

Test Report No.50116065 001

Appendix D: Radiated Spurious Emission Data

(File: 50116065 001AppendixD)

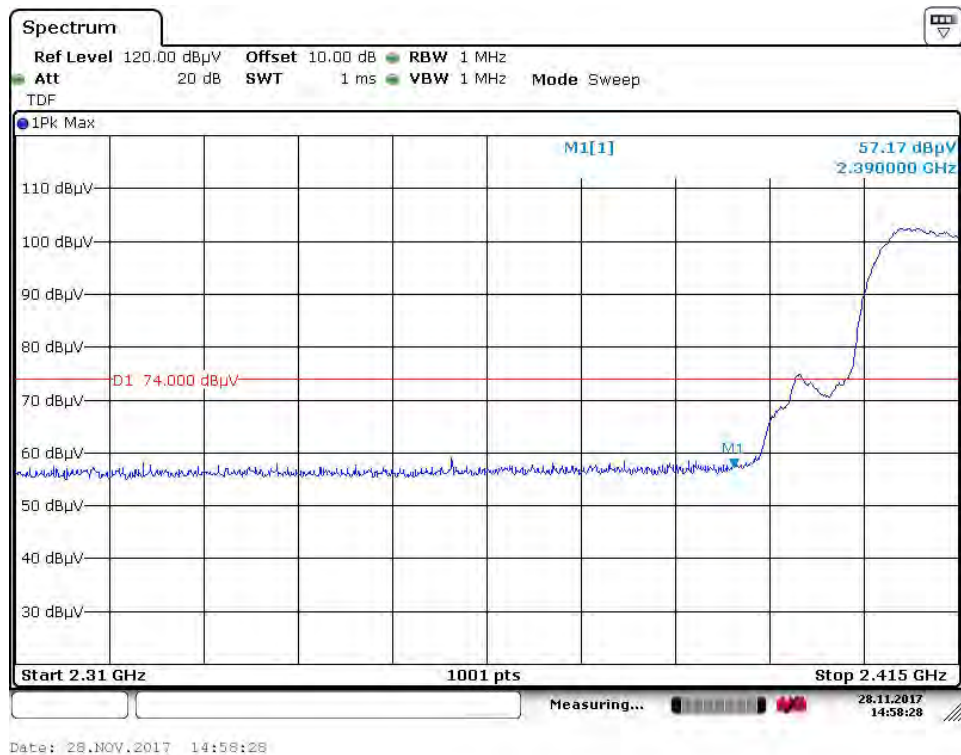
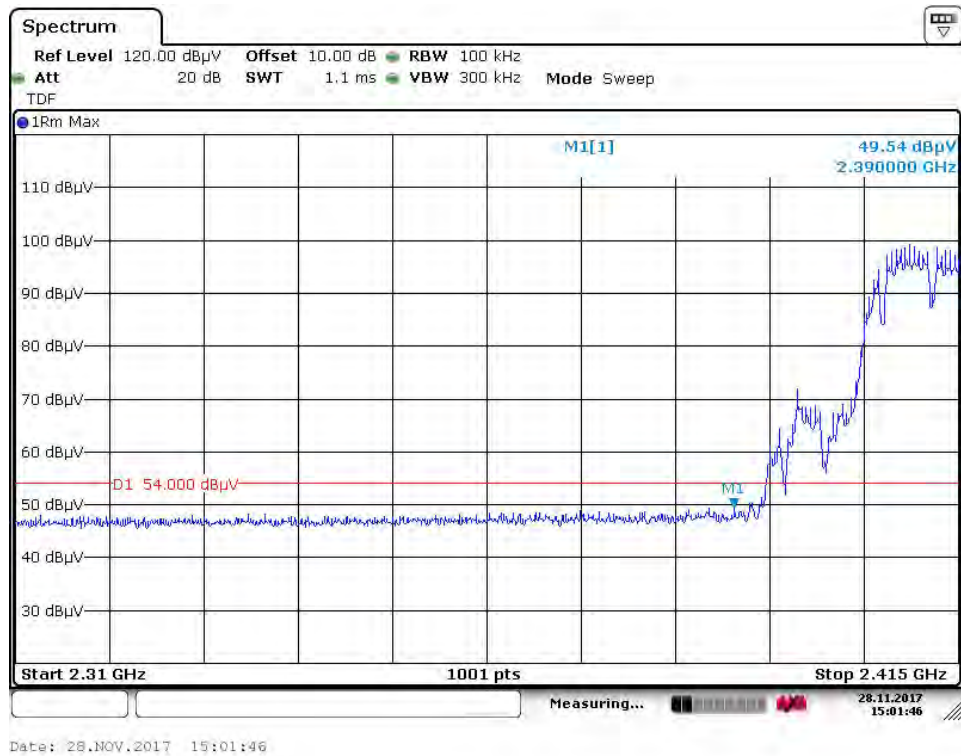
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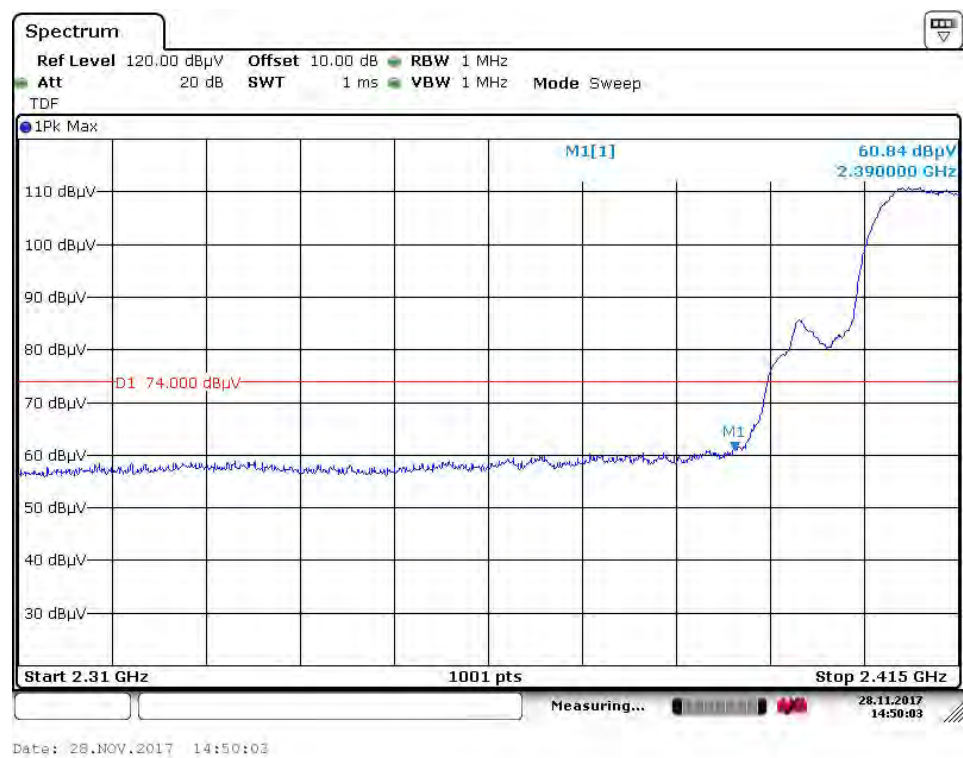
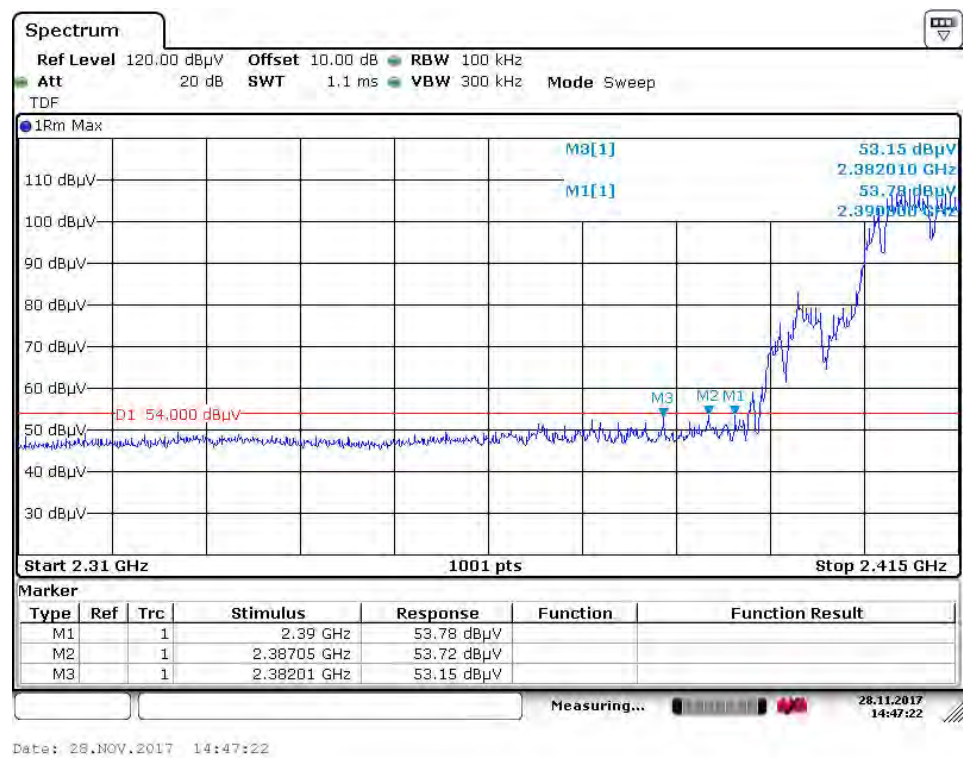
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Radiated Bandedge 11b

Low Channel (Hor)

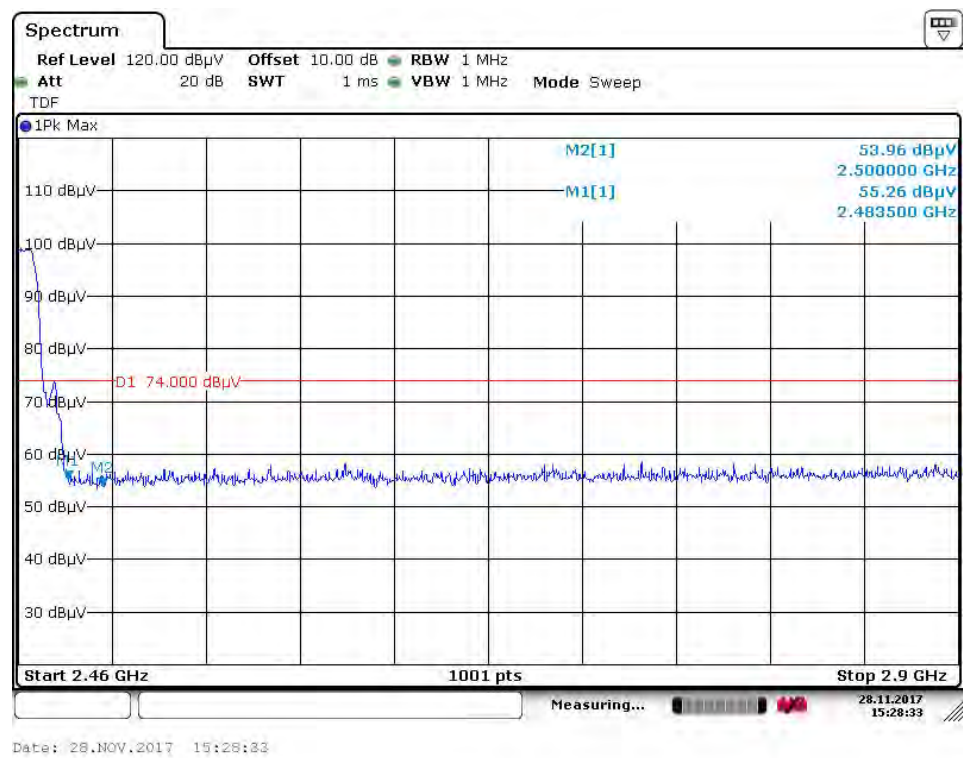
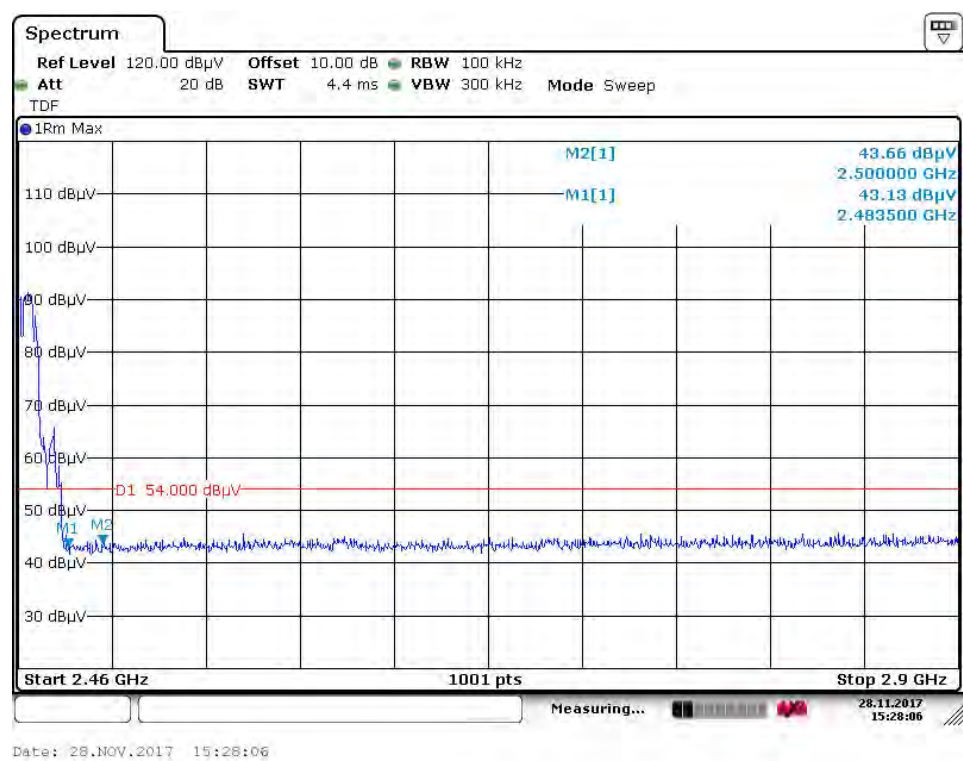


Low Channel (Ver)

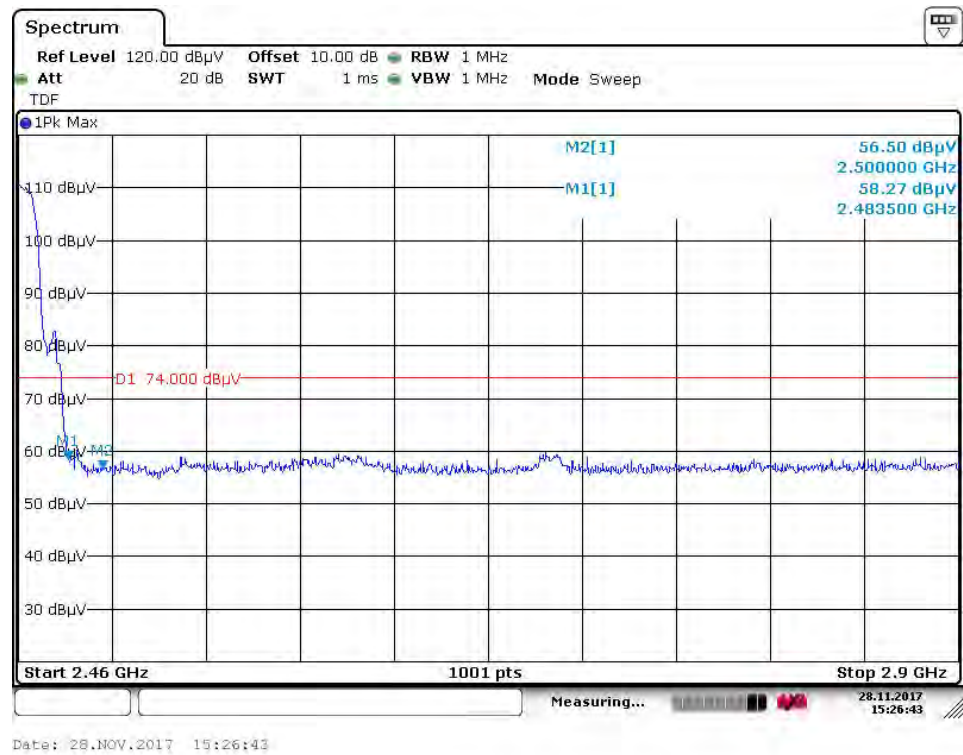
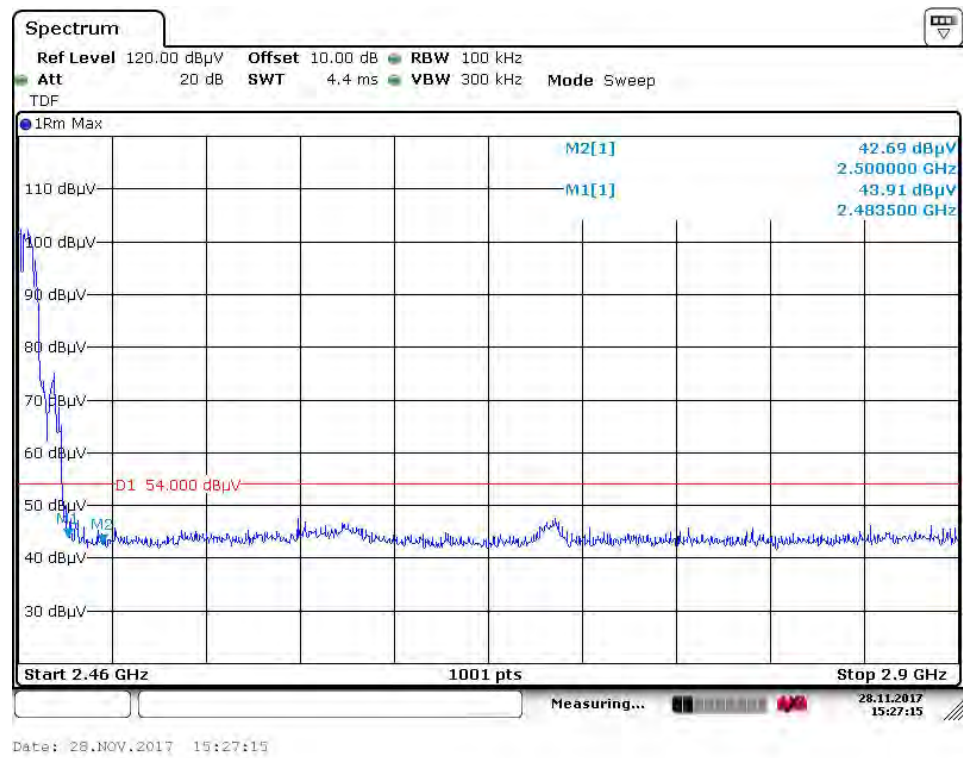


Radiated Bandedge 11b

High Channel (Hor)

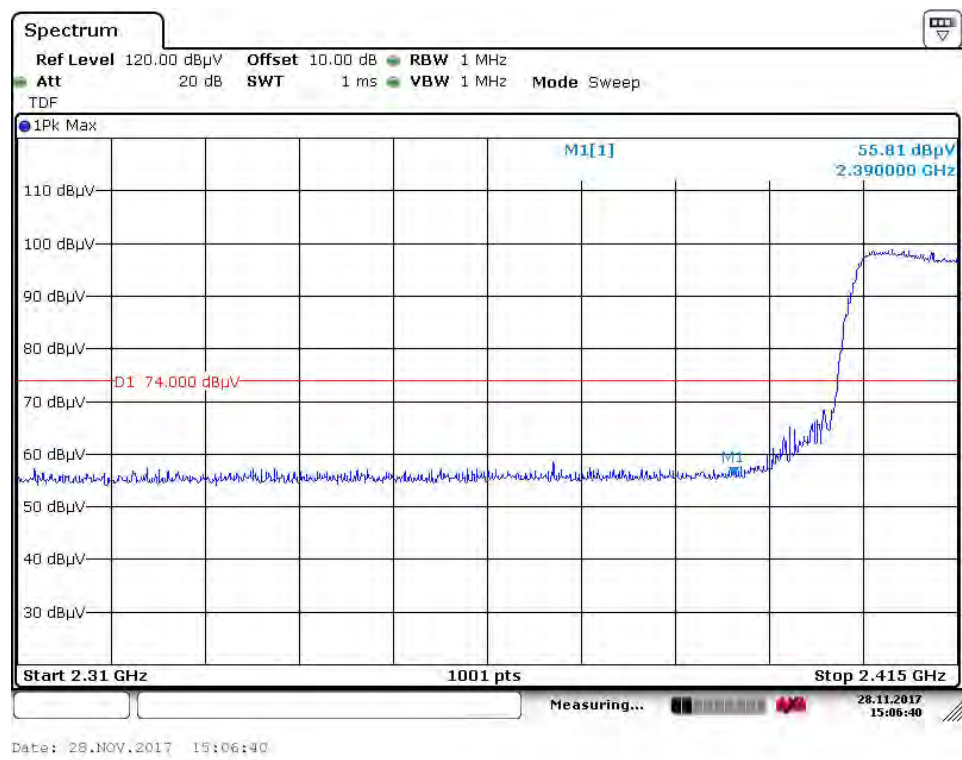
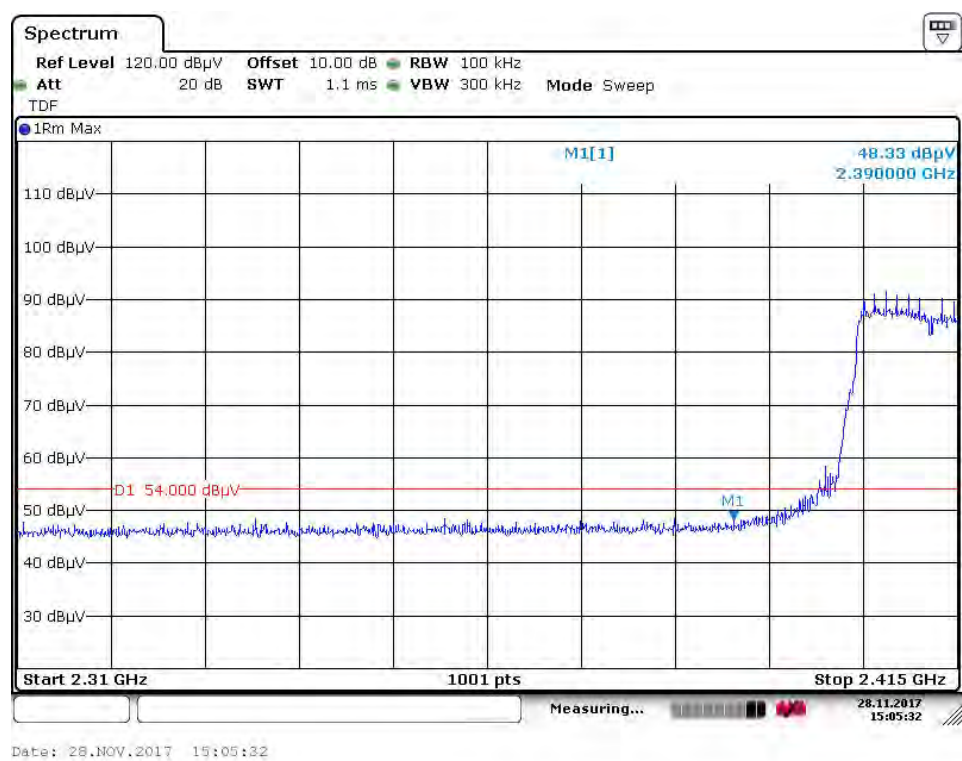


High Channel (Ver)

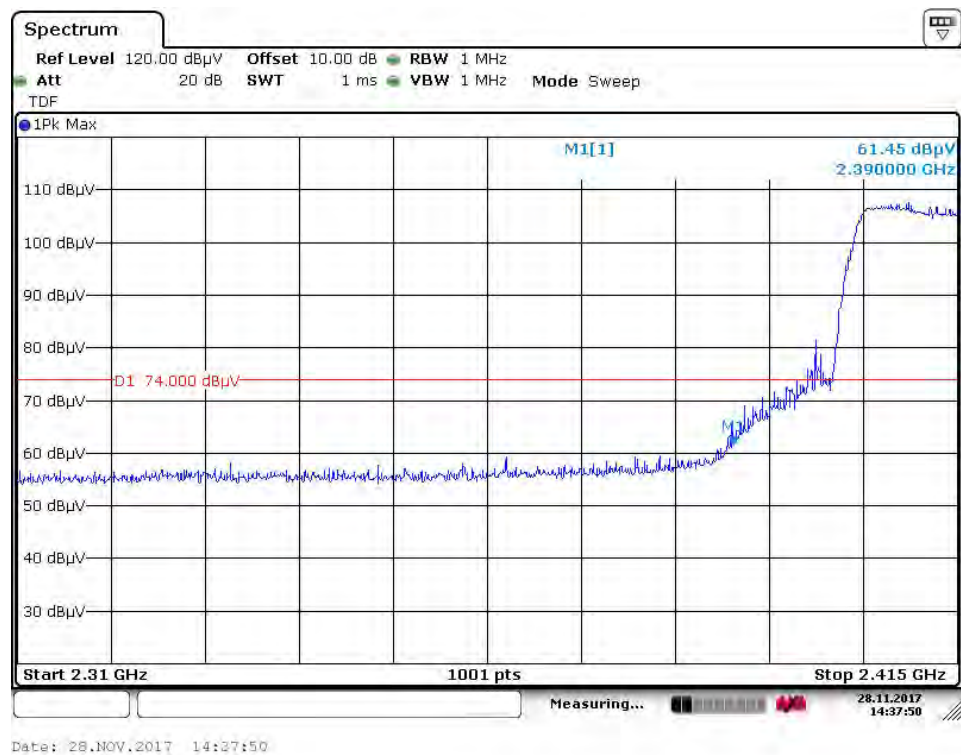
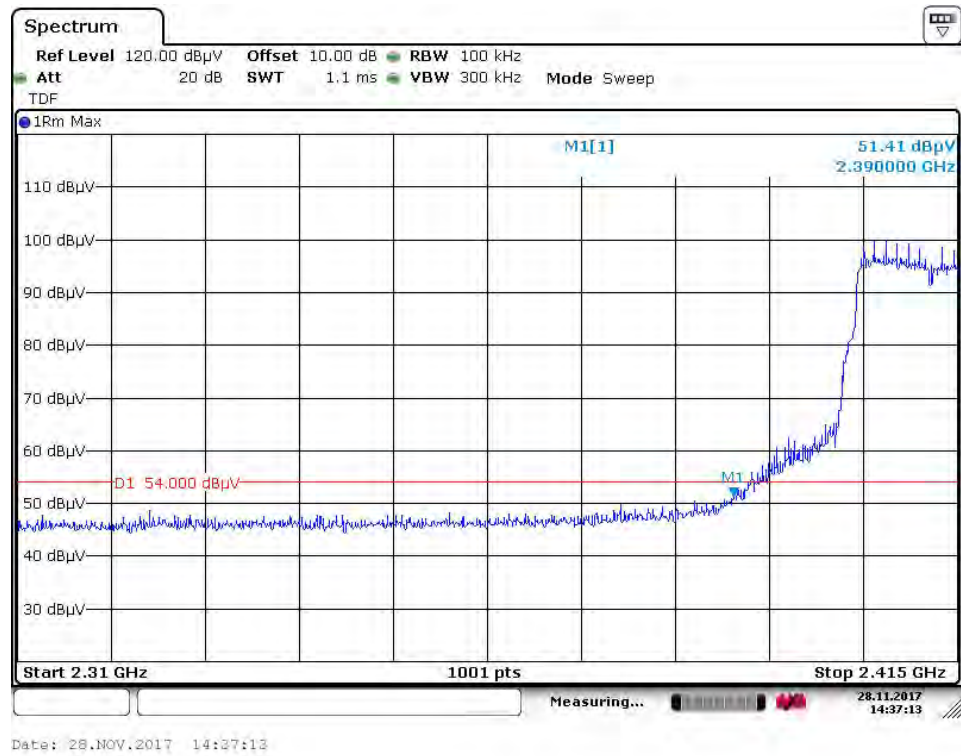


Radiated Bandedge 11g

Low Channel (Hor)

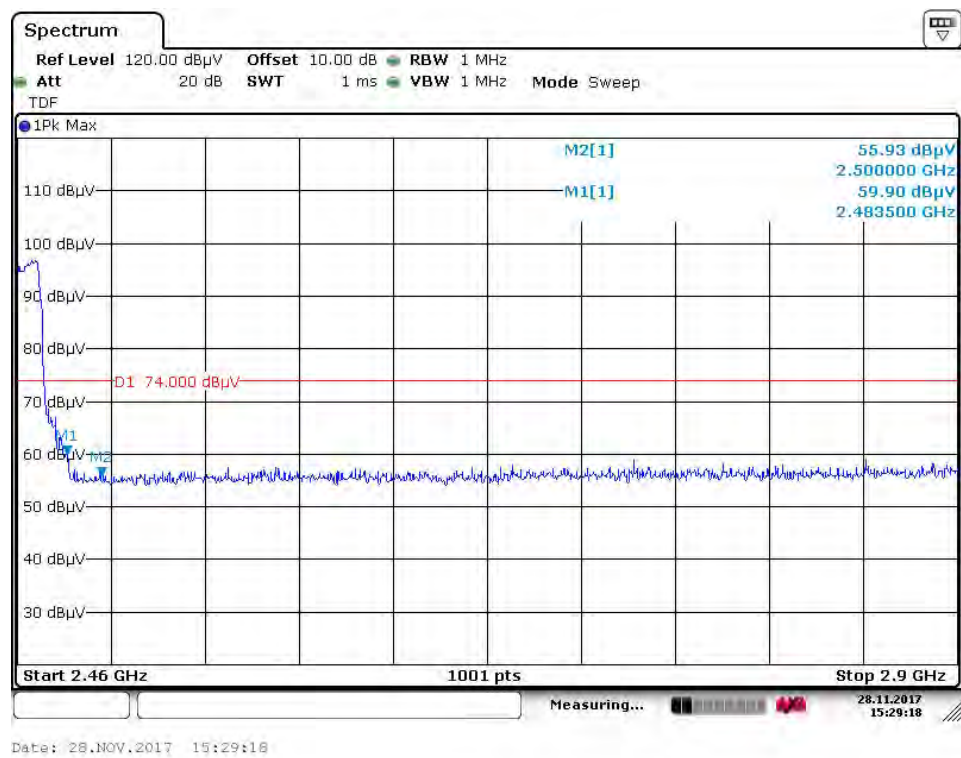
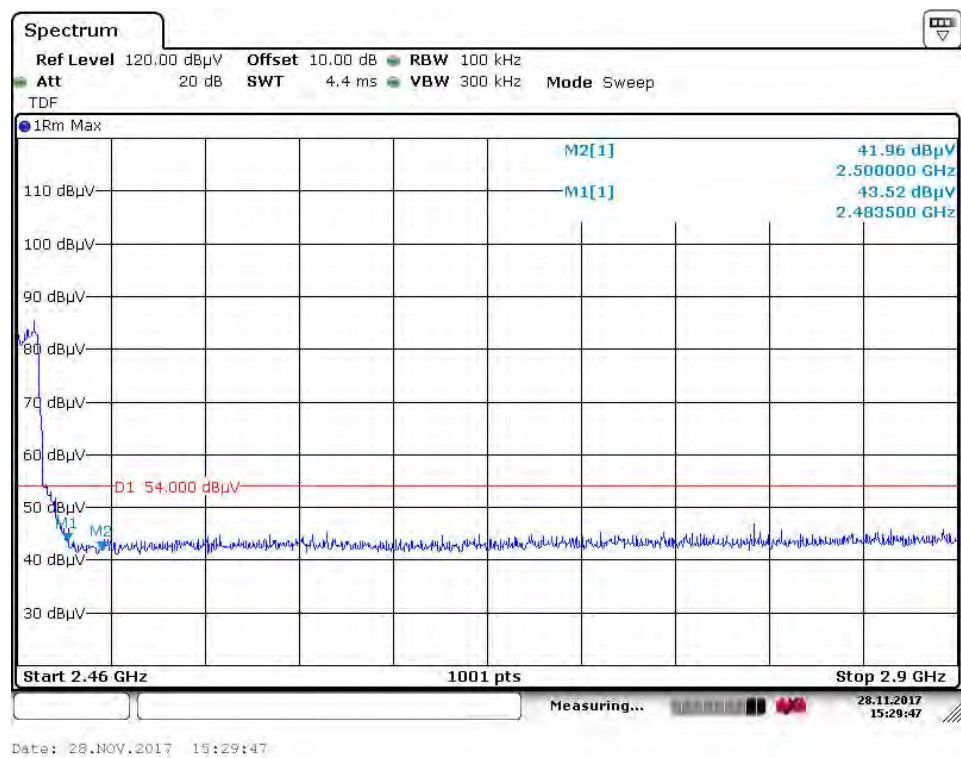


Low Channel (Ver)

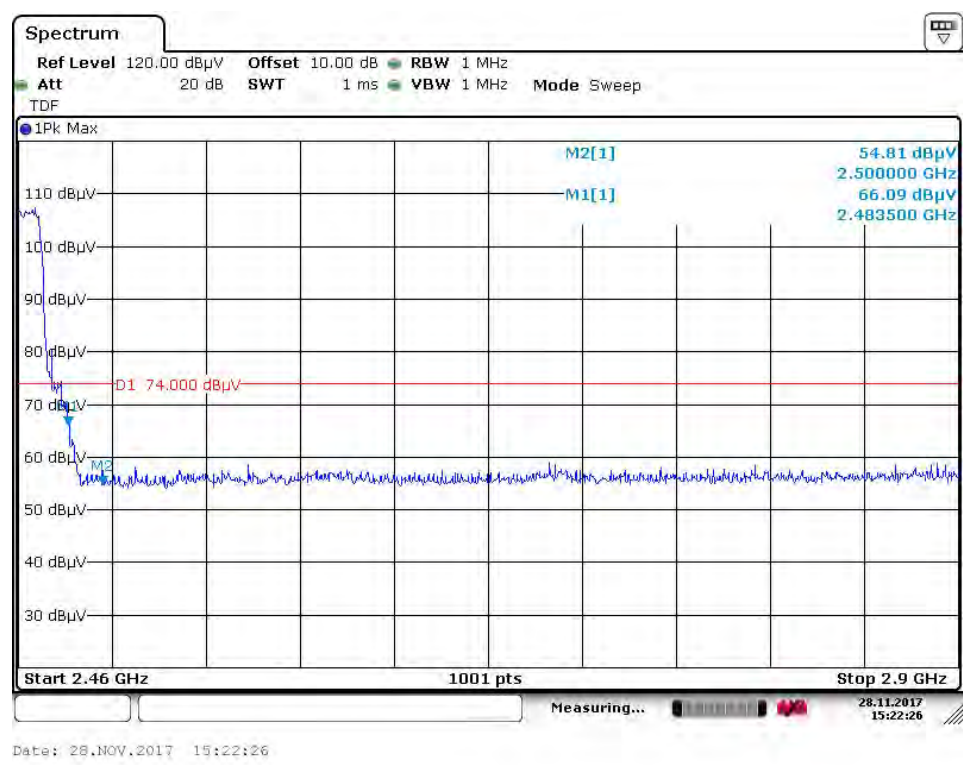
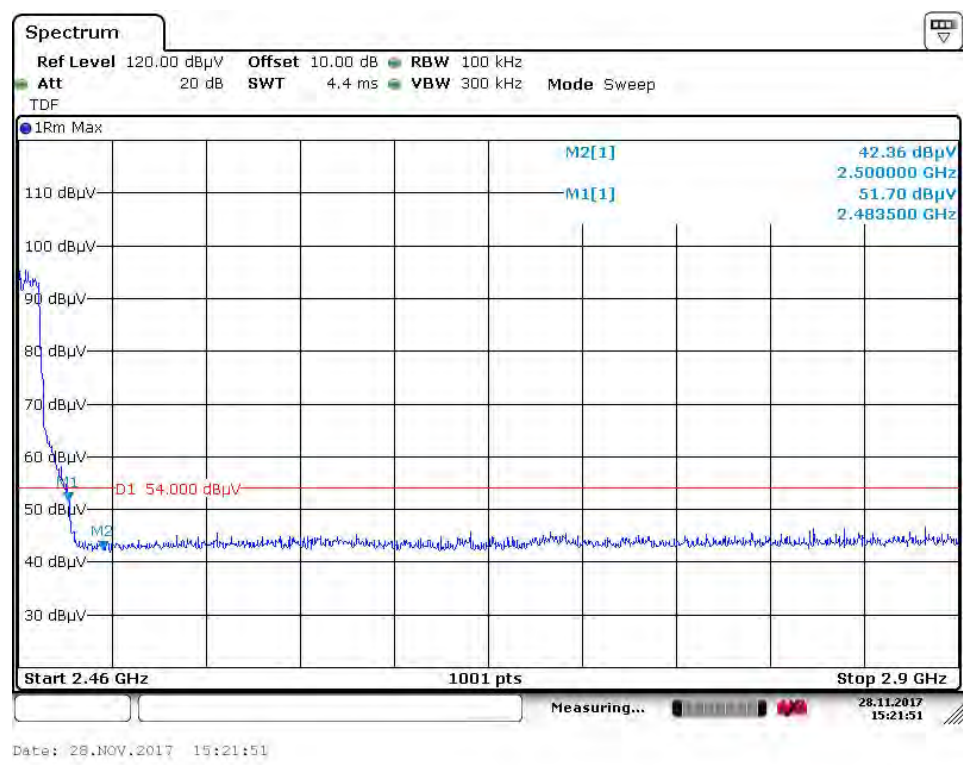


Radiated Bandedge 11g

High Channel (Hor)

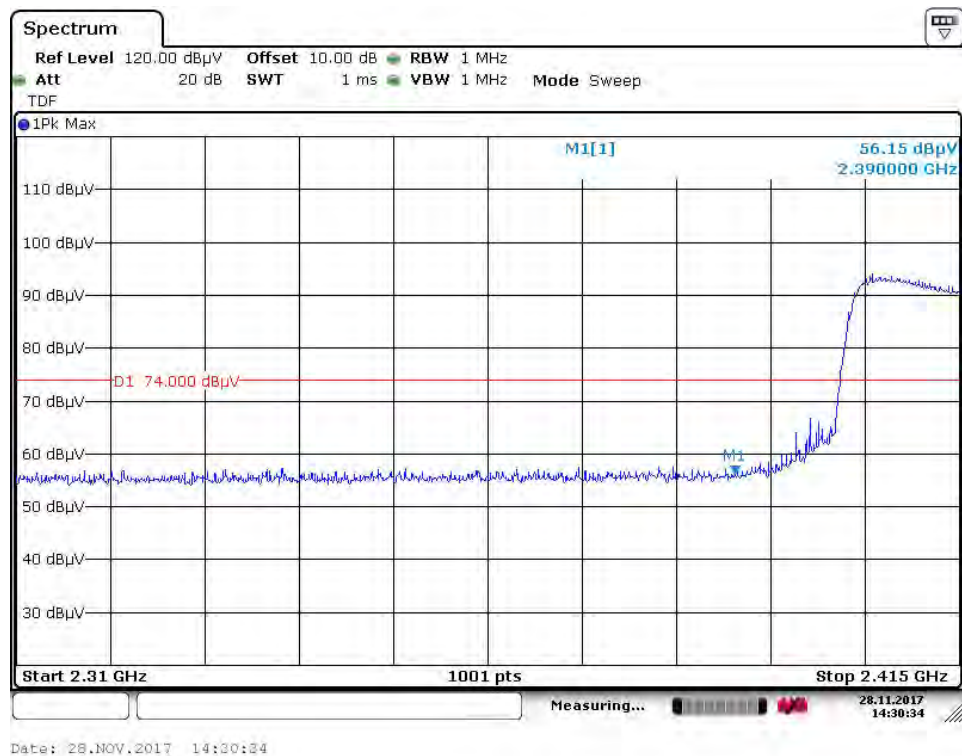
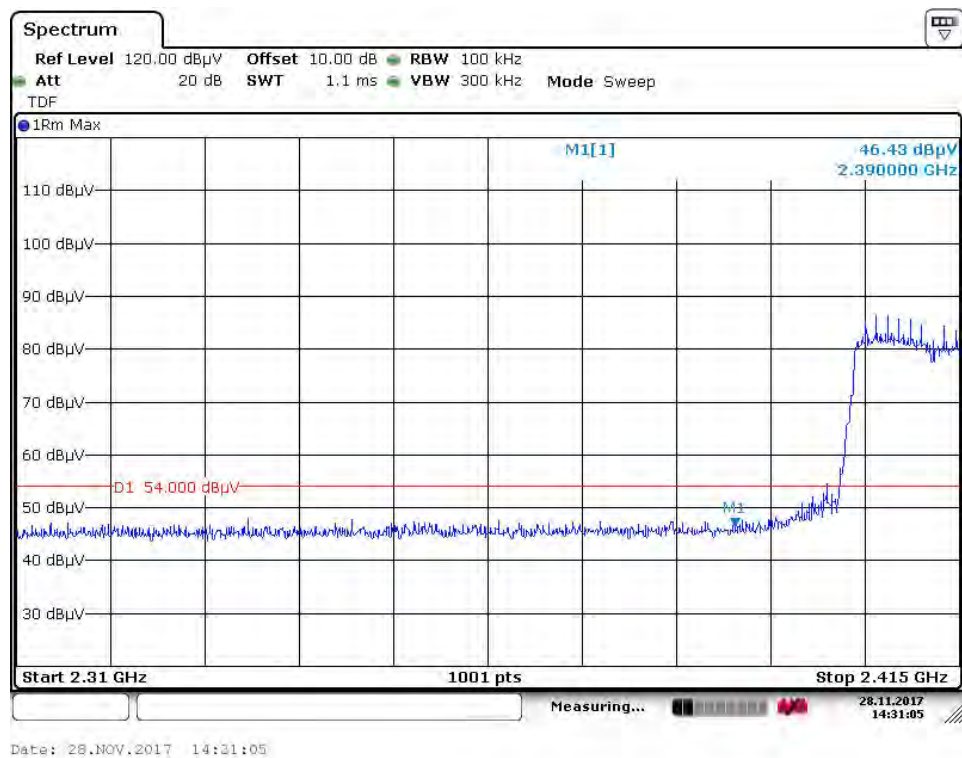


High Channel (Ver)

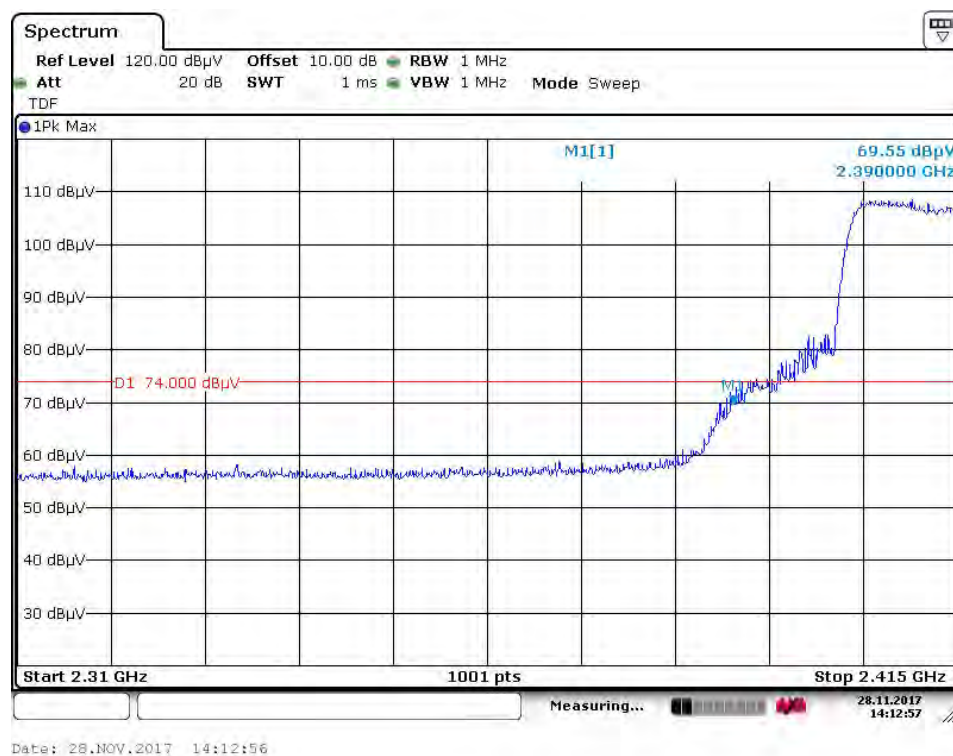


Radiated Bandedge 11n

Low Channel (Hor)

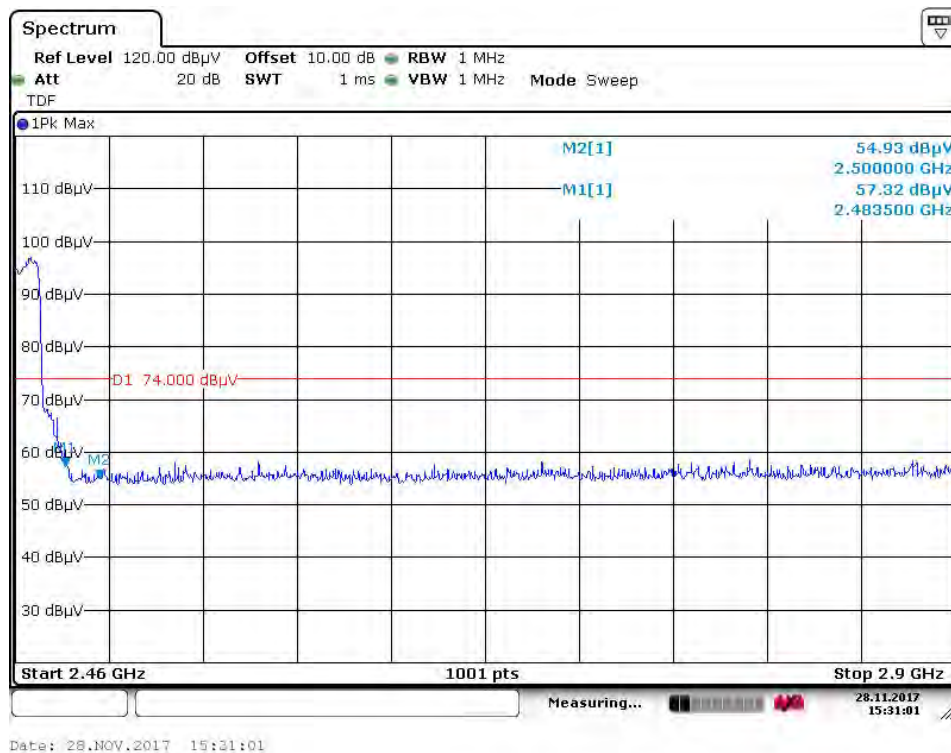
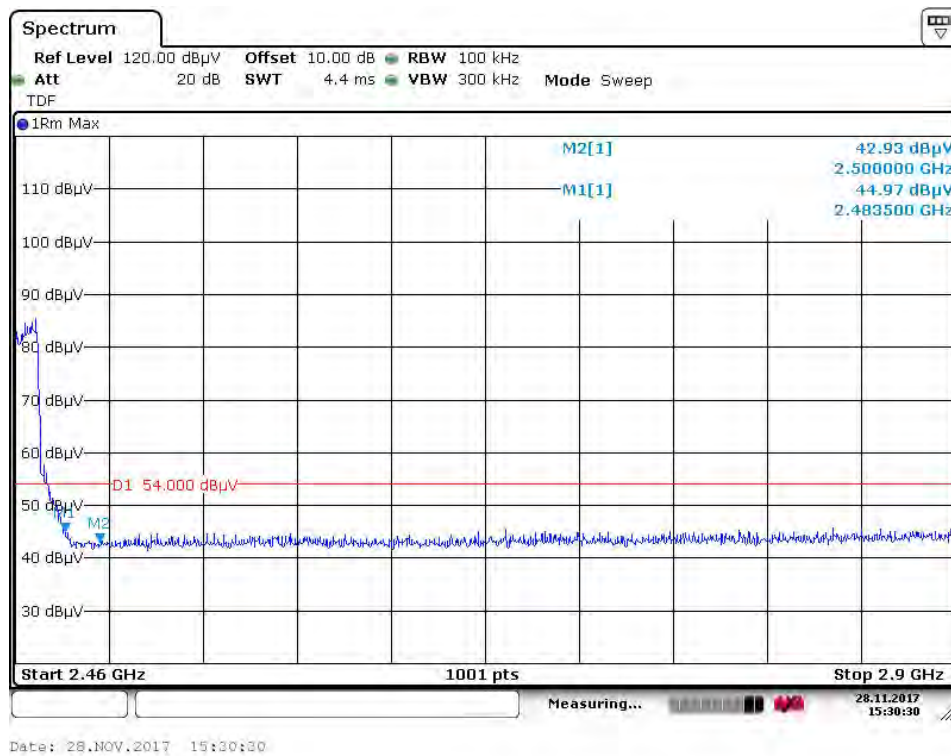


Low Channel (Ver)

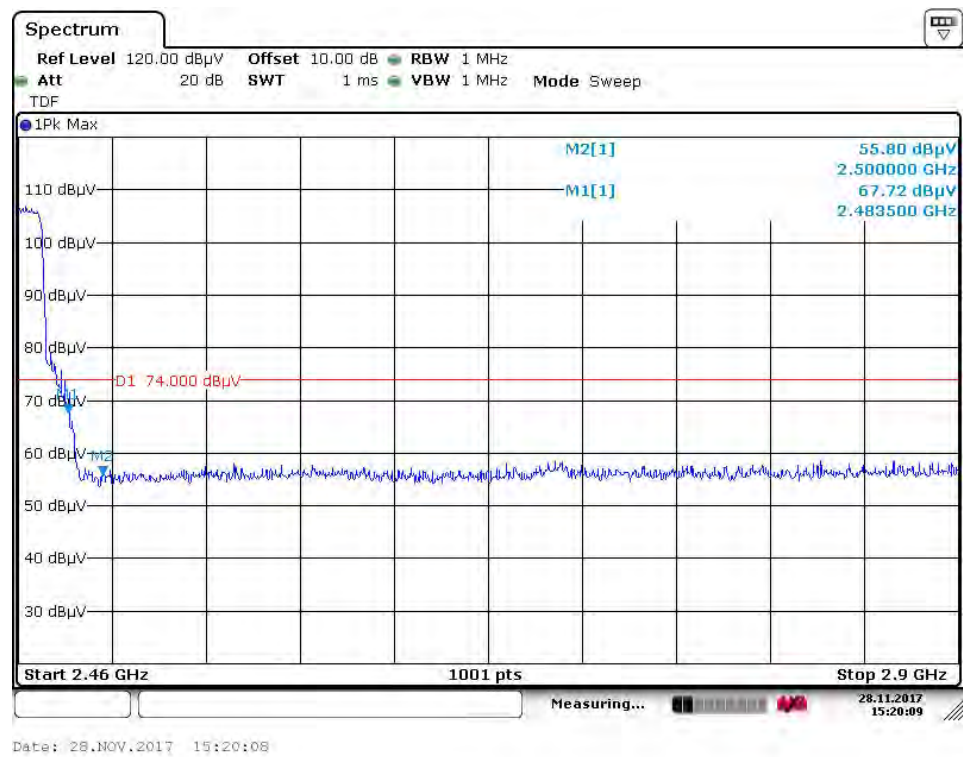
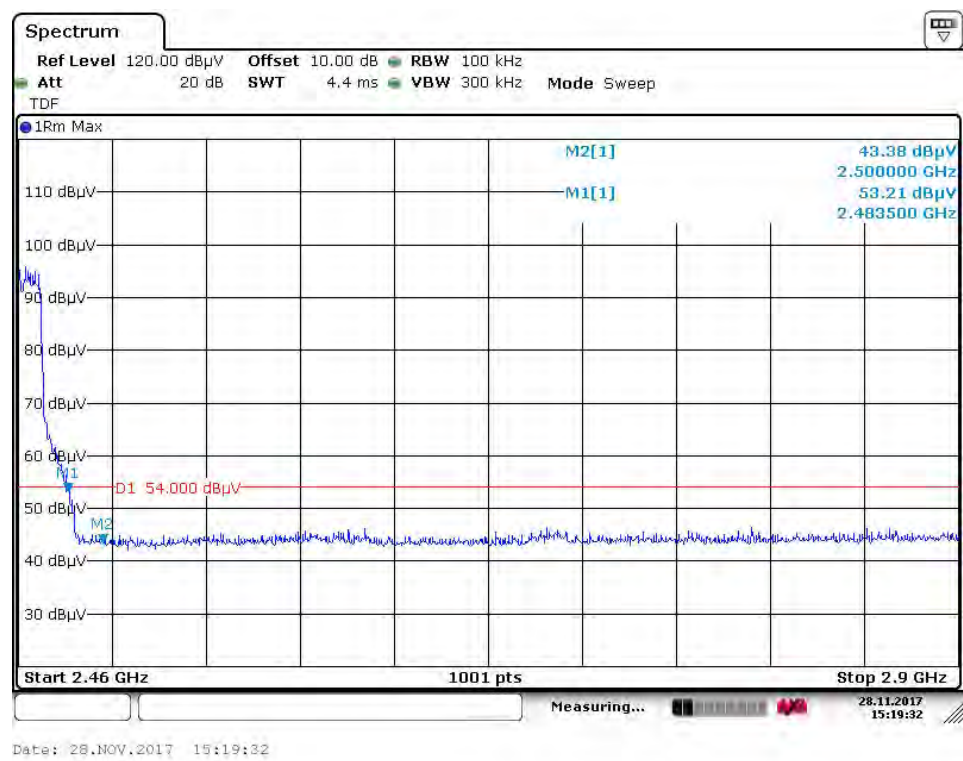


Radiated Bandedge 11n

High Channel (Hor)



High Channel (Ver)



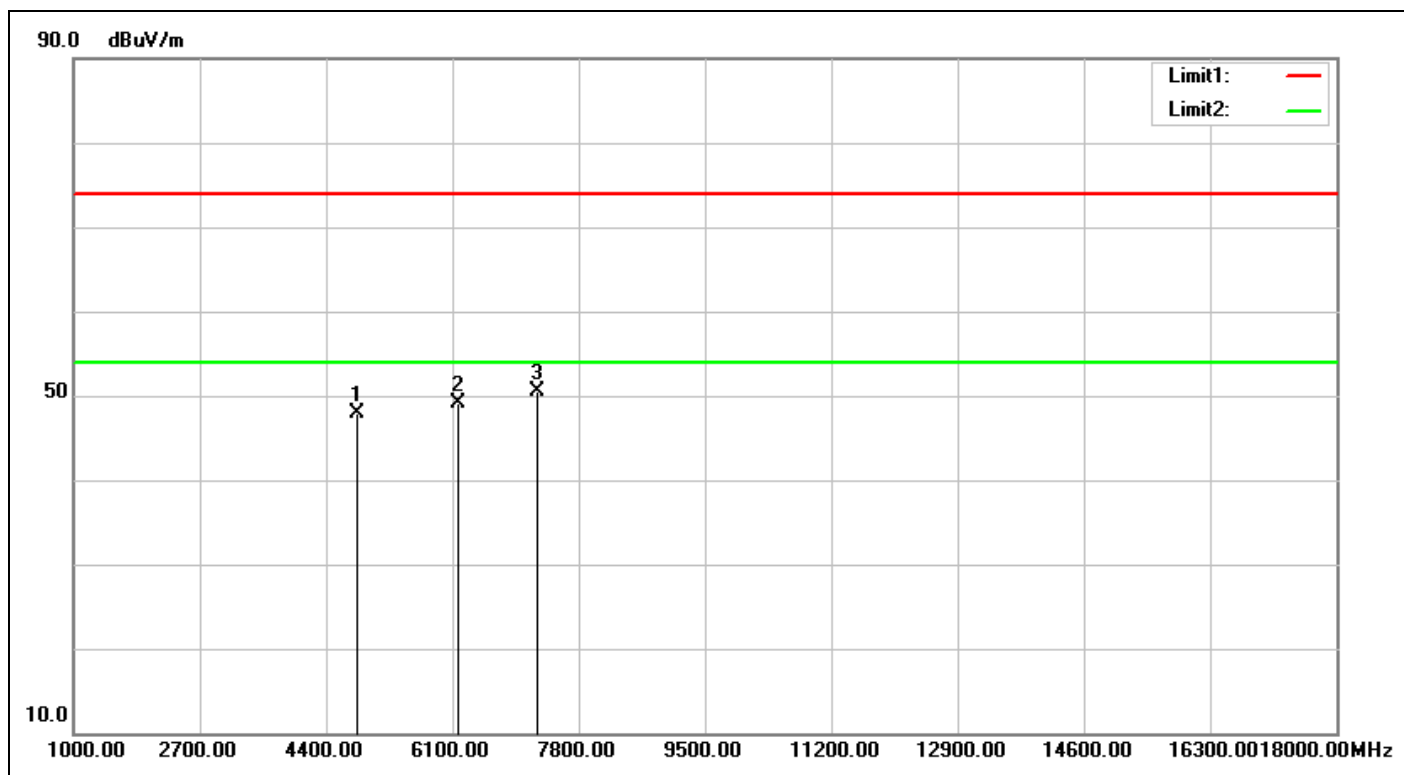
Spurious Emissions, TX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

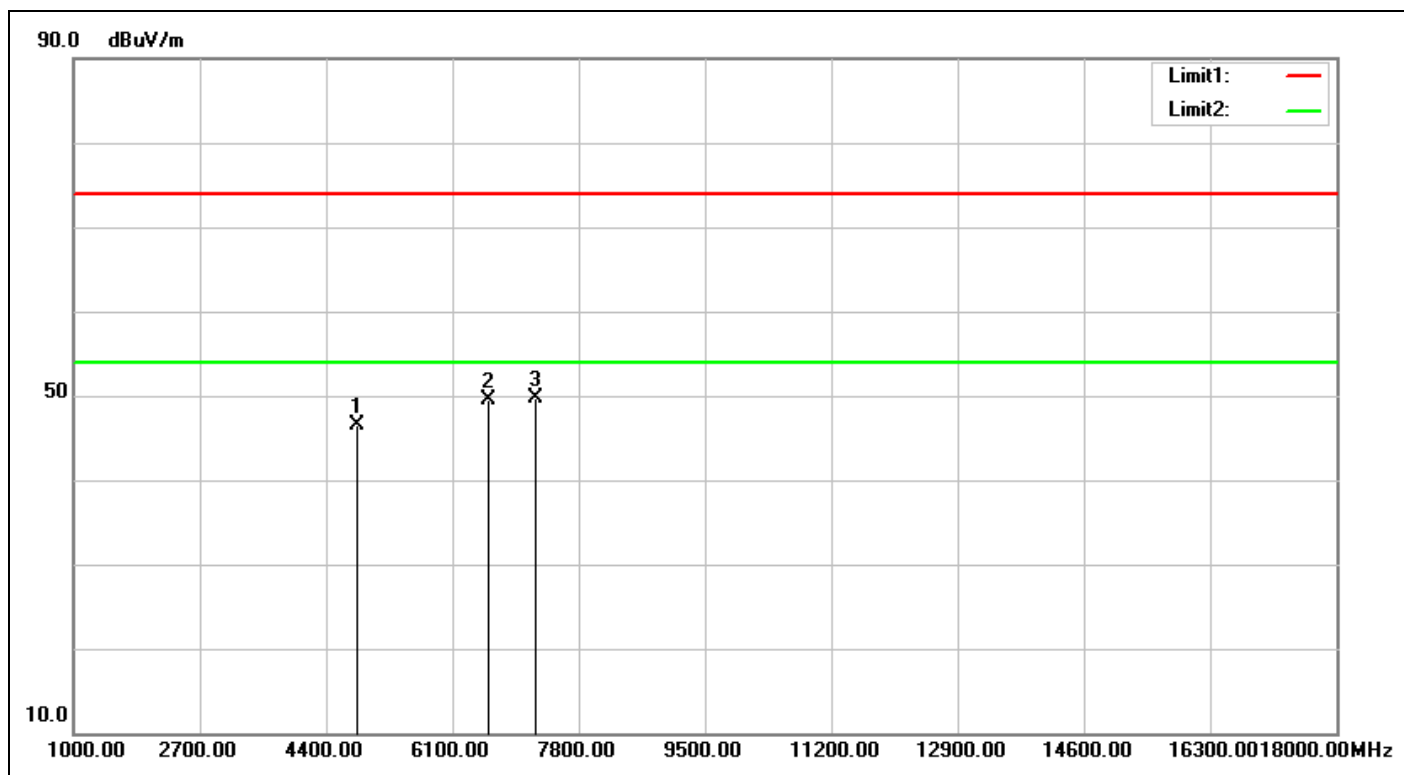
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



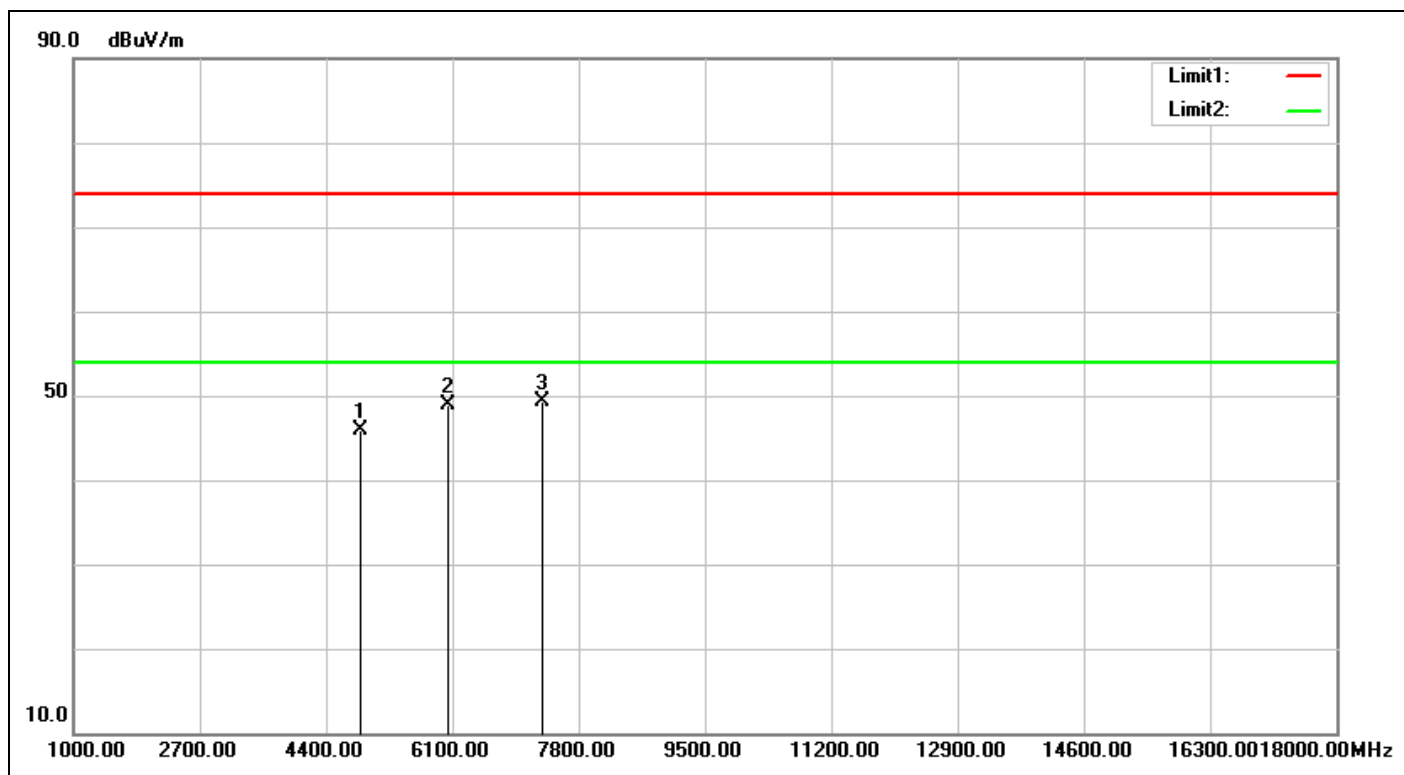
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 15:27:33
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	44.60	47.83	74.00	-26.17	peak	100	157	
2	6185.000	5.56	43.46	49.02	74.00	-24.98	peak	100	221	
3	7236.000	4.74	45.75	50.49	74.00	-23.51	peak	100	164	



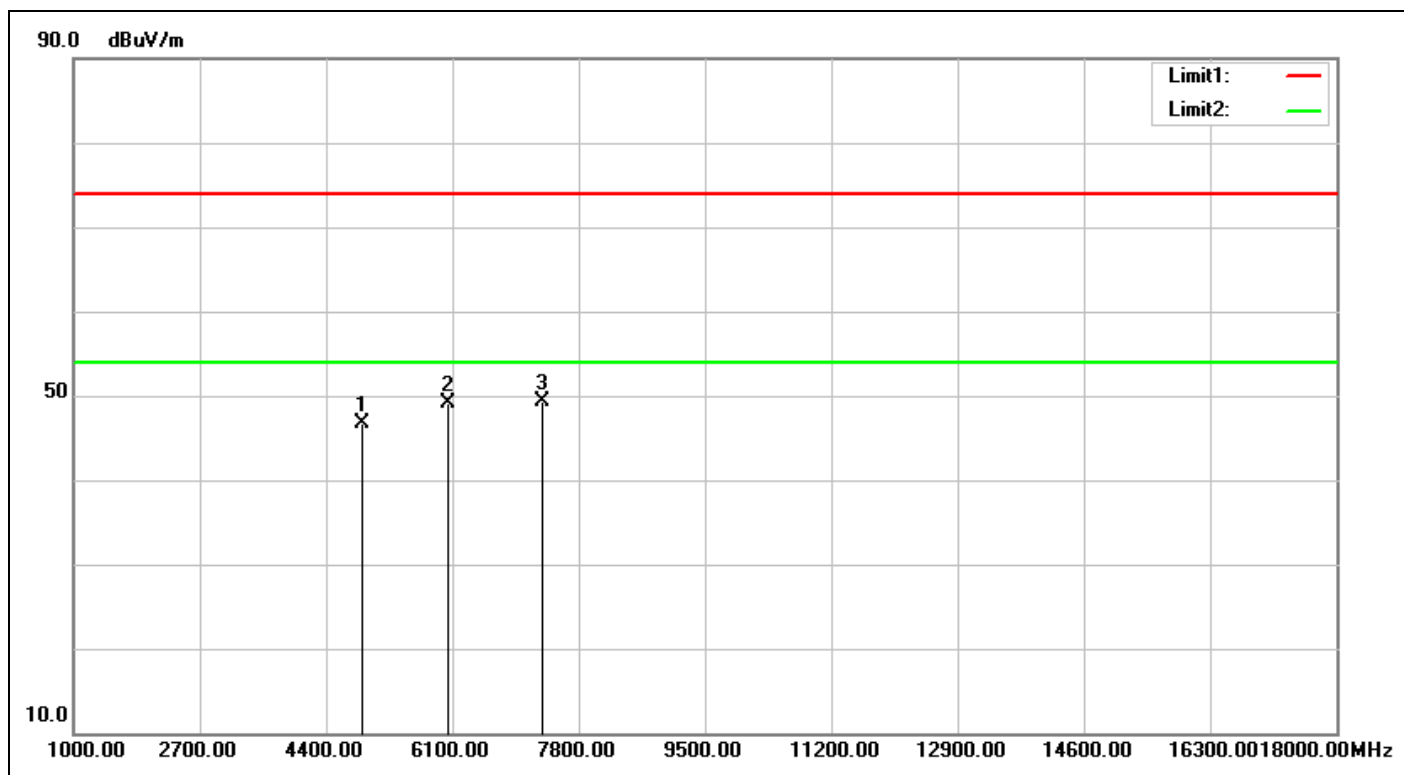
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 15:28:36
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	43.34	46.57	74.00	-27.43	peak	100	102	
2	6593.000	5.49	43.97	49.46	74.00	-24.54	peak	100	39	
3	7236.000	4.74	45.04	49.78	74.00	-24.22	peak	100	198	



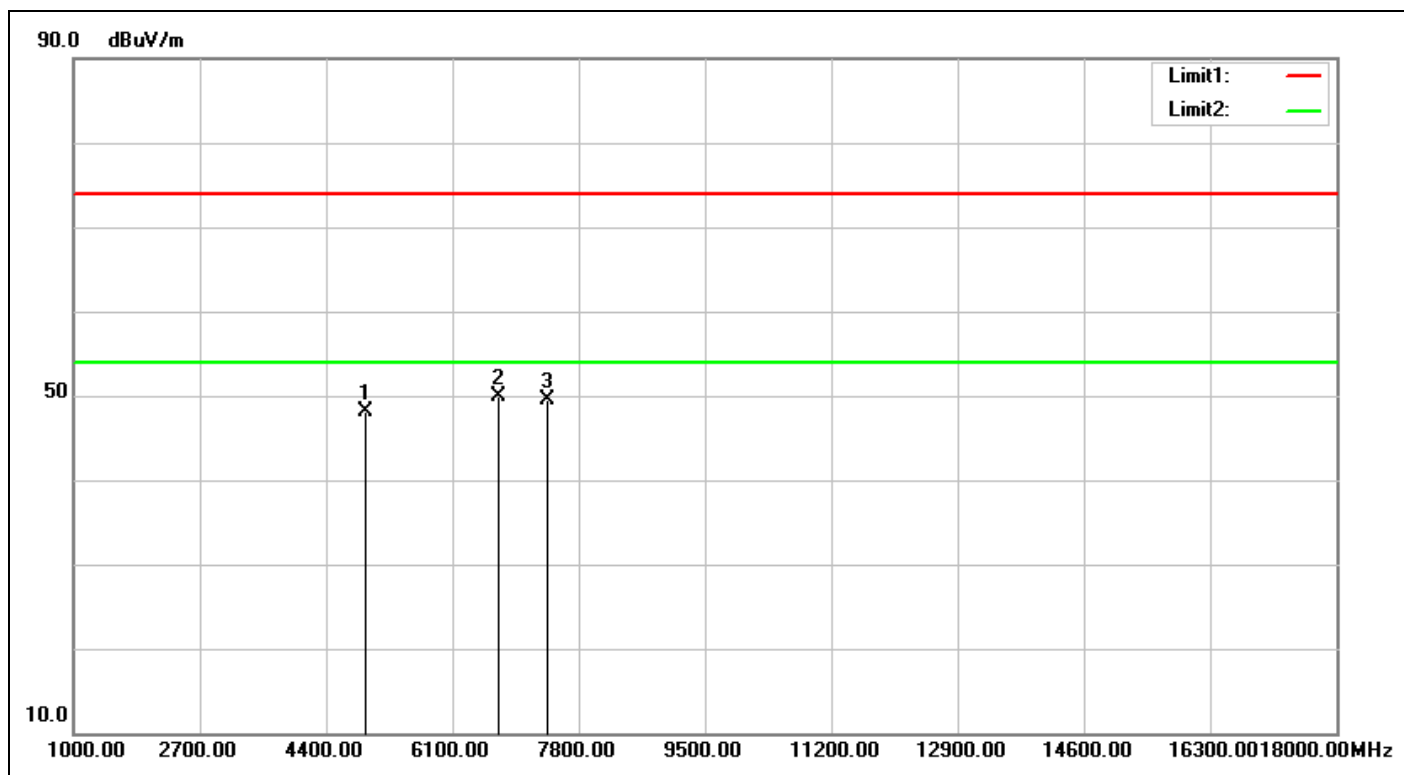
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 15:31:38
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	42.52	45.94	74.00	-28.06	peak	100	134	
2	6032.000	5.53	43.34	48.87	74.00	-25.13	peak	100	22	
3	7311.000	4.70	44.67	49.37	74.00	-24.63	peak	100	119	



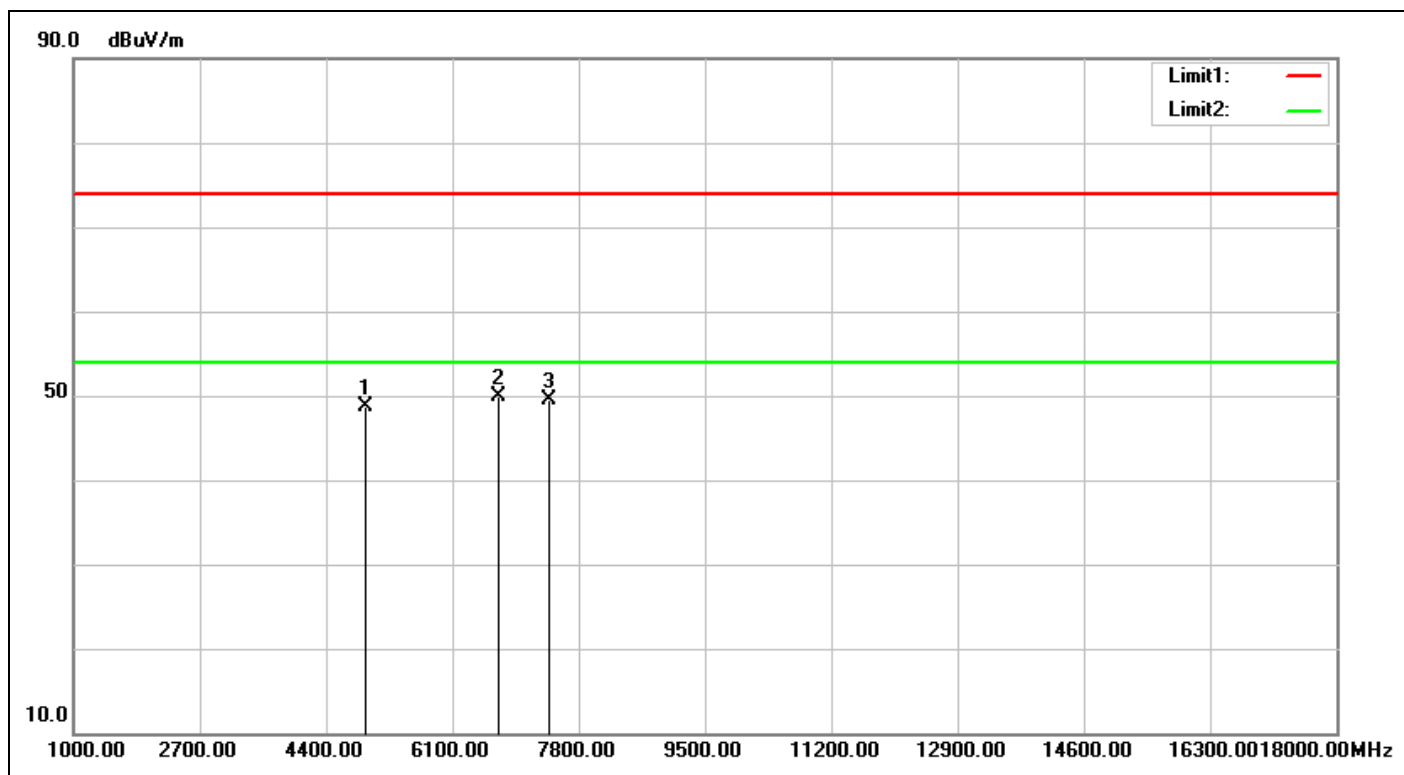
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 15:32:41
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	43.32	46.74	74.00	-27.26	peak	100	128	
2	6032.000	5.53	43.67	49.20	74.00	-24.80	peak	100	357	
3	7311.000	4.70	44.52	49.22	74.00	-24.78	peak	100	240	



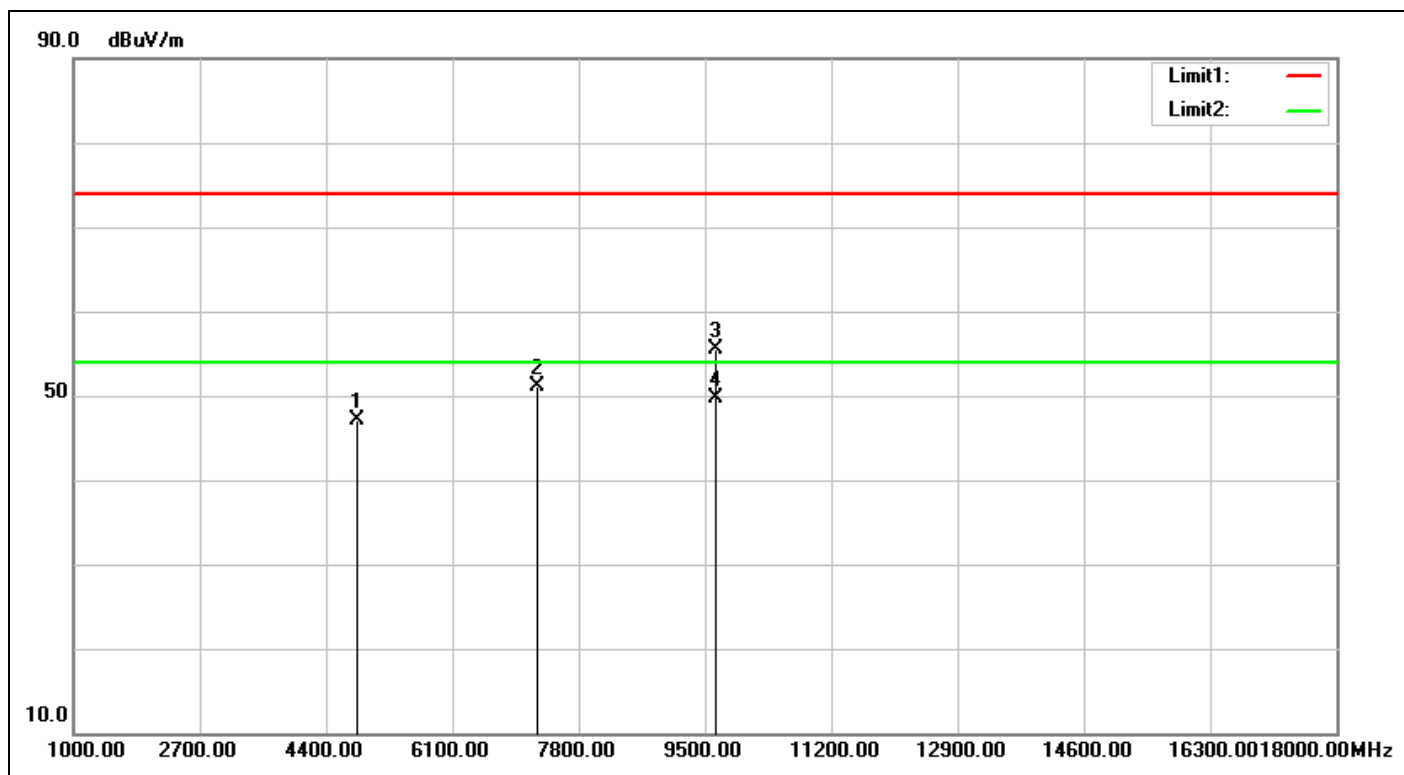
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 15:35:03
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	44.56	48.18	74.00	-25.82	peak	100	138	
2	6712.000	5.31	44.59	49.90	74.00	-24.10	peak	100	22	
3	7386.000	4.65	44.93	49.58	74.00	-24.42	peak	100	16	



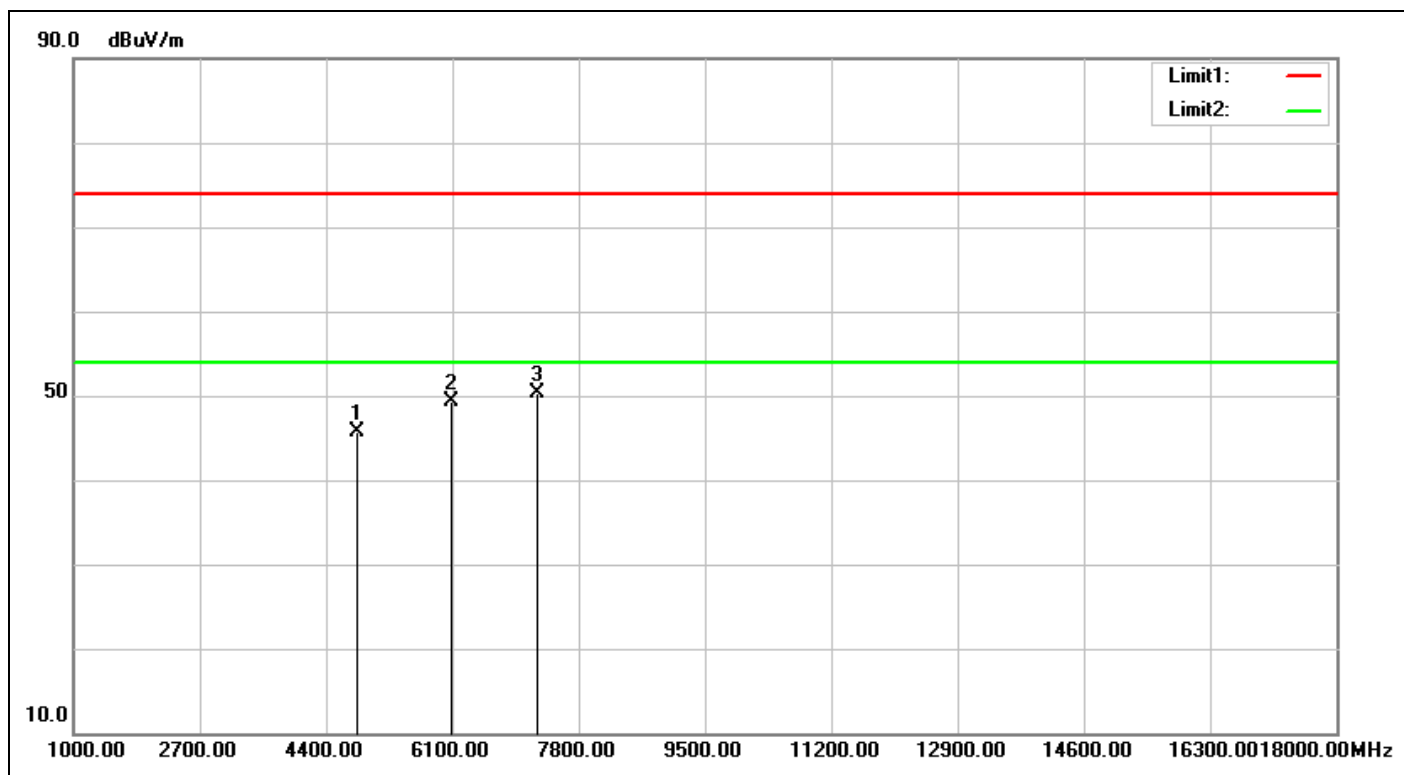
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 15:36:05
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	45.18	48.80	74.00	-25.20	peak	100	154	
2	6729.000	5.29	44.63	49.92	74.00	-24.08	peak	100	100	
3	7386.000	4.65	44.94	49.59	74.00	-24.41	peak	100	321	



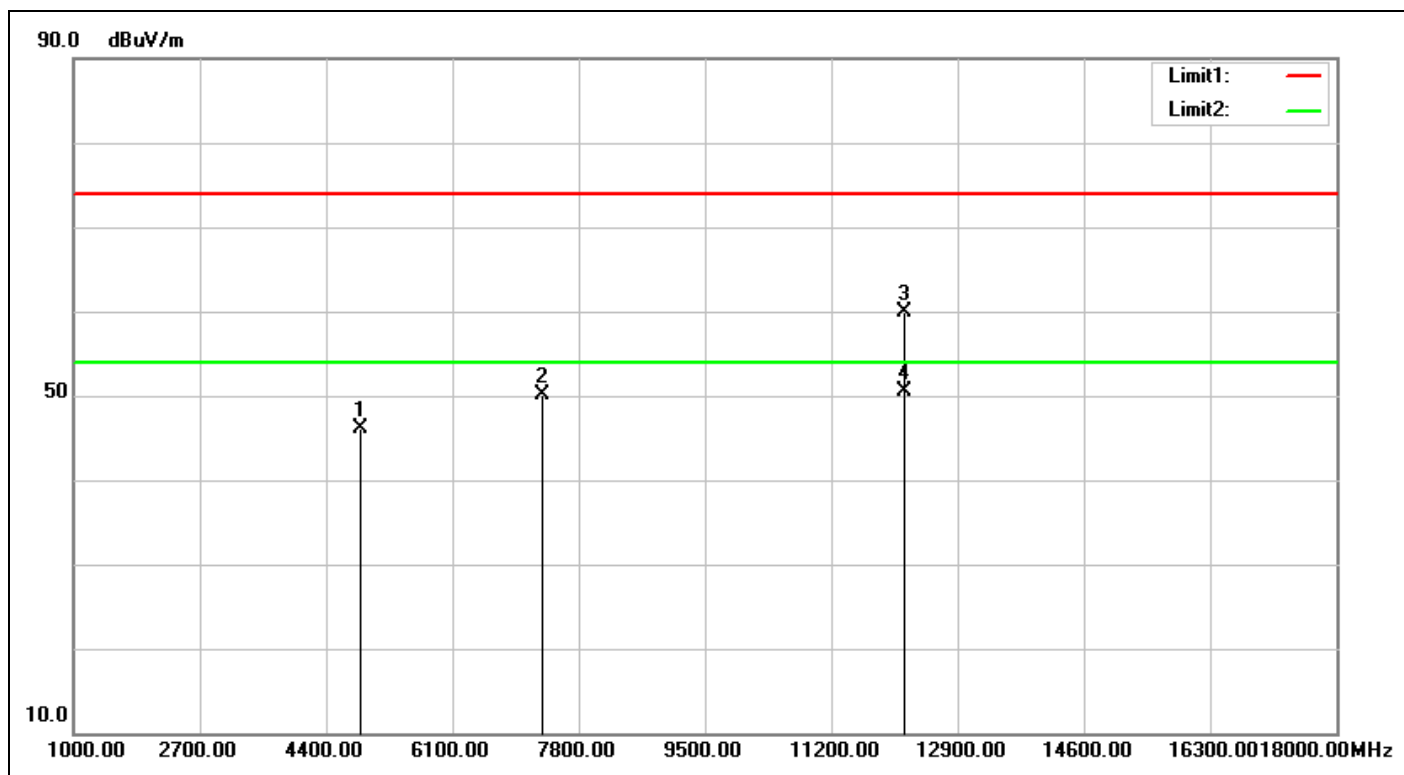
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 15:38:37
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	43.90	47.13	74.00	-26.87	peak	100	203	
2	7236.000	4.74	46.41	51.15	74.00	-22.85	peak	100	128	
3	9653.000	7.35	48.06	55.41	74.00	-18.59	peak	100	235	
4	9653.000	7.35	42.40	49.75	54.00	-4.25	AVG	100	235	



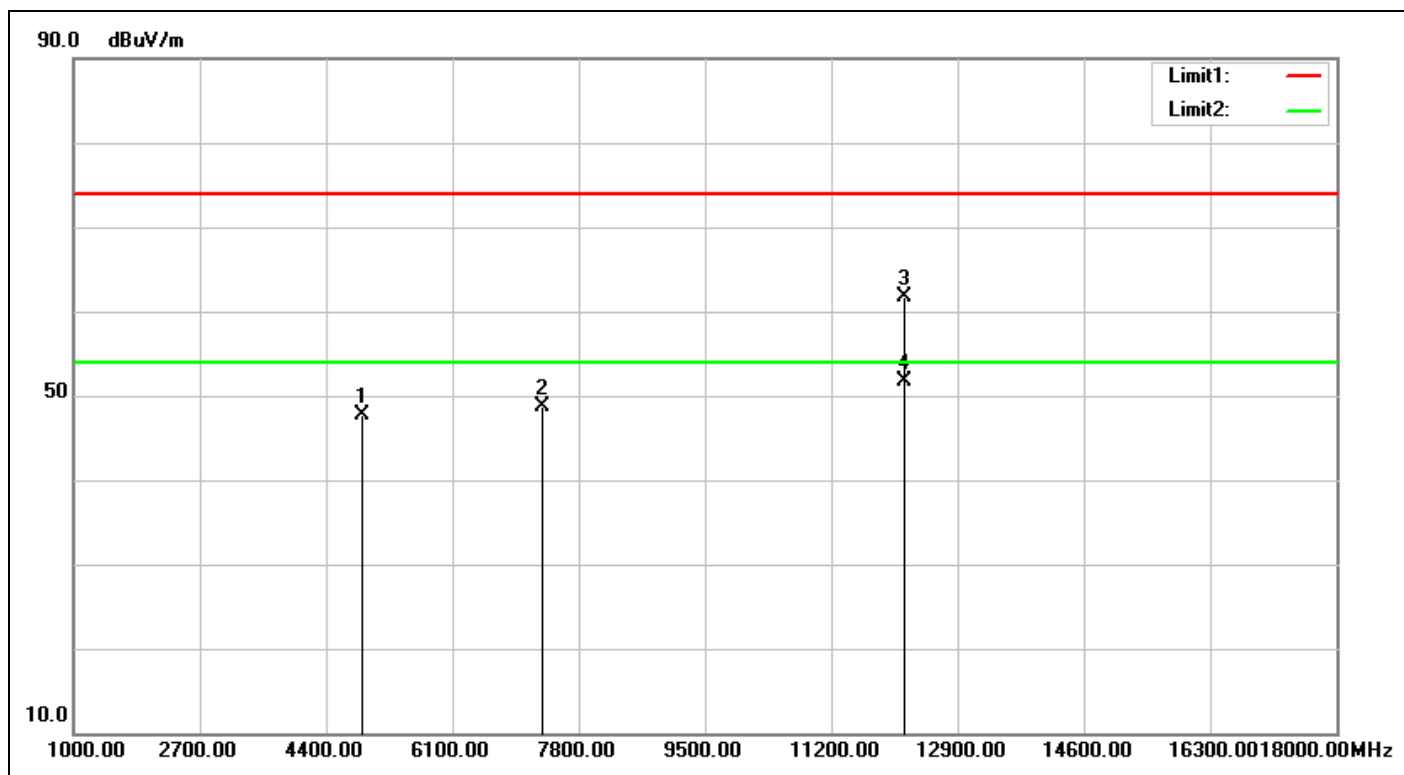
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 15:39:39
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.44	45.67	74.00	-28.33	peak	100	177	
2	6083.000	5.54	43.76	49.30	74.00	-24.70	peak	100	37	
3	7236.000	4.74	45.54	50.28	74.00	-23.72	peak	100	128	



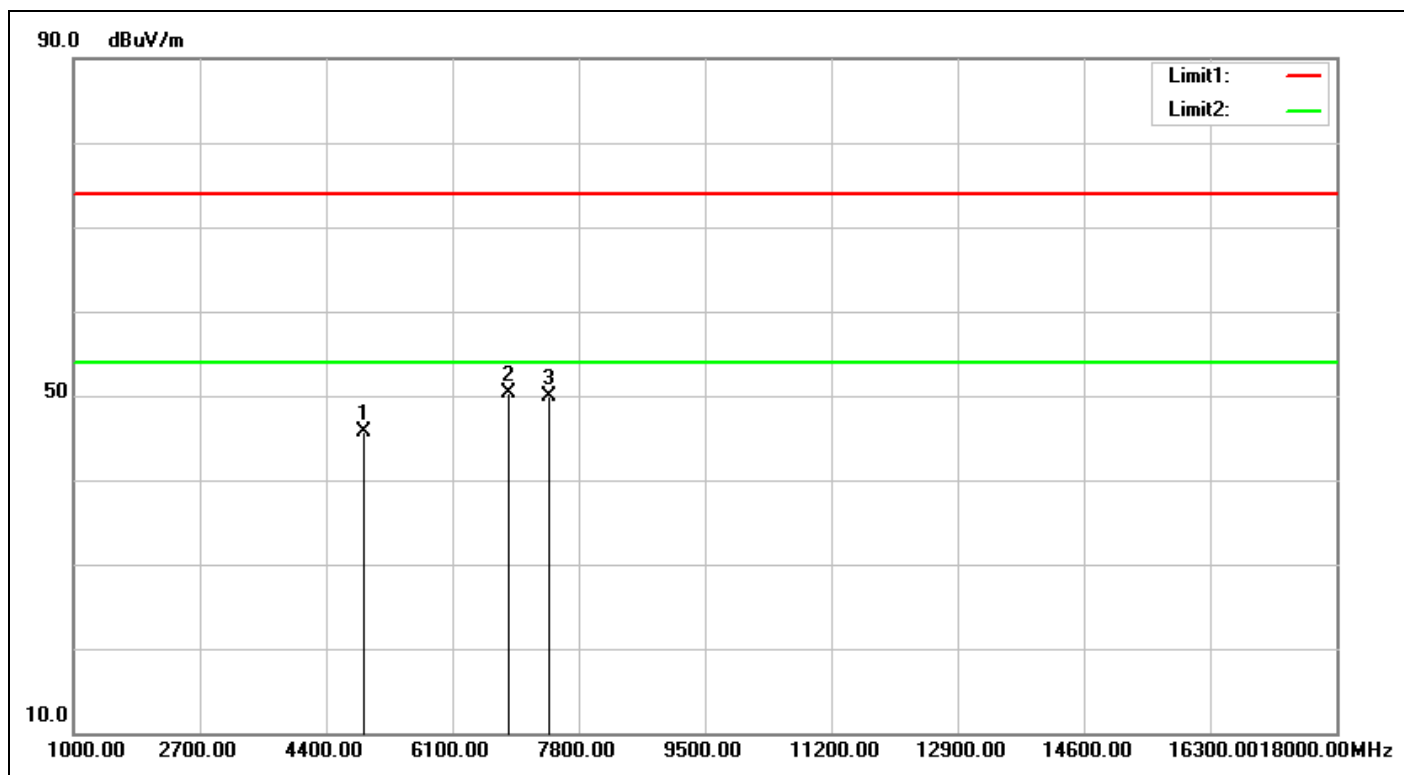
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:14:16
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	42.63	46.05	74.00	-27.95	peak	100	230	
2	7311.000	4.70	45.38	50.08	74.00	-23.92	peak	100	129	
3	12186.000	10.37	49.48	59.85	74.00	-14.15	peak	100	155	
4	12186.000	10.37	40.13	50.50	54.00	-3.50	AVG	100	155	



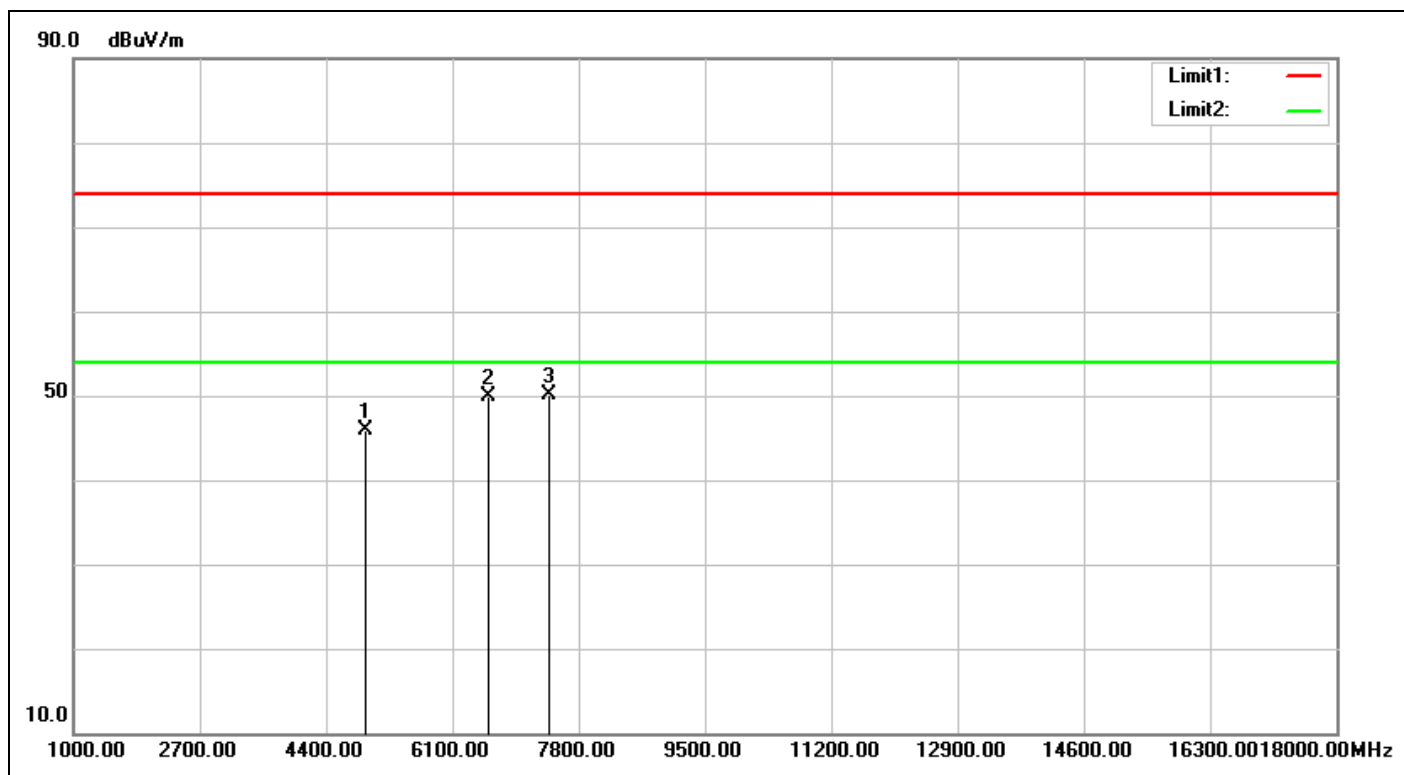
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:15:19
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	44.19	47.61	74.00	-26.39	peak	100	224	
2	7311.000	4.70	44.03	48.73	74.00	-25.27	peak	100	135	
3	12186.000	10.37	51.33	61.70	74.00	-12.30	peak	100	139	
4	12186.000	10.37	41.41	51.78	54.00	-2.22	AVG	100	139	



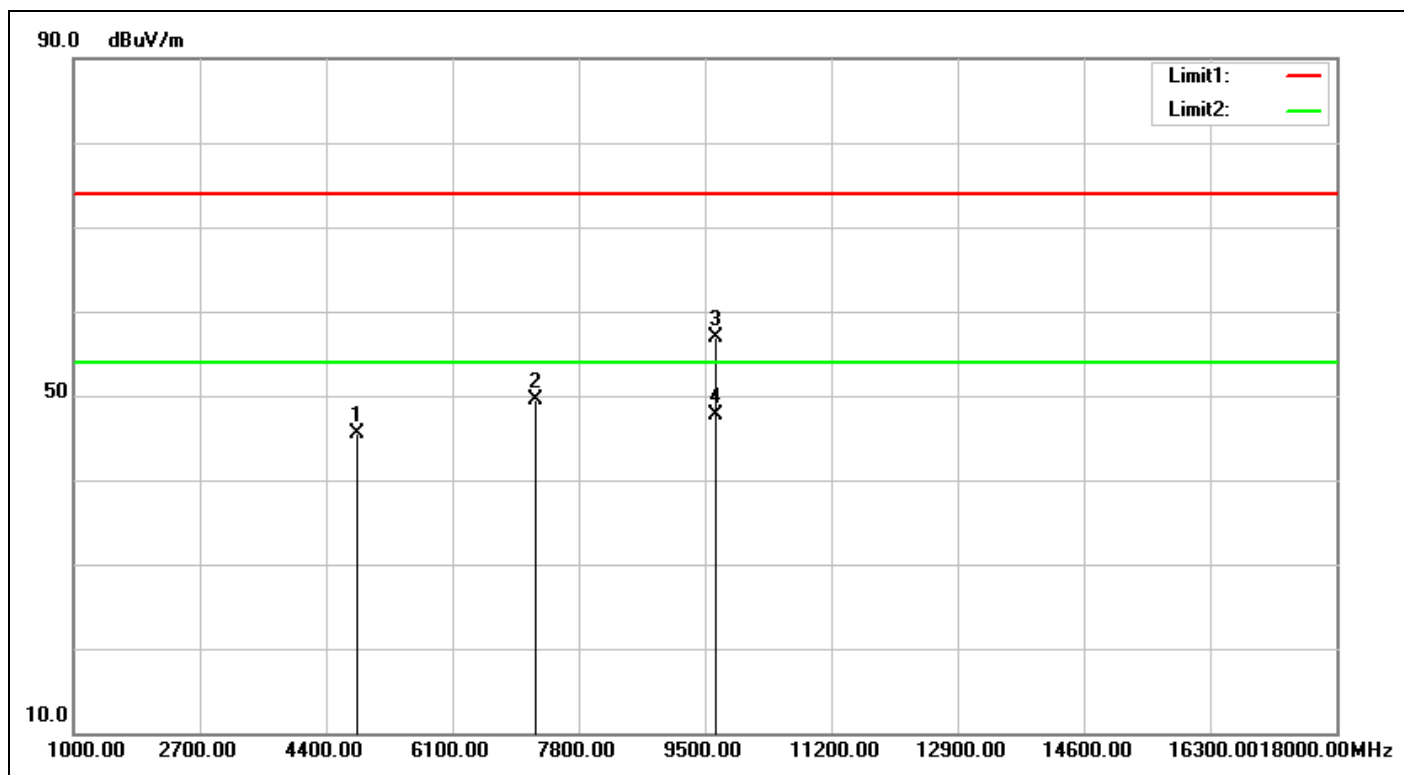
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:21:35
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	42.13	45.75	74.00	-28.25	peak	100	128	
2	6865.000	5.10	45.15	50.25	74.00	-23.75	peak	100	333	
3	7386.000	4.65	45.20	49.85	74.00	-24.15	peak	100	205	



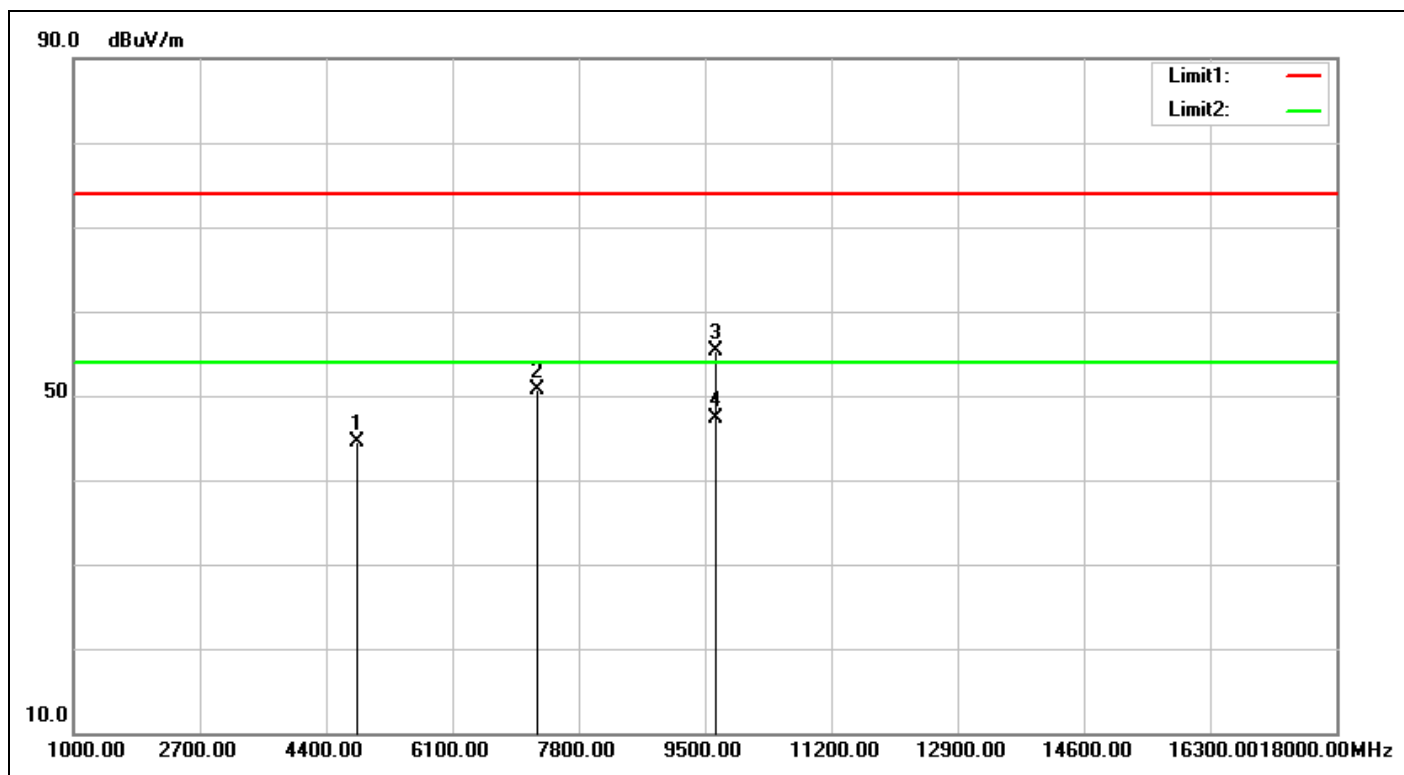
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:22:38
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	42.34	45.96	74.00	-28.04	peak	100	135	
2	6593.000	5.49	44.35	49.84	74.00	-24.16	peak	100	282	
3	7386.000	4.65	45.48	50.13	74.00	-23.87	peak	100	129	



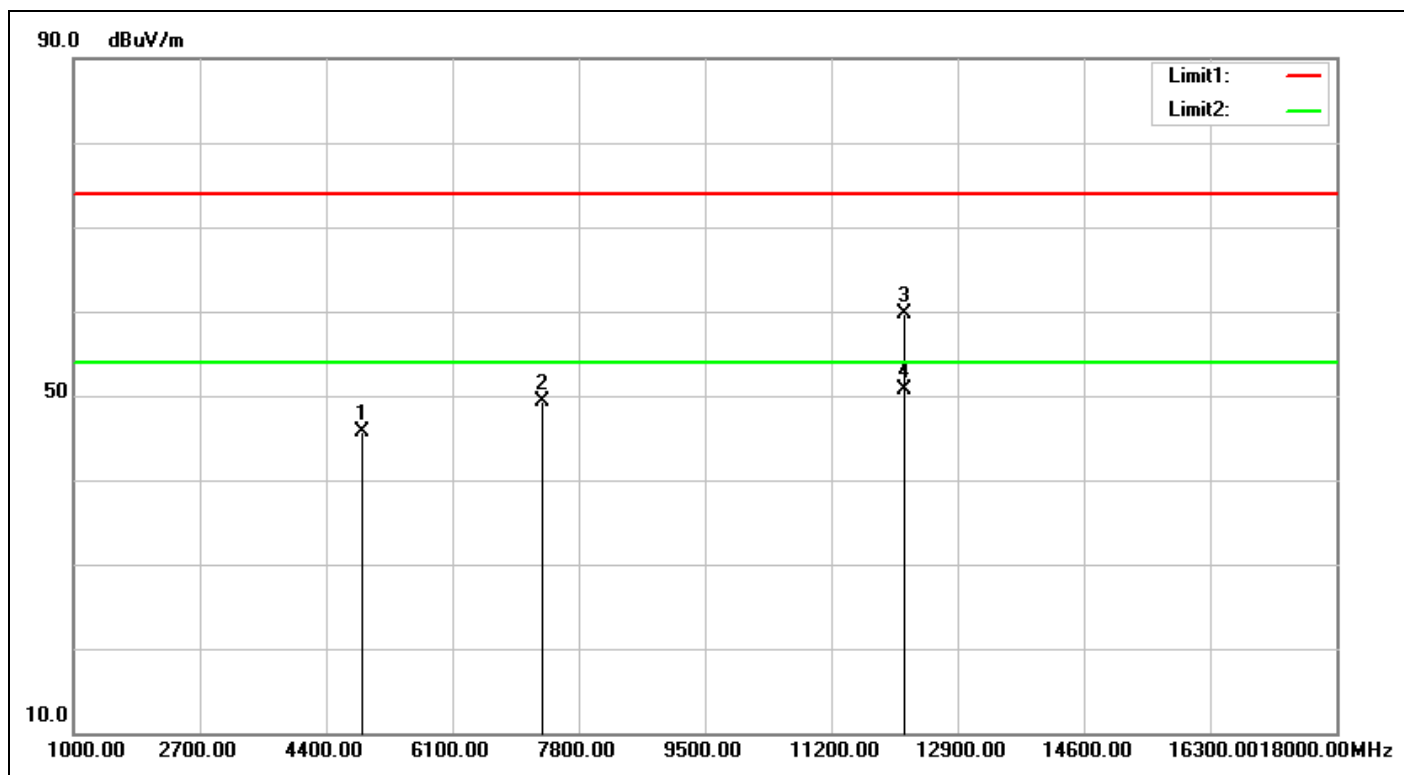
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:25:29
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.24	45.47	74.00	-28.53	peak	100	154	
2	7236.000	4.74	44.76	49.50	74.00	-24.50	peak	100	225	
3	9653.000	7.35	49.51	56.86	74.00	-17.14	peak	100	76	
4	9653.000	7.35	40.31	47.66	54.00	-6.34	AVG	100	76	



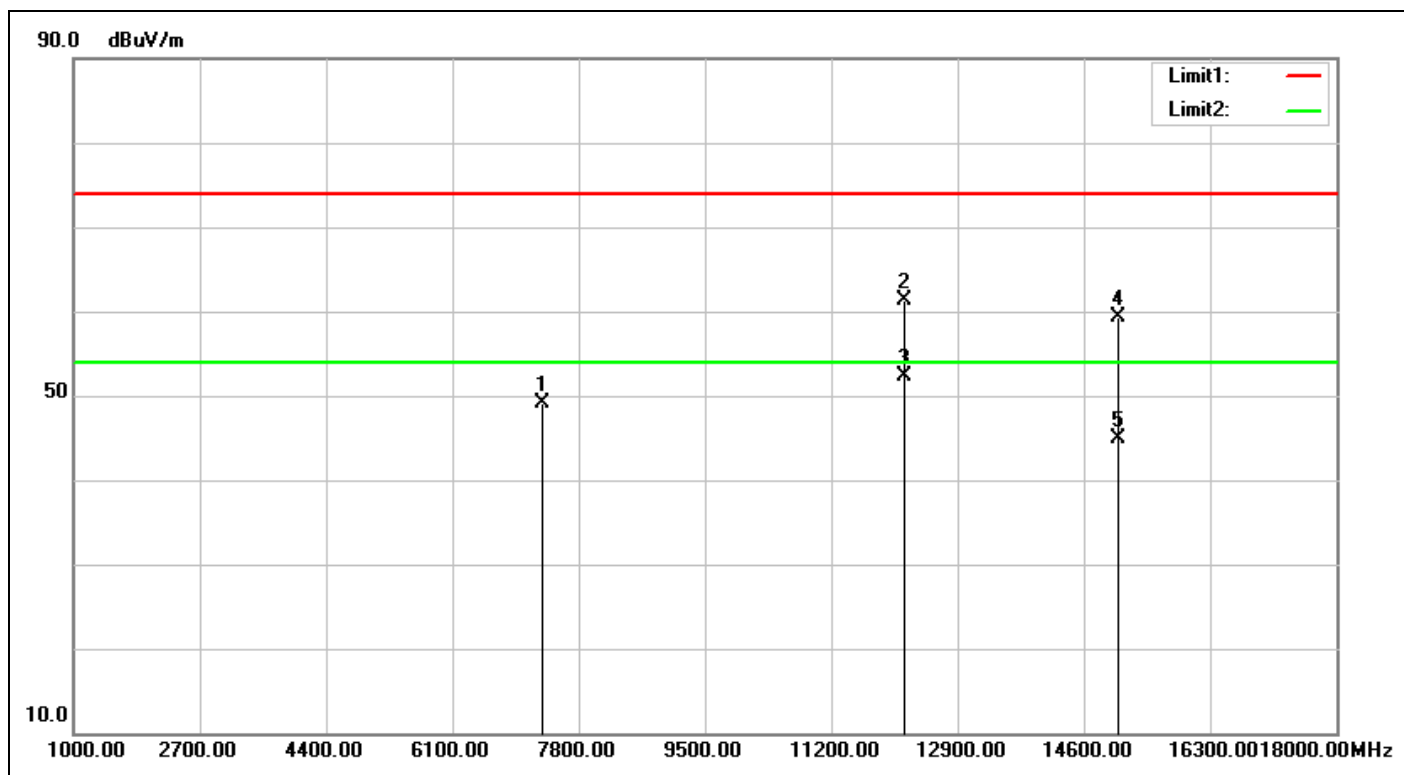
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:26:31
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	41.28	44.51	74.00	-29.49	peak	100	157	
2	7236.000	4.74	46.05	50.79	74.00	-23.21	peak	100	106	
3	9653.000	7.35	47.97	55.32	74.00	-18.68	peak	100	199	
4	9653.000	7.35	39.95	47.30	54.00	-6.70	AVG	100	199	



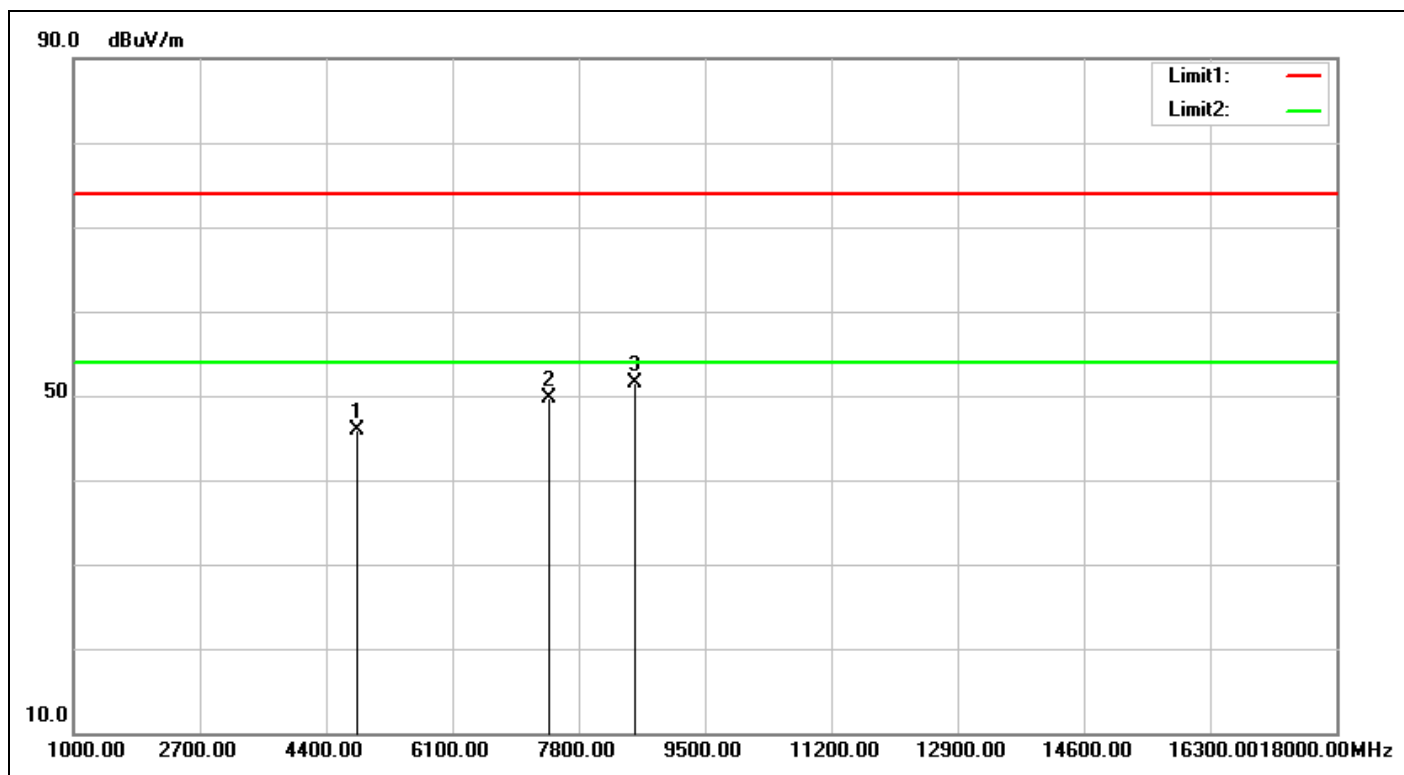
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:31:21
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	42.32	45.74	74.00	-28.26	peak	100	305	
2	7311.000	4.70	44.51	49.21	74.00	-24.79	peak	100	227	
3	12186.000	10.37	49.29	59.66	74.00	-14.34	peak	100	344	
4	12186.000	10.37	40.34	50.71	54.00	-3.29	AVG	100	344	



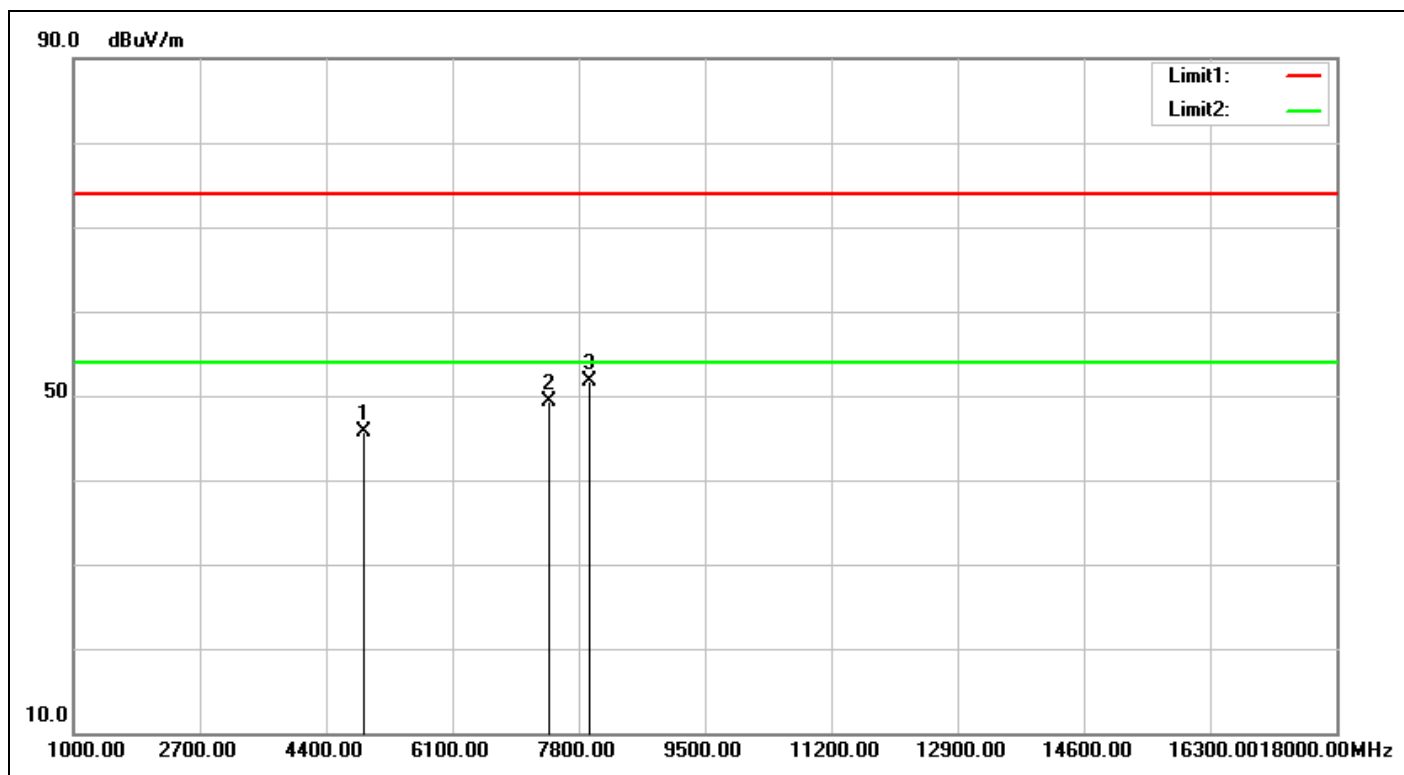
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:32:24
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	7311.000	4.70	44.44	49.14	74.00	-24.86	peak	100	143	
2	12186.000	10.37	51.03	61.40	74.00	-12.60	peak	100	135	
3	12186.000	10.37	41.95	52.32	54.00	-1.68	AVG	100	135	
4	15059.000	12.64	46.76	59.40	74.00	-14.60	peak	100	346	
5	15059.000	12.64	32.31	44.95	54.00	-9.05	AVG	100	346	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:39:43
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.66	45.89	74.00	-28.11	peak	100	107	
2	7386.000	4.65	45.03	49.68	74.00	-24.32	peak	100	256	
3	8565.000	4.94	46.58	51.52	74.00	-22.48	peak	119	342	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:40:45
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	42.16	45.78	74.00	-28.22	peak	100	184	
2	7386.000	4.65	44.71	49.36	74.00	-24.64	peak	100	303	
3	7953.000	4.67	47.00	51.67	74.00	-22.33	peak	119	125	

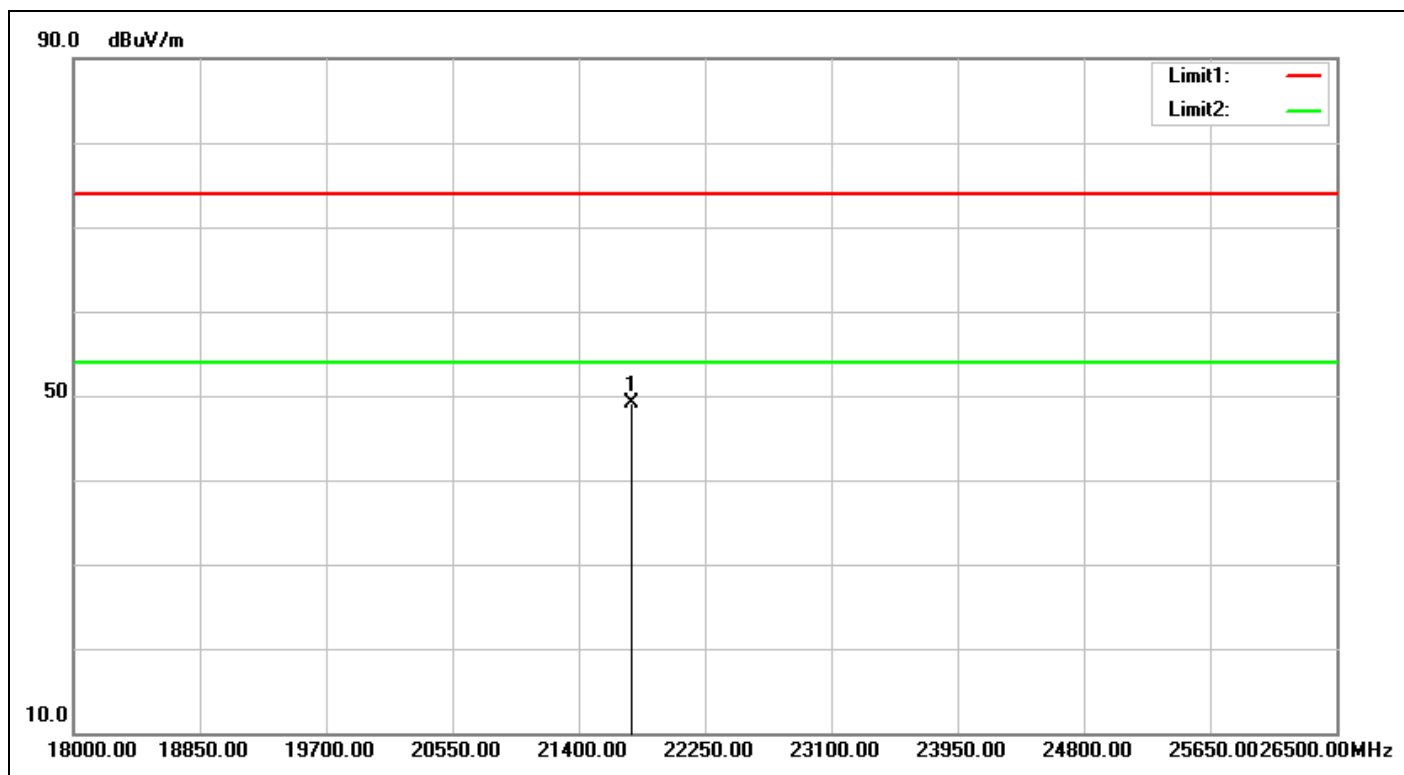
Spurious Emissions, TX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

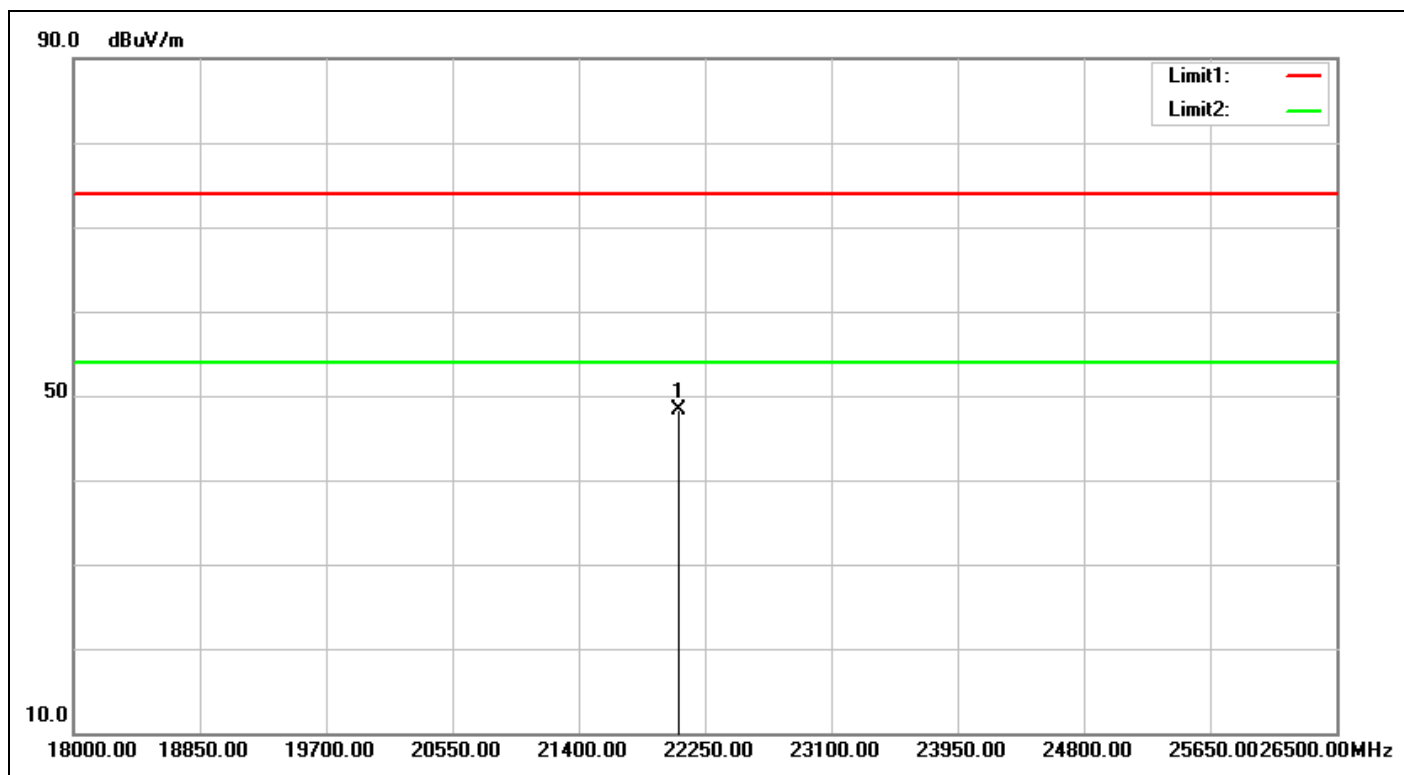
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



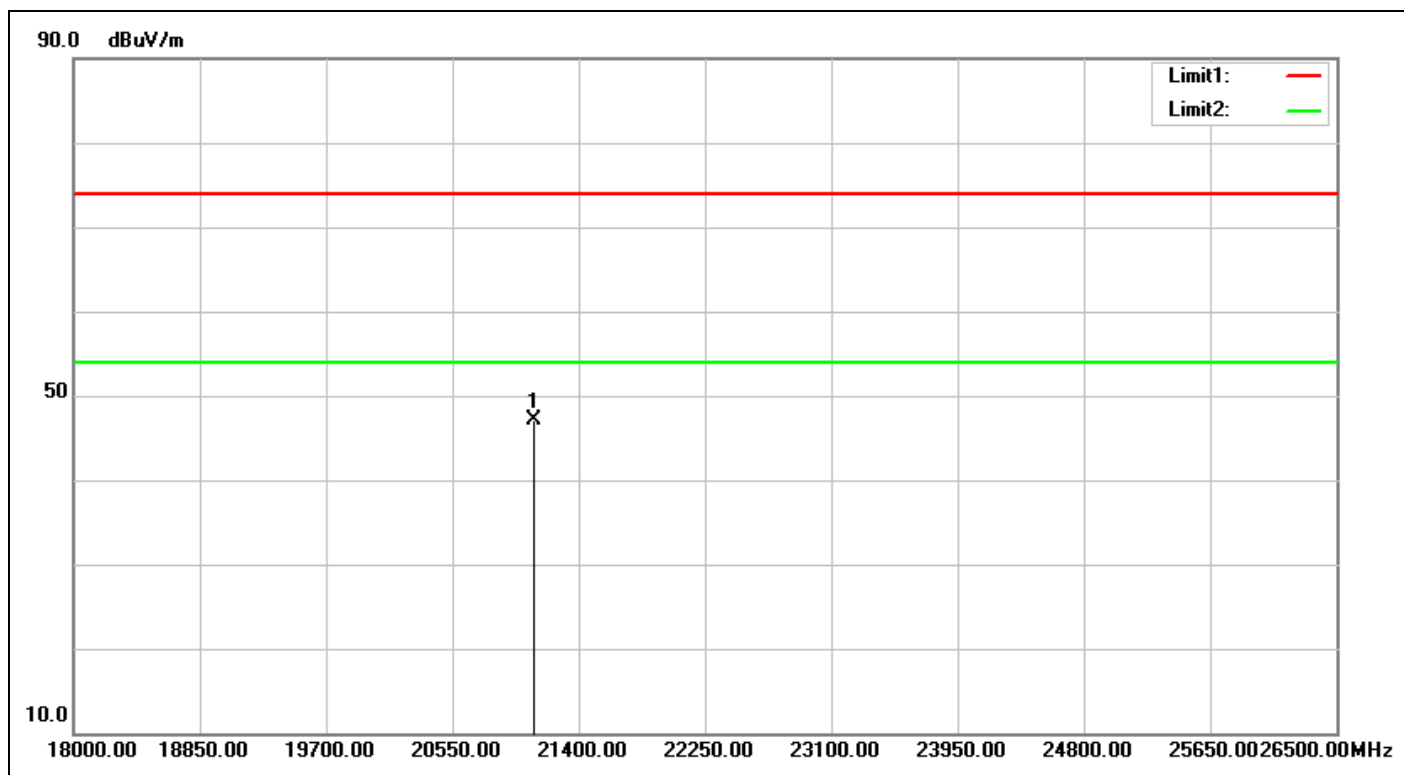
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:54:57
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21757.000	32.31	16.87	49.18	74.00	-24.82	peak	100	152	



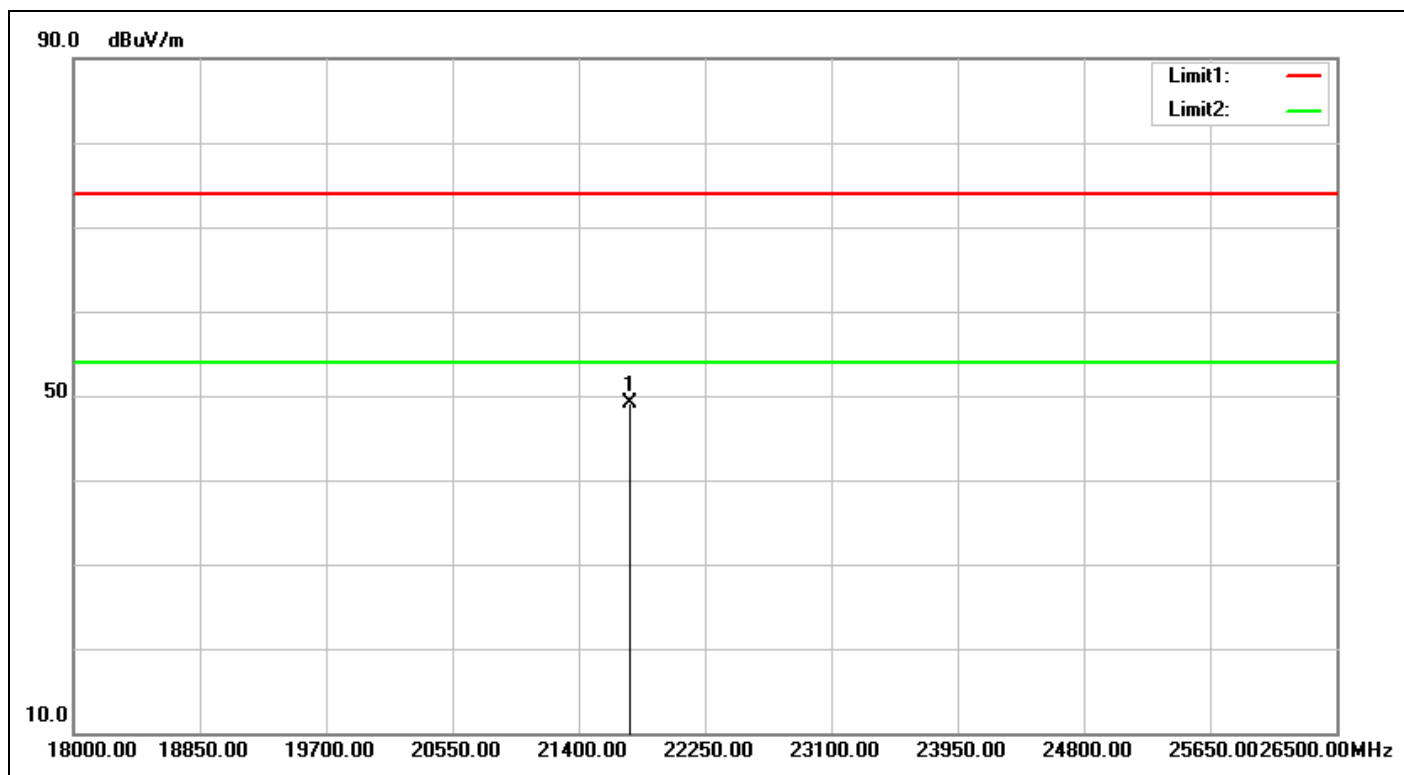
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:55:28
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22071.500	32.54	15.78	48.32	74.00	-25.68	peak	100	138	



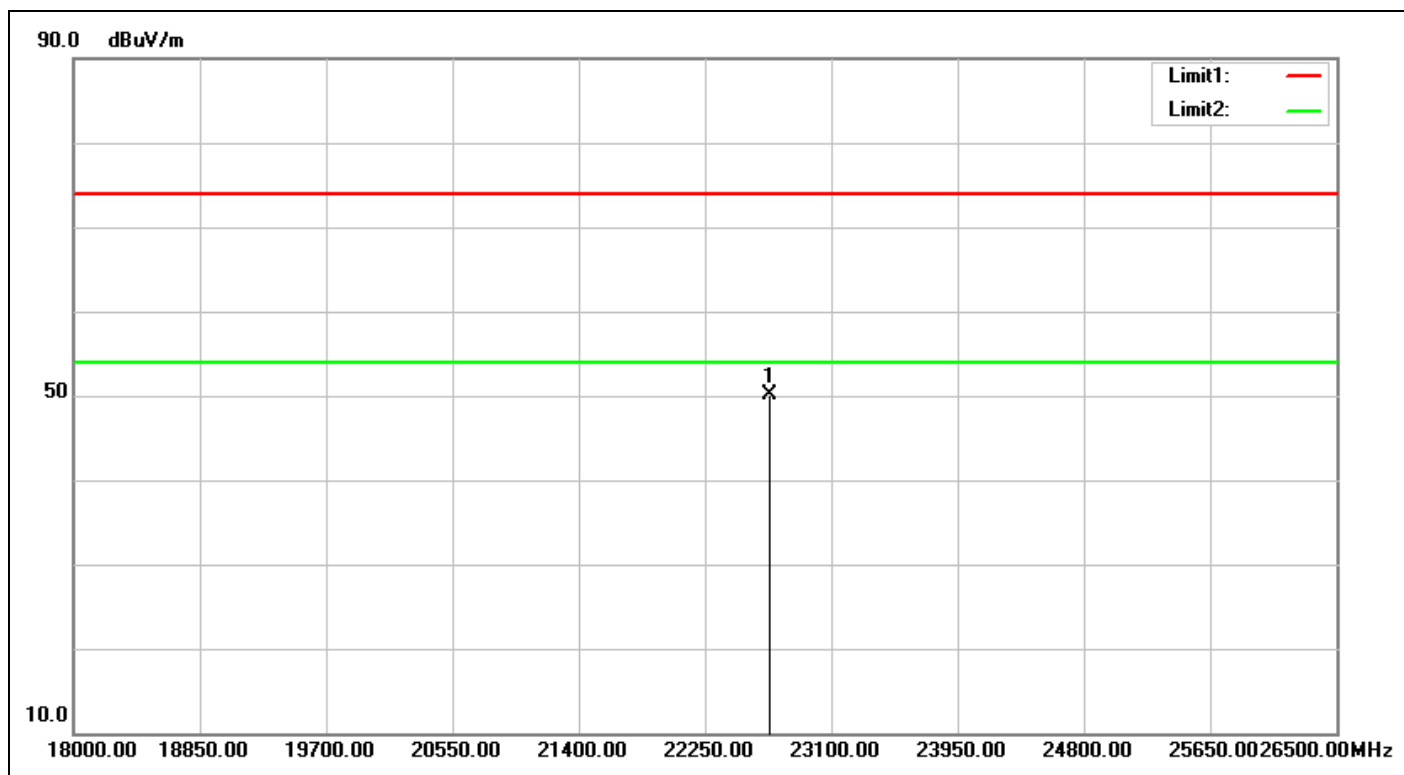
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:55:52
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21094.000	31.42	15.65	47.07	74.00	-26.93	peak	100	152	



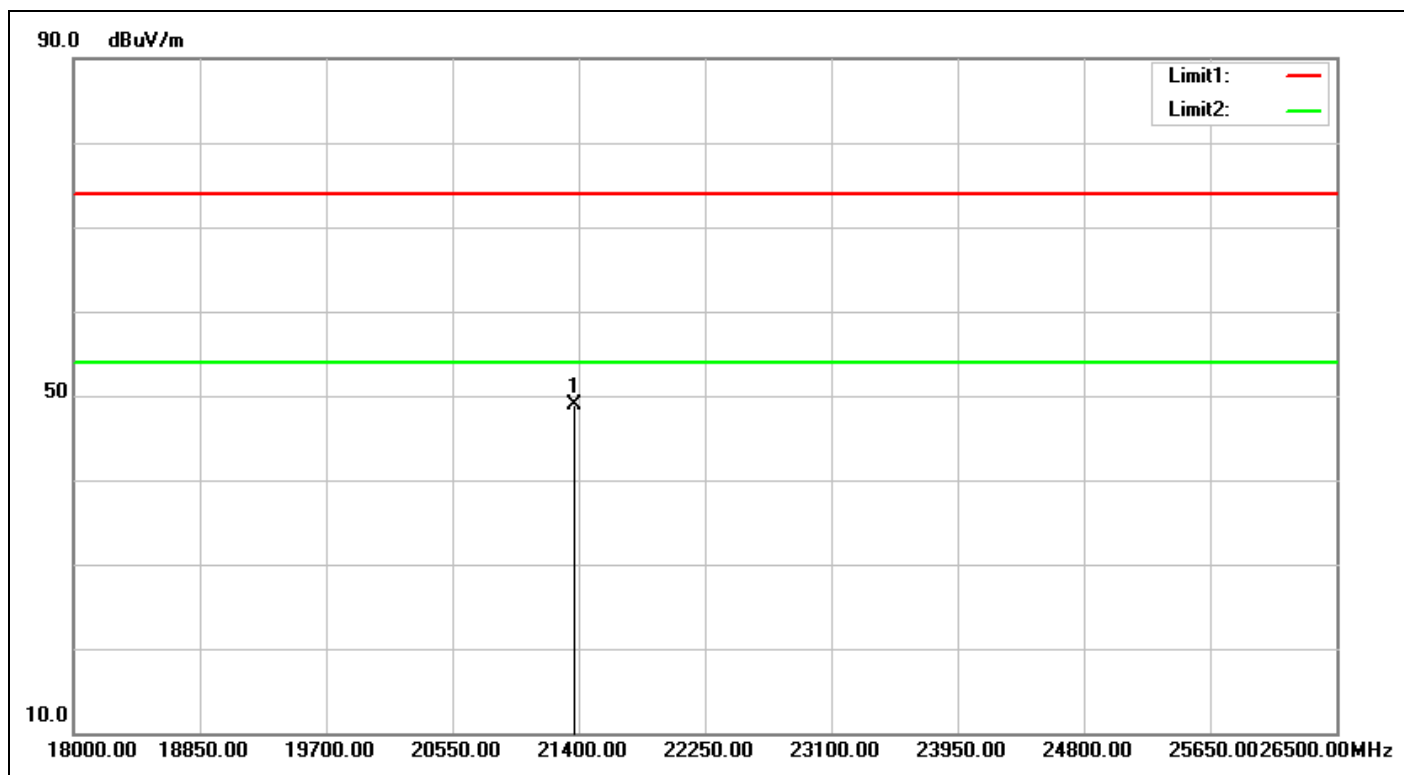
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:56:04
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21740.000	32.29	16.76	49.05	74.00	-24.95	peak	100	138	



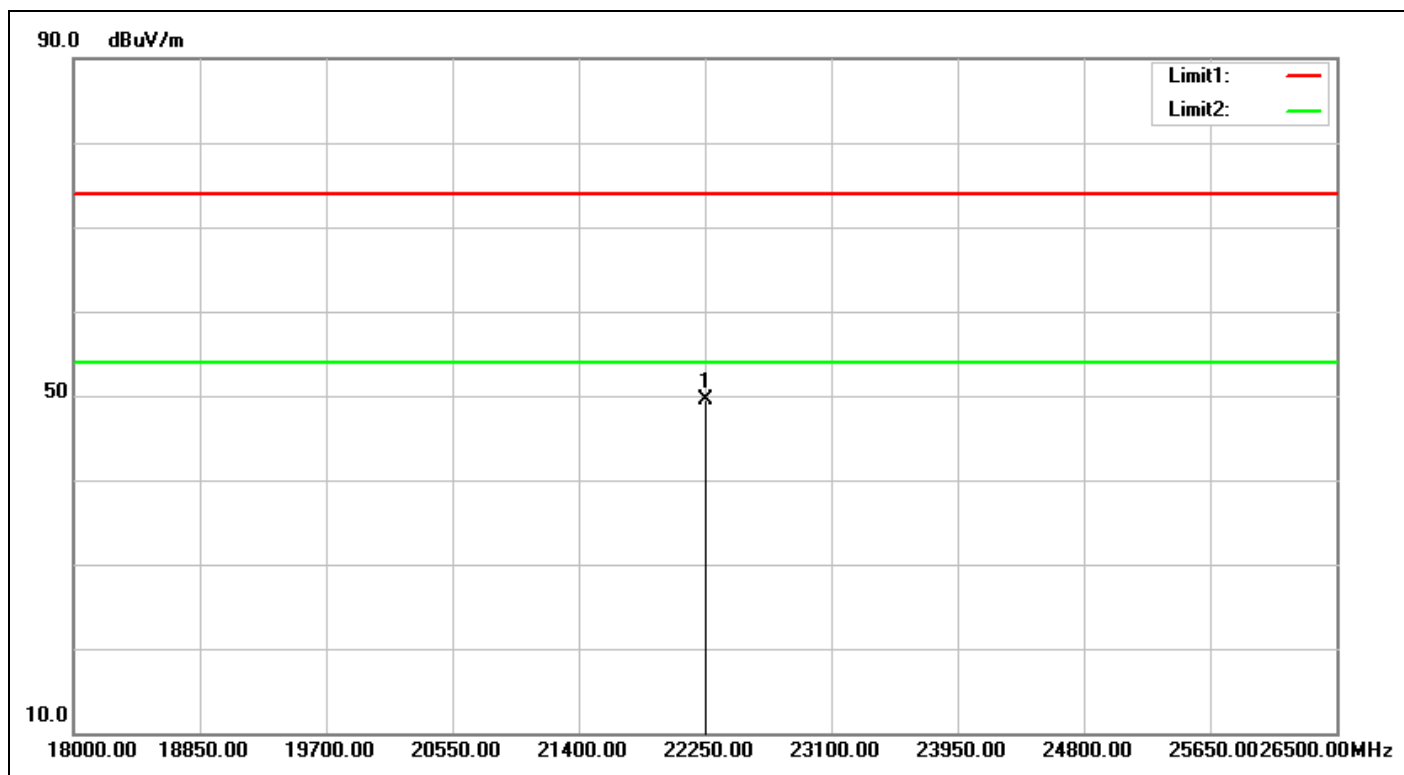
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:56:27
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFA-02-5-C7H1		

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	18.03	50.16	74.00	-23.84	peak	100	330	



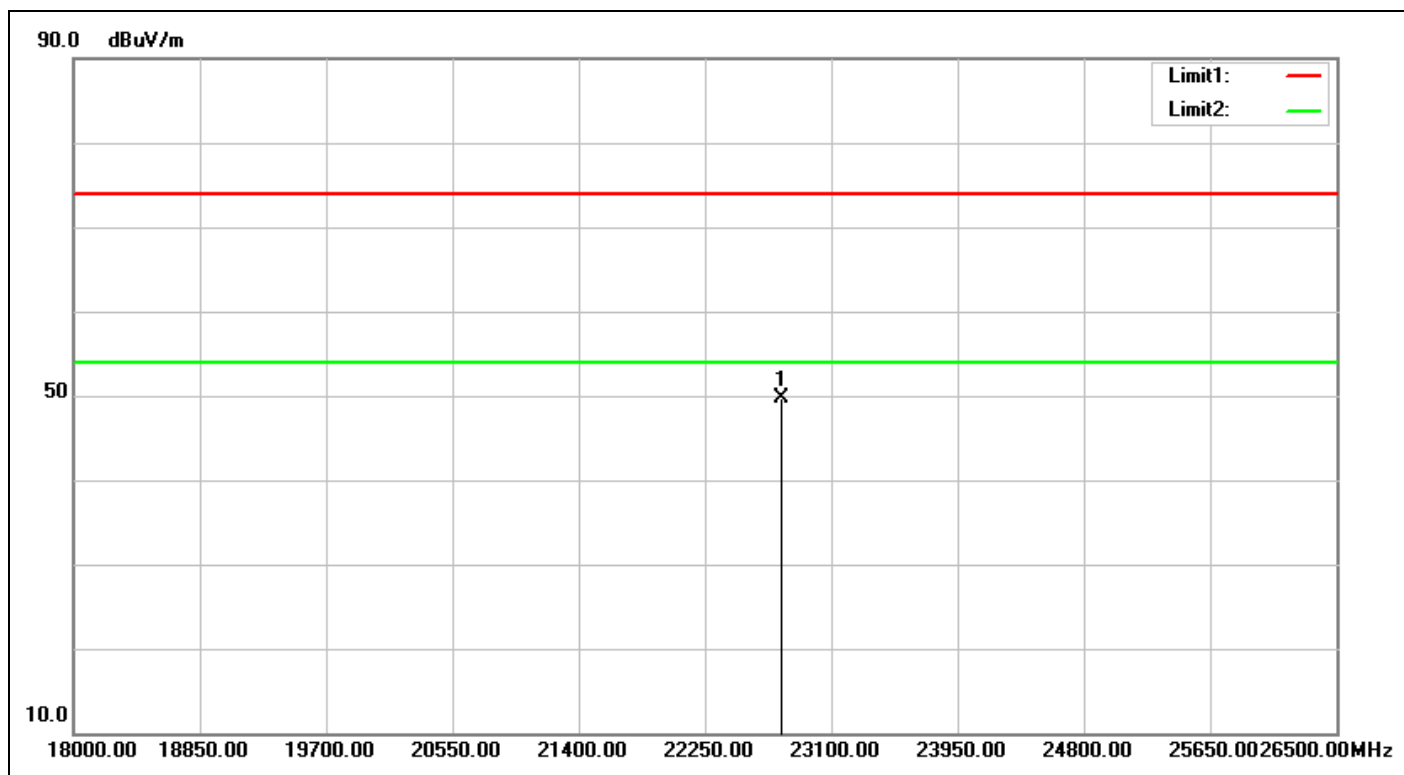
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:56:40
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21374.500	31.85	17.00	48.85	74.00	-25.15	peak	100	164	



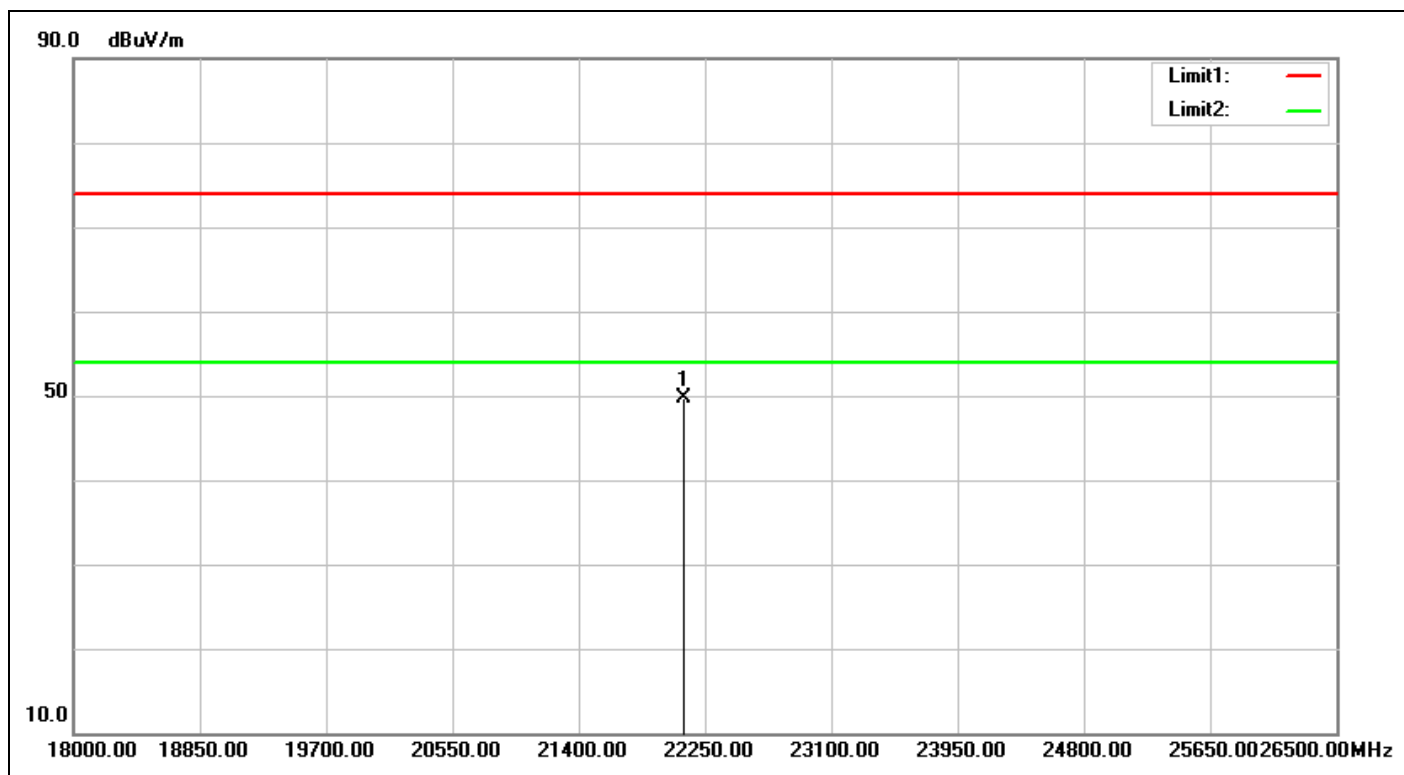
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:57:14
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22250.000	32.42	17.07	49.49	74.00	-24.51	peak	100	15	



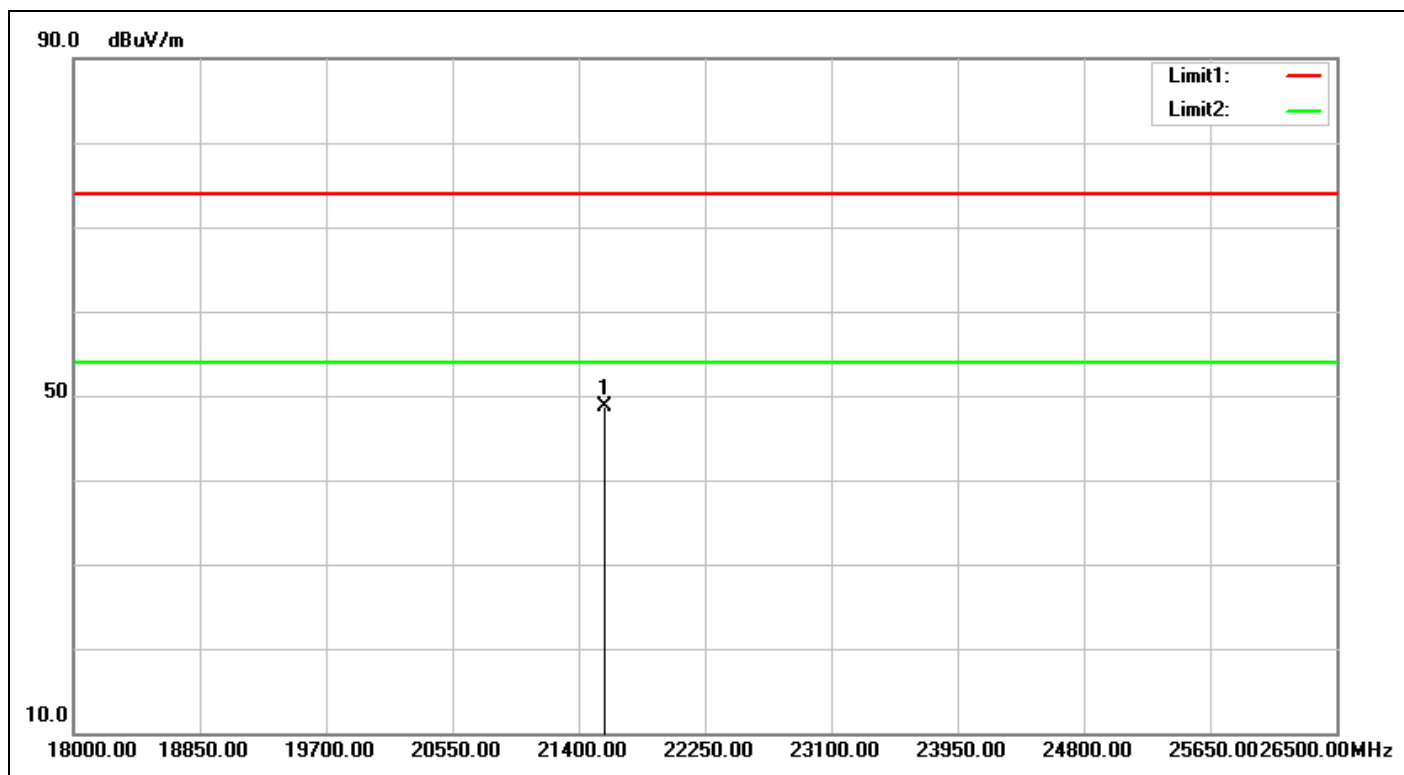
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:57:30
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22760.000	32.08	17.61	49.69	74.00	-24.31	peak	100	163	



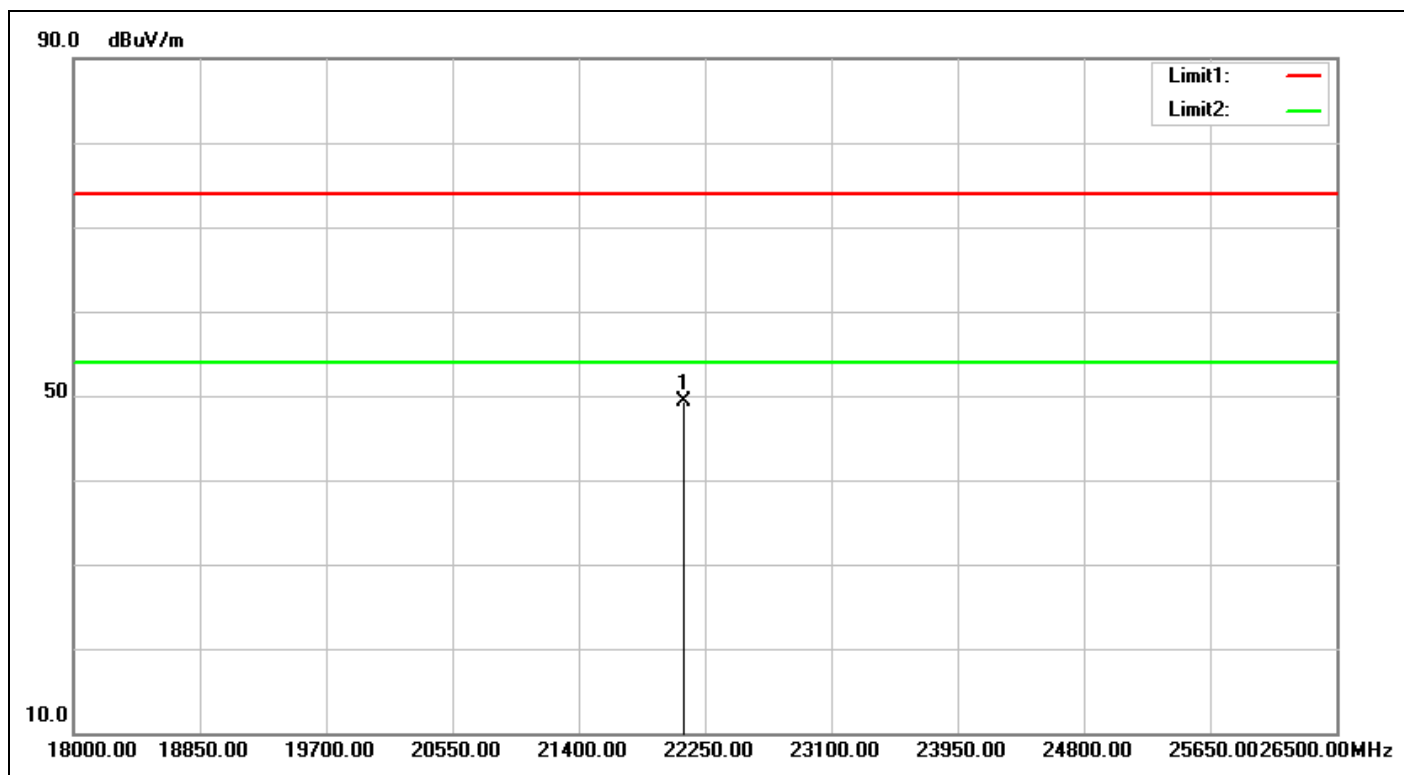
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Test item:	Radiation Emission	Test Time:	2017/11/28 16:58:01
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22105.500	32.51	17.18	49.69	74.00	-24.31	peak	100	105	



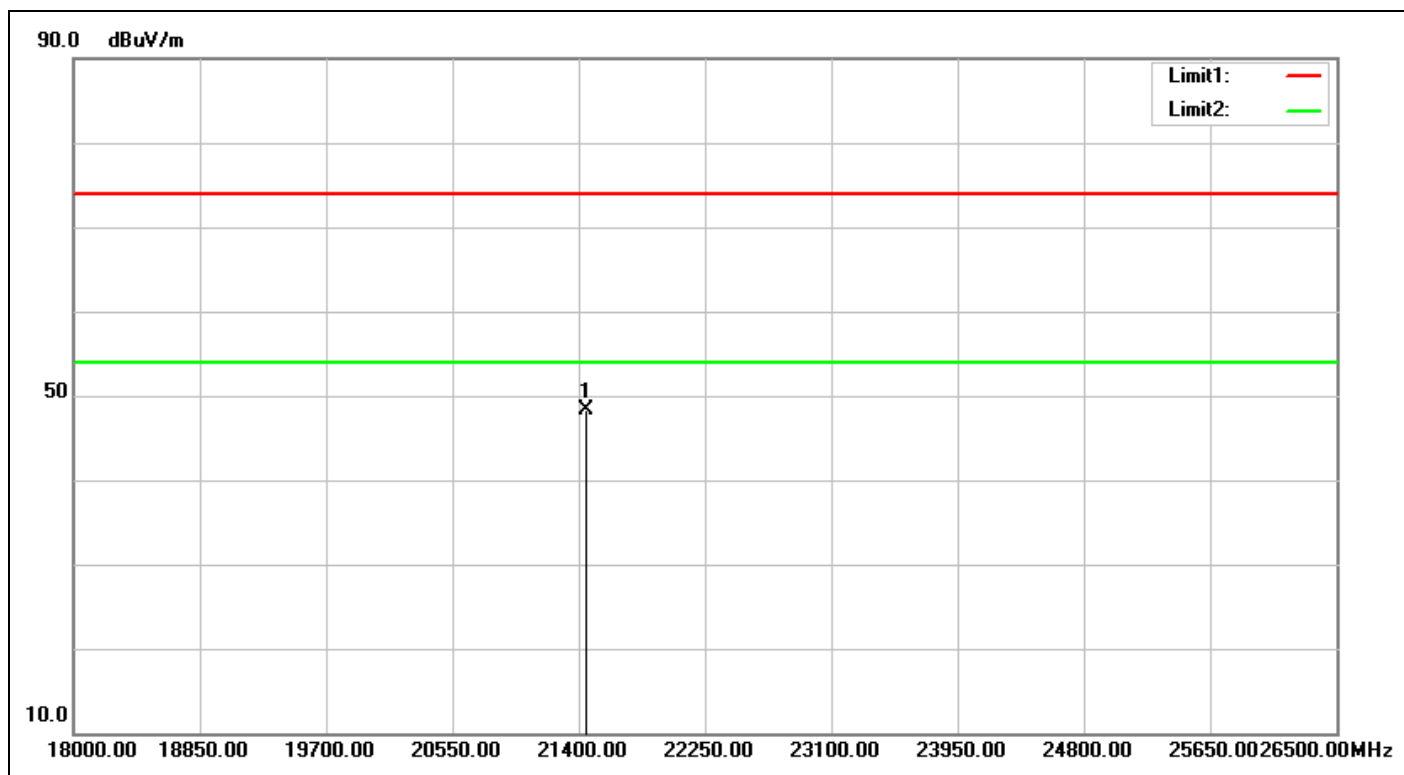
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Test item:	Radiation Emission	Test Time:	2017/11/28 16:58:13
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21570.000	32.11	16.53	48.64	74.00	-25.36	peak	100	149	



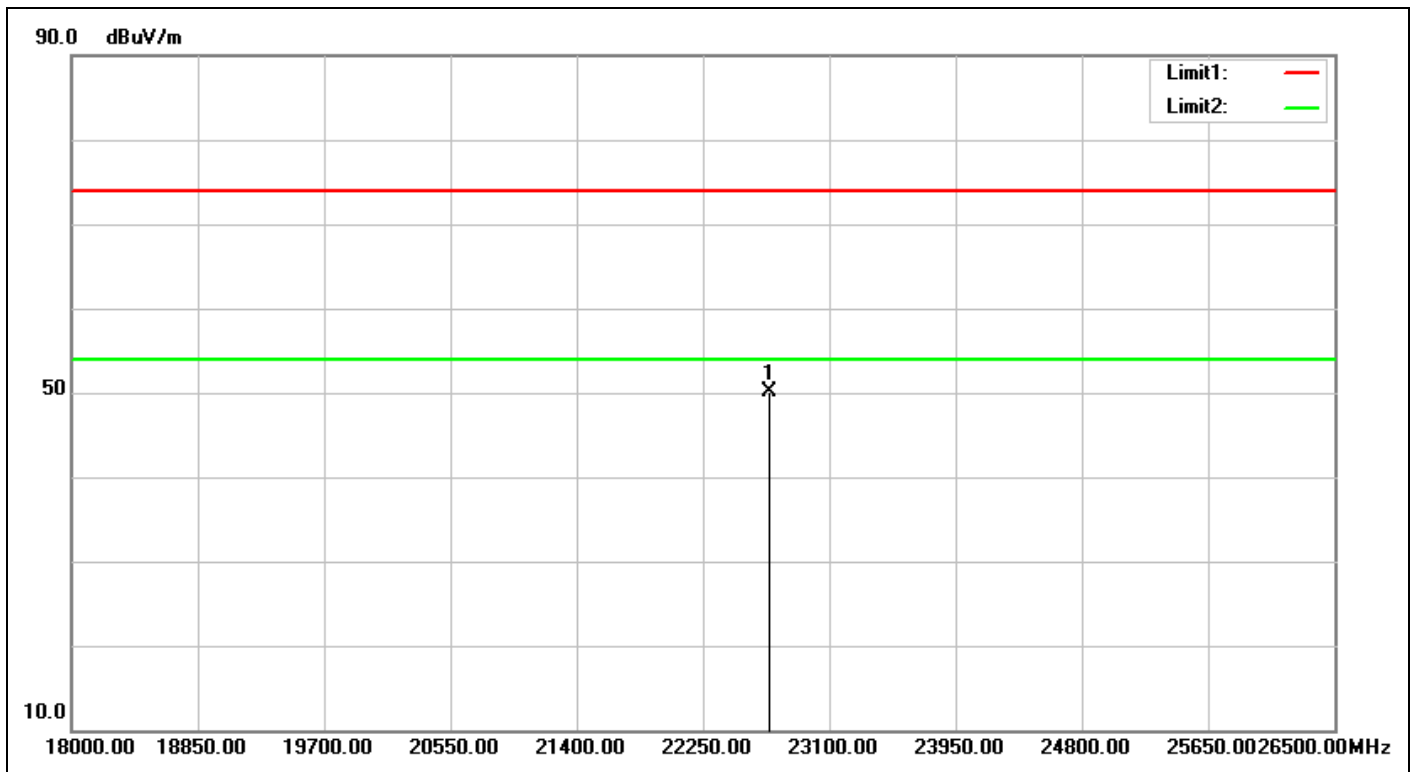
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:58:34
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22105.500	32.51	16.89	49.40	74.00	-24.60	peak	100	173	



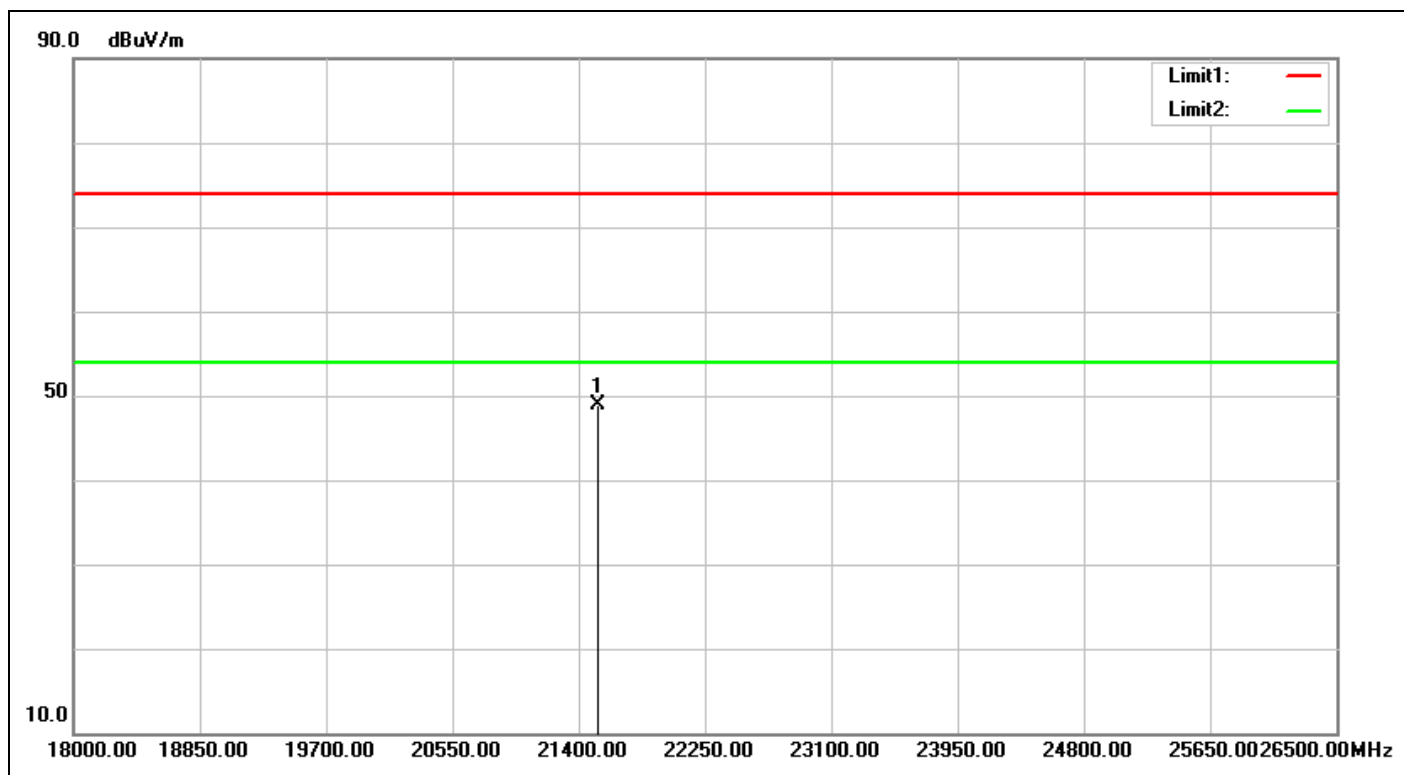
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:58:44
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21451.000	31.96	16.32	48.28	74.00	-25.72	peak	100	182	



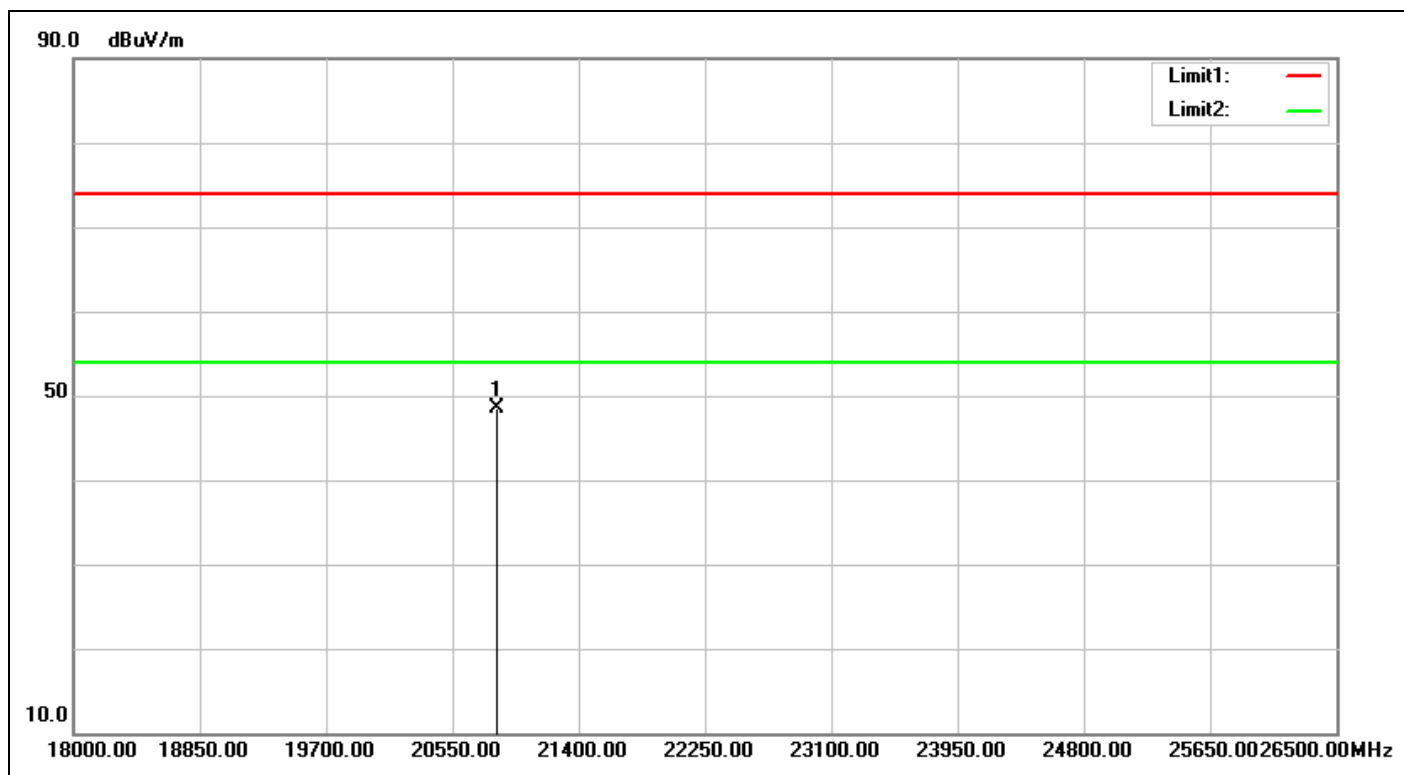
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:59:15
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22700.500	32.12	17.97	50.09	74.00	-23.91	peak	100	276	



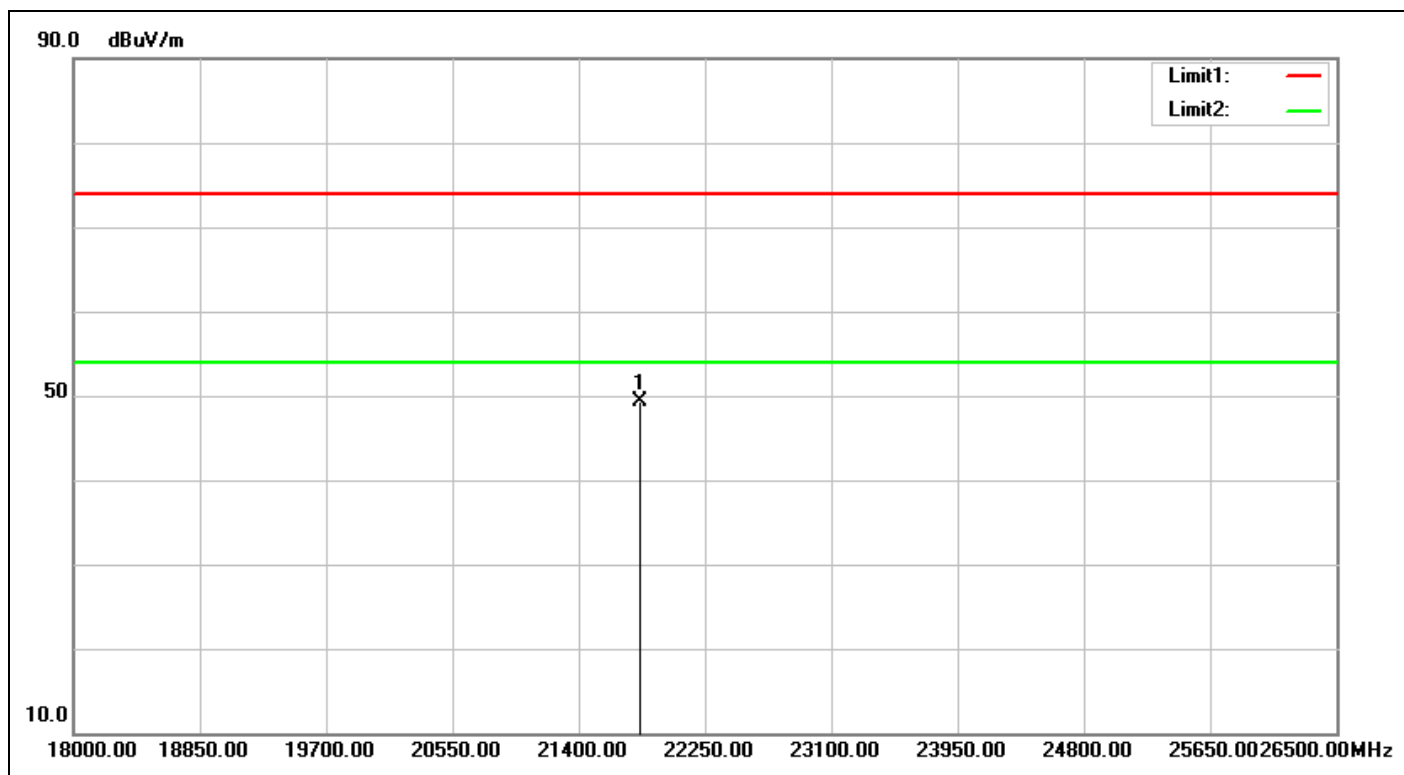
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:59:26
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21527.500	32.06	16.78	48.84	74.00	-25.16	peak	100	233	



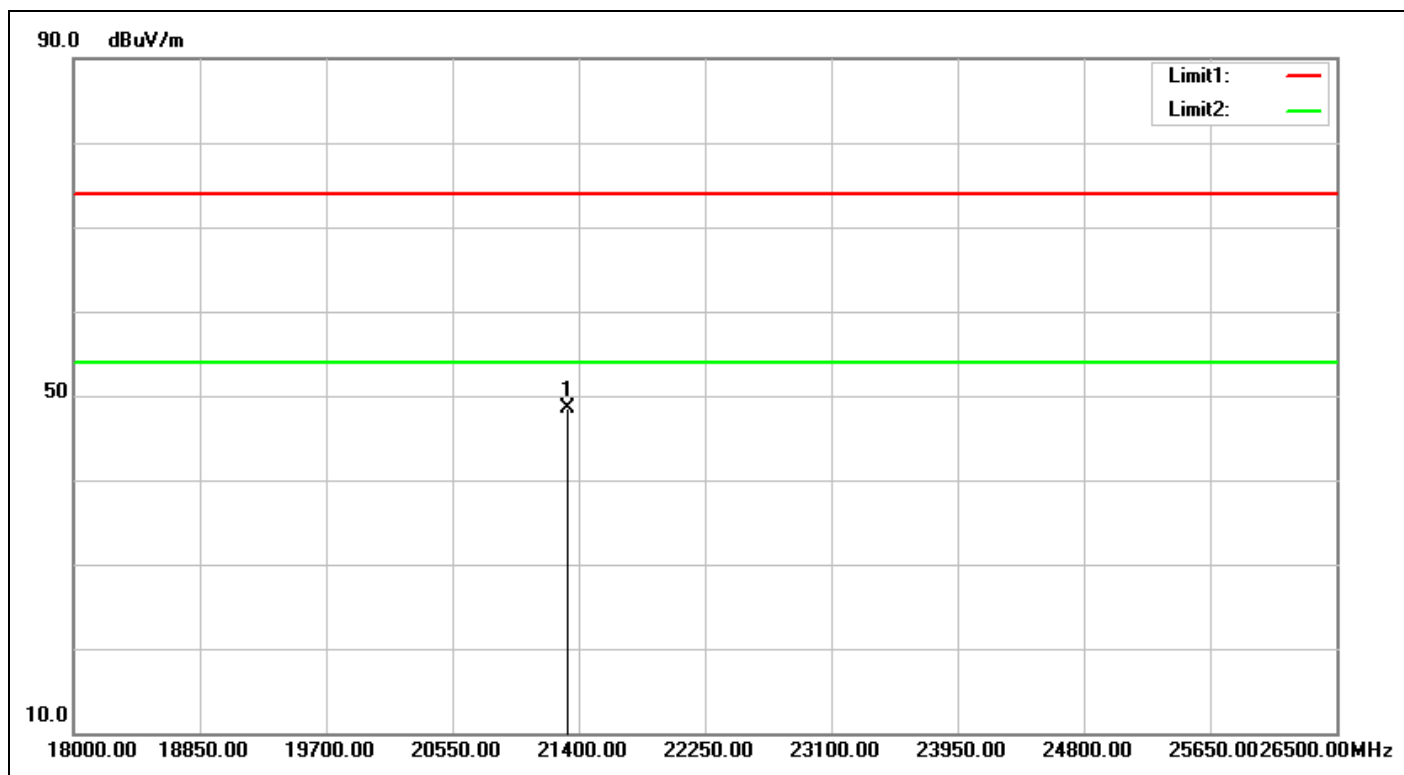
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:59:55
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20847.500	31.18	17.40	48.58	74.00	-25.42	peak	100	245	



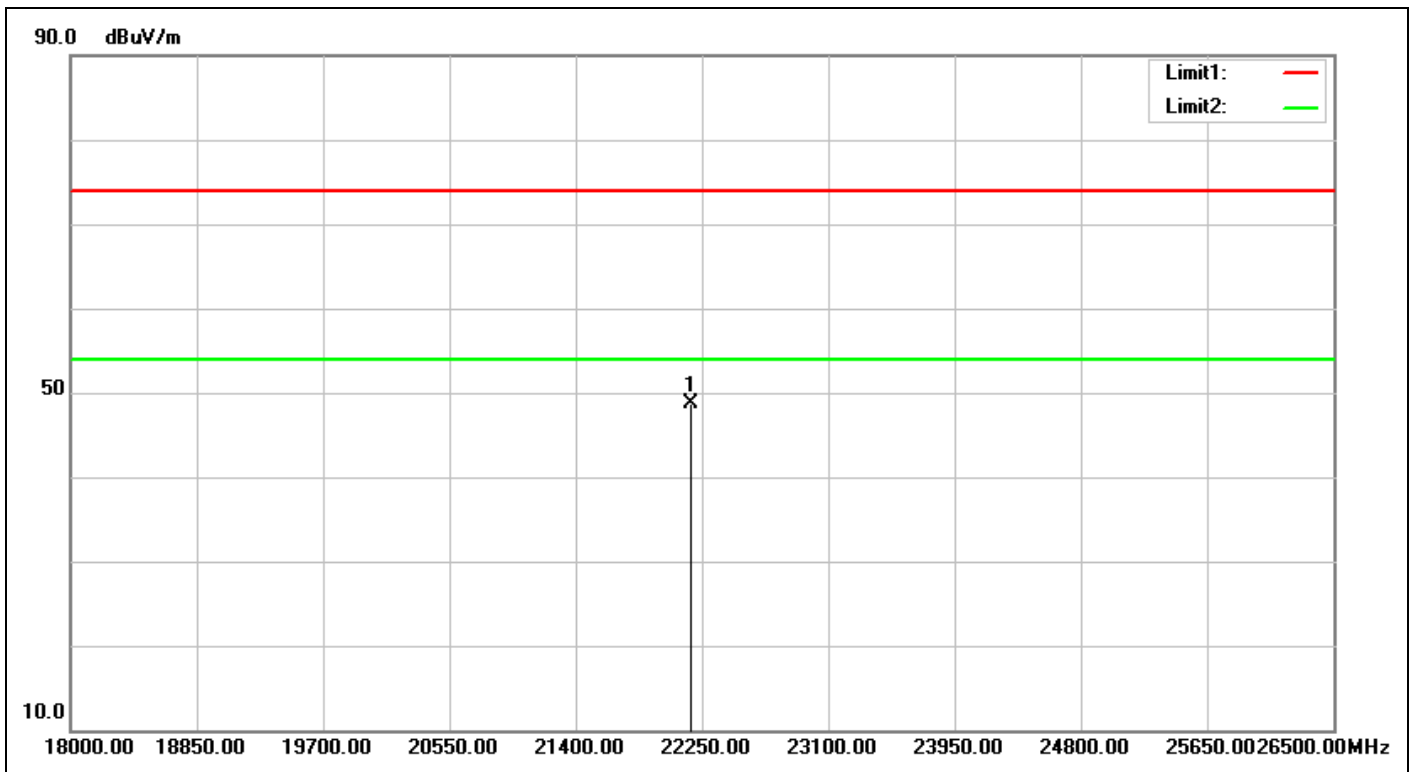
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 17:00:12
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21816.500	32.38	16.85	49.23	74.00	-24.77	peak	100	268	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 17:00:47
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21323.500	31.77	16.77	48.54	74.00	-25.46	peak	100	177	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 17:01:00
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22173.500	32.47	16.18	48.65	74.00	-25.35	peak	100	333	

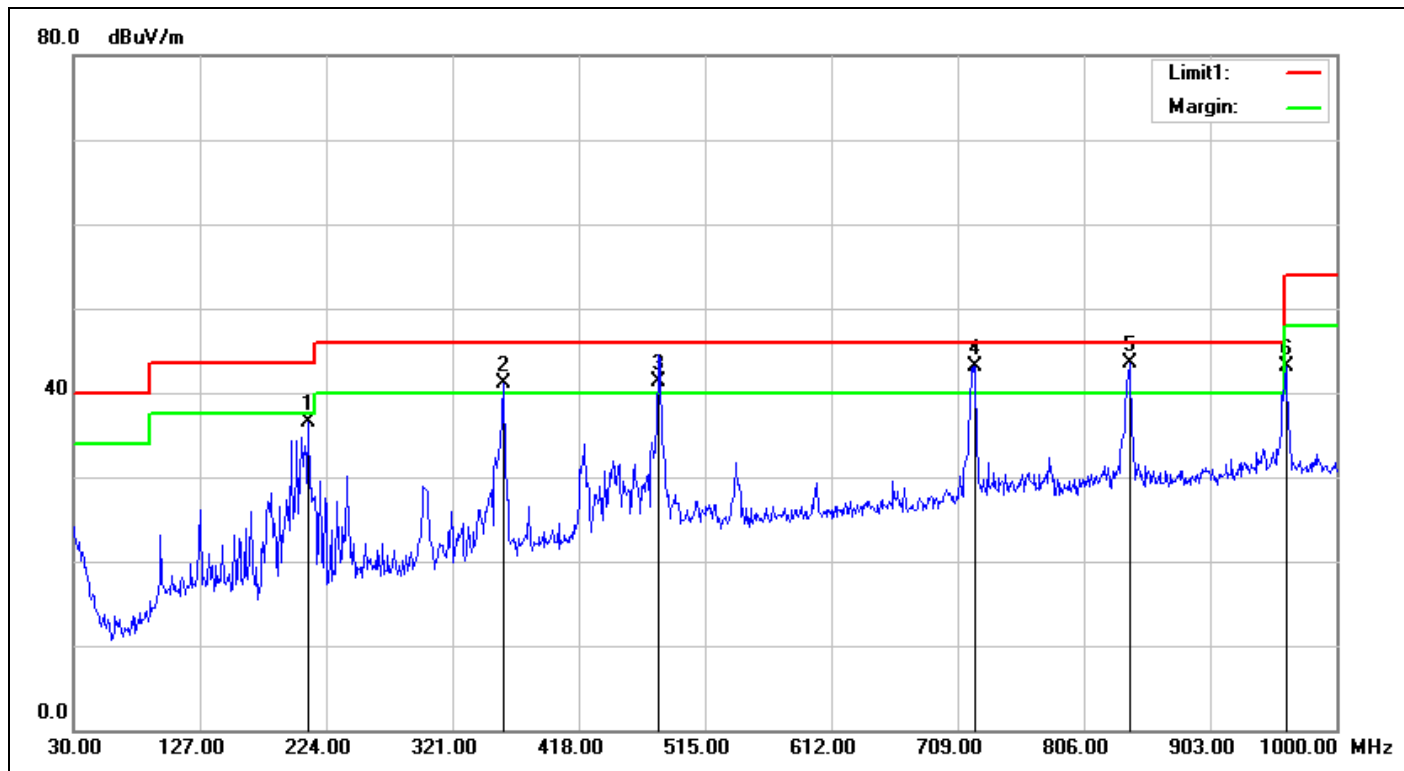
Spurious Emissions, TX Mode, 30M-1G



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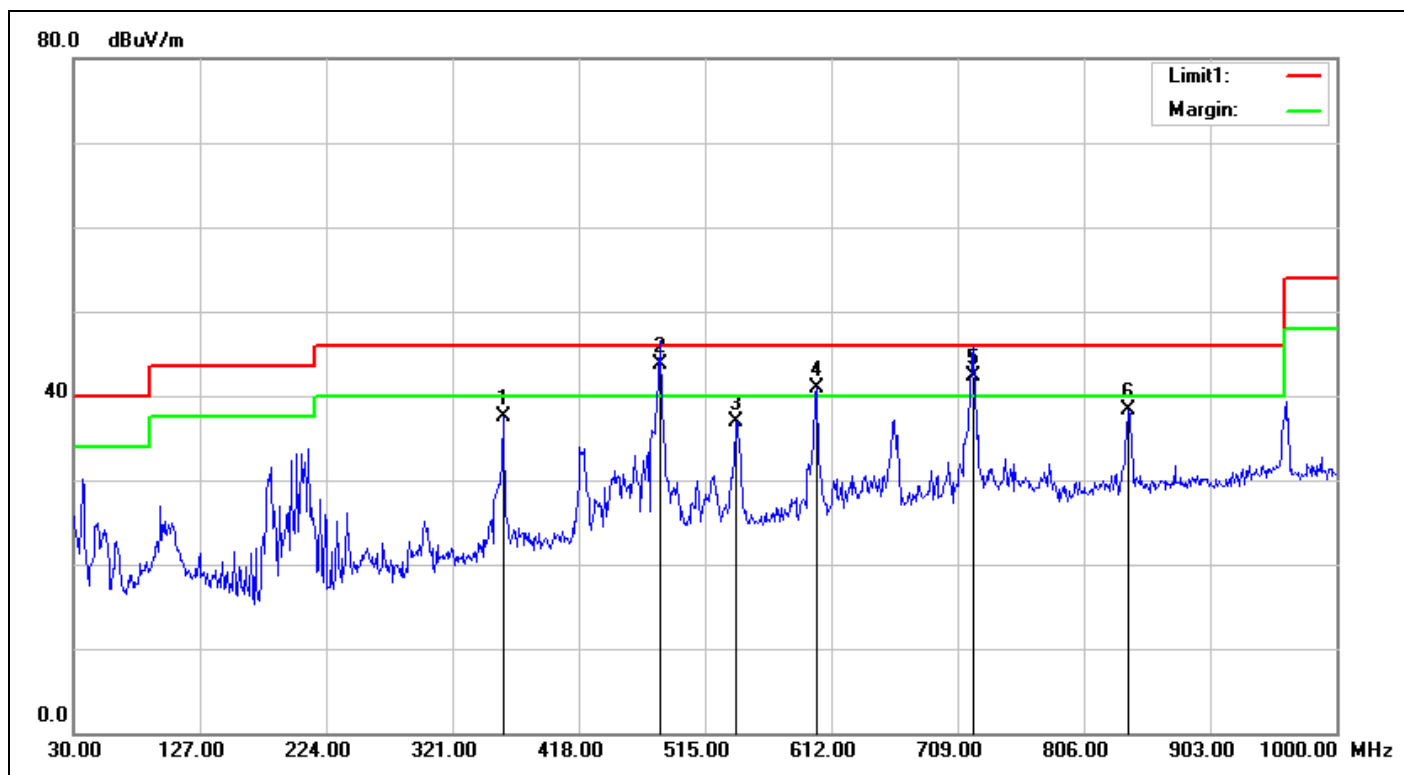
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 16:57:24
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	210.4200	-8.54	45.01	36.47	43.50	-7.03	QP	100	139	
2	359.8000	-3.16	44.17	41.01	46.00	-4.99	QP	100	133	
3	479.1100	-1.48	42.78	41.30	46.00	-4.70	QP	100	111	
4	722.5800	1.76	41.43	43.19	46.00	-2.81	QP	100	197	
5	840.9200	3.54	40.02	43.56	46.00	-2.44	QP	100	183	
6	961.2000	5.54	37.63	43.17	54.00	-10.83	QP	100	144	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 16:58:27
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	359.8000	-3.16	40.63	37.47	46.00	-8.53	QP	100	161	
2	480.0800	-1.47	45.17	43.70	46.00	-2.30	QP	100	104	
3	539.2500	-0.61	37.59	36.98	46.00	-9.02	QP	100	37	
4	600.3600	0.08	40.75	40.83	46.00	-5.17	QP	100	313	
5	720.6400	1.72	40.58	42.30	46.00	-3.70	QP	100	175	
6	839.9500	3.53	34.78	38.31	46.00	-7.69	QP	100	10	

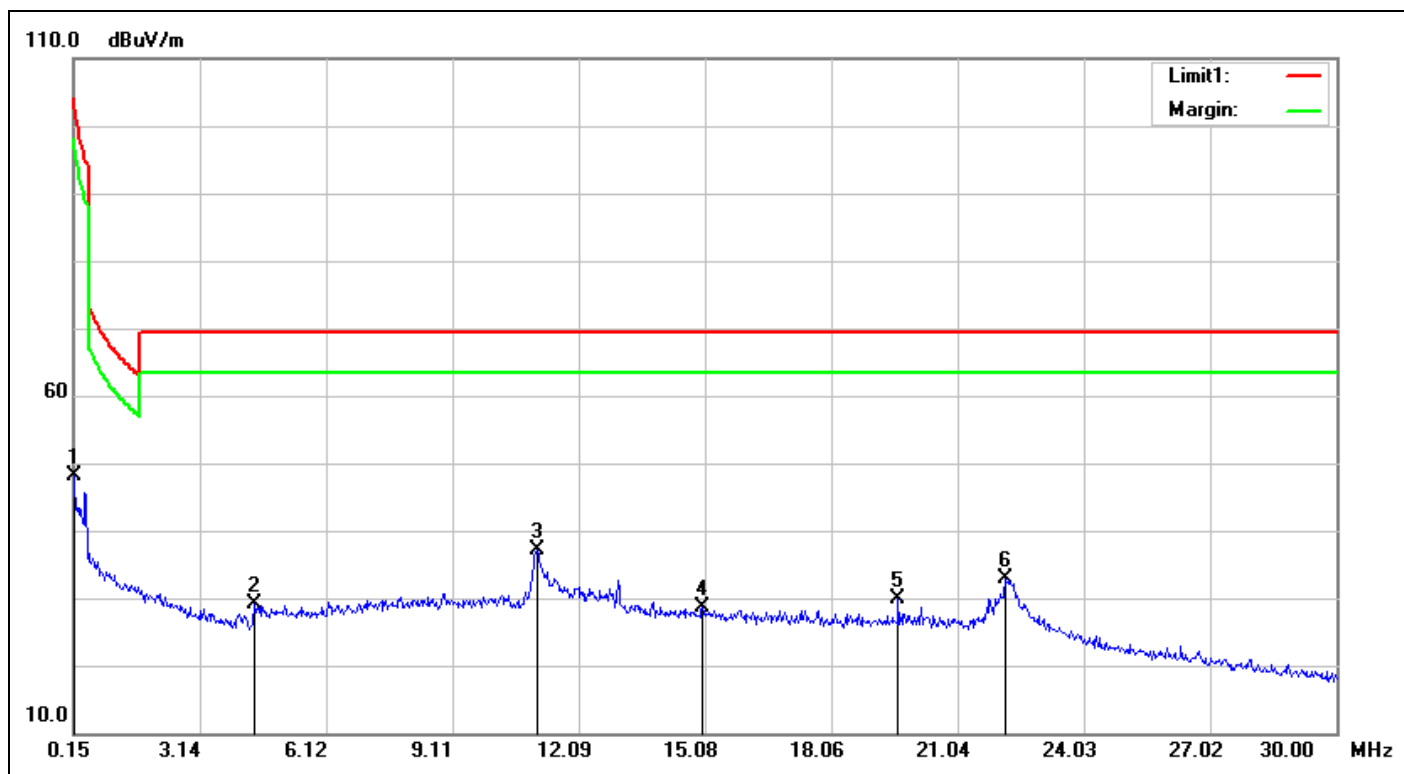
Spurious Emissions, TX Mode, 150K-30M



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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 17:20:22
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1500	19.08	29.07	48.15	104.08	-55.93	QP	100	172	
2	4.4185	19.40	9.68	29.08	69.50	-40.42	QP	100	17	
3	11.1049	20.42	16.81	37.23	69.50	-32.27	QP	100	261	
4	15.0153	21.10	7.46	28.56	69.50	-40.94	QP	100	65	
5	19.6420	21.92	7.87	29.79	69.50	-39.71	QP	100	247	
6	22.1793	22.13	10.65	32.78	69.50	-36.72	QP	100	286	

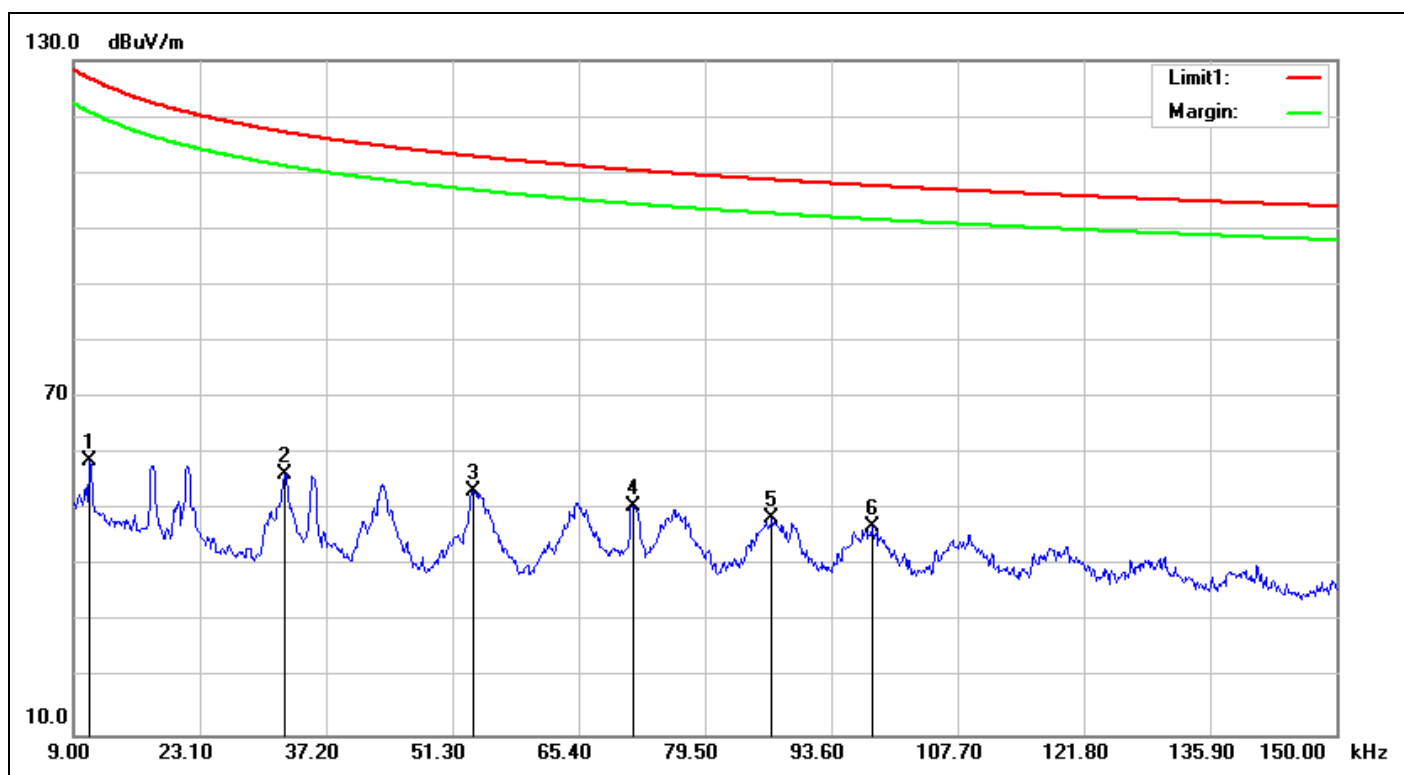
Spurious Emissions, TX Mode, 9K-150K



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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 15:52:15
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0108	19.94	38.94	58.88	126.73	-67.85	QP	100	181	
2	0.0325	20.04	36.44	56.48	117.22	-60.74	QP	100	173	
3	0.0535	19.41	34.03	53.44	112.92	-59.48	QP	100	360	
4	0.0714	19.30	31.29	50.59	110.43	-59.84	QP	100	358	
5	0.0868	19.21	29.35	48.56	108.74	-60.18	QP	100	187	
6	0.0981	19.14	27.87	47.01	107.68	-60.67	QP	100	173	

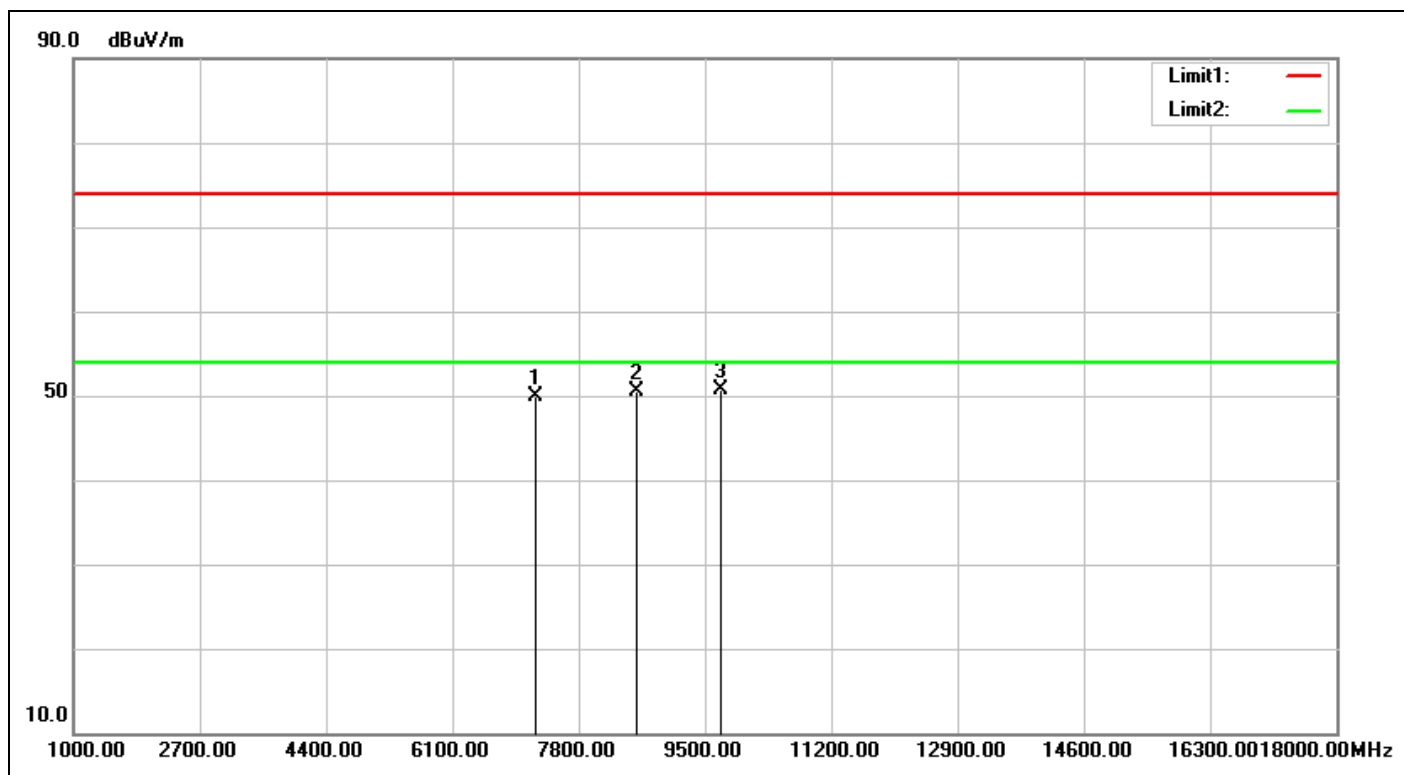
Spurious Emissions, RX Mode, 1-18G



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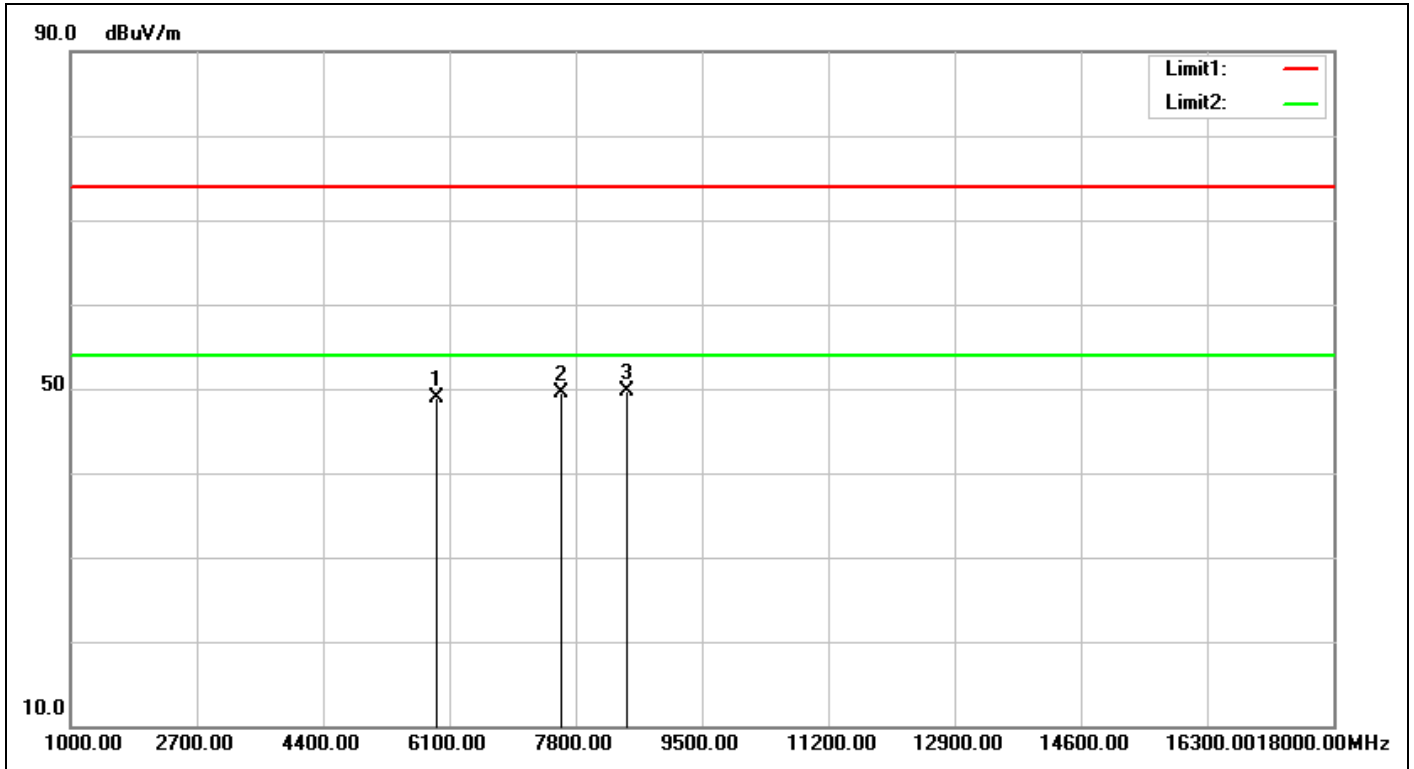
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 16:44:10
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	7222.000	3.72	46.11	49.83	74.00	-24.17	peak	100	3	
2	8582.000	3.93	46.49	50.42	74.00	-23.58	peak	100	219	
3	9704.000	6.45	44.24	50.69	74.00	-23.31	peak	100	83	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 16:45:13
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	5930.000	4.33	44.61	48.94	74.00	-25.06	peak	100	53	
2	7596.000	3.56	45.97	49.53	74.00	-24.47	peak	100	64	
3	8480.000	3.75	46.00	49.75	74.00	-24.25	peak	100	205	

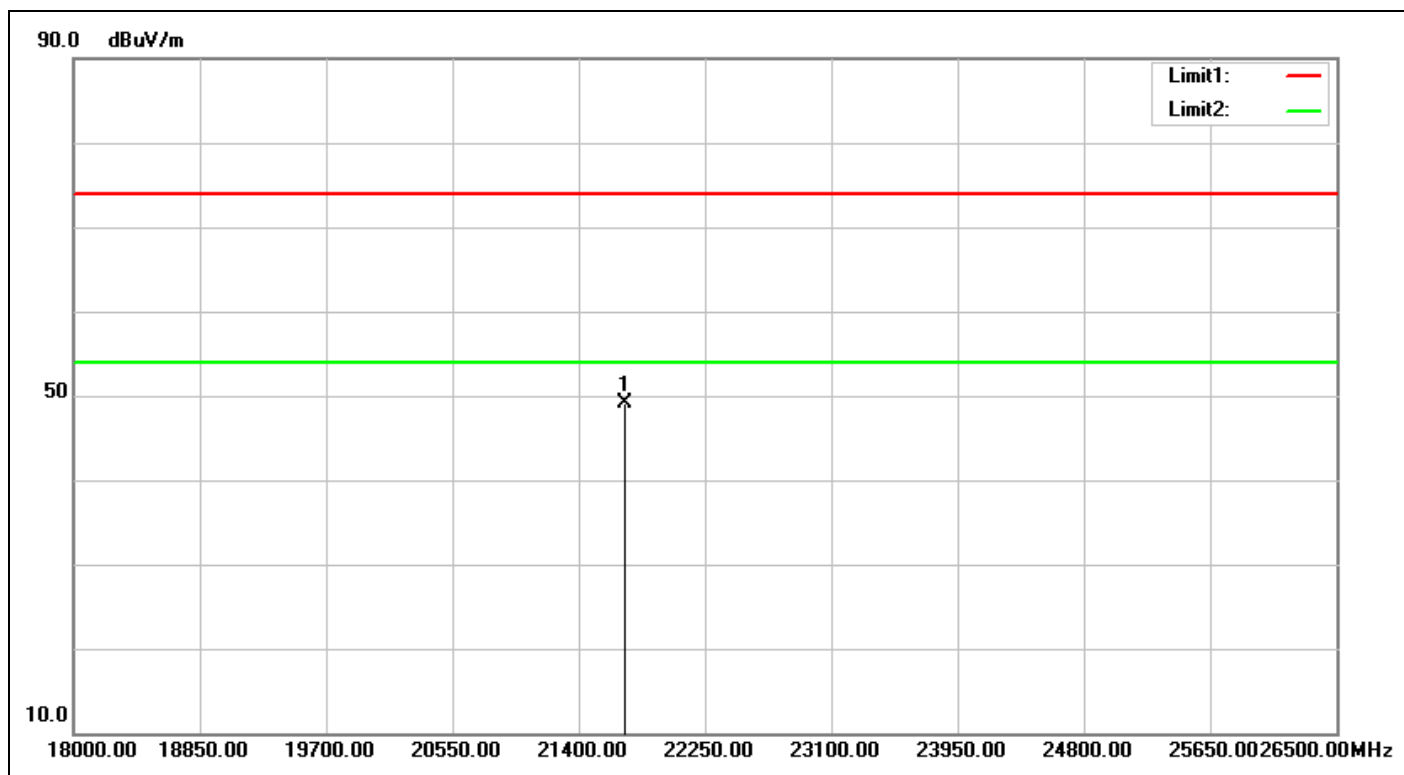
Spurious Emissions, RX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

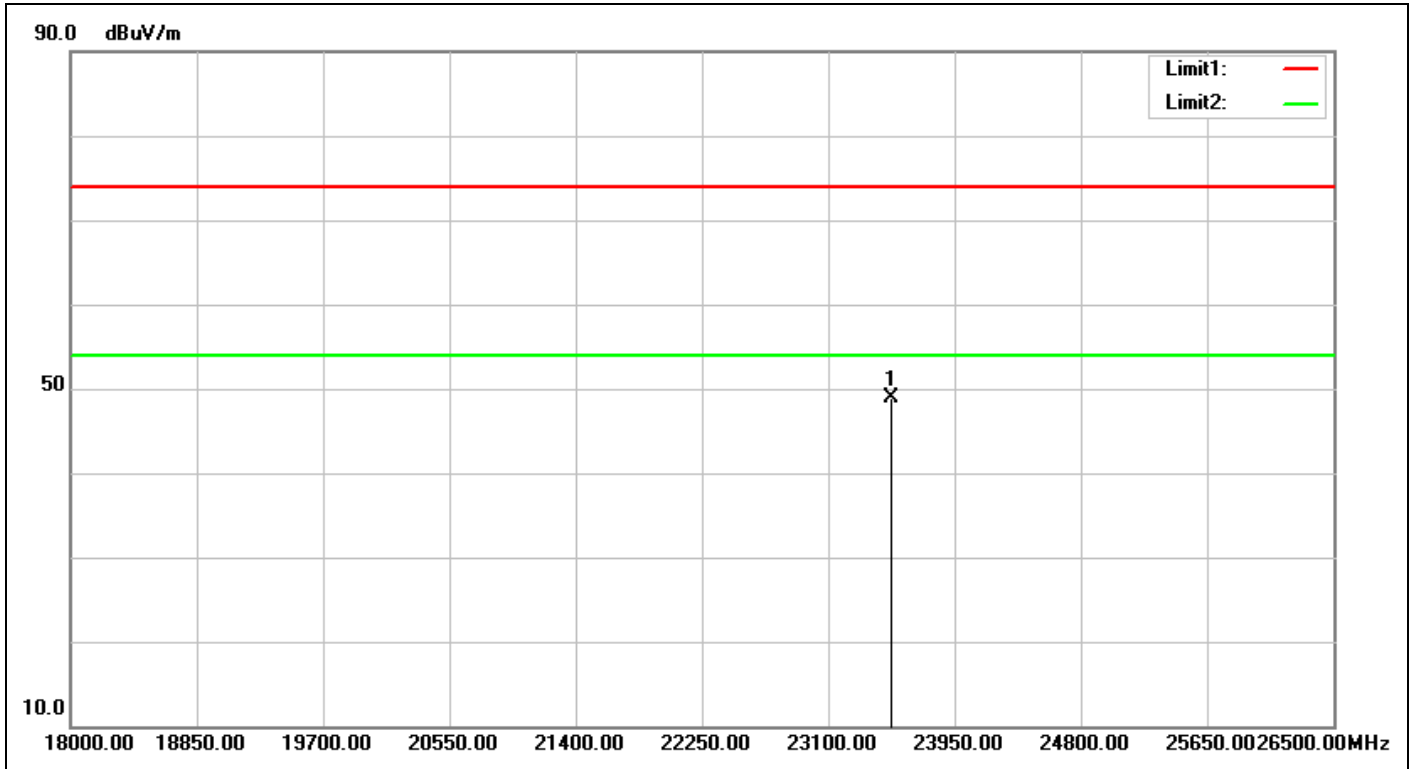
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 17:01:24
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21714.500	32.27	16.84	49.11	74.00	-24.89	peak	100	186	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 17:01:39
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23525.000	32.39	16.50	48.89	74.00	-25.11	peak	100	347	

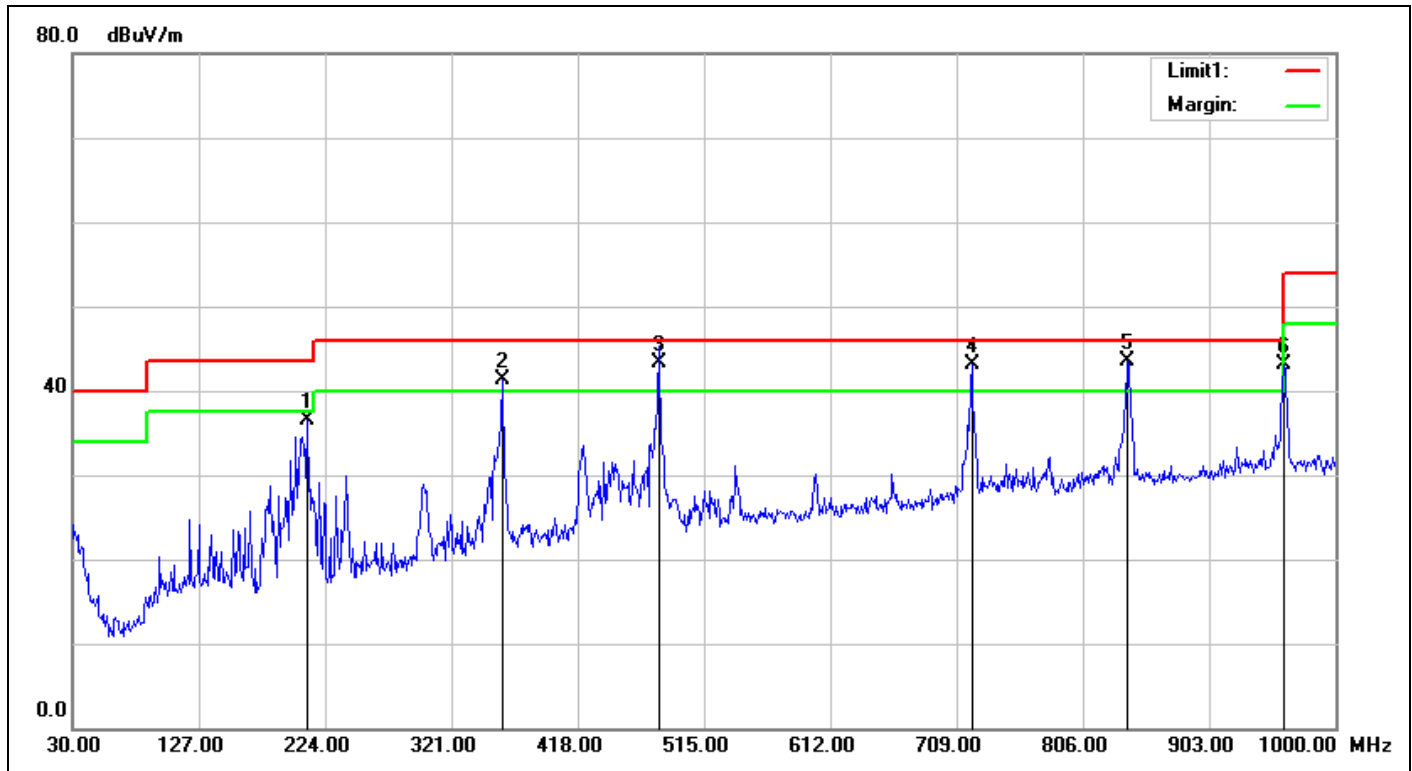
Spurious Emissions, RX Mode, 30M-1G



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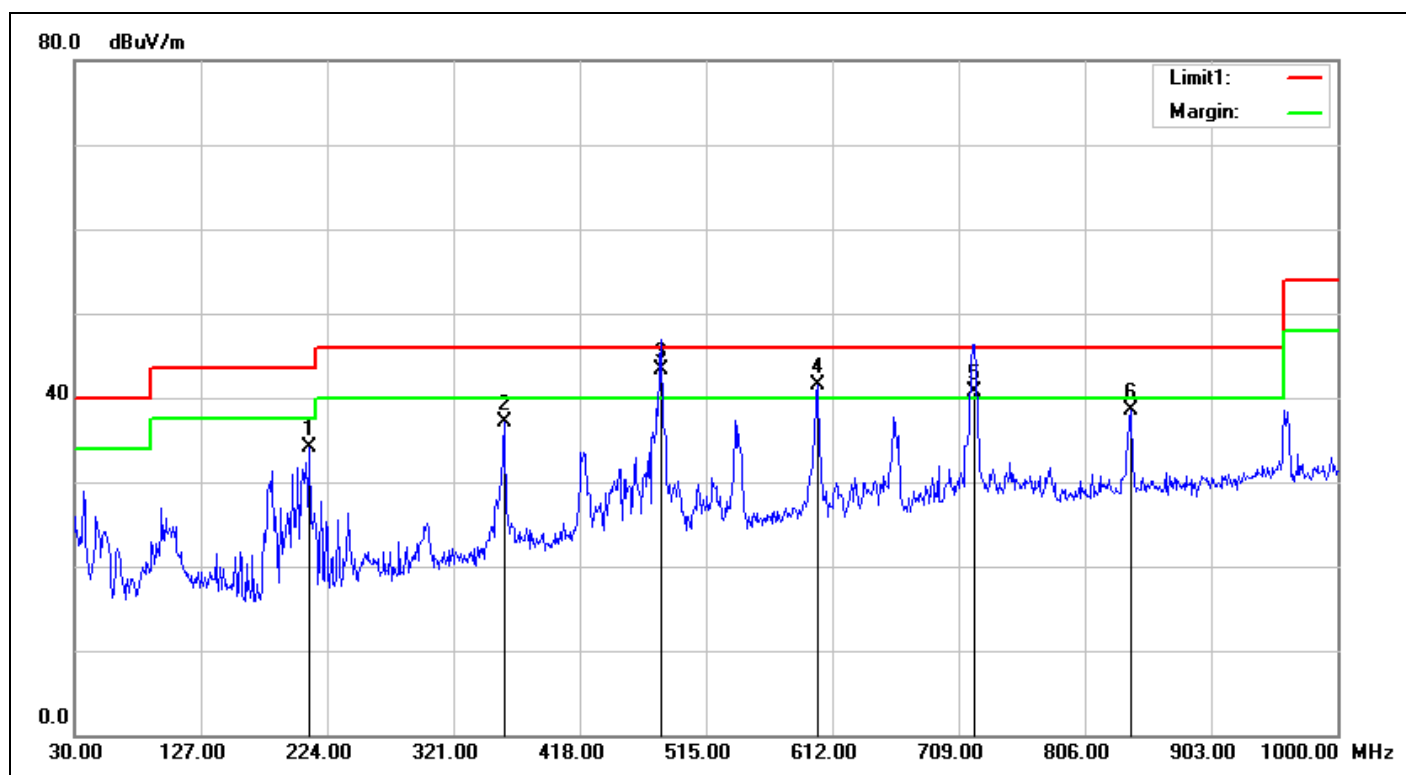
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Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 17:03:04
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	210.4200	-8.54	45.07	36.53	43.50	-6.97	QP	100	127	
2	359.8000	-3.16	44.42	41.26	46.00	-4.74	QP	100	116	
3	480.0800	-1.47	44.72	43.25	46.00	-2.75	QP	100	118	
4	720.6400	1.72	41.47	43.19	46.00	-2.81	QP	100	193	
5	839.9500	3.53	40.00	43.53	46.00	-2.47	QP	100	332	
6	960.2300	5.54	37.57	43.11	54.00	-10.89	QP	100	148	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 17:04:07
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	210.4200	-8.54	42.71	34.17	43.50	-9.33	QP	100	296	
2	359.8000	-3.16	40.36	37.20	46.00	-8.80	QP	100	161	
3	480.0800	-1.47	44.87	43.40	46.00	-2.60	QP	100	102	
4	600.3600	0.08	41.44	41.52	46.00	-4.48	QP	100	238	
5	720.6400	1.72	38.98	40.70	46.00	-5.30	QP	100	186	
6	840.9200	3.54	34.89	38.43	46.00	-7.57	QP	100	174	

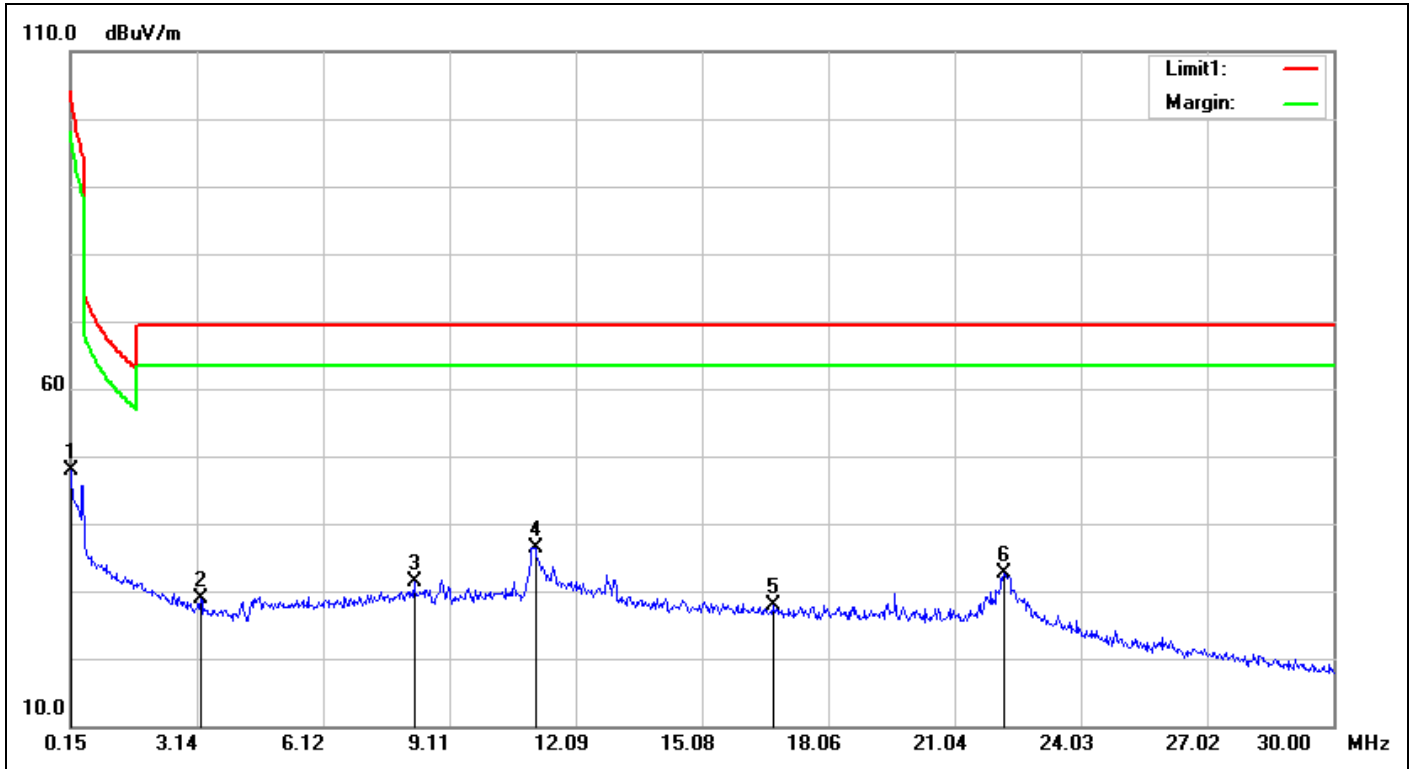
Spurious Emissions, RX Mode, 150K-30M



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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 17:21:26
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFA-02-5-C7H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1500	19.08	28.87	47.95	104.08	-56.13	QP	100	186	
2	3.2246	18.65	10.29	28.94	69.50	-40.56	QP	100	0	
3	8.2692	20.06	11.30	31.36	69.50	-38.14	QP	100	243	
4	11.1348	20.42	16.05	36.47	69.50	-33.03	QP	100	133	
5	16.7466	21.41	6.37	27.78	69.50	-41.72	QP	100	100	
6	22.2092	22.13	10.43	32.56	69.50	-36.94	QP	100	213	

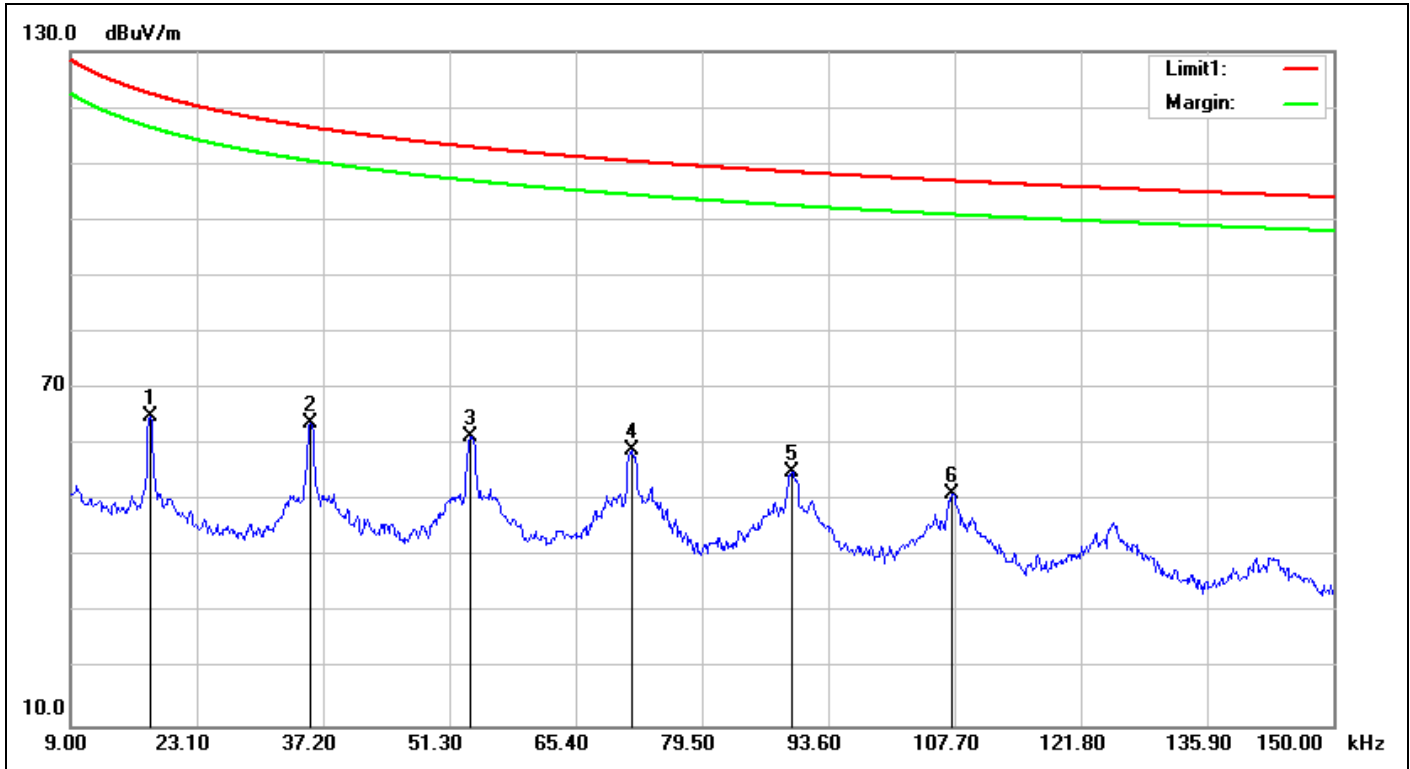
Spurious Emissions, RX Mode, 9K-150K



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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 15:53:19
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFA-02-5-C7H1		

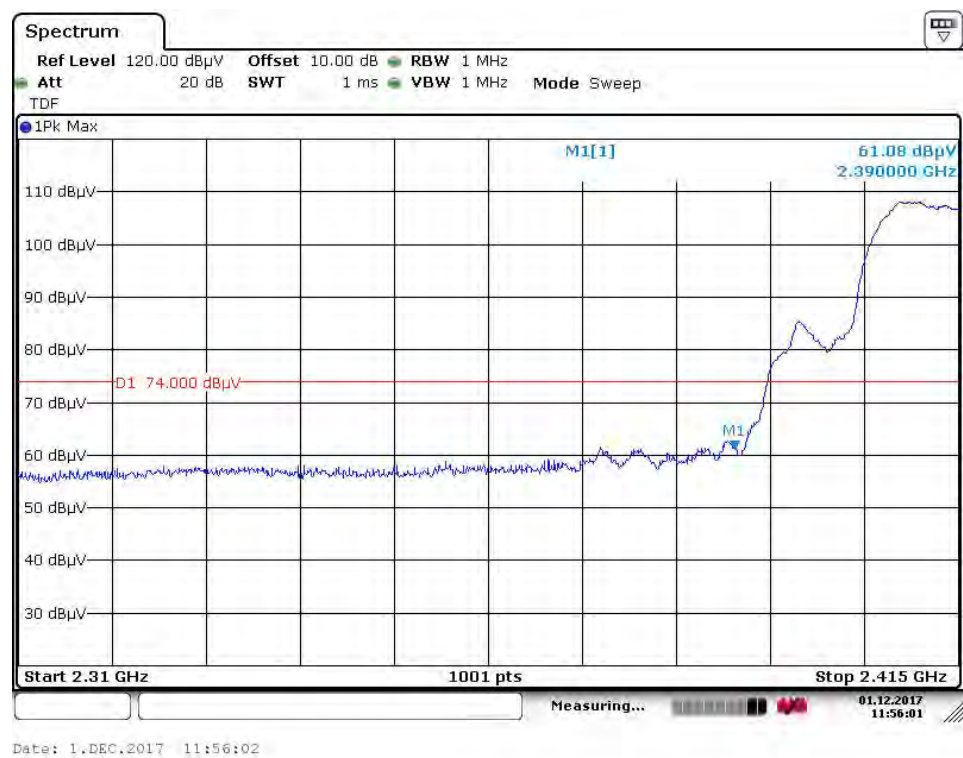
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0179	20.01	44.92	64.93	122.45	-57.52	QP	100	176	
2	0.0358	19.92	43.82	63.74	116.45	-52.71	QP	100	184	
3	0.0537	19.41	42.04	61.45	112.94	-51.49	QP	100	184	
4	0.0716	19.30	39.67	58.97	110.45	-51.48	QP	100	184	
5	0.0895	19.19	36.08	55.27	108.52	-53.25	QP	100	184	
6	0.1074	19.12	32.14	51.26	106.94	-55.68	QP	100	184	

Radiated Bandedge 11b

Low Channel (Hor)

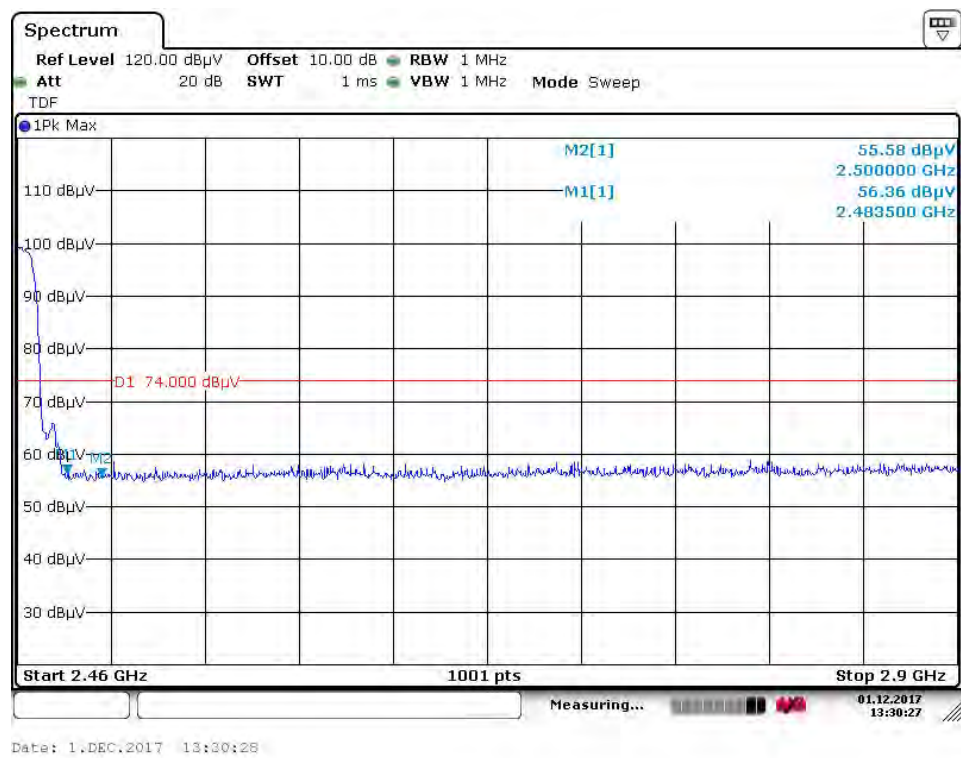
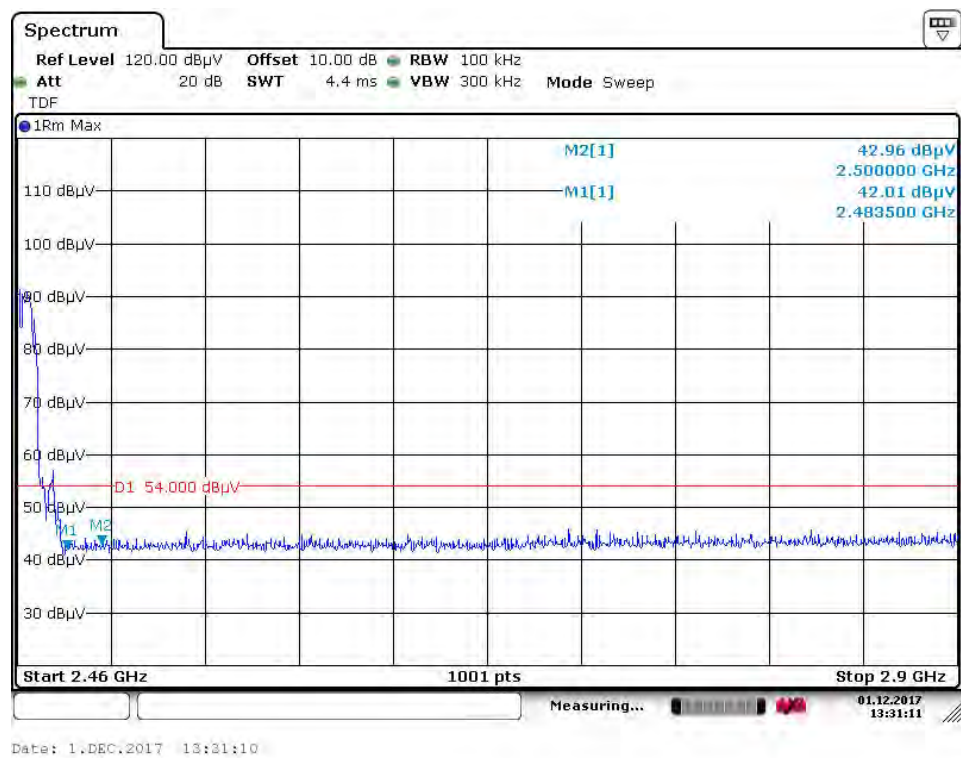


Low Channel (Ver)

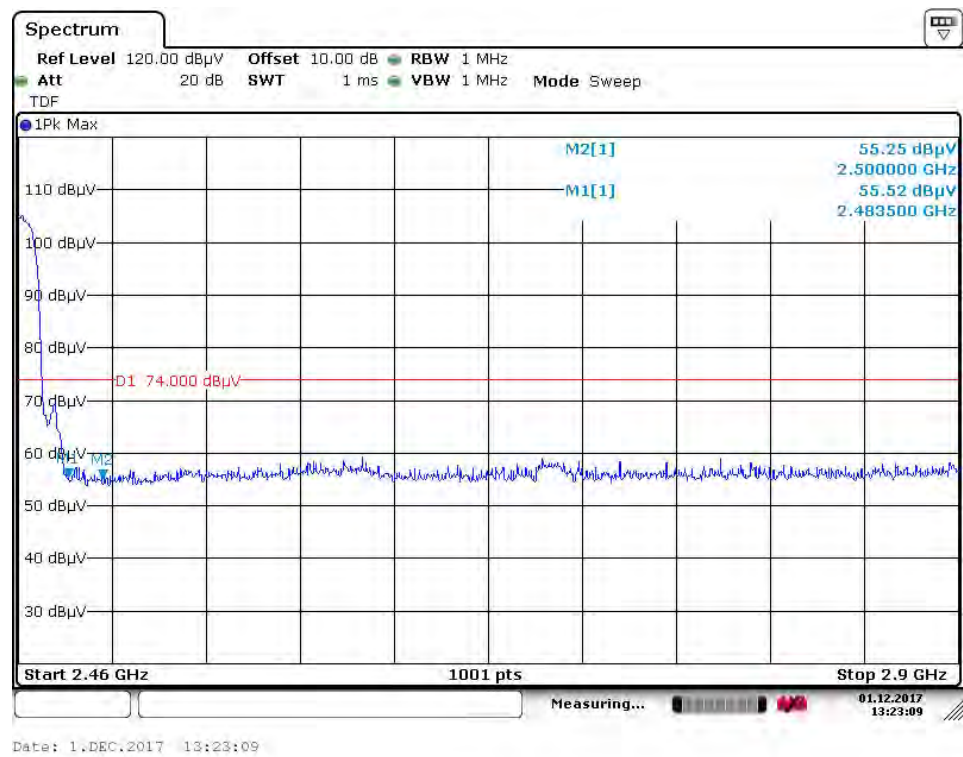
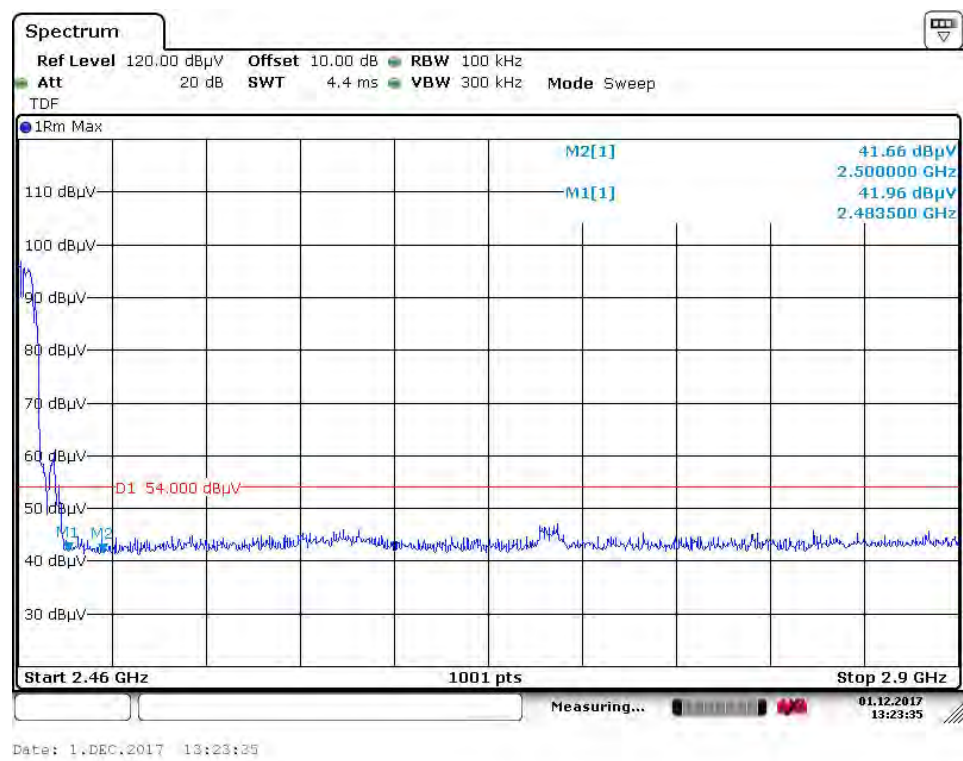


Radiated Bandedge 11b

High Channel (Hor)

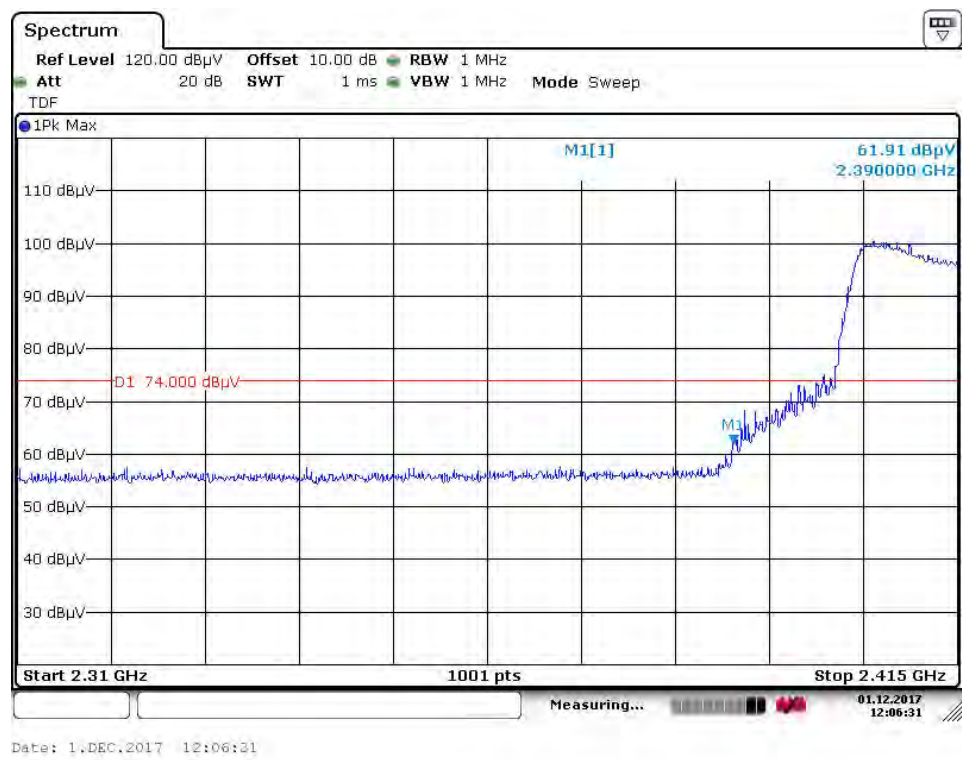
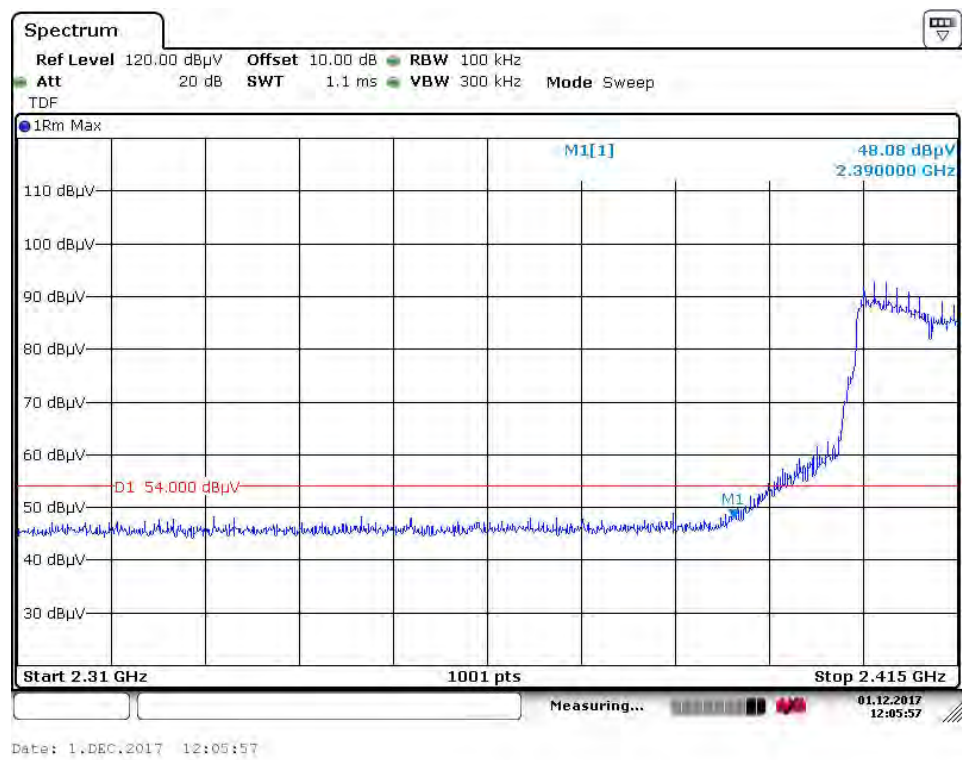


High Channel (Ver)

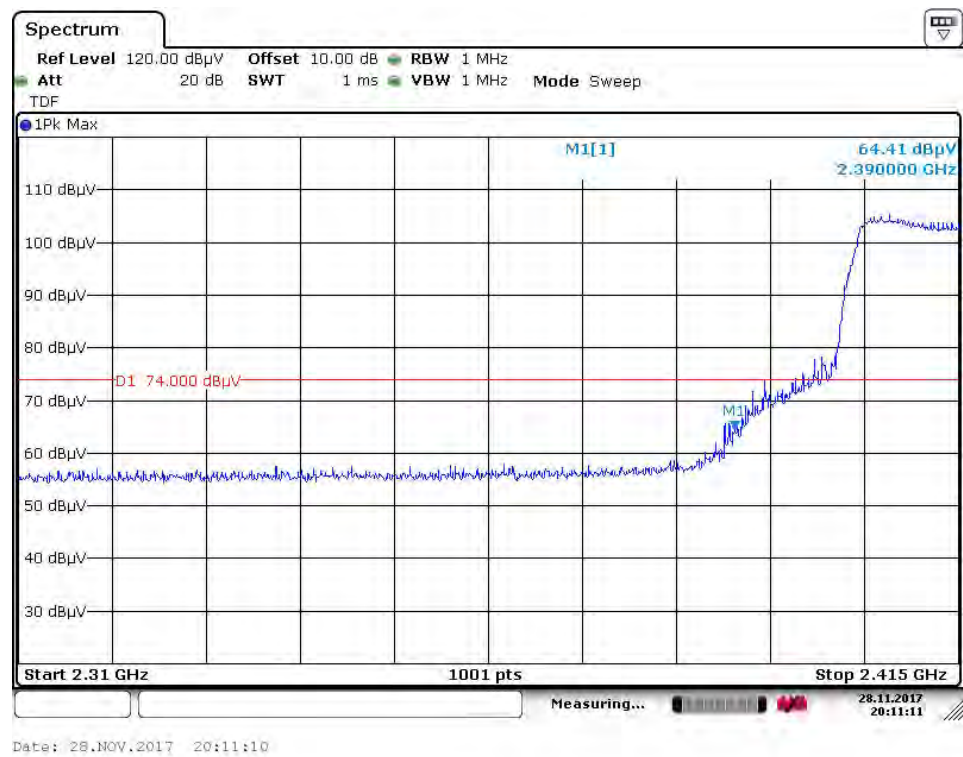
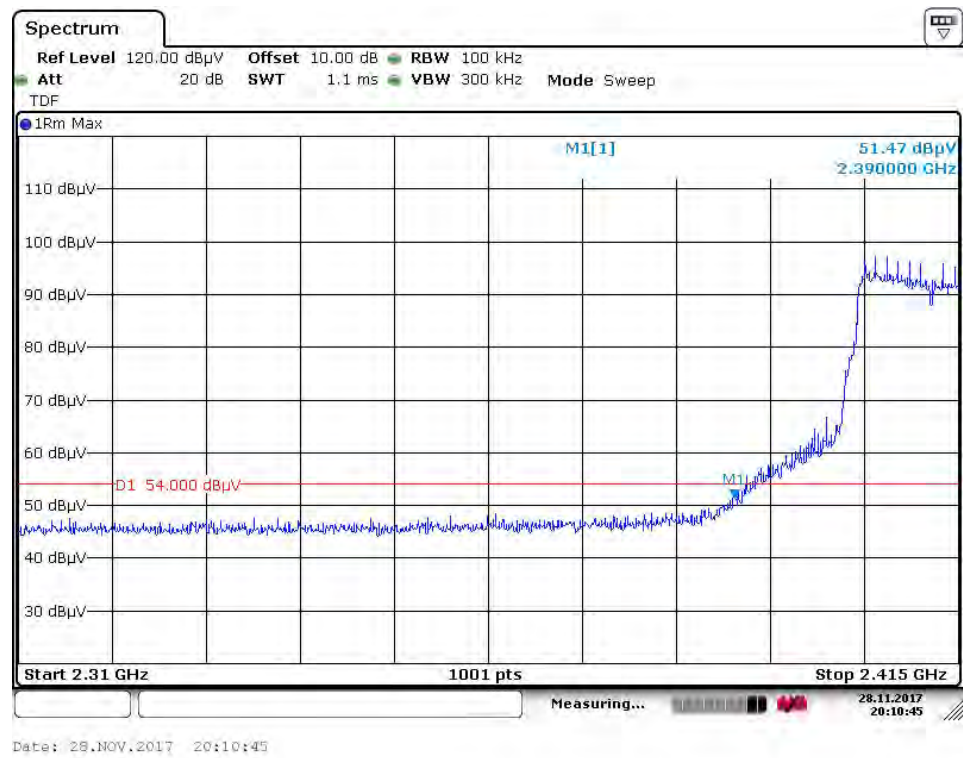


Radiated Bandedge 11g

Low Channel (Hor)

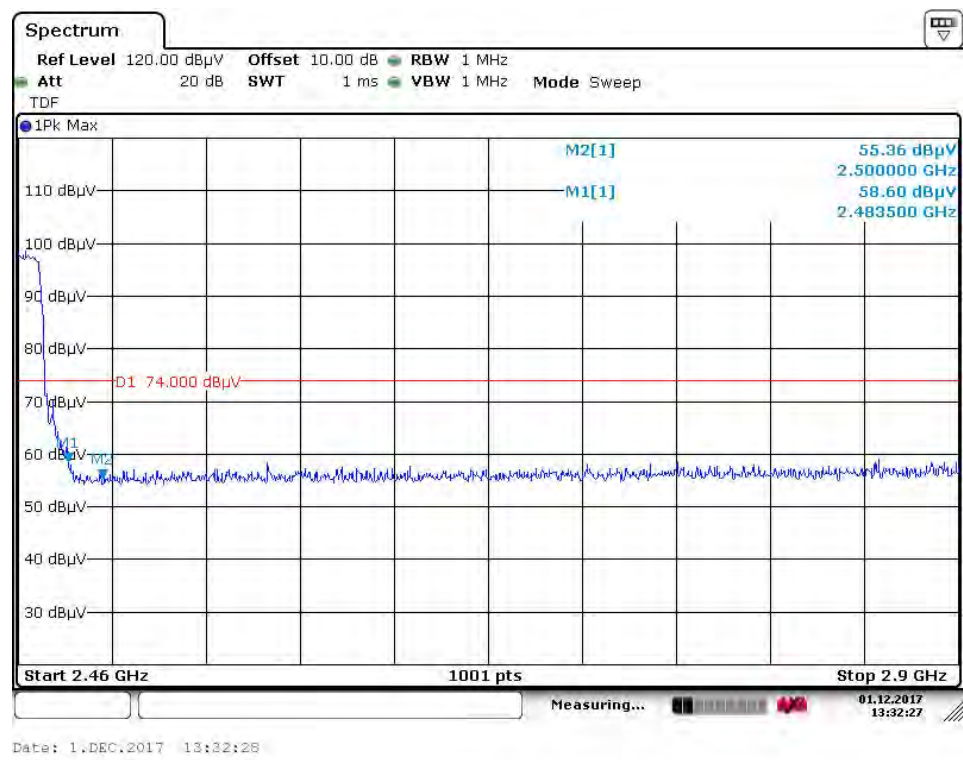
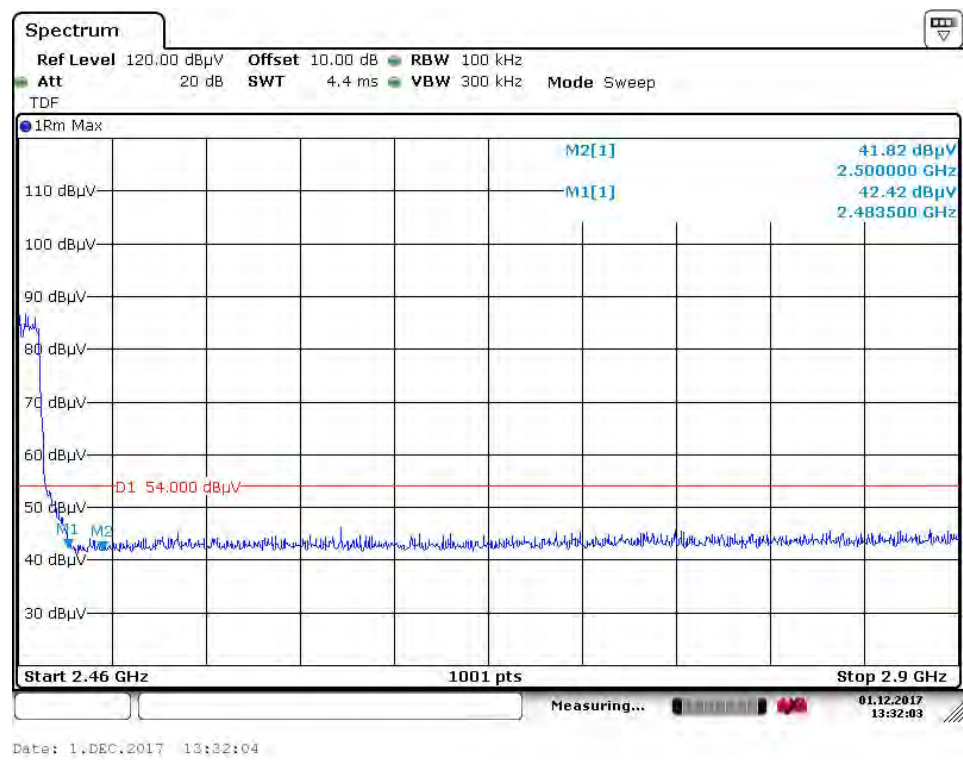


Low Channel (Ver)

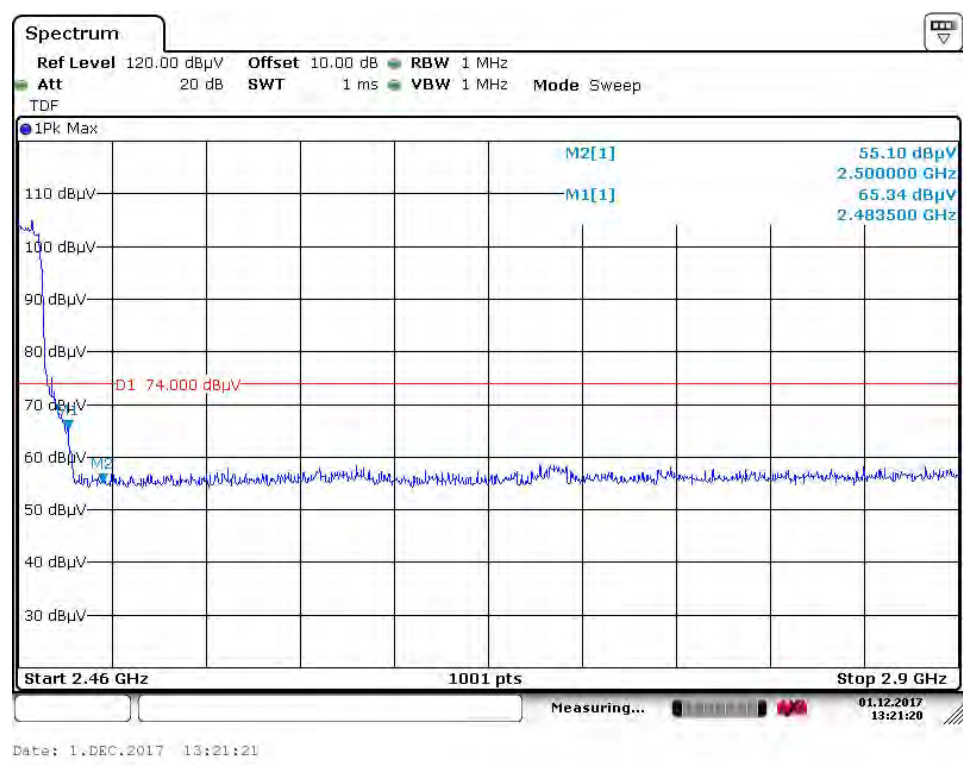
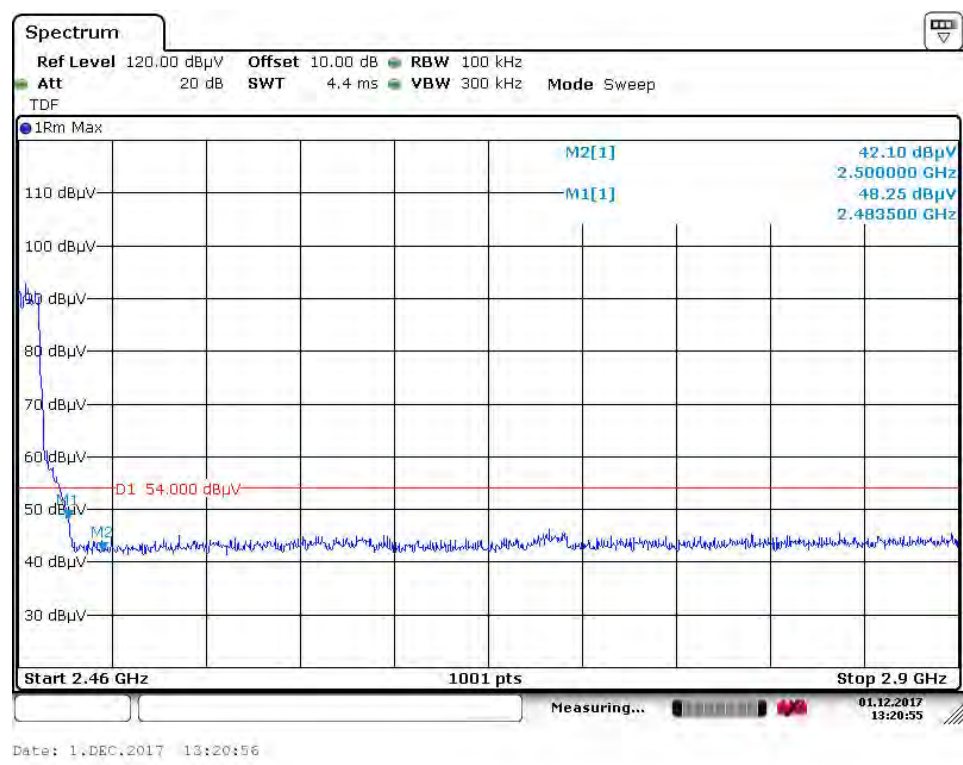


Radiated Bandedge 11g

High Channel (Hor)

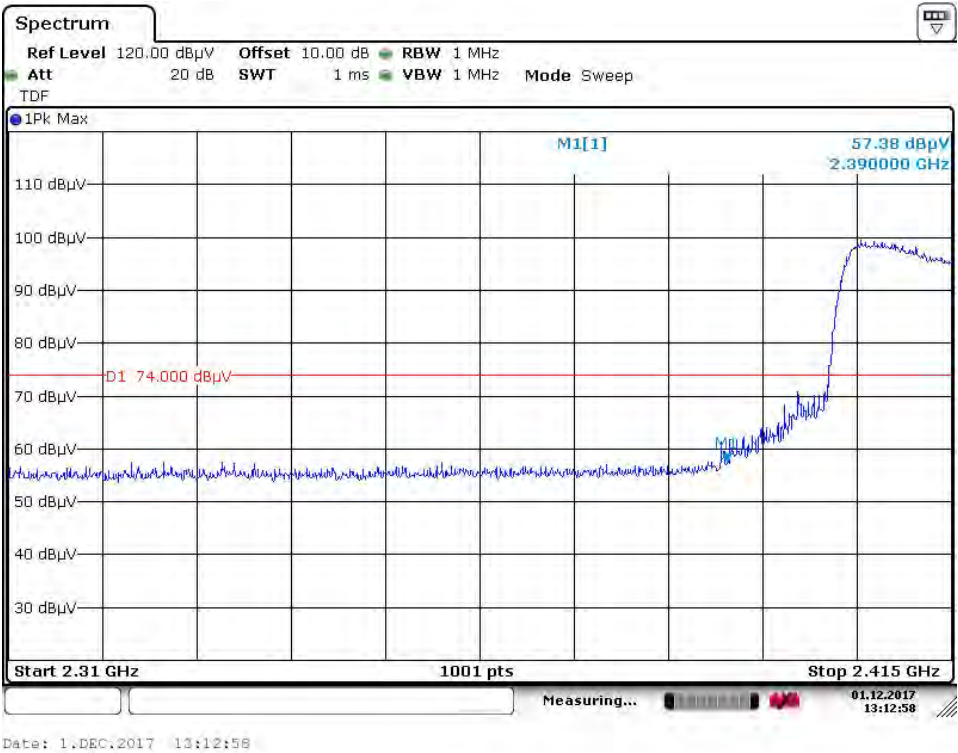
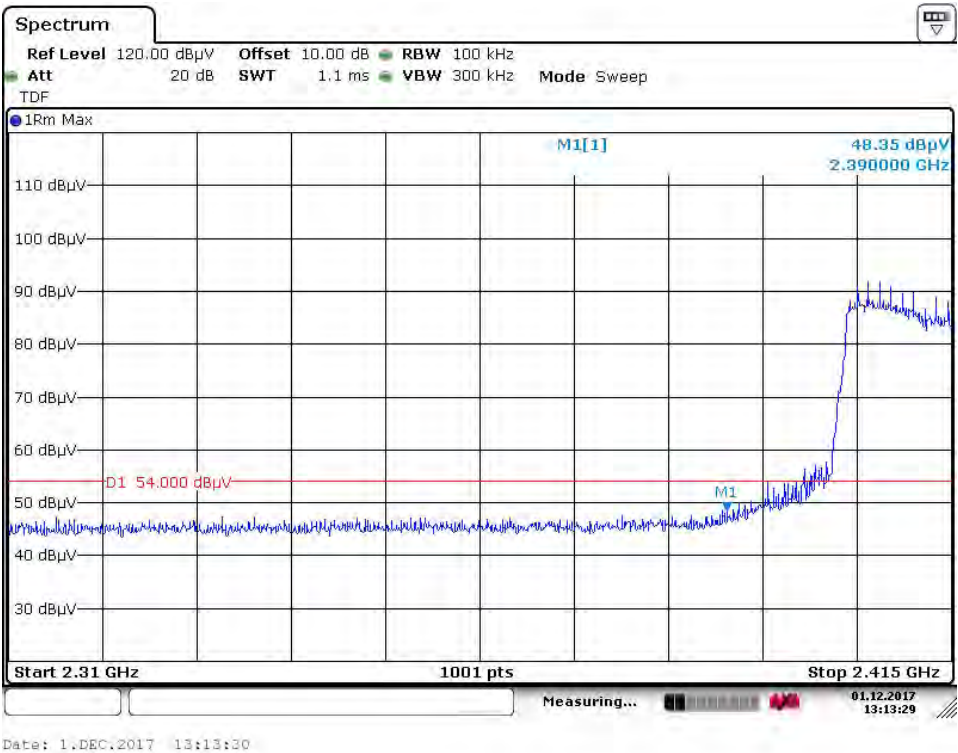


High Channel (Ver)

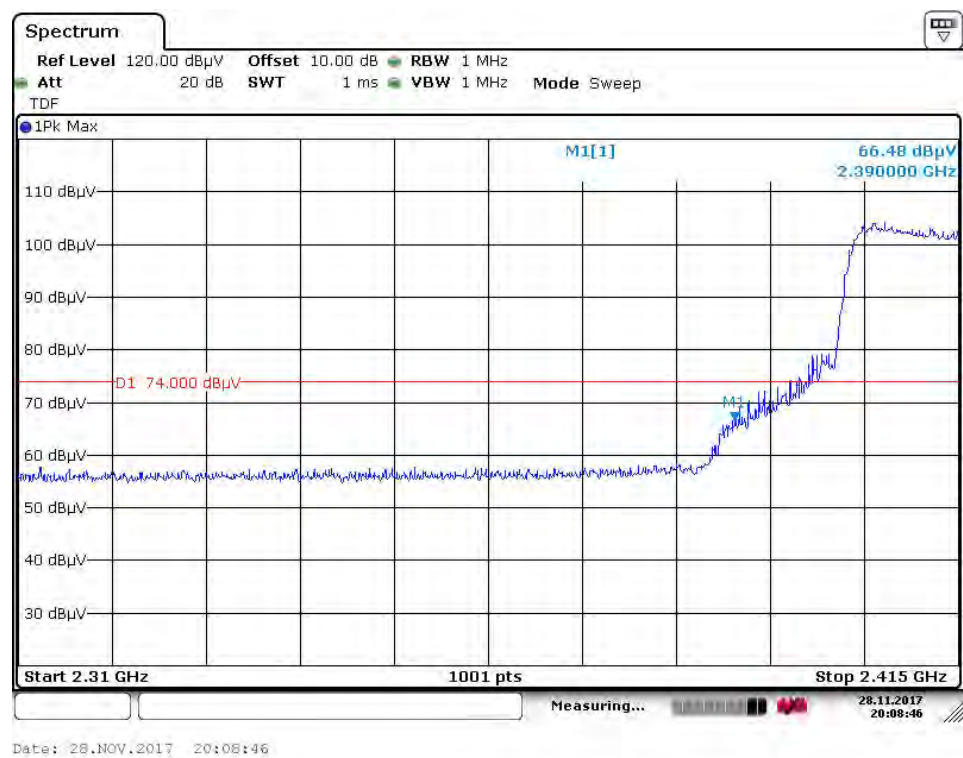
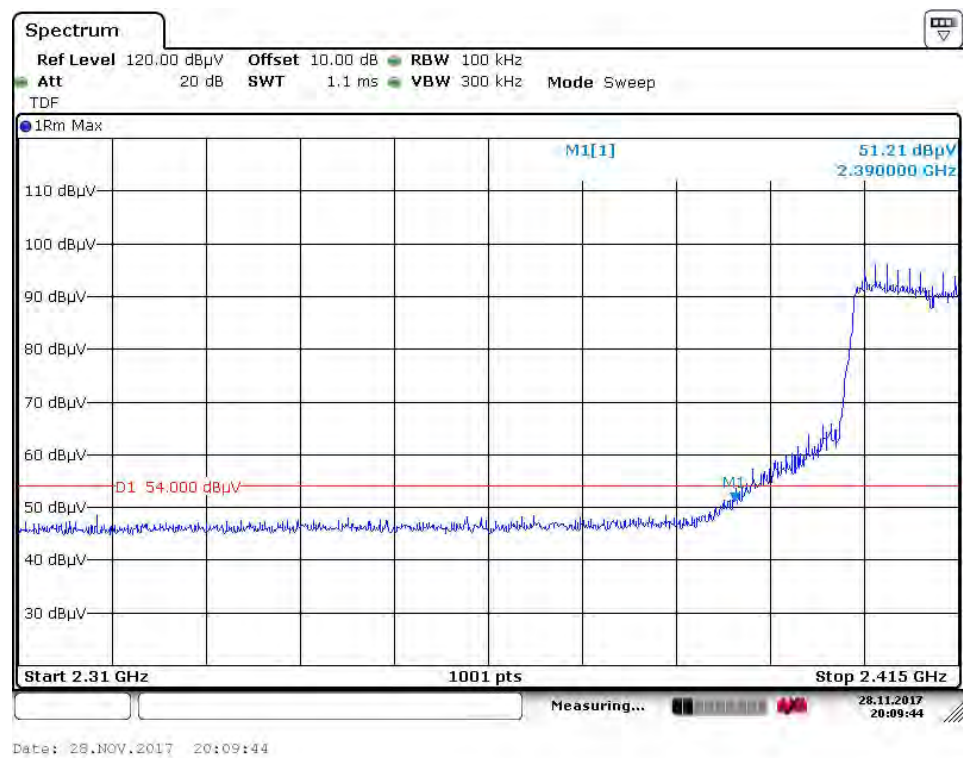


Radiated Bandedge 11n

Low Channel (Hor)

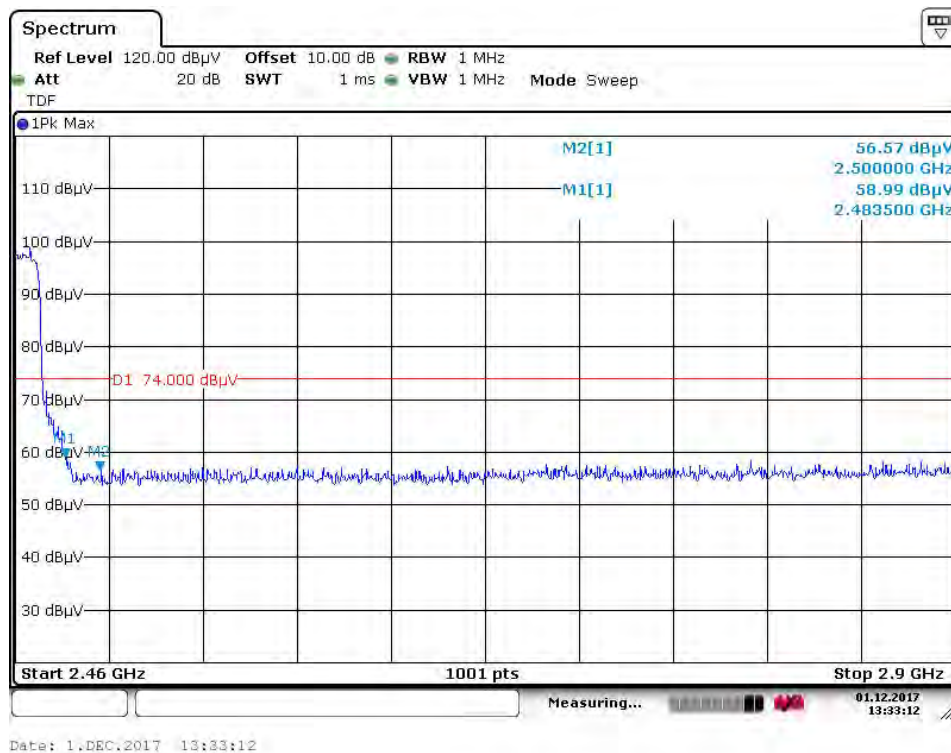
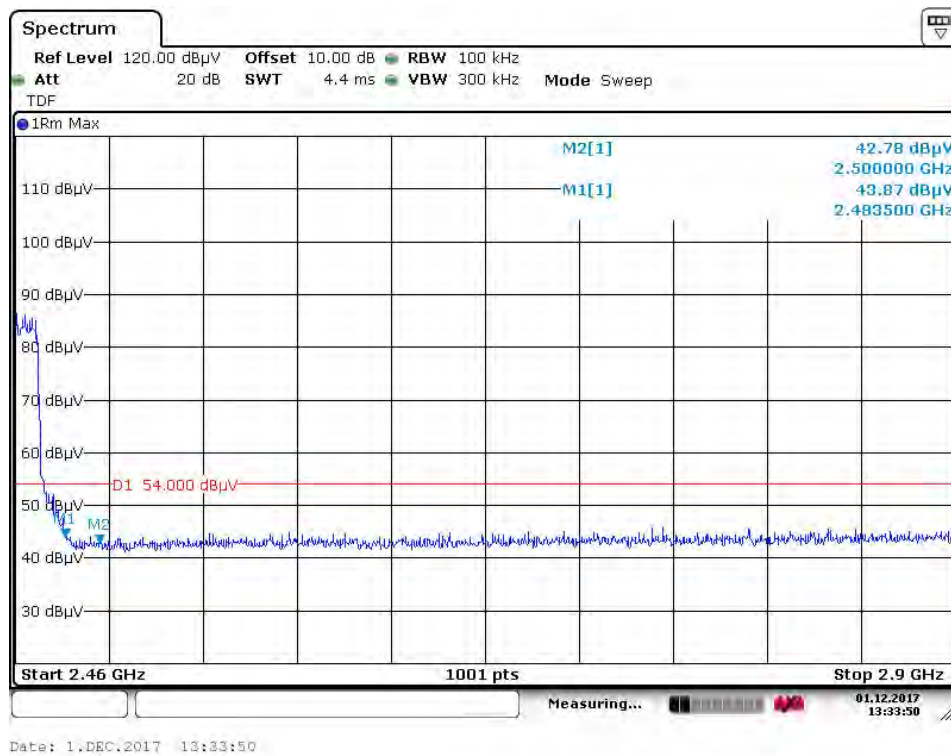


Low Channel (Ver)

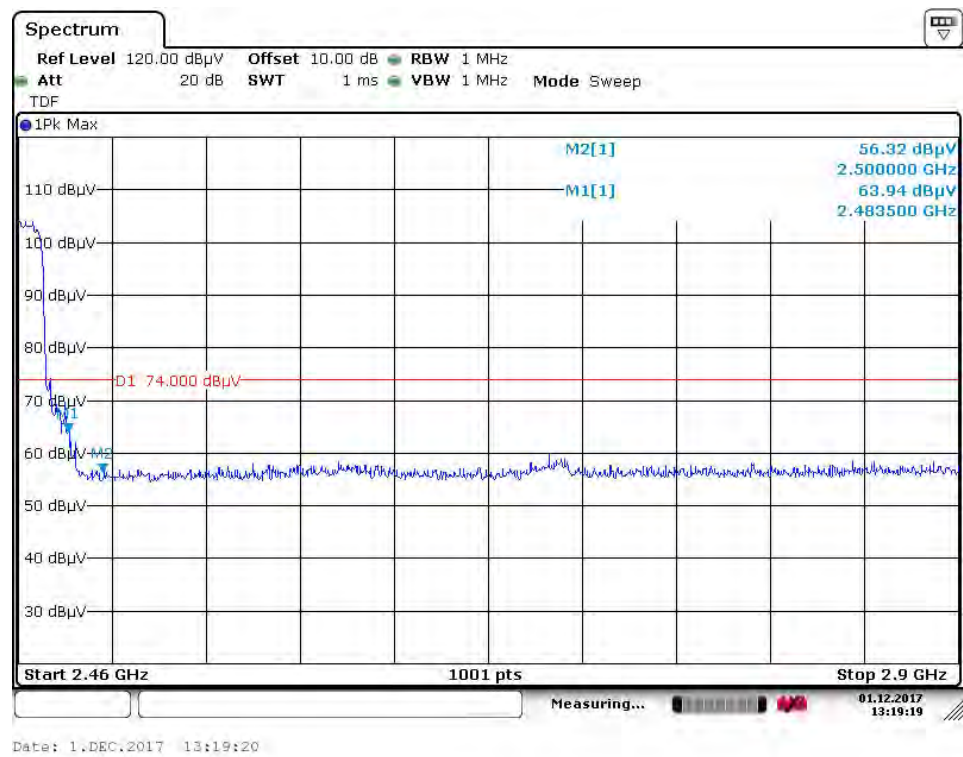
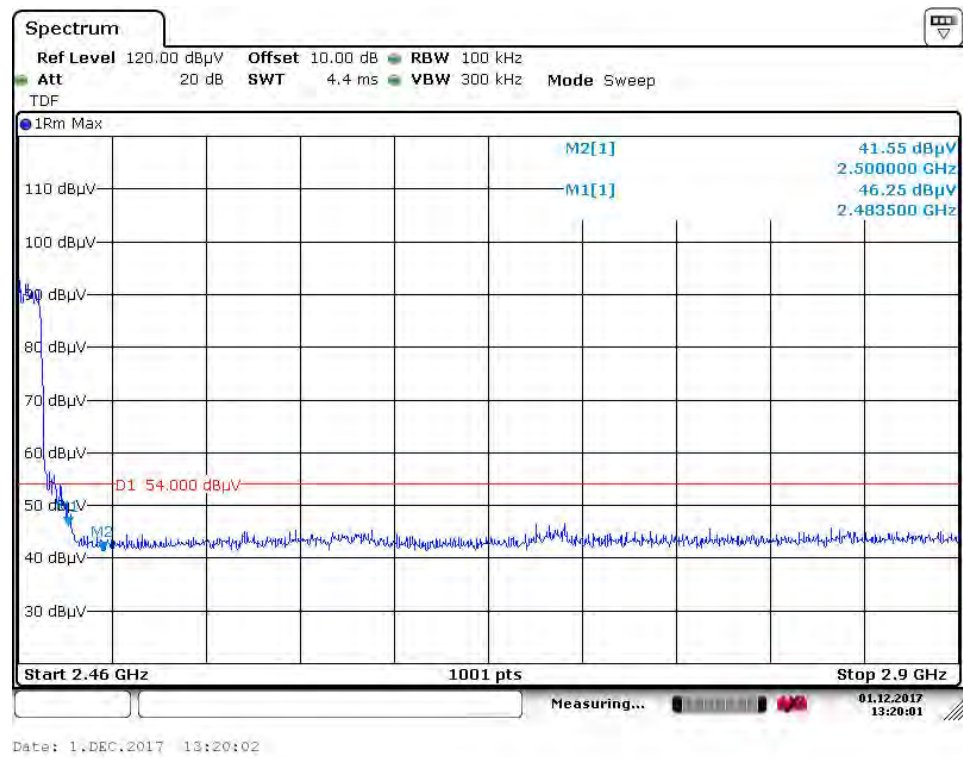


Radiated Bandedge 11n

High Channel (Hor)



High Channel (Ver)



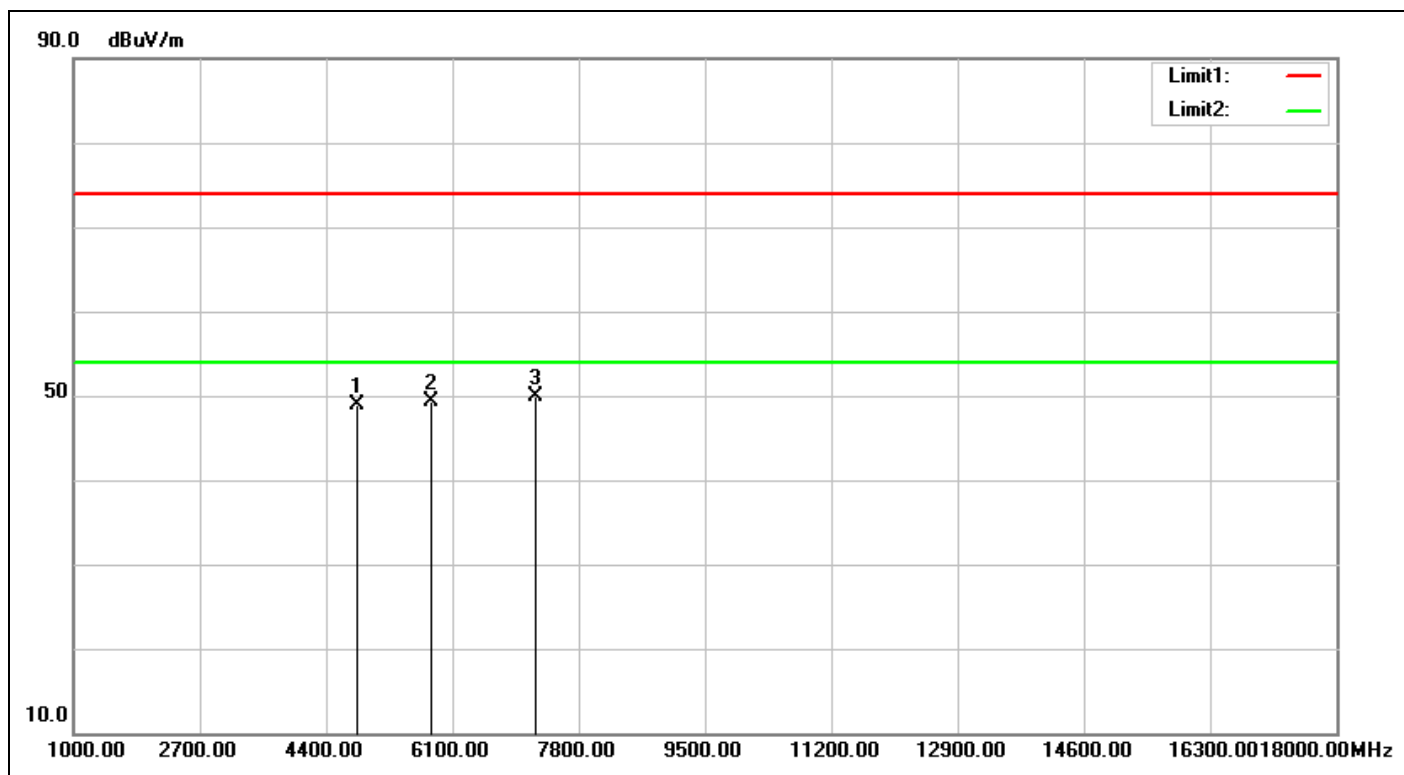
Spurious Emissions, TX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

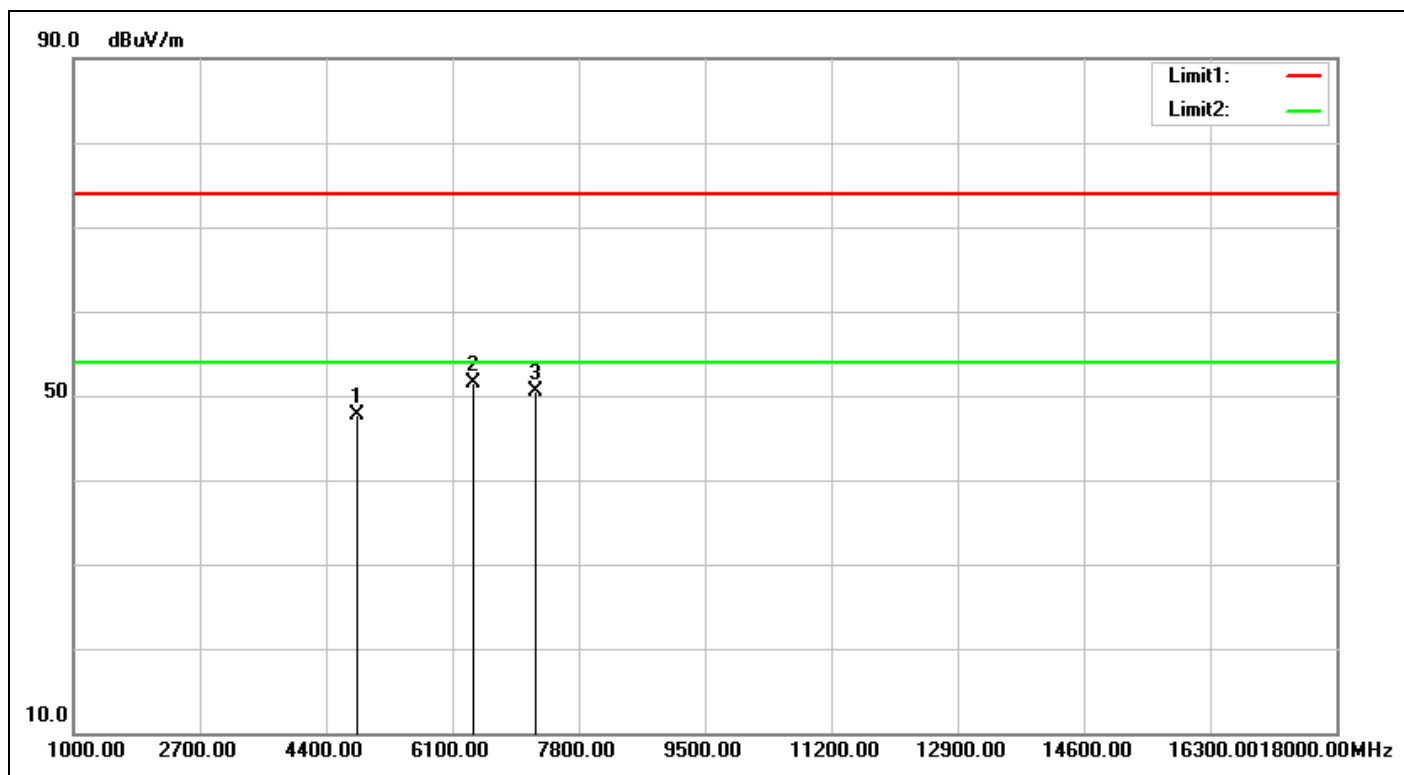
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



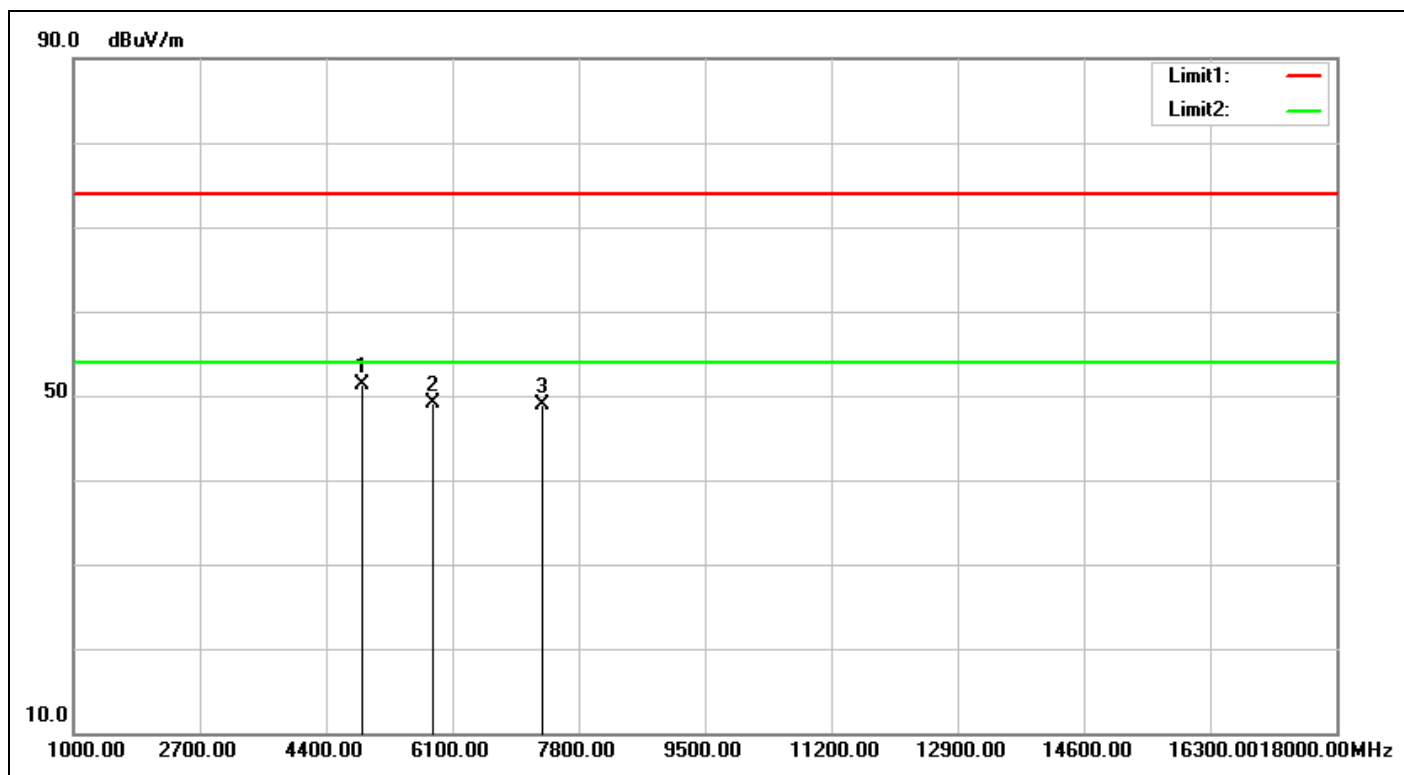
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 13:32:47
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	45.60	48.83	74.00	-25.17	peak	100	198	
2	5811.000	5.13	44.16	49.29	74.00	-24.71	peak	100	79	
3	7236.000	4.74	45.22	49.96	74.00	-24.04	peak	100	152	



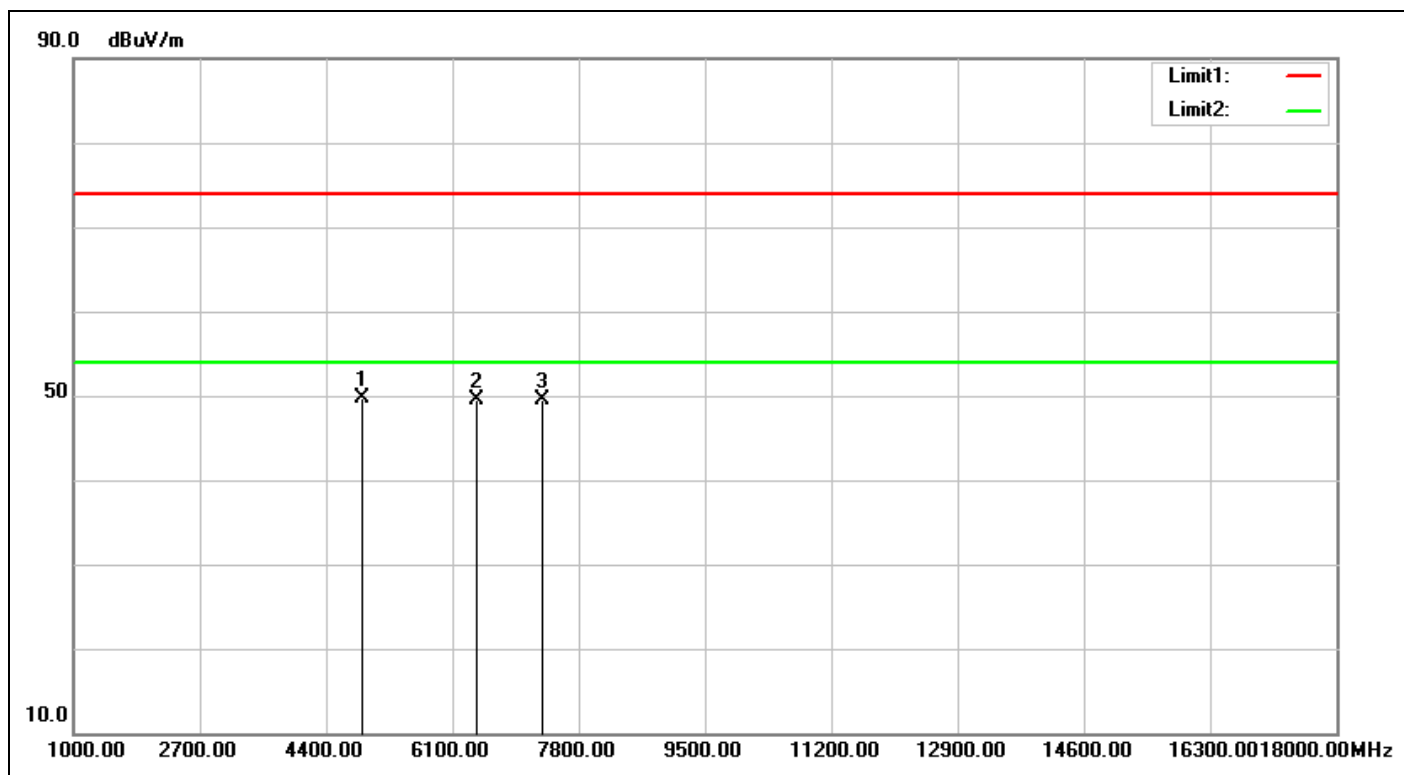
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 13:33:50
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	44.51	47.74	74.00	-26.26	peak	100	158	
2	6389.000	5.60	45.81	51.41	74.00	-22.59	peak	100	13	
3	7236.000	4.74	45.83	50.57	74.00	-23.43	peak	100	124	



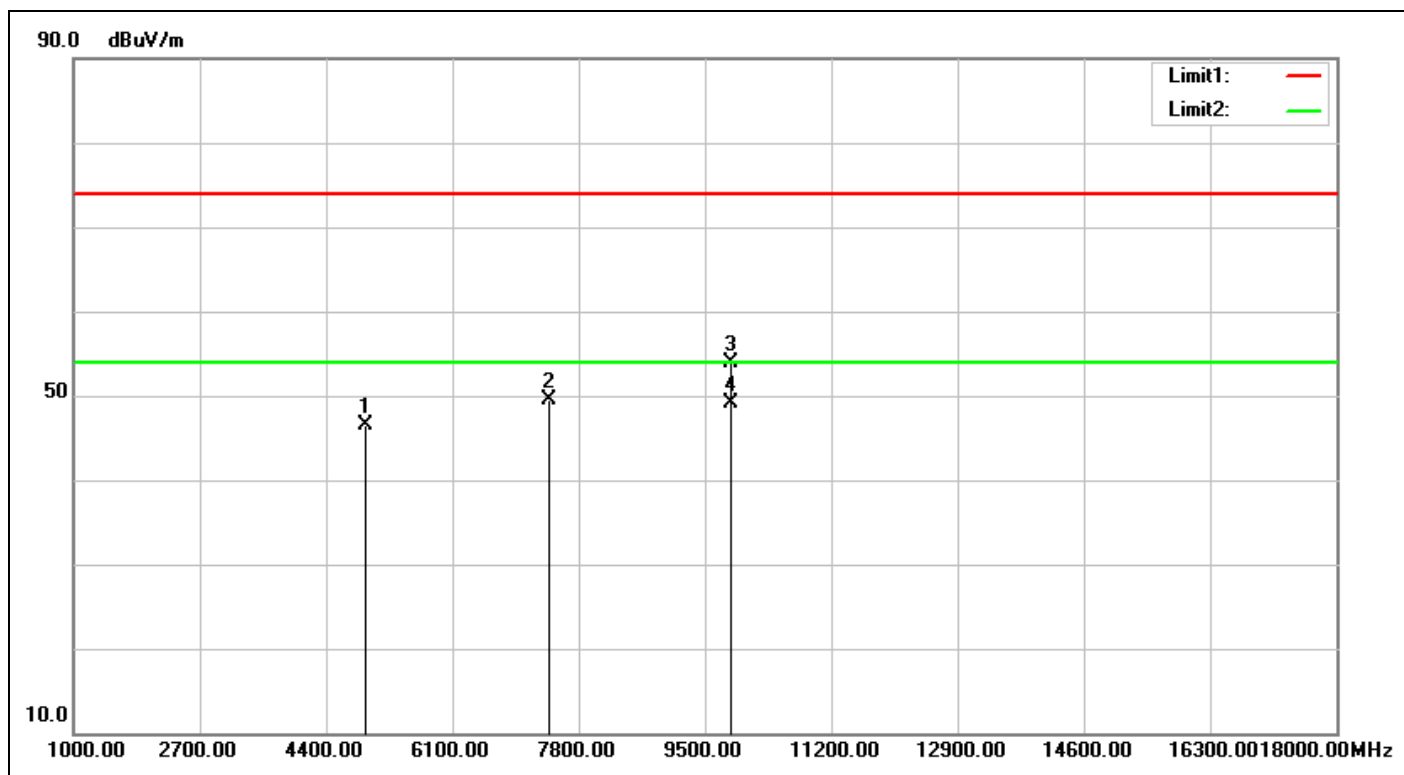
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 13:36:15
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	47.79	51.21	74.00	-22.79	peak	100	162	
2	5845.000	5.19	43.97	49.16	74.00	-24.84	peak	100	75	
3	7311.000	4.70	44.18	48.88	74.00	-25.12	peak	100	191	



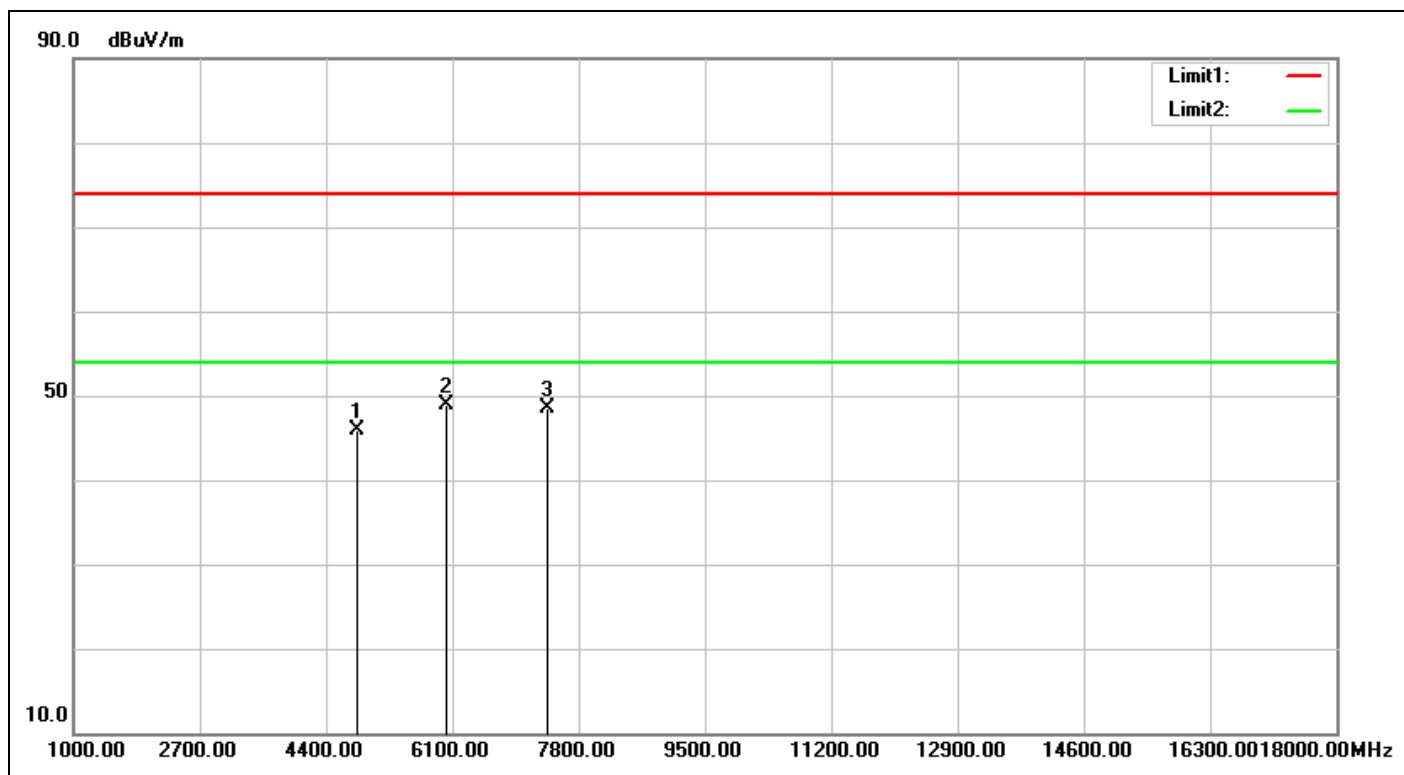
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 13:37:18
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	46.36	49.78	74.00	-24.22	peak	100	238	
2	6423.000	5.62	43.96	49.58	74.00	-24.42	peak	100	109	
3	7311.000	4.70	44.80	49.50	74.00	-24.50	peak	100	157	



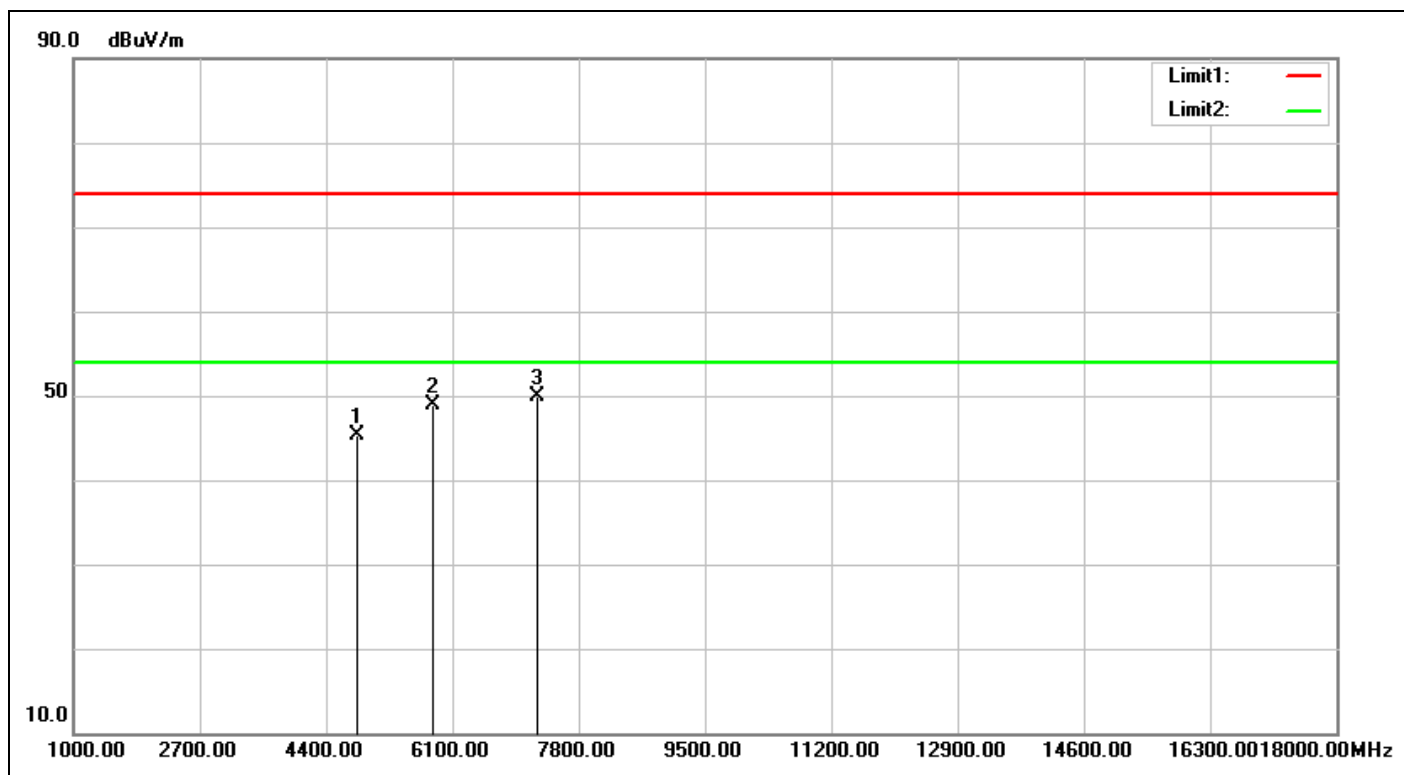
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 13:39:40
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	42.82	46.44	74.00	-27.56	peak	100	167	
2	7386.000	4.65	44.77	49.42	74.00	-24.58	peak	100	120	
3	9840.000	7.85	46.08	53.93	74.00	-20.07	peak	100	76	
4	9840.000	7.85	41.33	49.18	54.00	-4.82	AVG	100	76	



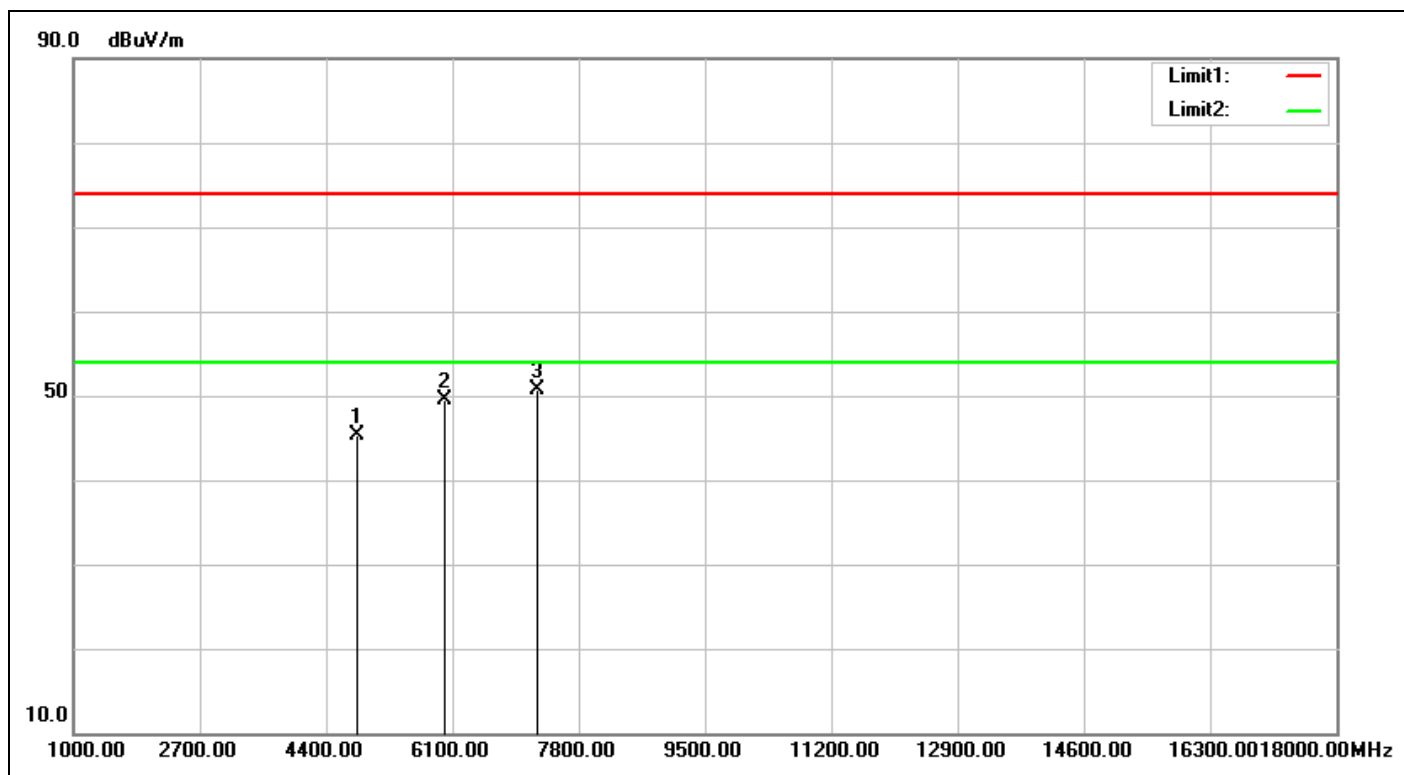
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 13:40:43
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.77	46.00	74.00	-28.00	peak	100	137	
2	6015.000	5.52	43.36	48.88	74.00	-25.12	peak	100	136	
3	7386.000	4.65	43.79	48.44	74.00	-25.56	peak	100	151	



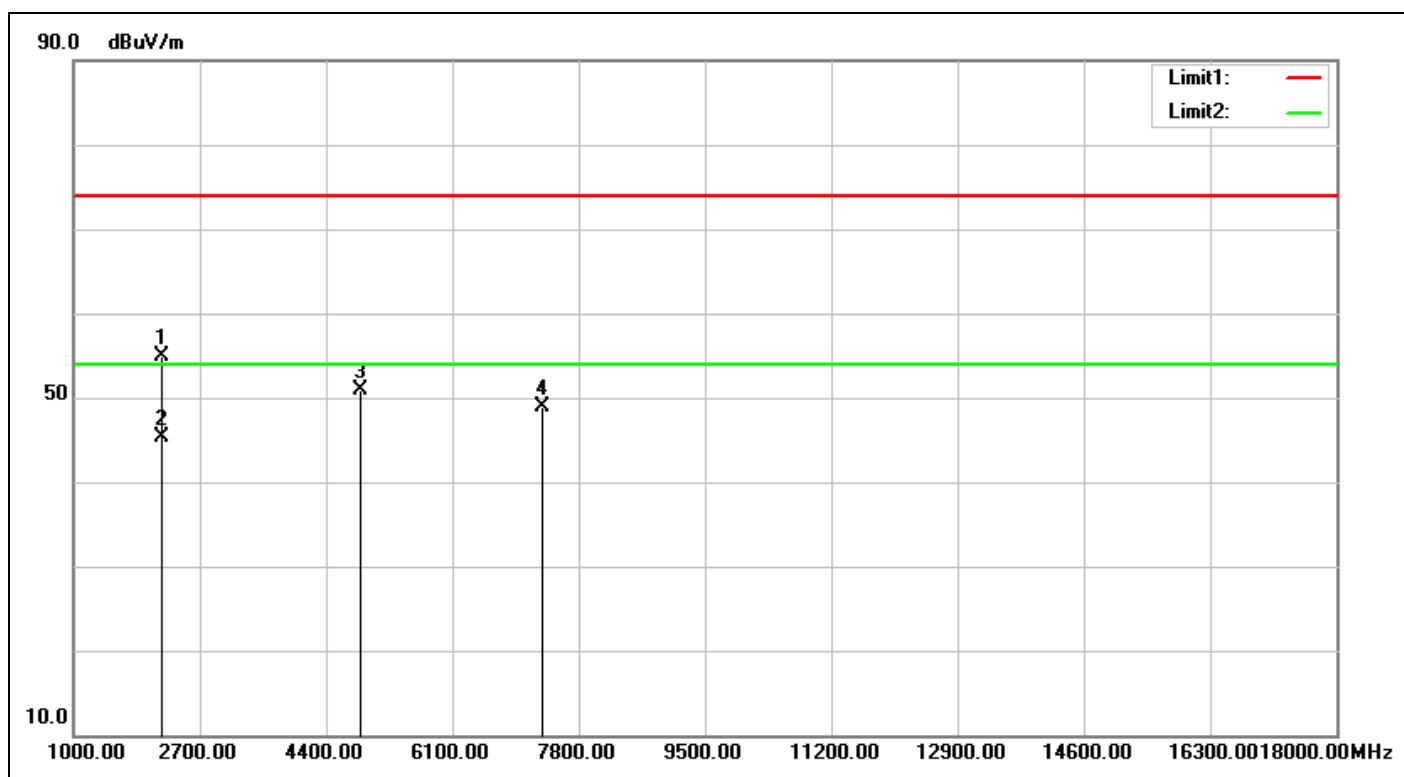
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 13:48:35
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.01	45.24	74.00	-28.76	peak	100	158	
2	5845.000	5.19	43.70	48.89	74.00	-25.11	peak	100	187	
3	7236.000	4.74	45.26	50.00	74.00	-24.00	peak	100	167	



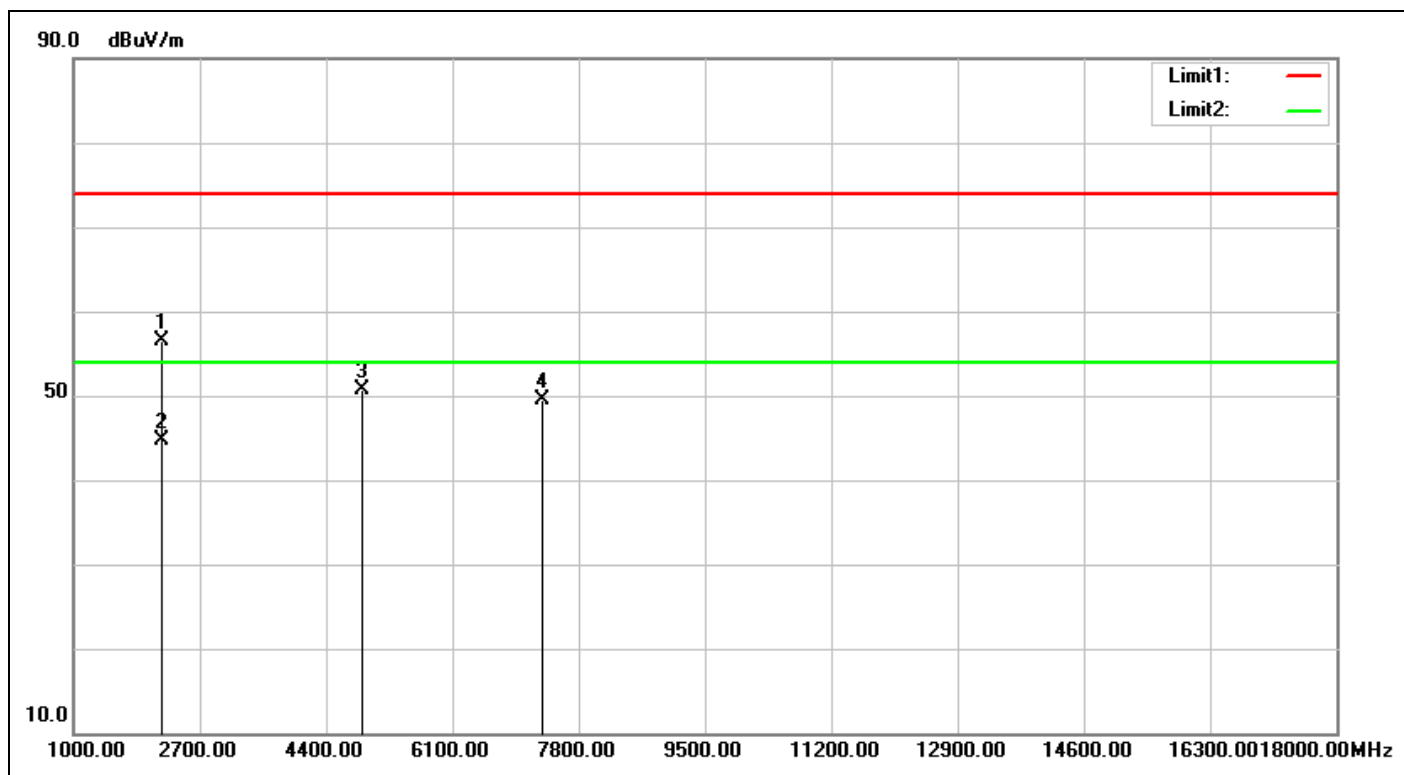
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 13:49:38
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.10	45.33	74.00	-28.67	peak	100	342	
2	5998.000	5.52	44.03	49.55	74.00	-24.45	peak	100	94	
3	7236.000	4.74	45.93	50.67	74.00	-23.33	peak	100	168	



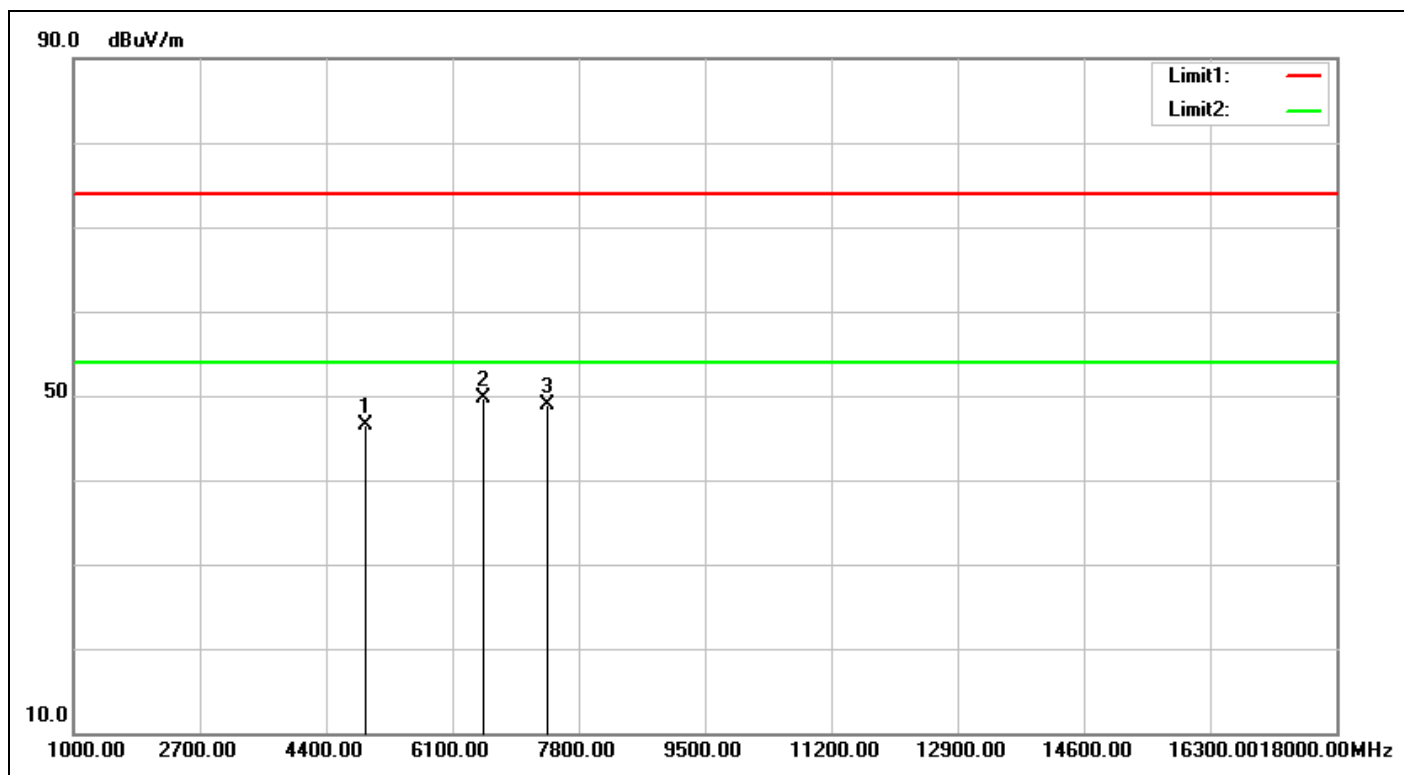
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 13:55:20
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2190.000	-3.67	58.65	54.98	74.00	-19.02	peak	100	270	
2	2190.000	-3.67	48.91	45.24	54.00	-8.76	AVG	100	270	
3	4874.000	3.42	47.44	50.86	74.00	-23.14	peak	100	155	
4	7311.000	4.70	44.30	49.00	74.00	-25.00	peak	100	302	



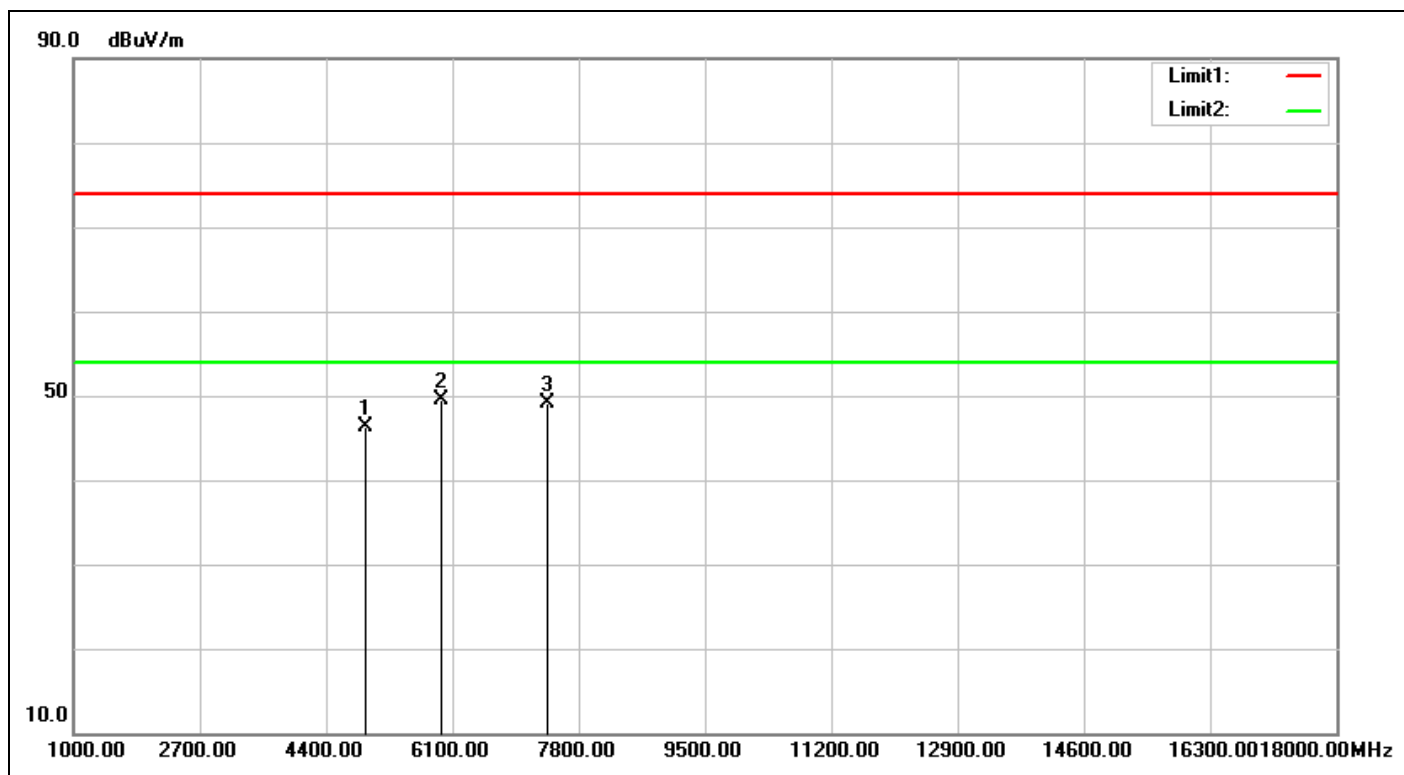
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 13:56:23
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2190.000	-3.67	60.14	56.47	74.00	-17.53	peak	100	230	
2	2190.000	-3.67	48.46	44.79	54.00	-9.21	AVG	100	230	
3	4874.000	3.42	47.36	50.78	74.00	-23.22	peak	100	185	
4	7311.000	4.70	44.71	49.41	74.00	-24.59	peak	100	326	



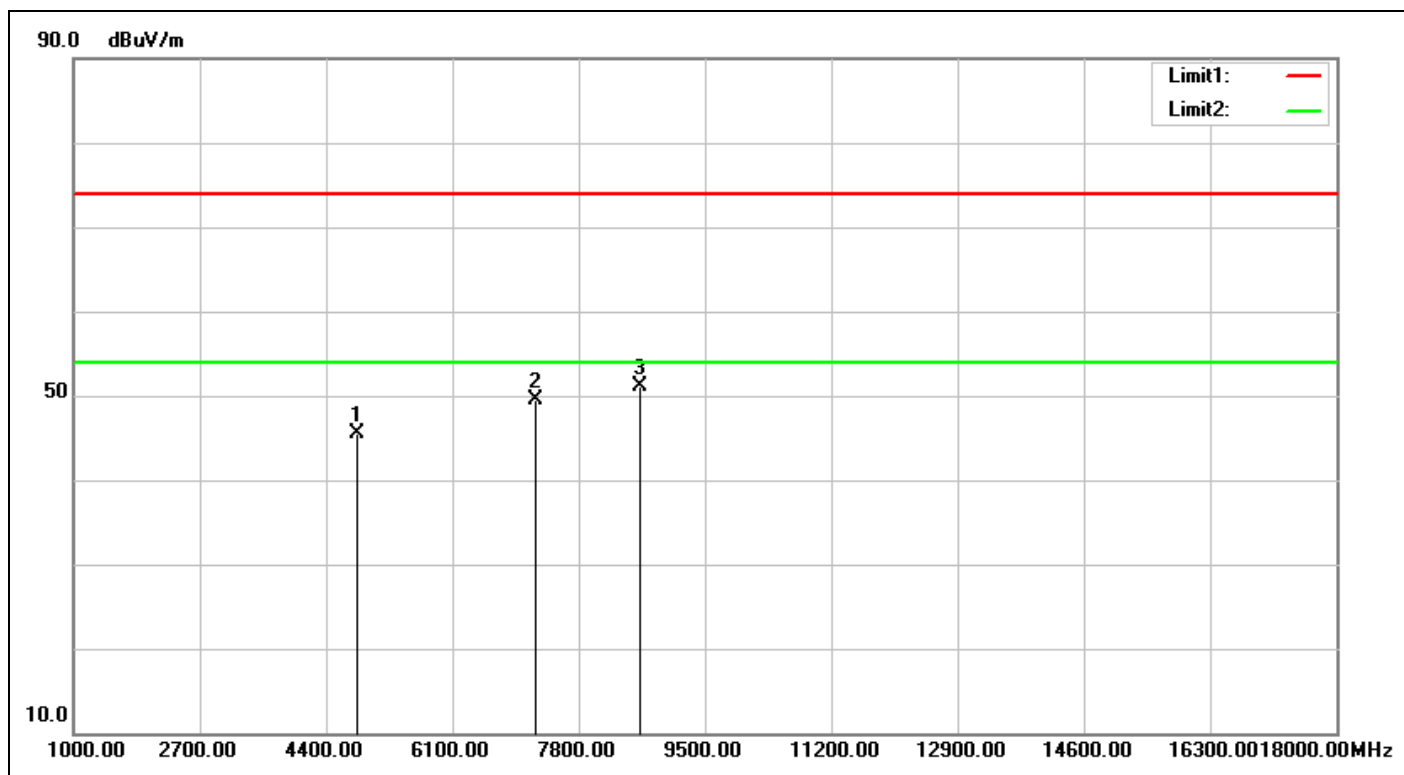
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 14:02:27
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	42.83	46.45	74.00	-27.55	peak	100	152	
2	6525.000	5.59	44.15	49.74	74.00	-24.26	peak	100	126	
3	7386.000	4.65	44.16	48.81	74.00	-25.19	peak	100	220	



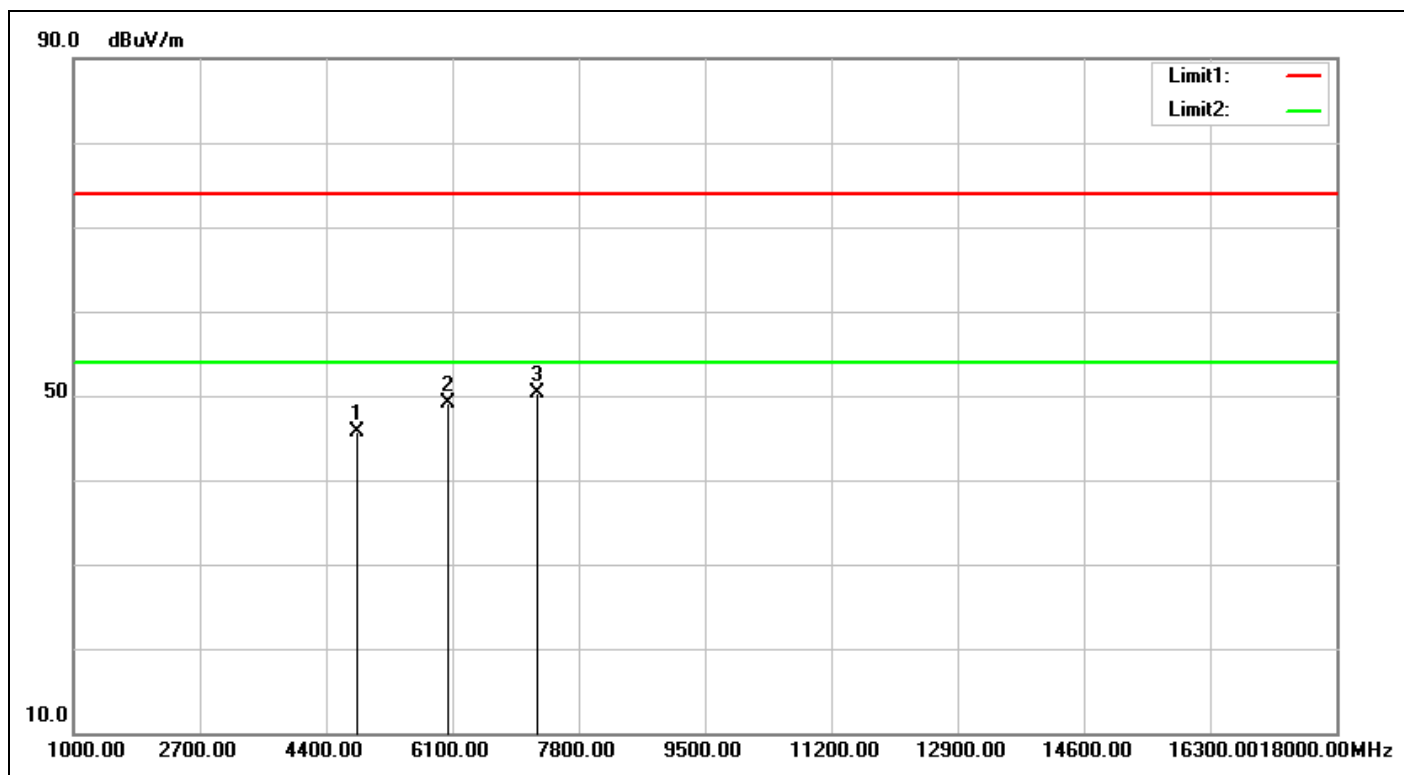
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 14:03:30
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	42.74	46.36	74.00	-27.64	peak	100	199	
2	5947.000	5.41	44.15	49.56	74.00	-24.44	peak	100	120	
3	7386.000	4.65	44.51	49.16	74.00	-24.84	peak	100	21	



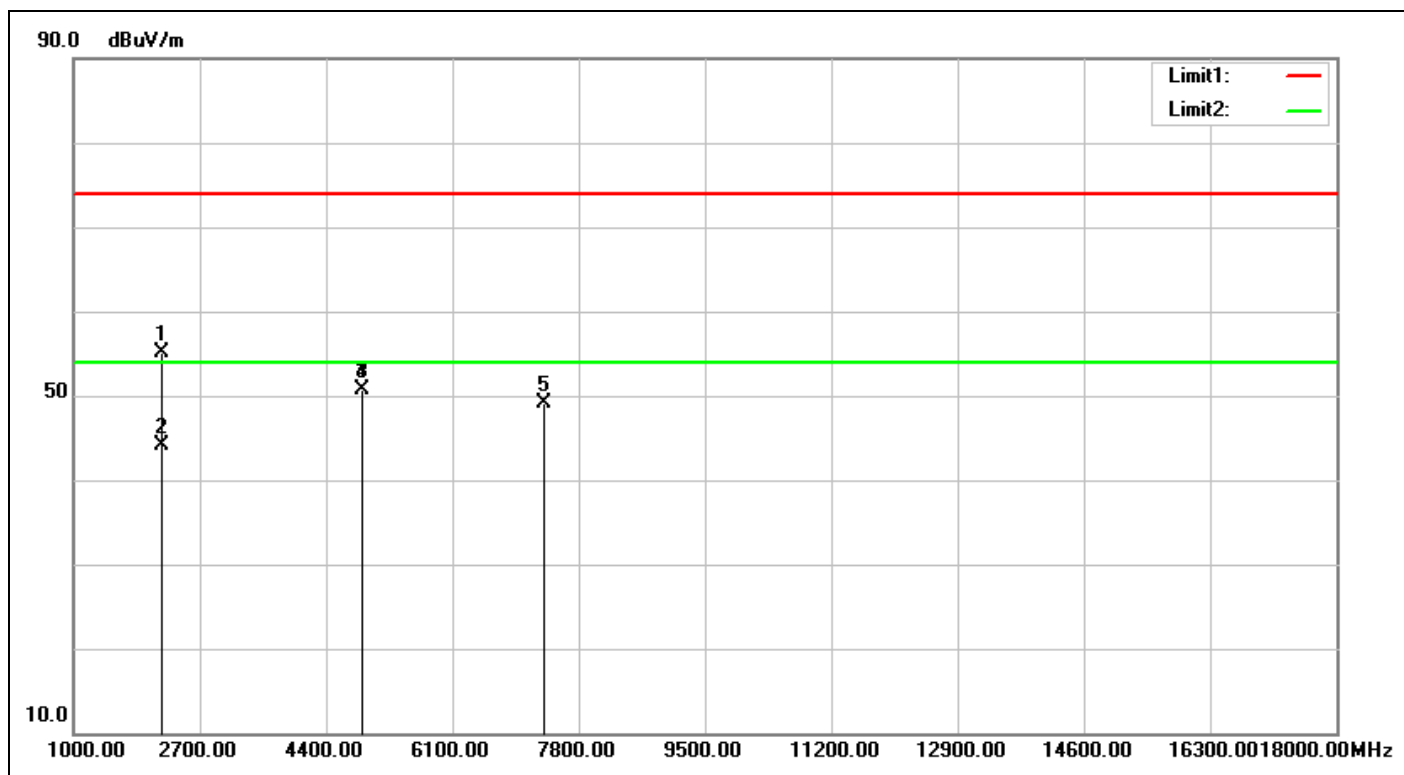
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 14:06:20
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.34	45.57	74.00	-28.43	peak	100	185	
2	7236.000	4.74	44.71	49.45	74.00	-24.55	peak	100	154	
3	8633.000	5.07	46.11	51.18	74.00	-22.82	peak	100	326	



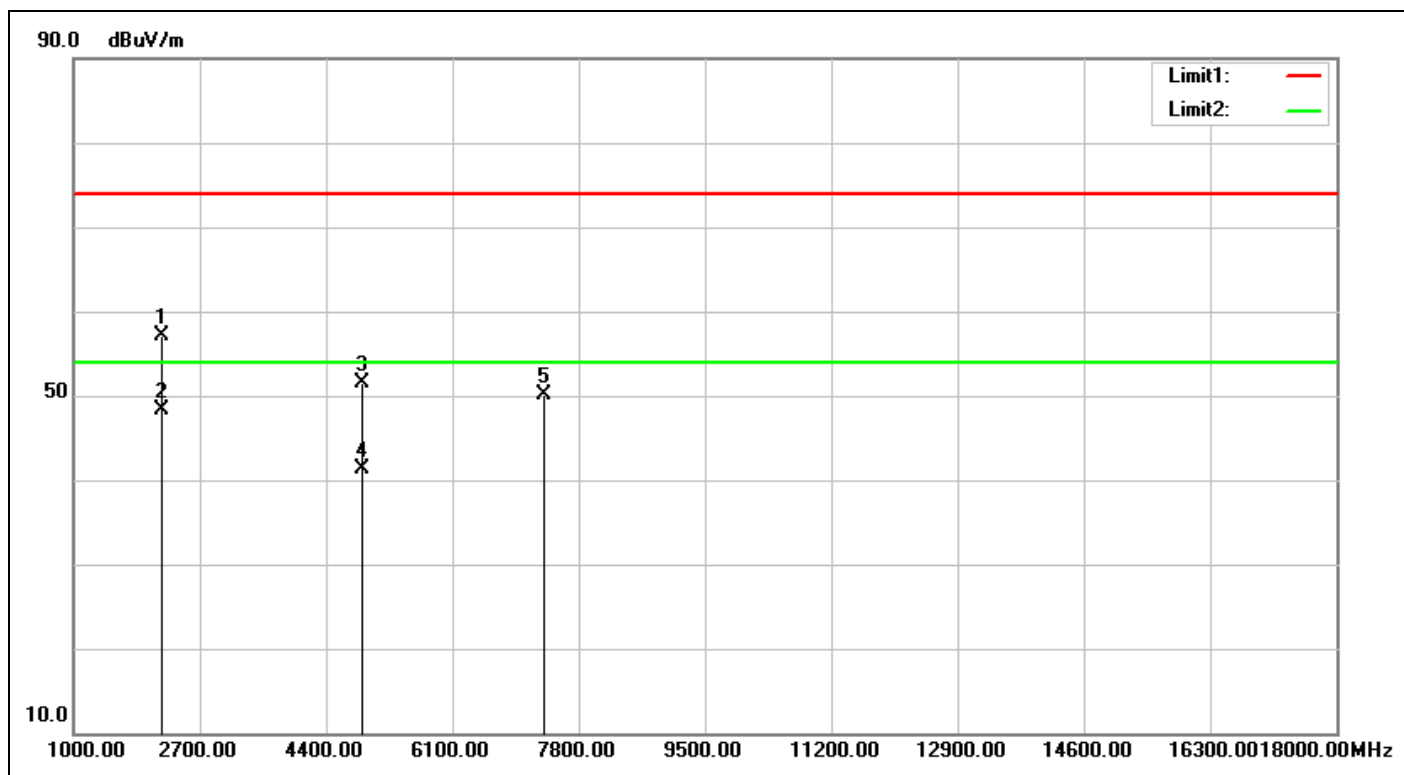
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 14:07:23
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.49	45.72	74.00	-28.28	peak	100	201	
2	6032.000	5.53	43.55	49.08	74.00	-24.92	peak	100	351	
3	7236.000	4.74	45.51	50.25	74.00	-23.75	peak	100	223	



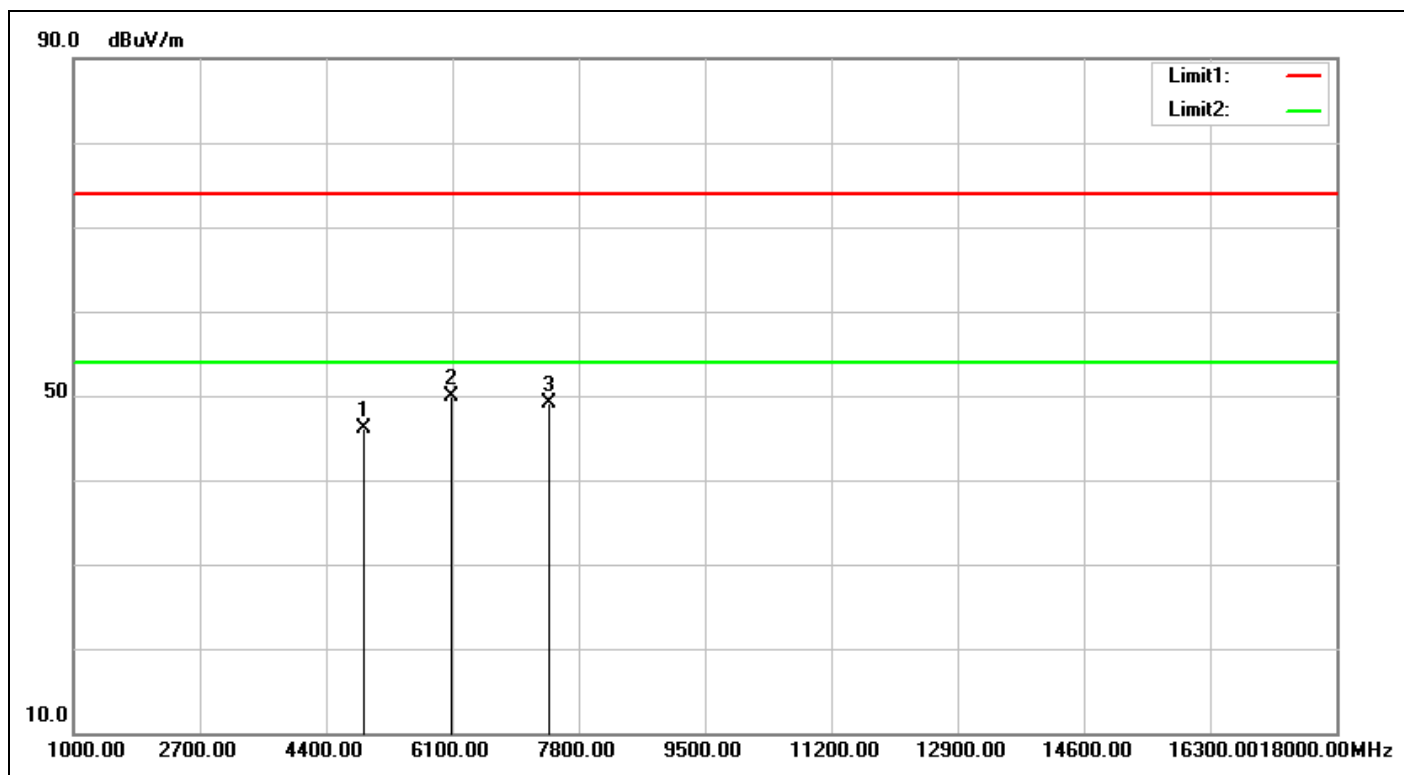
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 14:10:02
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2190.000	-3.67	58.74	55.07	74.00	-18.93	peak	100	265	
2	2190.000	-3.67	47.71	44.04	54.00	-9.96	AVG	100	265	
3	4876.000	3.43	47.31	50.74	74.00	-23.26	peak	100	81	
4	4876.000	3.43	47.31	50.74	74.00	-23.26	peak	100	81	
5	7311.000	4.70	44.42	49.12	74.00	-24.88	peak	100	195	



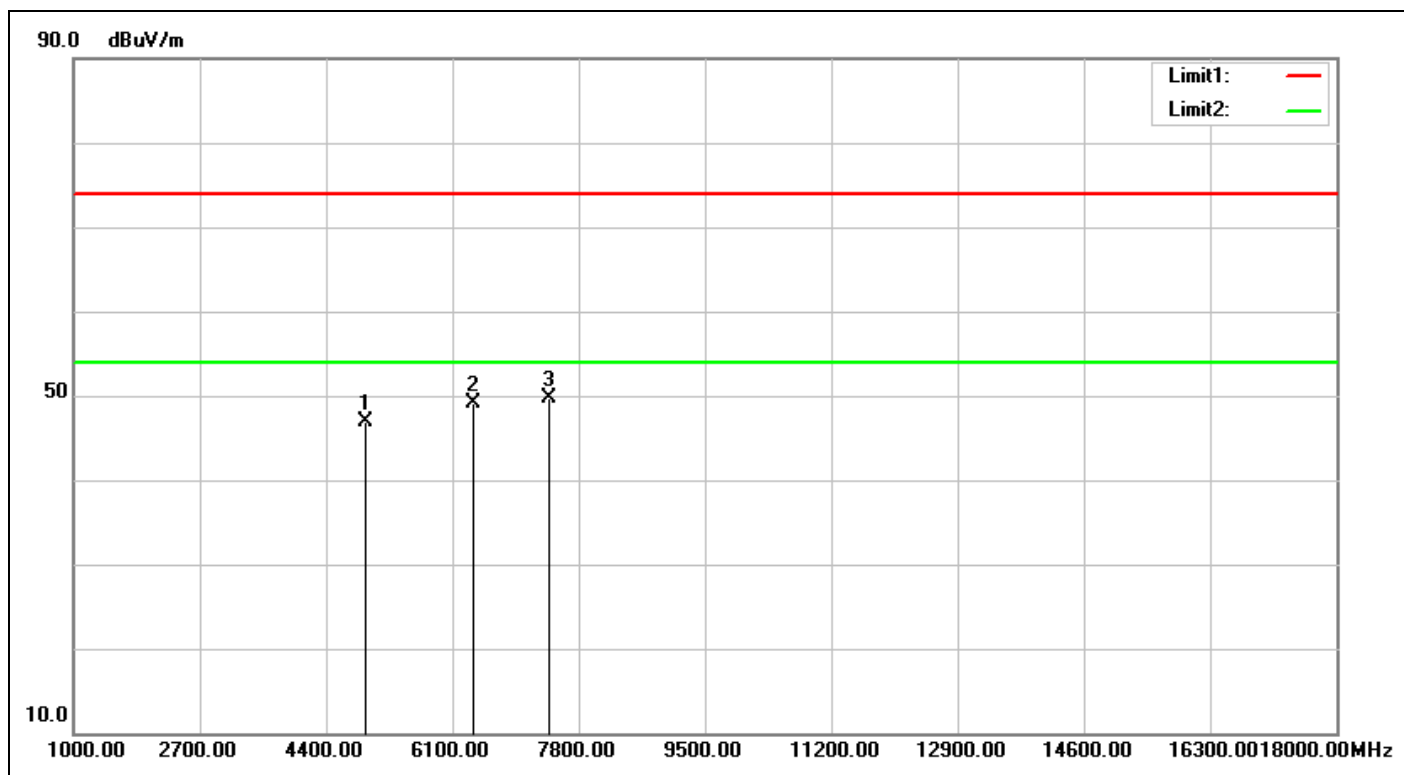
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 14:11:05
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2190.000	-3.67	60.75	57.08	74.00	-16.92	peak	100	228	
2	2190.000	-3.67	52.03	48.36	54.00	-5.64	AVG	100	228	
3	4874.000	3.42	48.04	51.46	74.00	-22.54	peak	100	73	
4	4874.000	3.42	37.85	41.27	54.00	-12.73	AVG	100	73	
5	7311.000	4.70	45.45	50.15	74.00	-23.85	peak	100	107	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 14:18:18
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	42.54	46.16	74.00	-27.84	peak	100	198	
2	6083.000	5.54	44.28	49.82	74.00	-24.18	peak	100	231	
3	7386.000	4.65	44.55	49.20	74.00	-24.80	peak	100	41	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 14:19:21
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	43.36	46.98	74.00	-27.02	peak	100	92	
2	6389.000	5.60	43.51	49.11	74.00	-24.89	peak	100	117	
3	7386.000	4.65	45.10	49.75	74.00	-24.25	peak	100	323	

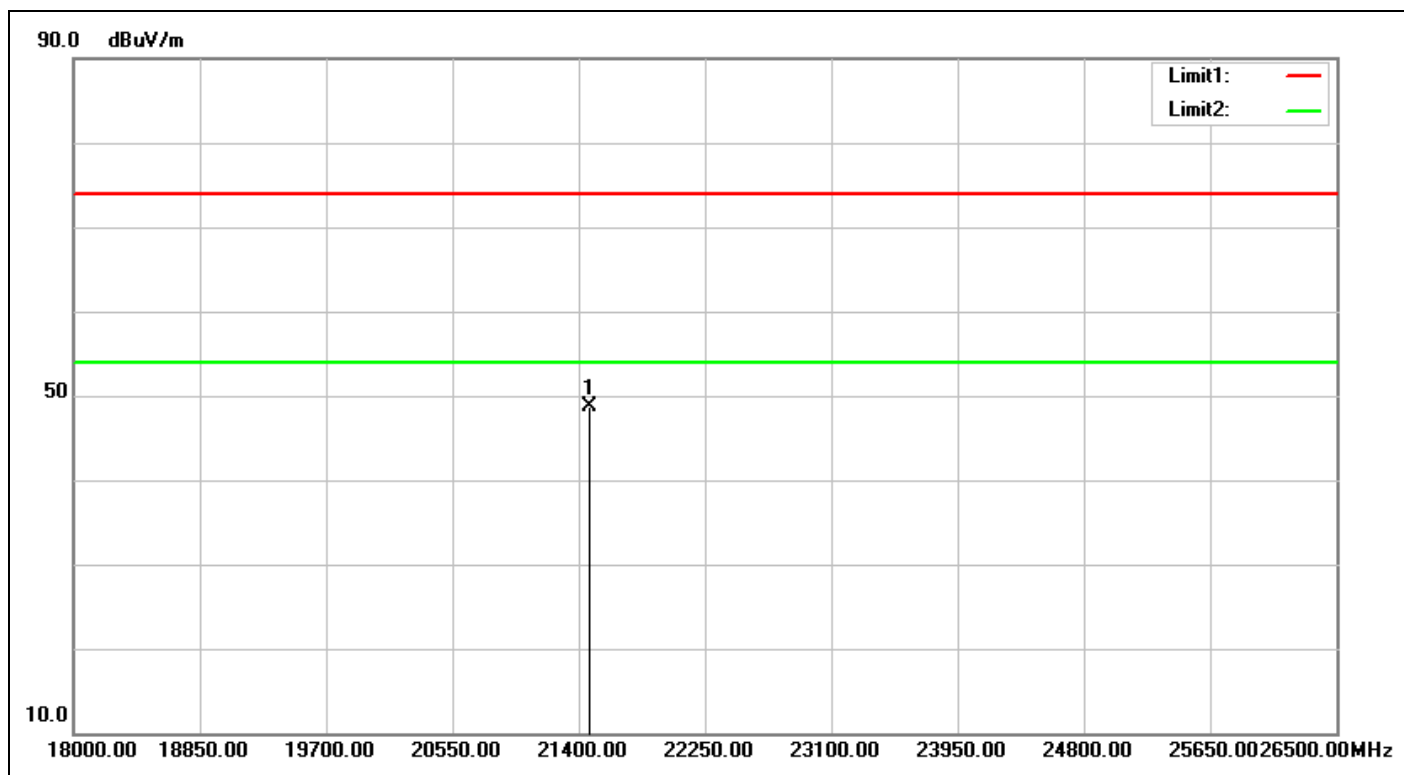
Spurious Emissions, TX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

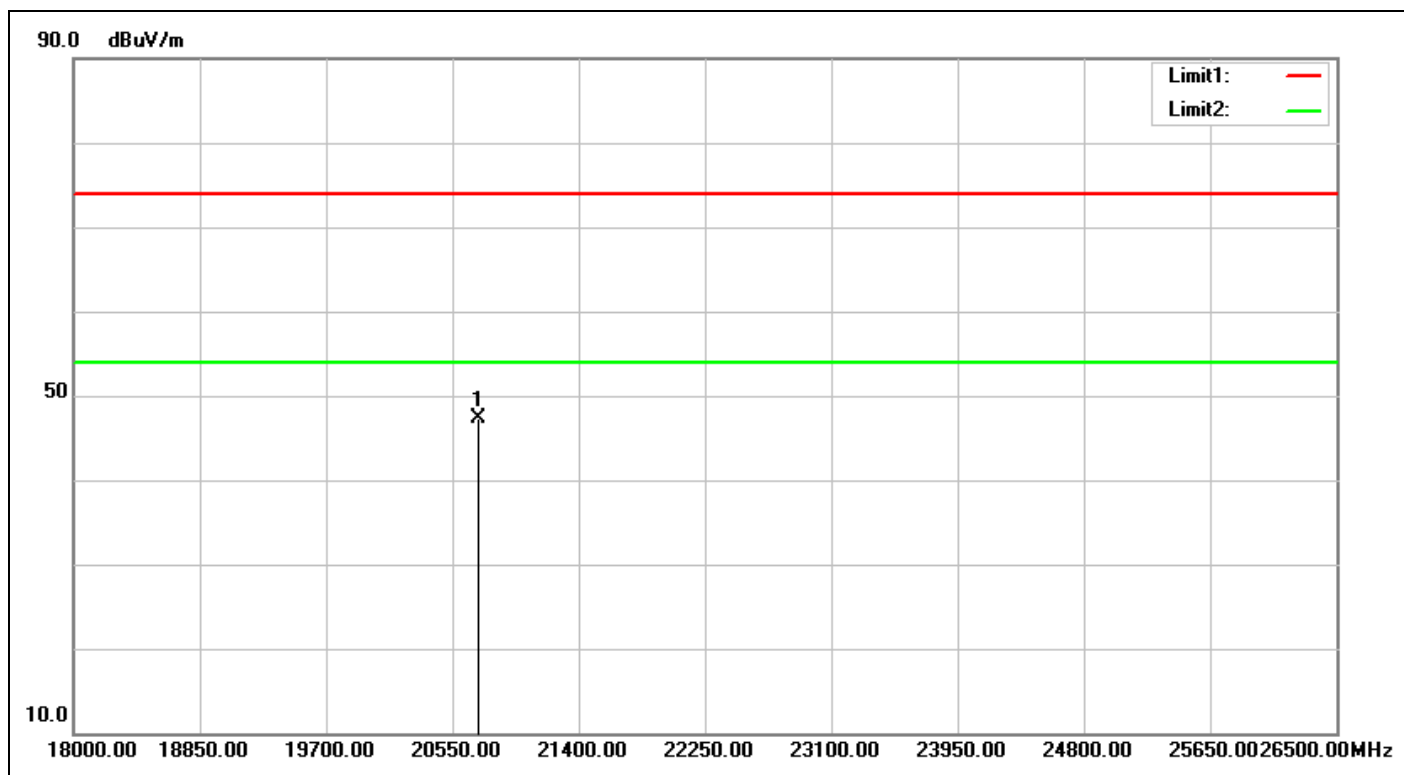
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



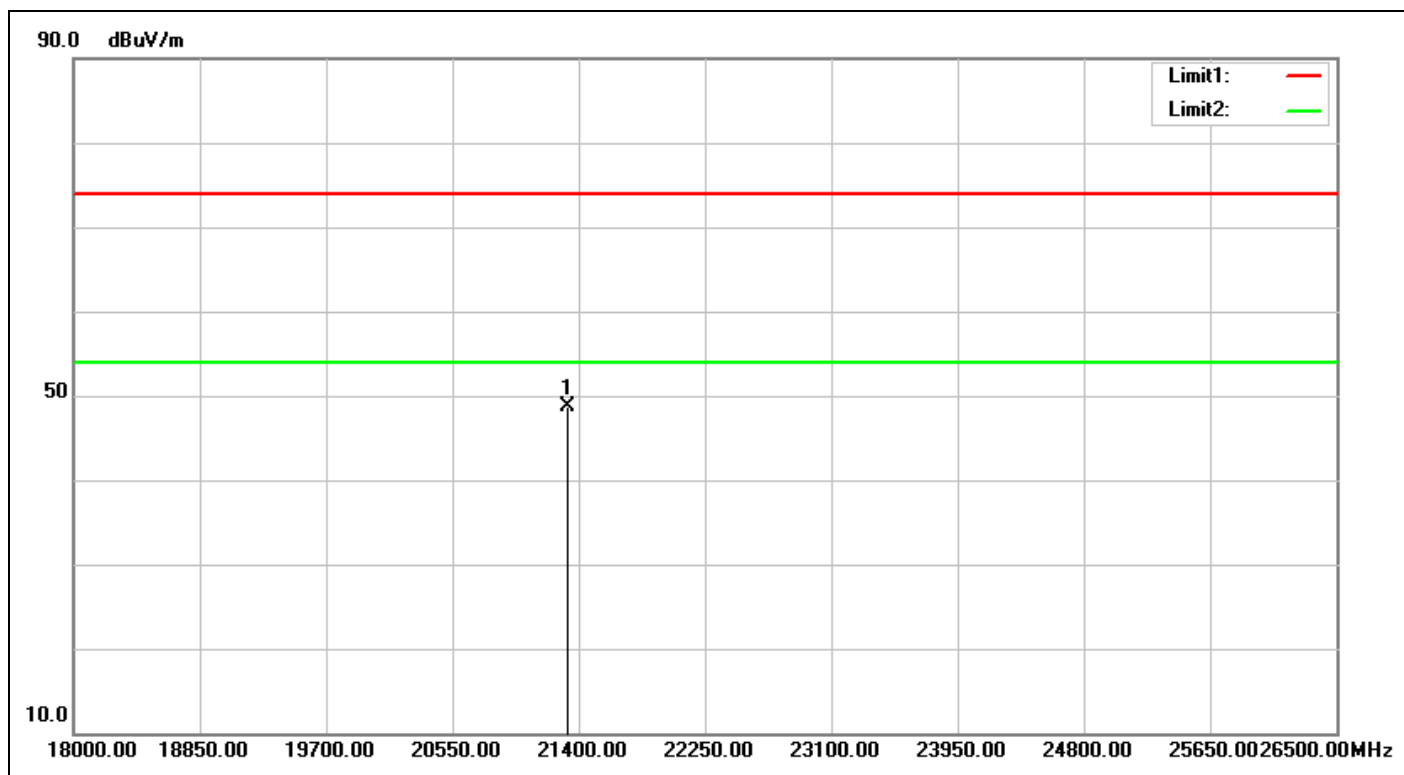
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:11:25
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21476.500	31.99	16.71	48.70	74.00	-25.30	peak	100	135	



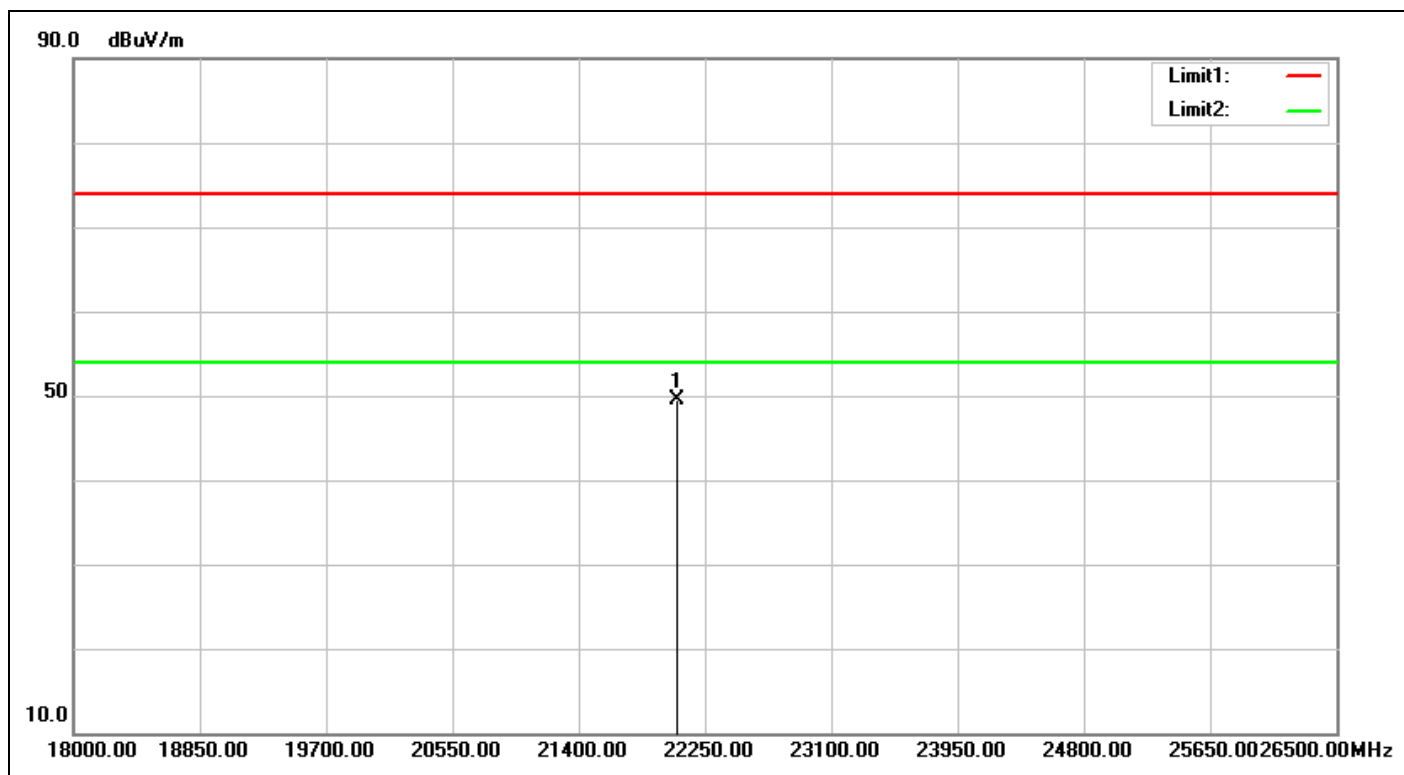
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:11:38
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20728.500	31.11	16.25	47.36	74.00	-26.64	peak	100	54	



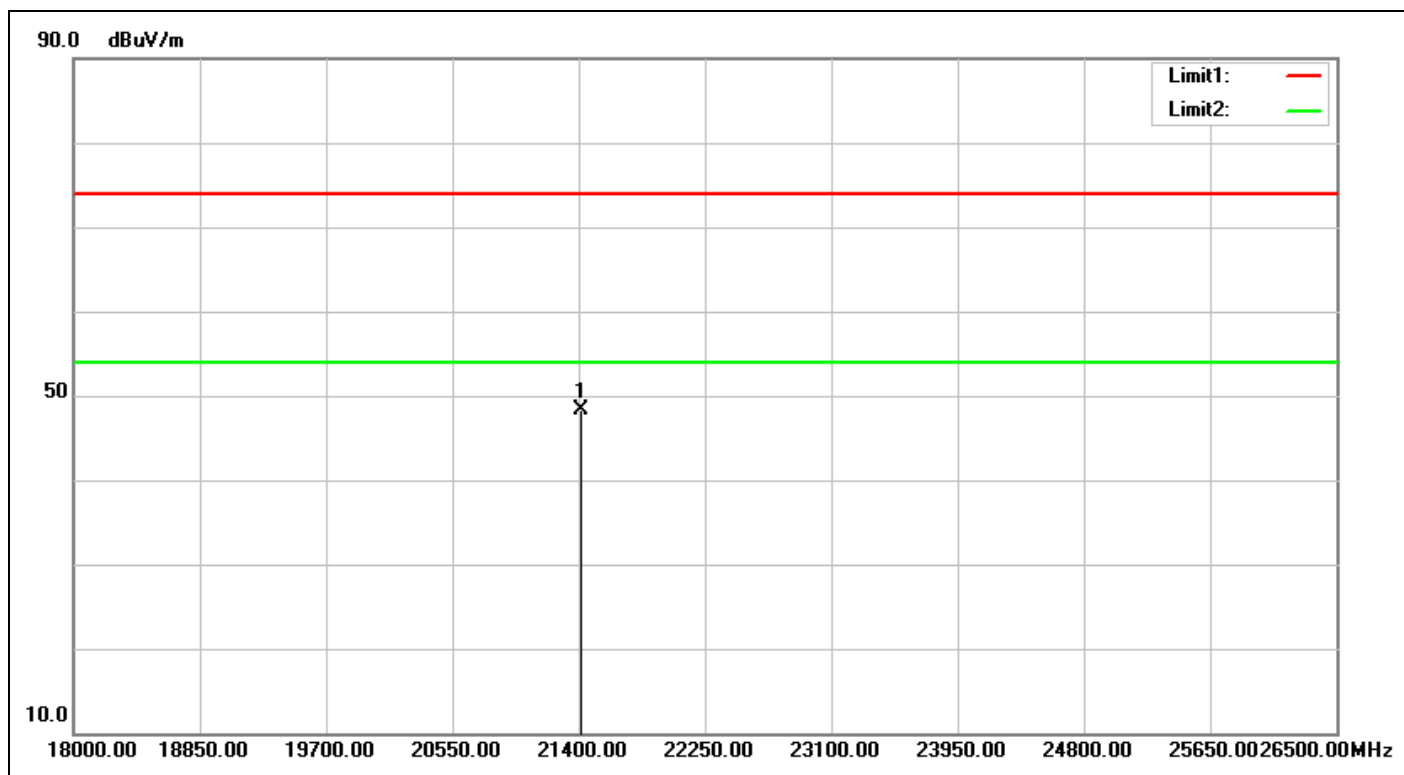
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:12:03
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21323.500	31.77	16.87	48.64	74.00	-25.36	peak	100	288	



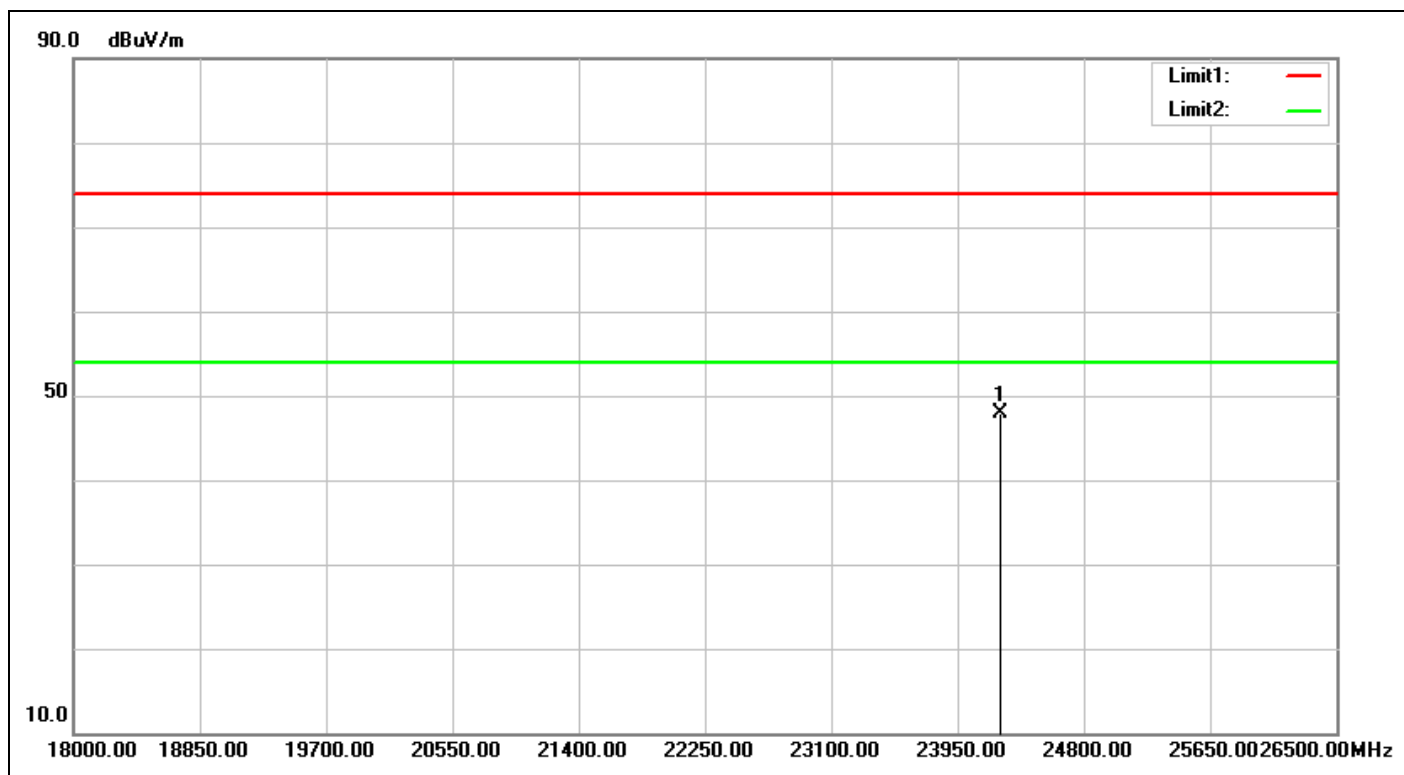
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:12:15
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22063.000	32.54	16.99	49.53	74.00	-24.47	peak	100	319	



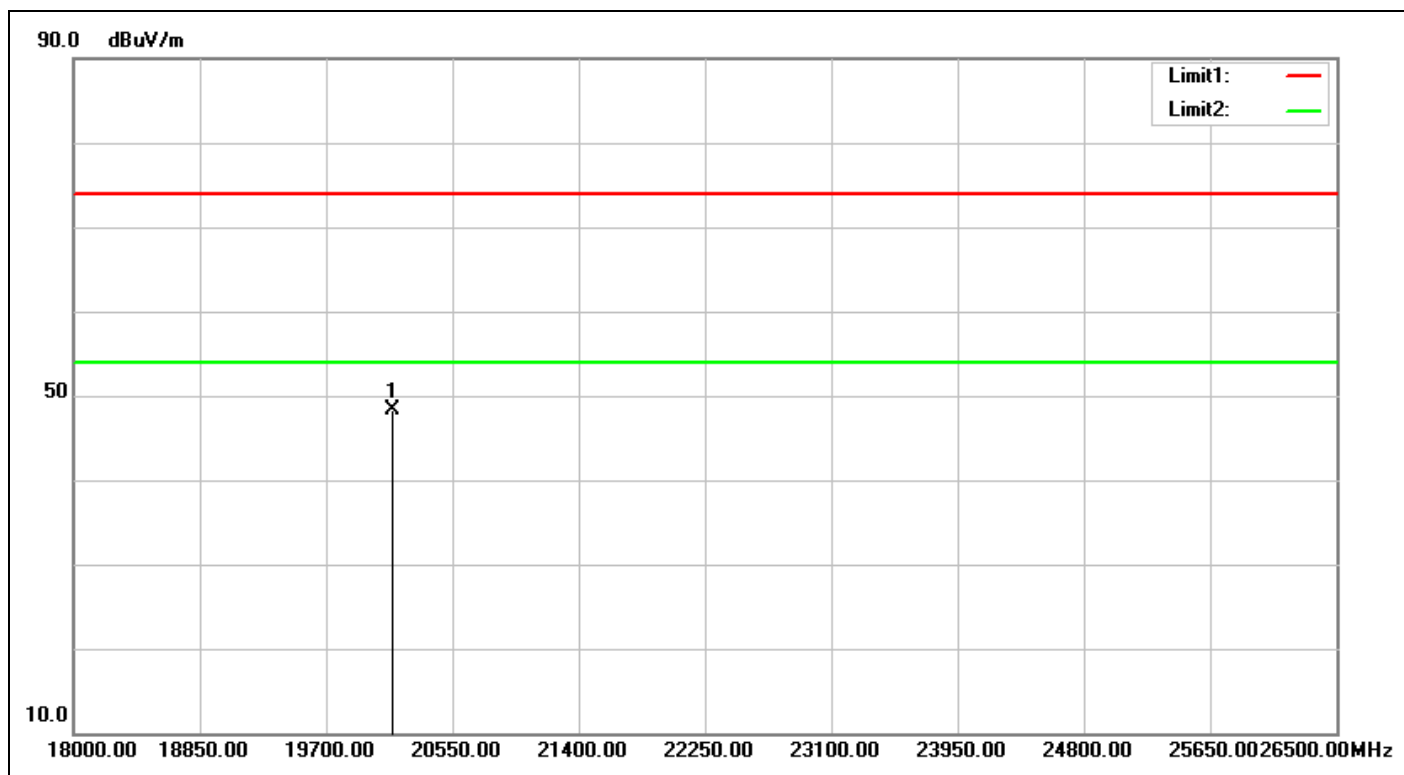
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:12:37
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21417.000	31.91	16.39	48.30	74.00	-25.70	peak	100	201	



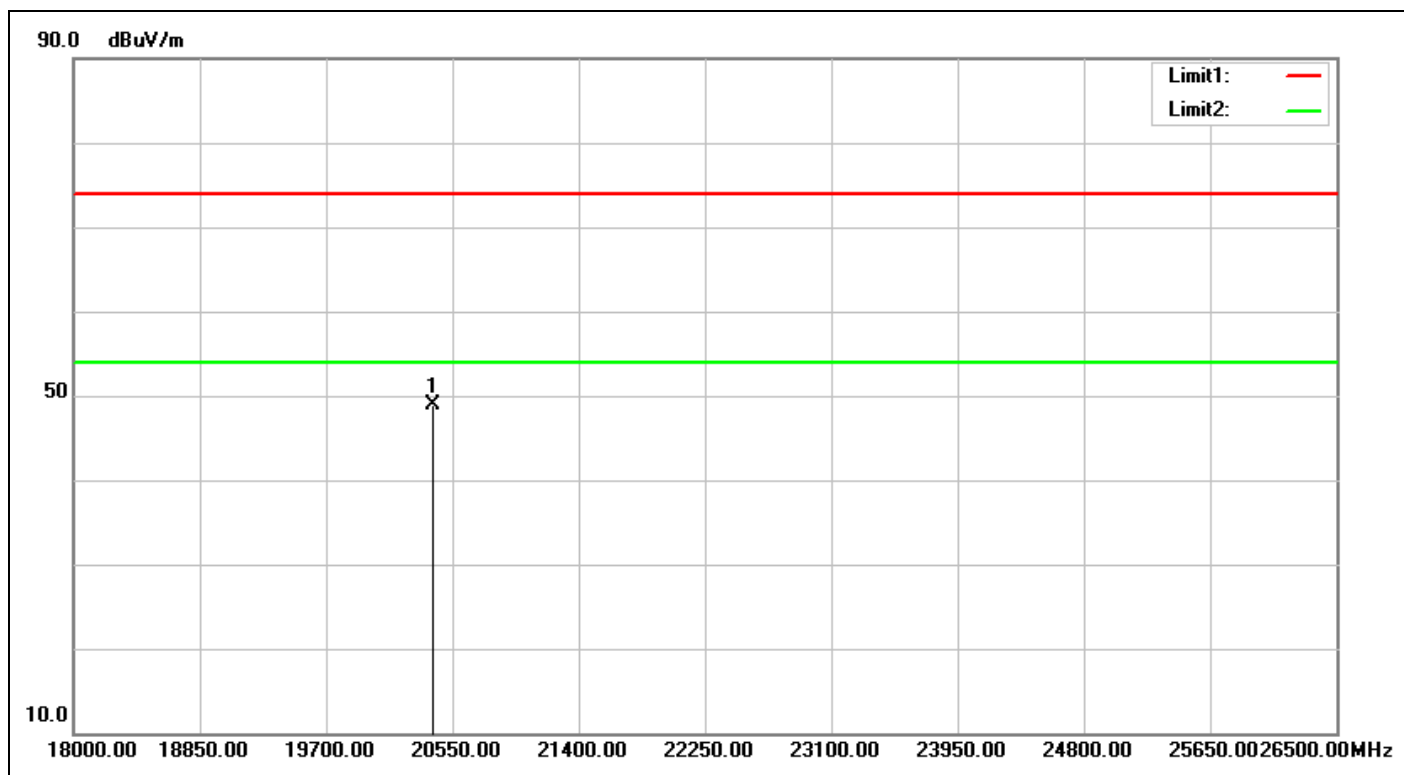
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:12:50
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	24239.000	31.98	15.93	47.91	74.00	-26.09	peak	100	114	



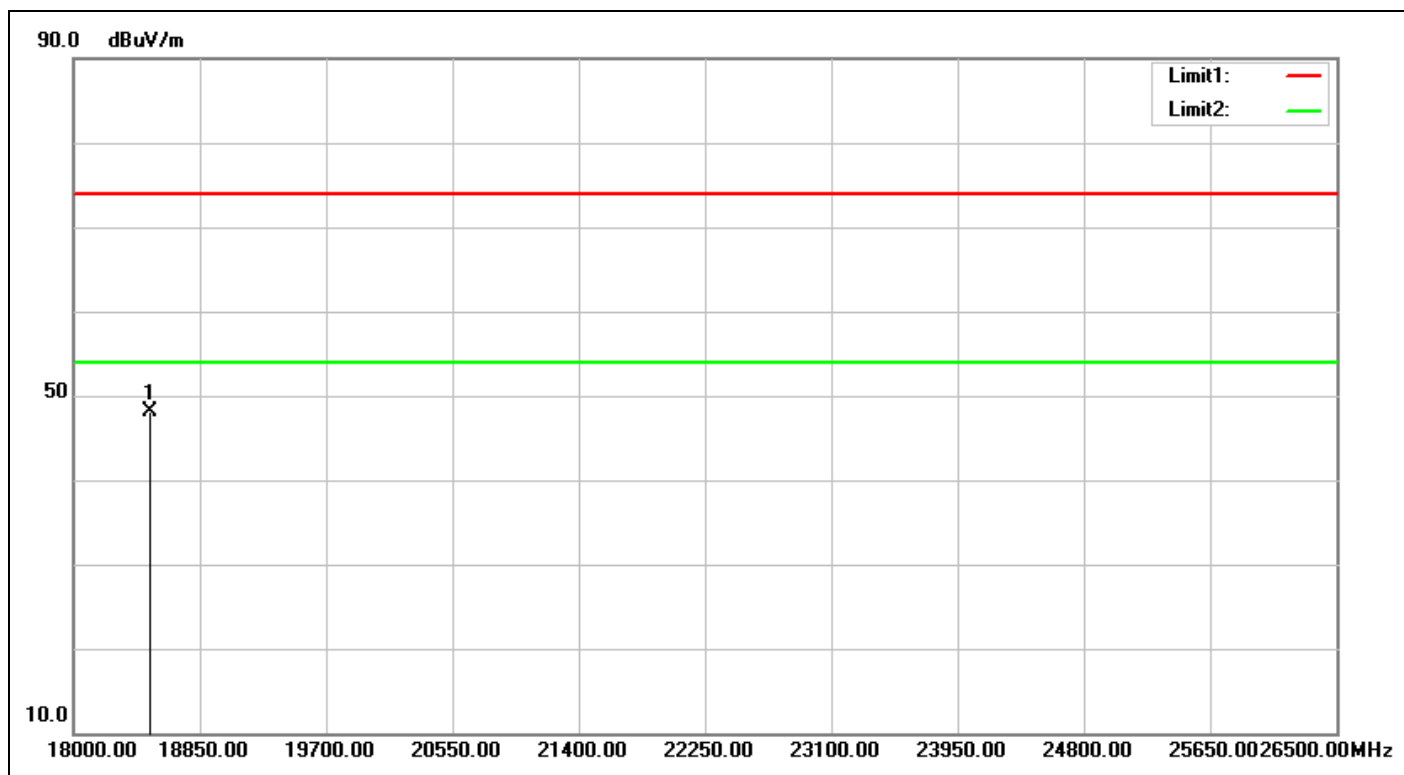
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:13:21
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20142.000	30.68	17.53	48.21	74.00	-25.79	peak	100	130	



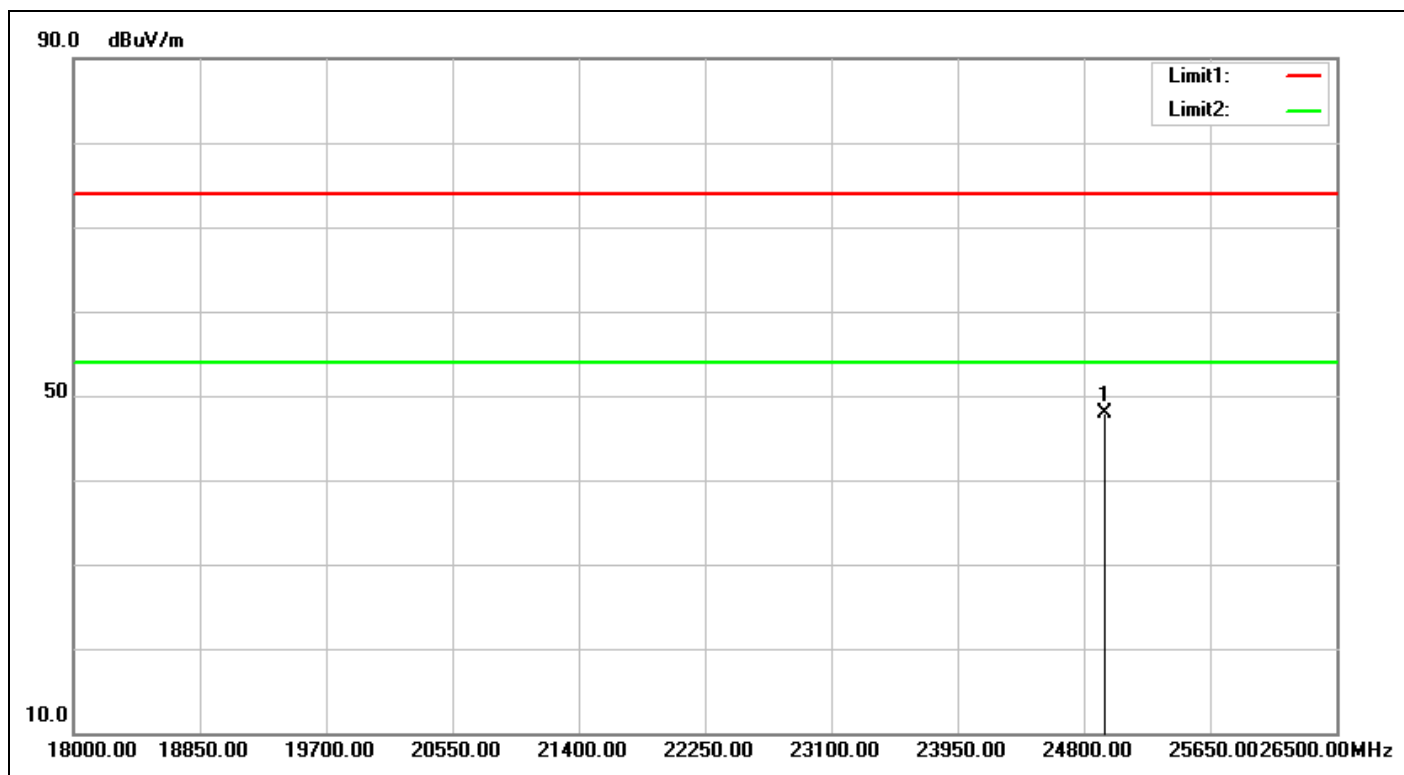
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:13:34
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20422.500	30.90	17.99	48.89	74.00	-25.11	peak	100	12	



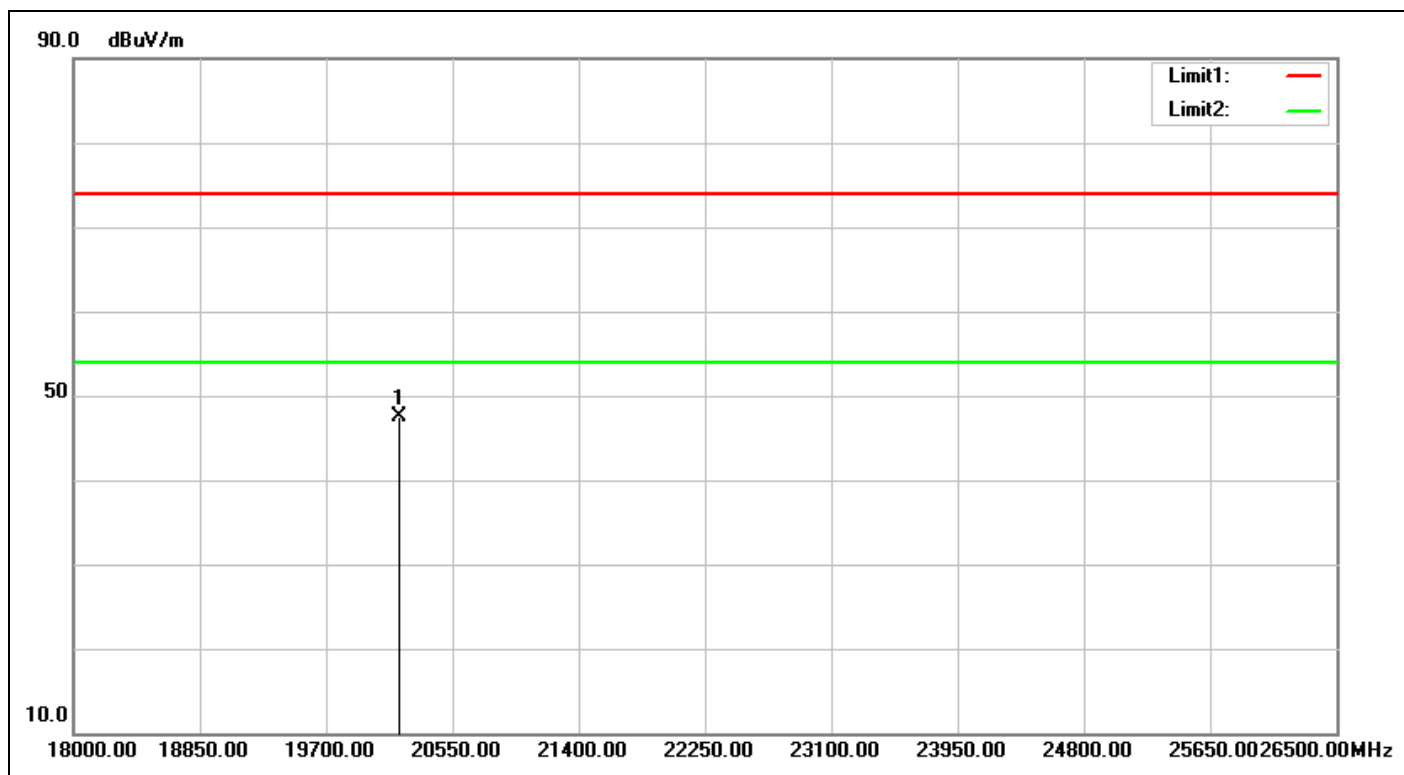
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:14:01
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	18510.000	28.30	19.76	48.06	74.00	-25.94	peak	100	191	



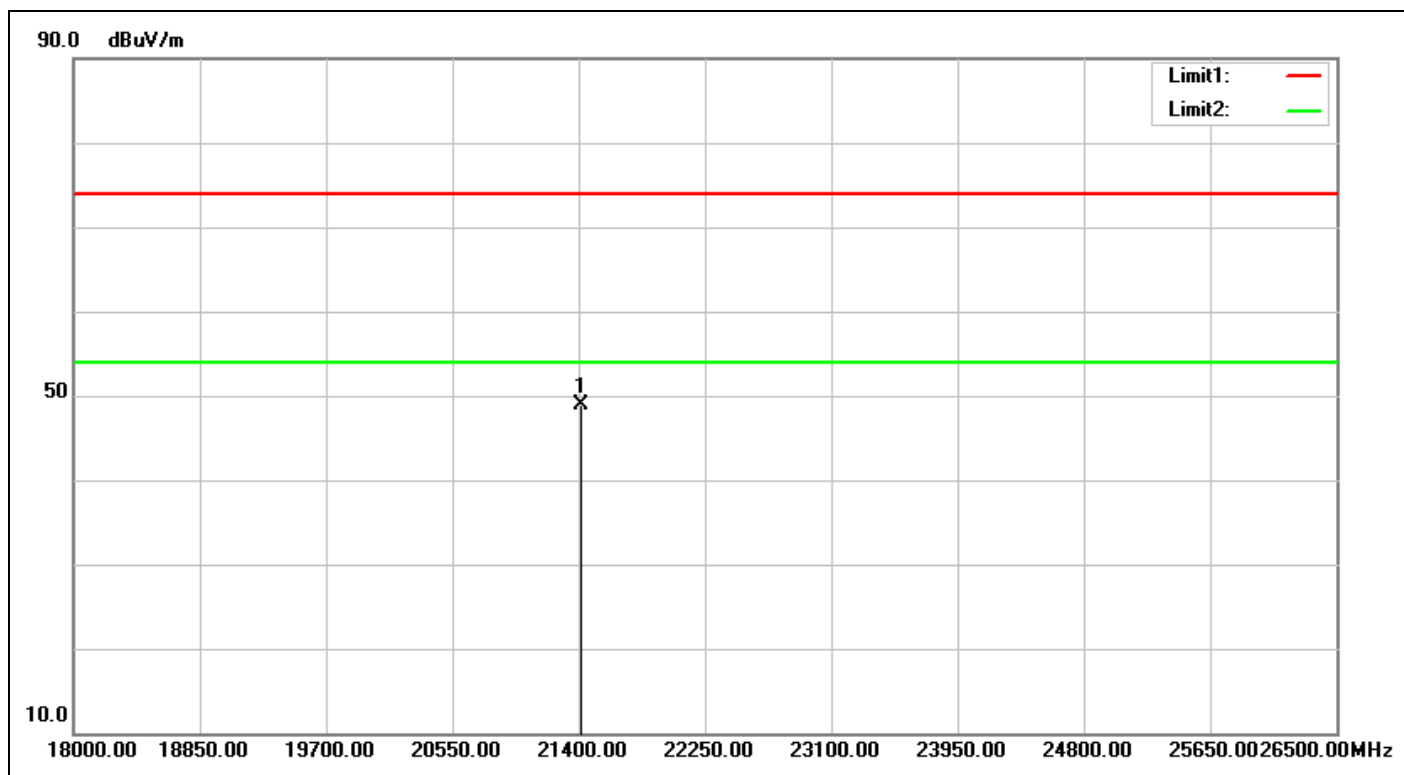
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:14:12
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	24936.000	33.08	14.87	47.95	74.00	-26.05	peak	100	185	



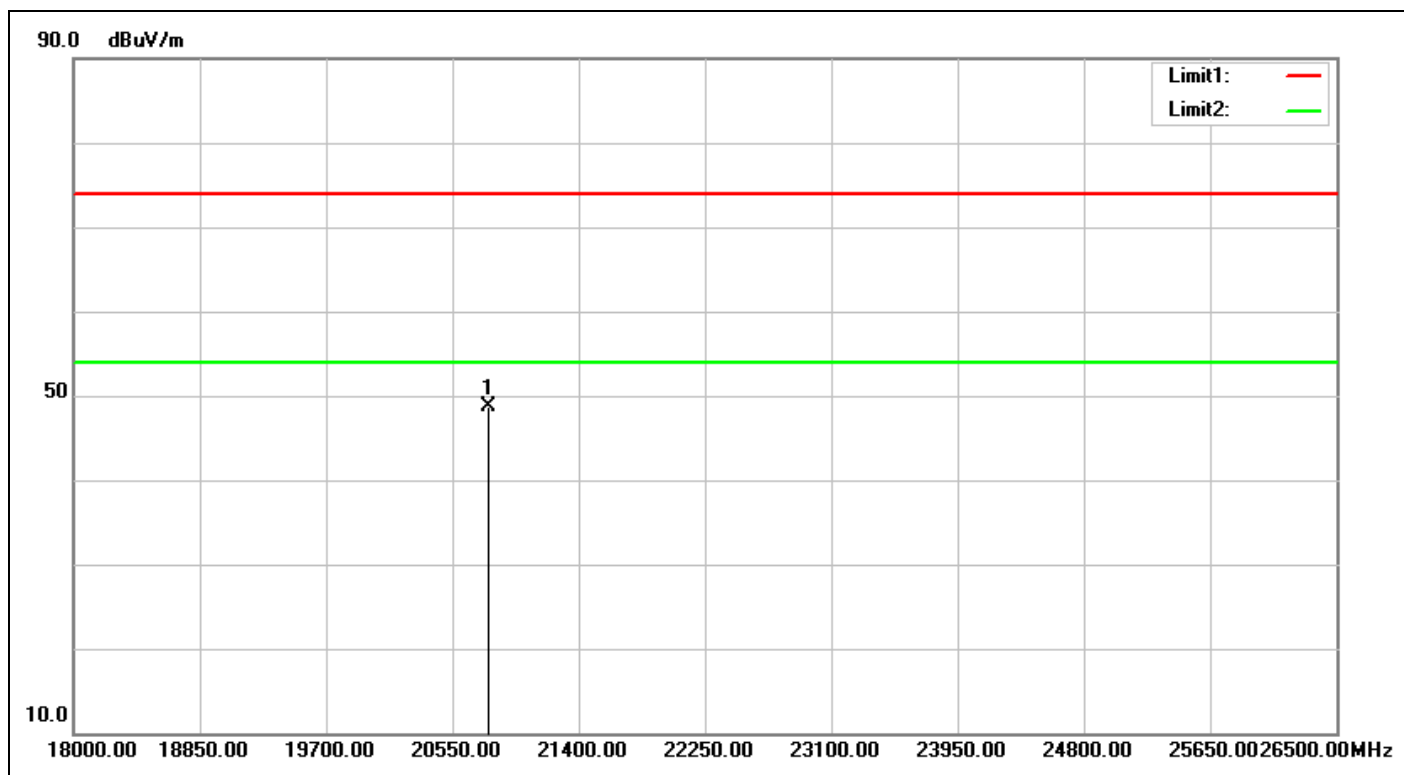
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:14:33
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20193.000	30.73	16.76	47.49	74.00	-26.51	peak	100	277	



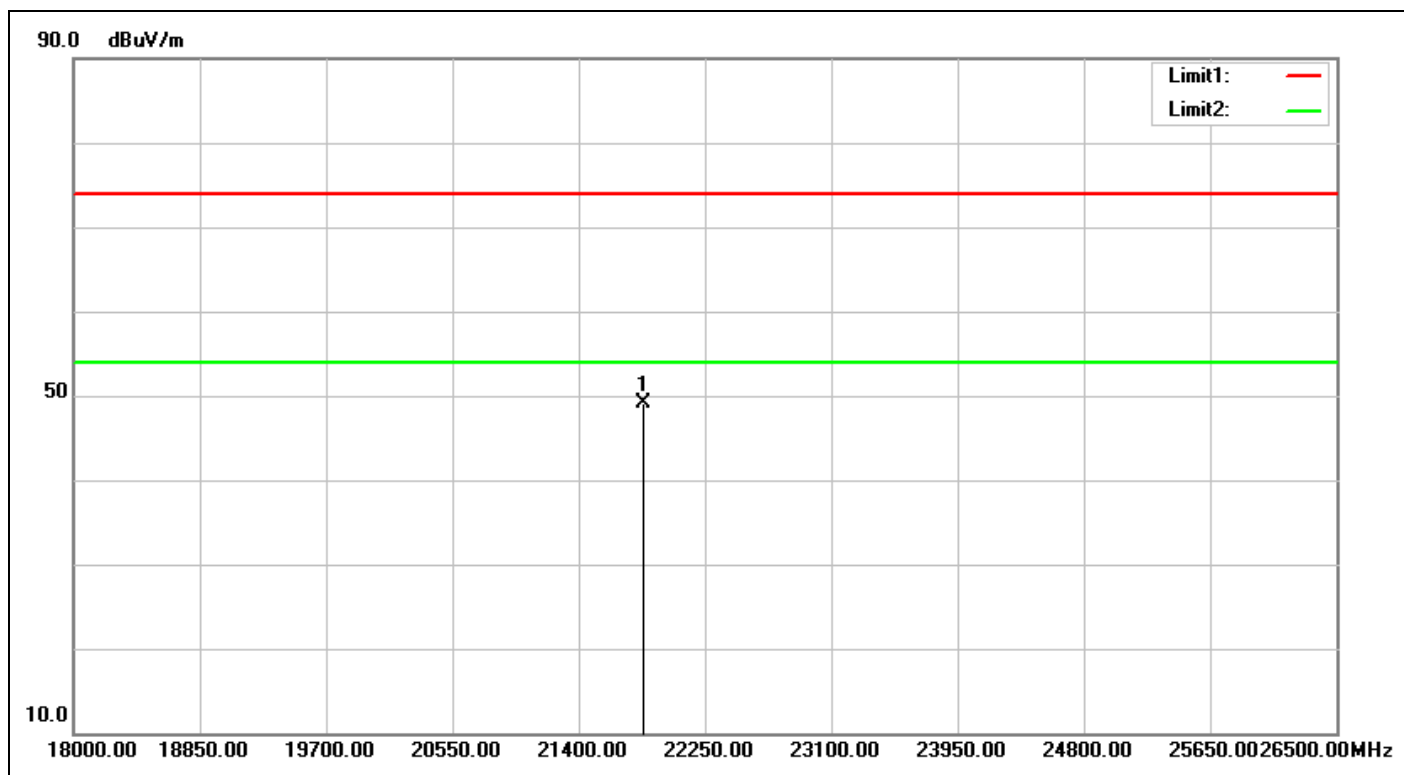
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:14:46
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21417.000	31.91	17.01	48.92	74.00	-25.08	peak	100	203	



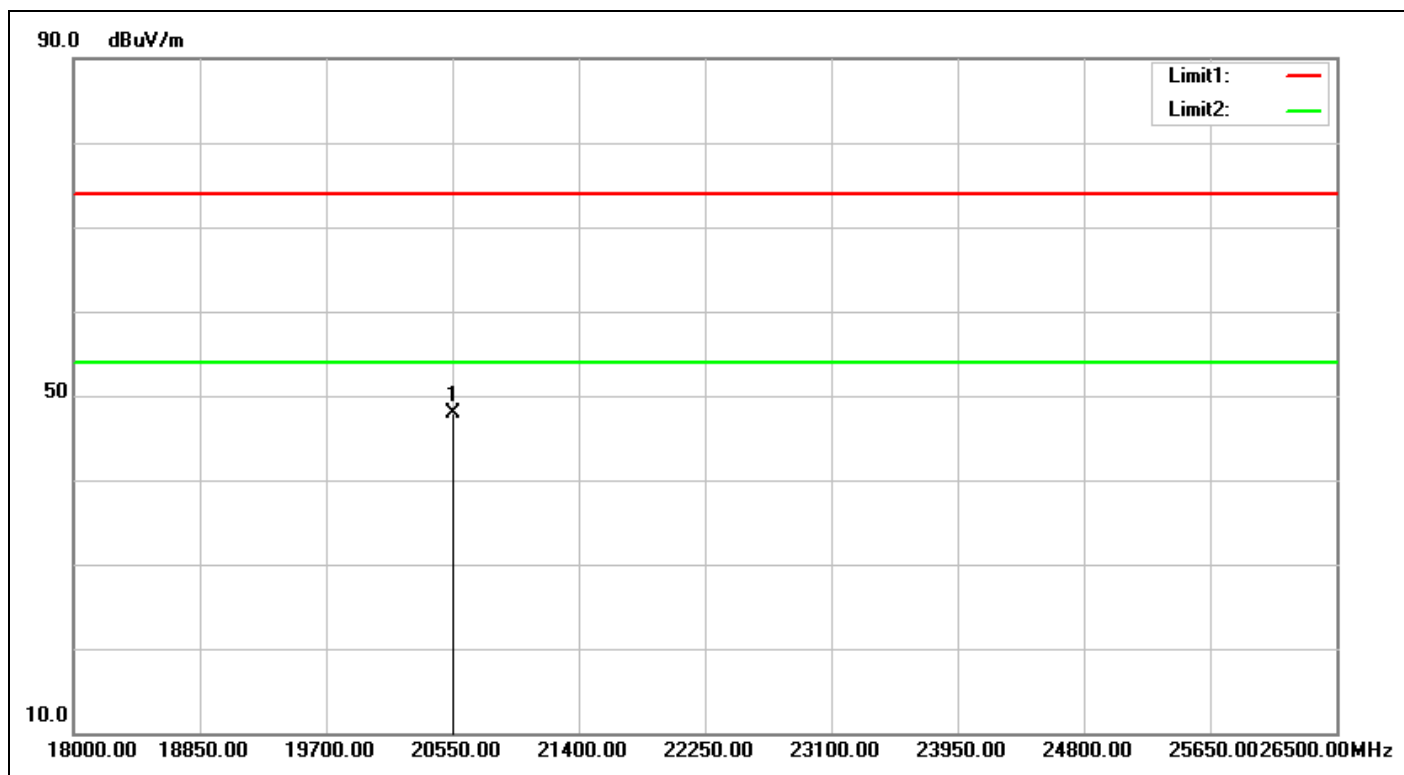
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:15:17
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20788.000	31.15	17.58	48.73	74.00	-25.27	peak	100	157	



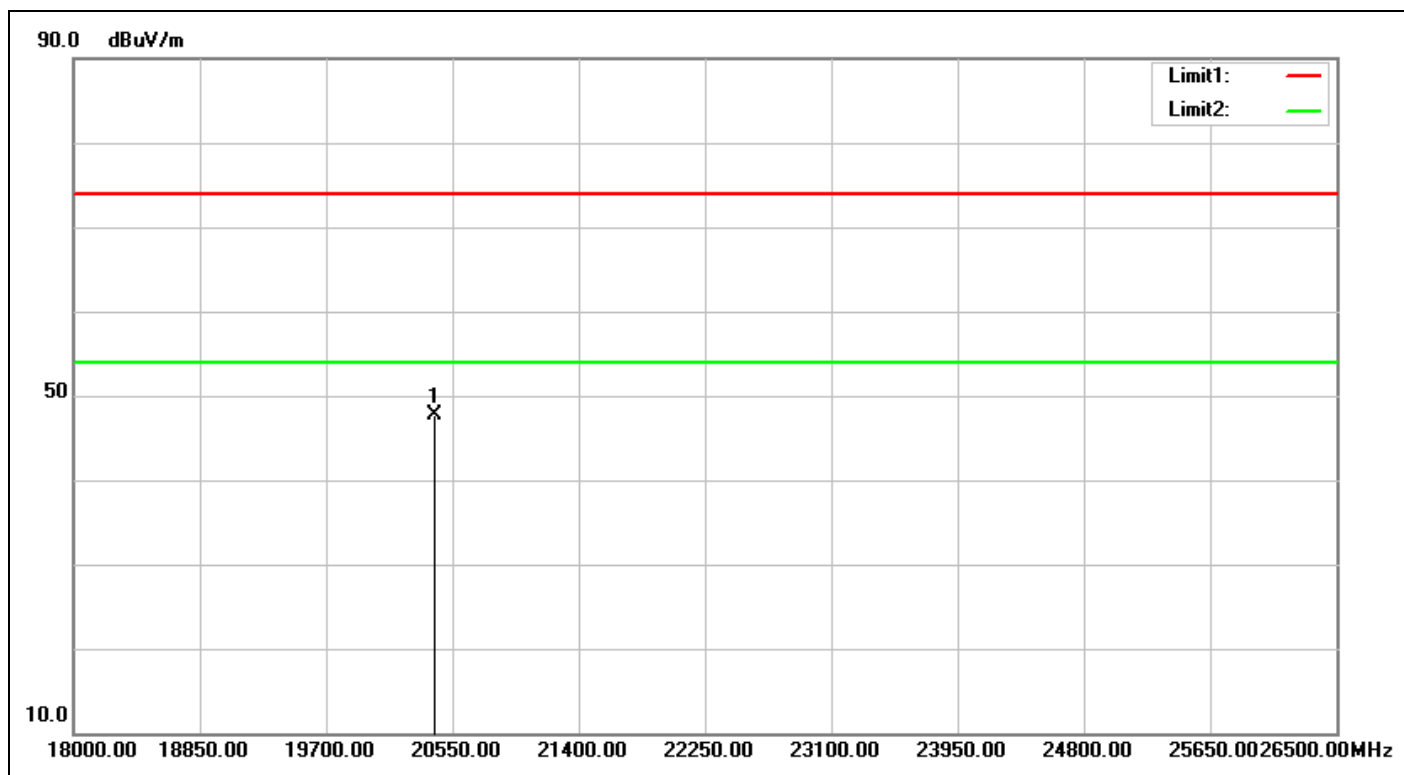
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:15:29
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21833.500	32.40	16.80	49.20	74.00	-24.80	peak	100	138	



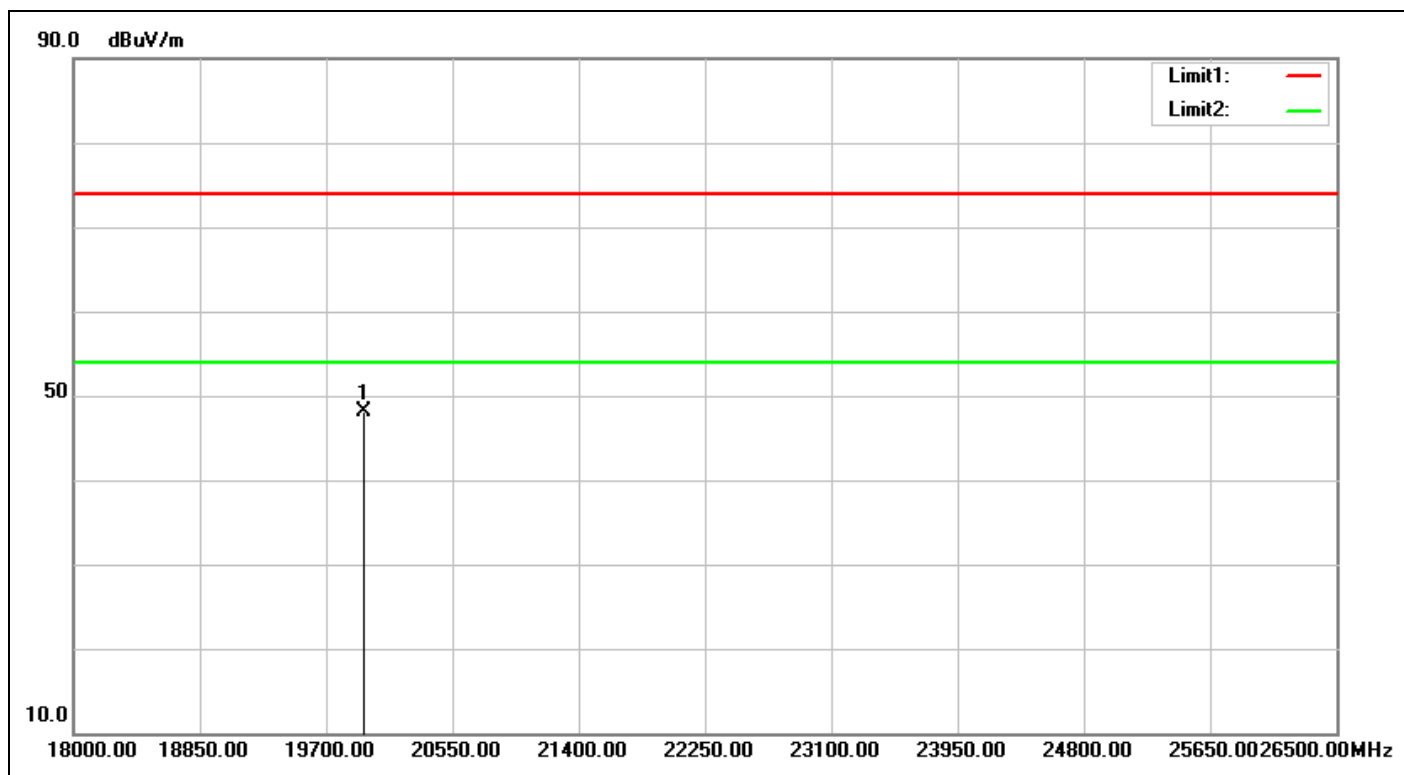
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:15:52
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20558.500	30.99	16.84	47.83	74.00	-26.17	peak	100	175	



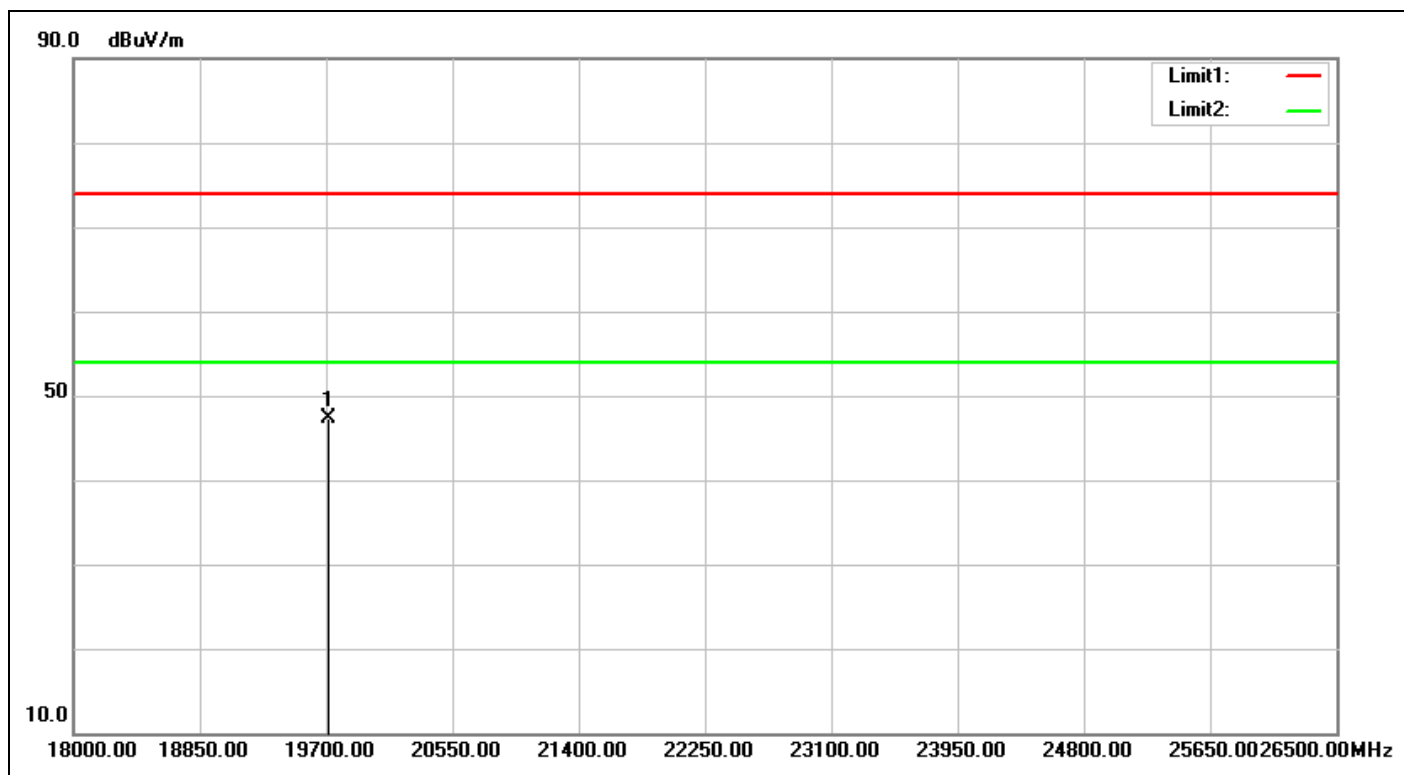
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:16:03
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20431.000	30.91	16.79	47.70	74.00	-26.30	peak	100	223	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:17:19
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19955.000	30.52	17.52	48.04	74.00	-25.96	peak	100	166	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:17:31
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19717.000	30.27	17.04	47.31	74.00	-26.69	peak	100	194	

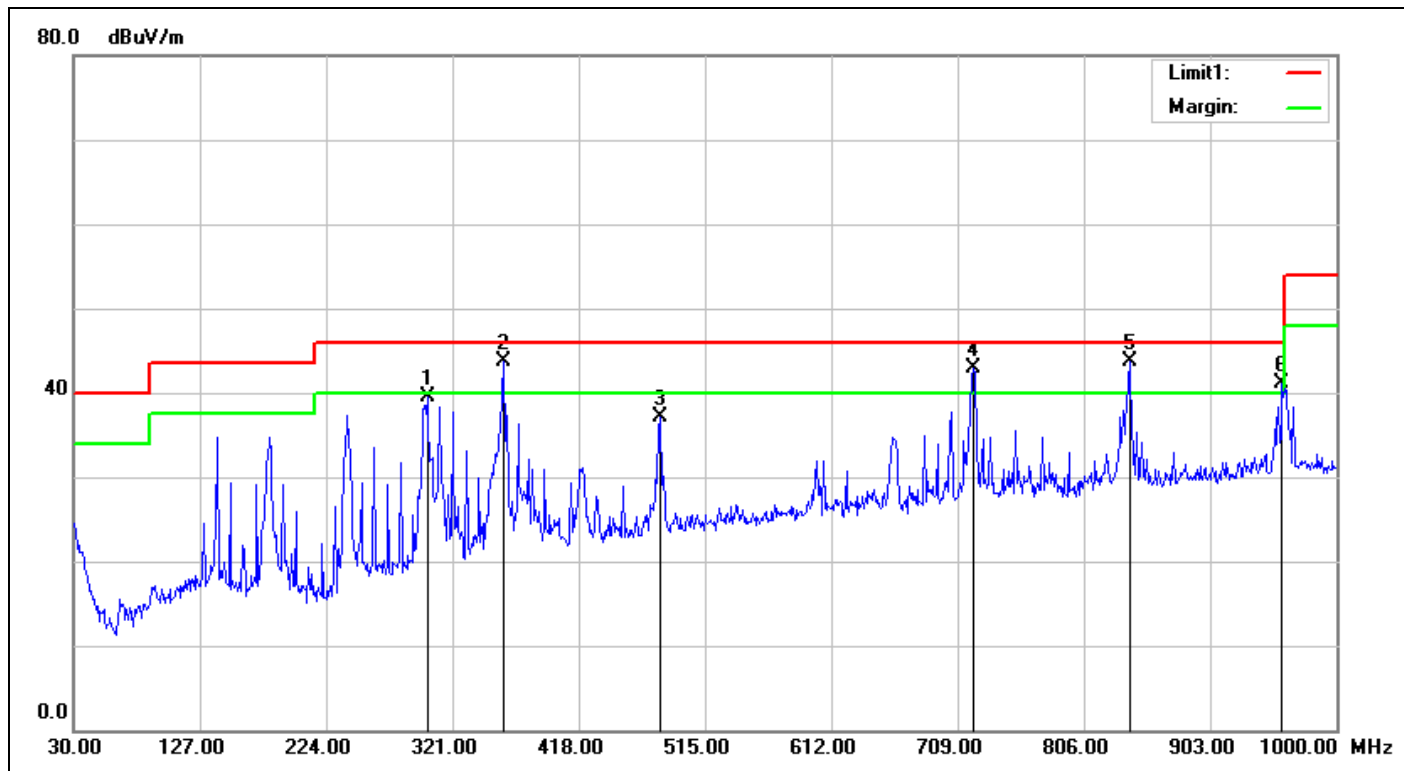
Spurious Emissions, TX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

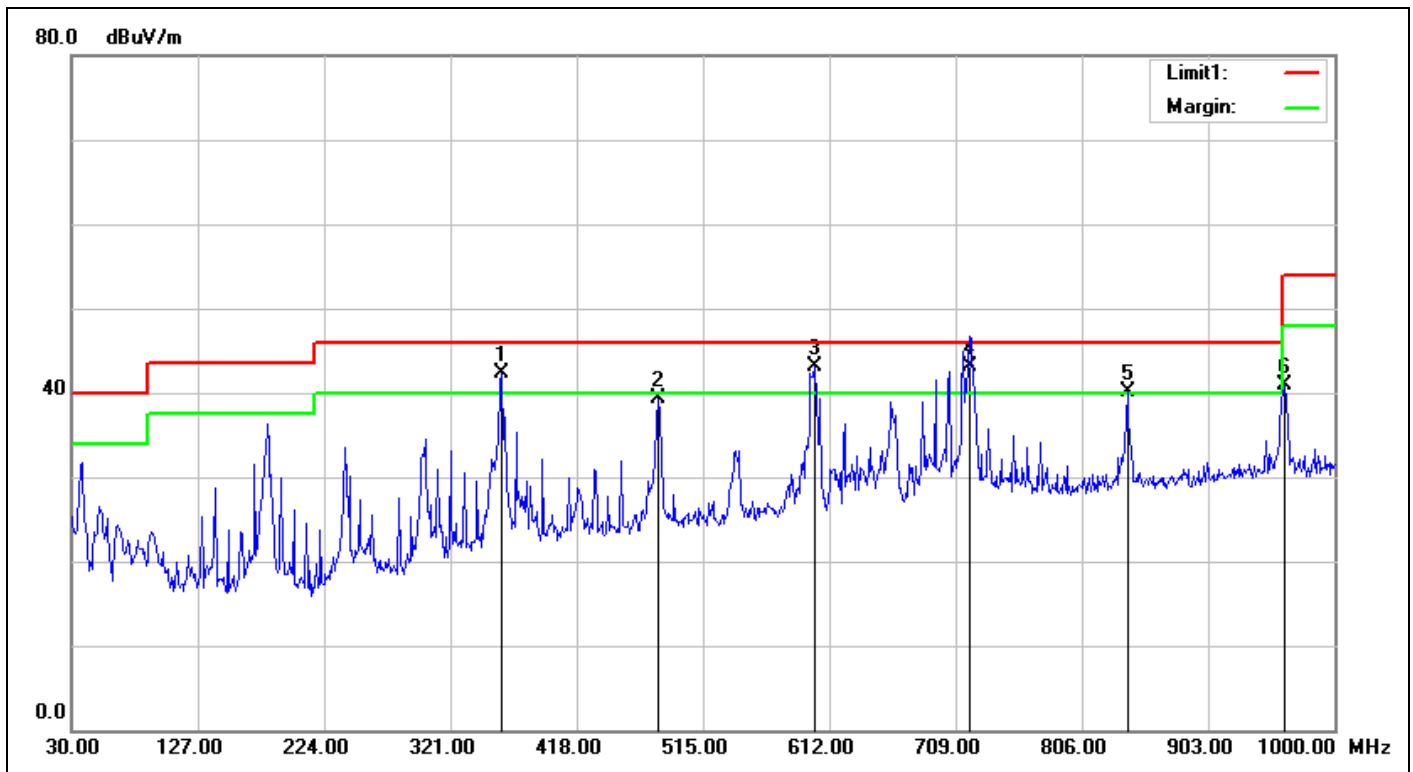
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 16:38:02
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	301.6000	-4.52	44.02	39.50	46.00	-6.50	QP	100	228	
2	359.8000	-3.16	46.81	43.65	46.00	-2.35	QP	100	207	
3	481.0500	-1.46	38.47	37.01	46.00	-8.99	QP	100	188	
4	721.6100	1.74	41.23	42.97	46.00	-3.03	QP	100	239	
5	840.9200	3.54	40.16	43.70	46.00	-2.30	QP	100	113	
6	958.2900	5.53	35.66	41.19	46.00	-4.81	QP	100	103	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 16:39:05
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	359.8000	-3.16	45.43	42.27	46.00	-3.73	QP	100	18	
2	481.0500	-1.46	40.76	39.30	46.00	-6.70	QP	100	152	
3	600.3600	0.08	43.08	43.16	46.00	-2.84	QP	100	297	
4	719.6700	1.70	41.50	43.20	46.00	-2.80	QP	100	198	
5	840.9200	3.54	36.52	40.06	46.00	-5.94	QP	100	144	
6	961.2000	5.54	35.28	40.82	54.00	-13.18	QP	100	165	

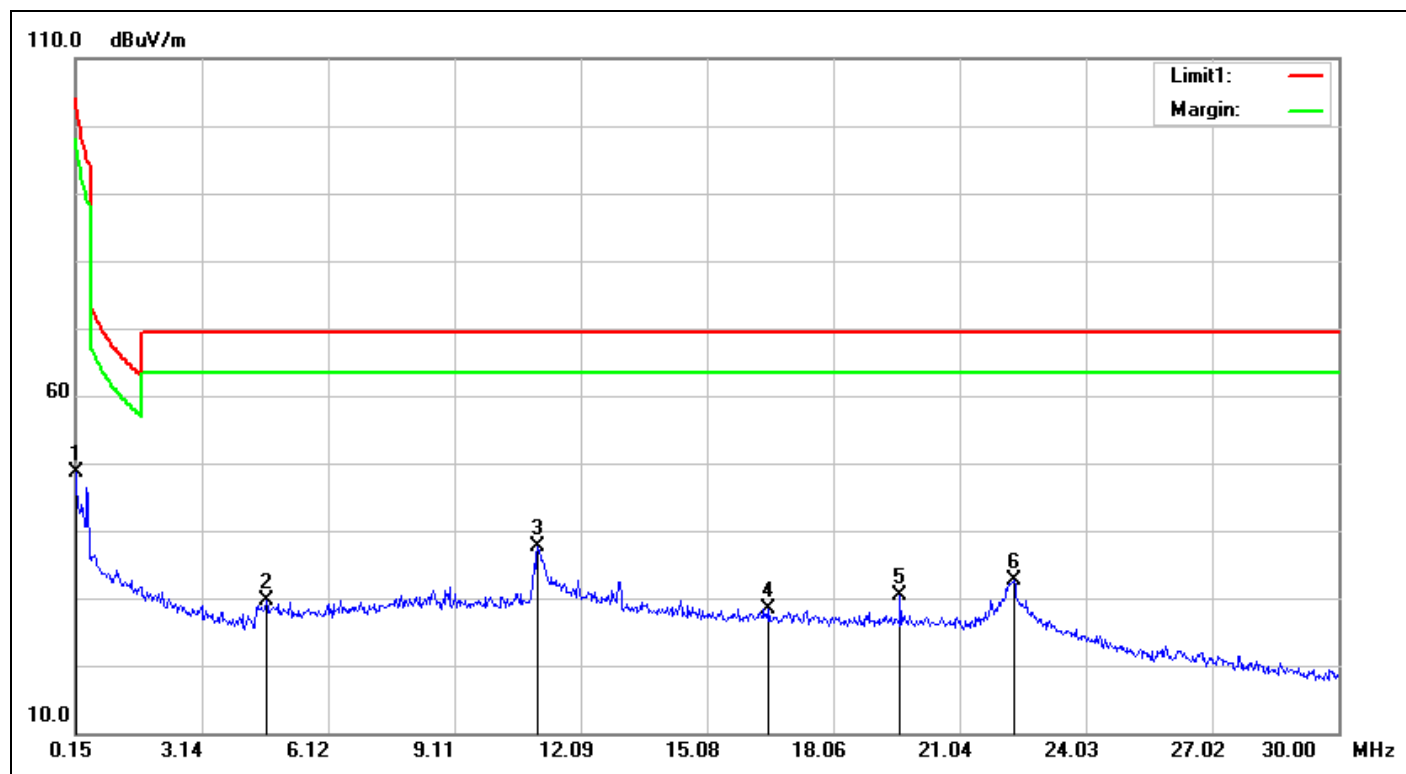
Spurious Emissions, TX Mode, 150K-30M



TUV Rheinland Taiwan Ltd.

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

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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 17:17:04
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1500	19.08	29.51	48.59	104.08	-55.49	QP	100	183	
2	4.6573	19.54	10.03	29.57	69.50	-39.93	QP	100	280	
3	11.0751	20.41	17.17	37.58	69.50	-31.92	QP	100	255	
4	16.5376	21.37	7.05	28.42	69.50	-41.08	QP	100	72	
5	19.6420	21.92	8.47	30.39	69.50	-39.11	QP	100	263	
6	22.3285	22.14	10.39	32.53	69.50	-36.97	QP	100	158	

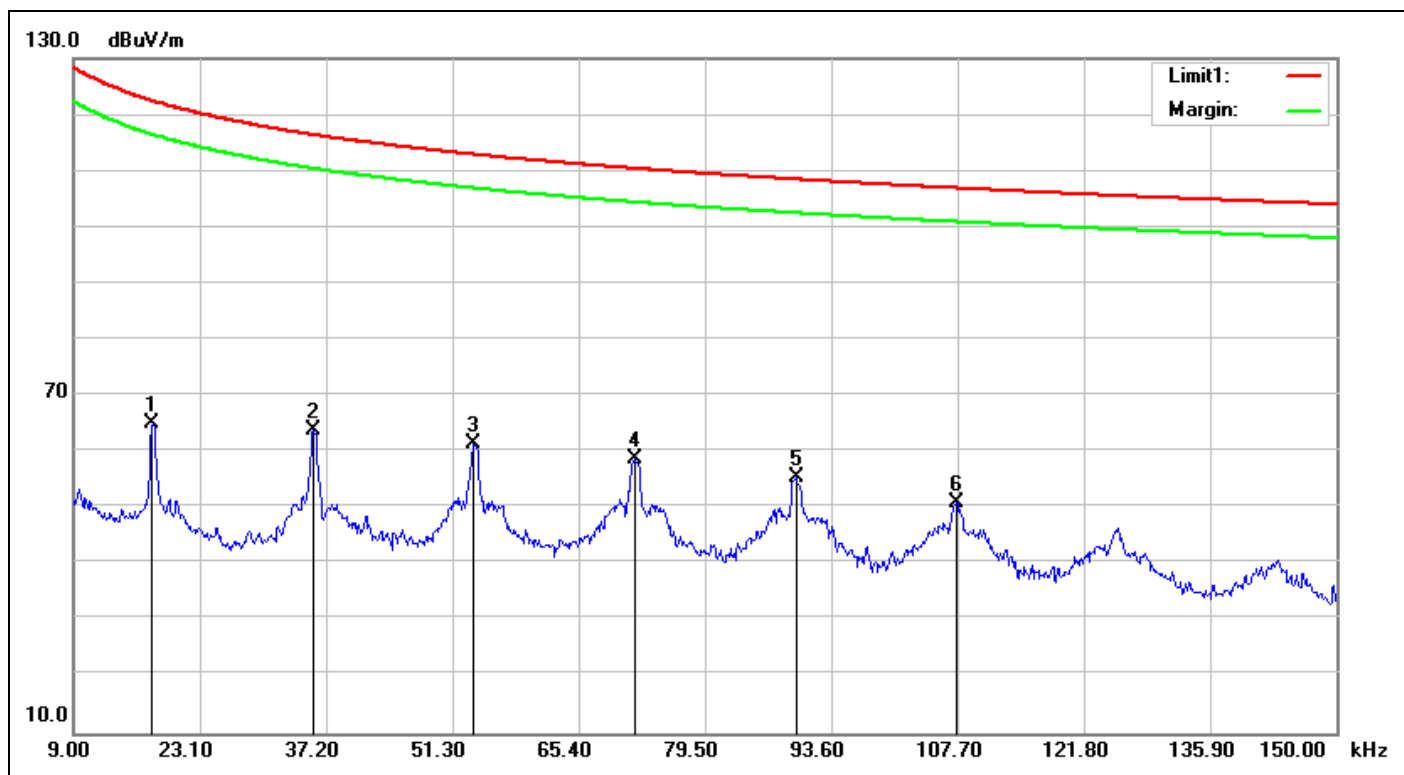
Spurious Emissions, TX Mode, 9K-150K



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.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 15:55:01
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0177	20.01	44.91	64.92	122.47	-57.55	QP	100	176	
2	0.0357	19.93	43.80	63.73	116.41	-52.68	QP	100	179	
3	0.0536	19.41	42.01	61.42	112.90	-51.48	QP	100	181	
4	0.0717	19.30	39.33	58.63	110.39	-51.76	QP	100	173	
5	0.0896	19.19	36.15	55.34	108.47	-53.13	QP	100	173	
6	0.1075	19.12	31.90	51.02	106.89	-55.87	QP	100	173	

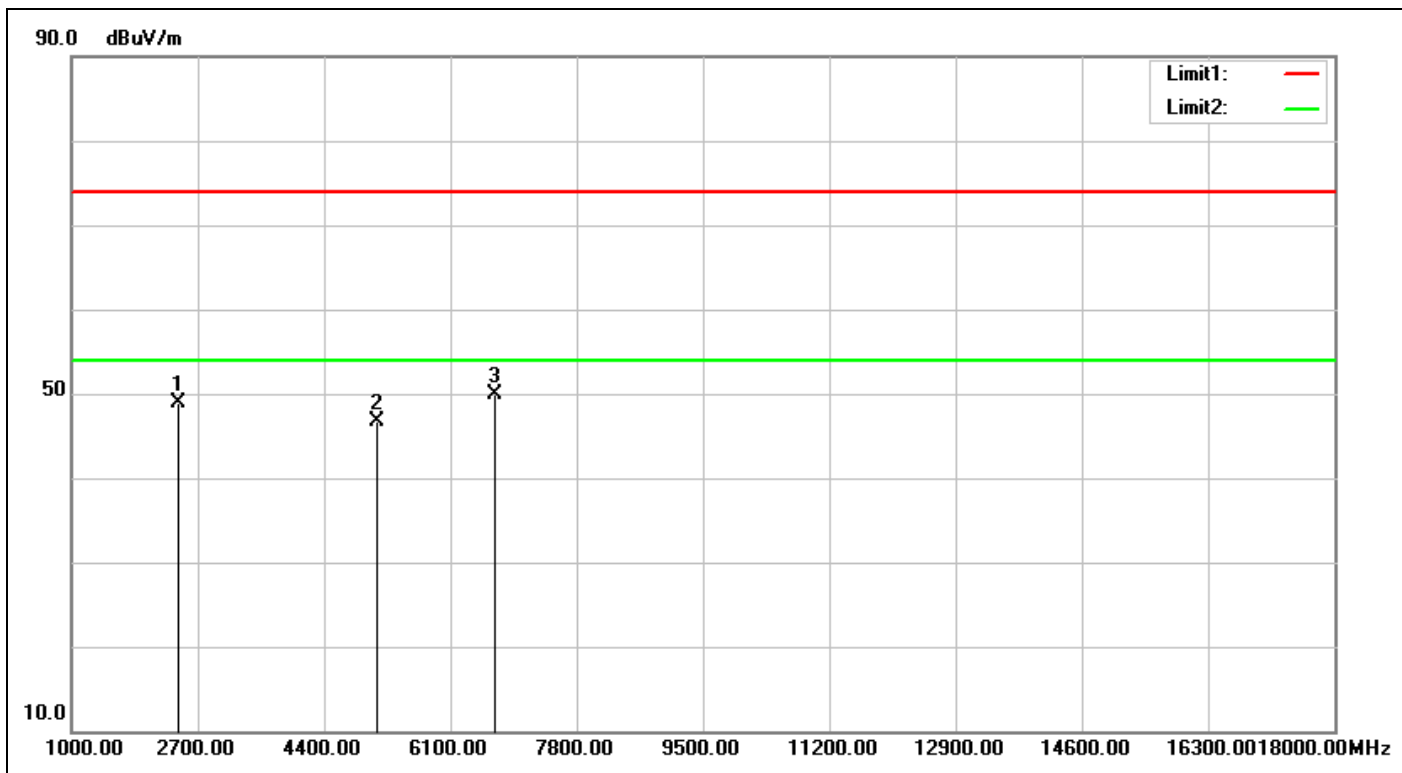
Spurious Emissions, RX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

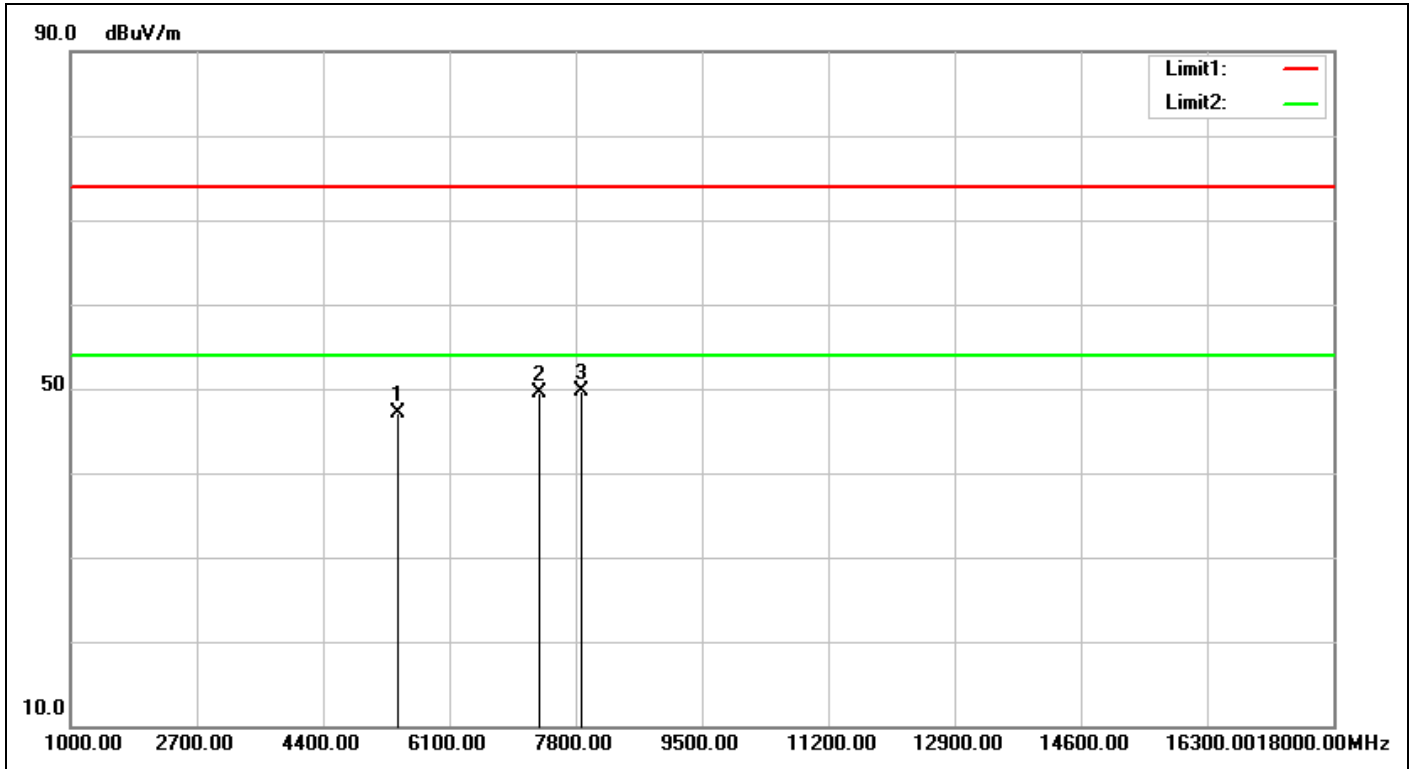
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 14:25:39
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2428.000	-4.06	53.06	49.00	74.00	-25.00	peak	100	1	
2	5114.000	3.02	43.65	46.67	74.00	-27.33	peak	100	145	
3	6695.000	4.31	45.58	49.89	74.00	-24.11	peak	100	151	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 14:26:41
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:		Temp.(°C)/Hum.(%) :	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	5403.000	3.34	43.67	47.01	74.00	-26.99	peak	100	135	
2	7307.000	3.67	45.83	49.50	74.00	-24.50	peak	100	126	
3	7885.000	3.62	46.03	49.65	74.00	-24.35	peak	100	217	

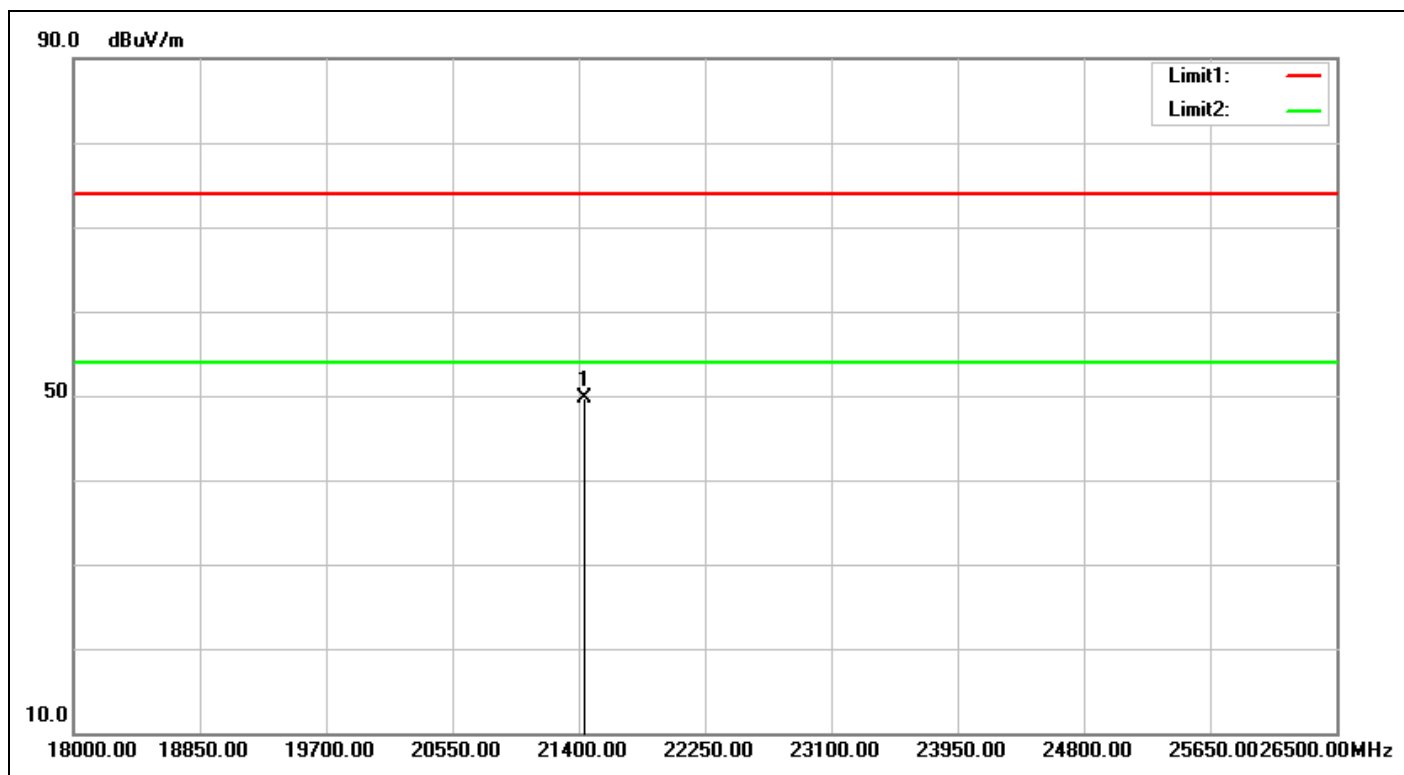
Spurious Emissions, RX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

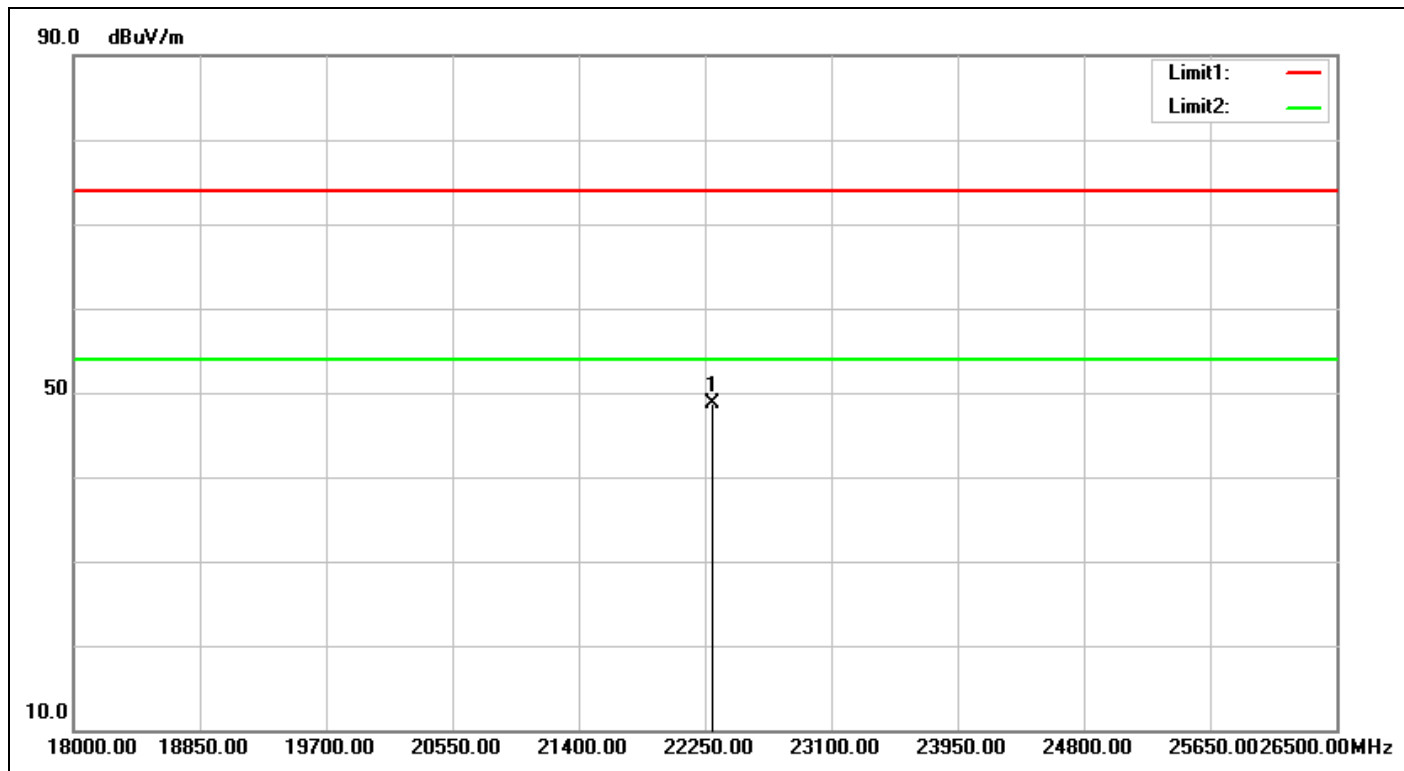
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:17:58
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-RX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21434.000	31.93	17.70	49.63	74.00	-24.37	peak	100	138	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:18:10
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-RX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22301.000	32.38	16.26	48.64	74.00	-25.36	peak	100	121	

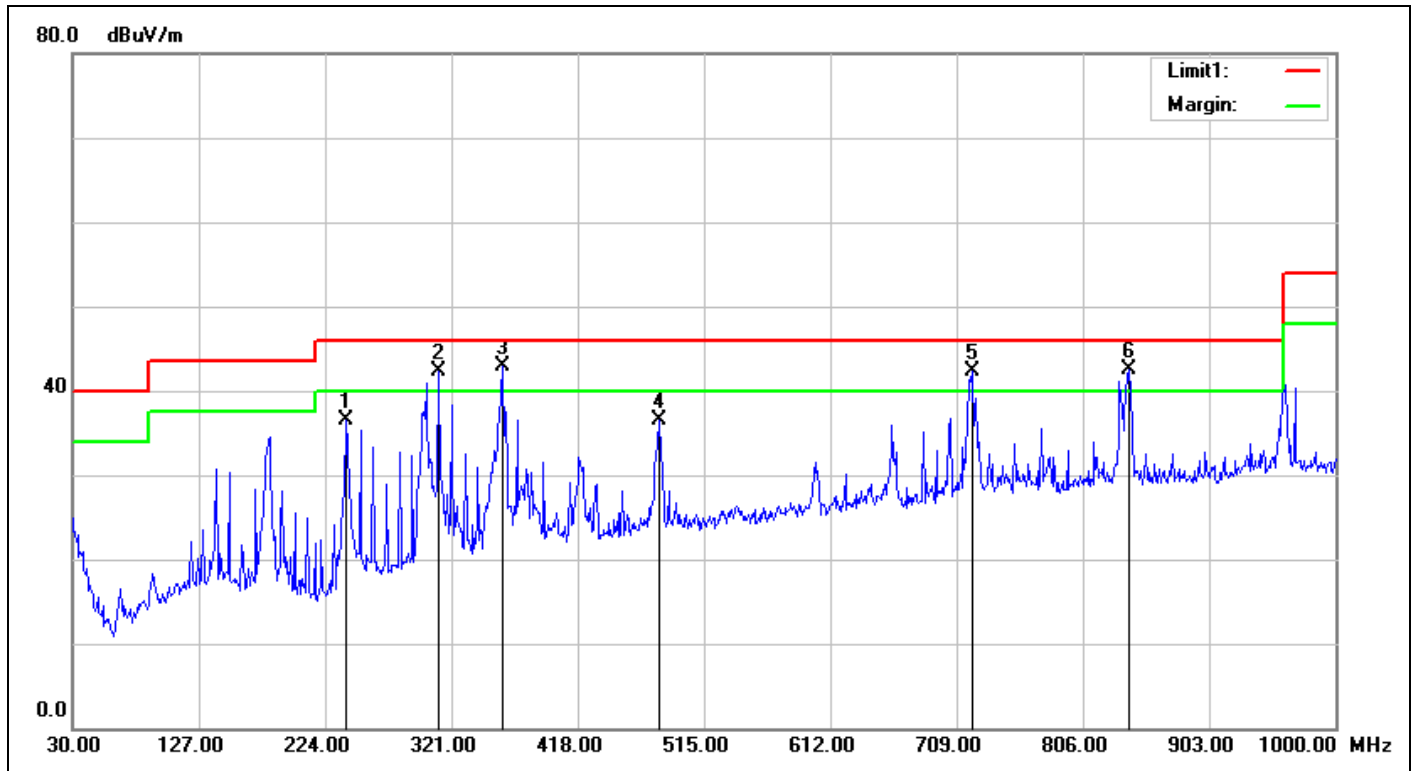
Spurious Emissions, RX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

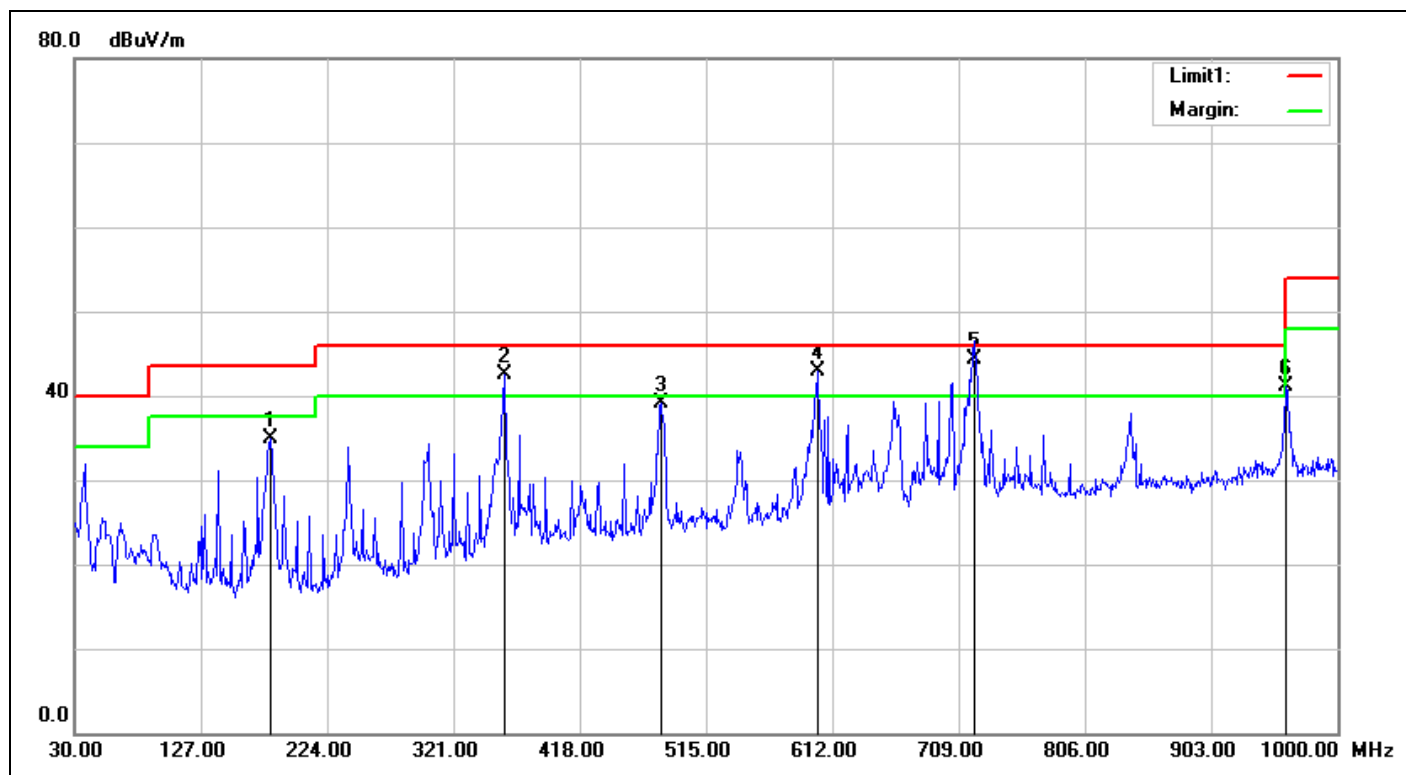
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 16:43:04
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	240.4900	-6.76	43.24	36.48	46.00	-9.52	QP	100	94	
2	311.3000	-4.29	46.68	42.39	46.00	-3.61	QP	100	241	
3	359.8000	-3.16	46.01	42.85	46.00	-3.15	QP	100	208	
4	480.0800	-1.47	38.01	36.54	46.00	-9.46	QP	100	198	
5	720.6400	1.72	40.65	42.37	46.00	-3.63	QP	100	244	
6	840.9200	3.54	38.99	42.53	46.00	-3.47	QP	100	115	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 16:44:07
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	180.3500	-9.63	44.50	34.87	43.50	-8.63	QP	100	108	
2	359.8000	-3.16	45.73	42.57	46.00	-3.43	QP	100	22	
3	480.0800	-1.47	40.53	39.06	46.00	-6.94	QP	100	359	
4	600.3600	0.08	42.82	42.90	46.00	-3.10	QP	100	298	
5	720.6400	1.72	42.59	44.31	46.00	-1.69	QP	100	50	
6	960.2300	5.54	35.59	41.13	54.00	-12.87	QP	100	171	

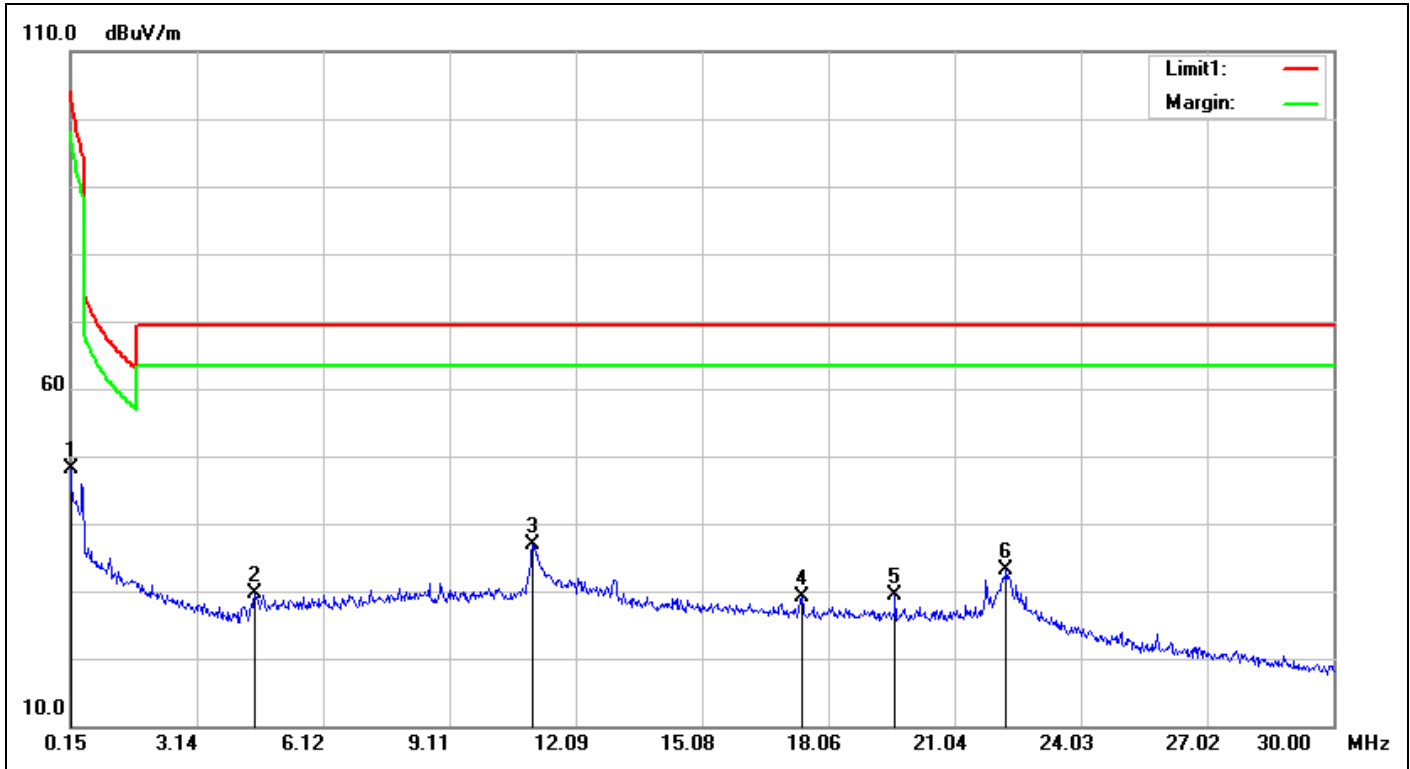
Spurious Emissions, RX Mode, 150K-30M



TUV Rheinland Taiwan Ltd.

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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 17:18:07
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFMTA331215IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1500	19.08	28.99	48.07	104.08	-56.01	QP	100	180	
2	4.5081	19.45	10.25	29.70	69.50	-39.80	QP	100	2	
3	11.0751	20.41	16.36	36.77	69.50	-32.73	QP	100	224	
4	17.4332	21.53	7.67	29.20	69.50	-40.30	QP	100	235	
5	19.6421	21.92	7.53	29.45	69.50	-40.05	QP	100	133	
6	22.2689	22.14	10.97	33.11	69.50	-36.39	QP	100	246	

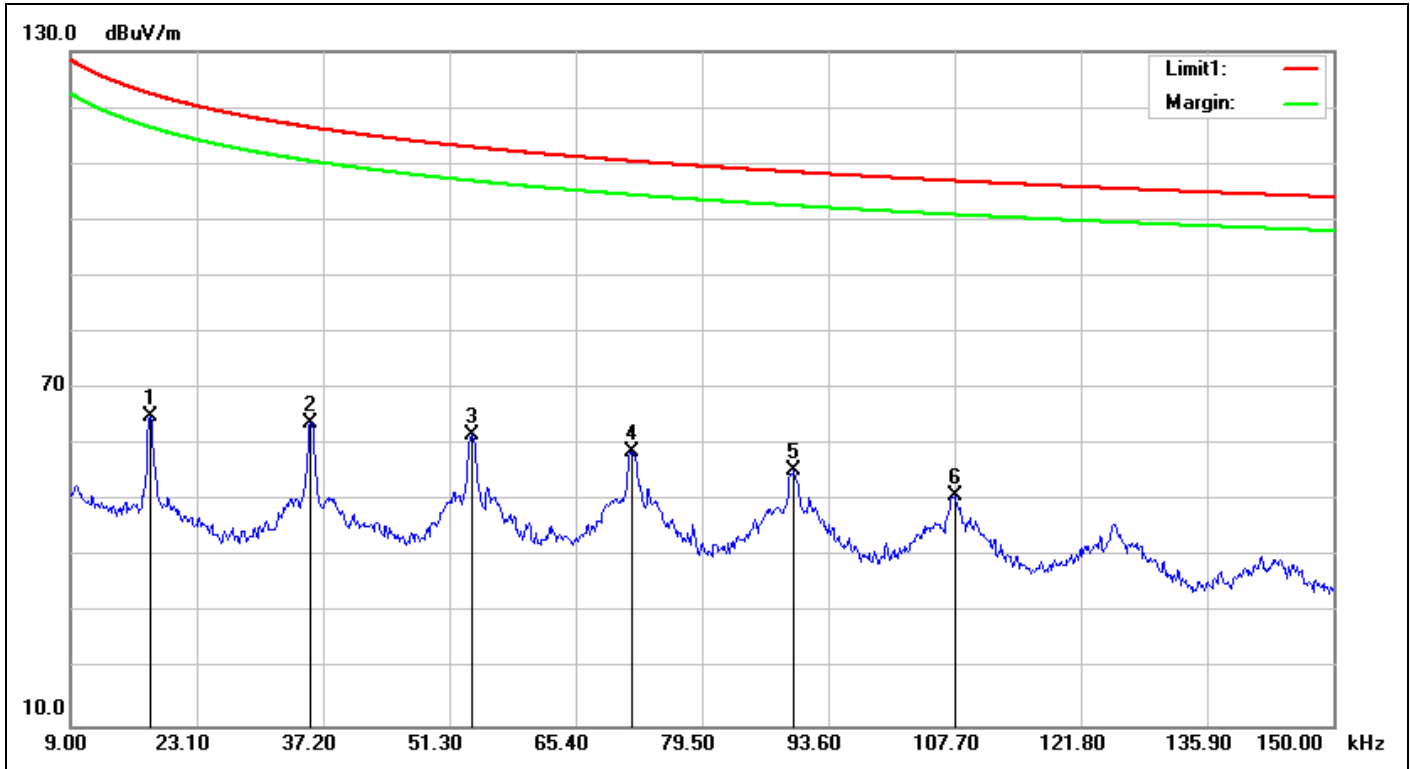
Spurious Emissions, RX Mode, 9K-150K



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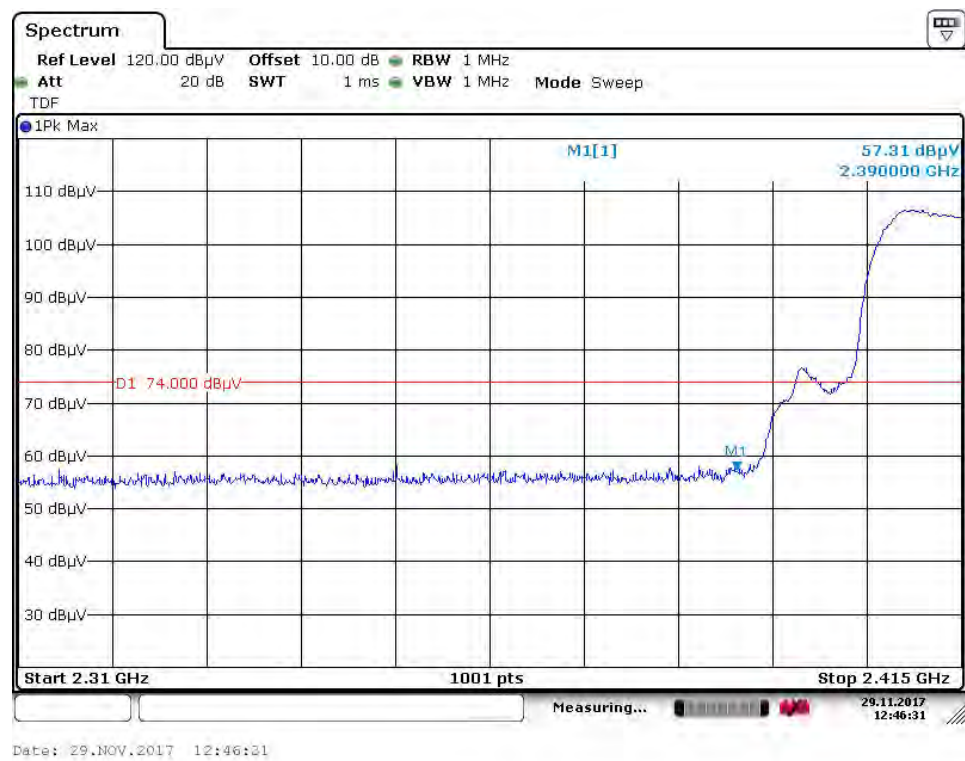


Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 15:56:05
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFMTA331215IMAB701		

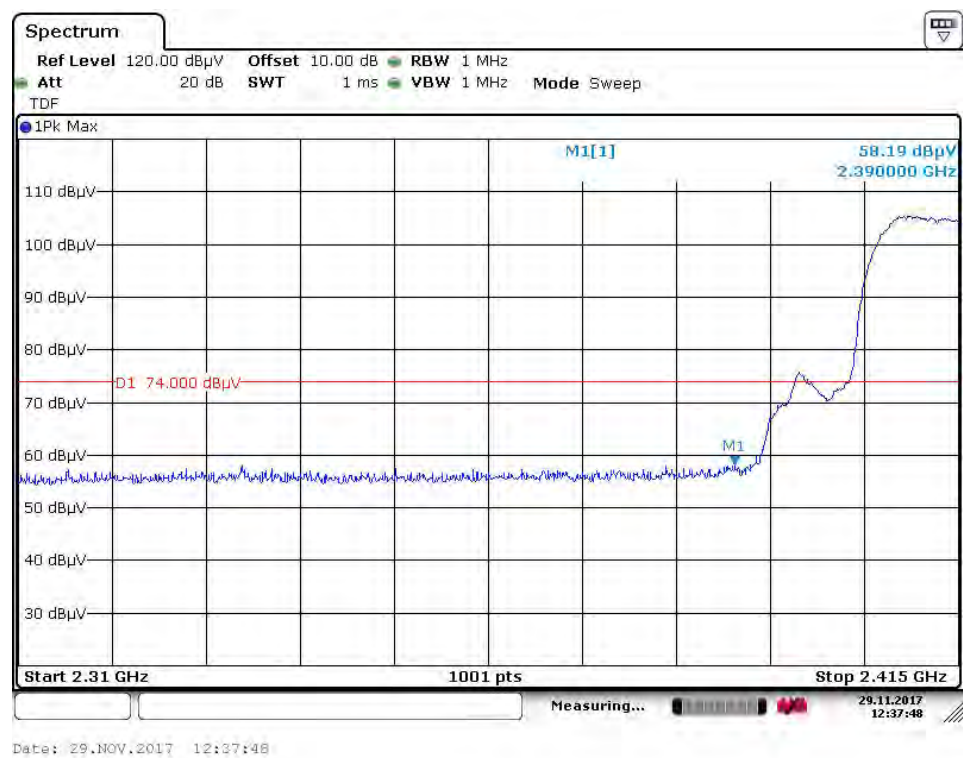
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0179	20.01	45.07	65.08	122.45	-57.37	QP	100	179	
2	0.0358	19.92	43.98	63.90	116.45	-52.55	QP	100	181	
3	0.0538	19.41	42.21	61.62	112.92	-51.30	QP	100	176	
4	0.0716	19.30	39.41	58.71	110.45	-51.74	QP	100	179	
5	0.0898	19.19	36.19	55.38	108.49	-53.11	QP	100	176	
6	0.1077	19.12	31.82	50.94	106.91	-55.97	QP	100	176	

Radiated Bandedge 11b

Low Channel (Hor)

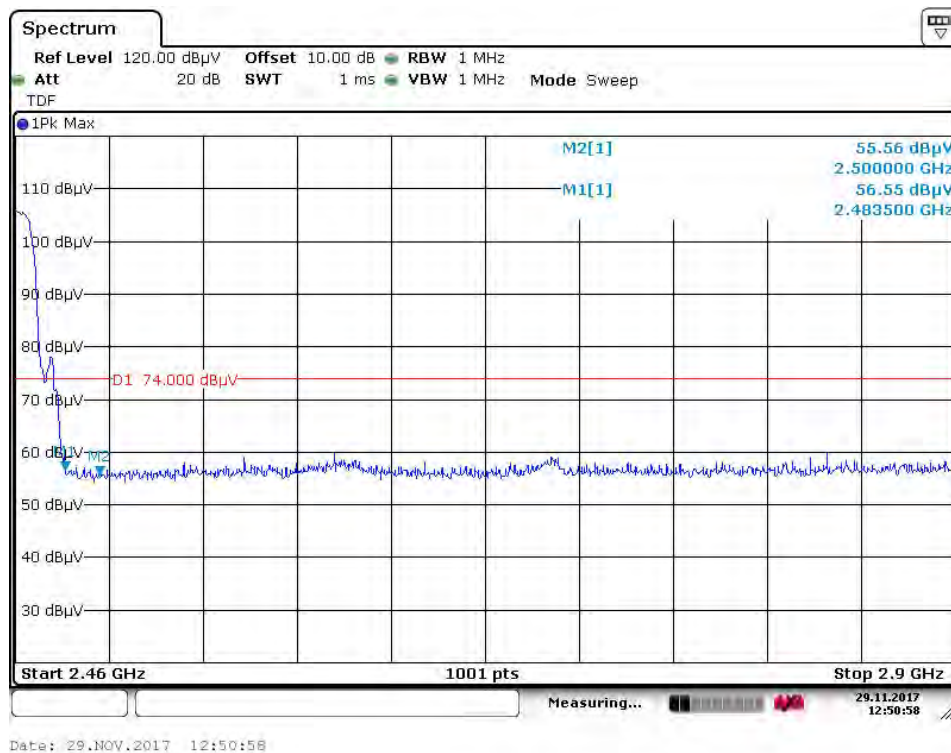
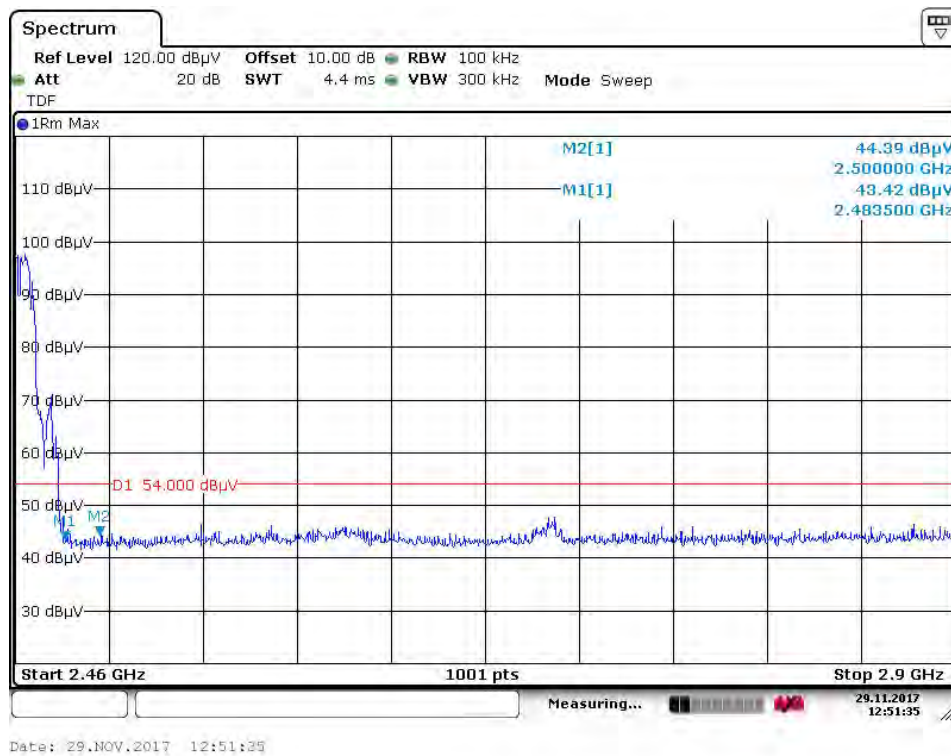


Low Channel (Ver)

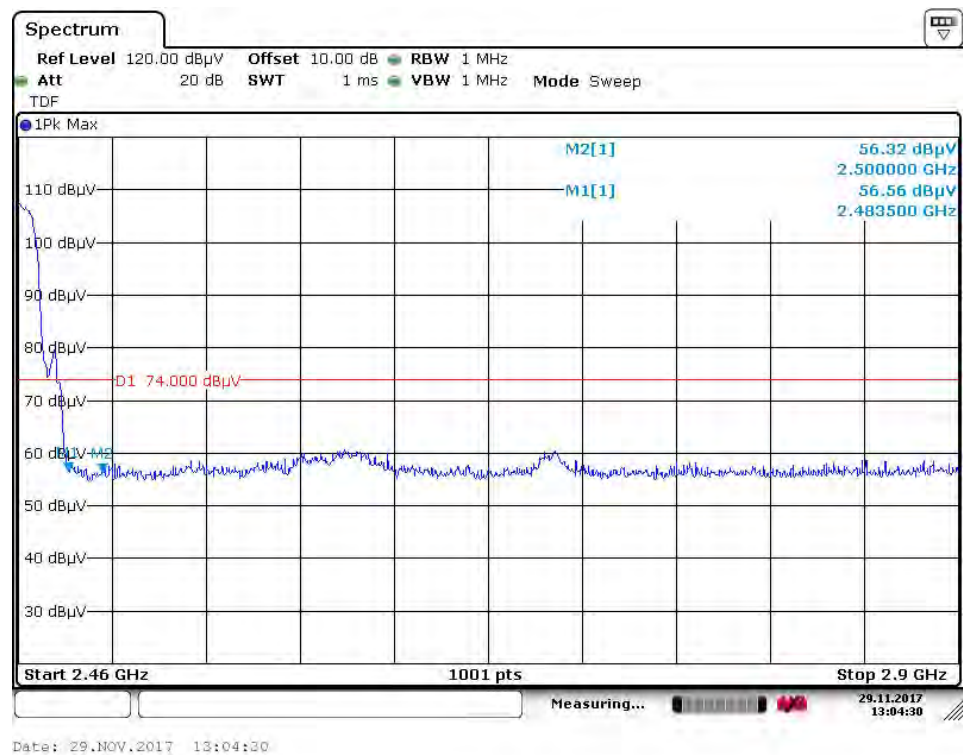
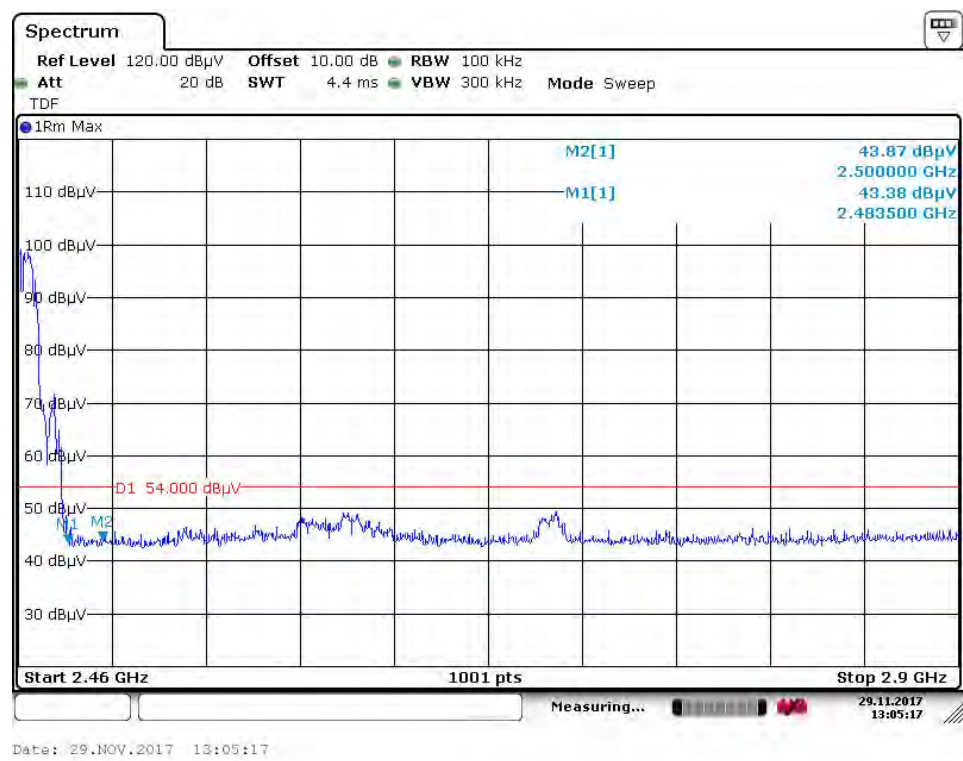


Radiated Bandedge 11b

High Channel (Hor)

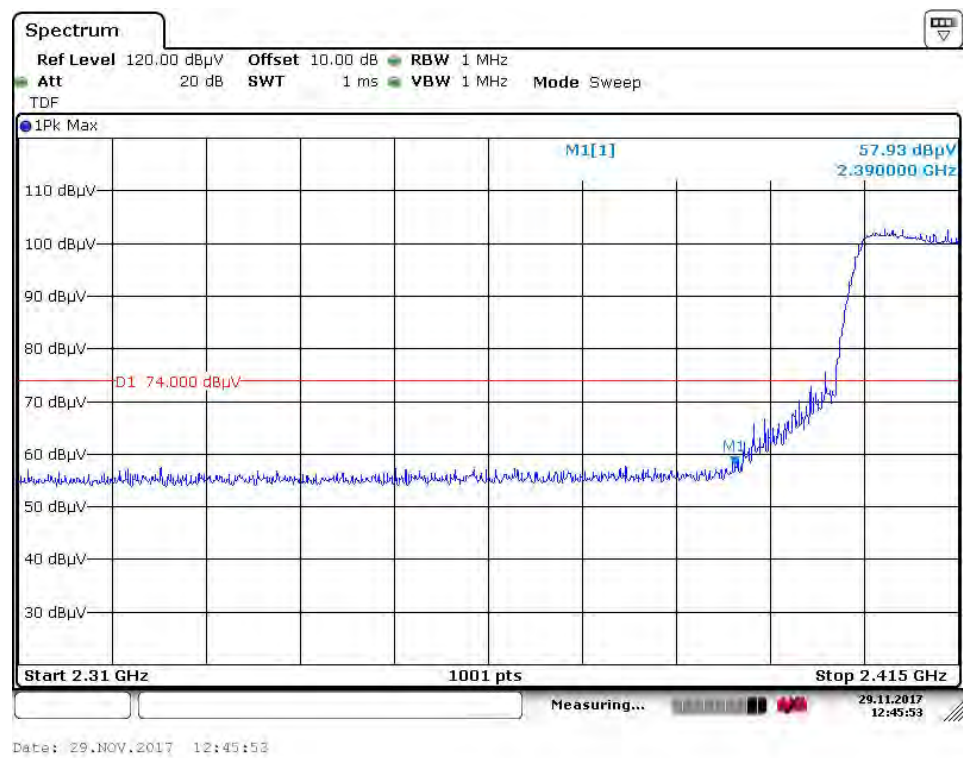
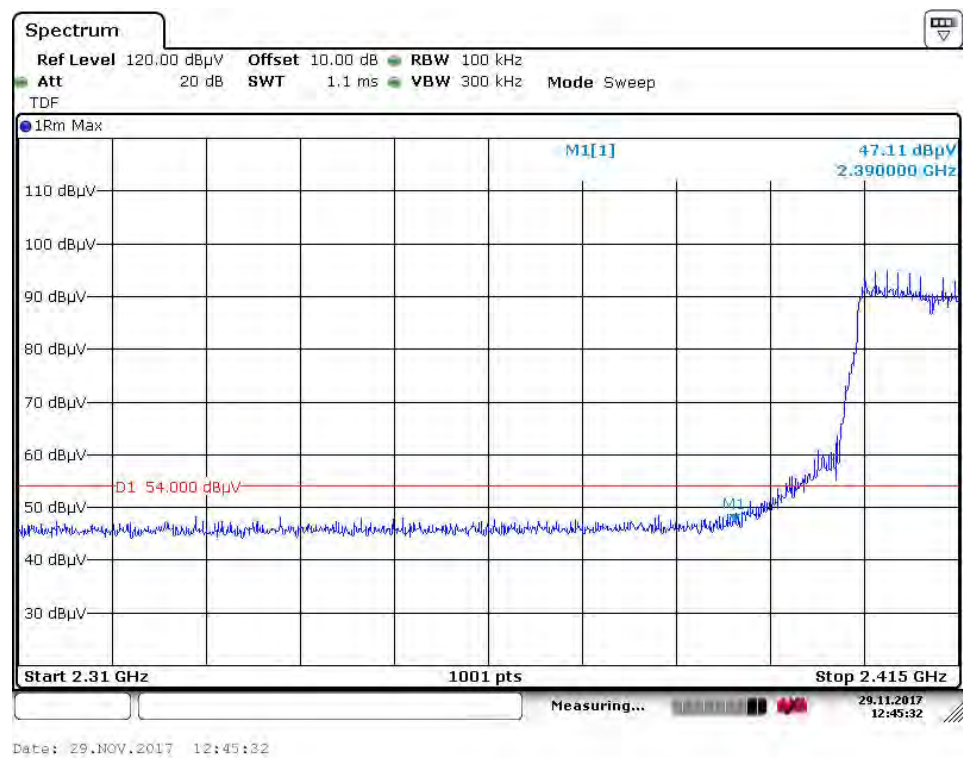


High Channel (Ver)

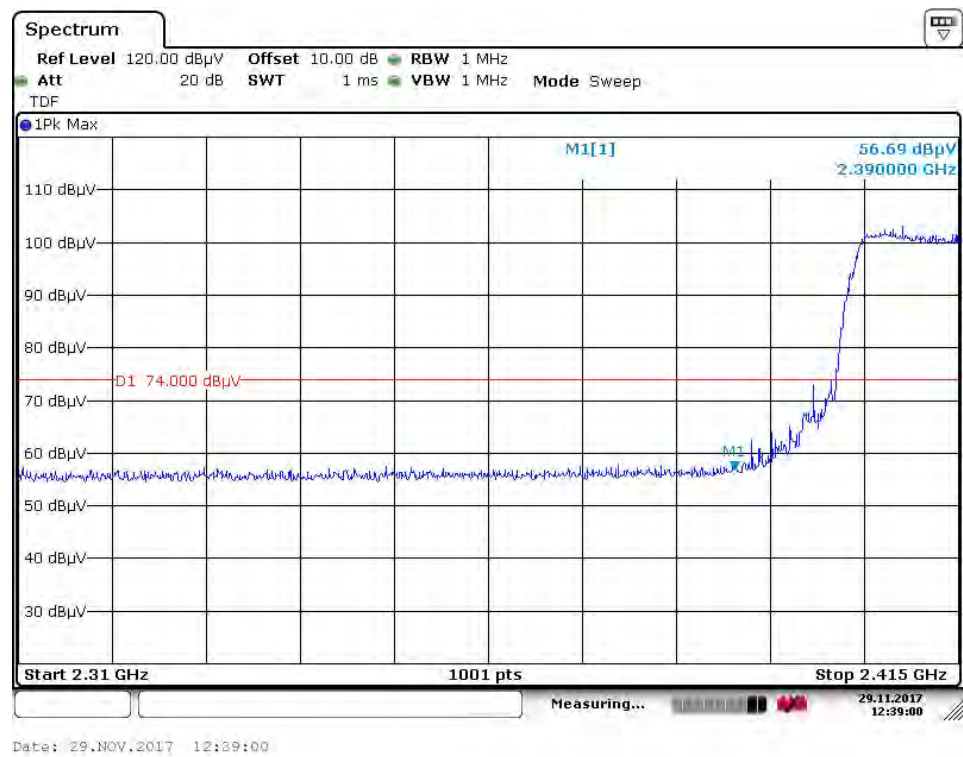
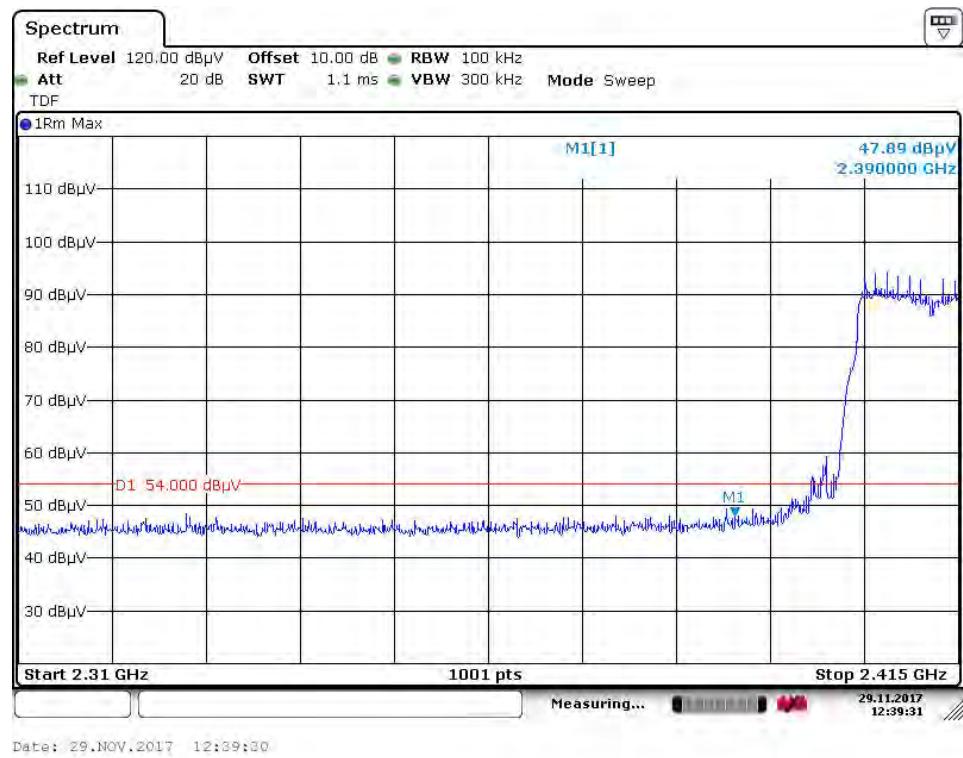


Radiated Bandedge 11g

Low Channel (Hor)

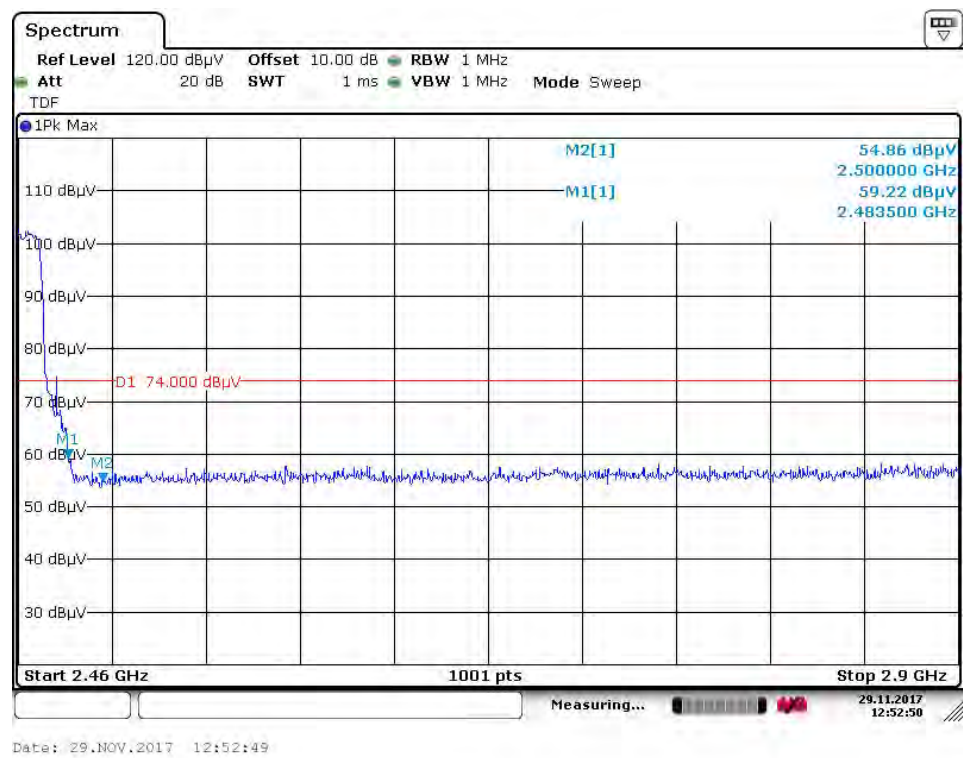
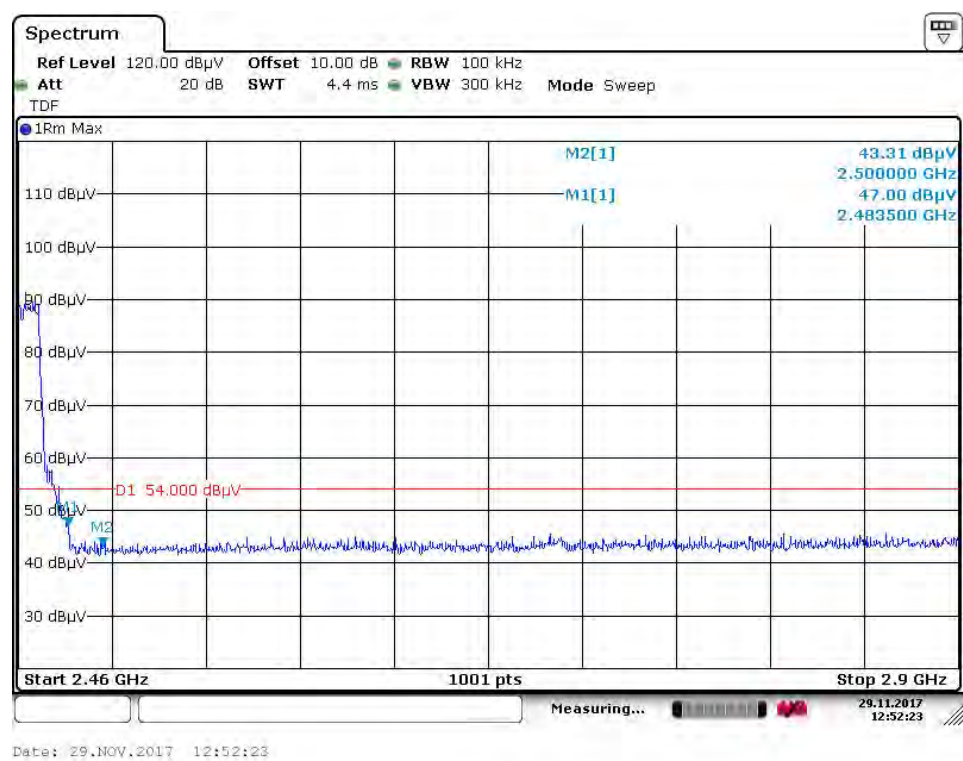


Low Channel (Ver)

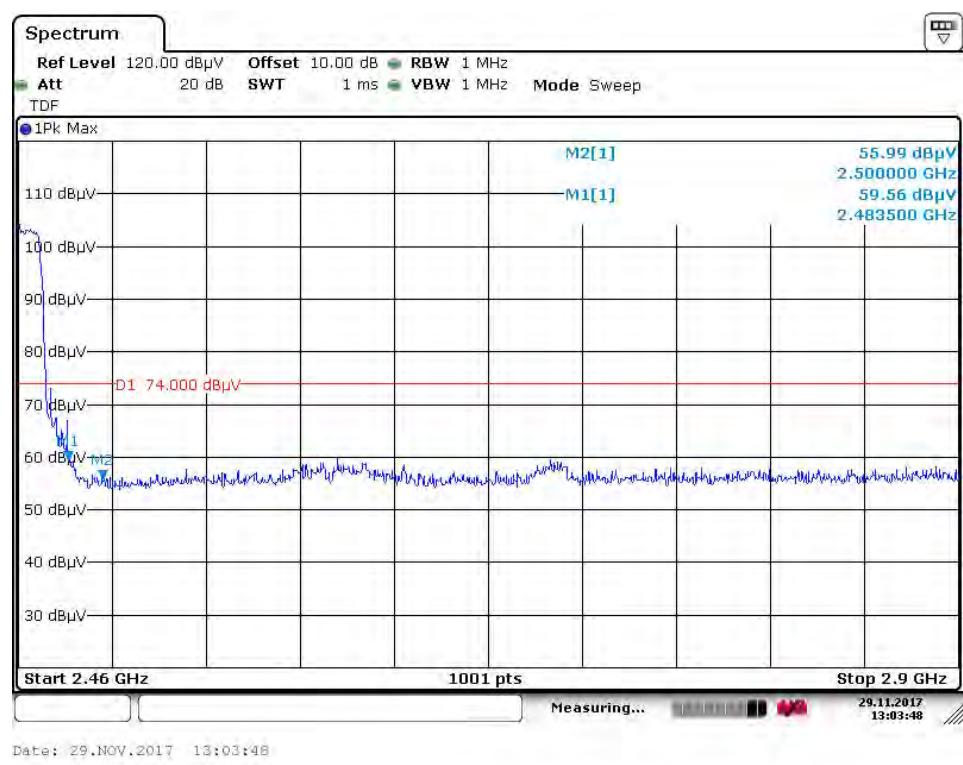
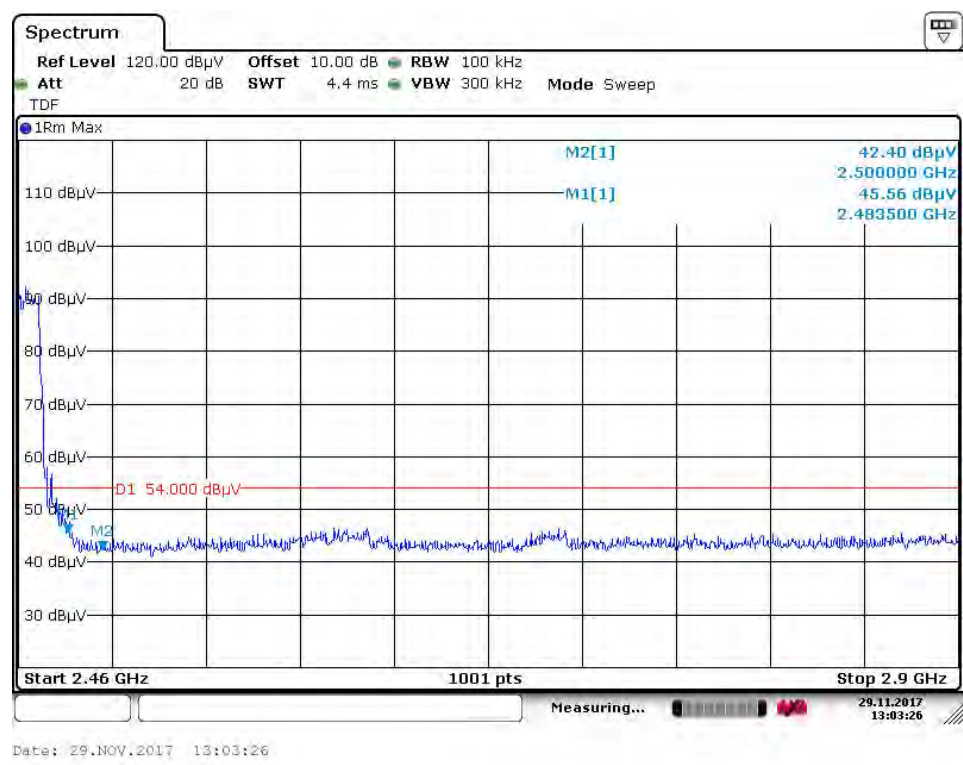


Radiated Bandedge 11g

High Channel (Hor)

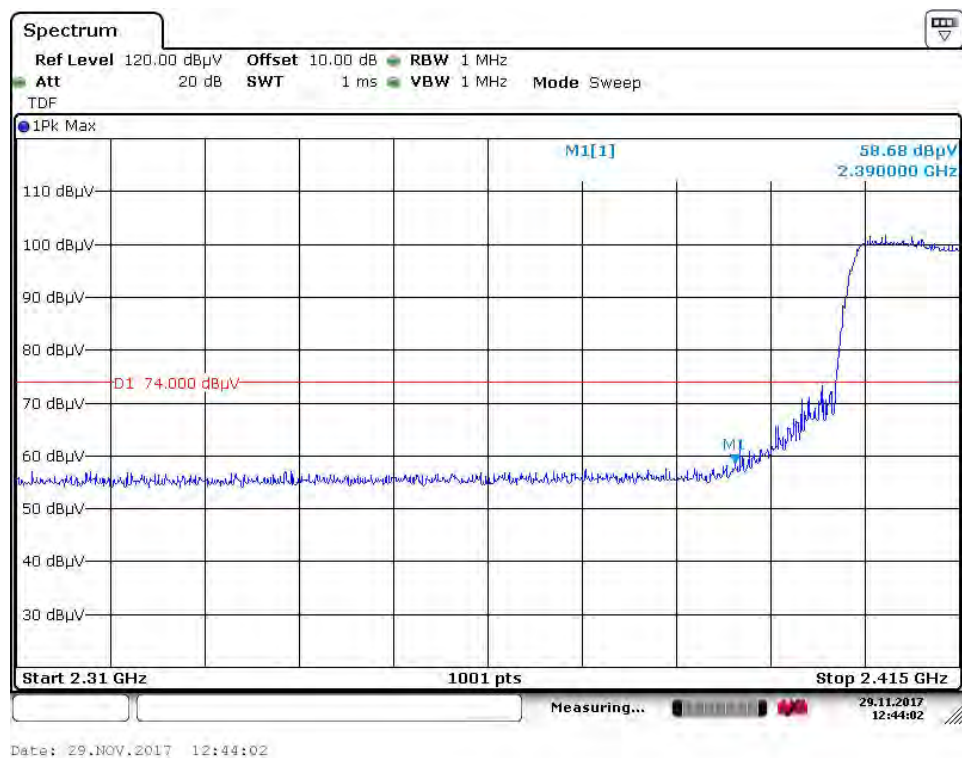
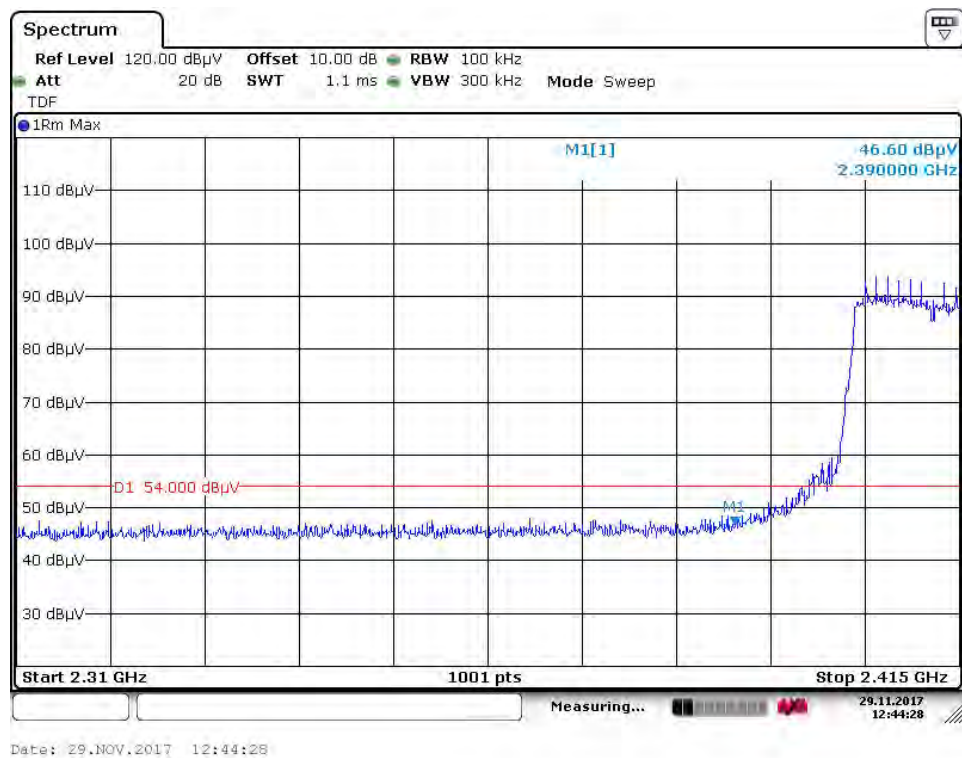


High Channel (Ver)

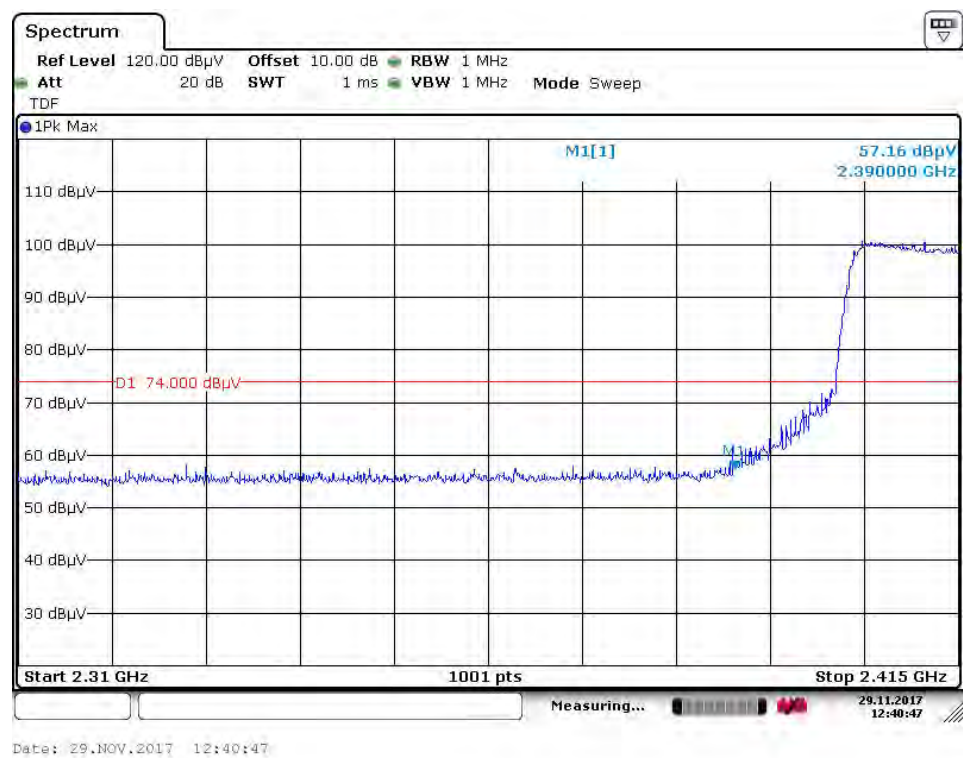
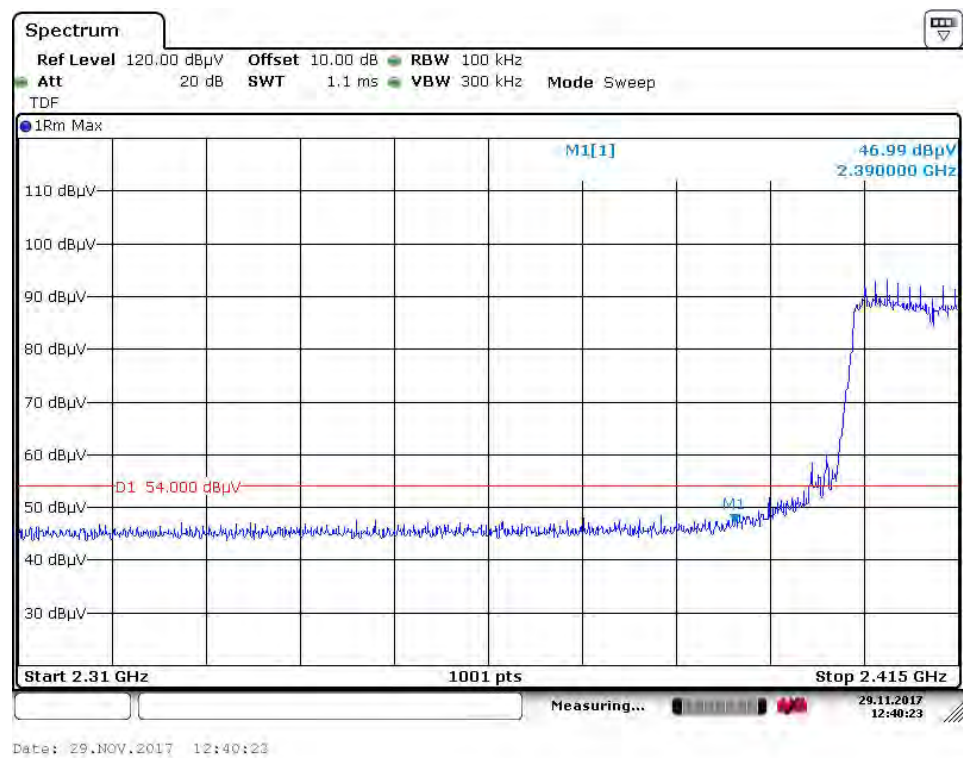


Radiated Bandedge 11n

Low Channel (Hor)

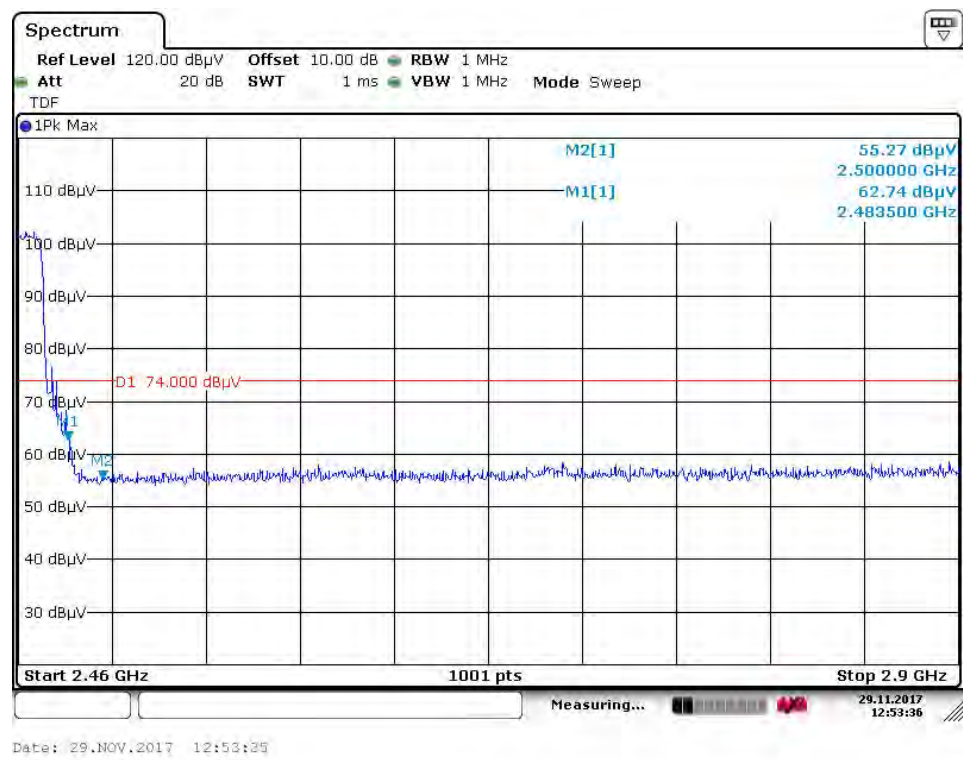
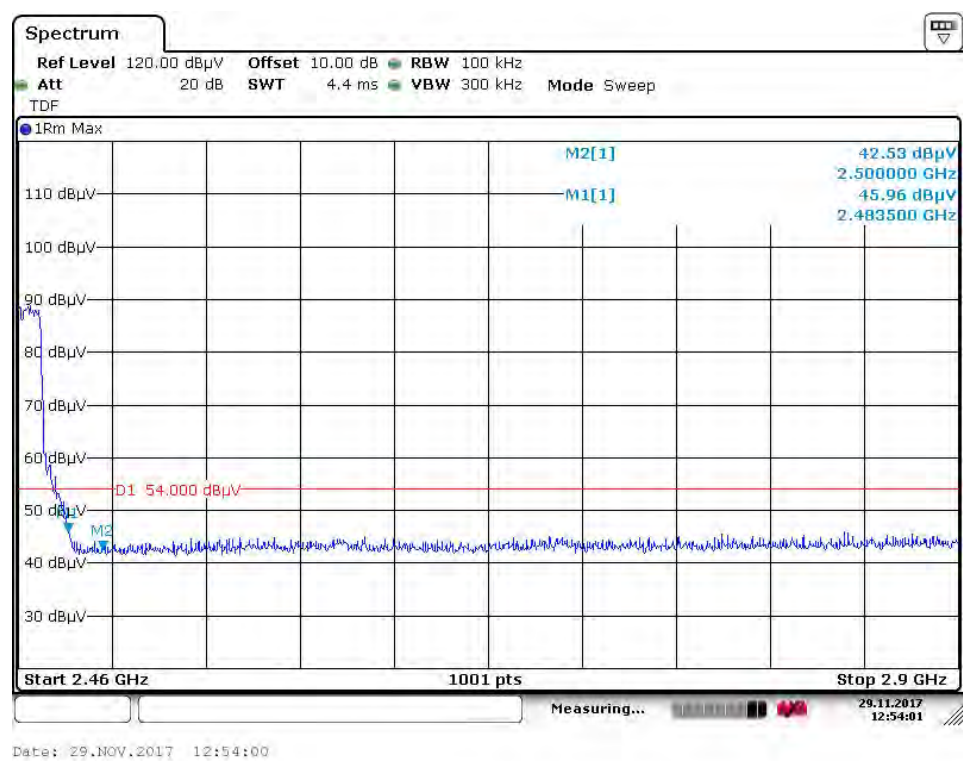


Low Channel (Ver)

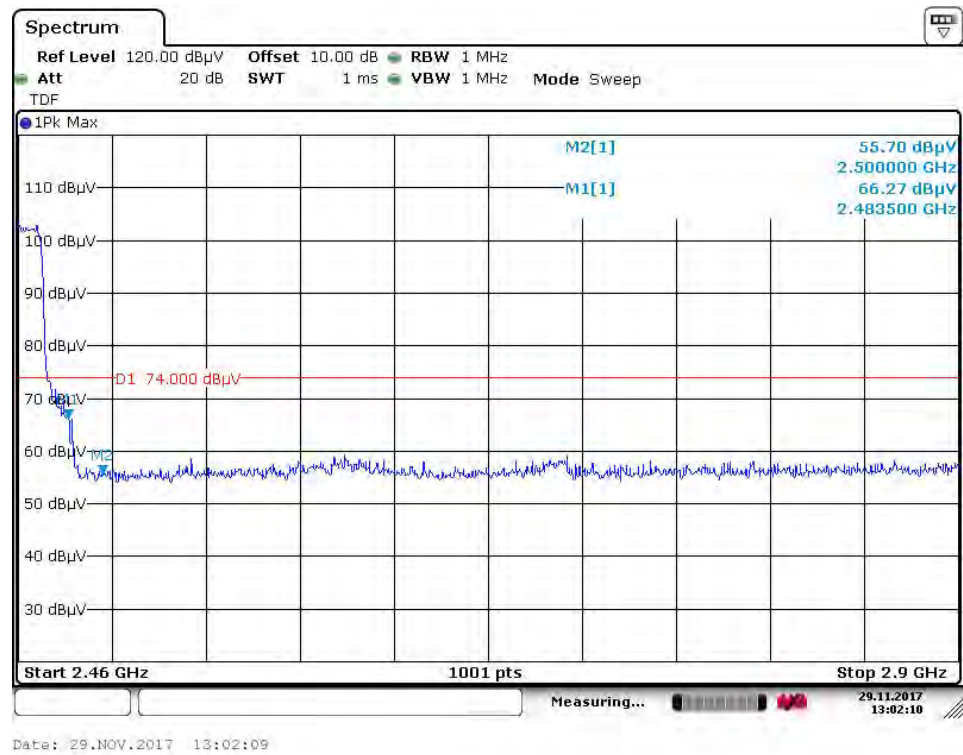
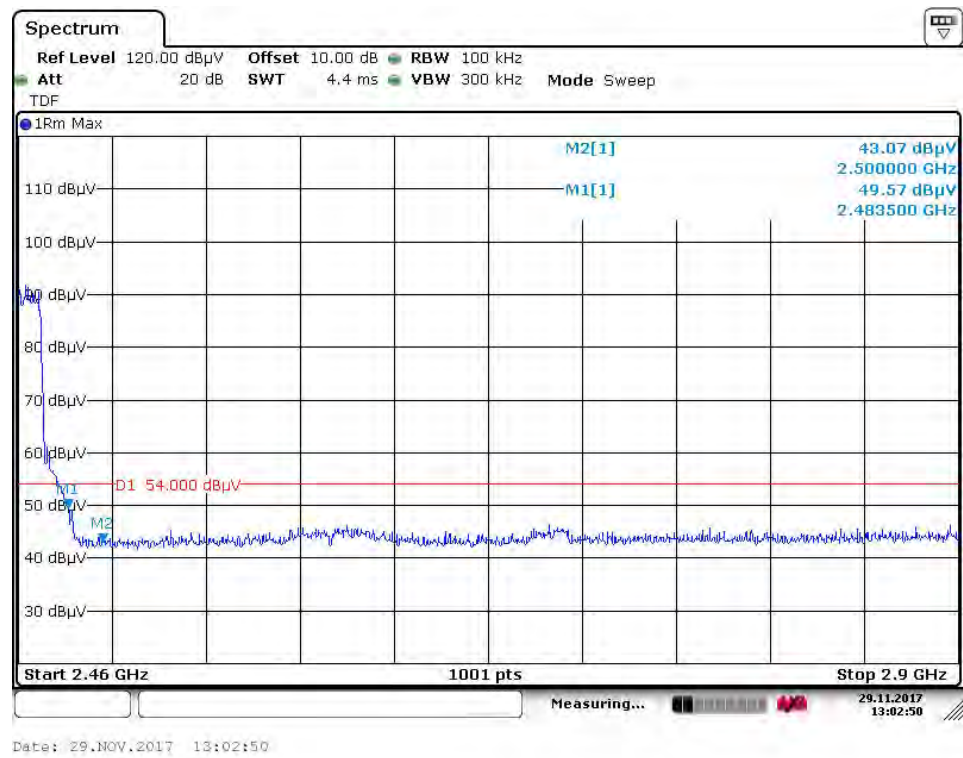


Radiated Bandedge 11n

High Channel (Hor)



High Channel (Ver)



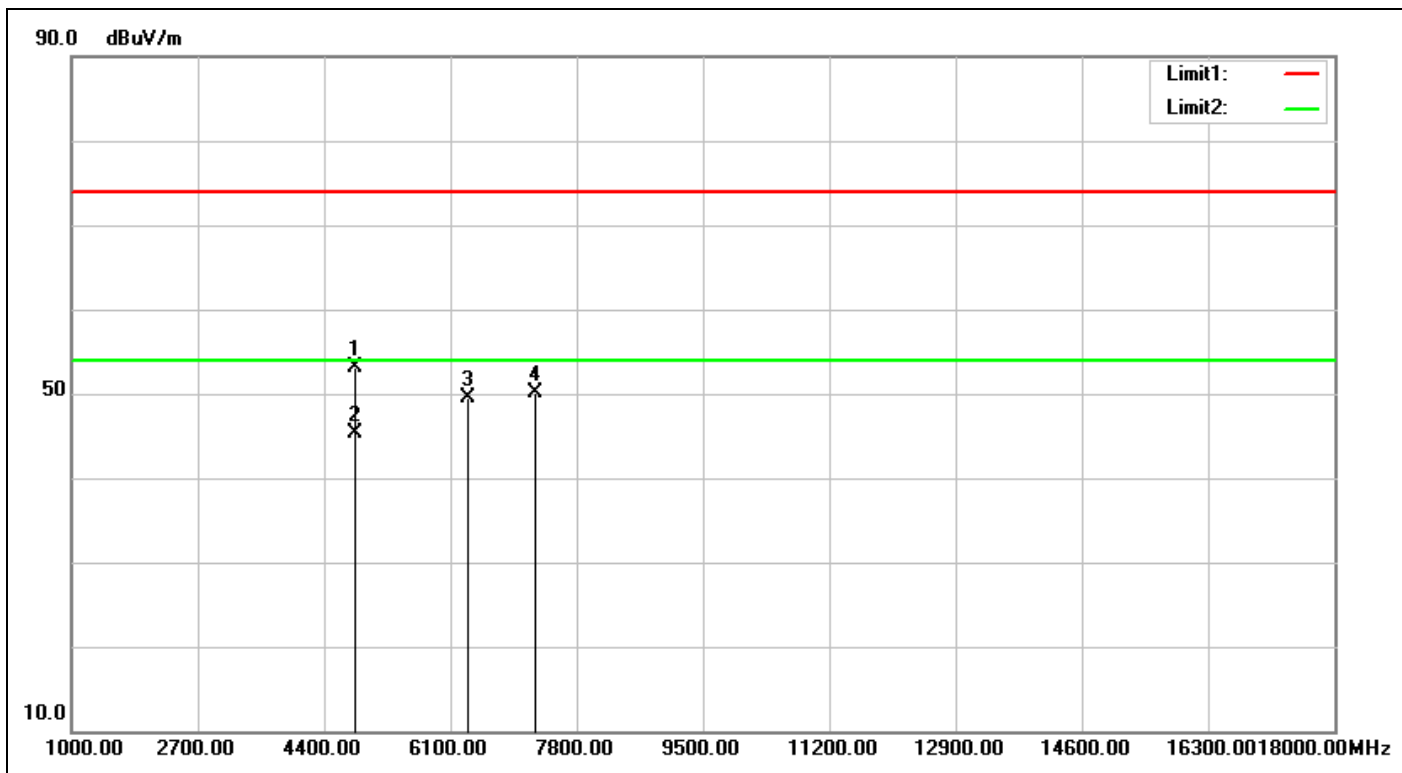
Spurious Emissions, TX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

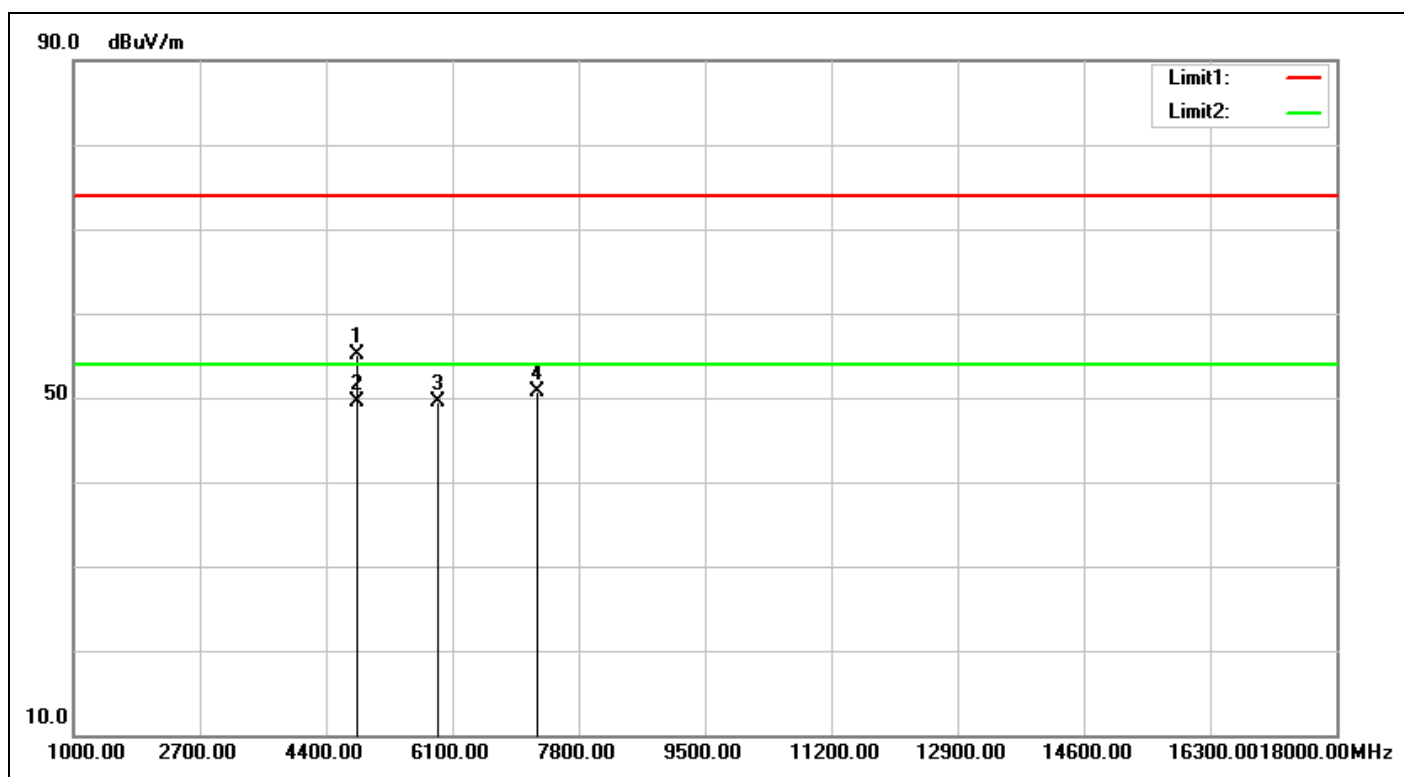
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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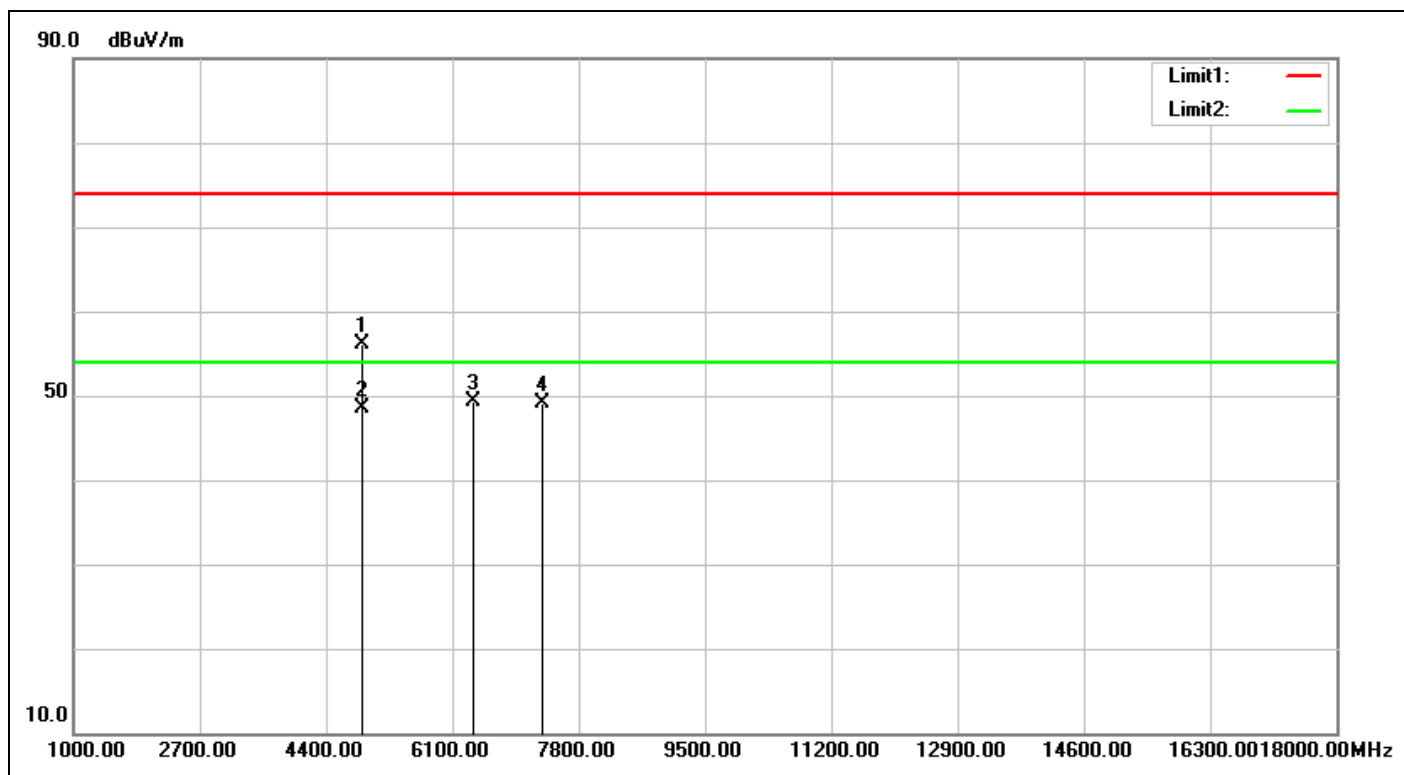
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 10:22:39
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4825.000	3.23	49.90	53.13	74.00	-20.87	peak	100	254	
2	4825.000	3.23	42.12	45.35	54.00	-8.65	AVG	100	254	
3	6338.000	5.59	43.96	49.55	74.00	-24.45	peak	100	185	
4	7236.000	4.74	45.30	50.04	74.00	-23.96	peak	100	160	



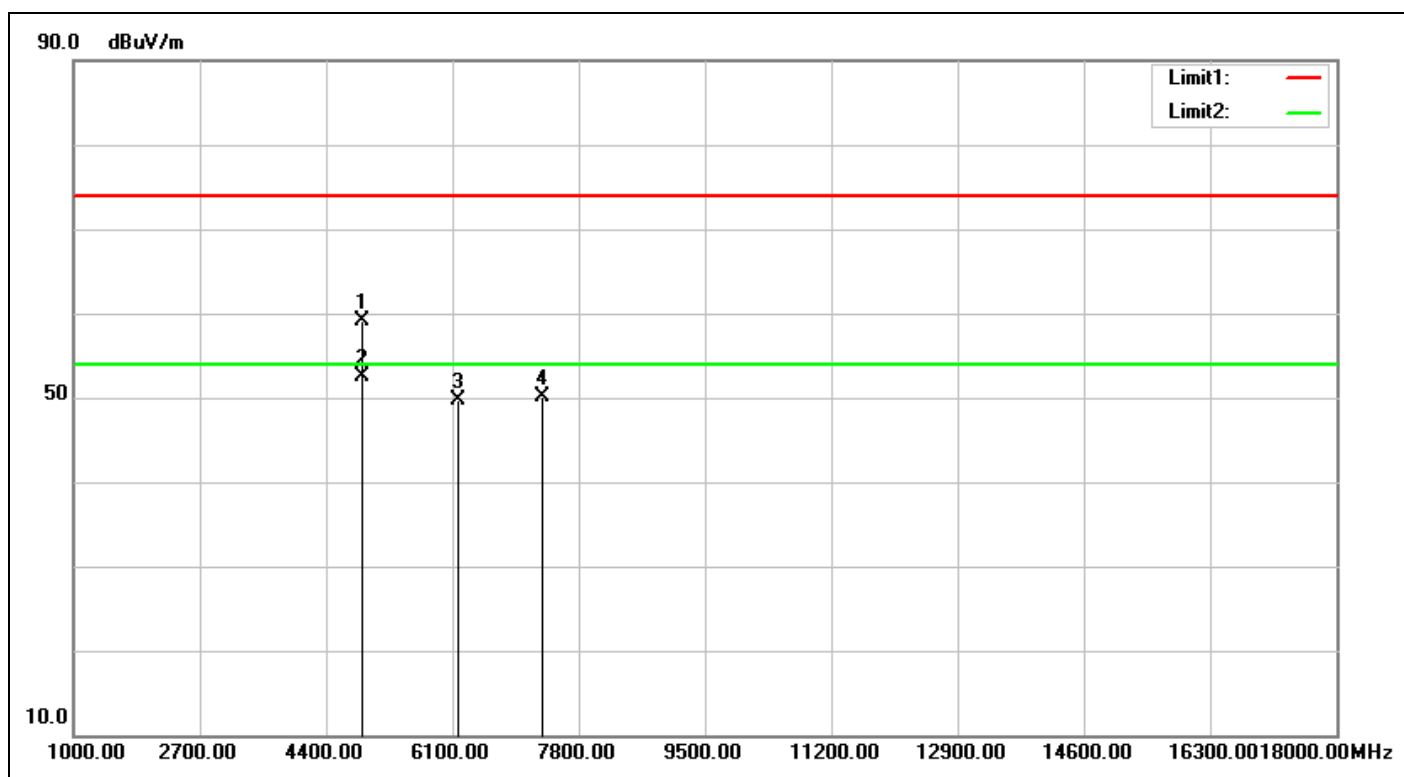
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 10:23:42
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4825.000	3.23	51.93	55.16	74.00	-18.84	peak	100	70	
2	4825.000	3.23	46.22	49.45	54.00	-4.55	AVG	100	70	
3	5913.000	5.34	44.13	49.47	74.00	-24.53	peak	100	189	
4	7236.000	4.74	45.91	50.65	74.00	-23.35	peak	100	158	



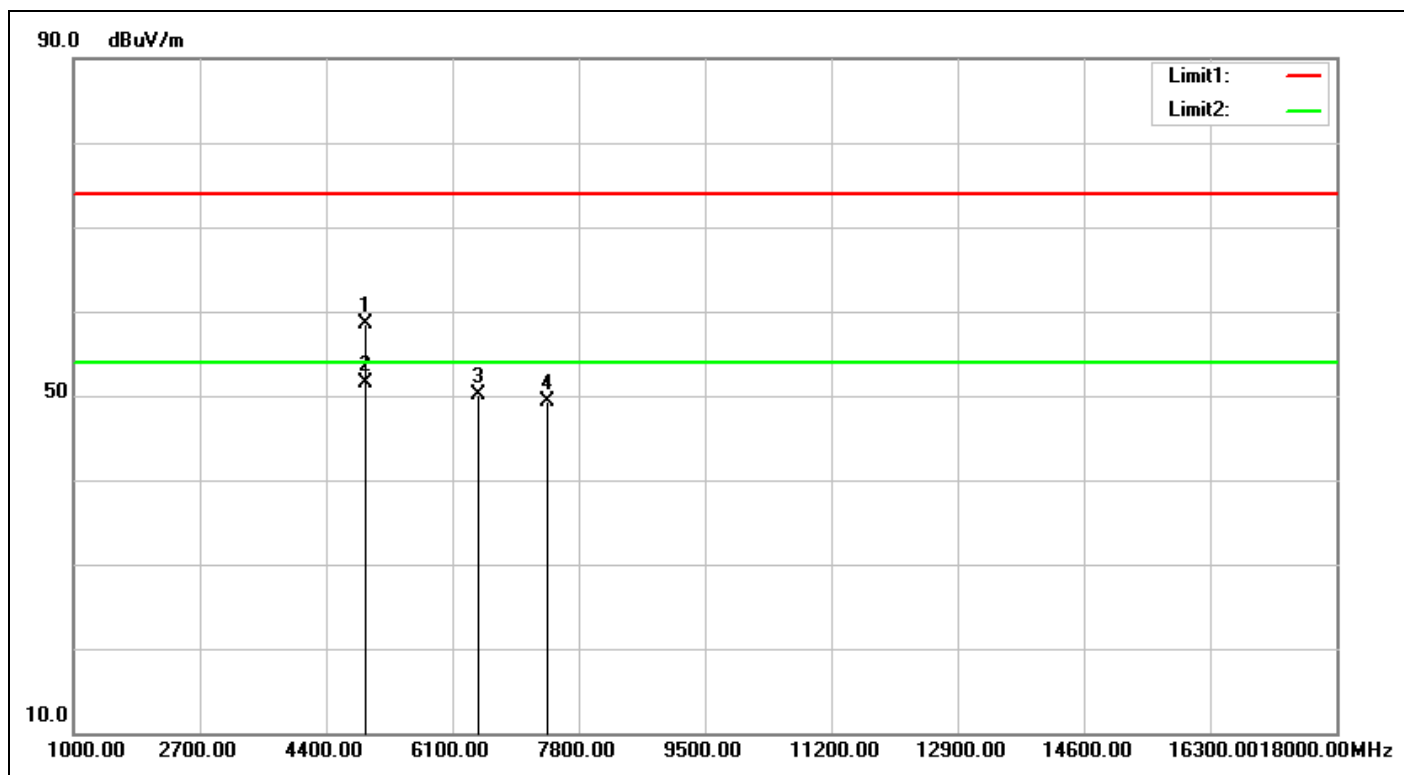
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 10:32:15
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4876.000	3.43	52.75	56.18	74.00	-17.82	peak	100	274	
2	4876.000	3.43	45.17	48.60	54.00	-5.40	AVG	100	274	
3	6372.000	5.60	43.70	49.30	74.00	-24.70	peak	100	168	
4	7311.000	4.70	44.44	49.14	74.00	-24.86	peak	100	189	



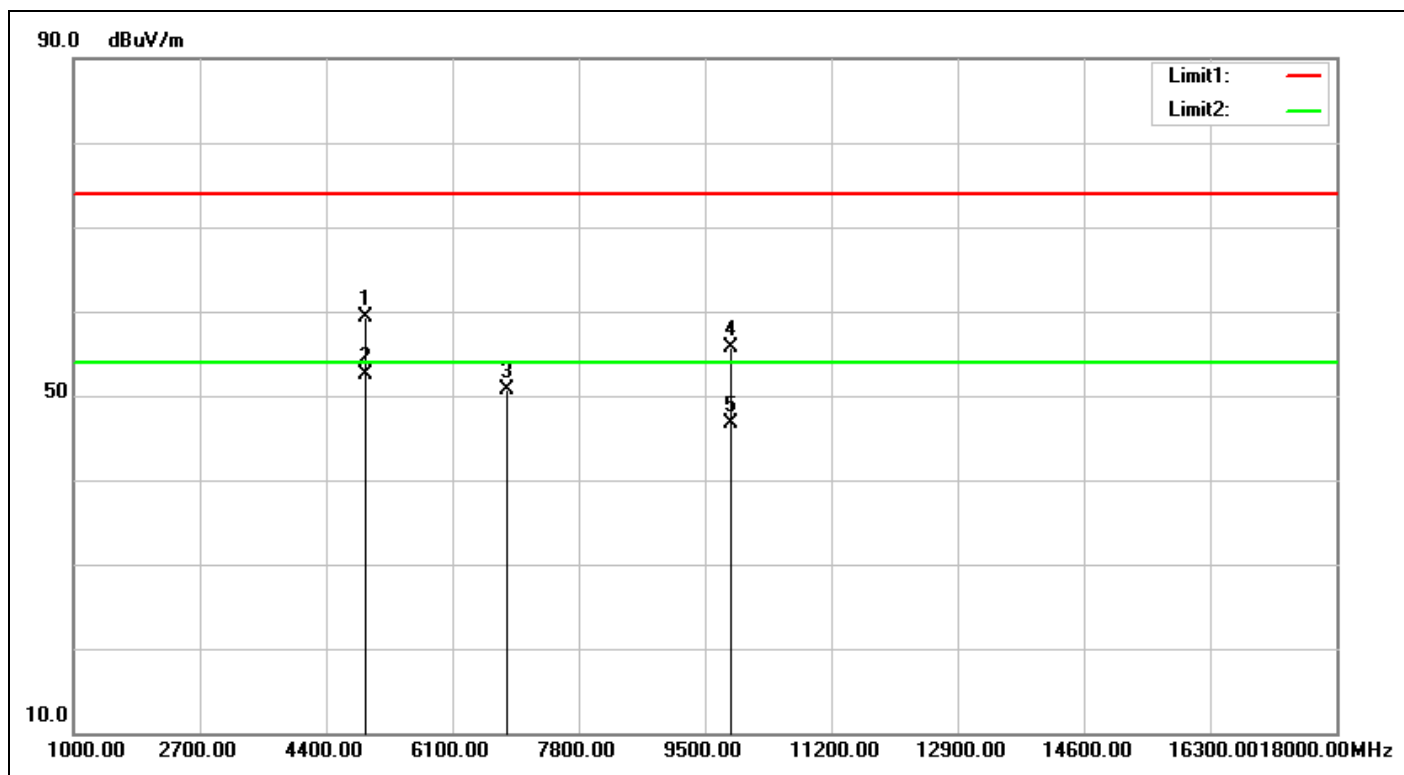
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 10:33:17
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	55.70	59.12	74.00	-14.88	peak	100	131	
2	4874.000	3.42	49.15	52.57	54.00	-1.43	AVG	100	131	
3	6185.000	5.56	44.18	49.74	74.00	-24.26	peak	100	222	
4	7311.000	4.70	45.34	50.04	74.00	-23.96	peak	100	18	



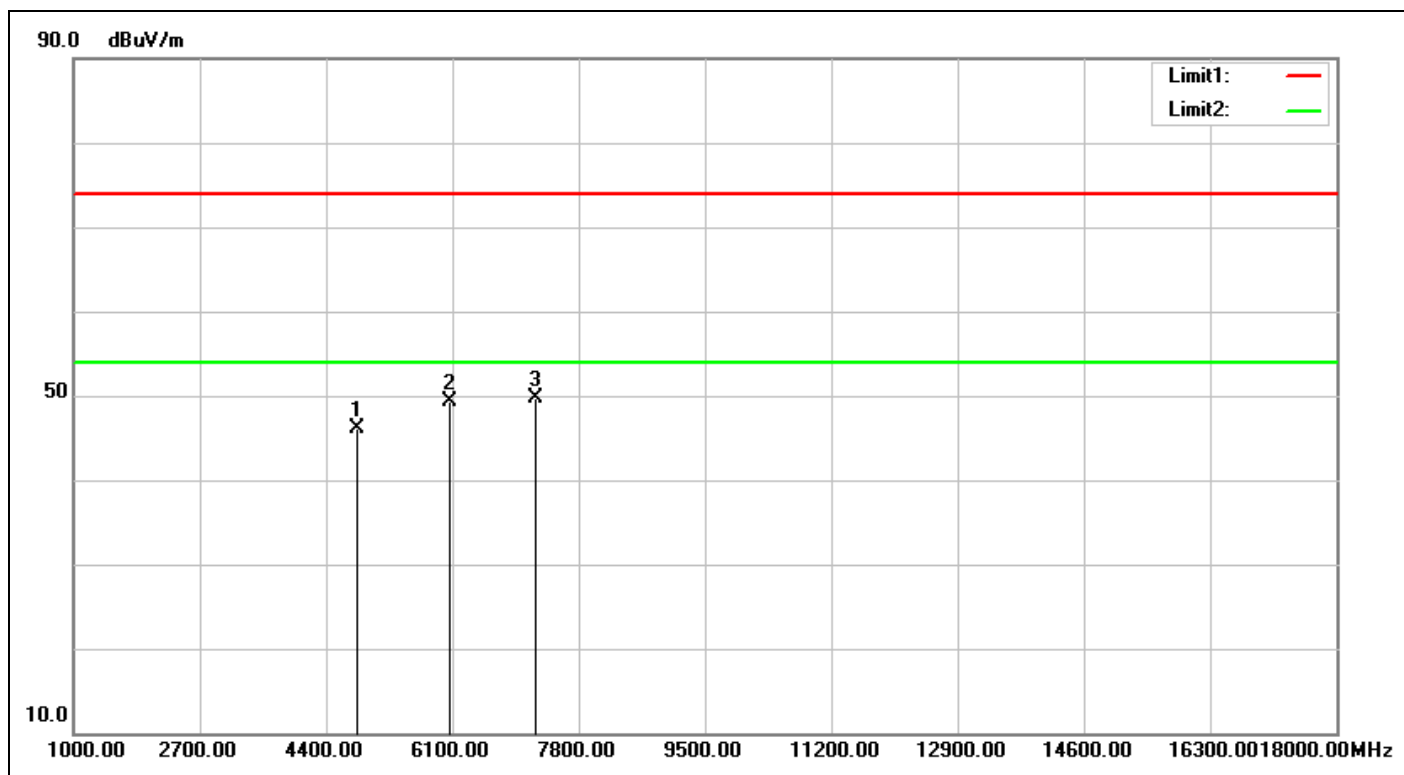
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 10:42:37
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	54.80	58.42	74.00	-15.58	peak	100	7	
2	4924.000	3.62	47.94	51.56	54.00	-2.44	AVG	100	7	
3	6440.000	5.62	44.45	50.07	74.00	-23.93	peak	100	2	
4	7386.000	4.65	44.65	49.30	74.00	-24.70	peak	100	135	



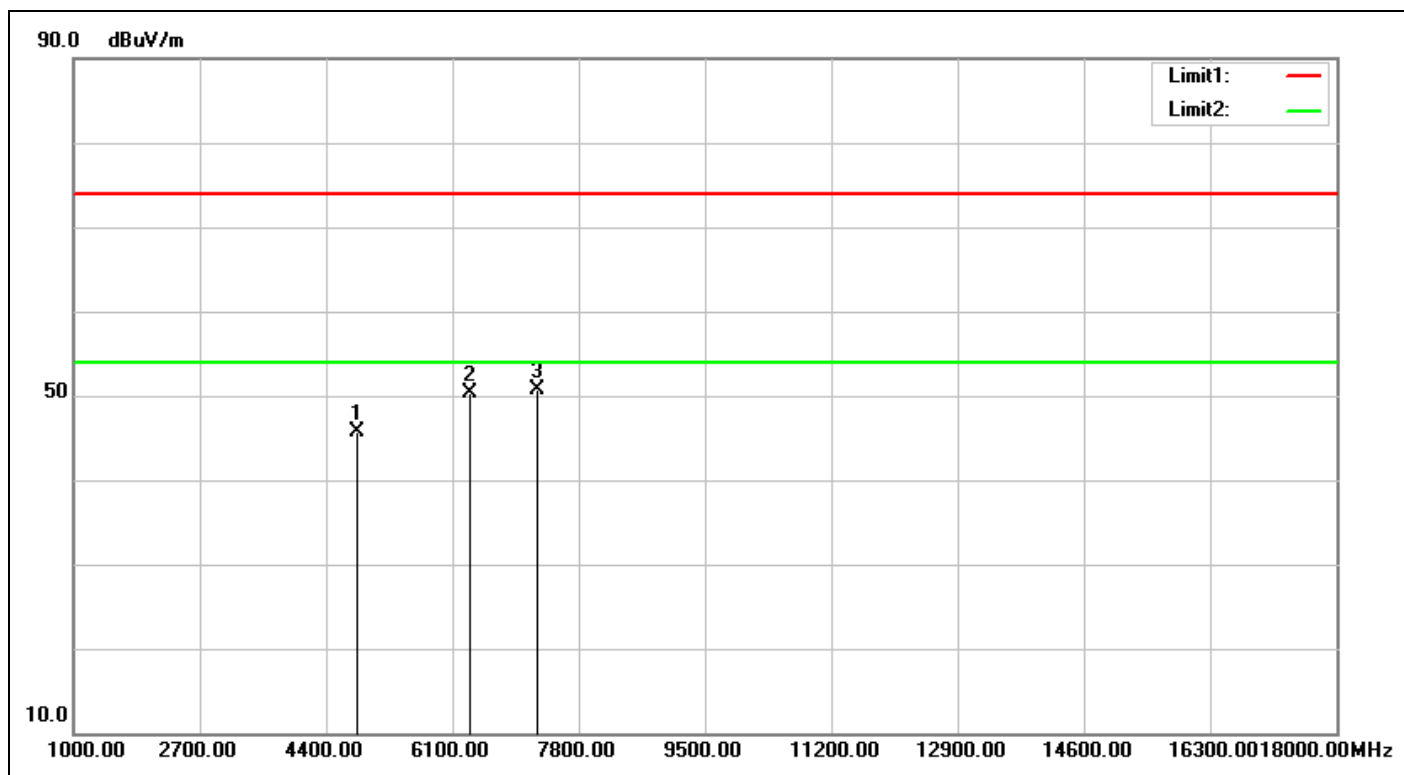
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 10:43:39
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	55.68	59.30	74.00	-14.70	peak	100	133	
2	4924.000	3.62	48.97	52.59	54.00	-1.41	AVG	100	133	
3	6831.000	5.14	45.54	50.68	74.00	-23.32	peak	100	311	
4	9848.000	7.87	47.86	55.73	74.00	-18.27	peak	100	70	
5	9848.000	7.87	38.89	46.76	54.00	-7.24	AVG	100	70	



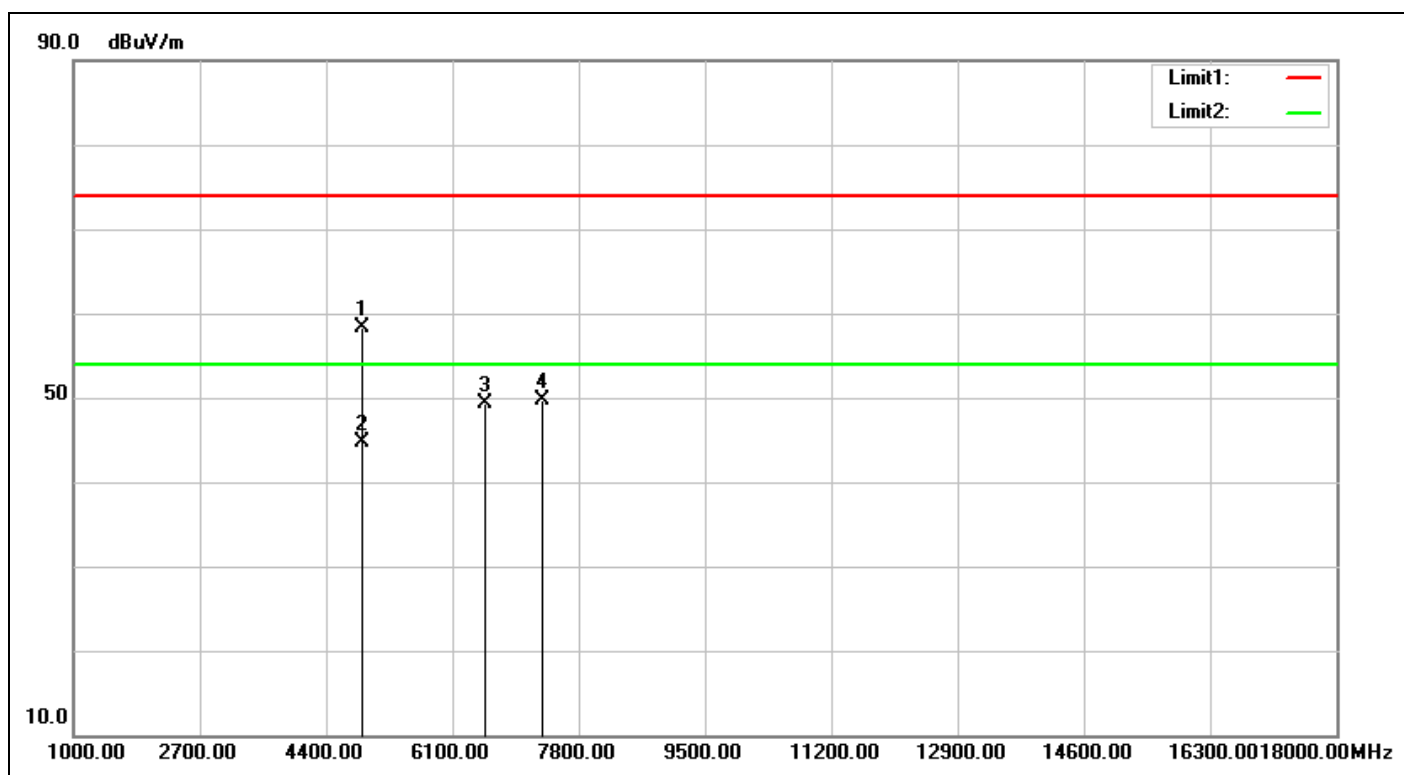
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 10:53:51
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.92	46.15	74.00	-27.85	peak	100	42	
2	6066.000	5.54	43.73	49.27	74.00	-24.73	peak	100	158	
3	7236.000	4.74	45.02	49.76	74.00	-24.24	peak	100	147	



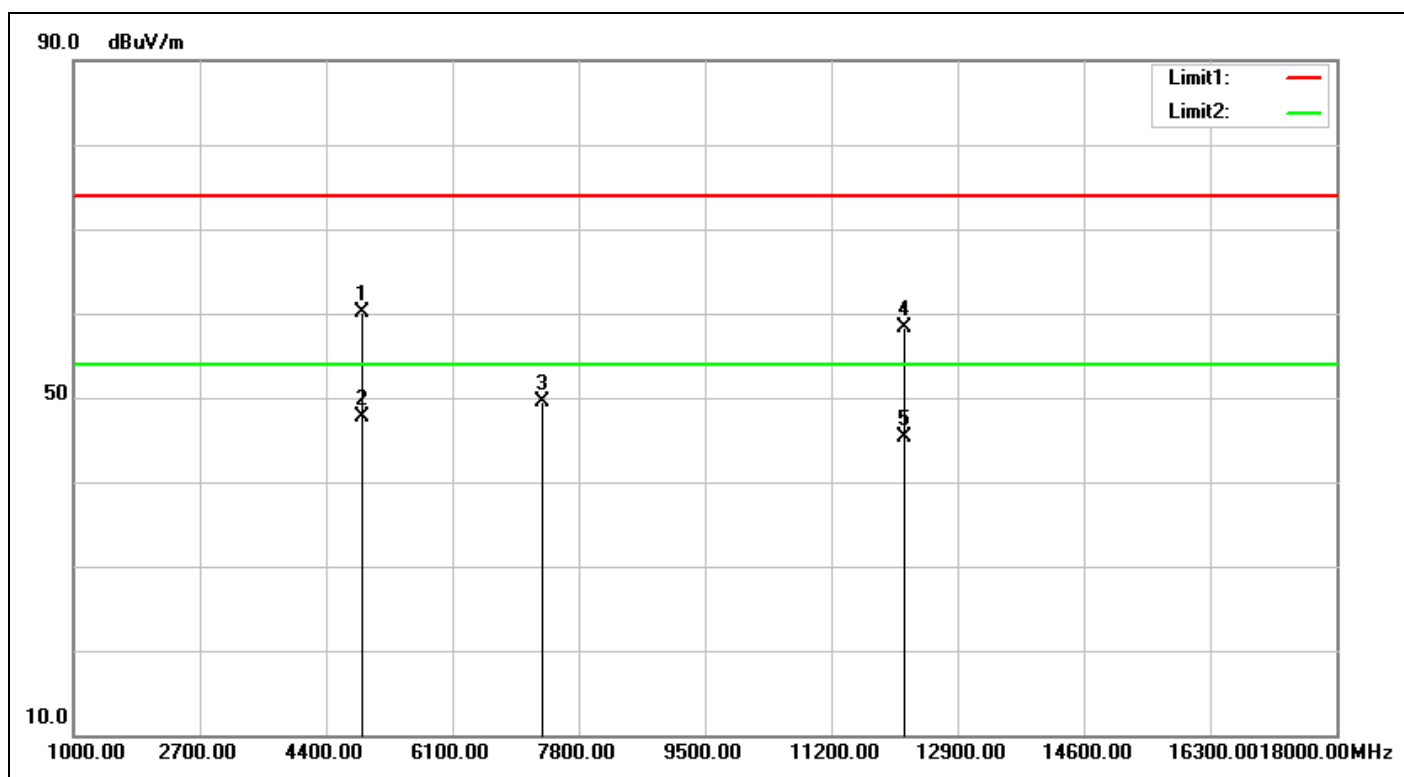
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 10:54:54
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.38	45.61	74.00	-28.39	peak	100	128	
2	6338.000	5.59	44.62	50.21	74.00	-23.79	peak	100	270	
3	7236.000	4.74	46.04	50.78	74.00	-23.22	peak	100	84	



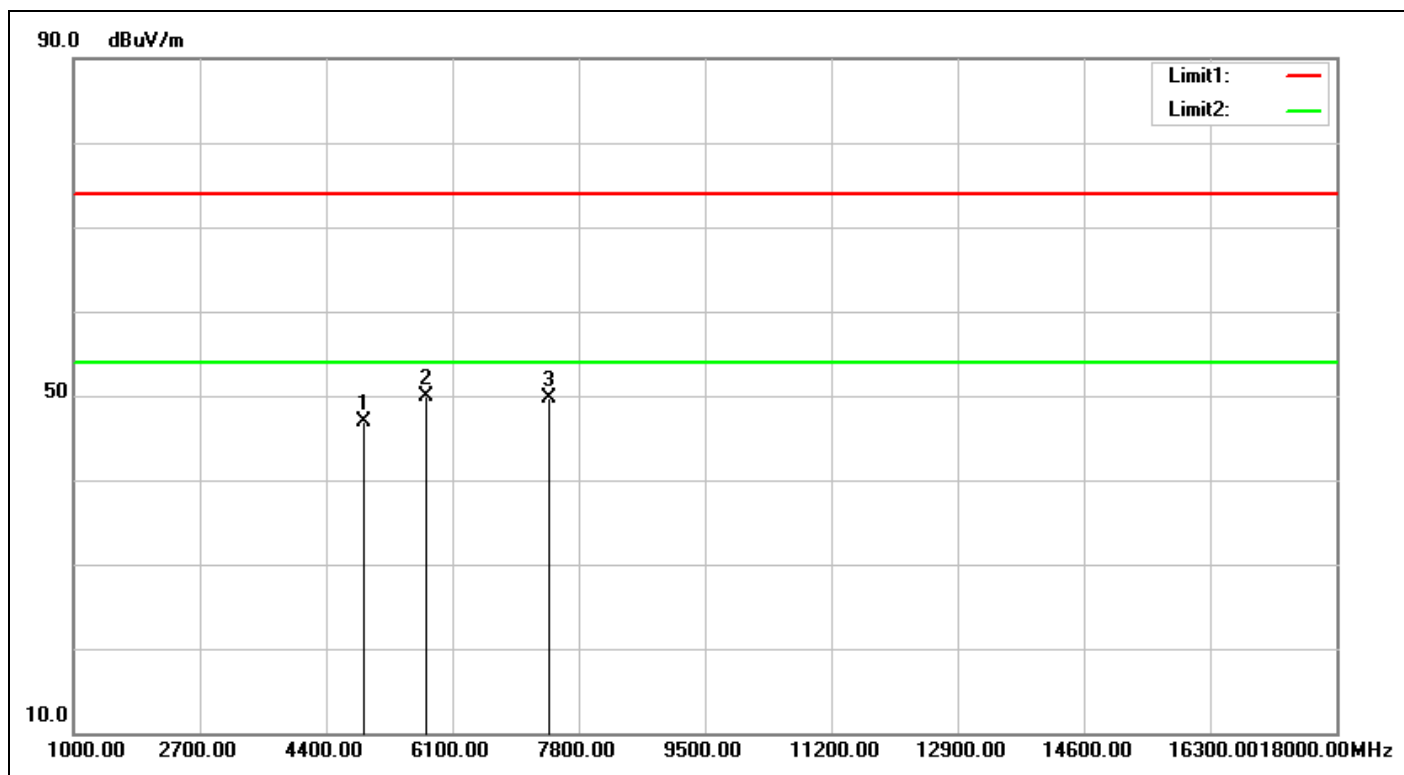
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 10:57:35
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	54.81	58.23	74.00	-15.77	peak	100	272	
2	4874.000	3.42	41.22	44.64	54.00	-9.36	AVG	100	272	
3	6542.000	5.57	43.74	49.31	74.00	-24.69	peak	100	131	
4	7311.000	4.70	45.09	49.79	74.00	-24.21	peak	100	254	



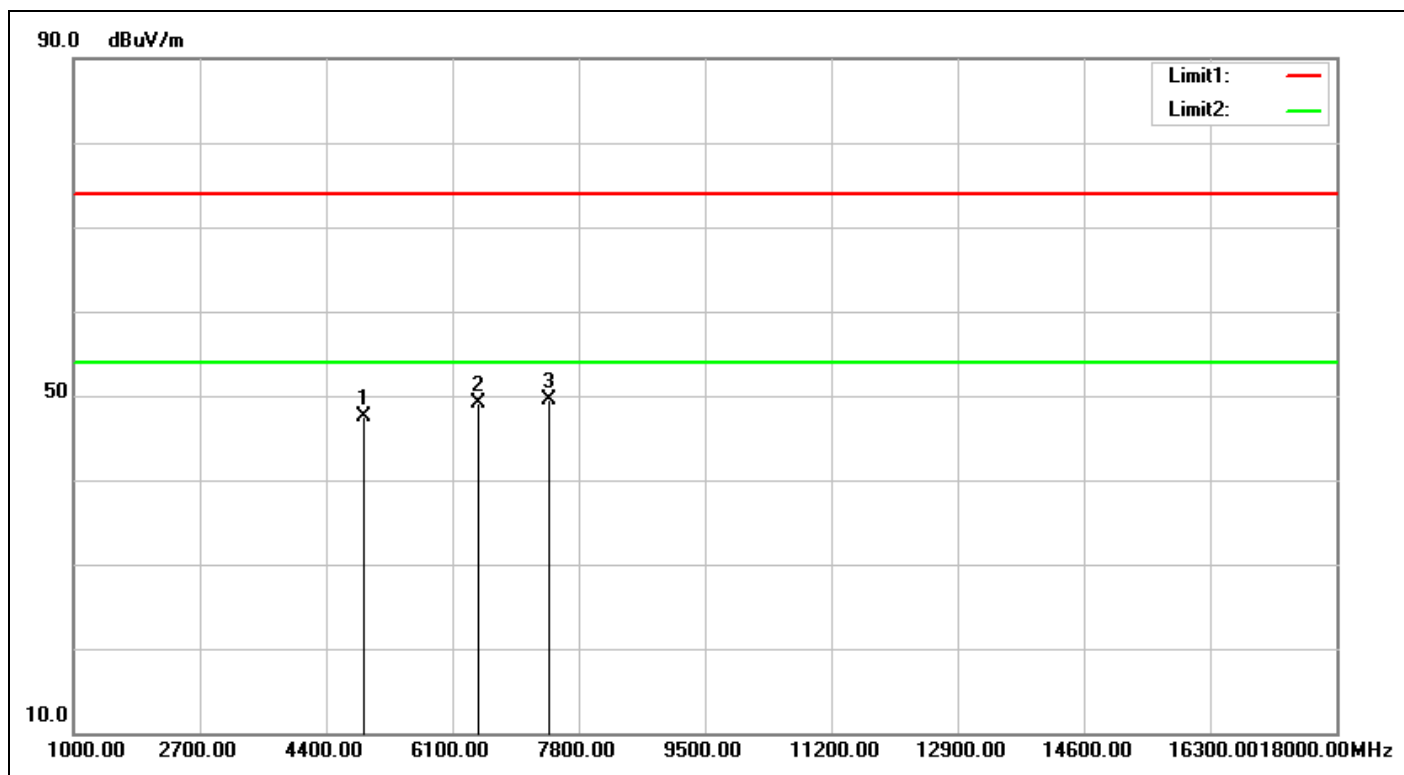
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 10:58:38
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	3.42	56.78	60.20	74.00	-13.80	peak	100	133	
2	4874.000	3.42	44.32	47.74	54.00	-6.26	AVG	100	133	
3	7311.000	4.70	44.71	49.41	74.00	-24.59	peak	100	165	
4	12185.000	10.37	47.92	58.29	74.00	-15.71	peak	100	180	
5	12185.000	10.37	34.89	45.26	54.00	-8.74	AVG	100	180	



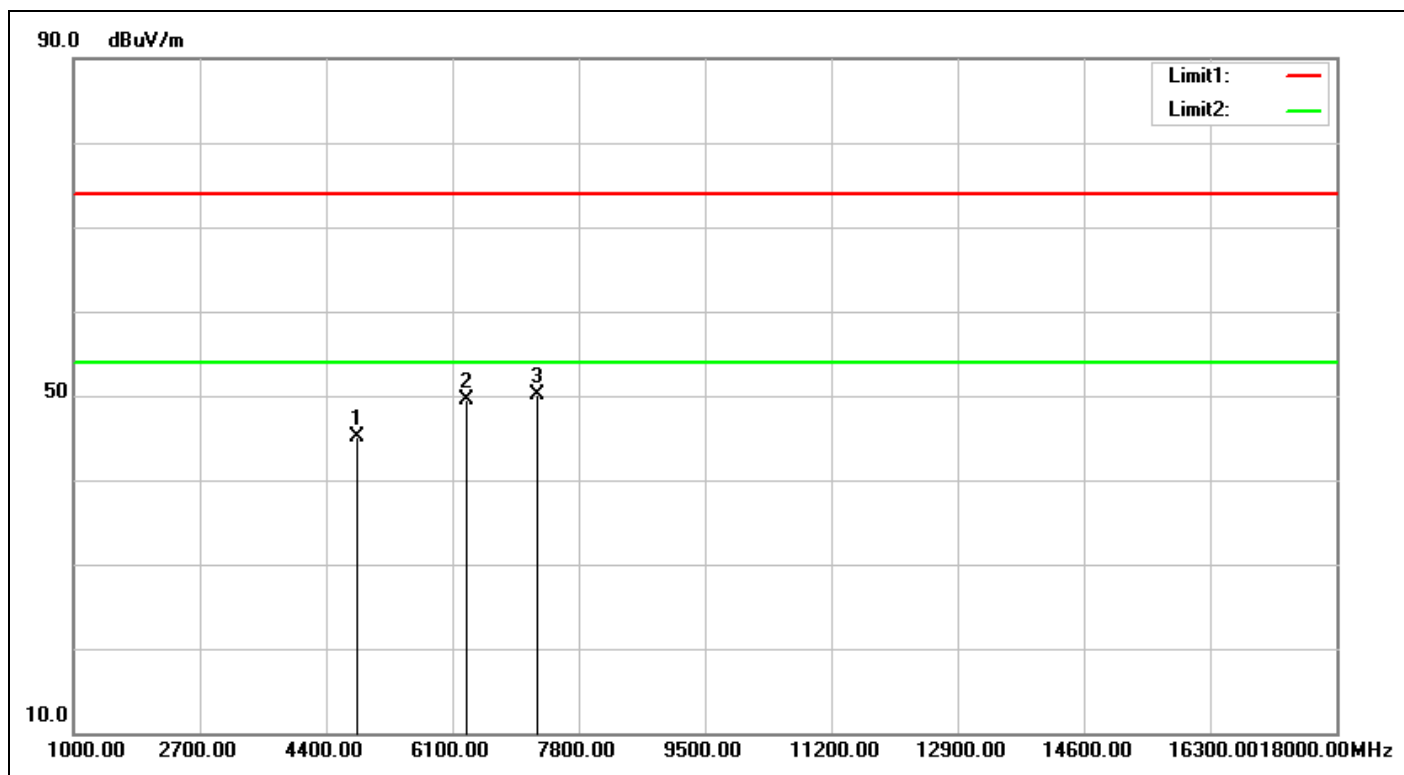
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 11:07:25
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	43.23	46.85	74.00	-27.15	peak	100	261	
2	5743.000	4.99	44.83	49.82	74.00	-24.18	peak	100	235	
3	7386.000	4.65	45.03	49.68	74.00	-24.32	peak	100	223	



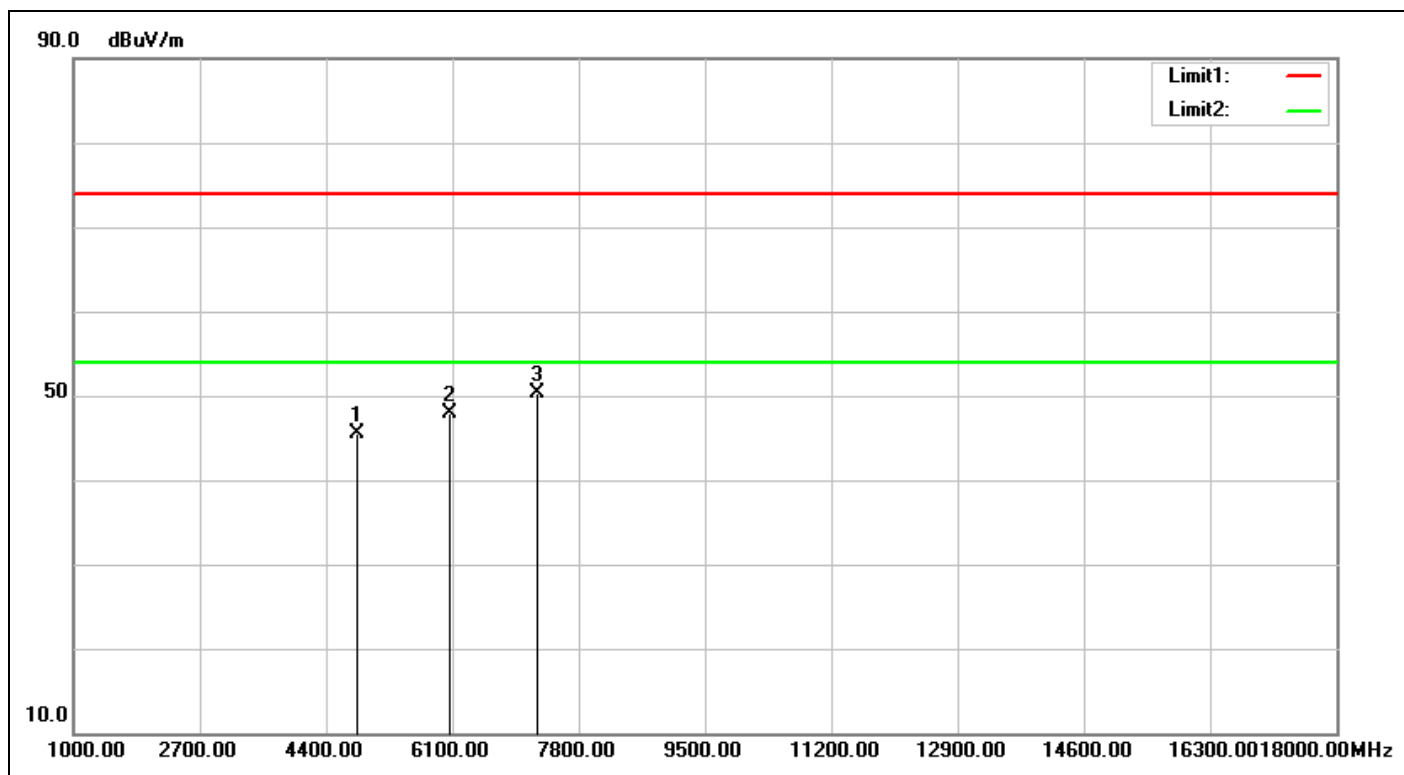
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Test item:	Radiation Emission	Test Time:	2017/12/1 11:08:28
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	43.85	47.47	74.00	-26.53	peak	100	133	
2	6440.000	5.62	43.49	49.11	74.00	-24.89	peak	100	352	
3	7386.000	4.65	44.89	49.54	74.00	-24.46	peak	100	246	



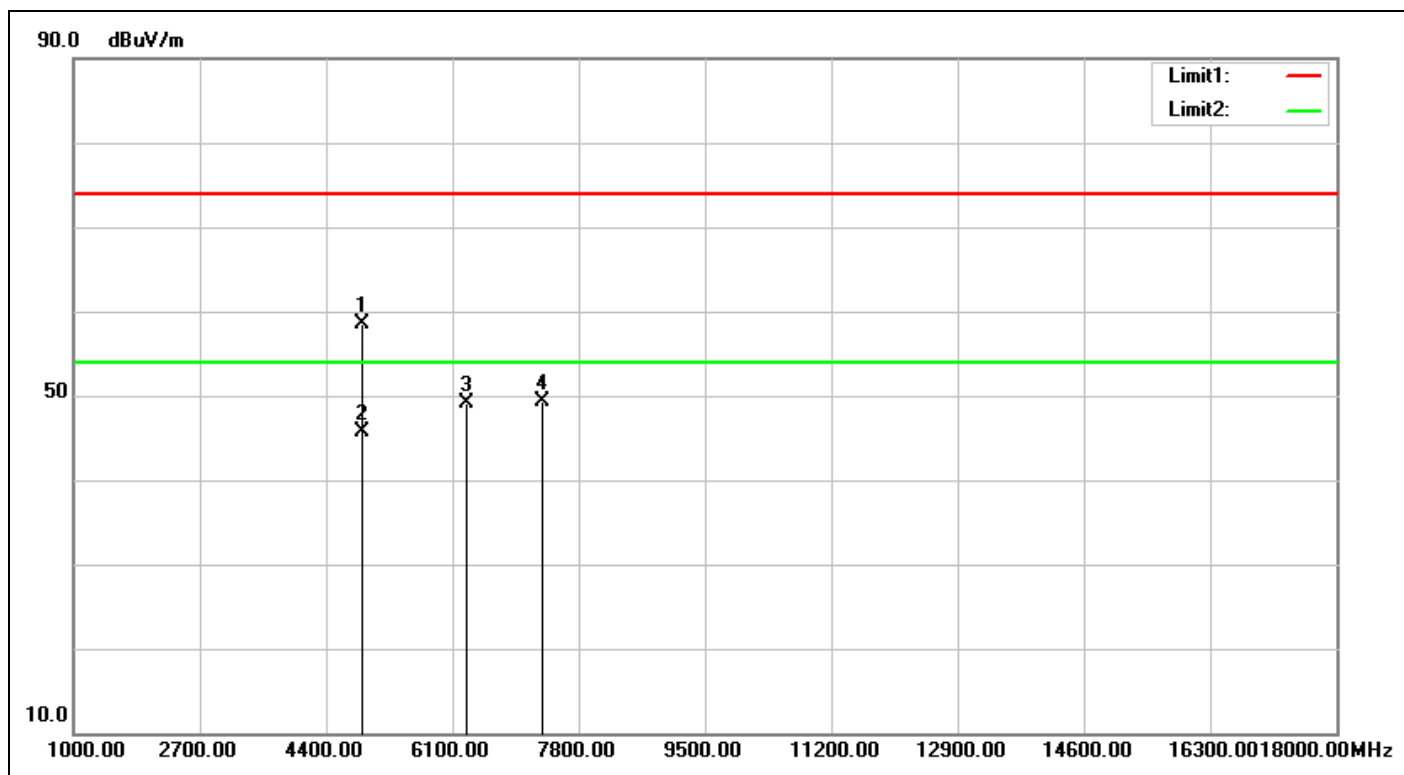
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 11:11:48
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	41.85	45.08	74.00	-28.92	peak	100	129	
2	6287.000	5.58	43.85	49.43	74.00	-24.57	peak	100	152	
3	7236.000	4.74	45.35	50.09	74.00	-23.91	peak	100	251	



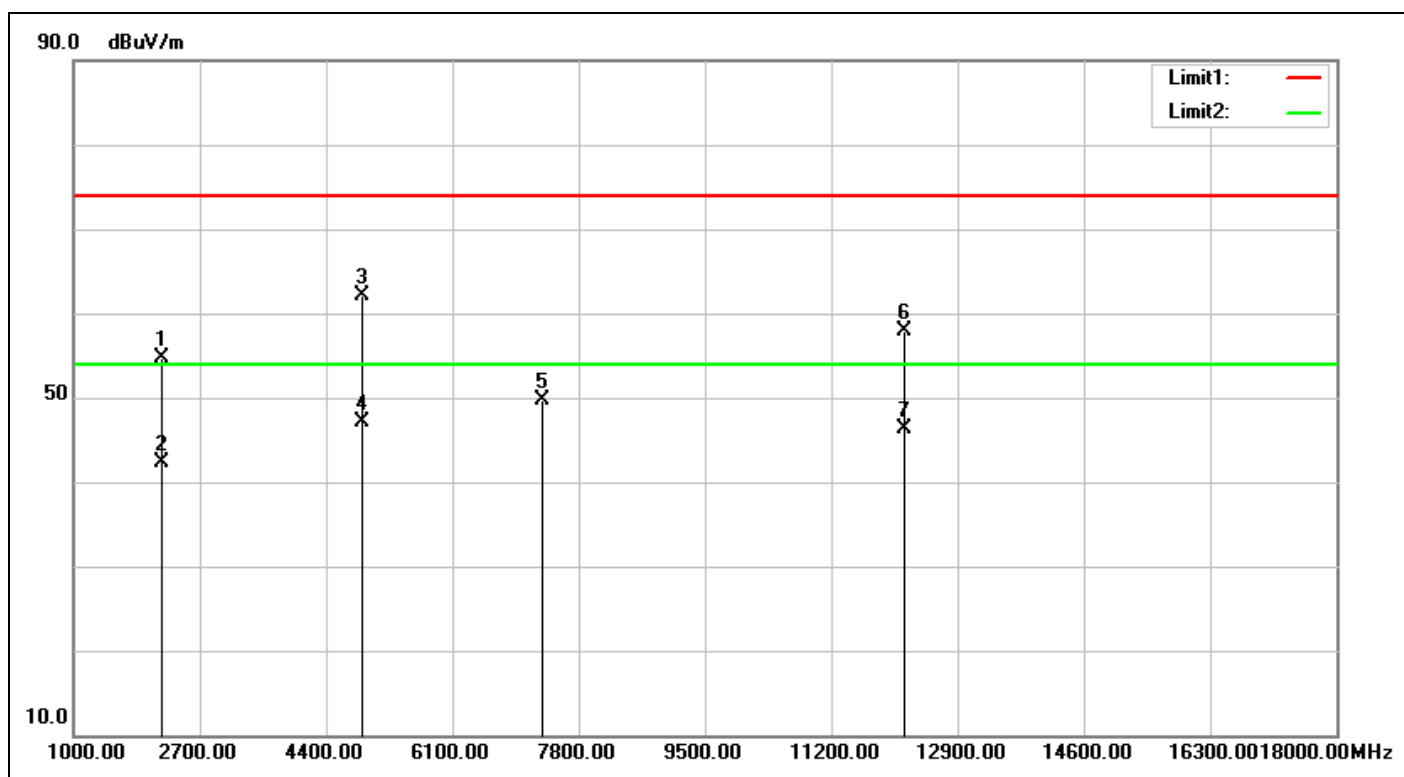
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 11:12:51
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4824.000	3.23	42.24	45.47	74.00	-28.53	peak	100	135	
2	6066.000	5.54	42.36	47.90	74.00	-26.10	peak	100	187	
3	7236.000	4.74	45.47	50.21	74.00	-23.79	peak	100	64	



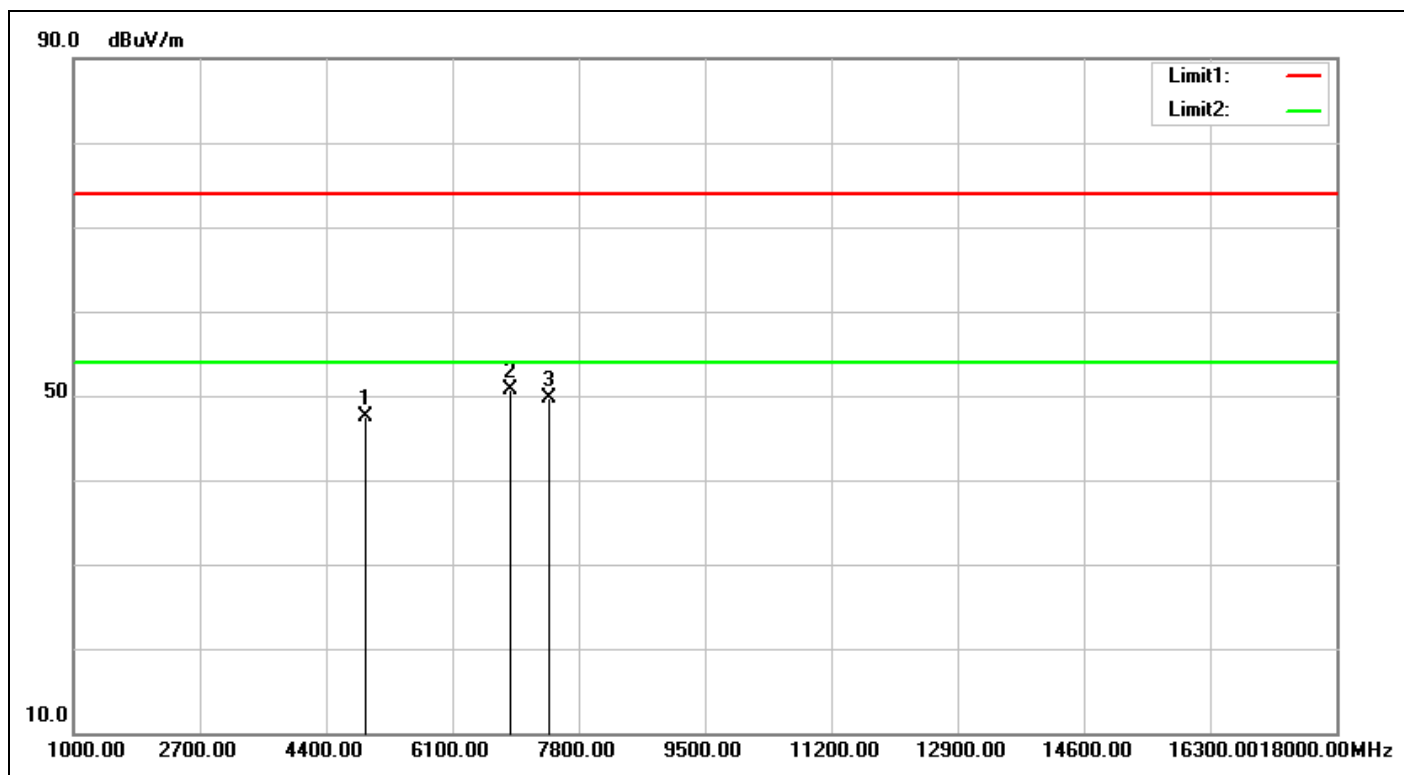
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 11:15:53
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4876.000	3.43	55.04	58.47	74.00	-15.53	peak	100	47	
2	4876.000	3.43	42.20	45.63	54.00	-8.37	AVG	100	47	
3	6287.000	5.58	43.50	49.08	74.00	-24.92	peak	100	274	
4	7311.000	4.70	44.62	49.32	74.00	-24.68	peak	100	125	



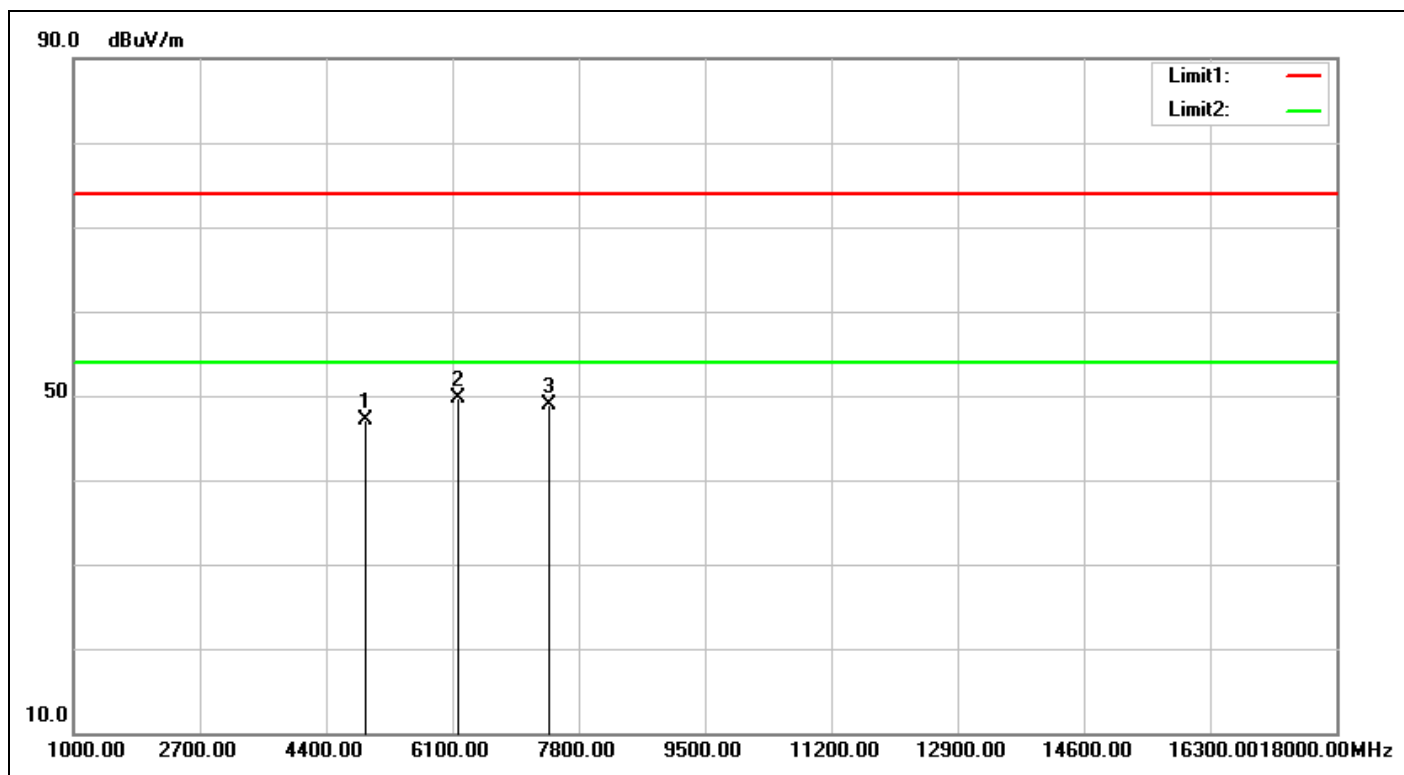
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 11:16:56
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2190.000	-3.67	58.46	54.79	74.00	-19.21	peak	100	234	
2	2190.000	-3.67	46.05	42.38	54.00	-11.62	AVG	100	234	
3	4874.000	3.42	58.75	62.17	74.00	-11.83	peak	100	358	
4	4874.000	3.42	43.60	47.02	54.00	-6.98	AVG	100	358	
5	7311.000	4.70	45.06	49.76	74.00	-24.24	peak	100	129	
6	12185.000	10.37	47.59	57.96	74.00	-16.04	peak	100	20	
7	12185.000	10.37	35.96	46.33	54.00	-7.67	AVG	100	20	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 11:25:51
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	43.87	47.49	74.00	-26.51	peak	100	135	
2	6882.000	5.07	45.61	50.68	74.00	-23.32	peak	100	241	
3	7386.000	4.65	45.08	49.73	74.00	-24.27	peak	1002	242	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 11:26:54
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4924.000	3.62	43.57	47.19	74.00	-26.81	peak	100	158	
2	6185.000	5.56	44.19	49.75	74.00	-24.25	peak	100	243	
3	7386.000	4.65	44.28	48.93	74.00	-25.07	peak	100	162	

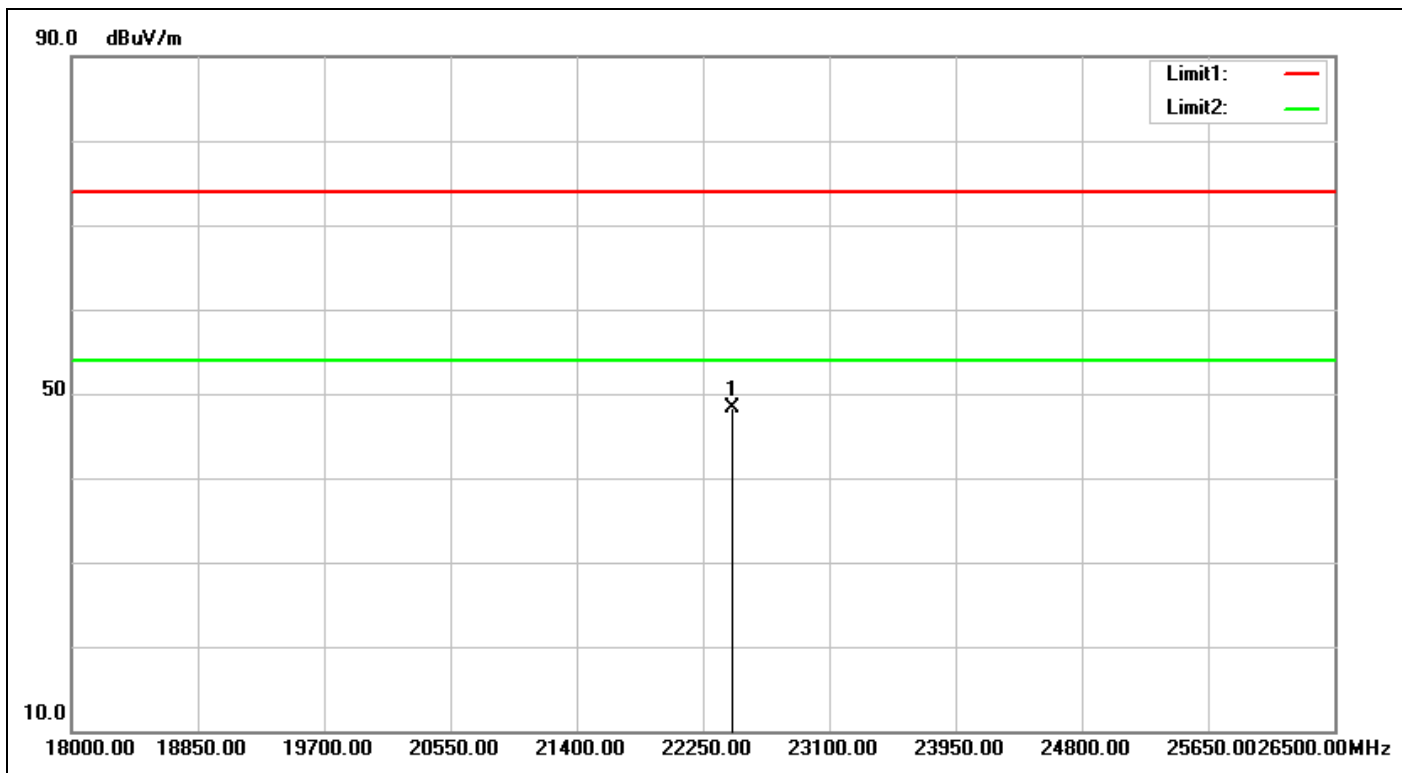
Spurious Emissions, TX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

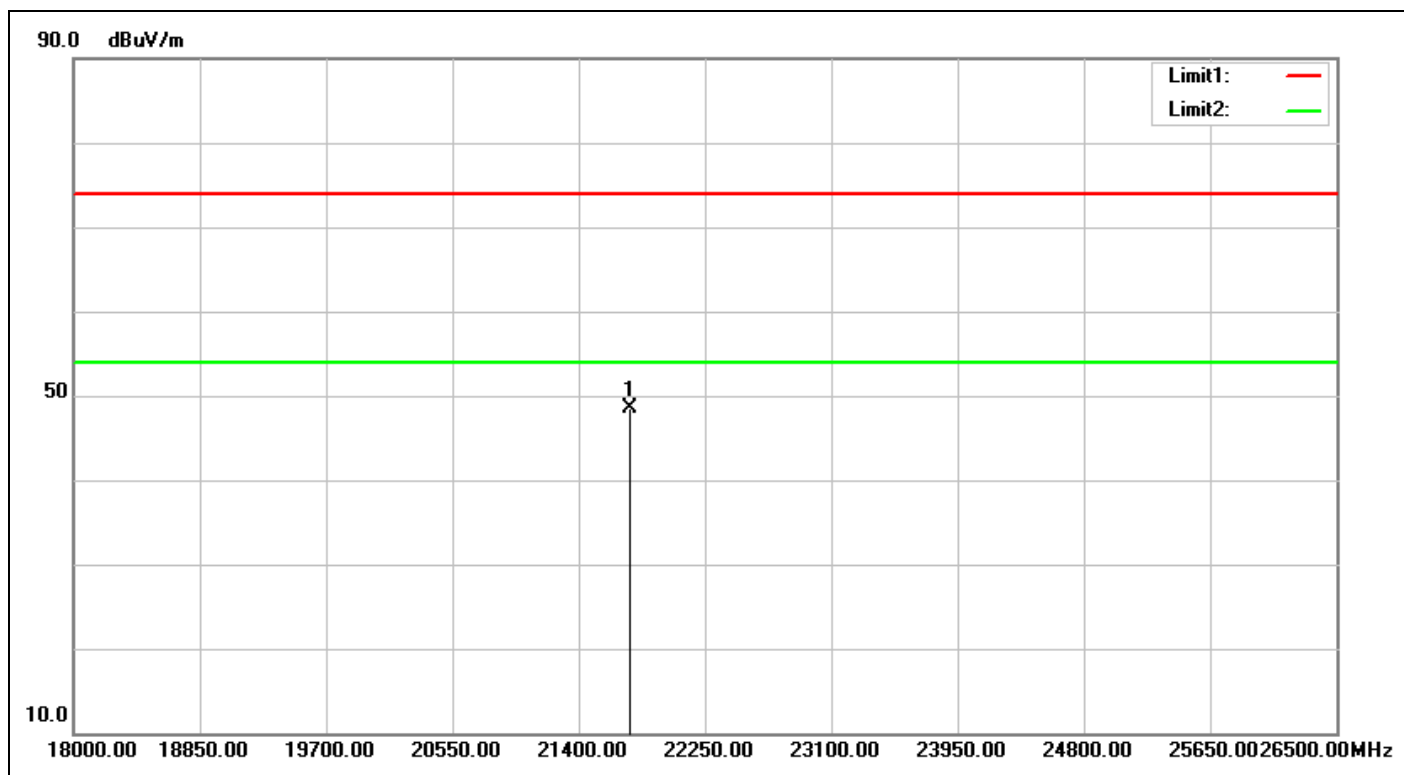
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



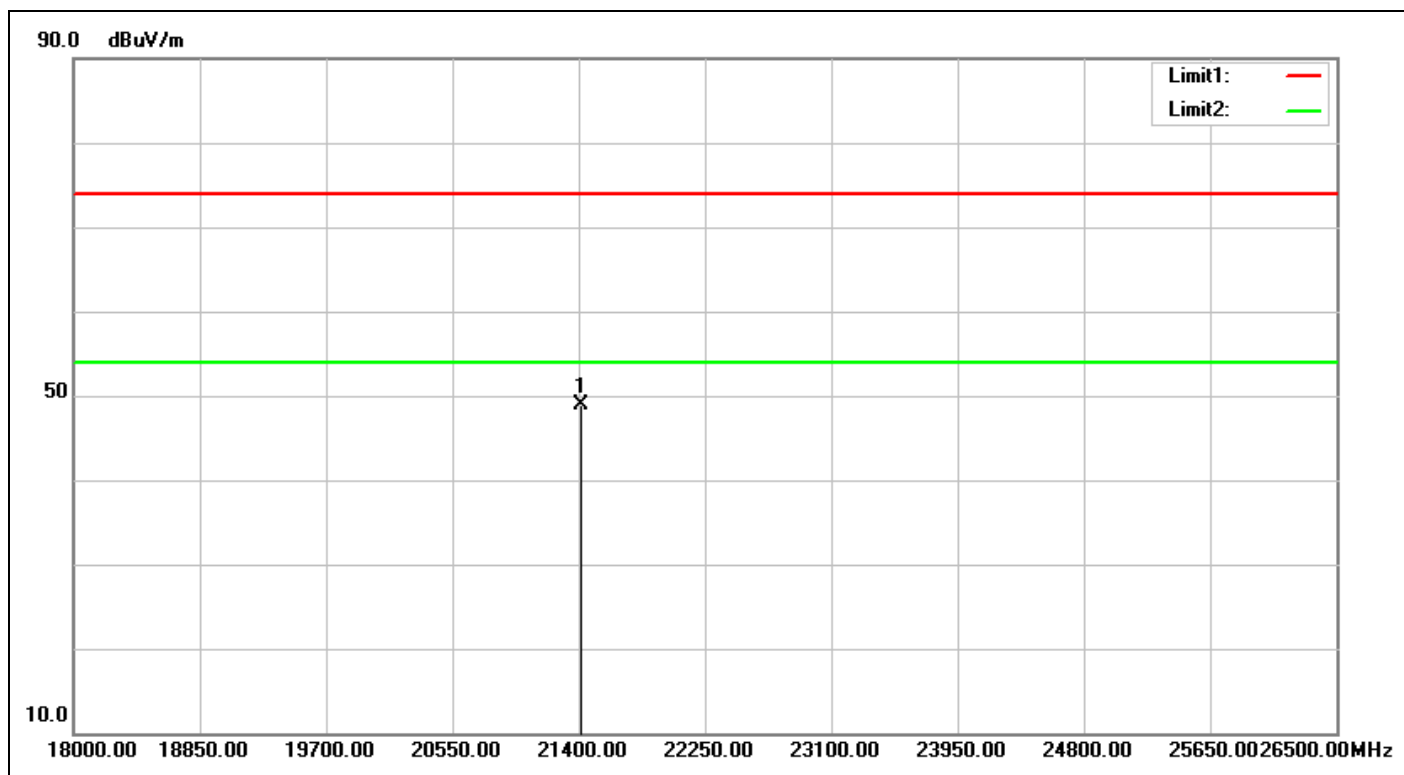
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 17:04:13
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22445.500	32.28	15.97	48.25	74.00	-25.75	peak	100	110	



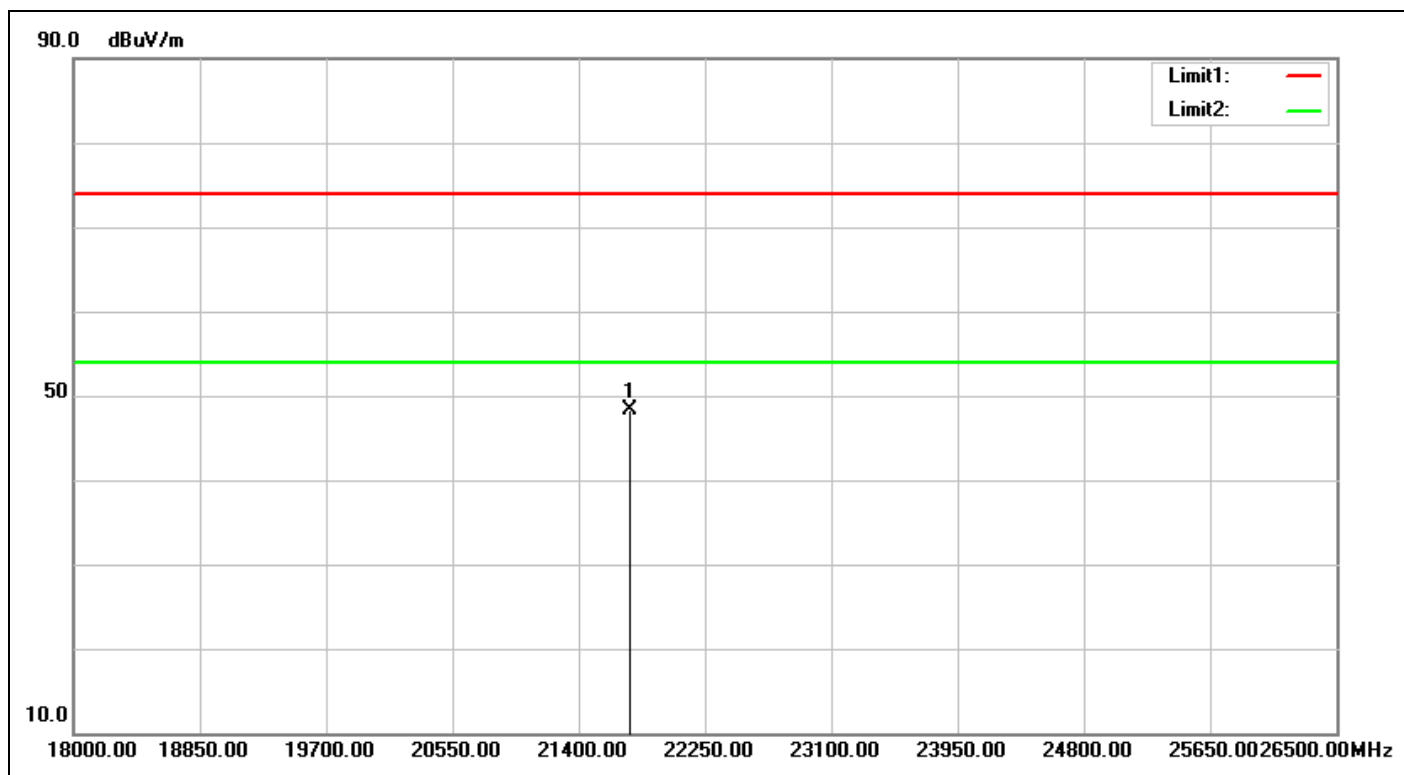
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 18:47:04
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21748.500	32.30	16.26	48.56	74.00	-25.44	peak	100	166	



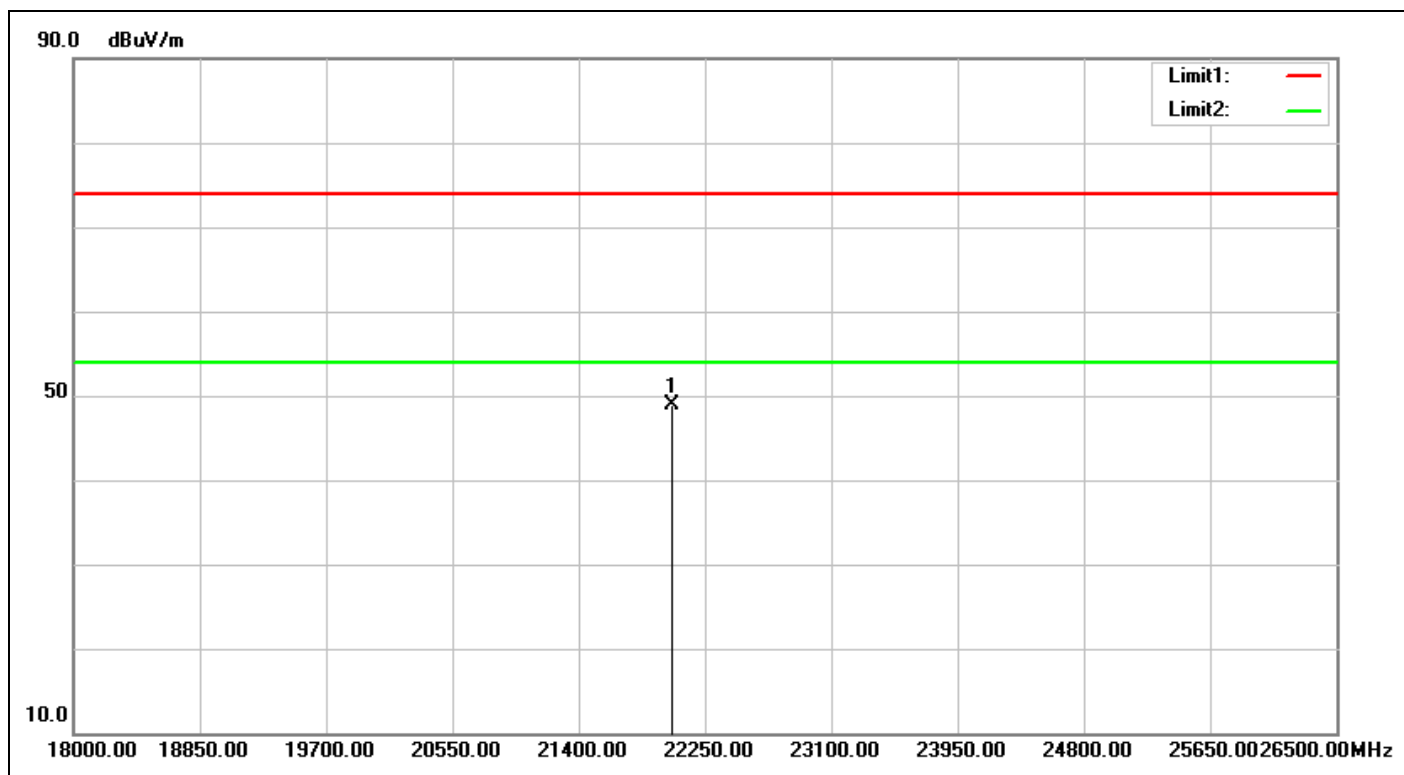
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 18:52:11
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21417.000	31.91	17.00	48.91	74.00	-25.09	peak	100	169	



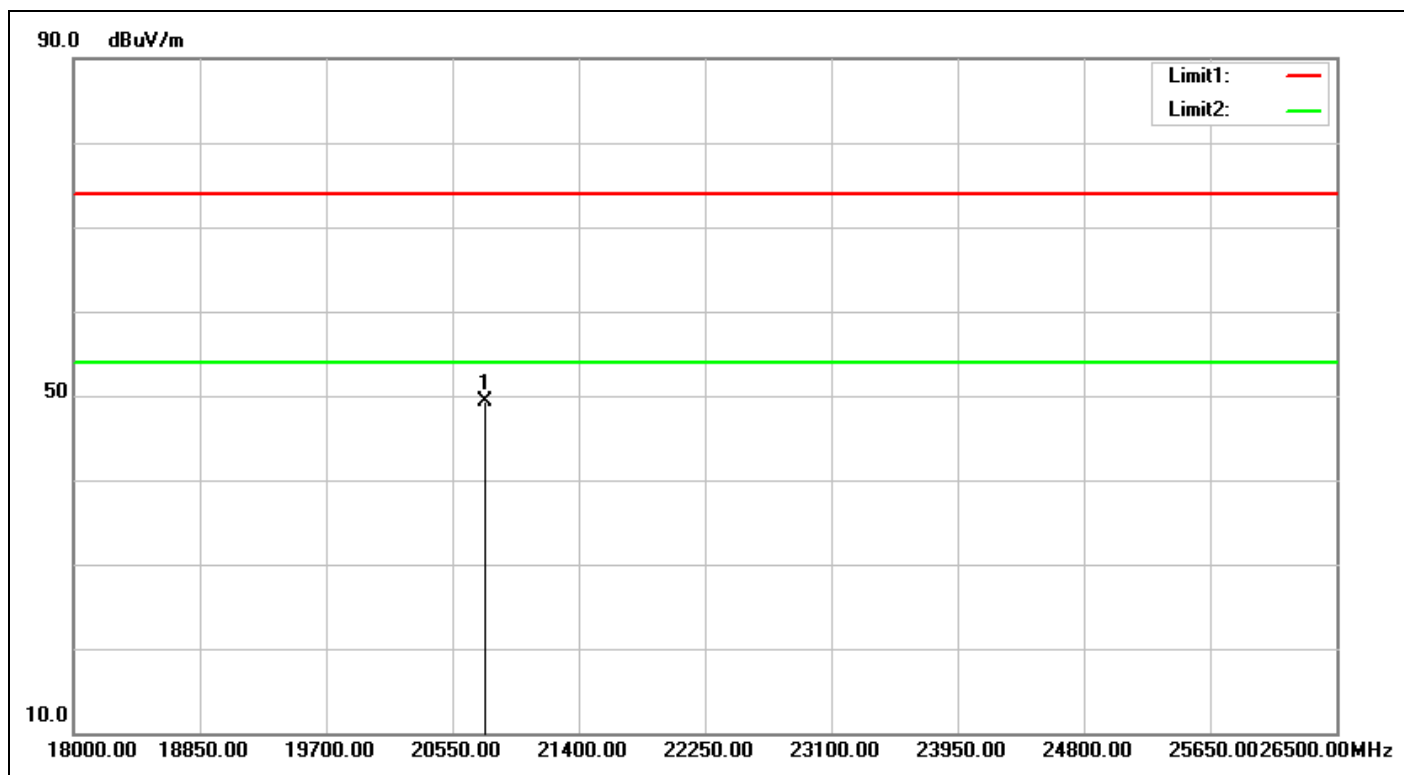
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 18:52:25
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21740.000	32.29	16.03	48.32	74.00	-25.68	peak	100	341	



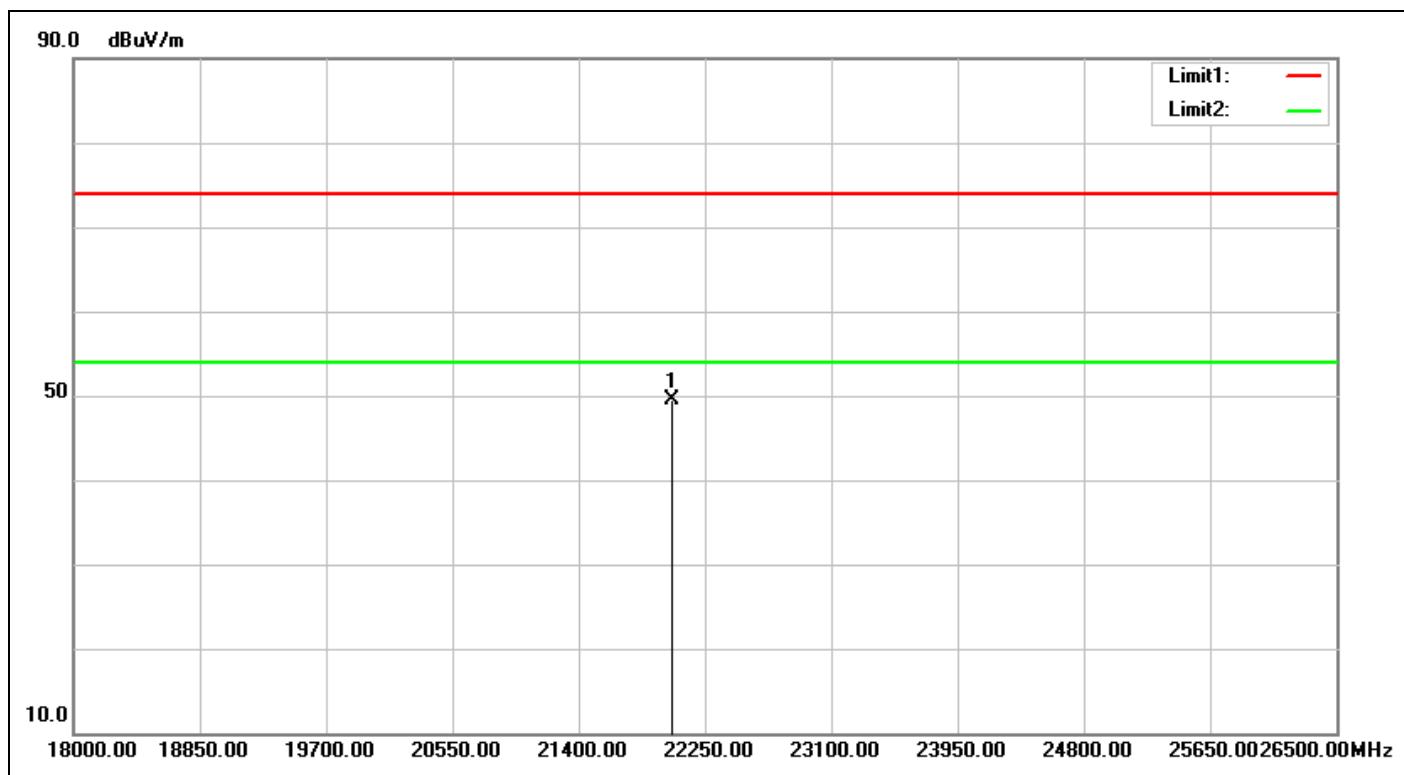
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 18:52:50
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22029.000	32.56	16.40	48.96	74.00	-25.04	peak	100	95	



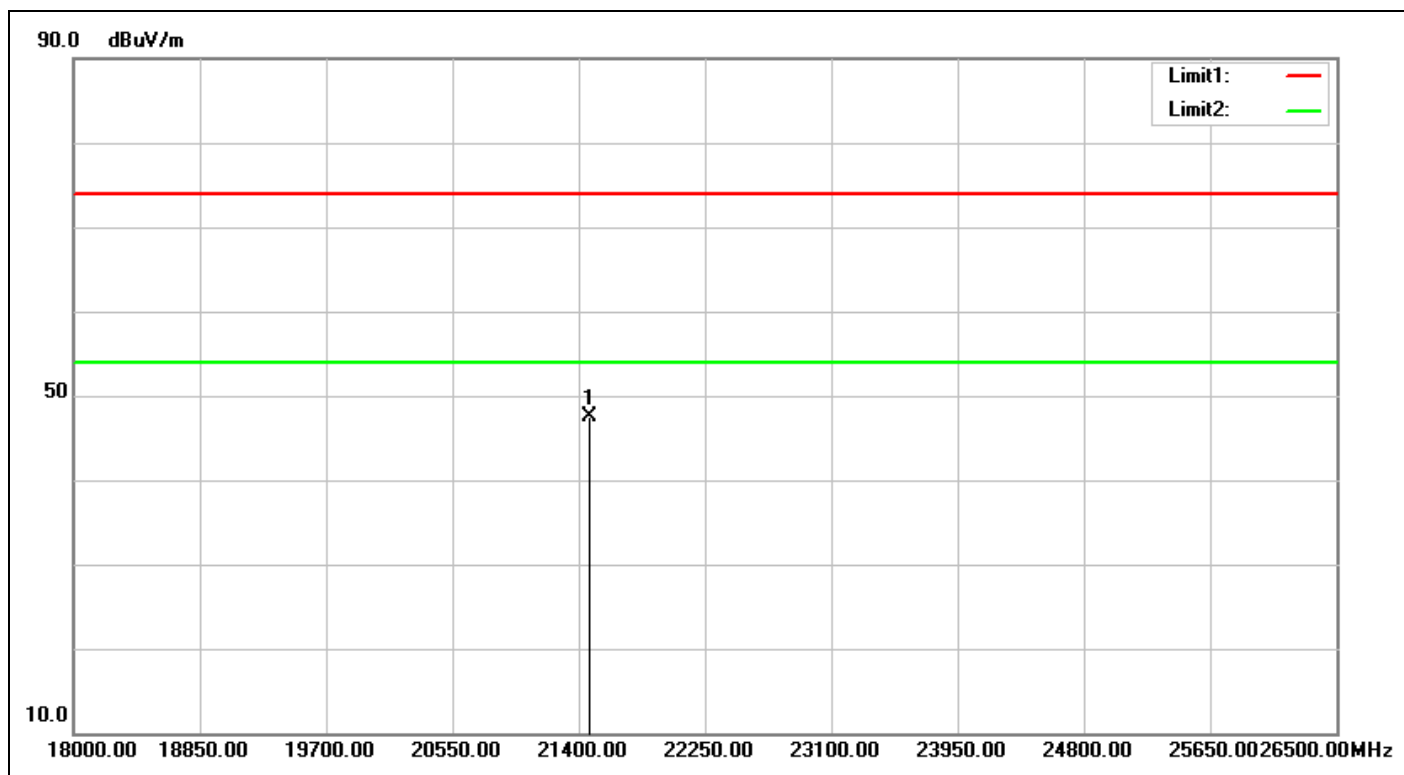
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 18:53:03
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20771.000	31.13	18.08	49.21	74.00	-24.79	peak	100	134	



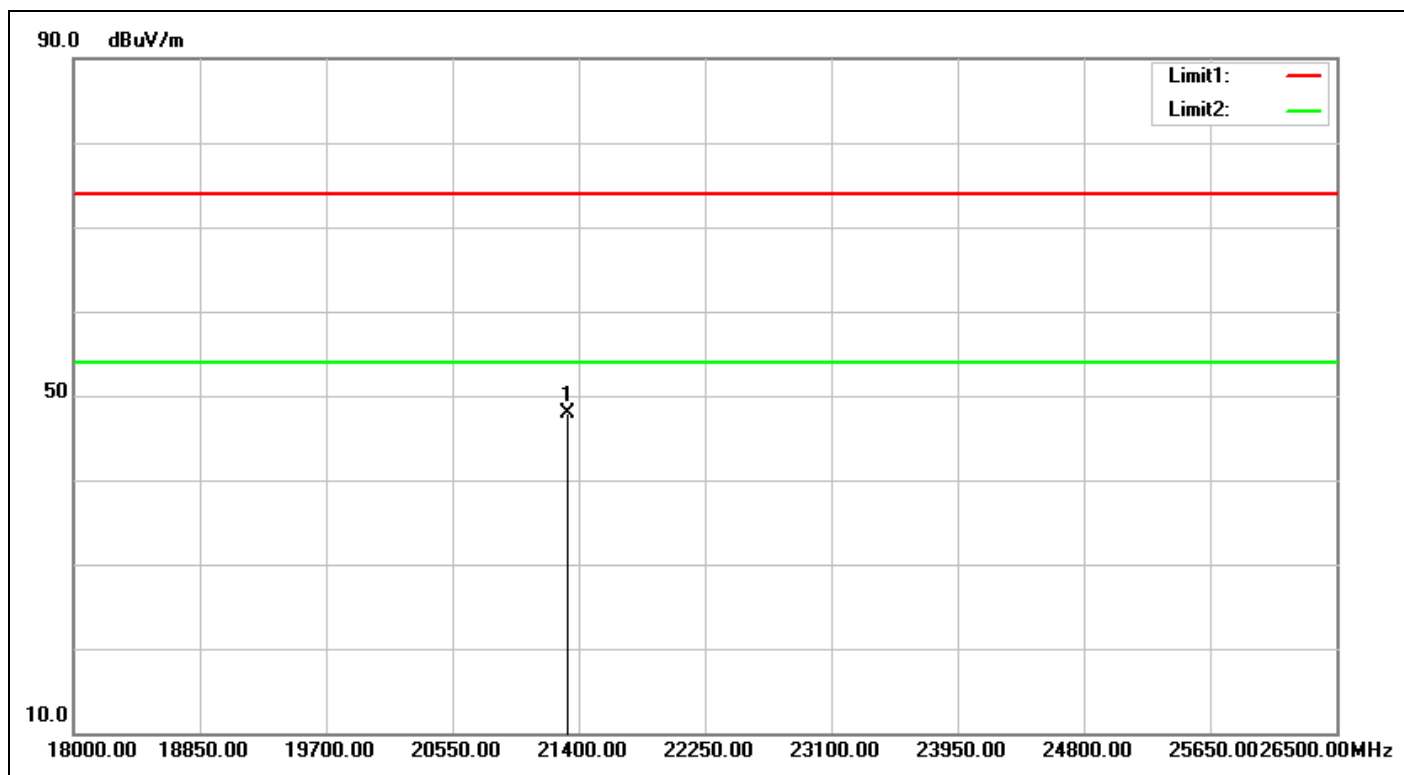
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 18:53:26
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22029.000	32.56	16.92	49.48	74.00	-24.52	peak	100	130	



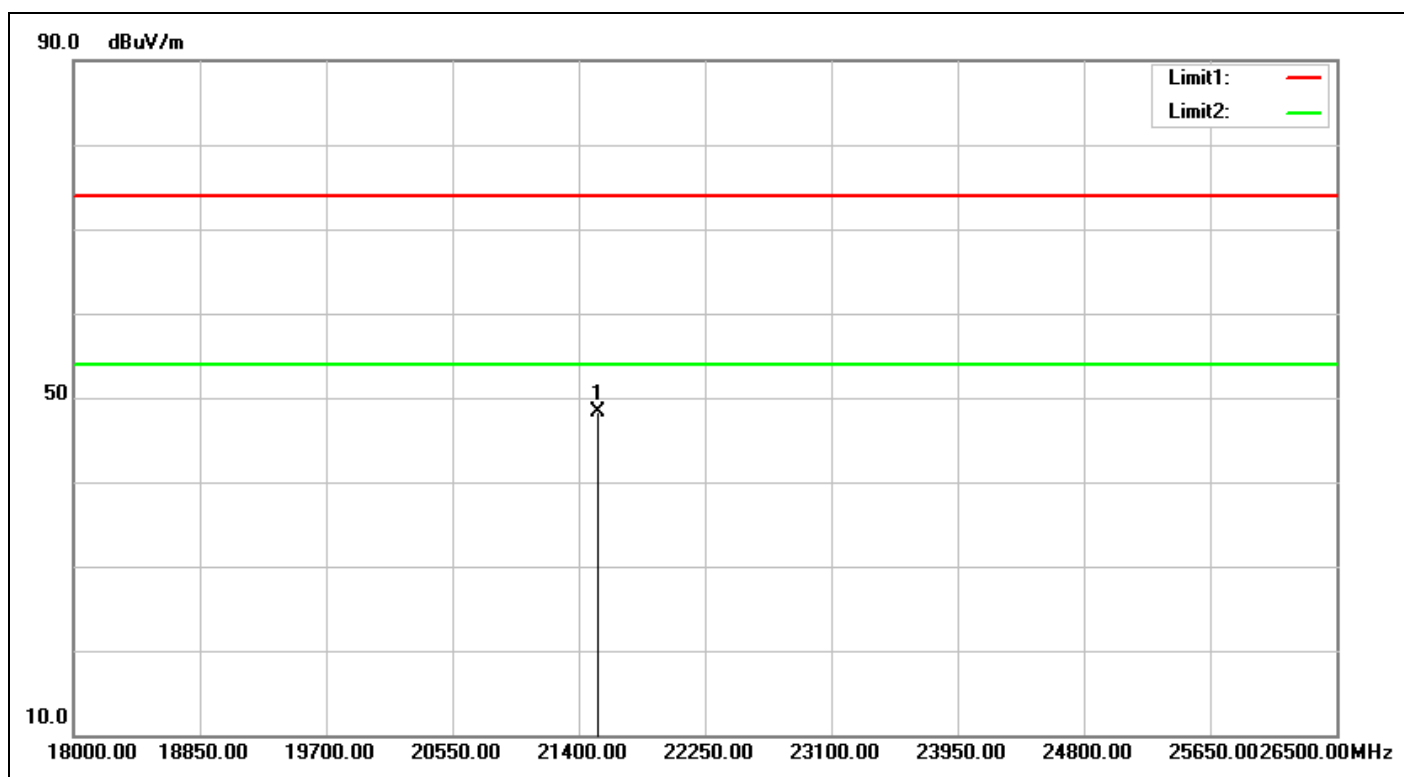
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 18:53:39
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21468.000	31.98	15.53	47.51	74.00	-26.49	peak	100	165	



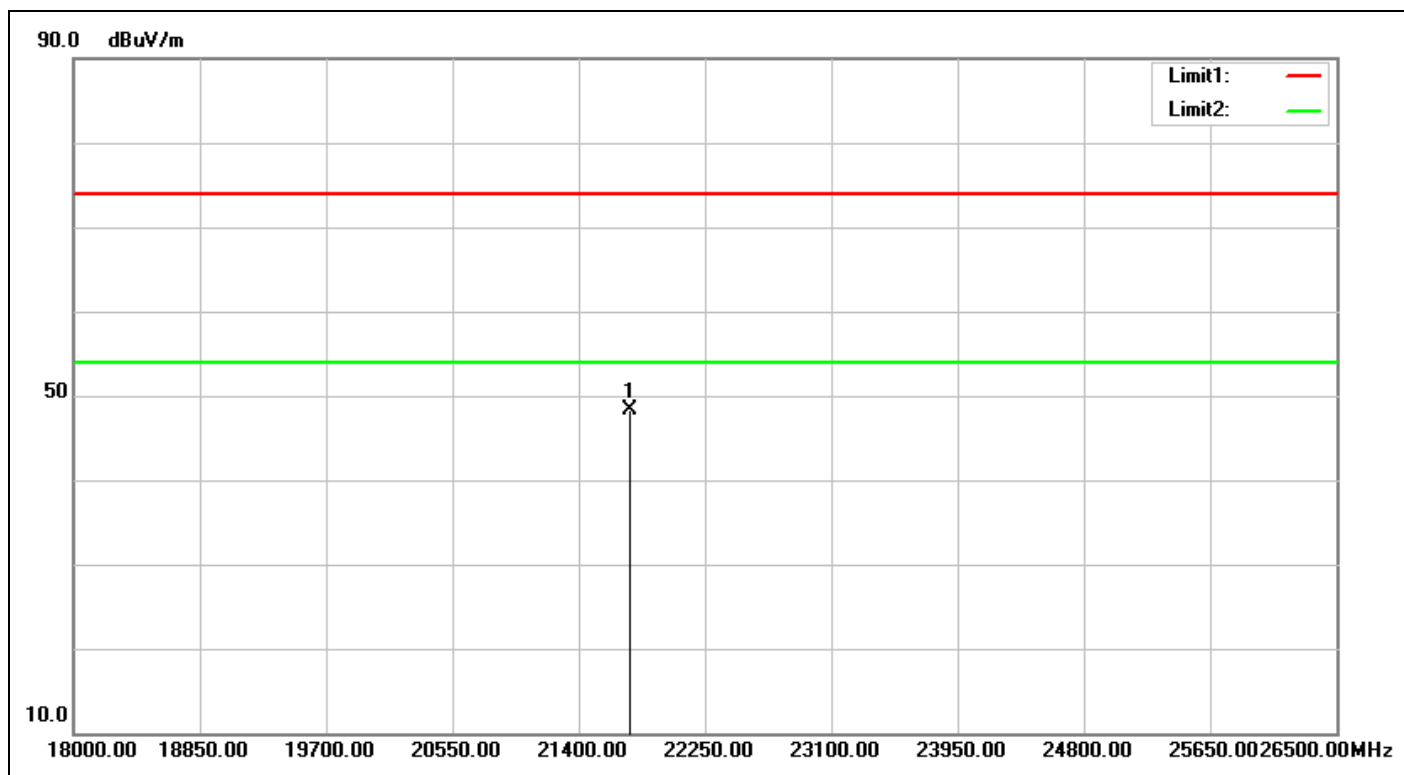
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 18:54:35
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21323.500	31.77	16.05	47.82	74.00	-26.18	peak	100	163	



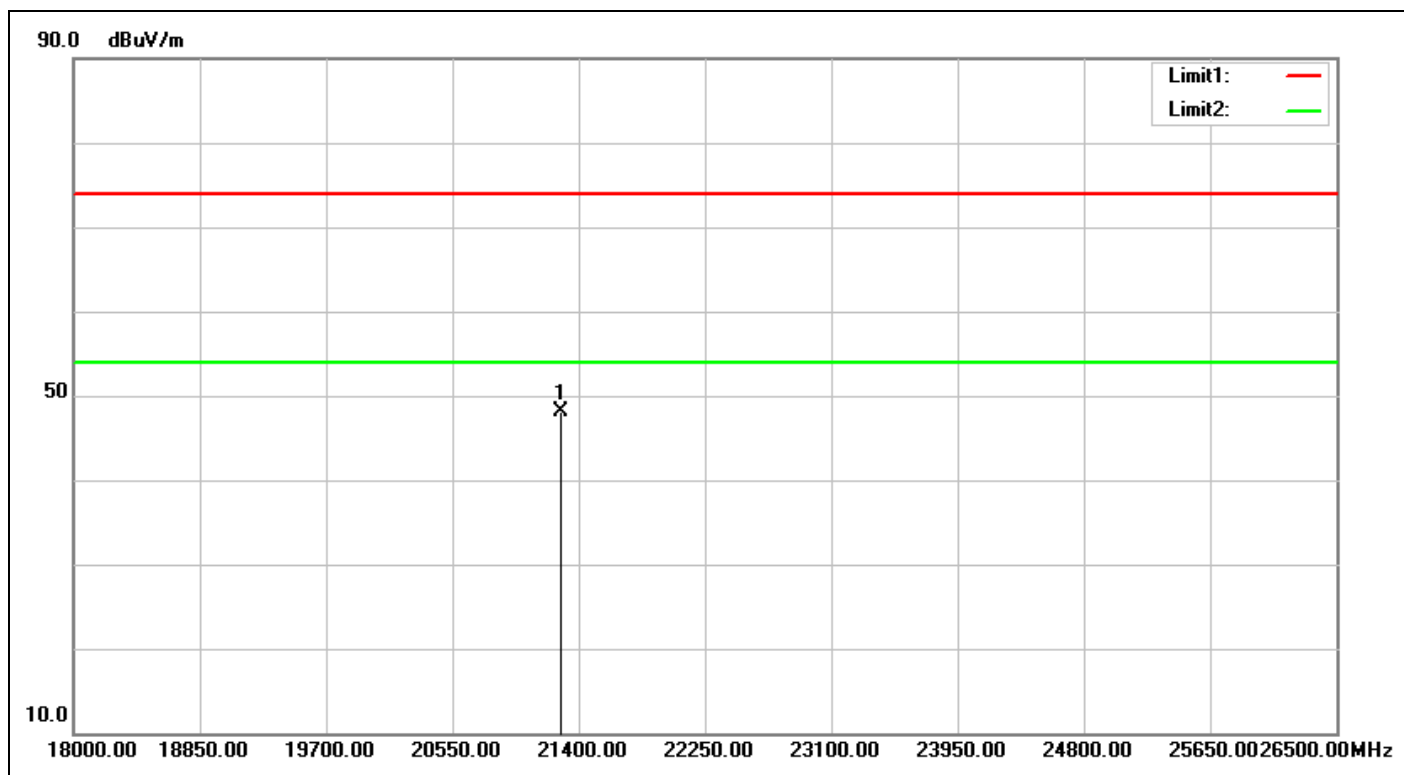
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 18:54:49
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21527.500	32.06	16.28	48.34	74.00	-25.66	peak	100	167	



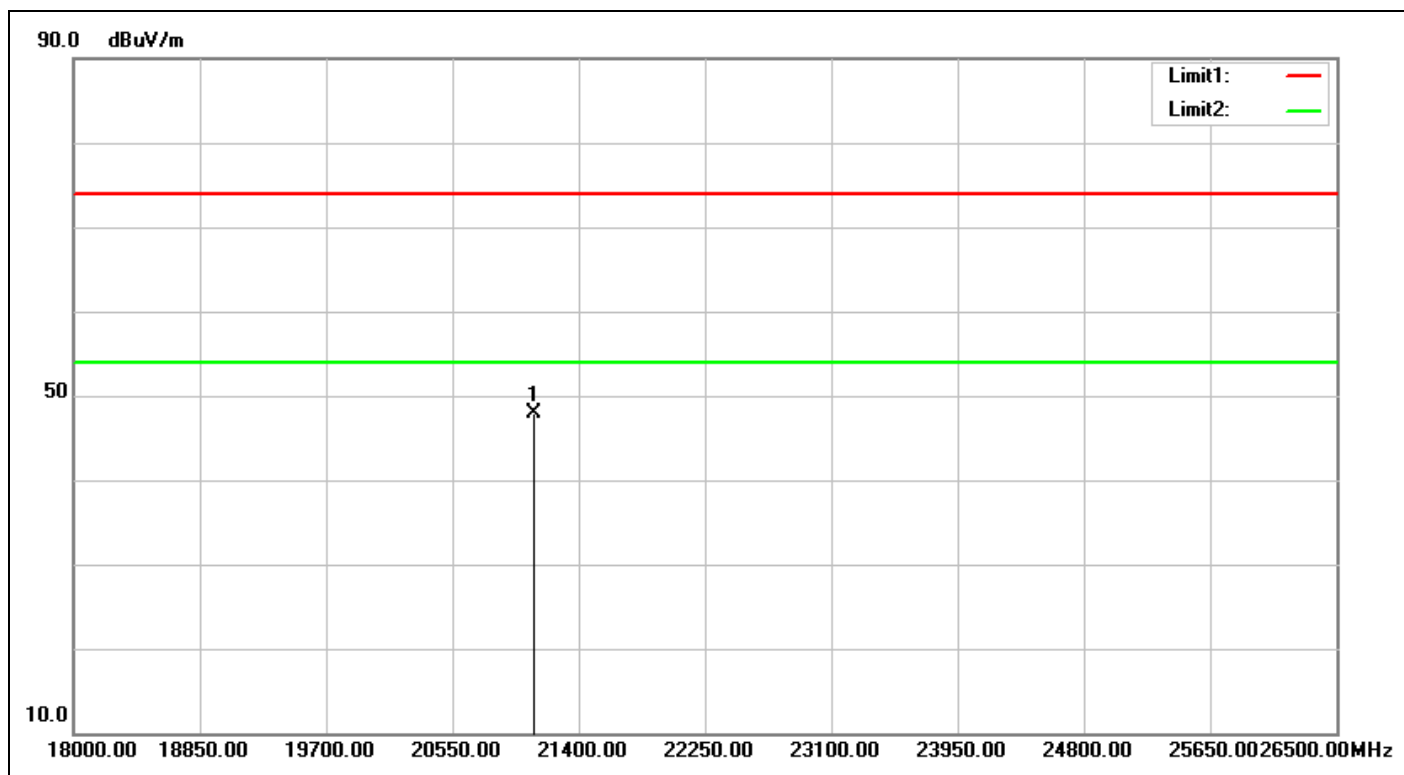
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 18:55:12
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21748.500	32.30	15.93	48.23	74.00	-25.77	peak	100	18	



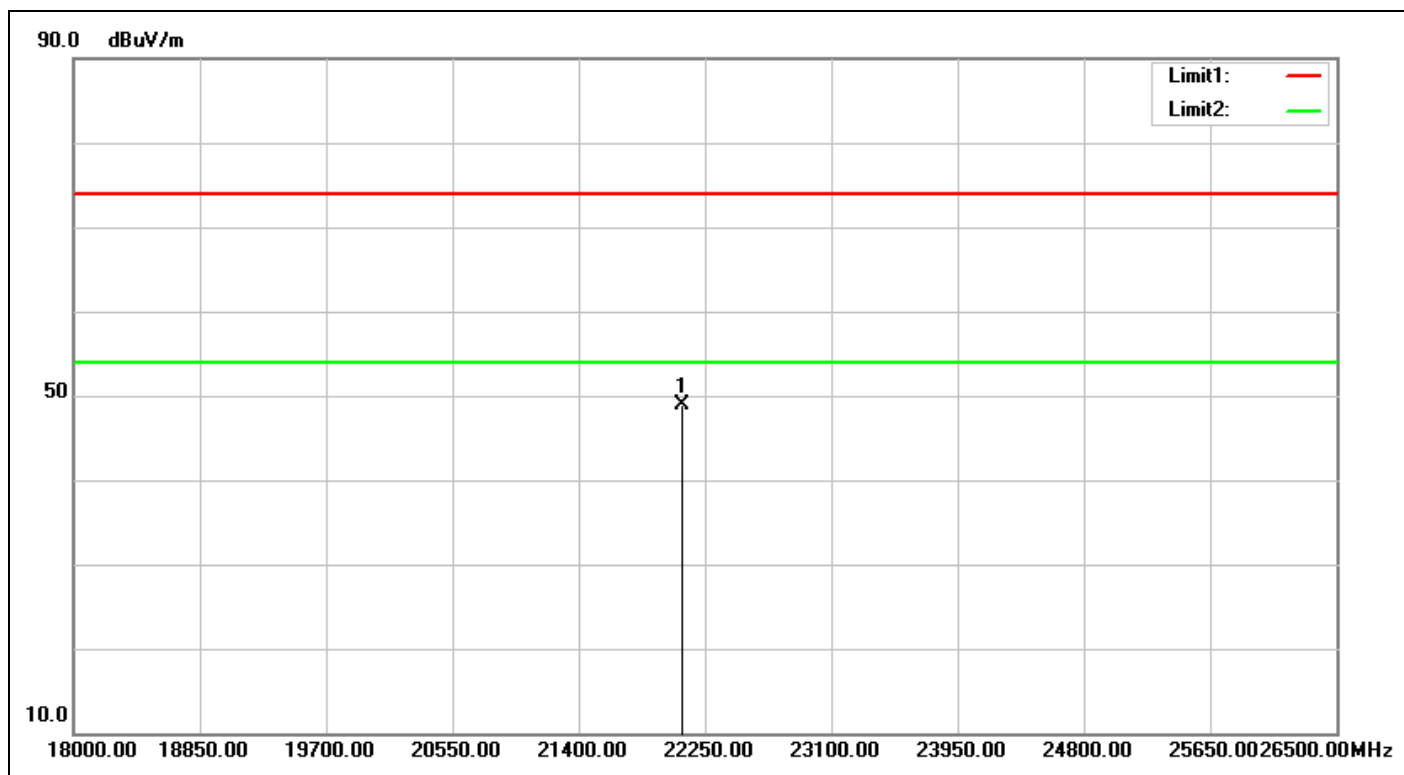
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 18:55:24
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	G-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21281.000	31.70	16.40	48.10	74.00	-25.90	peak	100	304	



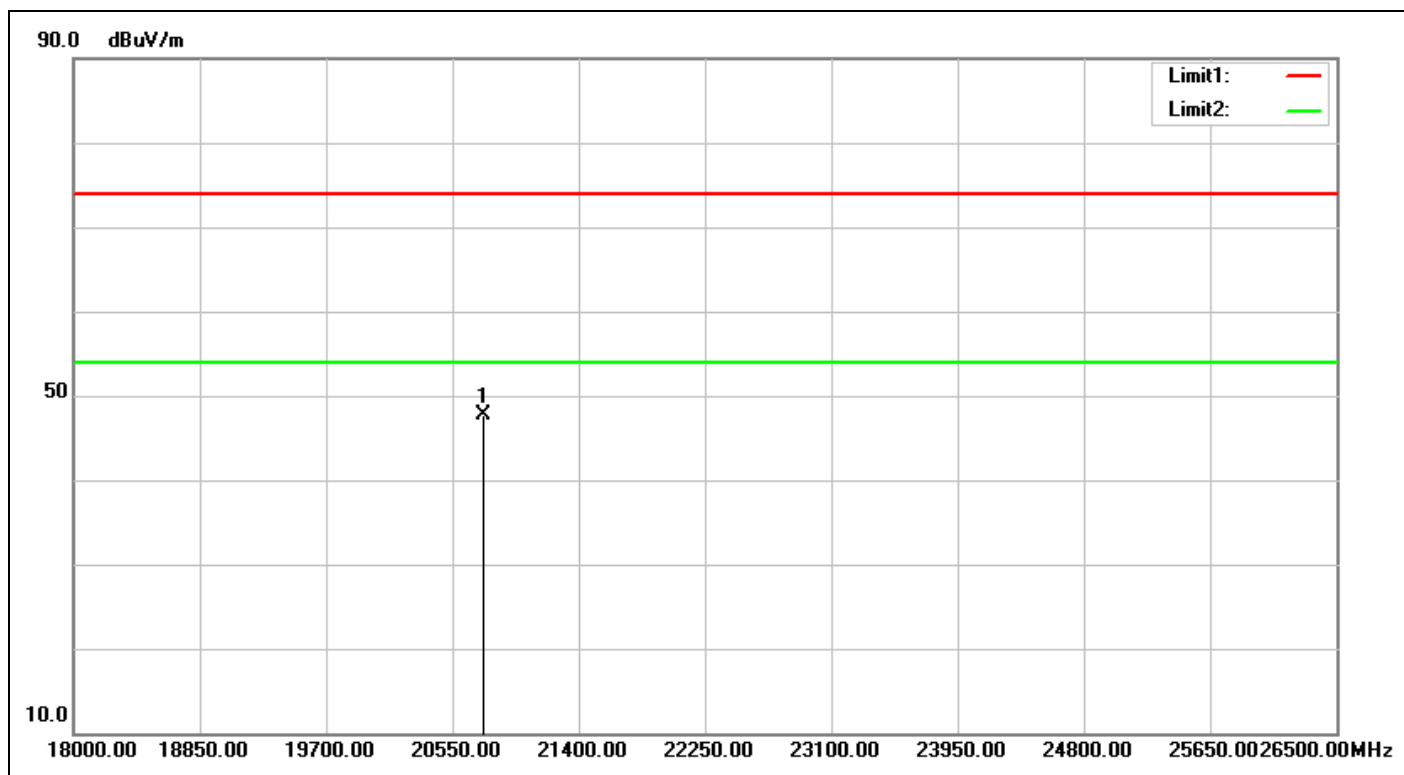
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 18:55:49
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21094.000	31.42	16.43	47.85	74.00	-26.15	peak	100	153	



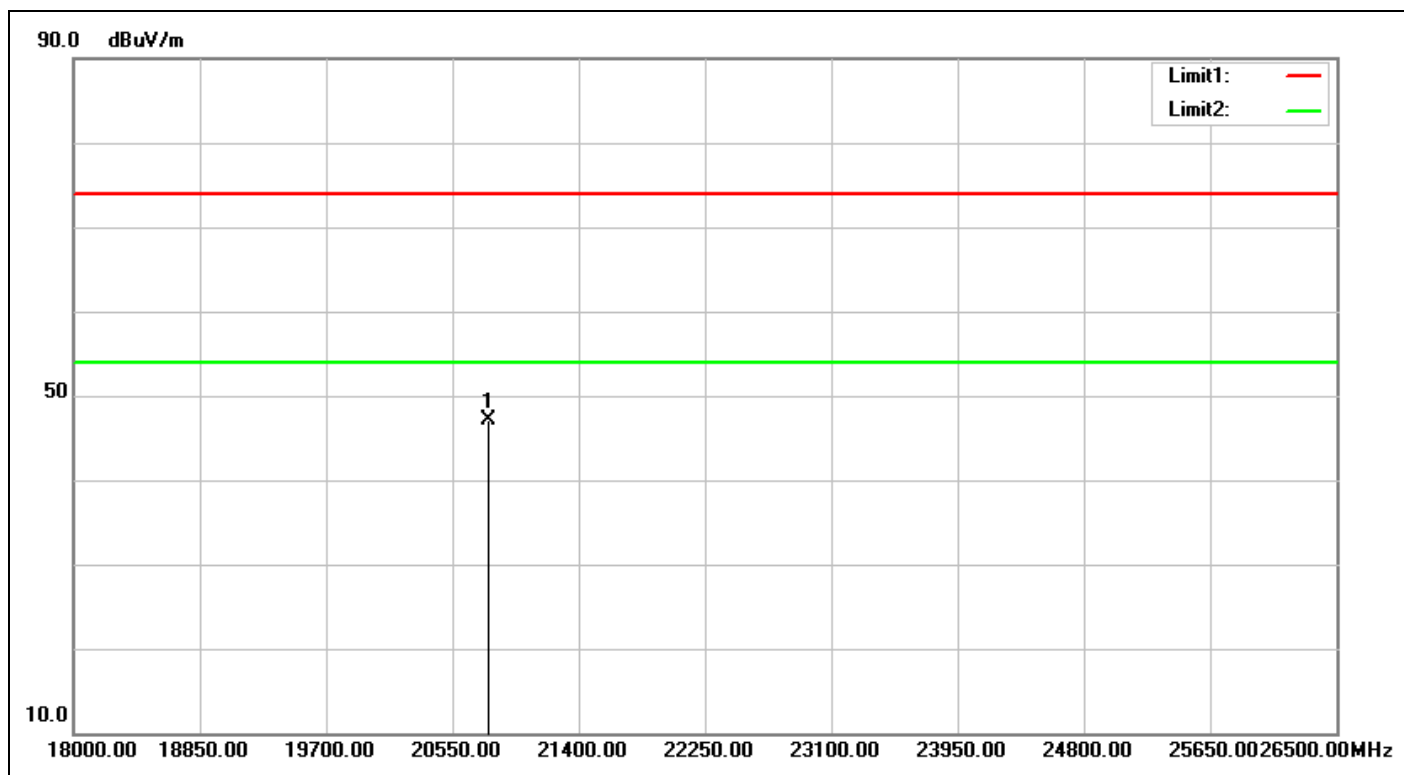
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 18:56:02
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2412-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22097.000	32.52	16.36	48.88	74.00	-25.12	peak	100	189	



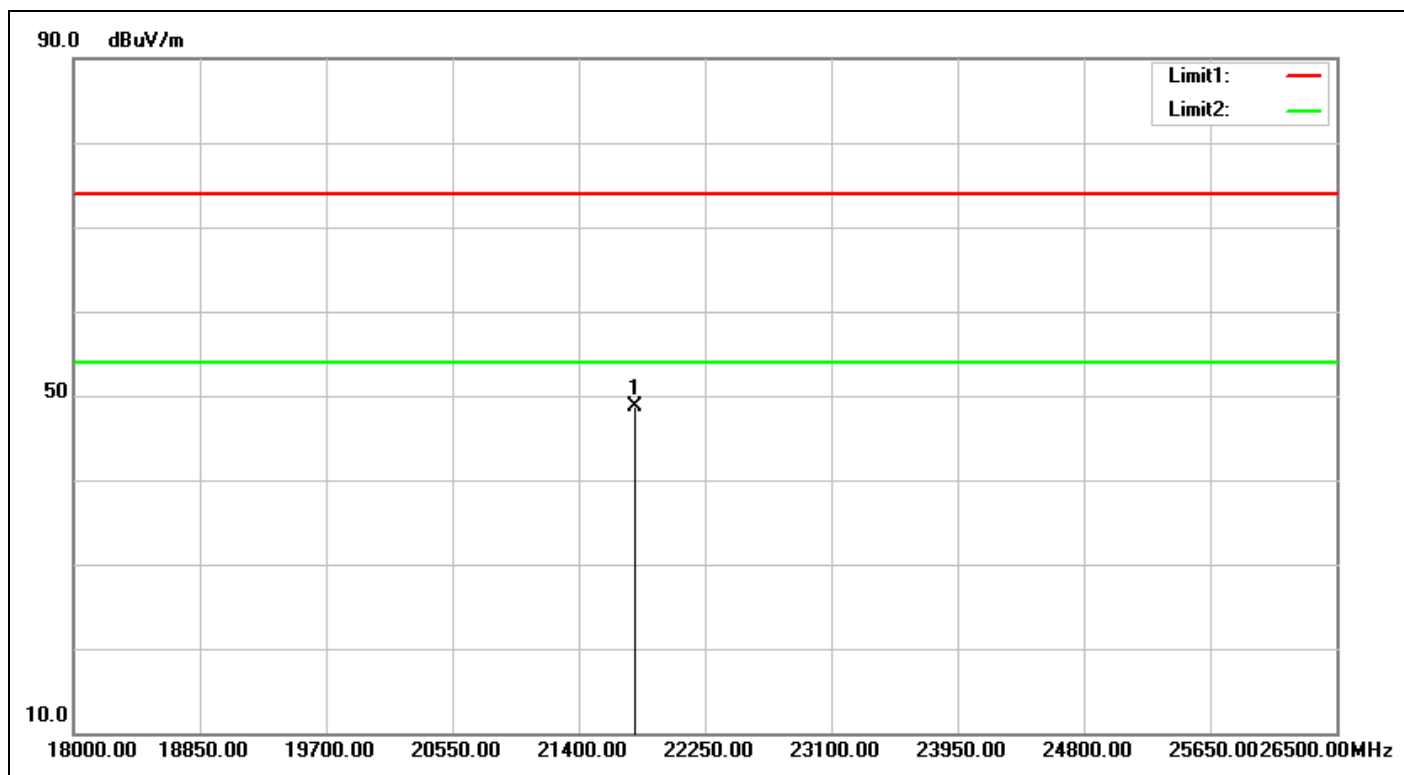
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 18:56:23
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20762.500	31.13	16.49	47.62	74.00	-26.38	peak	100	156	



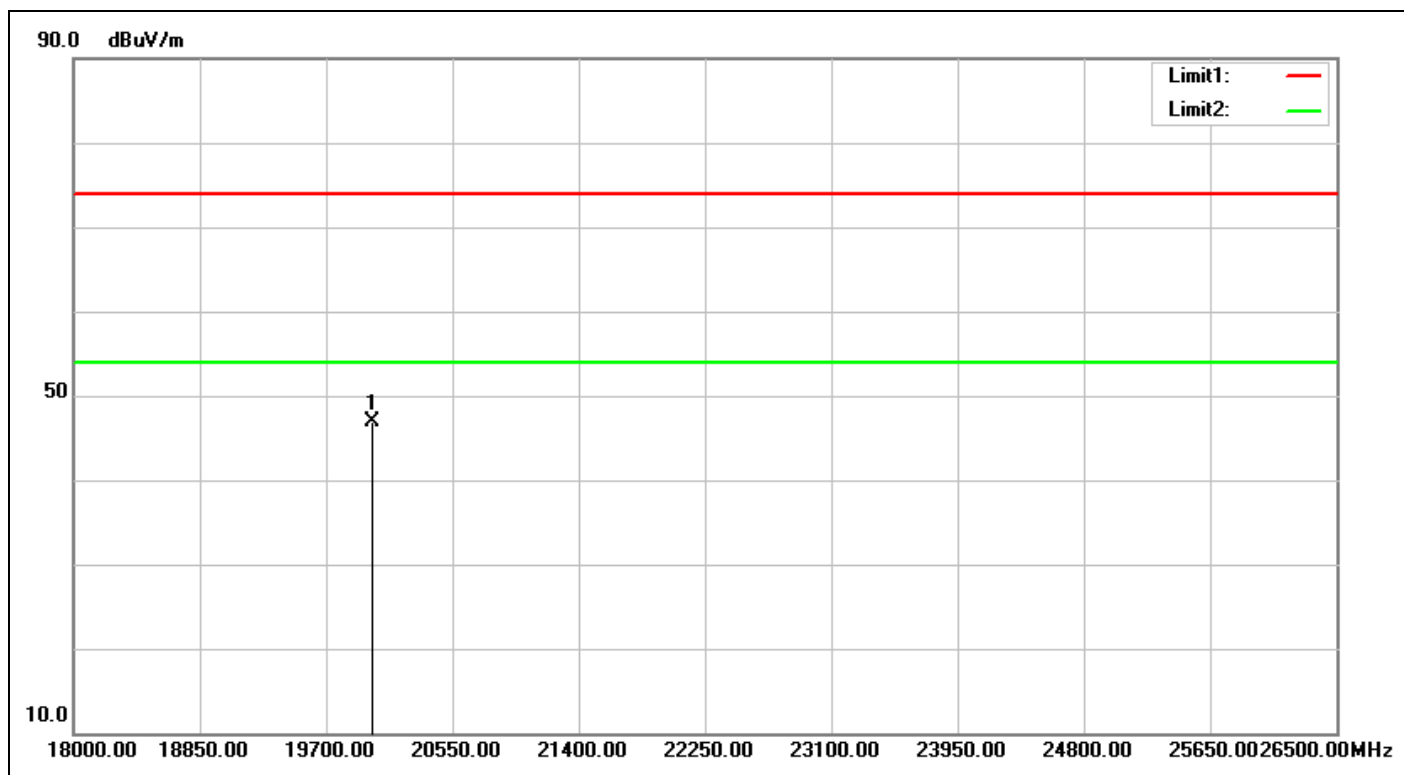
Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 18:56:36
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20796.500	31.15	15.98	47.13	74.00	-26.87	peak	100	322	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 18:56:56
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21774.000	32.33	16.31	48.64	74.00	-25.36	peak	100	184	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 18:57:09
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	N20-2462-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20014.500	30.59	16.40	46.99	74.00	-27.01	peak	100	128	

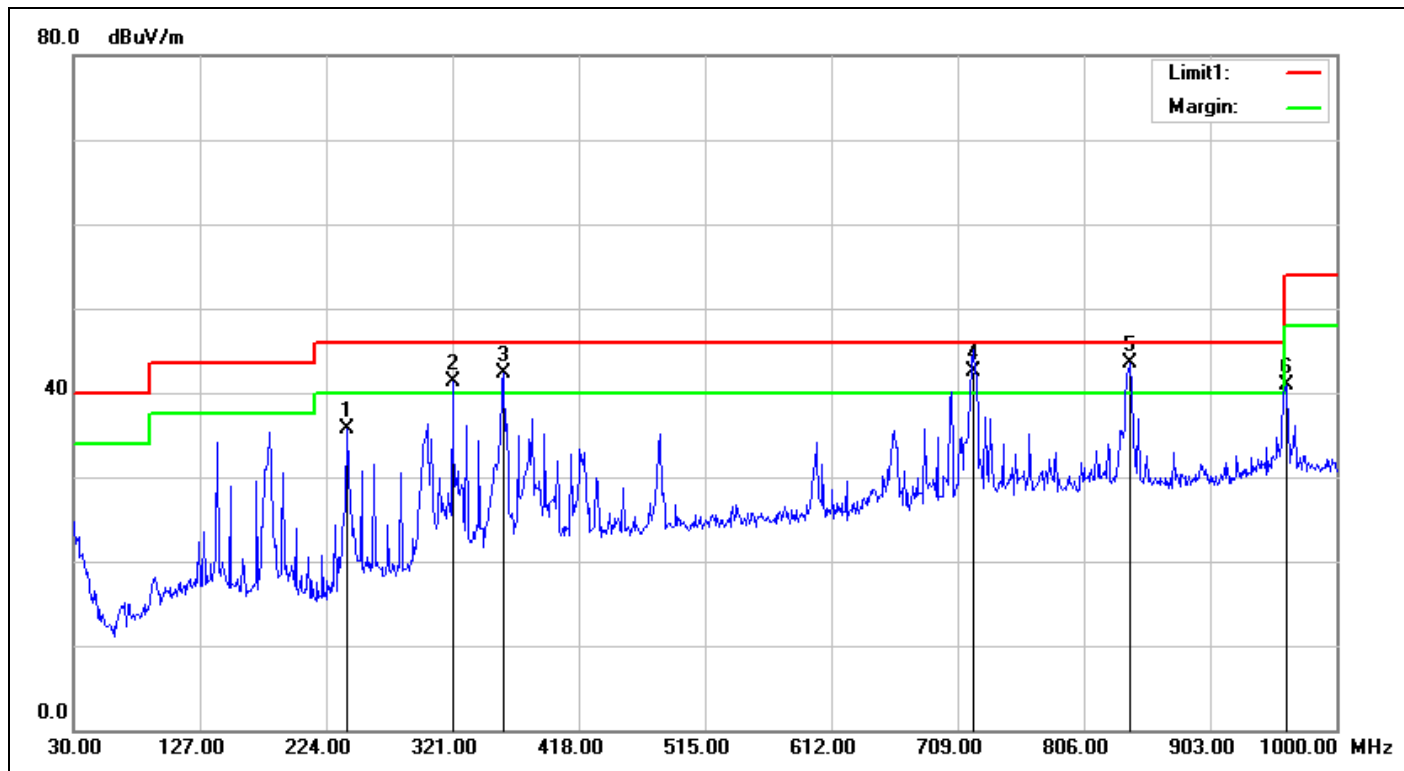
Spurious Emissions, TX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

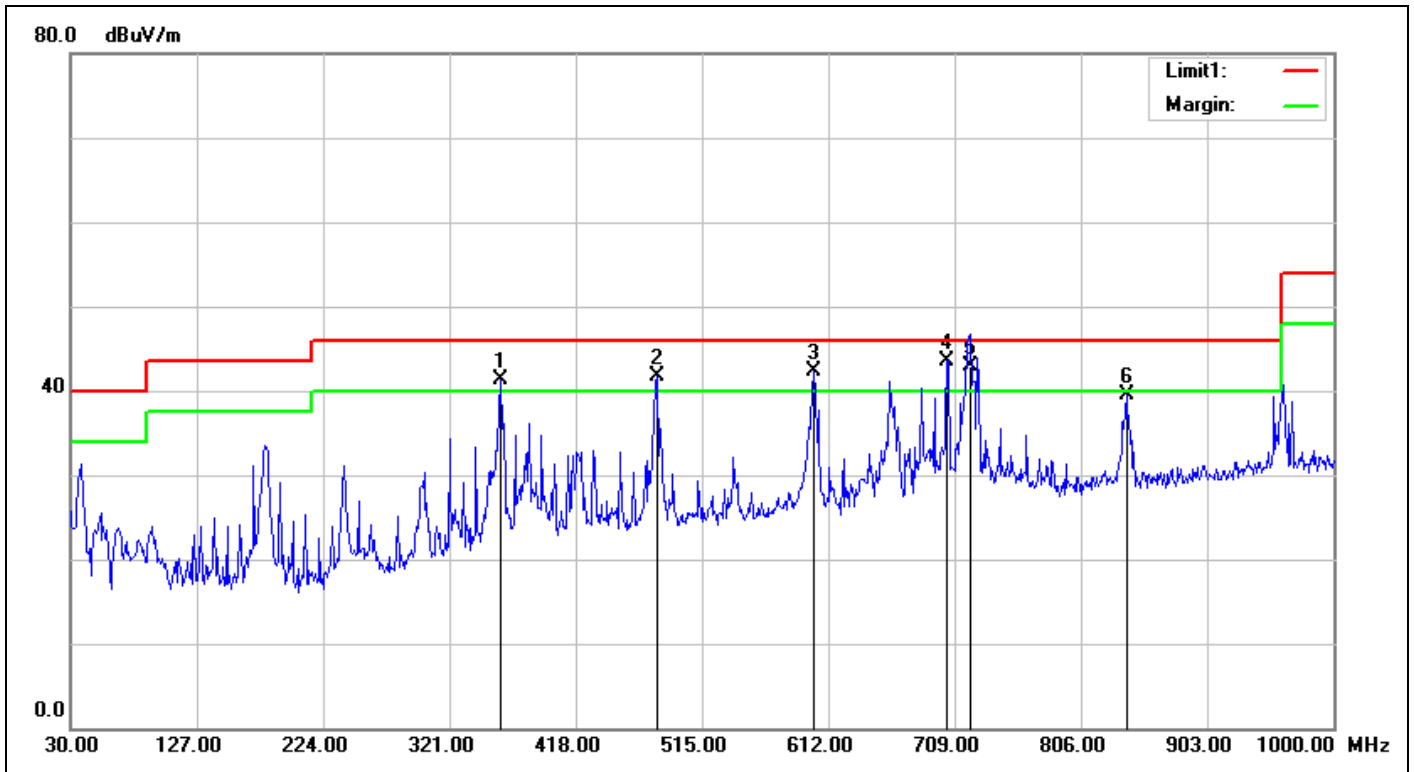
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 16:23:09
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	239.5200	-6.85	42.64	35.79	46.00	-10.21	QP	100	118	
2	321.0000	-4.05	45.32	41.27	46.00	-4.73	QP	100	130	
3	359.8000	-3.16	45.39	42.23	46.00	-3.77	QP	100	209	
4	720.6400	1.72	40.78	42.50	46.00	-3.50	QP	100	247	
5	840.9200	3.54	39.93	43.47	46.00	-2.53	QP	100	302	
6	961.2000	5.54	35.45	40.99	54.00	-13.01	QP	100	275	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 16:24:12
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	360.7700	-3.14	44.42	41.28	46.00	-4.72	QP	100	33	
2	480.0800	-1.47	43.13	41.66	46.00	-4.34	QP	100	360	
3	601.3300	0.09	42.15	42.24	46.00	-3.76	QP	100	229	
4	703.1800	1.33	42.18	43.51	46.00	-2.49	QP	100	56	
5	720.6400	1.72	41.18	42.90	46.00	-3.10	QP	100	50	
6	840.9200	3.54	35.98	39.52	46.00	-6.48	QP	100	148	

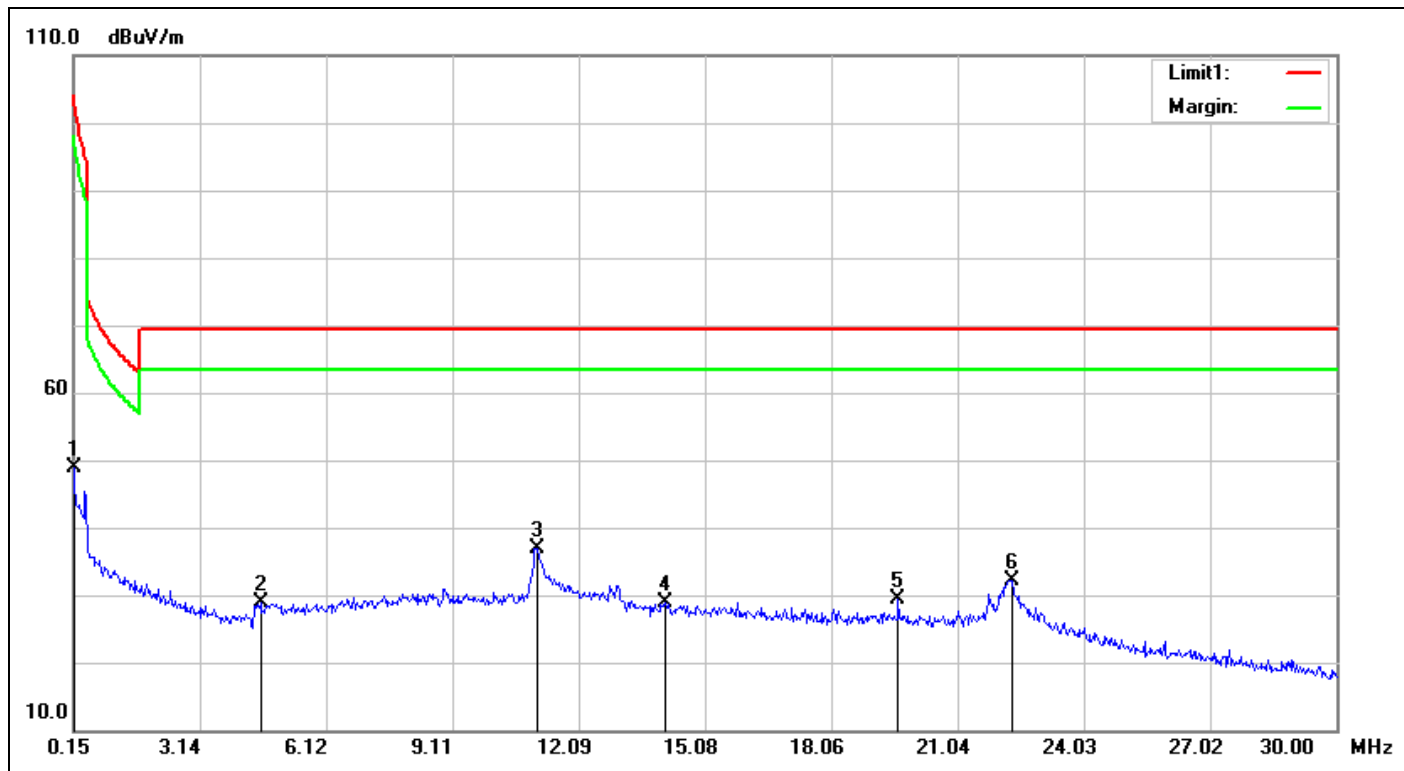
Spurious Emissions, TX Mode, 150K-30M



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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 17:13:17
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1500	19.08	29.83	48.91	104.08	-55.17	QP	100	189	
2	4.5678	19.49	9.34	28.83	69.50	-40.67	QP	100	329	
3	11.1049	20.42	16.54	36.96	69.50	-32.54	QP	100	130	
4	14.1496	20.96	8.01	28.97	69.50	-40.53	QP	100	133	
5	19.6420	21.92	7.51	29.43	69.50	-40.07	QP	100	136	
6	22.3285	22.14	10.03	32.17	69.50	-37.33	QP	100	241	

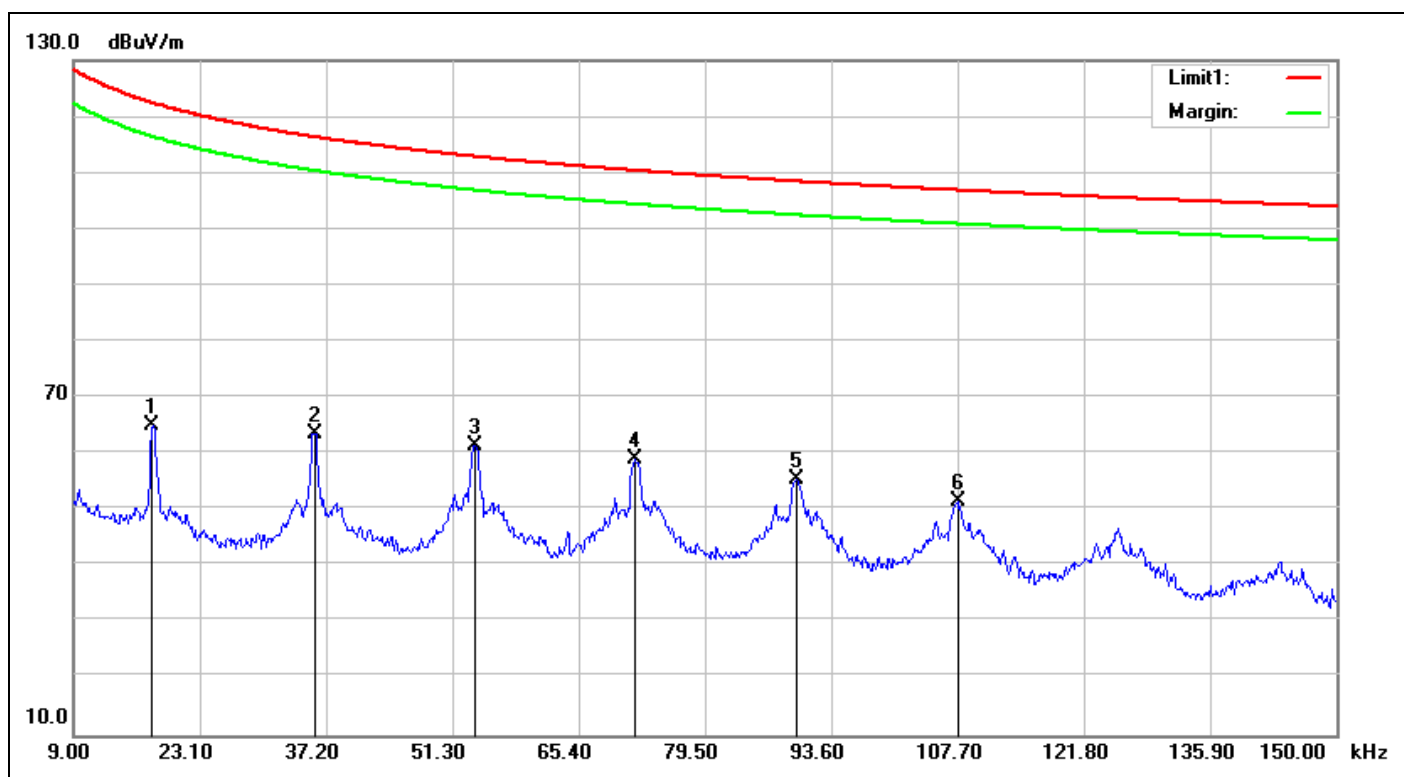
Spurious Emissions, TX Mode, 9K-150K



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.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 15:58:01
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-TX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0177	20.01	45.10	65.11	122.47	-57.36	QP	100	184	
2	0.0359	19.92	43.73	63.65	116.36	-52.71	QP	100	184	
3	0.0538	19.41	42.06	61.47	112.87	-51.40	QP	100	184	
4	0.0717	19.30	39.71	59.01	110.39	-51.38	QP	100	184	
5	0.0896	19.19	36.39	55.58	108.47	-52.89	QP	100	184	
6	0.1077	19.12	32.54	51.66	106.88	-55.22	QP	100	184	

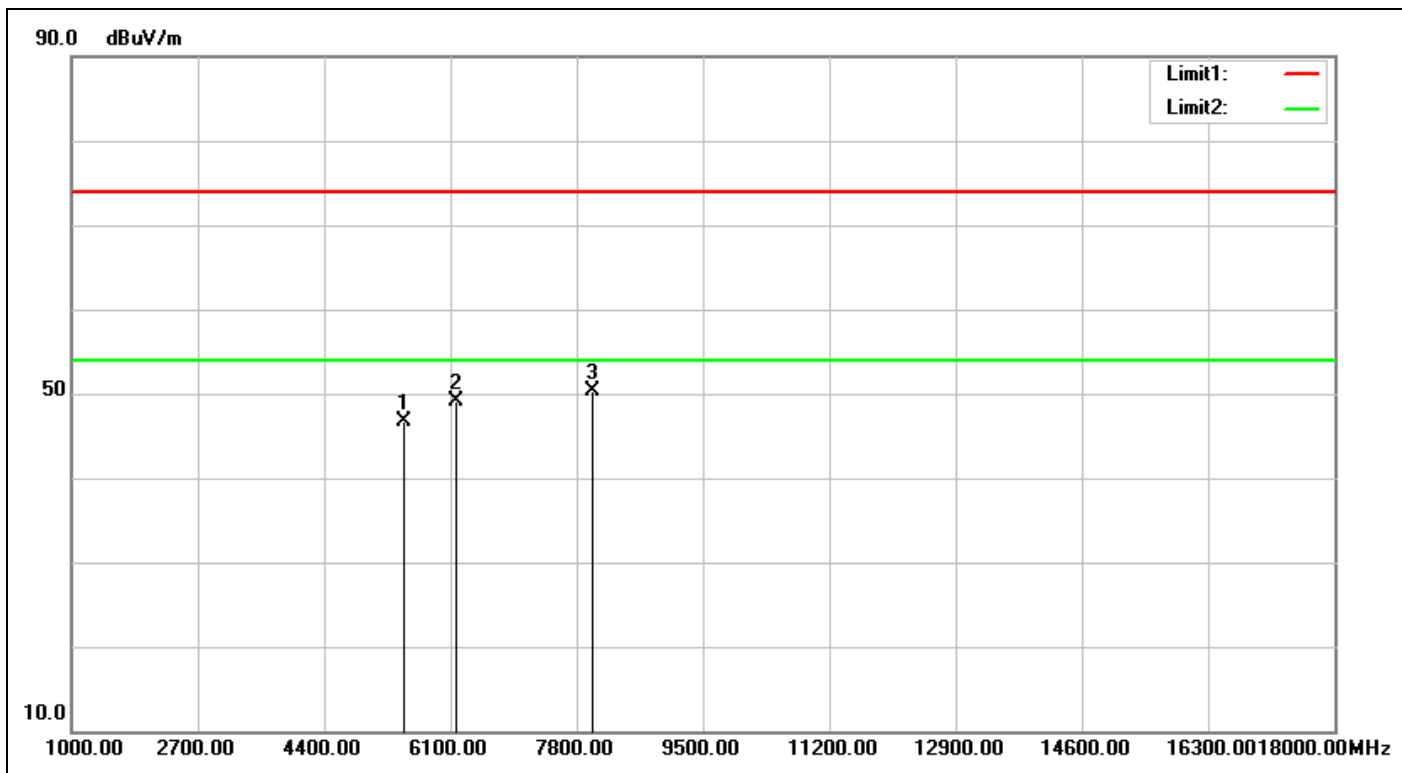
Spurious Emissions, RX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

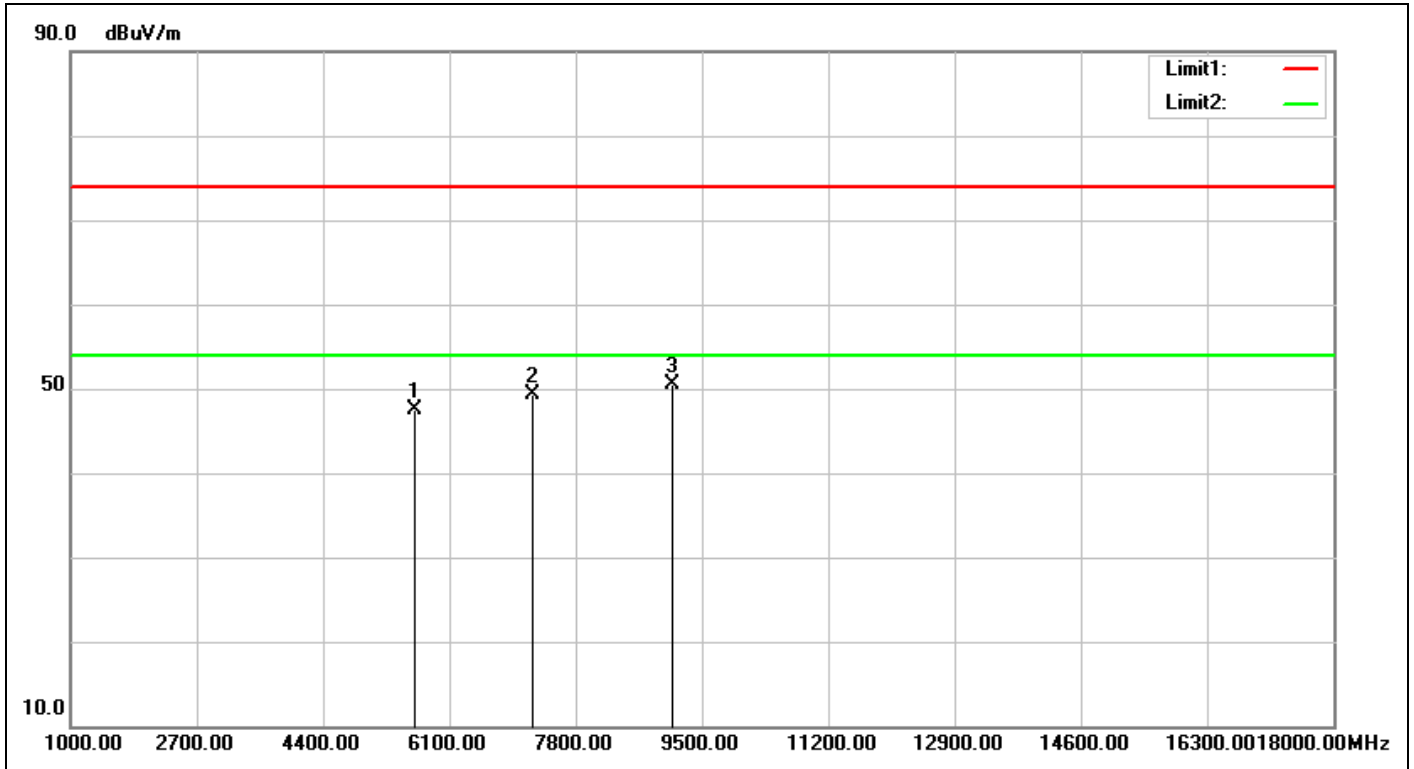
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 11:35:53
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	5471.000	3.41	43.21	46.62	74.00	-27.38	peak	100	92	
2	6168.000	4.51	44.52	49.03	74.00	-24.97	peak	100	328	
3	8004.000	3.64	46.67	50.31	74.00	-23.69	peak	100	142	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 11:36:56
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	5624.000	3.70	43.74	47.44	74.00	-26.56	peak	100	251	
2	7222.000	3.72	45.64	49.36	74.00	-24.64	peak	100	235	
3	9109.000	5.04	45.50	50.54	74.00	-23.46	peak	100	215	

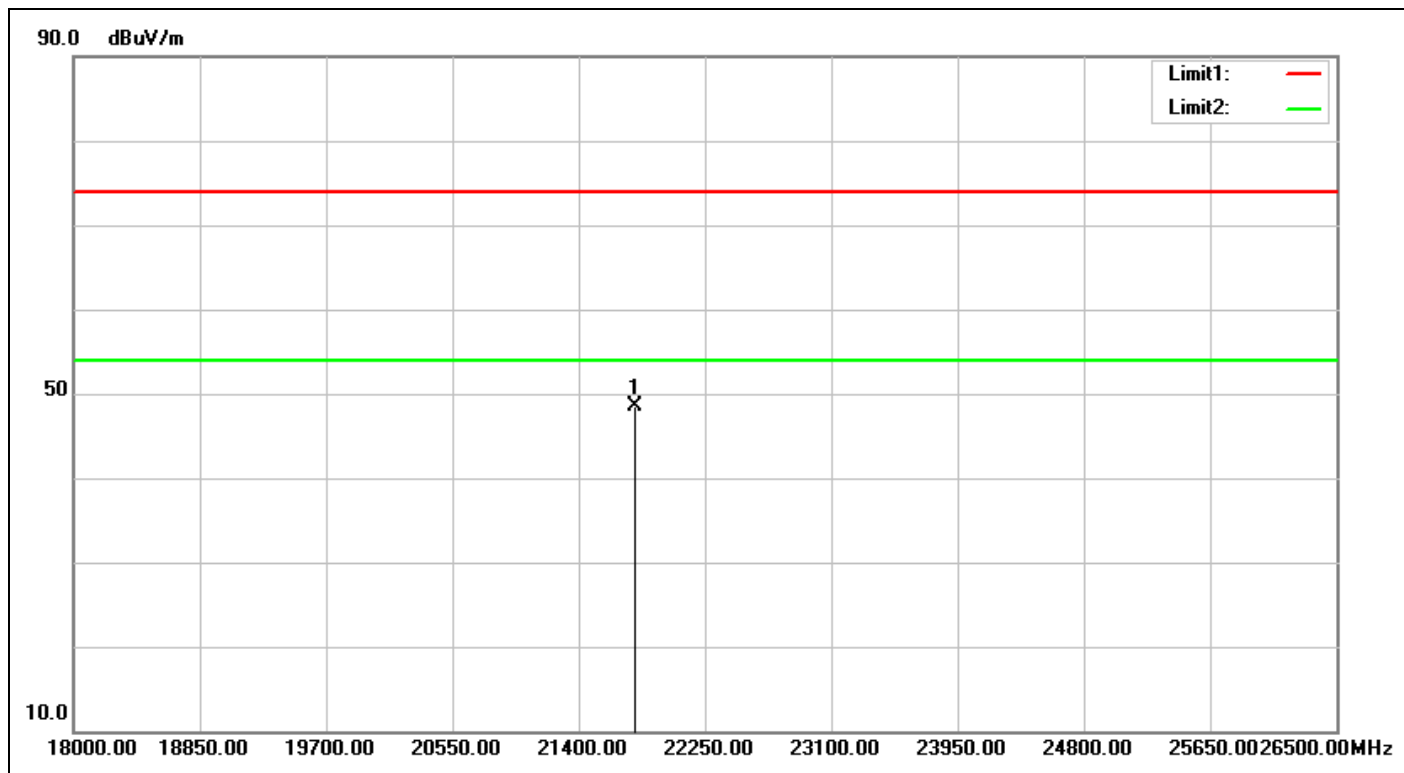
Spurious Emissions, RX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

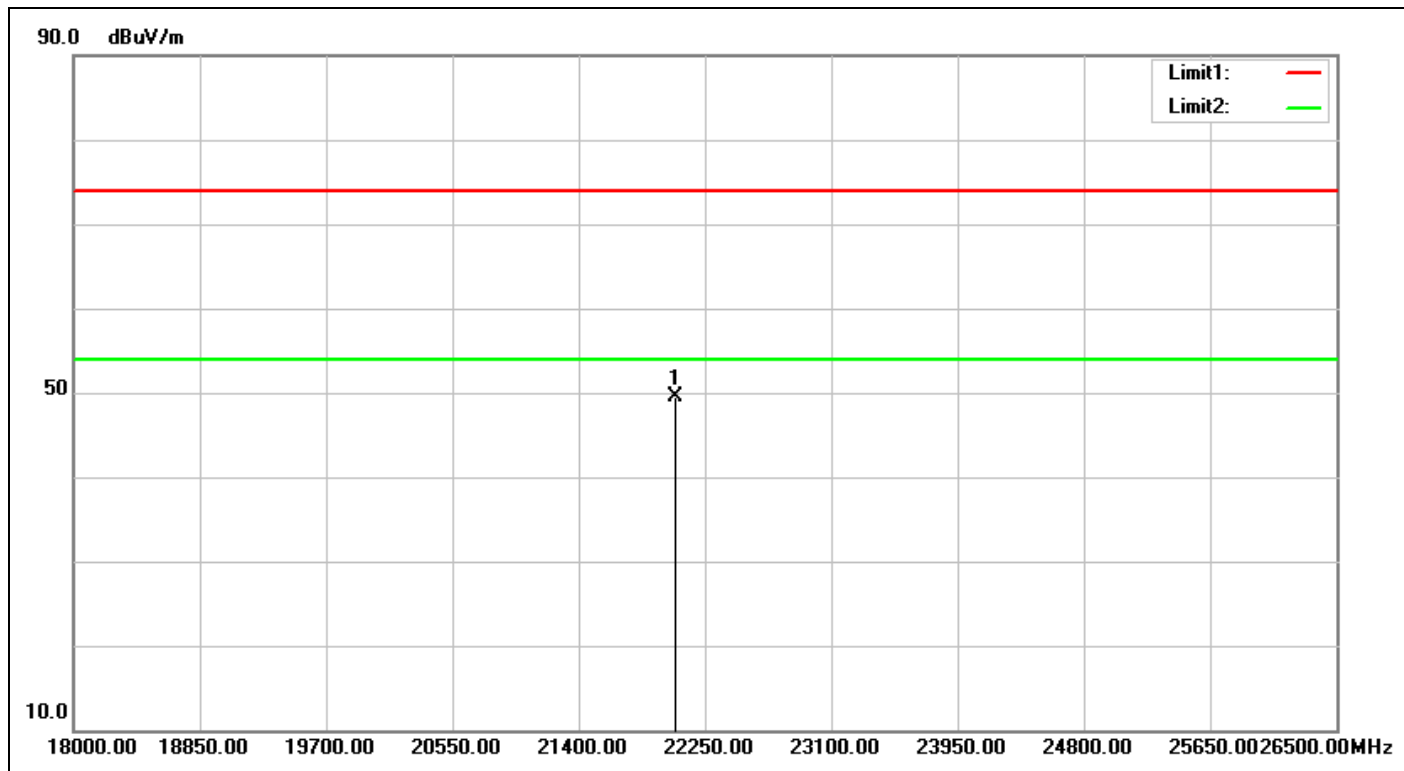
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/11/28 19:10:33
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21 %
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-RX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21774.000	32.33	16.08	48.41	74.00	-25.59	peak	100	223	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/11/28 19:10:46
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24(°C)/21%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2412-RX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22046.000	32.55	16.94	49.49	74.00	-24.51	peak	100	258	

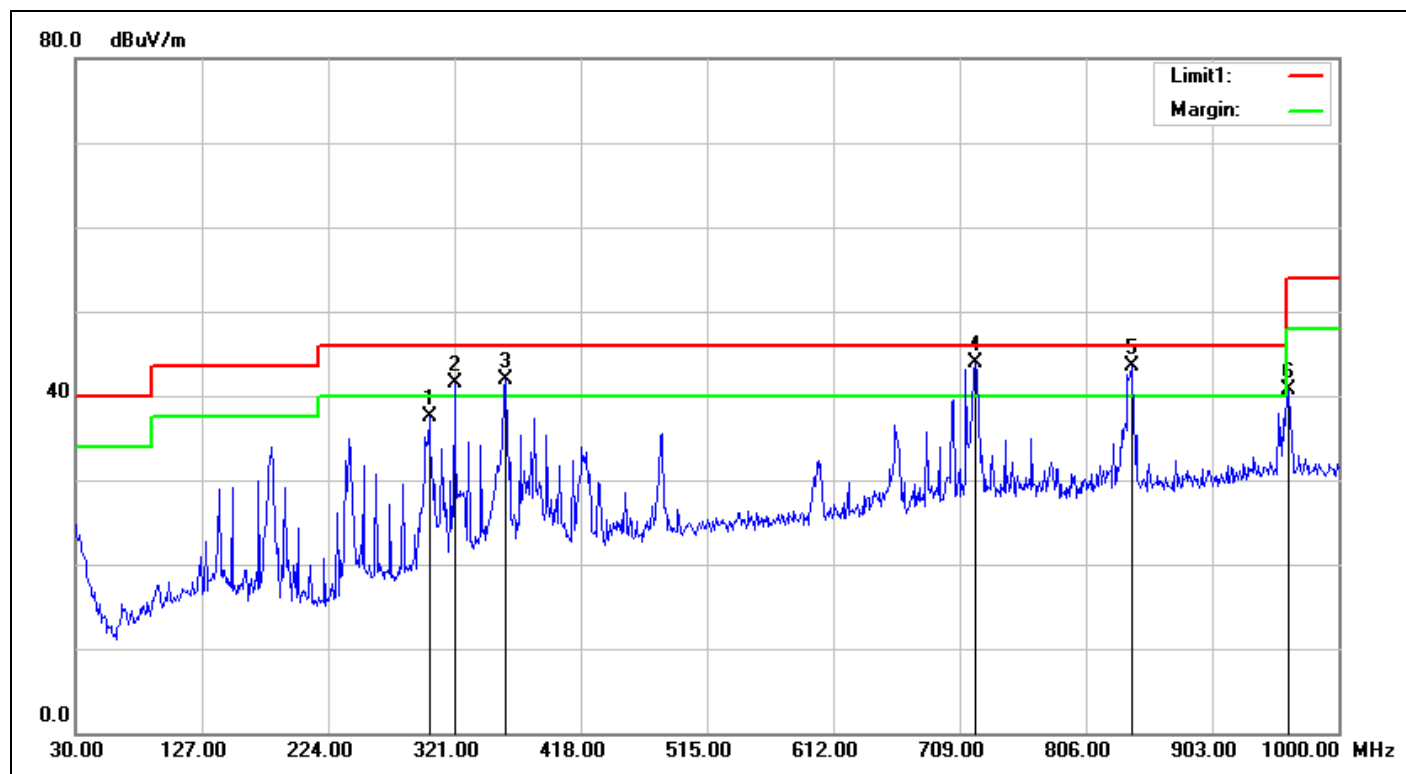
Spurious Emissions, RX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

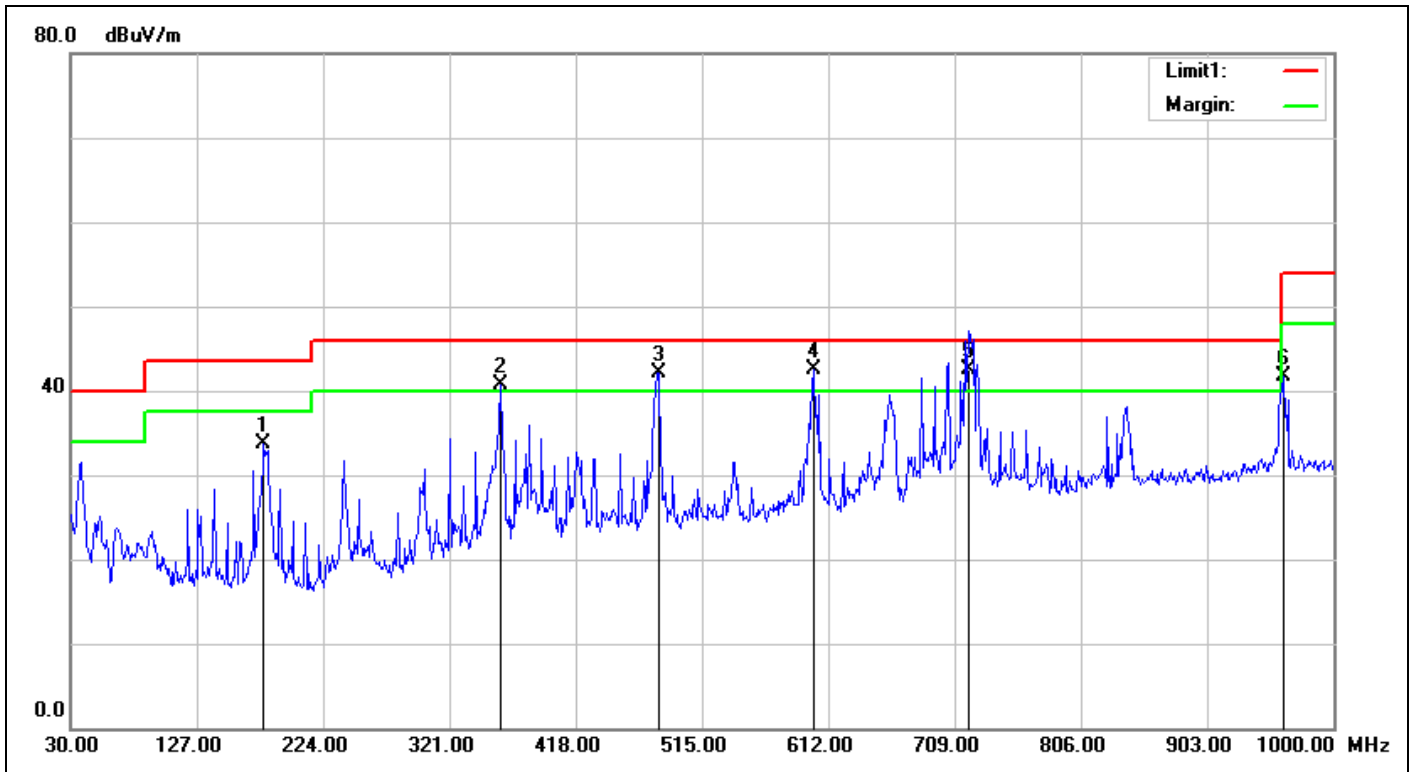
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/12/1 16:30:53
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	301.6000	-4.52	42.12	37.60	46.00	-8.40	QP	100	243	
2	321.0000	-4.05	45.60	41.55	46.00	-4.45	QP	100	231	
3	359.8000	-3.16	45.14	41.98	46.00	-4.02	QP	100	201	
4	721.6100	1.74	42.08	43.82	46.00	-2.18	QP	100	188	
5	840.9200	3.54	40.03	43.57	46.00	-2.43	QP	100	286	
6	962.1700	5.55	35.25	40.80	54.00	-13.20	QP	100	303	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/12/1 16:31:56
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%):	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	178.4100	-9.53	43.25	33.72	43.50	-9.78	QP	100	116	
2	359.8000	-3.16	43.83	40.67	46.00	-5.33	QP	100	42	
3	482.0200	-1.44	43.64	42.20	46.00	-3.80	QP	100	6	
4	600.3600	0.08	42.44	42.52	46.00	-3.48	QP	100	290	
5	719.6700	1.70	40.90	42.60	46.00	-3.40	QP	100	116	
6	961.2000	5.54	36.09	41.63	54.00	-12.37	QP	100	171	

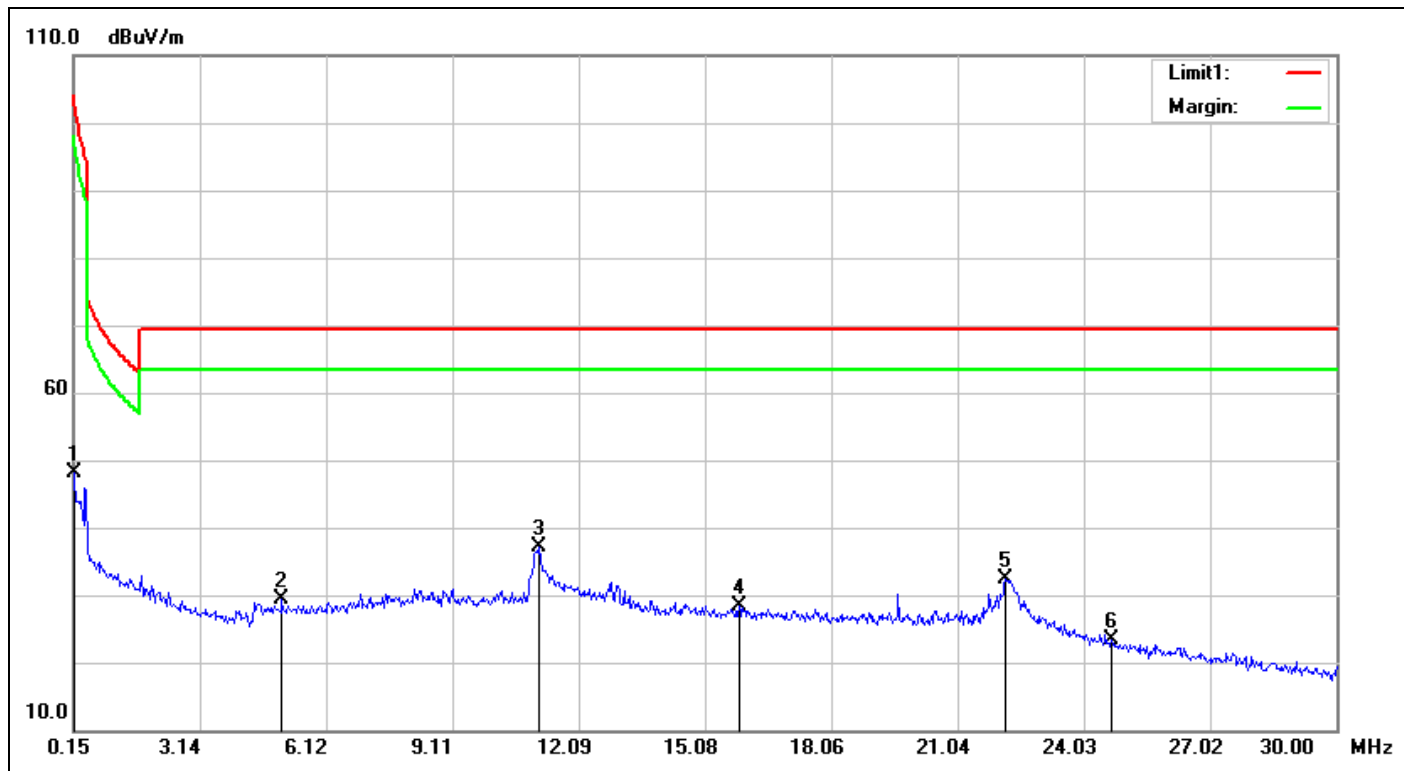
Spurious Emissions, RX Mode, 150K-30M



TUV Rheinland Taiwan Ltd.

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

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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 17:14:21
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	24.6(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1500	19.08	29.01	48.09	104.08	-55.99	QP	100	191	
2	5.0752	19.77	9.64	29.41	69.50	-40.09	QP	100	218	
3	11.1647	20.43	16.72	37.15	69.50	-32.35	QP	100	246	
4	15.8810	21.26	7.22	28.48	69.50	-41.02	QP	100	33	
5	22.1793	22.13	10.18	32.31	69.50	-37.19	QP	100	274	
6	24.6867	22.30	0.98	23.28	69.50	-46.22	QP	100	312	

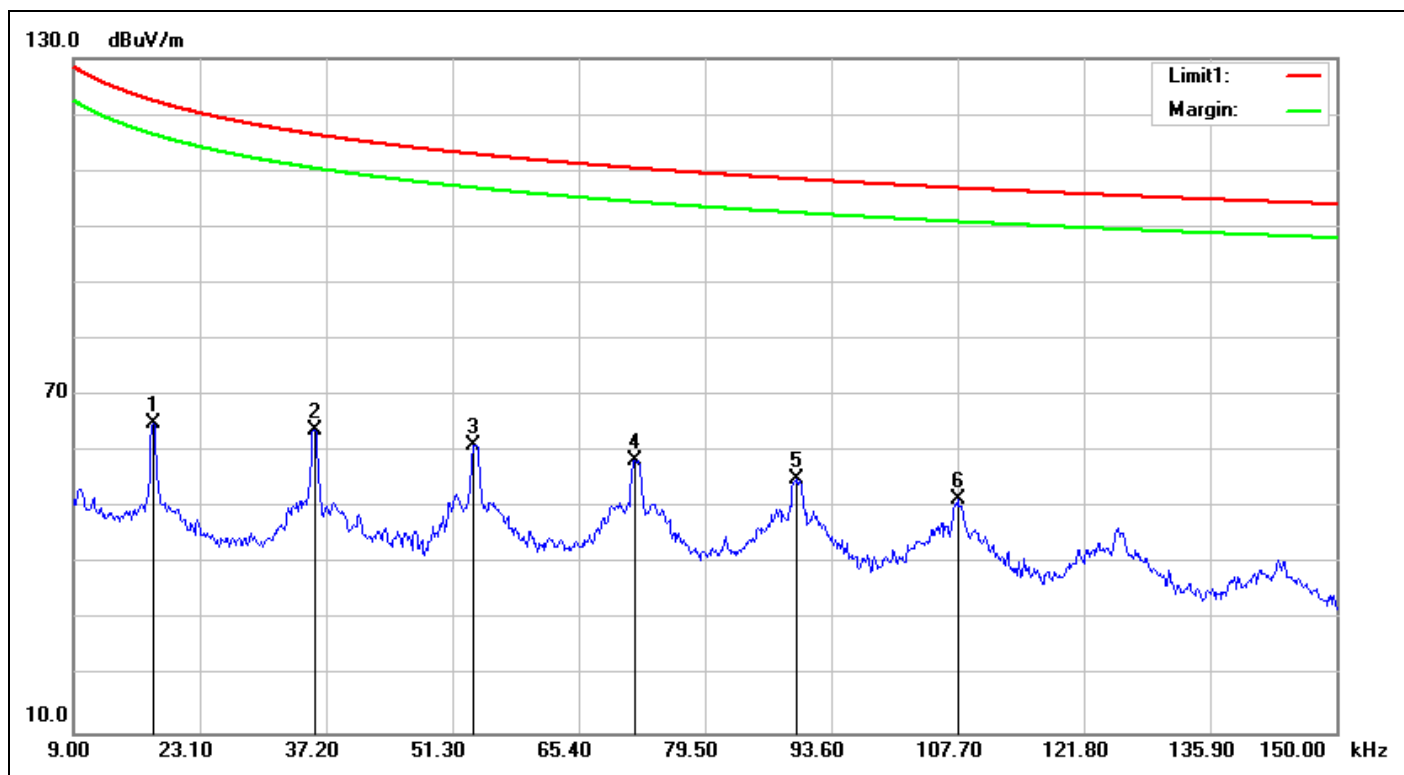
Spurious Emissions, RX Mode, 9K-150K



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.:	114071471	Test Distance:	3m
Test Standard:	FCC&ISED15.209_9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2017/12/1 15:59:05
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	23.2(°C)/53%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	George Yang
Test Mode:	B-2437-RX		
Remark:	RFPCA381013IMAB701		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0179	20.01	45.16	65.17	122.45	-57.28	QP	100	182	
2	0.0359	19.92	43.90	63.82	116.43	-52.61	QP	100	184	
3	0.0537	19.41	41.82	61.23	112.94	-51.71	QP	100	174	
4	0.0716	19.30	39.27	58.57	110.45	-51.88	QP	100	174	
5	0.0897	19.19	35.90	55.09	108.50	-53.41	QP	100	174	
6	0.1077	19.12	32.29	51.41	106.91	-55.50	QP	100	190	

RFDPA870920IMLB301-ANT

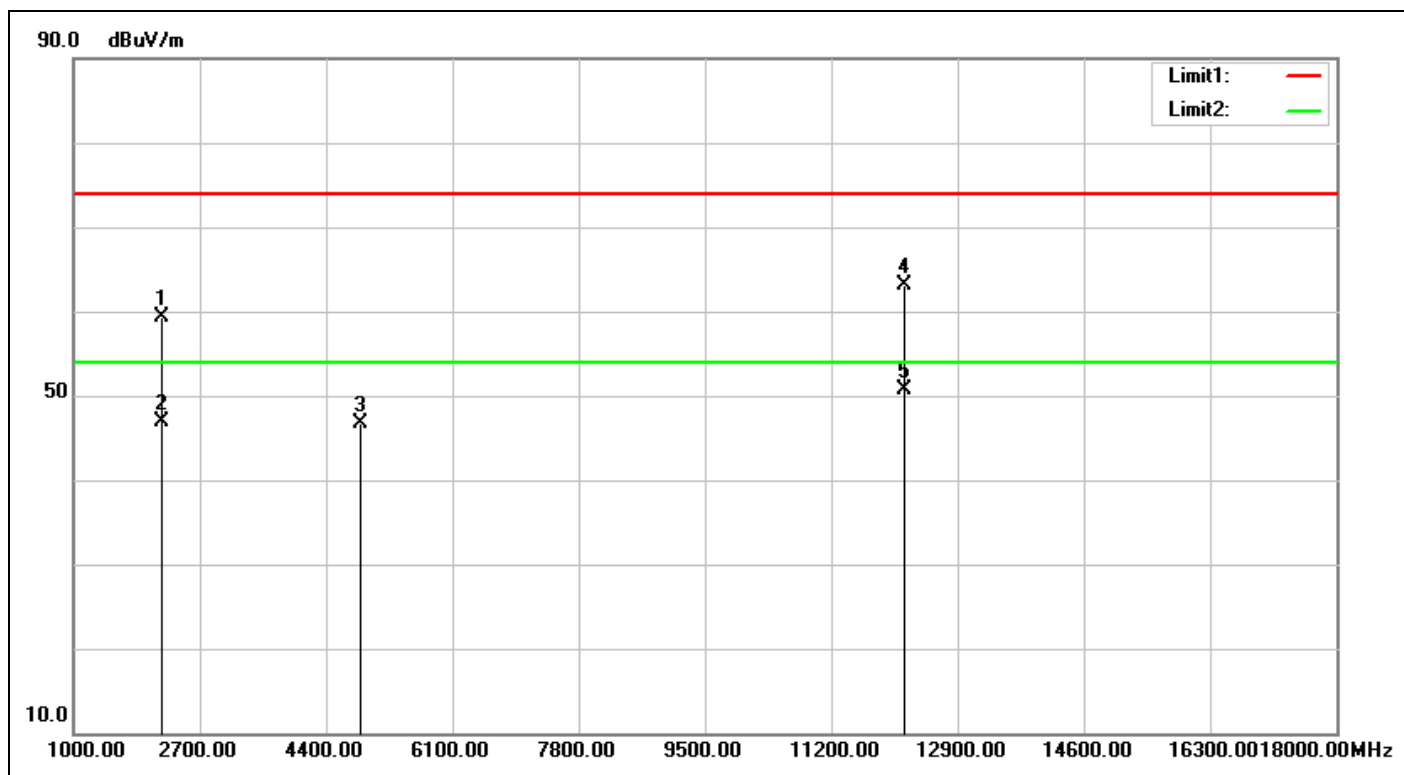
Spurious Emissions, TX Mode, 1-18G



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.:	114071471	Test Distance:	3m
Test Standard:	FCC & ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/3/7 11:10:52
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	22.5(°C)/56%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	Amy Hsu
Test Mode:	G-2437		
Remark:	RFDPA870920IMLB301		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2190.000	-7.10	66.31	59.21	74.00	-14.79	peak	100	209	
2	2190.000	-7.10	53.98	46.88	54.00	-7.12	AVG	100	209	
3	4874.000	-2.53	49.18	46.65	74.00	-27.35	peak	100	167	
4	12185.000	7.28	55.80	63.08	74.00	-10.92	peak	100	102	
5	12185.000	7.28	43.40	50.68	54.00	-3.32	AVG	100	102	

RFA-02-3-C5H1-ANT

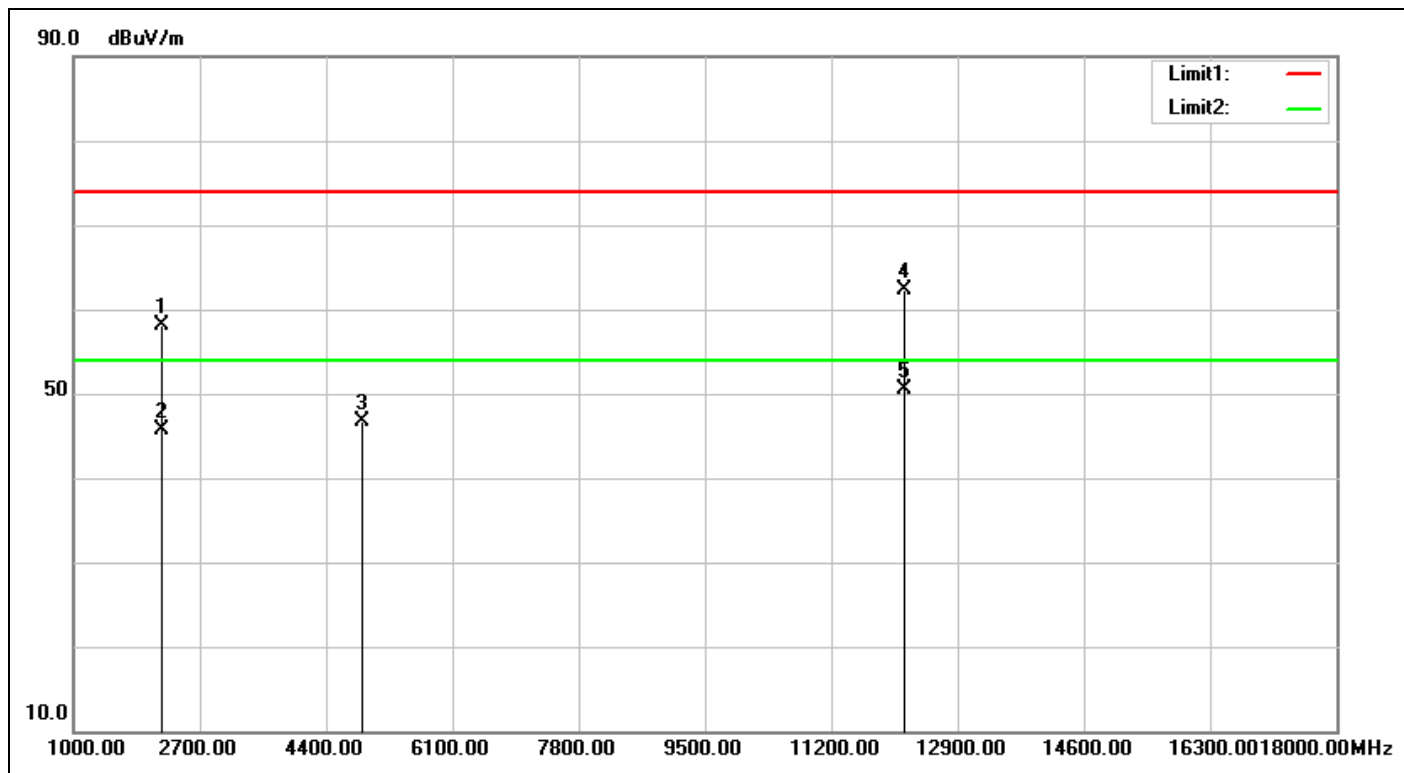
Spurious Emissions, TX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

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

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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC & ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/3/7 11:23:50
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%) :	22.5(°C)/56%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	Amy Hsu
Test Mode:	G-2437		
Remark:	RFA-02-3-C5H1		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2190.000	-7.10	65.14	58.04	74.00	-15.96	peak	100	191	
2	2190.000	-7.10	52.85	45.75	54.00	-8.25	AVG	100	191	
3	4874.000	-2.53	49.15	46.62	74.00	-27.38	peak	100	163	
4	12185.000	7.28	55.03	62.31	74.00	-11.69	peak	100	45	
5	12185.000	7.28	43.24	50.52	54.00	-3.48	AVG	100	45	

1461530100-ANT

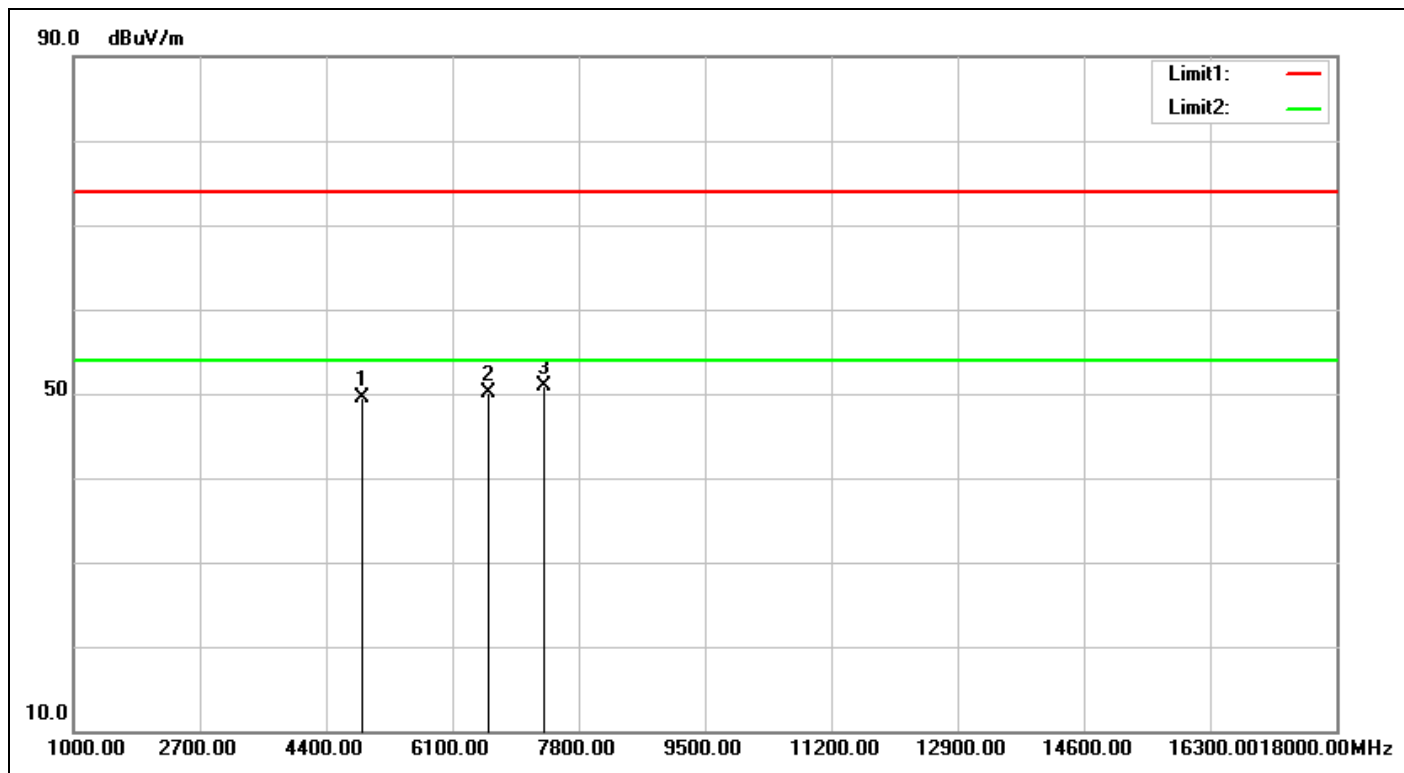
Spurious Emissions, TX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

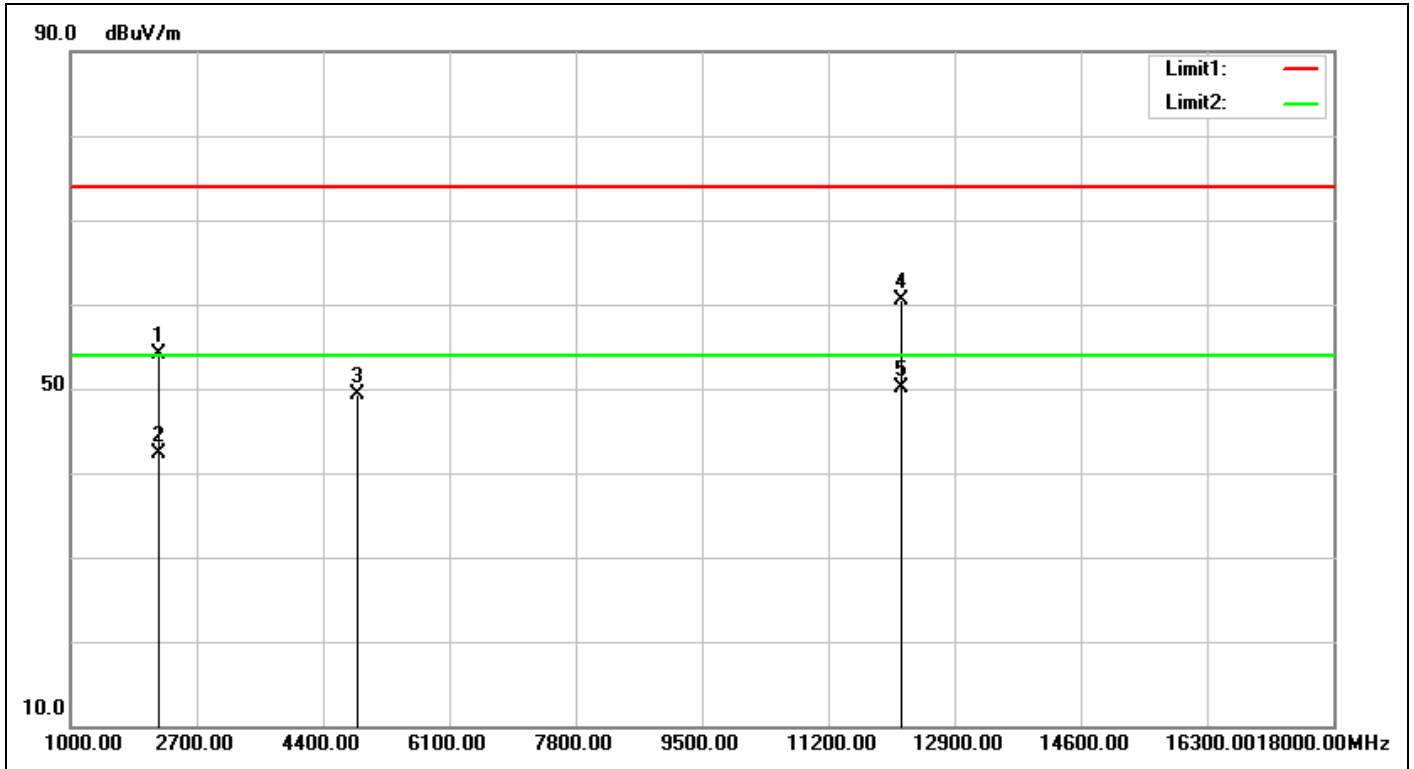
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC & ISSED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/3/7 11:36:24
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	22.5(°C)/56%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	Amy Hsu
Test Mode:	G-2437		
Remark:	1461530100		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4874.000	-2.53	52.00	49.47	74.00	-24.53	peak	100	179	
2	6576.000	5.27	44.78	50.05	74.00	-23.95	peak	100	162	
3	7311.000	5.52	45.38	50.90	74.00	-23.10	peak	100	208	



Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC & ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/3/7 11:37:21
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	22.5(°C)/56%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	Amy Hsu
Test Mode:	G-2437		
Remark:	1461530100		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2190.000	-7.10	61.30	54.20	74.00	-19.80	peak	100	209	
2	2190.000	-7.10	49.36	42.26	54.00	-11.74	AVG	100	209	
3	4874.000	-2.53	51.80	49.27	74.00	-24.73	peak	100	28	
4	12185.000	7.28	53.21	60.49	74.00	-13.51	peak	100	109	
5	12185.000	7.28	42.89	50.17	54.00	-3.83	AVG	100	109	

ACC-RN-SMA-S-DS-ANT

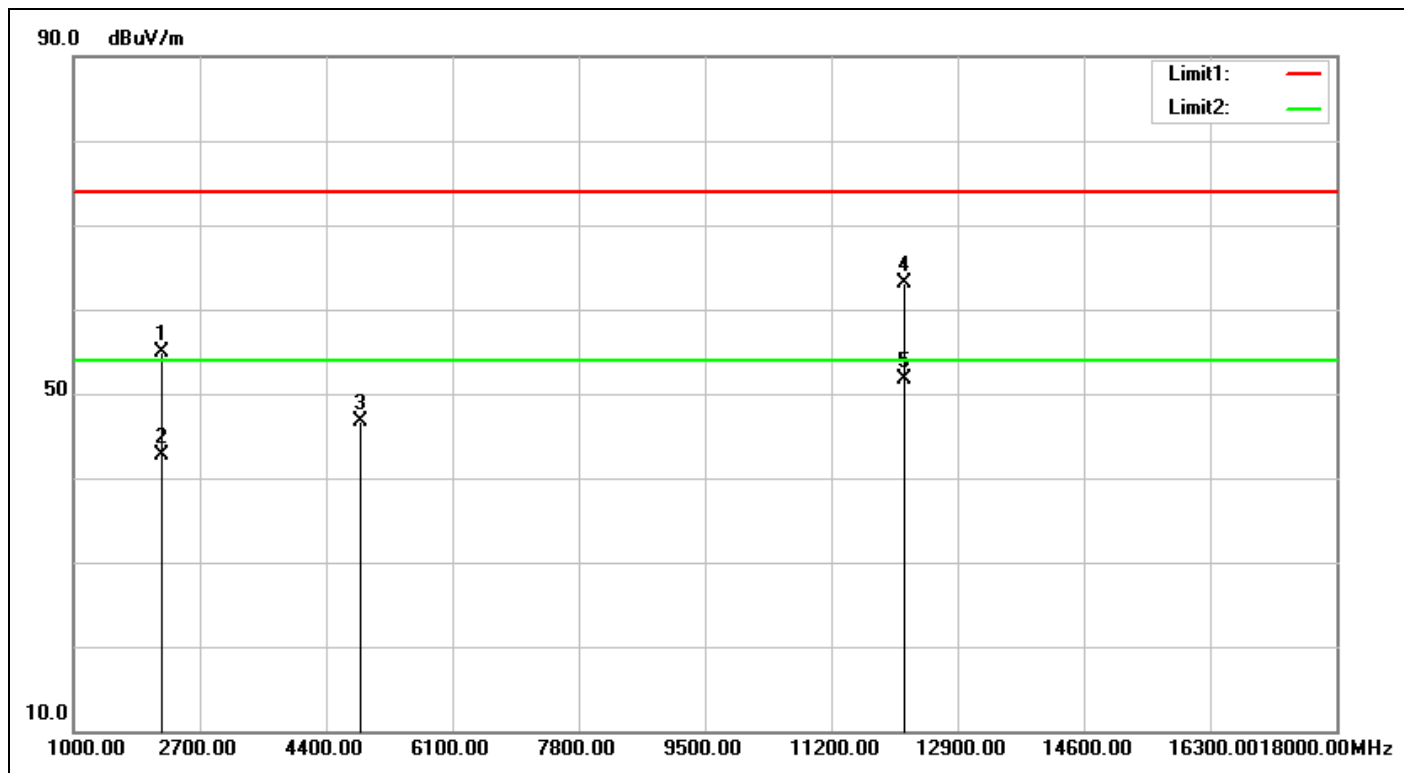
Spurious Emissions, TX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

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Service No.:	114071471	Test Distance:	3m
Test Standard:	FCC & ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/3/7 11:53:49
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module	Temp.(°C)/Hum.(%)	22.5(°C)/56%
Model No.:	ATWILC1000-MR110UB	Test Engineer:	Amy Hsu
Test Mode:	G-2437		
Remark:	ACC-RN-SMA-S-DS		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	2190.000	-7.10	61.98	54.88	74.00	-19.12	peak	100	149	
2	2190.000	-7.10	49.79	42.69	54.00	-11.31	AVG	100	149	
3	4874.000	-2.53	49.30	46.77	74.00	-27.23	peak	100	196	
4	12185.000	7.28	55.73	63.01	74.00	-10.99	peak	100	96	
5	12185.000	7.28	44.33	51.61	54.00	-2.39	AVG	100	96	