

Test Report No.50287372 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 50287372AppendixD)

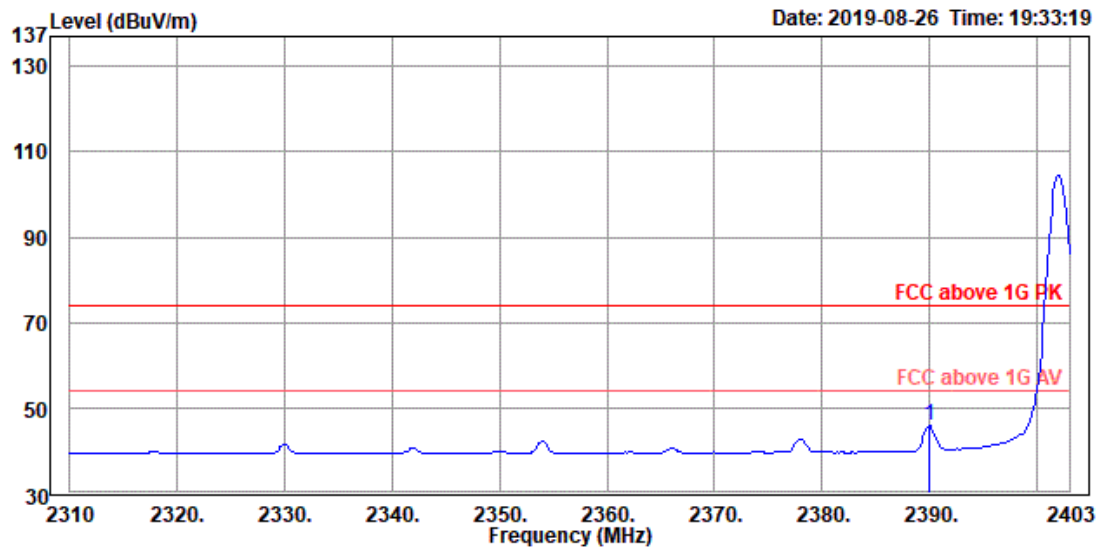
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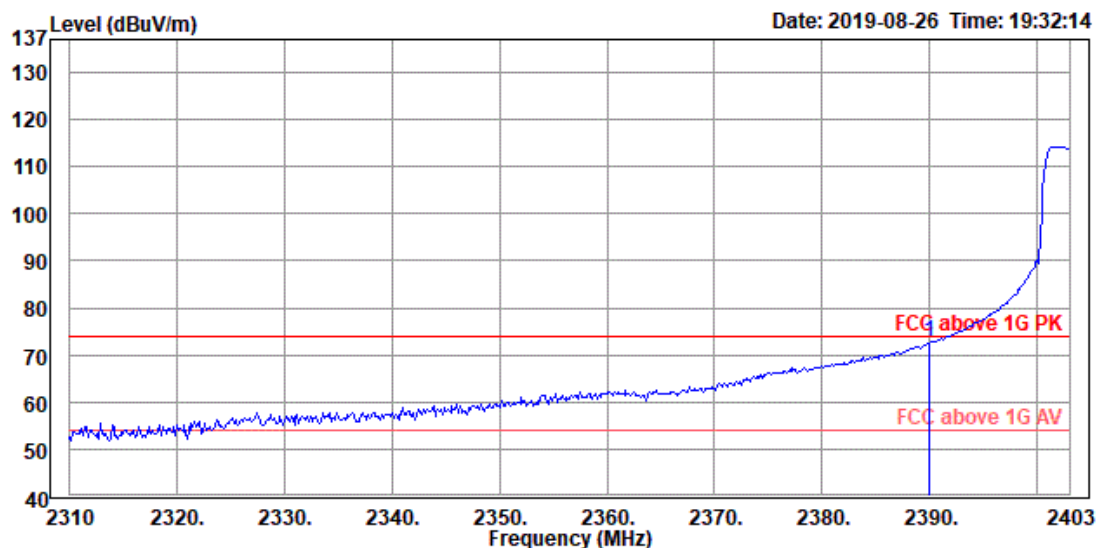


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11F., No. 758, Sec. 4 Bade Road. Songshan Dist, Taipei City 105
Tel:+886-2172-7000 Fax:+886-2528-0018



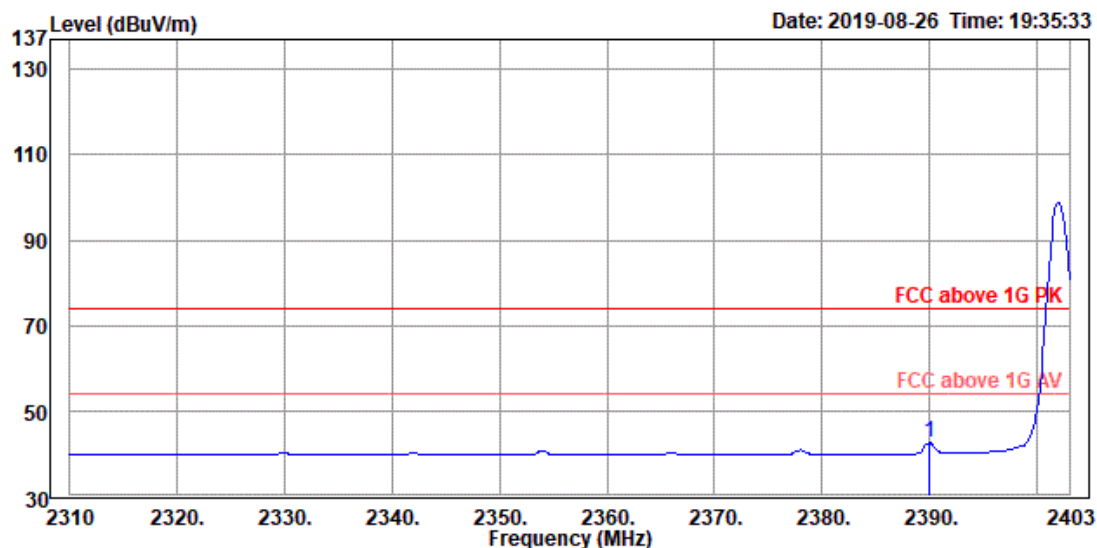
Site : 966A Chamber A
Condition : FCC above 1G PK 3m HORIZONTAL
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2402
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	2390.000	54.00	-8.26	45.74	54.00	-8.26	100	90	Average



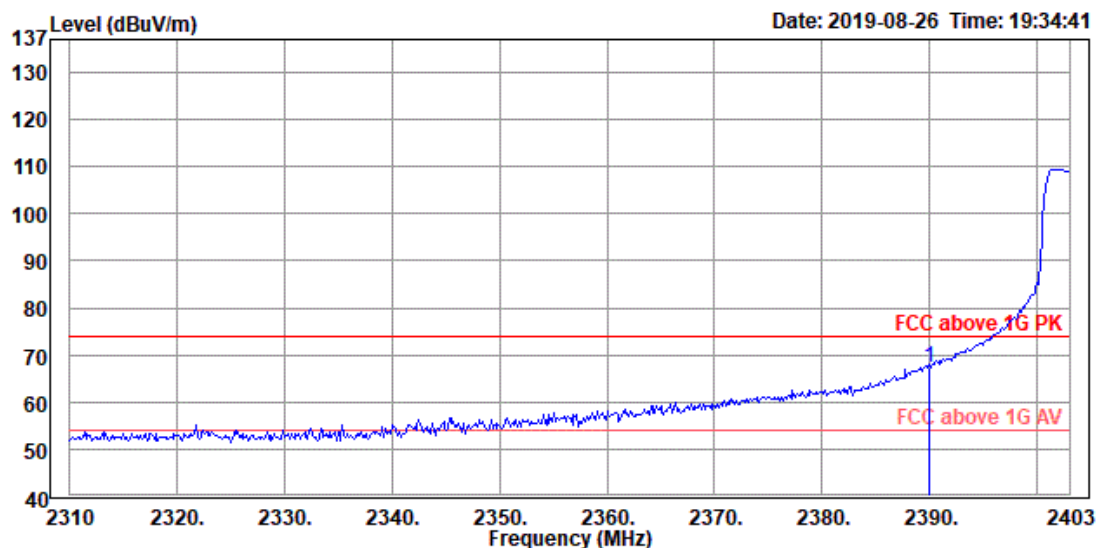
Site : 966A Chamber A
Condition : FCC above 1G PK 3m HORIZONTAL
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2402
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	2390.000	81.14	-8.26	72.88	74.00	-1.12	100	90	Peak



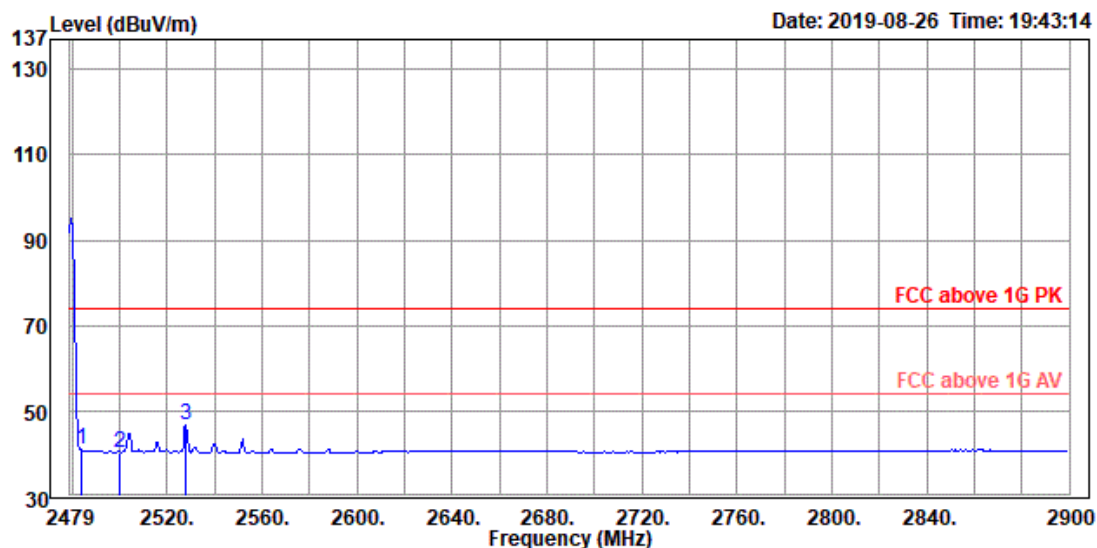
Site : 966A Chamber A
Condition : FCC above 1G PK 3m Vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2402
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	2390.000	50.87	-8.26	42.61	54.00	-11.39	100	218	Average



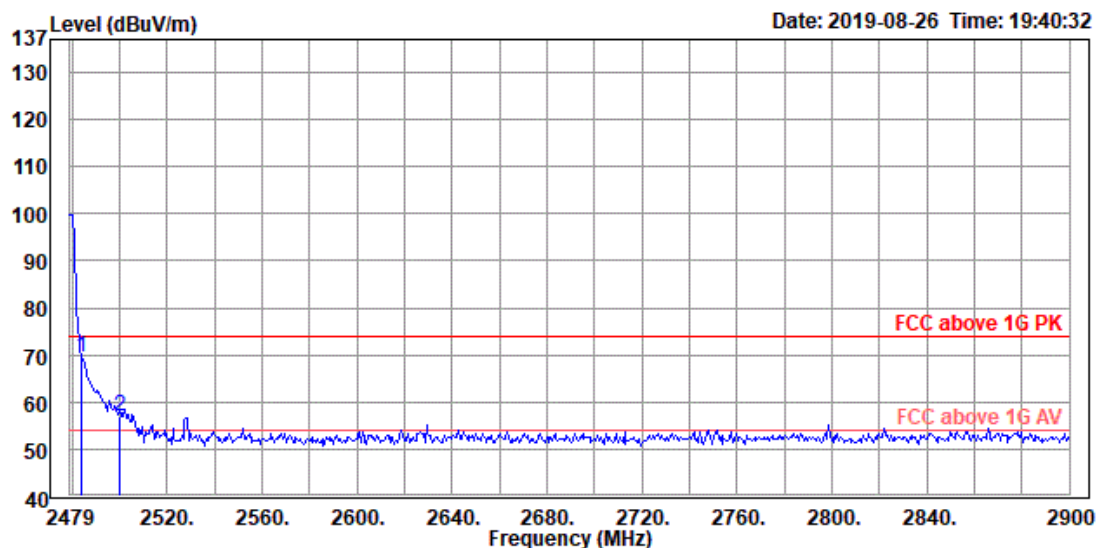
Site : 966A Chamber A
Condition : FCC above 1G PK 3m Vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2402
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	2390.000	75.67	-8.26	67.41	74.00	-6.59	100	218	Peak



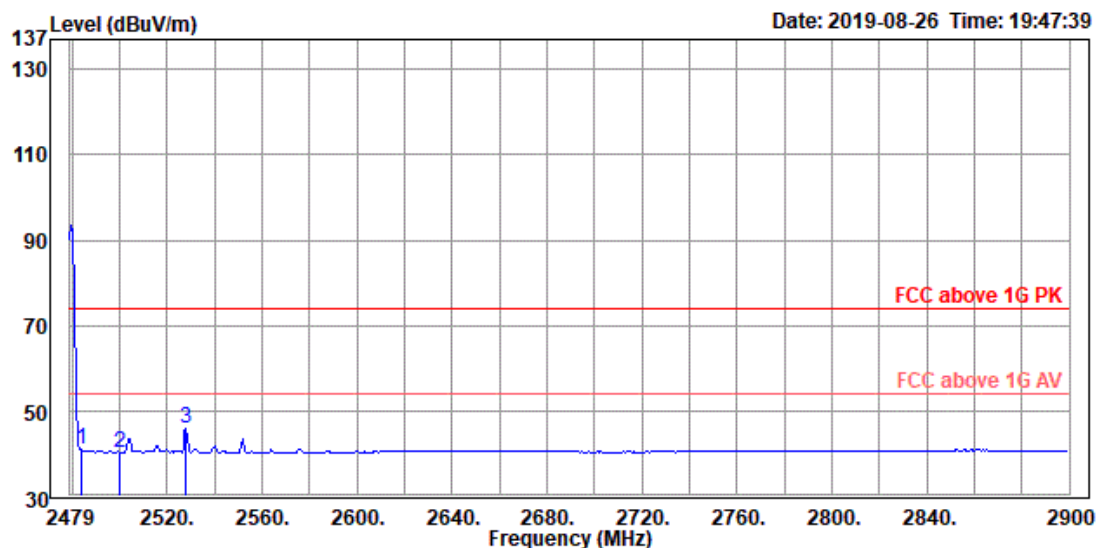
Site : 966A Chamber A
Condition : FCC above 1G PK 3m HORIZONTAL
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2480
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	2483.500	49.09	-8.11	40.98	54.00	-13.02	100	140	Average
2	2500.000	48.51	-8.15	40.36	54.00	-13.64	100	140	Average
3	2527.812	54.91	-8.03	46.88	54.00	-7.12	100	140	Average



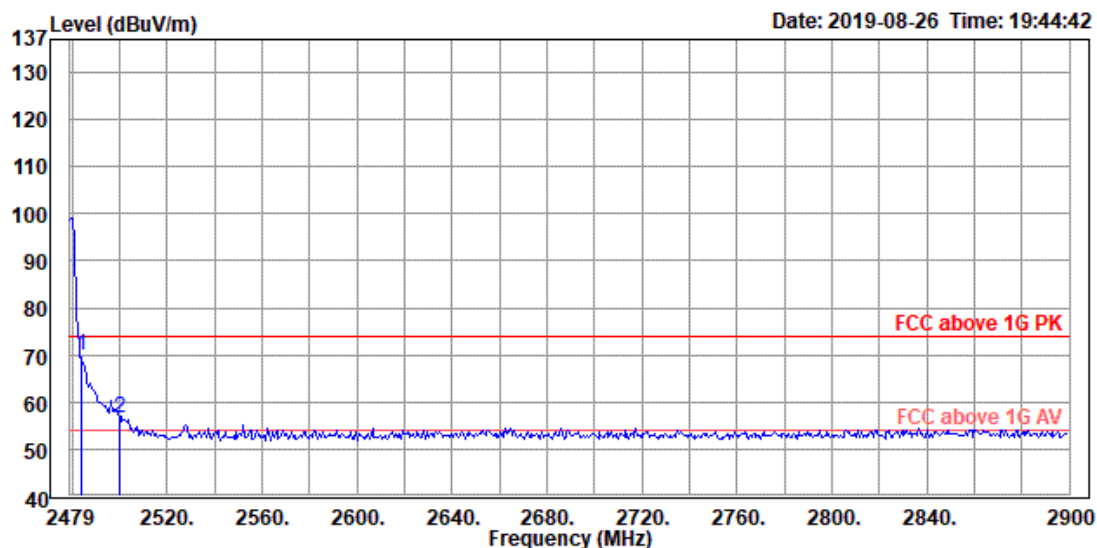
Site : 966A Chamber A
Condition : FCC above 1G PK 3m HORIZONTAL
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2480
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	2483.500	77.60	-8.11	69.49	74.00	-4.51	100	140	Peak
2	2500.000	65.25	-8.15	57.10	74.00	-16.90	100	140	Peak



Site : 966A Chamber A
Condition : FCC above 1G PK 3m Vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2480
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	2483.500	49.03	-8.11	40.92	54.00	-13.08	100	245	Average
2	2500.000	48.47	-8.15	40.32	54.00	-13.68	100	245	Average
3	2527.812	54.04	-8.03	46.01	54.00	-7.99	100	245	Average



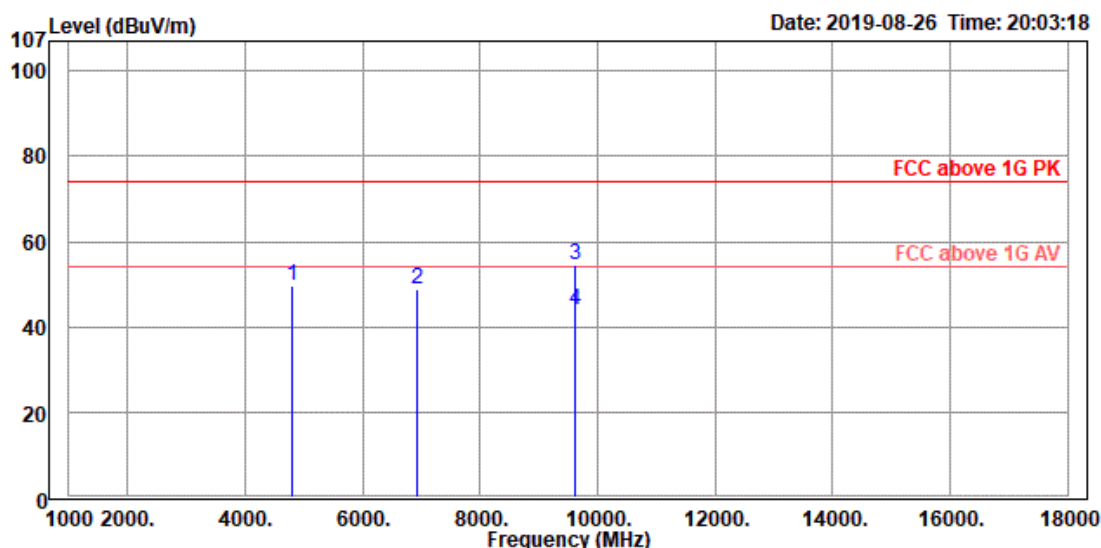
Site : 966A Chamber A
Condition : FCC above 1G PK 3m Vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2480
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	2483.500	77.89	-8.11	69.78	74.00	-4.22	100	245	Peak
2	2500.000	64.83	-8.15	56.68	74.00	-17.32	100	245	Peak

Spurious Emissions, TX Mode, 1-18G

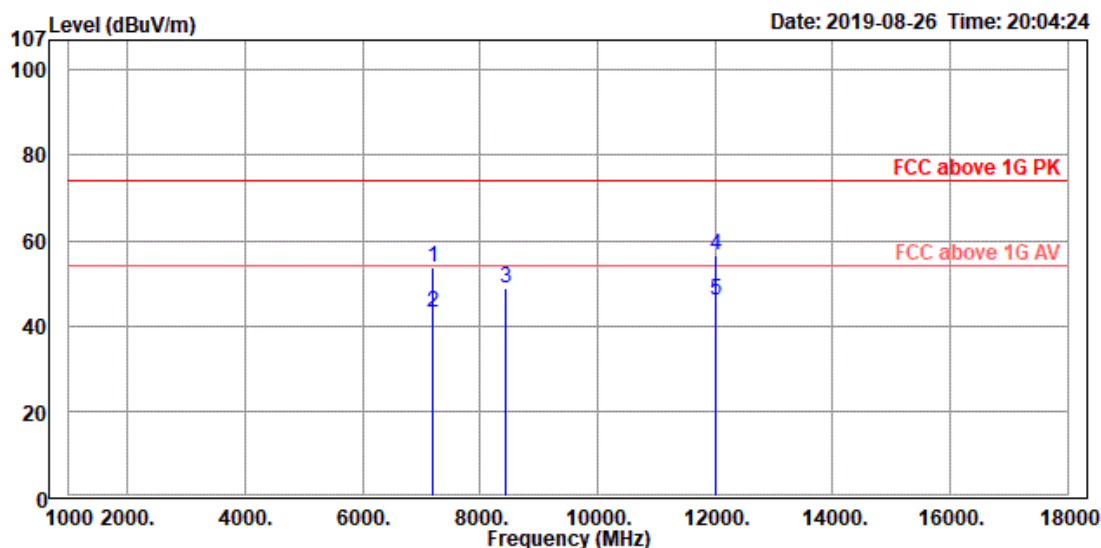


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Tel:+886-2172-7000 Fax:+886-2528-0018



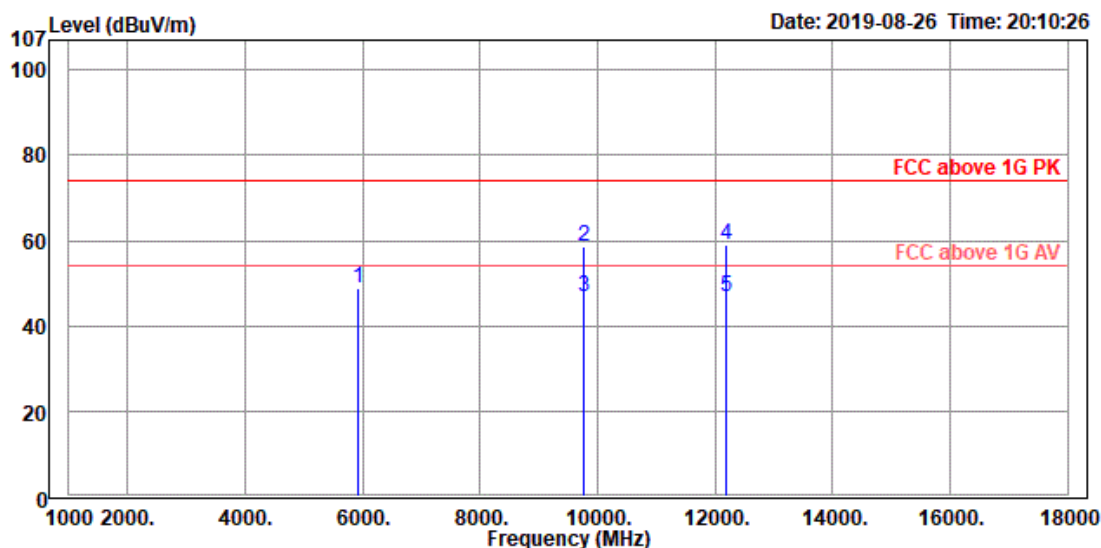
Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2402
Memo : Z(平躺)

		Read		Limit	Over	APos	TPos	
	Freq	Level	Factor	Level	Line	Limit		Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg
1	4804.000	52.26	-2.44	49.82	74.00	-24.18	100	82 Peak
2	6937.681	43.99	4.91	48.90	74.00	-25.10	100	23 Peak
3	9608.000	48.08	6.45	54.53	74.00	-19.47	100	17 Peak
4	9608.000	37.36	6.45	43.81	54.00	-10.19	100	17 Average



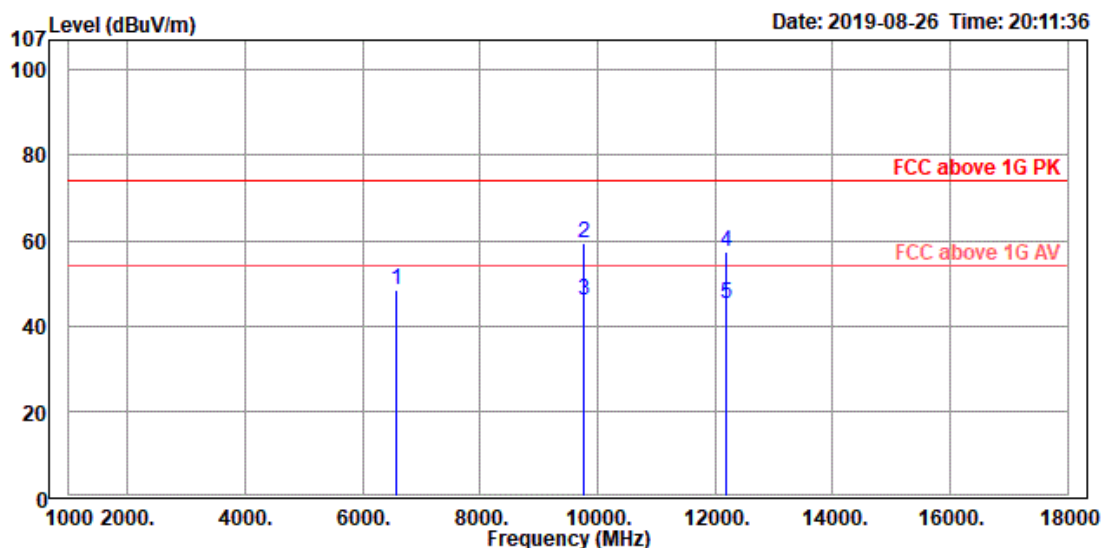
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2402
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	7206.000	48.08	5.47	53.55	74.00	-20.45	100	102	Peak
2	7206.000	37.51	5.47	42.98	54.00	-11.02	100	102	Average
3	8440.580	42.21	6.55	48.76	74.00	-25.24	100	192	Peak
4	12010.000	49.83	6.57	56.40	74.00	-17.60	100	134	Peak
5	12010.000	39.26	6.57	45.83	54.00	-8.17	100	134	Average



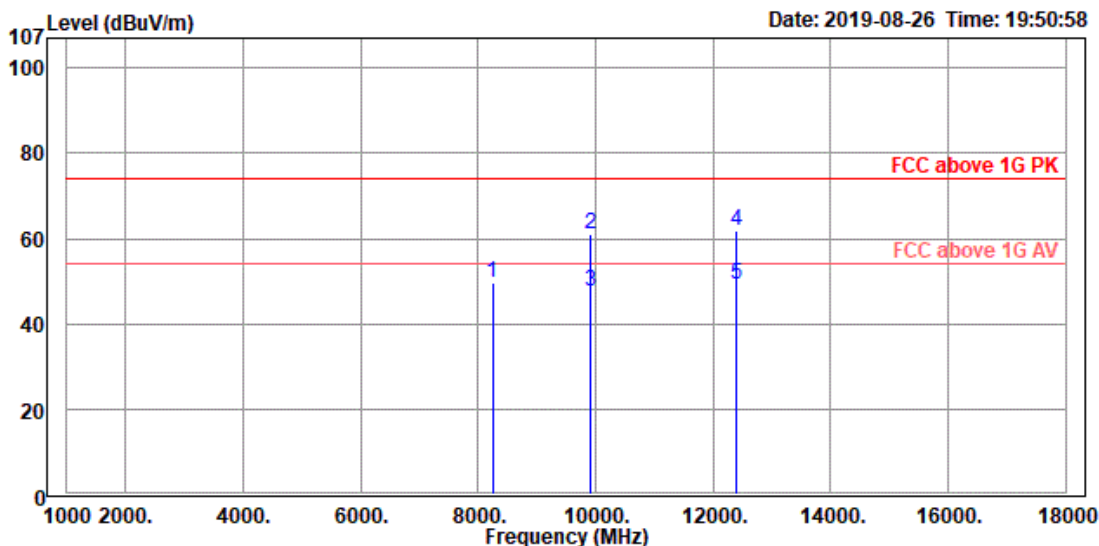
Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2440
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	5927.536	45.92	2.94	48.86	74.00	-25.14	100	159	Peak
2	9760.000	52.55	6.14	58.69	74.00	-15.31	100	32	Peak
3	9760.000	40.83	6.14	46.97	54.00	-7.03	100	32	Average
4	12200.000	51.40	7.40	58.80	74.00	-15.20	100	6	Peak
5	12200.000	39.56	7.40	46.96	54.00	-7.04	100	6	Average



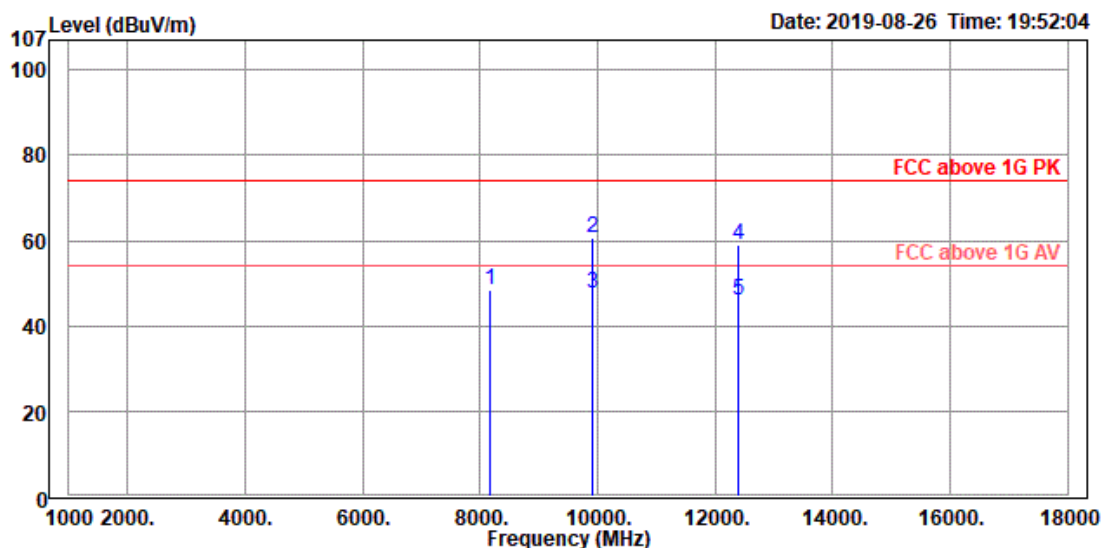
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2440
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	6568.116	43.14	5.30	48.44	74.00	-25.56	100	124	Peak
2	9760.000	53.10	6.14	59.24	74.00	-14.76	100	131	Peak
3	9760.000	39.84	6.14	45.98	54.00	-8.02	100	131	Average
4	12200.000	49.77	7.40	57.17	74.00	-16.83	100	322	Peak
5	12200.000	37.81	7.40	45.21	54.00	-8.79	100	322	Average



Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2480
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	8243.479	43.47	6.34	49.81	74.00	-24.19	100	35	Peak
2	9920.000	54.91	5.92	60.83	74.00	-13.17	100	35	Peak
3	9920.000	41.81	5.92	47.73	54.00	-6.27	100	35	Average
4	12400.000	53.63	8.20	61.83	74.00	-12.17	100	0	Peak
5	12400.000	40.83	8.20	49.03	54.00	-4.97	100	0	Average



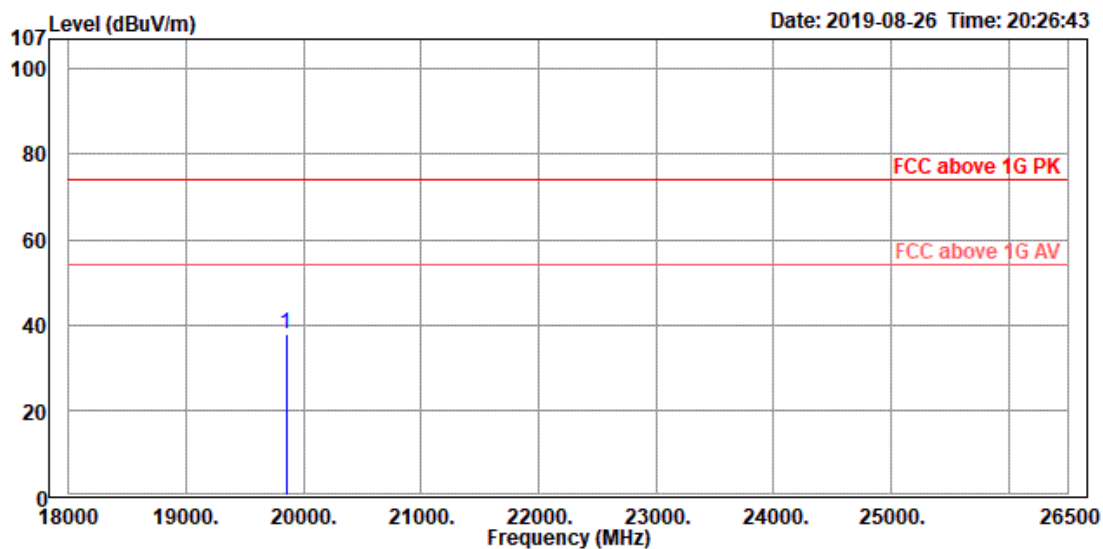
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2480
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	8169.565	42.00	6.22	48.22	74.00	-25.78	100	326	Peak
2	9920.000	54.59	5.92	60.51	74.00	-13.49	100	145	Peak
3	9920.000	41.59	5.92	47.51	54.00	-6.49	100	145	Average
4	12400.000	50.95	8.20	59.15	74.00	-14.85	100	158	Peak
5	12400.000	37.83	8.20	46.03	54.00	-7.97	100	158	Average

Spurious Emissions, TX Mode, 18-26G

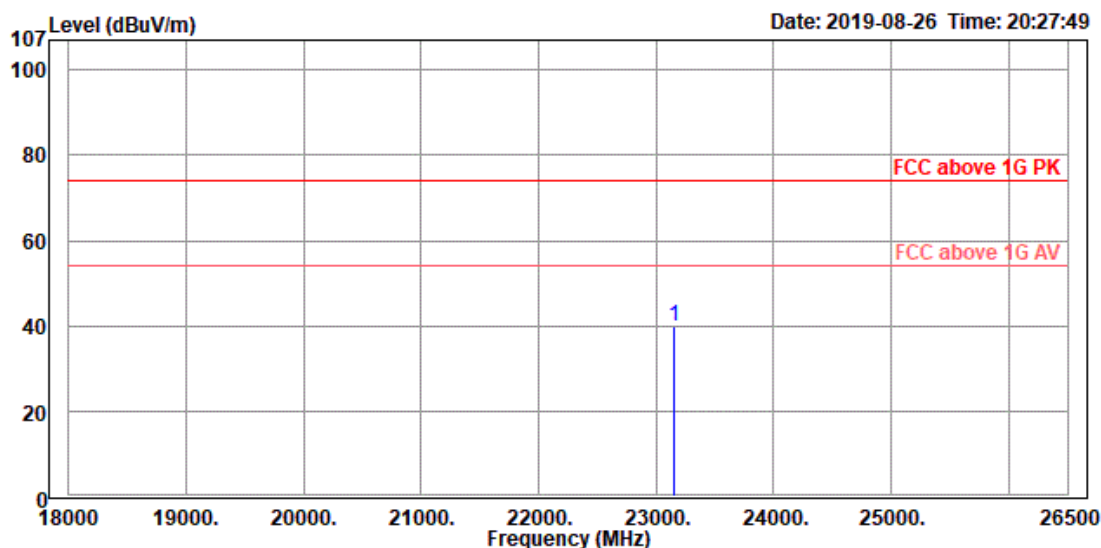


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11F., No.758, Sec. 4 Bade Road. Songshan Dist, Taipei City 105
Tel:+886-2172-7000 Fax:+886-2528-0018



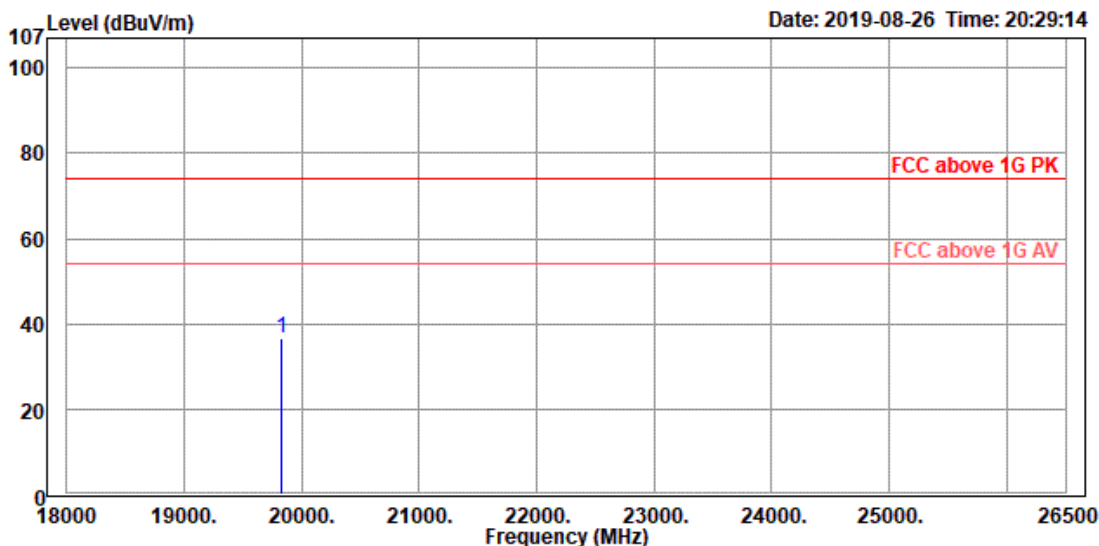
Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2402
Memo : Z(平躺)

	Read		Limit	Over	APos	TPos	
Freq	Level	Factor	Level	Line	Limit		Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg
1 19847.830	40.15	-2.11	38.04	74.00	-35.96	100	359 Peak



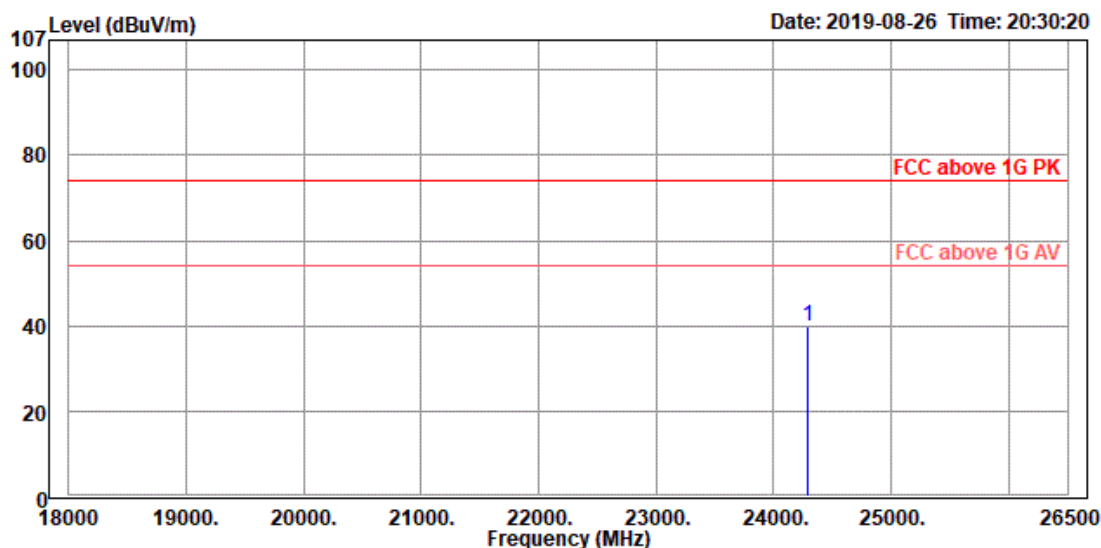
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2402
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	23149.280	39.09	0.84	39.93	74.00	-34.07	100	126	Peak



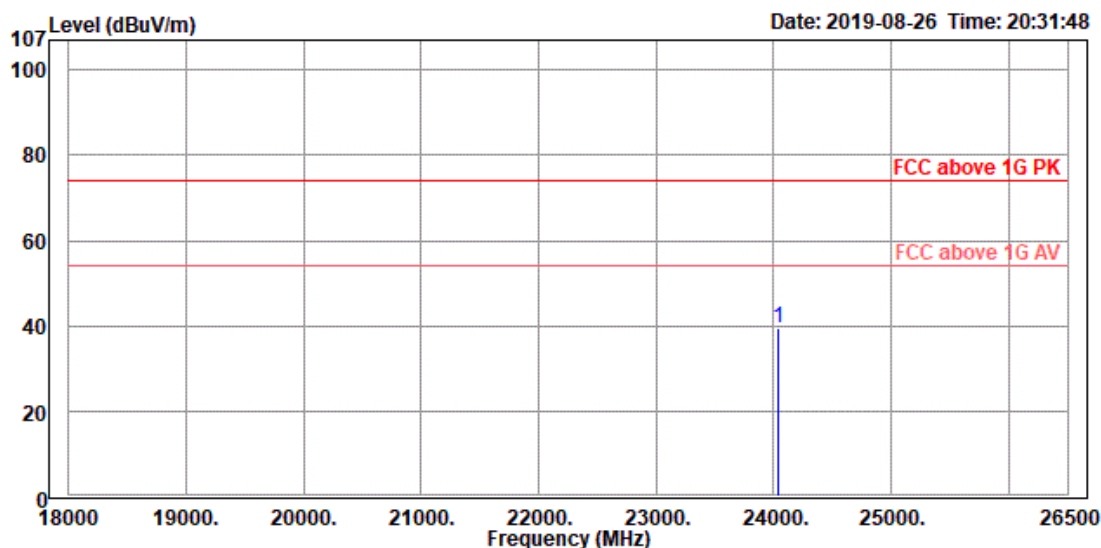
Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2440
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	19823.190	38.95	-2.17	36.78	74.00	-37.22	100	113	Peak



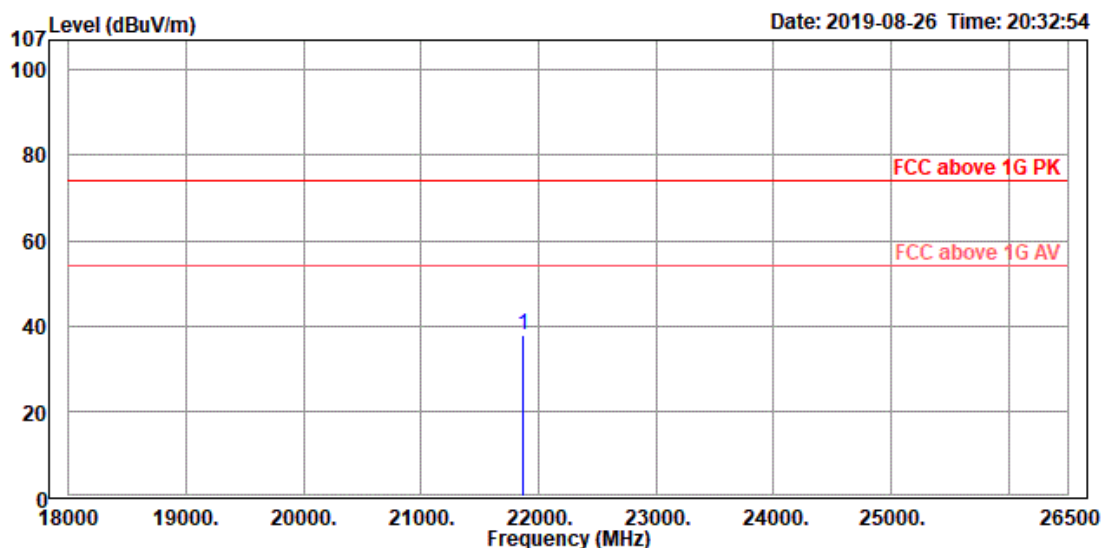
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2440
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	24294.930	38.57	1.35	39.92	74.00	-34.08	100	35	Peak



Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2480
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	24036.230	37.94	1.43	39.37	74.00	-34.63	100	122	Peak



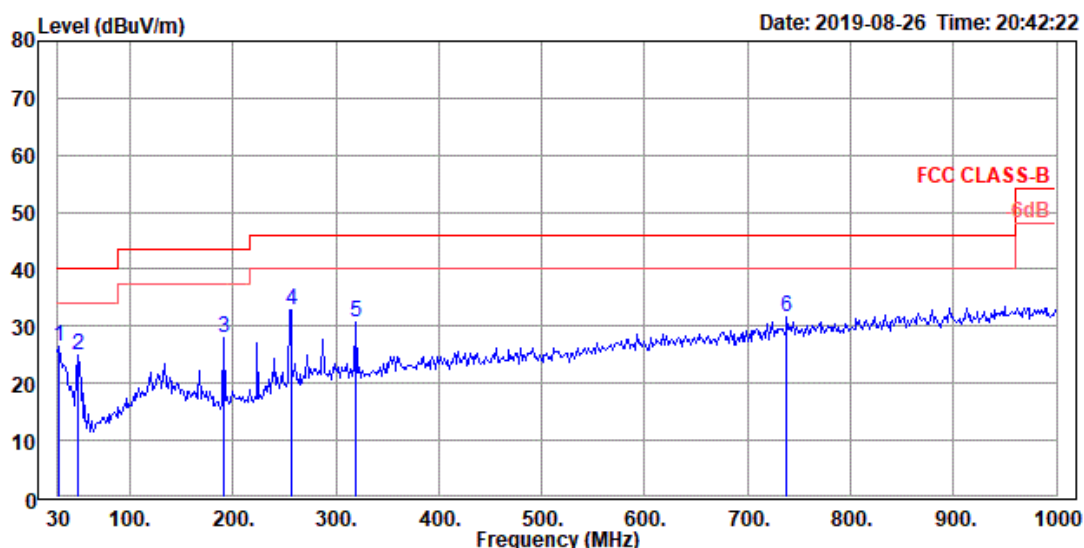
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2480
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	21868.120	38.45	-0.46	37.99	74.00	-36.01	100	360	Peak

Spurious Emissions, TX Mode, 30M-1G

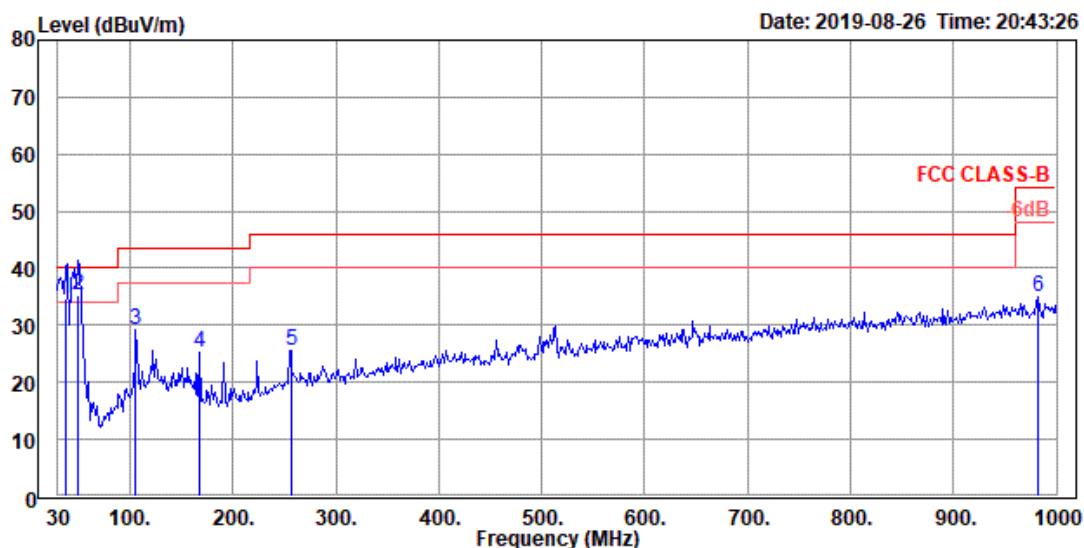


TUV Rheinland Taiwan Ltd.
11F., No.758, Sec. 4 Bade Road. Songshan Dist, Taipei City 105
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Site : 966A Chamber A
Condition : FCC CLASS-B 3m horizontal
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2440
Memo : Z(平躺)

		Read		Limit	Over	APos	TPos	
	Freq	Level	Factor	Level	Line	Limit		Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg
1	31.406	27.09	-0.71	26.38	40.00	-13.62	100	84 QP
2	49.681	35.96	-10.97	24.99	40.00	-15.01	100	13 QP
3	191.667	37.21	-9.30	27.91	43.50	-15.59	100	84 QP
4	256.333	37.96	-5.15	32.81	46.00	-13.19	100	193 QP
5	319.594	35.01	-4.39	30.62	46.00	-15.38	100	211 QP
6	738.522	29.46	2.08	31.54	46.00	-14.46	100	164 QP



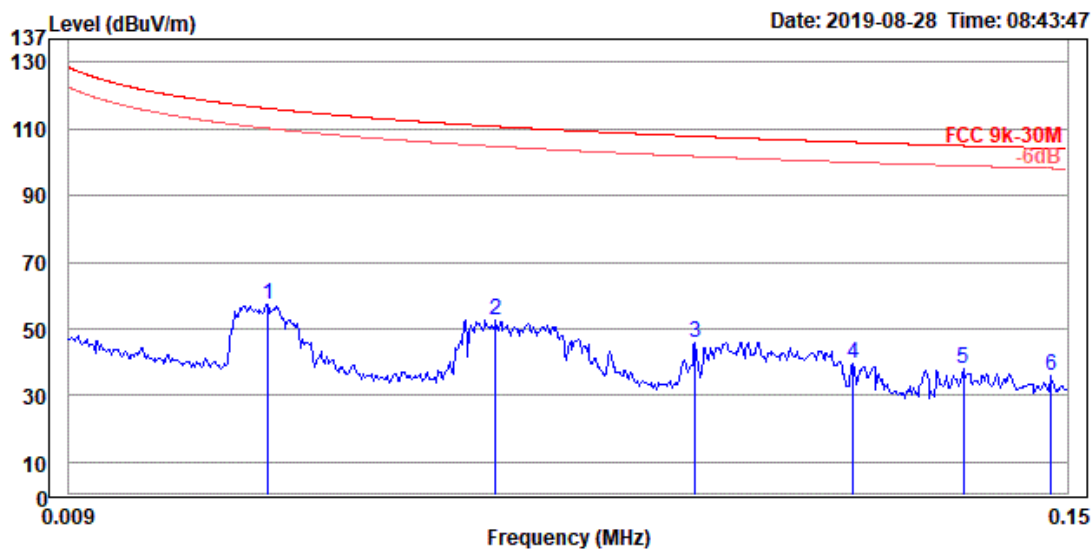
Site : 966A Chamber A
Condition : FCC CLASS-B 3m vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2440
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1 !	38.435	39.40	-4.83	34.57	40.00	-5.43	100	39	QP
2 !	49.681	46.39	-10.97	35.42	40.00	-4.58	100	299	QP
3	105.913	37.58	-8.52	29.06	43.50	-14.44	100	353	QP
4	167.768	34.04	-8.73	25.31	43.50	-18.19	100	228	QP
5	256.333	30.75	-5.15	25.60	46.00	-20.40	100	0	QP
6	981.725	29.30	5.63	34.93	54.00	-19.07	100	198	QP

Spurious Emissions, TX Mode, 9K-30M

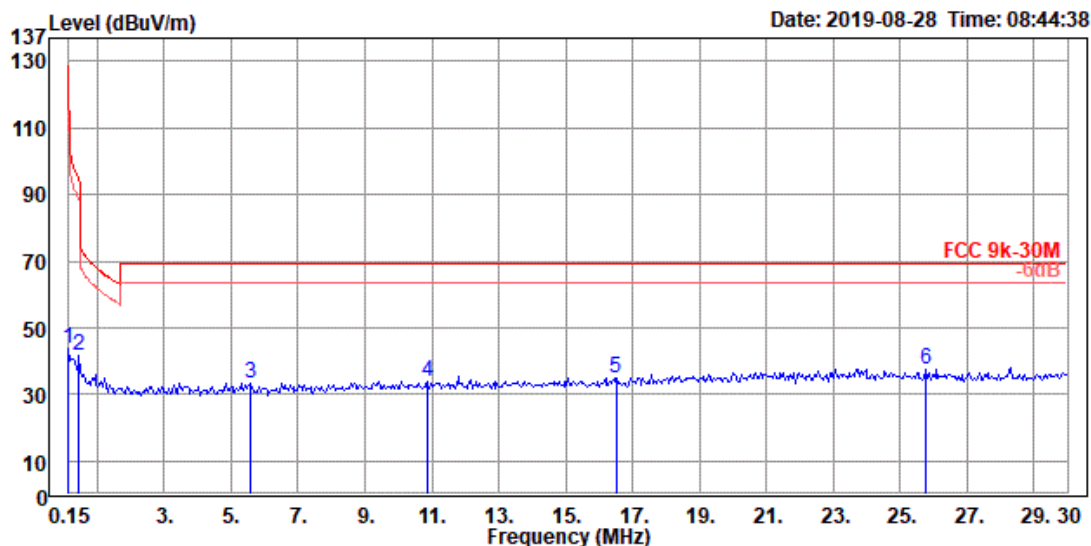


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Site : 966A Chamber A
Condition : FCC 9k-30M 3m vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2440
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	0.037	38.24	18.95	57.19	116.23	-59.04	100	213	QP
2	0.069	34.36	18.43	52.79	110.78	-57.99	100	49	QP
3	0.097	28.05	17.76	45.81	107.82	-62.01	100	28	QP
4	0.120	21.66	17.78	39.44	106.03	-66.59	100	342	QP
5	0.135	20.02	17.85	37.87	104.97	-67.10	100	296	QP
6	0.148	18.07	17.90	35.97	104.21	-68.24	100	57	QP



Site : 966A Chamber A
Condition : FCC 9k-30M 3m vertical
Test Engineer: Kevin Kuo
Product : BLE Module
Model No. : BM026
Test Rating : 5Vdc
Tmp/Hum : 21°C / 52%
Power Setting: -13.6
Mode : TX-2440
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	0.150	25.84	17.91	43.75	104.08	-60.33	100	133	QP
2	0.453	23.40	18.47	41.87	94.48	-52.61	100	36	QP
3	5.558	14.03	19.46	33.49	69.50	-36.01	100	252	QP
4	10.879	13.31	20.49	33.80	69.50	-35.70	100	147	QP
5	16.503	13.79	21.06	34.85	69.50	-34.65	100	3	QP
6	25.760	15.87	21.66	37.53	69.50	-31.97	100	261	QP

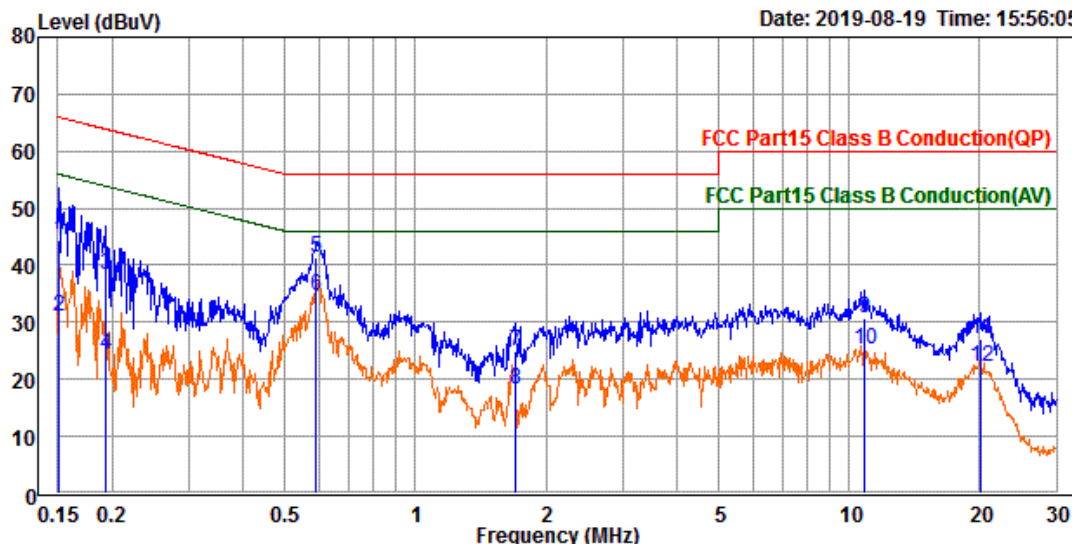
Spurious Emissions, Mains, 150kHz - 30MHz



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

File: C:\EMC\Report\2019\Beautiful Light\238108234\238108234_00001.EMI

Date: 2019-08-19 Time: 15:56:05



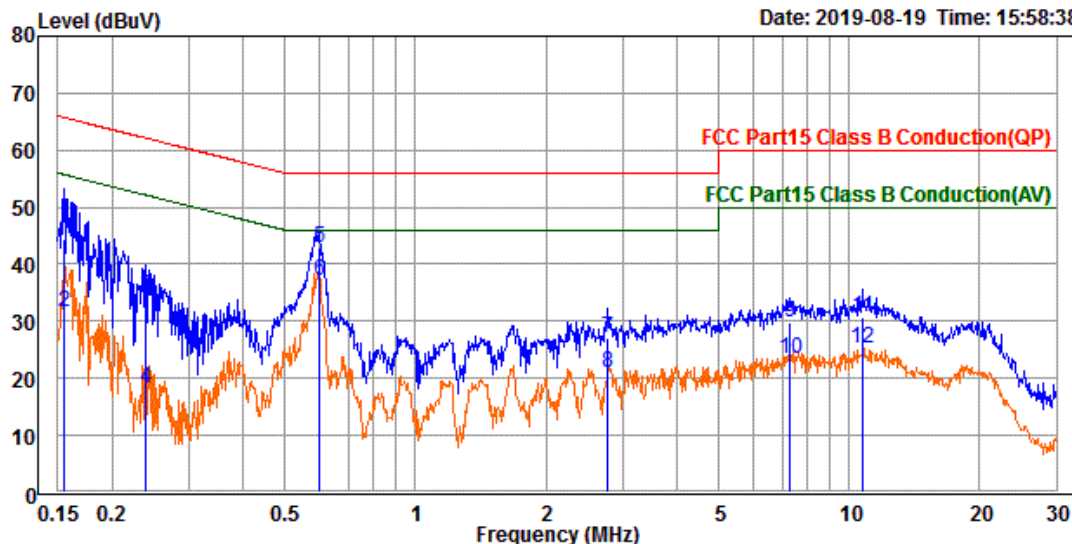
Trace: 1

Site : Conduction room
Condition : FCC Part15 Class B Conduction(QP) line1
Test Engineer: Amy Hsu
Product : BLE module
Model No. : BM026
Test Rating : 120Vac/60Hz
Tmp/Hum : 23.5°C / 42%
Power Setting: -13.6
Mode : BLE 2402 TX
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.151	34.89	9.61	44.50	65.96	-21.46	QP
2	0.151	21.28	9.61	30.89	55.96	-25.07	Average
3	0.192	28.73	9.61	38.34	63.93	-25.59	QP
4	0.192	14.82	9.61	24.43	53.93	-29.50	Average
5	0.591	31.72	9.62	41.34	56.00	-14.66	QP
6	0.591	25.13	9.62	34.75	46.00	-11.25	Average
7	1.699	15.20	9.64	24.84	56.00	-31.16	QP
8	1.699	8.65	9.64	18.29	46.00	-27.71	Average
9	10.853	20.97	9.73	30.70	60.00	-29.30	QP
10	10.853	15.37	9.73	25.10	50.00	-24.90	Average
11	20.035	17.28	9.79	27.07	60.00	-32.93	QP
12	20.035	12.31	9.79	22.10	50.00	-27.90	Average

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Date: 2019-08-19 Time: 15:58:38



Trace: 1

Site : Conduction room
Condition : FCC Part15 Class B Conduction(QP) neutral
Test Engineer: Amy Hsu
Product : BLE module
Model No. : BM026
Test Rating : 120Vac/60Hz
Tmp/Hum : 23.5°C / 42%
Power Setting: -13.6
Mode : BLE 2402 TX
Memo : Z(平躺)

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.155	34.86	9.62	44.48	65.75	-21.27	QP
2	0.155	22.04	9.62	31.66	55.75	-24.09	Average
3	0.238	24.86	9.62	34.48	62.15	-27.67	QP
4	0.238	8.50	9.62	18.12	52.15	-34.03	Average
5	0.600	33.27	9.63	42.90	56.00	-13.10	QP
6	0.600	27.38	9.63	37.01	46.00	-8.99	Average
7	2.783	17.33	9.66	26.99	56.00	-29.01	QP
8	2.783	11.25	9.66	20.91	46.00	-25.09	Average
9	7.320	20.08	9.71	29.79	60.00	-30.21	QP
10	7.320	13.86	9.71	23.57	50.00	-26.43	Average
11	10.691	20.87	9.75	30.62	60.00	-29.38	QP
12	10.691	15.63	9.75	25.38	50.00	-24.62	Average