

Test Report No.50209104 001

## Appendix D: Radiated and Mains Spurious Emission Data

(File: 50209104 001 AppendixD)

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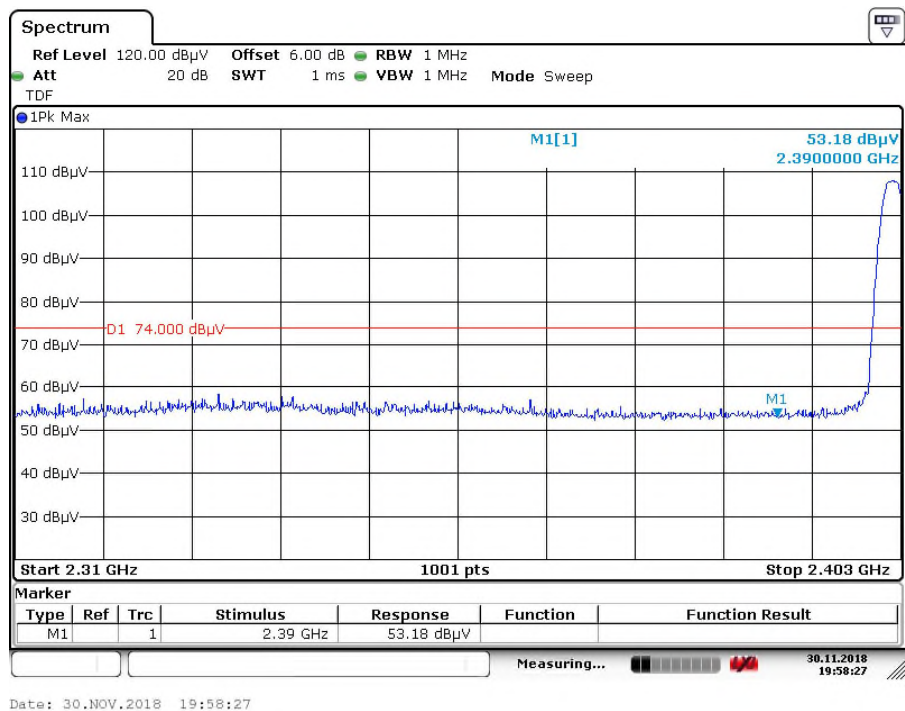
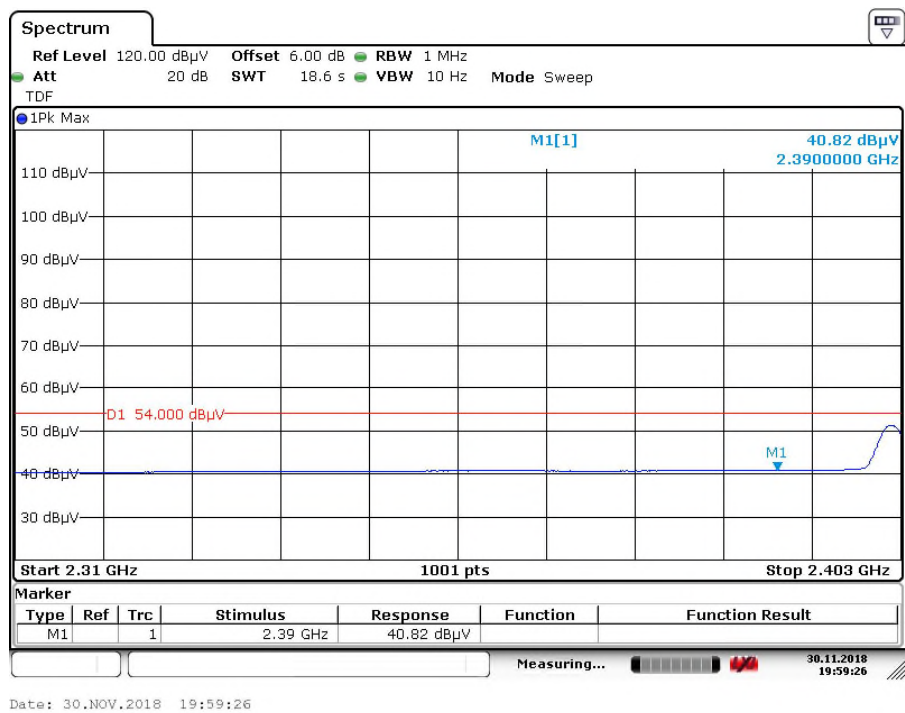
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Module with Shielded Case, Class 1

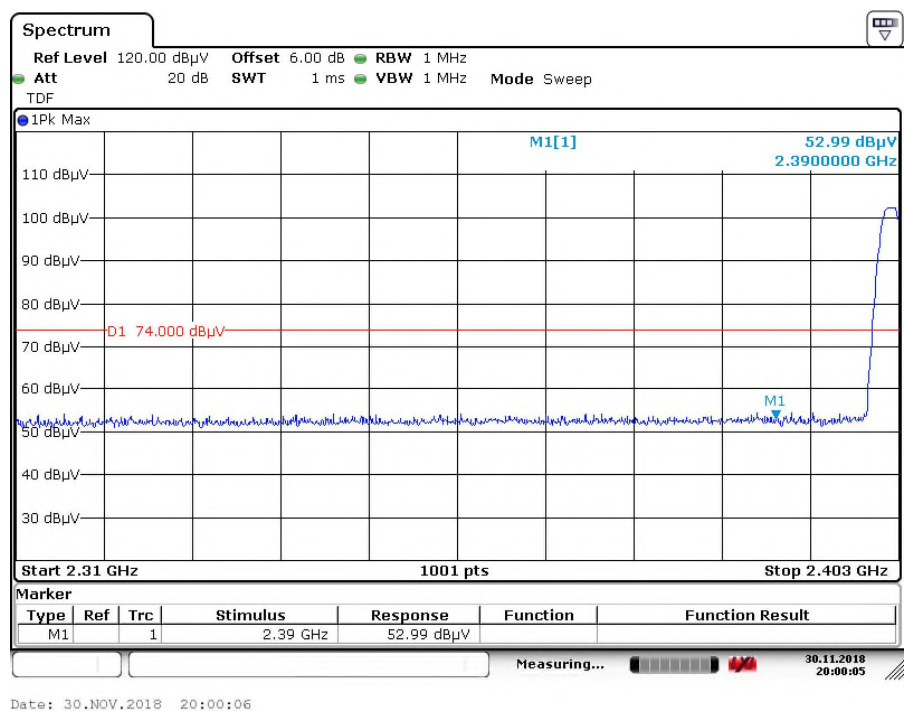
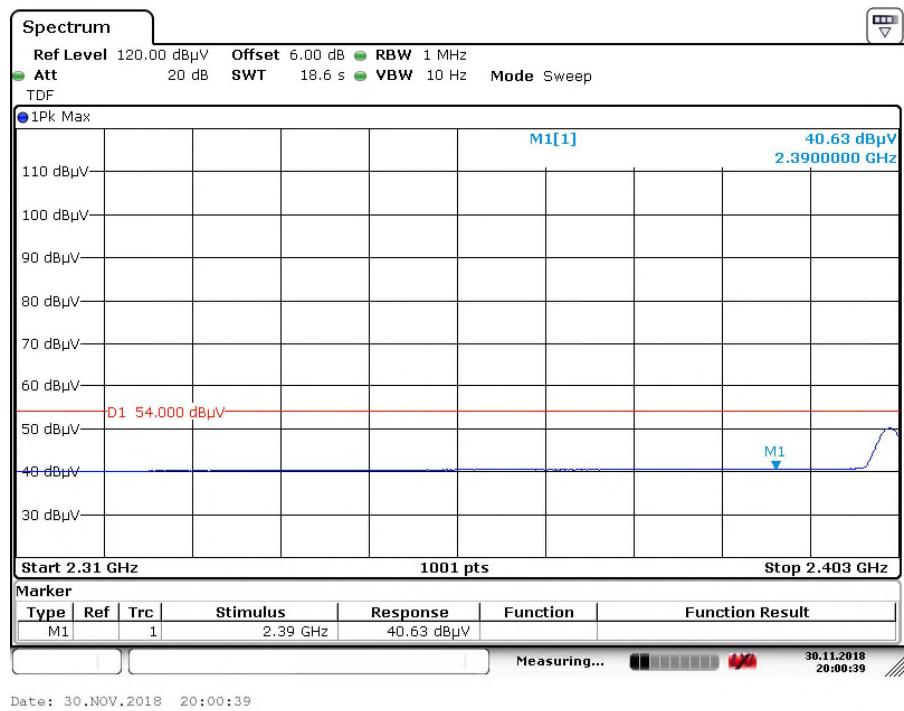
Spurious Emissions, Band Edges, 2.35-2.5G

Radiated Bandedge (GFSK)

Low Channel (Hor)

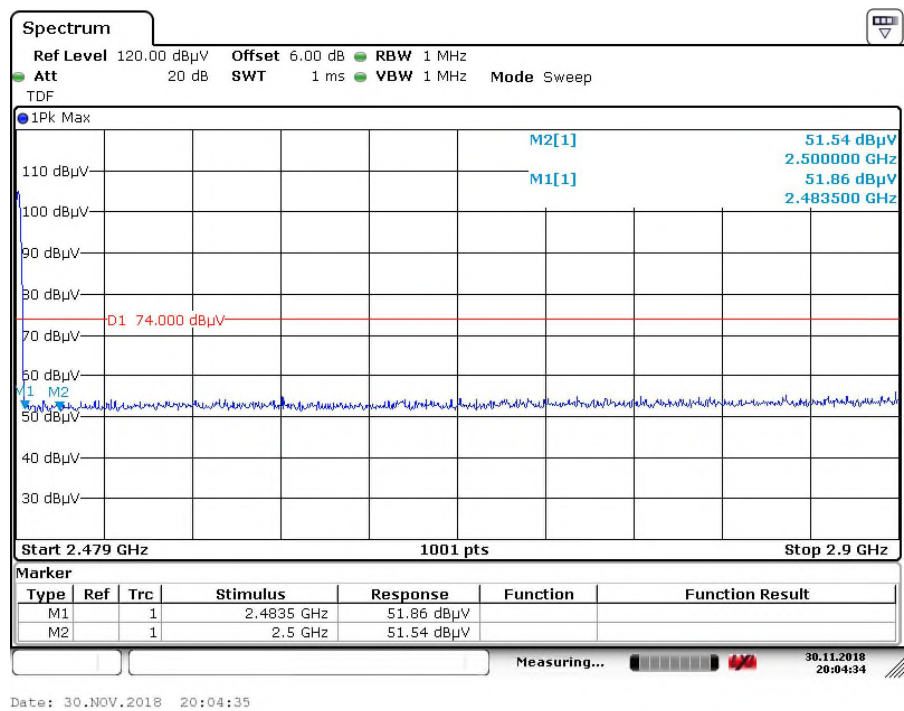
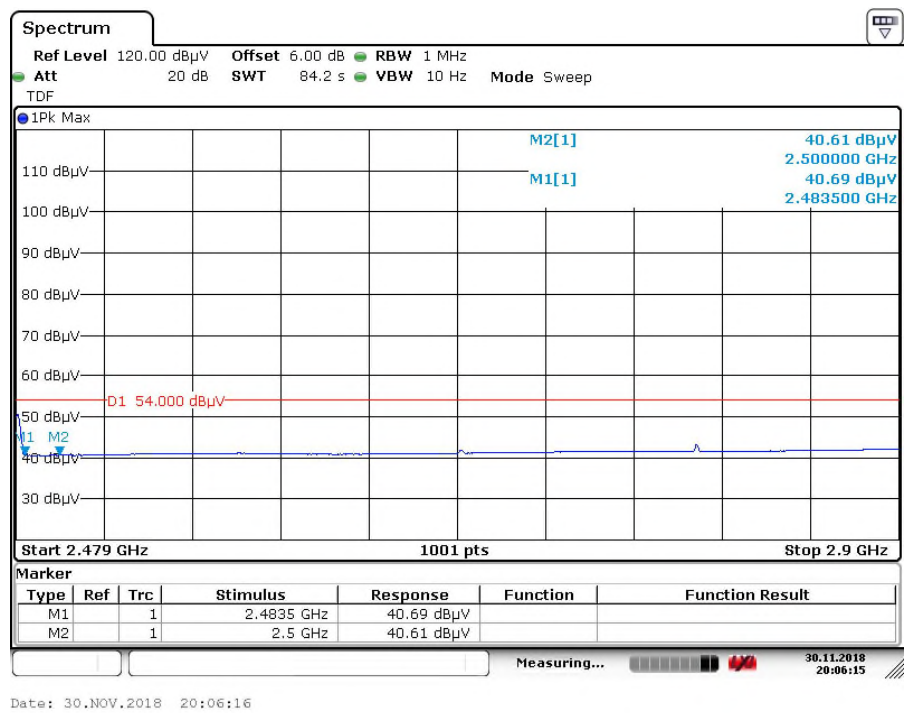


Low Channel (Ver)

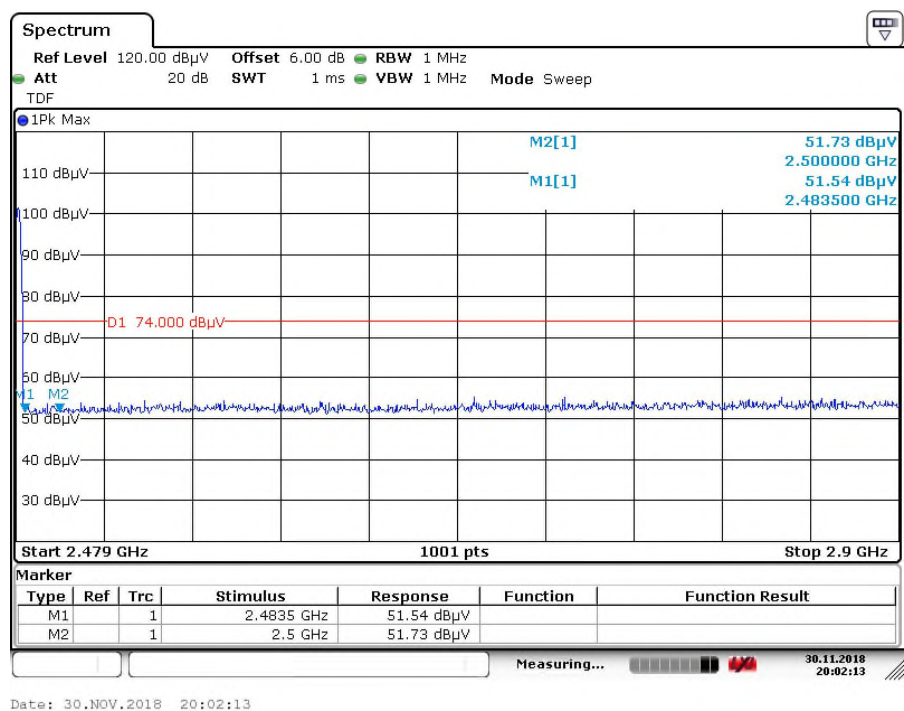
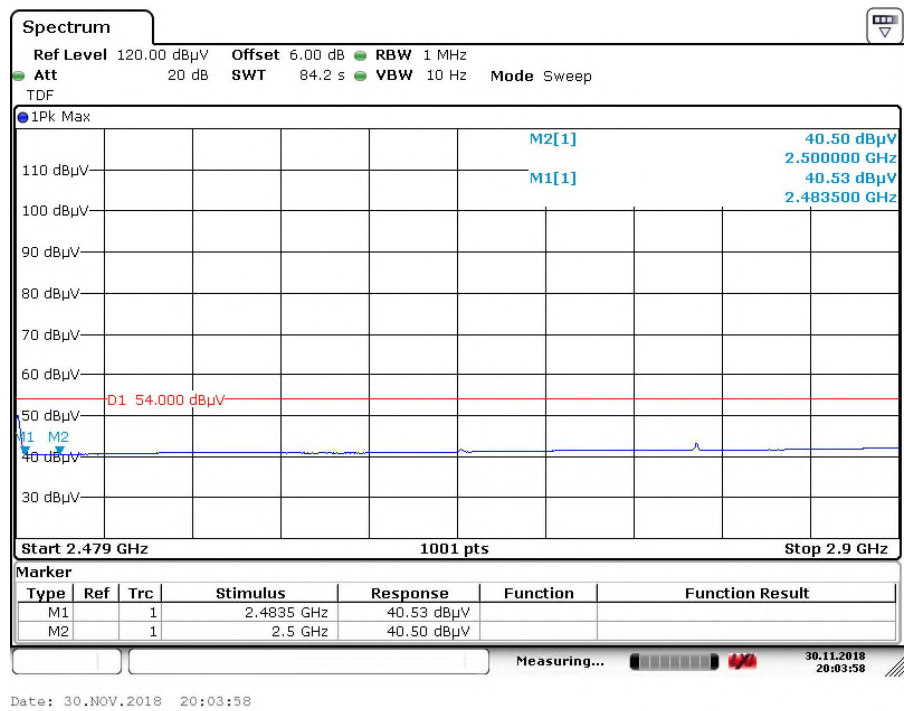


# Radiated Bandedge (GFSK)

## High Channel (Hor)



High Channel (Ver)



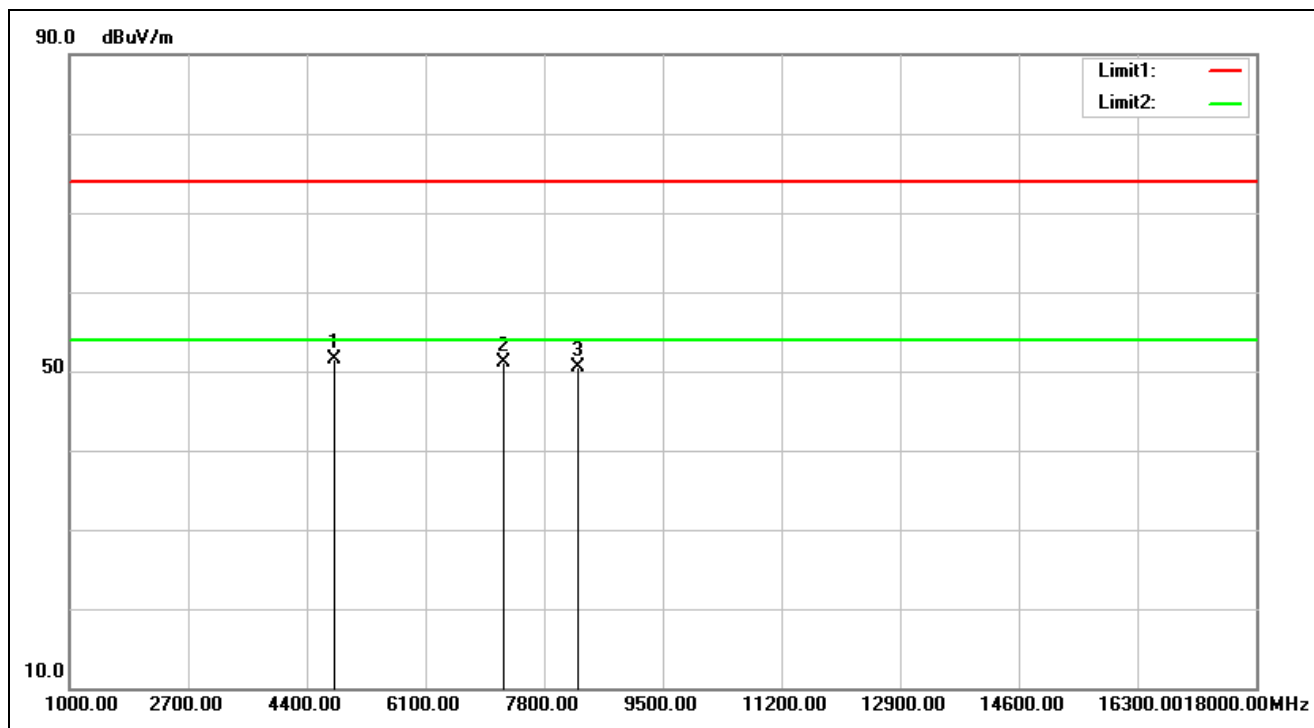
## Spurious Emissions, TX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

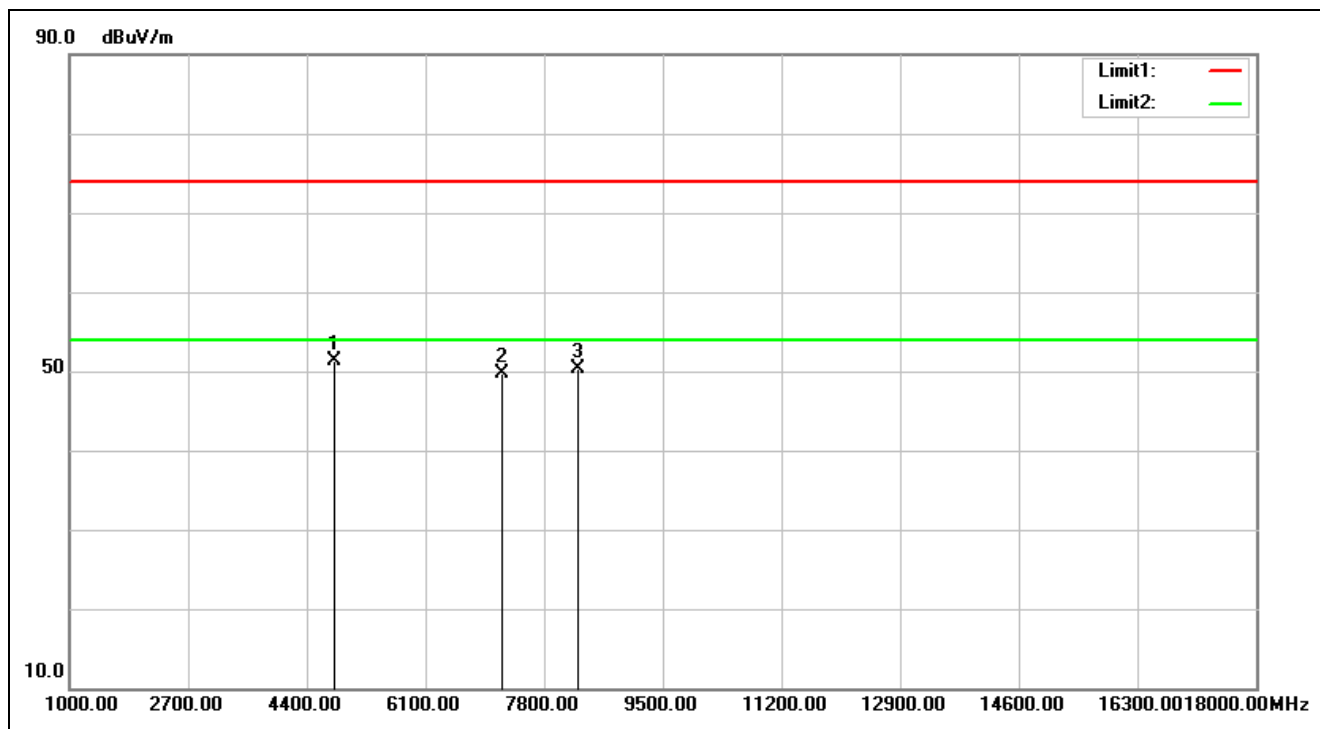
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



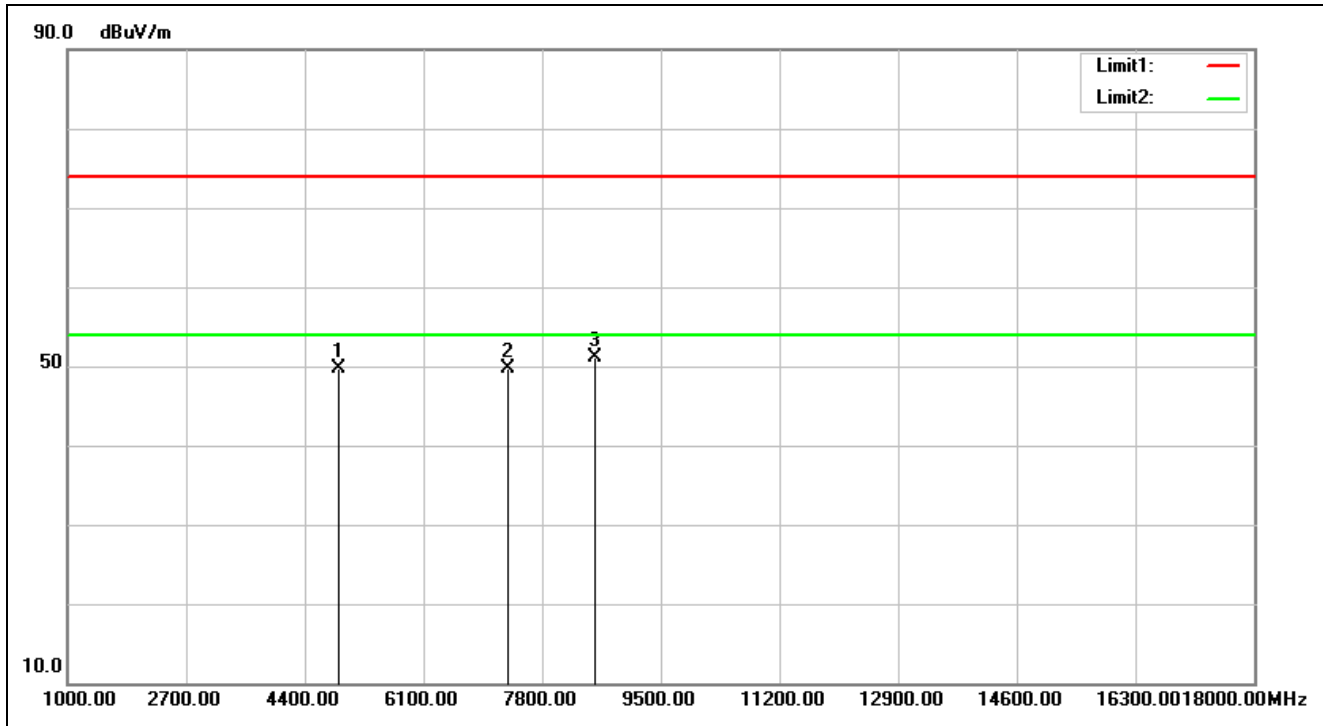
|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 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          |        |



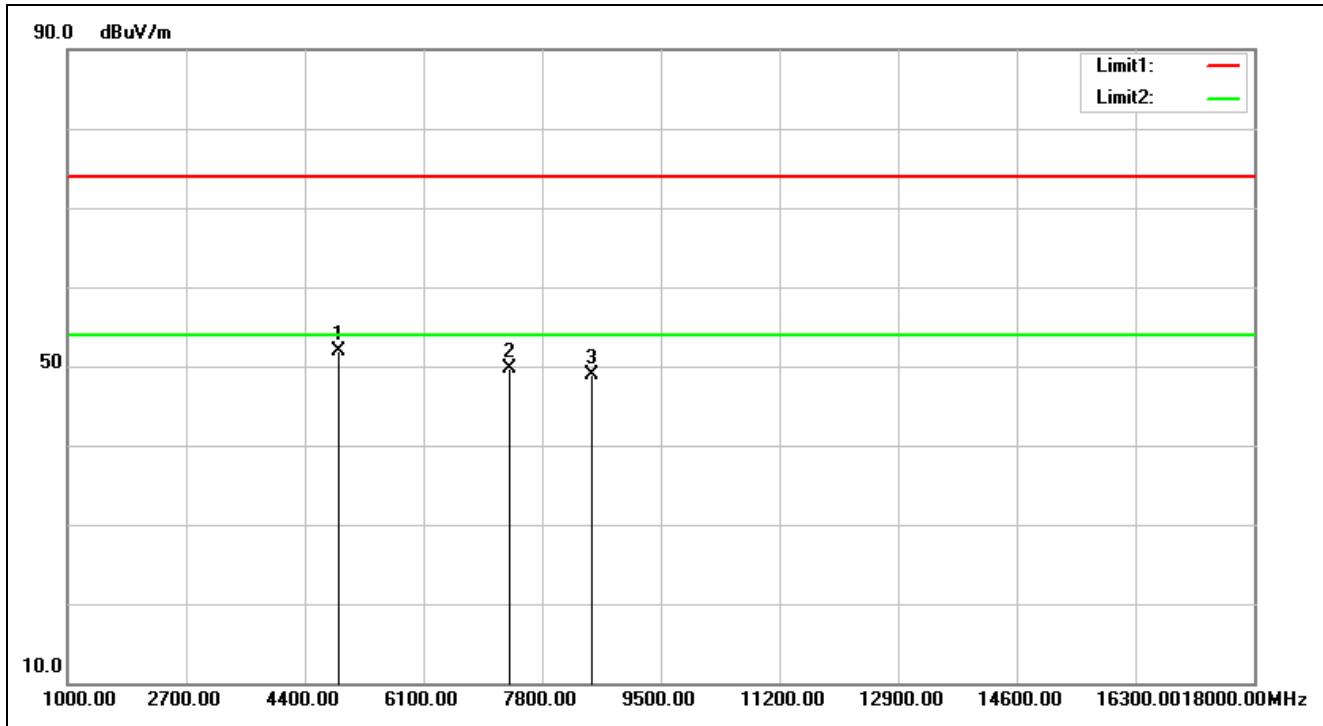
|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Vertical            |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 20:03:15 |
| 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          | 48.02          | 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         |        |



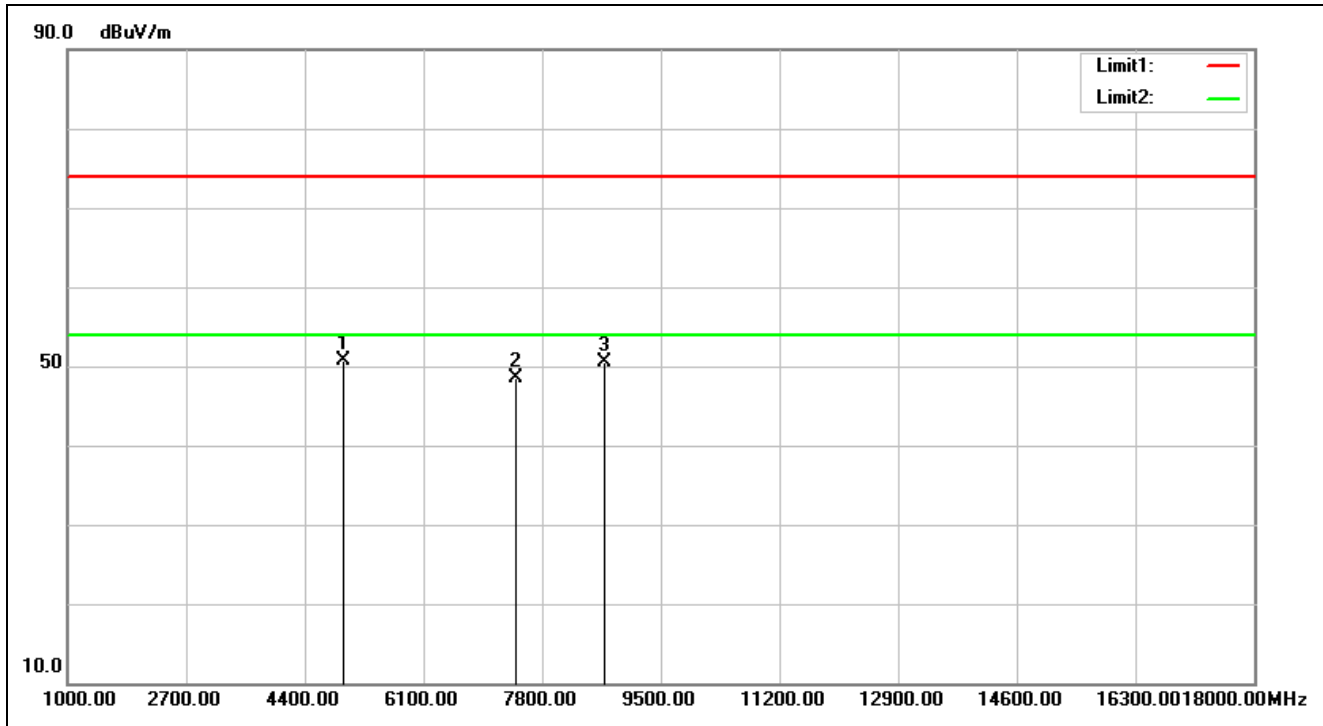
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|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 20:05:53 |
| 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:     | 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   | 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           |        |



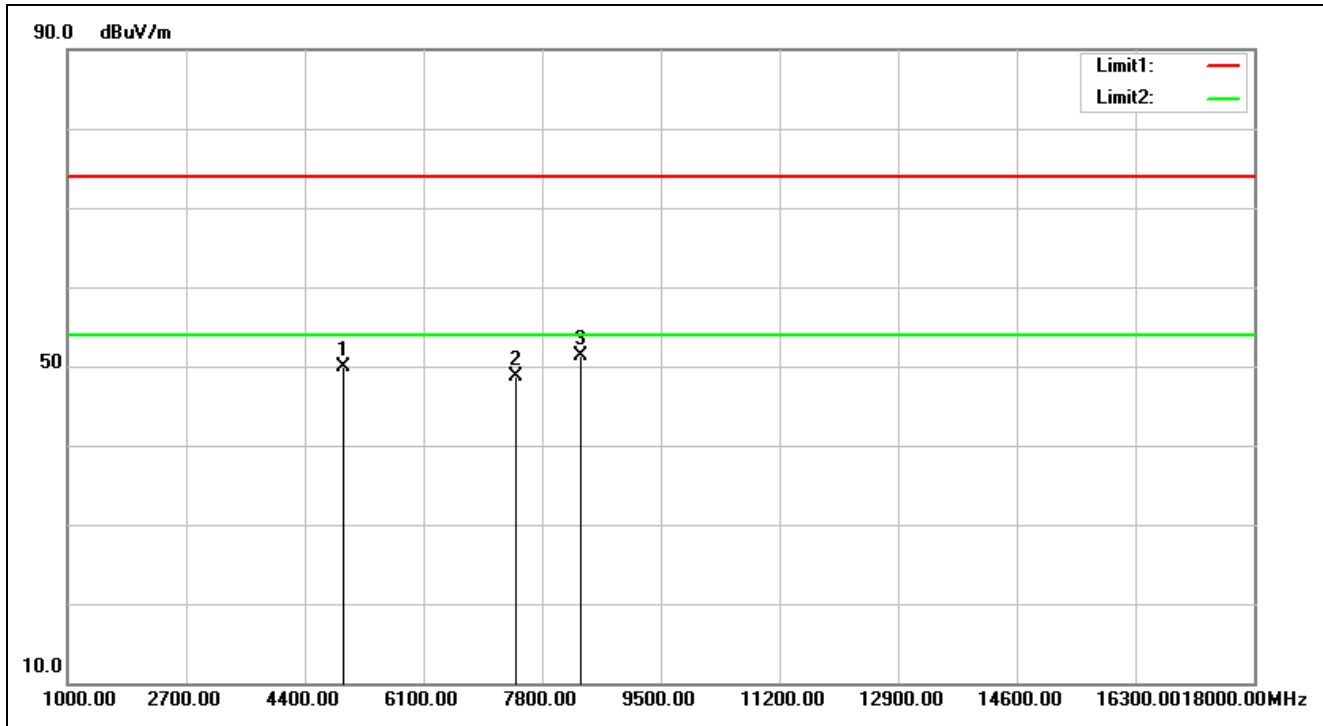
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|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Vertical            |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 20:06:46 |
| 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   | 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          |        |



|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| 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 20:10:37 |
| 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:     | 2480-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   | 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          |        |

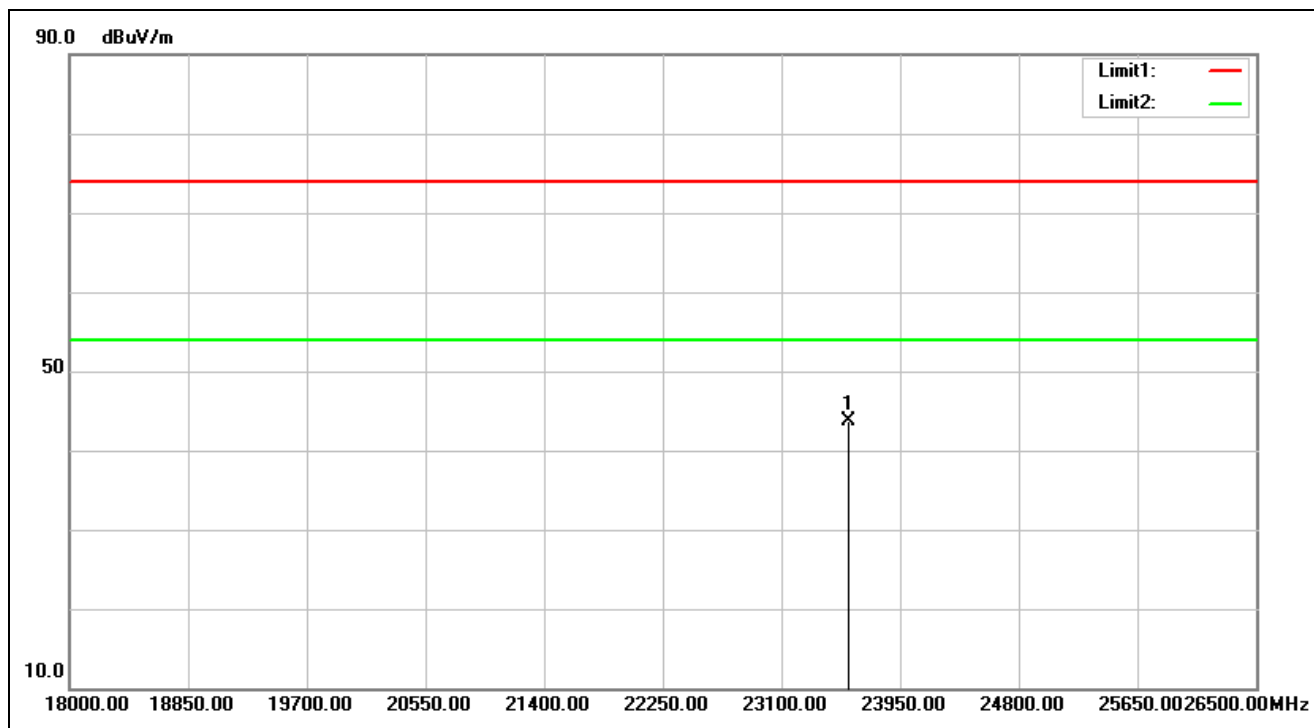
## Spurious Emissions, TX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

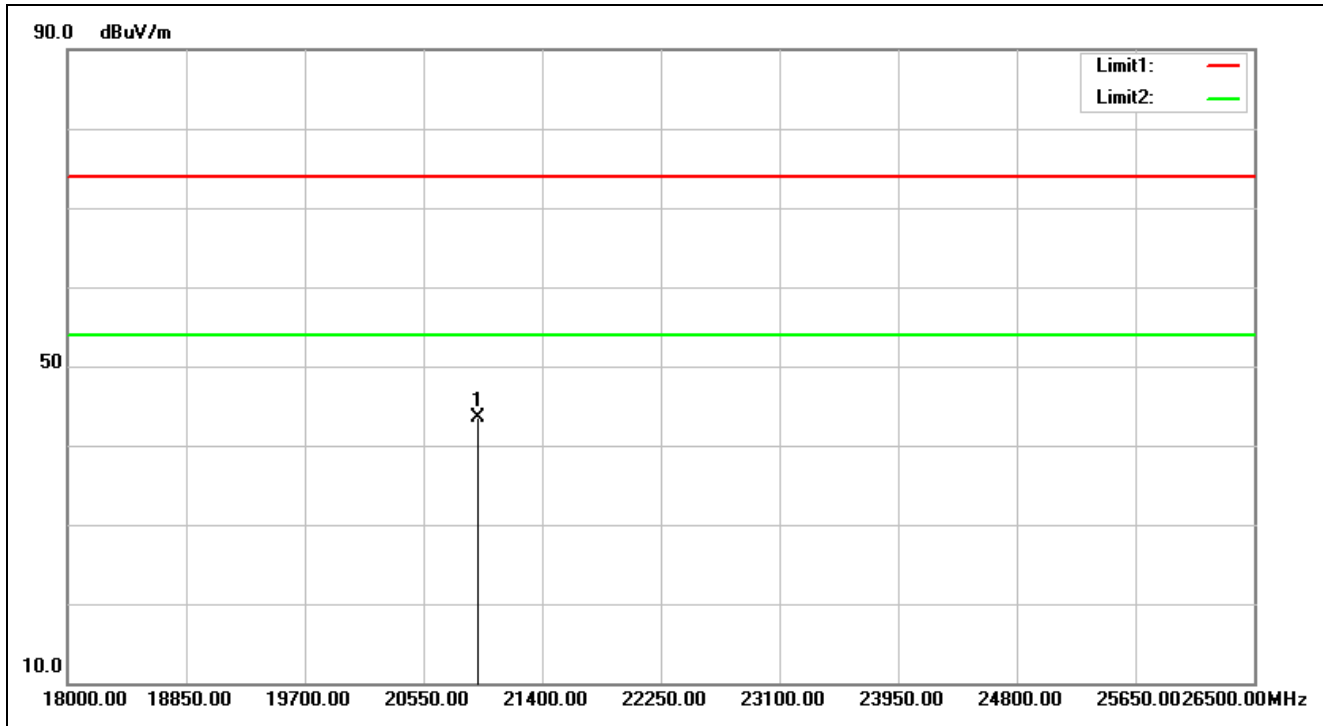
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



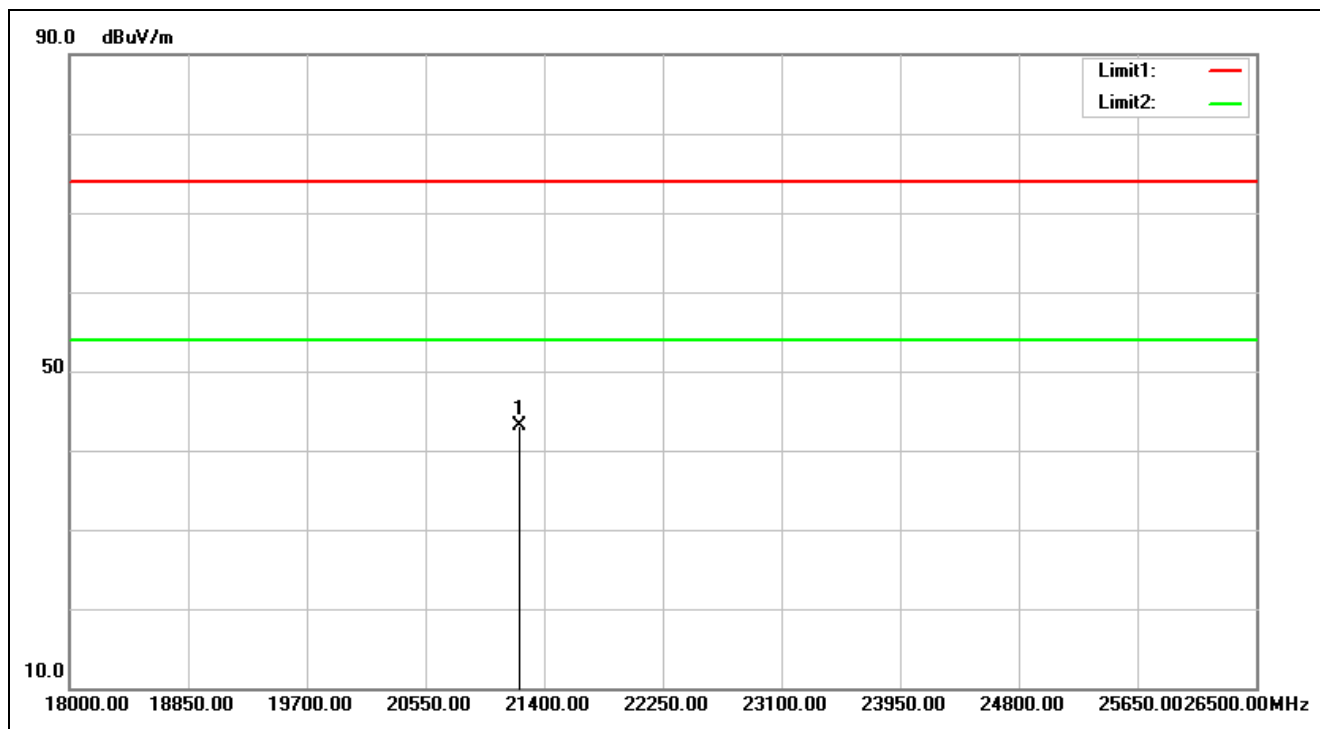
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|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 20:35:46 |
| 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   | 23584.500       | 5.80          | 37.91          | 43.71          | 74.00          | -30.29      | peak |             | 0           |        |



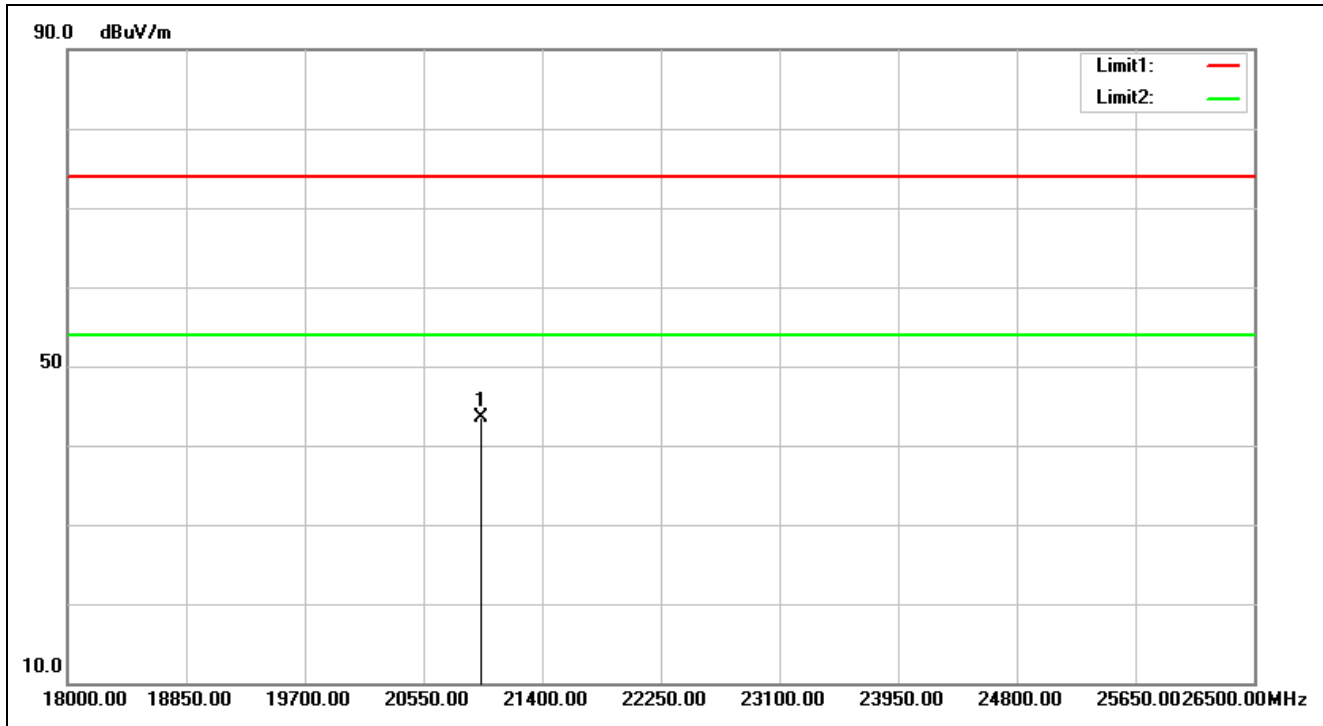
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|-----------------------|-----------------------------------|---------------------------|----------------------------|
| <b>Service No.:</b>   | <b>114080534</b>                  | <b>Test Distance:</b>     | <b>3m</b>                  |
| <b>Test Standard:</b> | <b>FCC&amp;ISED Above 1G PEAK</b> | <b>Ant. Polarization:</b> | <b>Vertical</b>            |
| <b>Test item:</b>     | <b>Radiation Emission</b>         | <b>Test Time:</b>         | <b>2018/11/30 20:35:53</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>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   | 20941.000       | 4.72          | 38.87          | 43.59          | 74.00          | -30.41      | peak |             |             |        |



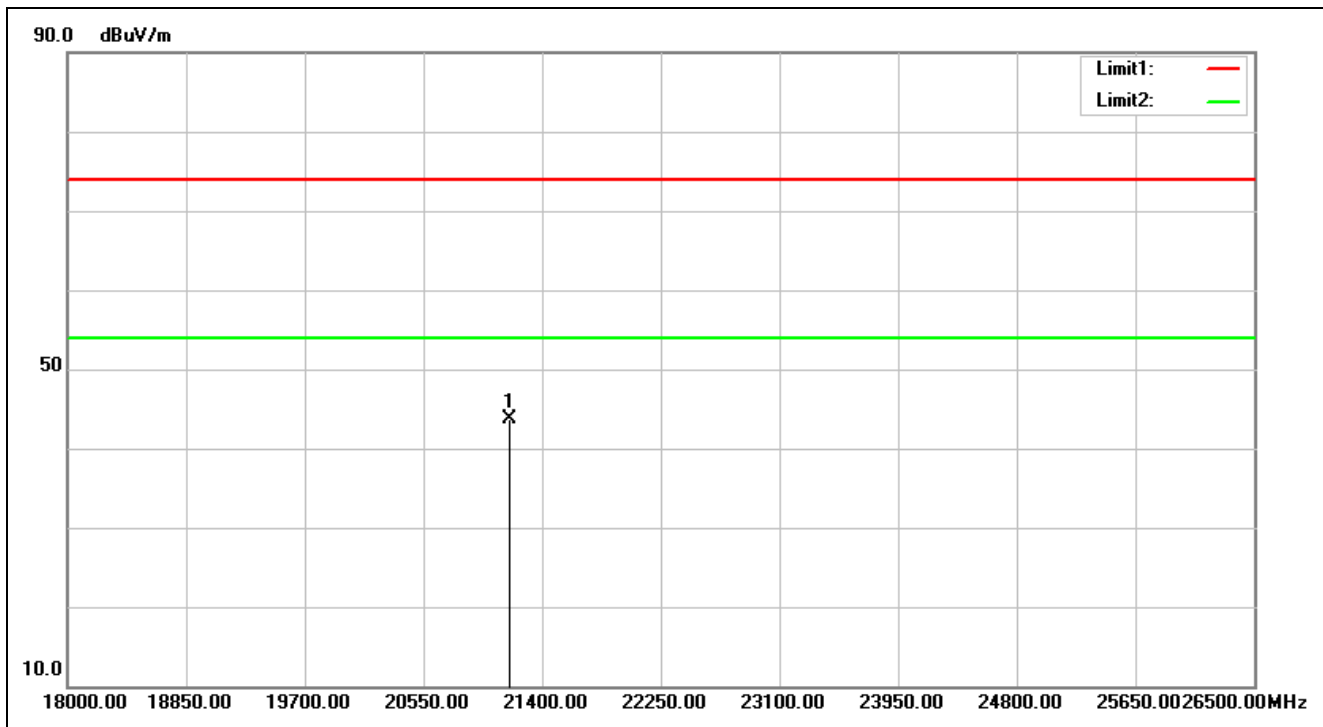
|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 20:36:19 |
| 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   | 21221.500       | 4.59          | 38.47          | 43.06          | 74.00          | -30.94      | peak |             |             |        |



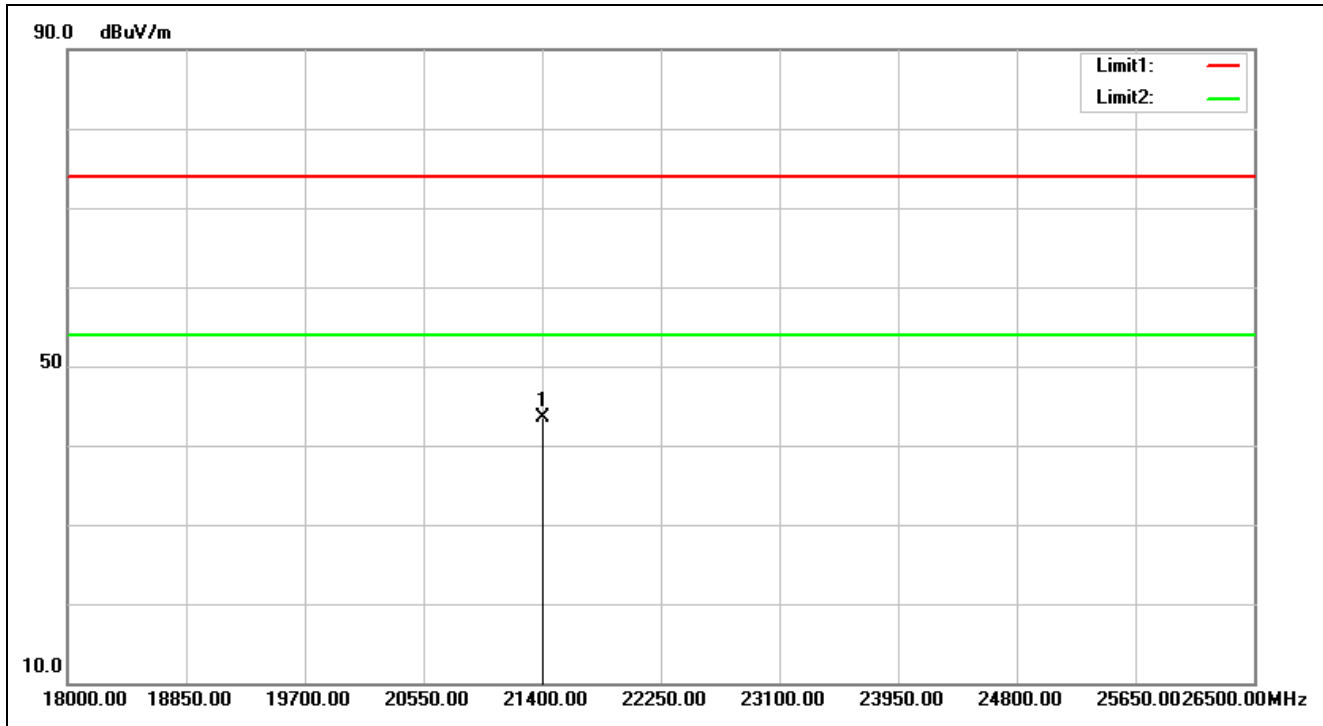
|                       |                                   |                           |                            |
|-----------------------|-----------------------------------|---------------------------|----------------------------|
| <b>Service No.:</b>   | <b>114080534</b>                  | <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 |             |             |        |



|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| 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 20:36:59 |
| 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:     | 2480-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   | 21400.000       | 4.42          | 39.02          | 43.44          | 74.00          | -30.56      | peak |             |             |        |

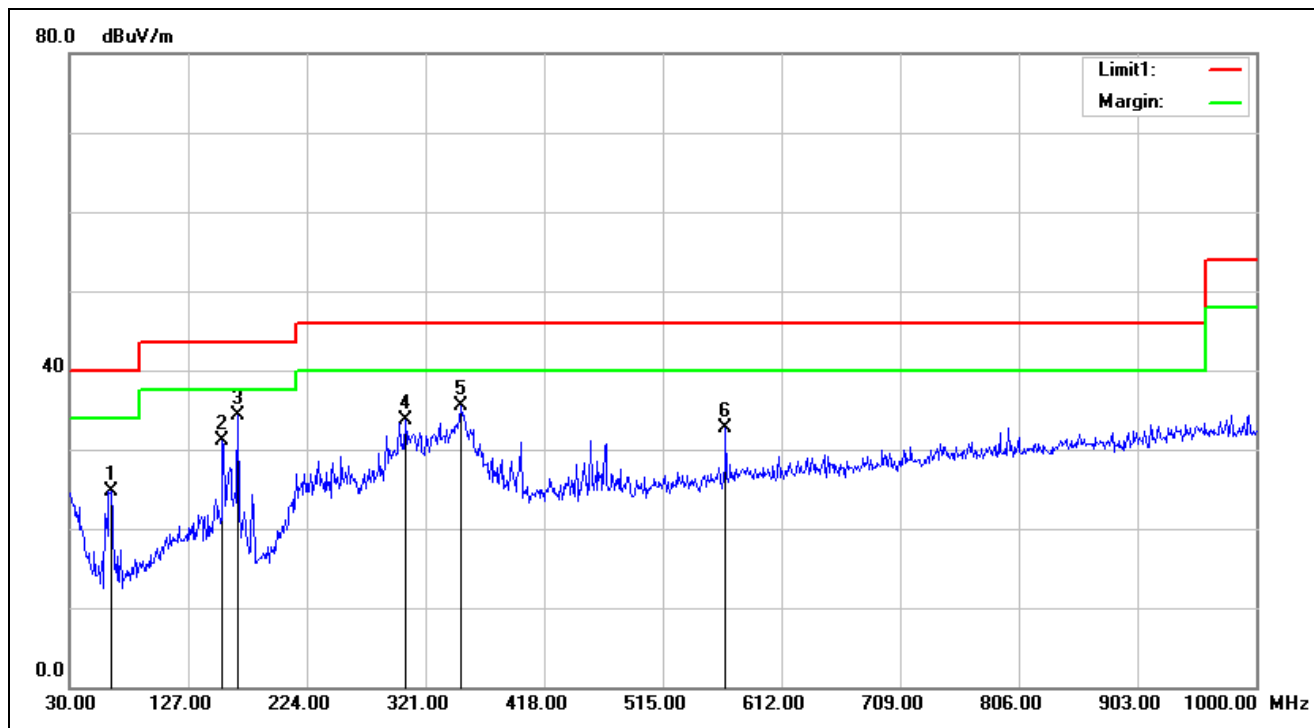
## Spurious Emissions, TX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

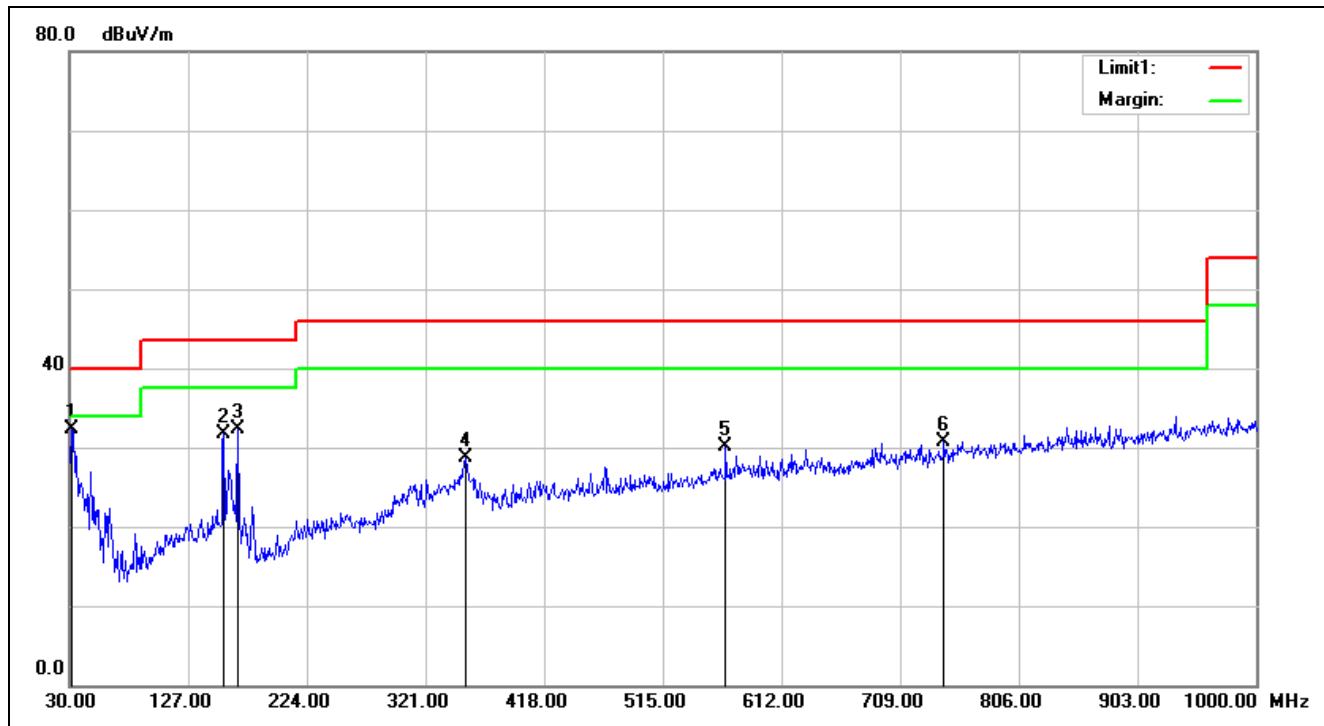
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|                |                               |                    |                     |
|----------------|-------------------------------|--------------------|---------------------|
| Service No.:   | 114080534                     | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Class B 3M Radiation | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission            | Test Time:         | 2018/11/30 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         |        |

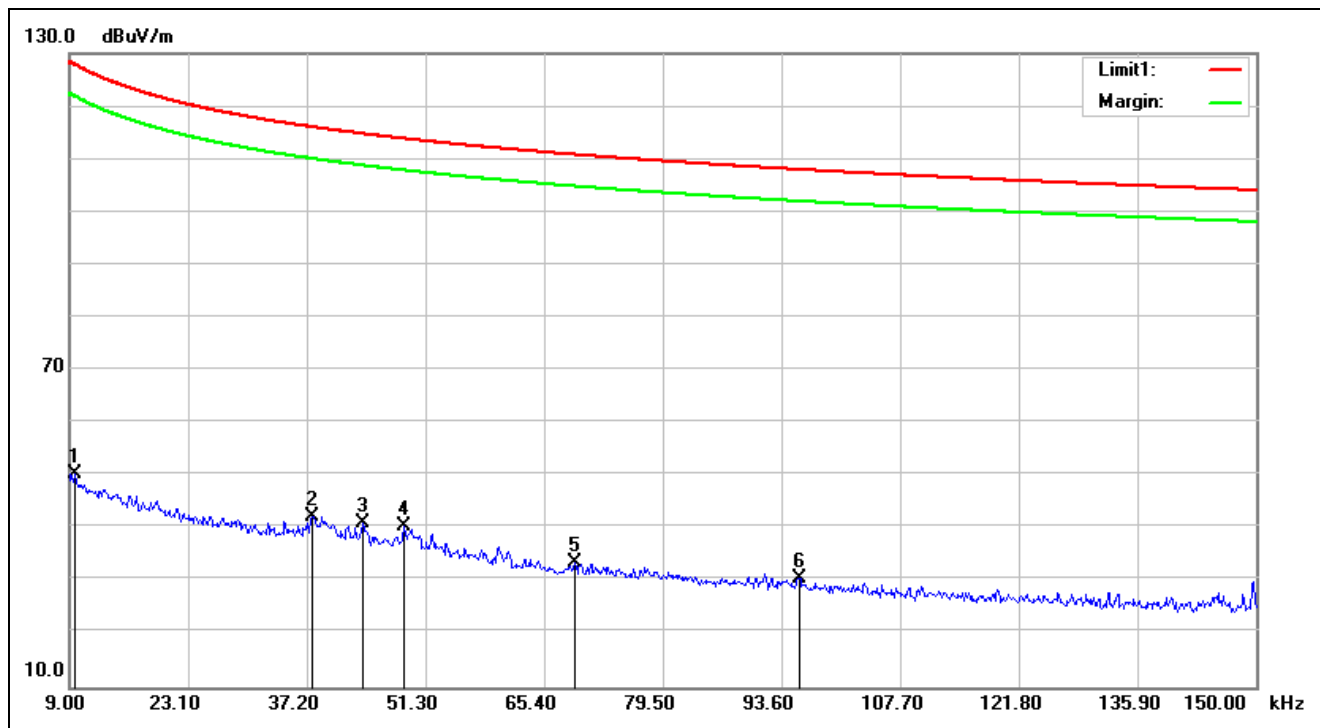
## Spurious Emissions, TX Mode, 9k-30M



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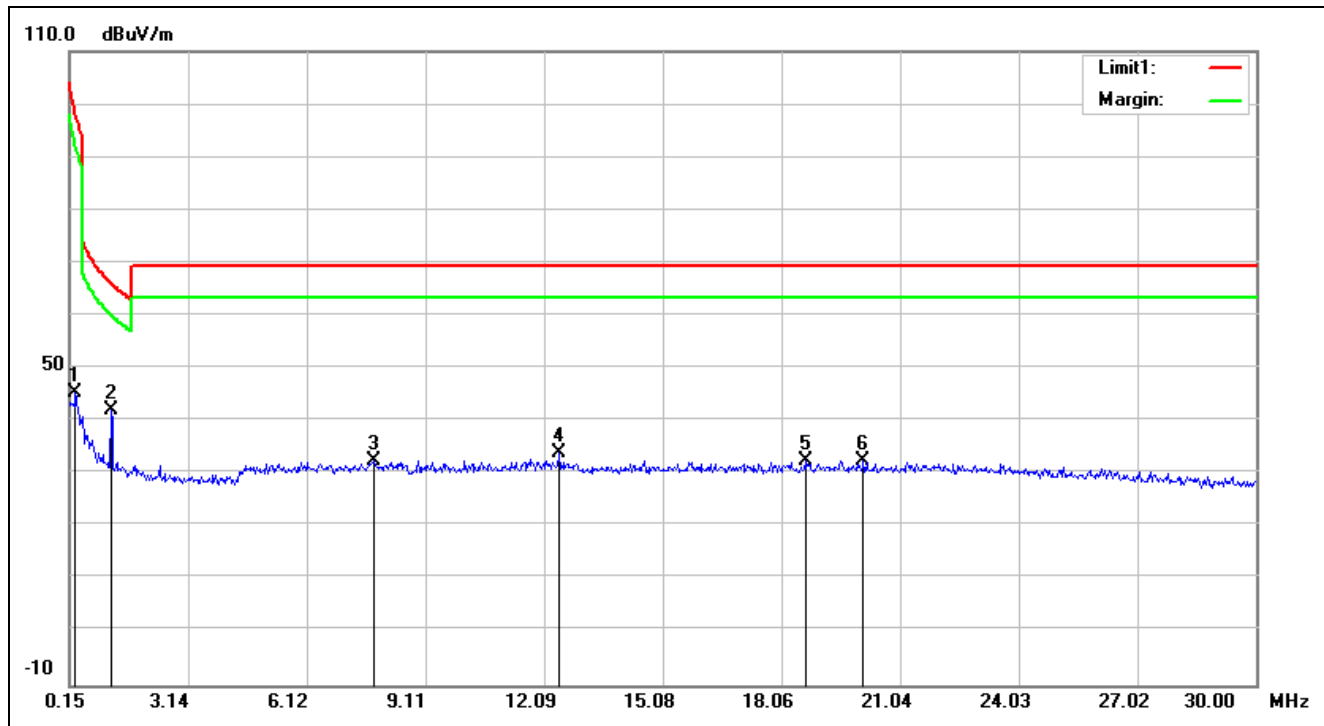
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 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         |        |

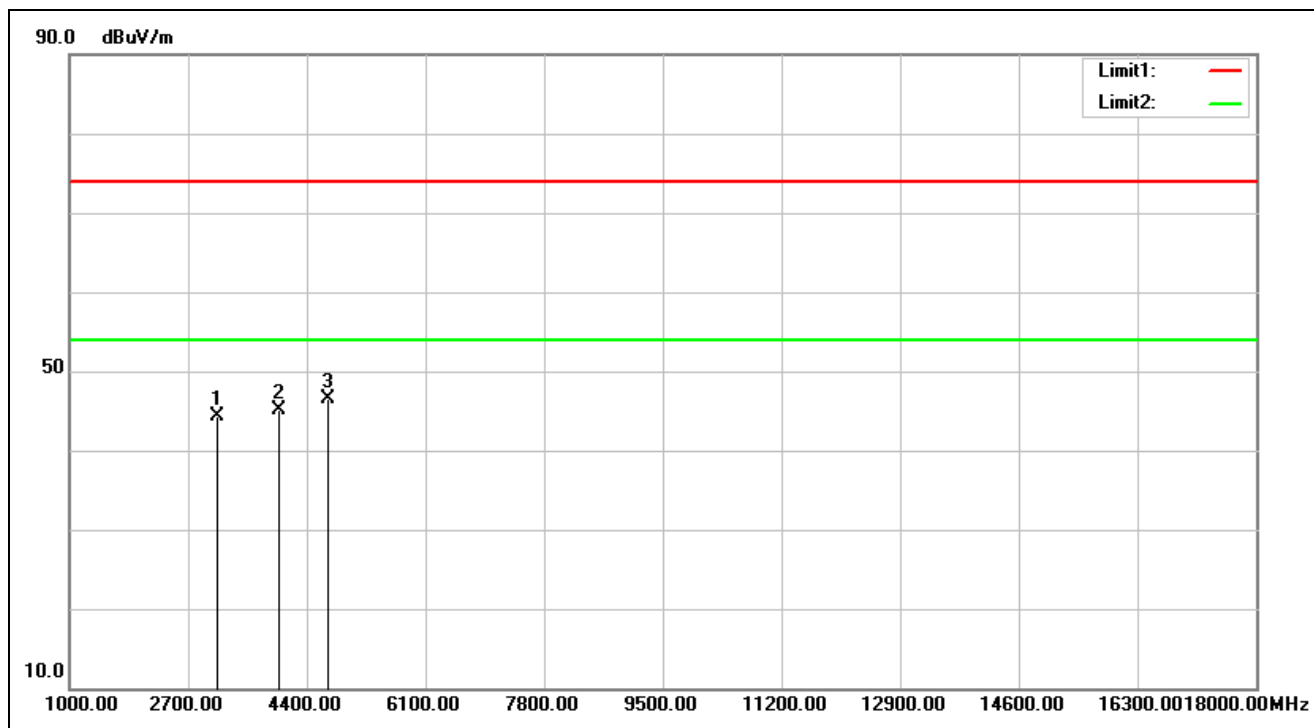
## Spurious Emissions, RX Mode, 1-18G



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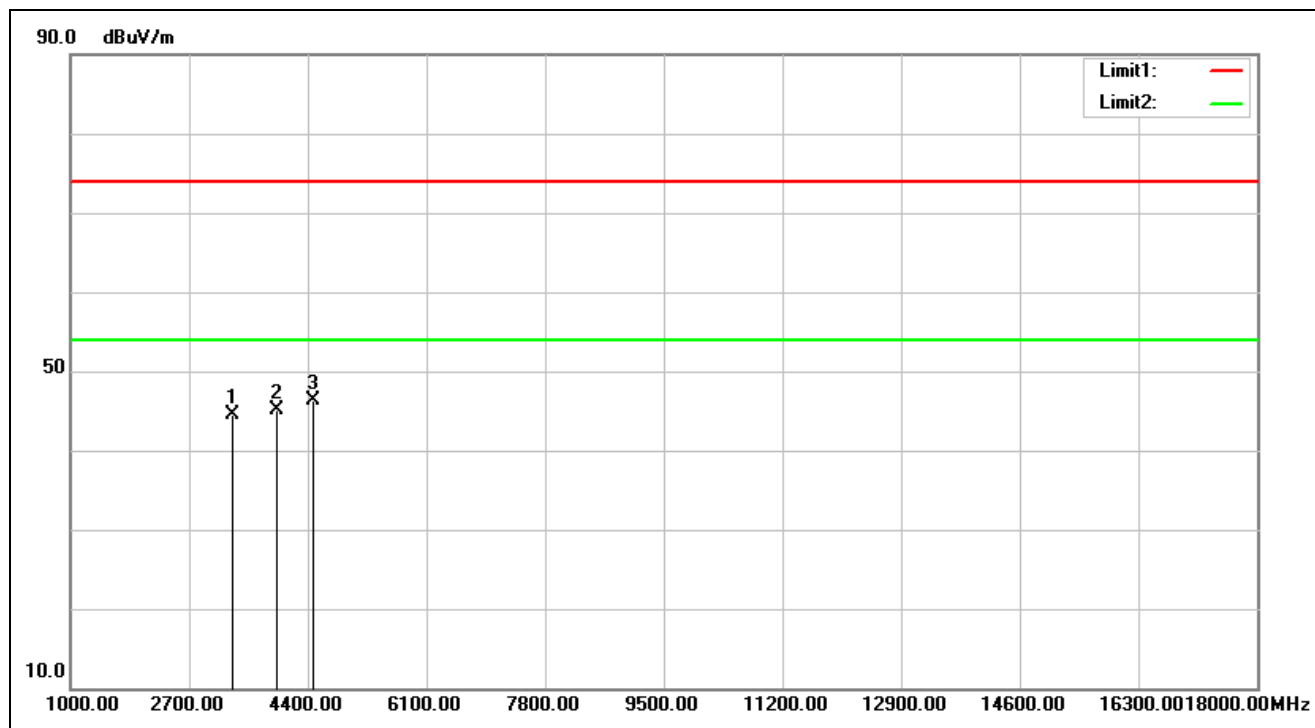
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 20:13:36 |
| 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   | 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         |        |

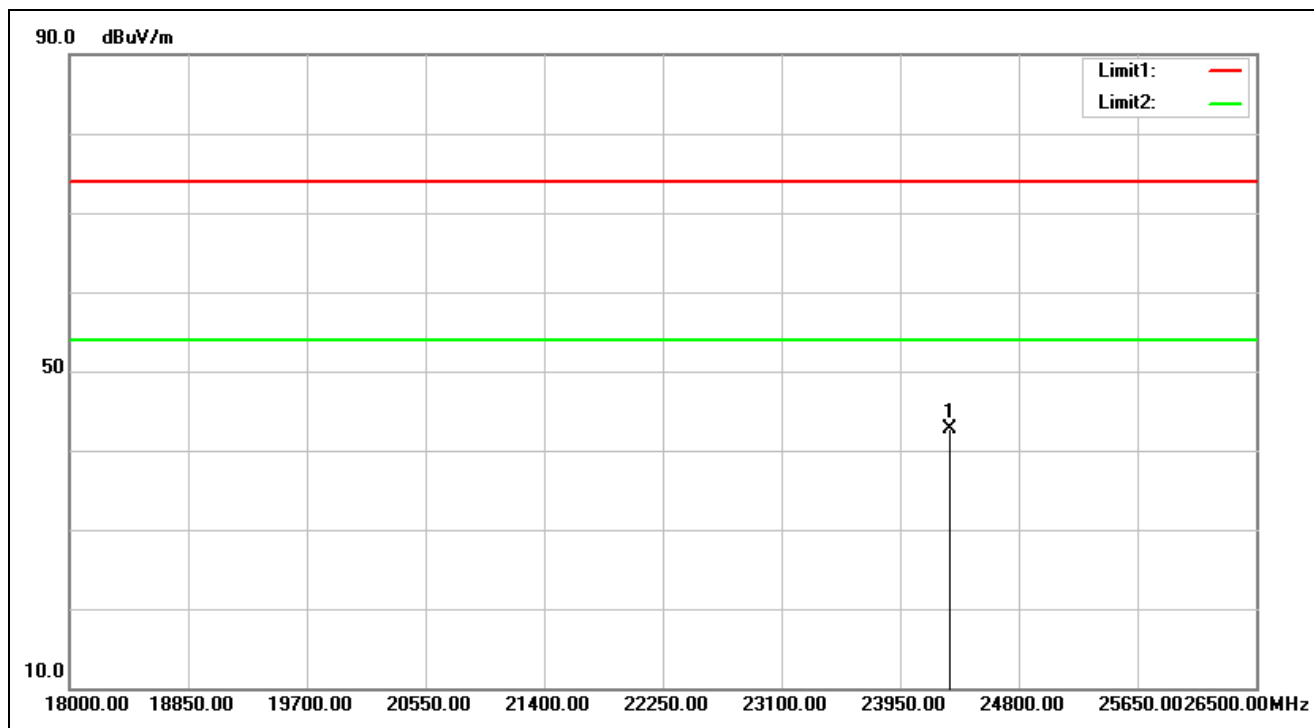
## Spurious Emissions, RX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

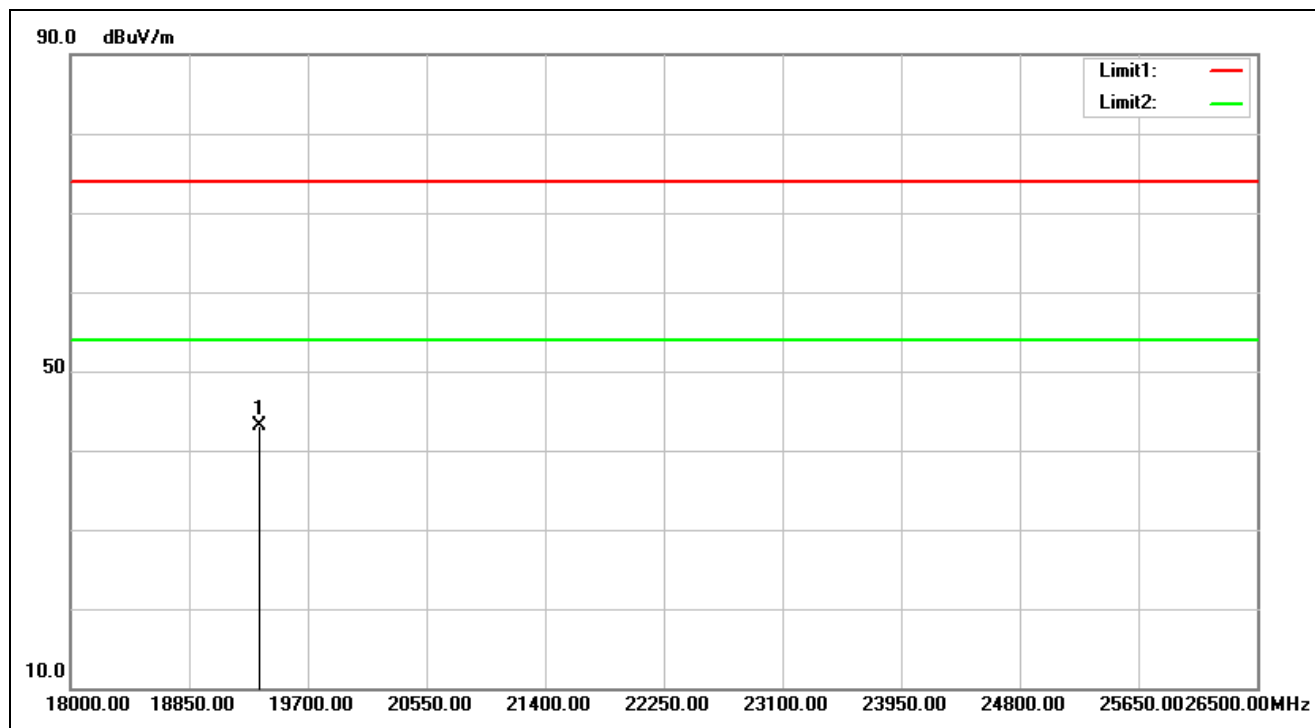
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Tel: +886-2172-7000 fax: +886-2528-0018



|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&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 |             |             |        |

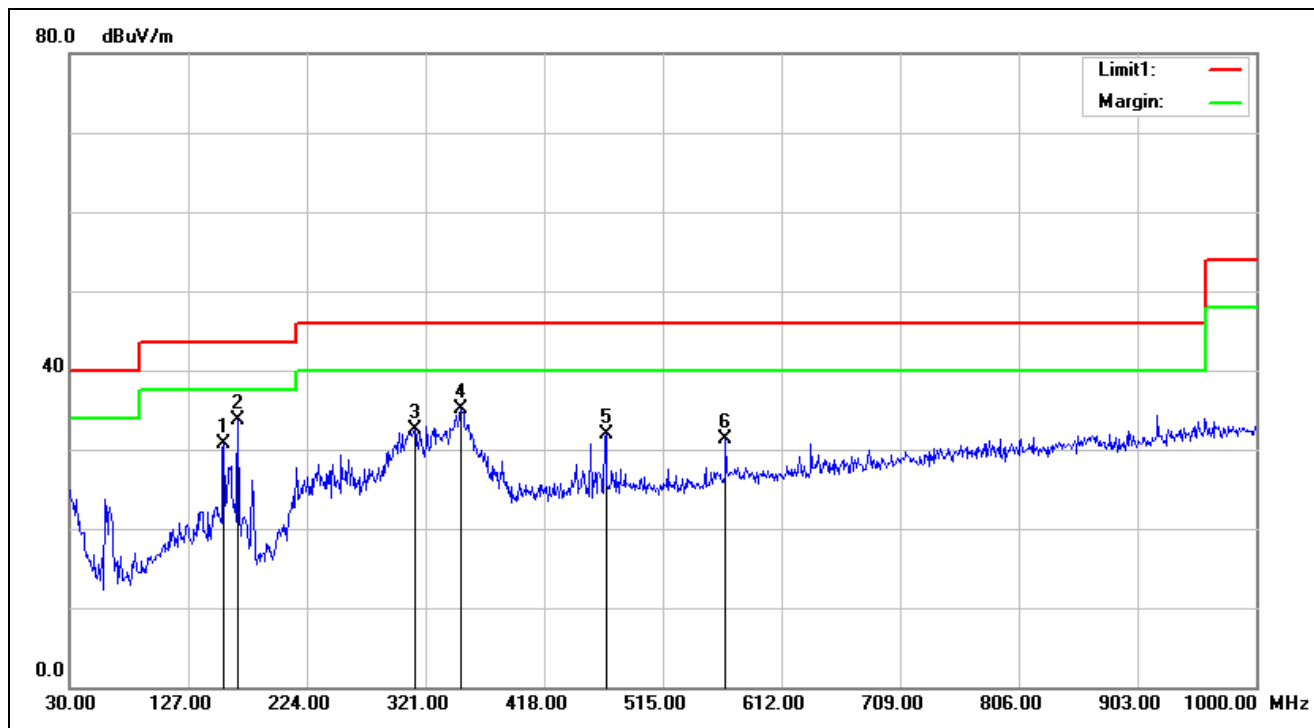
## Spurious Emissions, RX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

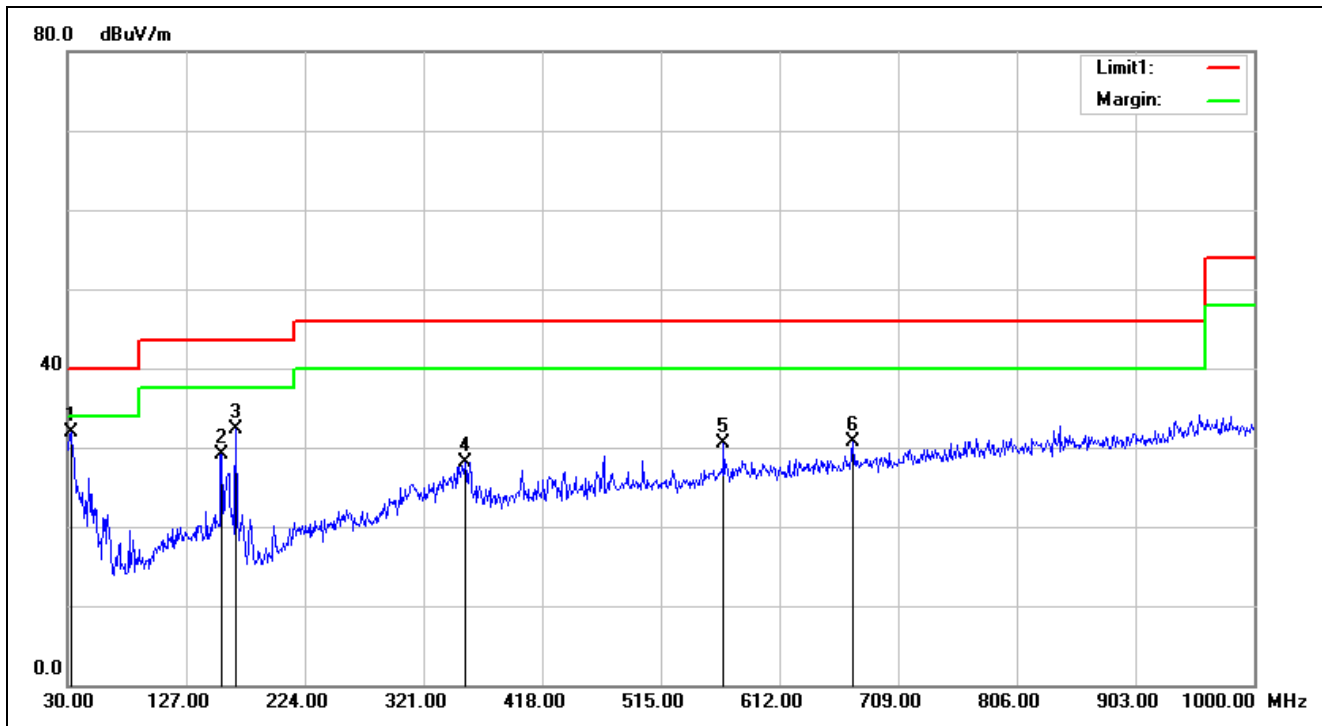
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|                |                               |                    |                     |
|----------------|-------------------------------|--------------------|---------------------|
| Service No.:   | 114080534                     | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Class B 3M Radiation | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission            | Test Time:         | 2018/11/30 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          |        |

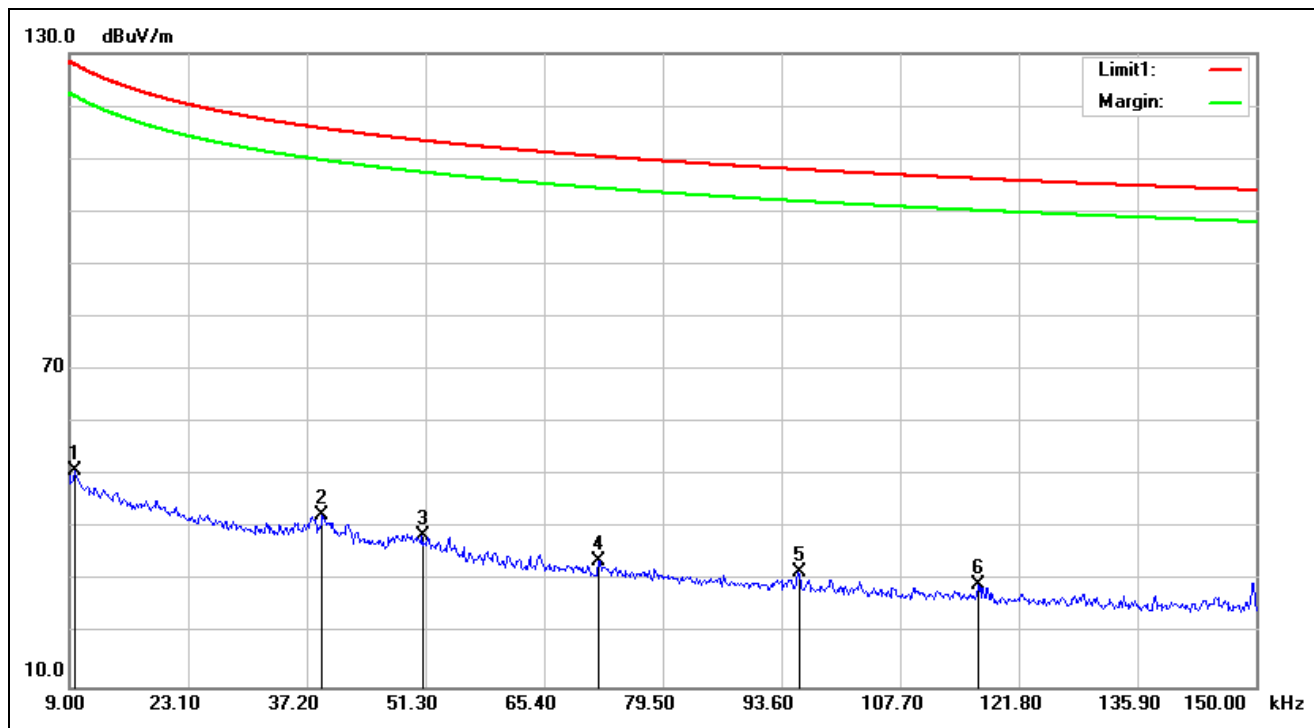
# Spurious Emissions, RX Mode, 9K-30M



TUV Rheinland Taiwan Ltd.

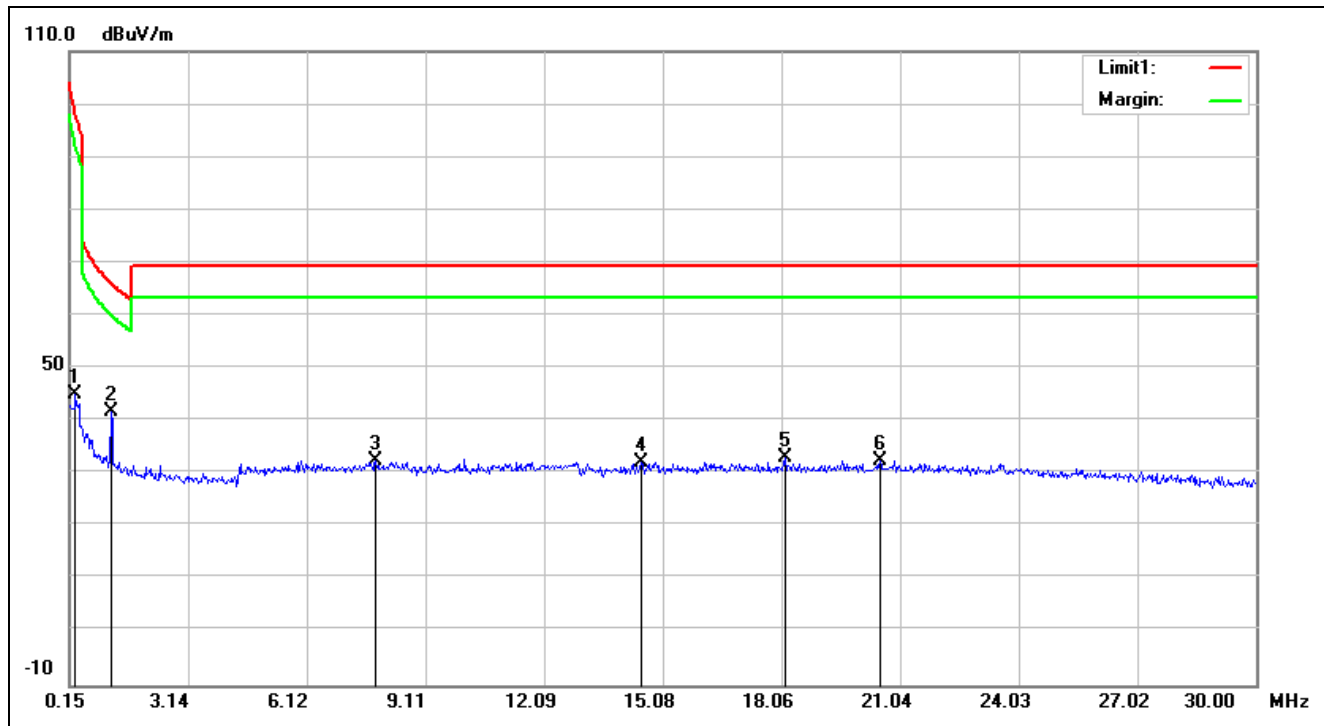
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 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

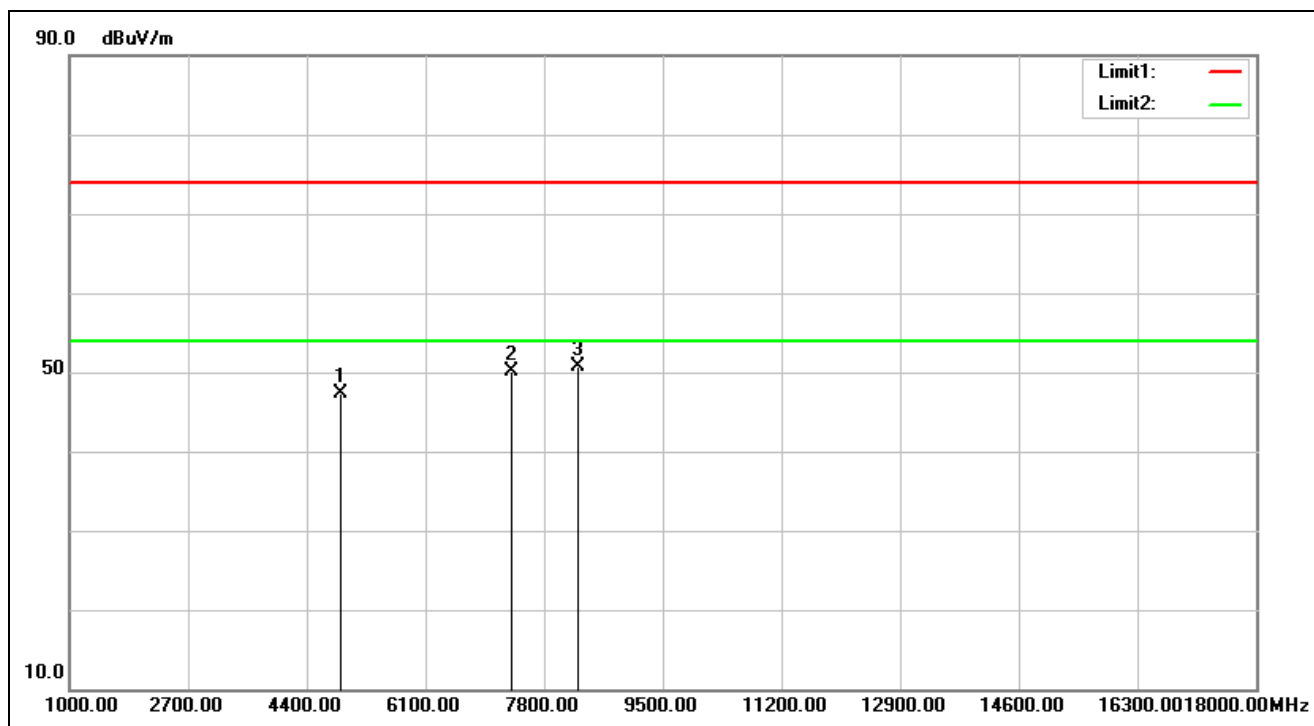
### Spurious Emissions, TX Mode, 1-18G



TUV Rheinland Taiwan Ltd.

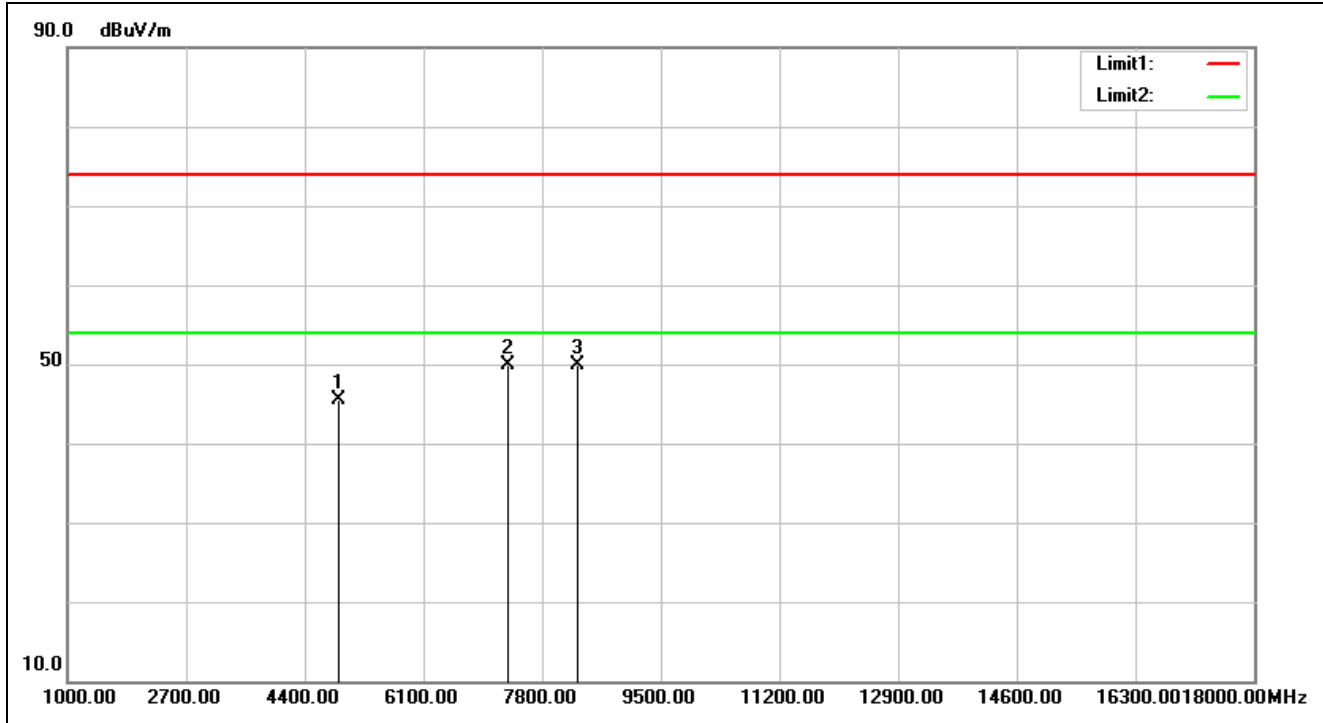
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|                       |                           |                           |                     |
|-----------------------|---------------------------|---------------------------|---------------------|
| <b>Service No.:</b>   | 114080534    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



|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| 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 20:19:26 |
| 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          | 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          |        |

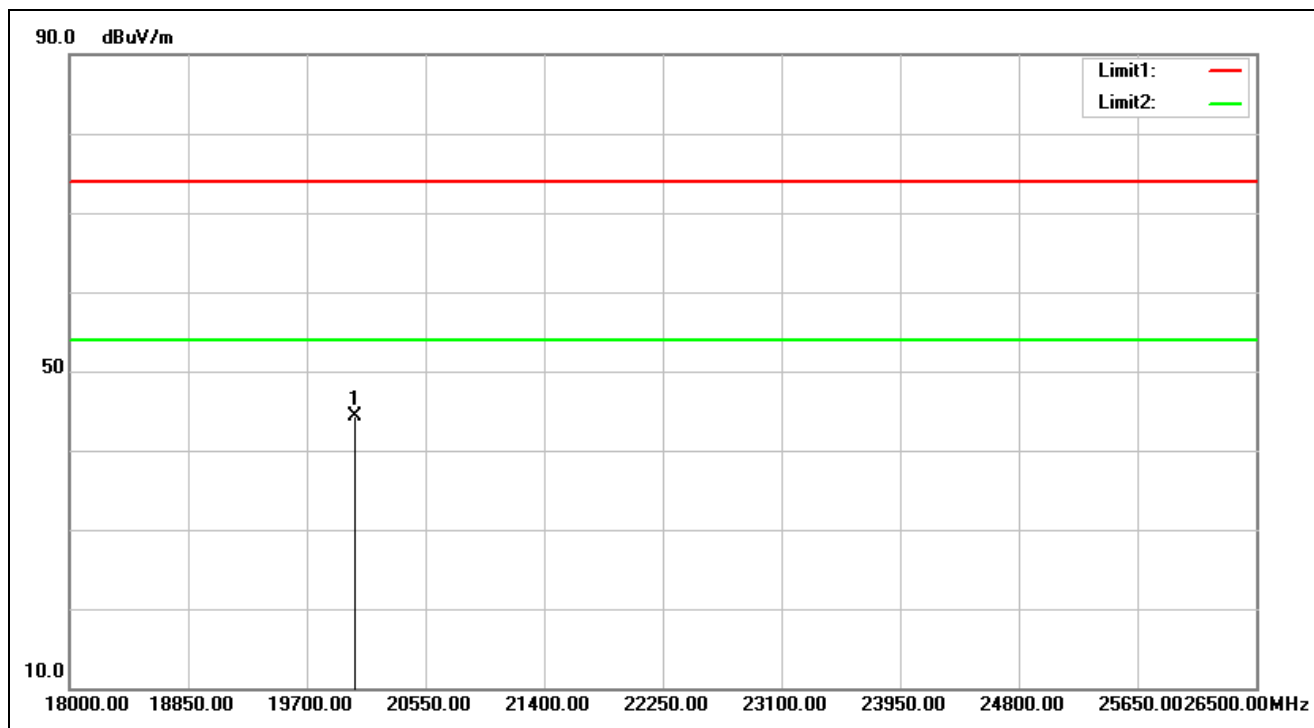
## Spurious Emissions, TX Mode, 18-26G



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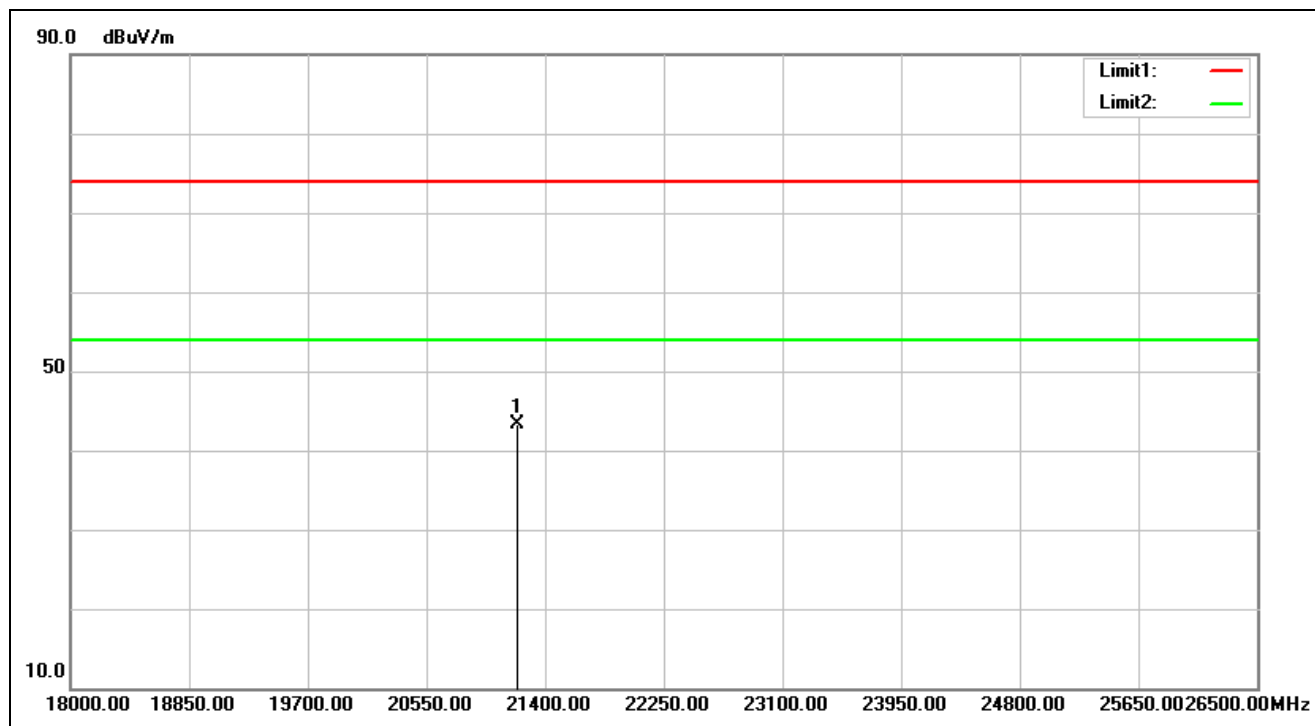
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 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<br>(MHz) | Factor<br>(dB/m) | Reading<br>(dBuV) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Det. | Height<br>(cm) | Azimuth<br>( ° ) | Remark |
|-----|--------------------|------------------|-------------------|-------------------|-------------------|----------------|------|----------------|------------------|--------|
| 1   | 21204.500          | 4.60             | 38.68             | 43.28             | 74.00             | -30.72         | peak |                |                  |        |

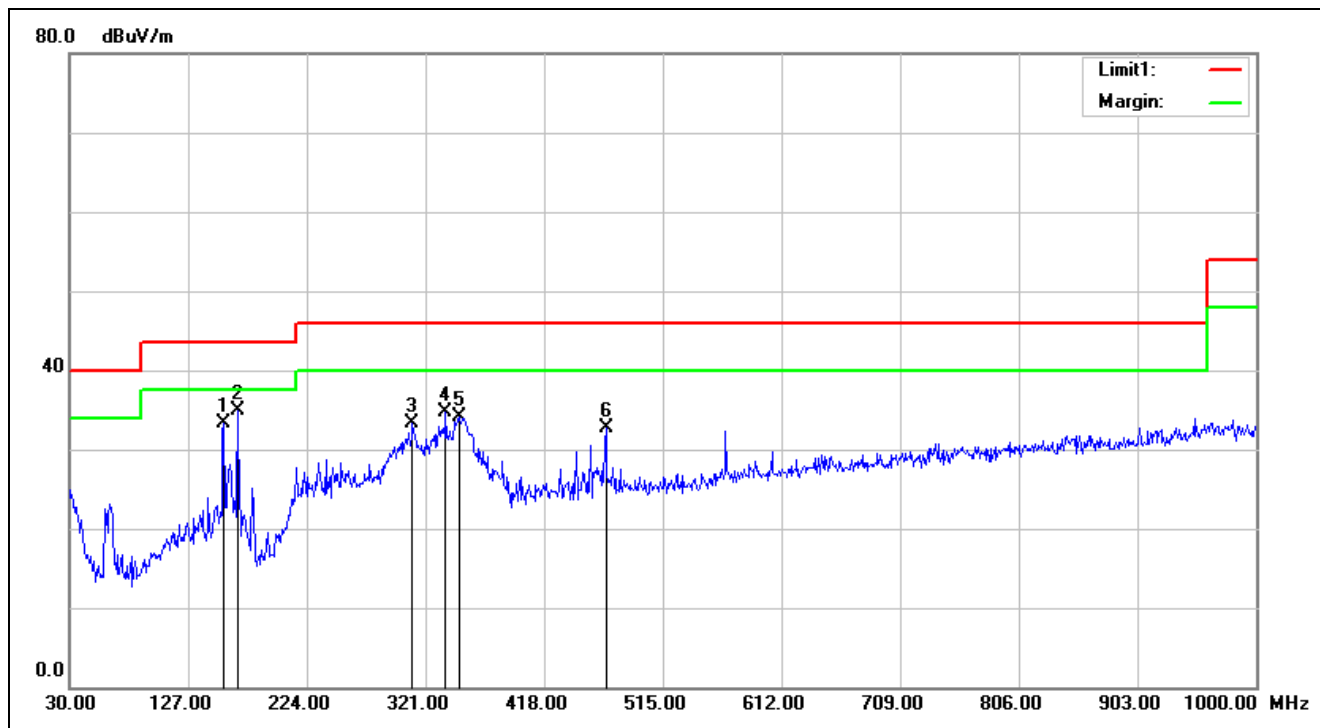
## Spurious Emissions, TX Mode, 30M-1G



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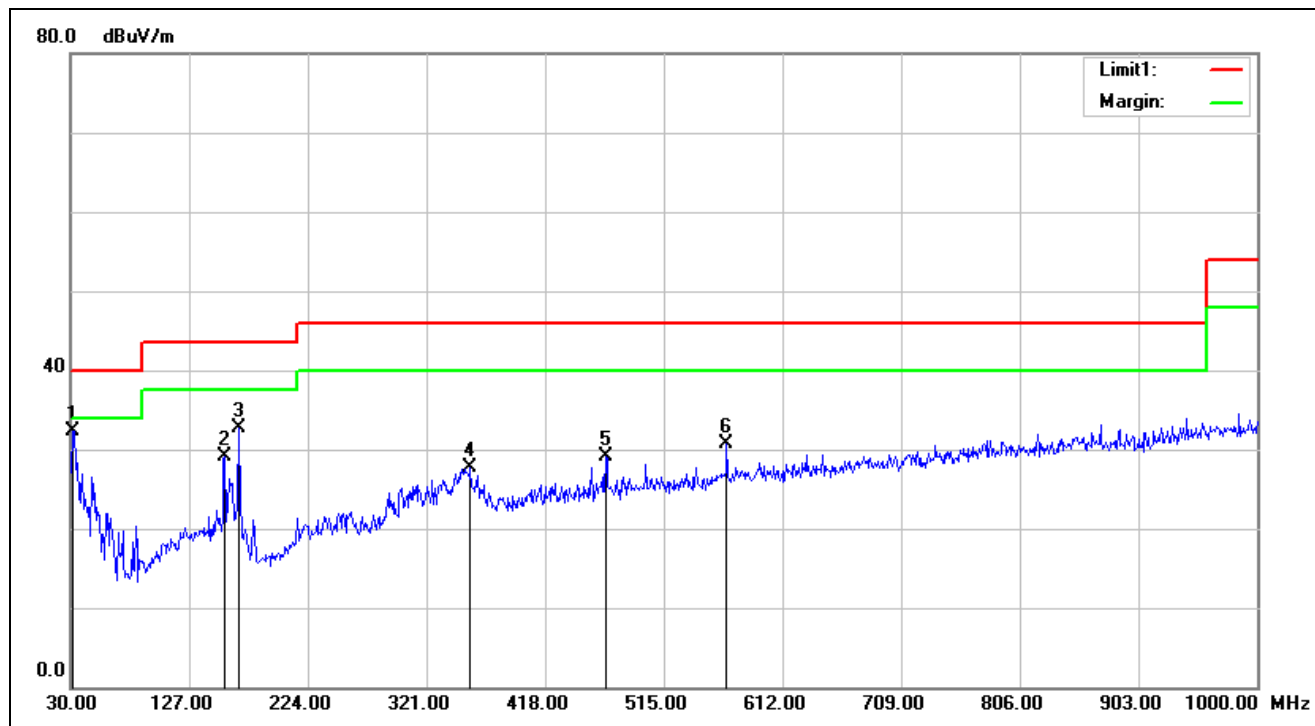
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|                |                               |                    |                     |
|----------------|-------------------------------|--------------------|---------------------|
| Service No.:   | 114080534                     | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Class B 3M Radiation | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission            | Test Time:         | 2018/11/30 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         |        |

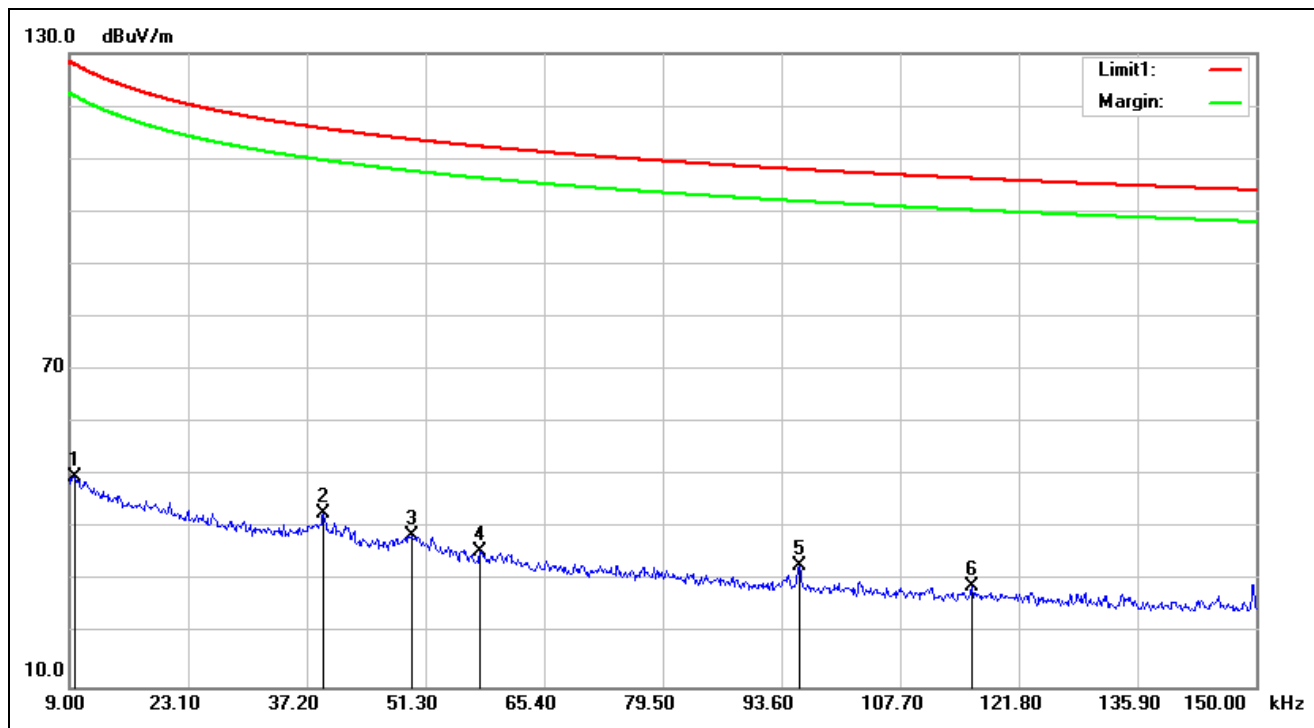
## Spurious Emissions, TX Mode, 9k-30M



TUV Rheinland Taiwan Ltd.

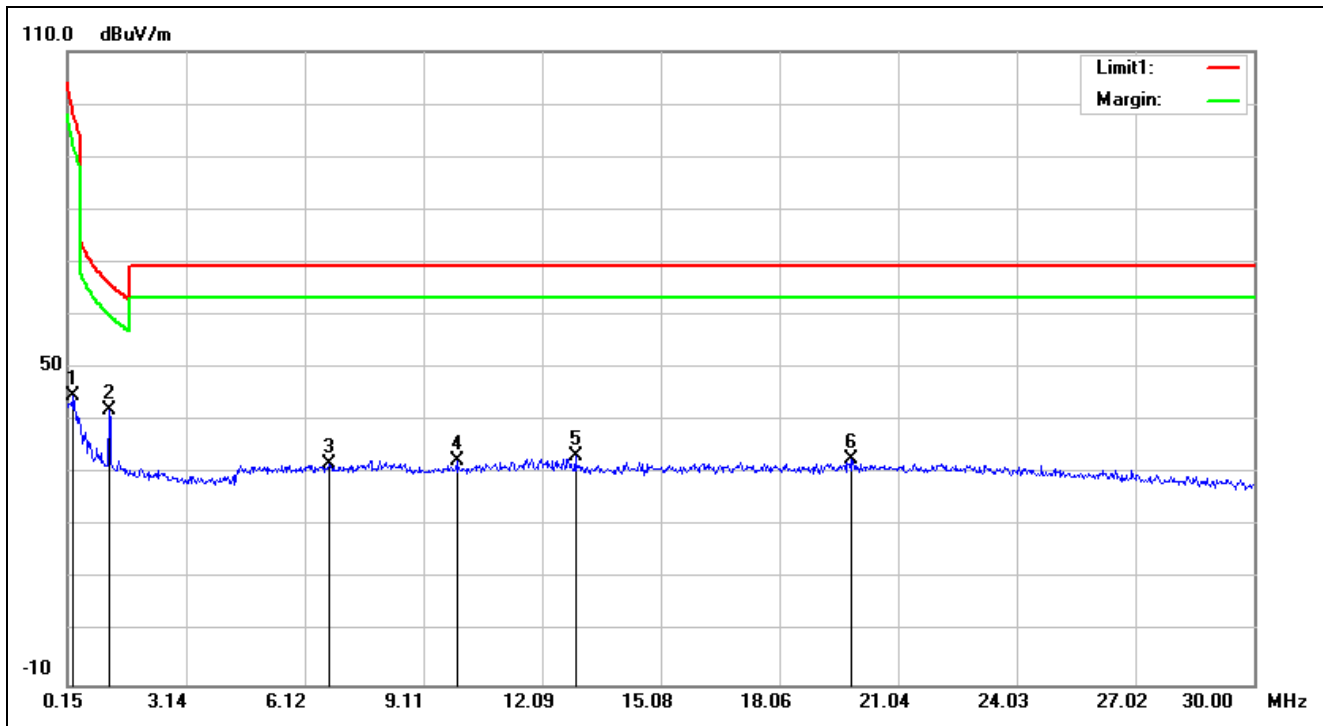
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC 15.209_9k-30M_3m      | Ant. Polarization: | N/A                 |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 21:46:50 |
| 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         |        |

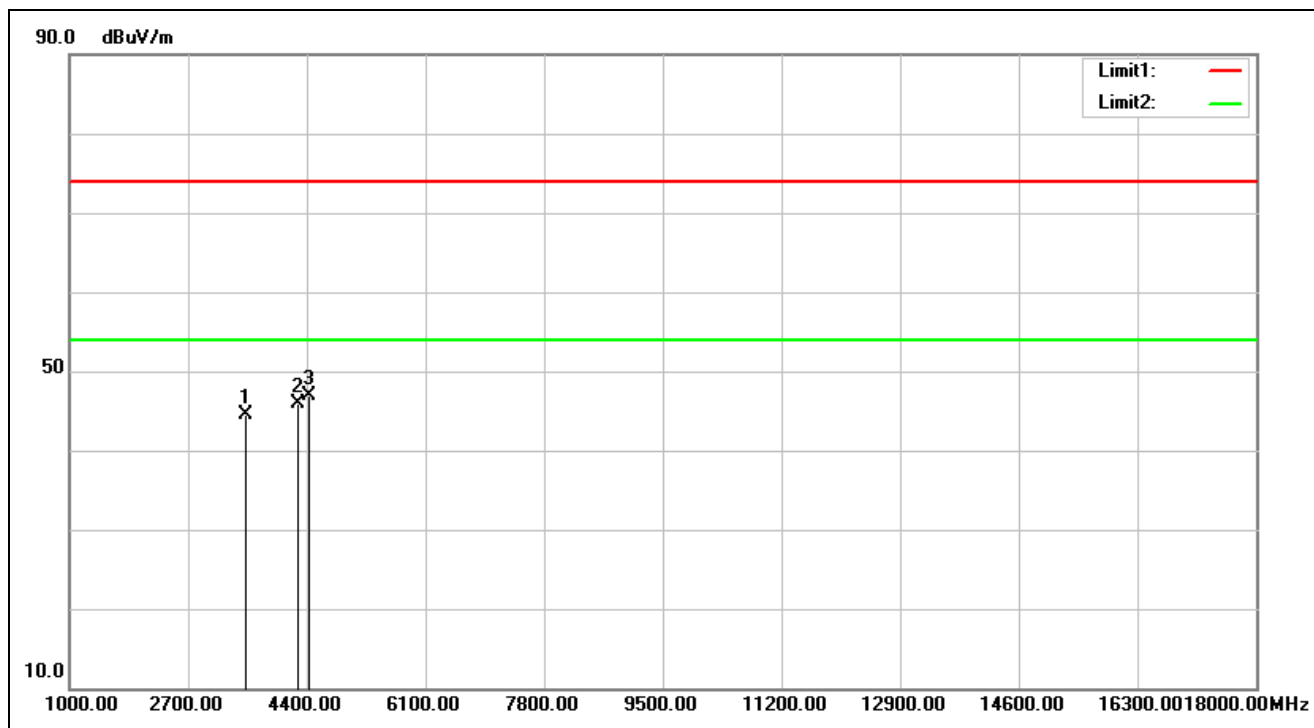
## Spurious Emissions, RX Mode, 1-18G



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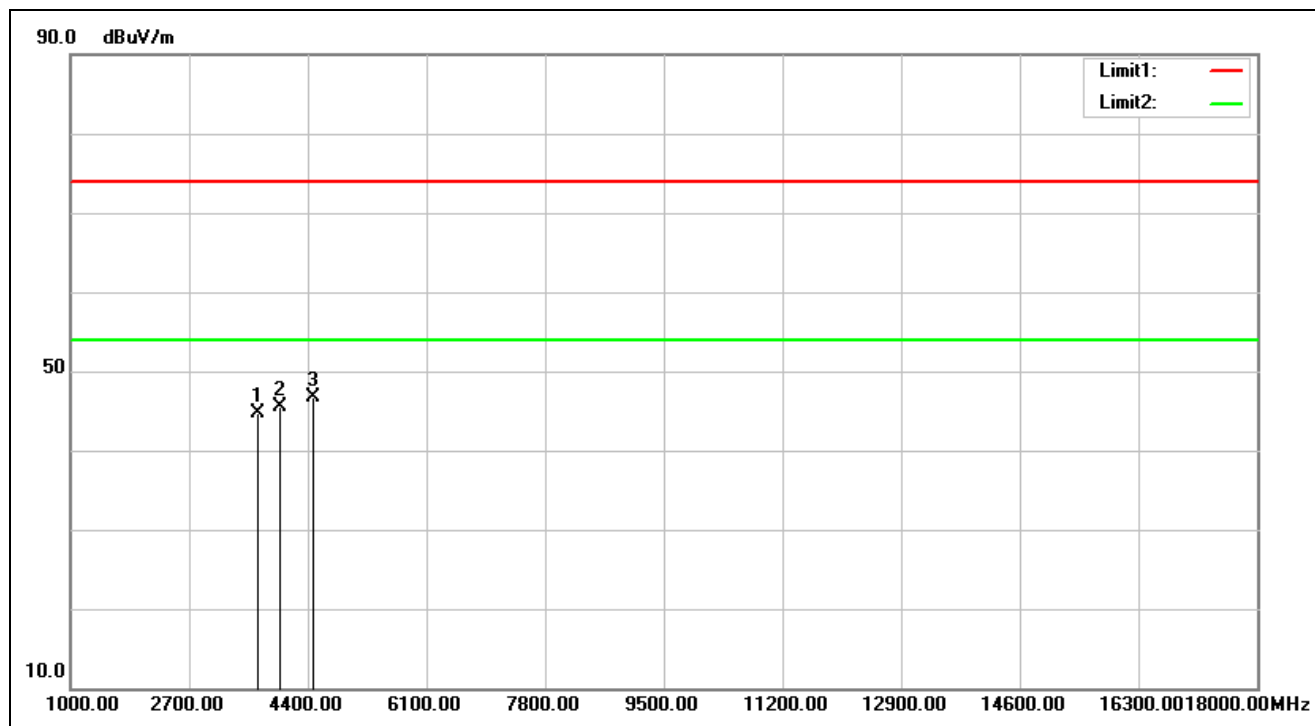
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 20:21:57 |
| 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         |        |

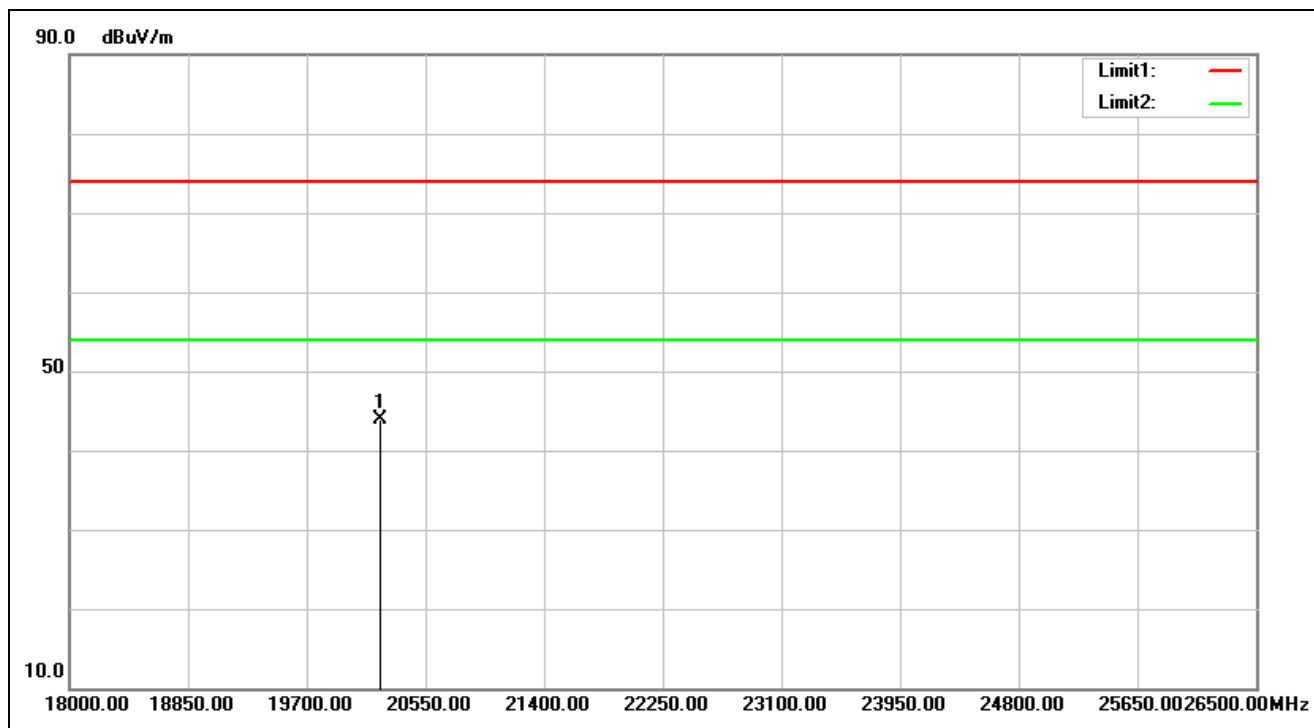
## Spurious Emissions, RX Mode, 18-26G



TUV Rheinland Taiwan Ltd.

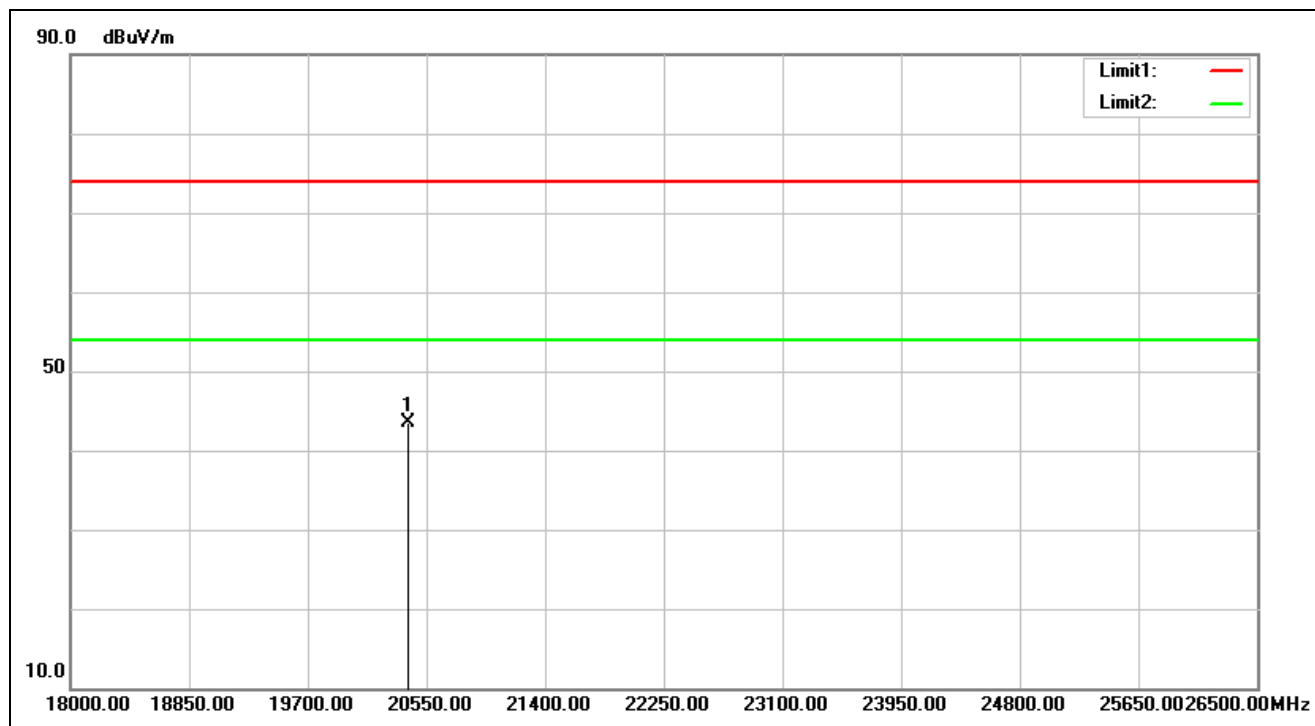
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 20:41:34 |
| 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<br>(MHz) | Factor<br>(dB/m) | Reading<br>(dBuV) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Det. | Height<br>(cm) | Azimuth<br>( ° ) | Remark |
|-----|--------------------|------------------|-------------------|-------------------|-------------------|----------------|------|----------------|------------------|--------|
| 1   | 20422.500          | 4.21             | 39.29             | 43.50             | 74.00             | -30.50         | peak |                |                  |        |

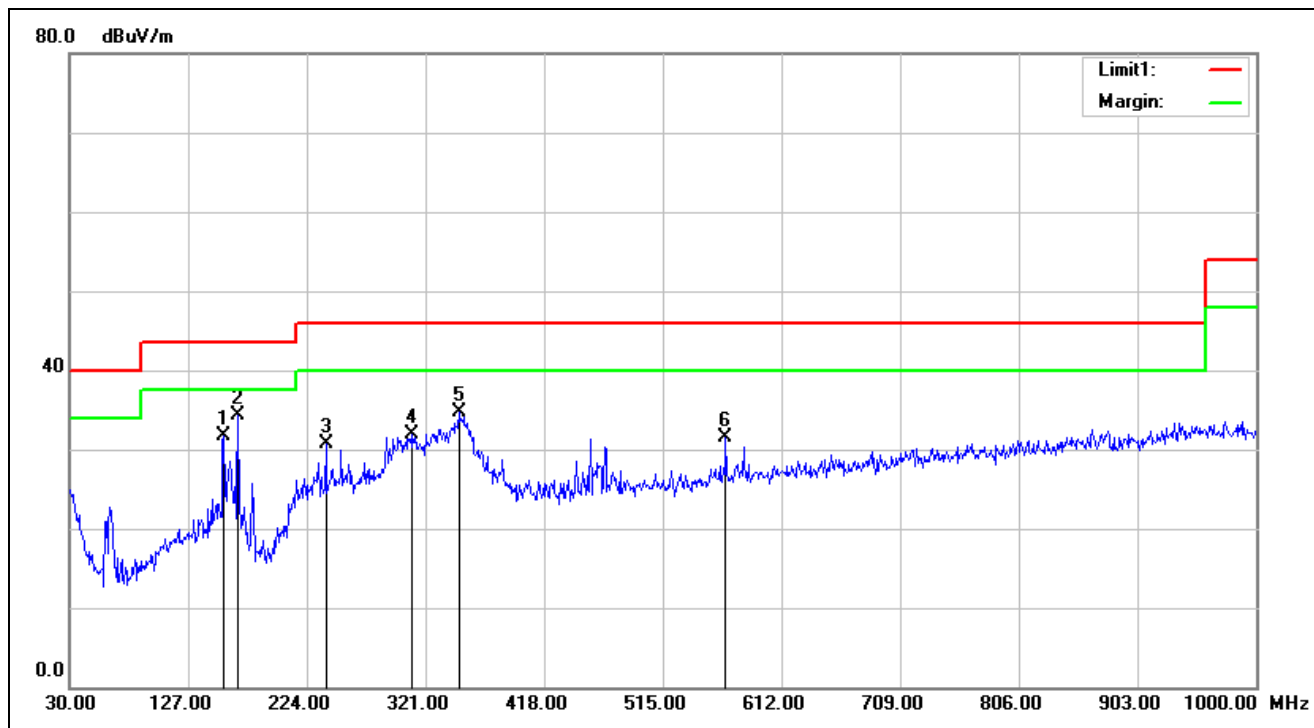
## Spurious Emissions, RX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

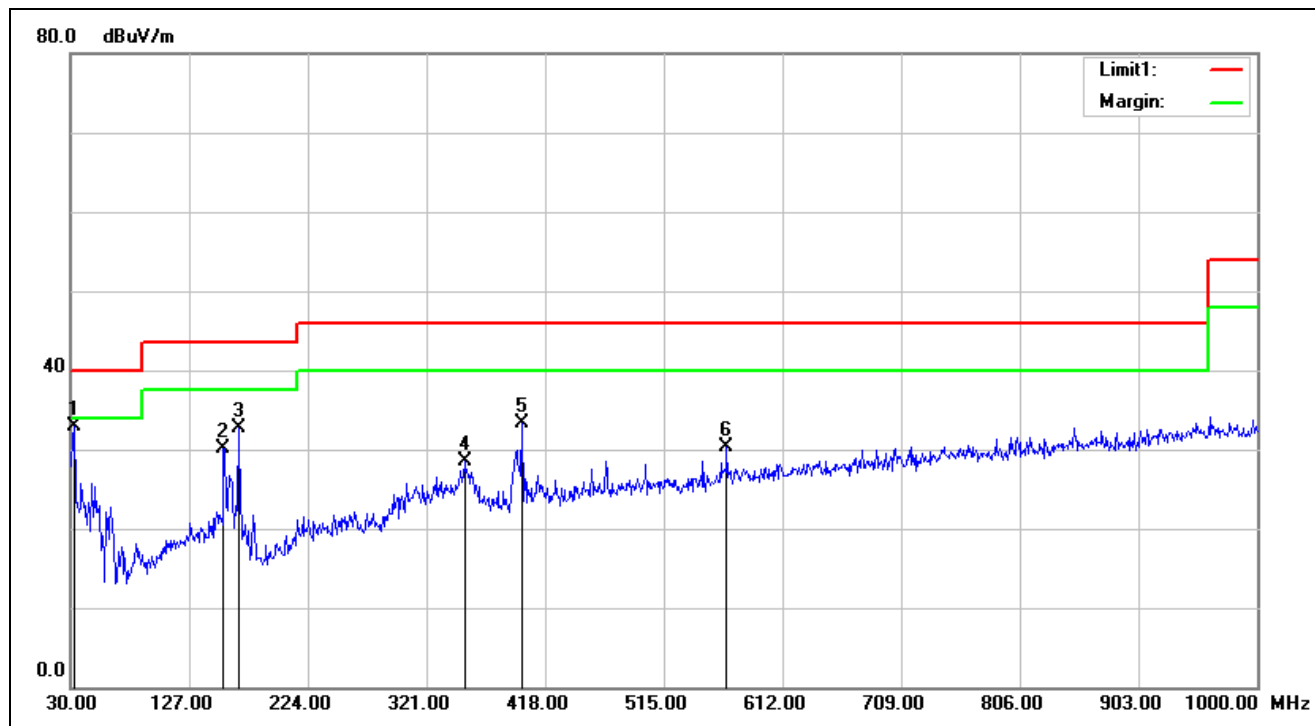
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Tel:+886-2172-7000 fax:+886-2528-0018



|                |                               |                    |                     |
|----------------|-------------------------------|--------------------|---------------------|
| 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         |        |

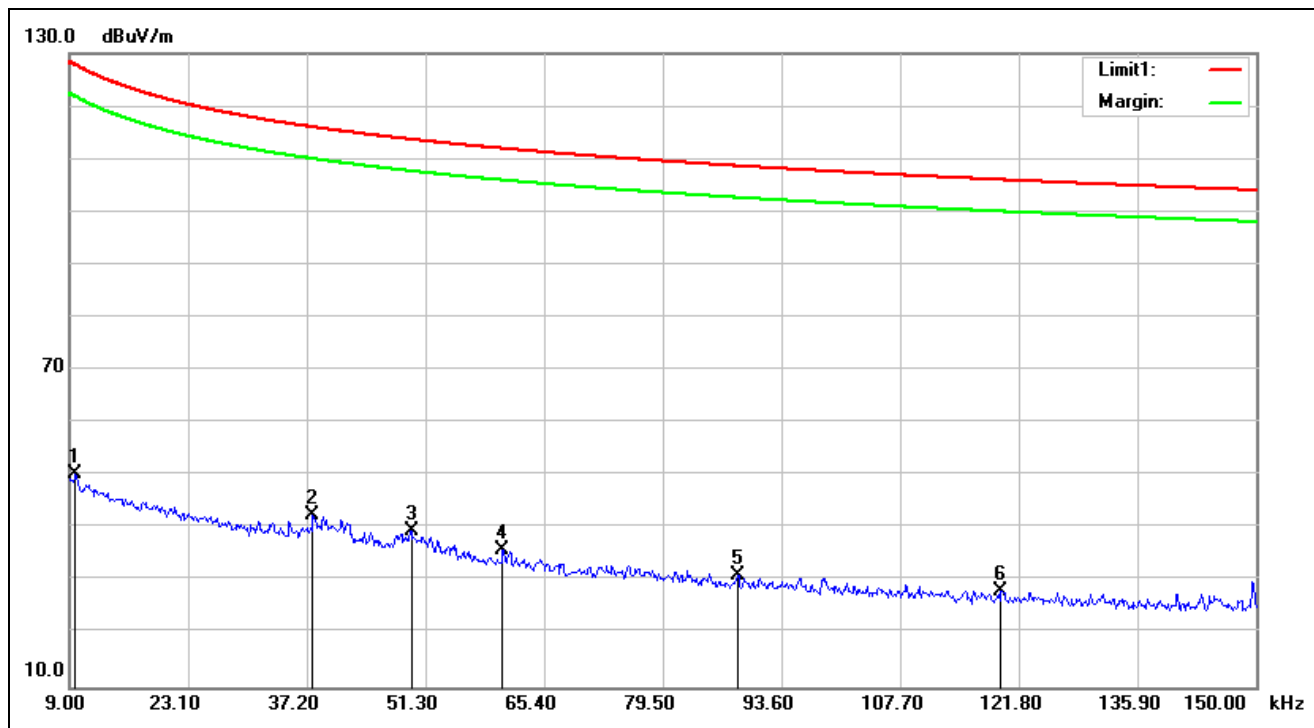
## Spurious Emissions, RX Mode, 9K-30M



TUV Rheinland Taiwan Ltd.

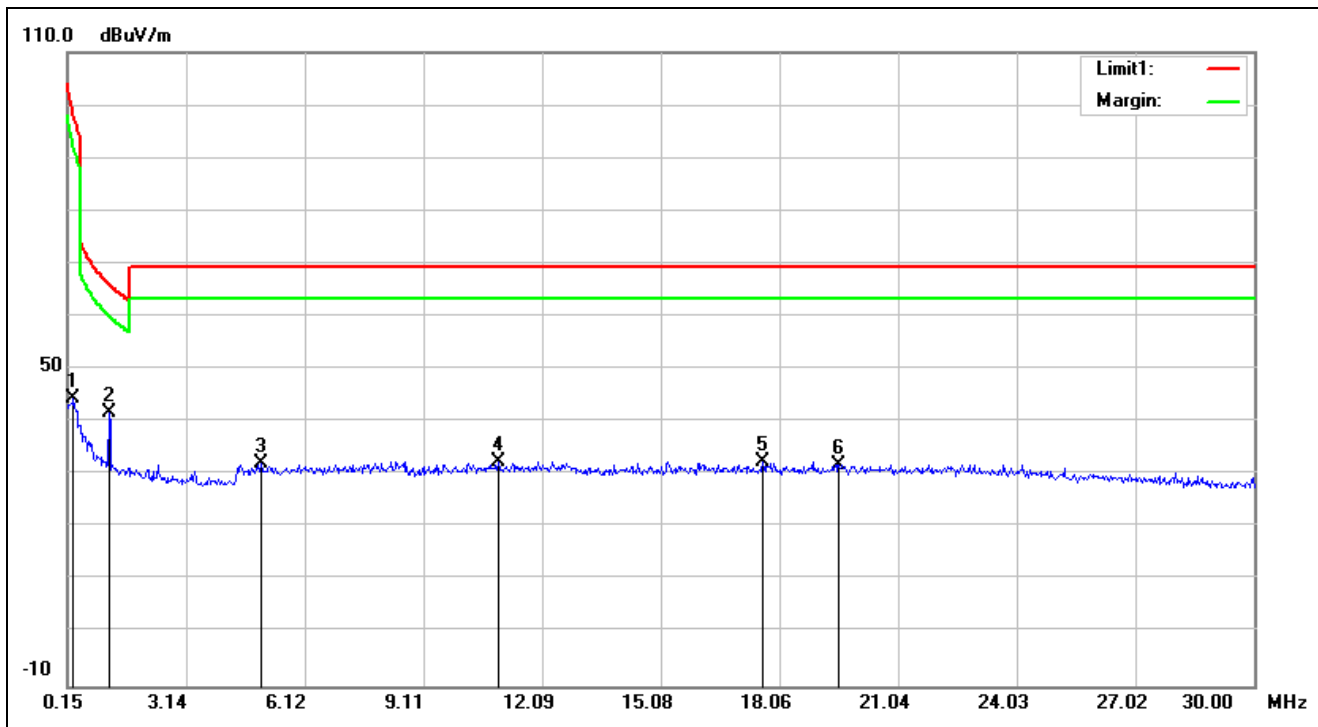
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC 15.209_9k-30M_3m      | Ant. Polarization: | N/A                 |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 21:47:43 |
| 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         |        |



|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| 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 21:50:11 |
| 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                    |                    |                     |

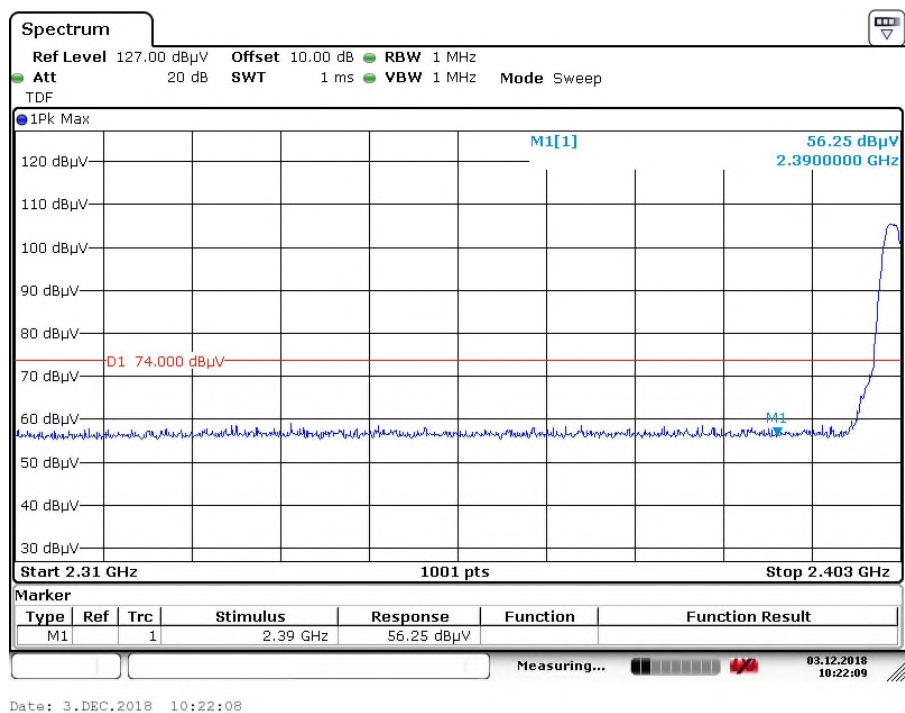
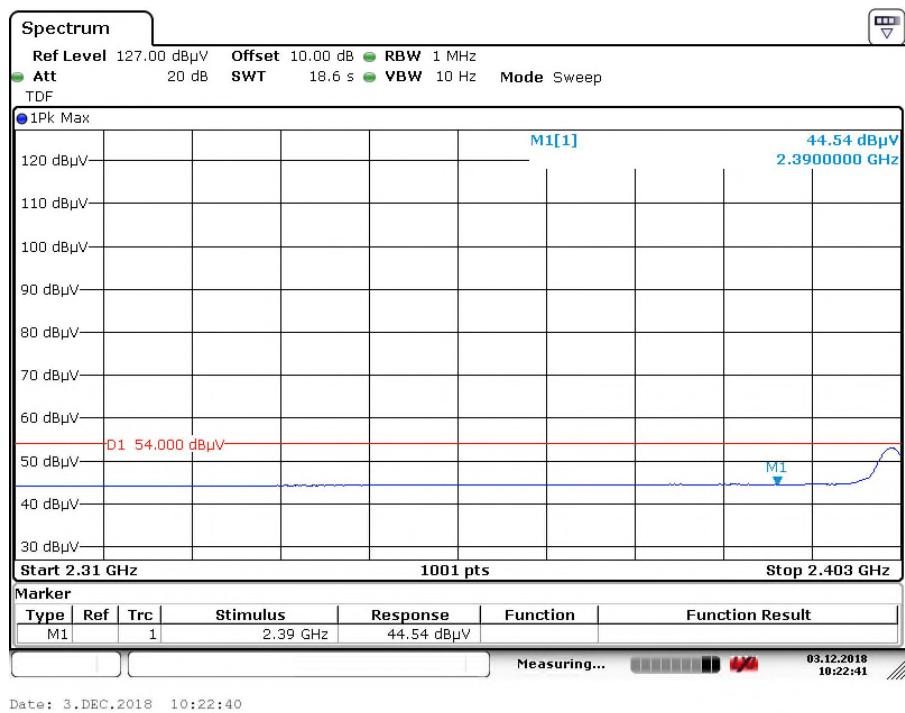
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth ( ° ) | Remark |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|--------|
| 1   | 0.2993          | 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

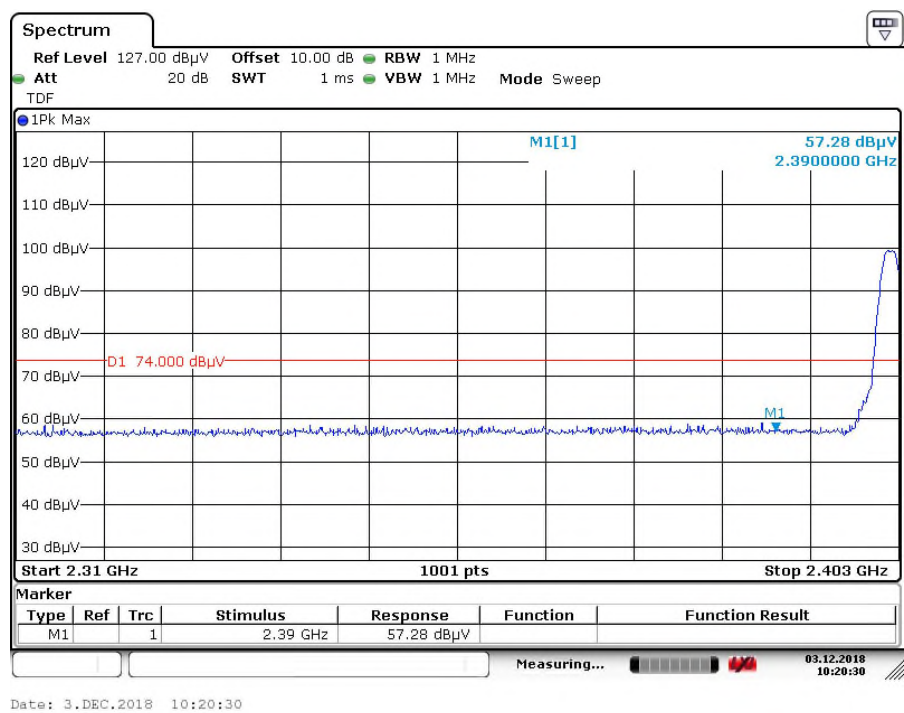
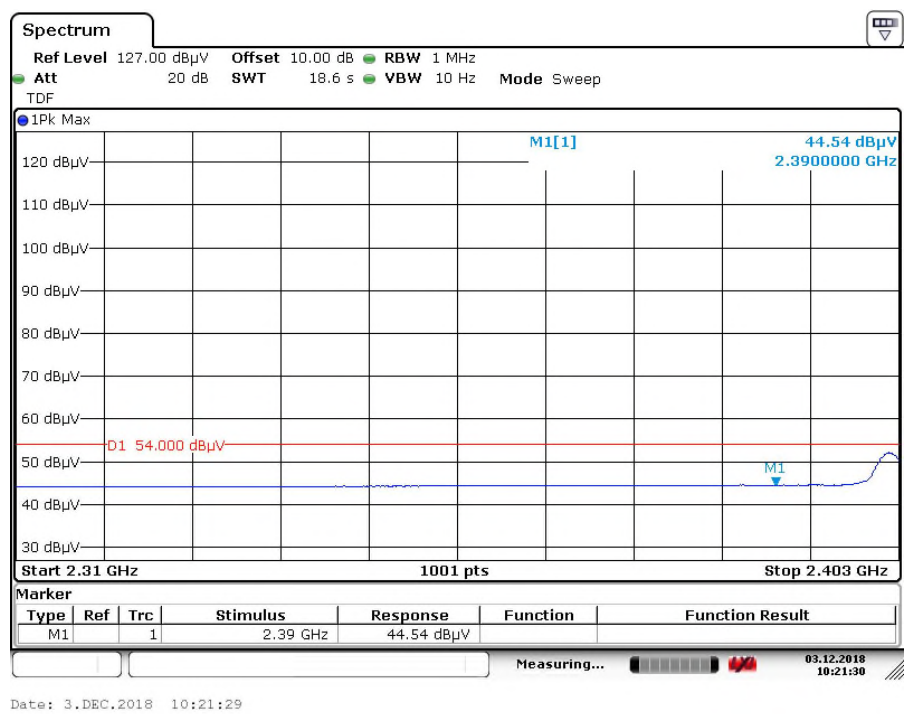
Spurious Emissions, Band Edges, 2.35-2.5G

Radiated Bandedge (GFSK)

Low Channel (Hor)

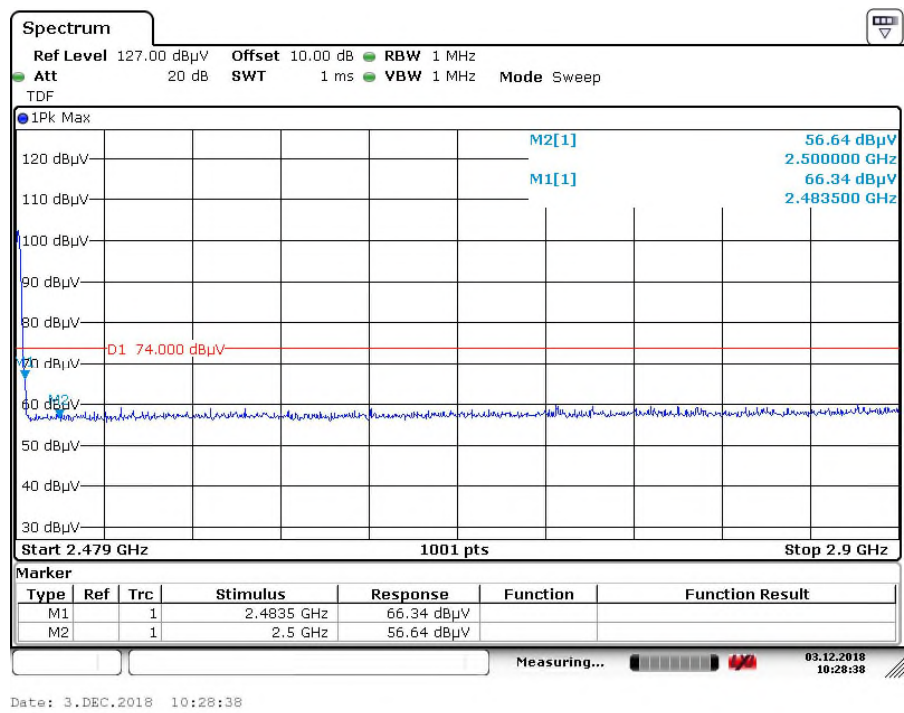
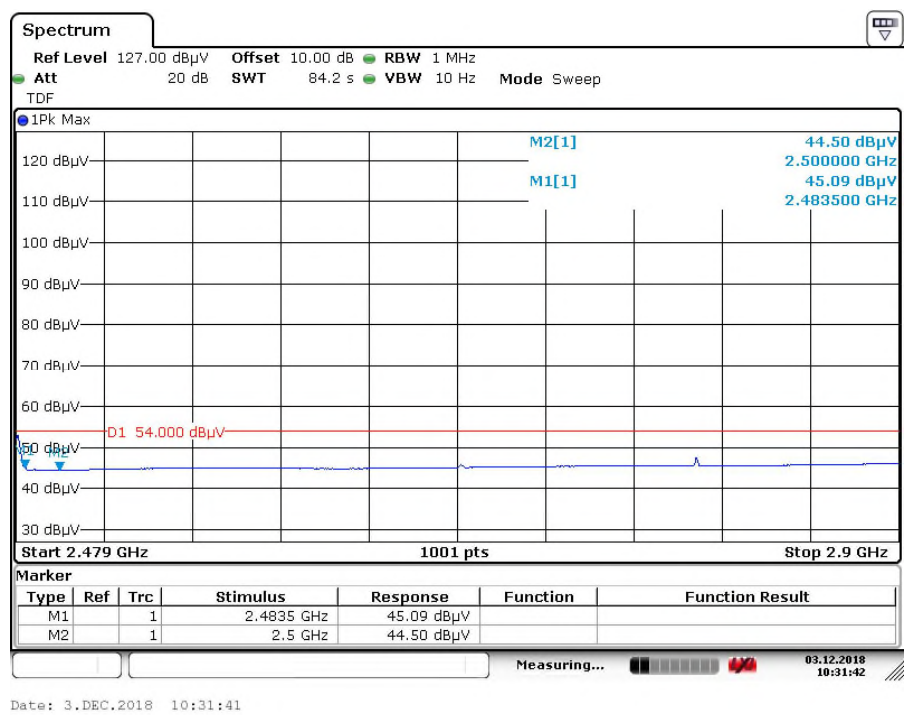


Low Channel (Ver)

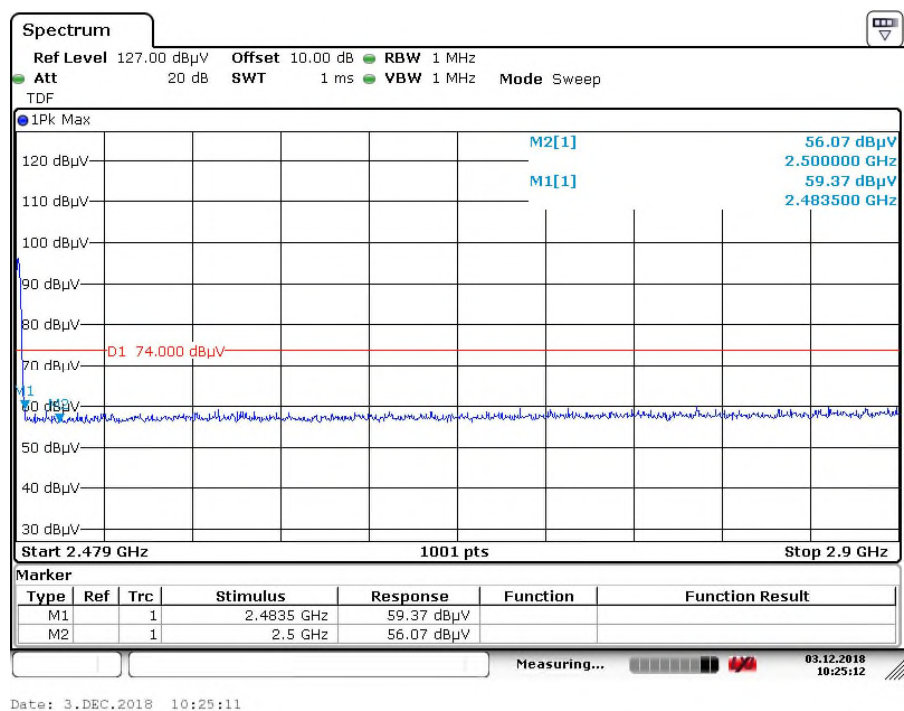
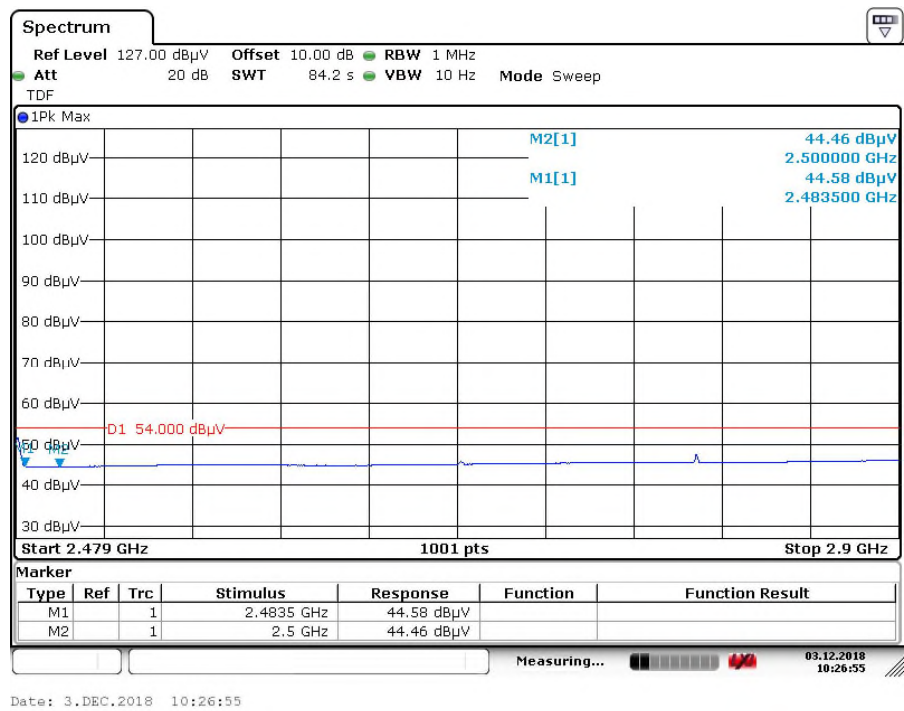


# Radiated Bandedge (GFSK)

## High Channel (Hor)



High Channel (Ver)



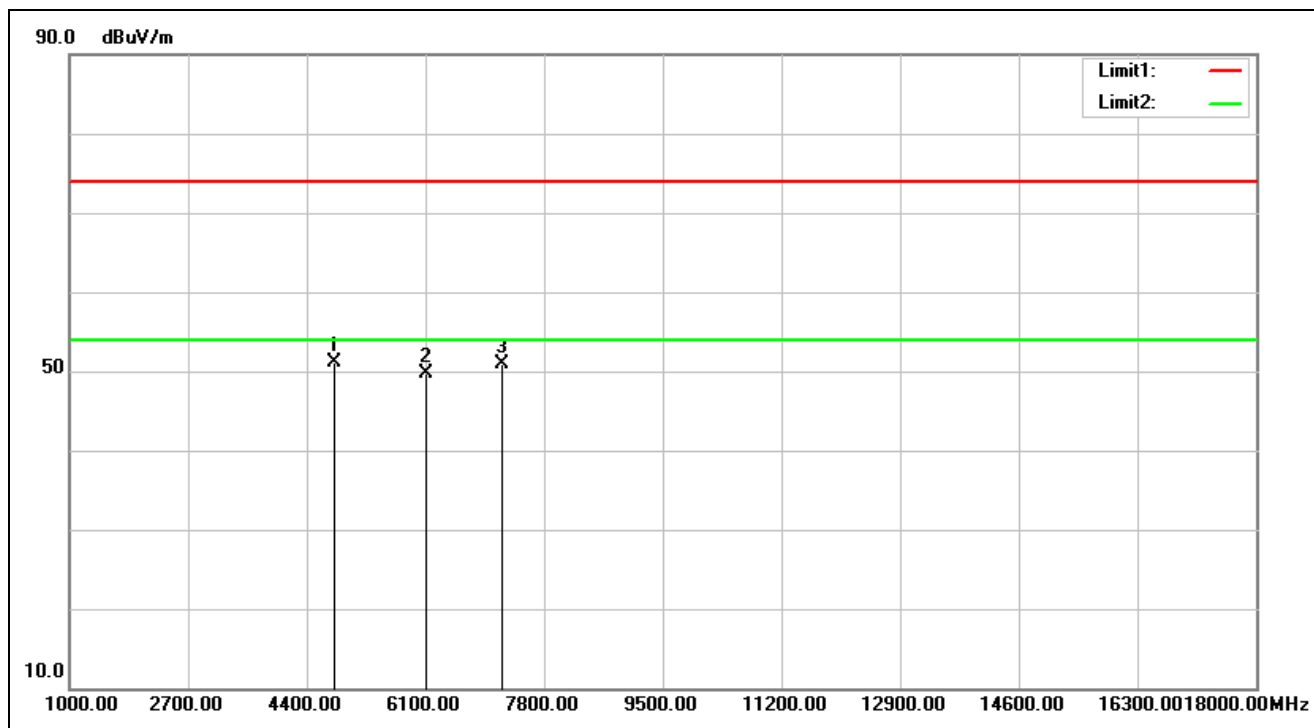
## Spurious Emissions, TX Mode, 1-18G



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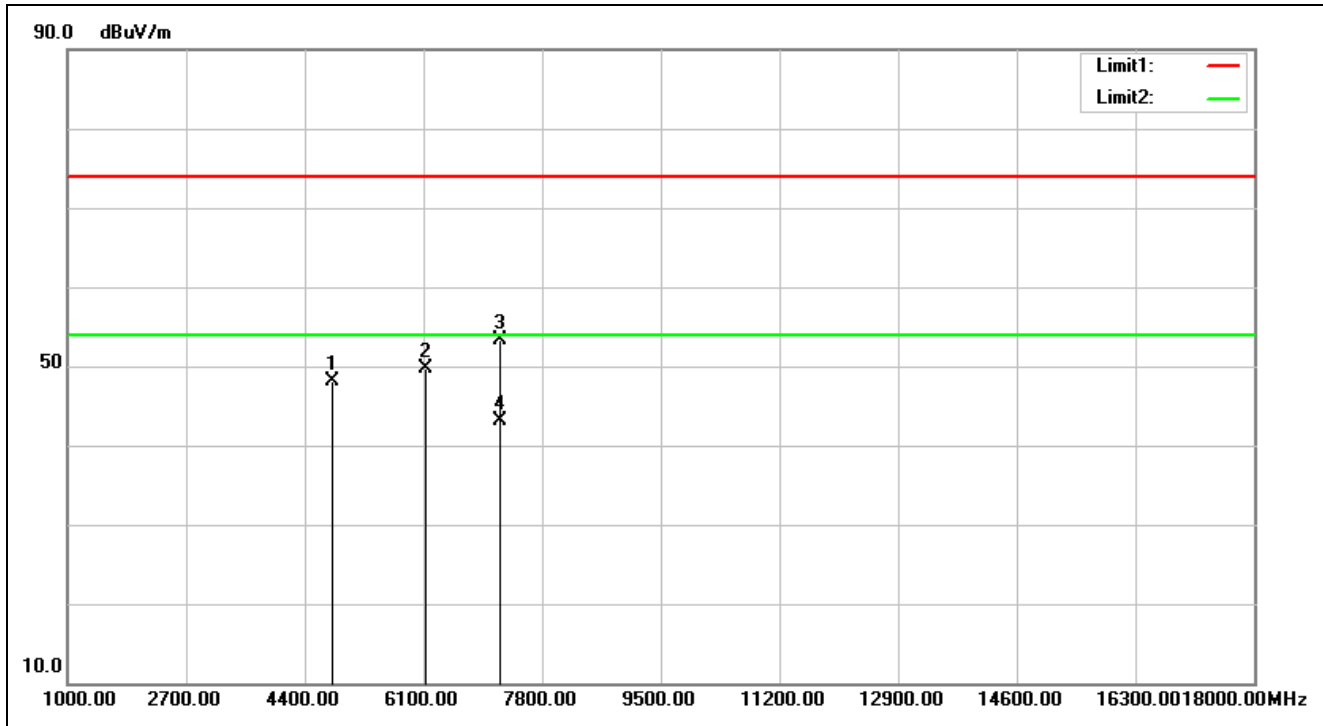
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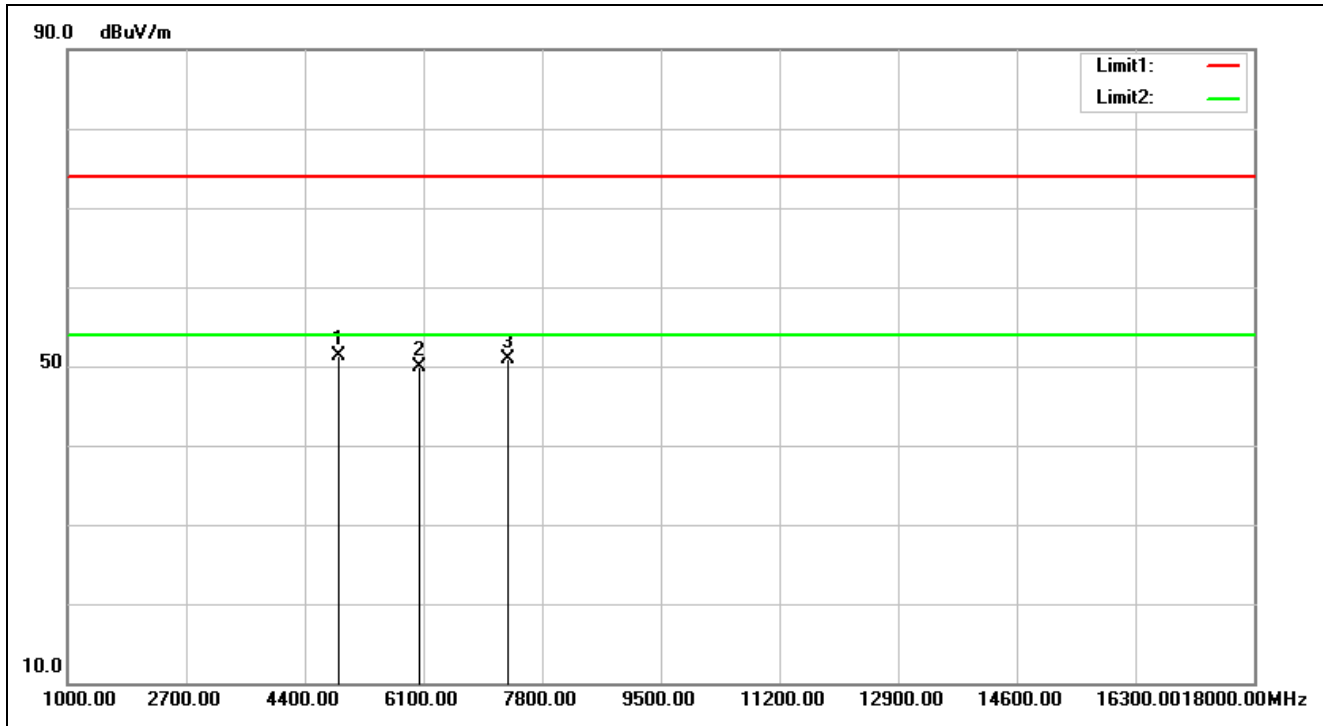
|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 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         |        |



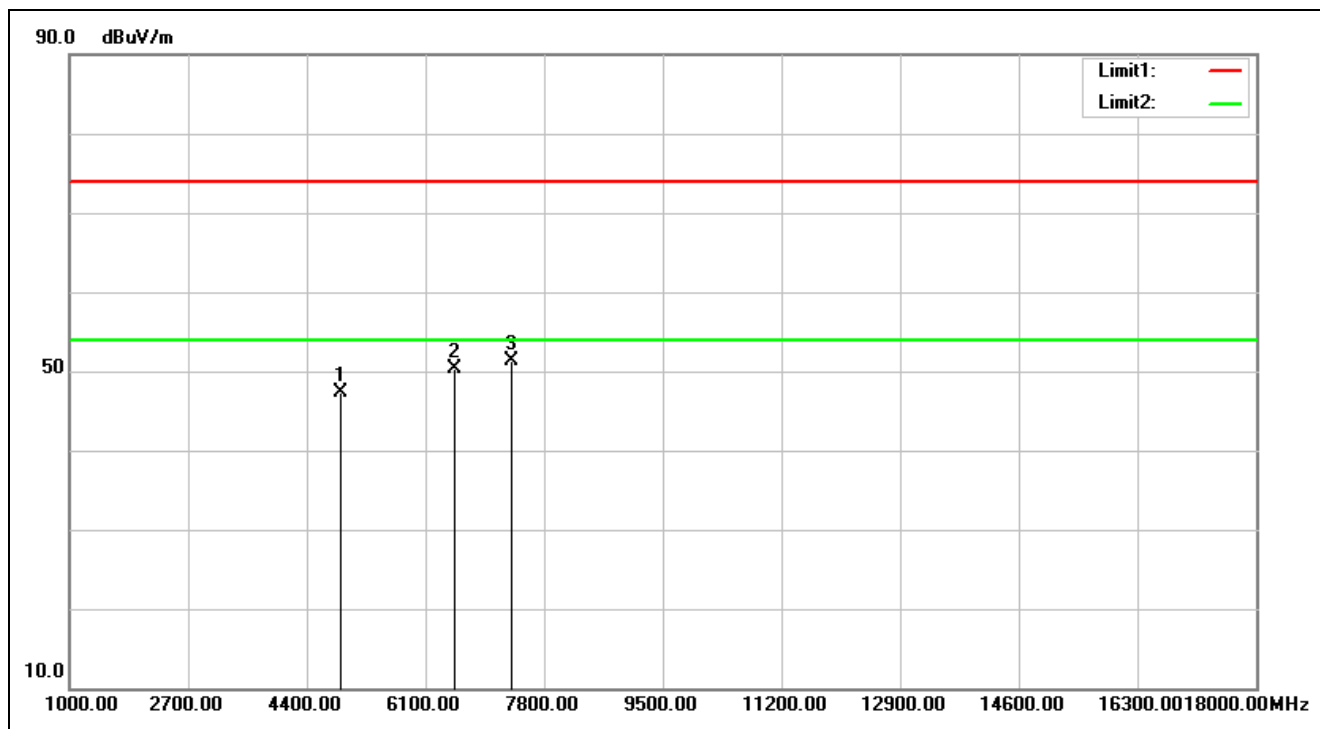
|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 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         |        |



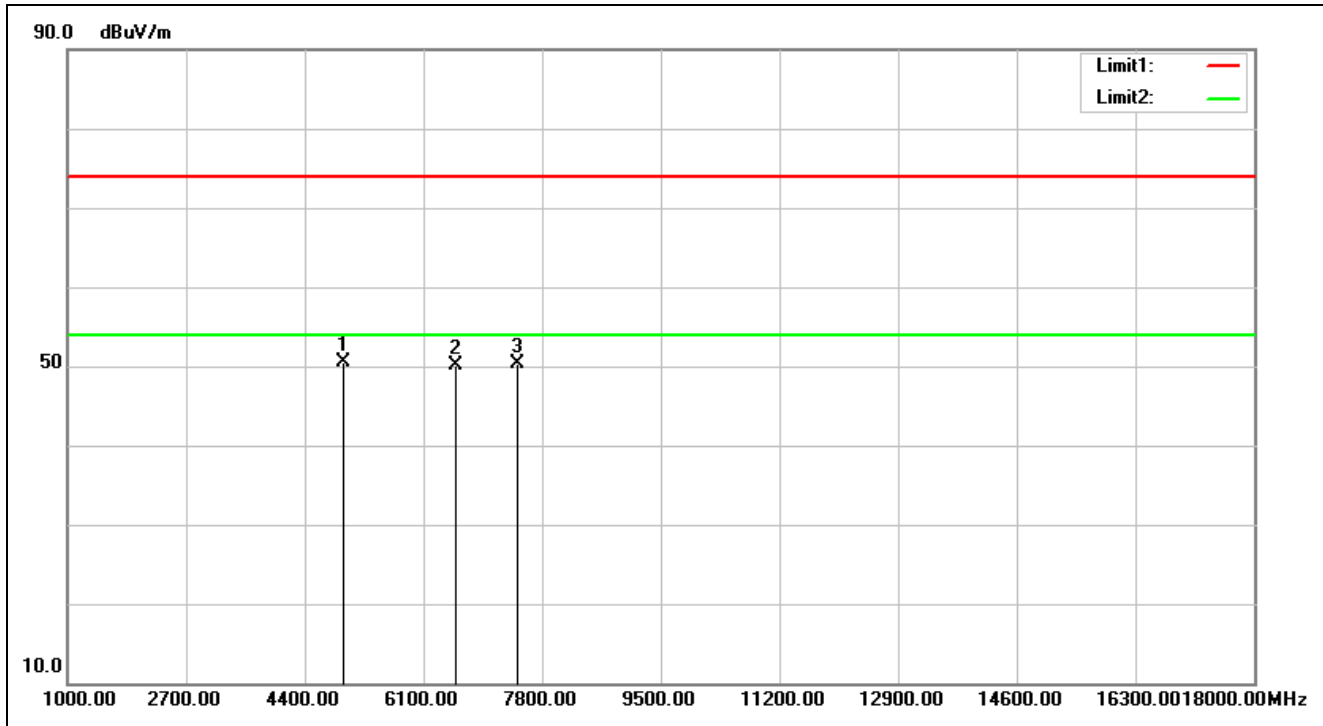
|                       |                                   |                           |                            |
|-----------------------|-----------------------------------|---------------------------|----------------------------|
| <b>Service No.:</b>   | <b>114080534</b>                  | <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 11:38:42</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         |        |



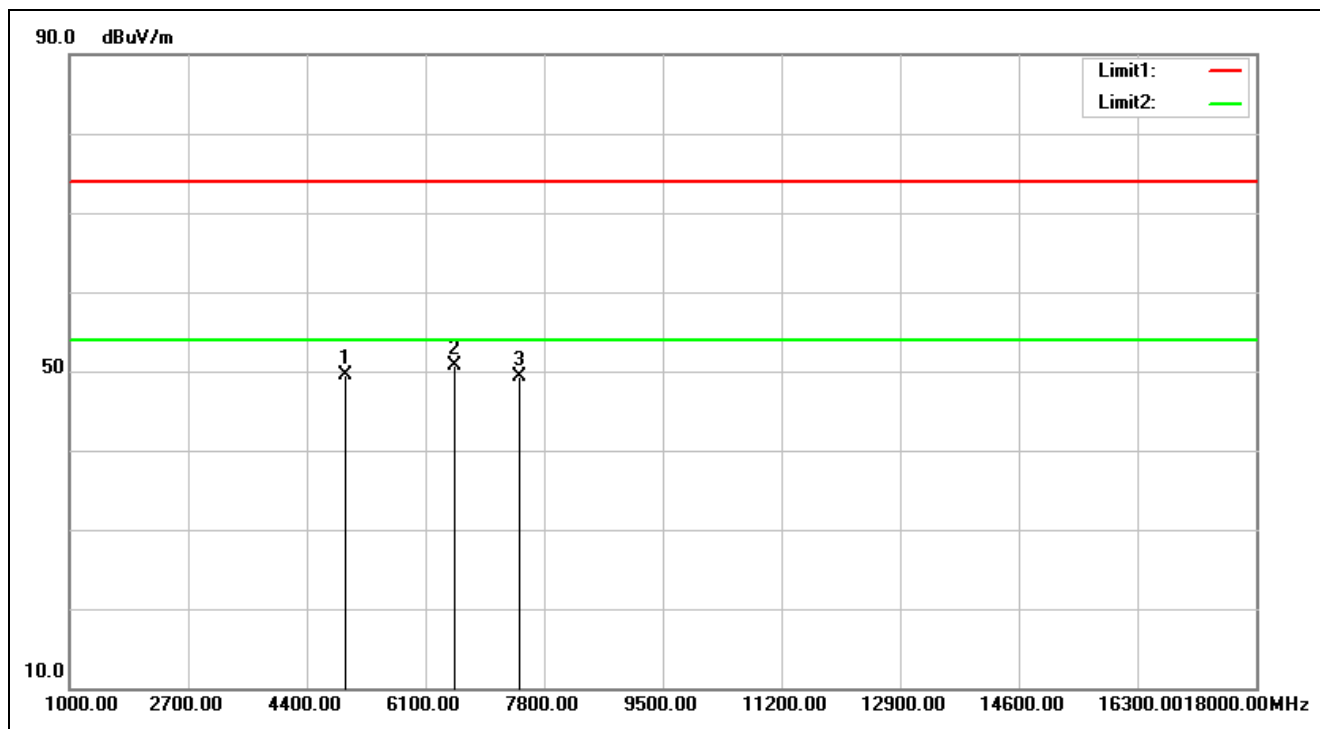
|                       |                                   |                           |                            |
|-----------------------|-----------------------------------|---------------------------|----------------------------|
| <b>Service No.:</b>   | <b>114080534</b>                  | <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 11:39:45</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         |        |



|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| 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 11:44:01 |
| 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:     | 2480-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   | 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         |        |

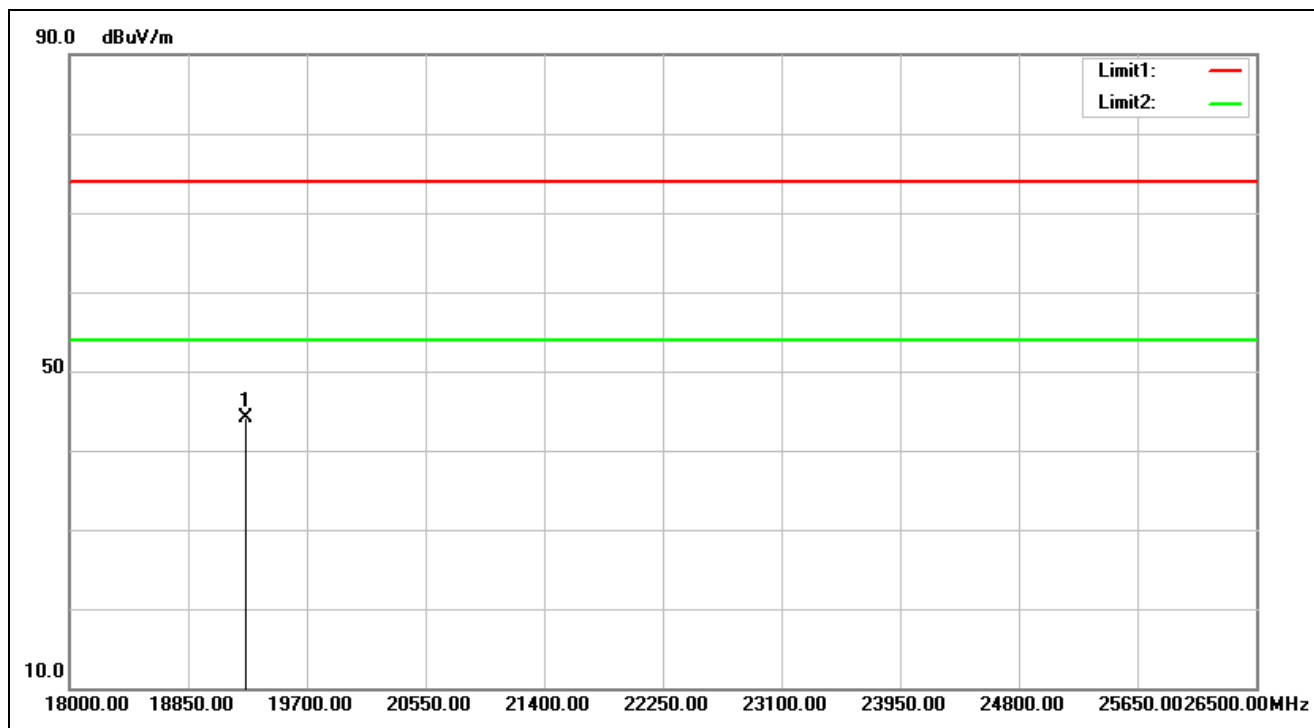
## Spurious Emissions, TX Mode, 18-26G



**TUV Rheinland Taiwan Ltd.**

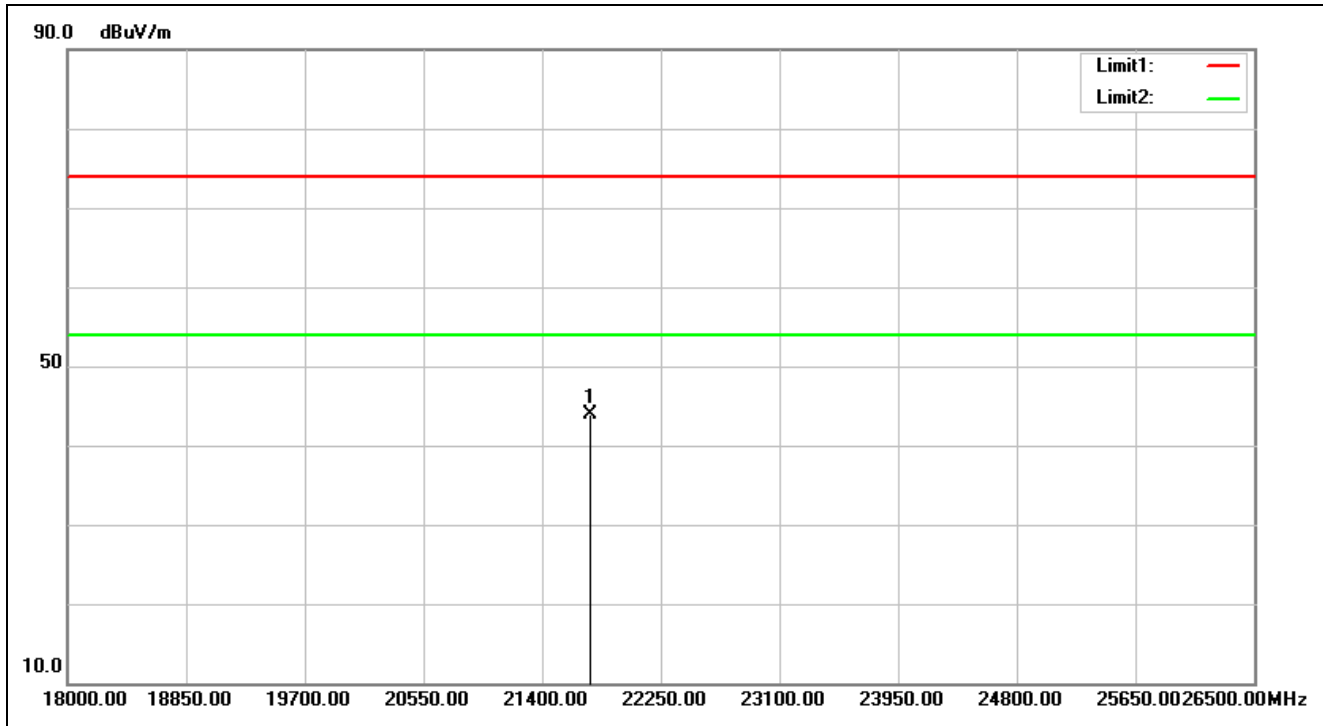
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



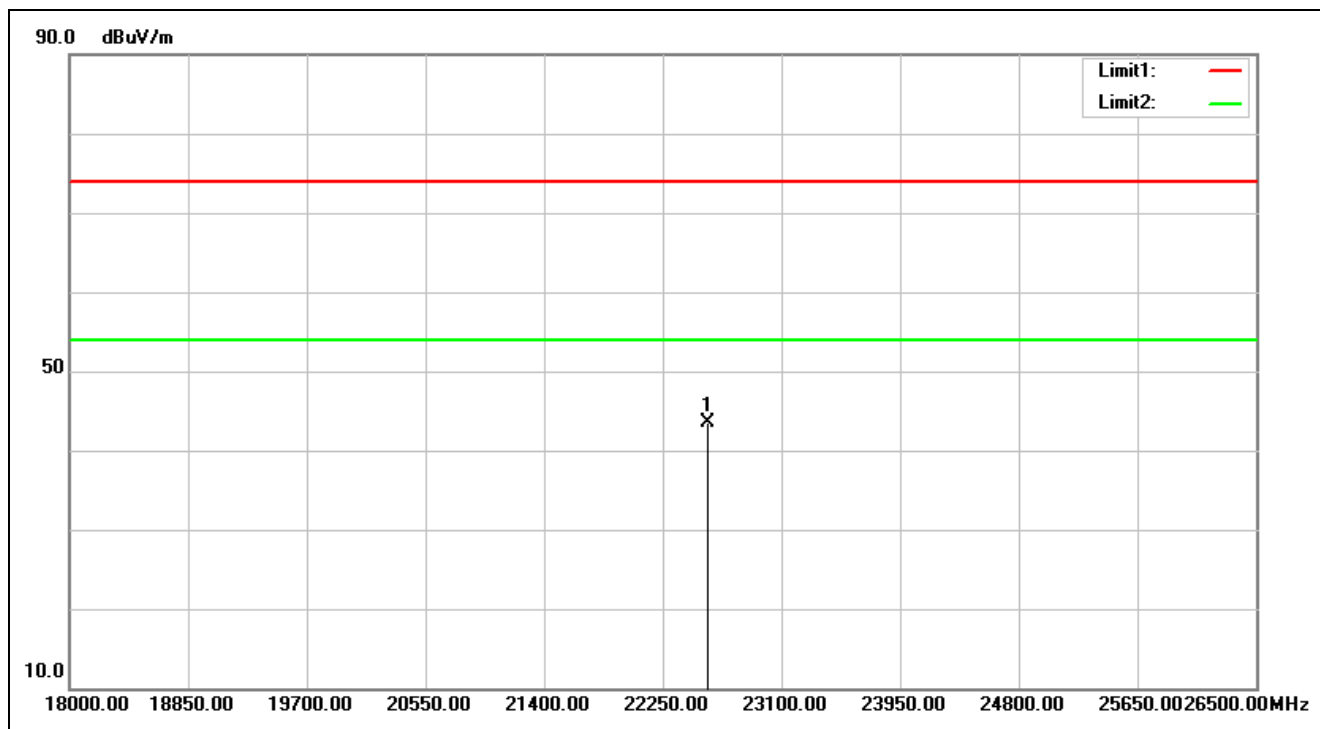
|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal         |
| Test item:     | Radiation Emission        | Test Time:         | 2018/12/3 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         |        |



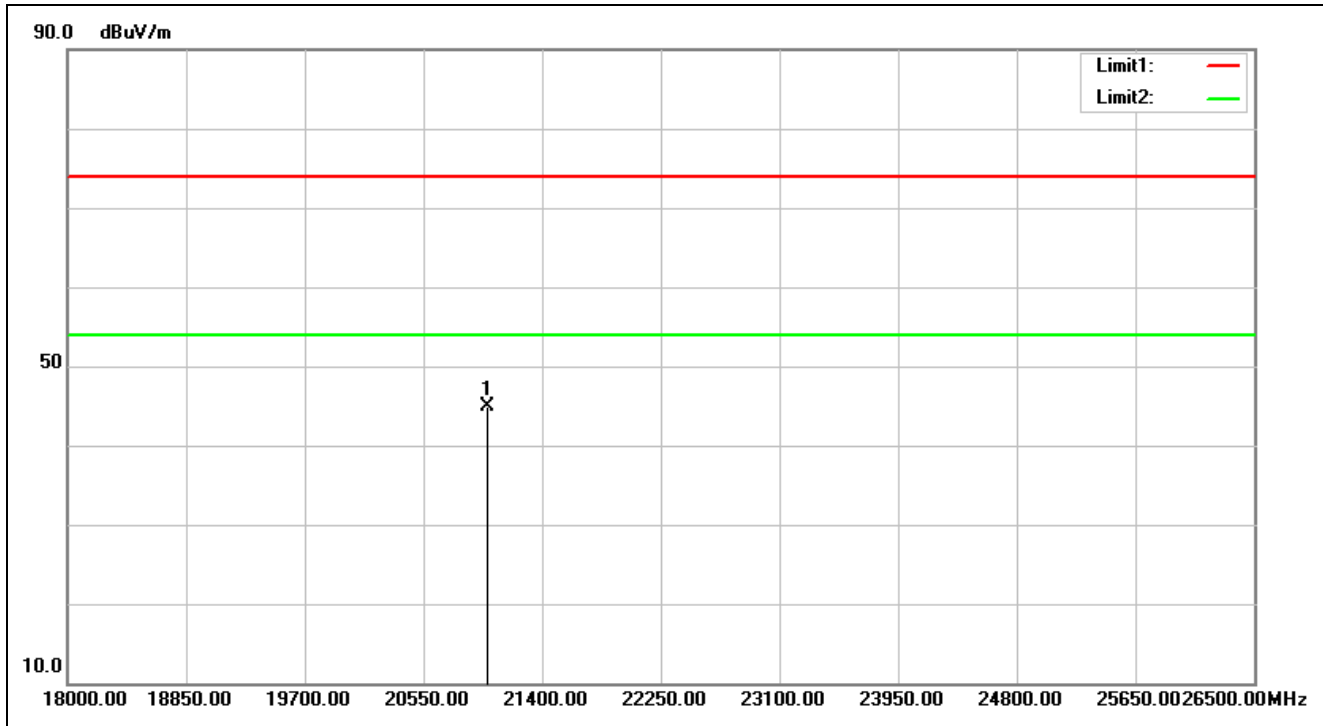
|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Vertical           |
| Test item:     | Radiation Emission        | Test Time:         | 2018/12/3 10:53:29 |
| 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   | 21740.000       | 4.21          | 39.62          | 43.83          | 74.00          | -30.17      | peak | 100         | 64          |        |



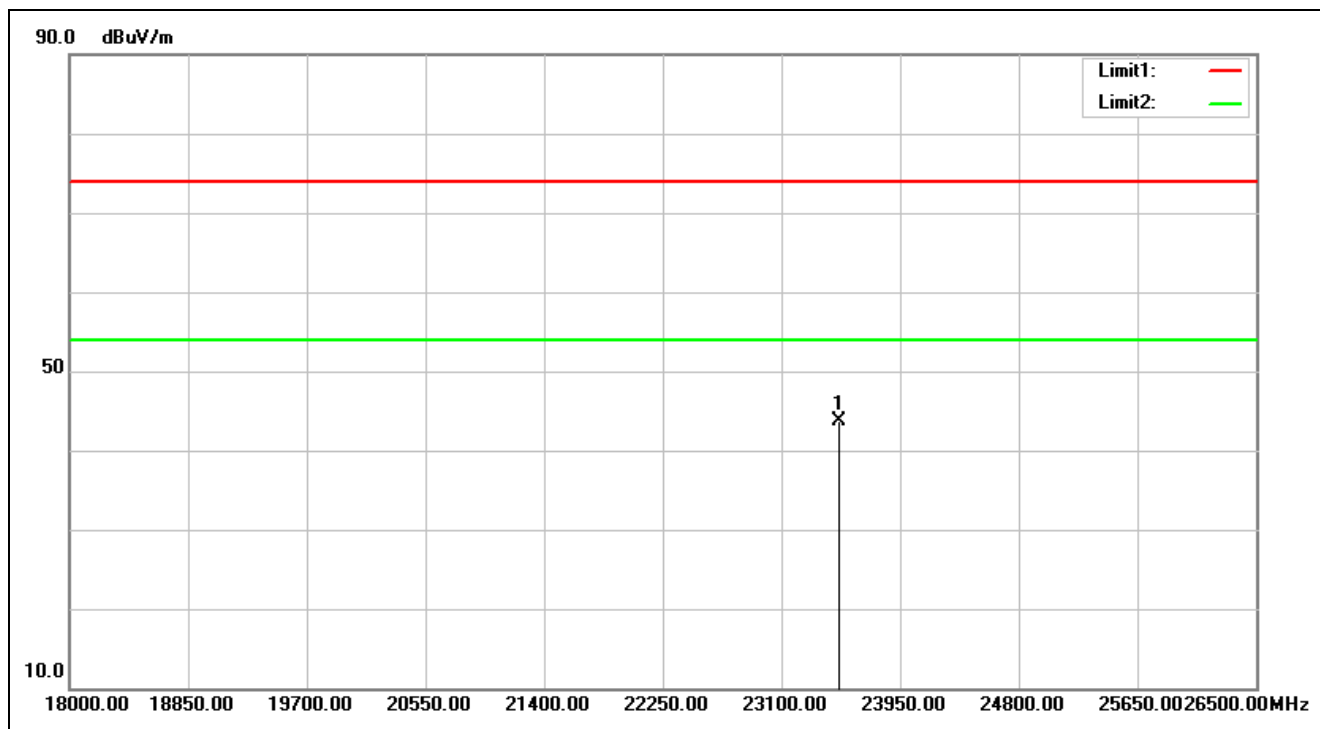
|                       |                                   |                           |                           |
|-----------------------|-----------------------------------|---------------------------|---------------------------|
| <b>Service No.:</b>   | <b>114080534</b>                  | <b>Test 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 10:55:00</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         |        |



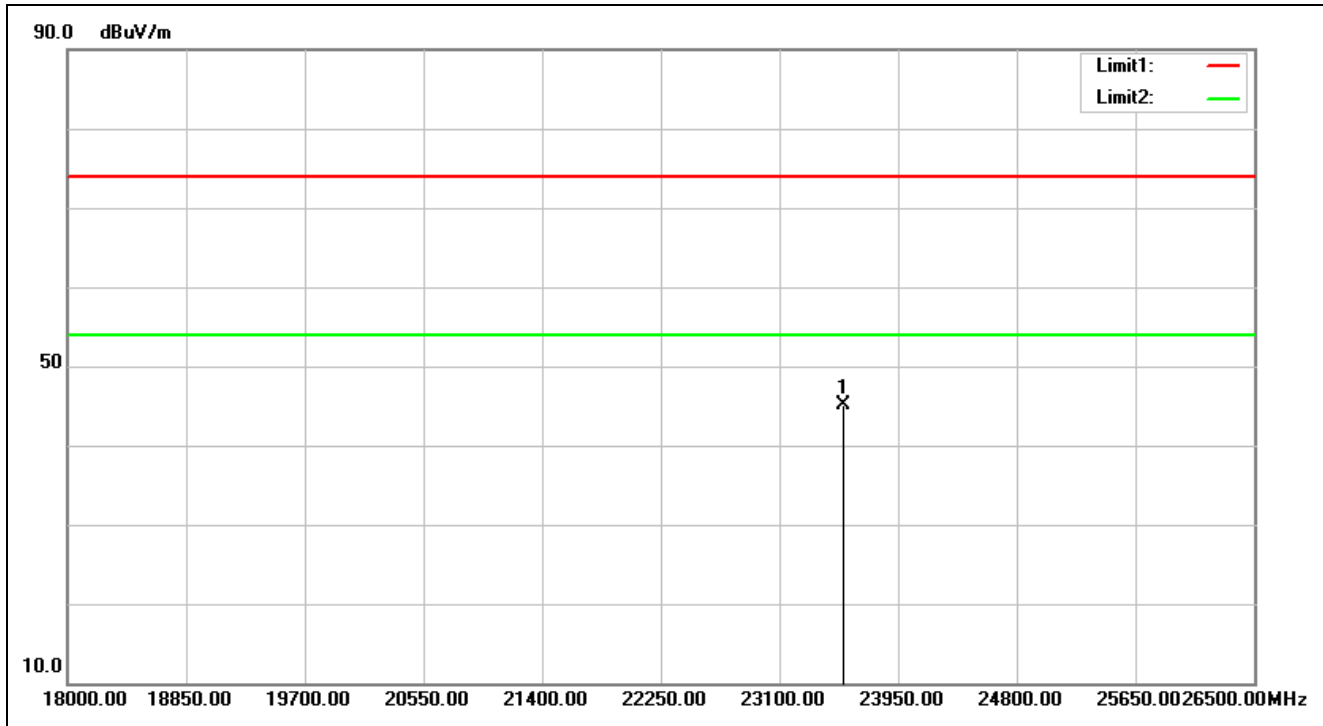
|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Vertical           |
| Test item:     | Radiation Emission        | Test Time:         | 2018/12/3 10:56:02 |
| 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   | 21009.000       | 4.78          | 40.13          | 44.91          | 74.00          | -29.09      | peak | 100         | 153         |        |



|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| 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 10:57:33 |
| 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:     | 2480-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   | 23508.000       | 5.86          | 37.91          | 43.77          | 74.00          | -30.23      | peak | 100         | 57          |        |



|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Vertical           |
| Test item:     | Radiation Emission        | Test Time:         | 2018/12/3 10:58:35 |
| 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:     | 2480-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   | 23559.000       | 5.82          | 39.25          | 45.07          | 74.00          | -28.93      | peak | 100         | 294         |        |

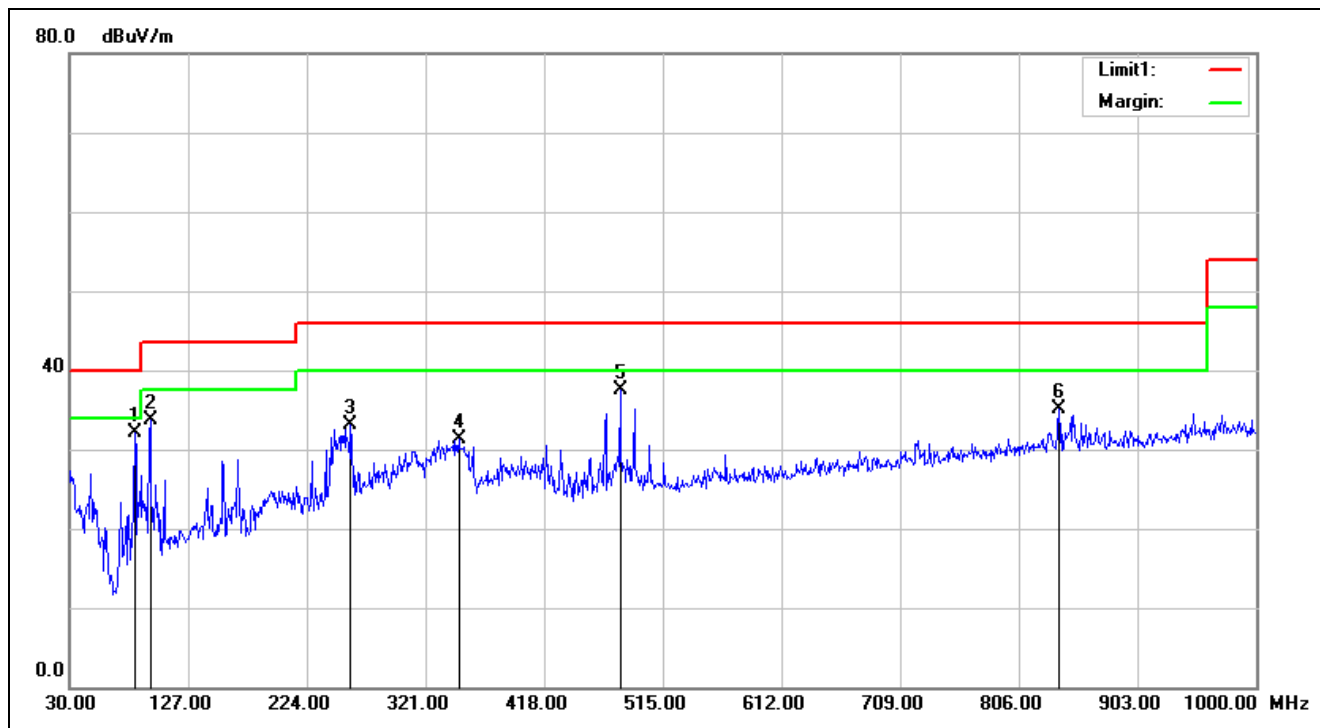
## Spurious Emissions, TX Mode, 30M-1G



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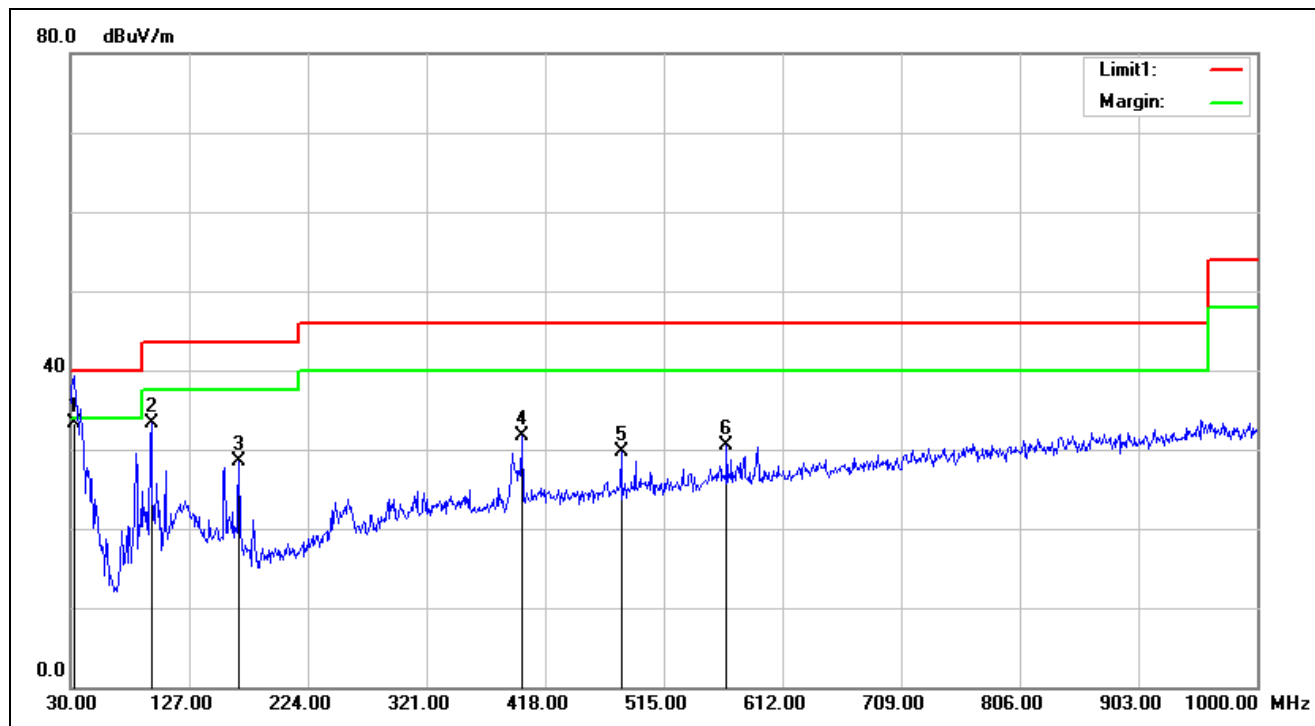
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|                |                               |                    |                    |
|----------------|-------------------------------|--------------------|--------------------|
| Service No.:   | 114080534                     | Test Distance:     | 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         |        |

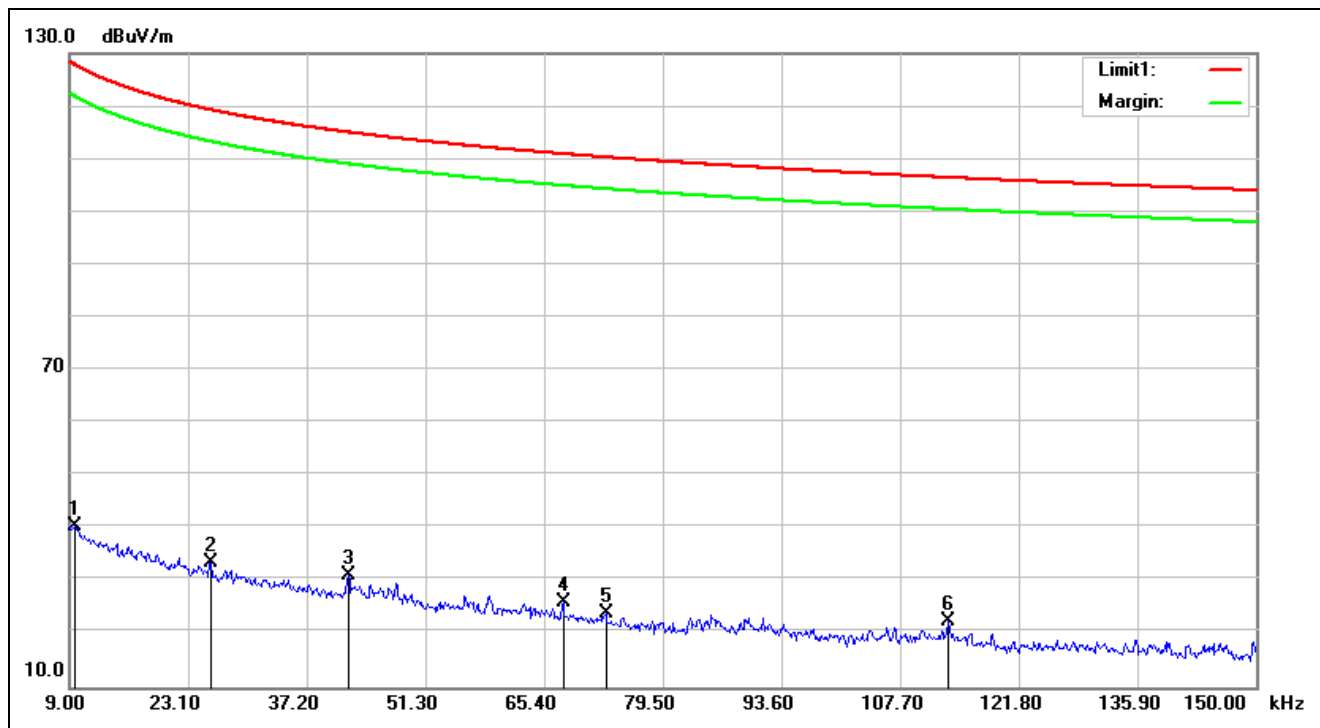
## Spurious Emissions, TX Mode, 9k-30M



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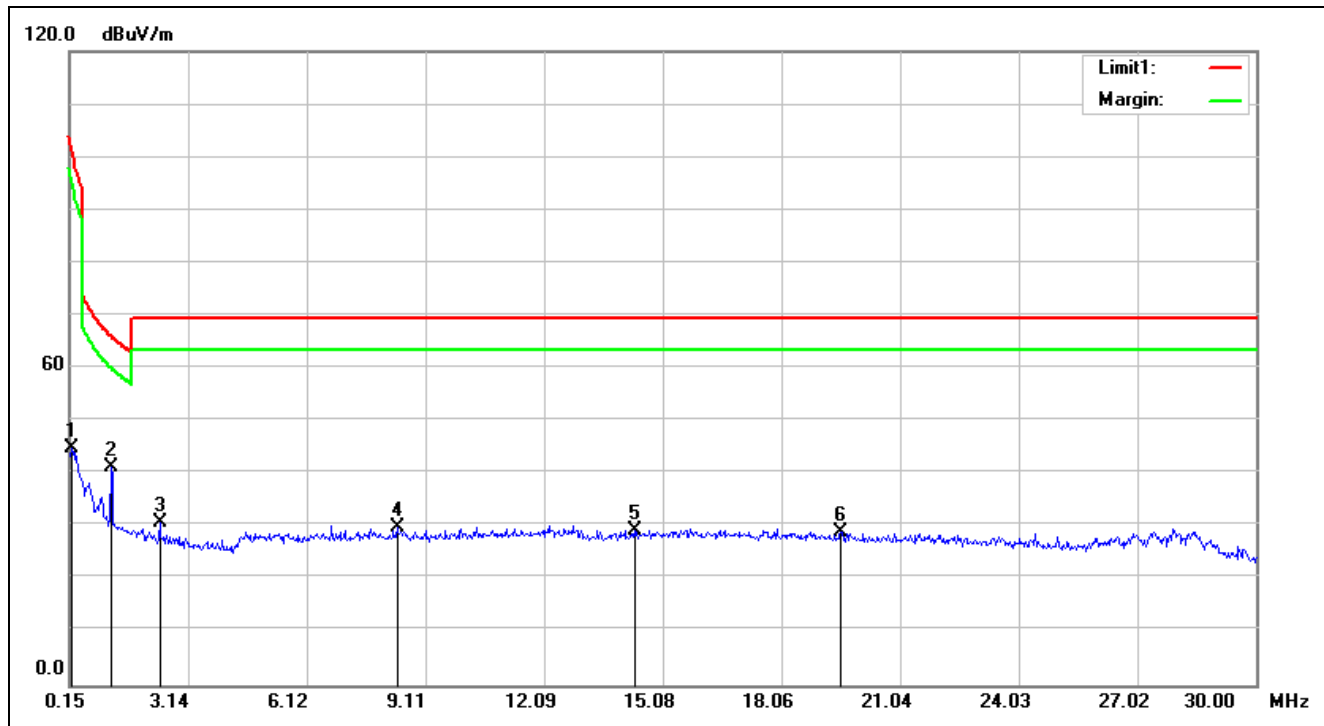
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|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| Test Standard: | FCC 15.209_9k-30M_3m      | Ant. Polarization: | N/A                |
| Test item:     | Radiation Emission        | Test Time:         | 2018/12/3 13:20:37 |
| 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           |        |

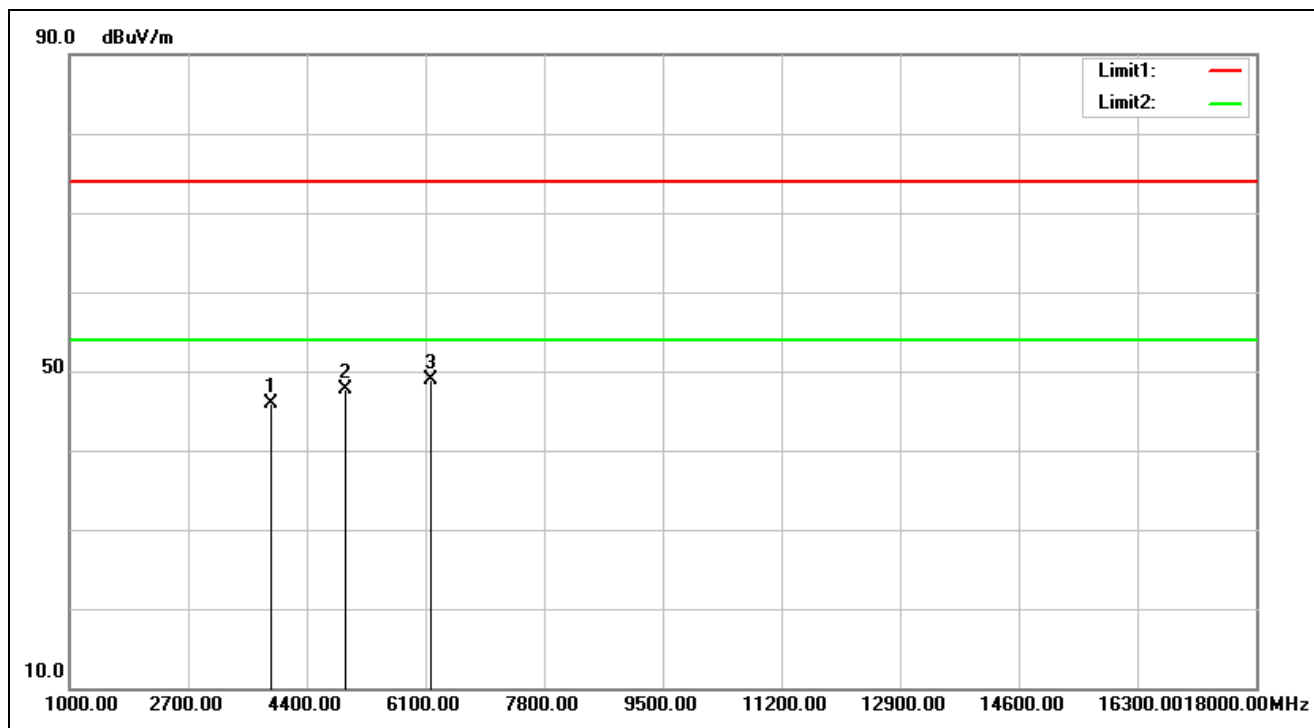
## Spurious Emissions, RX Mode, 1-18G



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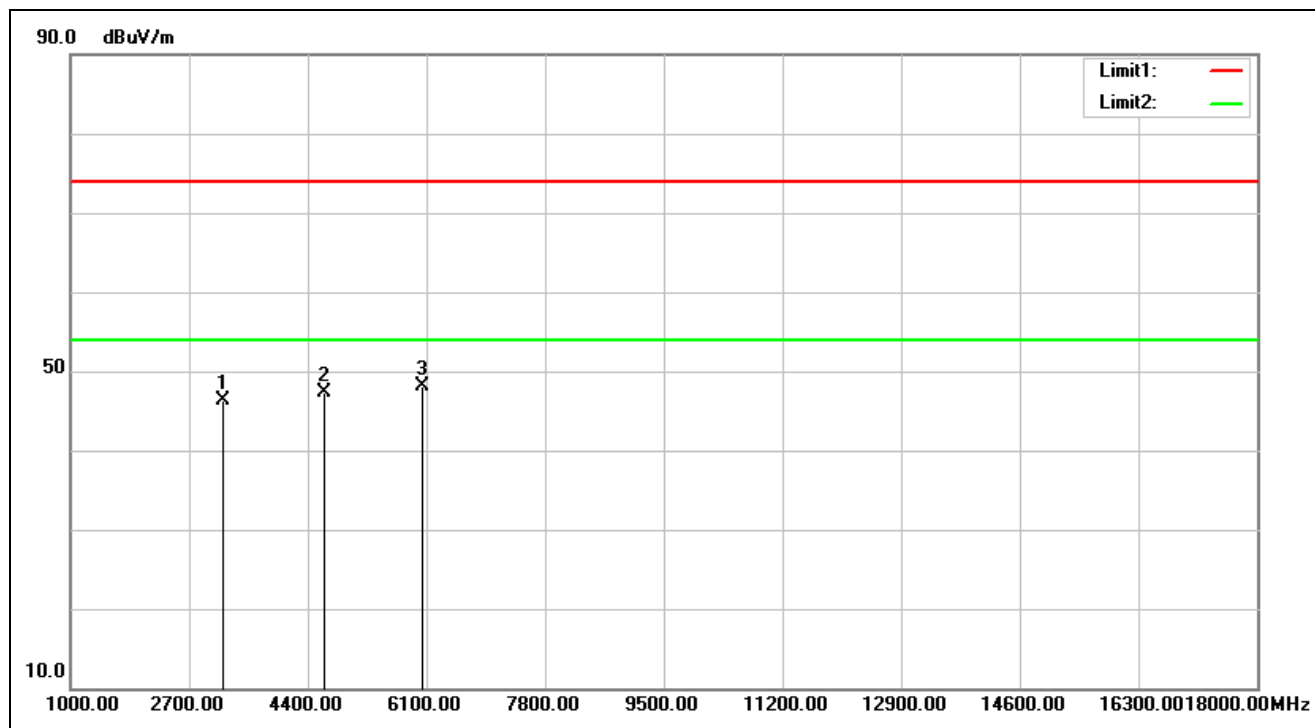
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 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         |        |

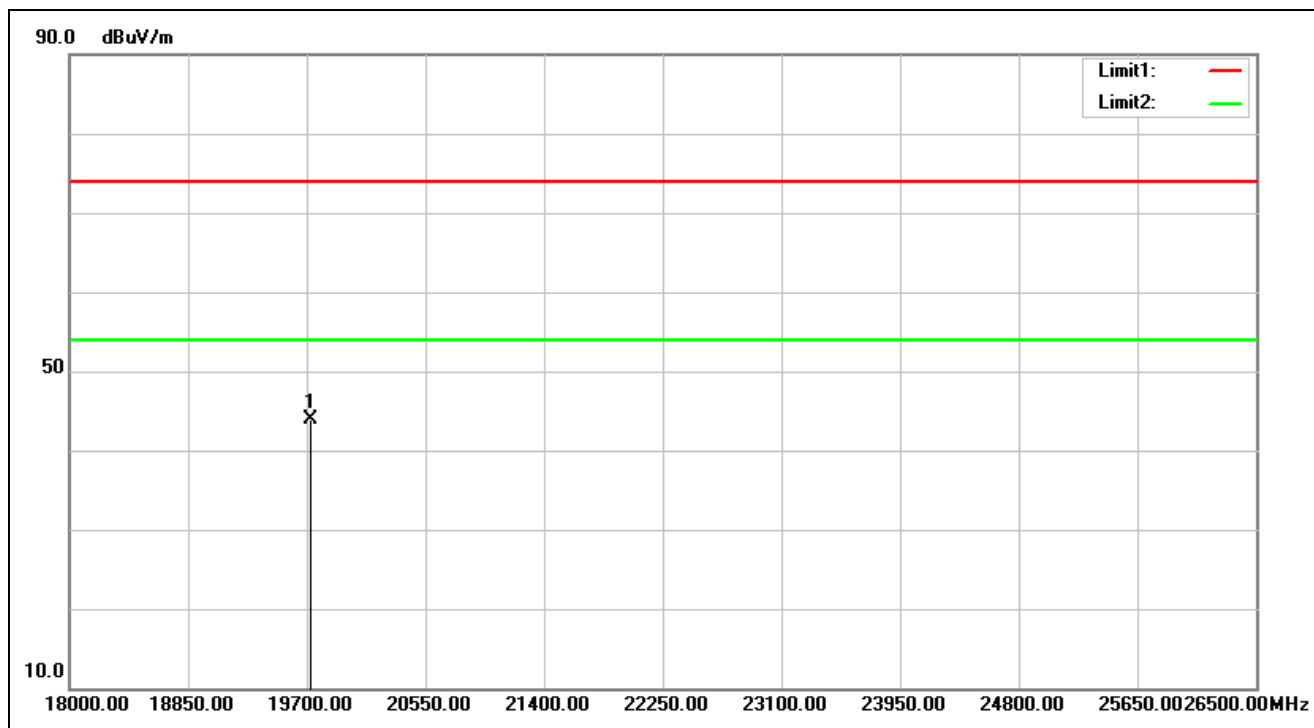
## Spurious Emissions, RX Mode, 18-26G



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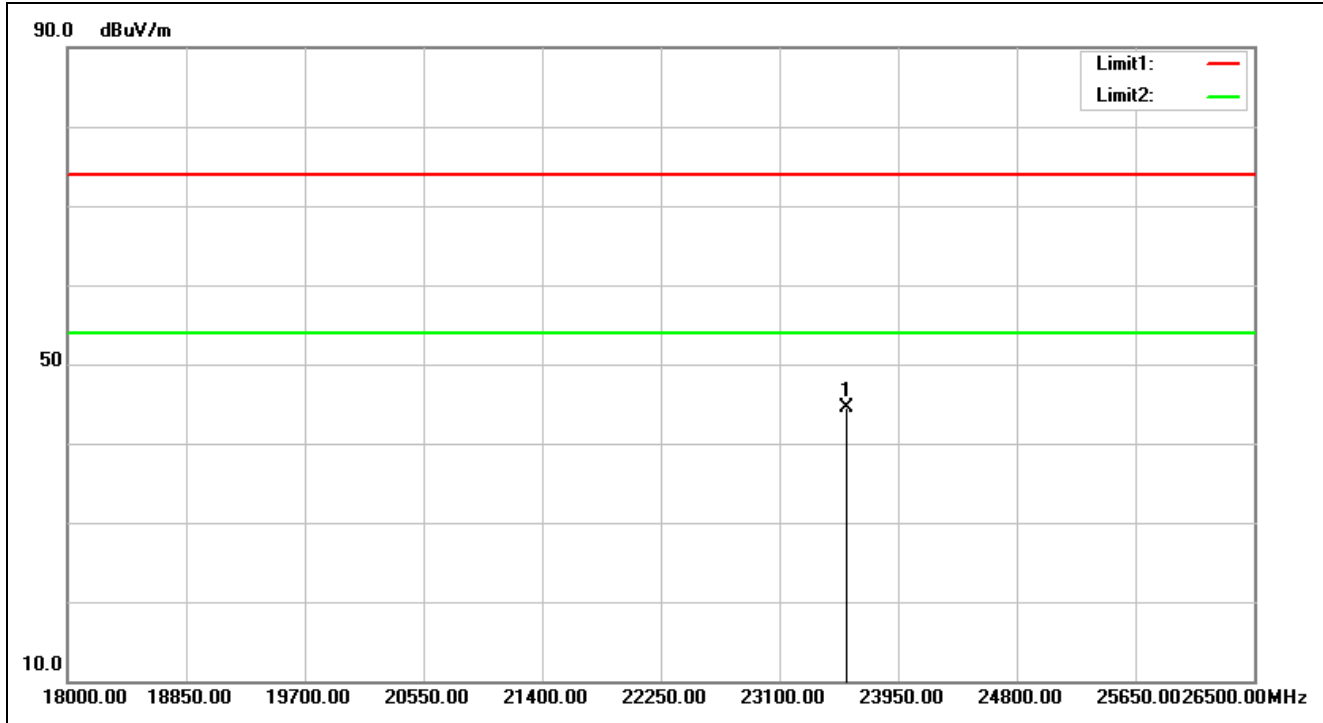
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|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal         |
| Test item:     | Radiation Emission        | Test Time:         | 2018/12/3 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         |        |

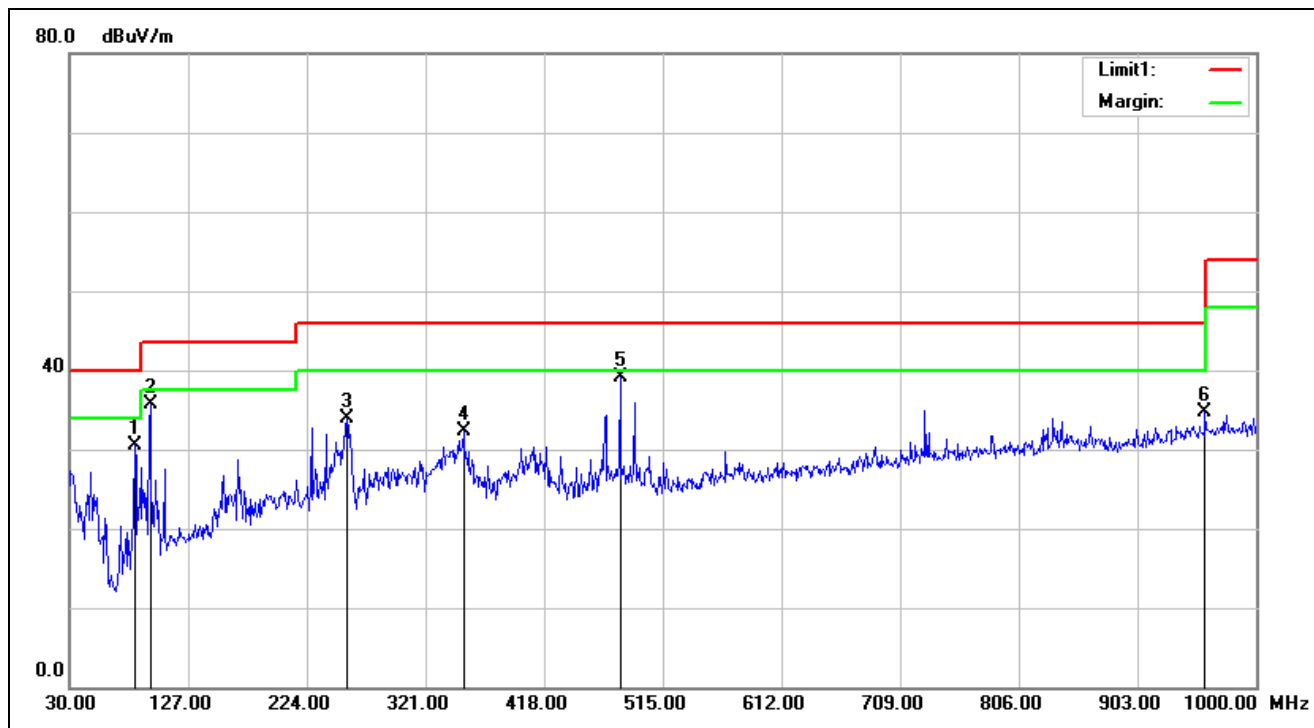
# Spurious Emissions, RX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

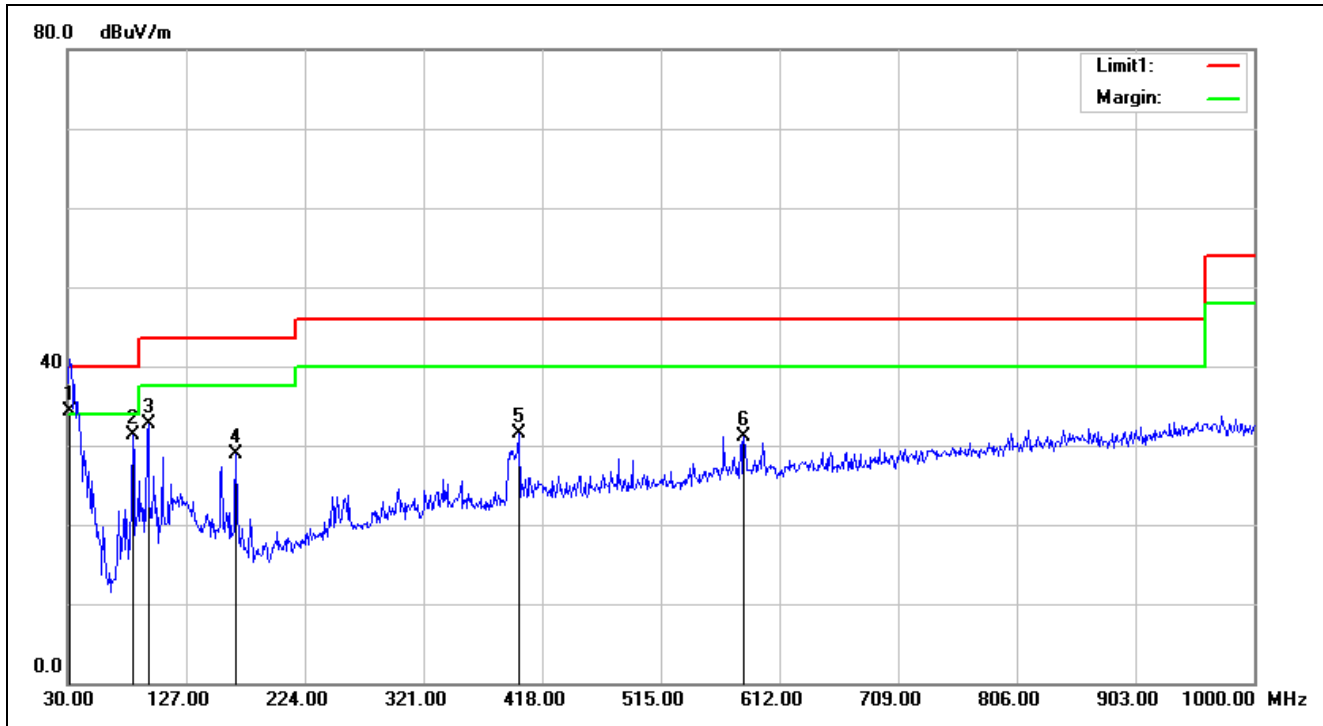
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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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         |        |

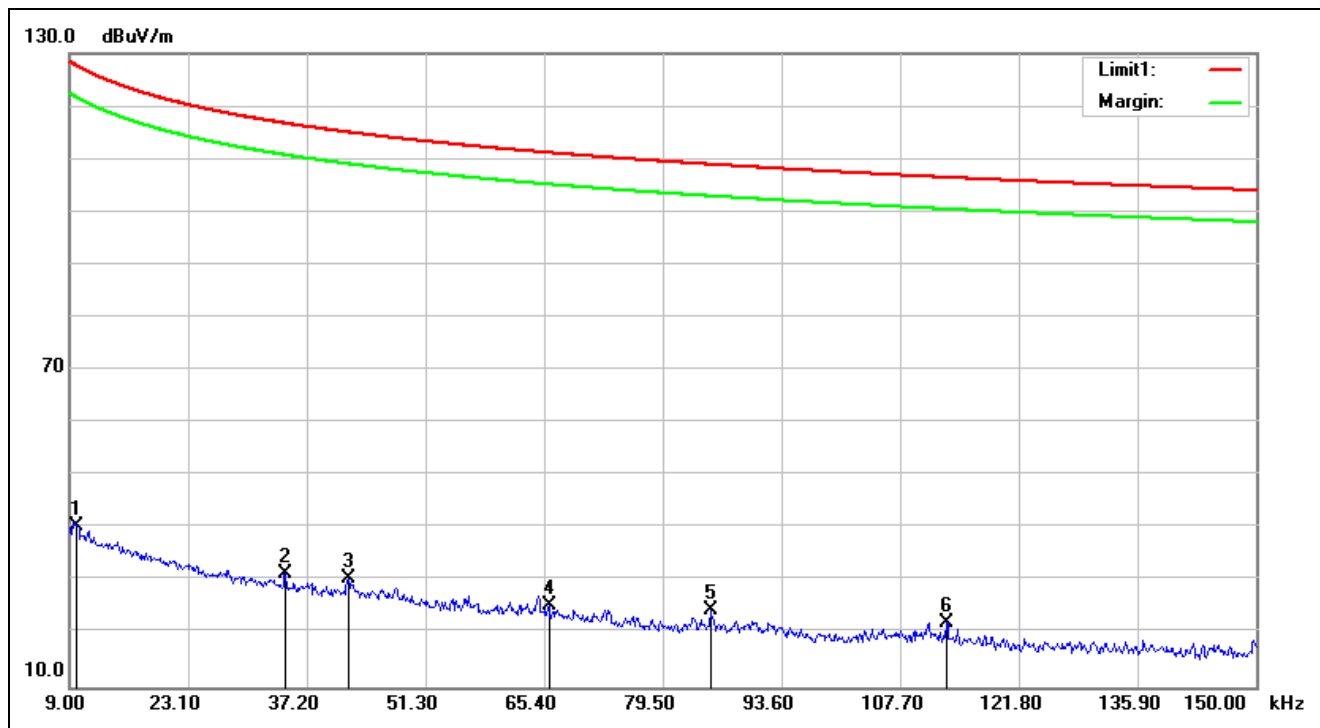
## Spurious Emissions, RX Mode, 9K-30M



TUV Rheinland Taiwan Ltd.

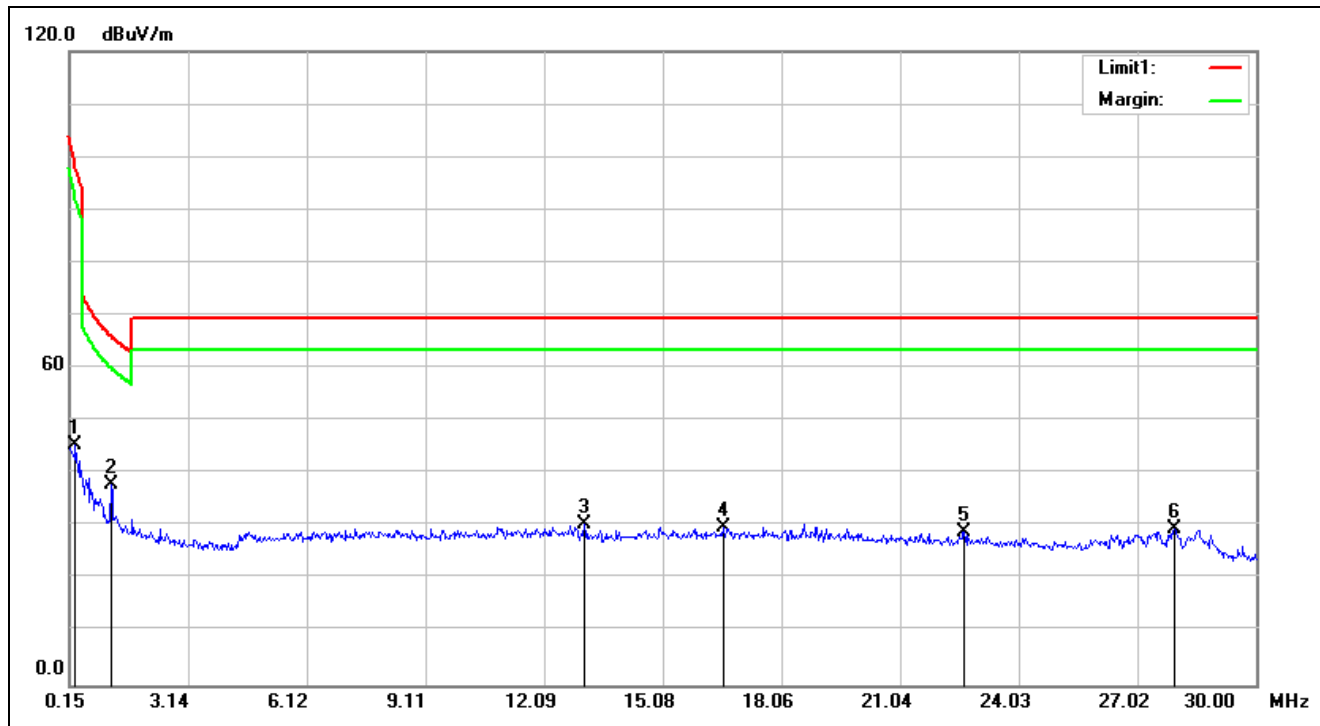
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|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| Test Standard: | FCC 15.209_9k-30M_3m      | Ant. Polarization: | N/A                |
| Test item:     | Radiation Emission        | Test Time:         | 2018/12/3 13:26:24 |
| 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

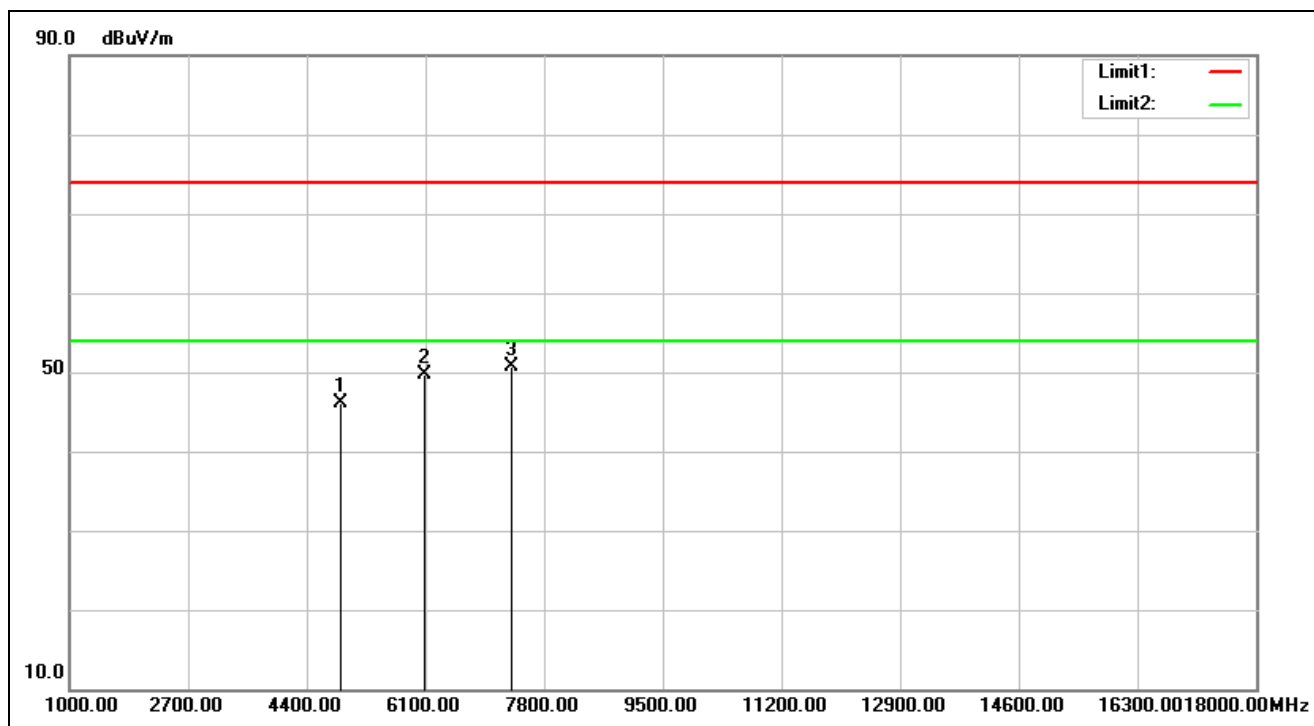
### Spurious Emissions, TX Mode, 1-18G



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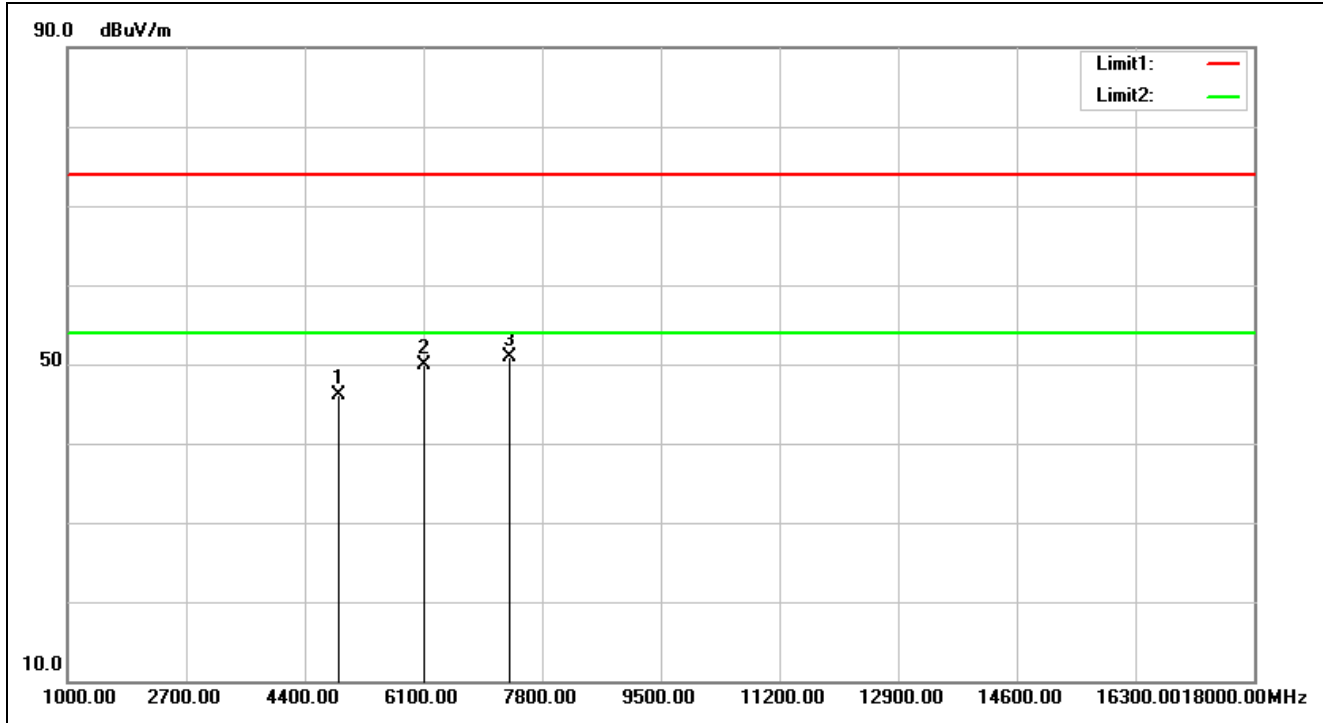
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|                       |                                   |                           |                            |
|-----------------------|-----------------------------------|---------------------------|----------------------------|
| <b>Service 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 13:10:00</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-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          | 42.59          | 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         |        |

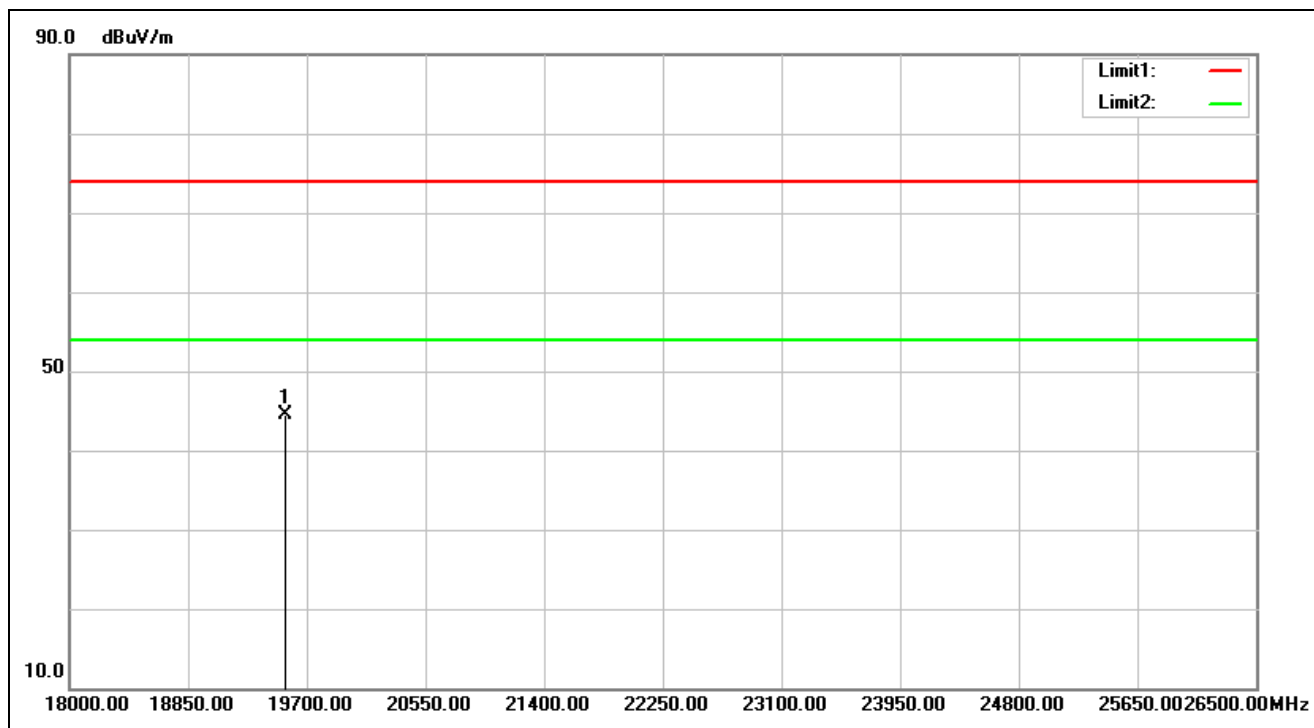
## Spurious Emissions, TX Mode, 18-26G



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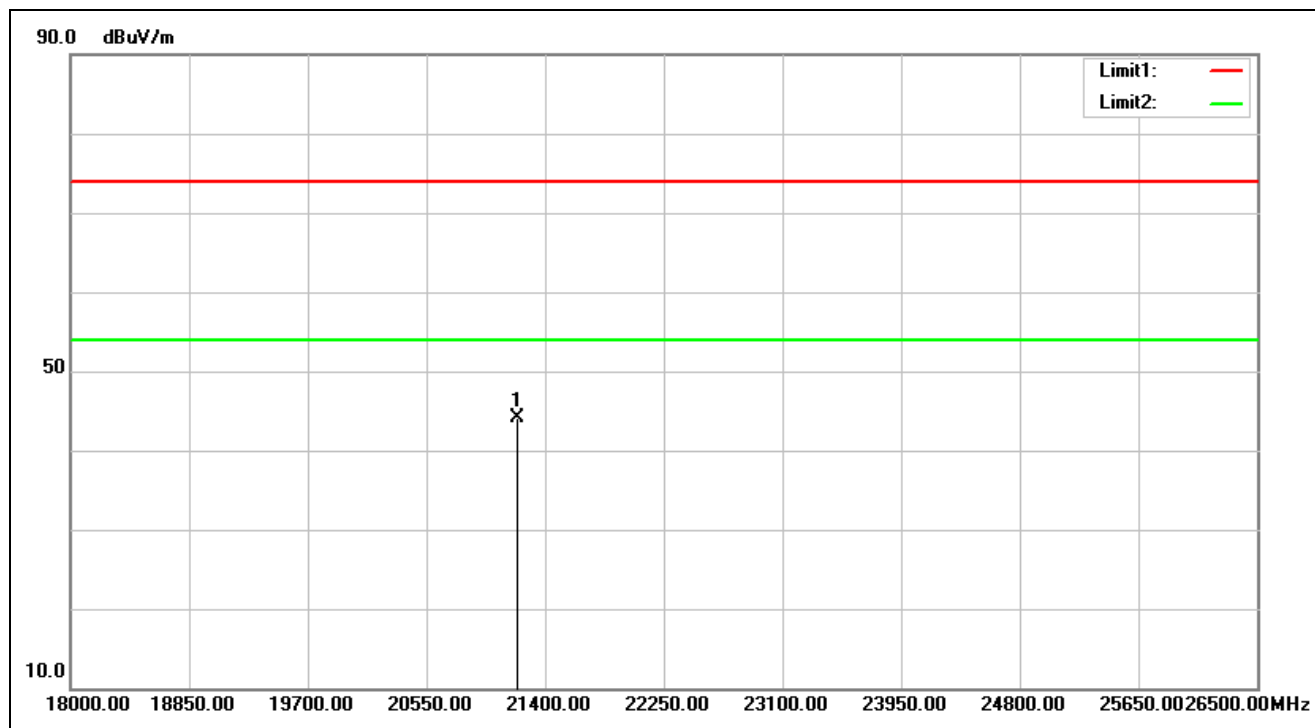
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|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| 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         |        |

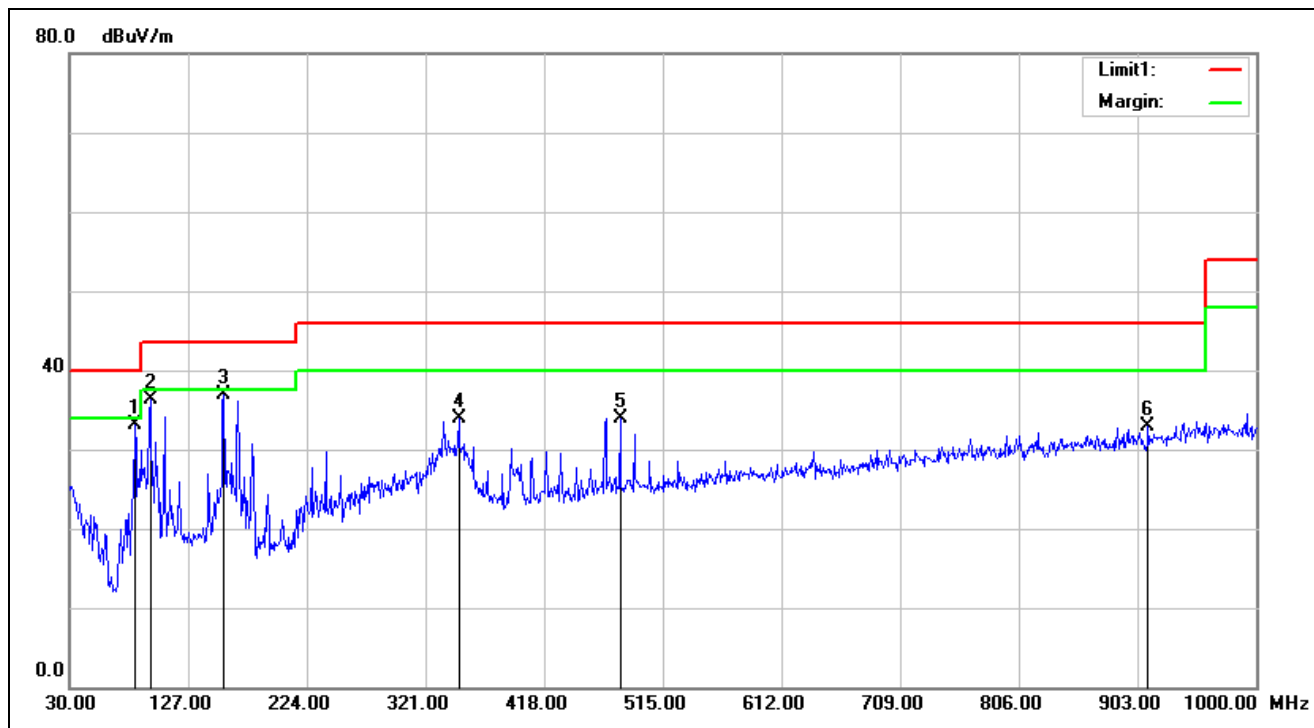
## Spurious Emissions, TX Mode, 30M-1G



TUV Rheinland Taiwan Ltd.

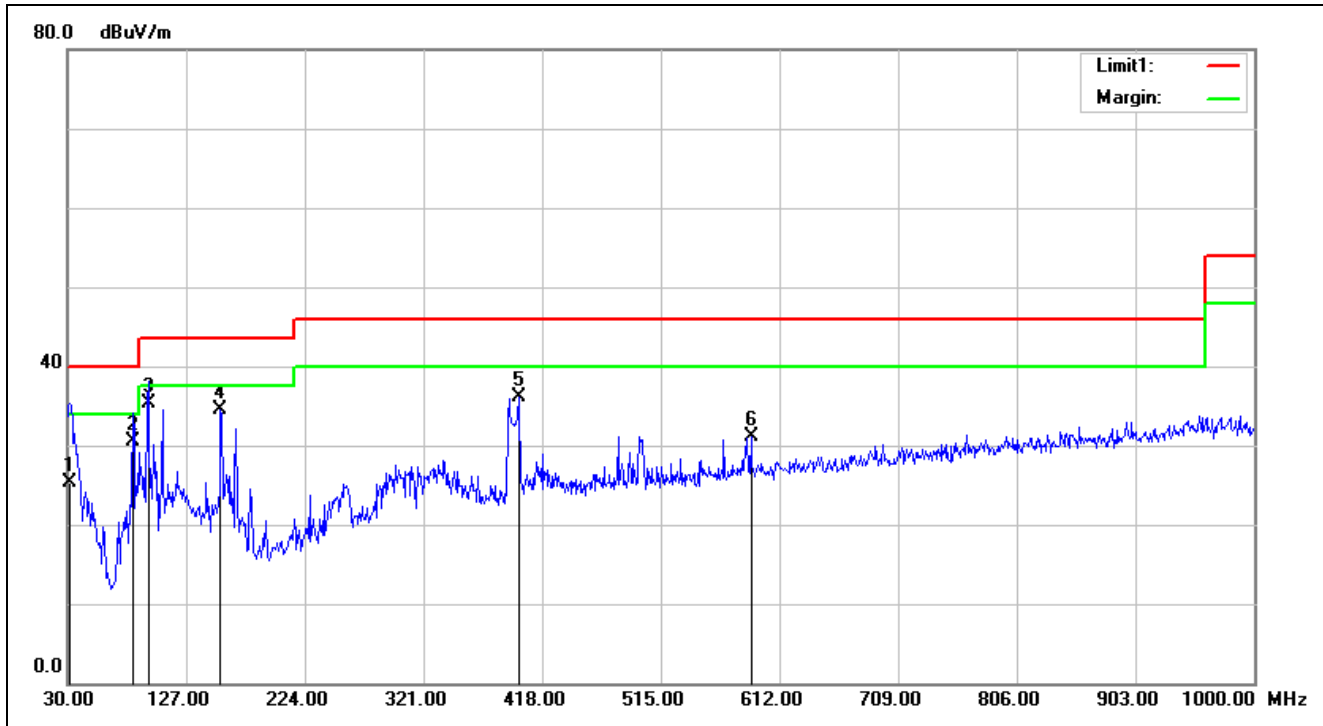
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|                |                               |                    |                    |
|----------------|-------------------------------|--------------------|--------------------|
| Service No.:   | 114080534                     | Test Distance:     | 3m                 |
| Test Standard: | FCC&ISED Class B 3M Radiation | Ant. Polarization: | Horizontal         |
| Test item:     | Radiation Emission            | Test Time:         | 2018/12/3 13:39:11 |
| 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         |        |



|                |                               |                    |                    |
|----------------|-------------------------------|--------------------|--------------------|
| 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 13:40:14 |
| 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   | 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         |        |

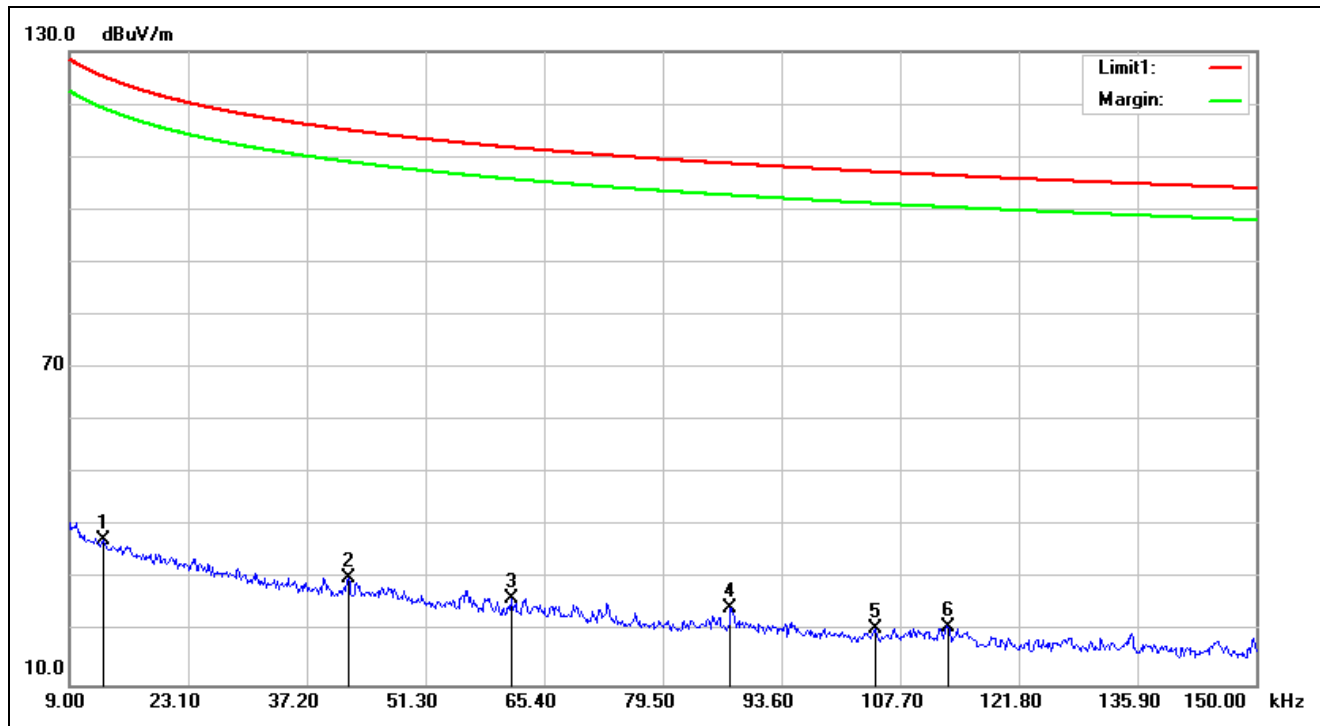
## Spurious Emissions, TX Mode, 9k-30M



TUV Rheinland Taiwan Ltd.

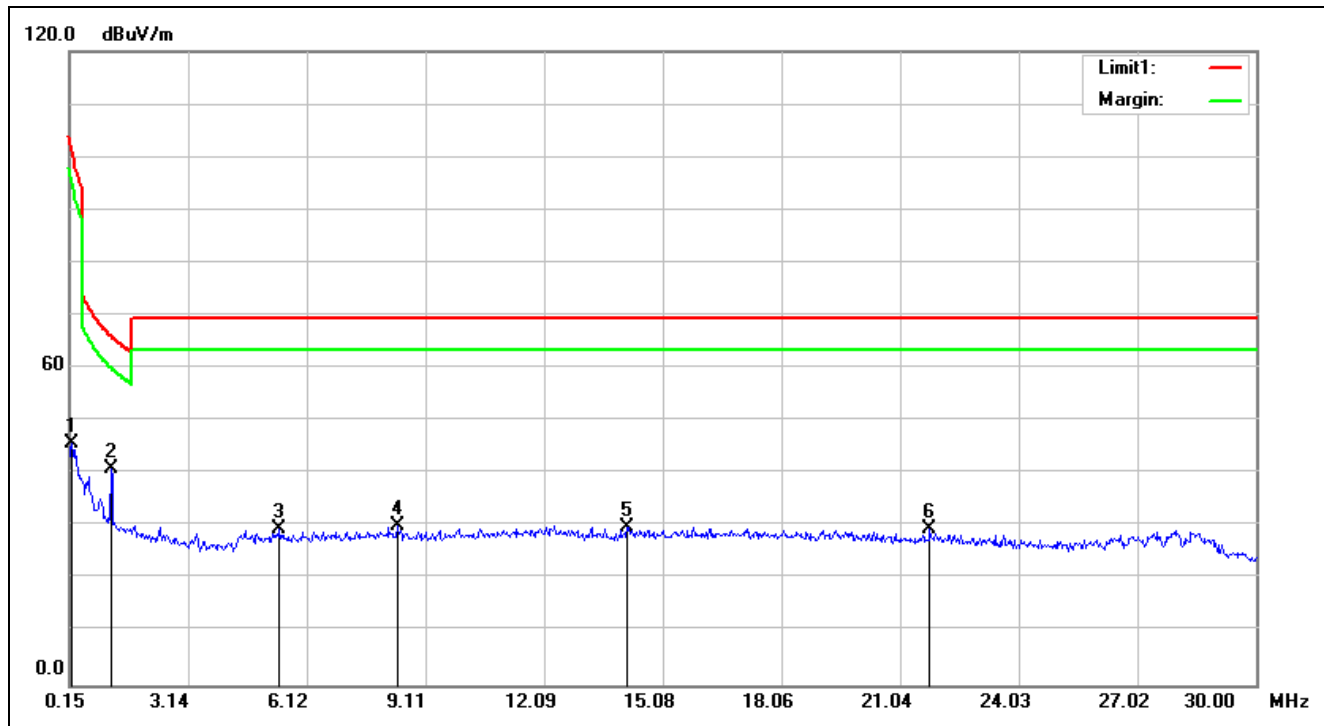
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|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| 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           |        |



|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| 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 13:11:06 |
| 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         | 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          |        |

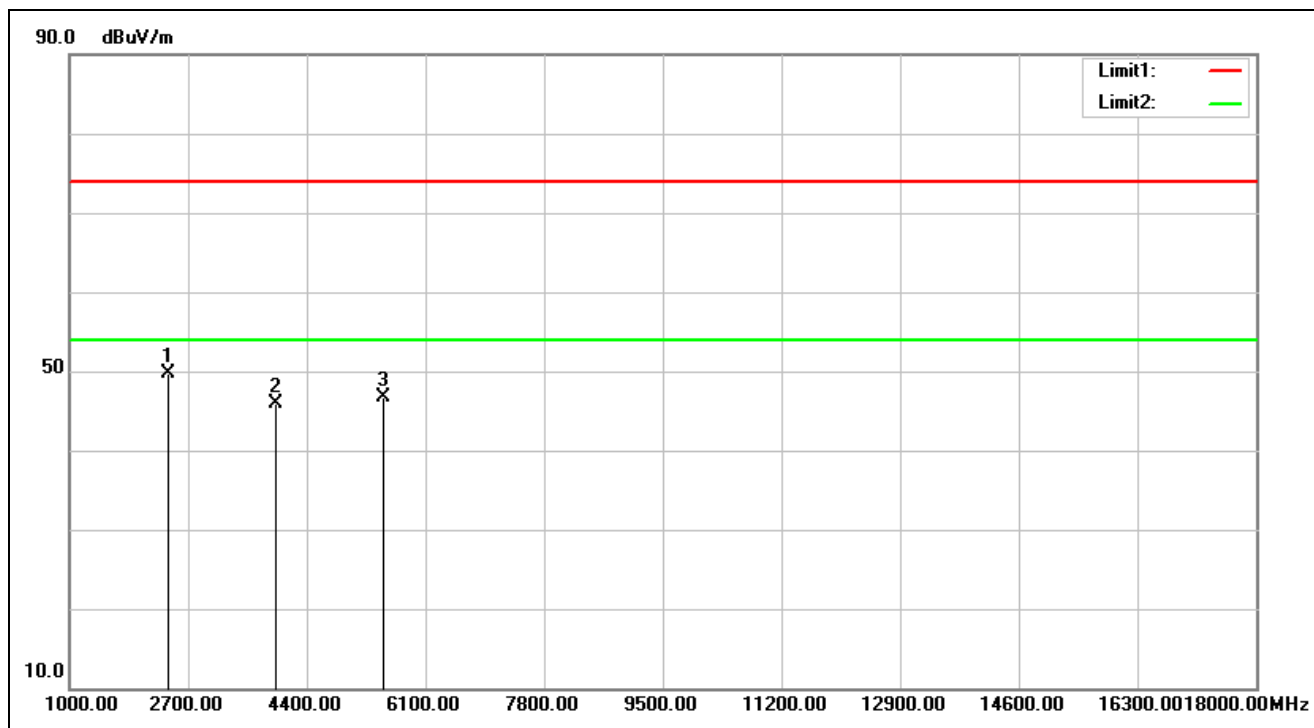
## Spurious Emissions, RX Mode, 1-18G



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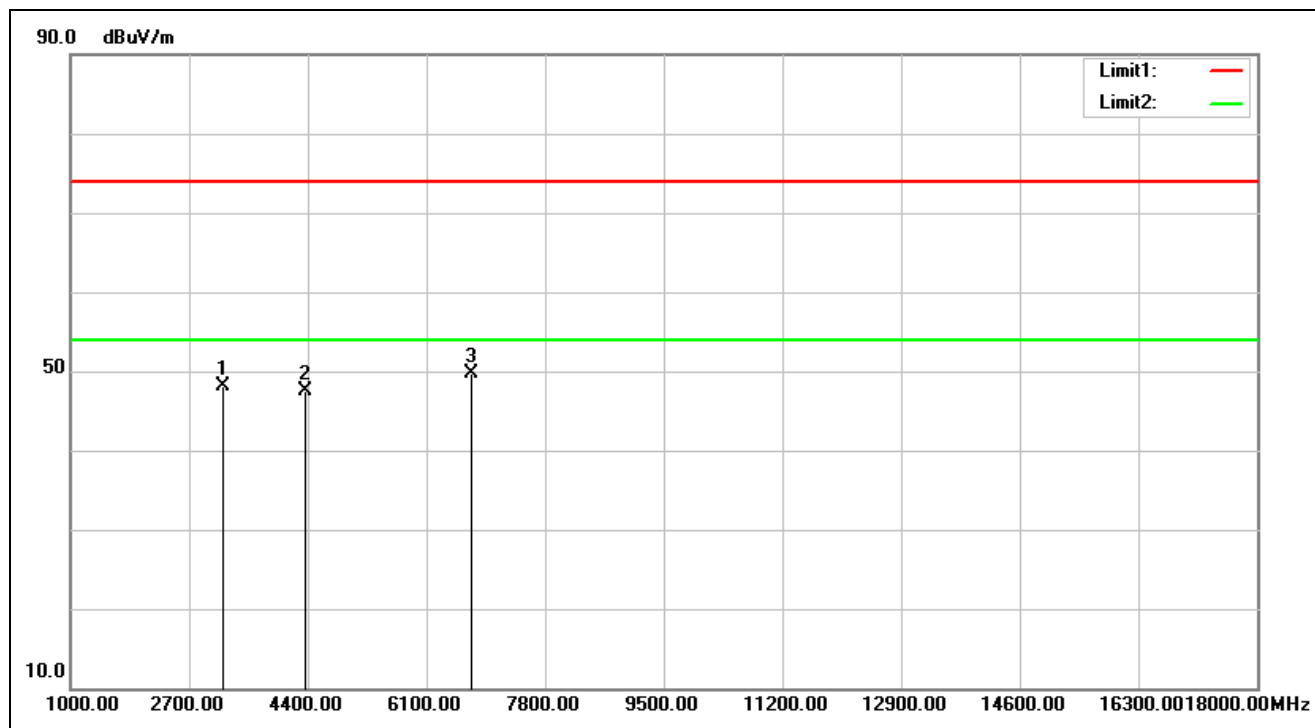
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|                |                           |                    |                     |
|----------------|---------------------------|--------------------|---------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                  |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal          |
| Test item:     | Radiation Emission        | Test Time:         | 2018/11/30 11:57:48 |
| 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   | 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         |        |

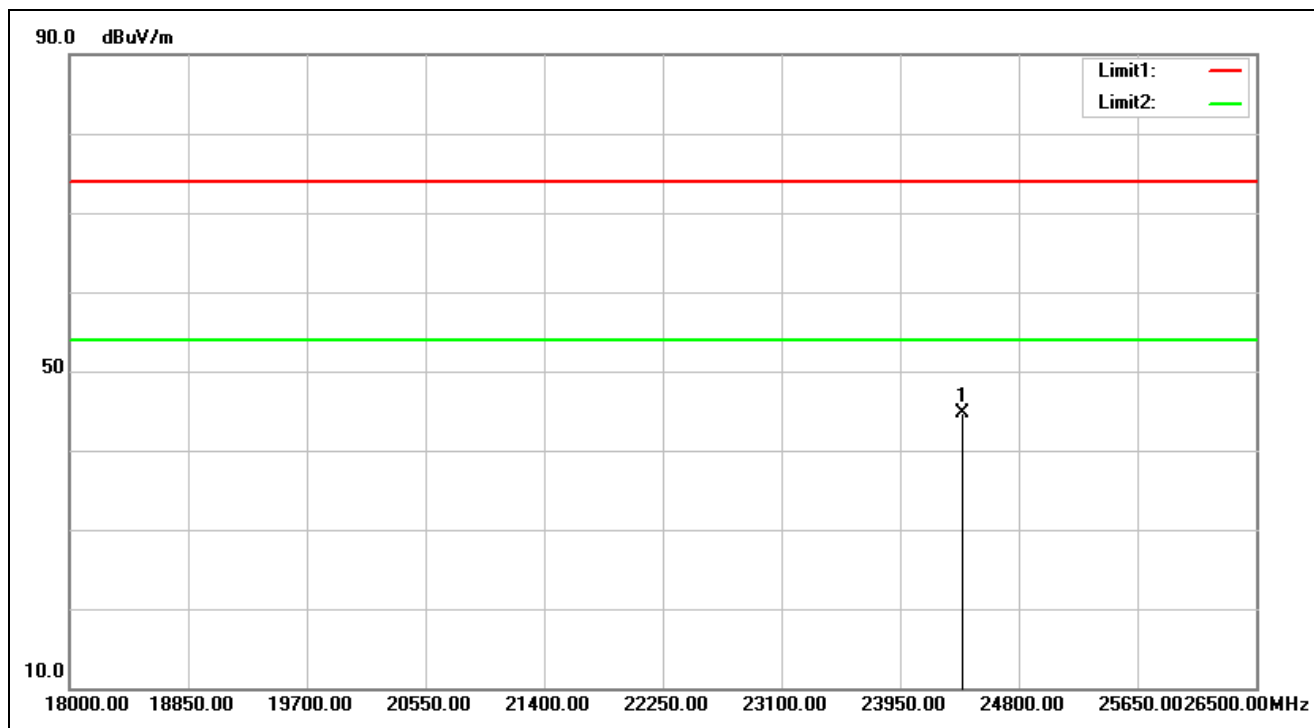
## Spurious Emissions, RX Mode, 18-26G



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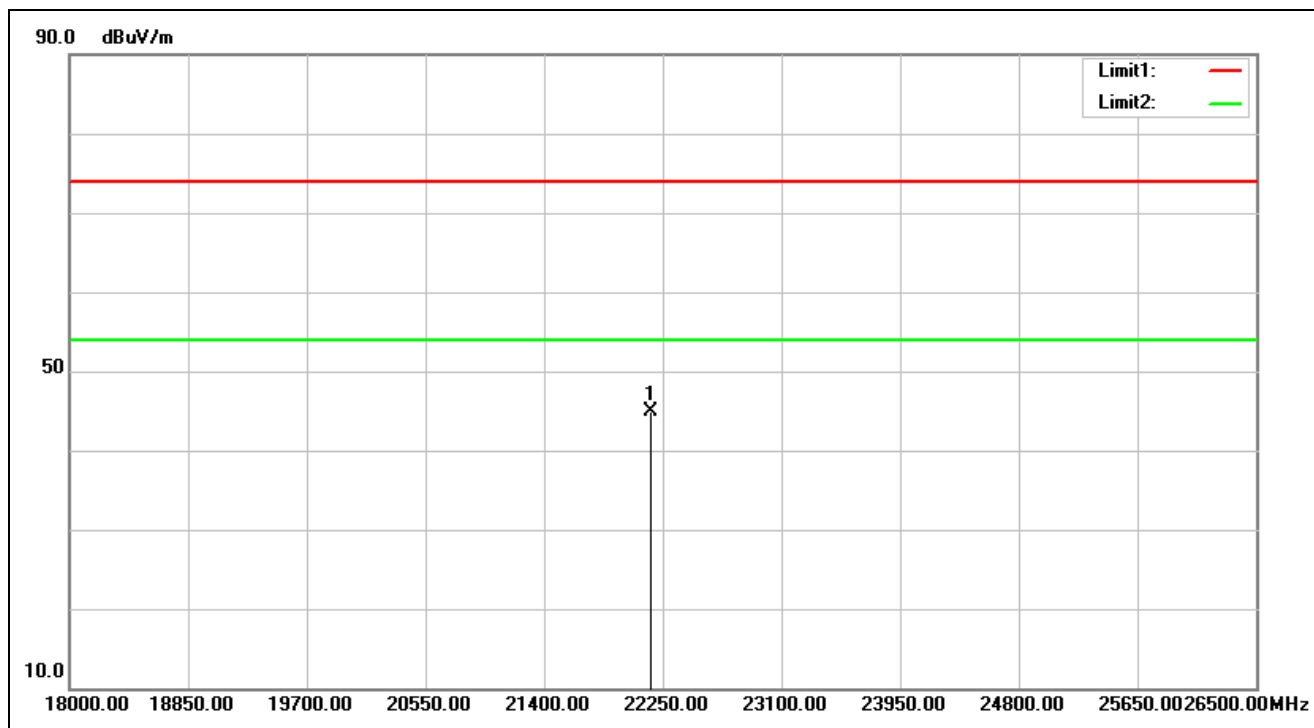
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|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| Test Standard: | FCC&ISED Above 1G PEAK    | Ant. Polarization: | Horizontal         |
| Test item:     | Radiation Emission        | Test Time:         | 2018/12/3 10:46:46 |
| 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   | 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         |        |

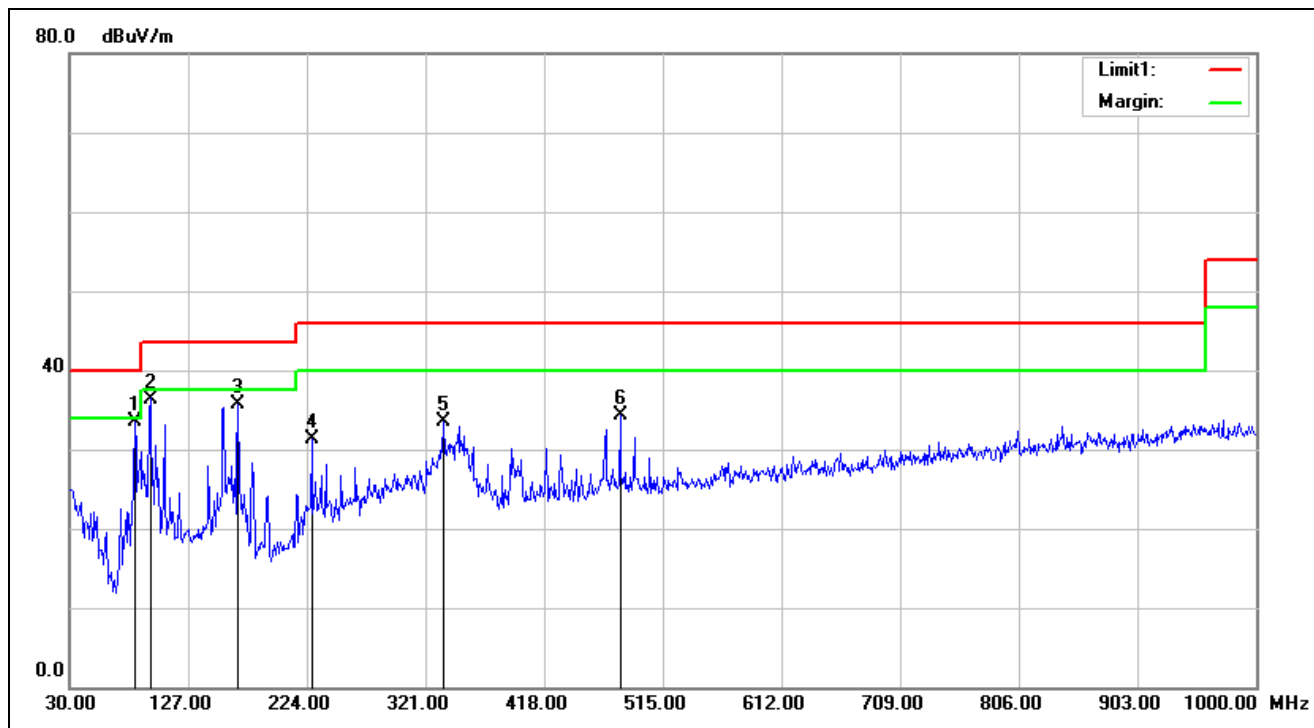
## Spurious Emissions, RX Mode, 30M-1G



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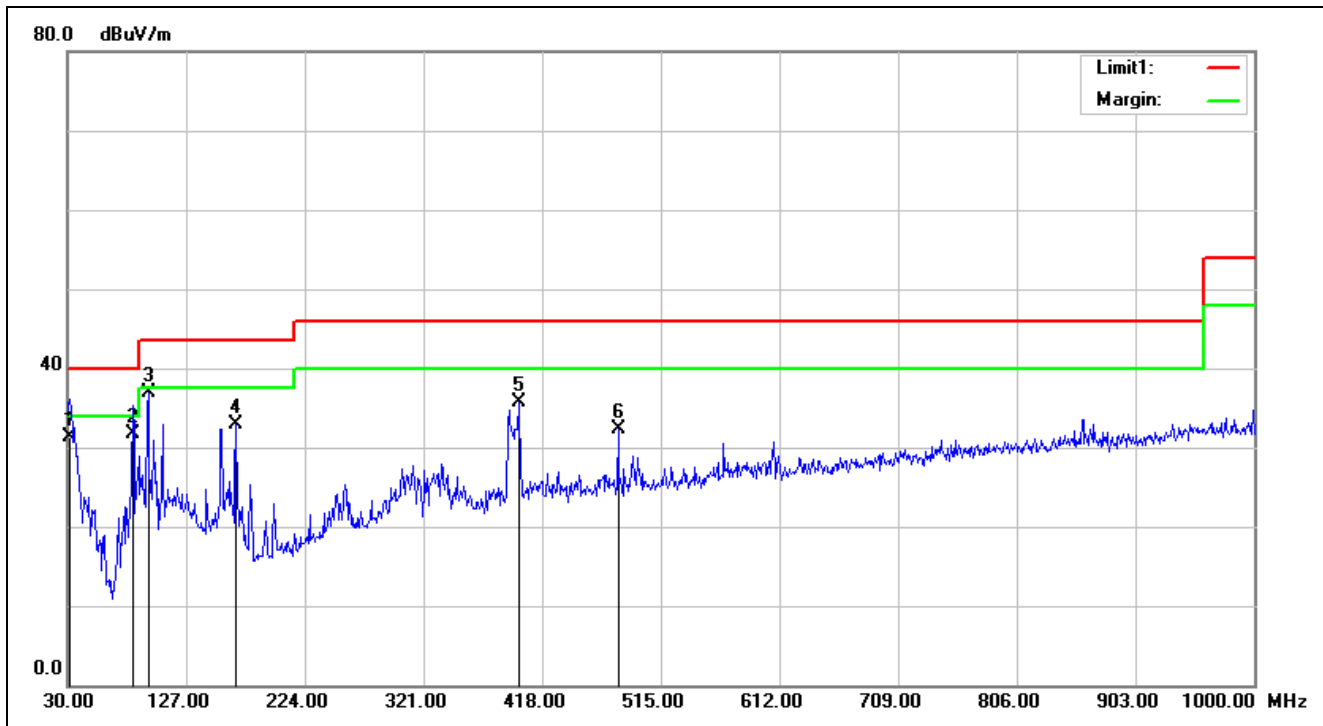
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|                |                               |                    |                    |
|----------------|-------------------------------|--------------------|--------------------|
| Service No.:   | 114080534                     | Test Distance:     | 3m                 |
| Test Standard: | FCC&ISED Class B 3M Radiation | Ant. Polarization: | Horizontal         |
| Test item:     | Radiation Emission            | Test Time:         | 2018/12/3 13:46:32 |
| 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         |        |

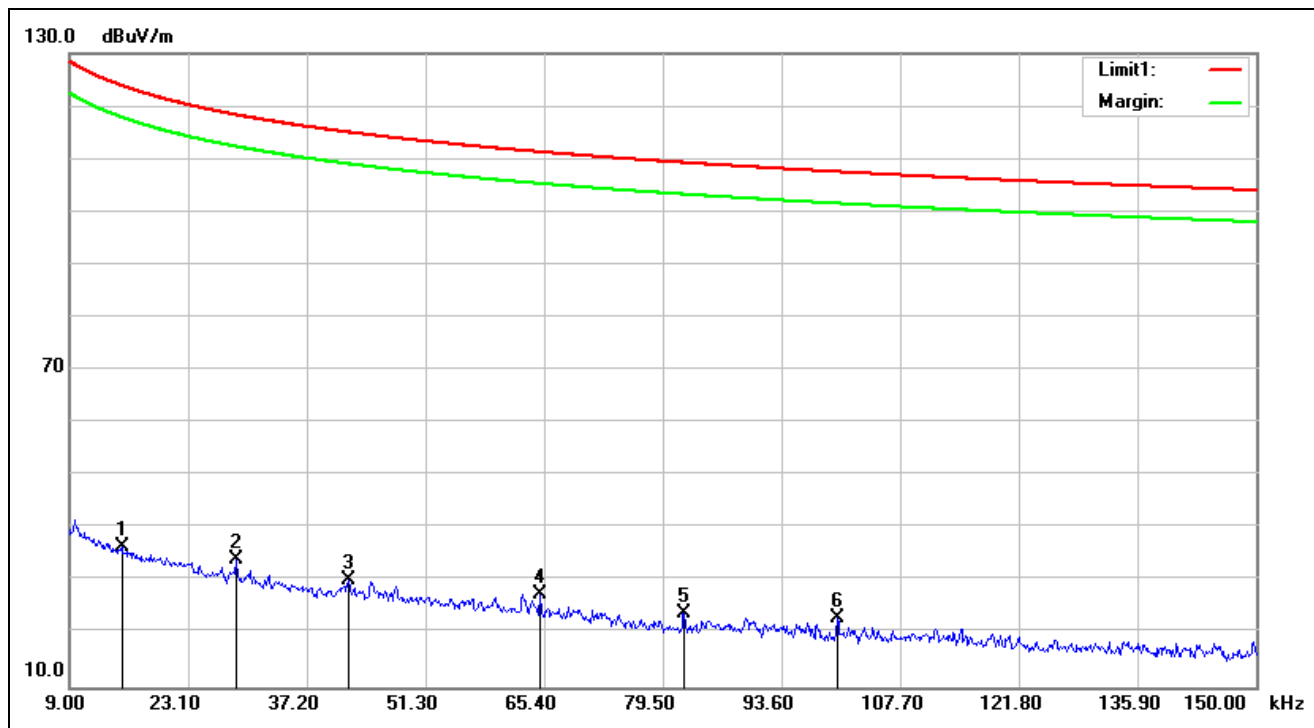
## Spurious Emissions, RX Mode, 9K-30M



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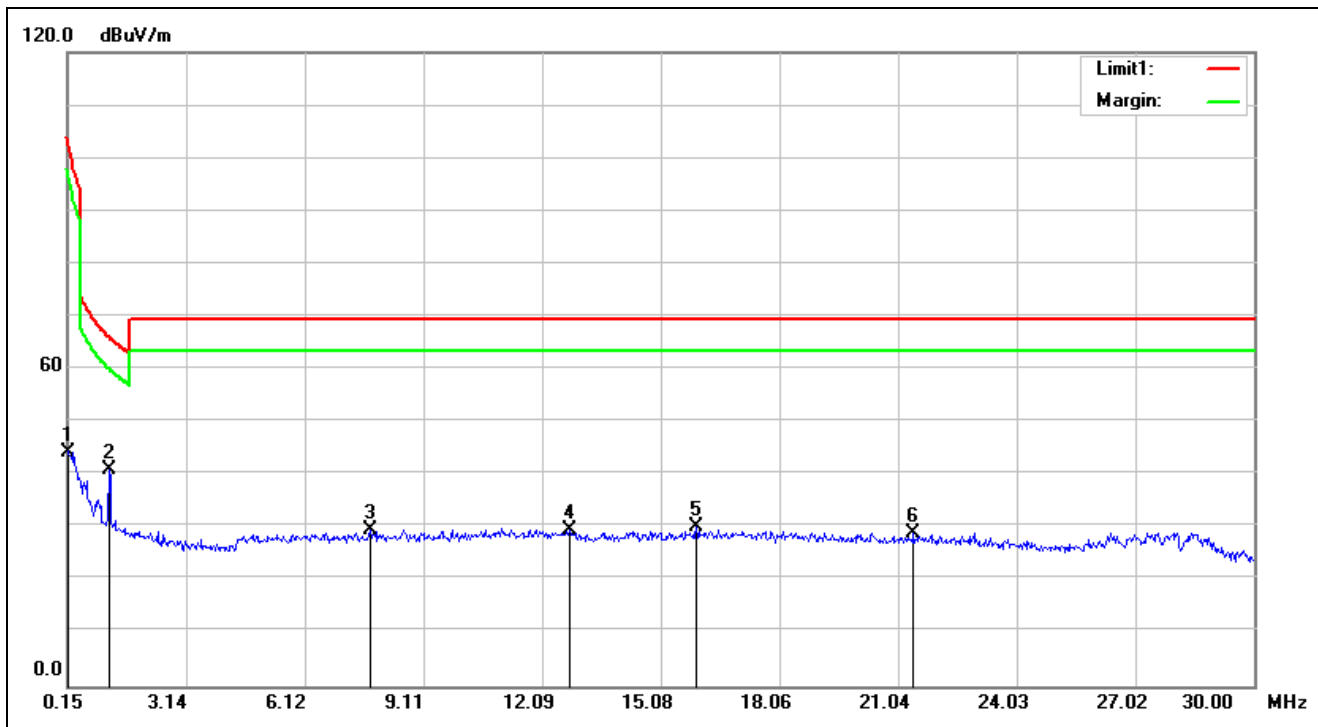
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|                |                           |                    |                    |
|----------------|---------------------------|--------------------|--------------------|
| Service No.:   | 114080534                 | Test Distance:     | 3m                 |
| 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          |        |

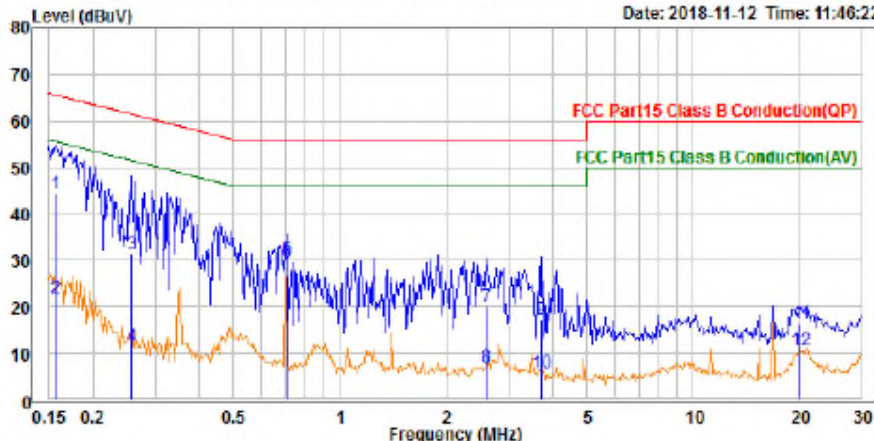
## Mains



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File: C:\EMC\Report\2018\Microchip\114083527(BM83SM1-00AA)\114083527(BM83SM1-00AA)\_00001.EMI

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

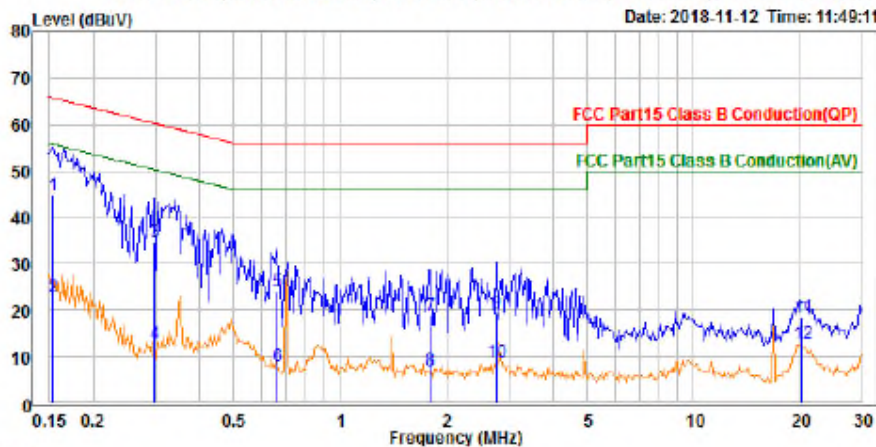


Trace: 1

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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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)  
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  | 0.153  | 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 |