

Test Report No.50209104 001

## Appendix D: Radiated and Mains Spurious Emission Data

(File: 50209104 001 AppendixD)

## Contents

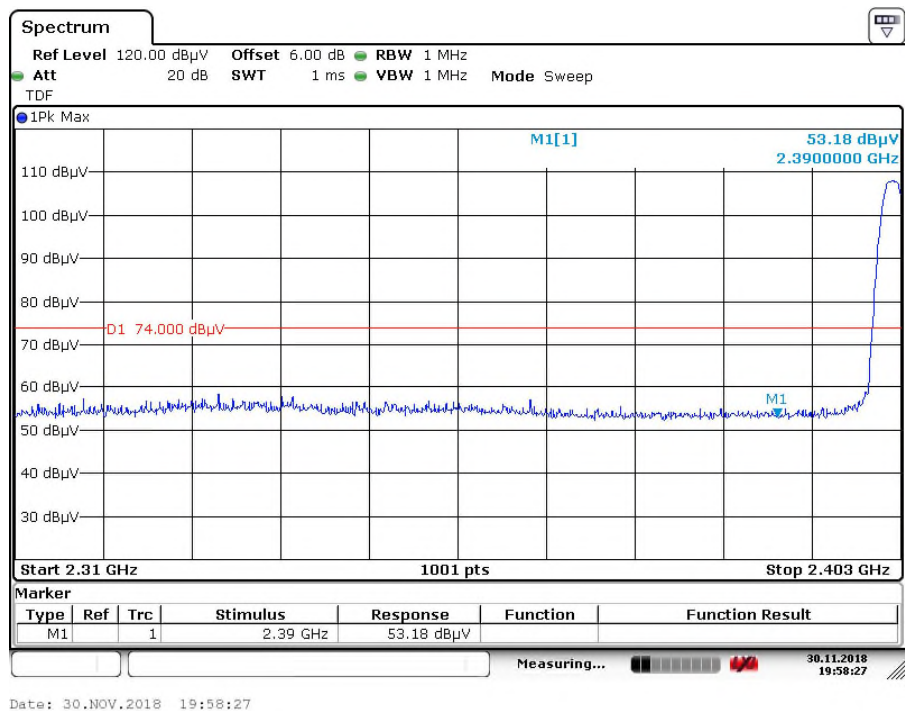
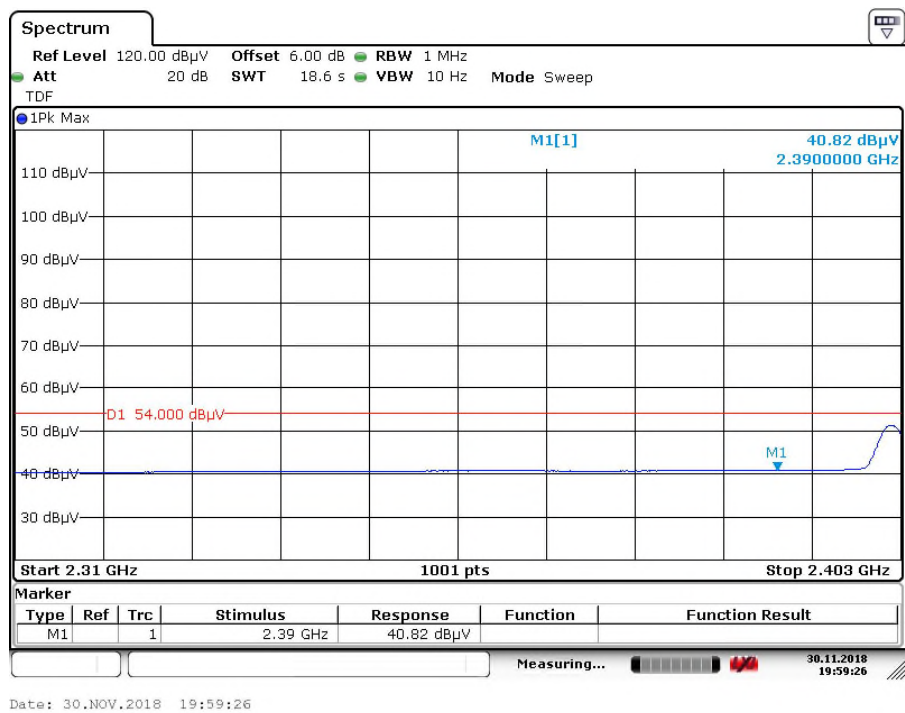
Module with Shielded Case, Class 1 .....	3
Spurious Emissions, Band Edges, 2.35-2.5G .....	3
Spurious Emissions, TX Mode, 1-18G.....	7
Spurious Emissions, TX Mode, 18-26G.....	13
Spurious Emissions, TX Mode, 30M-1G .....	19
Spurious Emissions, TX Mode, 9k-30M .....	21
Spurious Emissions, RX Mode, 1-18G .....	23
Spurious Emissions, RX Mode, 18-26G.....	25
Spurious Emissions, RX Mode, 30M-1G .....	27
Spurious Emissions, RX Mode, 9K-30M .....	29
Module with Shielded Case, Class 2.....	31
Spurious Emissions, TX Mode, 1-18G.....	31
Spurious Emissions, TX Mode, 18-26G.....	33
Spurious Emissions, TX Mode, 30M-1G .....	35
Spurious Emissions, TX Mode, 9k-30M .....	37
Spurious Emissions, RX Mode, 1-18G .....	39
Spurious Emissions, RX Mode, 18-26G.....	41
Spurious Emissions, RX Mode, 30M-1G .....	43
Spurious Emissions, RX Mode, 9K-30M .....	45
Module without Shielded Case, Class 1 .....	47
Spurious Emissions, Band Edges, 2.35-2.5G .....	47
Spurious Emissions, TX Mode, 1-18G.....	51
Spurious Emissions, TX Mode, 18-26G.....	57
Spurious Emissions, TX Mode, 30M-1G .....	63
Spurious Emissions, TX Mode, 9k-30M .....	65
Spurious Emissions, RX Mode, 1-18G .....	67
Spurious Emissions, RX Mode, 18-26G.....	69
Spurious Emissions, RX Mode, 30M-1G .....	71
Spurious Emissions, RX Mode, 9K-30M .....	73
Module without Shielded Case, Class 2 .....	75
Spurious Emissions, TX Mode, 1-18G.....	75
Spurious Emissions, TX Mode, 18-26G.....	77
Spurious Emissions, TX Mode, 30M-1G .....	79
Spurious Emissions, TX Mode, 9k-30M .....	81
Spurious Emissions, RX Mode, 1-18G .....	83
Spurious Emissions, RX Mode, 18-26G.....	85
Spurious Emissions, RX Mode, 30M-1G .....	87
Spurious Emissions, RX Mode, 9K-30M .....	89
Mains .....	91

Module with Shielded Case, Class 1

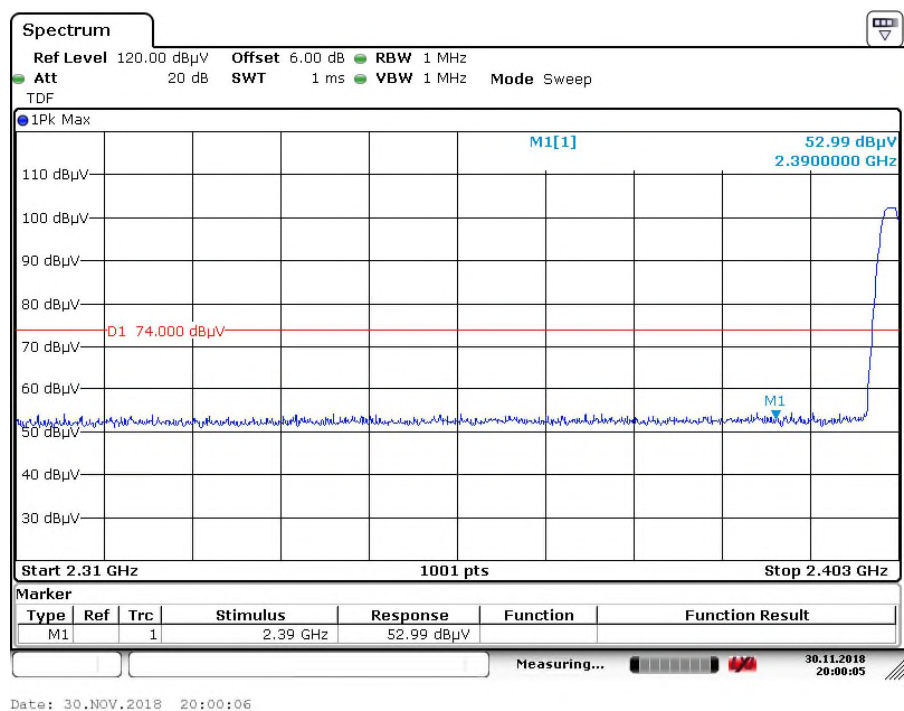
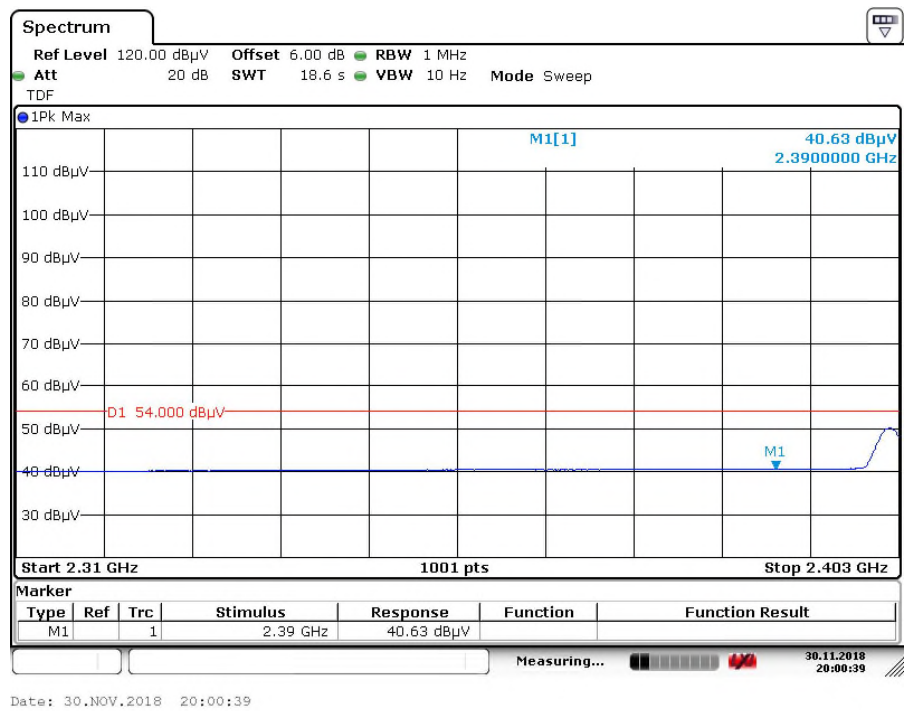
Spurious Emissions, Band Edges, 2.35-2.5G

Radiated Bandedge (GFSK)

Low Channel (Hor)

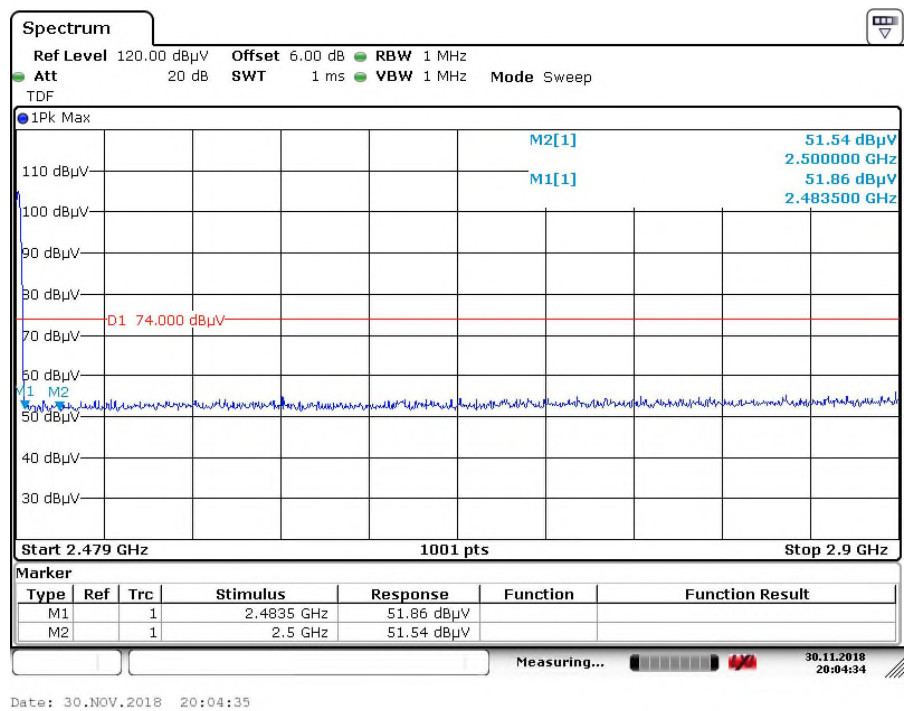
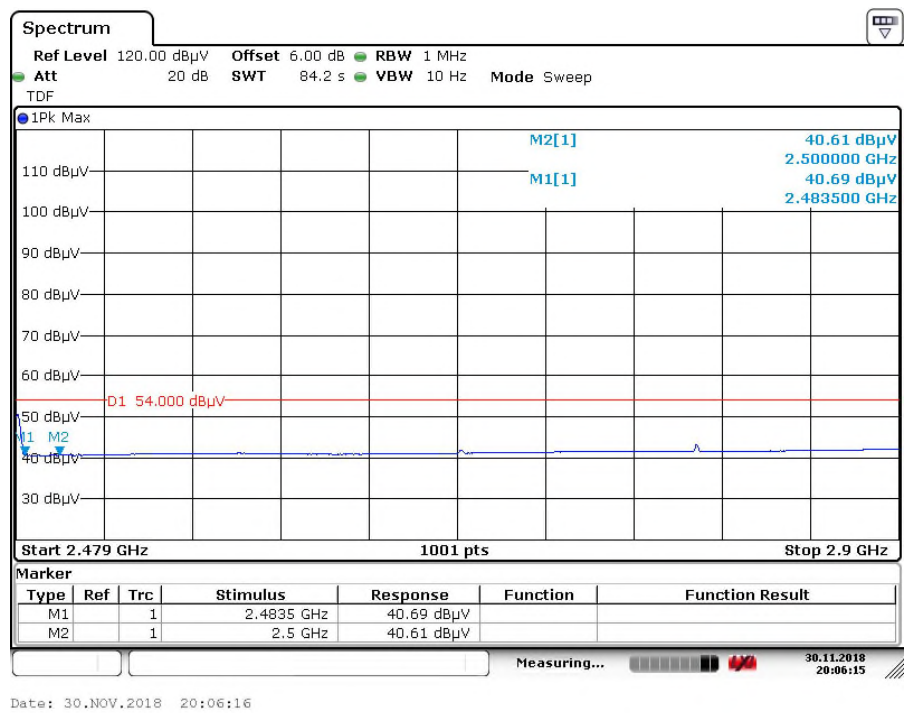


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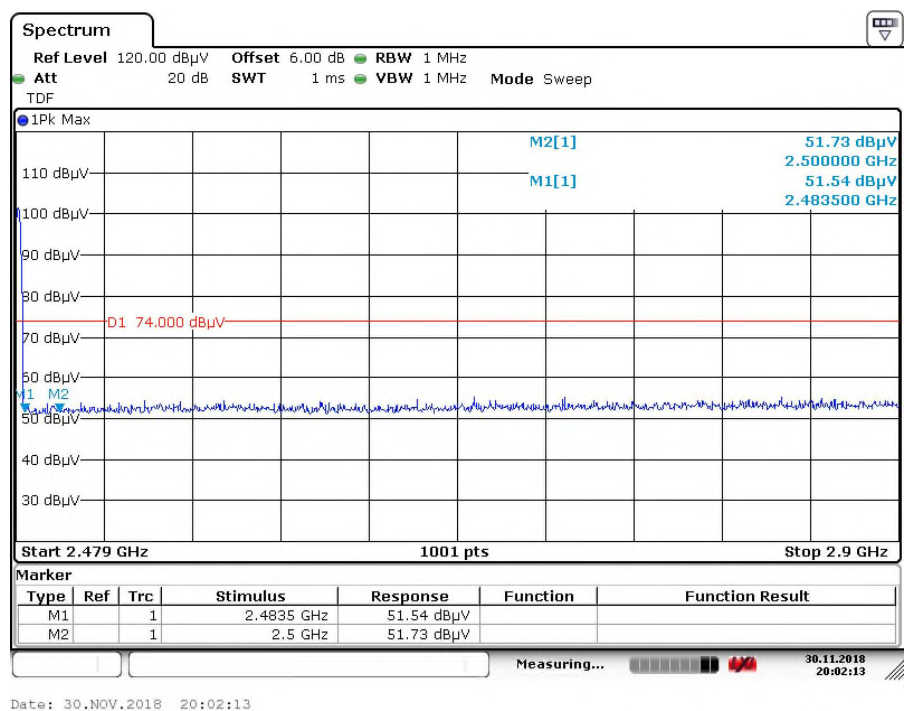
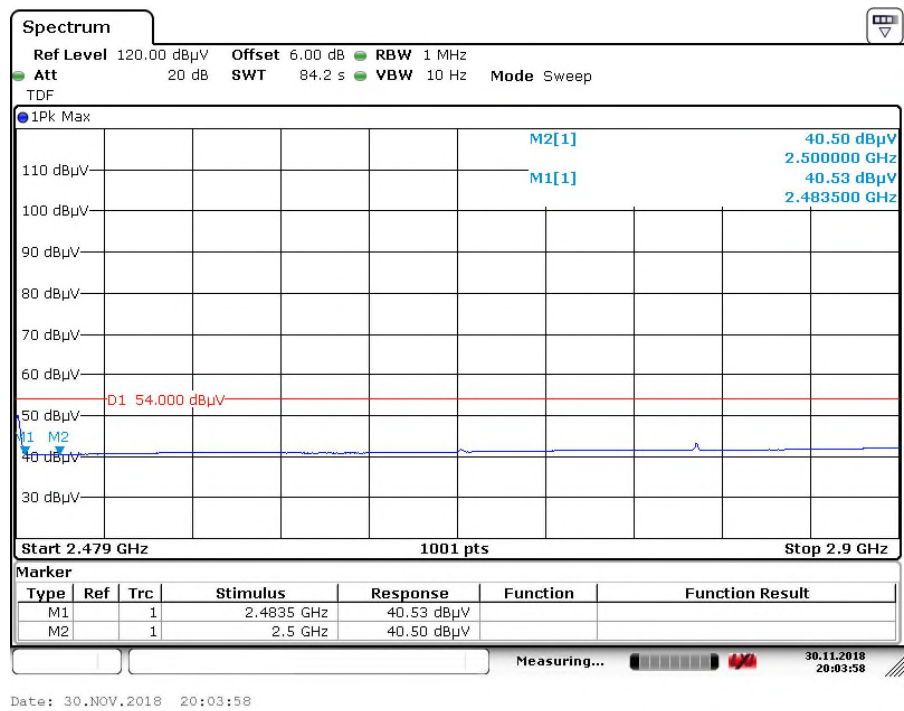


# Radiated Bandedge (GFSK)

## High Channel (Hor)



High Channel (Ver)



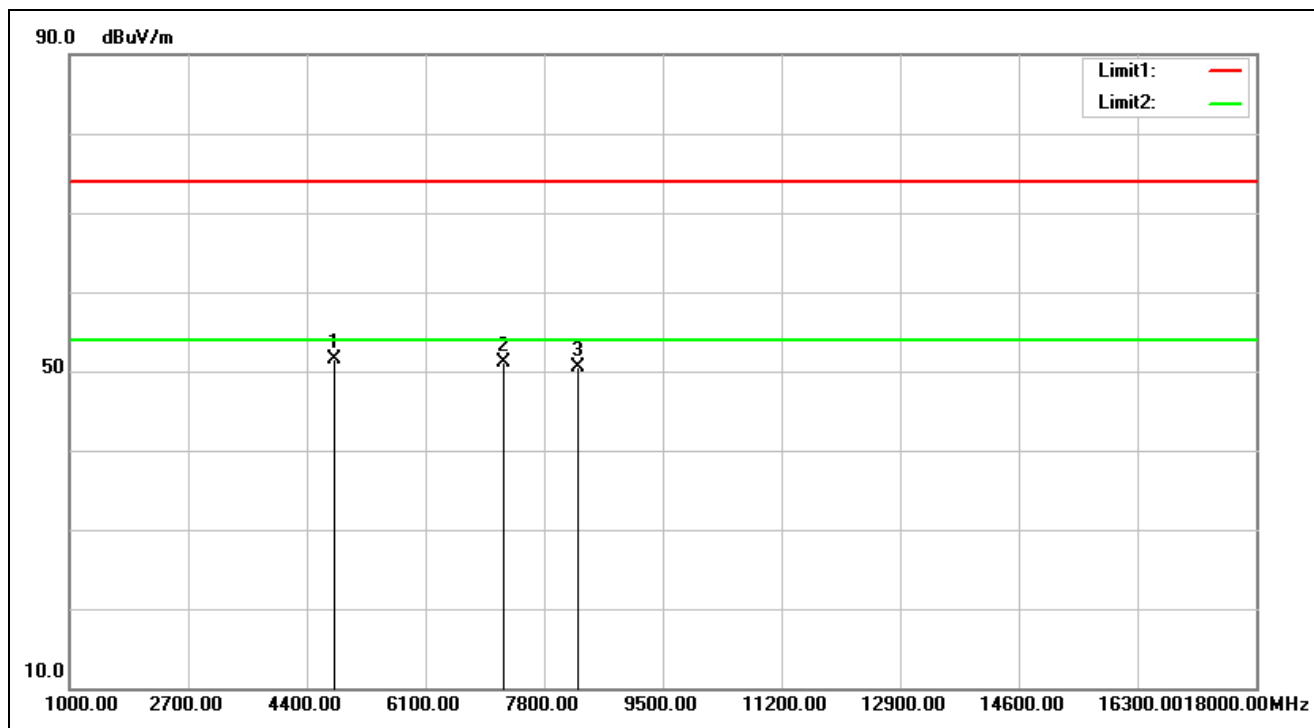
## Spurious Emissions, TX Mode, 1-18G



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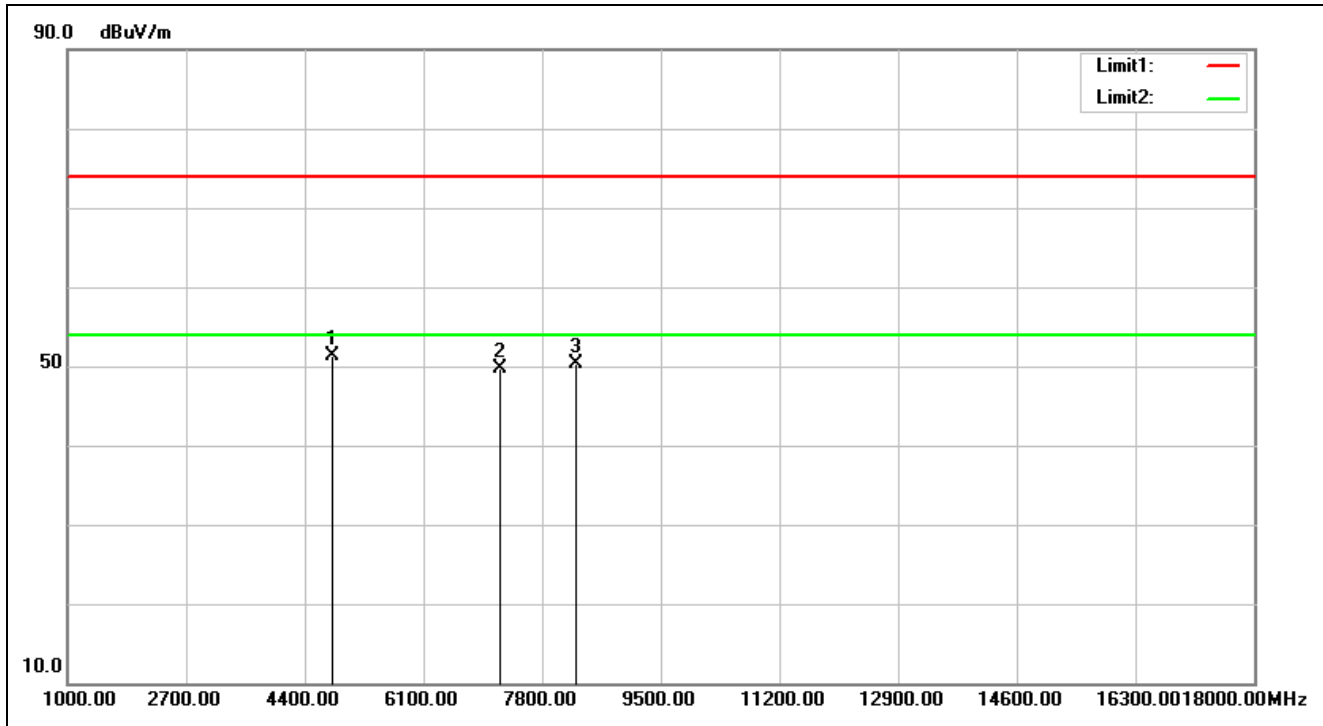
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 20:02:23
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2402-TX-Class 1		
Remark:	shield		

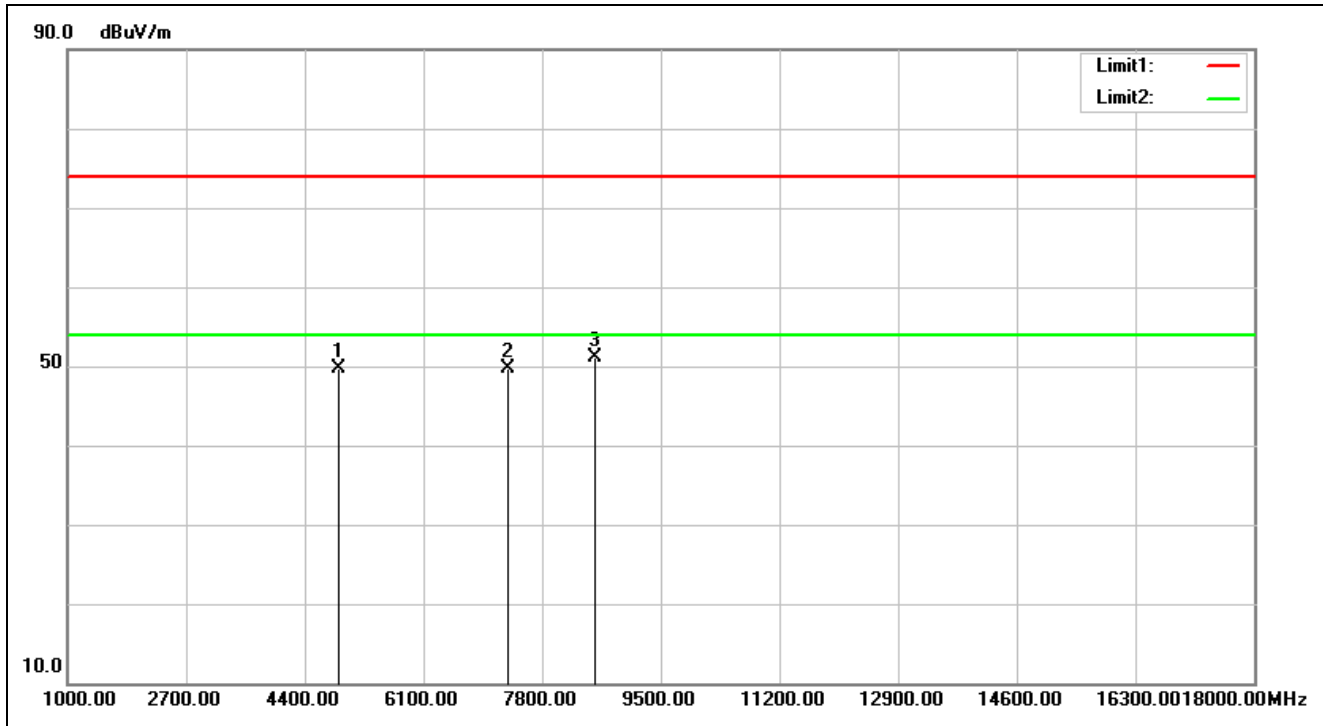
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	3.30	48.13	51.43	74.00	-22.57	peak	100	348	
2	7206.000	4.77	46.37	51.14	74.00	-22.86	peak		0	
3	8293.000	4.85	45.62	50.47	74.00	-23.53	peak	100	30	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:03:15</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2402-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

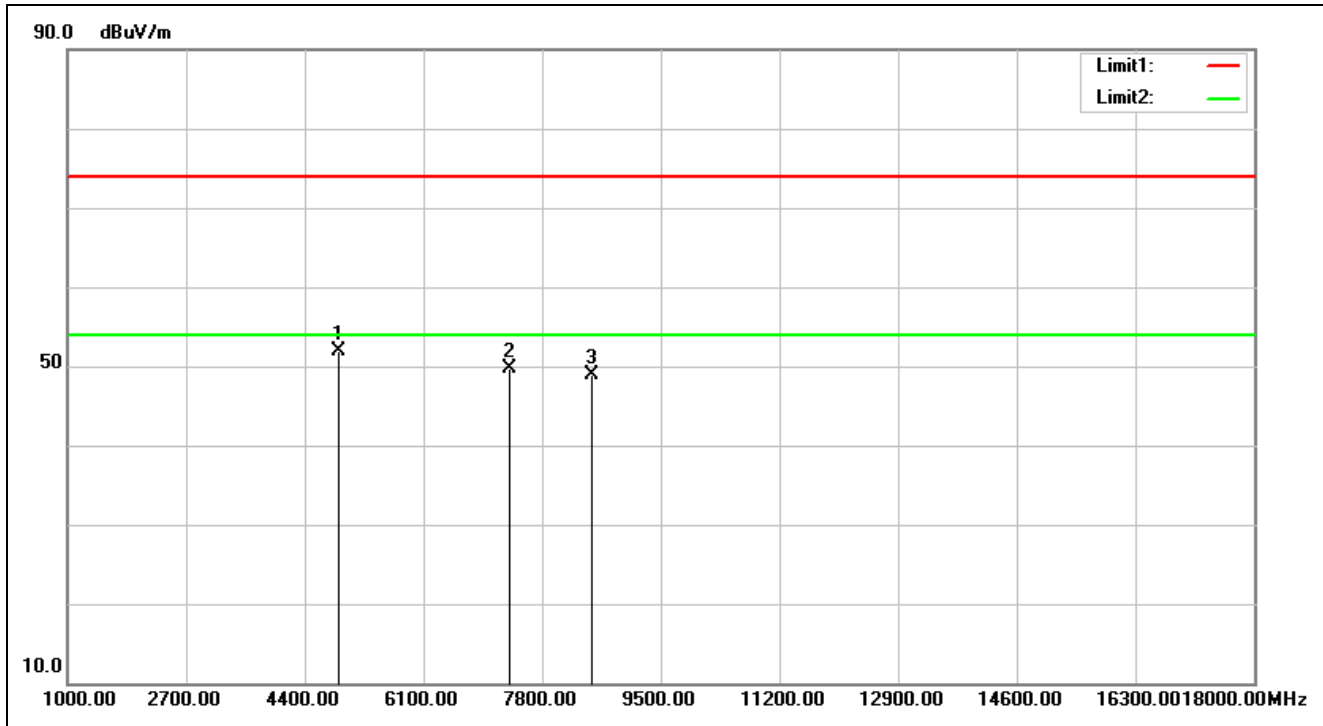
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1	4804.000	3.30	48.02	51.32	74.00	-22.68	peak	100	333	
2	7206.000	4.77	44.84	49.61	74.00	-24.39	peak			
3	8276.000	4.84	45.56	50.40	74.00	-23.60	peak	100	217	





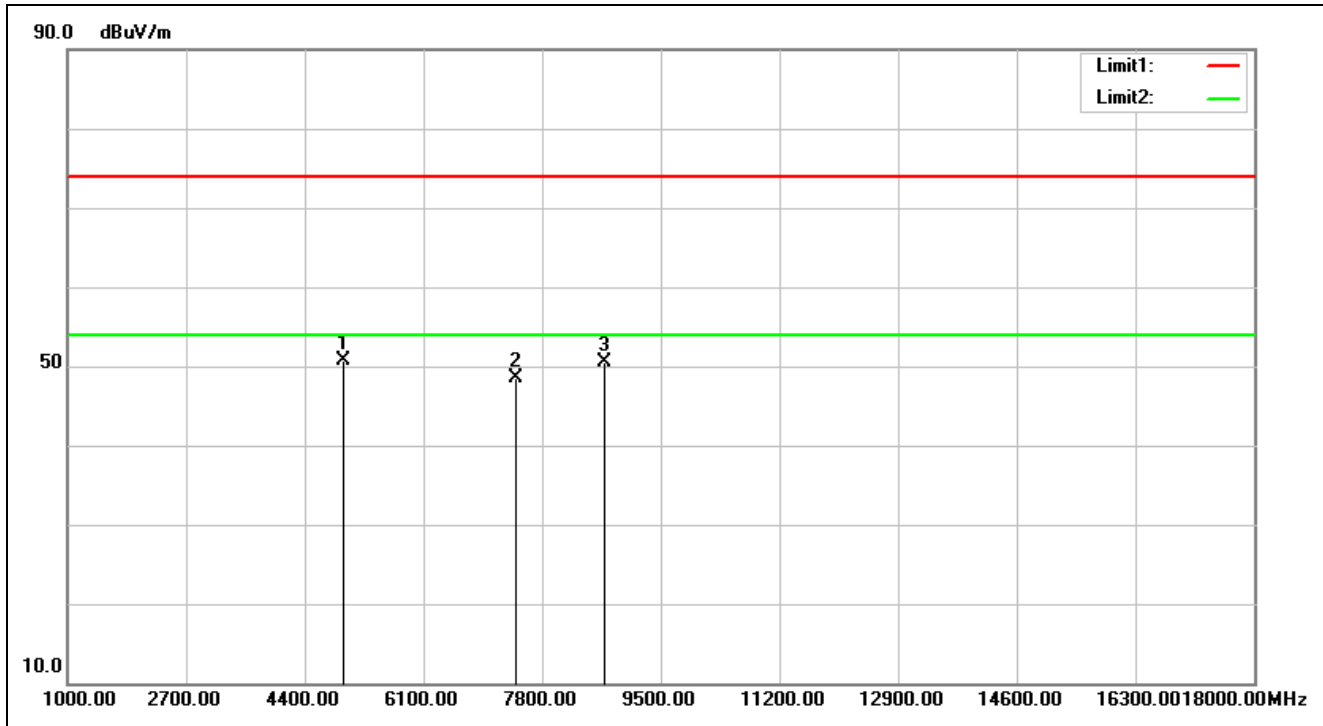
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<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:05:53</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	3.60	46.10	49.70	74.00	-24.30	peak	100	360	
2	7320.000	4.66	45.03	49.69	74.00	-24.31	peak			
3	8565.000	5.11	45.94	51.05	74.00	-22.95	peak	100	6	



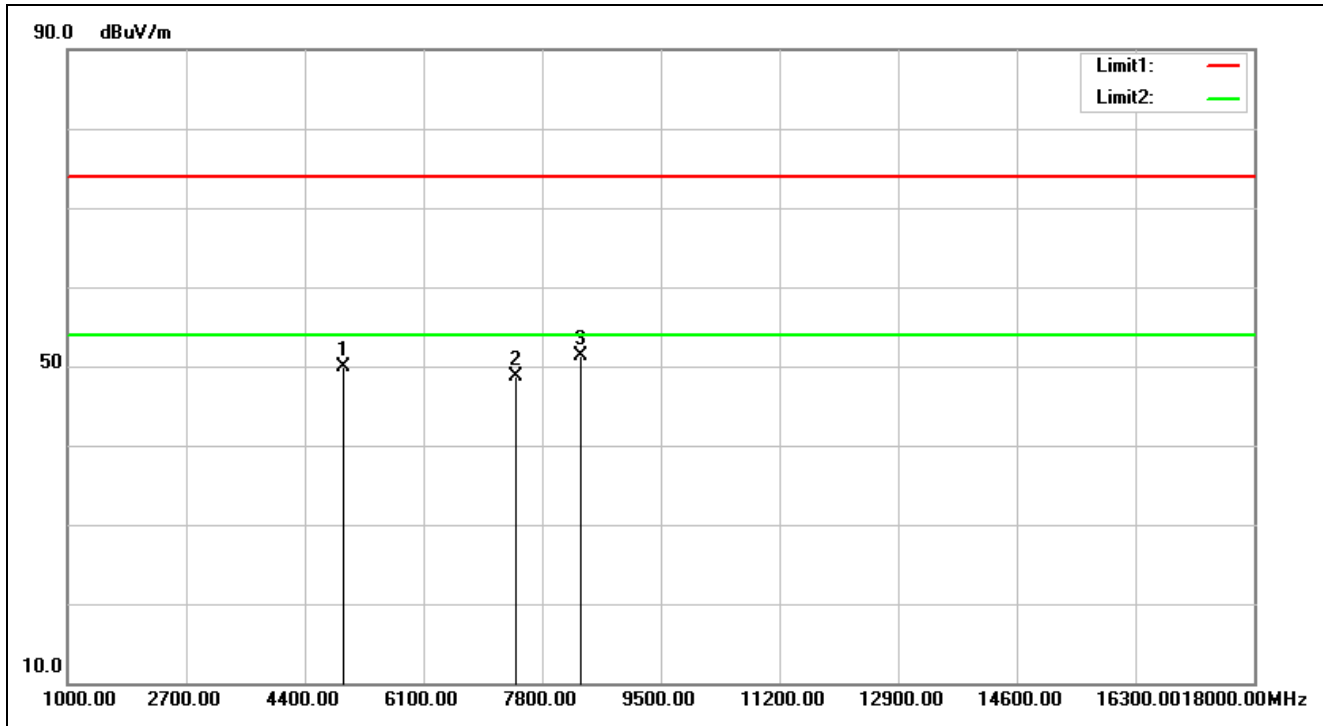
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<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:06:46</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	3.60	48.37	51.97	74.00	-22.03	peak	100	19	
2	7320.000	4.66	45.02	49.68	74.00	-24.32	peak			
3	8514.000	5.01	43.90	48.91	74.00	-25.09	peak	100	50	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:09:45</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2480-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	3.93	46.73	50.66	74.00	-23.34	peak	100	359	
2	7440.000	4.54	44.01	48.55	74.00	-25.45	peak			
3	8684.000	5.33	45.11	50.44	74.00	-23.56	peak	100	99	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:10:37</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2480-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	3.93	46.05	49.98	74.00	-24.02	peak	100	33	
2	7440.000	4.54	44.17	48.71	74.00	-25.29	peak			
3	8361.000	4.89	46.35	51.24	74.00	-22.76	peak	100	57	

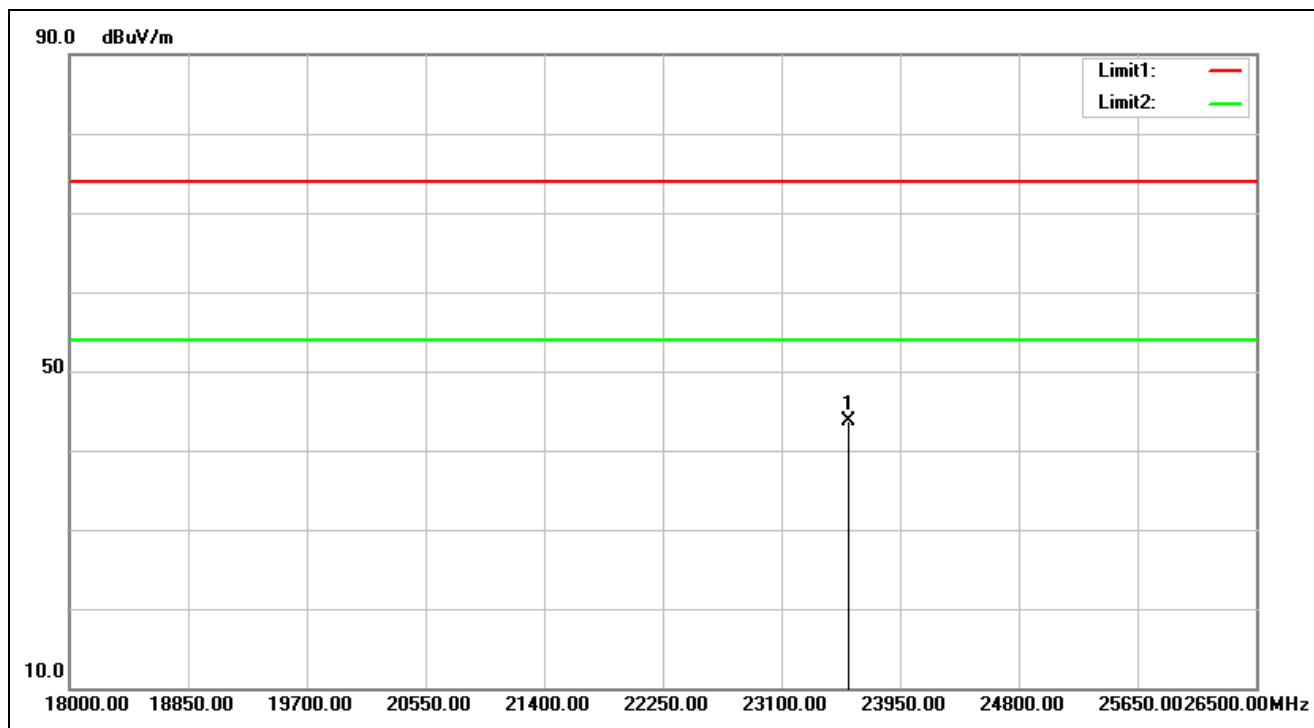
## Spurious Emissions, TX Mode, 18-26G



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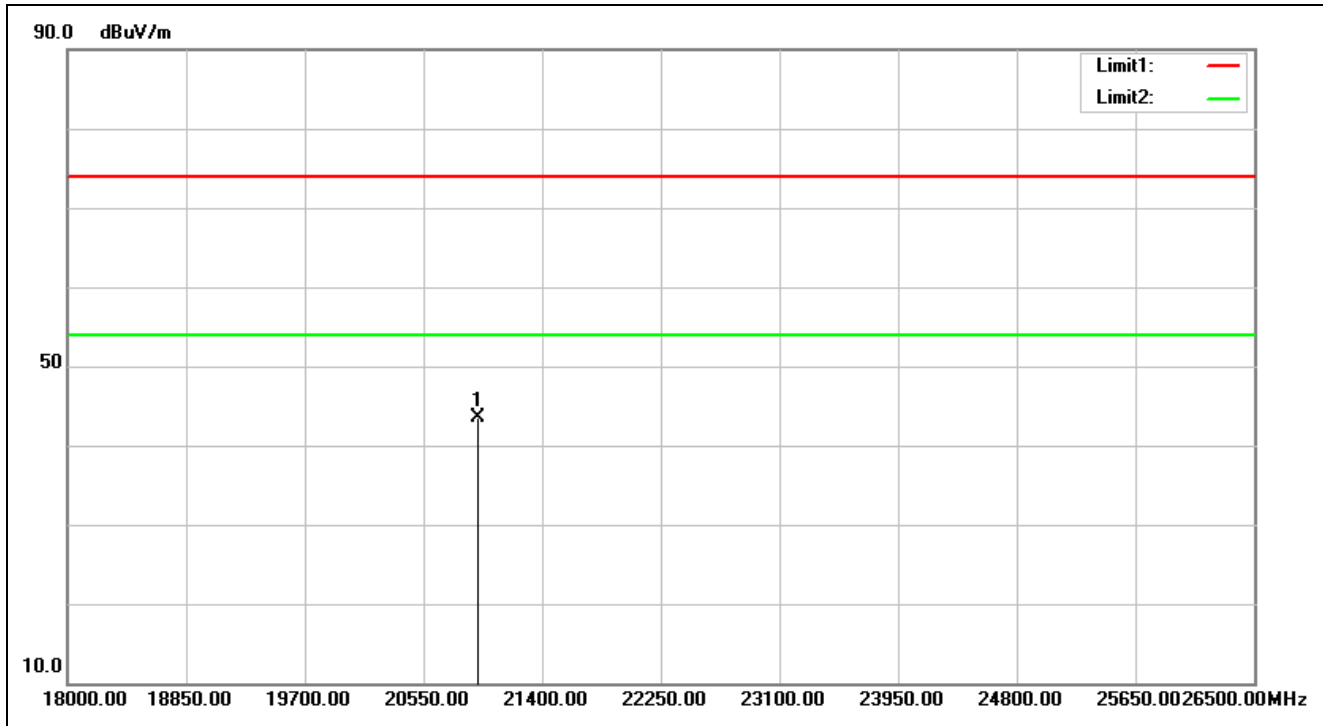
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



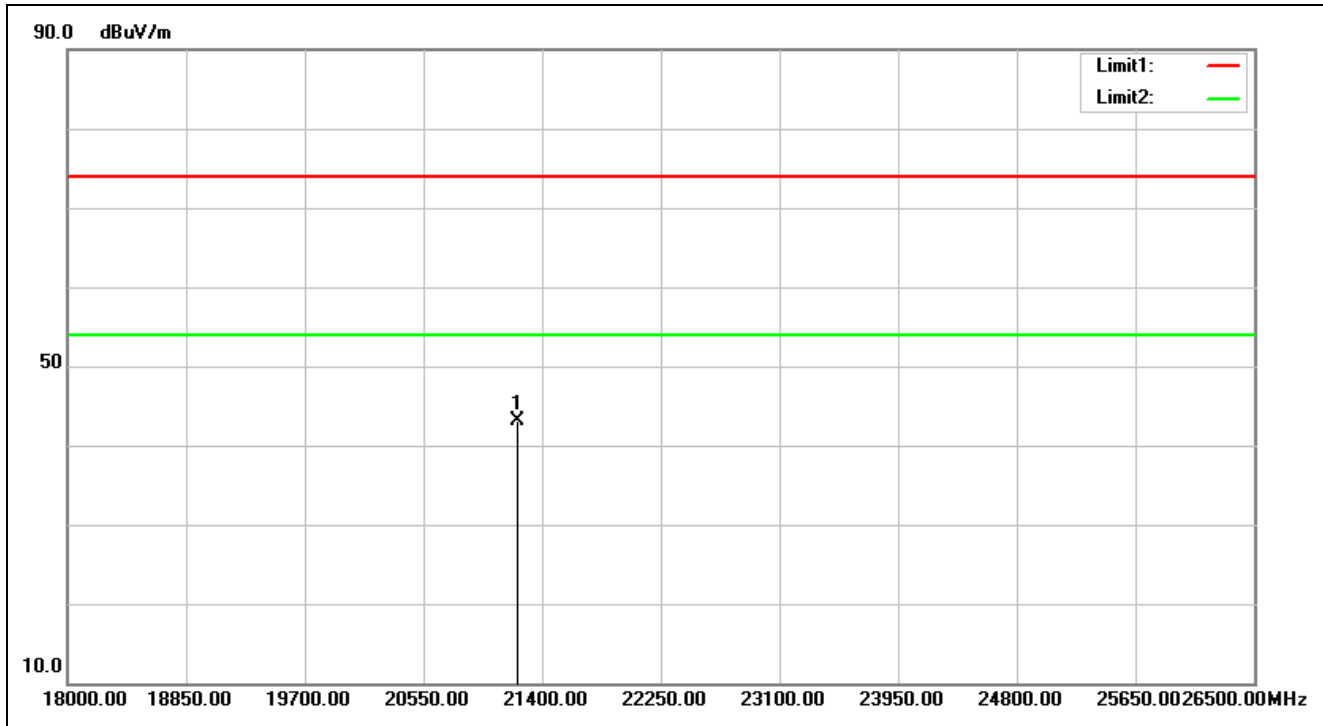
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<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:35:46</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2402-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	23584.500	5.80	37.91	43.71	74.00	-30.29	peak		0	



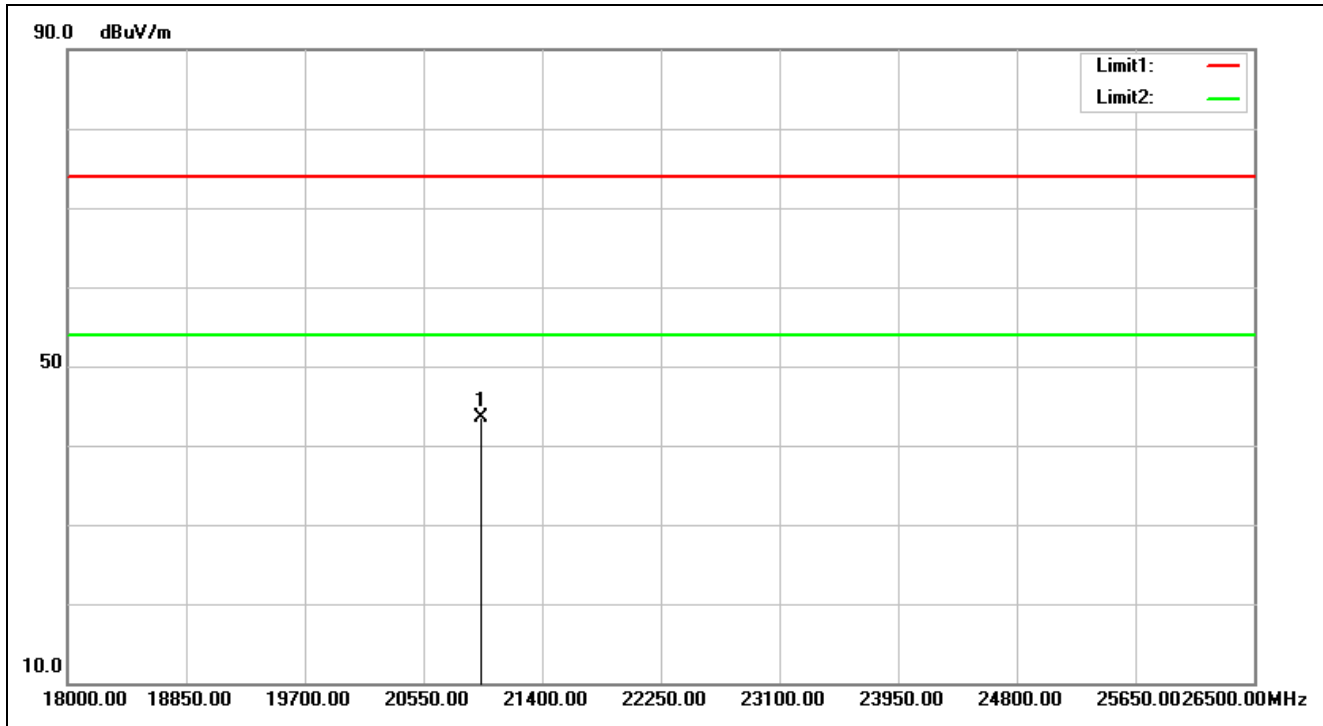
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Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/11/30 20:35:53
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BM83SM1, BM83SL1,	Test Engineer:	Curry Chen
Test Mode:	2402-TX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20941.000	4.72	38.87	43.59	74.00	-30.41	peak			



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:36:19</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

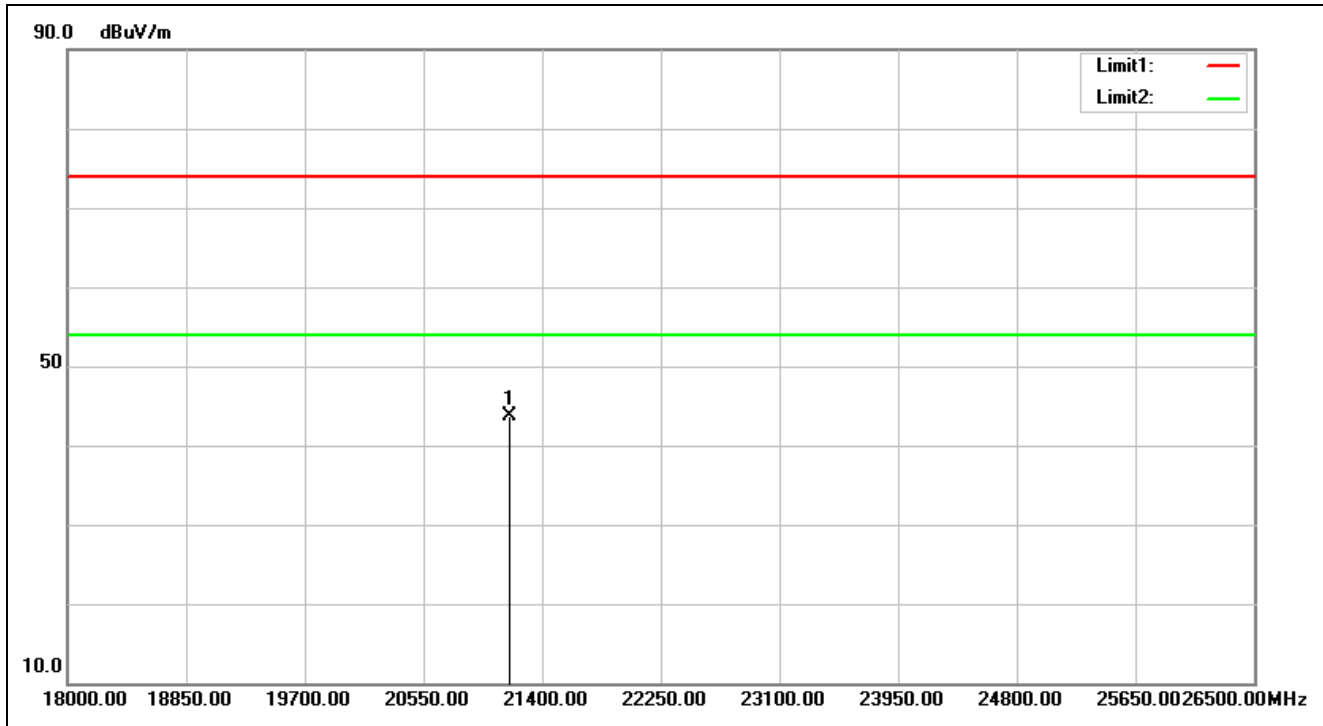
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	21221.500	4.59	38.47	43.06	74.00	-30.94	peak			



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:36:25</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

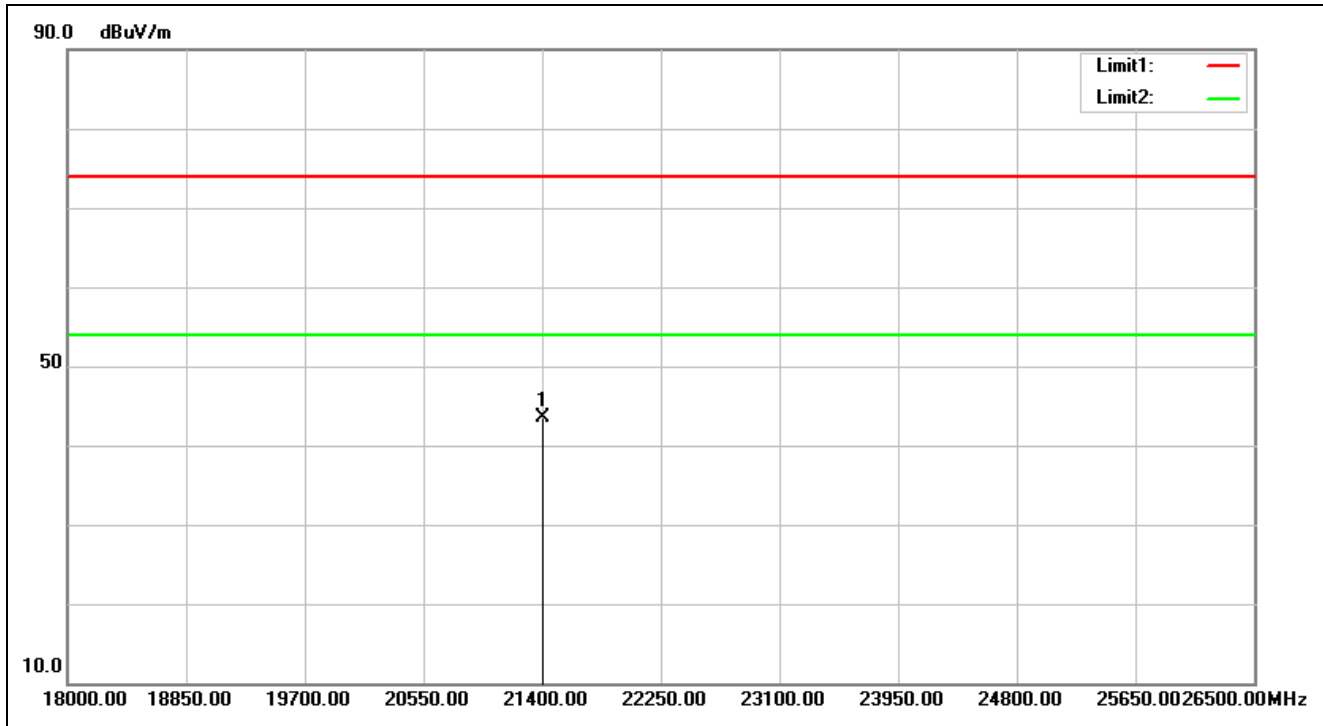
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20966.500	4.75	38.68	43.43	74.00	-30.57	peak			





<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:36:53</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2480-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	21162.000	4.65	39.03	43.68	74.00	-30.32	peak			



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:36:59</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2480-TX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	21400.000	4.42	39.02	43.44	74.00	-30.56	peak			

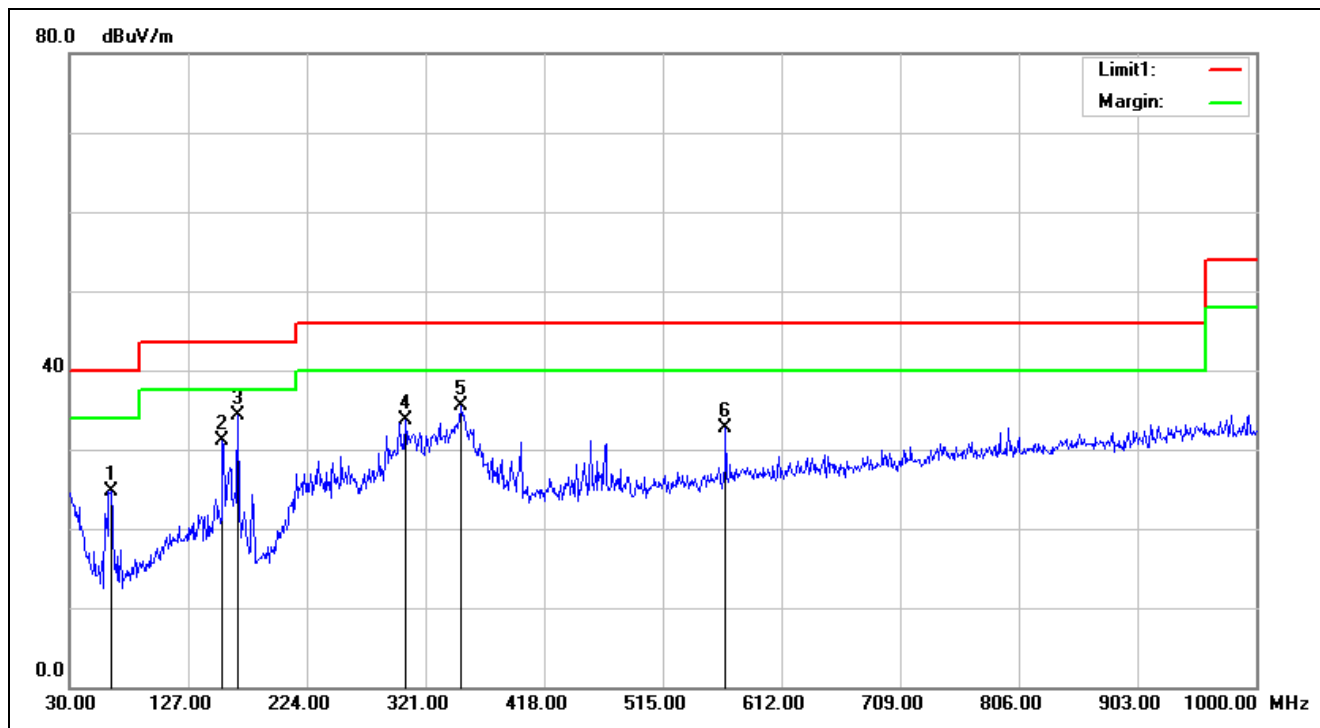
## Spurious Emissions, TX Mode, 30M-1G



**TUV Rheinland Taiwan Ltd.**

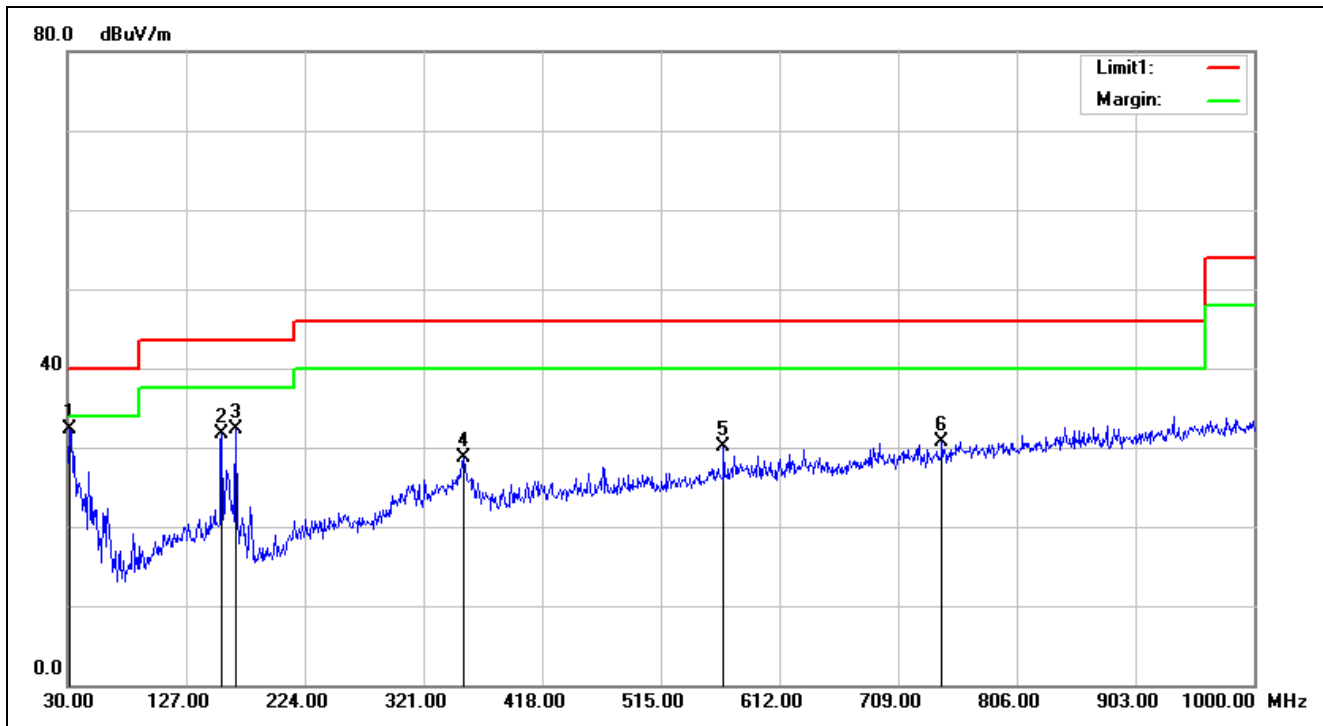
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 21:05:50
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	63.9500	-13.56	38.31	24.75	40.00	-15.25	QP	100	42	
2	155.1300	-7.59	38.79	31.20	43.50	-12.30	QP	100	354	
3	167.7400	-8.76	43.16	34.40	43.50	-9.10	QP	100	157	
4	304.5100	-4.58	38.35	33.77	46.00	-12.23	QP	100	55	
5	350.1000	-3.32	38.76	35.44	46.00	-10.56	QP	100	75	
6	566.4100	0.07	32.59	32.66	46.00	-13.34	QP	100	101	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/11/30 21:06:43
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	31.9400	-1.08	33.34	32.26	40.00	-7.74	QP	100	28	
2	156.1000	-7.68	39.29	31.61	43.50	-11.89	QP	100	183	
3	167.7400	-8.76	41.10	32.34	43.50	-11.16	QP	100	311	
4	353.9800	-3.19	31.84	28.65	46.00	-17.35	QP	100	94	
5	566.4100	0.07	30.00	30.07	46.00	-15.93	QP	100	1	
6	744.8900	2.38	28.33	30.71	46.00	-15.29	QP	100	331	

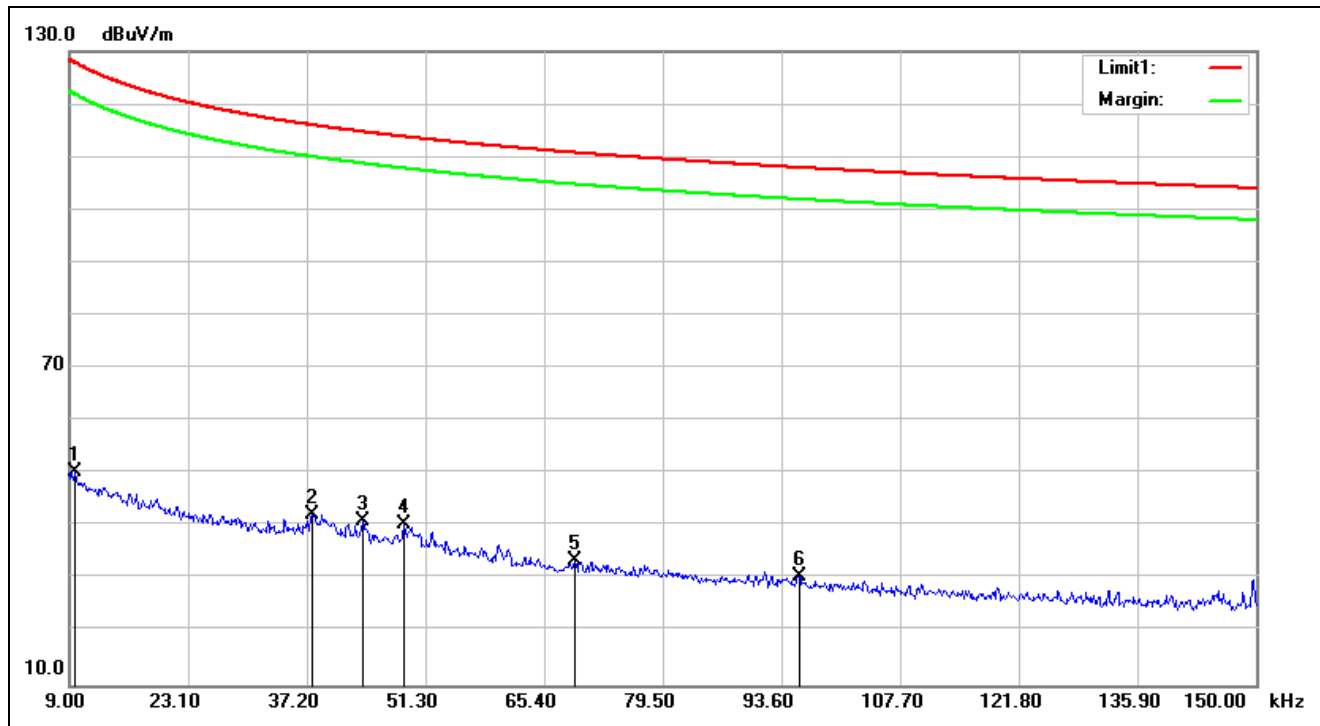
## Spurious Emissions, TX Mode, 9k-30M



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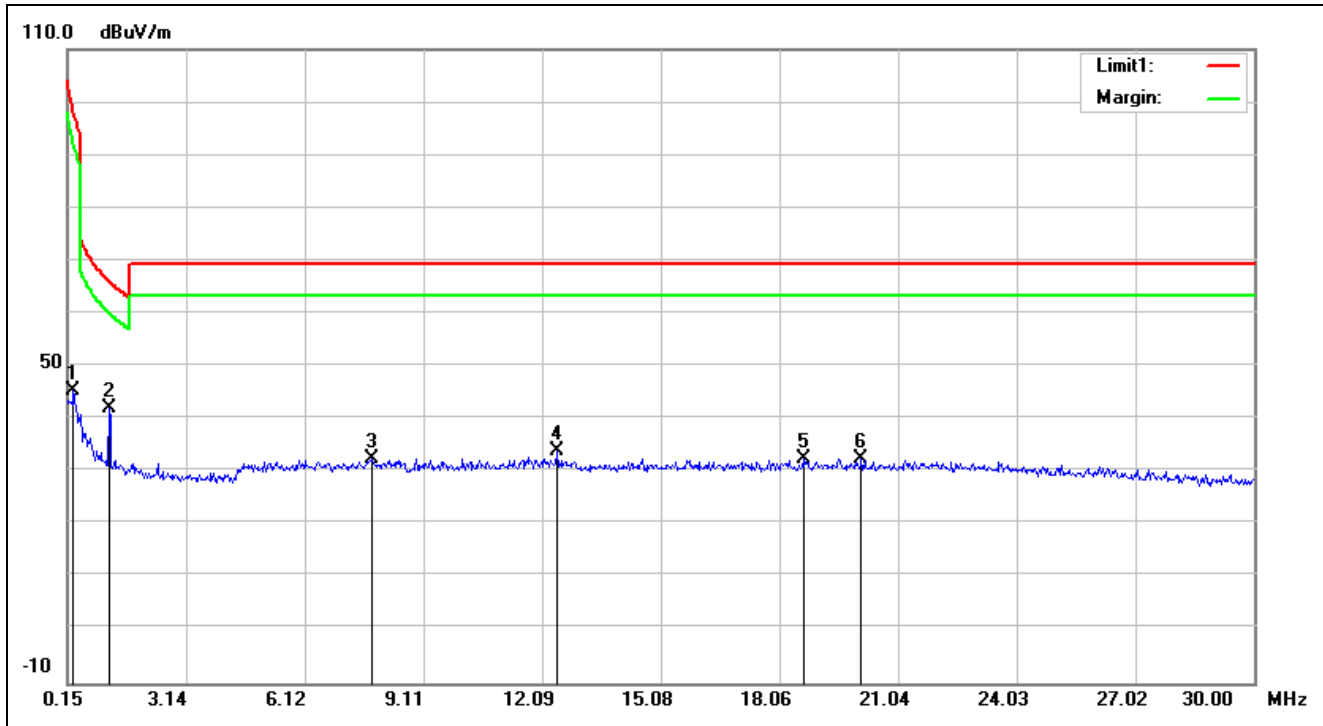
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/11/30 21:40:20
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0097	18.46	31.98	50.44	127.85	-77.41	QP	100	1	
2	0.0379	19.16	23.11	42.27	116.02	-73.75	QP	100	134	
3	0.0438	19.04	21.92	40.96	114.76	-73.80	QP	100	3	
4	0.0487	18.95	21.40	40.35	113.84	-73.49	QP	100	138	
5	0.0690	18.69	14.80	33.49	110.82	-77.33	QP	100	262	
6	0.0957	18.38	12.26	30.64	107.98	-77.34	QP	100	105	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/11/30 21:42:58
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.2992	18.44	26.79	45.23	98.08	-52.85	QP	100	91	
2	1.1947	18.66	23.35	42.01	66.08	-24.07	QP	100	107	
3	7.8214	20.02	12.47	32.49	69.50	-37.01	QP	100	117	
4	12.4780	20.73	13.09	33.82	69.50	-35.68	QP	100	308	
5	18.6570	21.45	11.15	32.60	69.50	-36.90	QP	100	359	
6	20.1196	21.61	10.97	32.58	69.50	-36.92	QP	100	140	

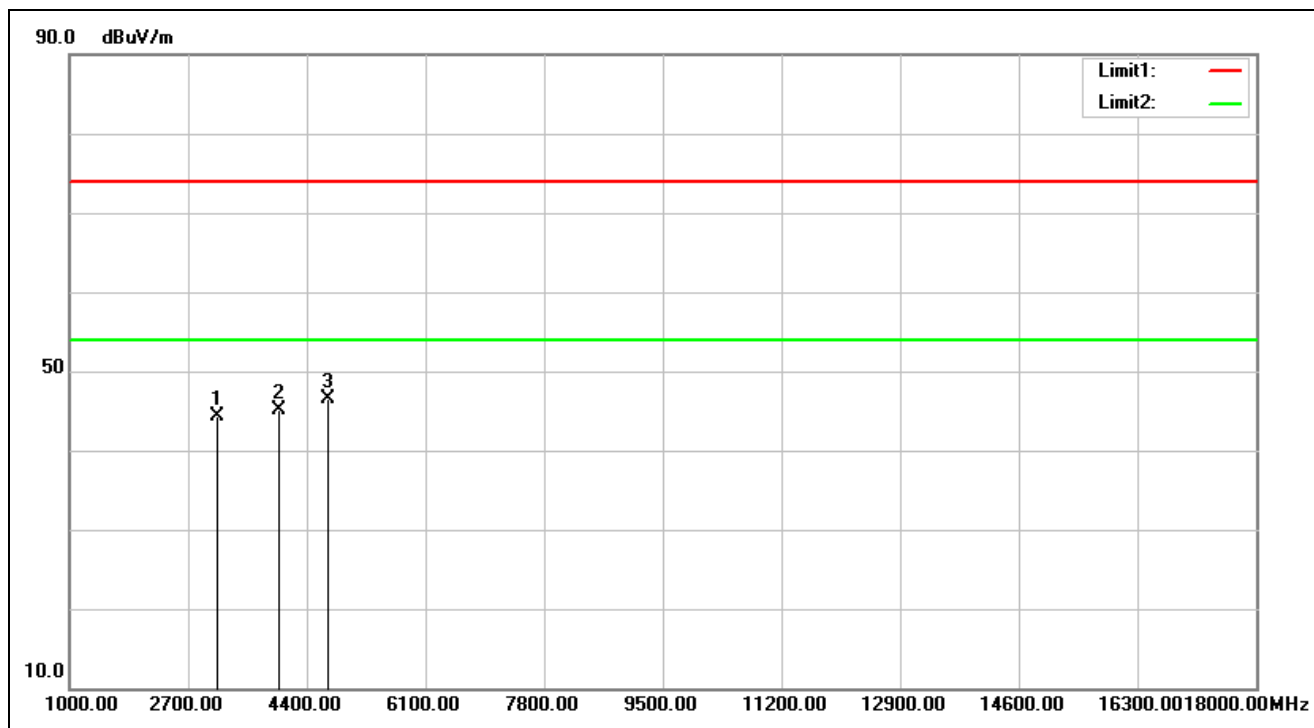
## Spurious Emissions, RX Mode, 1-18G



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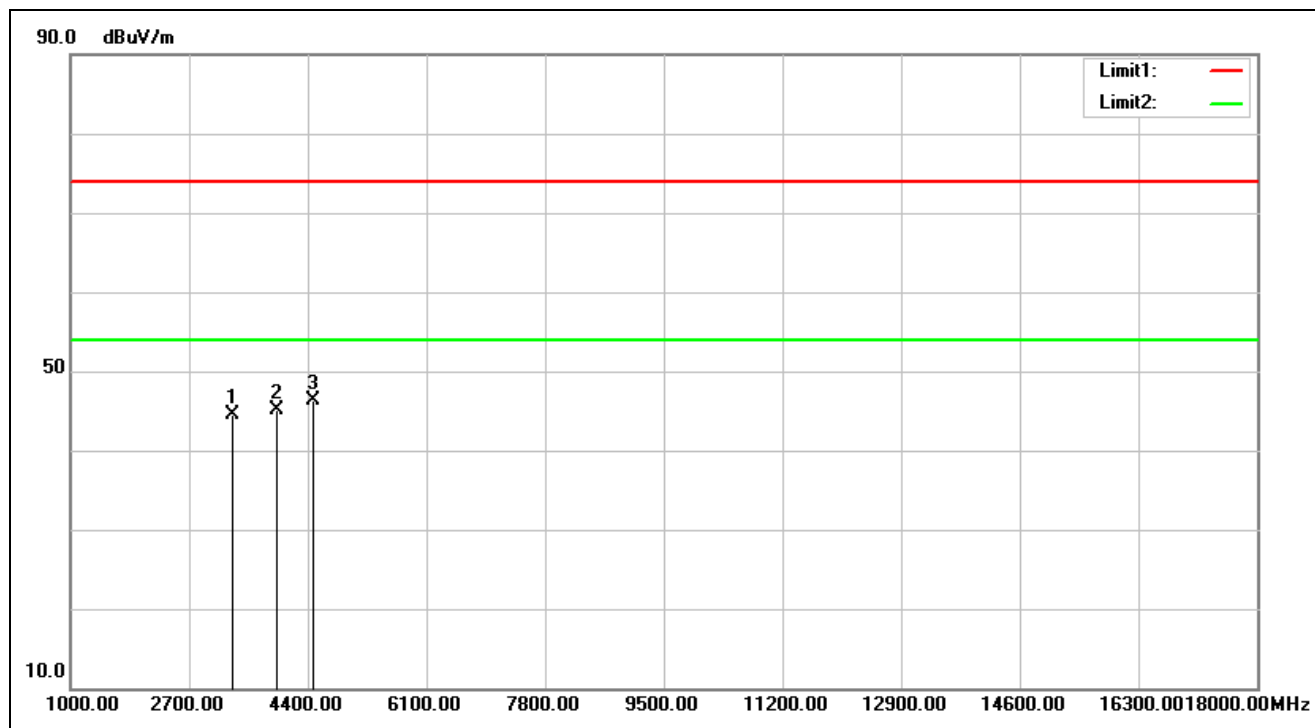
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<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:13:36</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-RX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	3108.000	-2.08	46.48	44.40	74.00	-29.60	peak	100	359	
2	4009.000	-0.28	45.47	45.19	74.00	-28.81	peak	100	140	
3	4706.000	2.19	44.22	46.41	74.00	-27.59	peak	100	13	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:14:29</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-RX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3312.000	-1.88	46.32	44.44	74.00	-29.56	peak	100	193	
2	3958.000	-0.43	45.50	45.07	74.00	-28.93	peak	100	67	
3	4485.000	1.54	44.86	46.40	74.00	-27.60	peak	100	186	



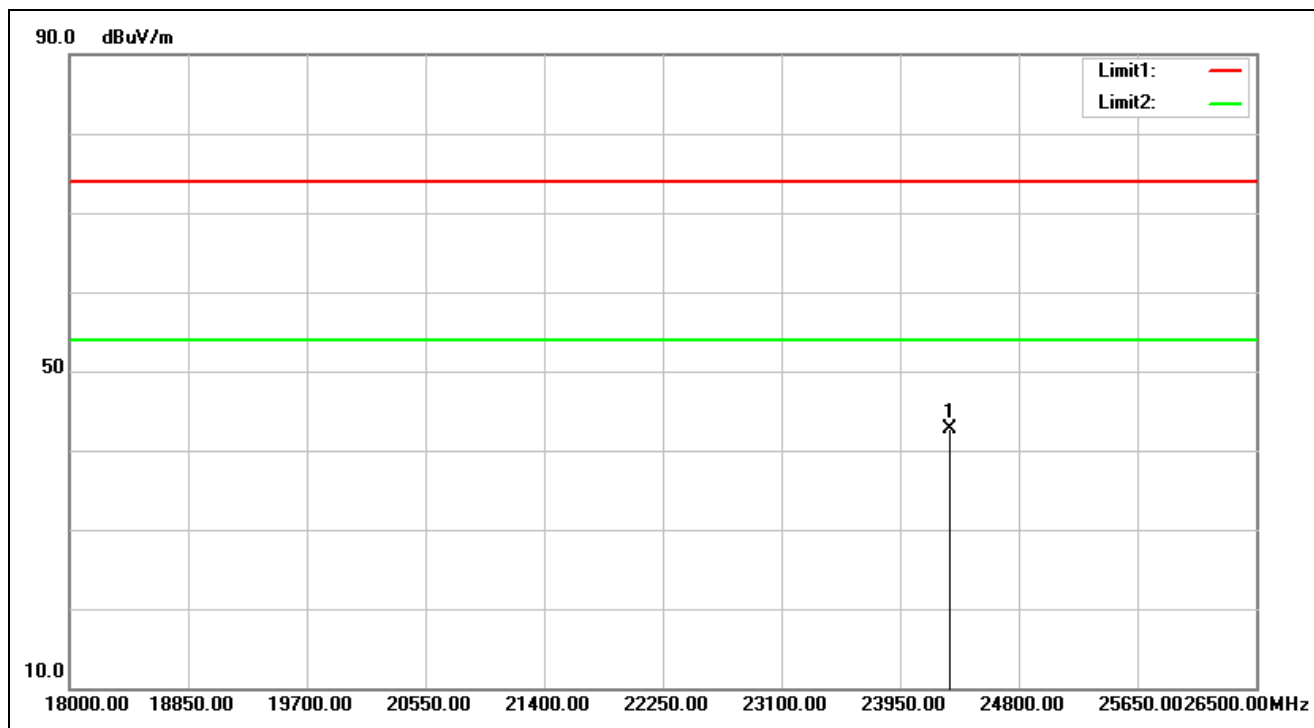
## Spurious Emissions, RX Mode, 18-26G



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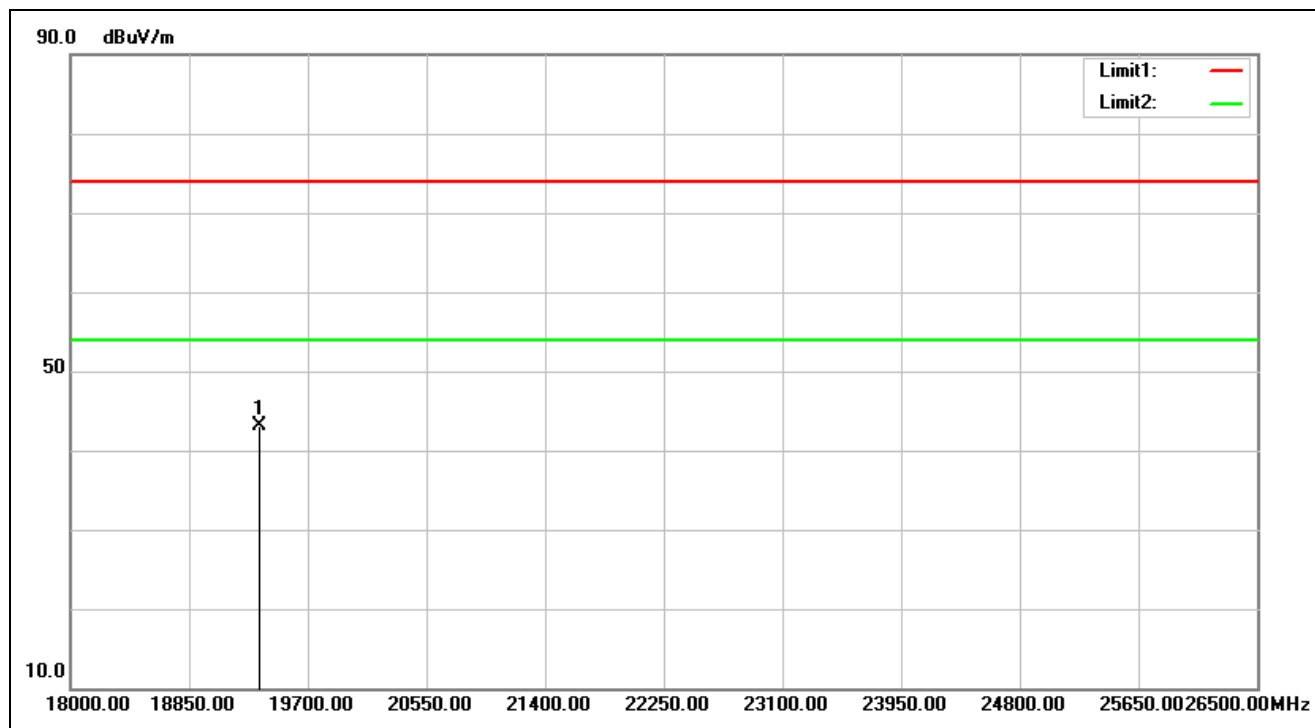
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 20:37:35
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	24307.000	5.32	37.35	42.67	74.00	-31.33	peak			



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:37:42</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-RX-Class 1</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19351.500	3.99	39.15	43.14	74.00	-30.86	peak			

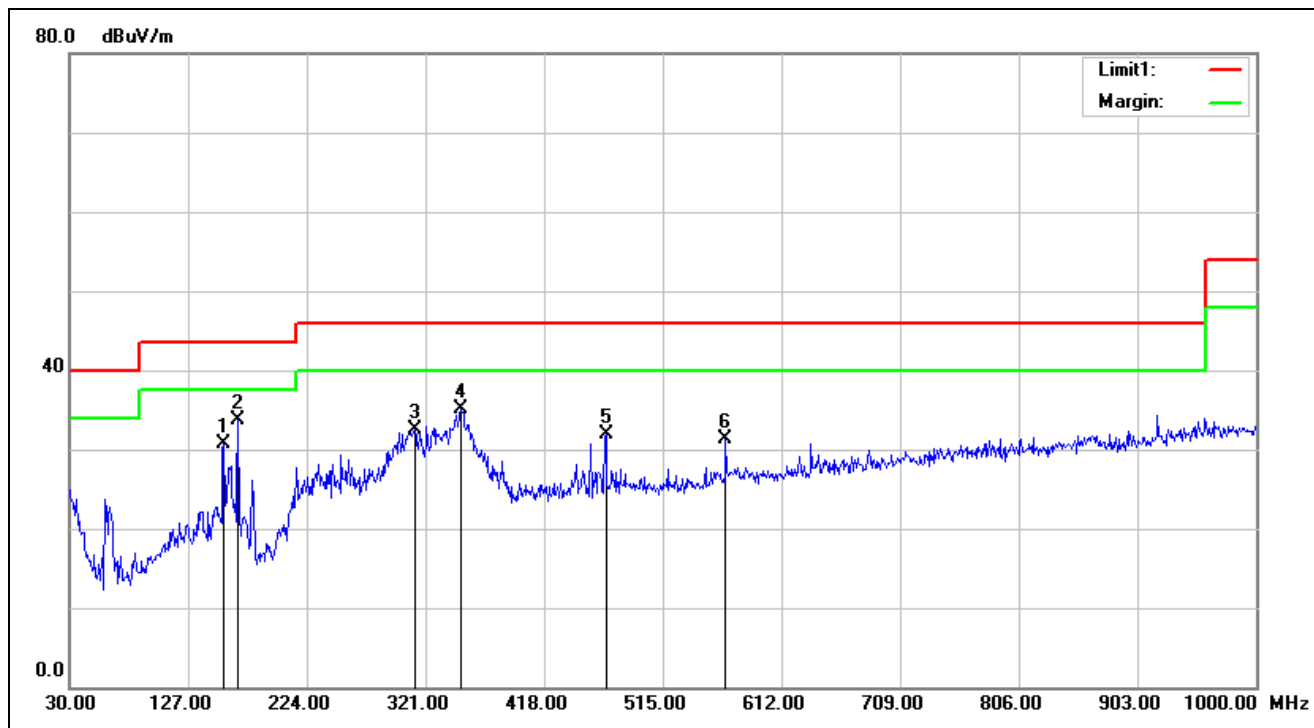
# Spurious Emissions, RX Mode, 30M-1G



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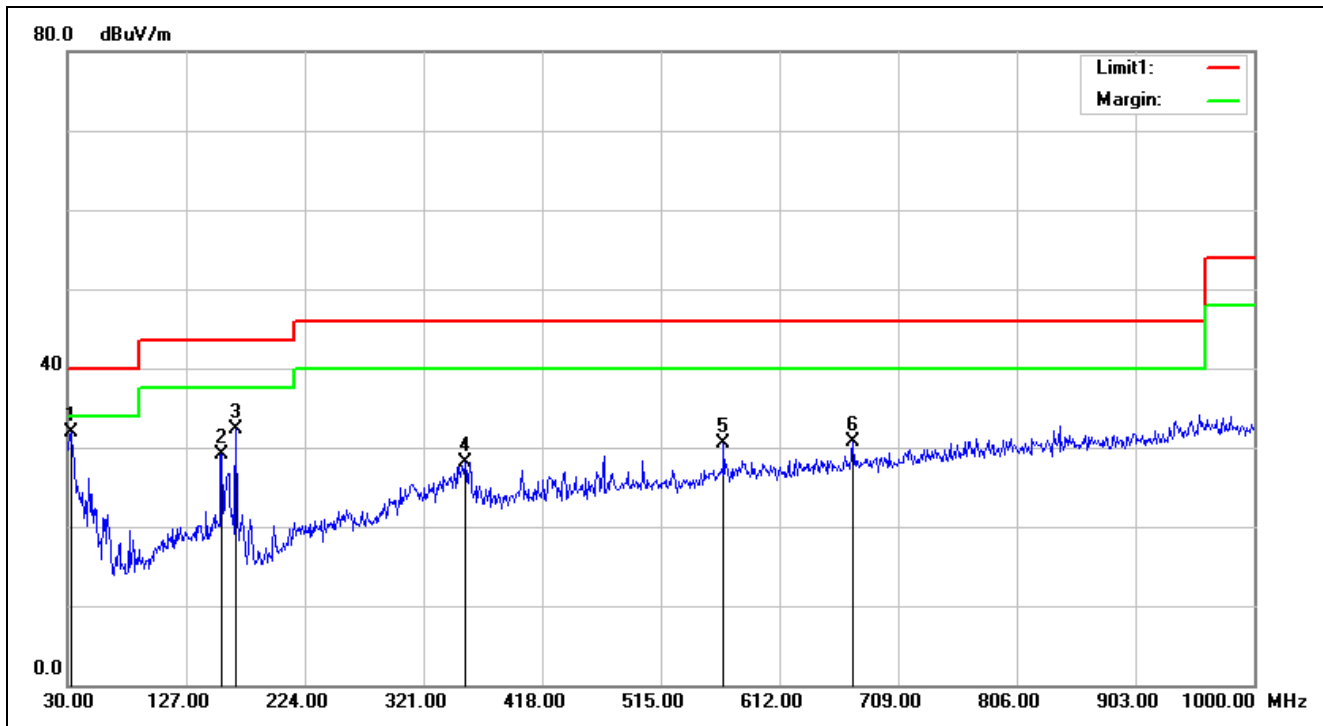
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 21:08:05
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	156.1000	-7.68	38.48	30.80	43.50	-12.70	QP	100	6	
2	167.7400	-8.76	42.42	33.66	43.50	-9.84	QP	100	16	
3	312.2700	-4.47	36.92	32.45	46.00	-13.55	QP	100	72	
4	350.1000	-3.32	38.33	35.01	46.00	-10.99	QP	100	72	
5	468.4400	-1.69	33.59	31.90	46.00	-14.10	QP	100	359	
6	566.4100	0.07	31.18	31.25	46.00	-14.75	QP	100	105	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/11/30 21:08:58
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	32.9100	-1.75	33.71	31.96	40.00	-8.04	QP	100	12	
2	156.1000	-7.68	36.82	29.14	43.50	-14.36	QP	100	262	
3	167.7400	-8.76	41.07	32.31	43.50	-11.19	QP	100	291	
4	354.9500	-3.15	31.35	28.20	46.00	-17.80	QP	100	101	
5	566.4100	0.07	30.44	30.51	46.00	-15.49	QP	100	114	
6	672.1400	1.06	29.55	30.61	46.00	-15.39	QP	100	12	

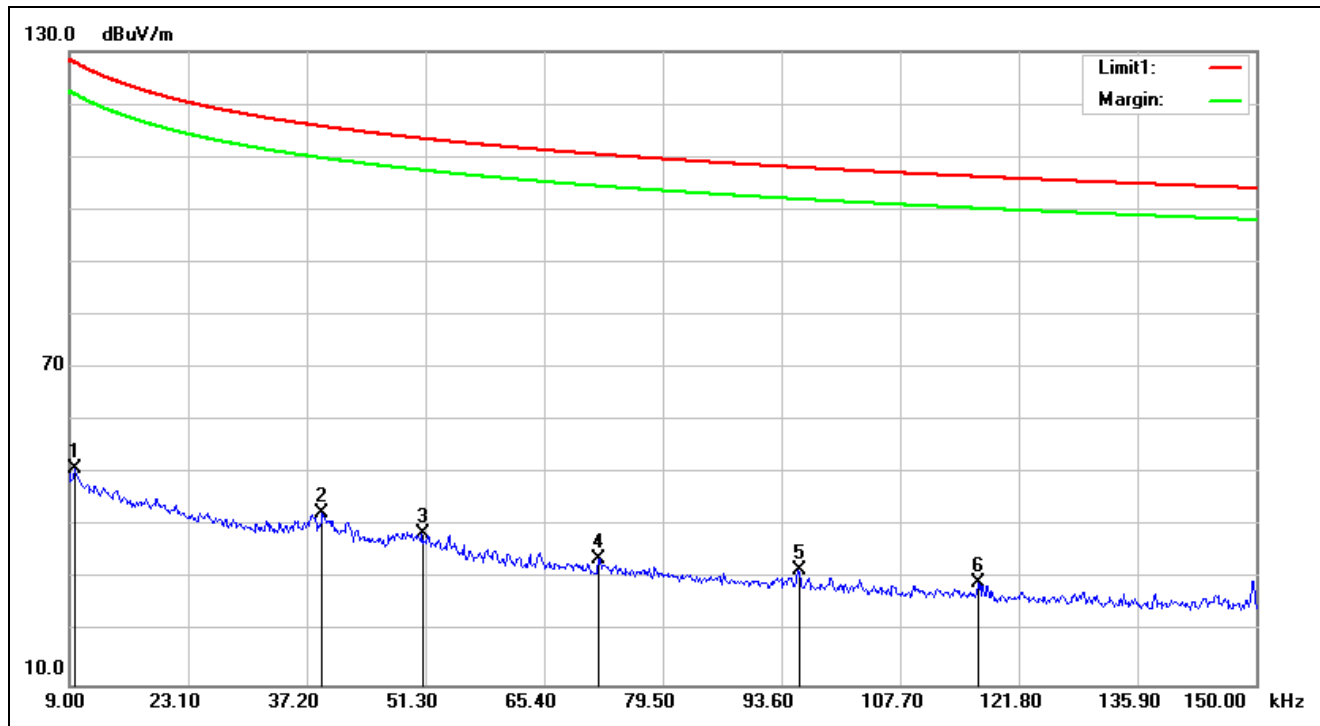
## Spurious Emissions, RX Mode, 9K-30M



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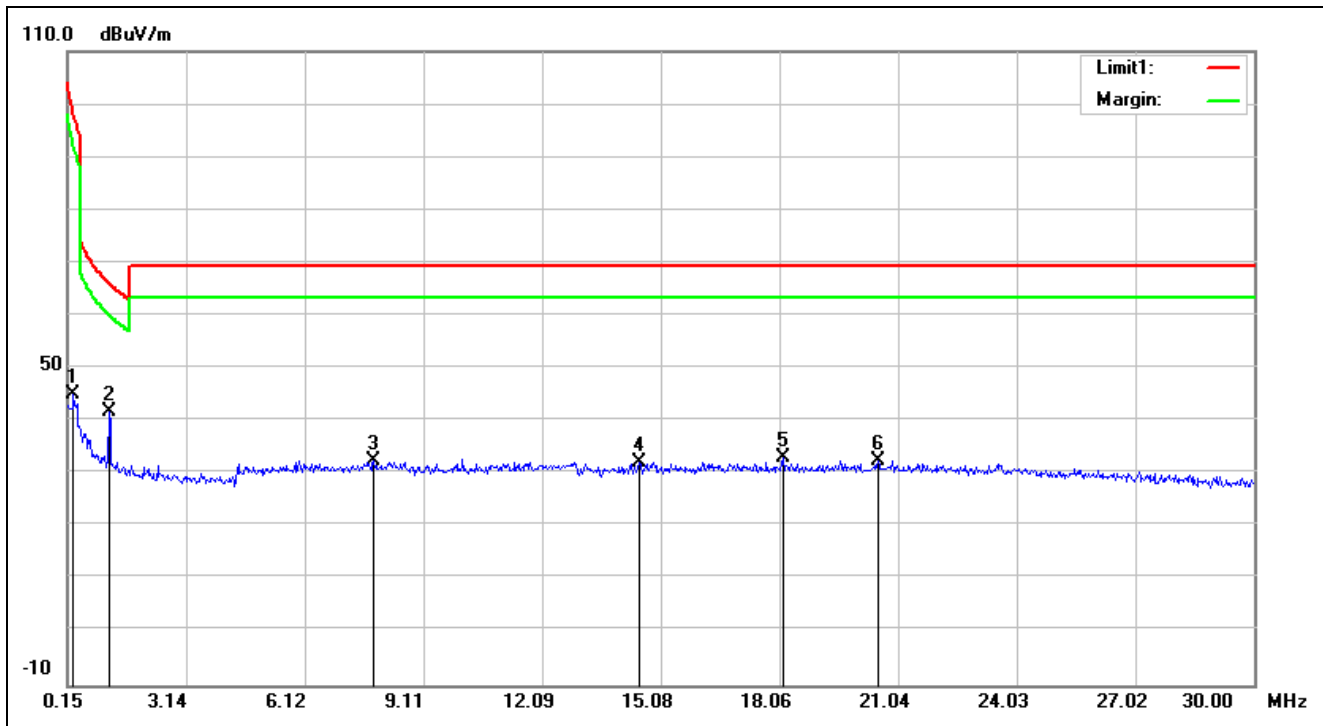
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/11/30 21:41:13
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0096	18.44	32.49	50.93	127.94	-77.01	QP	100	78	
2	0.0390	19.14	23.48	42.62	115.77	-73.15	QP	100	114	
3	0.0509	18.91	19.63	38.54	113.46	-74.92	QP	100	124	
4	0.0719	18.66	15.27	33.93	110.46	-76.53	QP	100	131	
5	0.0956	18.38	13.26	31.64	107.99	-76.35	QP	100	350	
6	0.1170	18.34	10.96	29.30	106.23	-76.93	QP	100	36	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/11/30 21:43:51
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 1		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.2993	18.44	26.55	44.99	98.08	-53.09	QP	100	107	
2	1.1948	18.66	23.05	41.71	66.08	-24.37	QP	100	111	
3	7.8513	20.02	12.47	32.49	69.50	-37.01	QP	100	255	
4	14.5377	20.97	11.33	32.30	69.50	-37.20	QP	100	107	
5	18.1496	21.39	11.61	33.00	69.50	-36.50	QP	100	193	
6	20.5376	21.63	10.72	32.35	69.50	-37.15	QP	100	140	

## Module with Shielded Case, Class 2

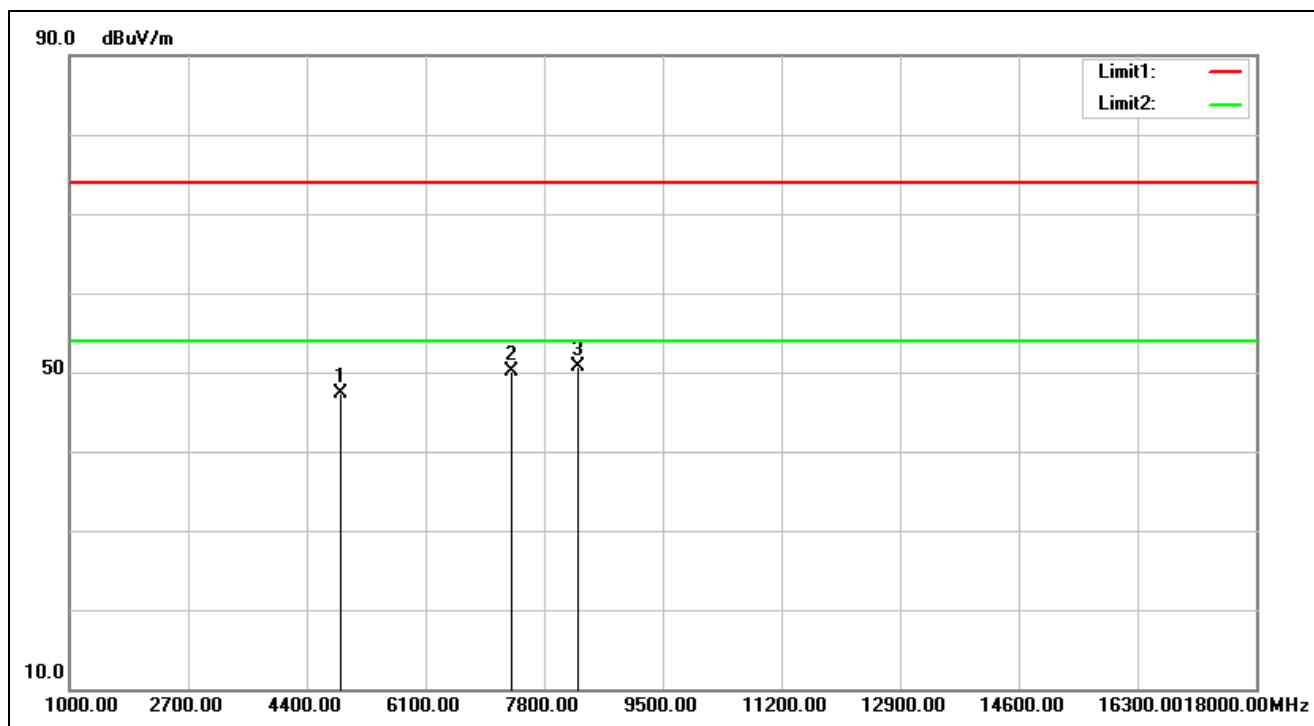
### Spurious Emissions, TX Mode, 1-18G



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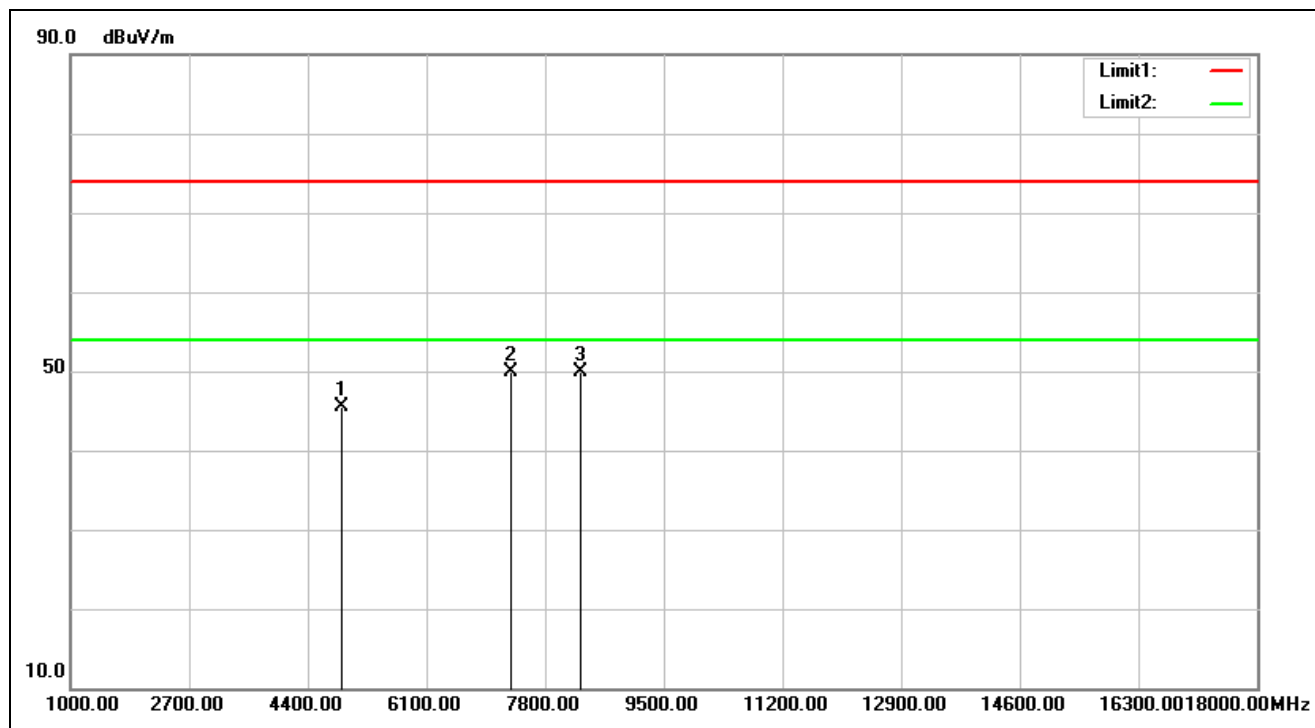
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Tel: +886-2172-7000 fax: +886-2528-0018



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 20:18:34
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	3.60	43.69	47.29	74.00	-26.71	peak		0	
2	7320.000	4.66	45.48	50.14	74.00	-23.86	peak		0	
3	8276.000	4.84	45.92	50.76	74.00	-23.24	peak	100	130	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:19:26</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-TX-Class 2</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	3.60	41.87	45.47	74.00	-28.53	peak			
2	7320.000	4.66	45.15	49.81	74.00	-24.19	peak			
3	8310.000	4.86	45.07	49.93	74.00	-24.07	peak	100	59	



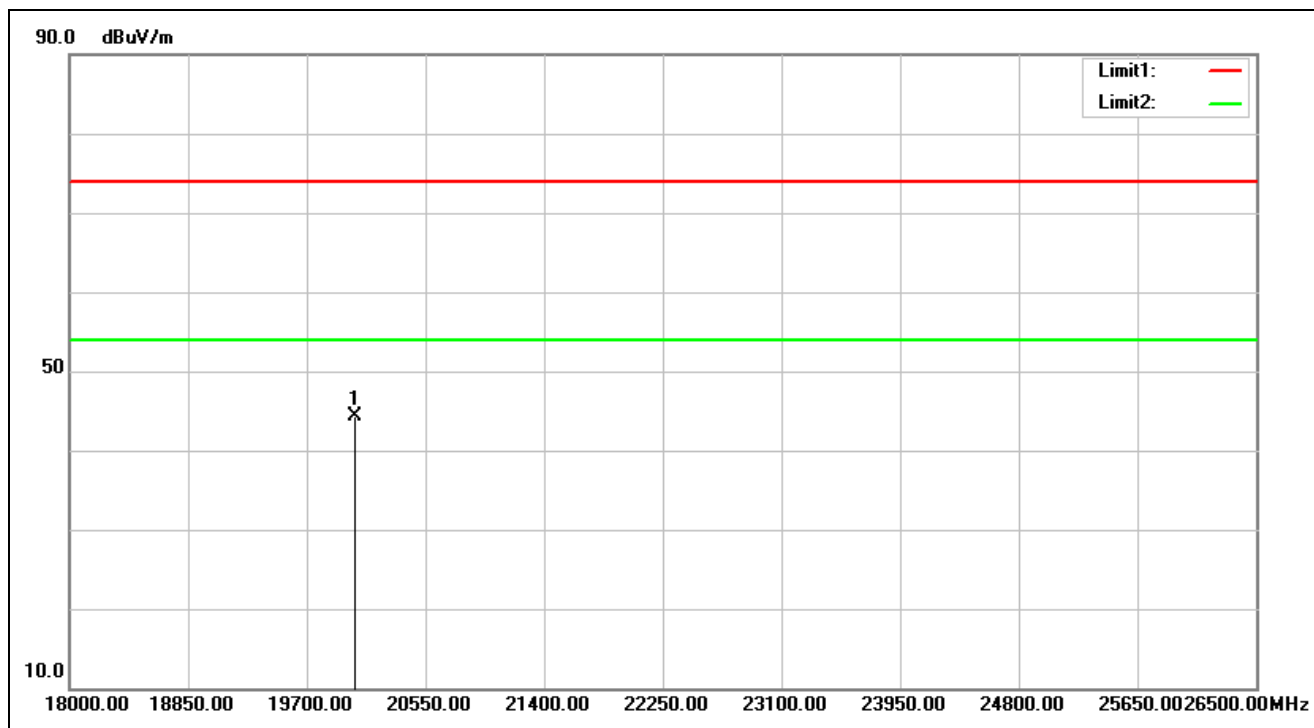
## Spurious Emissions, TX Mode, 18-26G



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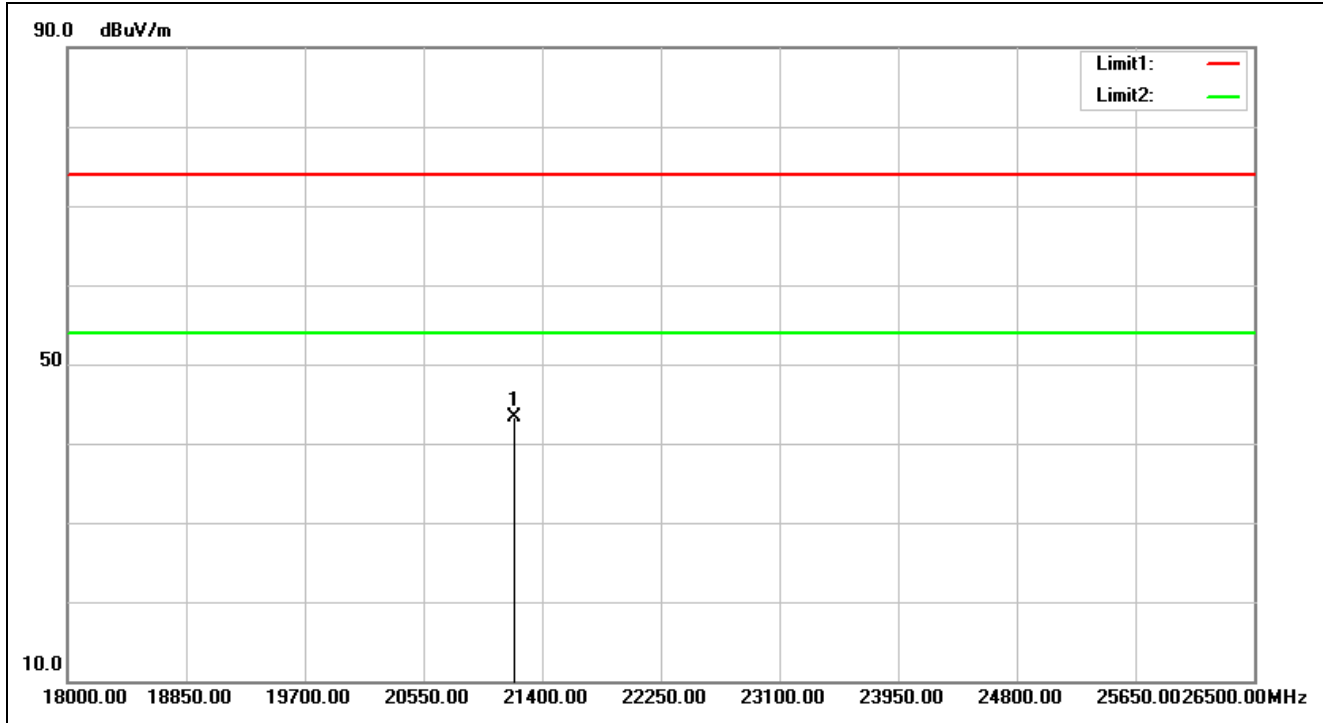
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 20:40:51
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20040.000	4.27	40.10	44.37	74.00	-29.63	peak		0	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:40:58</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-TX-Class 2</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	21204.500	4.60	38.68	43.28	74.00	-30.72	peak			

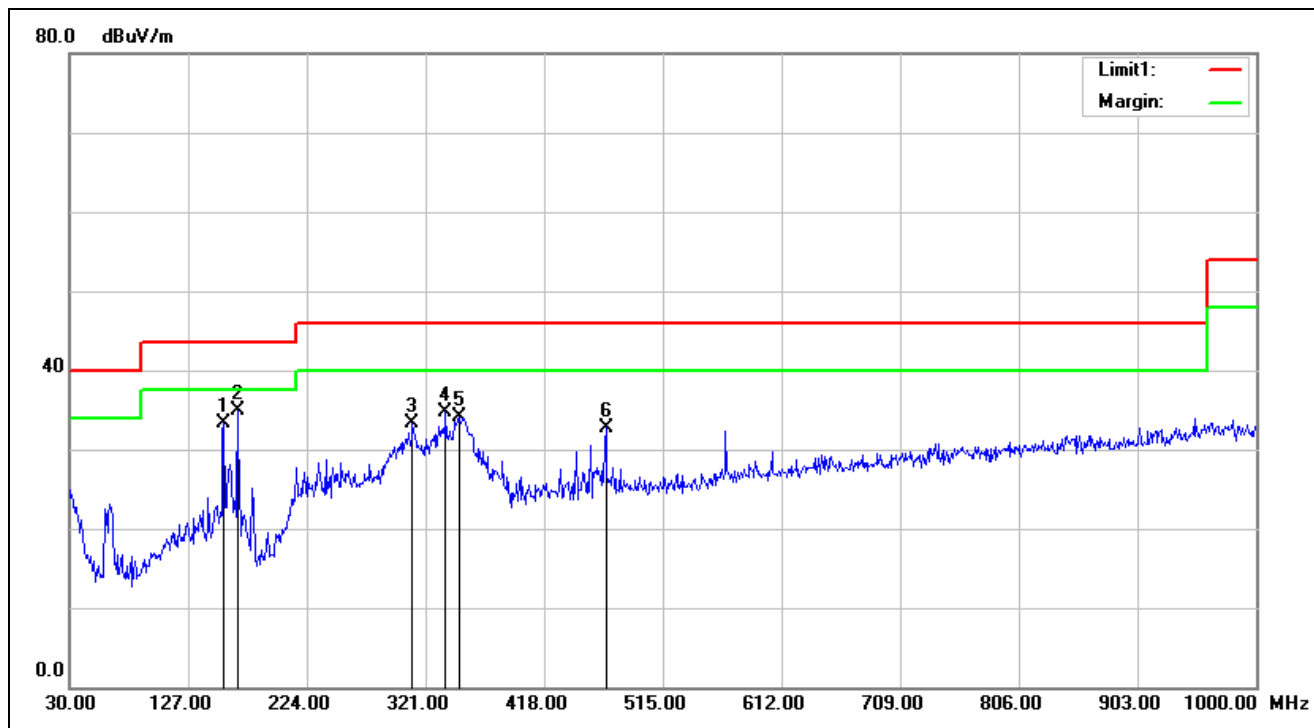
## Spurious Emissions, TX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

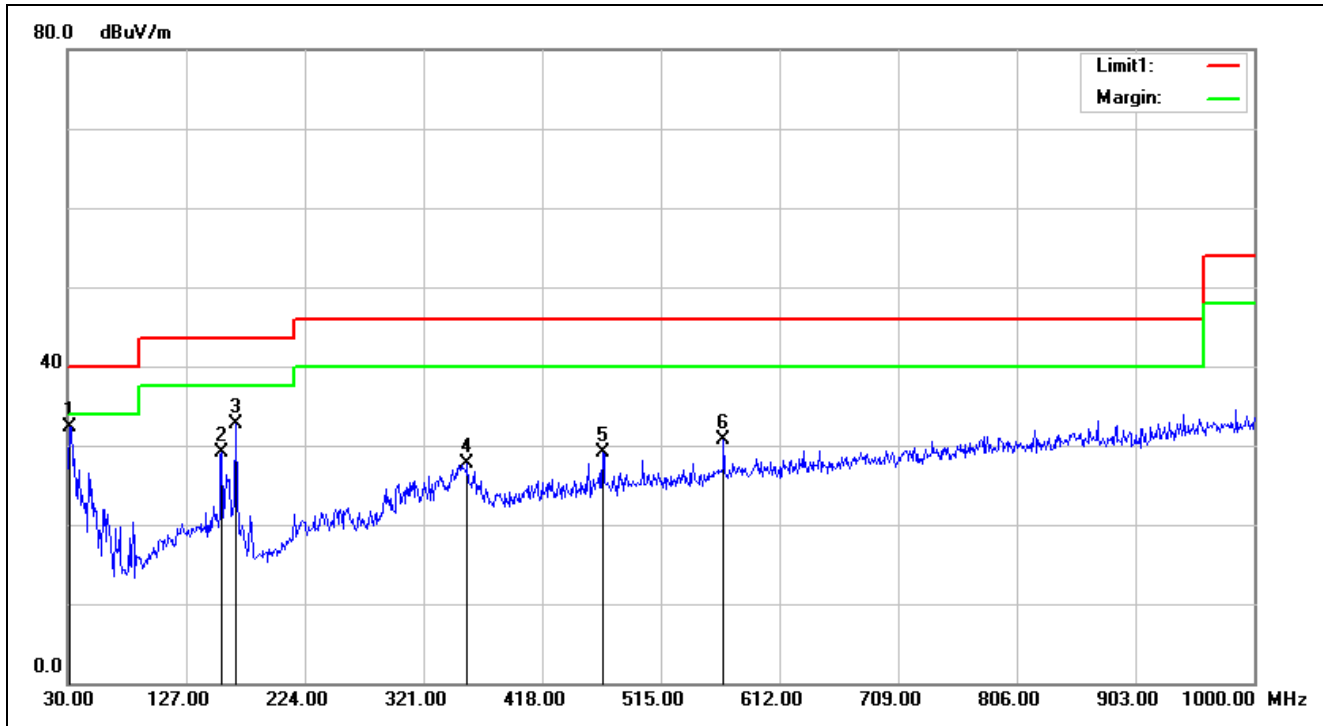
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 21:11:57
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	156.1000	-7.68	40.95	33.27	43.50	-10.23	QP	100	358	
2	167.7400	-8.76	43.60	34.84	43.50	-8.66	QP	100	144	
3	310.3300	-4.50	37.85	33.35	46.00	-12.65	QP	100	71	
4	337.4900	-3.65	38.44	34.79	46.00	-11.21	QP	100	75	
5	349.1300	-3.35	37.53	34.18	46.00	-11.82	QP	100	78	
6	468.4400	-1.69	34.47	32.78	46.00	-13.22	QP	100	262	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/11/30 21:12:50
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	31.9400	-1.08	33.47	32.39	40.00	-7.61	QP	100	97	
2	156.1000	-7.68	36.73	29.05	43.50	-14.45	QP	100	176	
3	167.7400	-8.76	41.37	32.61	43.50	-10.89	QP	100	292	
4	356.8900	-3.16	30.82	27.66	46.00	-18.34	QP	100	101	
5	467.4700	-1.70	30.88	29.18	46.00	-16.82	QP	100	134	
6	566.4100	0.07	30.62	30.69	46.00	-15.31	QP	100	124	

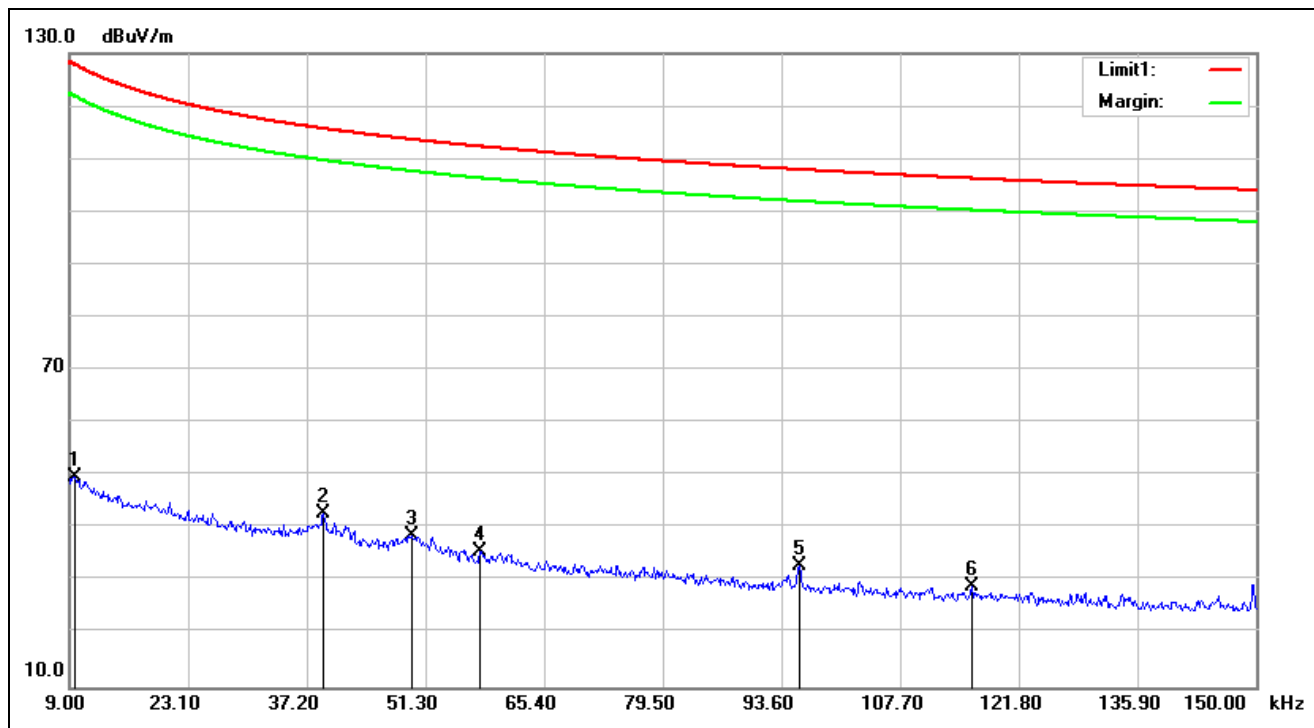
# Spurious Emissions, TX Mode, 9k-30M



**TUV Rheinland Taiwan Ltd.**

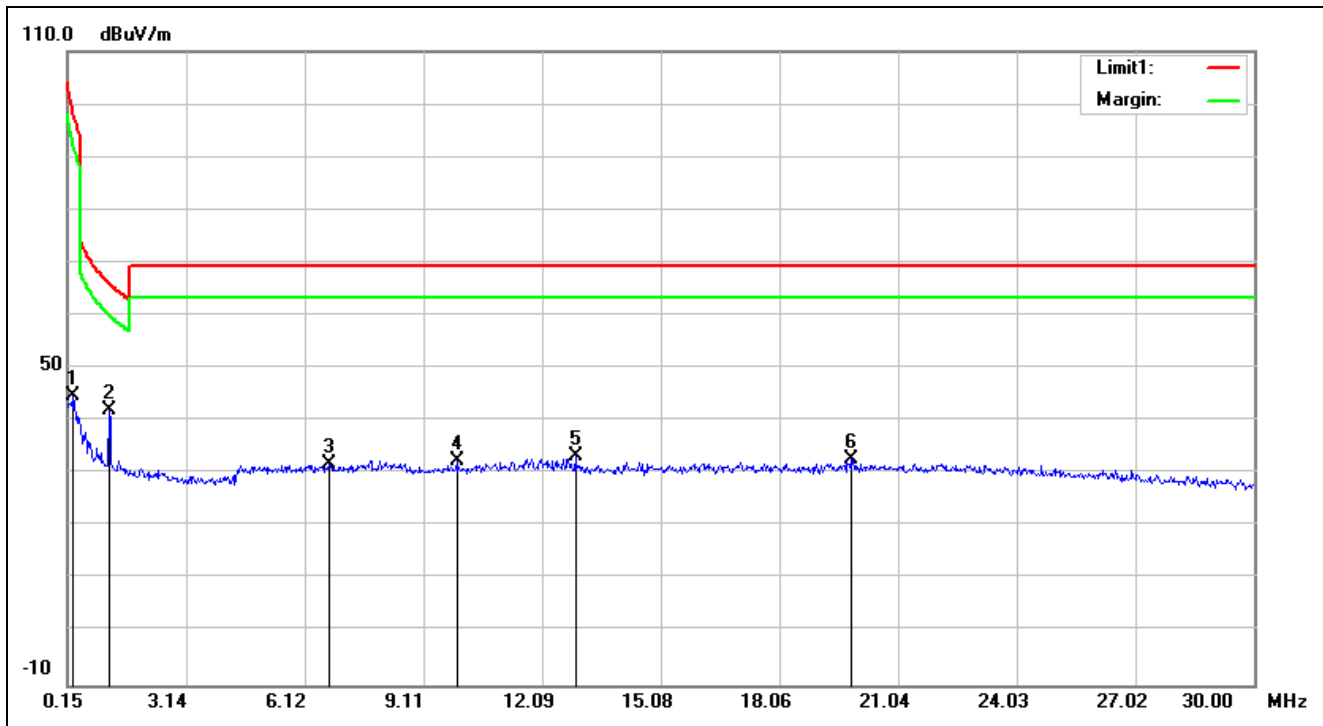
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/11/30 21:46:50
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0097	18.46	31.33	49.79	127.85	-78.06	QP	100	358	
2	0.0391	19.14	23.72	42.86	115.75	-72.89	QP	100	124	
3	0.0497	18.93	19.86	38.79	113.67	-74.88	QP	100	350	
4	0.0577	18.83	16.88	35.71	112.37	-76.66	QP	100	16	
5	0.0957	18.38	14.57	32.95	107.98	-75.03	QP	100	200	
6	0.1163	18.34	10.66	29.00	106.29	-77.29	QP	100	128	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/11/30 21:49:18
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-TX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.2992	18.44	26.34	44.78	98.08	-53.30	QP	100	105	
2	1.1947	18.66	23.33	41.99	66.08	-24.09	QP	100	114	
3	6.7170	19.80	11.99	31.79	69.50	-37.71	QP	100	351	
4	9.9408	20.43	11.89	32.32	69.50	-37.18	QP	100	131	
5	12.9258	20.78	12.56	33.34	69.50	-36.16	QP	100	256	
6	19.8808	21.59	11.08	32.67	69.50	-36.83	QP	100	177	

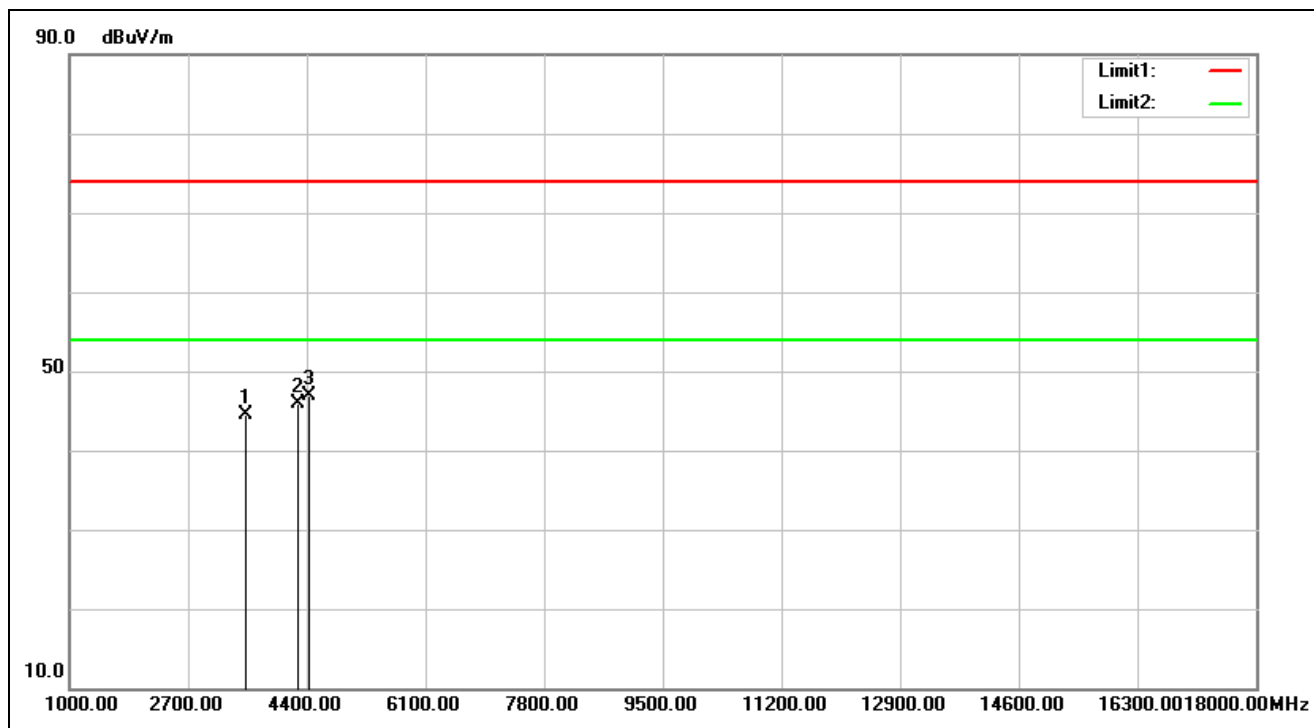
## Spurious Emissions, RX Mode, 1-18G



**TUV Rheinland Taiwan Ltd.**

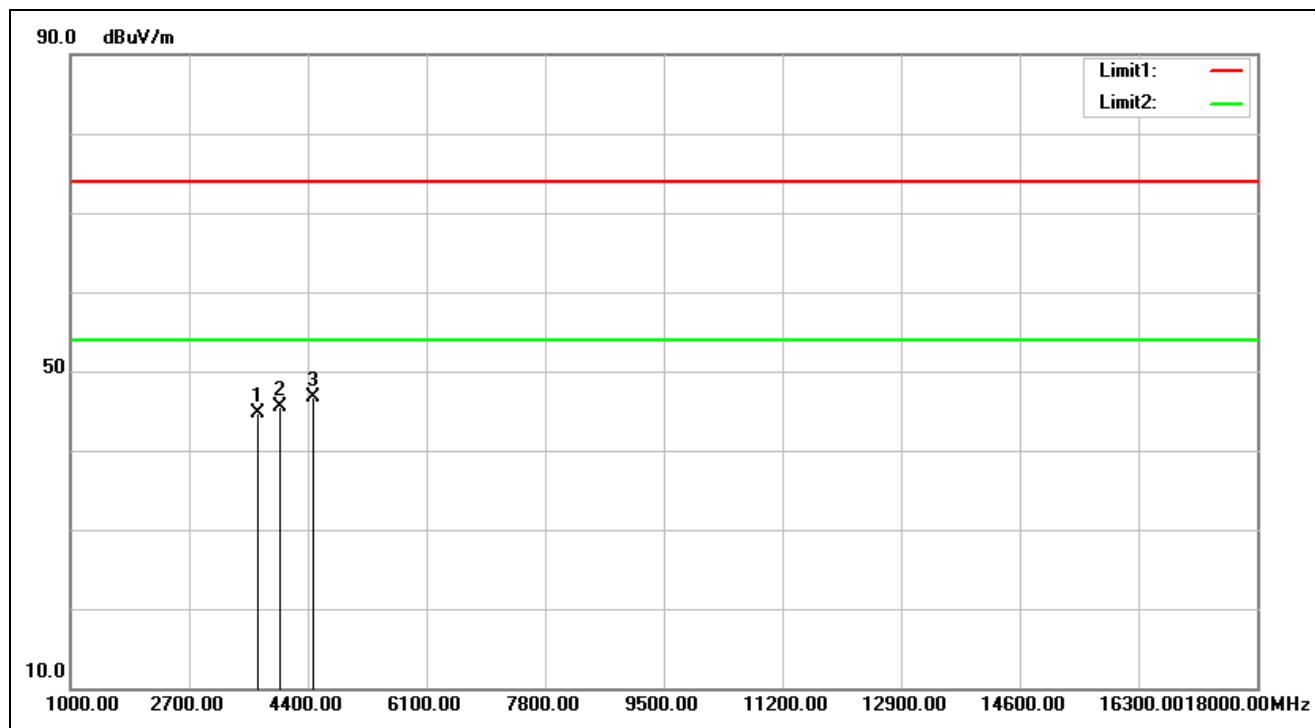
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 20:21:57
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3533.000	-1.61	46.04	44.43	74.00	-29.57	peak	100	37	
2	4264.000	0.69	45.19	45.88	74.00	-28.12	peak	100	150	
3	4434.000	1.34	45.54	46.88	74.00	-27.12	peak	100	92	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:22:50</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-RX-Class 2</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3686.000	-1.19	45.83	44.64	74.00	-29.36	peak	100	360	
2	4009.000	-0.28	45.80	45.52	74.00	-28.48	peak	100	111	
3	4485.000	1.54	45.08	46.62	74.00	-27.38	peak	100	203	



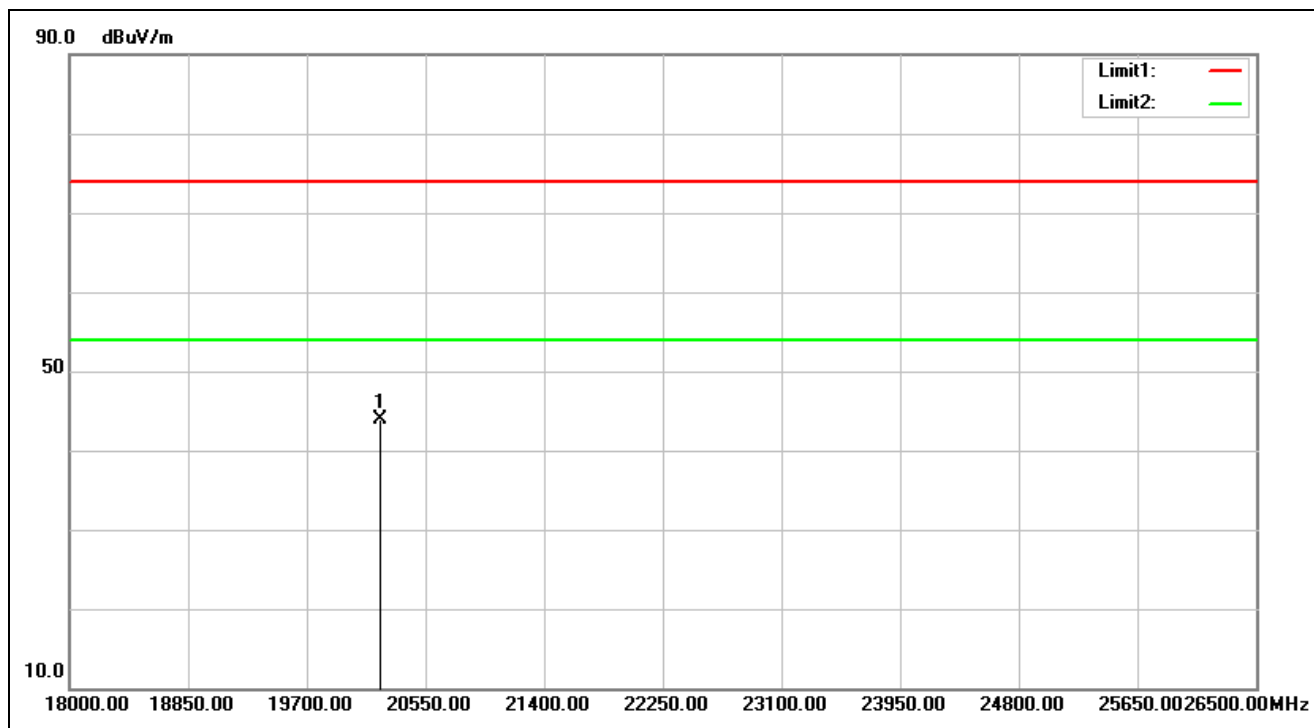
## Spurious Emissions, RX Mode, 18-26G



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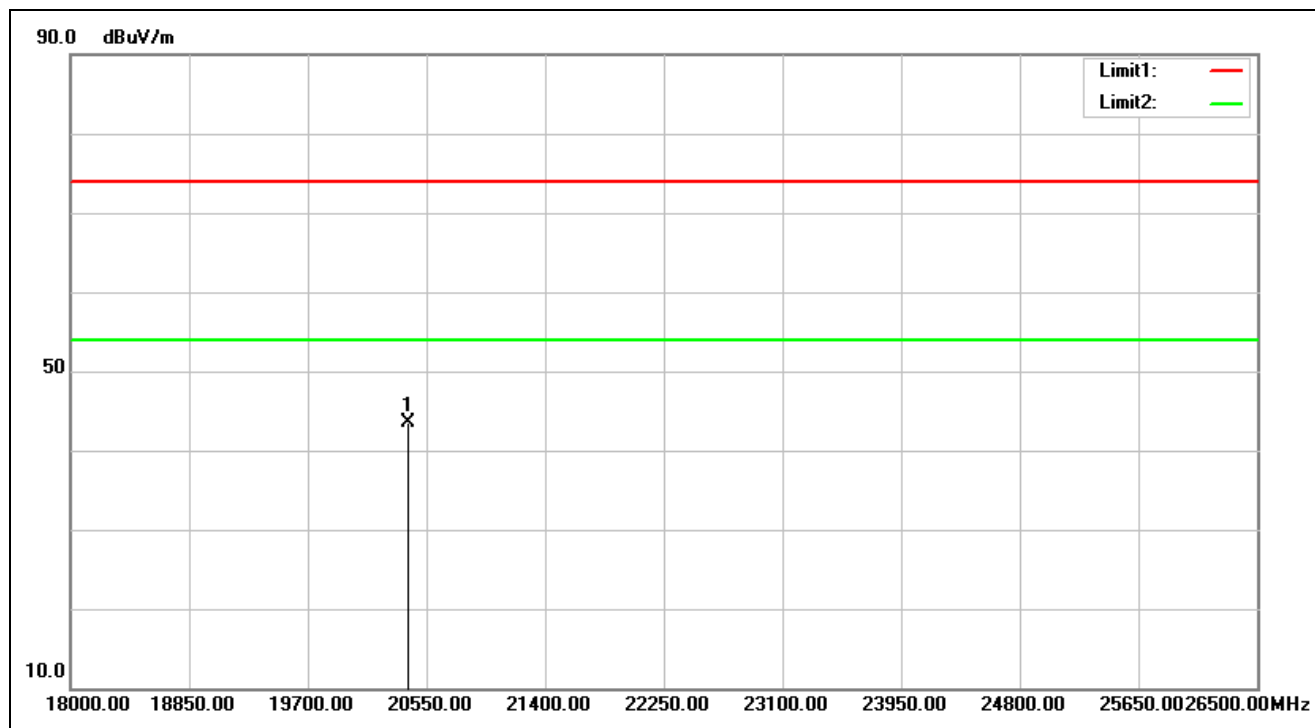
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 20:41:34
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20227.000	4.23	39.61	43.84	74.00	-30.16	peak			



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 20:41:41</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-RX-Class 2</b>		
<b>Remark:</b>	<b>shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20422.500	4.21	39.29	43.50	74.00	-30.50	peak			

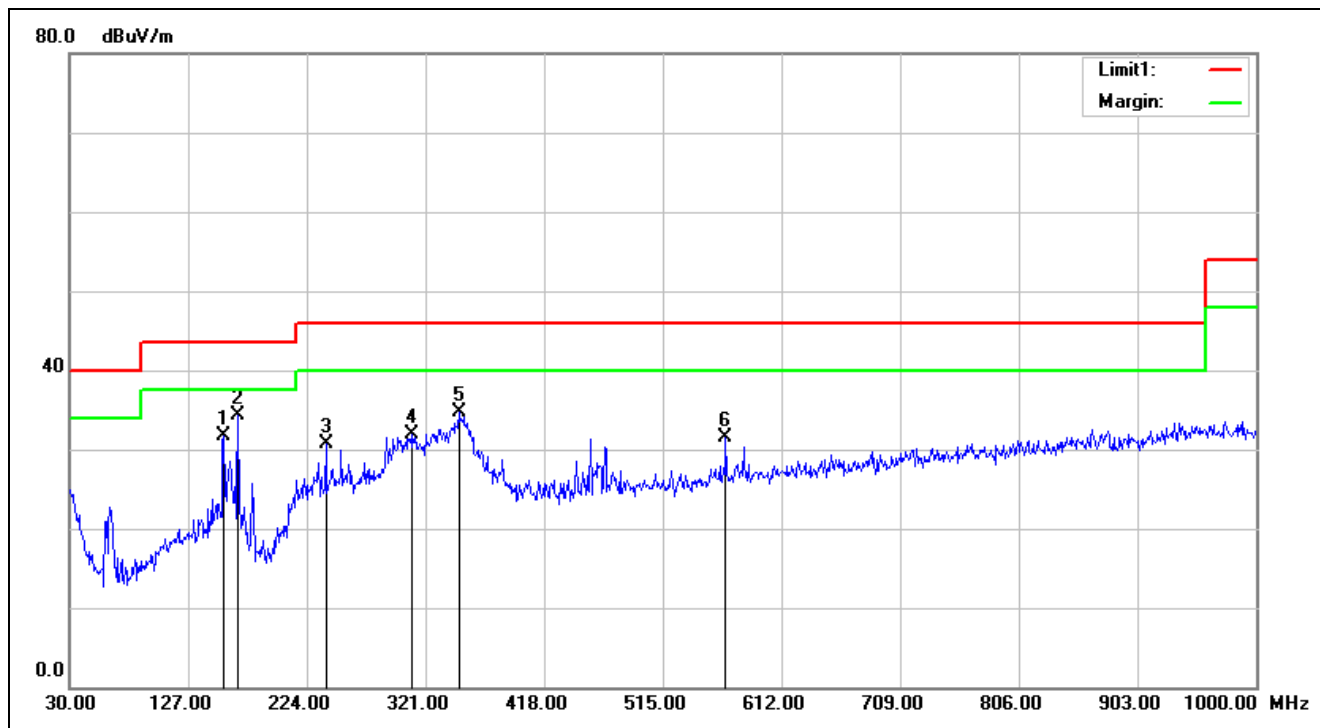
## Spurious Emissions, RX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

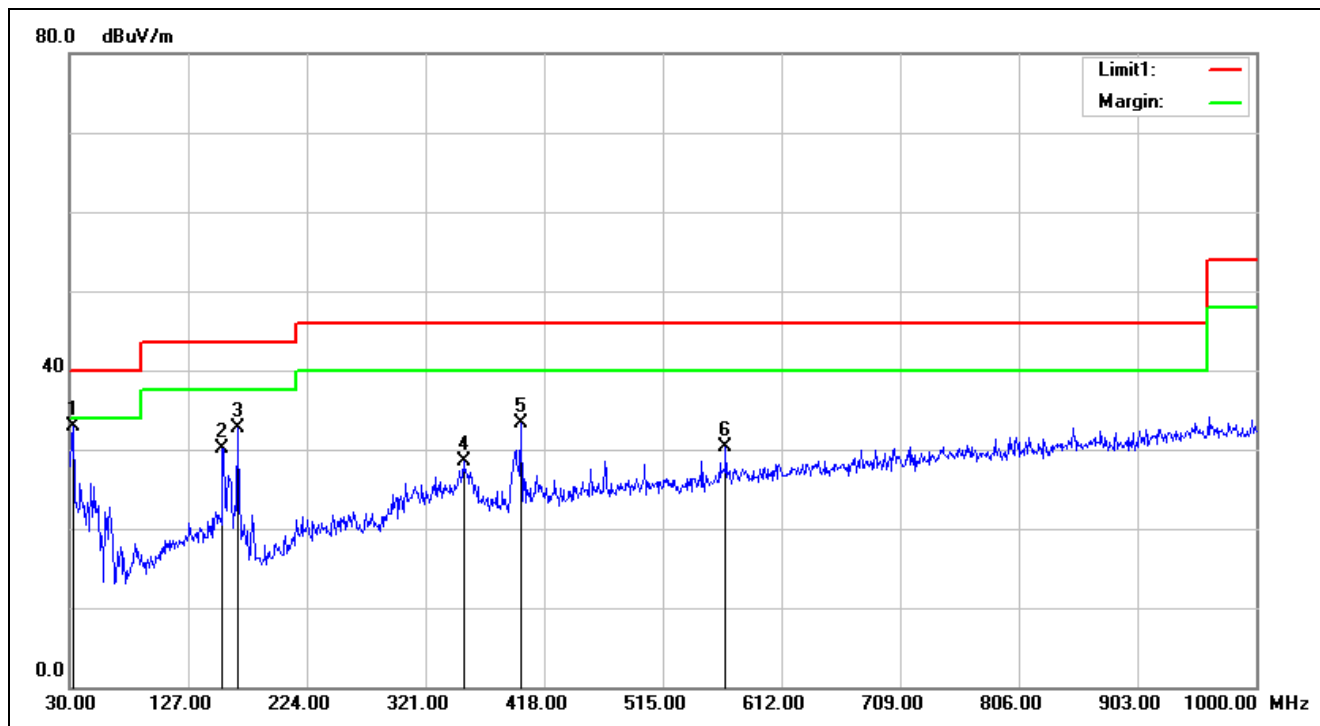
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 21:14:09
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	156.1000	-7.68	39.30	31.62	43.50	-11.88	QP	100	4	
2	167.7400	-8.76	42.97	34.21	43.50	-9.29	QP	100	0	
3	239.5200	-6.78	37.52	30.74	46.00	-15.26	QP	100	36	
4	309.3600	-4.51	36.45	31.94	46.00	-14.06	QP	100	69	
5	348.1600	-3.39	38.17	34.78	46.00	-11.22	QP	100	75	
6	566.4100	0.07	31.41	31.48	46.00	-14.52	QP	100	115	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/11/30 21:15:02
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	32.9100	-1.75	34.68	32.93	40.00	-7.07	QP	100	153	
2	155.1300	-7.59	37.78	30.19	43.50	-13.31	QP	100	167	
3	167.7400	-8.76	41.39	32.63	43.50	-10.87	QP	100	315	
4	352.0400	-3.26	31.72	28.46	46.00	-17.54	QP	100	108	
5	399.5700	-2.33	35.54	33.21	46.00	-12.79	QP	100	206	
6	566.4100	0.07	30.23	30.30	46.00	-15.70	QP	100	130	

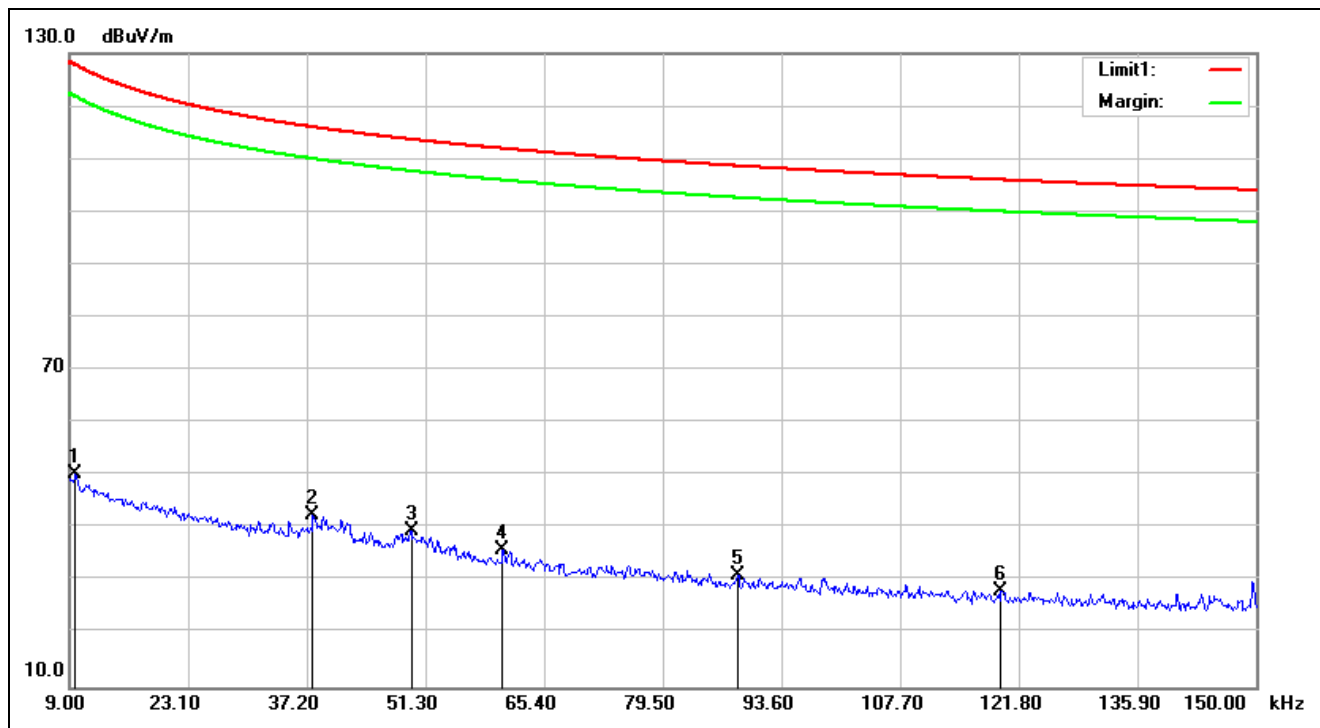
## Spurious Emissions, RX Mode, 9K-30M



TUV Rheinland Taiwan Ltd.

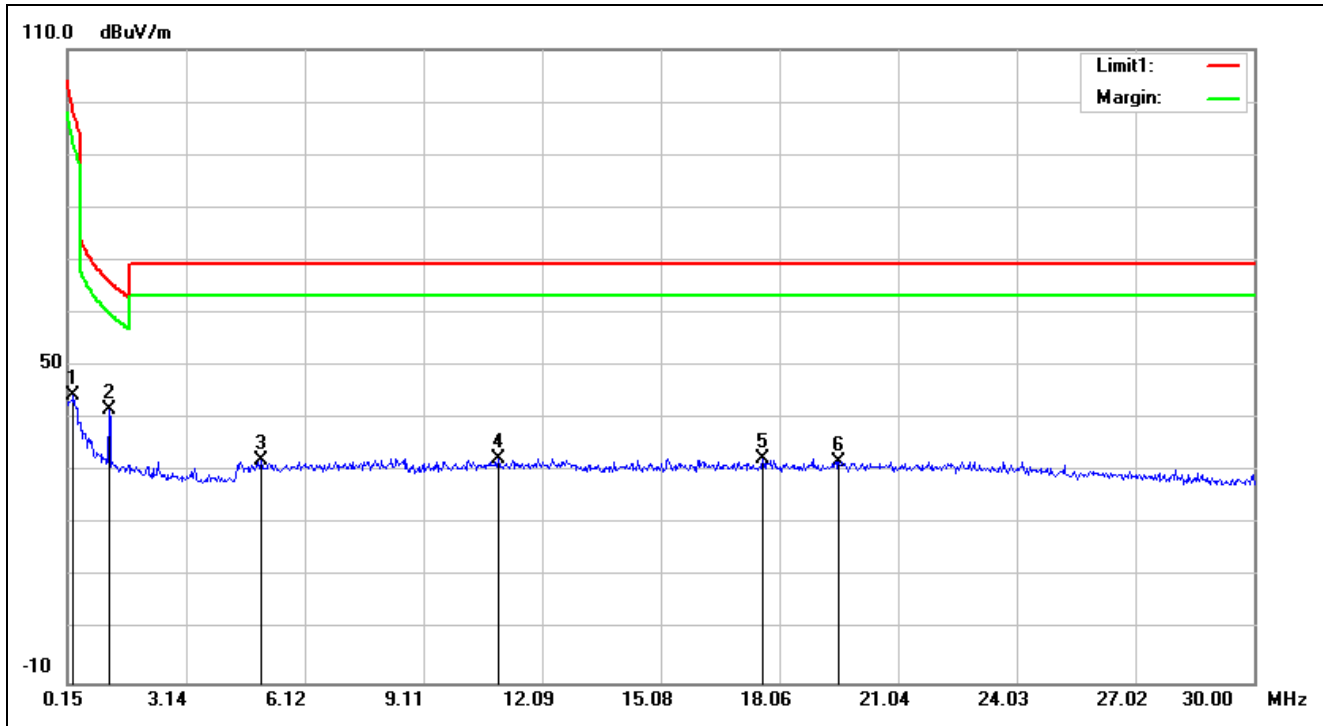
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/11/30 21:47:43
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	20(°C)/60%
Model No.:	BM83SM1, BM83SL1	Test Engineer:	Curry Chen
Test Mode:	2440-RX-Class 2		
Remark:	shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0097	18.46	31.96	50.42	127.85	-77.43	QP	100	357	
2	0.0379	19.16	23.26	42.42	116.02	-73.60	QP	100	124	
3	0.0496	18.93	20.55	39.48	113.68	-74.20	QP	100	45	
4	0.0605	18.79	17.31	36.10	111.96	-75.86	QP	100	360	
5	0.0884	18.46	12.69	31.15	108.67	-77.52	QP	100	65	
6	0.1197	18.34	9.85	28.19	106.04	-77.85	QP	100	190	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC 15.209_9k-30M_3m</b>	<b>Ant. Polarization:</b>	<b>N/A</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 21:50:11</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>20(°C)/60%</b>
<b>Model No.:</b>	<b>BM83SM1, BM83SL1</b>	<b>Test Engineer:</b>	<b>Curry Chen</b>
<b>Test Mode:</b>	<b>2440-RX-Class 2</b>		
<b>Remark:</b>	<b>shield</b>		

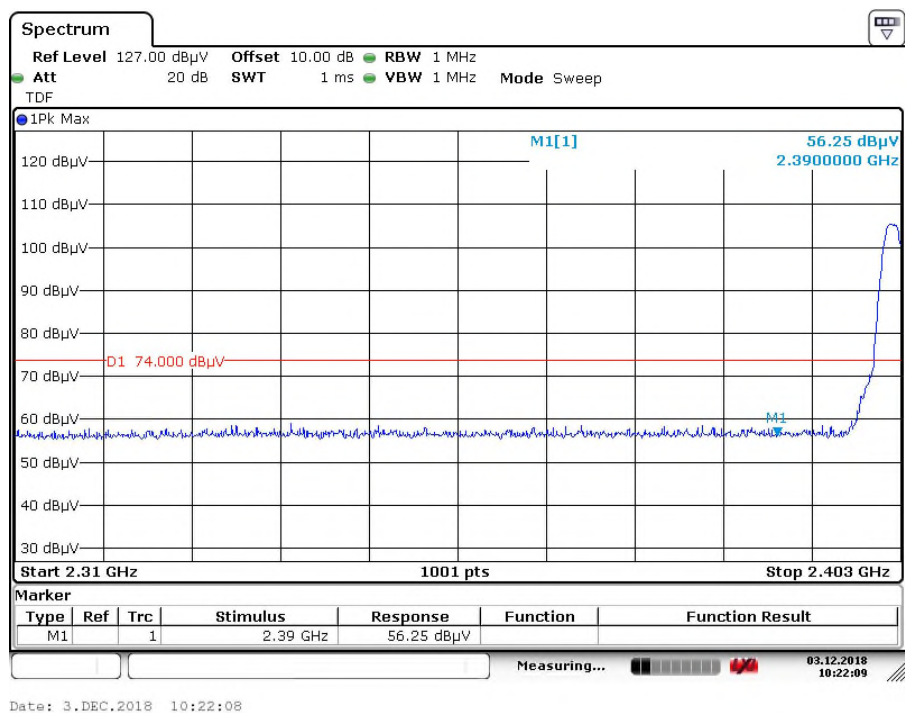
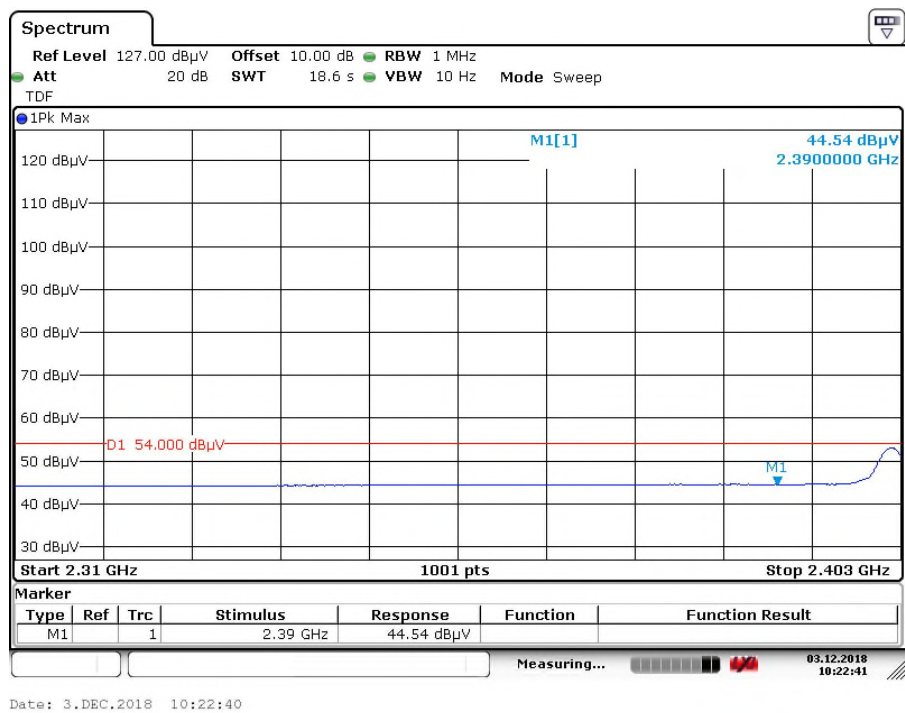
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	0.2993	18.44	26.07	44.51	98.08	-53.57	QP	100	105	
2	1.1948	18.66	23.19	41.85	66.08	-24.23	QP	100	118	
3	5.0156	19.47	12.65	32.12	69.50	-37.38	QP	100	259	
4	10.9856	20.56	11.97	32.53	69.50	-36.97	QP	100	114	
5	17.6421	21.33	11.13	32.46	69.50	-37.04	QP	100	338	
6	19.5525	21.55	10.30	31.85	69.50	-37.65	QP	100	183	

Module without Shielded Case, Class 1

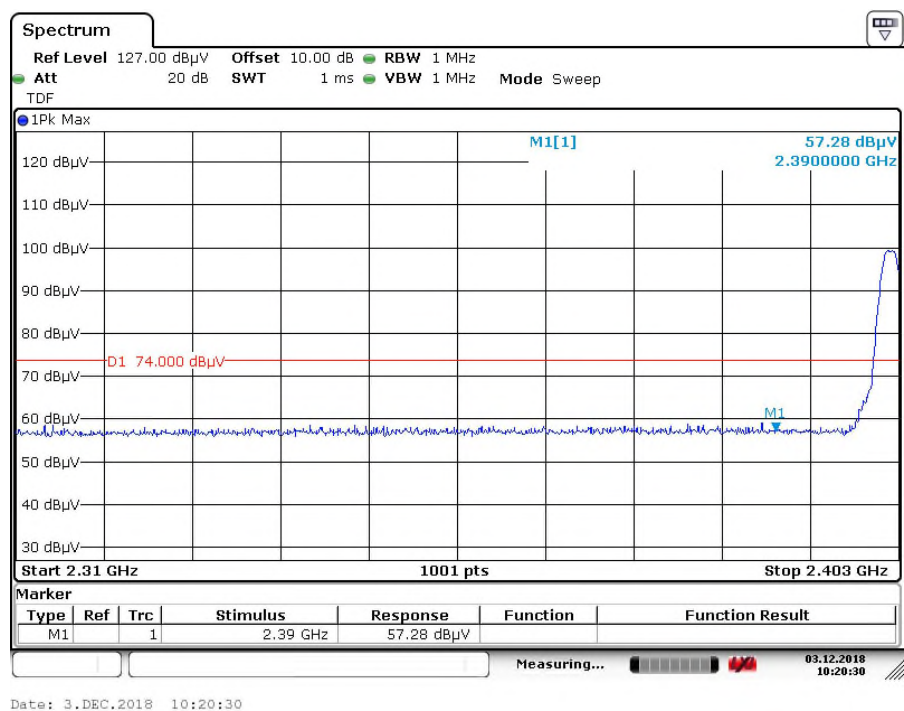
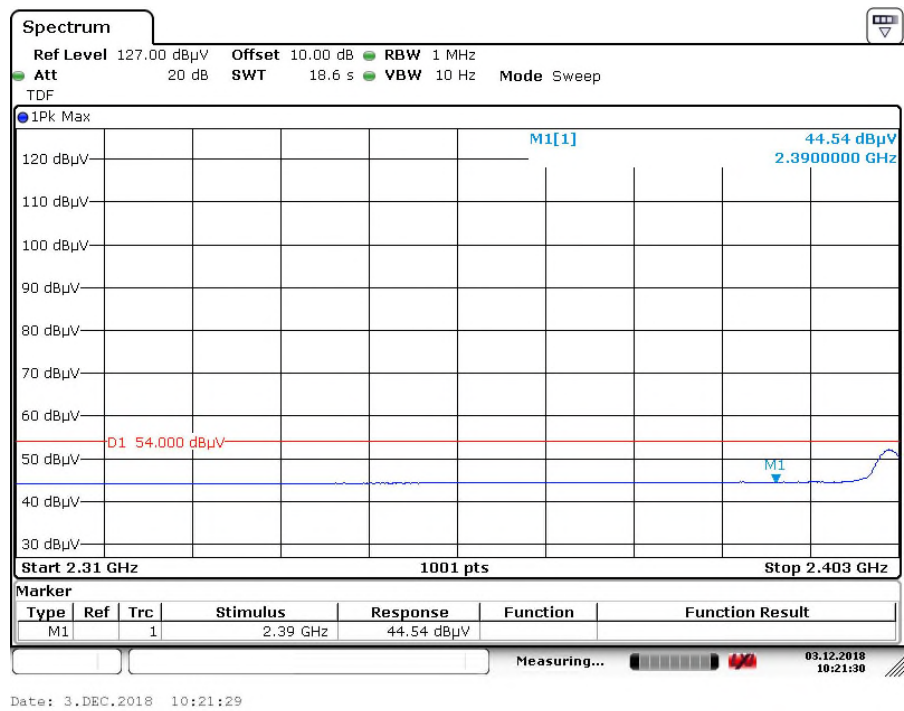
Spurious Emissions, Band Edges, 2.35-2.5G

Radiated Bandedge (GFSK)

Low Channel (Hor)



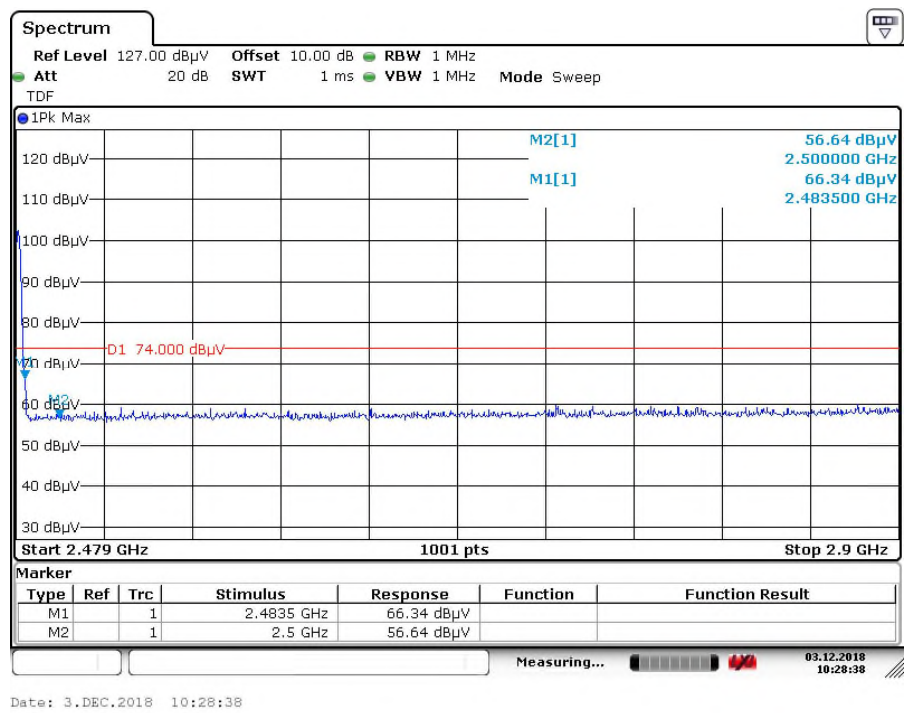
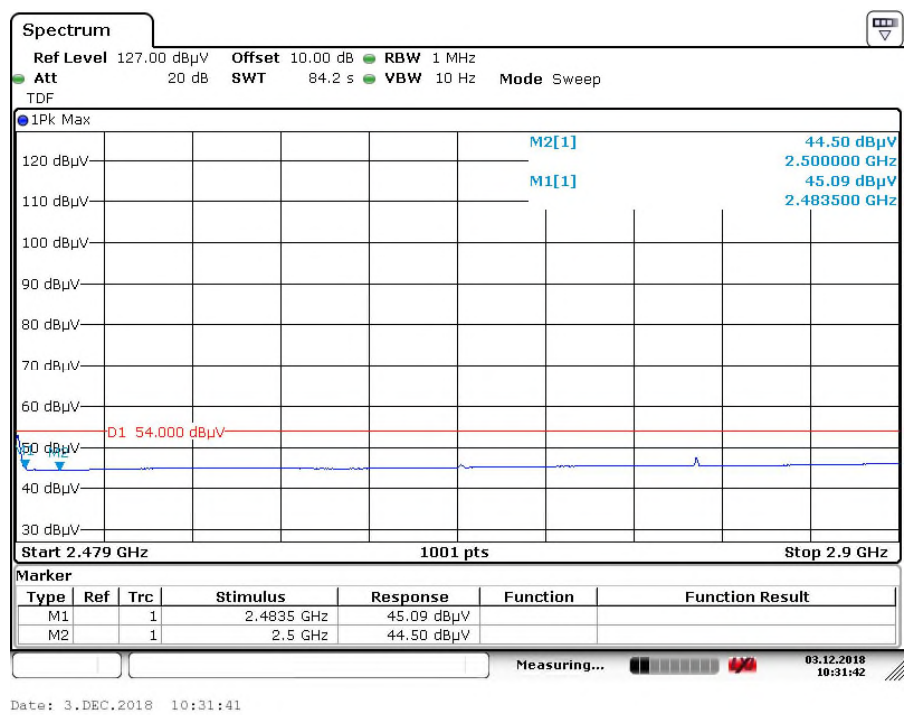
Low Channel (Ver)



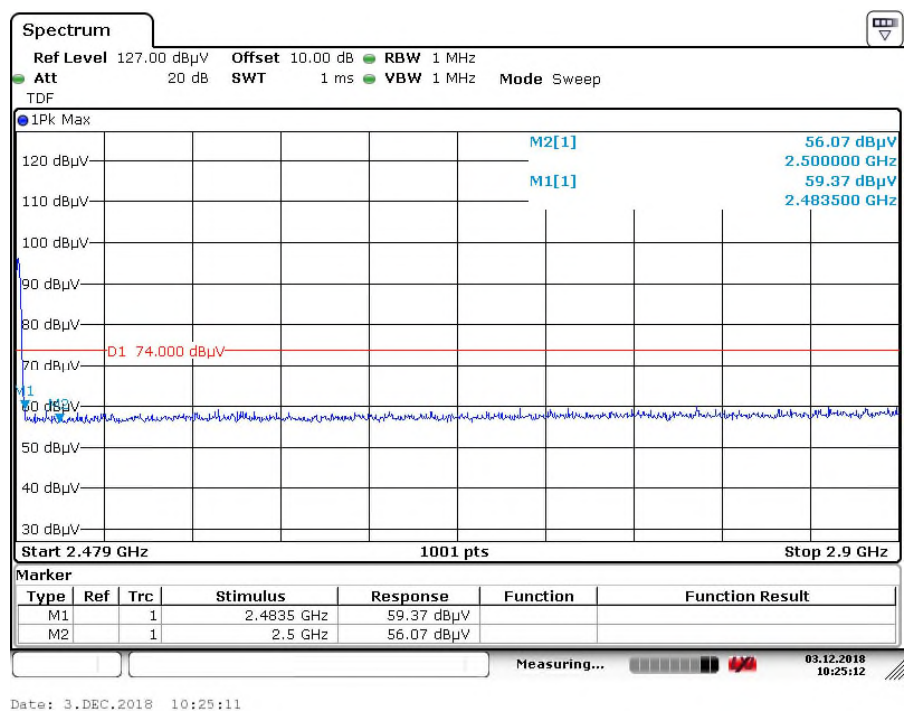
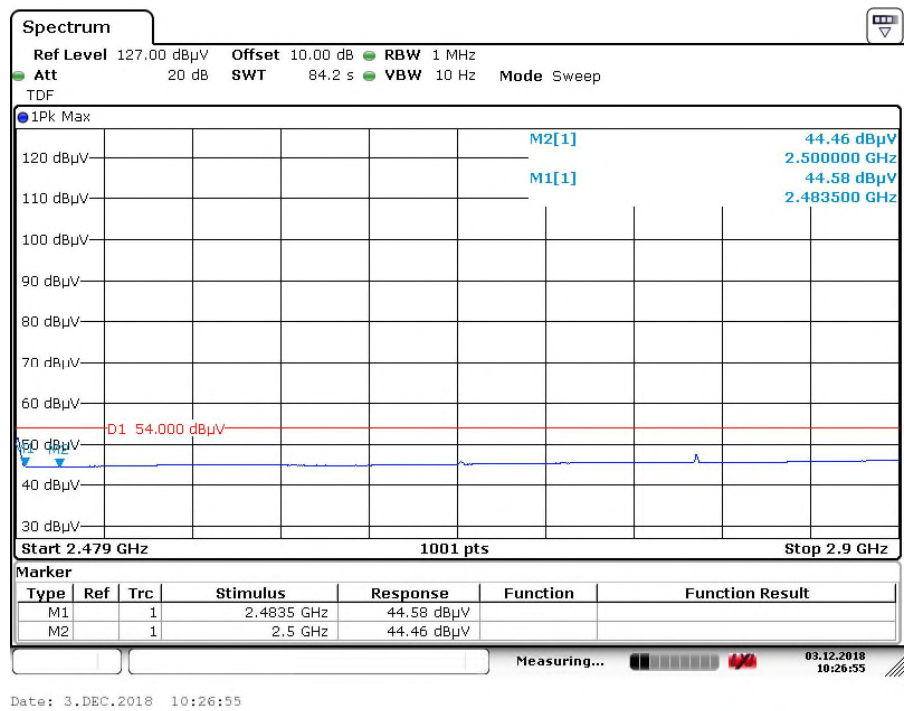


# Radiated Bandedge (GFSK)

## High Channel (Hor)



High Channel (Ver)



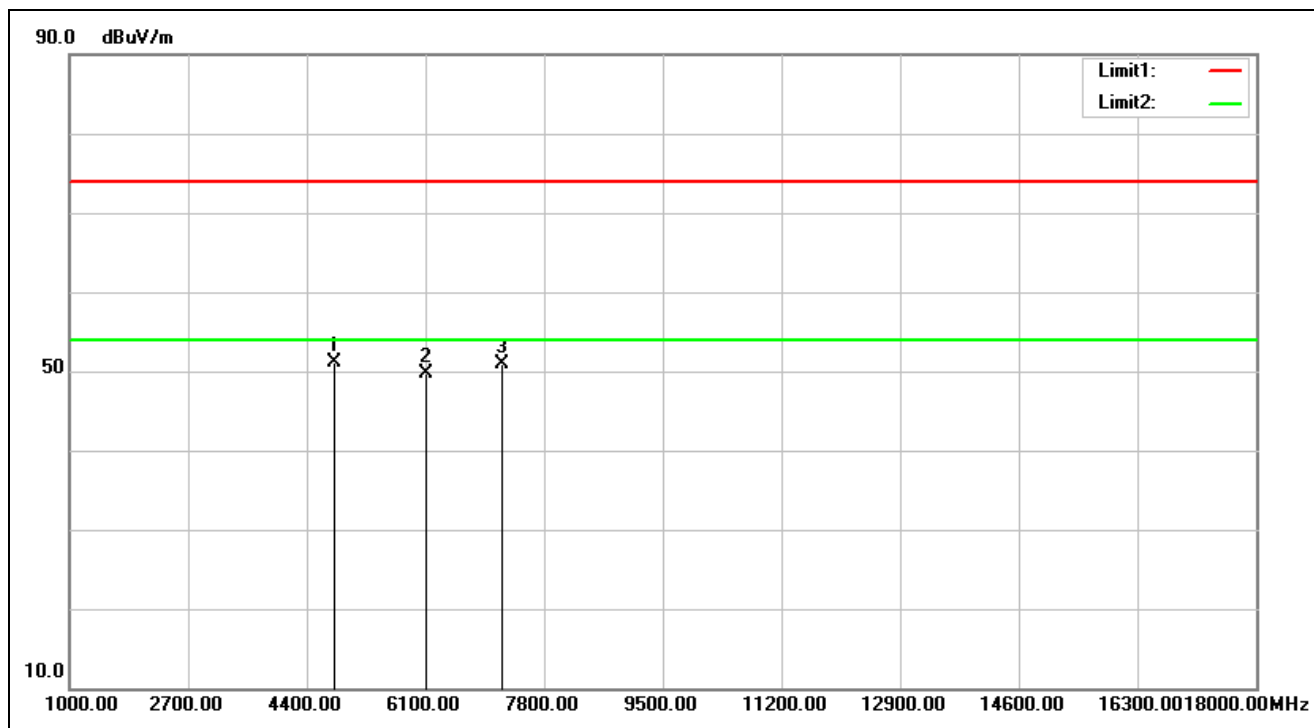
## Spurious Emissions, TX Mode, 1-18G



**TUV Rheinland Taiwan Ltd.**

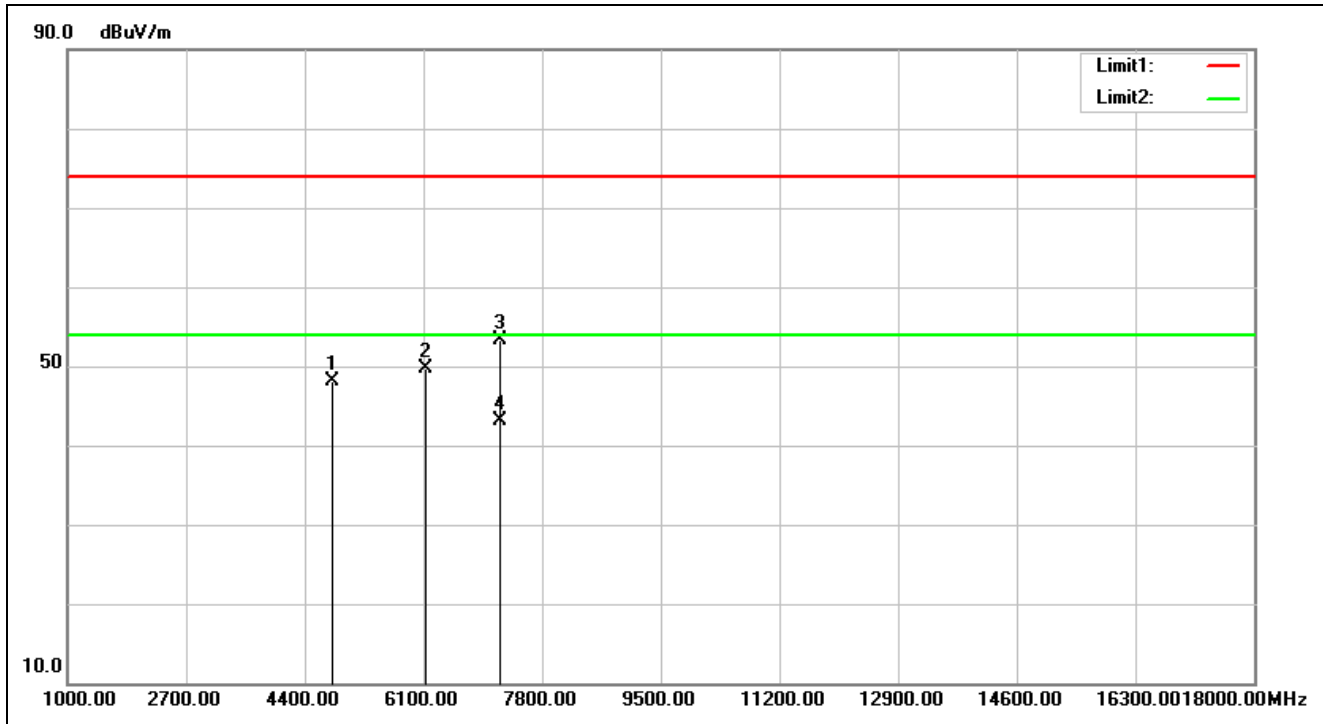
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



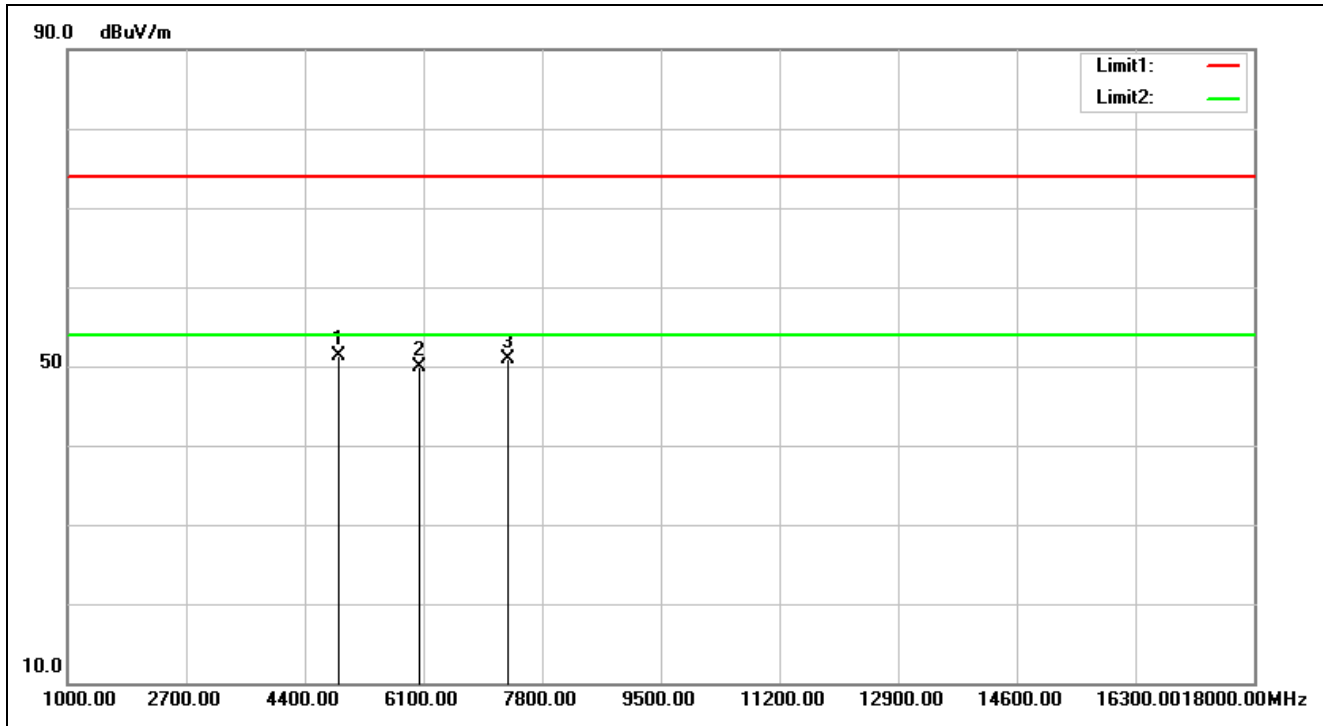
Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 11:28:22
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	21.3(°C)/52%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Amy Hsu
Test Mode:	2402-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	3.30	47.80	51.10	74.00	-22.90	peak	100	167	
2	6117.000	5.52	44.17	49.69	74.00	-24.31	peak	100	158	
3	7206.000	4.77	46.23	51.00	74.00	-23.00	peak	100	201	



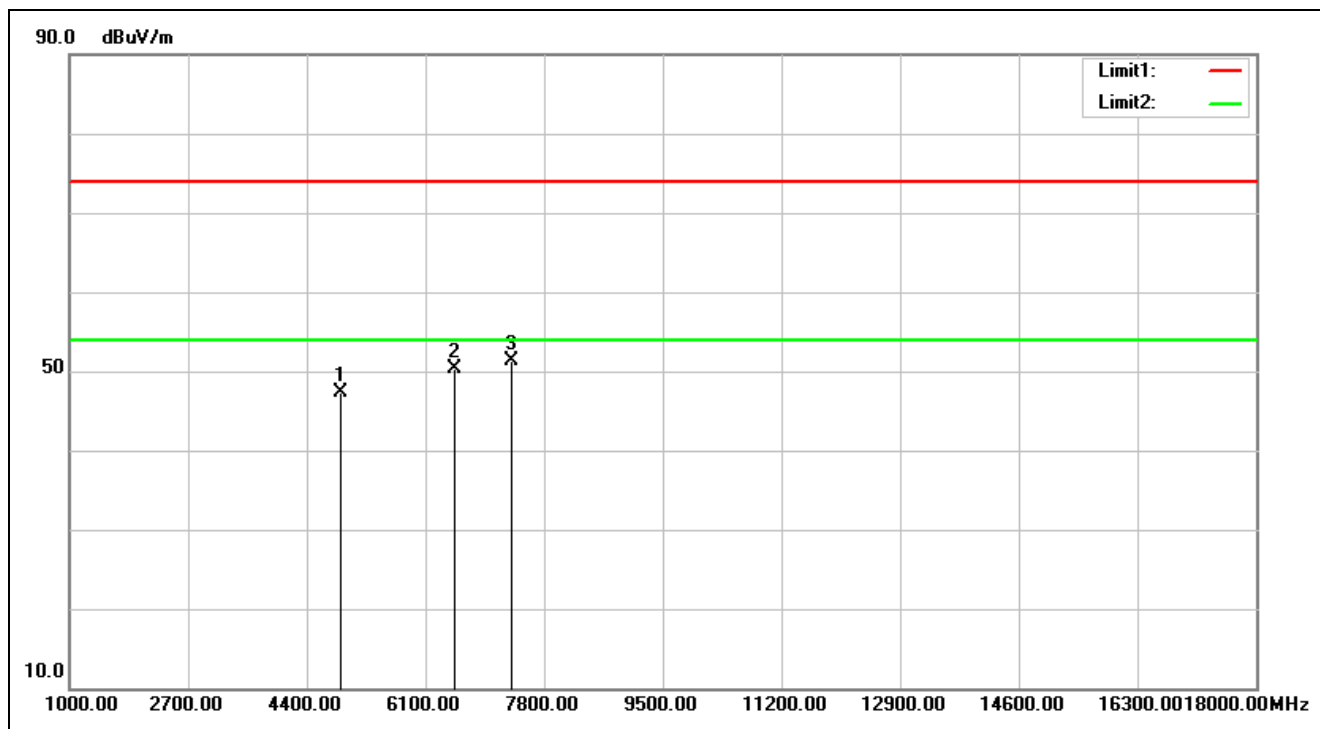
Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/11/30 11:33:57
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	21.3(°C)/52%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Amy Hsu
Test Mode:	2402-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	3.30	44.90	48.20	74.00	-25.80	peak	100	164	
2	6134.000	5.51	44.10	49.61	74.00	-24.39	peak	100	185	
3	7206.000	4.77	48.59	53.36	74.00	-20.64	peak	100	360	
4	7206.000	4.77	38.31	43.08	54.00	-10.92	AVG	100	360	



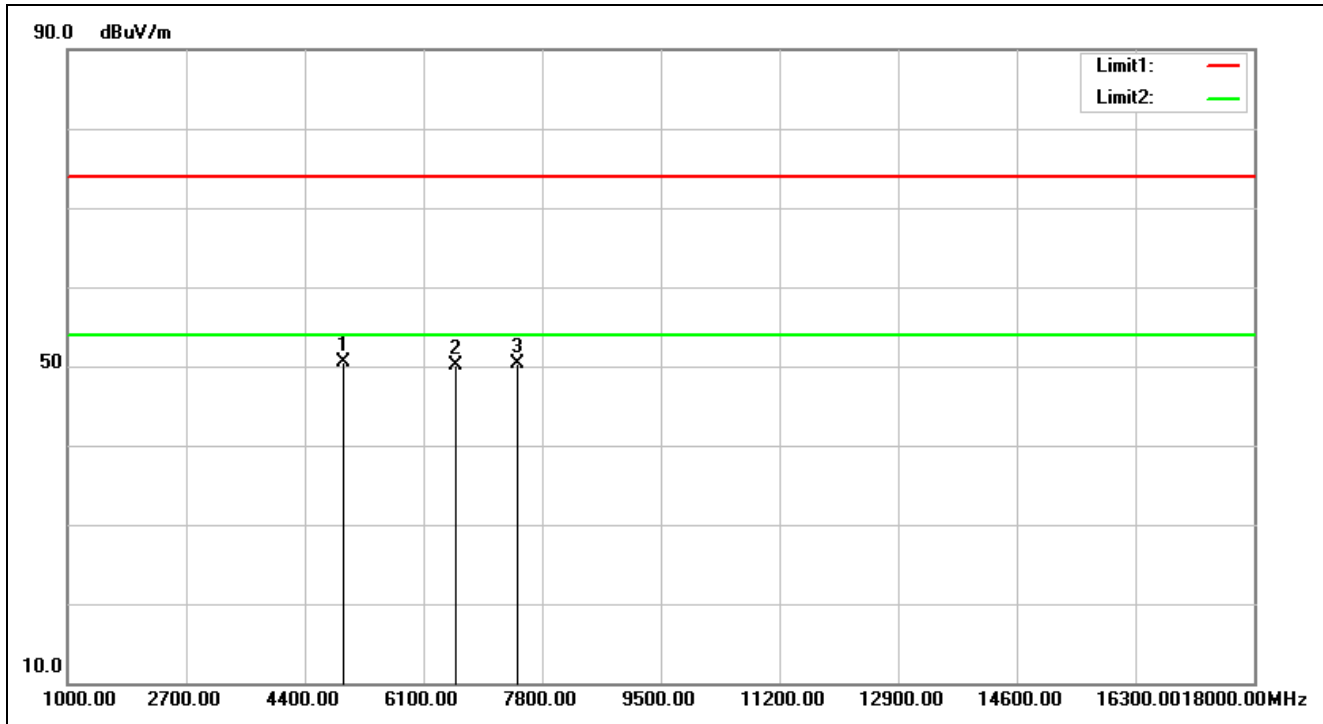
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<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 11:38:42</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>21.3(°C)/52%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Amy Hsu</b>
<b>Test Mode:</b>	<b>2440-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	3.60	47.67	51.27	74.00	-22.73	peak	100	227	
2	6032.000	5.46	44.49	49.95	74.00	-24.05	peak	100	196	
3	7320.000	4.66	46.27	50.93	74.00	-23.07	peak	100	132	



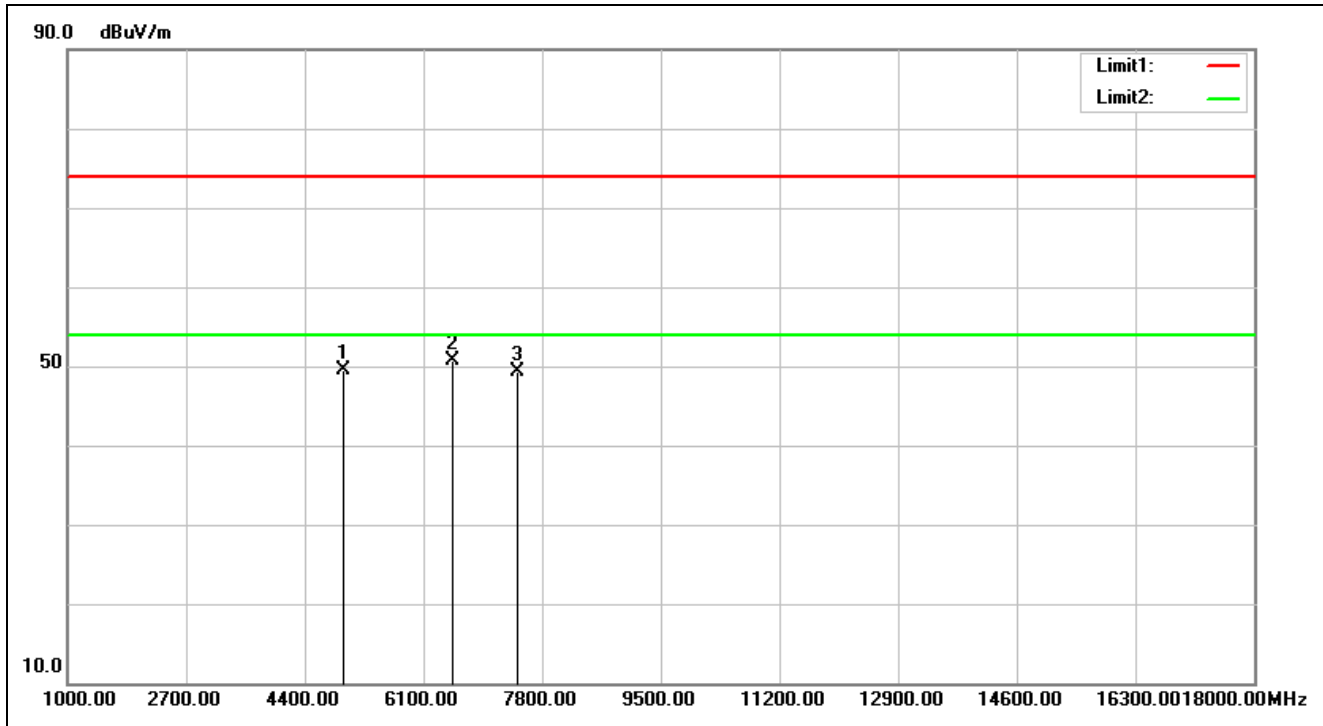
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<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 11:39:45</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>21.3(°C)/52%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Amy Hsu</b>
<b>Test Mode:</b>	<b>2440-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	3.60	43.63	47.23	74.00	-26.77	peak	100	194	
2	6525.000	5.70	44.52	50.22	74.00	-23.78	peak	100	260	
3	7320.000	4.66	46.62	51.28	74.00	-22.72	peak	100	208	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 11:42:58</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>21.3(°C)/52%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Amy Hsu</b>
<b>Test Mode:</b>	<b>2480-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	3.93	46.60	50.53	74.00	-23.47	peak	100	125	
2	6559.000	5.64	44.53	50.17	74.00	-23.83	peak	100	214	
3	7440.000	4.54	45.78	50.32	74.00	-23.68	peak	100	110	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 11:44:01</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>21.3(°C)/52%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Amy Hsu</b>
<b>Test Mode:</b>	<b>2480-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	4960.000	3.93	45.52	49.45	74.00	-24.55	peak	100	185	
2	6525.000	5.70	45.05	50.75	74.00	-23.25	peak	100	60	
3	7440.000	4.54	44.76	49.30	74.00	-24.70	peak	100	331	



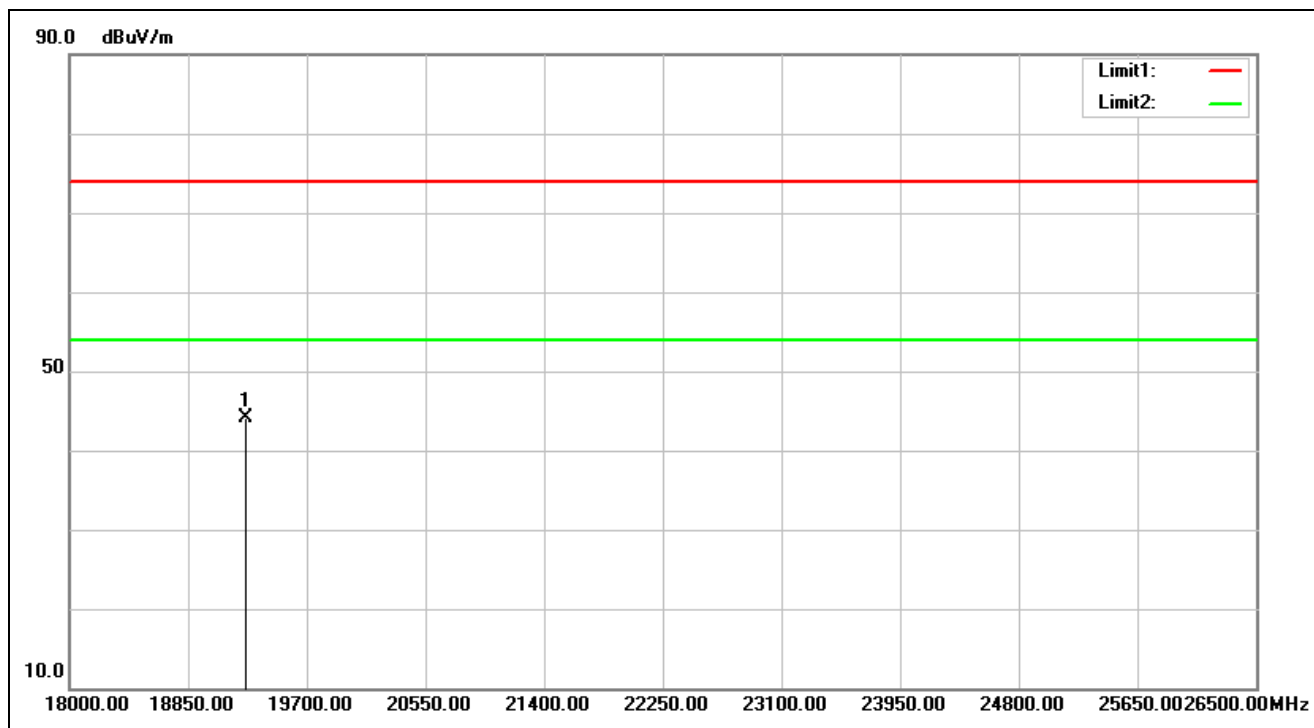
## Spurious Emissions, TX Mode, 18-26G



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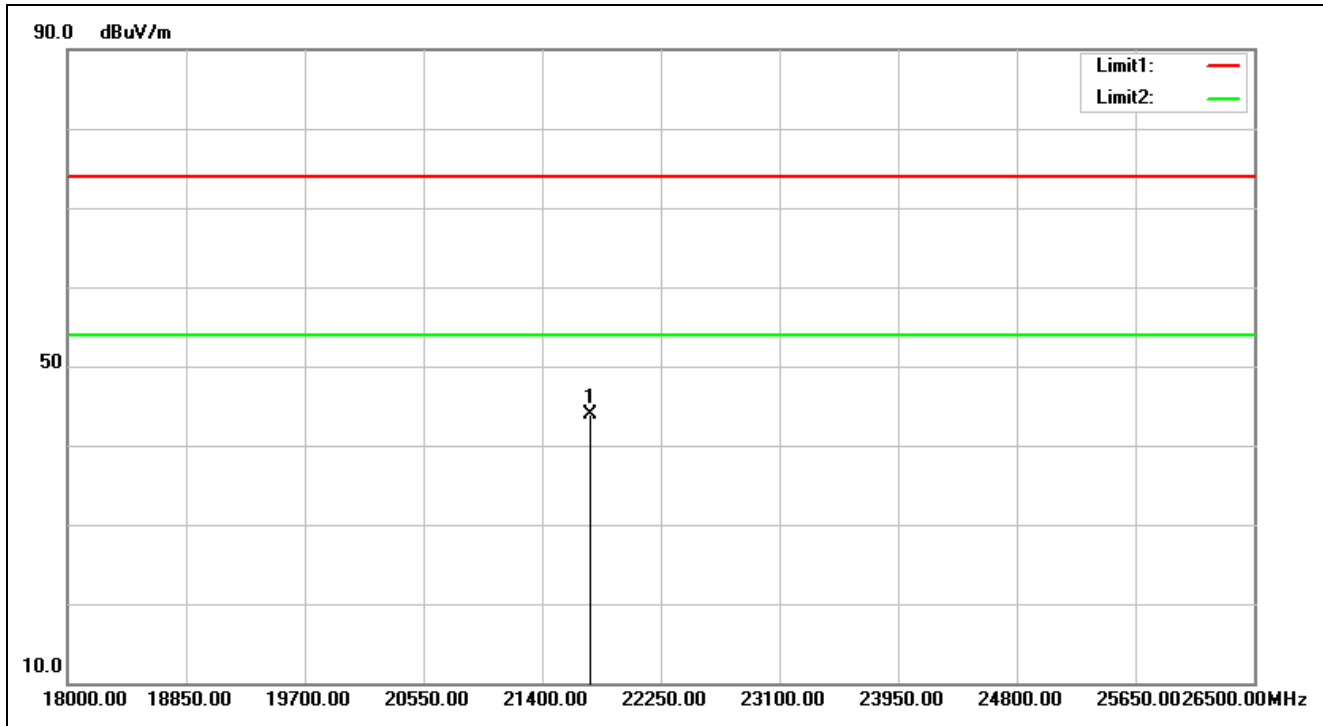
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Tel: +886-2172-7000 fax: +886-2528-0018



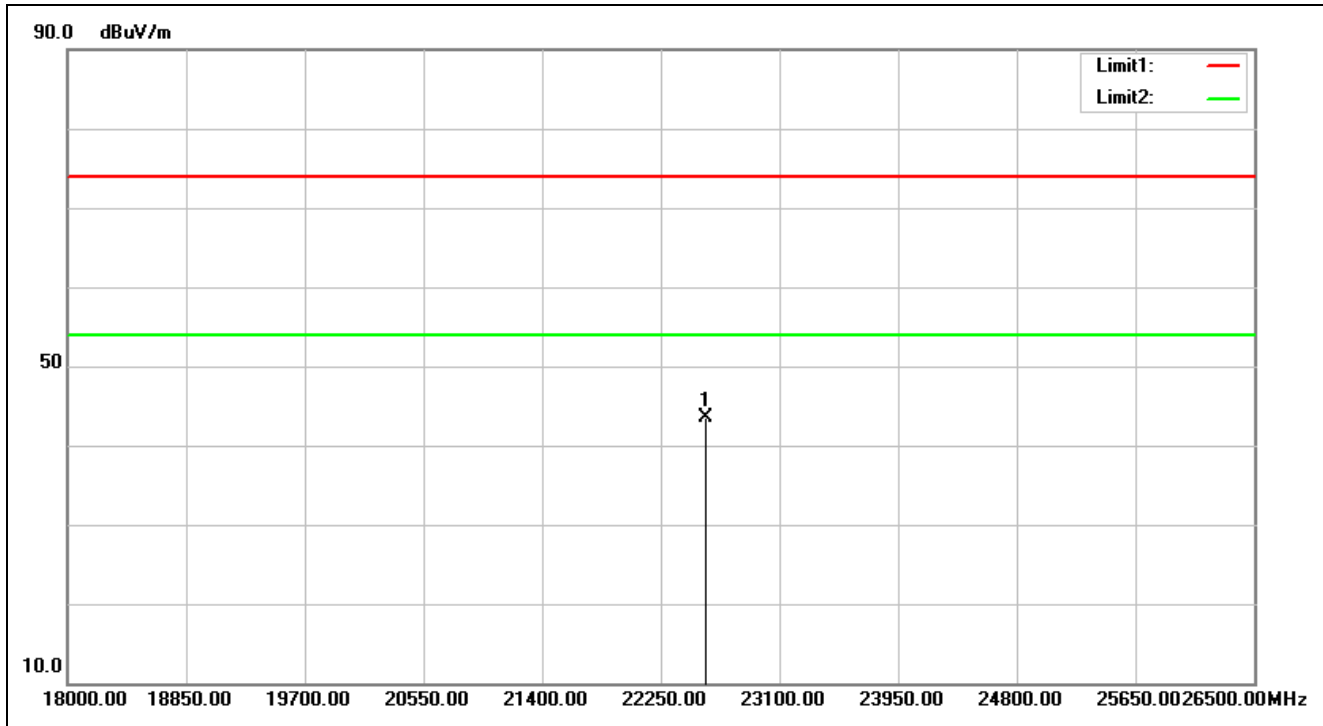
Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/12/3 10:52:26
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2402-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19266.500	4.09	39.96	44.05	74.00	-29.95	peak	100	114	



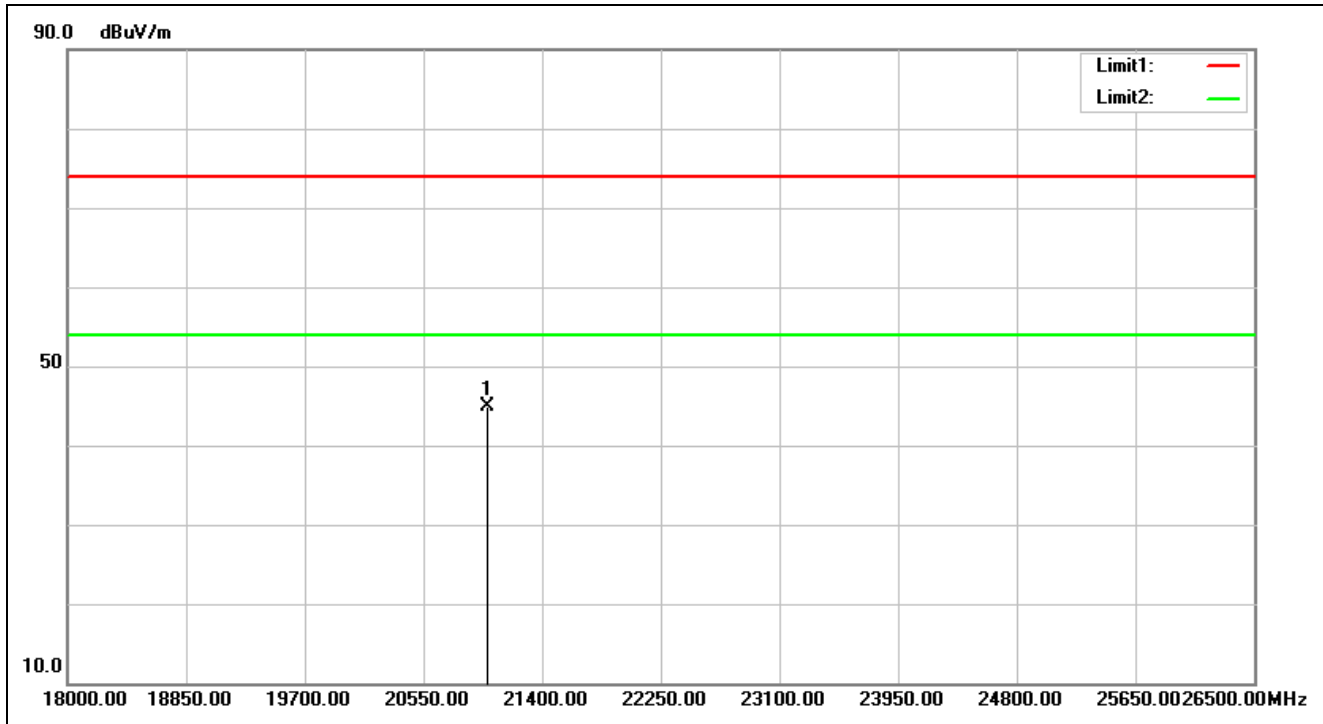
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<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 10:53:29</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2402-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	21740.000	4.21	39.62	43.83	74.00	-30.17	peak	100	64	



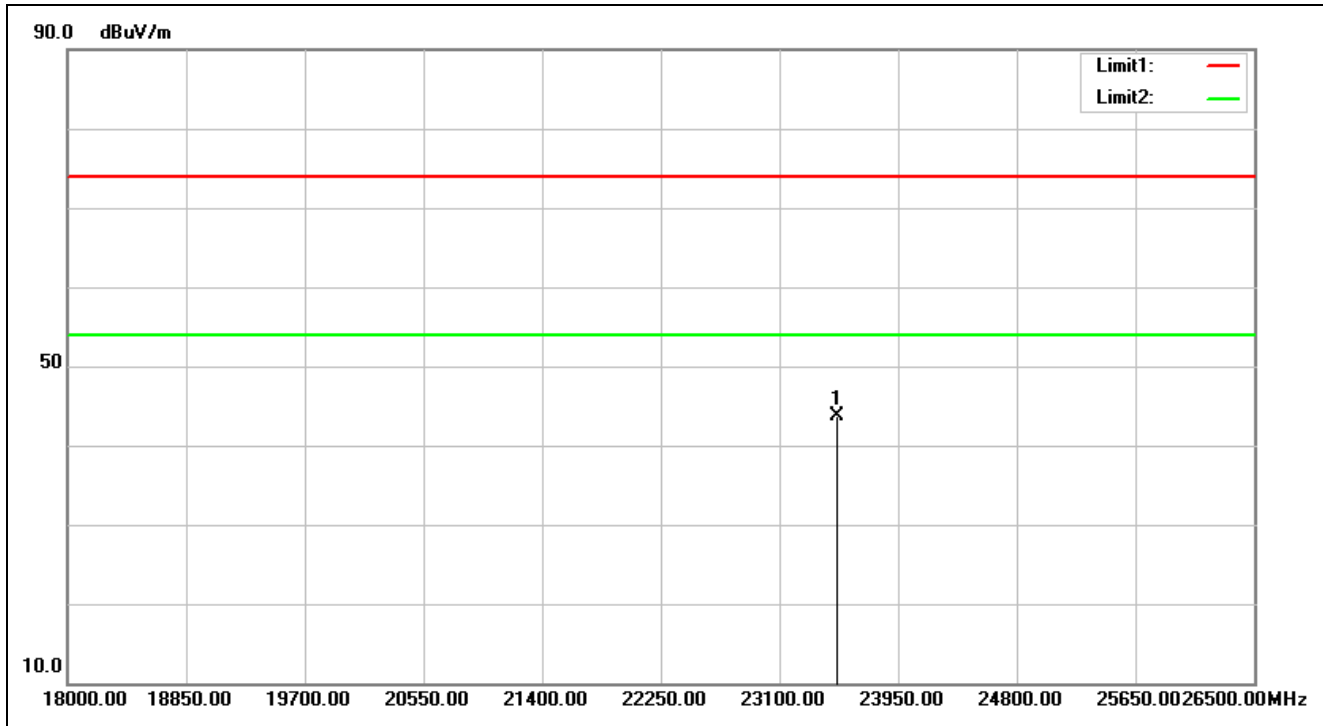
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<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 10:55:00</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2440-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22573.000	4.74	38.74	43.48	74.00	-30.52	peak	100	231	



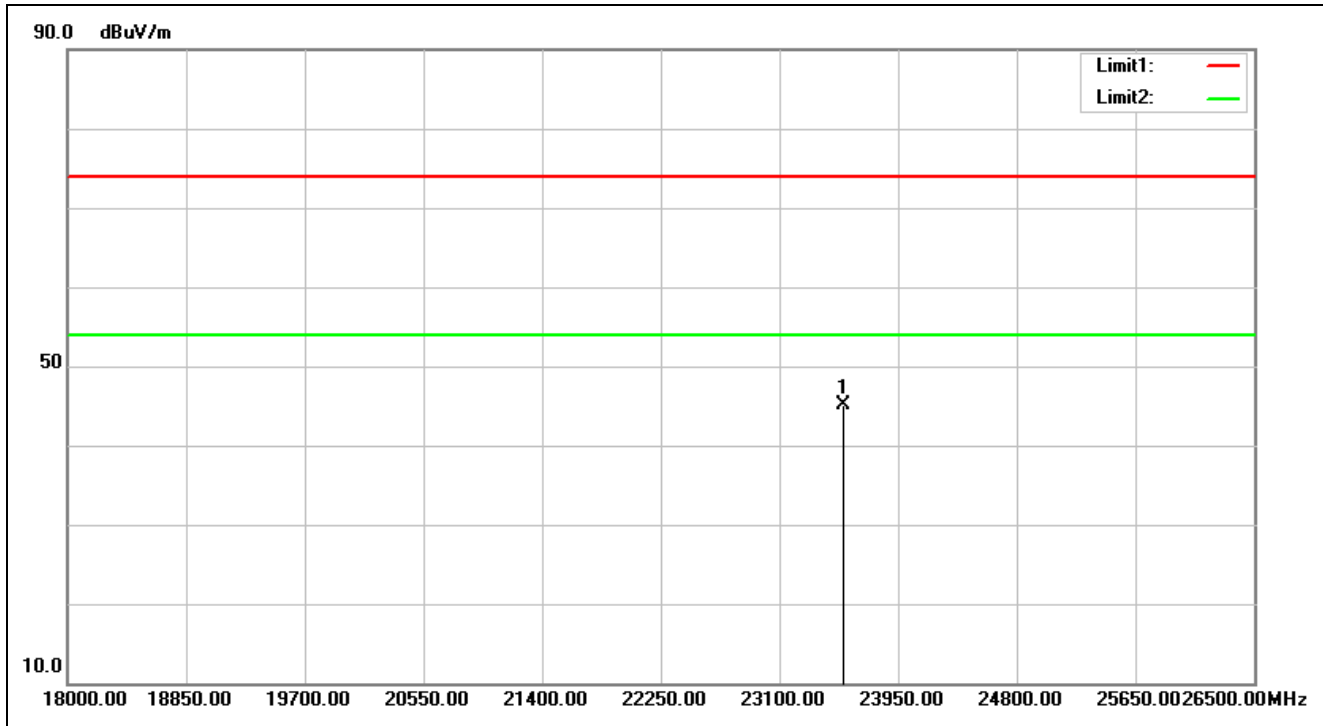
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<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 10:56:02</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2440-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21009.000	4.78	40.13	44.91	74.00	-29.09	peak	100	153	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 10:57:33</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2480-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23508.000	5.86	37.91	43.77	74.00	-30.23	peak	100	57	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 10:58:35</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2480-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23559.000	5.82	39.25	45.07	74.00	-28.93	peak	100	294	

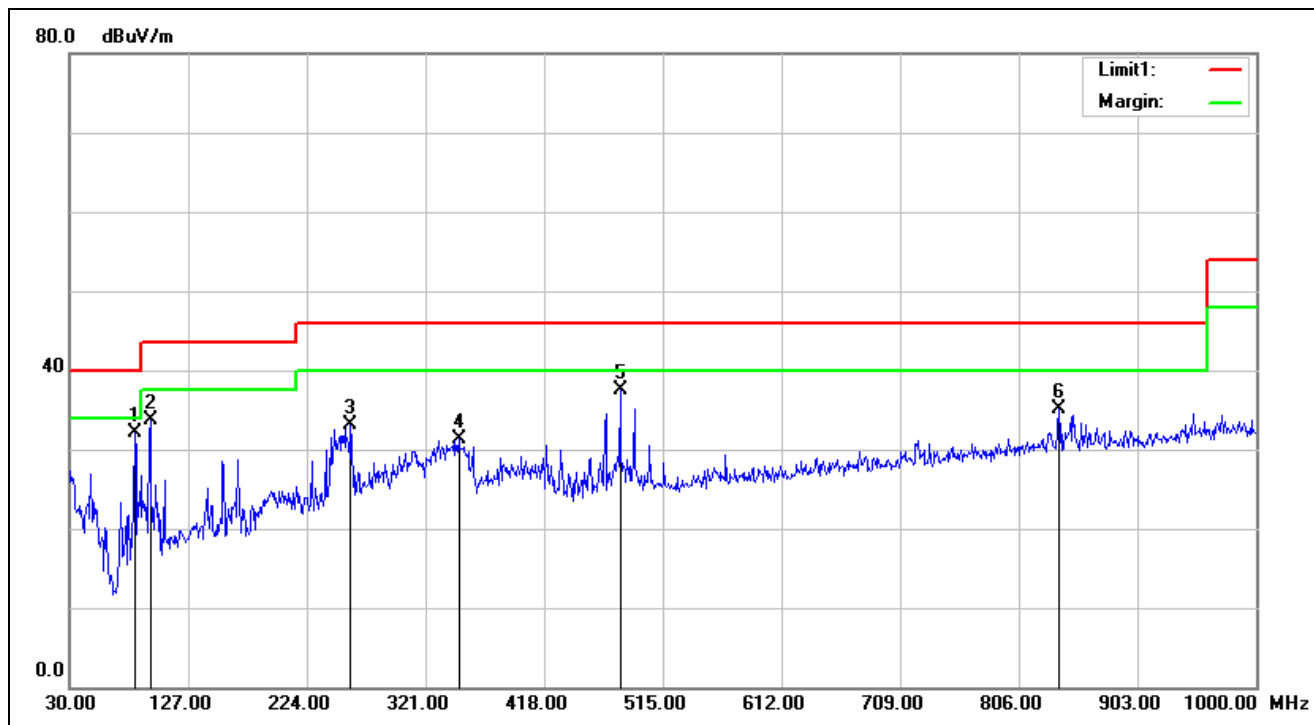
## Spurious Emissions, TX Mode, 30M-1G



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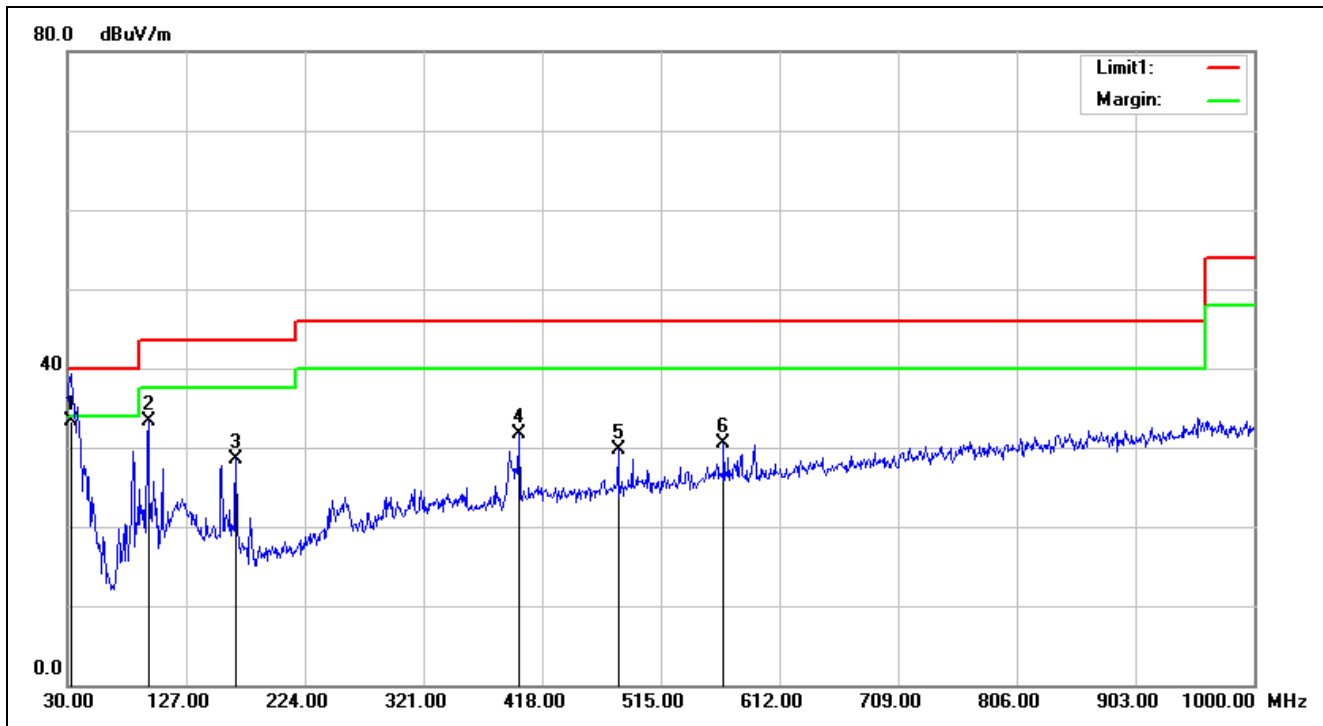
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/12/3 13:53:50
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	83.3499	-11.59	43.74	32.15	40.00	-7.85	QP	100	36	
2	95.9599	-10.14	43.79	33.65	43.50	-9.85	QP	100	201	
3	259.8899	-4.85	37.87	33.02	46.00	-12.98	QP	100	188	
4	348.1600	-3.39	34.71	31.32	46.00	-14.68	QP	100	69	
5	480.0799	-1.52	39.00	37.48	46.00	-8.52	QP	100	45	
6	838.9800	3.72	31.37	35.09	46.00	-10.91	QP	100	224	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/12/3 13:54:54
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	32.9100	-1.75	35.05	33.30	40.00	-6.70	QP	100	147	
2	95.9600	-10.14	43.47	33.33	43.50	-10.17	QP	100	62	
3	167.7400	-8.76	37.20	28.44	43.50	-15.06	QP	100	208	
4	399.5700	-2.33	34.08	31.75	46.00	-14.25	QP	100	168	
5	480.0800	-1.52	31.26	29.74	46.00	-16.26	QP	100	205	
6	566.4099	0.07	30.47	30.54	46.00	-15.46	QP	100	285	



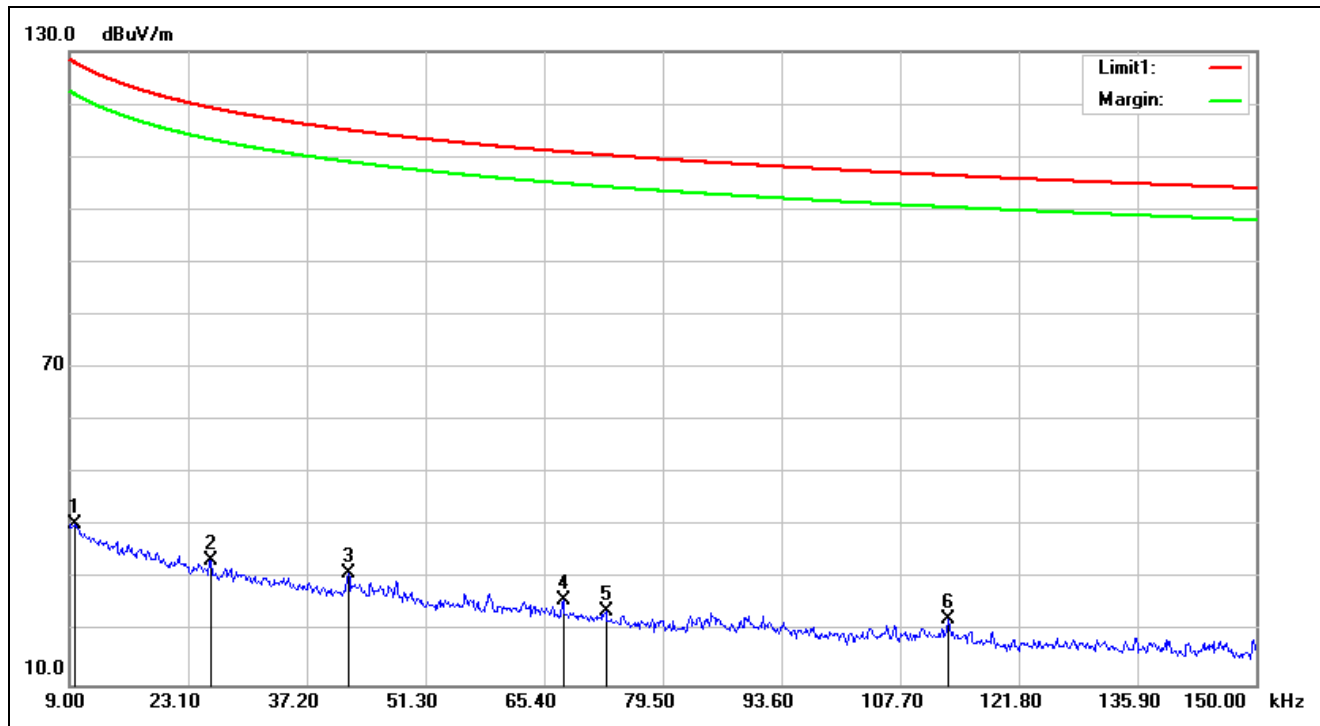
## Spurious Emissions, TX Mode, 9k-30M



TUV Rheinland Taiwan Ltd.

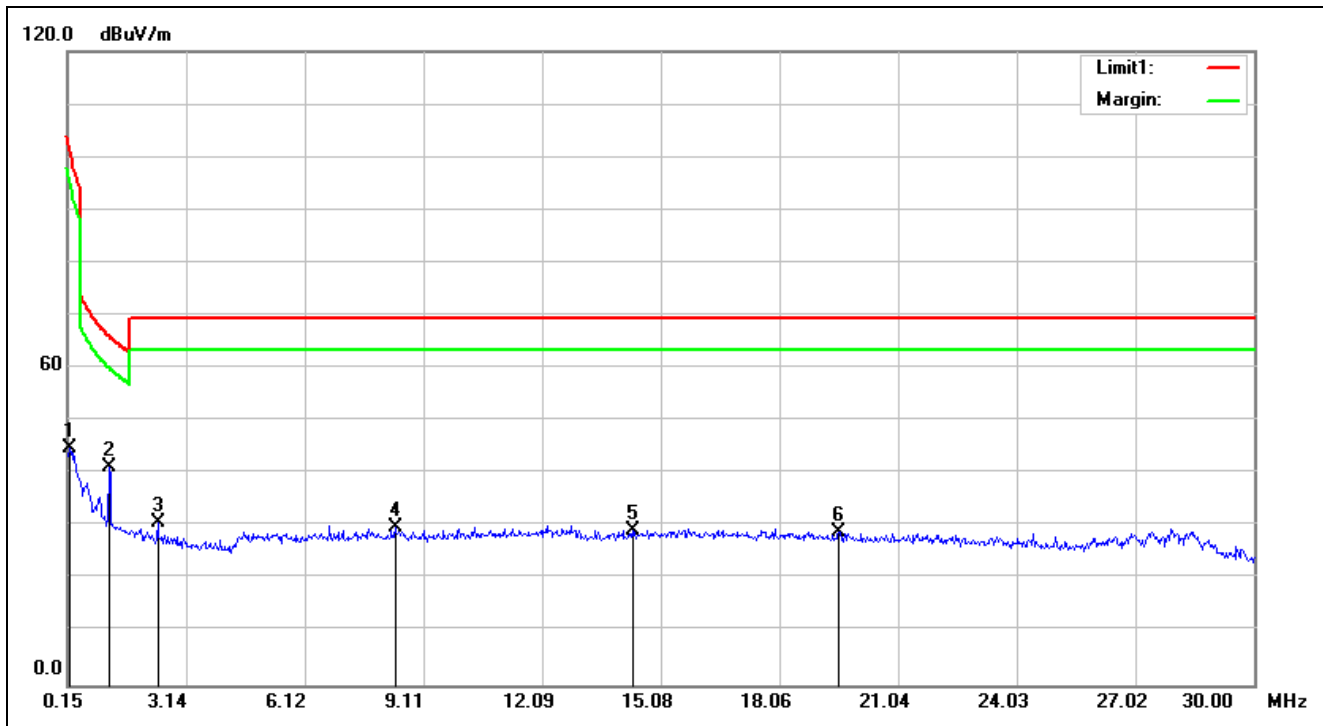
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Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/12/3 13:20:37
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0096	18.45	21.96	40.41	127.84	-87.43	QP	100	303	
2	0.0258	19.16	14.54	33.70	119.29	-85.59	QP	100	116	
3	0.0421	19.08	12.03	31.11	115.05	-83.94	QP	100	268	
4	0.0677	18.71	7.35	26.06	110.93	-84.87	QP	100	81	
5	0.0727	18.65	5.42	24.07	110.32	-86.25	QP	100	284	
6	0.1135	18.34	4.04	22.38	106.46	-84.08	QP	100	146	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/12/3 13:22:19
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.2097	18.39	26.60	44.99	101.15	-56.16	QP	100	299	
2	1.1947	18.66	22.60	41.26	66.08	-24.82	QP	100	10	
3	2.4186	18.57	12.06	30.63	69.50	-38.87	QP	100	27	
4	8.3886	20.13	9.58	29.71	69.50	-39.79	QP	100	34	
5	14.3586	20.95	8.37	29.32	69.50	-40.18	QP	100	17	
6	19.5525	21.55	7.49	29.04	69.50	-40.46	QP	100	2	

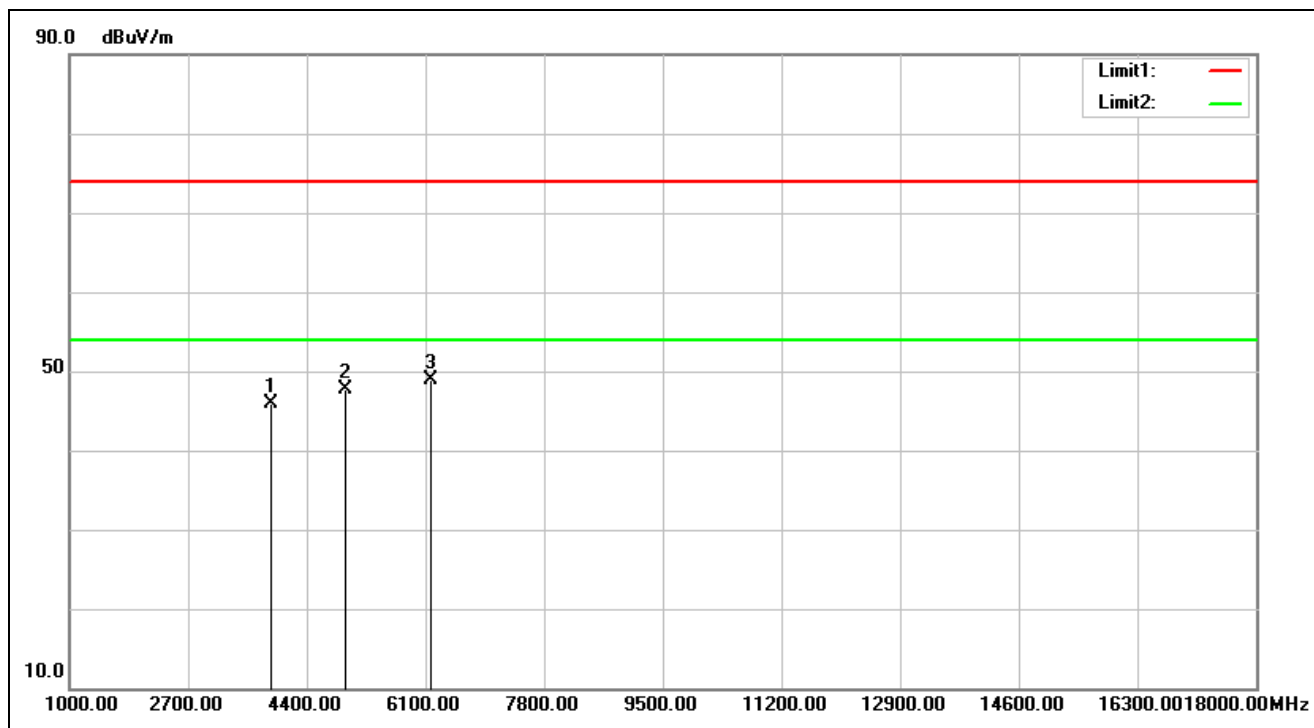
## Spurious Emissions, RX Mode, 1-18G



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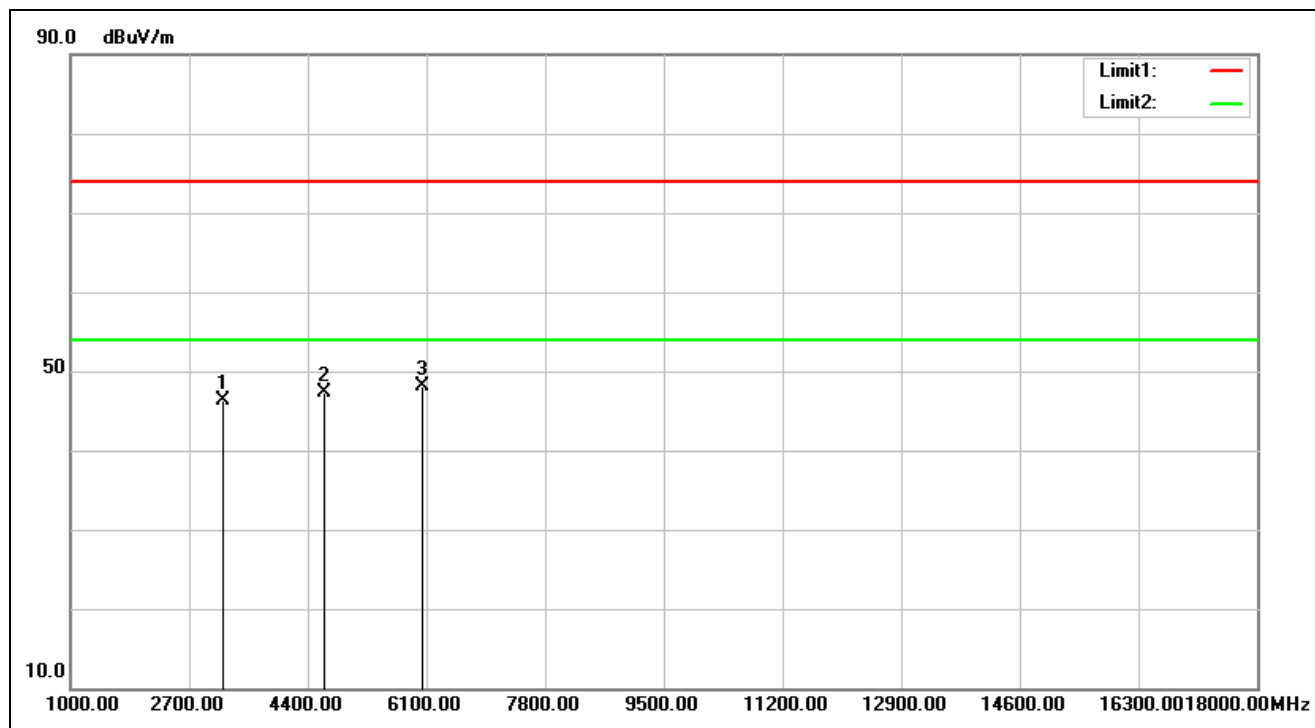
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Tel: +886-2172-7000 fax: +886-2528-0018



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 11:47:57
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	21.3(°C)/52%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Amy Hsu
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3890.000	-0.61	46.53	45.92	74.00	-28.08	peak	100	152	
2	4944.000	2.90	44.82	47.72	74.00	-26.28	peak	100	149	
3	6168.000	4.50	44.42	48.92	74.00	-25.08	peak	100	127	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 11:49:00</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>21.3(°C)/52%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Amy Hsu</b>
<b>Test Mode:</b>	<b>2440-RX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3193.000	-2.00	48.29	46.29	74.00	-27.71	peak	100	246	
2	4638.000	2.00	45.27	47.27	74.00	-26.73	peak	100	249	
3	6049.000	4.43	43.69	48.12	74.00	-25.88	peak	100	171	

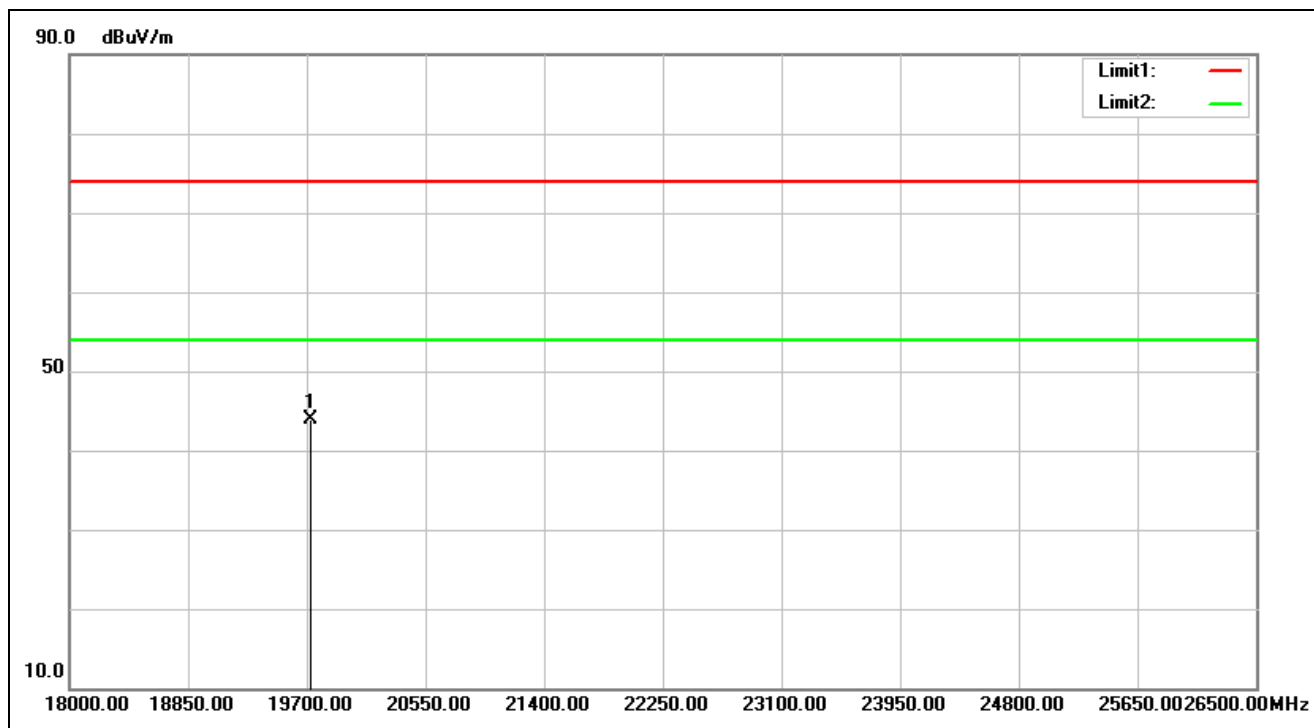
## Spurious Emissions, RX Mode, 18-26G



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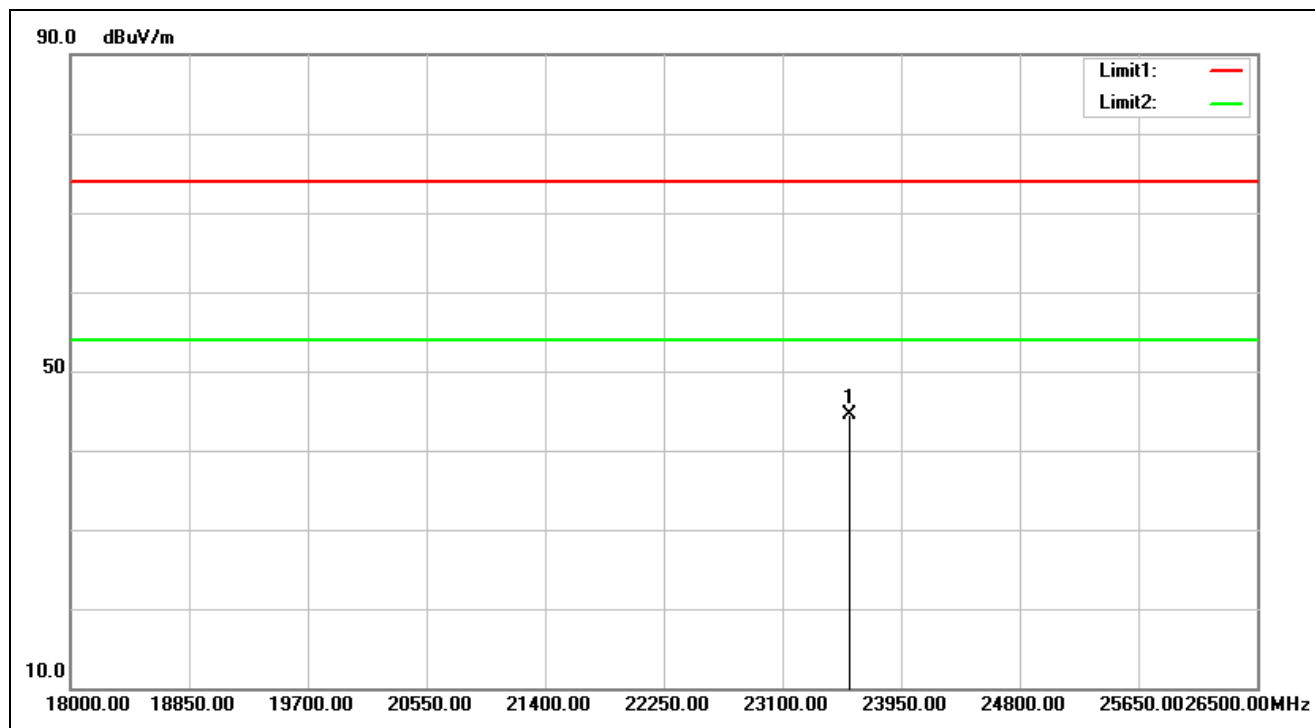
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/12/3 10:49:31
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19725.500	4.02	39.95	43.97	74.00	-30.03	peak	100	21	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 10:50:33</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2440-RX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23576.000	5.81	38.75	44.56	74.00	-29.44	peak	100	195	

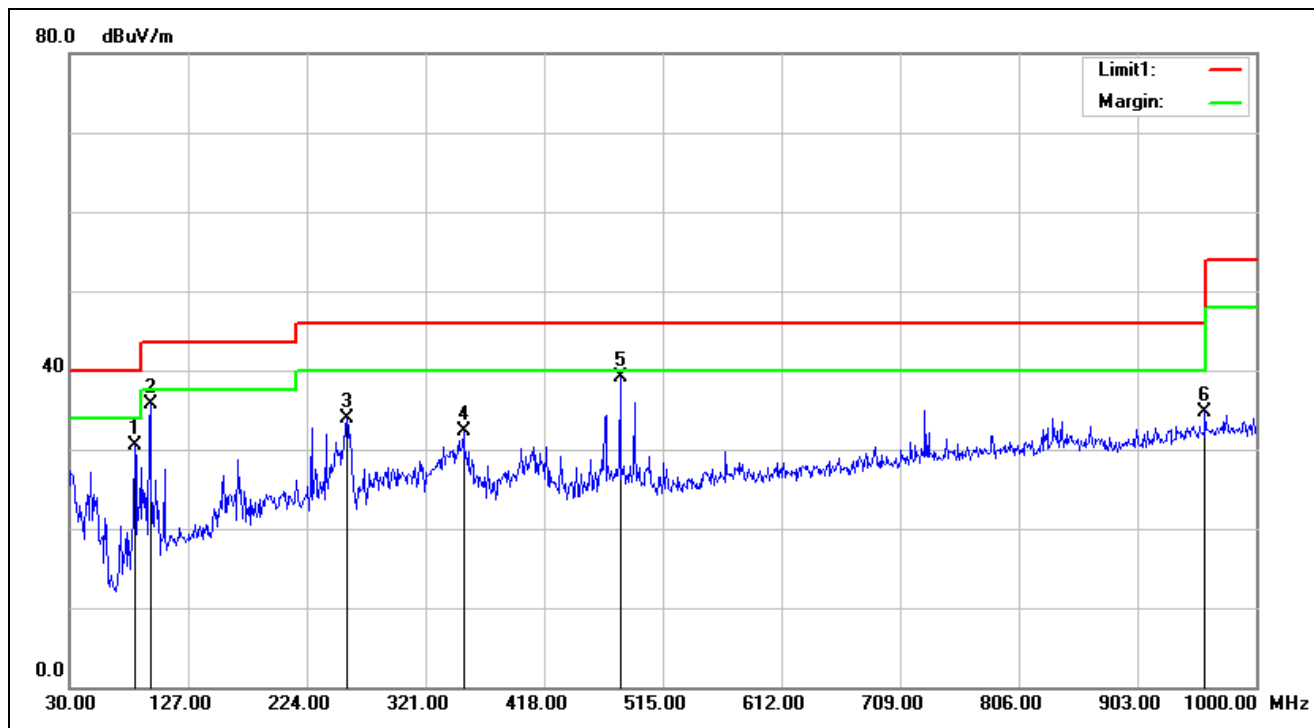
## Spurious Emissions, RX Mode, 30M-1G



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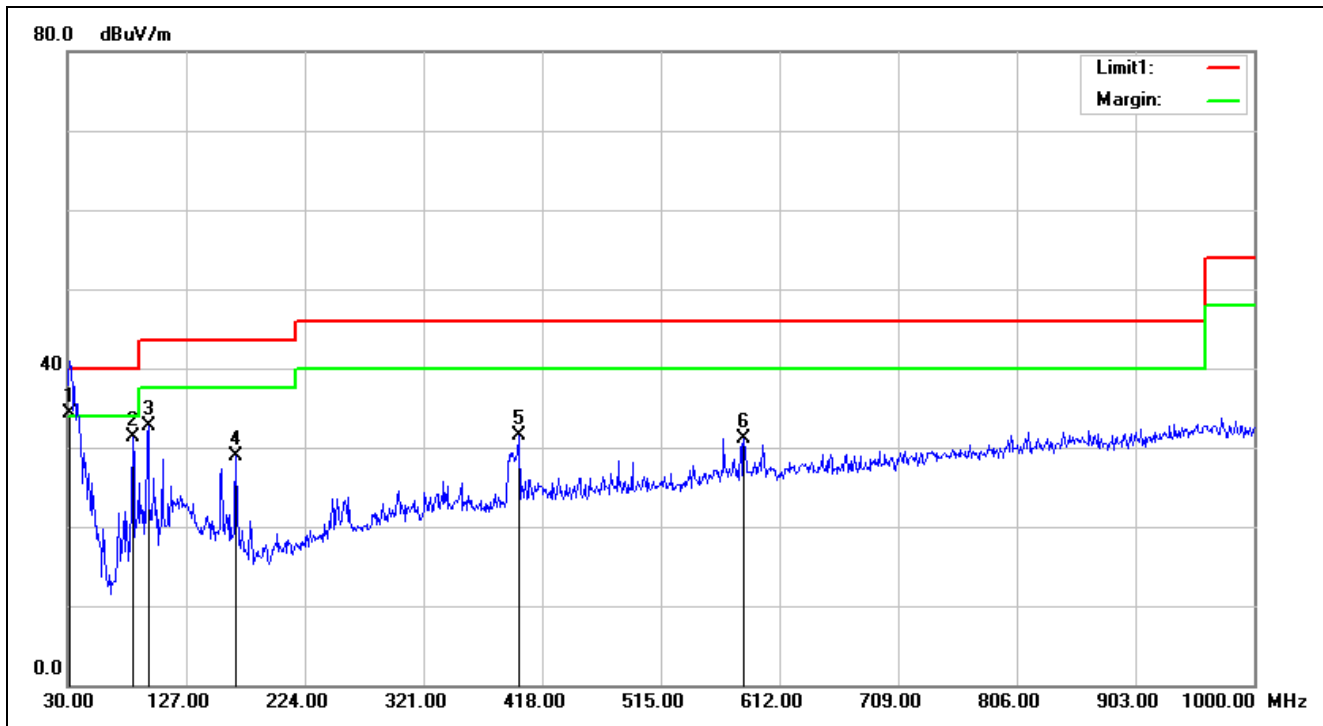
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/12/3 14:02:17
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	83.3499	-11.59	42.19	30.60	40.00	-9.40	QP	100	29	
2	95.9599	-10.14	45.77	35.63	43.50	-7.87	QP	100	301	
3	256.9800	-5.10	39.00	33.90	46.00	-12.10	QP	100	247	
4	352.0400	-3.26	35.48	32.22	46.00	-13.78	QP	100	182	
5	480.0799	-1.52	40.53	39.01	46.00	-6.99	QP	100	106	
6	958.2899	5.93	28.75	34.68	46.00	-11.32	QP	100	354	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/12/3 14:03:21
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	31.9400	-1.08	35.38	34.30	40.00	-5.70	QP	100	187	
2	83.3500	-11.58	42.98	31.40	40.00	-8.60	QP	100	120	
3	95.9600	-10.14	42.94	32.80	43.50	-10.70	QP	100	78	
4	167.7400	-8.76	37.71	28.95	43.50	-14.55	QP	100	261	
5	399.5700	-2.33	33.93	31.60	46.00	-14.40	QP	100	181	
6	582.9000	0.23	30.84	31.07	46.00	-14.93	QP	100	288	



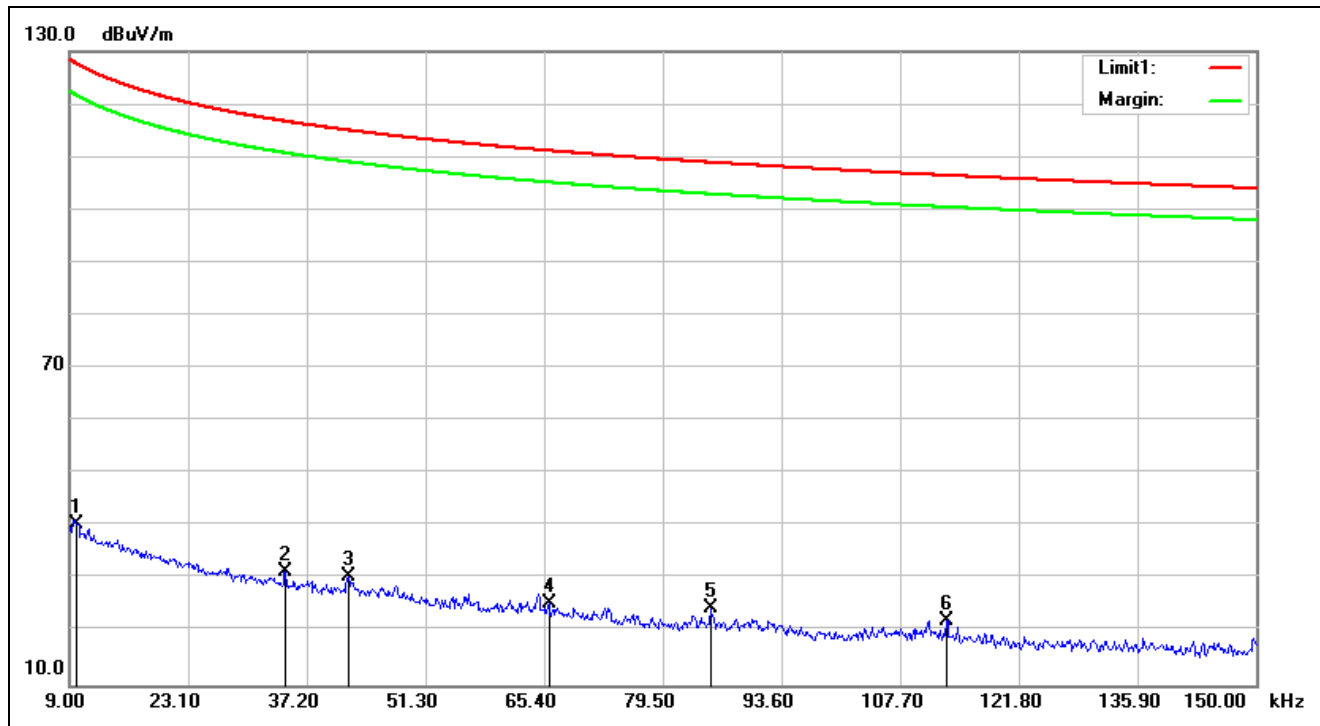
## Spurious Emissions, RX Mode, 9K-30M



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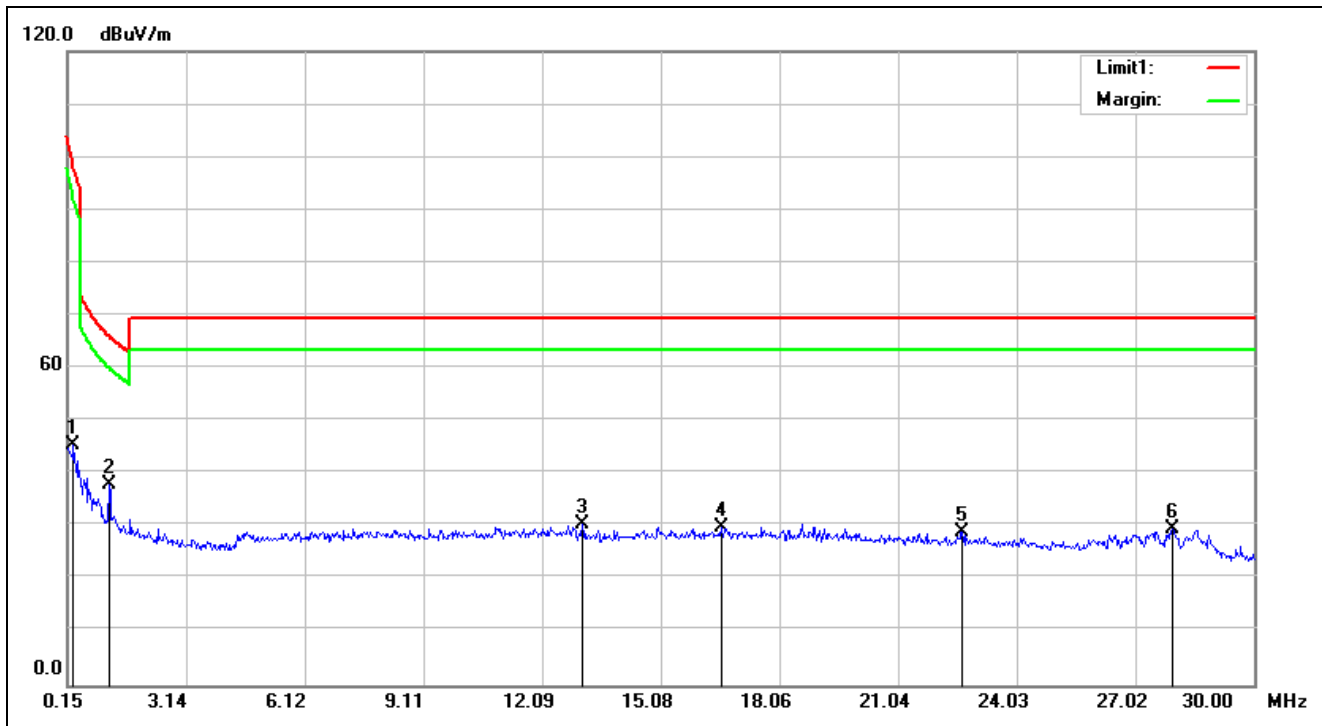
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Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/12/3 13:26:24
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0098	18.48	22.08	40.56	127.67	-87.11	QP	100	79	
2	0.0347	19.22	12.30	31.52	116.72	-85.20	QP	100	234	
3	0.0421	19.08	11.56	30.64	115.05	-84.41	QP	100	104	
4	0.0660	18.73	6.65	25.38	111.15	-85.77	QP	100	231	
5	0.0851	18.50	5.94	24.44	108.95	-84.51	QP	100	38	
6	0.1132	18.34	3.76	22.10	106.48	-84.38	QP	100	119	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/12/3 13:24:04
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.2993	18.44	27.13	45.57	98.07	-52.50	QP	100	334	
2	1.1947	18.66	19.17	37.83	66.08	-28.25	QP	100	213	
3	13.1049	20.80	9.66	30.46	69.50	-39.04	QP	100	21	
4	16.5973	21.21	8.55	29.76	69.50	-39.74	QP	100	169	
5	22.6569	21.70	7.13	28.83	69.50	-40.67	QP	100	304	
6	27.9403	21.90	7.68	29.58	69.50	-39.92	QP	100	155	

## Module without Shielded Case, Class 2

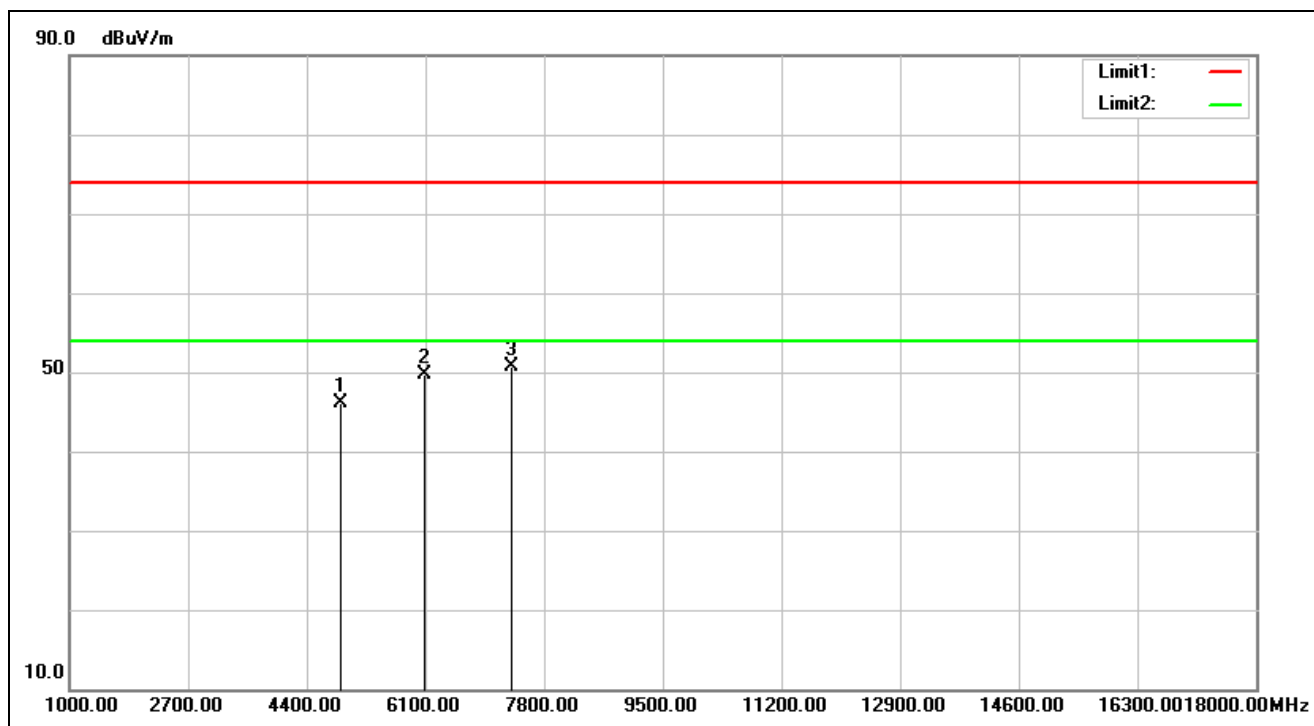
### Spurious Emissions, TX Mode, 1-18G



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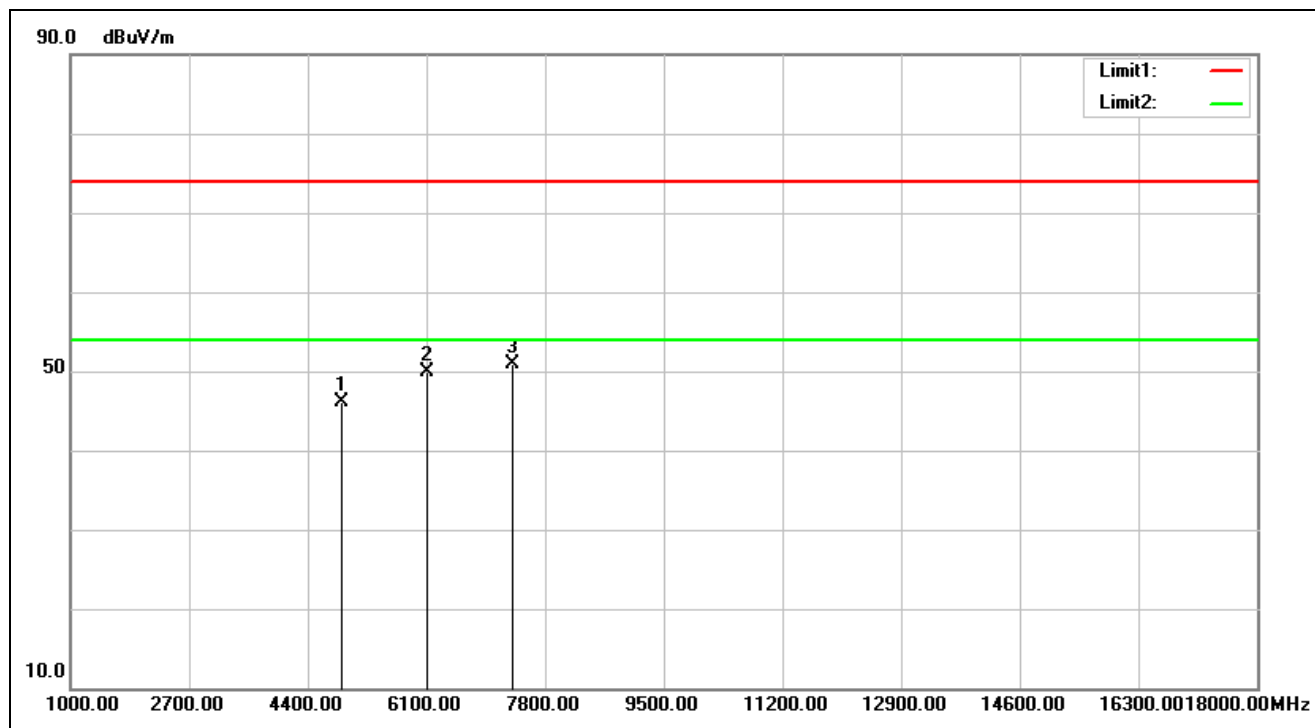
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Tel: +886-2172-7000 fax: +886-2528-0018



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/11/30 13:10:00
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	21.3(°C)/52%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Amy Hsu
Test Mode:	2440-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	3.60	42.59	46.19	74.00	-27.81	peak	100	289	
2	6083.000	5.49	44.16	49.65	74.00	-24.35	peak	100	117	
3	7320.000	4.66	46.07	50.73	74.00	-23.27	peak	100	145	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 13:11:03</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>21.3(°C)/52%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Amy Hsu</b>
<b>Test Mode:</b>	<b>2440-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4880.000	3.60	42.55	46.15	74.00	-27.85	peak	100	116	
2	6100.000	5.50	44.31	49.81	74.00	-24.19	peak	100	287	
3	7320.000	4.66	46.20	50.86	74.00	-23.14	peak	100	128	

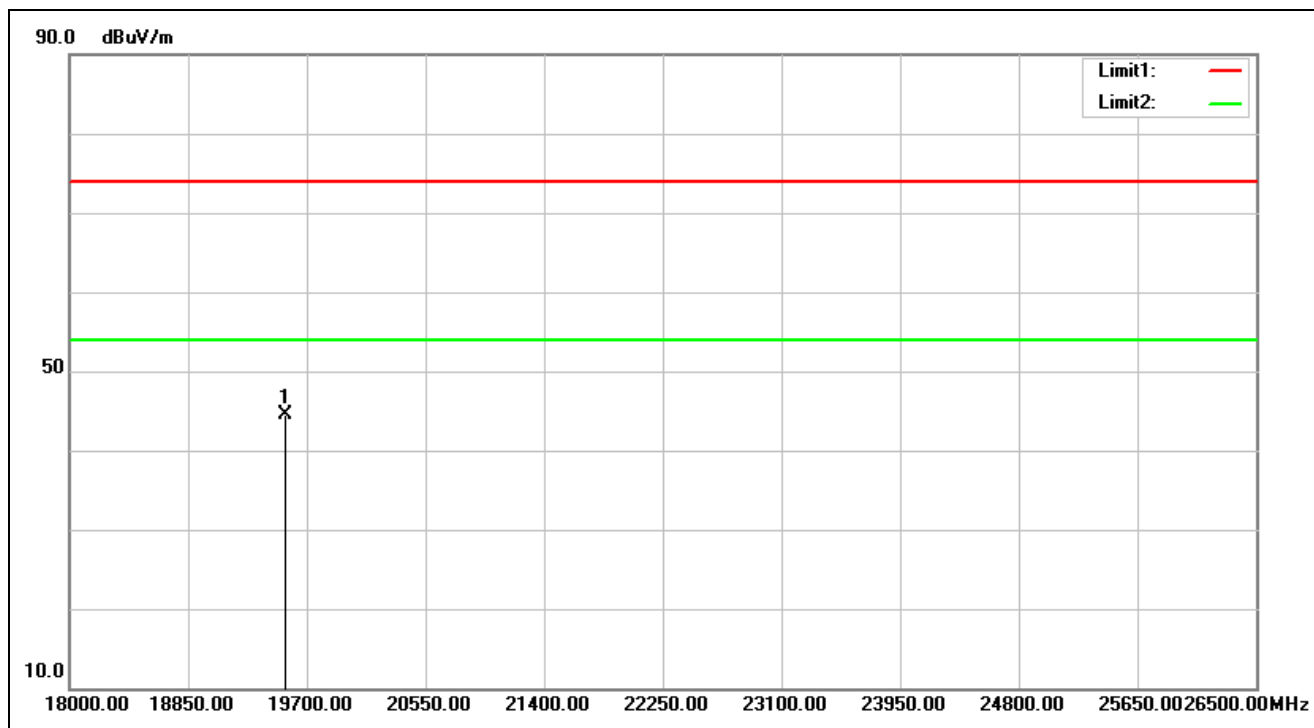
## Spurious Emissions, TX Mode, 18-26G



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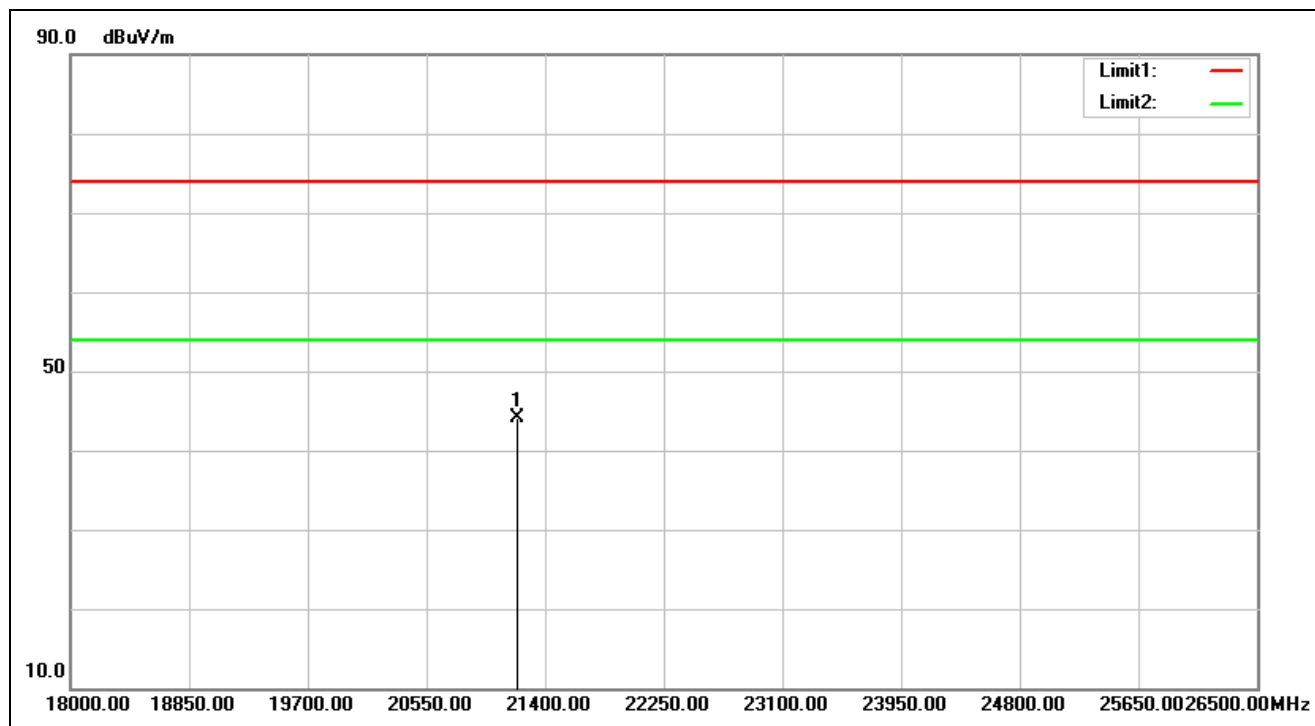
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Tel: +886-2172-7000 fax: +886-2528-0018



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/12/3 10:44:03
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%):	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19547.000	3.85	40.65	44.50	74.00	-29.50	peak	100	21	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 10:45:06</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2440-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21204.500	4.60	39.46	44.06	74.00	-29.94	peak	100	175	

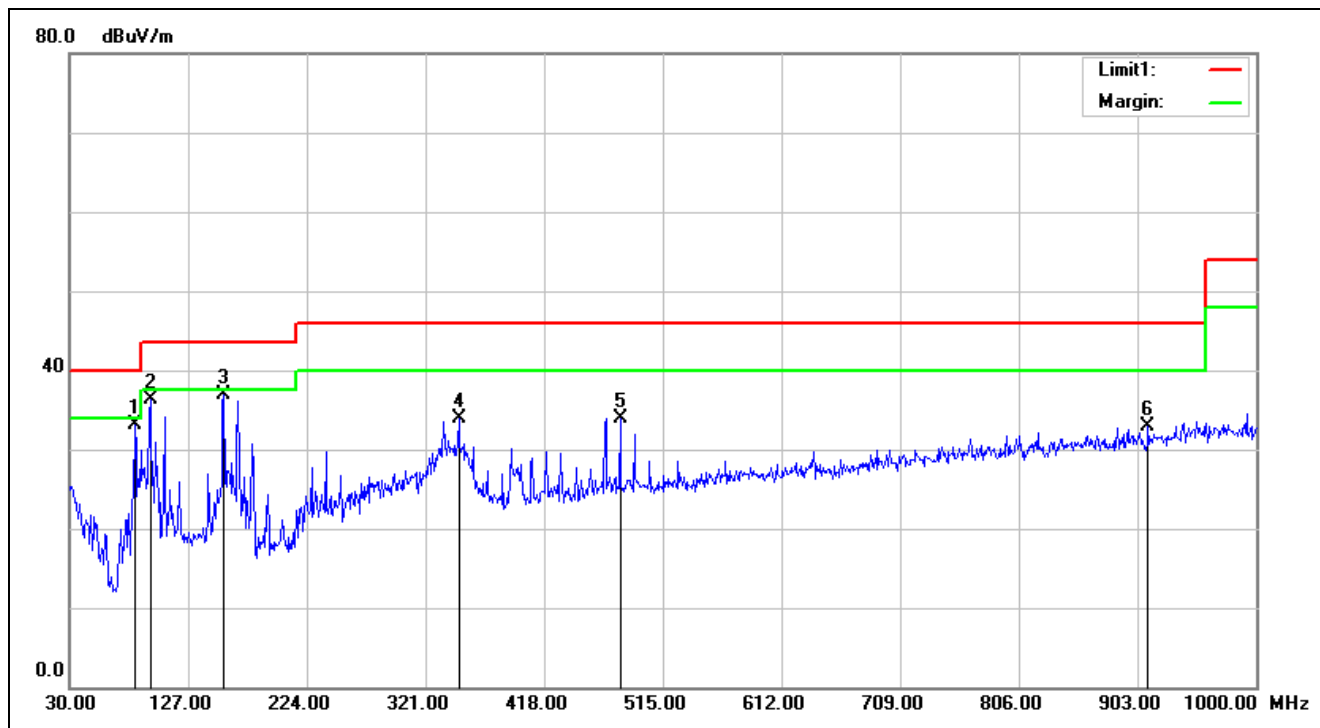
## Spurious Emissions, TX Mode, 30M-1G



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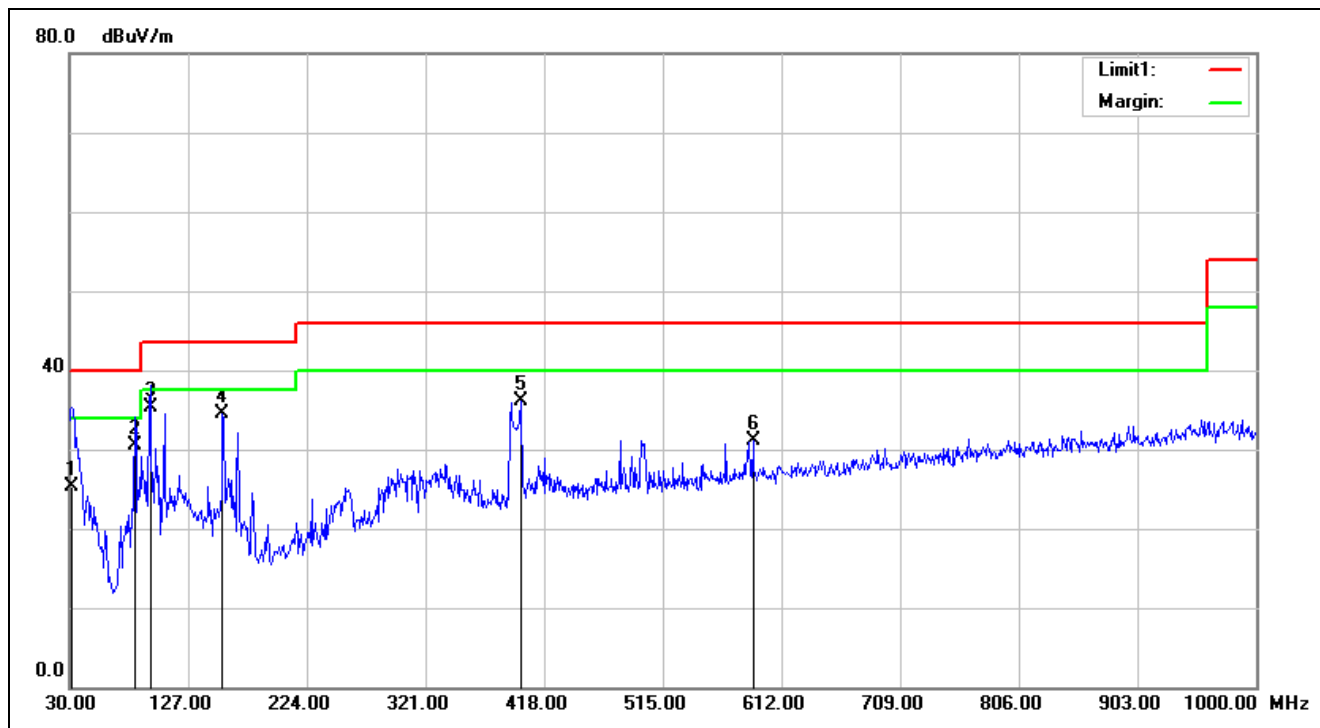
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/12/3 13:39:11
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	83.3499	-11.59	44.71	33.12	40.00	-6.88	QP	100	224	
2	95.9599	-10.14	46.52	36.38	43.50	-7.12	QP	100	29	
3	156.0999	-7.68	44.49	36.81	43.50	-6.69	QP	100	109	
4	348.1600	-3.39	37.27	33.88	46.00	-12.12	QP	100	201	
5	480.0799	-1.52	35.46	33.94	46.00	-12.06	QP	100	306	
6	911.7300	4.49	28.41	32.90	46.00	-13.10	QP	100	131	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Class B 3M Radiation</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 13:40:14</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2440-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	31.9400	-1.08	26.48	25.40	40.00	-14.60	QP	100	158	
2	83.3500	-11.58	42.18	30.60	40.00	-9.40	QP	100	341	
3	95.9600	-10.14	45.44	35.30	43.50	-8.20	QP	100	0	
4	155.1300	-7.59	42.04	34.45	43.50	-9.05	QP	100	288	
5	399.5700	-2.33	38.38	36.05	46.00	-9.95	QP	100	139	
6	588.7199	0.16	30.88	31.04	46.00	-14.96	QP	100	205	



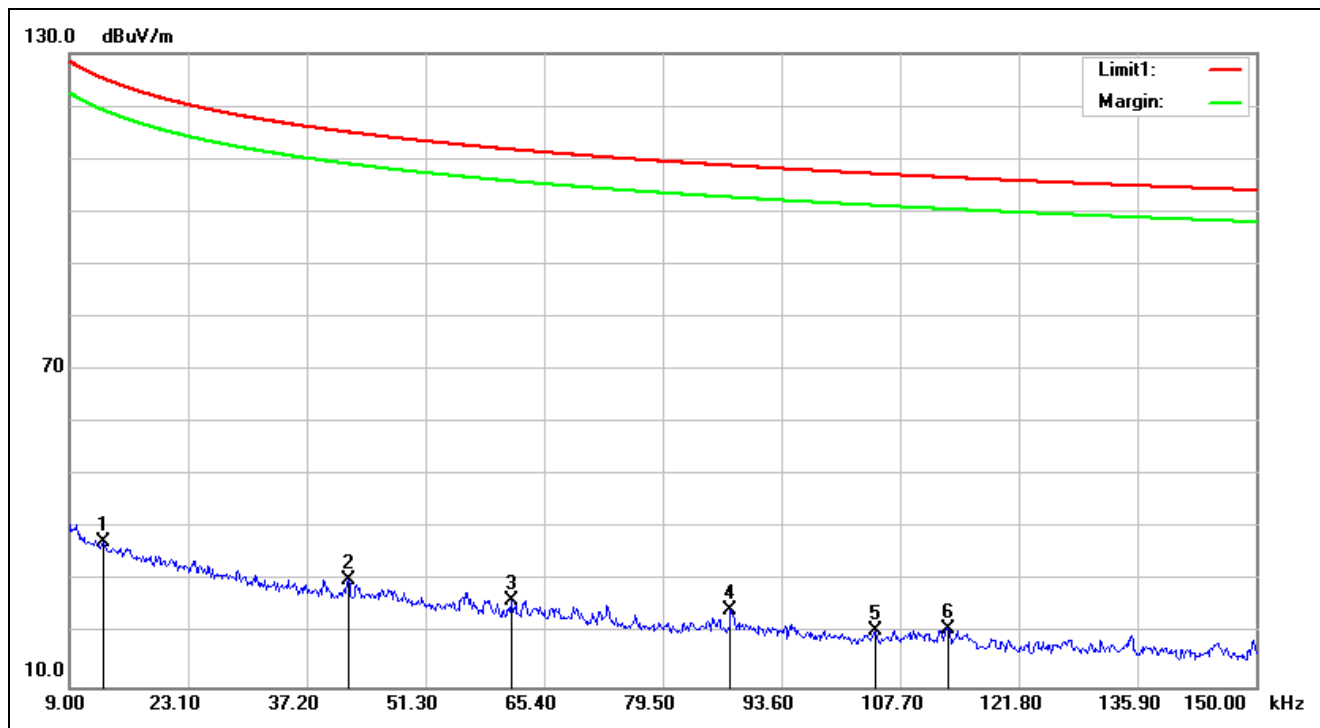
## Spurious Emissions, TX Mode, 9k-30M



TUV Rheinland Taiwan Ltd.

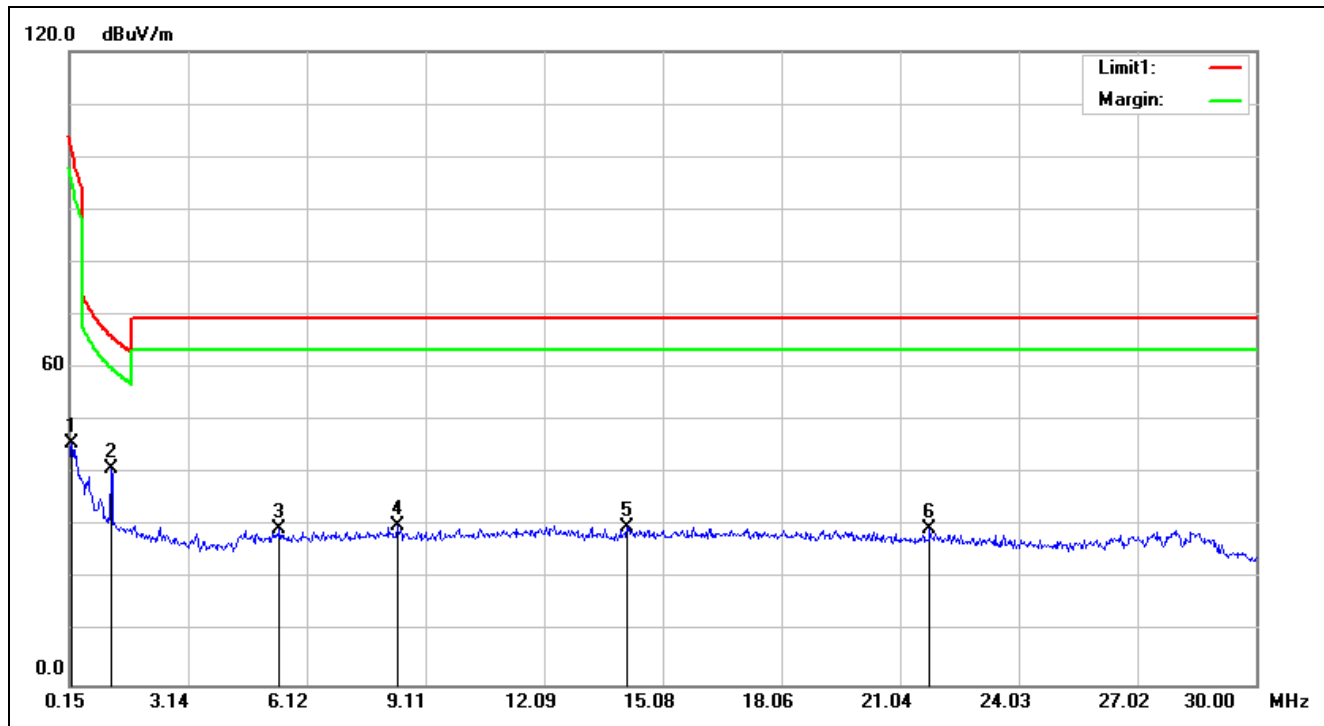
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Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/12/3 13:09:18
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-TX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0131	18.64	18.69	37.33	125.15	-87.82	QP	100	19	
2	0.0421	19.08	11.28	30.36	115.05	-84.69	QP	100	334	
3	0.0615	18.78	7.62	26.40	111.77	-85.37	QP	100	28	
4	0.0875	18.47	6.23	24.70	108.71	-84.01	QP	100	103	
5	0.1047	18.33	2.37	20.70	107.16	-86.46	QP	100	58	
6	0.1135	18.34	2.66	21.00	106.46	-85.46	QP	100	2	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC 15.209_9k-30M_3m</b>	<b>Ant. Polarization:</b>	<b>N/A</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 13:11:06</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2440-TX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.2097	18.39	27.27	45.66	101.15	-55.49	QP	100	188	
2	1.1947	18.66	22.38	41.04	66.08	-25.04	QP	100	266	
3	5.4334	19.56	10.09	29.65	69.50	-39.85	QP	100	36	
4	8.3886	20.13	10.01	30.14	69.50	-39.36	QP	100	54	
5	14.1795	20.93	8.96	29.89	69.50	-39.61	QP	100	10	
6	21.7913	21.67	7.76	29.43	69.50	-40.07	QP	100	24	

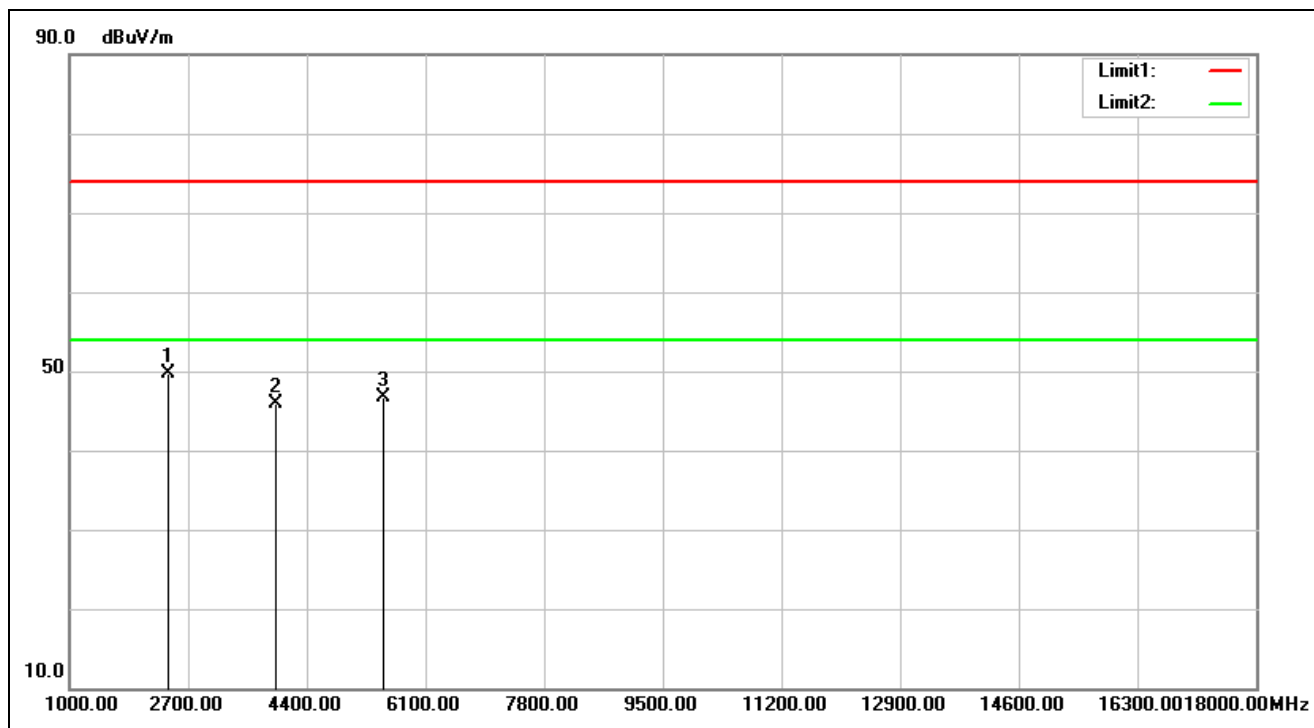
## Spurious Emissions, RX Mode, 1-18G



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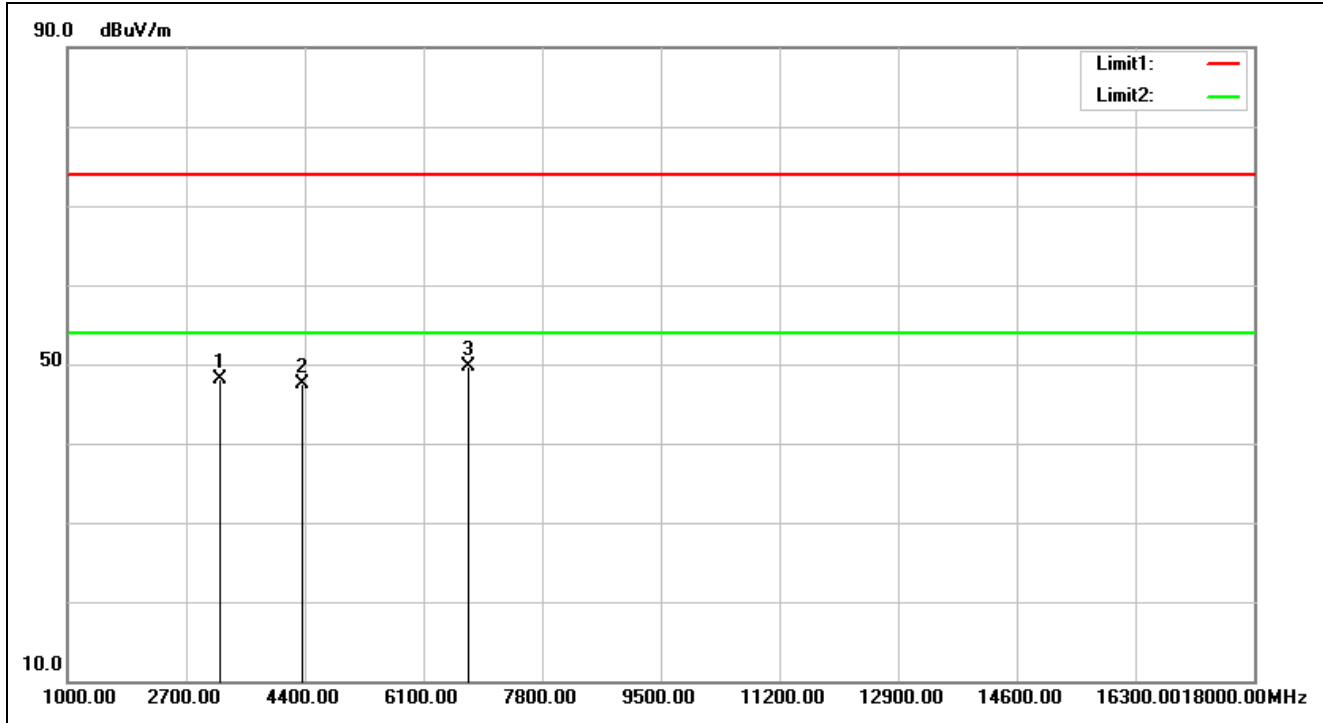
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 11:57:48</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>21.3(°C)/52%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Amy Hsu</b>
<b>Test Mode:</b>	<b>2440-RX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	2411.000	-4.11	53.83	49.72	74.00	-24.28	peak	100	179	
2	3958.000	-0.43	46.33	45.90	74.00	-28.10	peak	100	108	
3	5488.000	3.45	43.31	46.76	74.00	-27.24	peak	100	210	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/11/30 11:58:50</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%)</b>	<b>21.3(°C)/52%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Amy Hsu</b>
<b>Test Mode:</b>	<b>2440-RX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3176.000	-2.02	50.18	48.16	74.00	-25.84	peak	100	169	
2	4366.000	1.09	46.39	47.48	74.00	-26.52	peak	100	130	
3	6746.000	4.32	45.46	49.78	74.00	-24.22	peak	100	332	

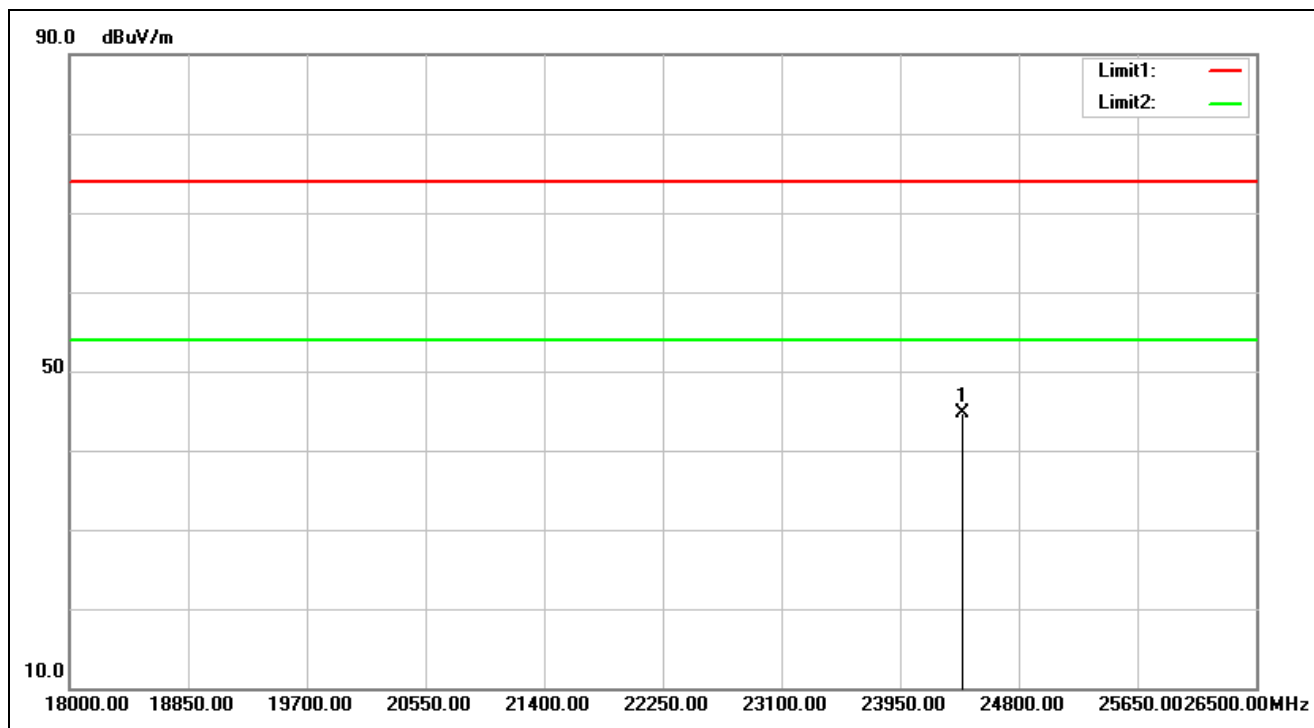
## Spurious Emissions, RX Mode, 18-26G



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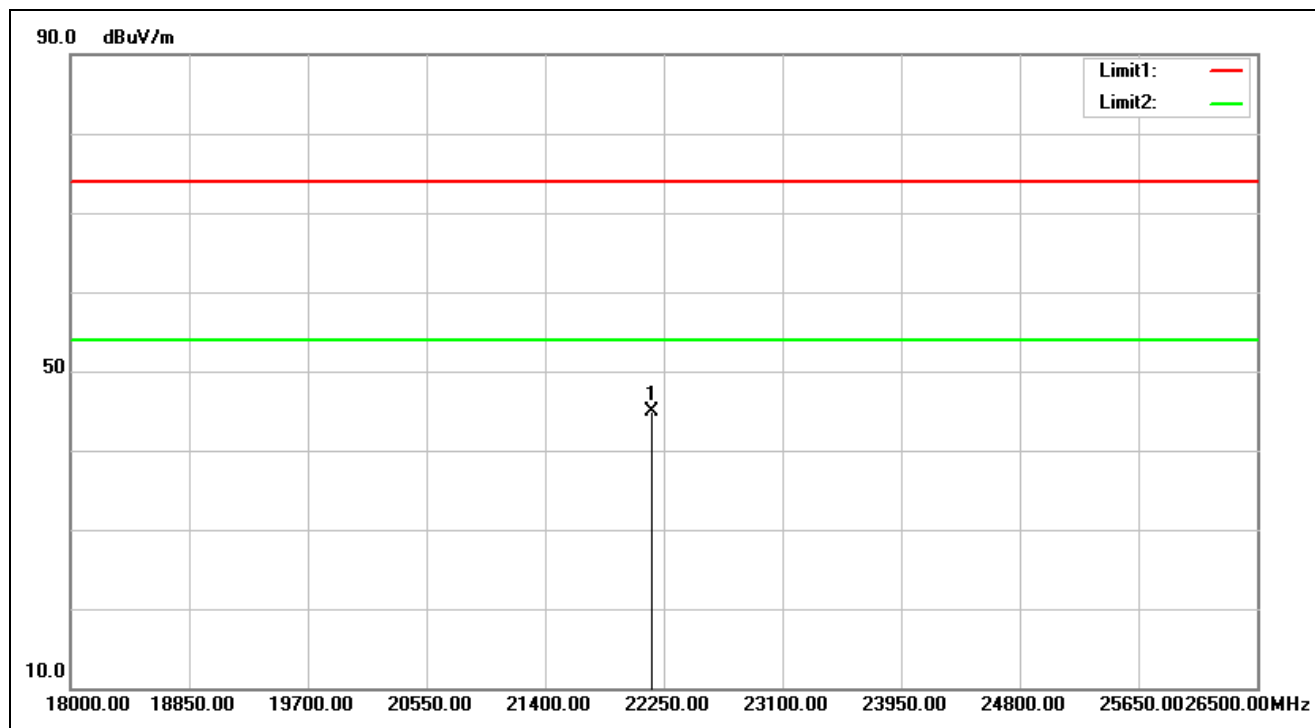
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Tel: +886-2172-7000 fax: +886-2528-0018



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 10:46:46</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2440-RX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	24392.000	5.27	39.43	44.70	74.00	-29.30	peak	100	10	



<b>Service No.:</b>	<b>114080534</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC&amp;ISED Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2018/12/3 10:47:48</b>
<b>Applicant:</b>	<b>Microchip Technology Inc.</b>	<b>Test Rating:</b>	<b>DC 3.8V</b>
<b>Product:</b>	<b>Bluetooth Module</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>22.4(°C)/57%</b>
<b>Model No.:</b>	<b>BM83AM1, BM83AL1</b>	<b>Test Engineer:</b>	<b>Kevin Kuo</b>
<b>Test Mode:</b>	<b>2440-RX</b>		
<b>Remark:</b>	<b>un-shield</b>		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22165.000	4.26	40.64	44.90	74.00	-29.10	peak	100	322	

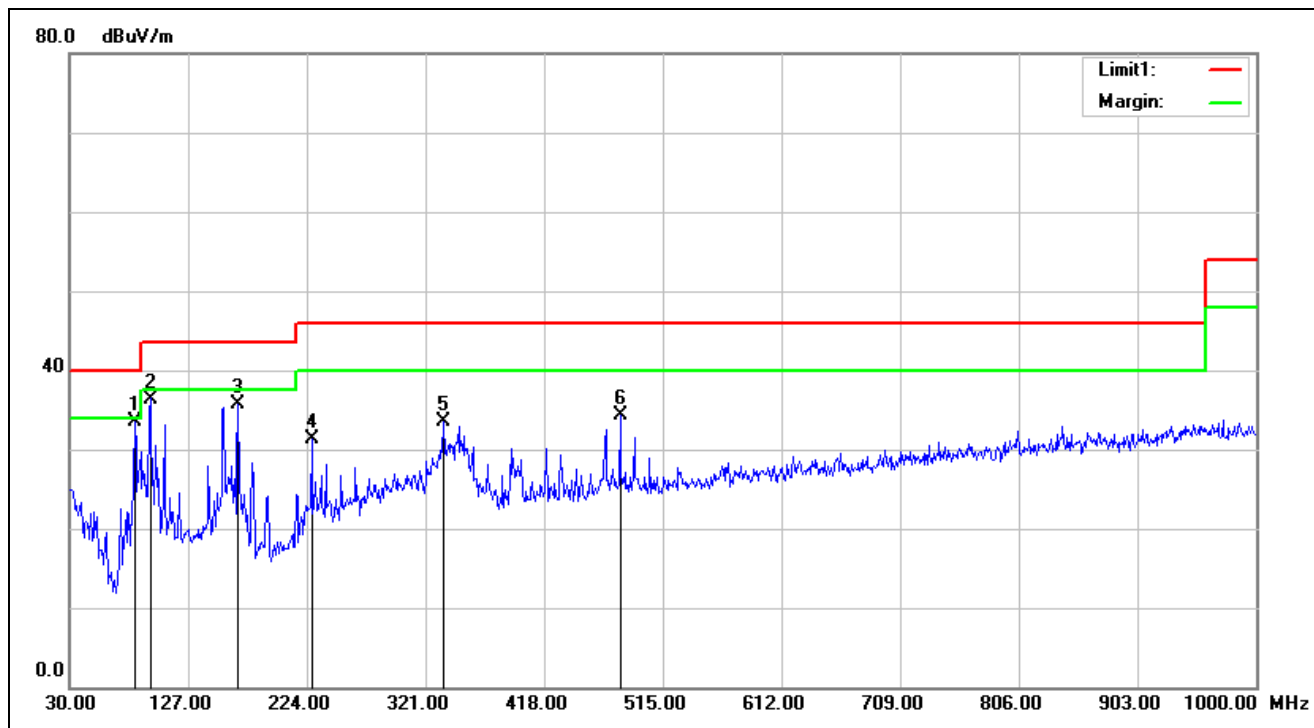
## Spurious Emissions, RX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

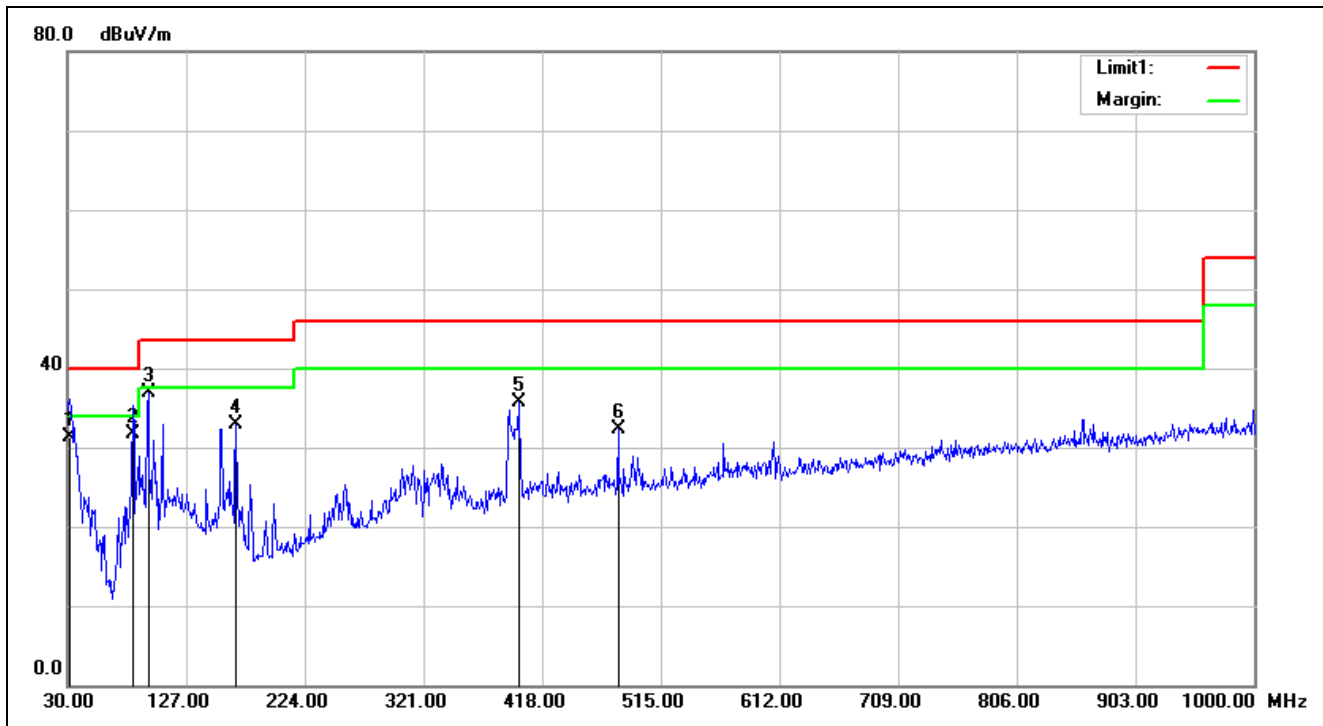
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2018/12/3 13:46:32
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	83.3499	-11.59	45.03	33.44	40.00	-6.56	QP	100	18	
2	95.9599	-10.14	46.54	36.40	43.50	-7.10	QP	100	222	
3	167.7400	-8.76	44.56	35.80	43.50	-7.70	QP	100	209	
4	227.8799	-7.72	39.03	31.31	46.00	-14.69	QP	100	3	
5	335.5500	-3.73	37.22	33.49	46.00	-12.51	QP	100	104	
6	480.0799	-1.52	35.90	34.38	46.00	-11.62	QP	100	223	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC&ISED Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2018/12/3 13:47:35
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	31.9400	-1.08	32.38	31.30	40.00	-8.70	QP	100	260	
2	83.3500	-11.58	43.28	31.70	40.00	-8.30	QP	100	64	
3	95.9600	-10.14	47.00	36.86	43.50	-6.64	QP	100	360	
4	167.7400	-8.76	41.70	32.94	43.50	-10.56	QP	100	245	
5	398.6000	-2.37	37.98	35.61	46.00	-10.39	QP	100	157	
6	480.0800	-1.52	33.74	32.22	46.00	-13.78	QP	100	115	



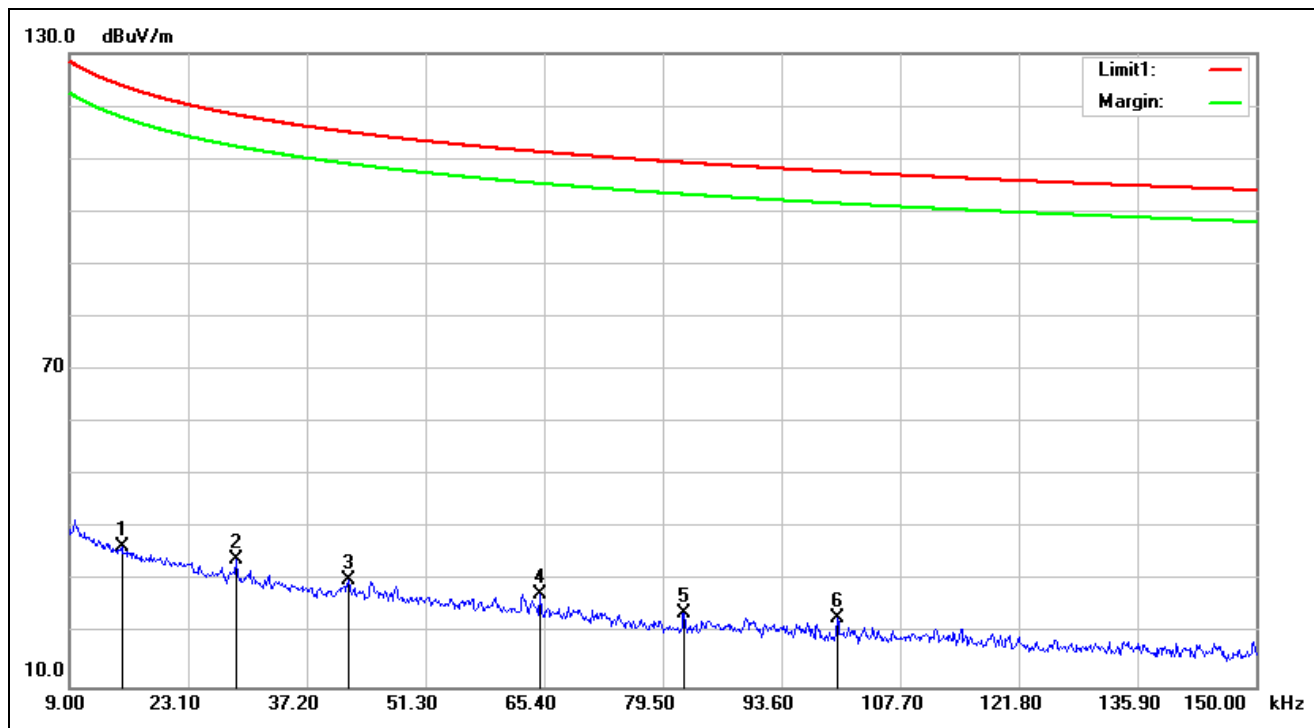
## Spurious Emissions, RX Mode, 9K-30M



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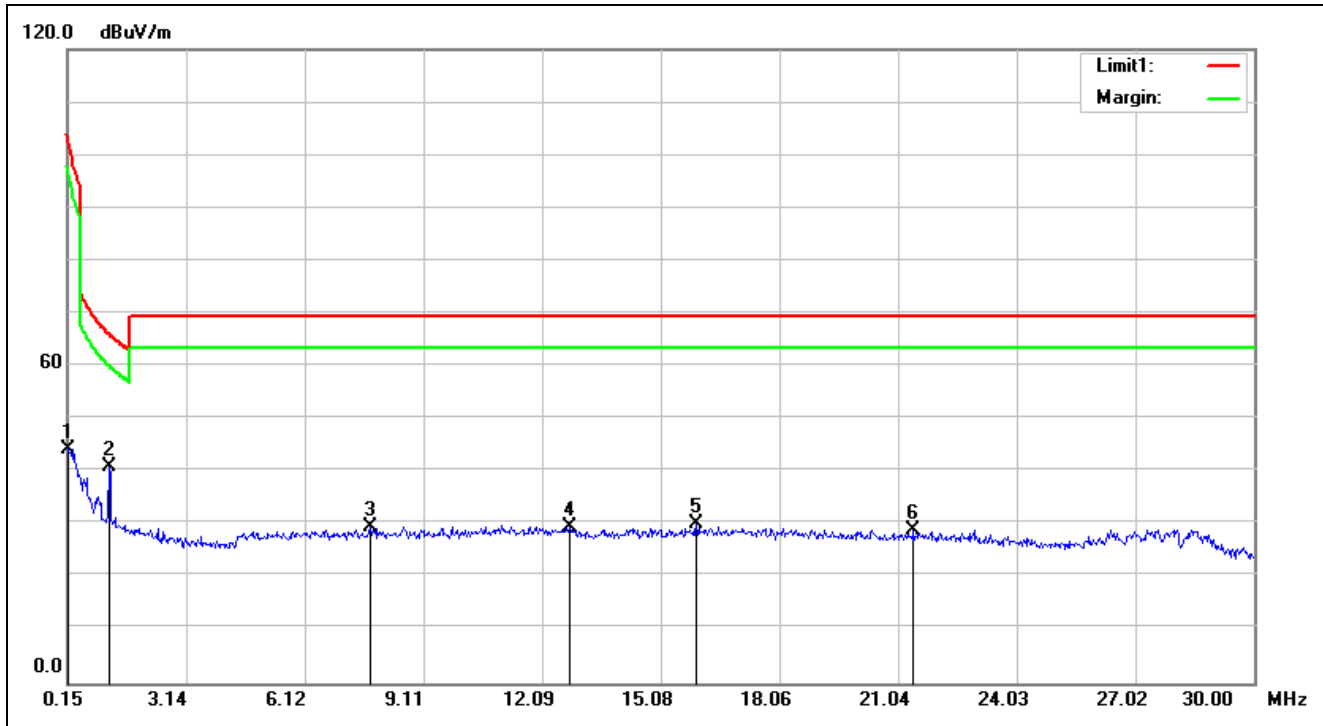
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Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/12/3 13:17:55
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0152	18.73	17.86	36.59	123.87	-87.28	QP	100	266	
2	0.0289	19.28	14.74	34.02	118.30	-84.28	QP	100	37	
3	0.0421	19.08	11.05	30.13	115.05	-84.92	QP	100	14	
4	0.0650	18.74	8.88	27.62	111.29	-83.67	QP	100	245	
5	0.0820	18.54	5.41	23.95	109.27	-85.32	QP	100	308	
6	0.1002	18.33	4.67	23.00	107.54	-84.54	QP	100	144	



Service No.:	114080534	Test Distance:	3m
Test Standard:	FCC 15.209_9k-30M_3m	Ant. Polarization:	N/A
Test item:	Radiation Emission	Test Time:	2018/12/3 13:15:57
Applicant:	Microchip Technology Inc.	Test Rating:	DC 3.8V
Product:	Bluetooth Module	Temp.(°C)/Hum.(%)	22.4(°C)/57%
Model No.:	BM83AM1, BM83AL1	Test Engineer:	Kevin Kuo
Test Mode:	2440-RX		
Remark:	un-shield		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1500	18.35	26.05	44.40	104.05	-59.65	QP	100	36	
2	1.1947	18.66	22.41	41.07	66.08	-25.01	QP	100	49	
3	7.7618	20.01	9.46	29.47	69.50	-40.03	QP	100	178	
4	12.7766	20.77	8.89	29.66	69.50	-39.84	QP	100	30	
5	15.9705	21.14	9.06	30.20	69.50	-39.30	QP	100	212	
6	21.4331	21.65	7.32	28.97	69.50	-40.53	QP	100	11	

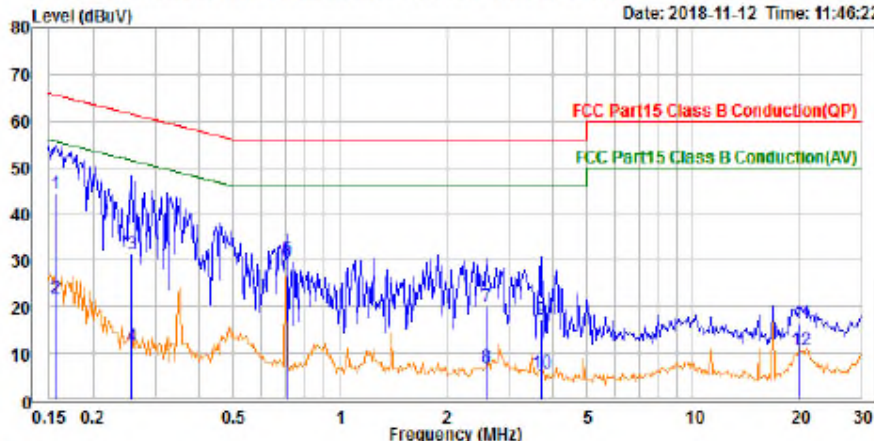
## Mains



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Date: 2018-11-12 Time: 11:46:22



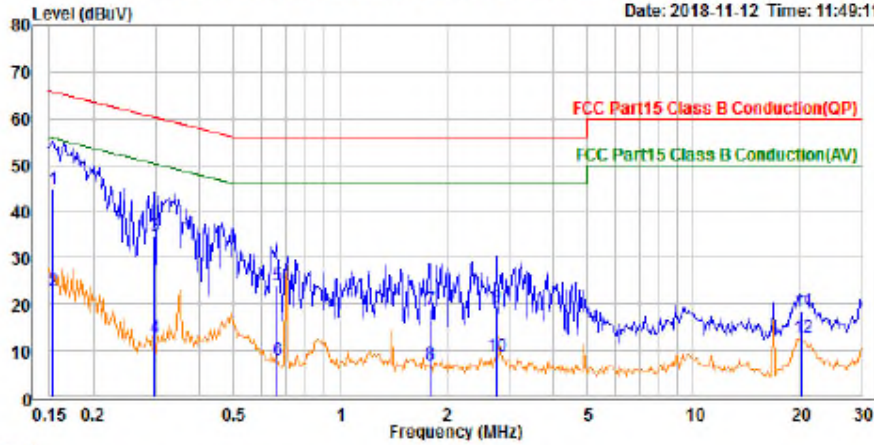
Trace: 1

Site : Conduction room  
Condition : FCC Part15 Class B Conduction(QP) line1  
Test Engineer: Amy Hsu  
Applicant : Microchip Technology  
Product : Bluetooth Module  
Model No. : BM83SM1, BM83SL1  
Test Rating : 15VDC( EVB- Host Board supply)  
Tmp/Hum : 21.8°C/48%  
Memo : BT link mode

		Read		Limit	Over	
	Freq	Level	Factor	Level	Line	Limit Remark
	MHz	dBuV	dB	dBuV	dBuV	dB
1	0.156	34.64	9.68	44.32	65.67	-21.35 QP
2	0.156	12.18	9.68	21.86	55.67	-33.81 Average
3	0.257	21.72	9.68	31.40	61.54	-30.14 QP
4	0.257	1.96	9.68	11.64	51.54	-39.98 Average
5	0.707	20.72	9.69	30.41	56.00	-25.59 QP
6	0.707	19.85	9.69	29.54	46.00	-16.46 Average
7	2.601	10.23	9.72	19.95	56.00	-36.05 QP
8	2.601	-2.74	9.72	6.98	46.00	-39.02 Average
9	3.720	7.72	9.74	17.46	56.00	-38.54 QP
10	3.720	-4.10	9.74	5.64	46.00	-40.36 Average
11	20.157	6.46	9.86	16.32	60.00	-43.68 QP
12	20.157	0.81	9.86	10.67	50.00	-39.33 Average

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Date: 2018-11-12 Time: 11:49:11



Trace: 1

Site : Conduction room  
Condition : FCC Part15 Class B Conduction(QP) neutral  
Test Engineer: Amy Hsu  
Applicant : Microchip Technology  
Product : Bluetooth Module  
Model No. : BM83SM1, BM83SL1  
Test Rating : 15VDC( EVB- Host Board supply)  
Temp/Hum : 21.8°C / 48%  
Memo : BT link mode

		Read			Limit	Over	
	Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.153	35.01	9.68	44.69	65.83	-21.14	QP
2	0.153	13.07	9.68	22.75	55.83	-33.08	Average
3	0.298	25.11	9.67	34.78	60.30	-25.52	QP
4	0.298	3.14	9.67	12.81	50.30	-37.49	Average
5	0.666	14.22	9.69	23.91	56.00	-32.09	QP
6	0.666	-1.81	9.69	7.88	46.00	-38.12	Average
7	1.800	9.09	9.72	18.81	56.00	-37.19	QP
8	1.800	-2.67	9.72	7.05	46.00	-38.95	Average
9	2.761	9.84	9.73	19.57	56.00	-36.43	QP
10	2.761	-0.92	9.73	8.81	46.00	-37.19	Average
11	20.359	8.58	9.91	18.49	60.00	-41.51	QP
12	20.359	2.75	9.91	12.66	50.00	-37.34	Average