

Test Report No.50141822 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 50141822AppendixD)

Contents

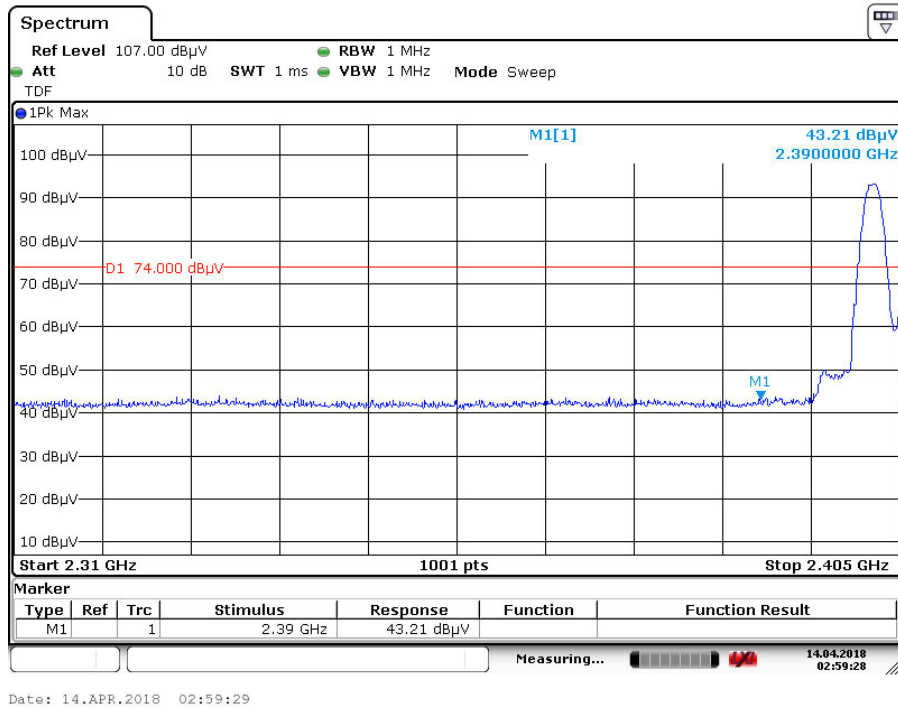
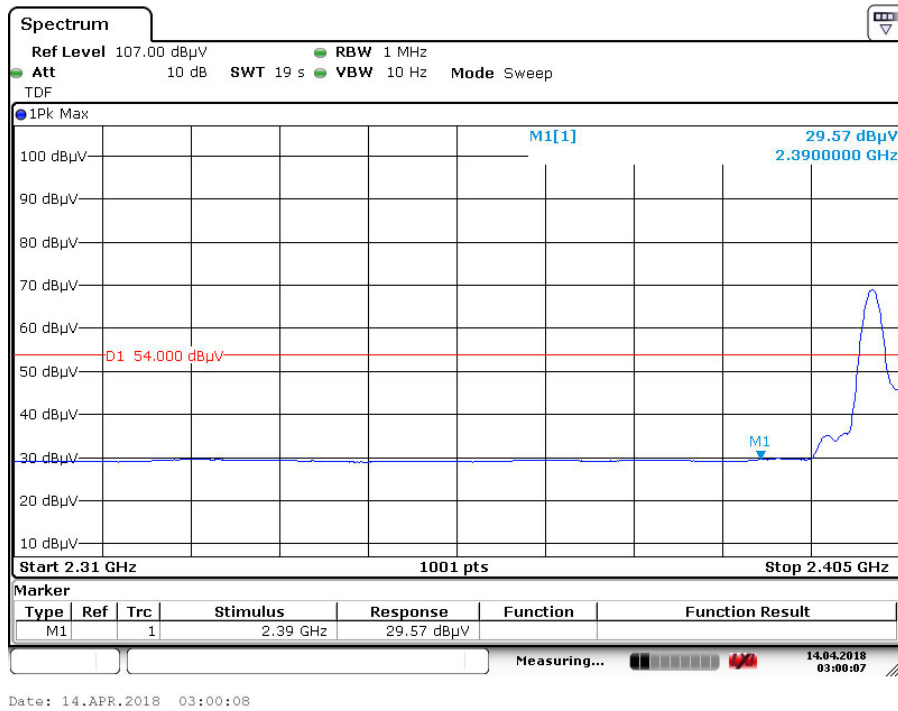
RFA-02-5-C7H1-ANT.....	3
Spurious Emissions, Band Edges, 2.35-2.5G	3
Spurious Emissions, TX Mode, 1-18G.....	8
Spurious Emissions, TX Mode, 18-26G.....	14
Spurious Emissions, TX Mode, 30M-1G	20
Spurious Emissions, TX Mode, 9k-30M	22
Spurious Emissions, RX Mode, 1-18G	24
Spurious Emissions, RX Mode, 18-26G.....	26
Spurious Emissions, RX Mode, 30M-1G	28
Spurious Emissions, RX Mode, 9K-30M	30
RFMTA331215IMAB701-ANT	32
Spurious Emissions, Band Edges, 2.35-2.5G	32
Spurious Emissions, TX Mode, 1-18G.....	37
Spurious Emissions, TX Mode, 18-26G.....	43
Spurious Emissions, TX Mode, 30M-1G	49
Spurious Emissions, TX Mode, 9k-30M	51
Spurious Emissions, RX Mode, 1-18G	53
Spurious Emissions, RX Mode, 18-26G.....	55
Spurious Emissions, RX Mode, 30M-1G	57
Spurious Emissions, RX Mode, 9K-30M	59
RFPCA381013IMAB701-ANT	61
Spurious Emissions, Band Edges, 2.35-2.5G	61
Spurious Emissions, TX Mode, 1-18G.....	66
Spurious Emissions, TX Mode, 18-26G.....	72
Spurious Emissions, TX Mode, 30M-1G	78
Spurious Emissions, TX Mode, 9k-30M	80
Spurious Emissions, RX Mode, 1-18G	82
Spurious Emissions, RX Mode, 18-26G.....	84
Spurious Emissions, RX Mode, 30M-1G	86
Spurious Emissions, RX Mode, 9K-30M	88
Mains	90

RFA-02-5-C7H1-ANT

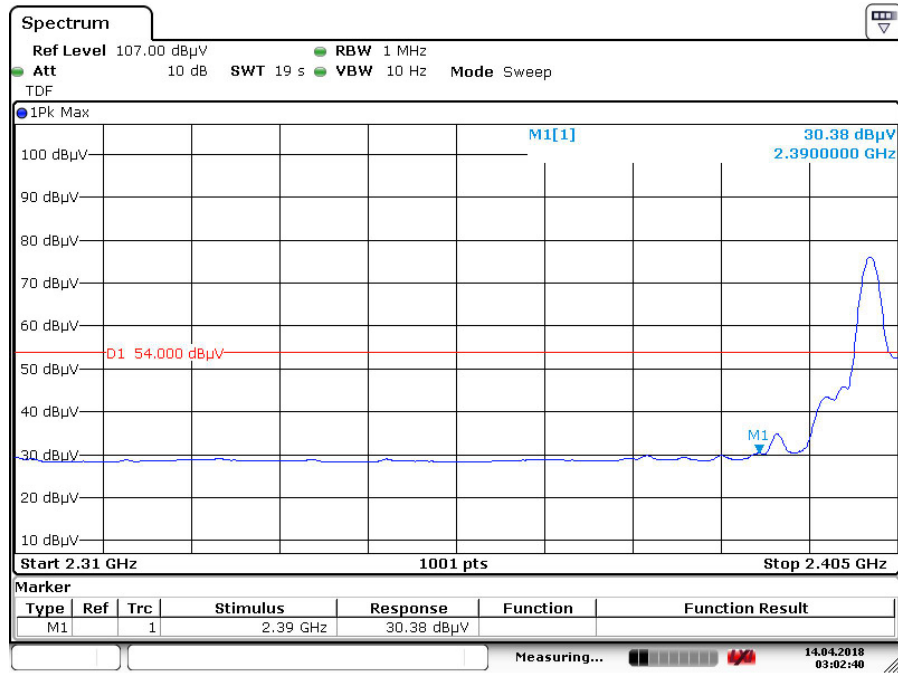
Spurious Emissions, Band Edges, 2.35-2.5G

Radiated Bandedge (GFSK)

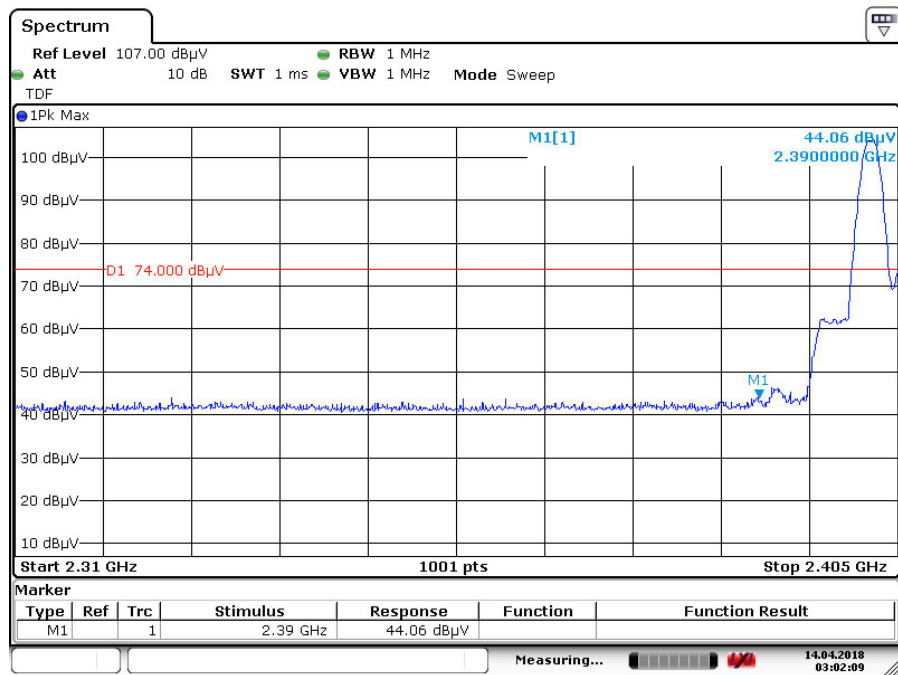
Low Channel (Hor)



Low Channel (Ver)



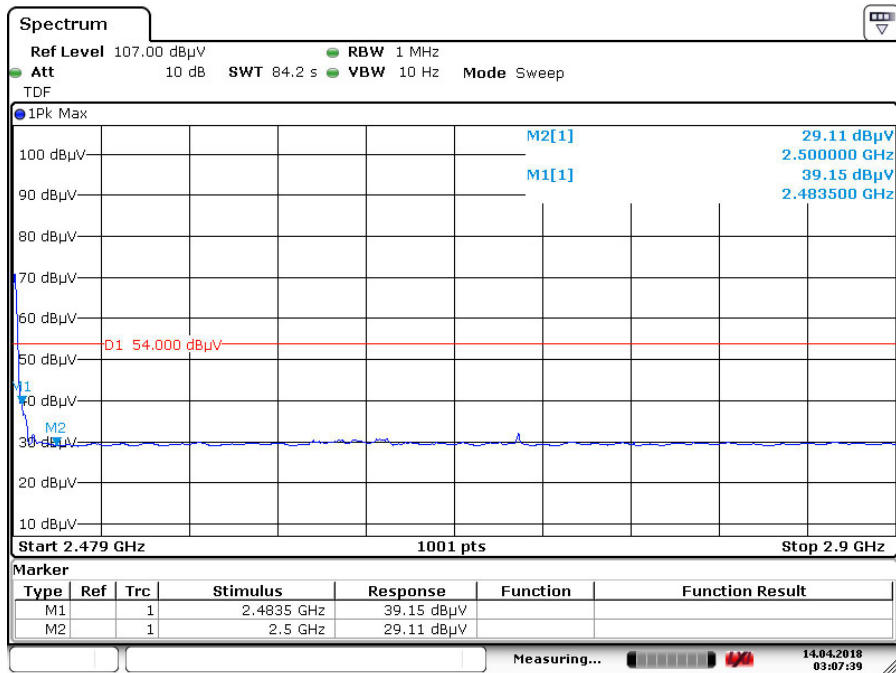
Date: 14.APR.2018 03:02:40



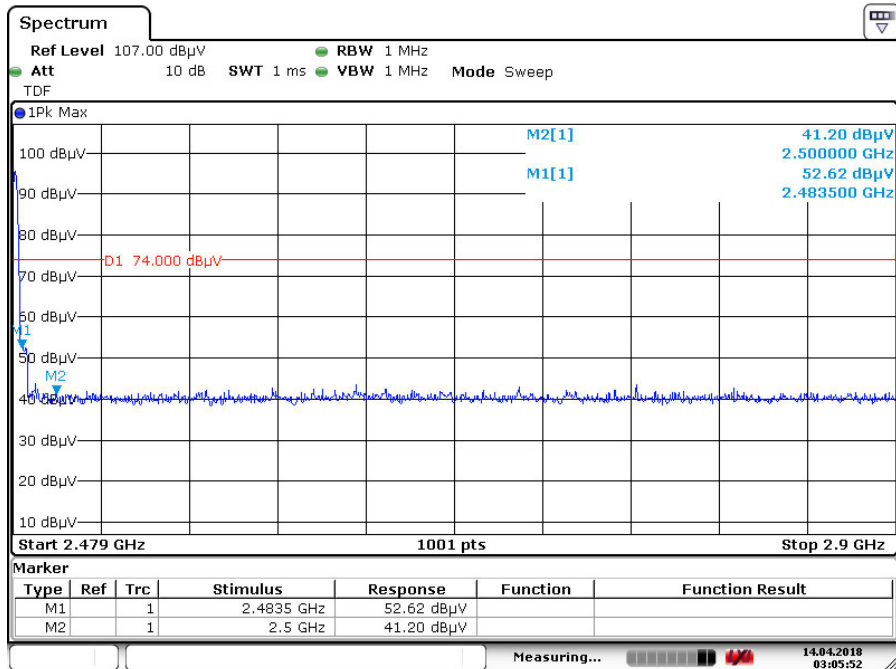
Date: 14.APR.2018 03:02:09

Radiated Bandedge (GFSK)

High Channel (Hor)

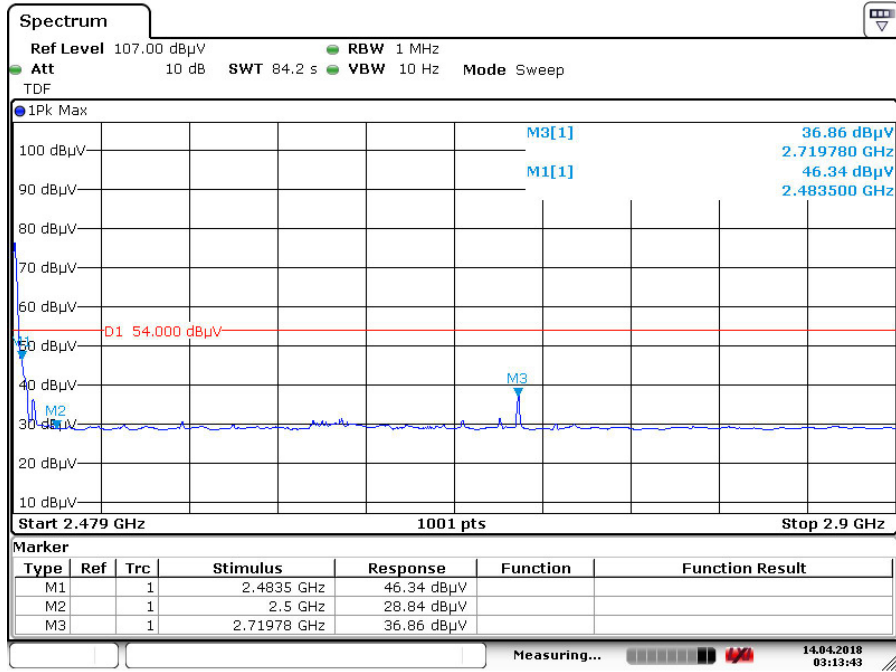


Date: 14.APR.2018 03:07:39

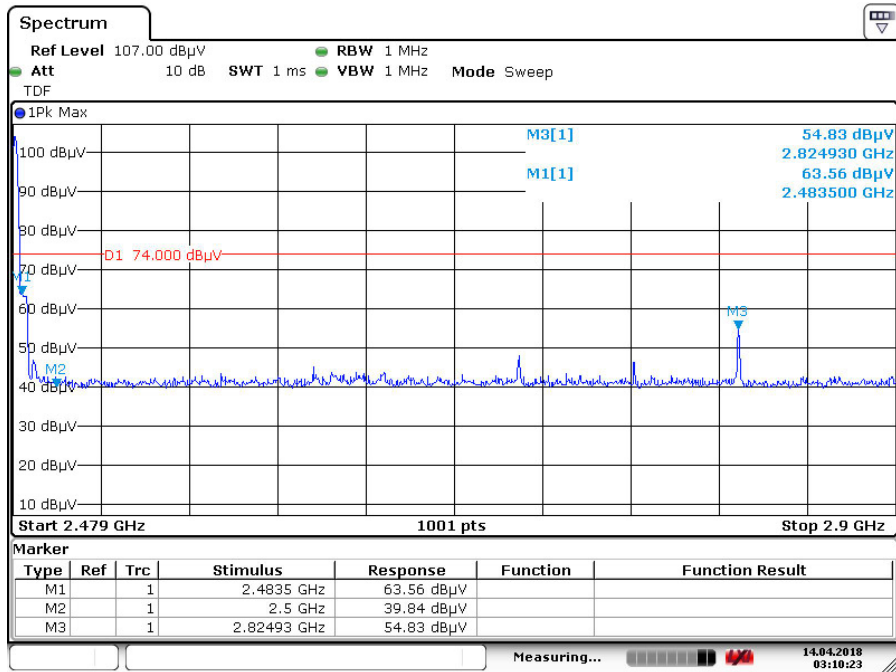


Date: 14.APR.2018 03:05:52

High Channel (Ver)



Date: 14.APR.2018 03:13:43

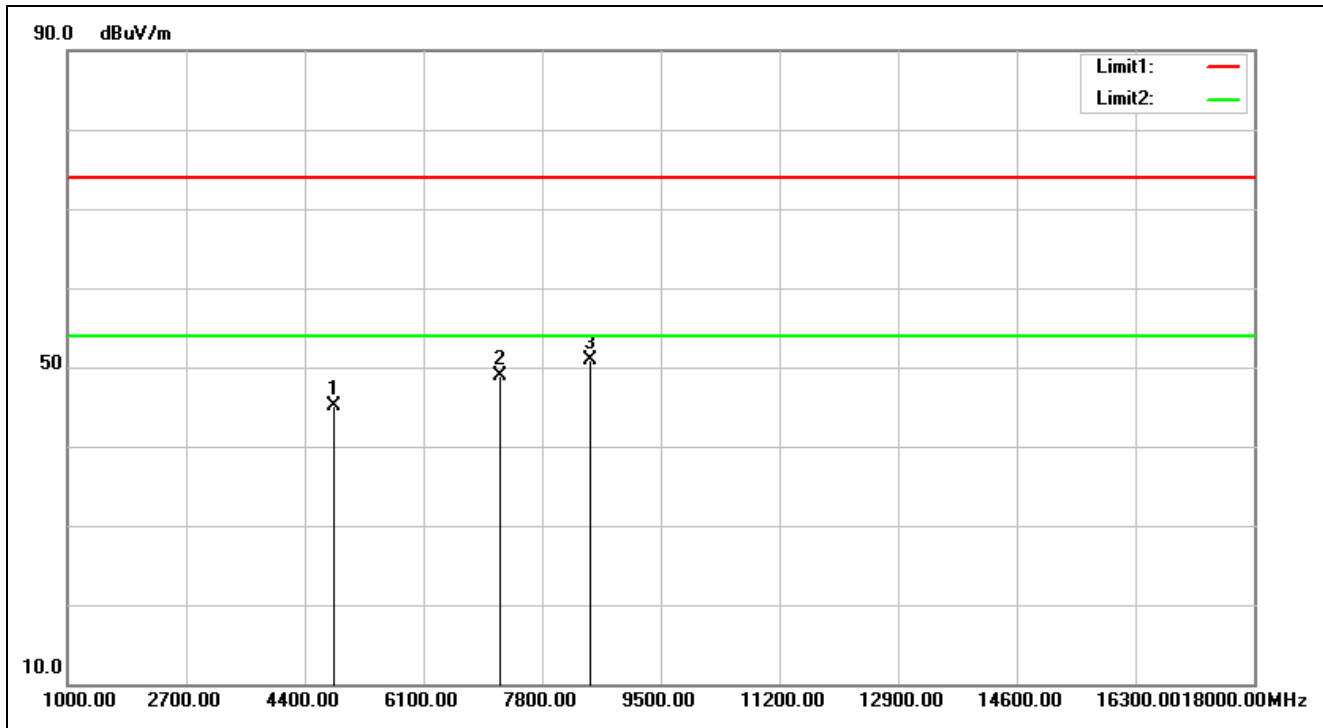


Date: 14.APR.2018 03:10:24

Spurious Emissions, TX Mode, 1-18G

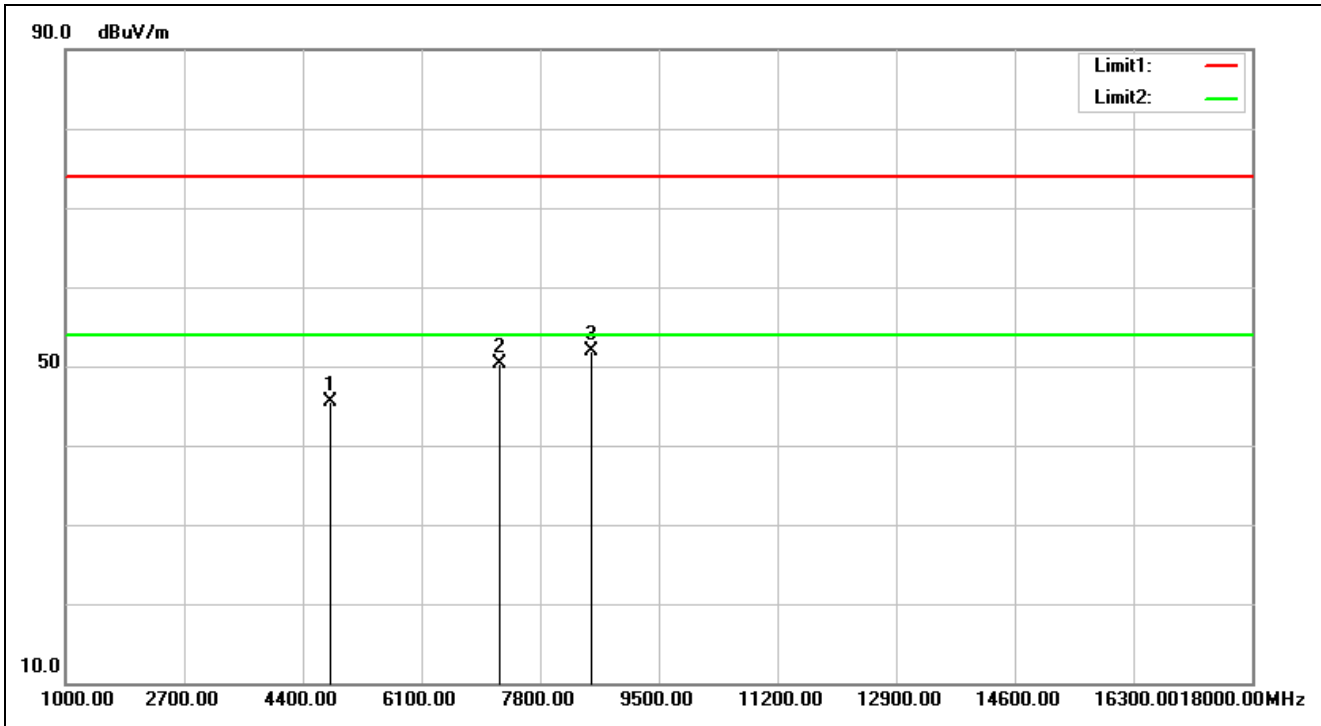


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



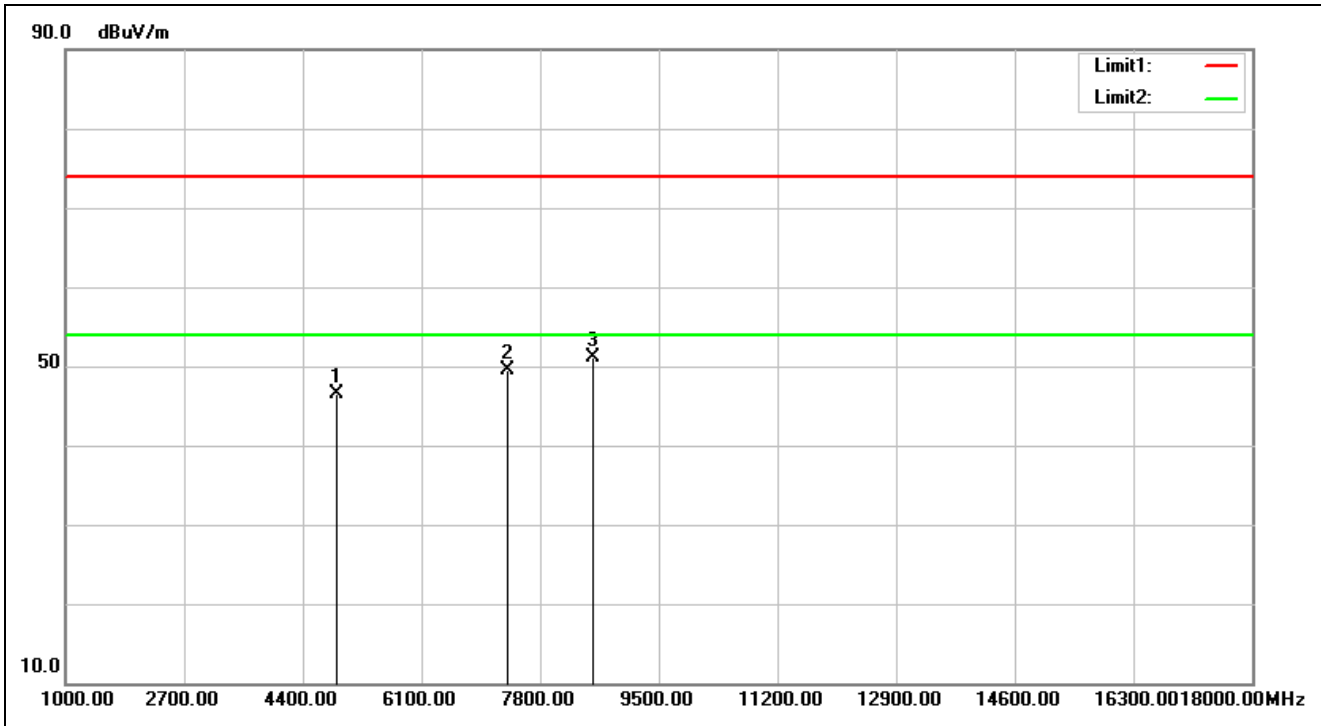
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 03:08:12
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	-2.72	47.88	45.16	74.00	-28.84	peak		0	
2	7206.000	5.25	43.71	48.96	74.00	-25.04	peak		0	
3	8480.000	6.35	44.52	50.87	74.00	-23.13	peak	100	47	



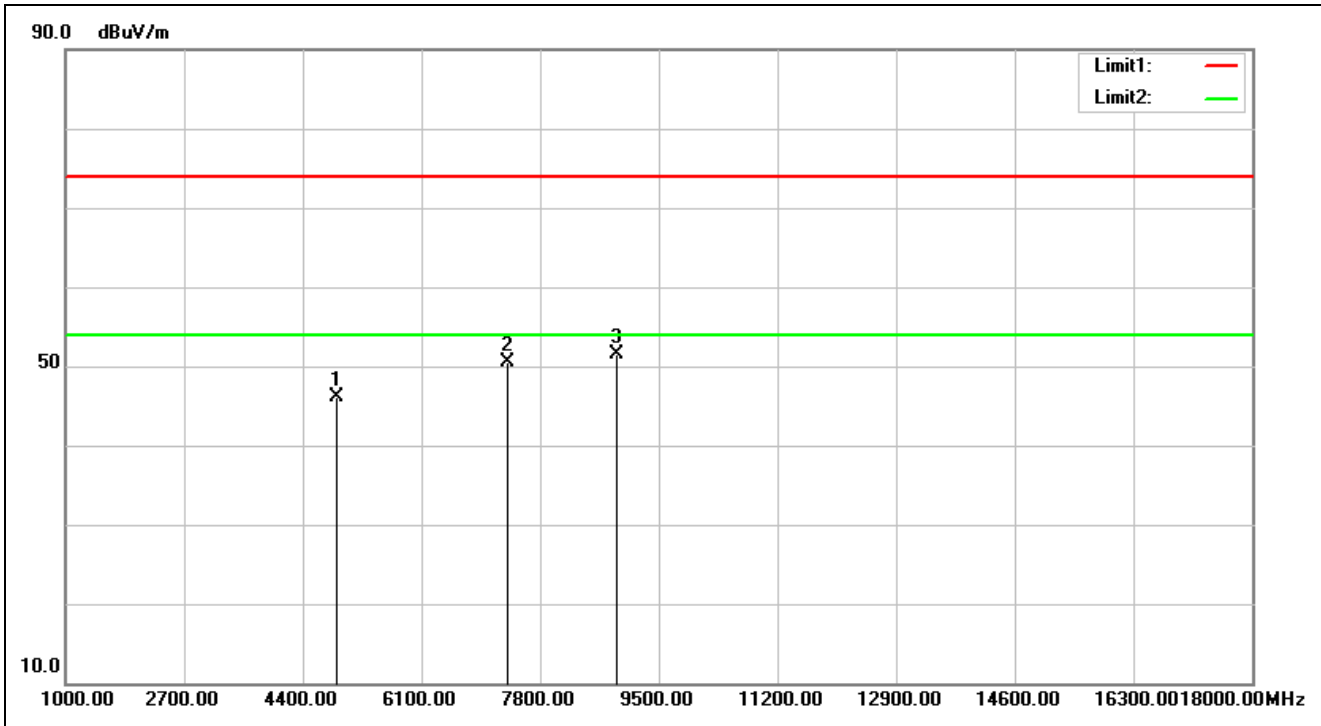
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 03:09:05
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	-2.72	48.26	45.54	74.00	-28.46	peak			
2	7206.000	5.25	45.14	50.39	74.00	-23.61	peak			
3	8531.000	6.38	45.51	51.89	74.00	-22.11	peak	100	98	



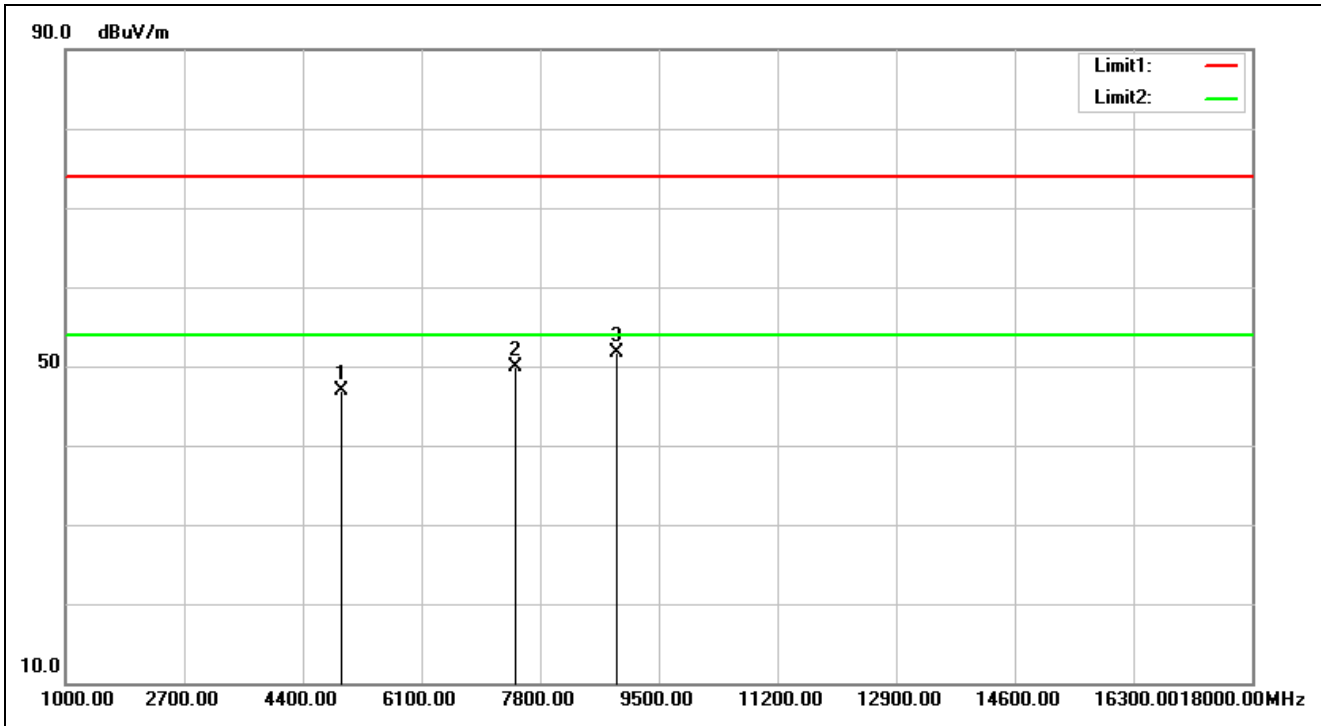
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 03:11:11
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	-2.50	49.10	46.60	74.00	-27.40	peak			
2	7320.000	5.54	43.96	49.50	74.00	-24.50	peak			
3	8548.000	6.38	44.78	51.16	74.00	-22.84	peak	100	227	



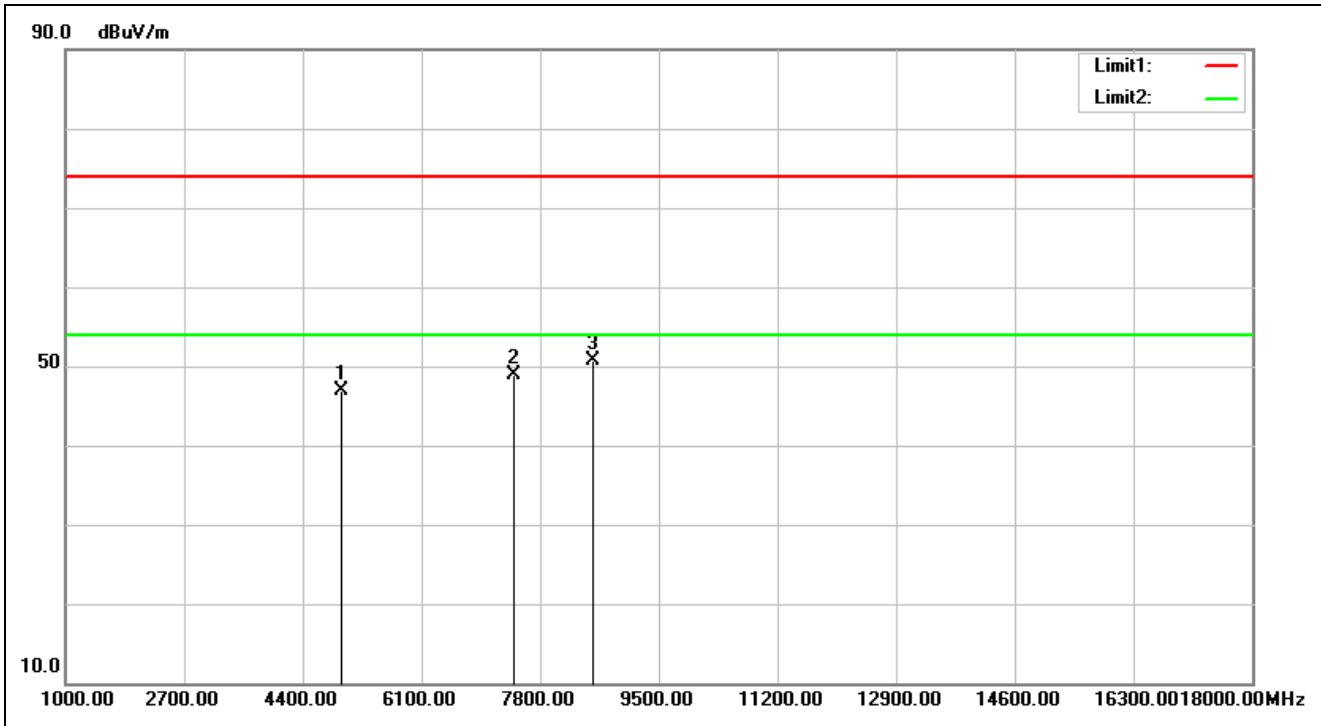
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 03:12:04
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	-2.50	48.61	46.11	74.00	-27.89	peak			
2	7320.000	5.54	44.90	50.44	74.00	-23.56	peak			
3	8905.000	6.42	45.18	51.60	74.00	-22.40	peak	100	277	



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 03:14:07
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-2.28	49.23	46.95	74.00	-27.05	peak			
2	7440.000	5.84	44.07	49.91	74.00	-24.09	peak			
3	8905.000	6.42	45.37	51.79	74.00	-22.21	peak	100	295	



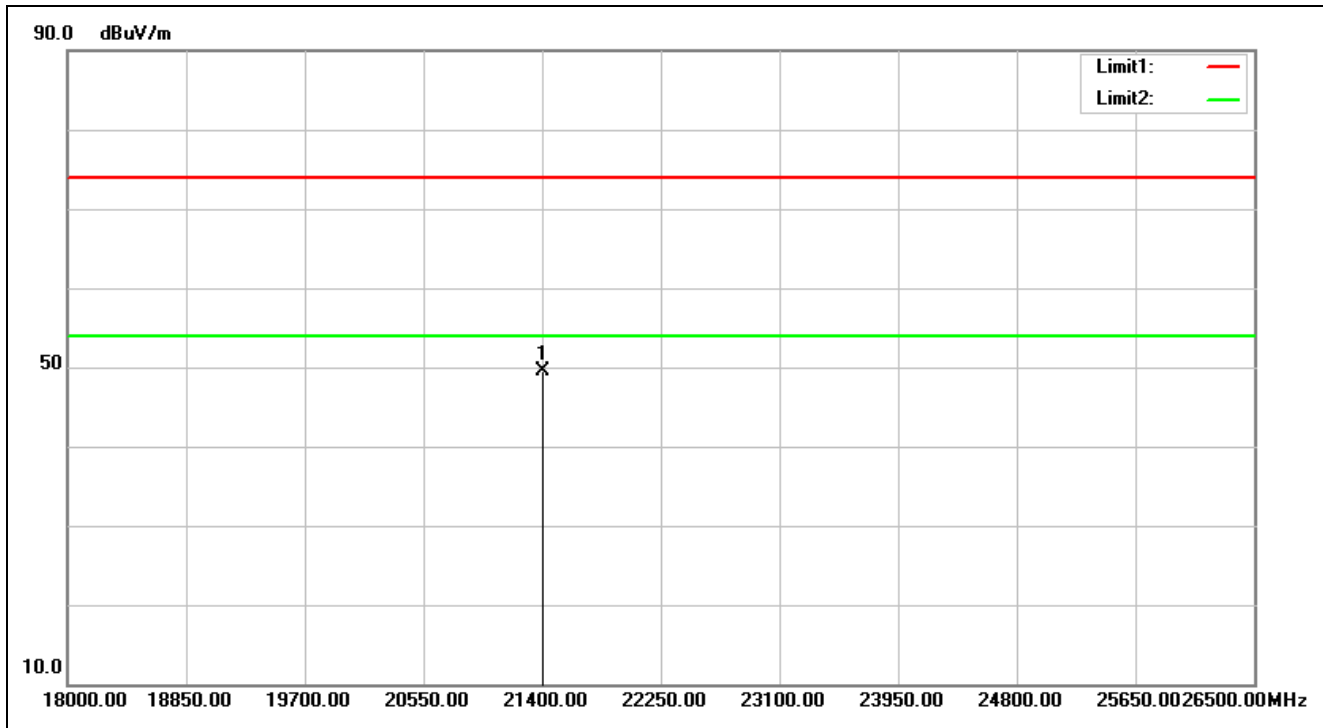
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 03:14:59
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-2.28	49.17	46.89	74.00	-27.11	peak			
2	7440.000	5.84	43.13	48.97	74.00	-25.03	peak			
3	8565.000	6.39	44.33	50.72	74.00	-23.28	peak	100	154	

Spurious Emissions, TX Mode, 18-26G

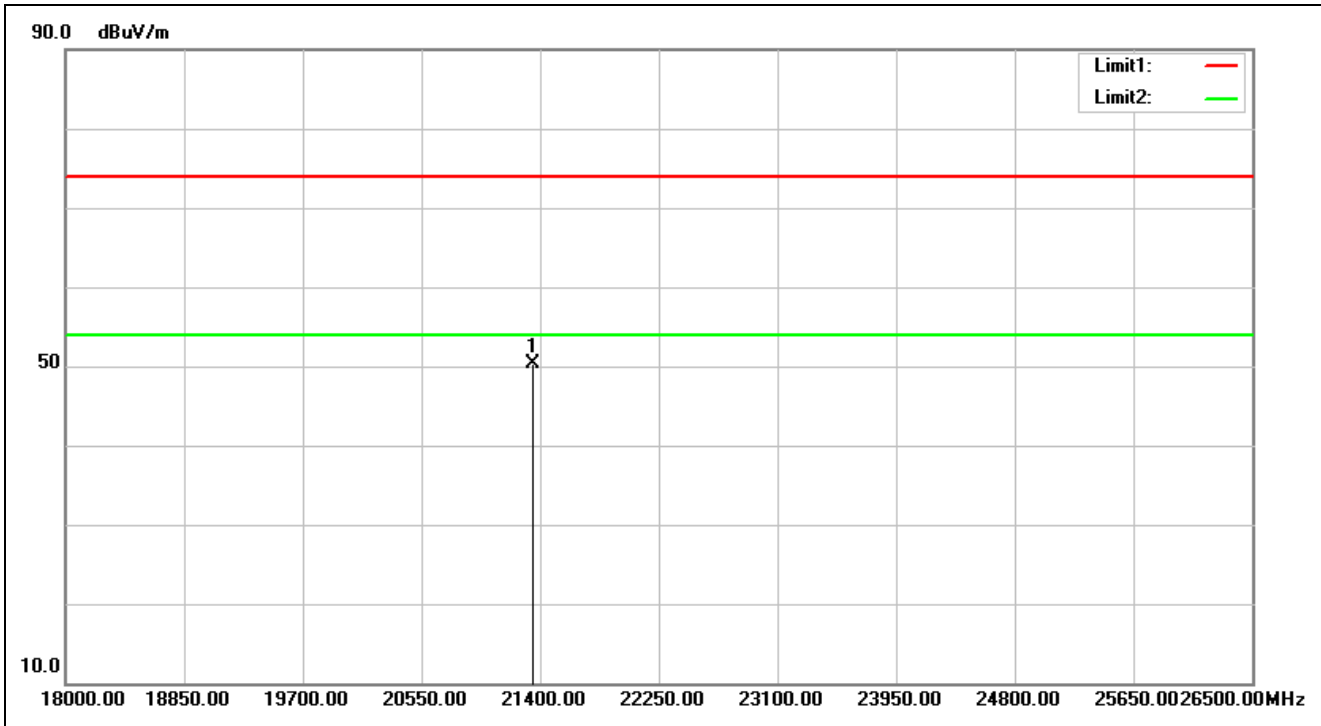


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



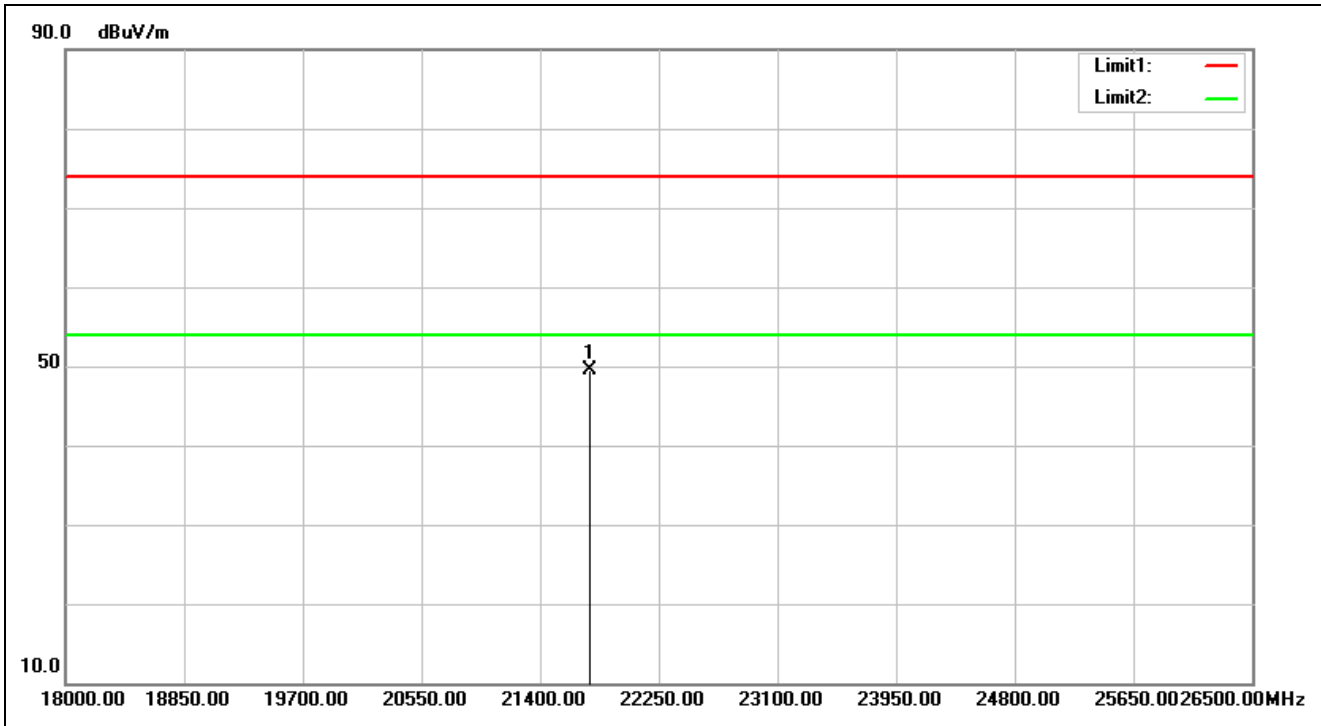
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:49:37
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21400.000	32.80	16.73	49.53	74.00	-24.47	peak		0	



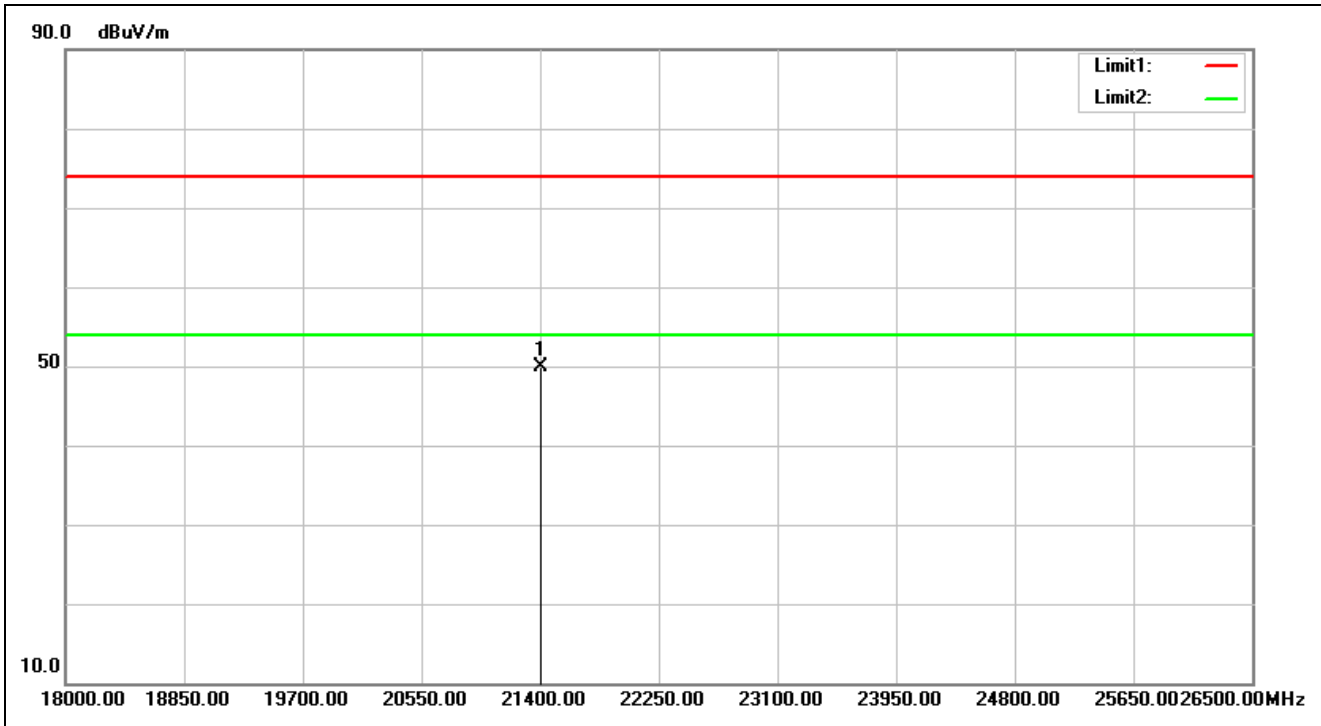
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:49:43
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21349.000	32.75	17.50	50.25	74.00	-23.75	peak			



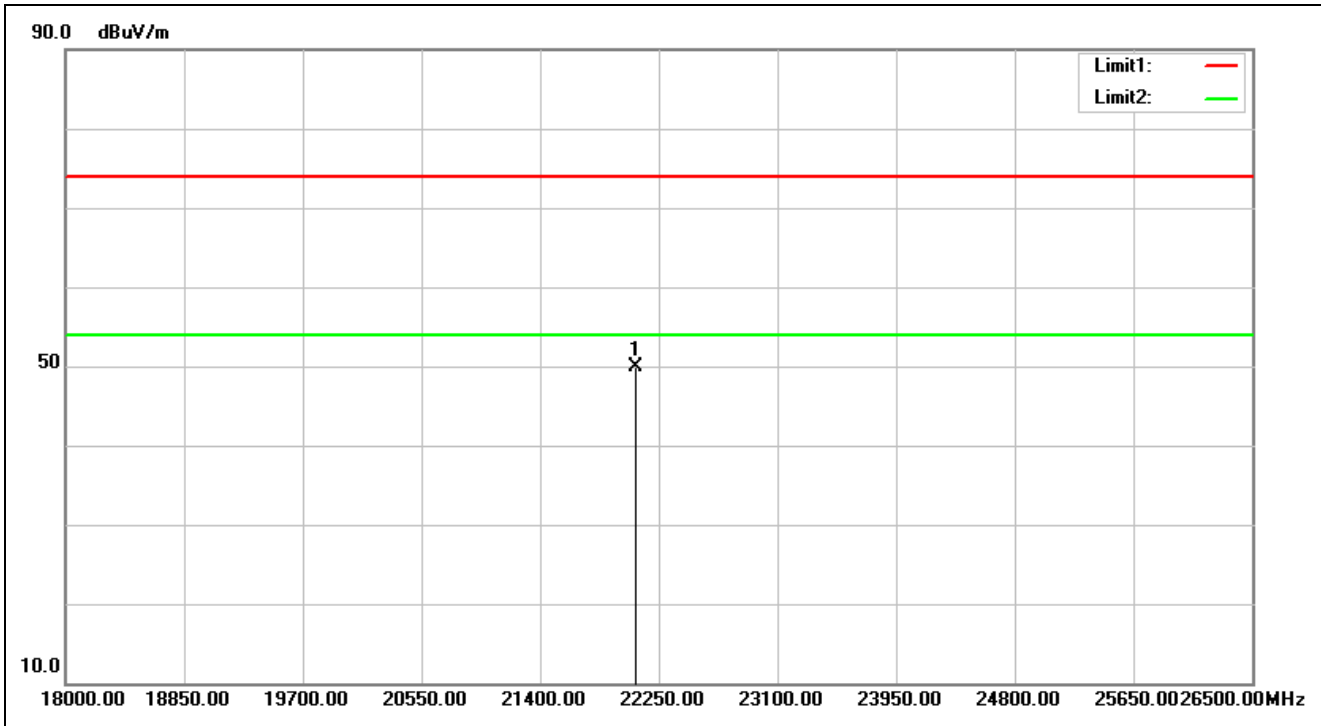
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:50:09
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21757.000	32.73	16.81	49.54	74.00	-24.46	peak			



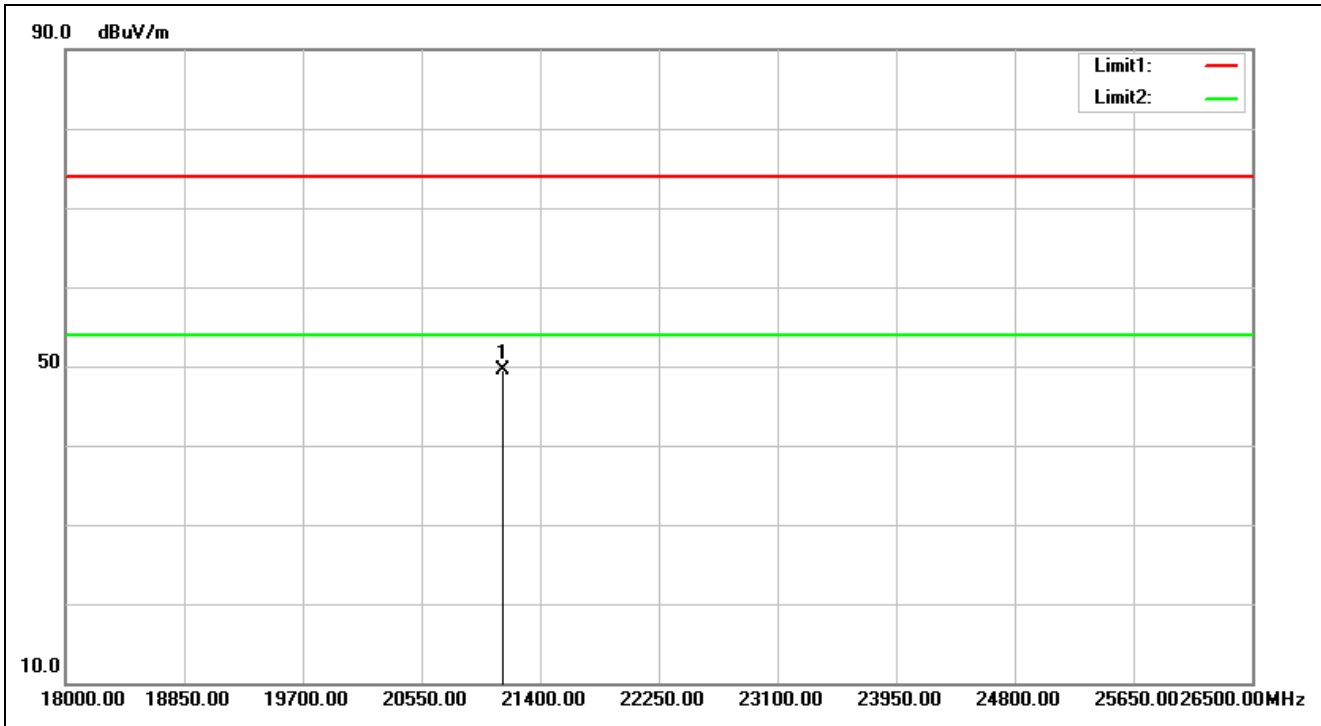
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:50:16
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21400.000	32.80	17.19	49.99	74.00	-24.01	peak			



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:50:50
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22088.500	32.60	17.21	49.81	74.00	-24.19	peak			



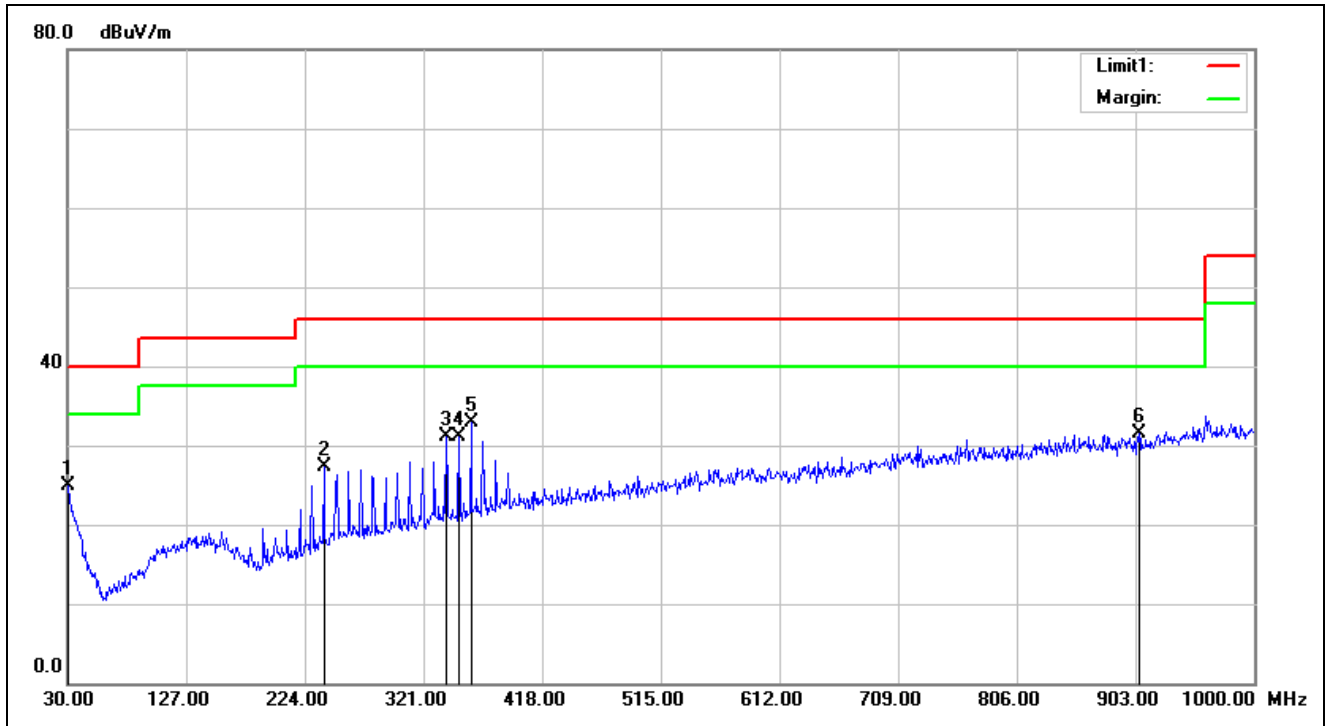
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:50:57
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21136.500	32.57	16.93	49.50	74.00	-24.50	peak			

Spurious Emissions, TX Mode, 30M-1G

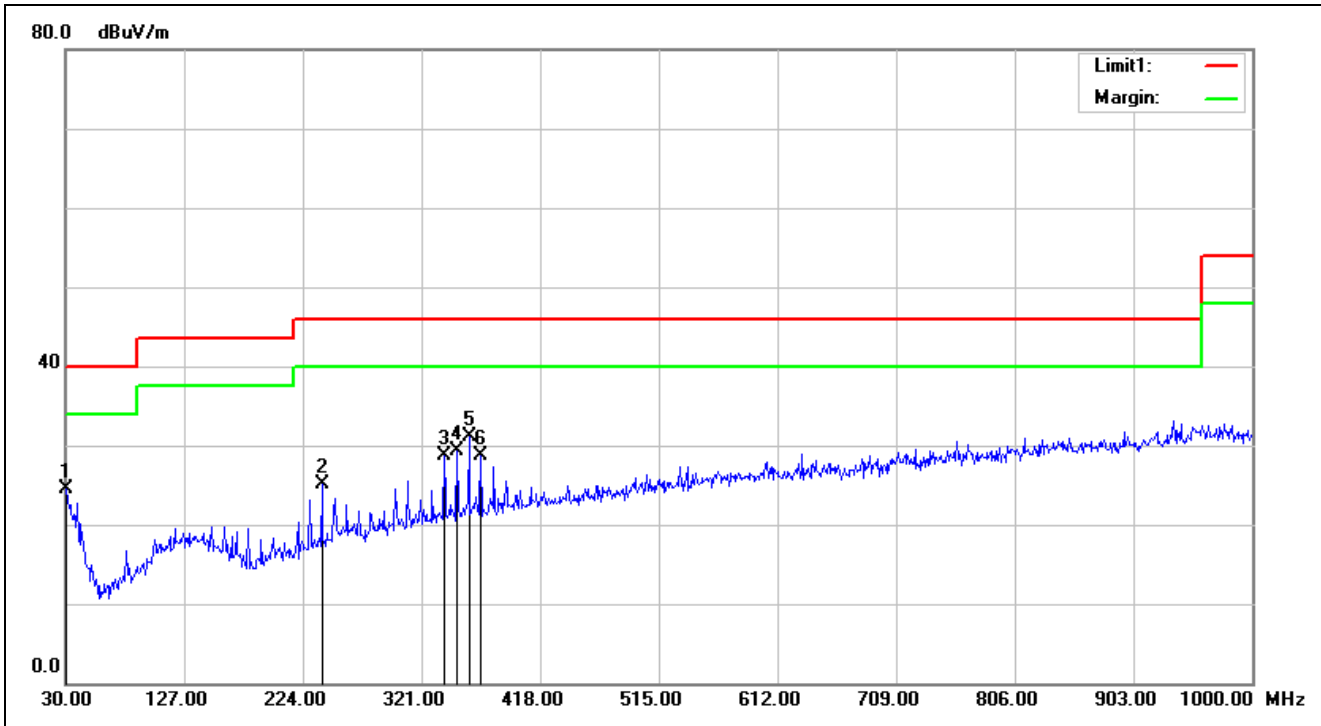


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 05:10:53
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.25	25.25	25.00	40.00	-15.00	QP	100	29	
2	239.5200	-6.85	34.11	27.26	46.00	-18.74	QP	100	69	
3	339.4300	-3.61	34.75	31.14	46.00	-14.86	QP	100	216	
4	350.1000	-3.34	34.54	31.20	46.00	-14.80	QP	100	210	
5	359.8000	-3.16	36.03	32.87	46.00	-13.13	QP	100	295	
6	905.9100	4.23	27.25	31.48	46.00	-14.52	QP	100	75	



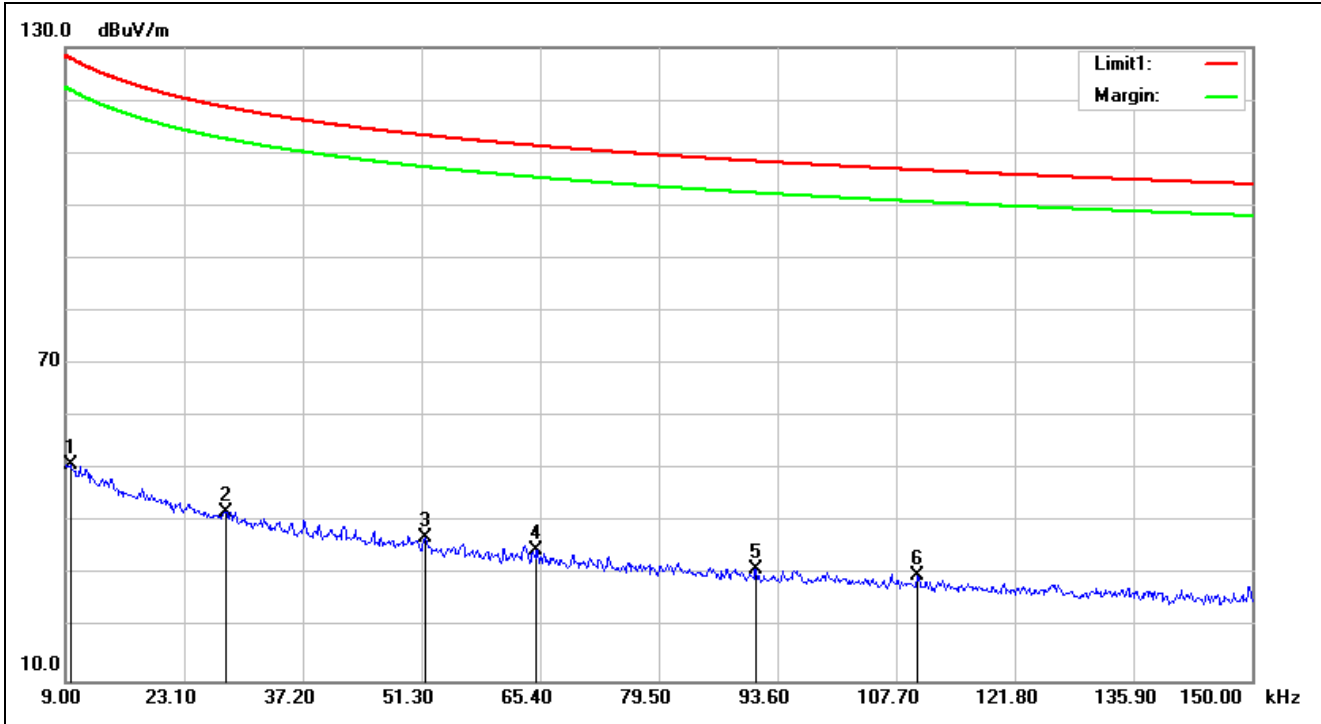
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 05:11:46
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.9700	-0.79	25.39	24.60	40.00	-15.40	QP	100	206	
2	239.5200	-6.85	31.90	25.05	46.00	-20.95	QP	100	88	
3	339.4300	-3.61	32.23	28.62	46.00	-17.38	QP	100	246	
4	350.1000	-3.34	32.60	29.26	46.00	-16.74	QP	100	249	
5	359.8000	-3.16	34.24	31.08	46.00	-14.92	QP	100	246	
6	369.5000	-2.98	31.60	28.62	46.00	-17.38	QP	100	147	

Spurious Emissions, TX Mode, 9k-30M

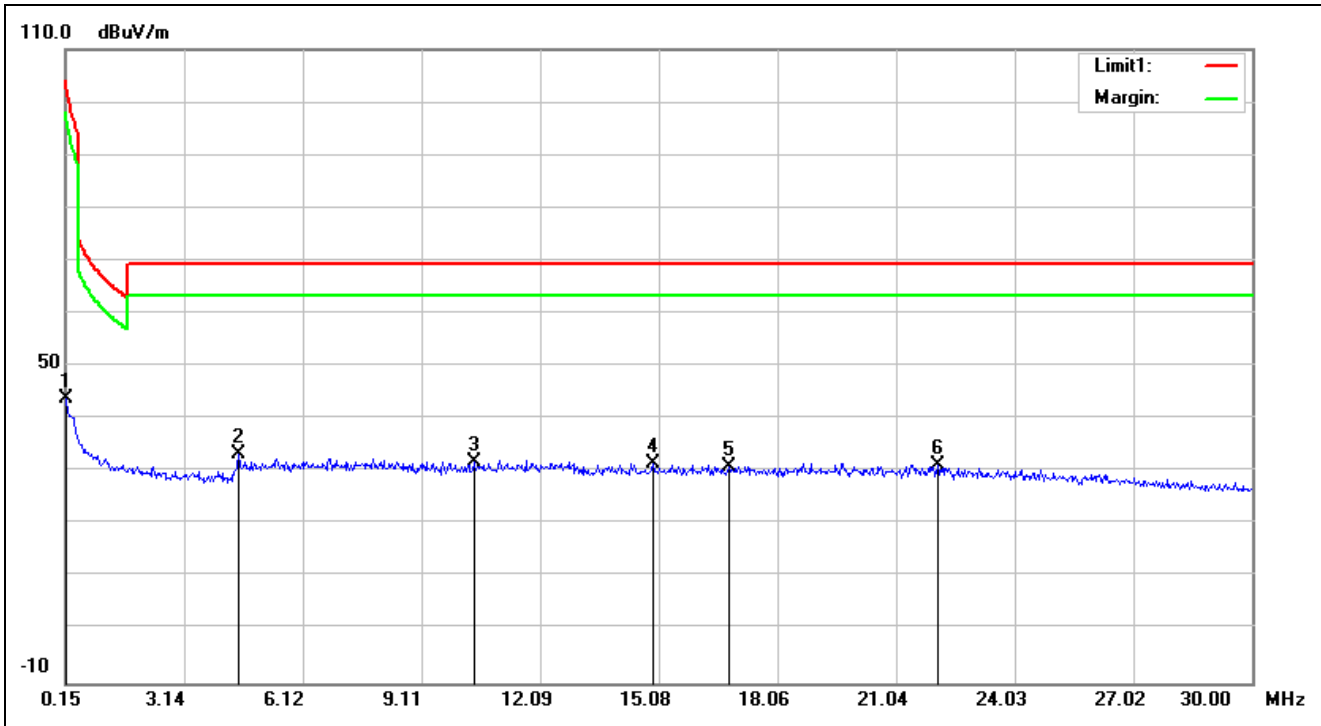


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:44:00
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0095	19.73	31.22	50.95	128.03	-77.08	QP	100	183	
2	0.0280	20.11	21.78	41.89	118.65	-76.76	QP	100	288	
3	0.0517	19.42	17.66	37.08	113.32	-76.24	QP	100	222	
4	0.0649	19.34	15.42	34.76	111.35	-76.59	QP	100	265	
5	0.0910	19.18	12.00	31.18	108.42	-77.24	QP	100	359	
6	0.1102	19.12	10.78	29.90	106.75	-76.85	QP	100	163	



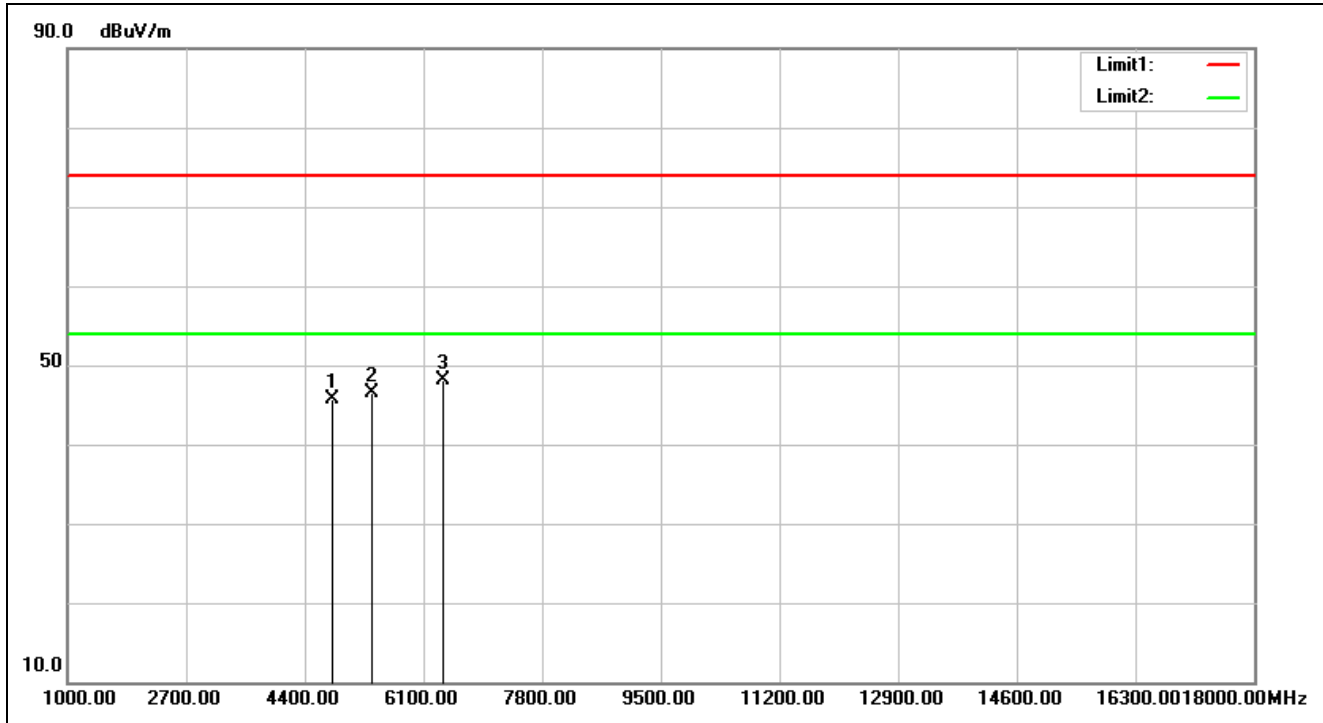
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:46:37
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1798	19.06	24.74	43.80	102.50	-58.70	QP	100	259	
2	4.5081	19.45	13.78	33.23	69.50	-36.27	QP	100	294	
3	10.4184	20.29	11.62	31.91	69.50	-37.59	QP	100	91	
4	14.9257	21.09	10.41	31.50	69.50	-38.00	QP	100	1	
5	16.8361	21.42	9.68	31.10	69.50	-38.40	QP	100	173	
6	22.0897	22.13	9.12	31.25	69.50	-38.25	QP	100	354	

Spurious Emissions, RX Mode, 1-18G

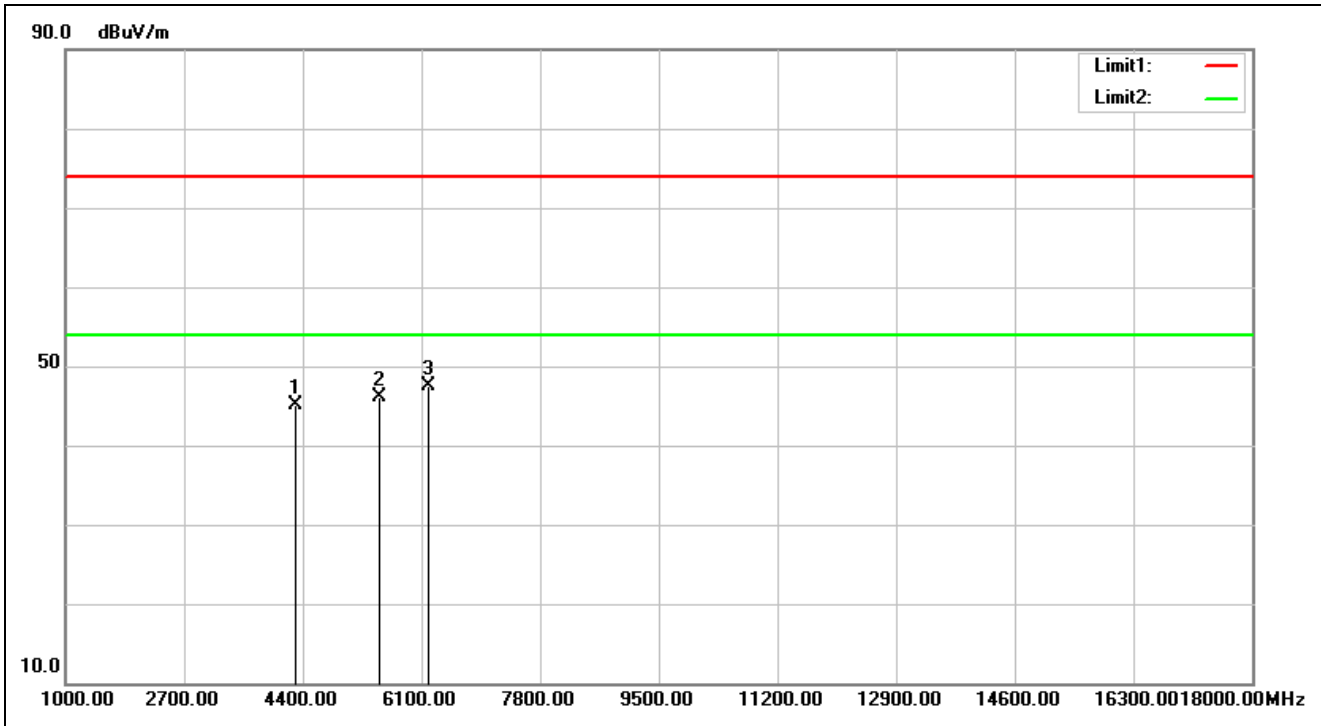


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 03:17:24
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4791.000	-3.55	49.33	45.78	74.00	-28.22	peak	100	302	
2	5369.000	-1.46	48.06	46.60	74.00	-27.40	peak	100	329	
3	6372.000	3.82	44.26	48.08	74.00	-25.92	peak	100	80	



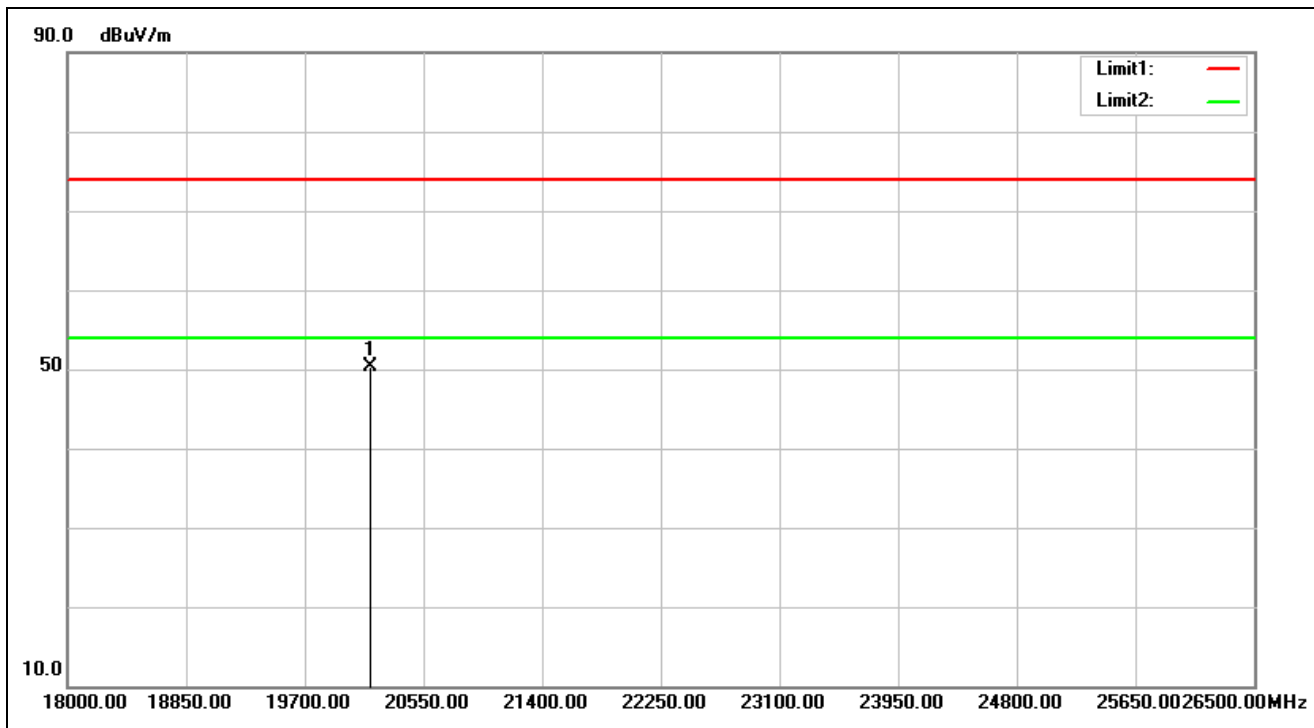
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 03:18:16
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4298.000	-4.77	49.83	45.06	74.00	-28.94	peak	100	51	
2	5505.000	-0.80	46.84	46.04	74.00	-27.96	peak	100	269	
3	6202.000	3.15	44.37	47.52	74.00	-26.48	peak	100	65	

Spurious Emissions, RX Mode, 18-26G

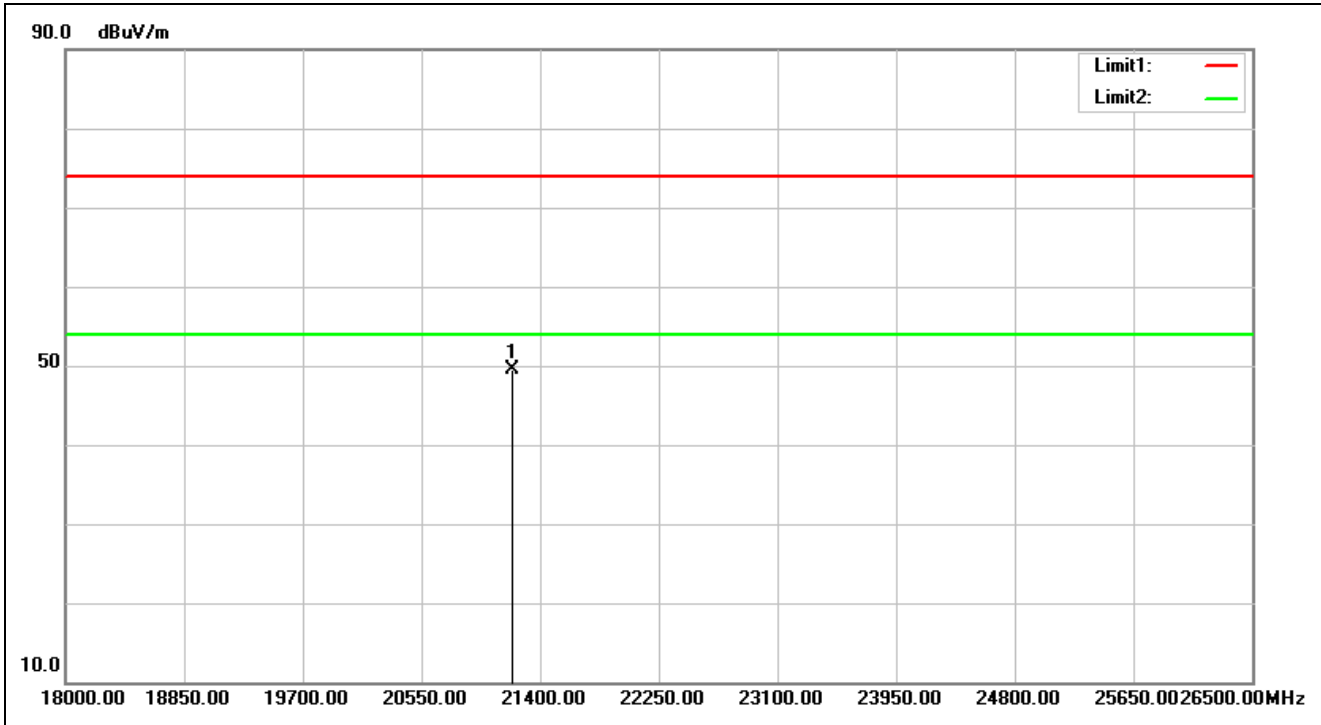


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:51:20
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20167.500	31.27	19.13	50.40	74.00	-23.60	peak			



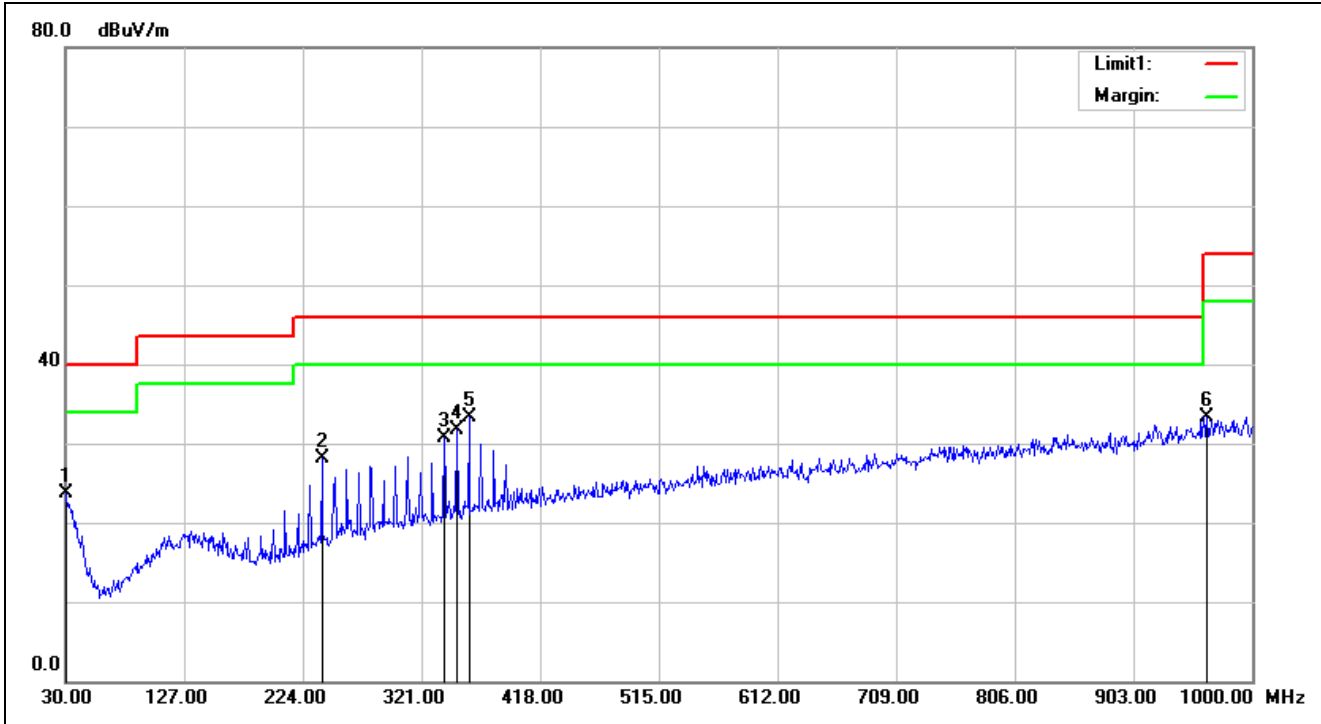
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:51:27
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21204.500	32.62	16.79	49.41	74.00	-24.59	peak			

Spurious Emissions, RX Mode, 30M-1G

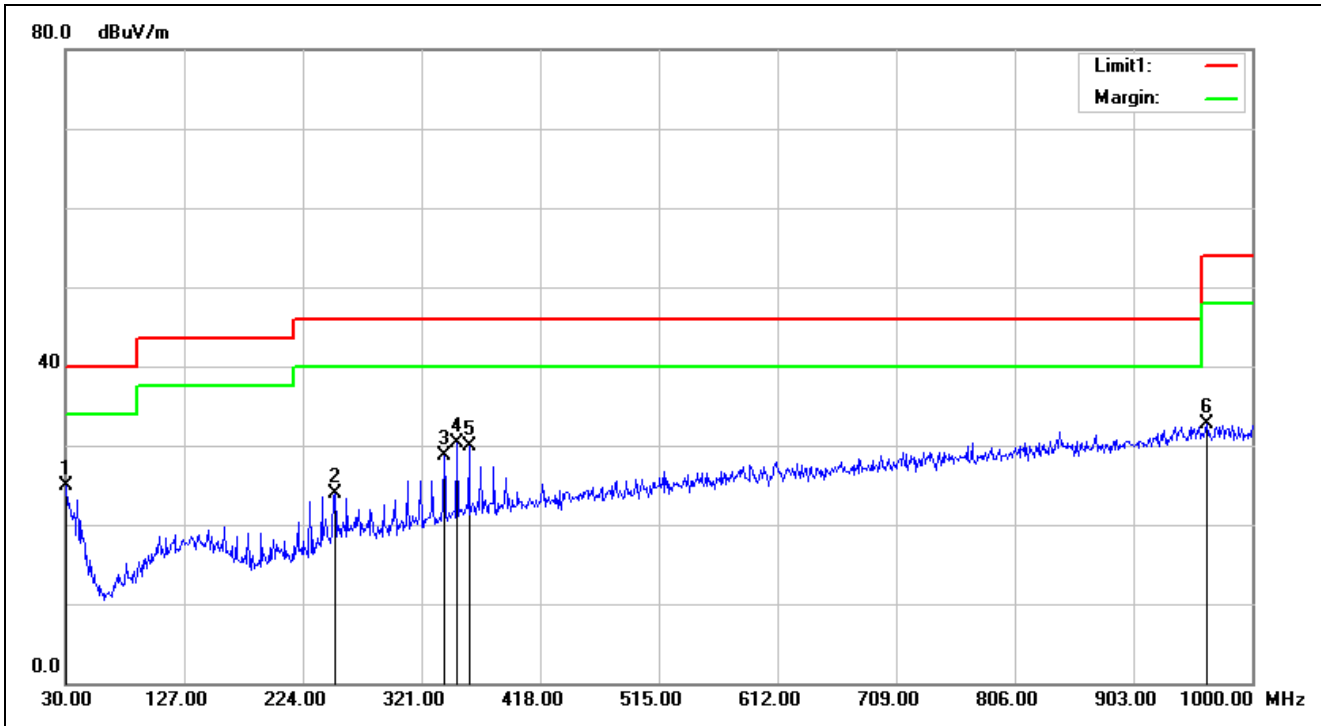


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 05:13:14
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.25	24.05	23.80	40.00	-16.20	QP	100	91	
2	239.5200	-6.85	35.00	28.15	46.00	-17.85	QP	100	91	
3	339.4300	-3.61	34.32	30.71	46.00	-15.29	QP	100	213	
4	350.1000	-3.34	35.03	31.69	46.00	-14.31	QP	100	203	
5	359.8000	-3.16	36.41	33.25	46.00	-12.75	QP	100	301	
6	963.1400	5.56	27.78	33.34	54.00	-20.66	QP	100	108	



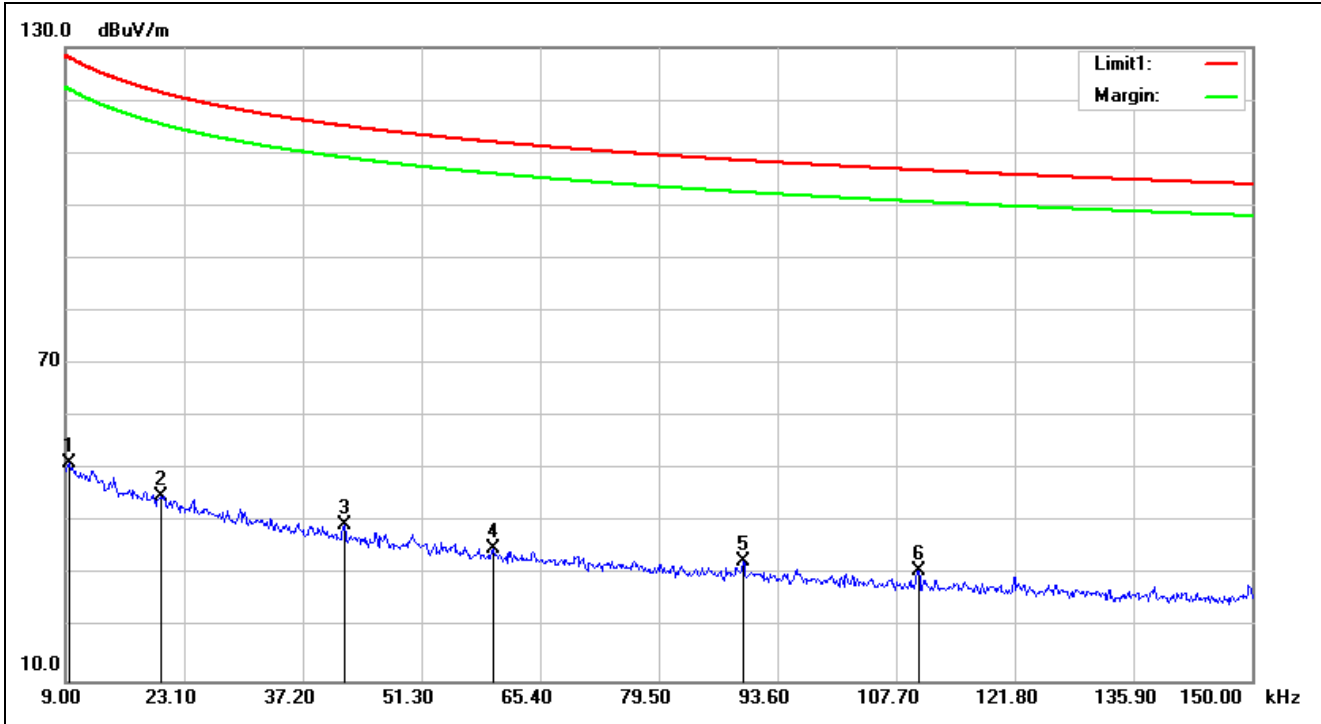
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 05:14:08
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.9700	-0.79	25.66	24.87	40.00	-15.13	QP	100	68	
2	250.1900	-5.75	29.66	23.91	46.00	-22.09	QP	100	98	
3	339.4300	-3.61	32.23	28.62	46.00	-17.38	QP	100	252	
4	350.1000	-3.34	33.57	30.23	46.00	-15.77	QP	100	246	
5	359.8000	-3.16	33.07	29.91	46.00	-16.09	QP	100	229	
6	963.1400	5.56	27.08	32.64	54.00	-21.36	QP	100	183	

Spurious Emissions, RX Mode, 9K-30M

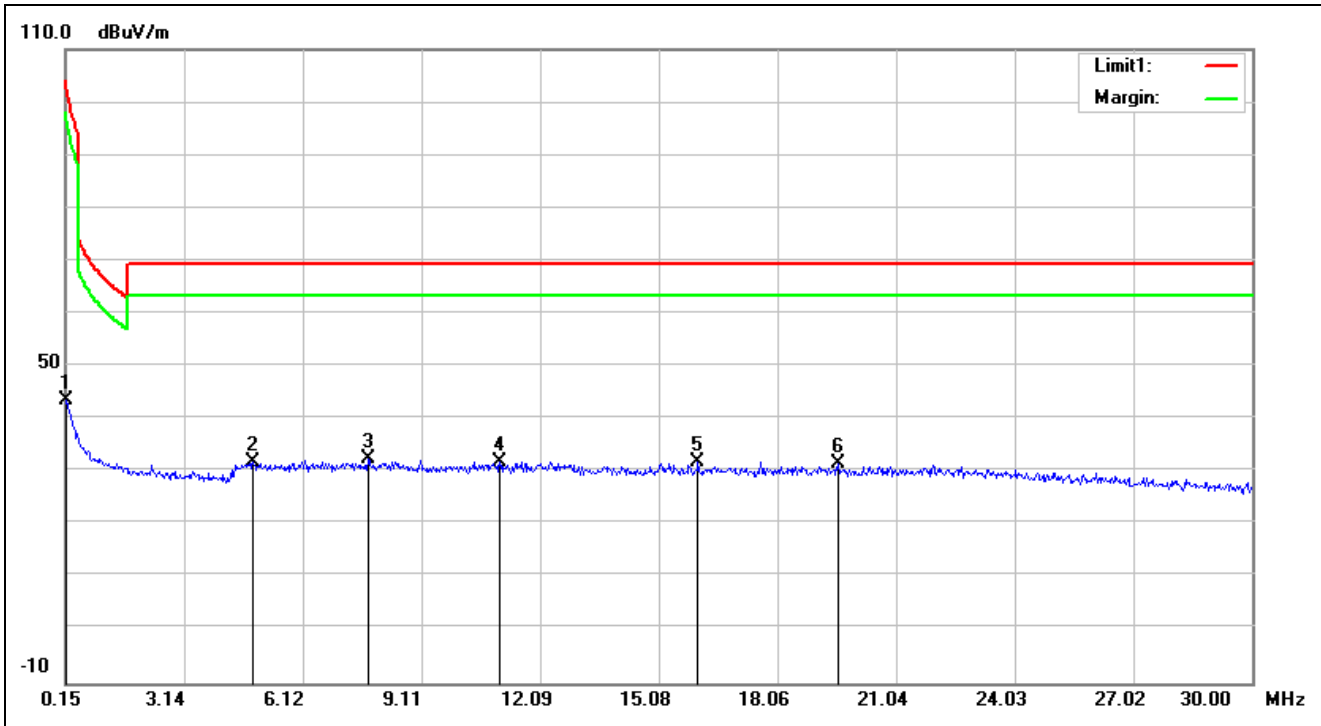


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:44:53
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFA-02-5-C7H1-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0094	19.69	31.43	51.12	128.12	-77.00	QP	100	268	
2	0.0204	20.03	24.97	45.00	121.40	-76.40	QP	100	229	
3	0.0421	19.71	19.81	39.52	115.11	-75.59	QP	100	308	
4	0.0598	19.37	15.74	35.11	112.06	-76.95	QP	100	58	
5	0.0895	19.19	13.33	32.52	108.56	-76.04	QP	100	183	
6	0.1104	19.12	11.64	30.76	106.74	-75.98	QP	100	166	



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:47:30
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFA-02-5-C7H1-ANT		

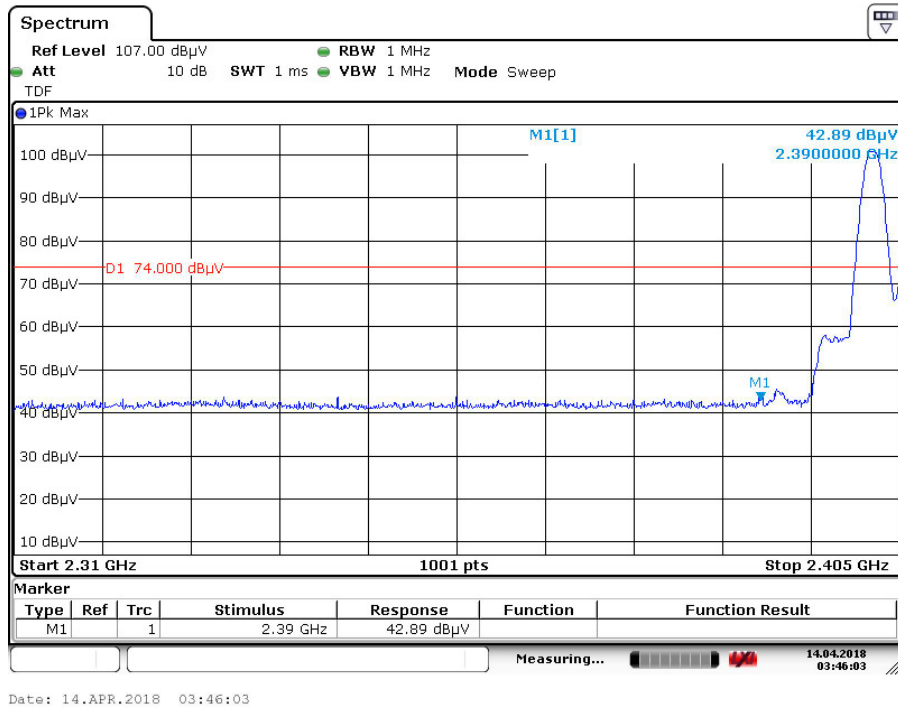
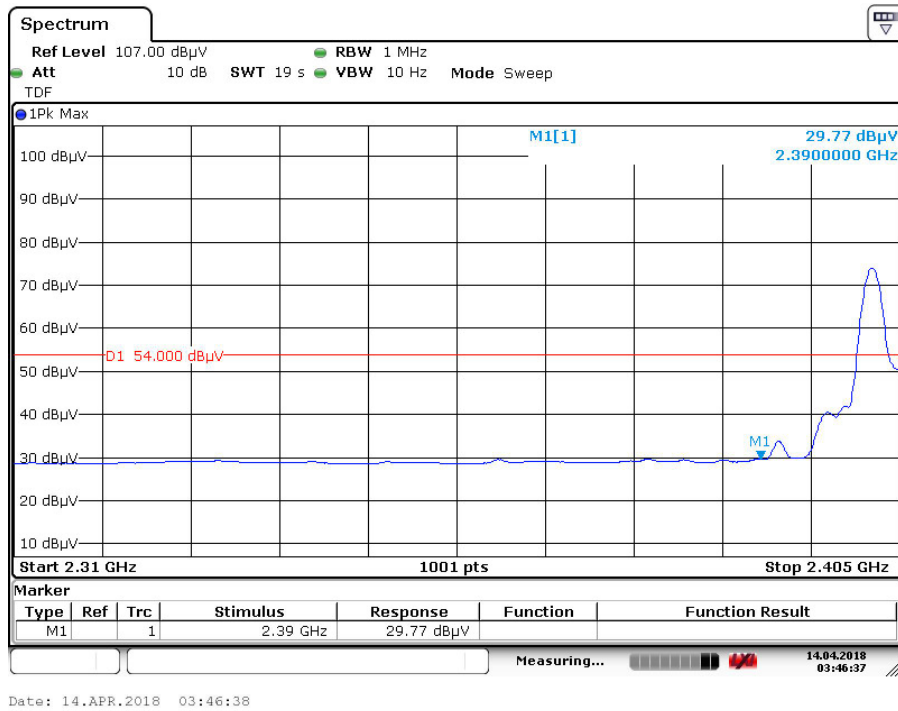
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1799	19.06	24.58	43.64	102.50	-58.86	QP	100	298	
2	4.8663	19.68	12.06	31.74	69.50	-37.76	QP	100	174	
3	7.7618	20.01	12.34	32.35	69.50	-37.15	QP	100	259	
4	11.0751	20.41	11.50	31.91	69.50	-37.59	QP	100	232	
5	16.0601	21.29	10.47	31.76	69.50	-37.74	QP	100	200	
6	19.5824	21.91	9.55	31.46	69.50	-38.04	QP	100	325	

RFMTA331215IMAB701-ANT

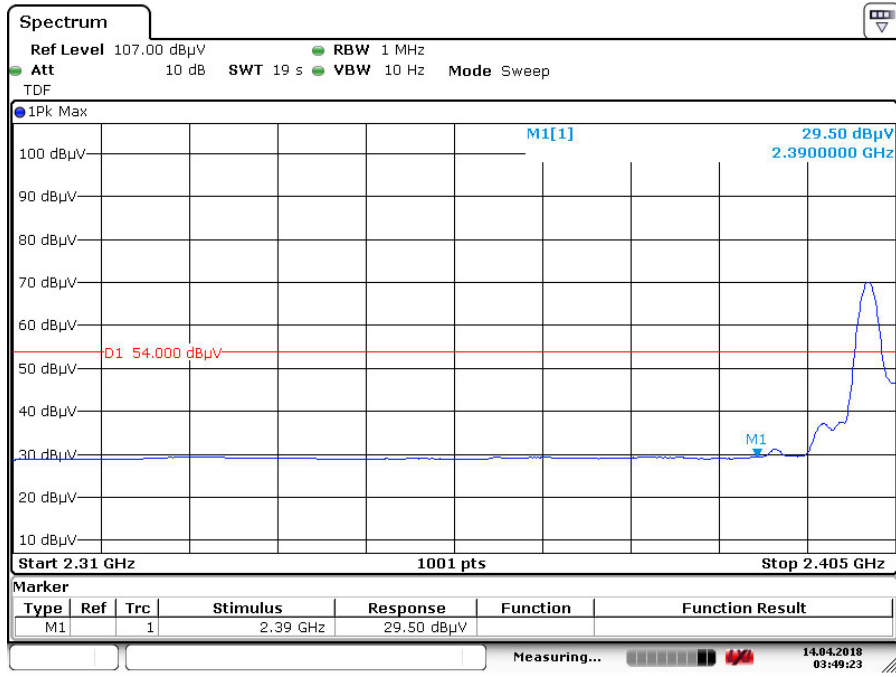
Spurious Emissions, Band Edges, 2.35-2.5G

Radiated Bandedge (GFSK)

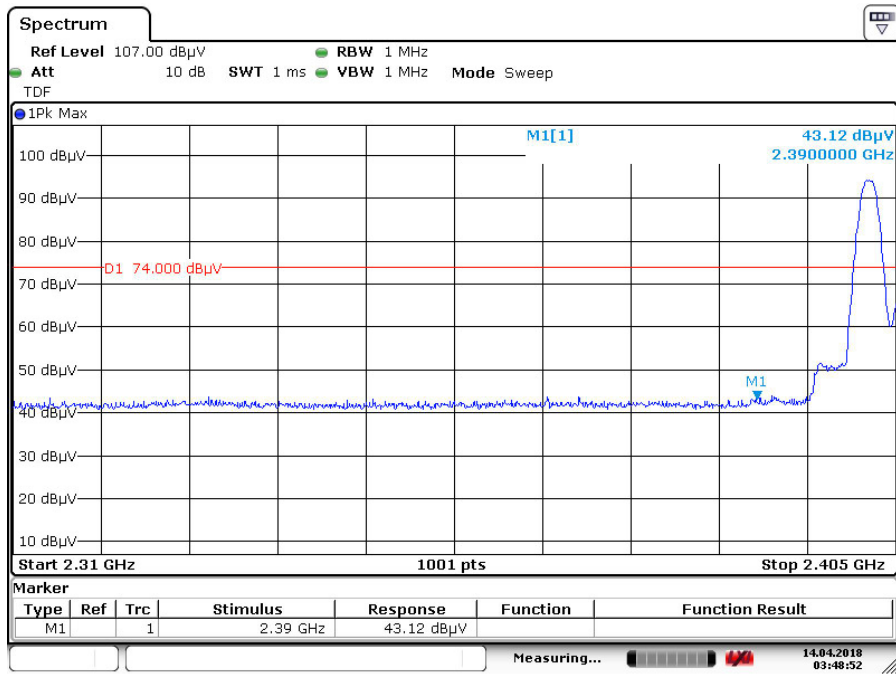
Low Channel (Hor)



Low Channel (Ver)



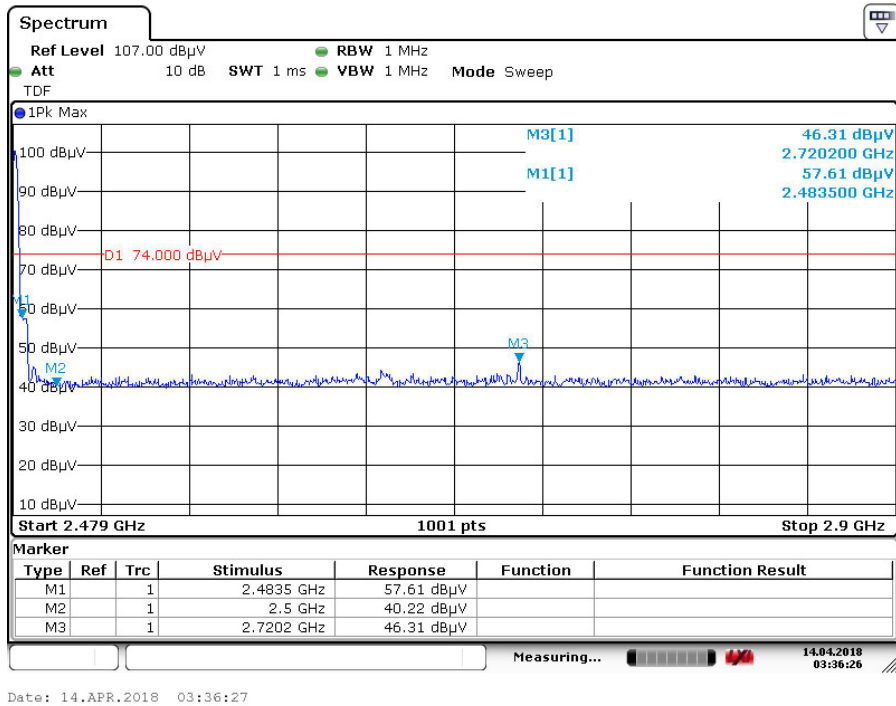
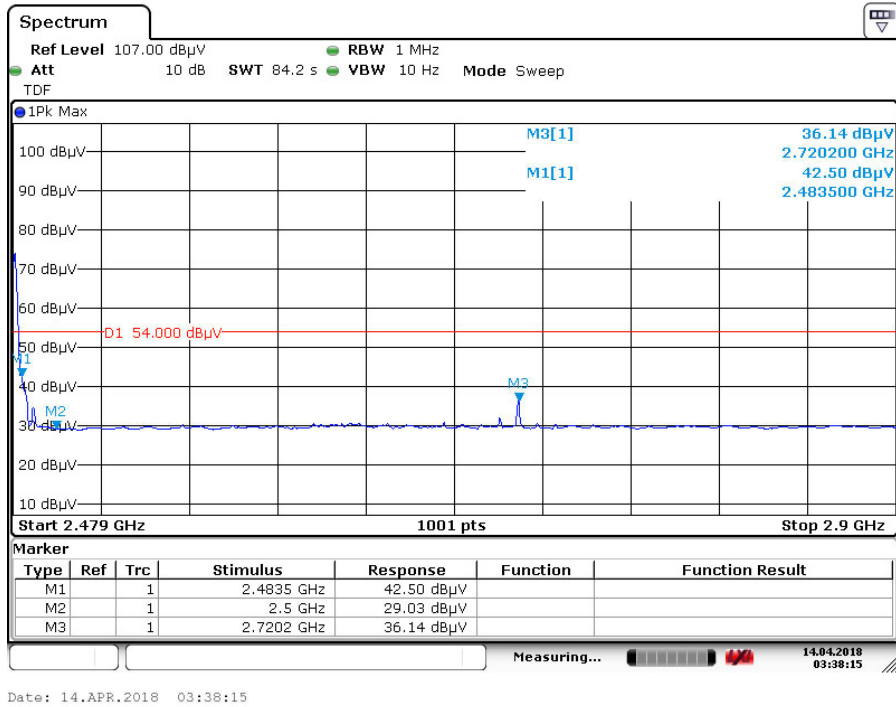
Date: 14.APR.2018 03:49:23



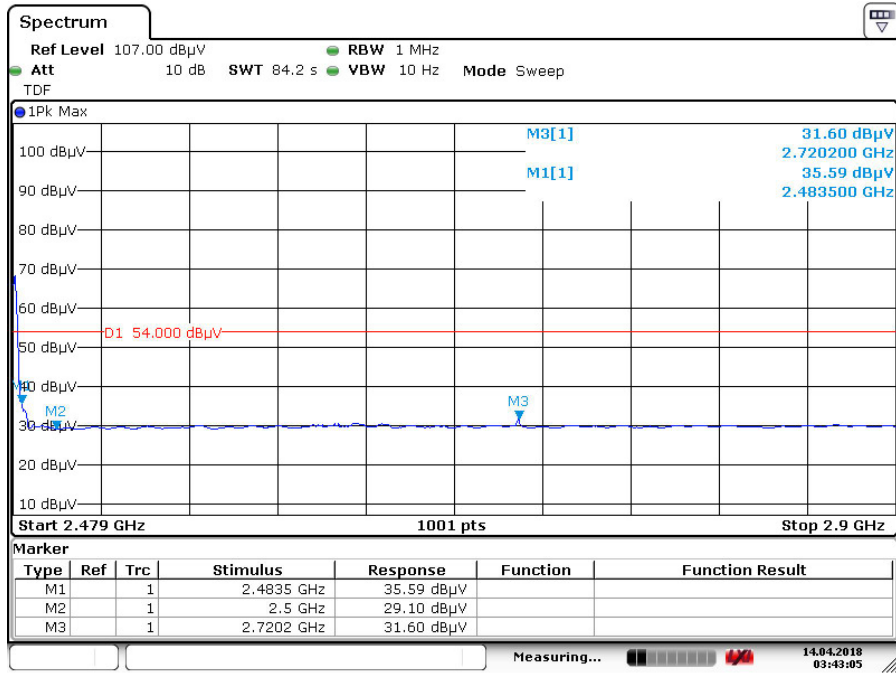
Date: 14.APR.2018 03:48:52

Radiated Bandedge (GFSK)

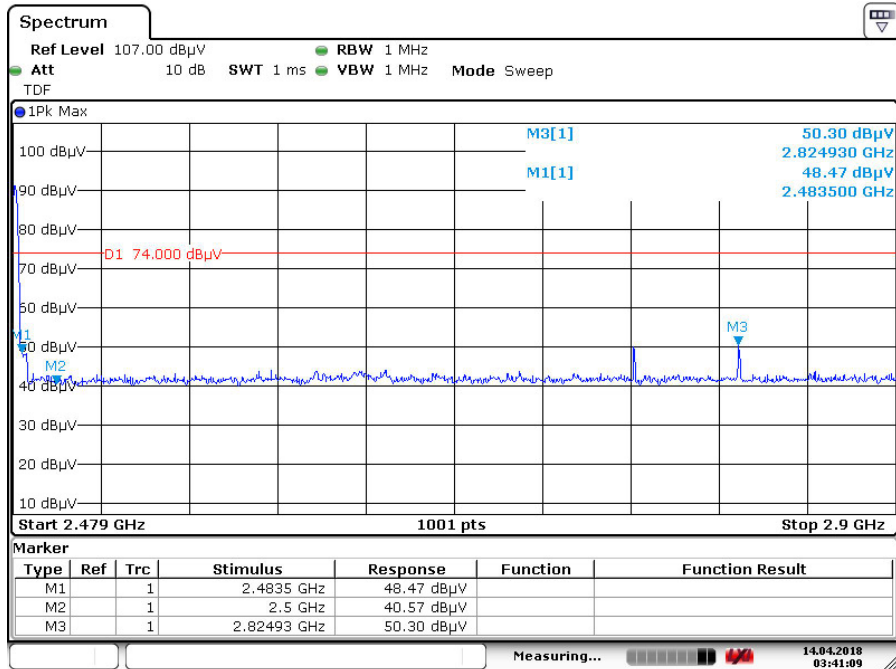
High Channel (Hor)



High Channel (Ver)



Date: 14.APR.2018 03:43:06



Date: 14.APR.2018 03:41:10

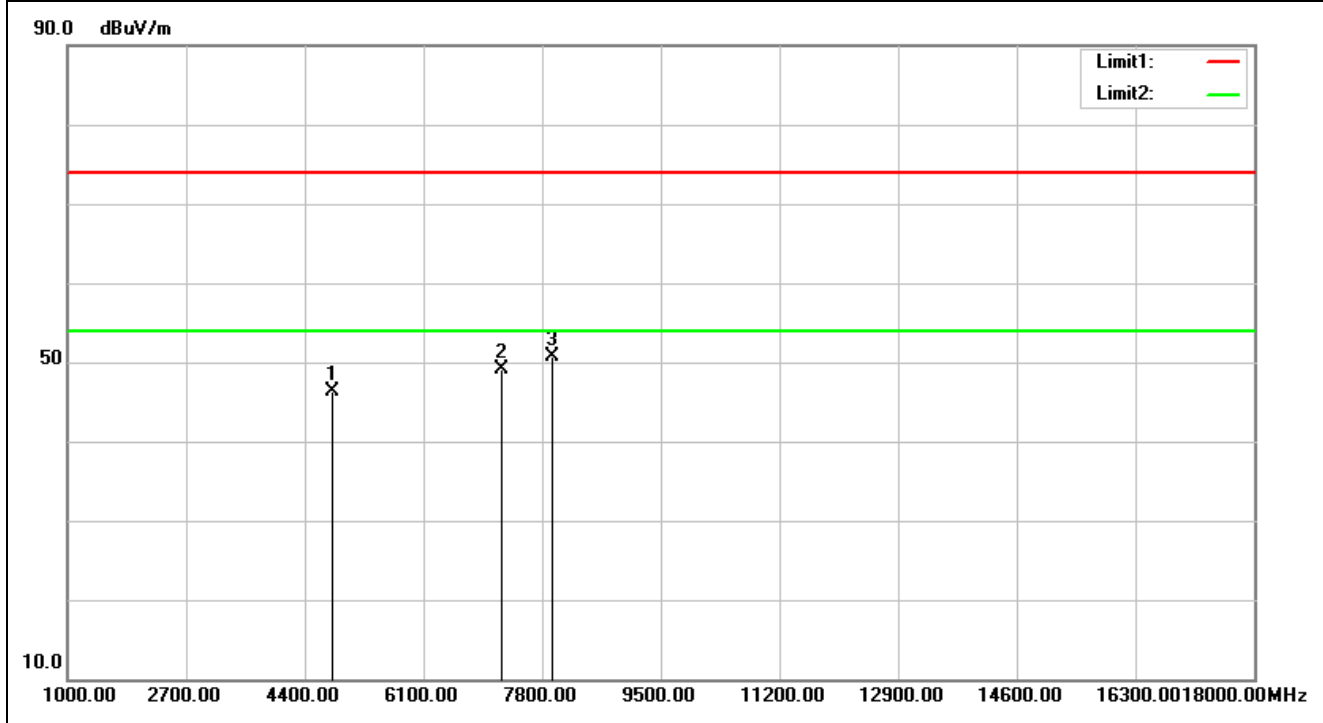
Spurious Emissions, TX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

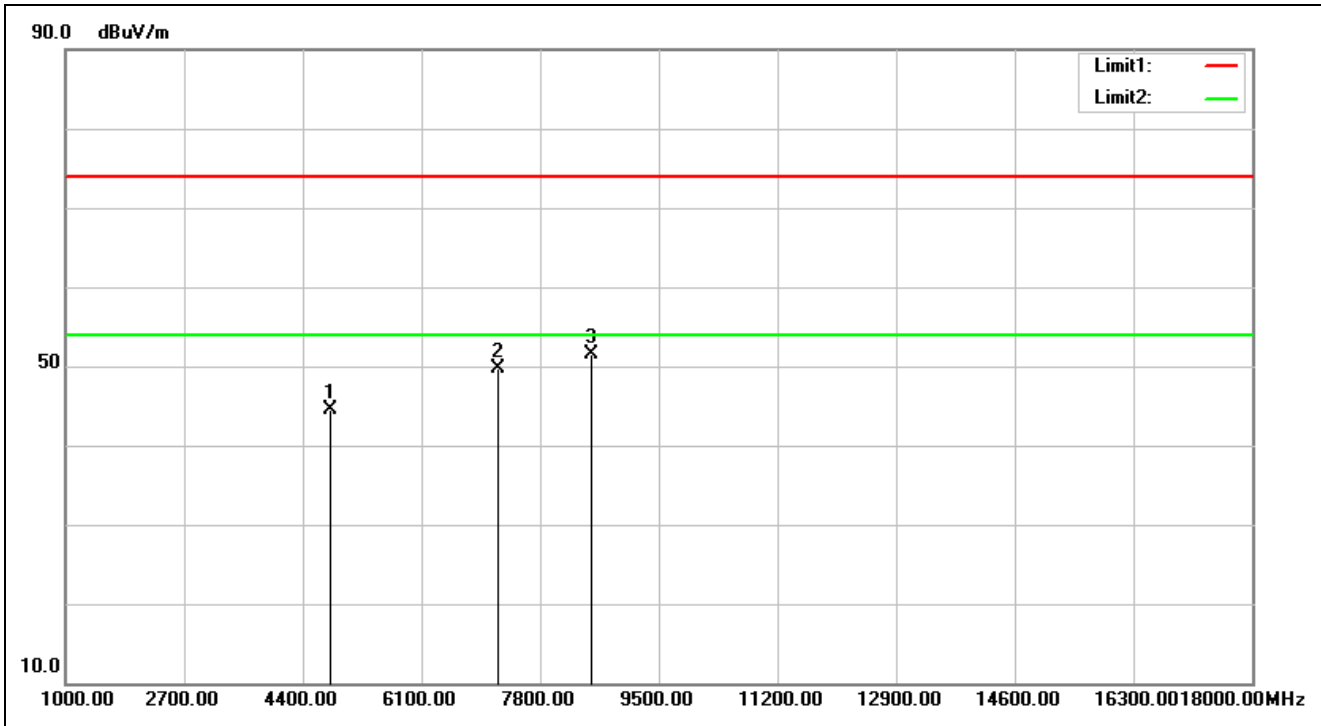
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



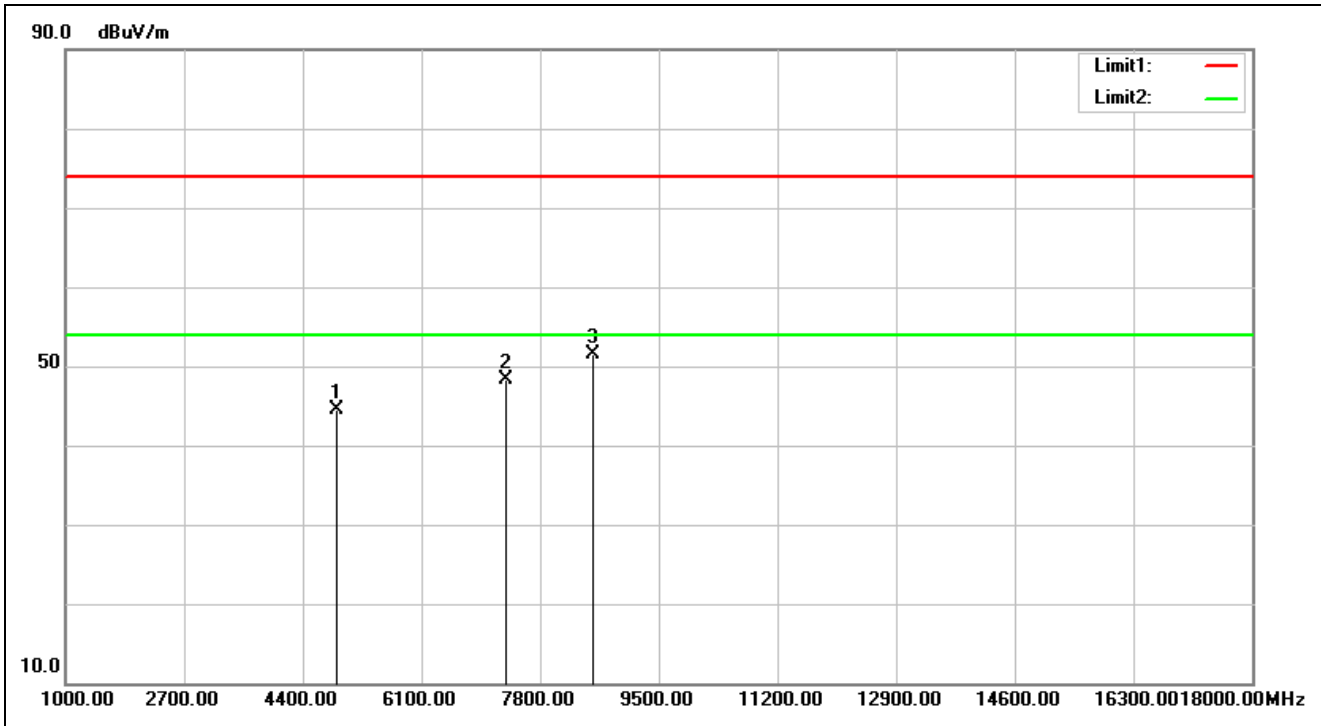
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 03:43:45
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	-2.72	48.98	46.26	74.00	-27.74	peak		0	
2	7206.000	5.25	43.83	49.08	74.00	-24.92	peak		0	
3	7936.000	5.84	44.79	50.63	74.00	-23.37	peak	100	143	



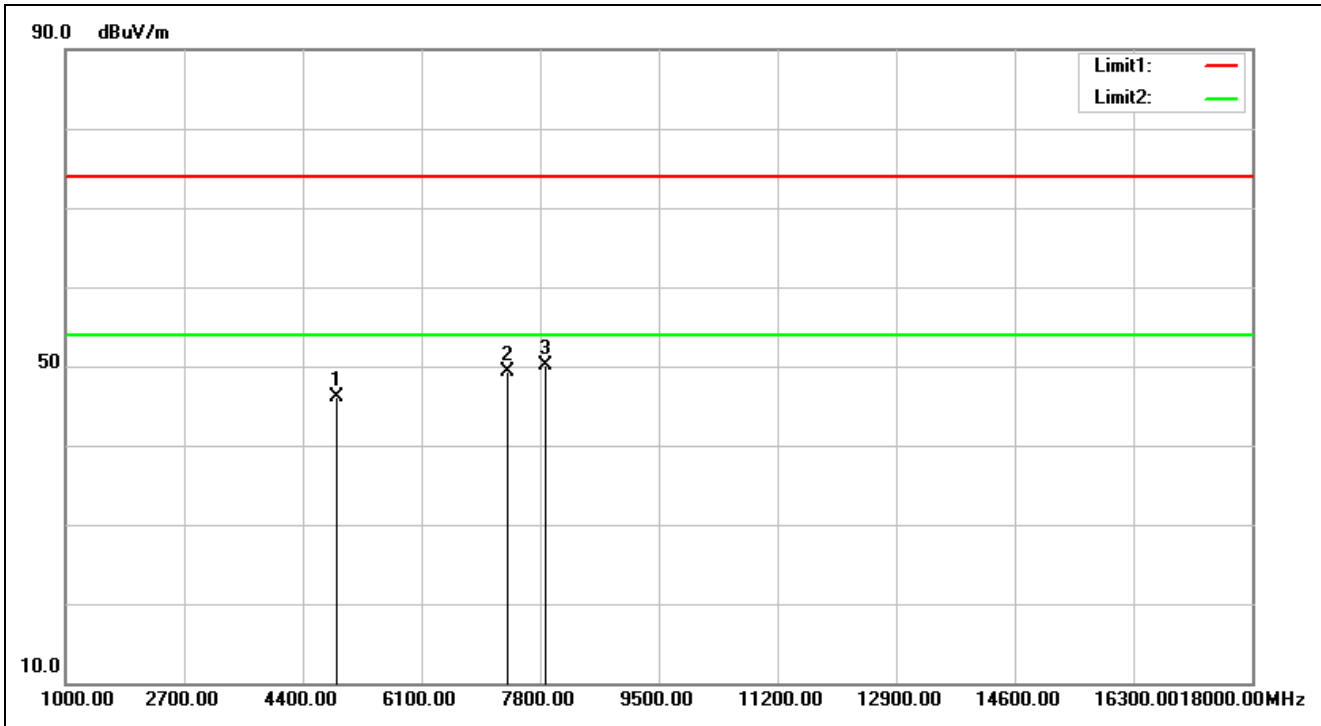
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 03:44:37
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	-2.72	47.22	44.50	74.00	-29.50	peak			
2	7206.000	5.25	44.46	49.71	74.00	-24.29	peak			
3	8531.000	6.38	45.05	51.43	74.00	-22.57	peak	100	80	



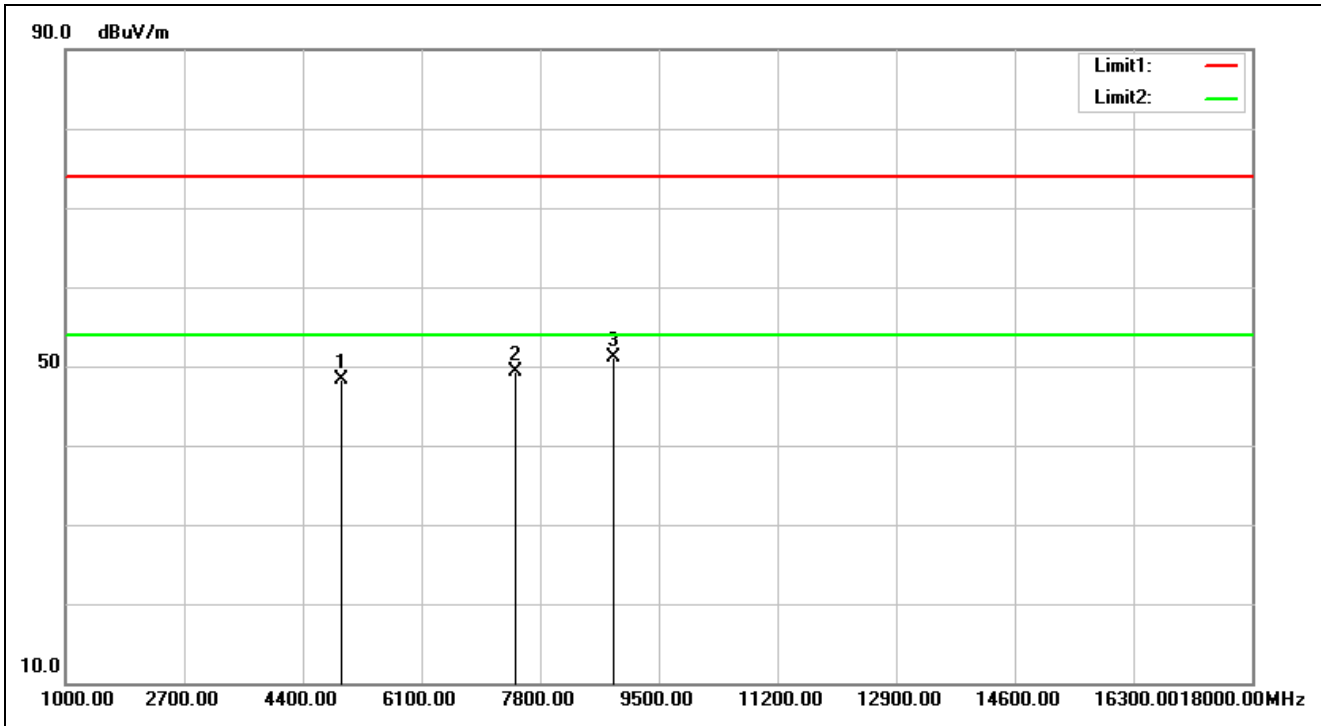
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 03:46:34
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	-2.50	47.06	44.56	74.00	-29.44	peak			
2	7320.000	5.54	42.82	48.36	74.00	-25.64	peak			
3	8548.000	6.38	45.19	51.57	74.00	-22.43	peak	100	355	



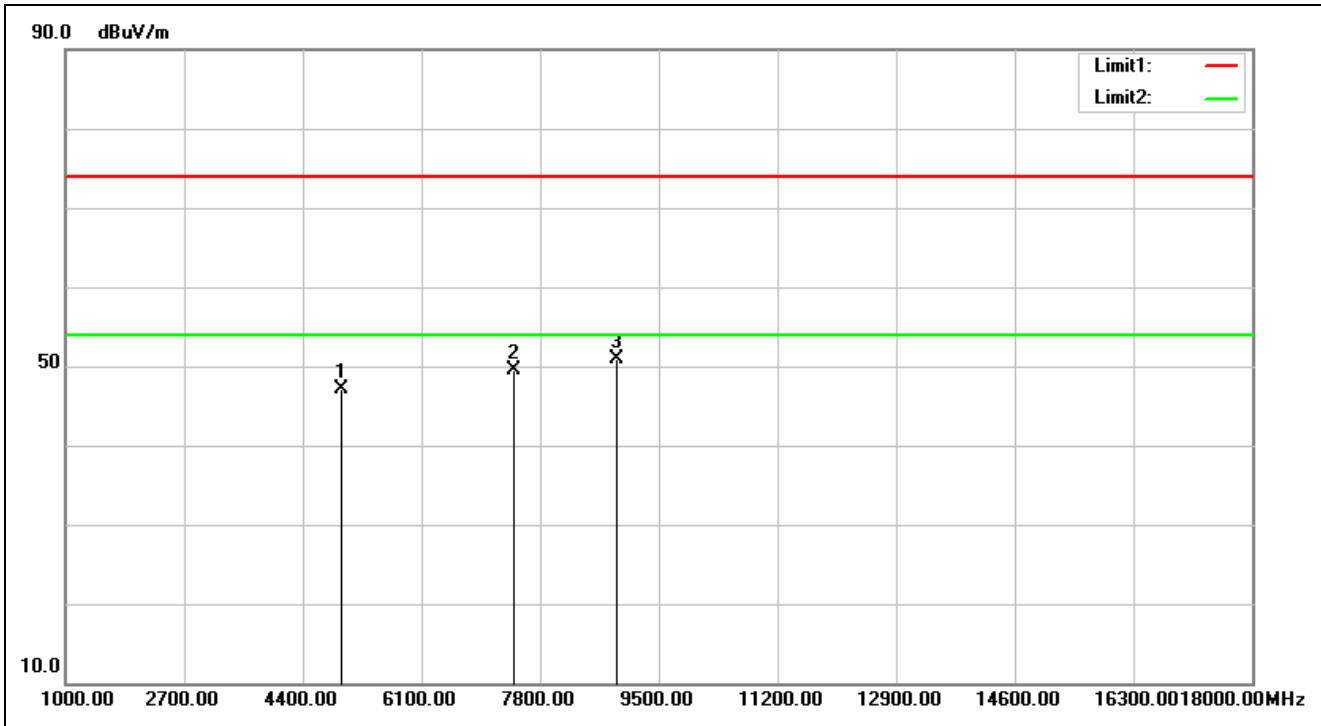
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 03:47:26
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	-2.50	48.64	46.14	74.00	-27.86	peak			
2	7320.000	5.54	43.71	49.25	74.00	-24.75	peak			
3	7868.000	5.86	44.32	50.18	74.00	-23.82	peak	100	288	



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 03:49:48
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-2.28	50.65	48.37	74.00	-25.63	peak			
2	7440.000	5.84	43.51	49.35	74.00	-24.65	peak			
3	8854.000	6.42	44.64	51.06	74.00	-22.94	peak	100	195	



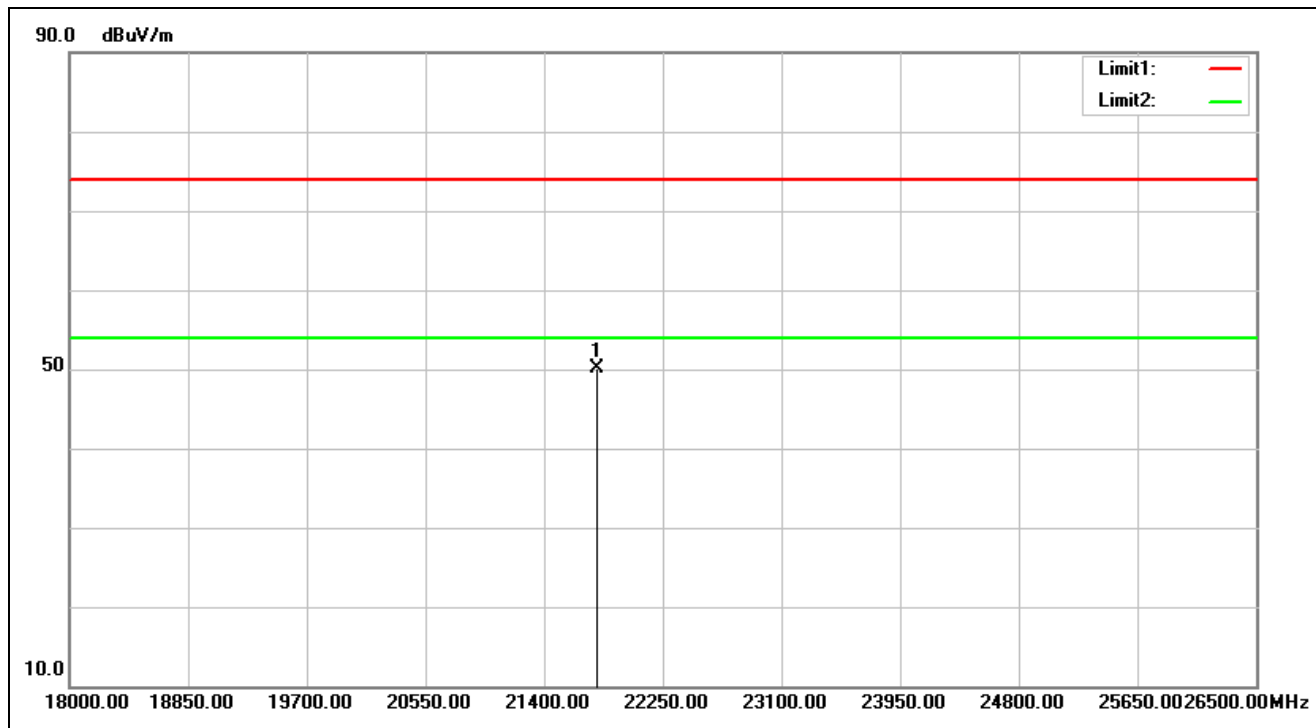
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 03:50:41
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-2.28	49.36	47.08	74.00	-26.92	peak			
2	7440.000	5.84	43.70	49.54	74.00	-24.46	peak			
3	8905.000	6.42	44.47	50.89	74.00	-23.11	peak	100	320	

Spurious Emissions, TX Mode, 18-26G

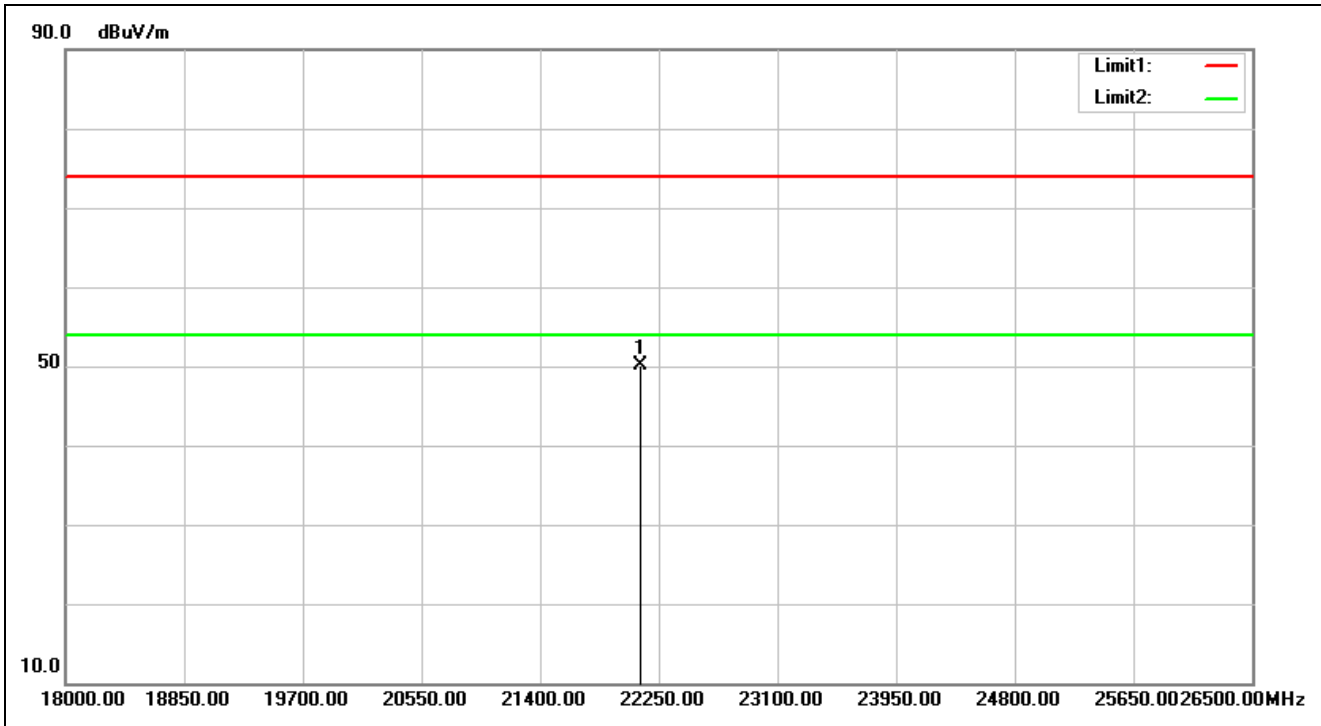


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



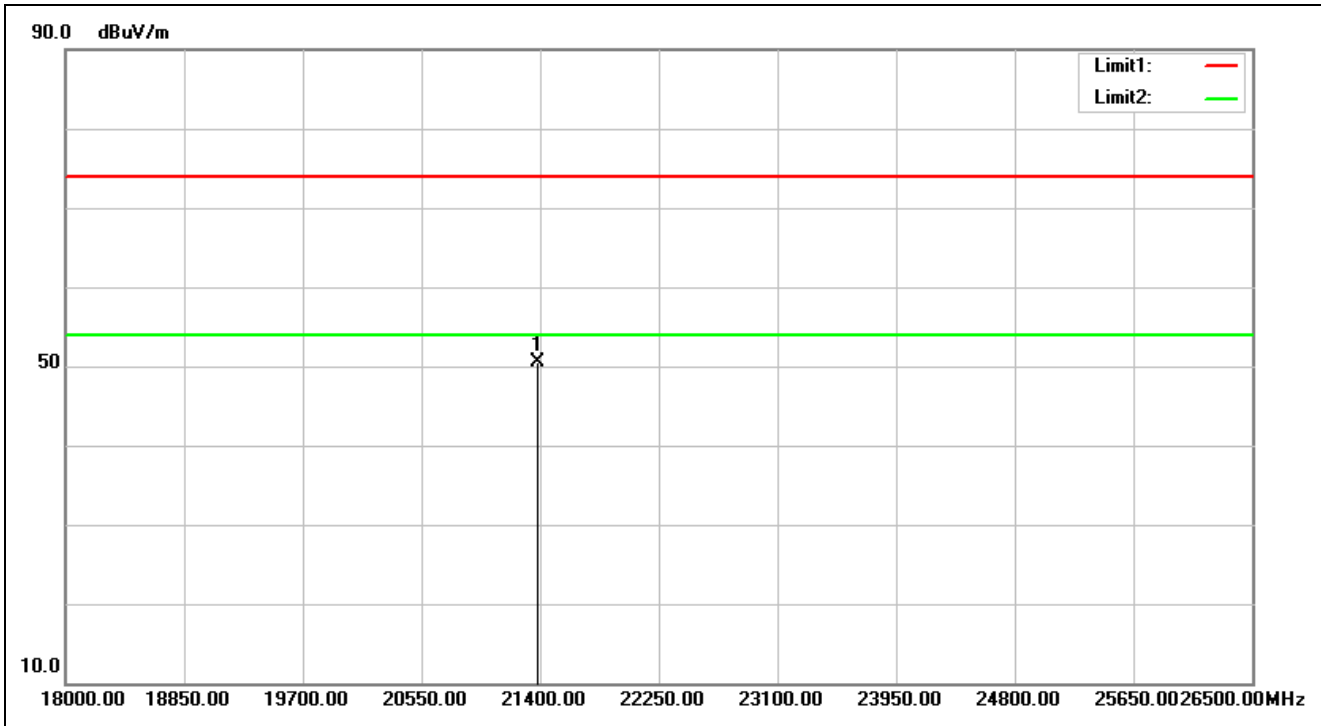
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:45:25
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21774.000	32.72	17.42	50.14	74.00	-23.86	peak		0	



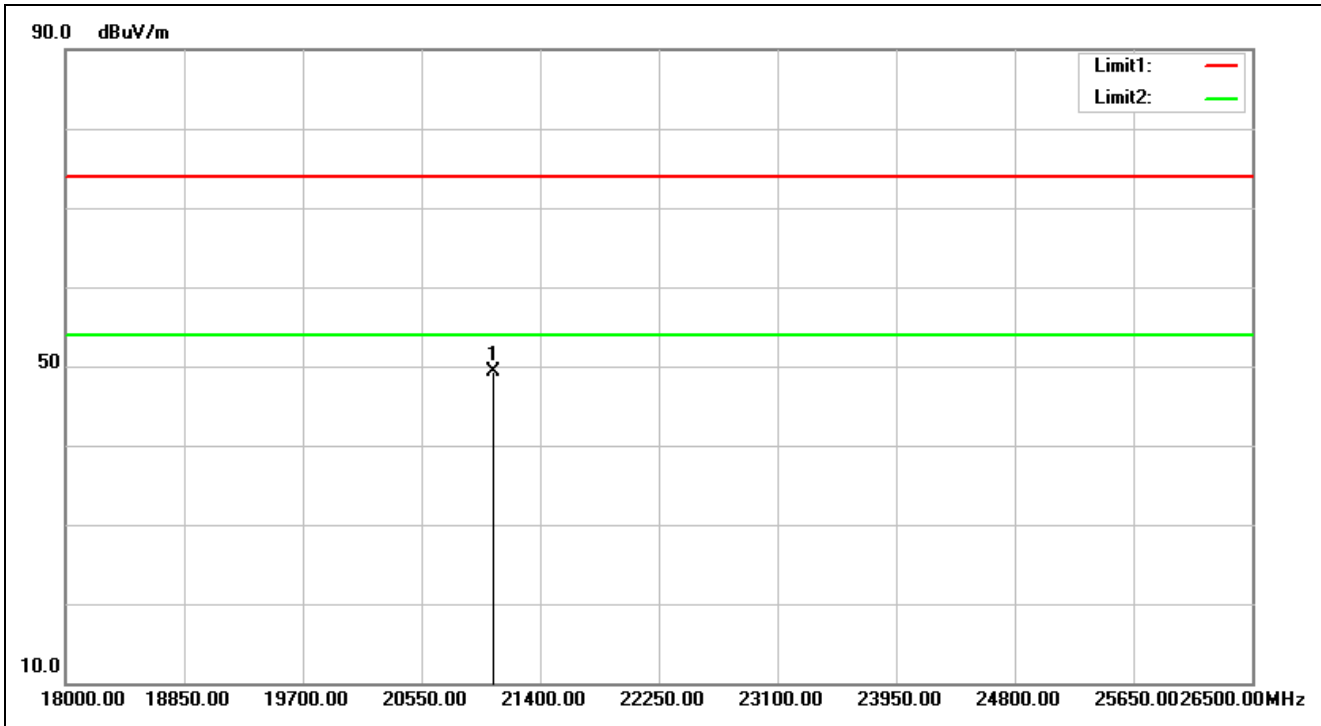
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:45:32
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22114.000	32.60	17.53	50.13	74.00	-23.87	peak			



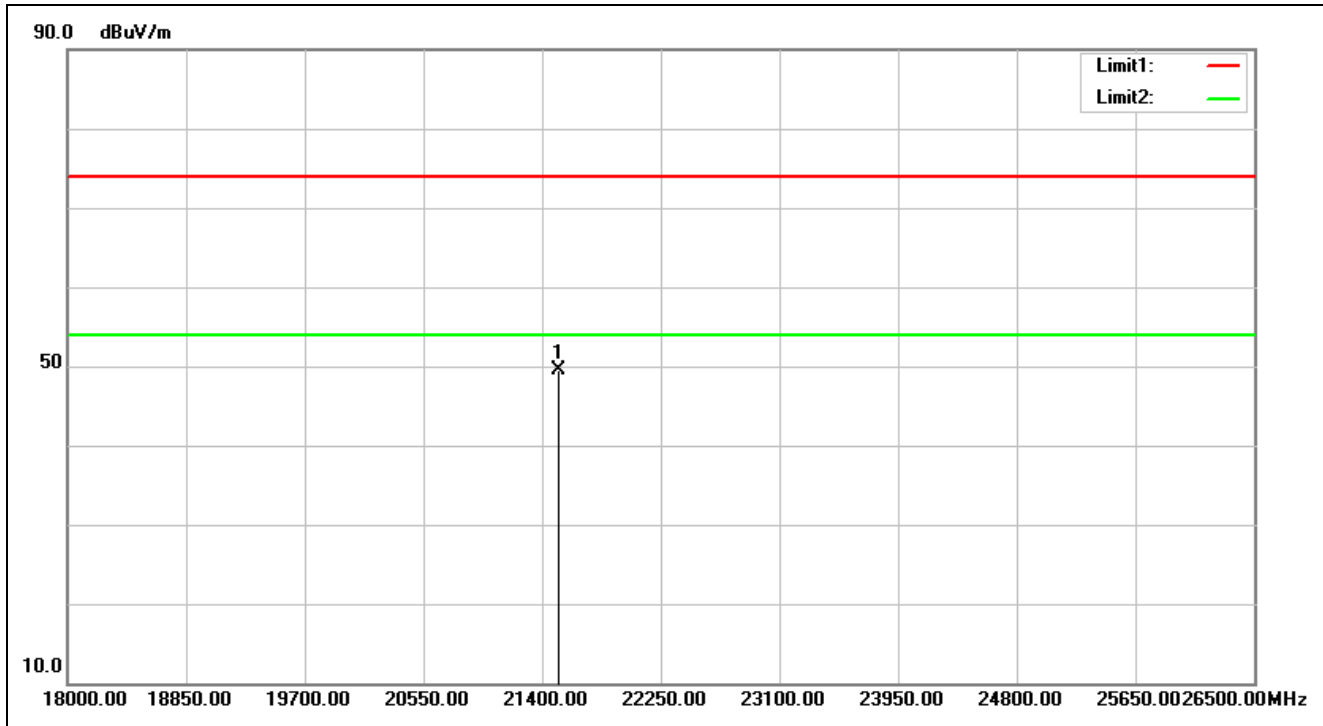
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:45:54
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21383.000	32.78	17.65	50.43	74.00	-23.57	peak			



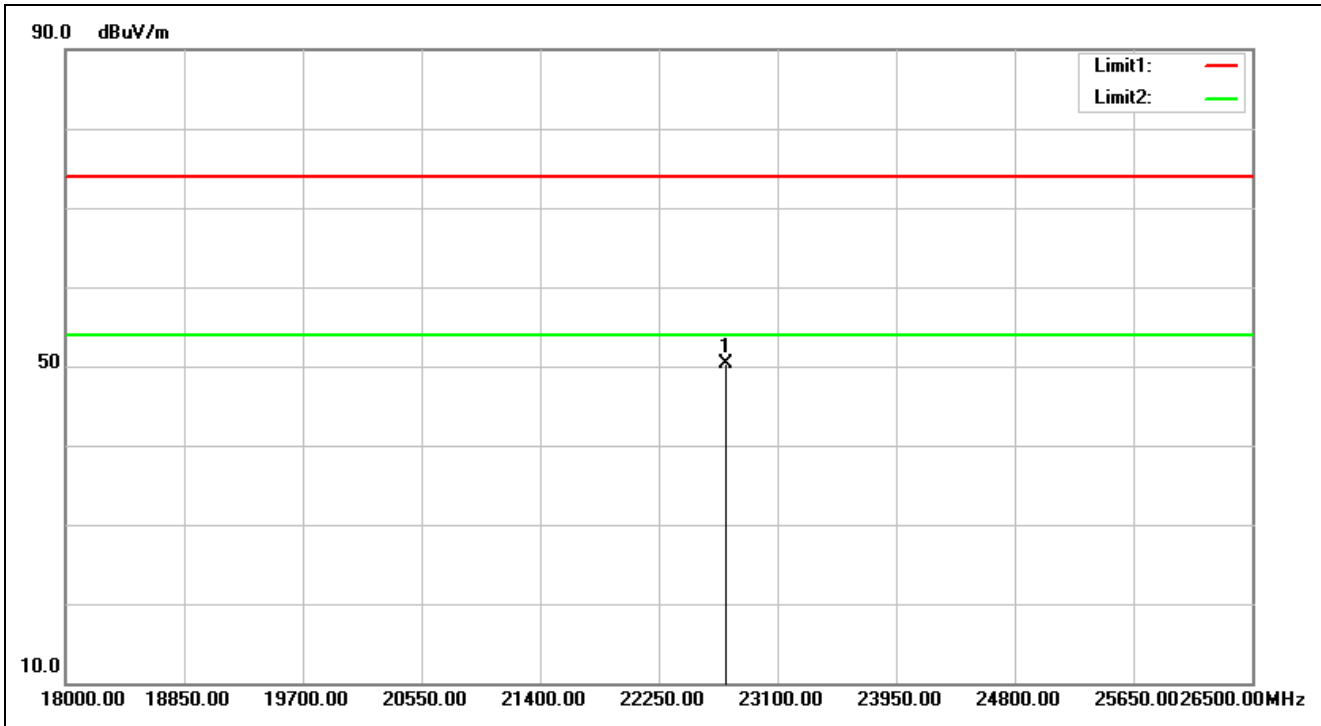
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:46:01
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21068.500	32.50	16.80	49.30	74.00	-24.70	peak			



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:46:23
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21519.000	32.88	16.72	49.60	74.00	-24.40	peak			



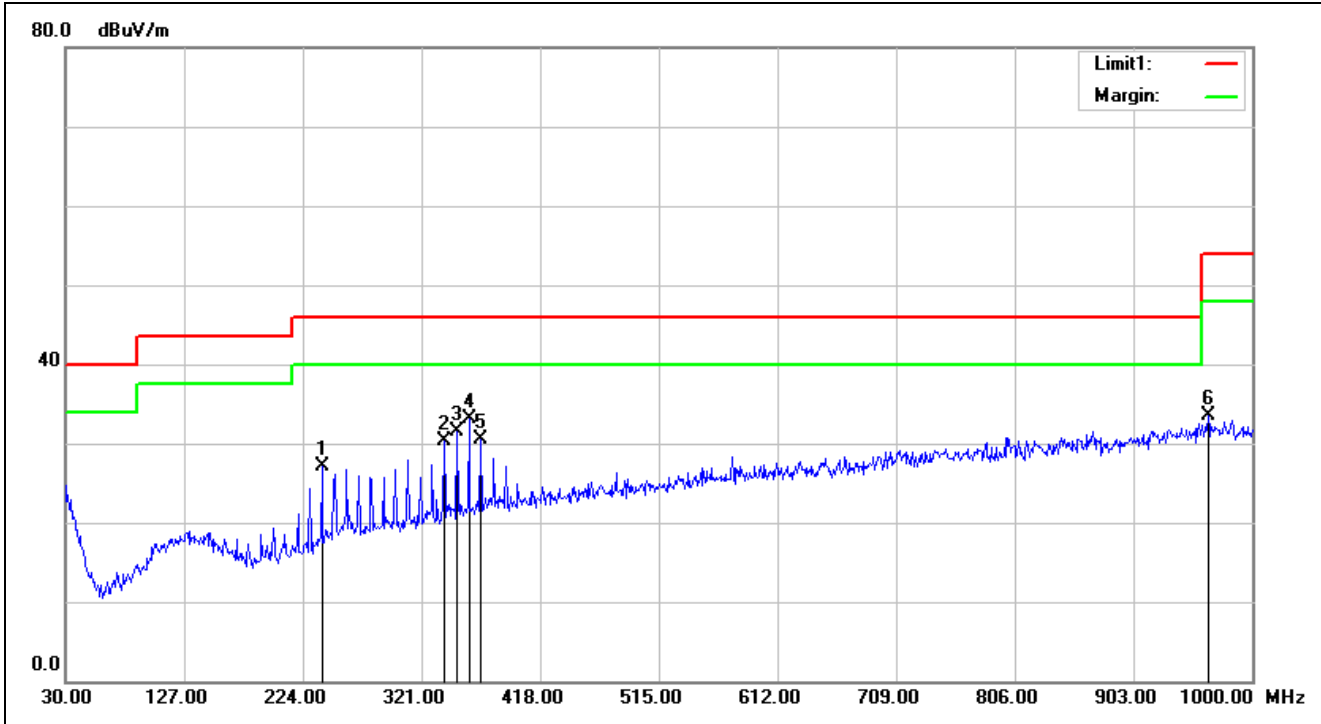
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:46:29
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22734.500	32.72	17.49	50.21	74.00	-23.79	peak			

Spurious Emissions, TX Mode, 30M-1G

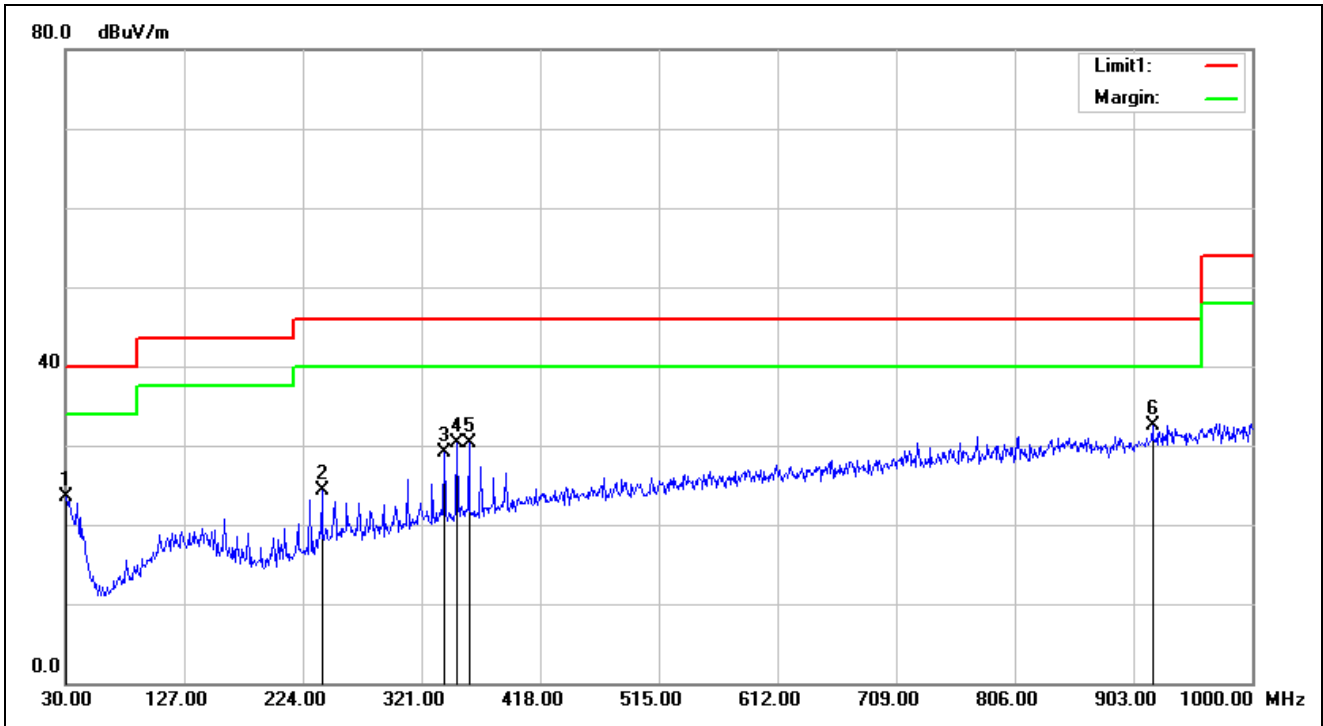


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 05:17:01
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

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	33.91	27.06	46.00	-18.94	QP	100	230	
2	339.4300	-3.61	33.97	30.36	46.00	-15.64	QP	100	219	
3	350.1000	-3.34	34.92	31.58	46.00	-14.42	QP	100	114	
4	359.8000	-3.16	36.27	33.11	46.00	-12.89	QP	100	289	
5	369.5000	-2.98	33.54	30.56	46.00	-15.44	QP	100	299	
6	964.1100	5.56	27.97	33.53	54.00	-20.47	QP	100	325	



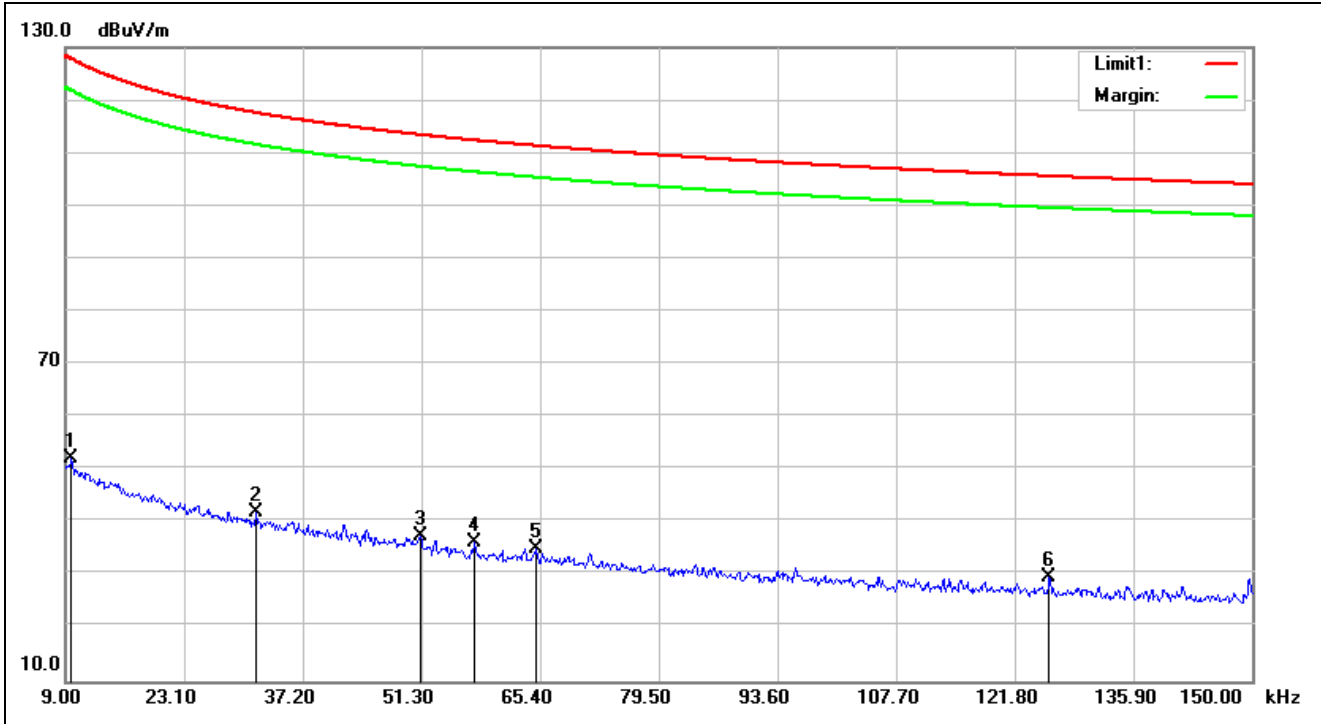
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 05:17:54
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.25	23.85	23.60	40.00	-16.40	QP	100	324	
2	239.5200	-6.85	31.22	24.37	46.00	-21.63	QP	100	91	
3	339.4300	-3.61	32.76	29.15	46.00	-16.85	QP	100	255	
4	350.1000	-3.34	33.68	30.34	46.00	-15.66	QP	100	248	
5	359.8000	-3.16	33.49	30.33	46.00	-15.67	QP	100	232	
6	918.5200	4.58	28.02	32.60	46.00	-13.40	QP	100	160	

Spurious Emissions, TX Mode, 9k-30M

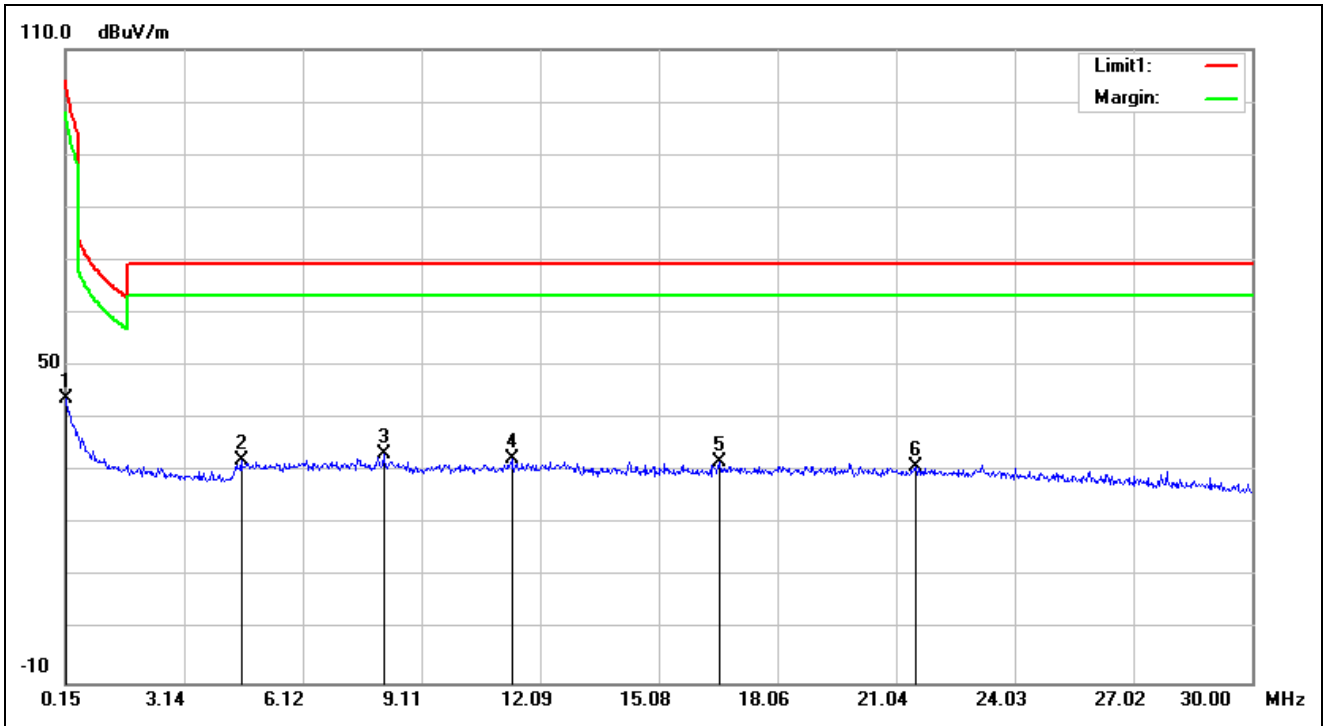


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:37:16
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0097	19.81	32.42	52.23	127.85	-75.62	QP	100	1	
2	0.0317	20.07	21.79	41.86	117.57	-75.71	QP	100	0	
3	0.0511	19.42	18.01	37.43	113.42	-75.99	QP	100	183	
4	0.0576	19.38	16.74	36.12	112.39	-76.27	QP	100	16	
5	0.0648	19.34	15.61	34.95	111.36	-76.41	QP	100	174	
6	0.1258	19.10	10.61	29.71	105.60	-75.89	QP	100	26	



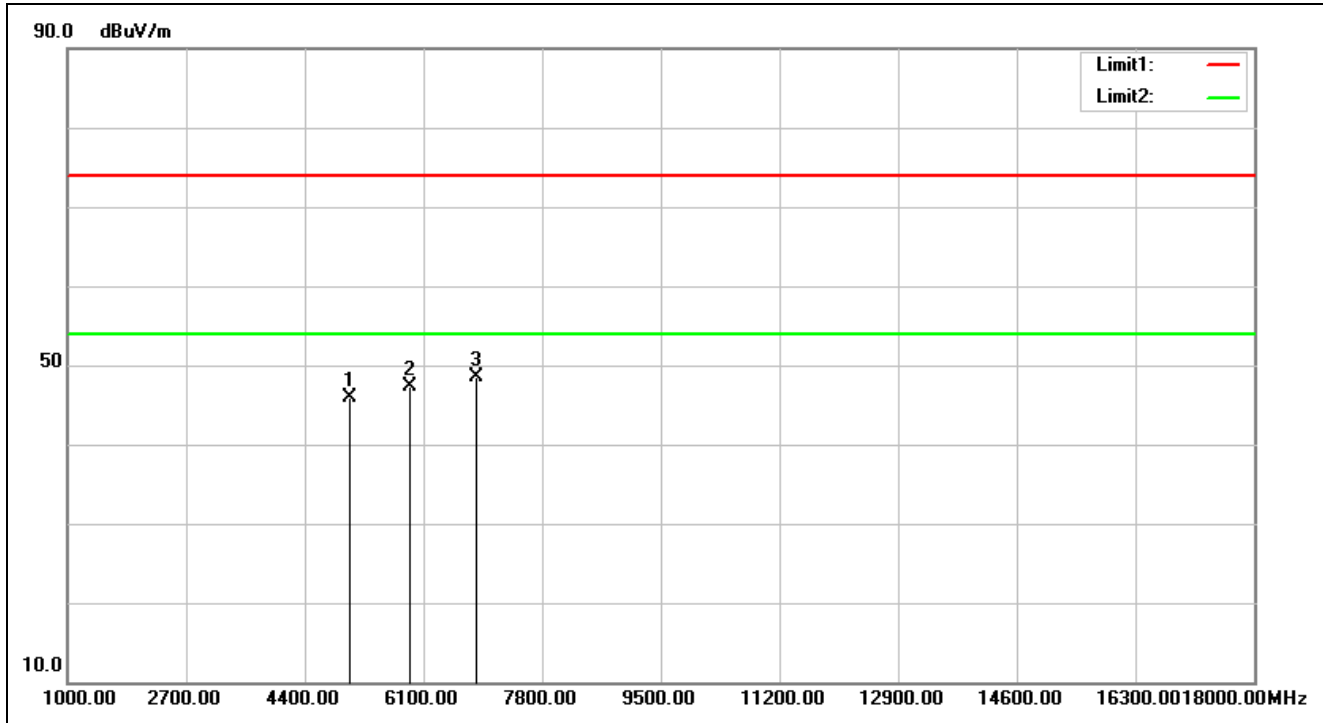
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:39:51
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1798	19.06	24.67	43.73	102.50	-58.77	QP	100	0	
2	4.5678	19.49	12.79	32.28	69.50	-37.22	QP	100	138	
3	8.1498	20.05	13.37	33.42	69.50	-36.08	QP	100	289	
4	11.3736	20.46	11.86	32.32	69.50	-37.18	QP	100	167	
5	16.5973	21.38	10.35	31.73	69.50	-37.77	QP	100	285	
6	21.5524	22.09	8.83	30.92	69.50	-38.58	QP	100	177	

Spurious Emissions, RX Mode, 1-18G

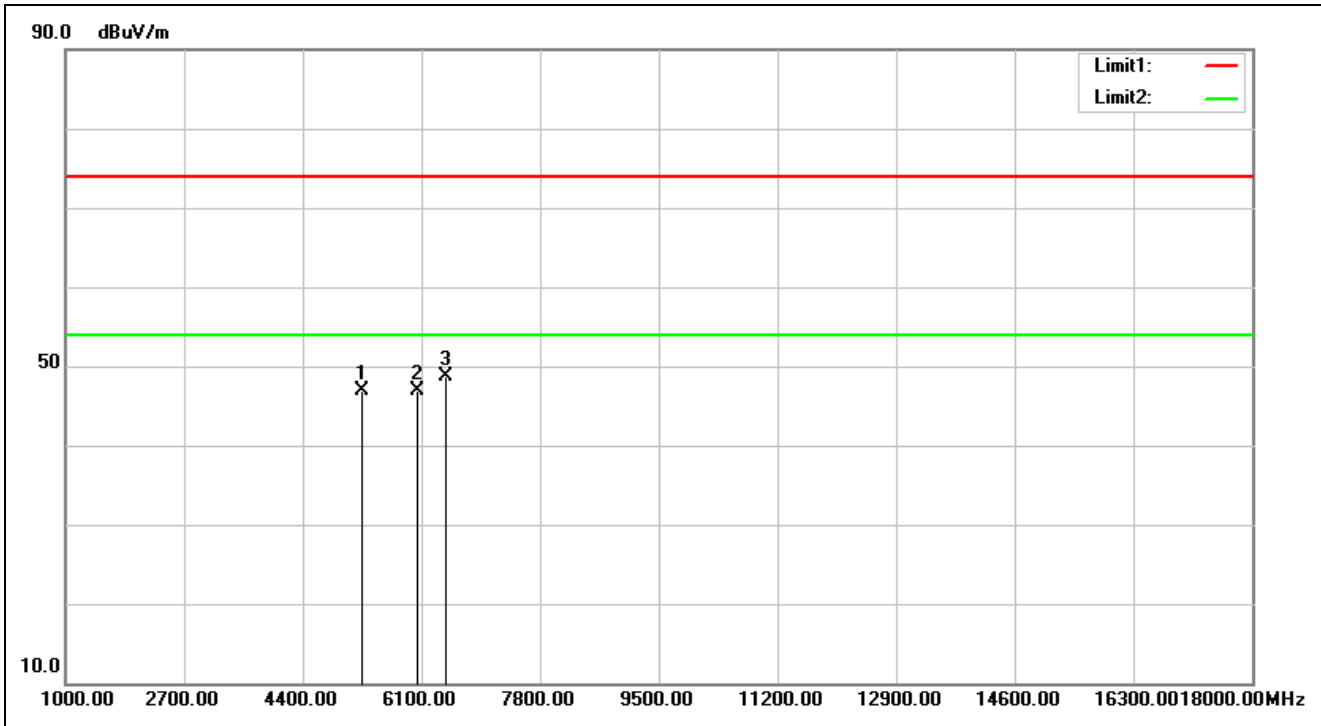


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 03:53:04
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	5046.000	-2.99	48.96	45.97	74.00	-28.03	peak	100	133	
2	5913.000	1.80	45.52	47.32	74.00	-26.68	peak	100	163	
3	6848.000	3.89	44.59	48.48	74.00	-25.52	peak	100	58	



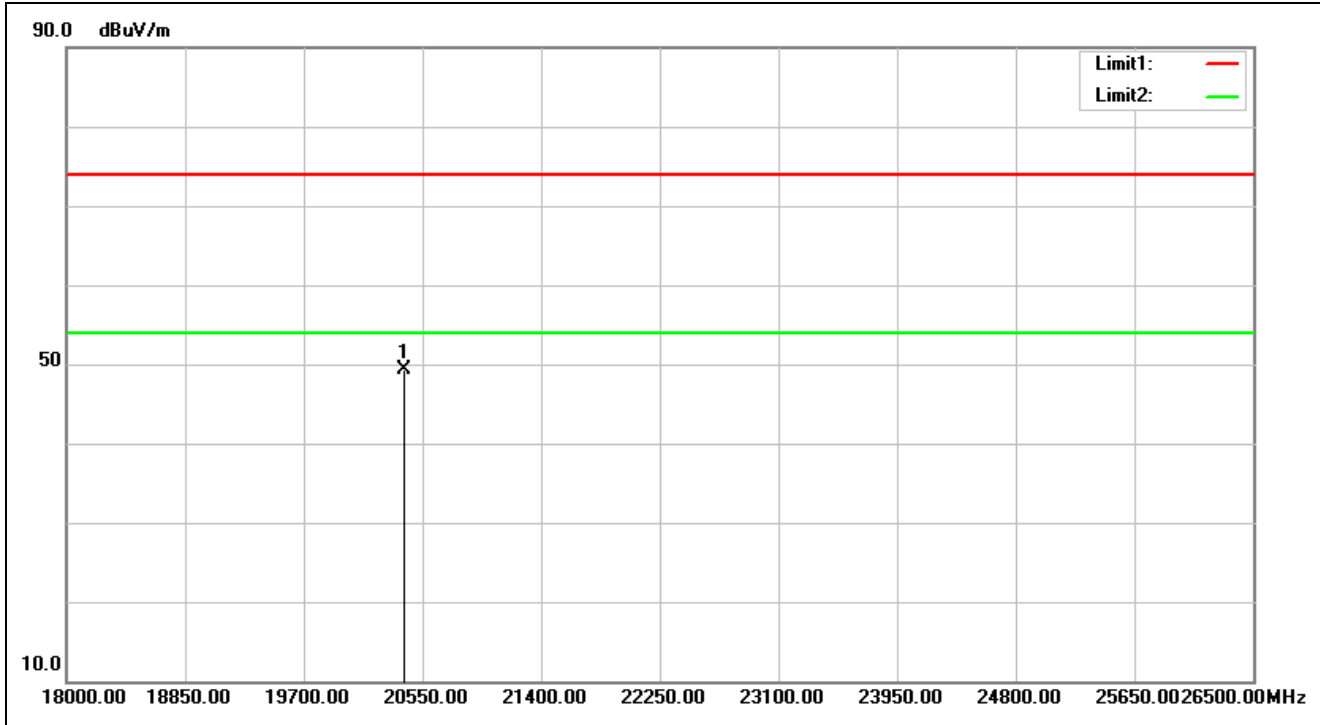
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 03:53:57
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	5250.000	-2.03	48.95	46.92	74.00	-27.08	peak	100	29	
2	6049.000	2.55	44.34	46.89	74.00	-27.11	peak	100	115	
3	6440.000	4.09	44.64	48.73	74.00	-25.27	peak	100	152	

Spurious Emissions, RX Mode, 18-26G

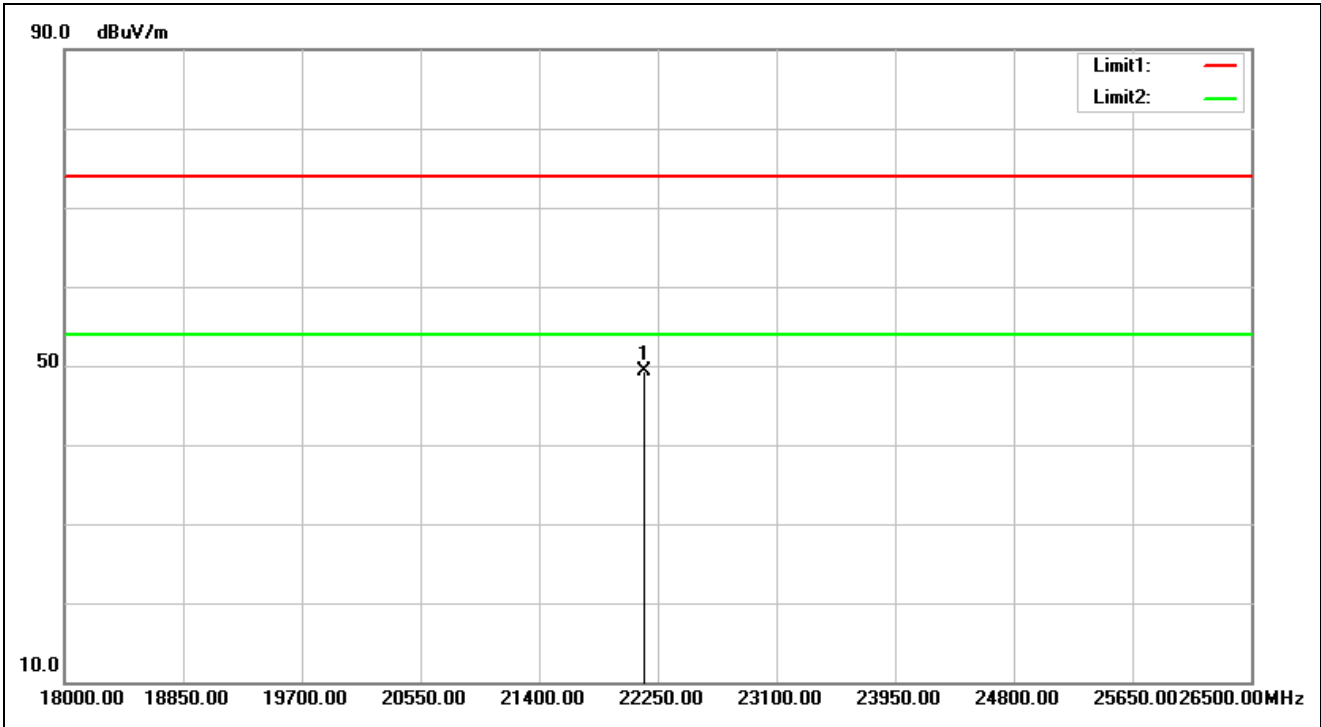


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:46:55
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20422.500	31.37	17.87	49.24	74.00	-24.76	peak			



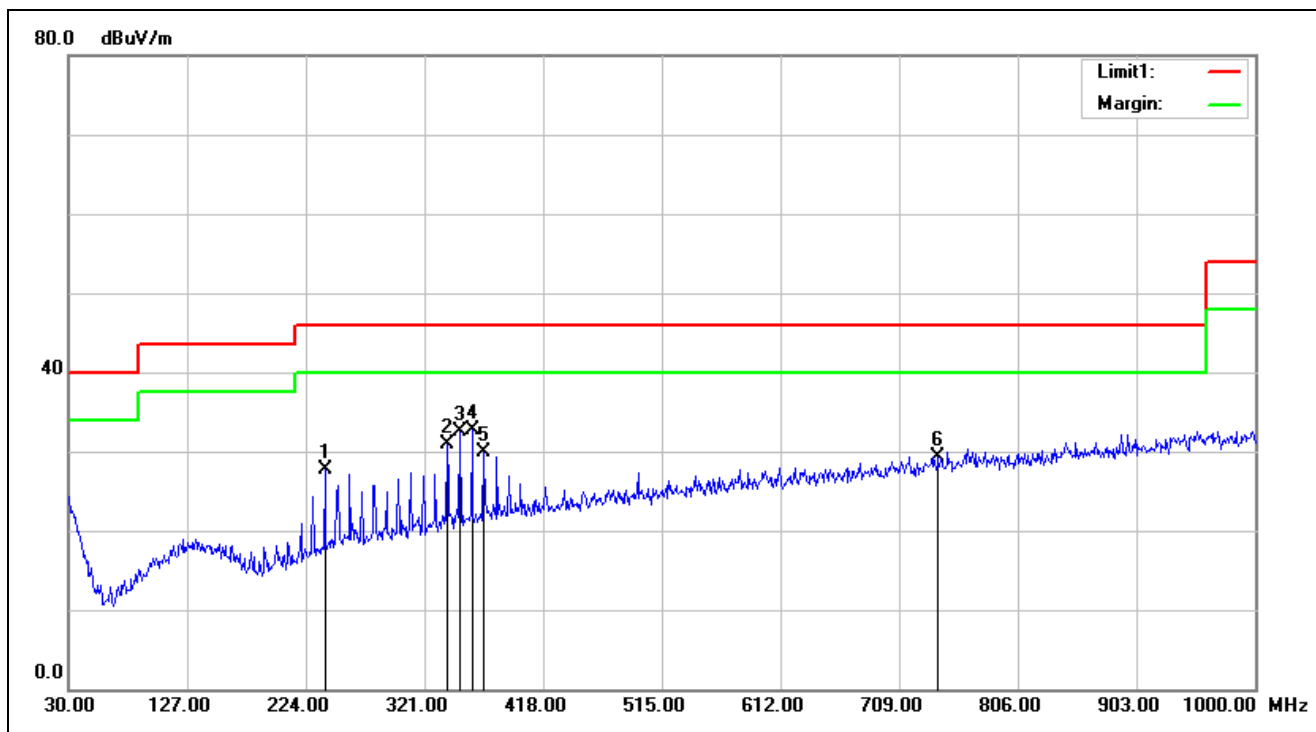
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:47:02
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22148.000	32.61	16.74	49.35	74.00	-24.65	peak			

Spurious Emissions, RX Mode, 30M-1G

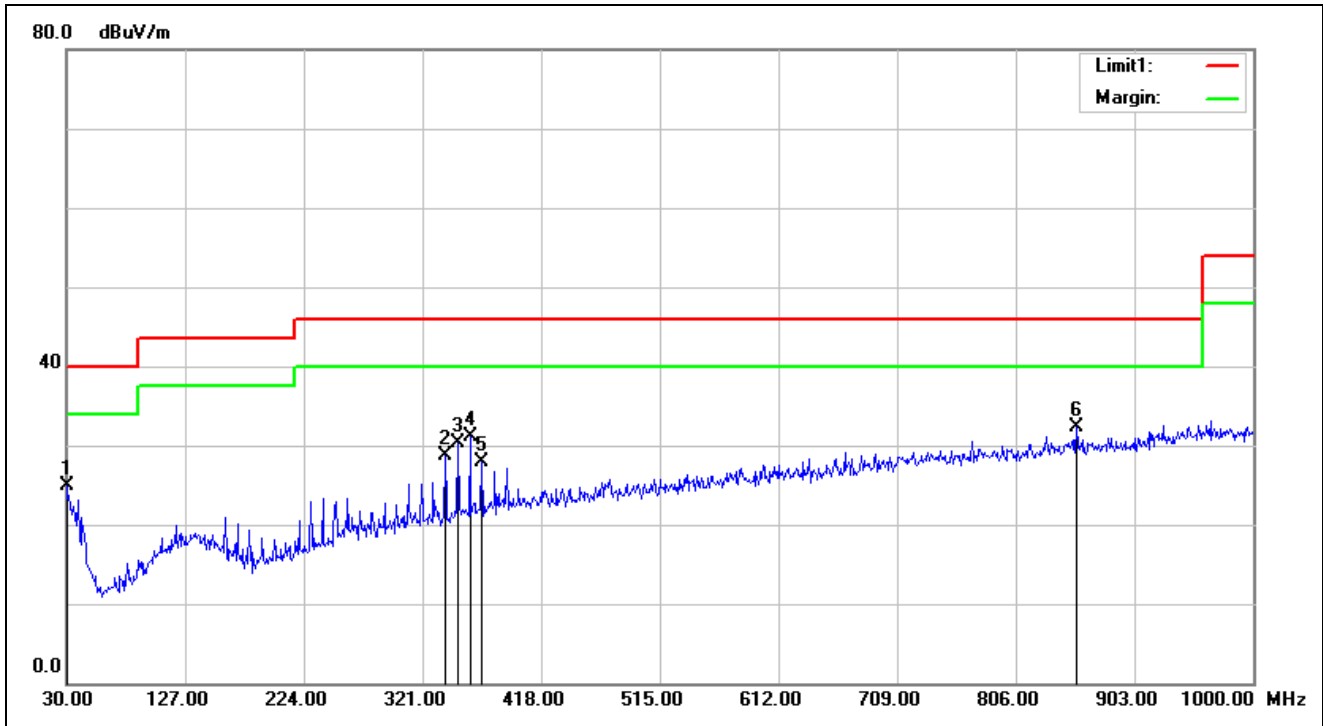


TUV Rheinland Taiwan Ltd.
 11F, No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 05:19:34
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFMTA331215IMAB701-ANT		

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	34.54	27.69	46.00	-18.31	QP	100	105	
2	339.4300	-3.61	34.58	30.97	46.00	-15.03	QP	100	219	
3	350.1000	-3.34	35.94	32.60	46.00	-13.40	QP	100	219	
4	359.8000	-3.16	35.80	32.64	46.00	-13.36	QP	100	288	
5	369.5000	-2.98	32.97	29.99	46.00	-16.01	QP	100	269	
6	741.0100	2.18	27.20	29.38	46.00	-16.62	QP	100	359	



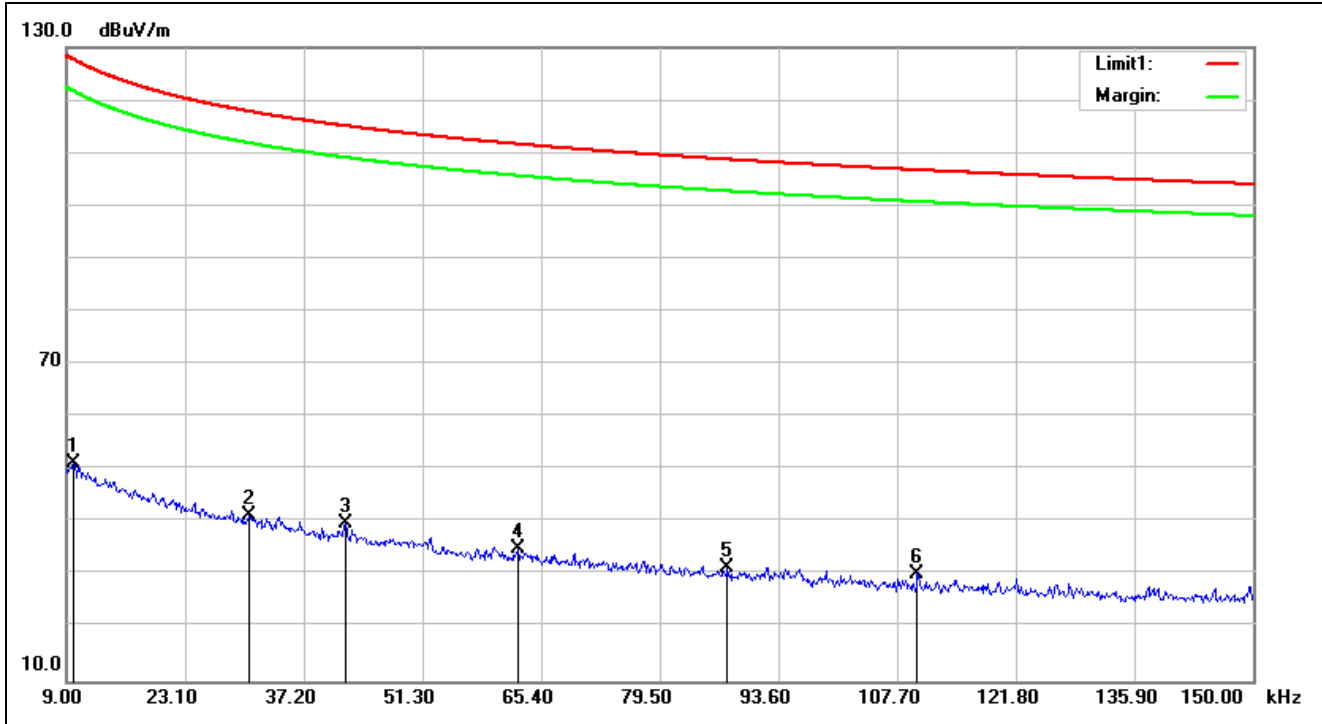
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 05:20:27
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.25	25.09	24.84	40.00	-15.16	QP	100	68	
2	339.4300	-3.61	32.41	28.80	46.00	-17.20	QP	100	229	
3	350.1000	-3.34	33.66	30.32	46.00	-15.68	QP	100	226	
4	359.8000	-3.16	34.24	31.08	46.00	-14.92	QP	100	239	
5	369.5000	-2.98	30.91	27.93	46.00	-18.07	QP	100	151	
6	855.4700	3.75	28.48	32.23	46.00	-13.77	QP	100	354	

Spurious Emissions, RX Mode, 9K-30M

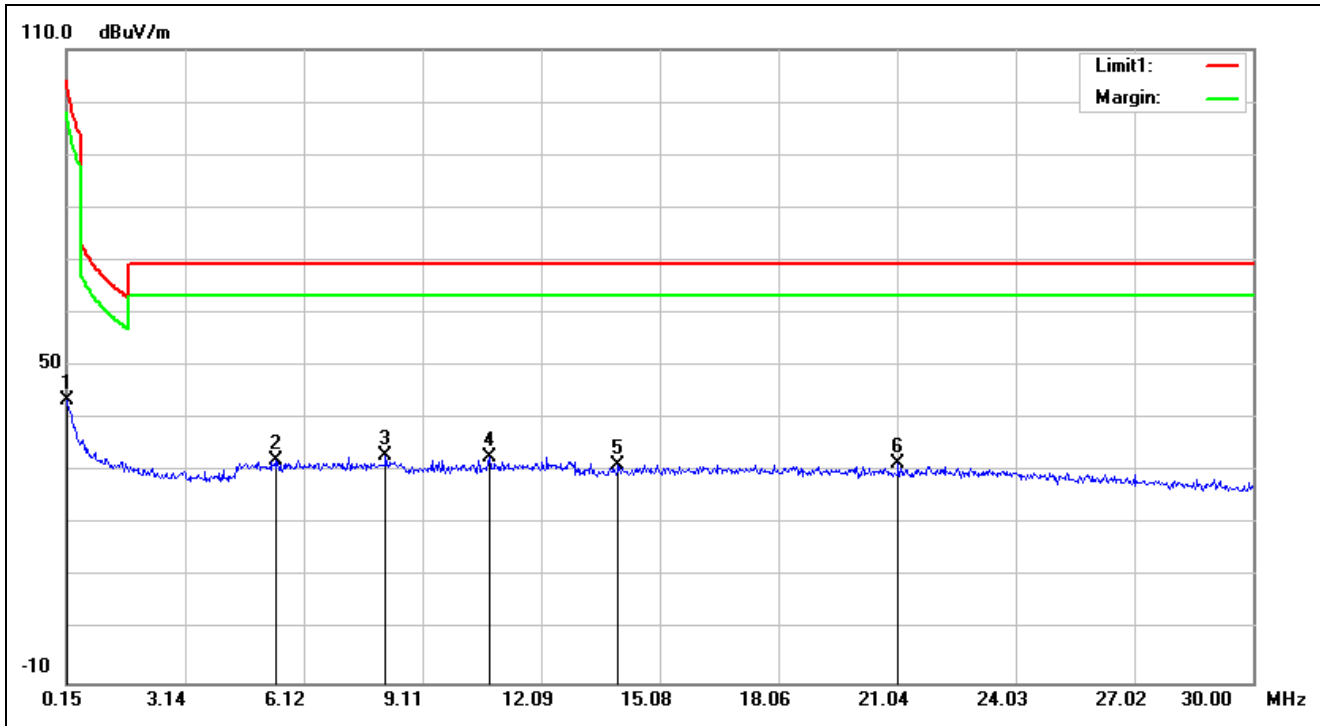


TUV Rheinland Taiwan Ltd.
 11F, No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:38:09
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFMTA331215IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0098	19.85	31.35	51.20	127.76	-76.56	QP	100	36	
2	0.0307	20.11	21.11	41.22	117.85	-76.63	QP	100	360	
3	0.0421	19.71	20.08	39.79	115.11	-75.32	QP	100	292	
4	0.0627	19.35	15.74	35.09	111.65	-76.56	QP	100	59	
5	0.0875	19.21	12.30	31.51	108.76	-77.25	QP	100	325	
6	0.1101	19.12	11.24	30.36	106.76	-76.40	QP	100	305	



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:40:44
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFMTA331215IMAB701-ANT		

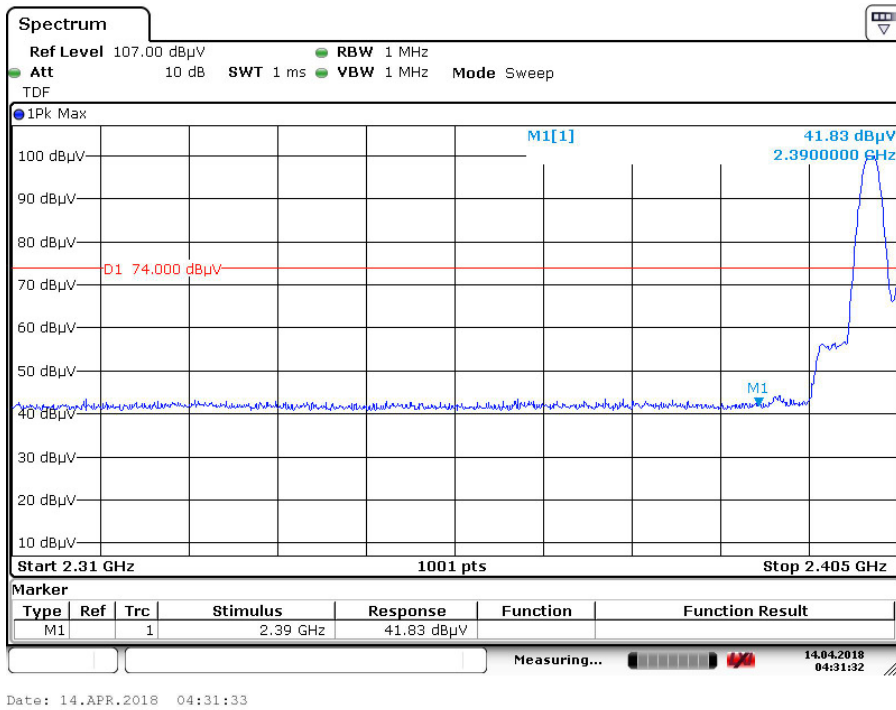
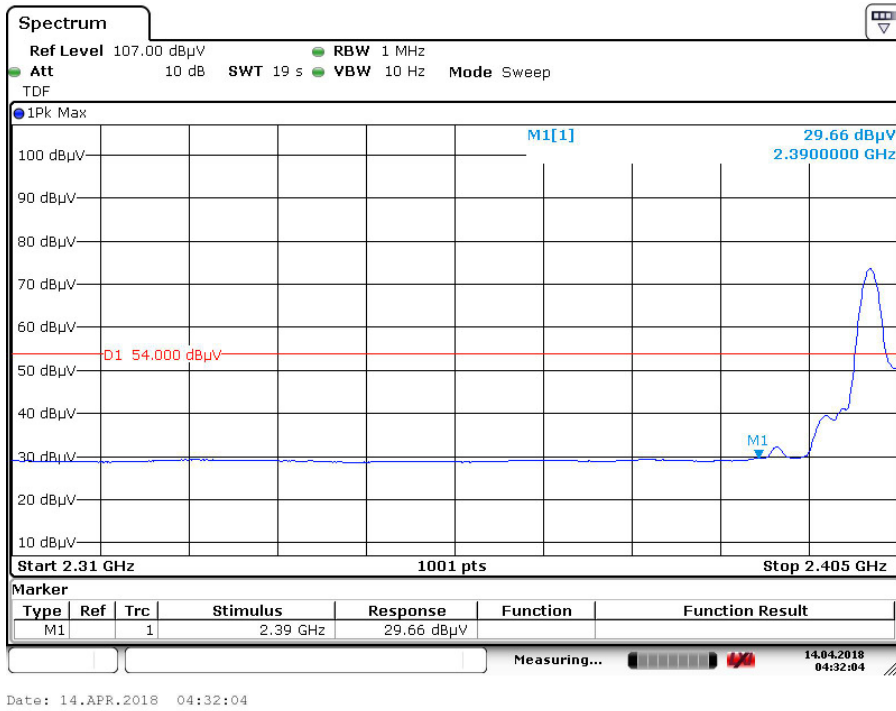
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1500	19.08	24.60	43.68	104.08	-60.40	QP	100	230	
2	5.4334	19.80	12.35	32.15	69.50	-37.35	QP	100	190	
3	8.1797	20.05	13.01	33.06	69.50	-36.44	QP	100	233	
4	10.8065	20.37	12.45	32.82	69.50	-36.68	QP	100	321	
5	14.0303	20.94	10.39	31.33	69.50	-38.17	QP	100	53	
6	21.0749	22.05	9.39	31.44	69.50	-38.06	QP	100	341	

RFPCA381013IMAB701-ANT

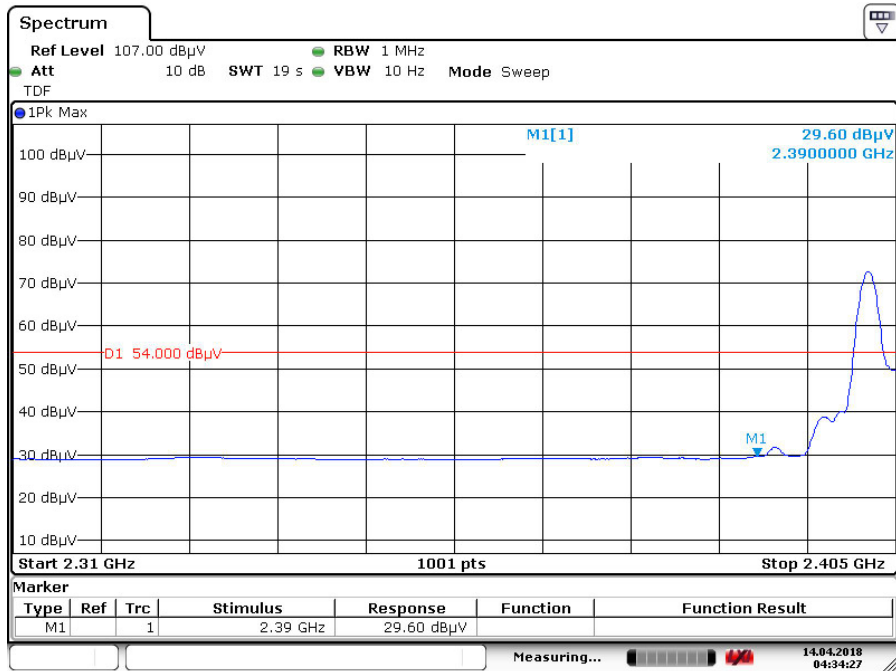
Spurious Emissions, Band Edges, 2.35-2.5G

Radiated Bandedge (GFSK)

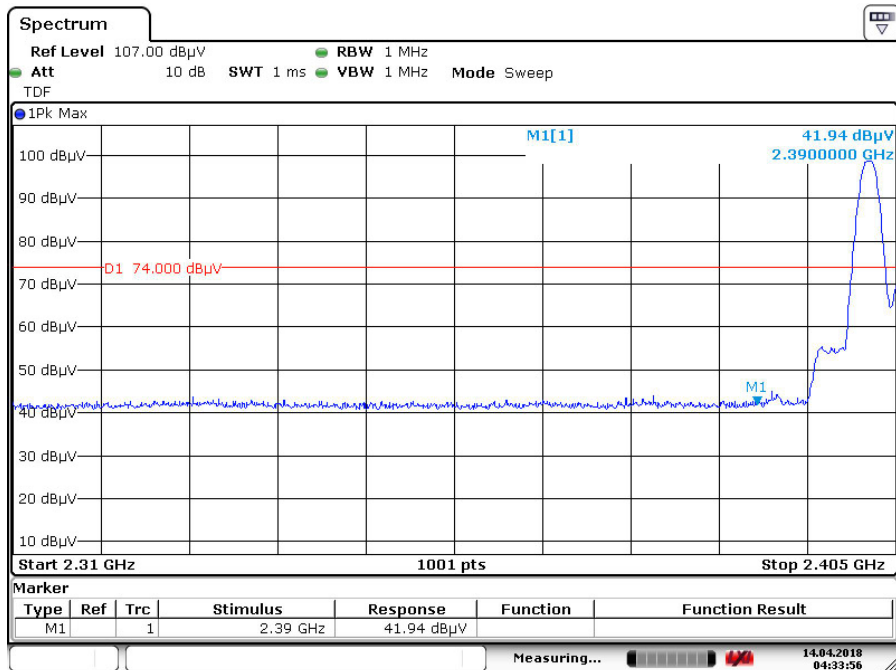
Low Channel (Hor)



Low Channel (Ver)



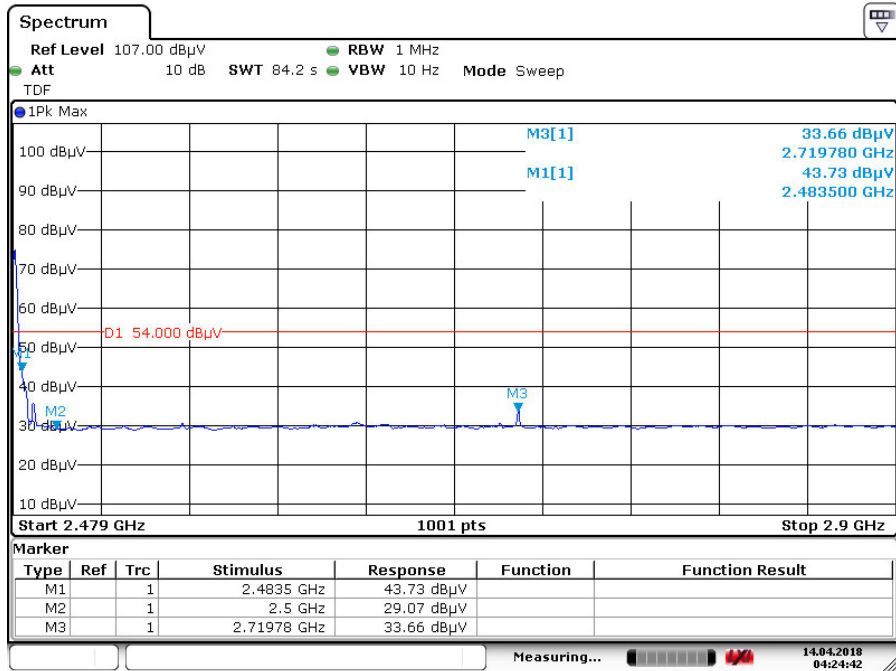
Date: 14.APR.2018 04:34:28



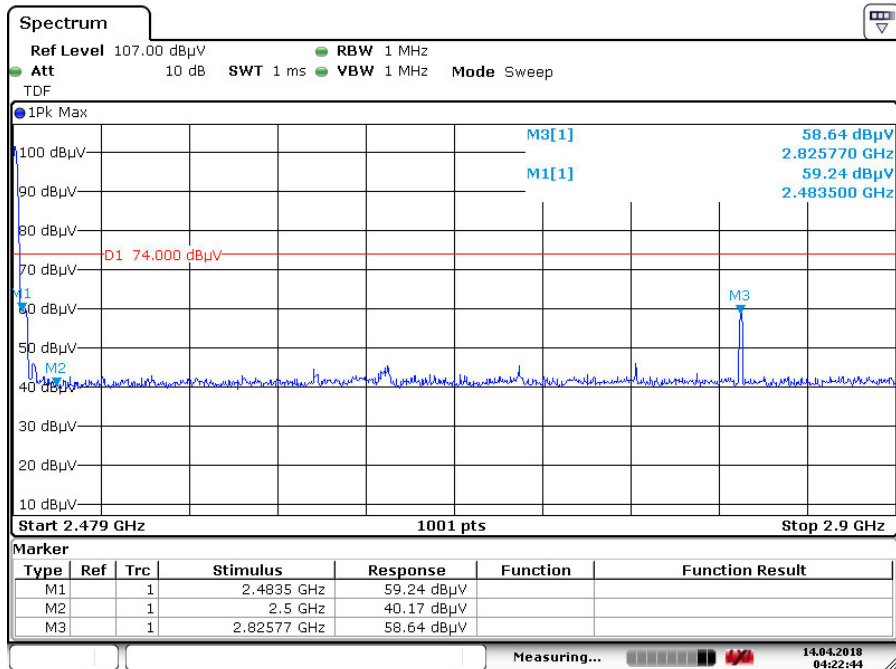
Date: 14.APR.2018 04:33:57

Radiated Bandedge (GFSK)

High Channel (Hor)

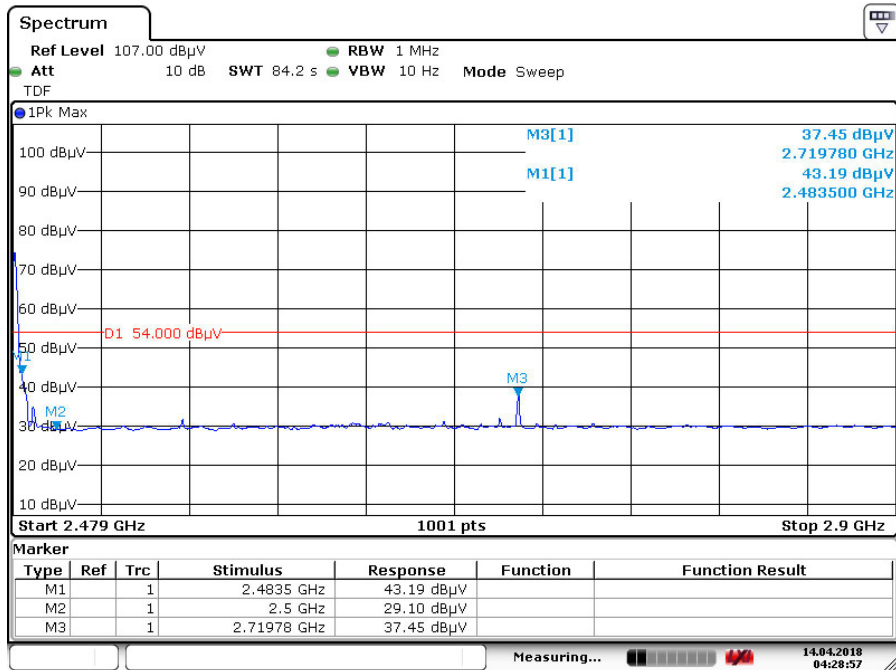


Date: 14.APR.2018 04:24:42

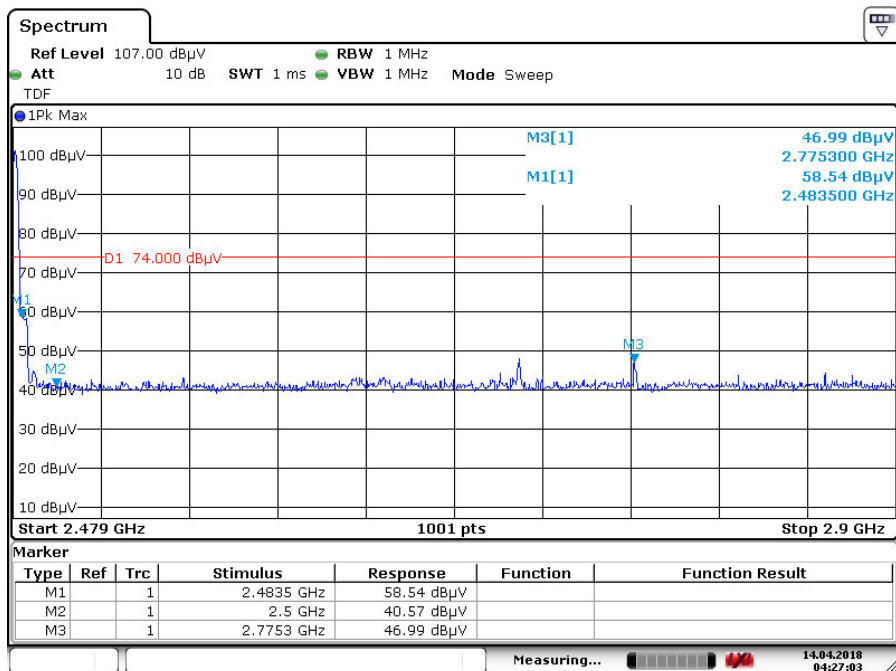


Date: 14.APR.2018 04:22:45

High Channel (Ver)



Date: 14.APR.2018 04:28:57

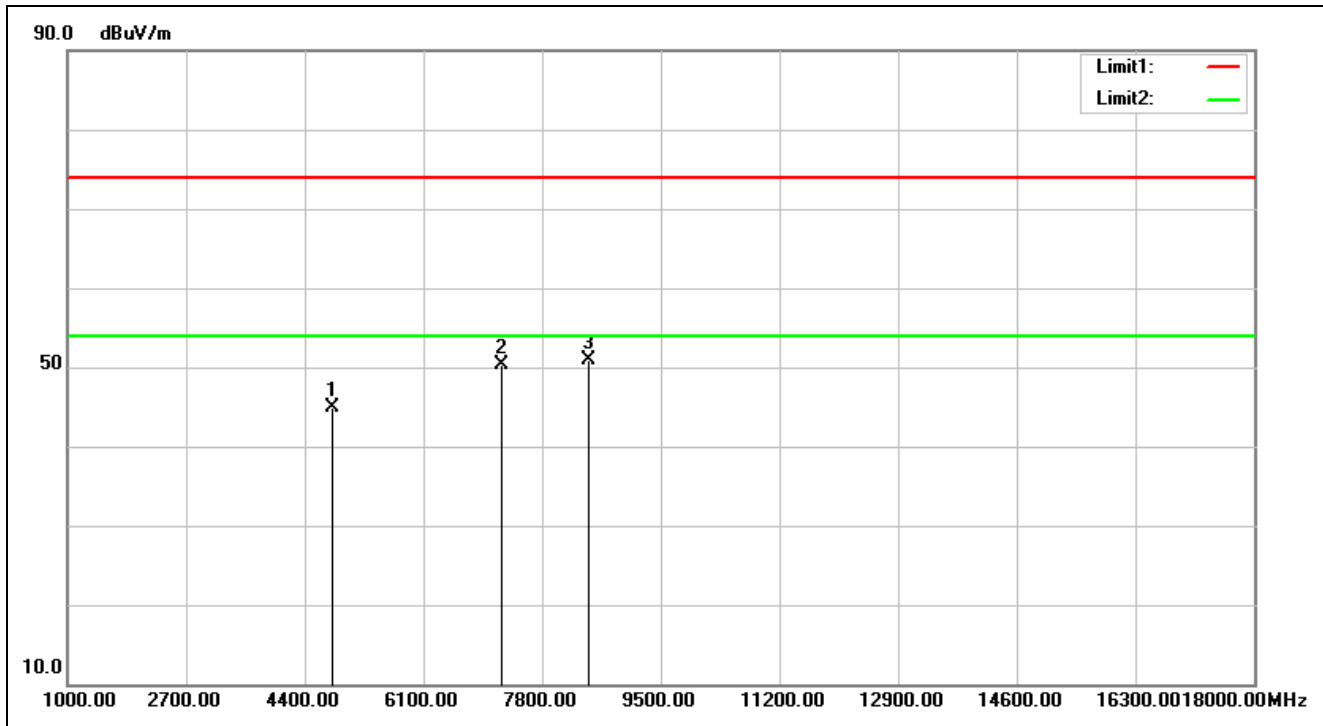


Date: 14.APR.2018 04:27:03

Spurious Emissions, TX Mode, 1-18G

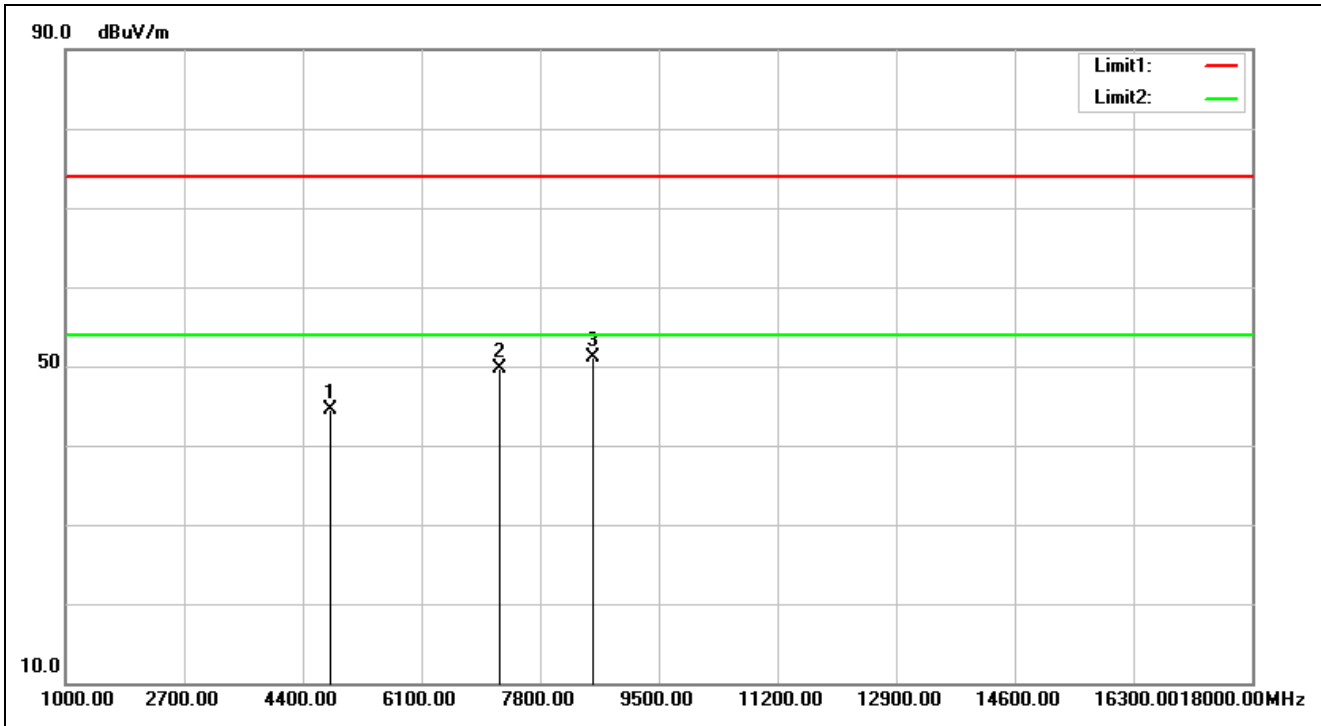


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



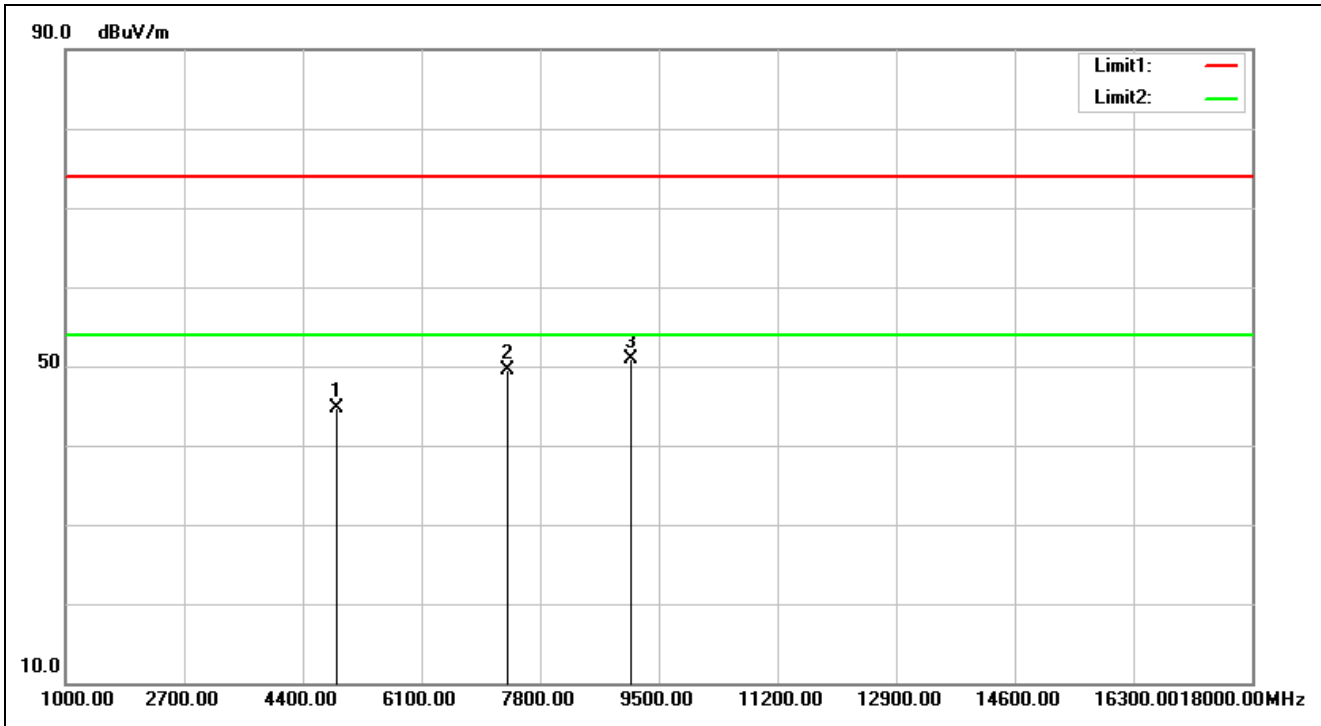
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:26:54
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	-2.72	47.64	44.92	74.00	-29.08	peak		0	
2	7206.000	5.25	45.02	50.27	74.00	-23.73	peak		0	
3	8463.000	6.34	44.47	50.81	74.00	-23.19	peak	100	116	



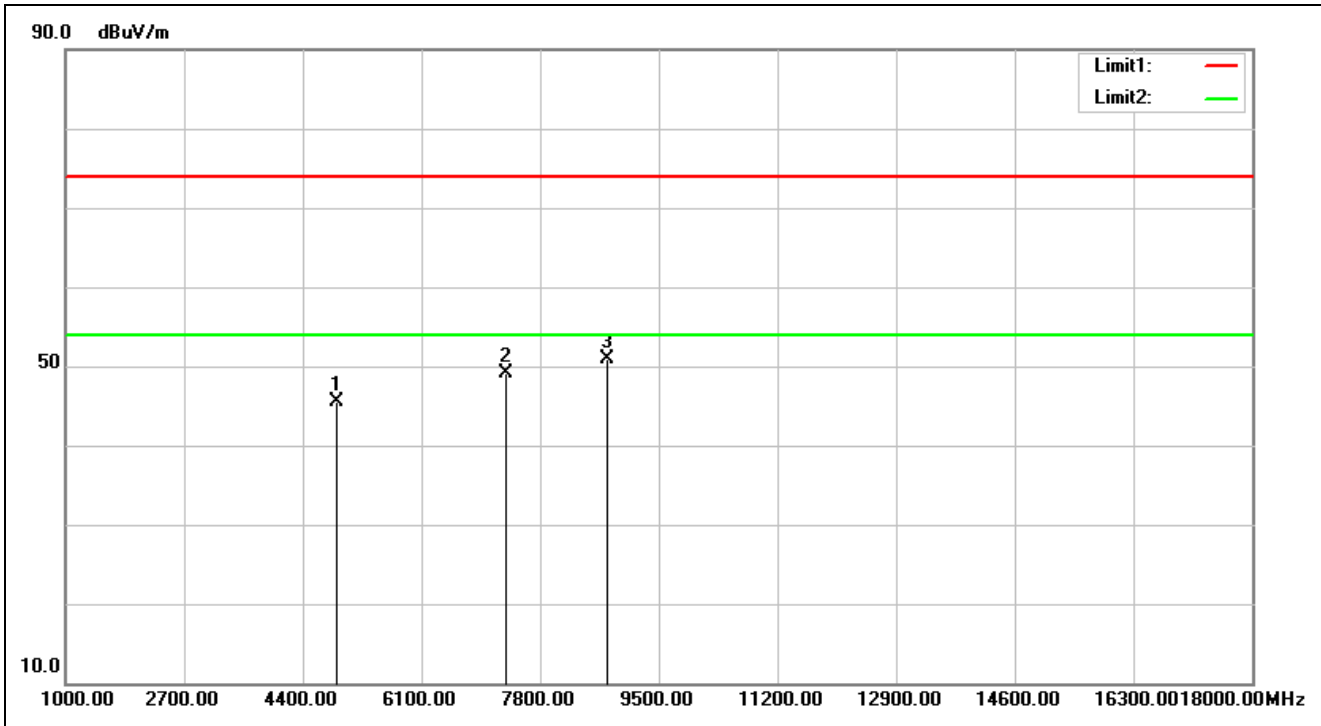
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:27:47
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	-2.72	47.31	44.59	74.00	-29.41	peak			
2	7206.000	5.25	44.42	49.67	74.00	-24.33	peak			
3	8548.000	6.38	44.70	51.08	74.00	-22.92	peak	100	1	



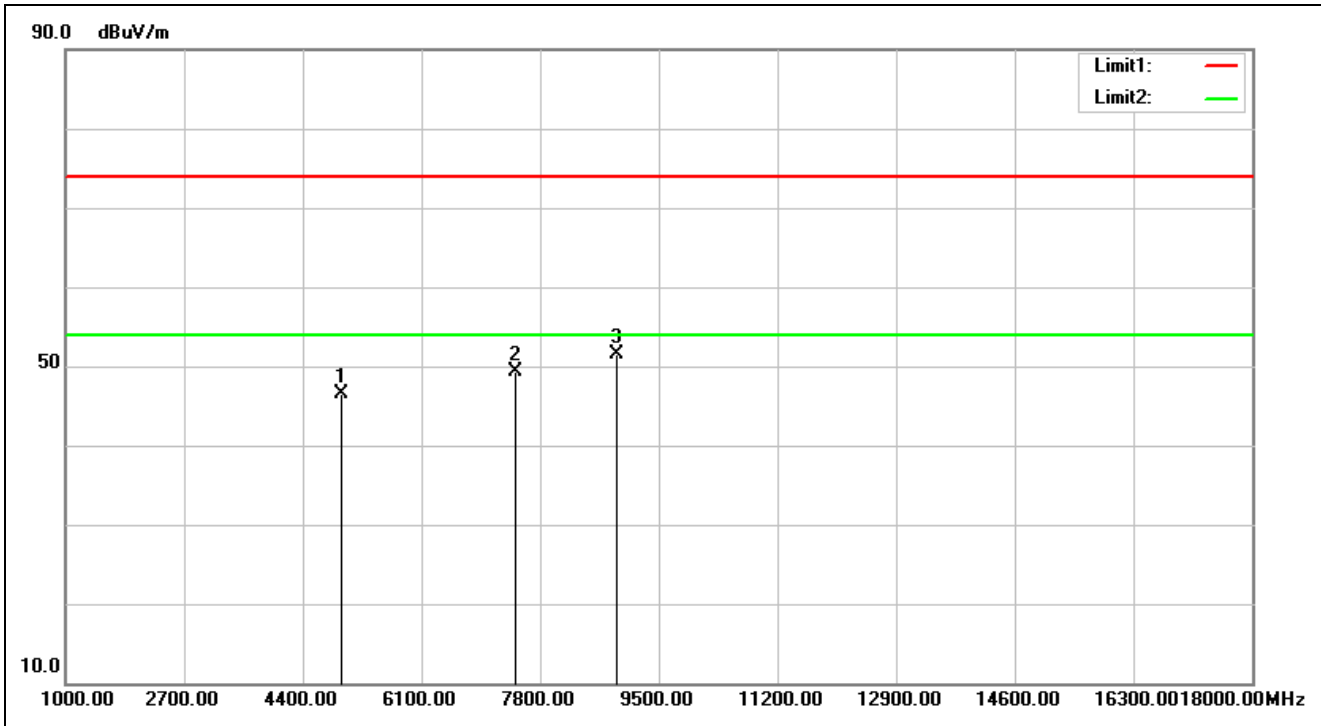
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:29:46
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	-2.50	47.21	44.71	74.00	-29.29	peak			
2	7320.000	5.54	44.01	49.55	74.00	-24.45	peak			
3	9092.000	6.46	44.48	50.94	74.00	-23.06	peak	100	14	



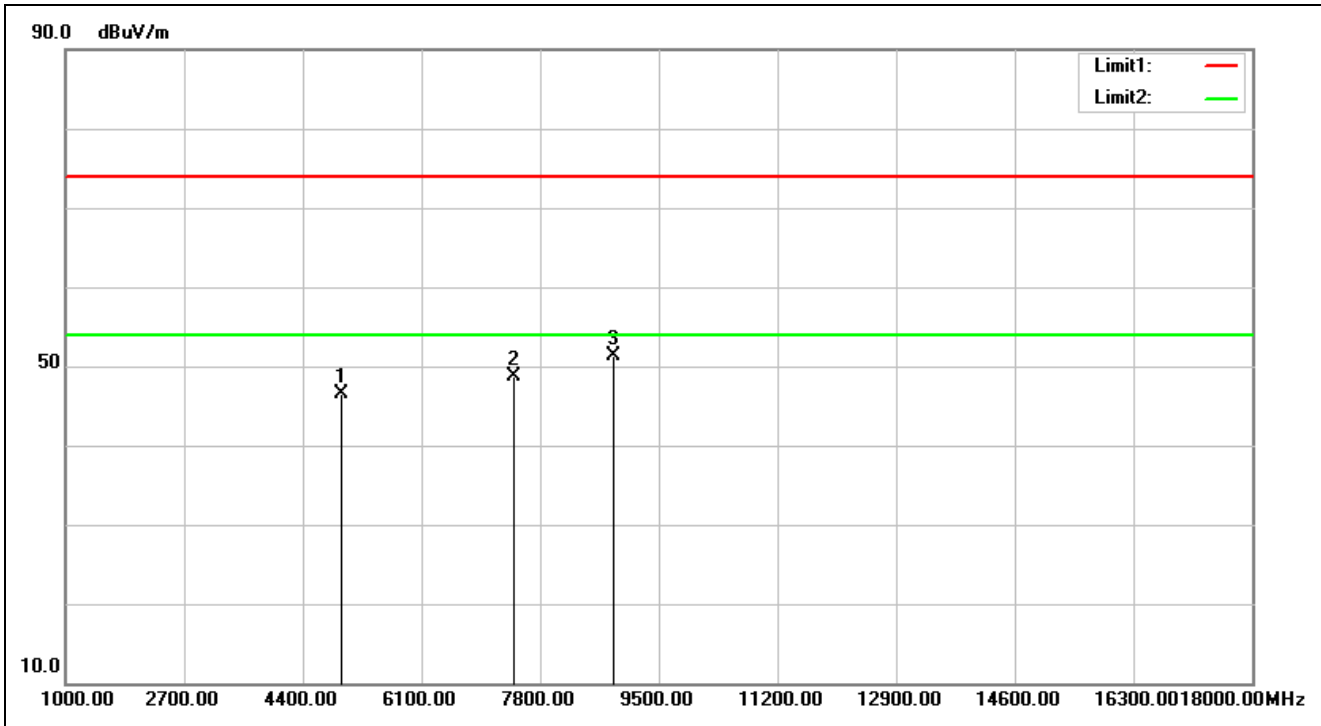
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:30:38
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	-2.50	47.97	45.47	74.00	-28.53	peak			
2	7320.000	5.54	43.55	49.09	74.00	-24.91	peak			
3	8752.000	6.41	44.55	50.96	74.00	-23.04	peak	100	156	



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:32:32
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-2.28	48.88	46.60	74.00	-27.40	peak			
2	7440.000	5.84	43.50	49.34	74.00	-24.66	peak			
3	8888.000	6.43	45.09	51.52	74.00	-22.48	peak	100	286	



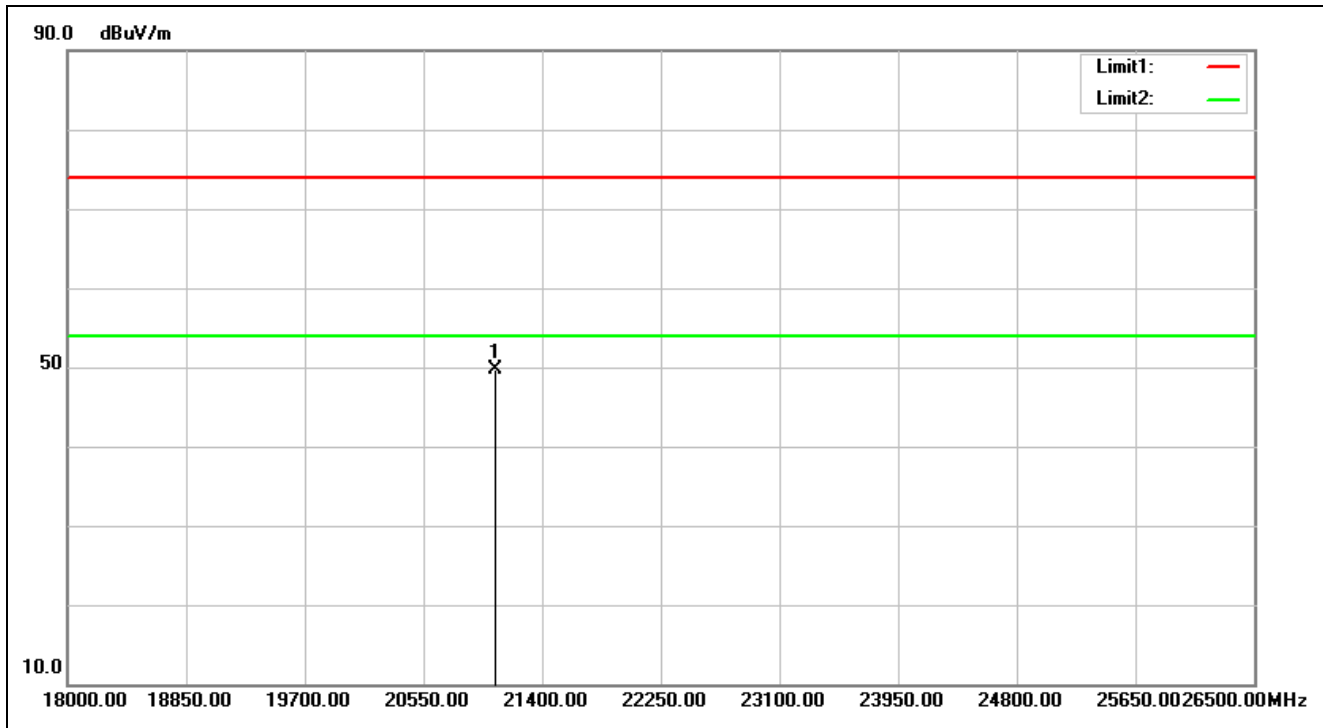
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:33:24
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-2.28	48.73	46.45	74.00	-27.55	peak			
2	7440.000	5.84	42.82	48.66	74.00	-25.34	peak			
3	8854.000	6.42	44.97	51.39	74.00	-22.61	peak	100	214	

Spurious Emissions, TX Mode, 18-26G

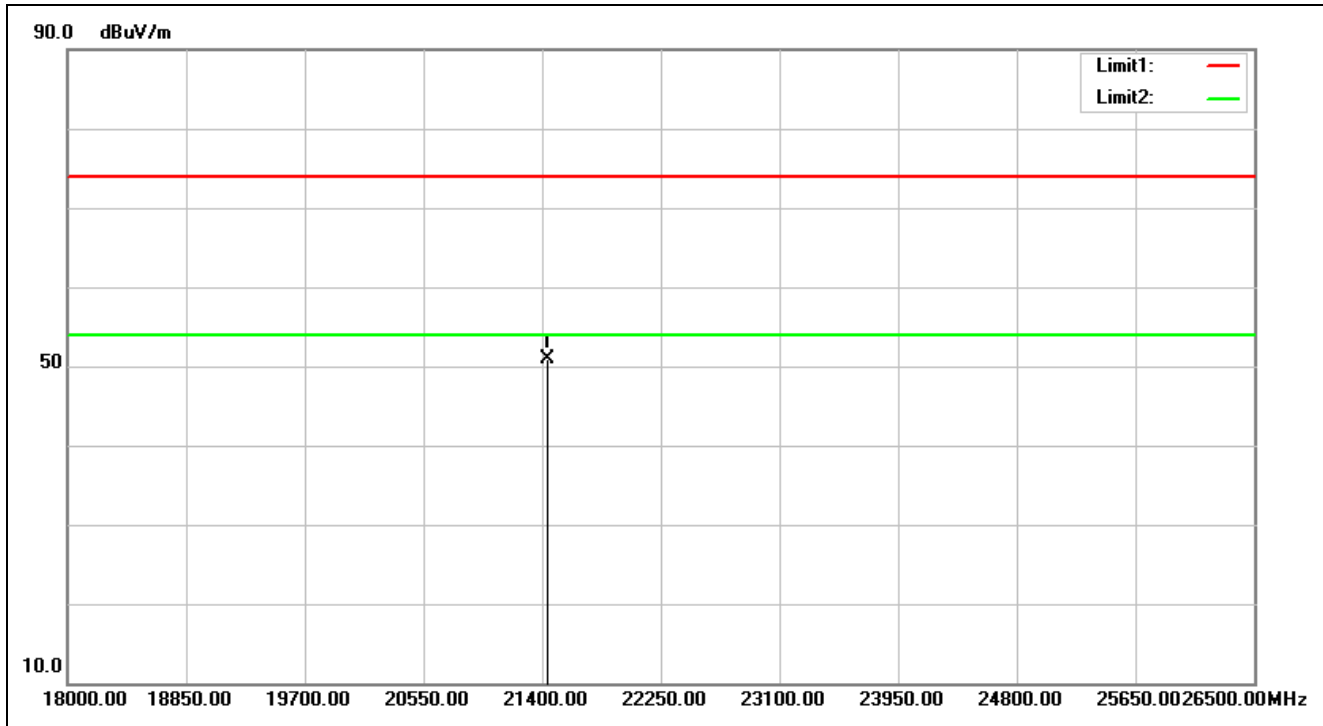


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



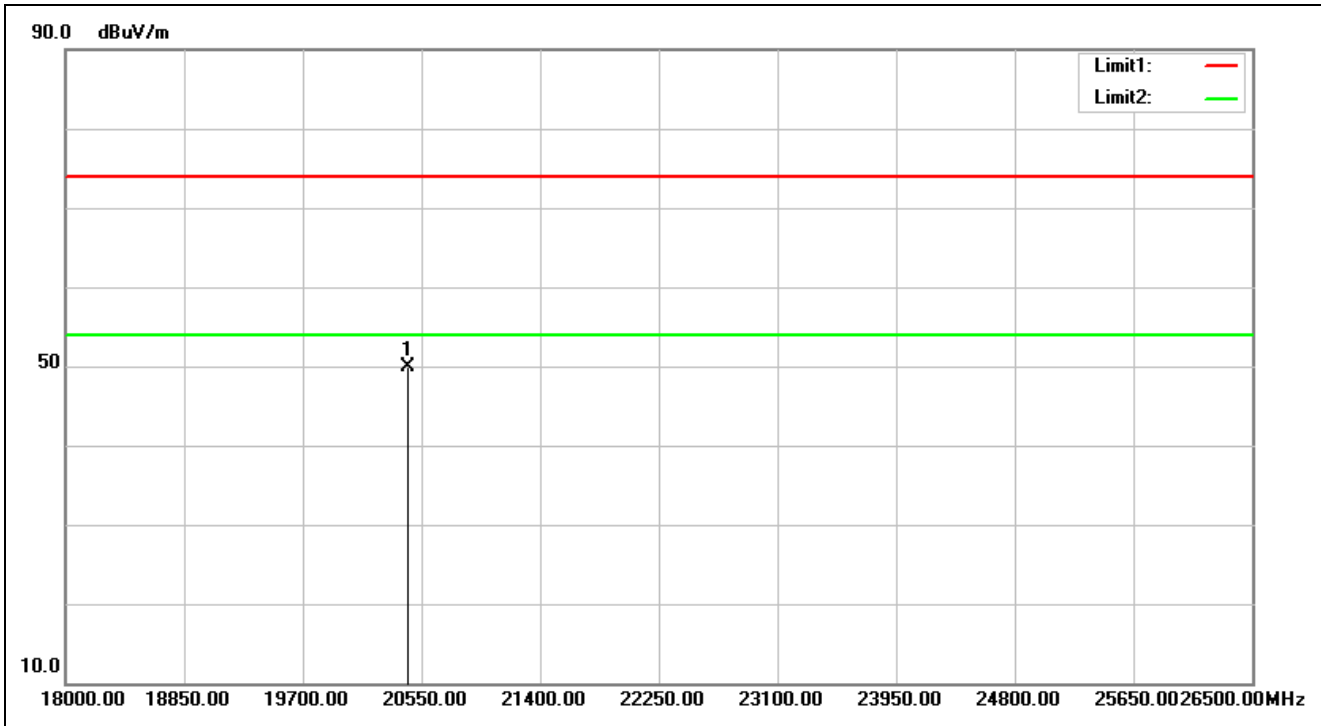
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:41:34
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21068.500	32.50	17.24	49.74	74.00	-24.26	peak		0	



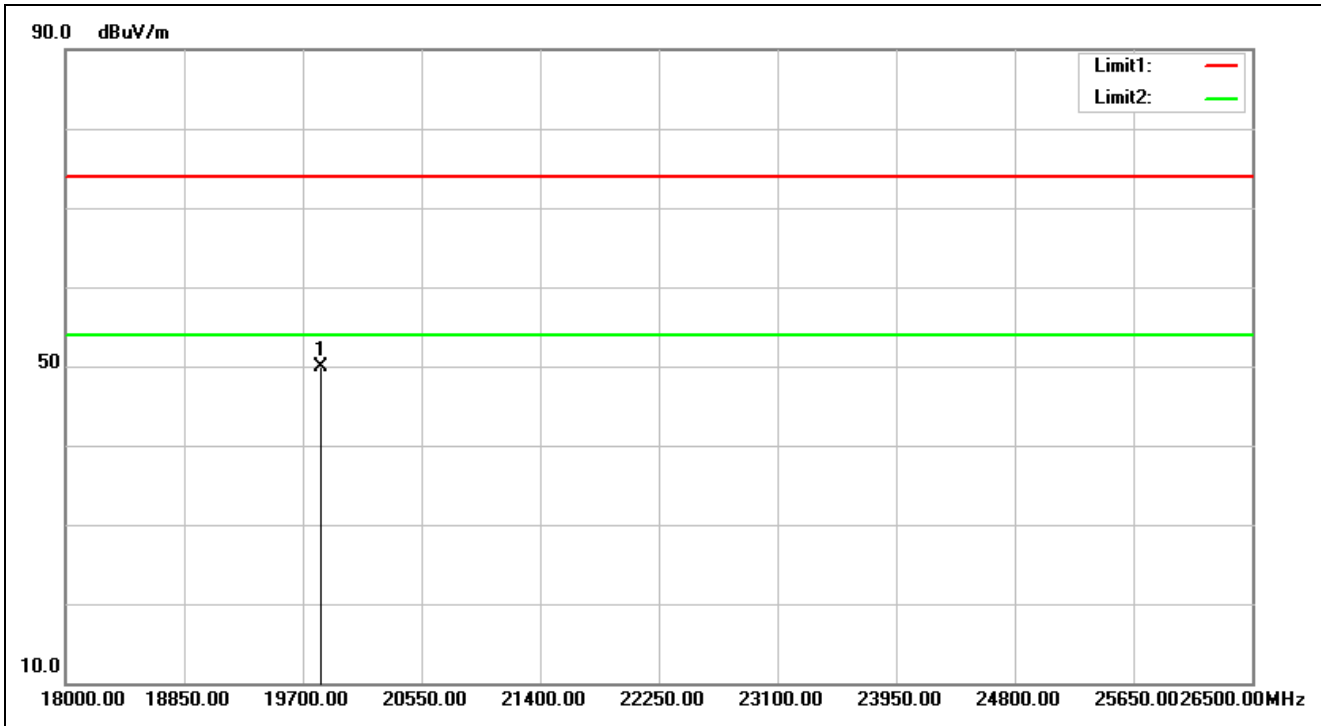
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:41:40
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2402-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21434.000	32.83	18.06	50.89	74.00	-23.11	peak			



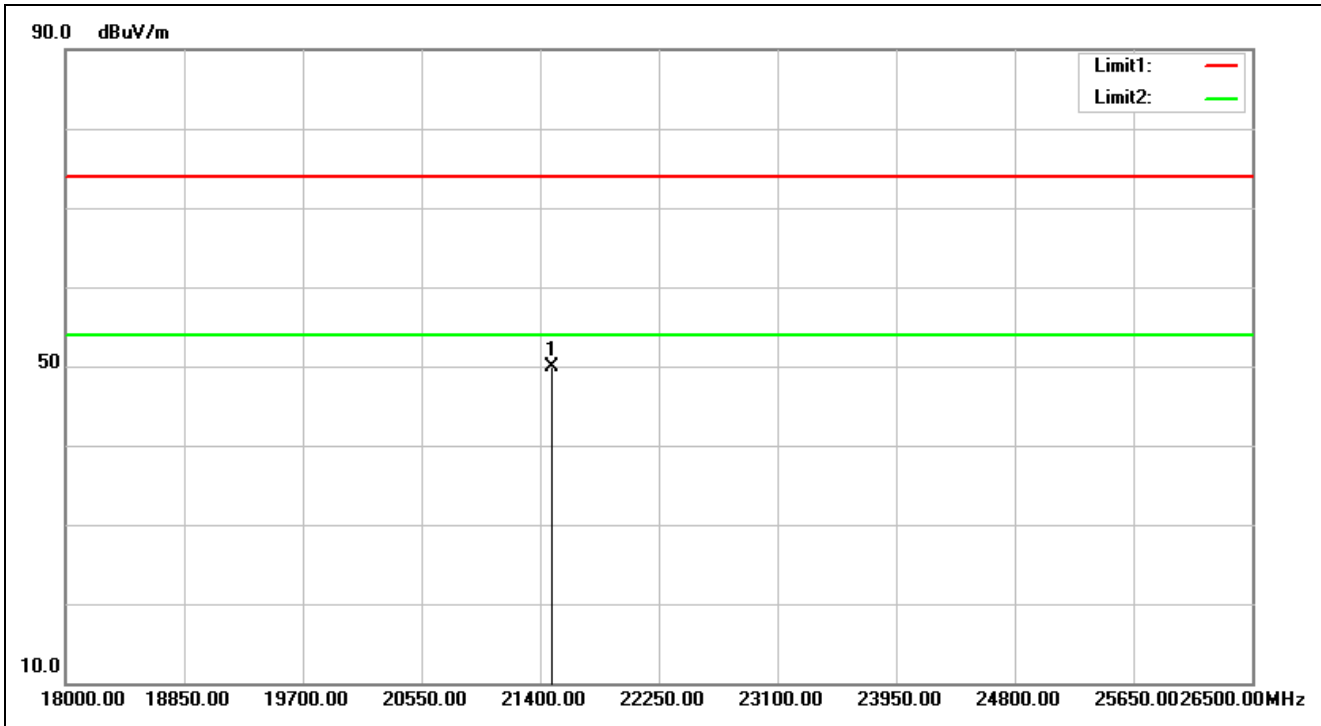
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:42:01
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20448.000	31.38	18.45	49.83	74.00	-24.17	peak			



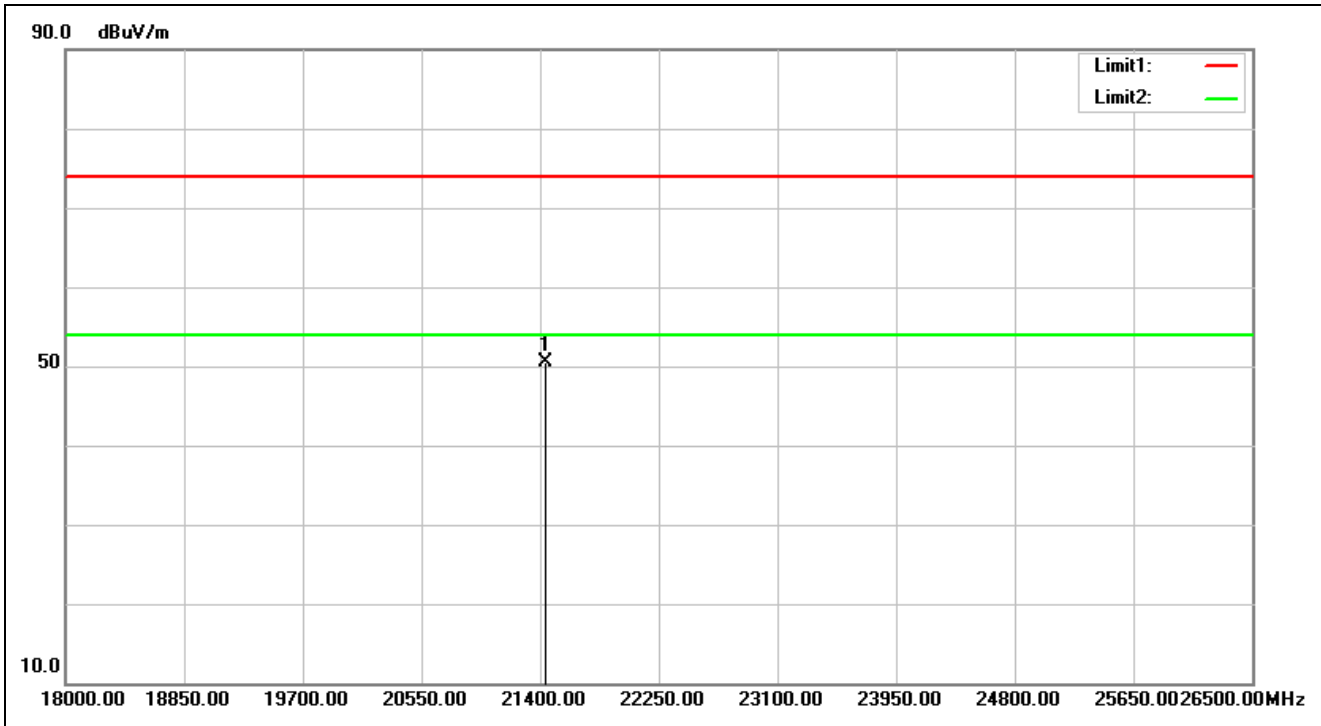
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:42:07
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19827.500	30.96	18.85	49.81	74.00	-24.19	peak			



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:42:30
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21485.000	32.88	17.07	49.95	74.00	-24.05	peak			



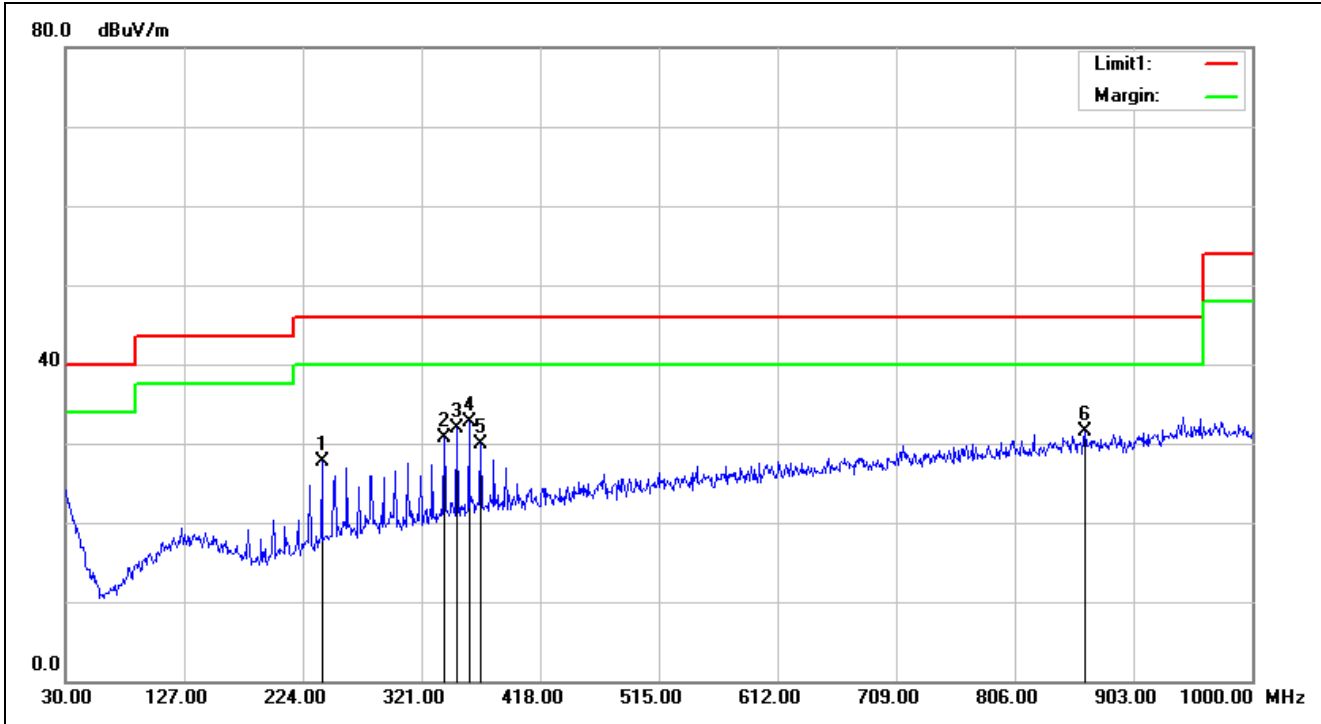
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:42:36
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2480-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21442.500	32.84	17.72	50.56	74.00	-23.44	peak			

Spurious Emissions, TX Mode, 30M-1G

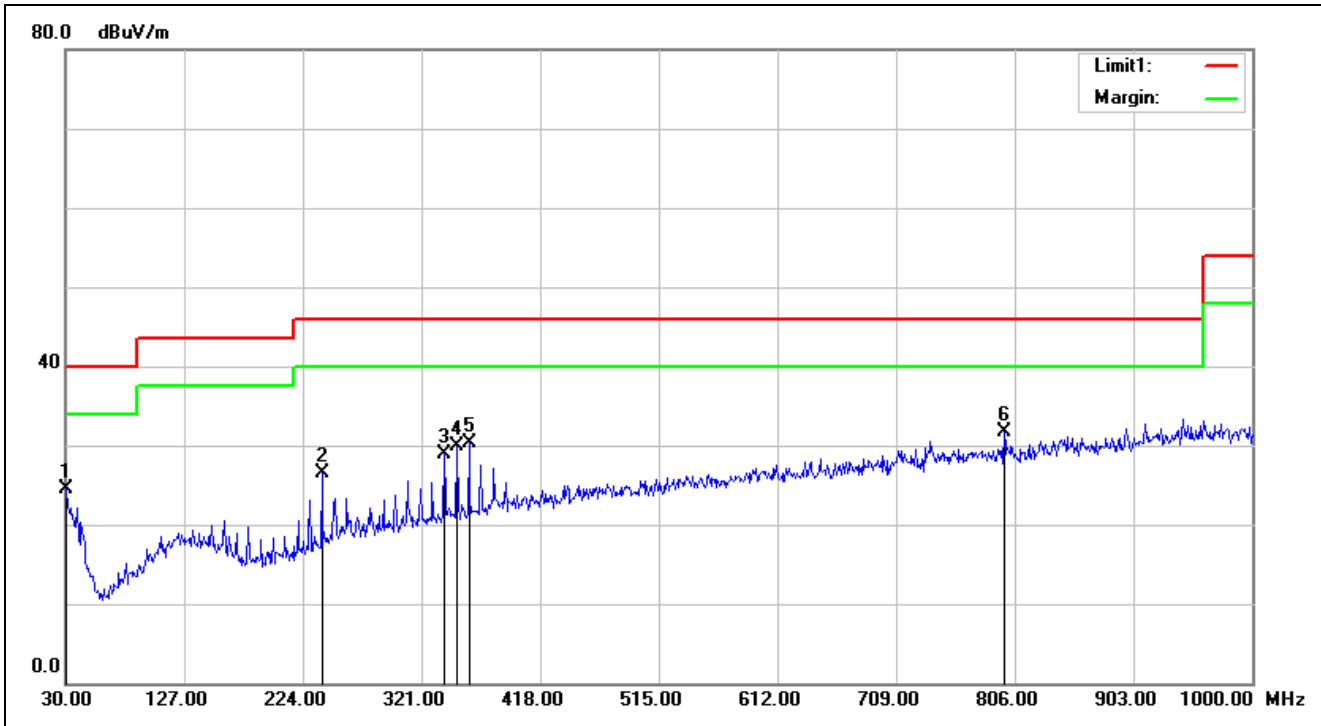


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 05:23:33
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

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	34.51	27.66	46.00	-18.34	QP	100	243	
2	339.4300	-3.61	34.22	30.61	46.00	-15.39	QP	100	210	
3	350.1000	-3.34	35.29	31.95	46.00	-14.05	QP	100	210	
4	359.8000	-3.16	35.91	32.75	46.00	-13.25	QP	100	295	
5	369.5000	-2.98	32.96	29.98	46.00	-16.02	QP	100	283	
6	863.2300	3.81	27.60	31.41	46.00	-14.59	QP	100	256	



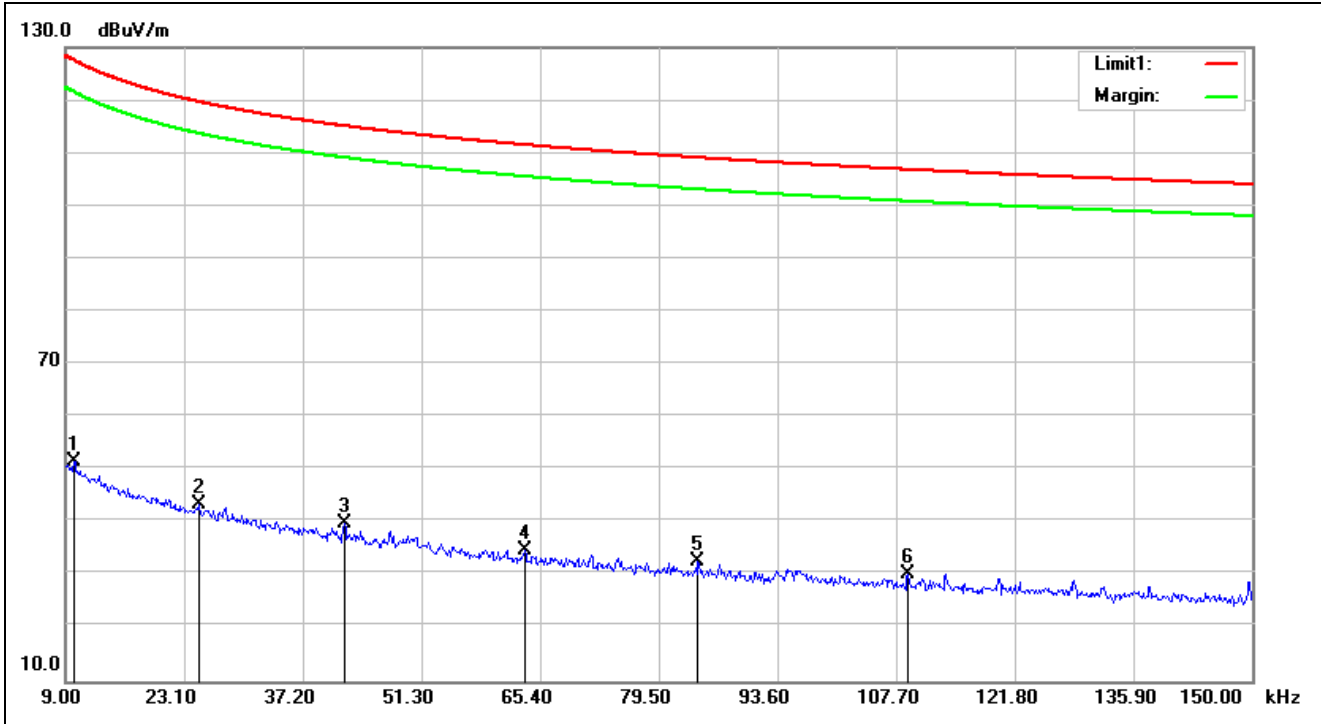
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 05:24:26
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.25	24.69	24.44	40.00	-15.56	QP	100	193	
2	239.5200	-6.85	33.32	26.47	46.00	-19.53	QP	100	98	
3	339.4300	-3.61	32.51	28.90	46.00	-17.10	QP	100	236	
4	350.1000	-3.34	33.32	29.98	46.00	-16.02	QP	100	239	
5	359.8000	-3.16	33.50	30.34	46.00	-15.66	QP	100	226	
6	797.2700	2.75	29.02	31.77	46.00	-14.23	QP	100	111	

Spurious Emissions, TX Mode, 9k-30M

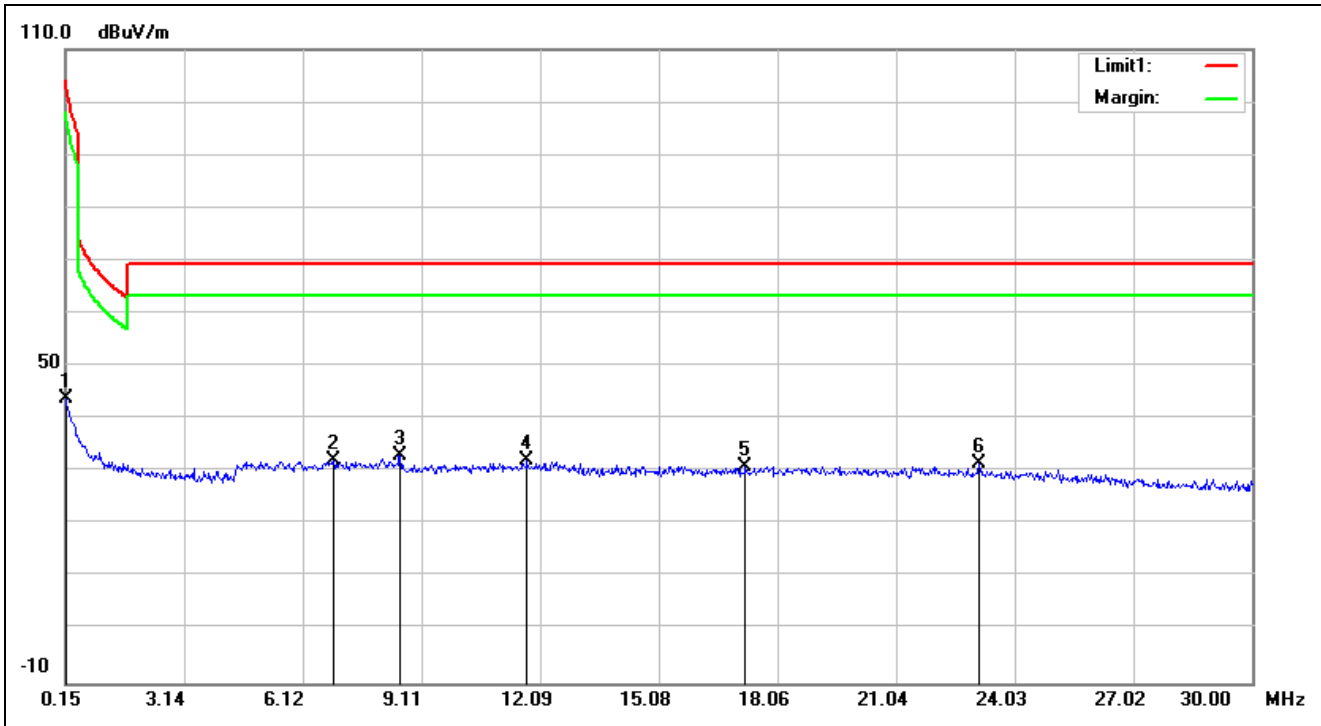


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:30:31
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0099	19.89	31.69	51.58	127.67	-76.09	QP	100	105	
2	0.0249	20.08	23.26	43.34	119.67	-76.33	QP	100	294	
3	0.0421	19.71	20.20	39.91	115.11	-75.20	QP	100	82	
4	0.0635	19.35	15.48	34.83	111.54	-76.71	QP	100	269	
5	0.0841	19.23	13.29	32.52	109.10	-76.58	QP	100	183	
6	0.1091	19.12	11.20	30.32	106.84	-76.52	QP	100	26	



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:33:05
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-TX		
Remark:	Power Setting -5 RFPCA381013IMAB701-ANT		

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	24.83	43.91	104.08	-60.17	QP	100	177	
2	6.8961	19.93	12.29	32.22	69.50	-37.28	QP	100	52	
3	8.5677	20.09	12.87	32.96	69.50	-36.54	QP	100	344	
4	11.7616	20.53	11.54	32.07	69.50	-37.43	QP	100	236	
5	17.2540	21.50	9.41	30.91	69.50	-38.59	QP	100	259	
6	23.1345	22.20	9.25	31.45	69.50	-38.05	QP	100	45	

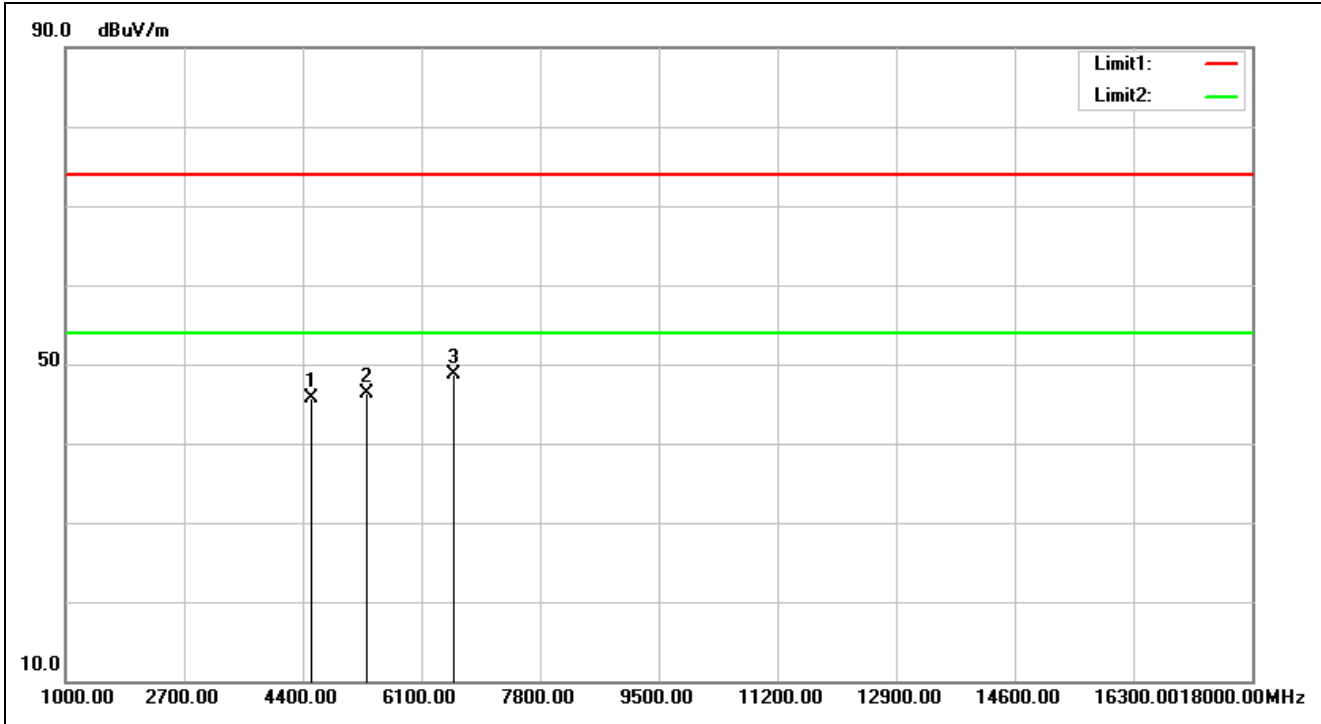
Spurious Emissions, RX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

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

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

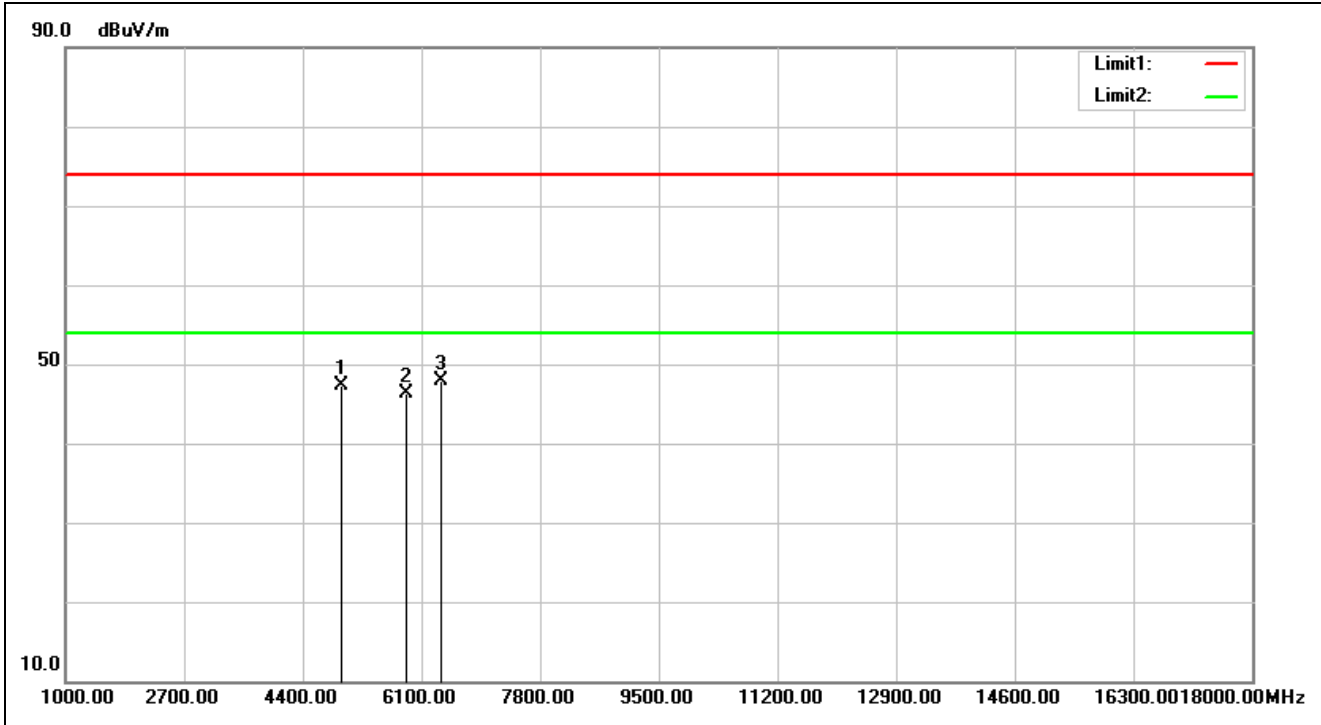


Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:35:39
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4519.000	-4.00	49.69	45.69	74.00	-28.31	peak	100	122	
2	5318.000	-1.70	47.97	46.27	74.00	-27.73	peak	100	359	
3	6559.000	4.25	44.47	48.72	74.00	-25.28	peak	100	64	



TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



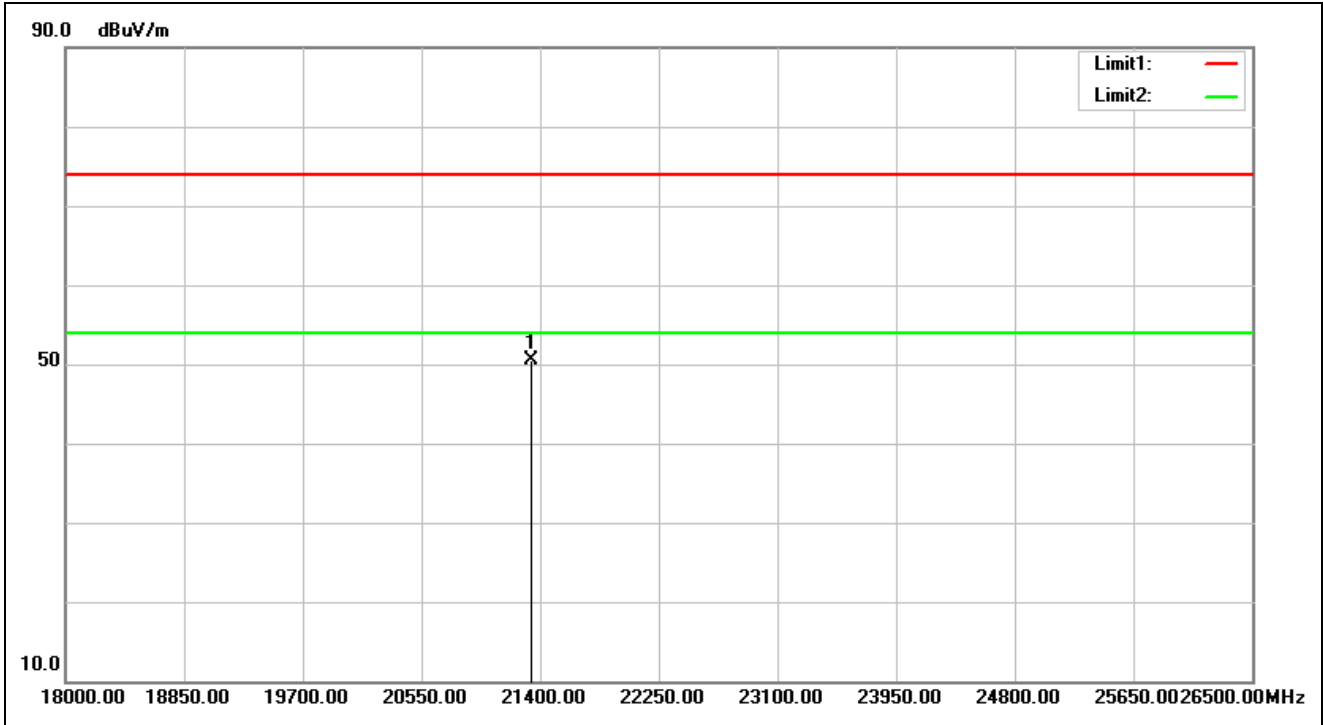
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:36:31
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4961.000	-3.27	50.60	47.33	74.00	-26.67	peak	100	340	
2	5879.000	1.58	44.75	46.33	74.00	-27.67	peak	100	248	
3	6372.000	3.82	44.08	47.90	74.00	-26.10	peak	100	360	

Spurious Emissions, RX Mode, 18-26G

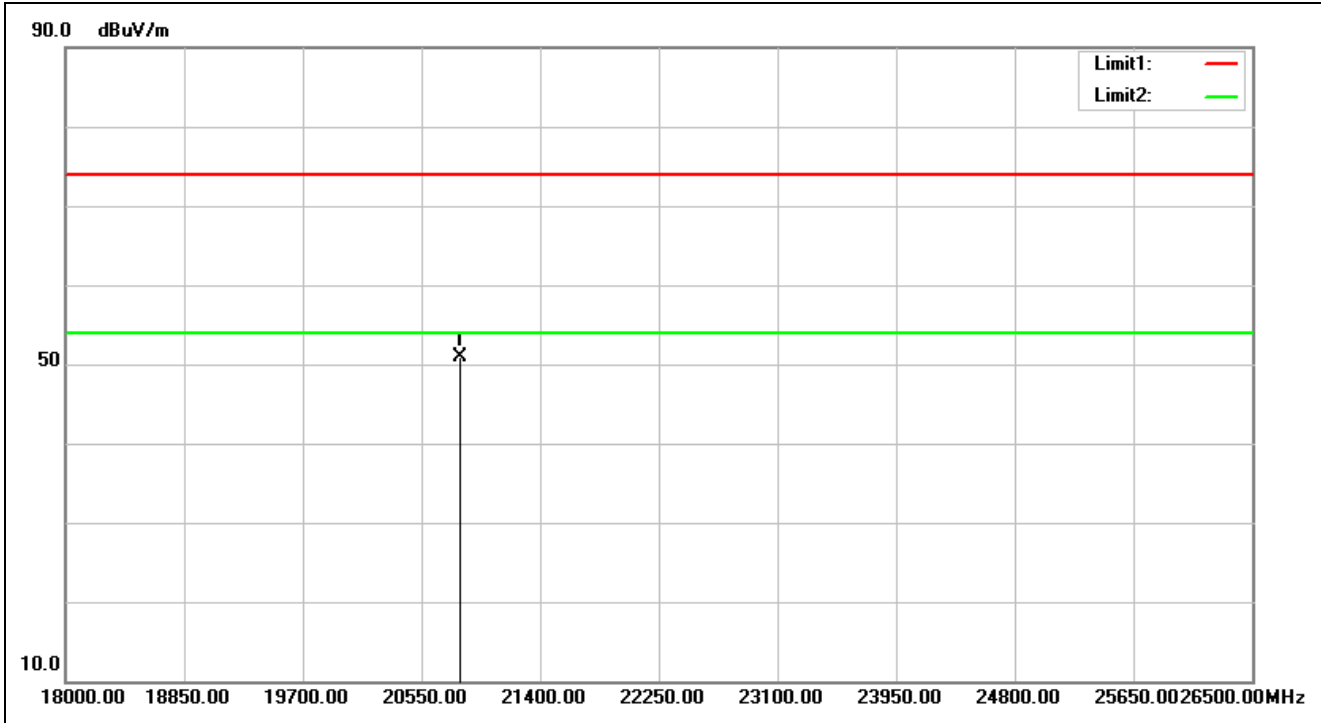


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 04:42:58
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21332.000	32.74	17.74	50.48	74.00	-23.52	peak			



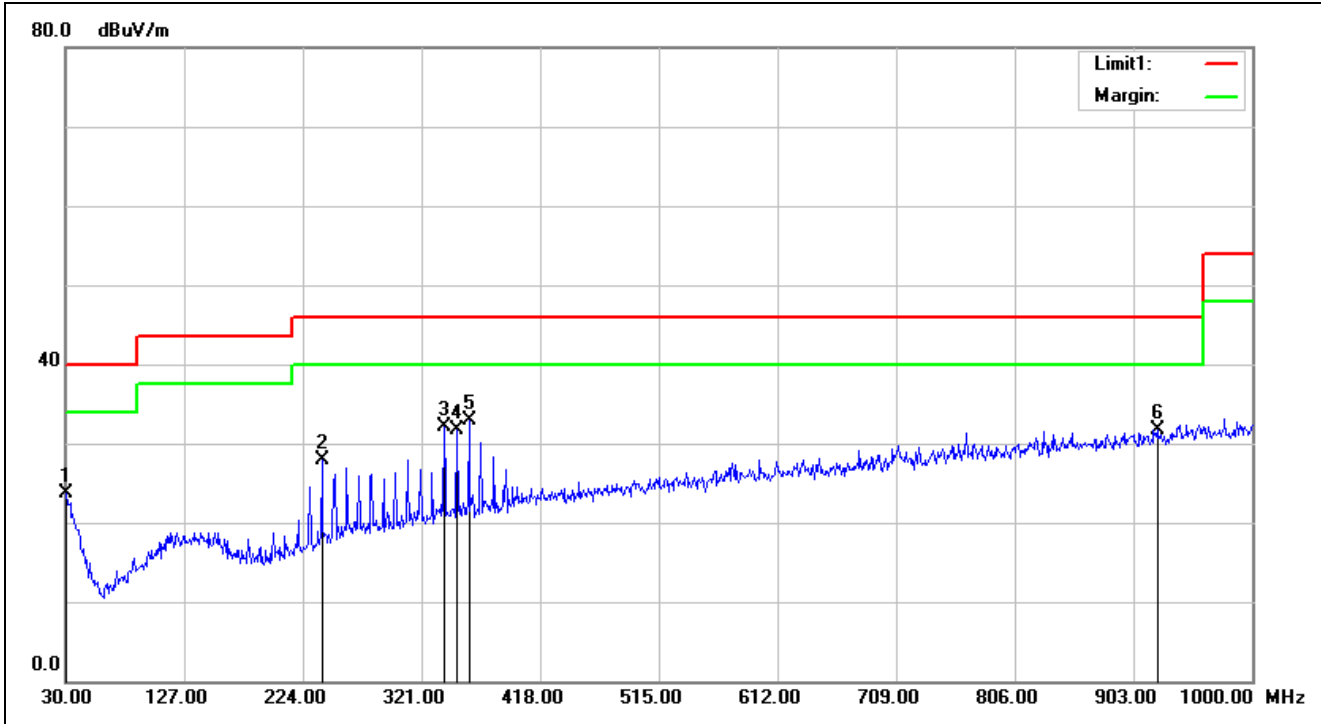
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 04:43:04
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20822.000	32.07	18.83	50.90	74.00	-23.10	peak			

Spurious Emissions, RX Mode, 30M-1G

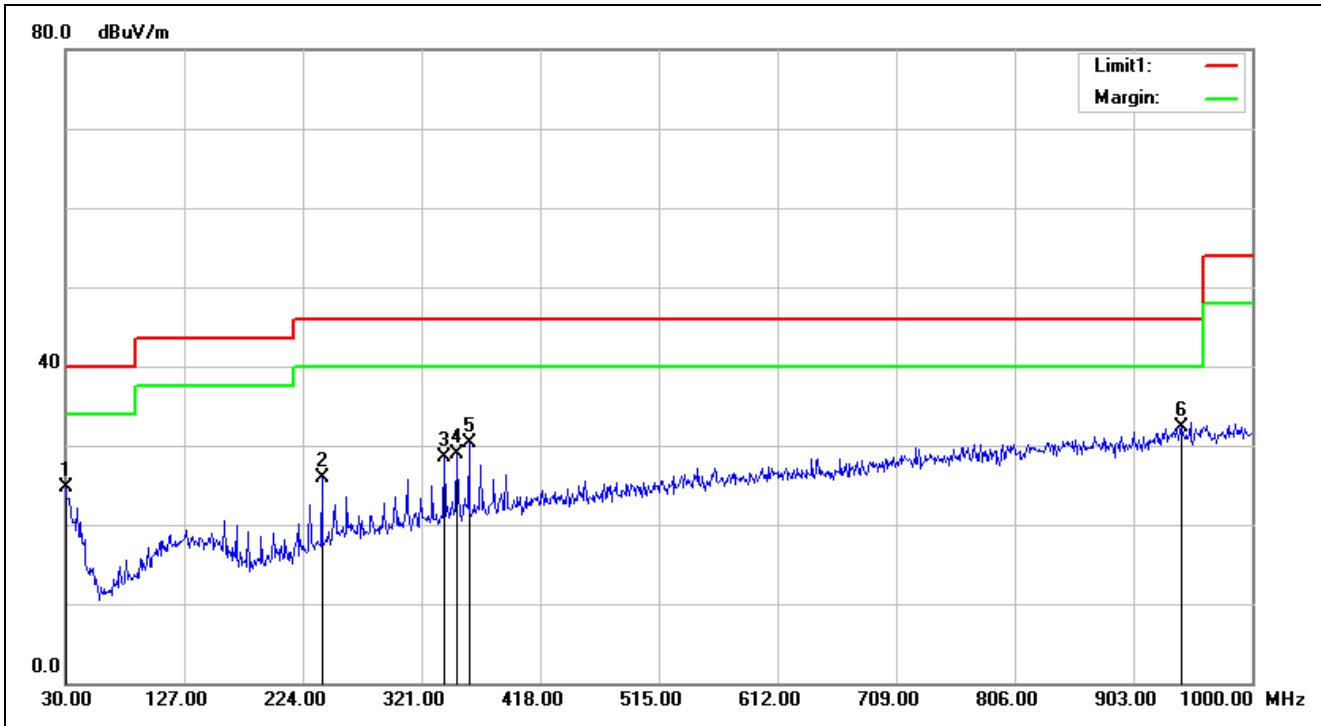


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/4/14 05:25:56
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.9700	-0.79	24.44	23.65	40.00	-16.35	QP	100	62	
2	239.5200	-6.85	34.75	27.90	46.00	-18.10	QP	100	91	
3	339.4300	-3.61	35.71	32.10	46.00	-13.90	QP	100	207	
4	350.1000	-3.34	35.04	31.70	46.00	-14.30	QP	100	299	
5	359.8000	-3.16	36.11	32.95	46.00	-13.05	QP	100	282	
6	922.4000	4.71	27.05	31.76	46.00	-14.24	QP	100	170	



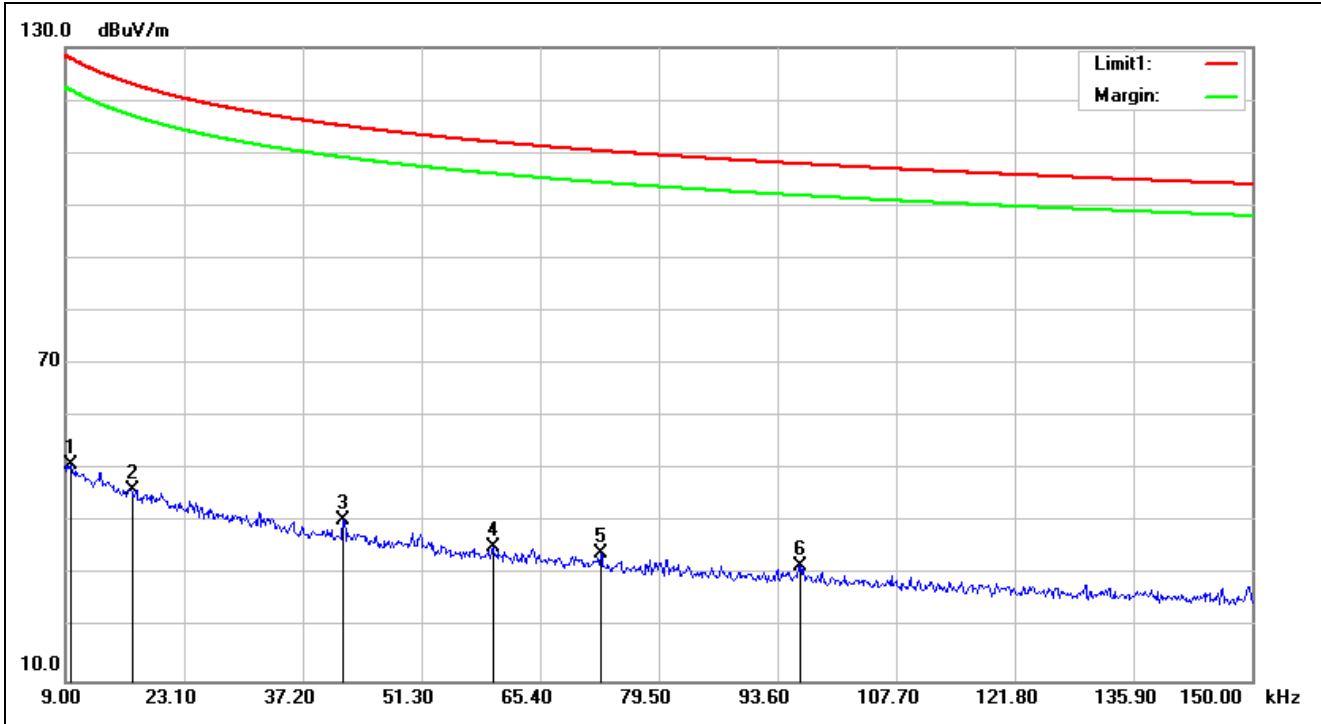
Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/4/14 05:26:49
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.25	24.88	24.63	40.00	-15.37	QP	100	190	
2	239.5200	-6.85	32.68	25.83	46.00	-20.17	QP	100	89	
3	339.4300	-3.61	32.18	28.57	46.00	-17.43	QP	100	262	
4	350.1000	-3.34	32.30	28.96	46.00	-17.04	QP	100	262	
5	359.8000	-3.16	33.53	30.37	46.00	-15.63	QP	100	151	
6	941.8000	5.26	27.13	32.39	46.00	-13.61	QP	100	334	

Spurious Emissions, RX Mode, 9K-30M

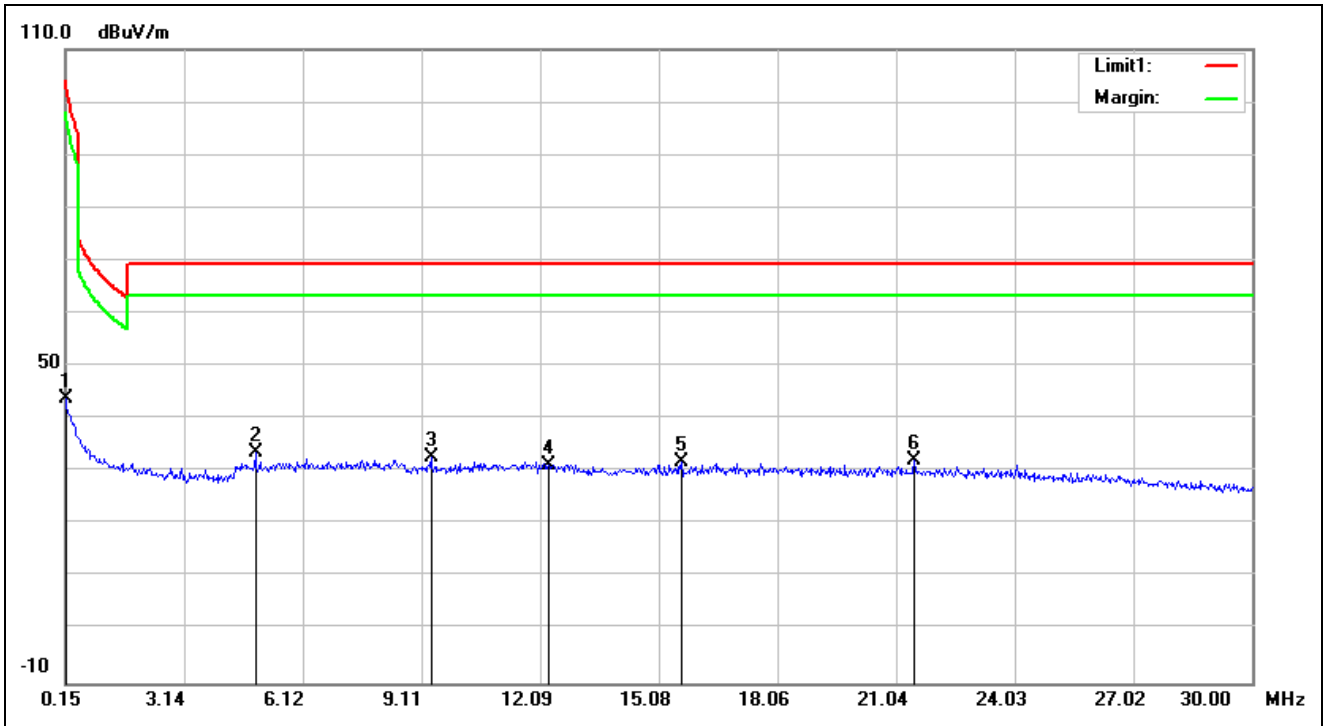


TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:31:24
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFPCA381013IMAB701-ANT		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0096	19.77	31.30	51.07	127.94	-76.87	QP	100	1	
2	0.0168	20.00	26.24	46.24	123.08	-76.84	QP	100	360	
3	0.0420	19.71	20.84	40.55	115.13	-74.58	QP	100	78	
4	0.0598	19.37	16.09	35.46	112.06	-76.60	QP	100	246	
5	0.0726	19.29	14.86	34.15	110.38	-76.23	QP	100	78	
6	0.0963	19.15	12.71	31.86	107.92	-76.06	QP	100	160	



Service No.:	114074446	Test Distance:	3m
Test Standard:	FCC&ISED 9k-1G_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/4/14 05:33:59
Applicant:	Microchip	Test Rating:	DC 3.3V
Product:	IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth	Temp.(°C)/Hum.(%):	22(°C)/65%
Model No.:	ATWILC3000-MR110UA	Test Engineer:	Curry Chen
Test Mode:	2440-RX		
Remark:	RFPCA381013IMAB701-ANT		

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	24.74	43.82	104.08	-60.26	QP	100	236	
2	4.9260	19.72	13.98	33.70	69.50	-35.80	QP	100	138	
3	9.3438	20.16	12.53	32.69	69.50	-36.81	QP	100	78	
4	12.2990	20.62	10.67	31.29	69.50	-38.21	QP	100	360	
5	15.6422	21.22	10.52	31.74	69.50	-37.76	QP	100	45	
6	21.4928	22.08	9.95	32.03	69.50	-37.47	QP	100	193	

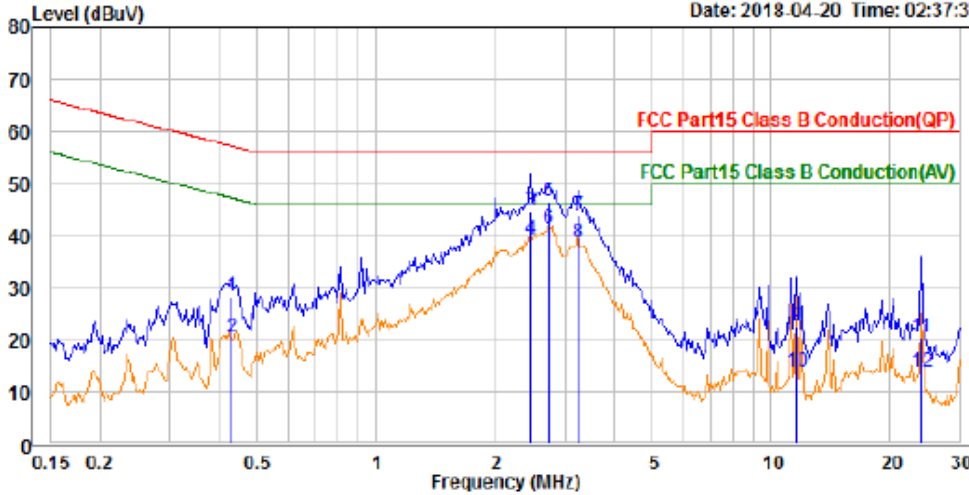
Mains



TUV Rheinland Taiwan Ltd.
 11F., No. 758, Sec. 4 Bade Road, Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 Fax:+886-2528-0018

File: C:\EMC\Report\2018\Microchip\114074446(ATWILC3000-MR110UA)\114074446(ATWILC3000-MR110UA)

Date: 2018-04-20 Time: 02:37:37



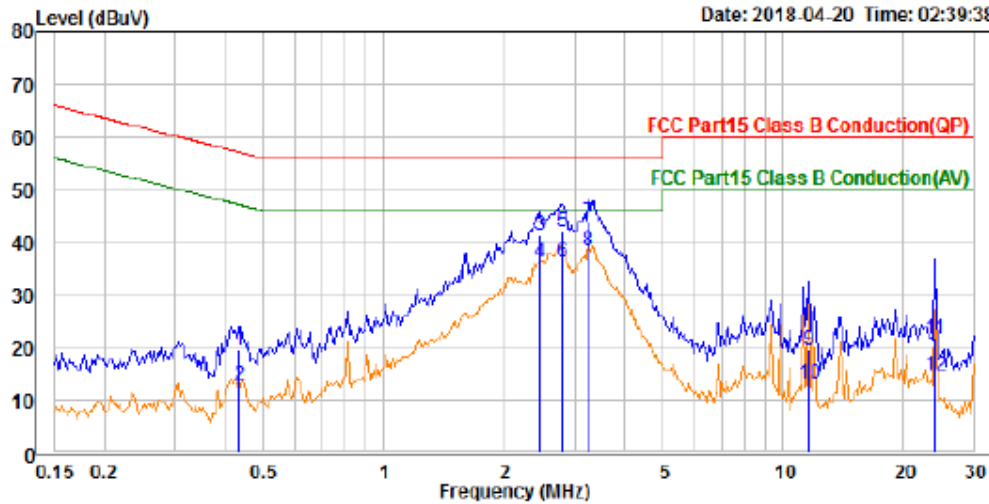
Trace: 1

Site : Conduction room
 Condition : FCC Part15 Class B Conduction(QP) line1
 Test Engineer: Curry Chen
 Applicant : Microchip
 Product : IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth
 Model No. : ATWILC3000-MR110UA
 Test Rating : 120Vac/60Hz
 Temp/Hum : 22.7 °C / 52 %
 Memo : Mains

	Read Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.430	18.50	9.66	28.16	57.25	-29.09	QP
2	0.430	10.69	9.66	20.35	47.25	-26.90	Average
3	2.450	34.99	9.69	44.68	56.00	-11.32	QP
4	2.450	29.61	9.69	39.30	46.00	-6.70	Average
5	2.733	36.90	9.69	46.59	56.00	-9.41	QP
6	2.733	31.59	9.69	41.28	46.00	-4.72	Average
7	3.237	34.22	9.71	43.93	56.00	-12.07	QP
8	3.237	28.85	9.71	38.56	46.00	-7.44	Average
9	11.553	12.64	9.80	22.44	60.00	-37.56	QP
10	11.553	3.82	9.80	13.62	50.00	-36.38	Average
11	23.869	10.63	9.81	20.44	60.00	-39.56	QP
12	23.869	3.85	9.81	13.66	50.00	-36.34	Average

File: C:\EMC\Report\2018\Microchip\114074446(ATWILC3000-MR110UA)\114074446(ATWILC3000-MR110UA).

Date: 2018-04-20 Time: 02:39:38



Trace: 1

Site : Conduction room
 Condition : FCC Part15 Class B Conduction(QP) neutral
 Test Engineer: Curry Chen
 Applicant : Microchip
 Product : IEEE 802.11 b/g/n Link Controller Module With Integrated Bluetooth
 Model No. : ATWILC3000-MR110UA
 Test Rating : 120Vac/60Hz
 Tmp/Hum : 22.7 °C / 52 %
 Memo : Mains

	Read Freq	Level	Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.435	9.66	9.66	19.32	57.17	-37.85	QP
2	0.435	3.15	9.66	12.81	47.17	-34.36	Average
3	2.450	31.66	9.70	41.36	56.00	-14.64	QP
4	2.450	26.45	9.70	36.15	46.00	-9.85	Average
5	2.788	32.12	9.71	41.83	56.00	-14.17	QP
6	2.788	26.52	9.71	36.23	46.00	-9.77	Average
7	3.237	33.95	9.72	43.67	56.00	-12.33	QP
8	3.237	28.67	9.72	38.39	46.00	-7.61	Average
9	11.553	9.49	9.83	19.32	60.00	-40.68	QP
10	11.553	3.19	9.83	13.02	50.00	-36.98	Average
11	23.869	11.80	9.89	21.69	60.00	-38.31	QP
12	23.869	4.66	9.89	14.55	50.00	-35.45	Average