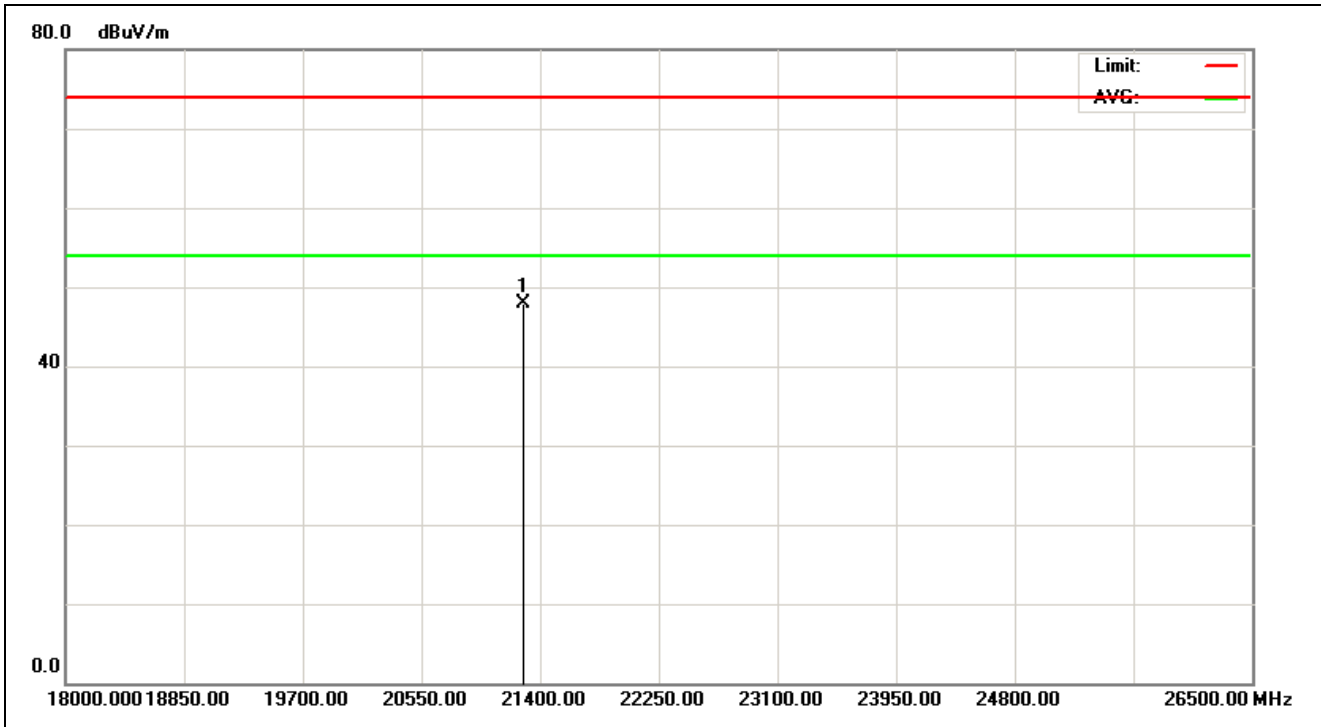
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/27 14:26:28
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2474		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4677.885	-2.91	49.98	47.07	74.00	-26.93	peak	100	251	
2	5277.244	-0.73	49.04	48.31	74.00	-25.69	peak	100	67	
3	7892.628	6.06	44.31	50.37	74.00	-23.63	peak	100	349	

Spurious Emissions, TX Mode, 18-26G

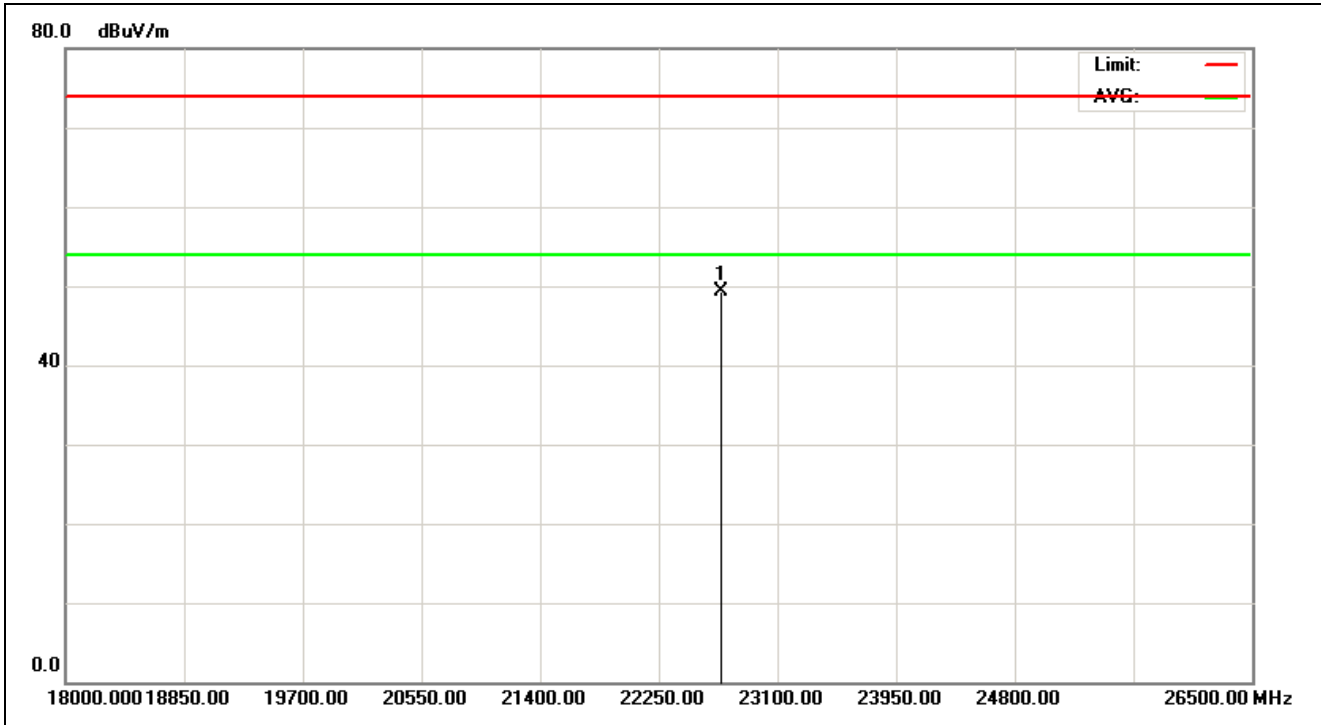


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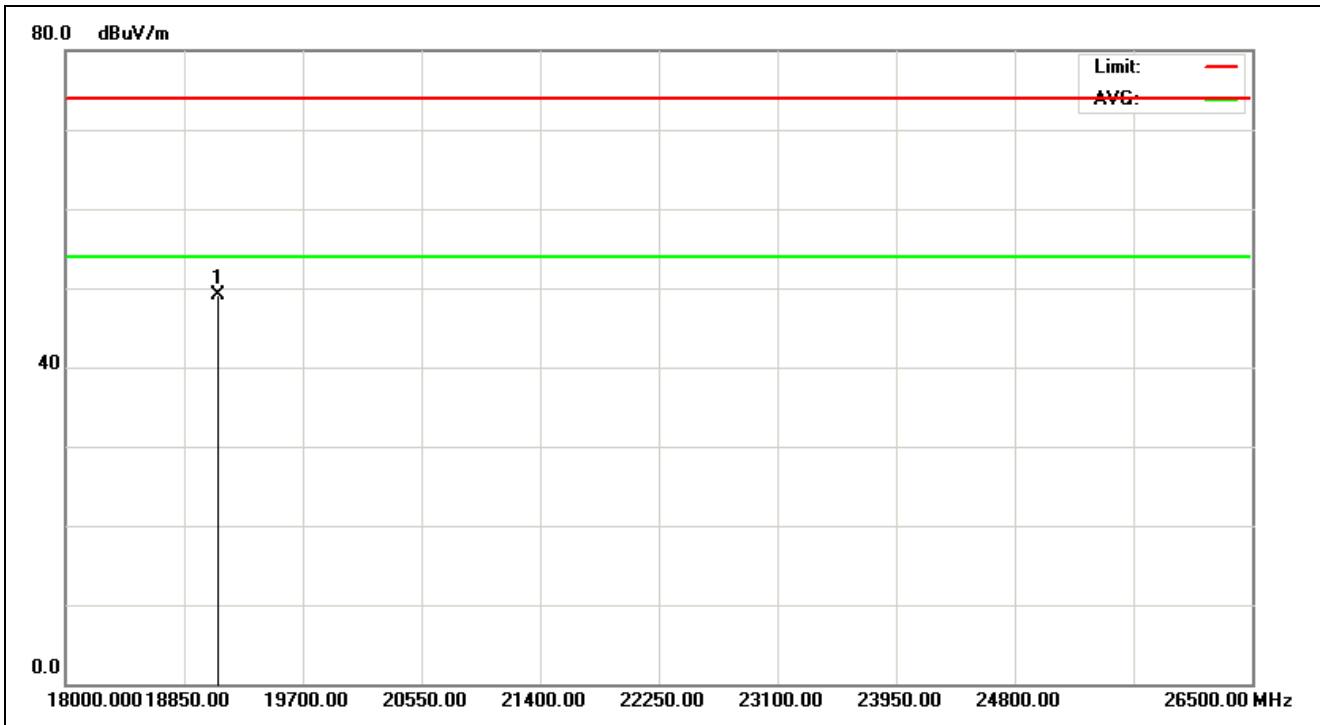
Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/30 18:45:00
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2408		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21282.853	29.51	18.39	47.90	74.00	-26.10	peak			



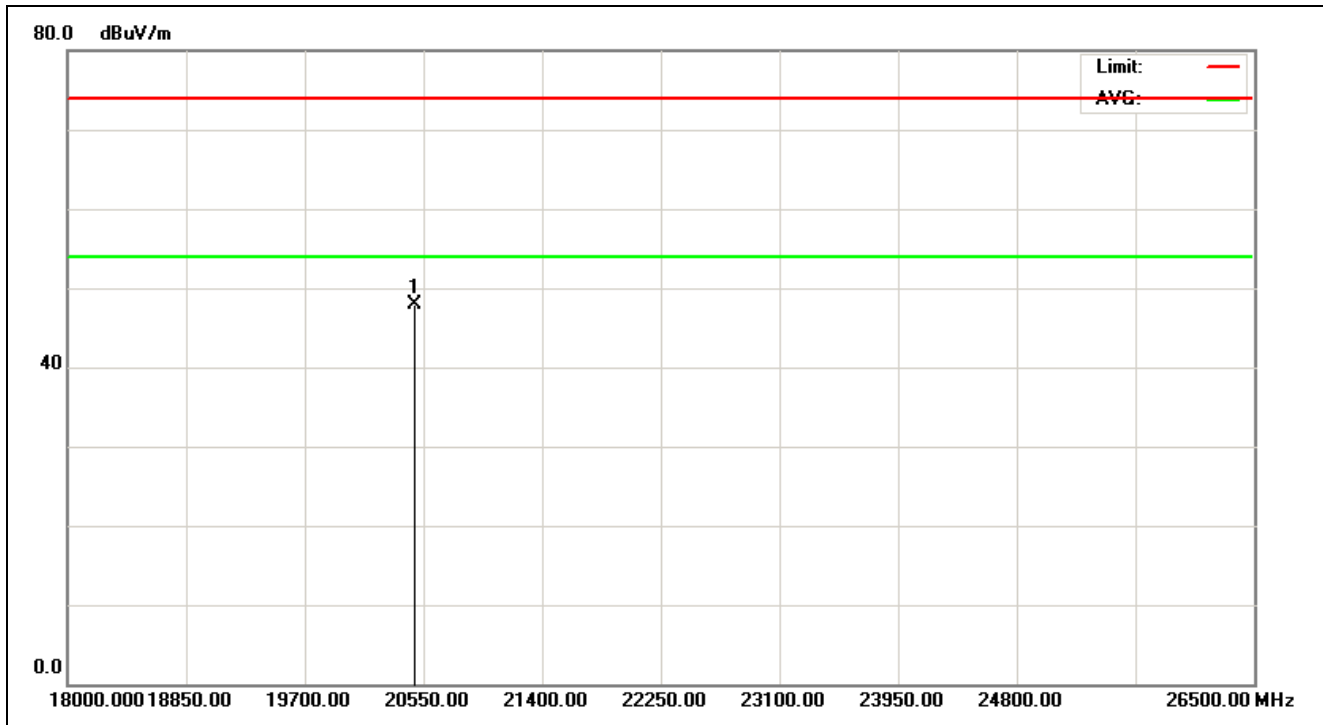
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/30 18:45:33
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2408		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22699.519	29.51	19.71	49.22	74.00	-24.78	peak			



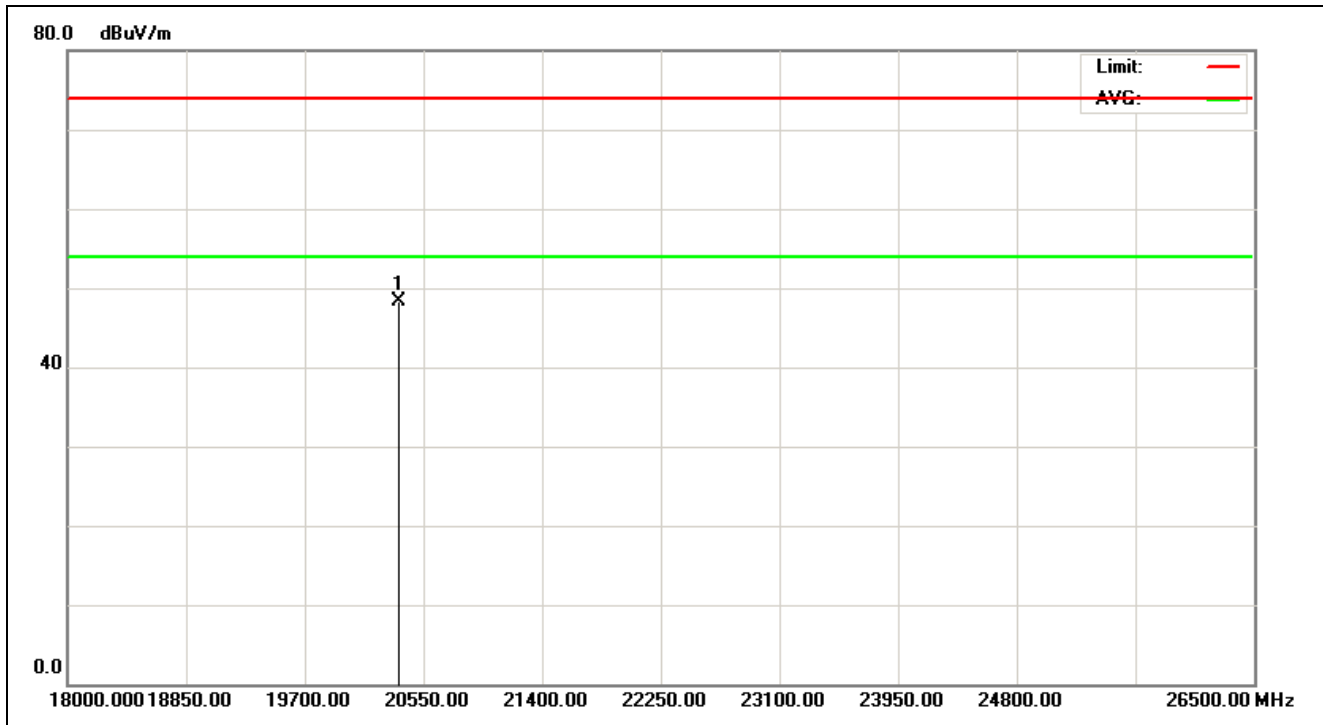
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/30 18:49:05
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2440		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19089.744	29.78	19.40	49.18	74.00	-24.82	peak			



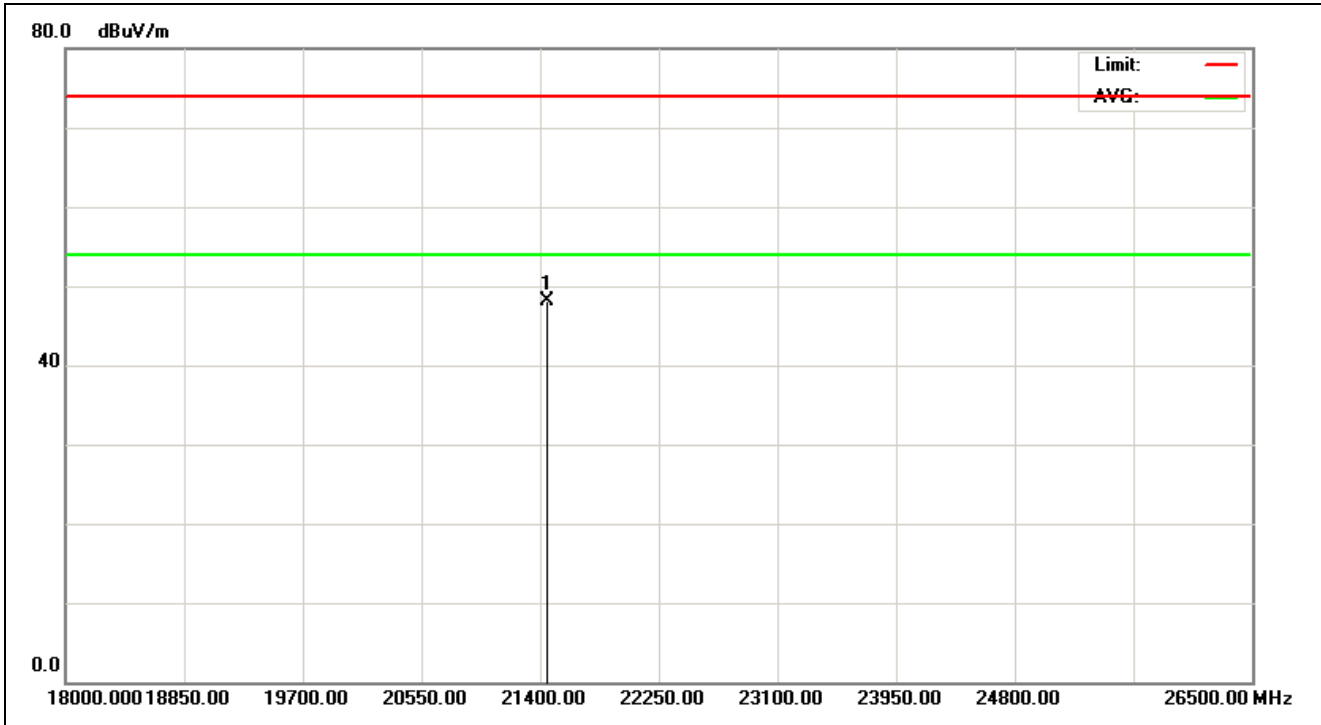
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/30 18:49:42
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2440		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20492.788	29.57	18.31	47.88	74.00	-26.12	peak			



Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/30 18:54:27
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2474		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20370.192	29.50	18.89	48.39	74.00	-25.61	peak			



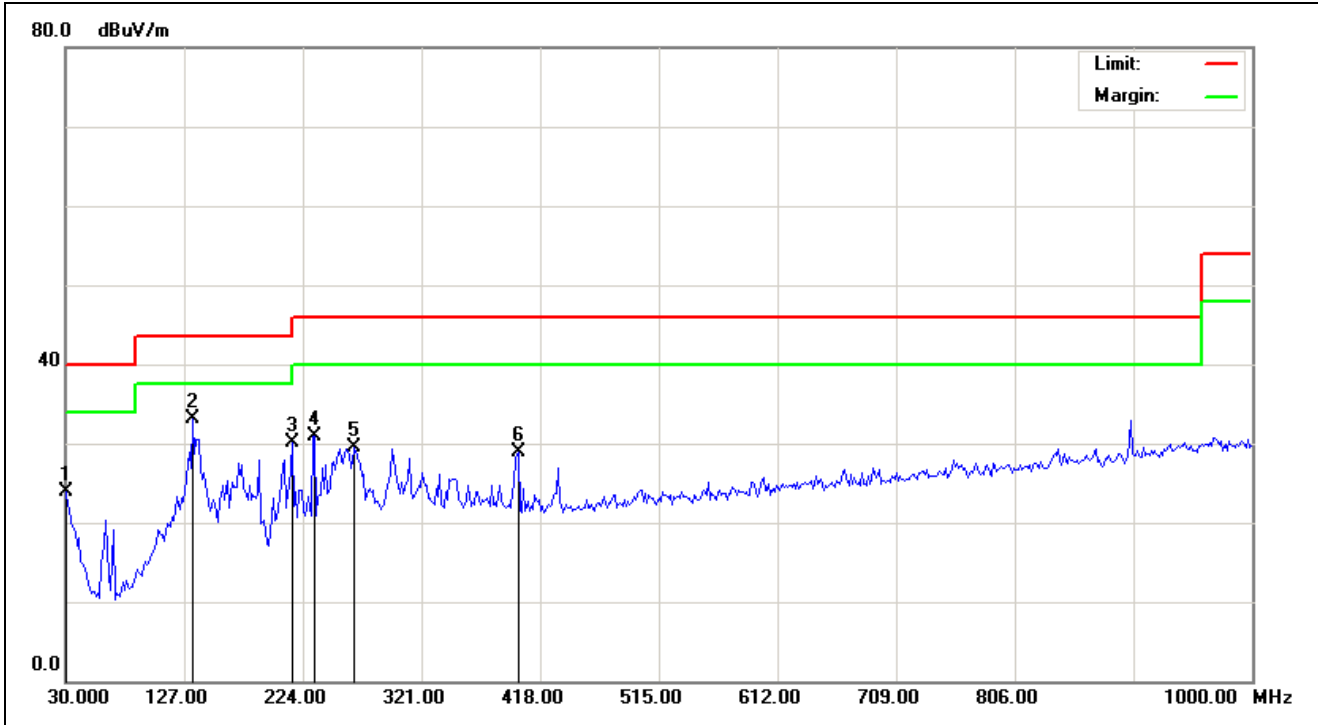
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/30 18:56:04
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:	CH2474		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21446.314	29.46	18.61	48.07	74.00	-25.93	peak			

Spurious Emissions, TX Mode, 30M-1G

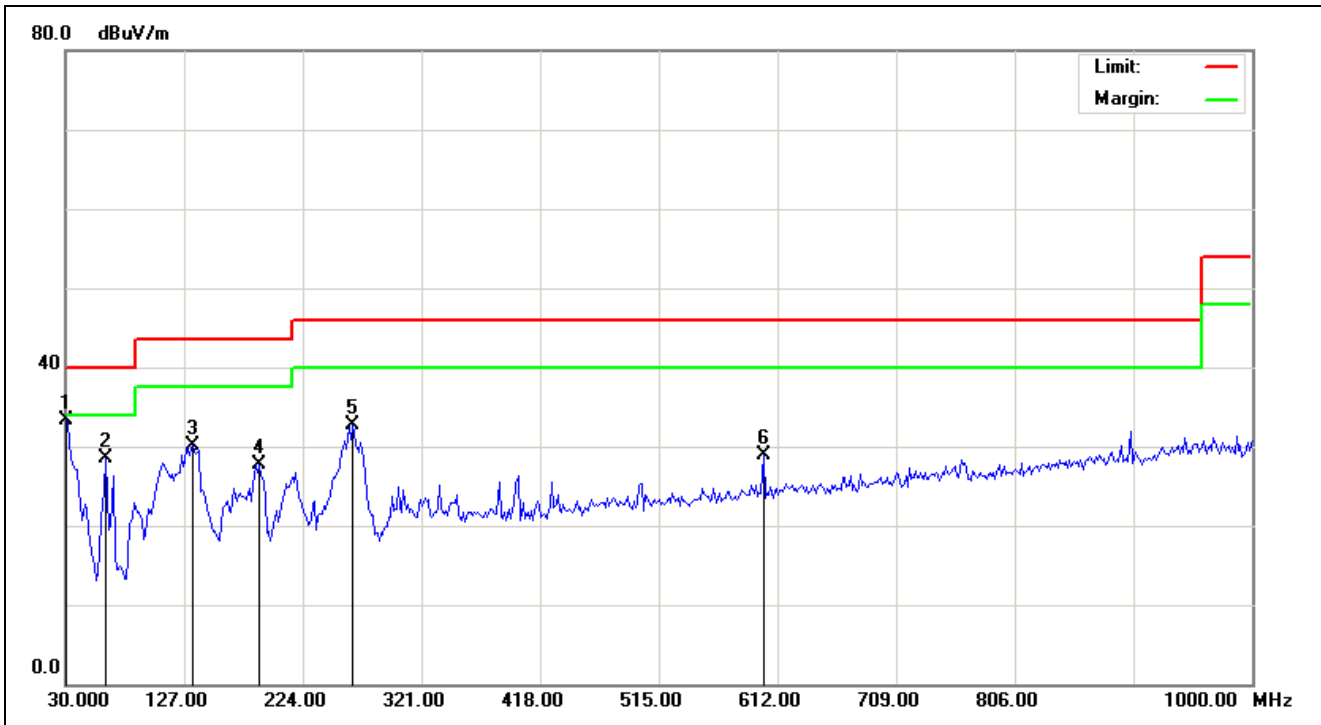


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Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/12/30 19:29:24
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:			
Remark:			

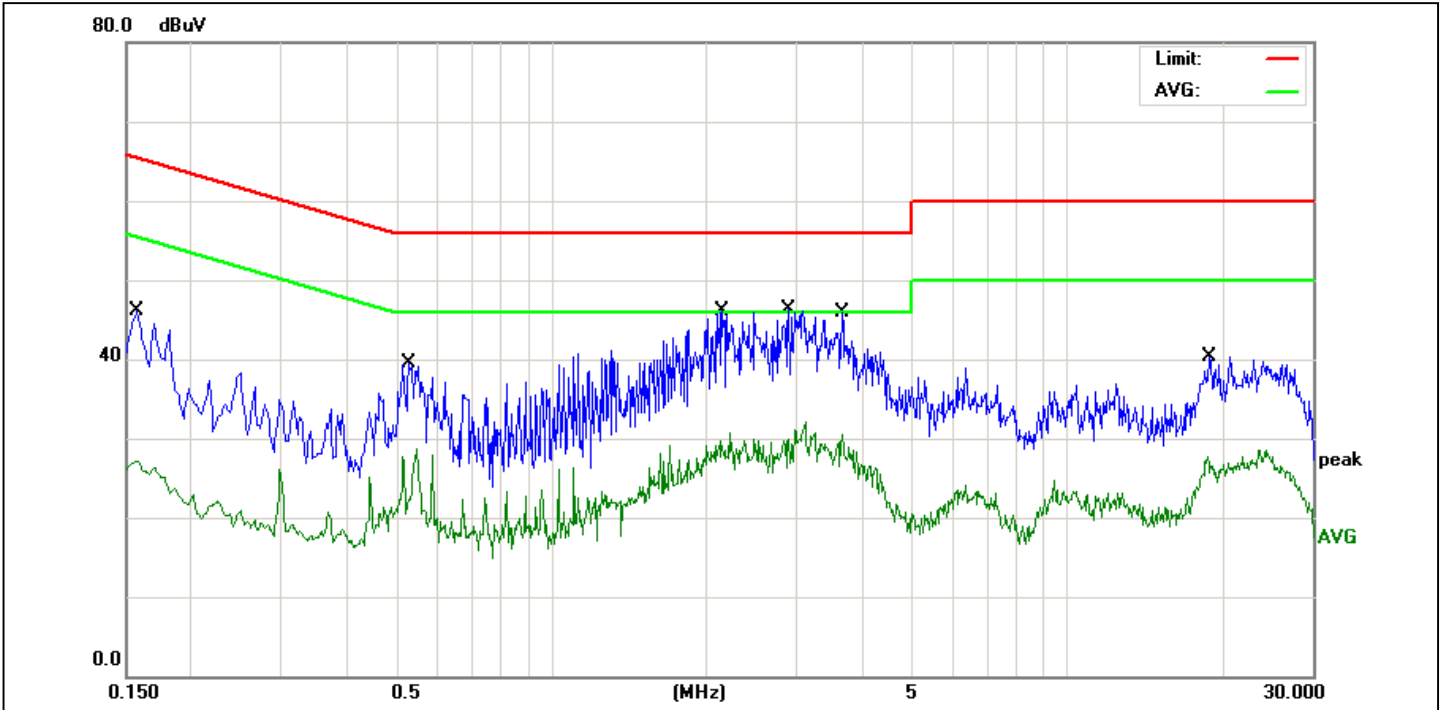
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-6.05	29.97	23.92	40.00	-16.08	QP	100	30	
2	134.1506	-12.85	46.04	33.19	43.50	-10.31	QP	100	118	
3	214.9839	-14.32	44.36	30.04	43.50	-13.46	QP	100	88	
4	233.6378	-13.24	44.19	30.95	46.00	-15.05	QP	100	88	
5	266.2820	-11.14	40.69	29.55	46.00	-16.45	QP	100	227	
6	399.9679	-8.61	37.50	28.89	46.00	-17.11	QP	100	69	



Service No.:	114017241-Dongle	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/12/30 19:30:26
Applicant:	Acrox	Test Rating:	DC 5V
Product:	2.4GHz Dongle	Temp.(°C)/Hum.(%):	18(°C)/61%
Model No.:	MQ6	Test Engineer:	Hugo Chang
Test Mode:			
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	-6.05	39.43	33.38	40.00	-6.62	QP	100	184	
2	62.6442	-19.43	48.02	28.59	40.00	-11.41	QP	100	69	
3	134.1506	-12.85	43.04	30.19	43.50	-13.31	QP	100	261	
4	188.5577	-15.57	43.21	27.64	43.50	-15.86	QP	100	354	
5	264.7276	-11.05	43.78	32.73	46.00	-13.27	QP	100	139	
6	600.4968	-5.97	34.96	28.99	46.00	-17.01	QP	100	24	

Mains Spurious Emissions



Service No.: 114017241

Test Standard: FCC Part 15 Class B Conduction

Test item: Conducted Emission Phase: L1

Applicant: Acrox Temp.(°C)/Hum.(%): 16(°C) / 55 %

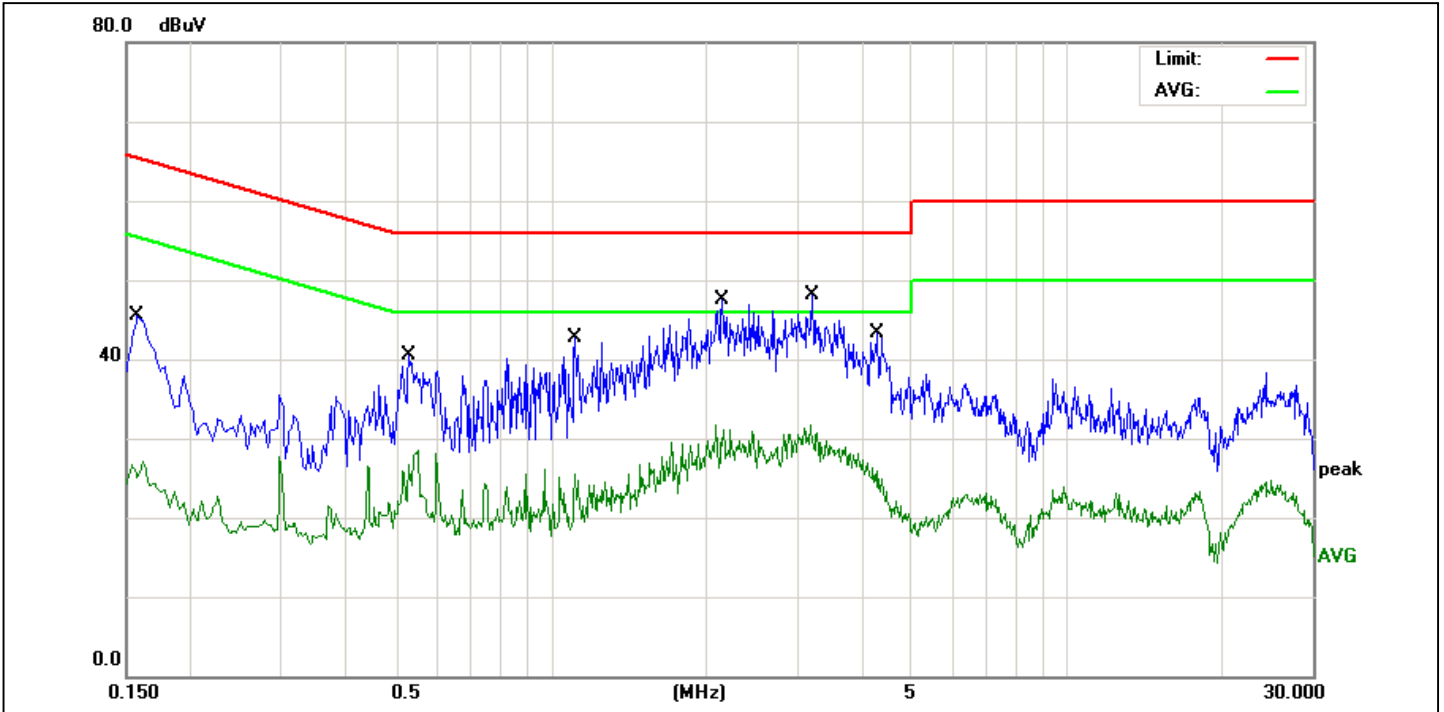
Product: 2.4GHz Dongle Power Rating: AC 120V/60Hz

Model No.: XXX Test Engineer: Hugo Chang

Test Mode: Normal operation

Remark:

No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1580	9.62	31.61	41.23	65.56	-24.33	QP	P	
2	0.1580	9.62	16.16	25.78	55.56	-29.78	AVG	P	
3	0.5299	9.59	26.88	36.47	56.00	-19.53	QP	P	
4	0.5299	9.59	13.79	23.38	46.00	-22.62	AVG	P	
5	2.1540	9.62	30.15	39.77	56.00	-16.23	QP	P	
6	2.1540	9.62	18.10	27.72	46.00	-18.28	AVG	P	
7	2.8980	9.64	28.30	37.94	56.00	-18.06	QP	P	
8	2.8980	9.64	17.69	27.33	46.00	-18.67	AVG	P	
9	3.6660	9.64	27.52	37.16	56.00	-18.84	QP	P	
10	3.6660	9.64	16.63	26.27	46.00	-19.73	AVG	P	
11	18.8500	9.76	22.34	32.10	60.00	-27.90	QP	P	
12	18.8500	9.76	14.16	23.92	50.00	-26.08	AVG	P	



Service No.: 114017241
 Test Standard: FCC Part 15 Class B Conduction
 Test item: Conducted Emission
 Applicant: Acrox
 Product: 2.4GHz Dongle
 Model No.: XXX

Phase: N
 Temp.(°C)/Hum.(%): 16(°C) / 55 %
 Power Rating: AC 120V/60Hz
 Test Engineer: Hugo Chang

Test Mode: Normal operation
 Remark:

No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1580	9.59	29.91	39.50	65.56	-26.06	QP	P	
2	0.1580	9.59	15.07	24.66	55.56	-30.90	AVG	P	
3	0.5299	9.57	27.96	37.53	56.00	-18.47	QP	P	
4	0.5299	9.57	14.14	23.71	46.00	-22.29	AVG	P	
5	1.1140	9.57	26.25	35.82	56.00	-20.18	QP	P	
6	1.1140	9.57	12.50	22.07	46.00	-23.93	AVG	P	
7	2.1500	9.58	31.27	40.85	56.00	-15.15	QP	P	
8	2.1500	9.58	18.04	27.62	46.00	-18.38	AVG	P	
9	3.2220	9.61	27.77	37.38	56.00	-18.62	QP	P	
10	3.2220	9.61	17.92	27.53	46.00	-18.47	AVG	P	
11	4.2980	9.61	23.06	32.67	56.00	-23.33	QP	P	
12	4.2980	9.61	12.13	21.74	46.00	-24.26	AVG	P	