

Test Report No.50345023 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 50345023 001 AppendixD)

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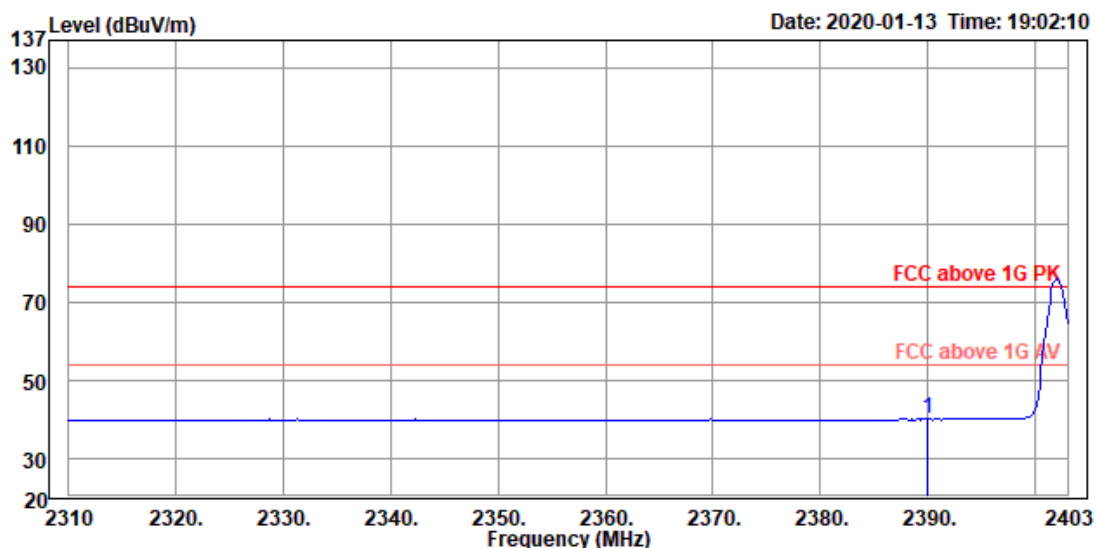
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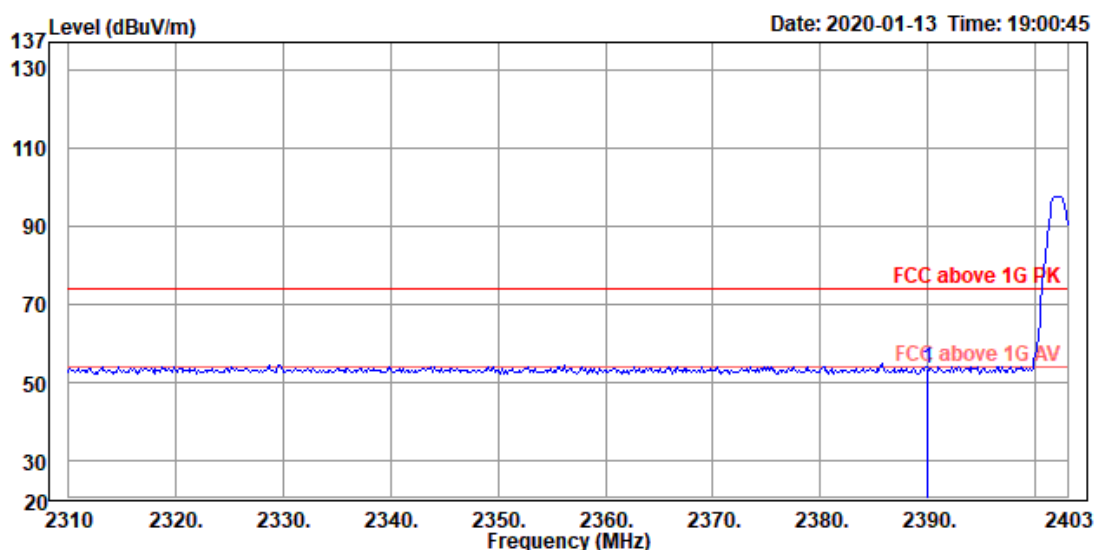


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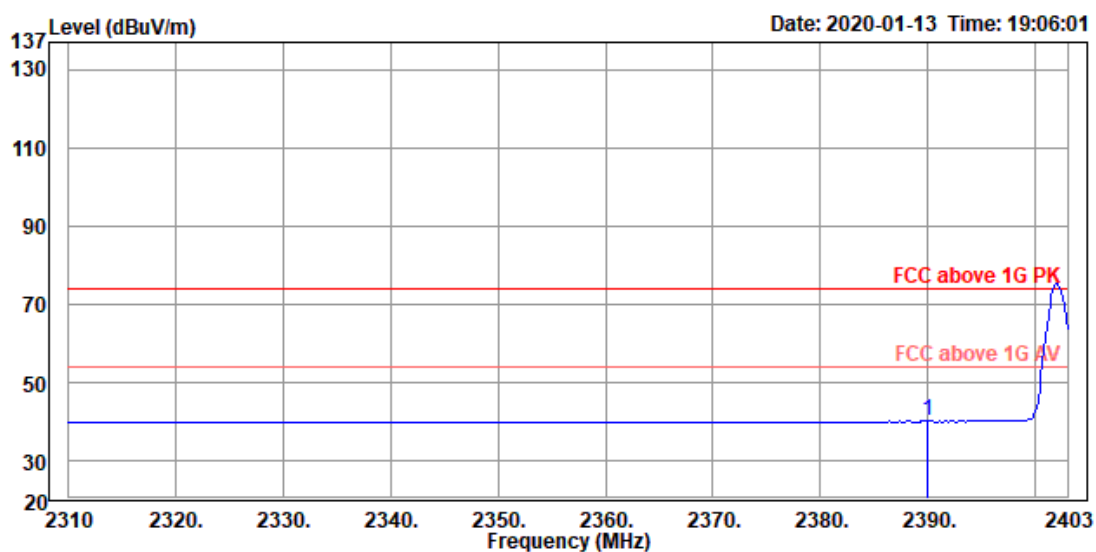
Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2402
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2390.000	39.81	48.08	-8.27	54.00	-14.19	100	202	Average	



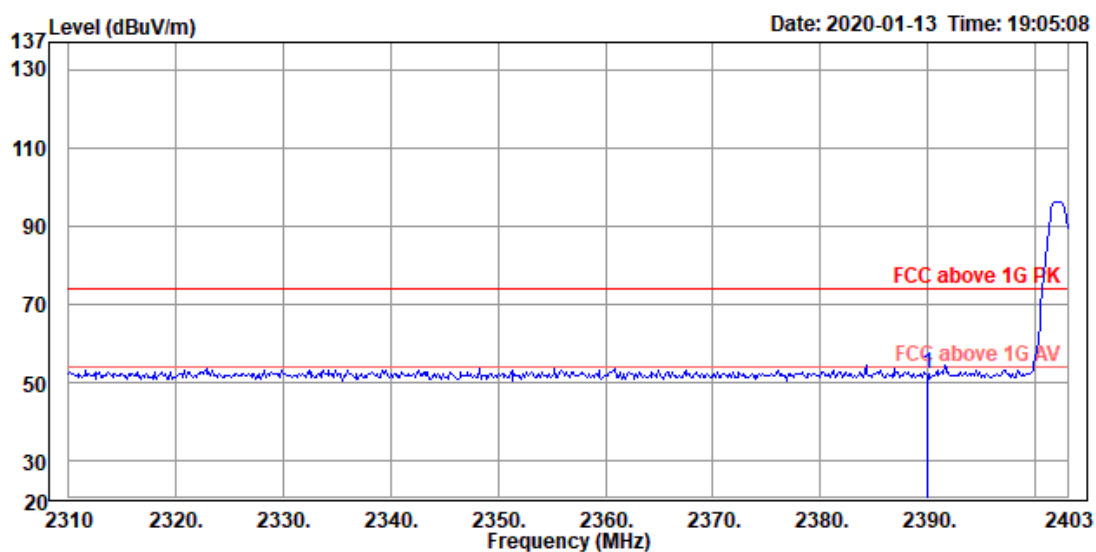
Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2402
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2390.000	53.38	61.65	-8.27	74.00	-20.62	100	202	Peak	



Site : 966A Chamber A
Condition : FCC above 1G PK 3m Vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2402
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2390.000	39.81	48.08	-8.27	54.00	-14.19	100	283	Average	



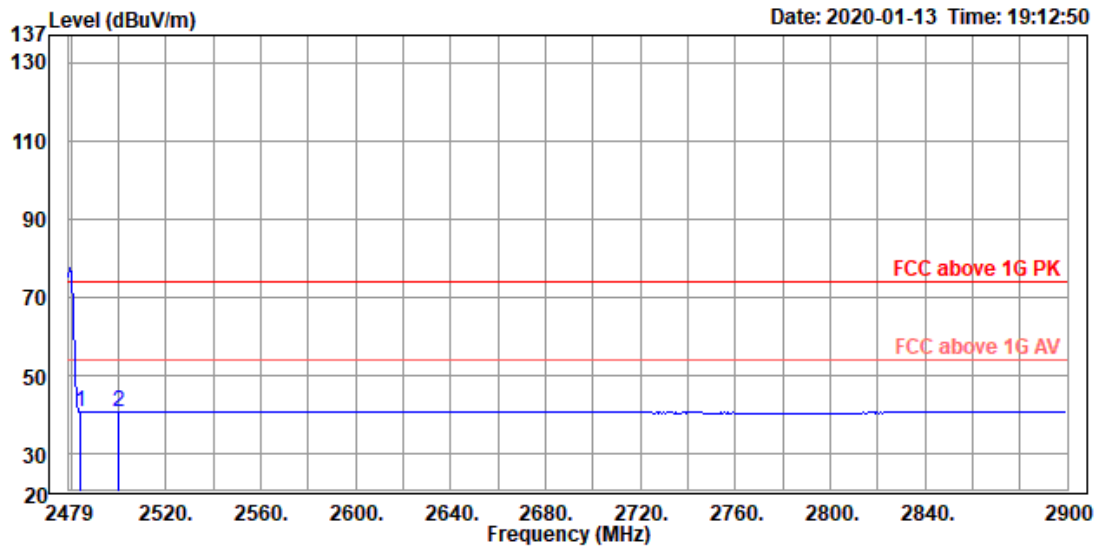
Site : 966A Chamber A
Condition : FCC above 1G PK 3m Vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2402
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2390.000	51.89	60.16	-8.27	74.00	-22.11	100	283	Peak	

2480 MHz

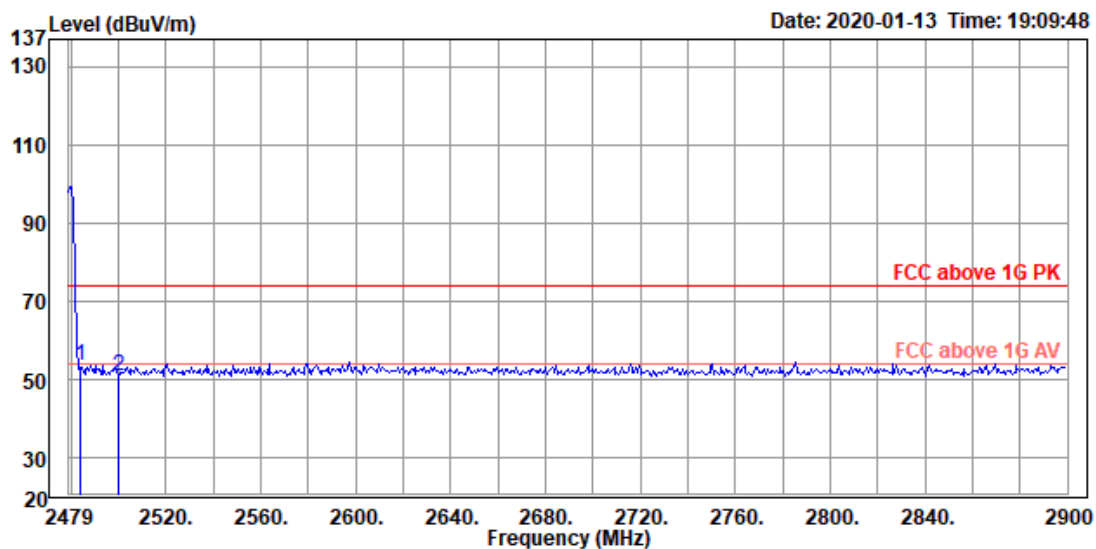


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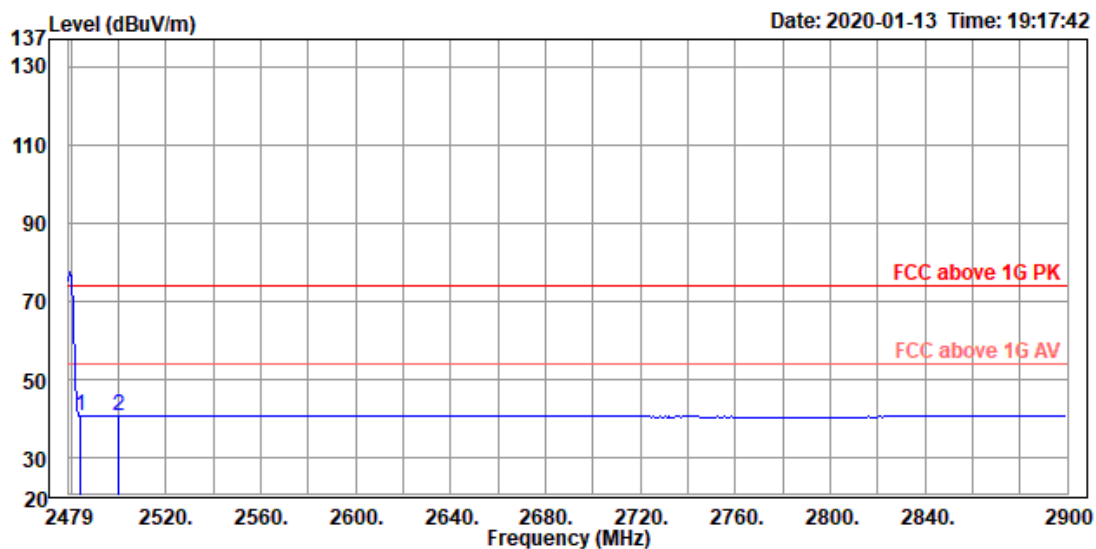
Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2480
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2483.500	40.50	48.52	-8.02	54.00	-13.50	100	203	Average	
2	2500.000	40.34	48.34	-8.00	54.00	-13.66	100	203	Average	



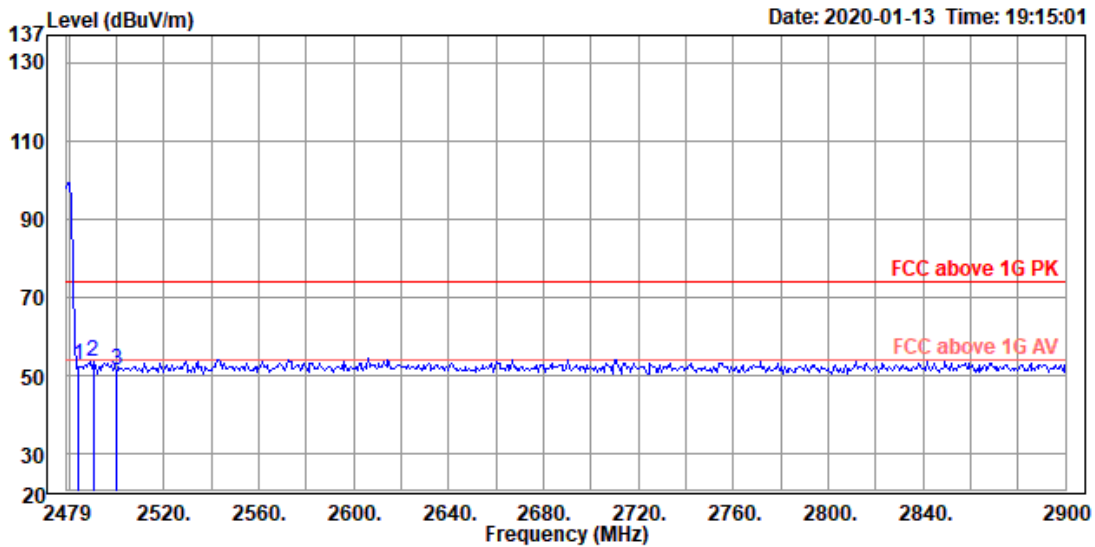
Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2480
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2483.500	53.50	61.52	-8.02	74.00	-20.50	100	203	Peak	
2	2500.000	50.80	58.80	-8.00	74.00	-23.20	100	203	Peak	



Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2480
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2483.500	40.56	48.58	-8.02	54.00	-13.44	100	191	Average	
2	2500.000	40.29	48.29	-8.00	54.00	-13.71	100	191	Average	



Site : 966A Chamber A
Condition : FCC above 1G PK 3m Vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2480
Memo : Y(Stand)

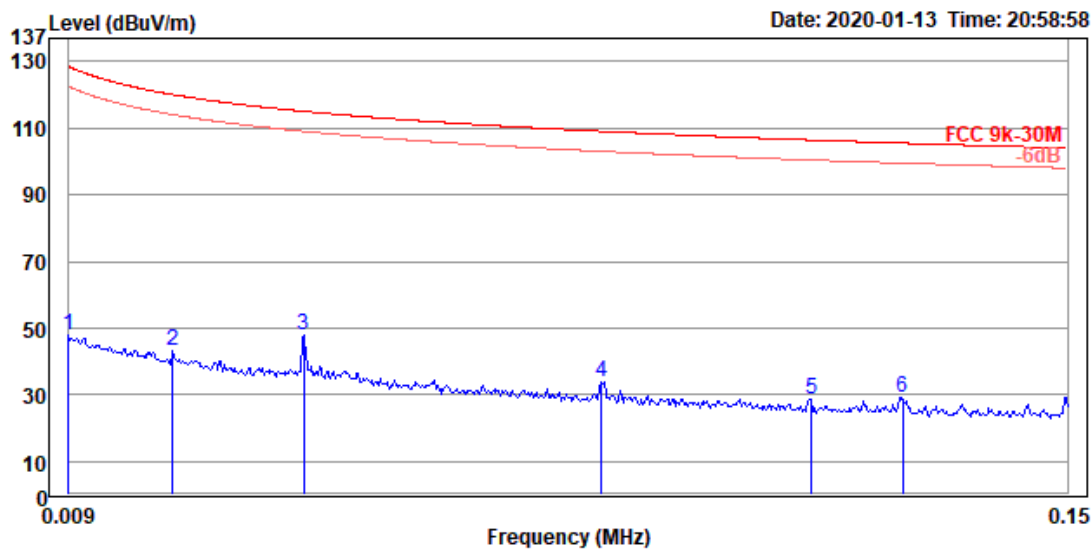
	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2483.500	52.52	60.54	-8.02	74.00	-21.48	100	191	Peak	
2	2489.983	53.43	61.45	-8.02	74.00	-20.57	100	191	Peak	
3	2500.000	51.31	59.31	-8.00	74.00	-22.69	100	191	Peak	

Spurious Emissions, TX Mode, 9kHz-30MHz

2440 MHz

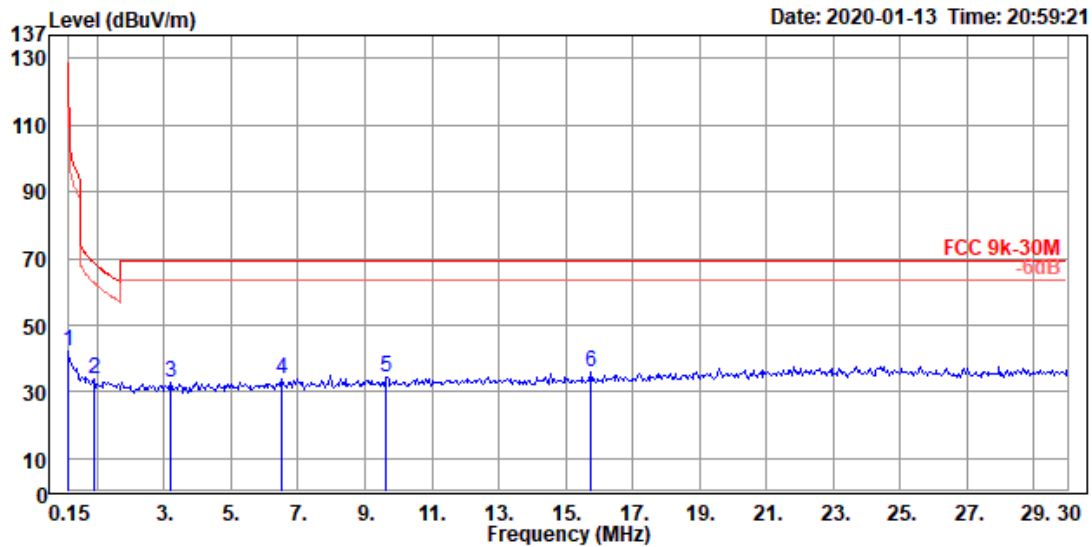


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Site : 966A Chamber A
Condition : FCC 9k-30M 3m vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2440
Memo : Y(Stand)

	Freq	Read Level	Factor	Level	Limit	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg		
1	0.009	29.77	17.97	47.74	128.50	-80.76	100	113	QP	
2	0.024	24.76	18.70	43.46	120.09	-76.63	100	205	QP	
3	0.042	28.79	18.92	47.71	115.11	-67.40	100	132	QP	
4	0.084	15.91	18.07	33.98	109.09	-75.11	100	114	QP	
5	0.114	11.00	17.76	28.76	106.47	-77.71	100	207	QP	
6	0.127	11.39	17.82	29.21	105.54	-76.33	100	185	QP	



Site : 966A Chamber A
Condition : FCC 9k-30M 3m vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2440
Memo : Y(Stand)

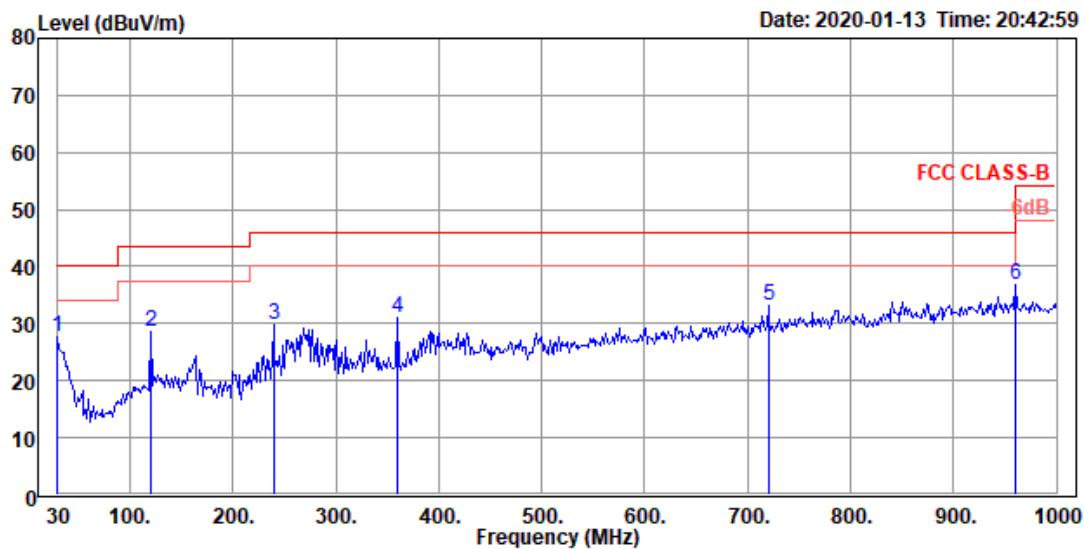
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg		
1	0.150	24.09	17.91	42.00	104.08	-62.08	100	201	QP	
2	0.885	15.23	18.61	33.84	68.68	-34.84	100	150	QP	
3	3.178	14.07	18.67	32.74	69.50	-36.76	100	148	QP	
4	6.509	14.01	19.66	33.67	69.50	-35.83	100	189	QP	
5	9.624	14.14	20.32	34.46	69.50	-35.04	100	203	QP	
6	15.767	14.73	20.98	35.71	69.50	-33.79	100	62	QP	

Spurious Emissions, TX Mode, 30MHz-1GHz

2440 MHz

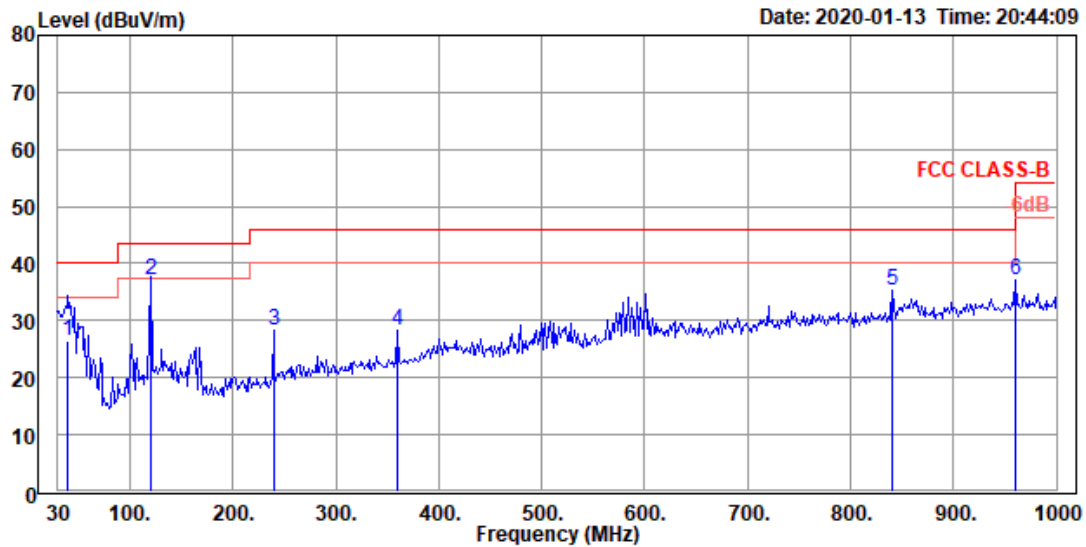


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Site : 966A Chamber A
Condition : FCC CLASS-B 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2440
Memo : Y(Stand)

		Read		Limit	Over	APos	TPos		
	Freq	Level	Factor	Level	Line	Limit		Remark	Note
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	30.000	27.88	-0.14	27.74	40.00	-12.26	100	192	QP
2	119.971	36.01	-7.29	28.72	43.50	-14.78	100	243	QP
3	239.464	36.49	-6.78	29.71	46.00	-16.29	100	88	QP
4	360.362	34.43	-3.35	31.08	46.00	-14.92	100	281	QP
5	720.246	31.42	1.72	33.14	46.00	-12.86	100	94	QP
6	960.638	31.04	5.73	36.77	54.00	-17.23	100	310	QP



Site : 966A Chamber A
Condition : FCC CLASS-B 3m vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2440
Memo : Y(Stand)

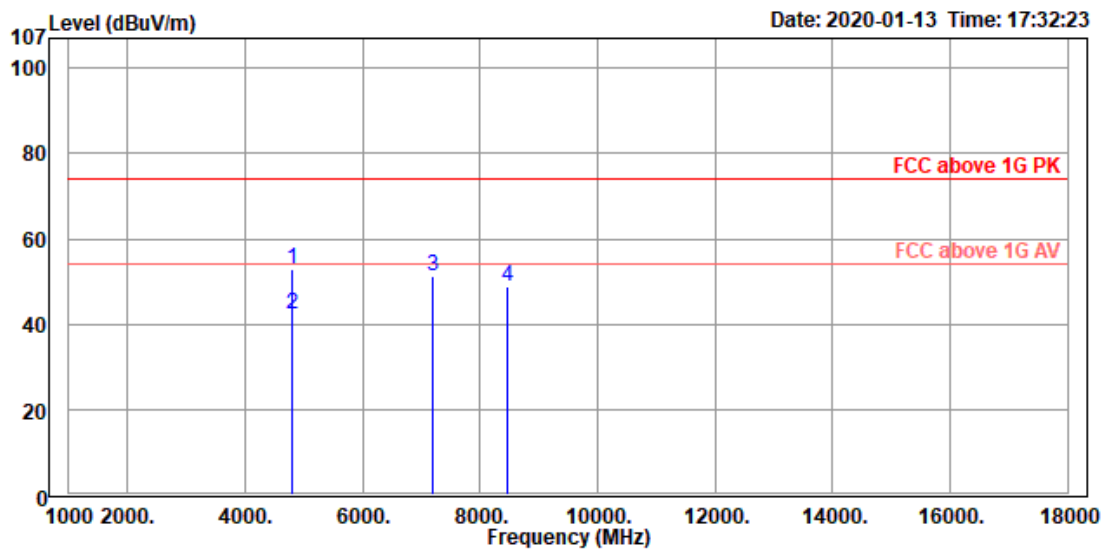
		Read		Limit	Over	APos	TPos		
	Freq	Level	Factor	Level	Line	Limit		Remark	Note
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	deg	
1	39.841	31.79	-5.36	26.43	40.00	-13.57	100	144	QP
2	120.000	44.39	-7.28	37.11	43.50	-6.39	100	192	QP
3	239.464	35.10	-6.78	28.32	46.00	-17.68	100	200	QP
4	360.362	31.67	-3.35	28.32	46.00	-17.68	100	150	QP
5	841.145	31.68	3.55	35.23	46.00	-10.77	100	75	QP
6	960.638	31.52	5.73	37.25	54.00	-16.75	100	269	QP

Spurious Emissions, TX Mode, 1GHz-18GHz

2402 MHz

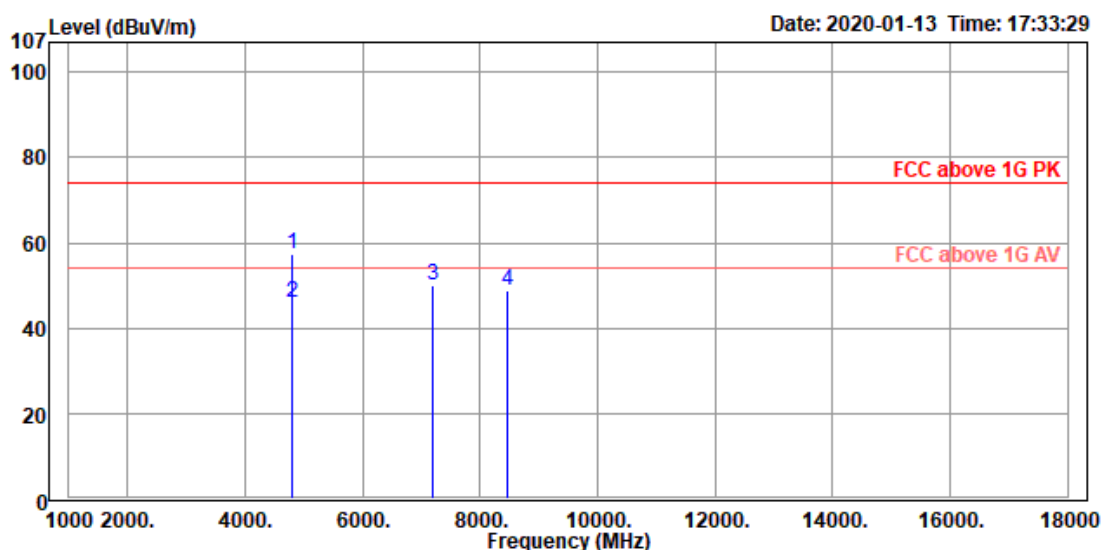


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Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2402
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4804.000	53.08	56.69	-3.61	74.00	-20.92	100	195	Peak	
2	4804.000	42.36	45.97	-3.61	54.00	-11.64	100	195	Average	
3	7206.000	51.08	46.75	4.33	74.00	-22.92	100	359	Peak	
4	8465.218	48.95	43.38	5.57	74.00	-25.05	100	72	Peak	



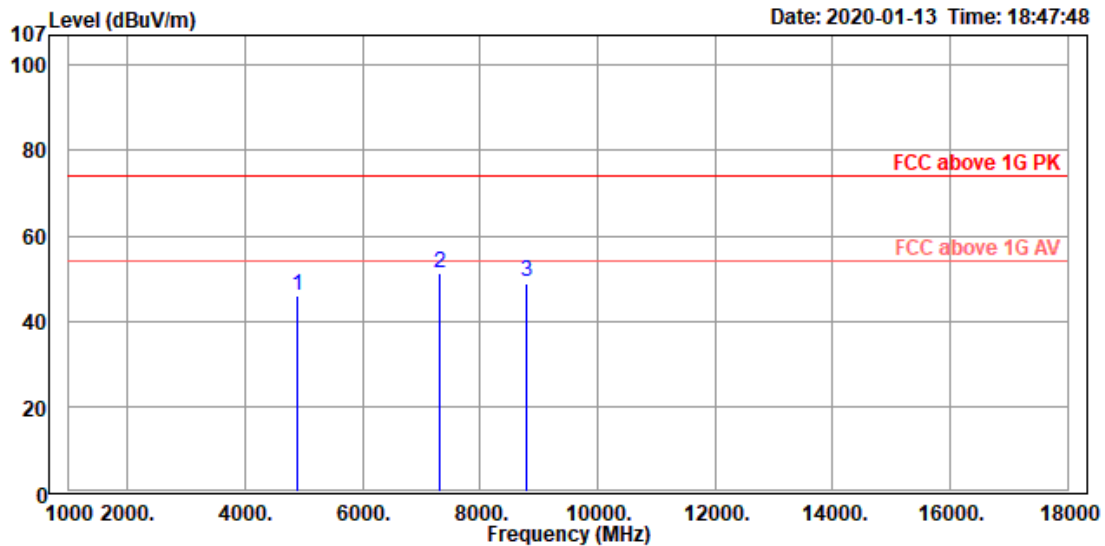
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2402
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4804.000	57.17	60.78	-3.61	74.00	-16.83	100	327	Peak	
2	4804.000	45.85	49.46	-3.61	54.00	-8.15	100	327	Average	
3	7206.000	49.91	45.58	4.33	74.00	-24.09	100	90	Peak	
4	8465.218	48.97	43.40	5.57	74.00	-25.03	100	162	Peak	

2440 MHz

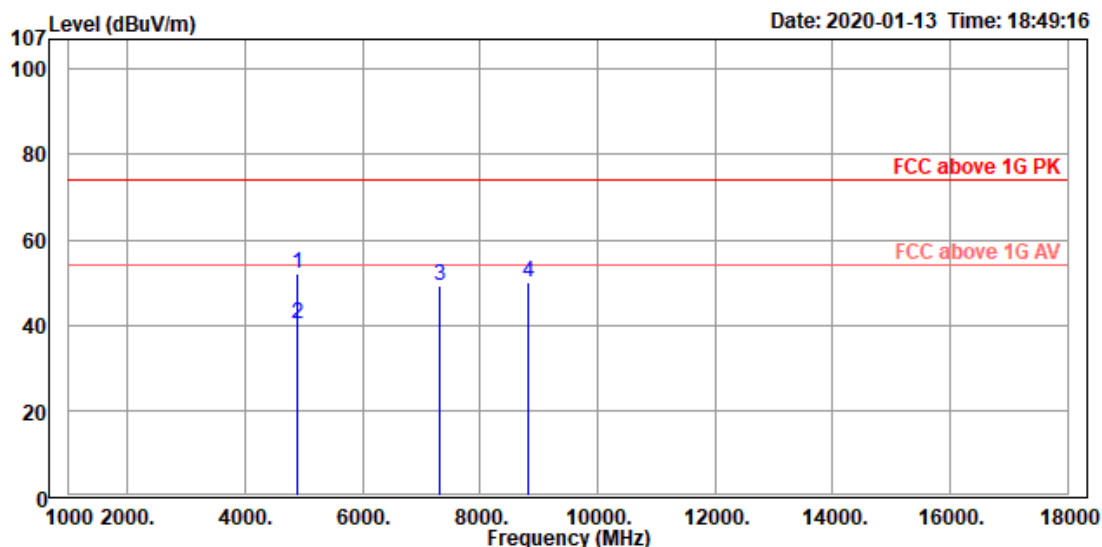


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Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2440
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4880.000	46.08	49.59	-3.51	74.00	-27.92	100	203	Peak	
2	7320.000	51.27	46.72	4.55	74.00	-22.73	100	116	Peak	
3	8785.507	49.02	43.38	5.64	74.00	-24.98	100	298	Peak	



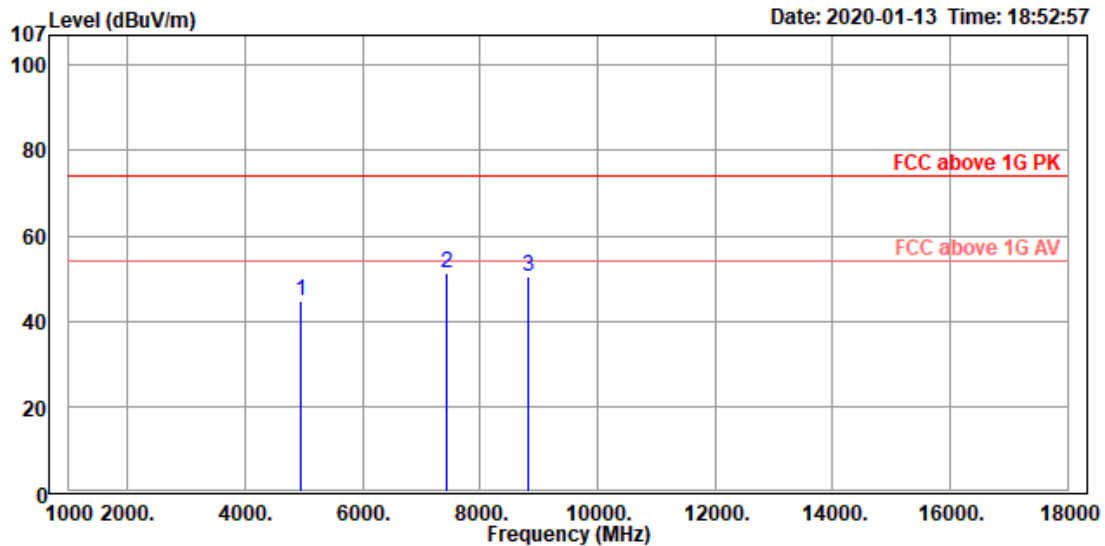
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2440
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4880.000	52.25	55.76	-3.51	74.00	-21.75	100	322	Peak	
2	4880.000	40.28	43.79	-3.51	54.00	-13.72	100	322	Average	
3	7320.000	49.03	44.48	4.55	74.00	-24.97	100	96	Peak	
4	8810.145	50.09	44.45	5.64	74.00	-23.91	100	190	Peak	

2480 MHz

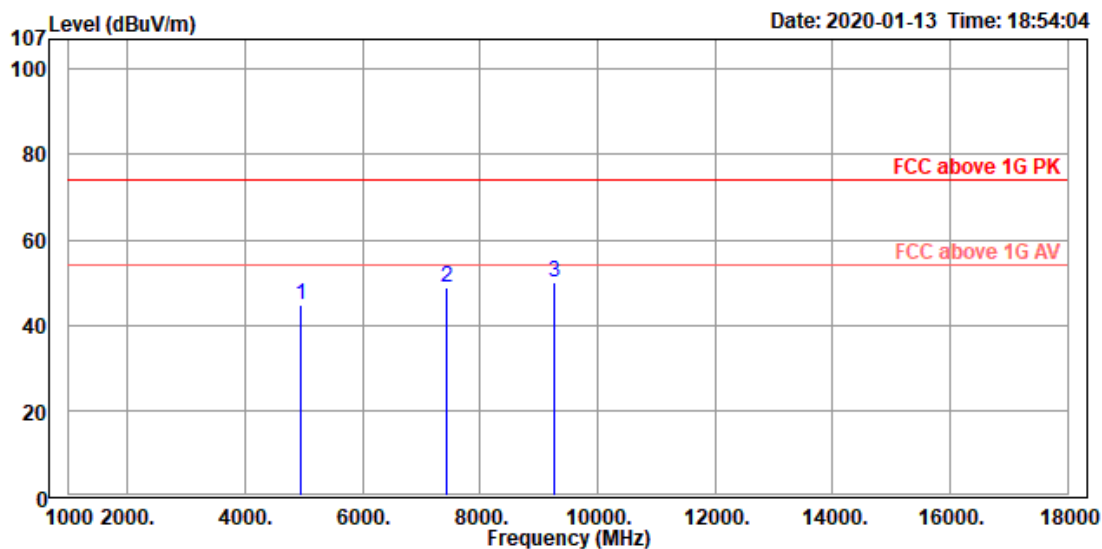


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Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2480
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4960.000	44.72	48.11	-3.39	74.00	-29.28	100	100	Peak	
2	7440.000	51.13	46.27	4.86	74.00	-22.87	100	135	Peak	
3	8810.145	50.50	44.86	5.64	74.00	-23.50	100	120	Peak	



Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2480
Memo : Y(Stand)

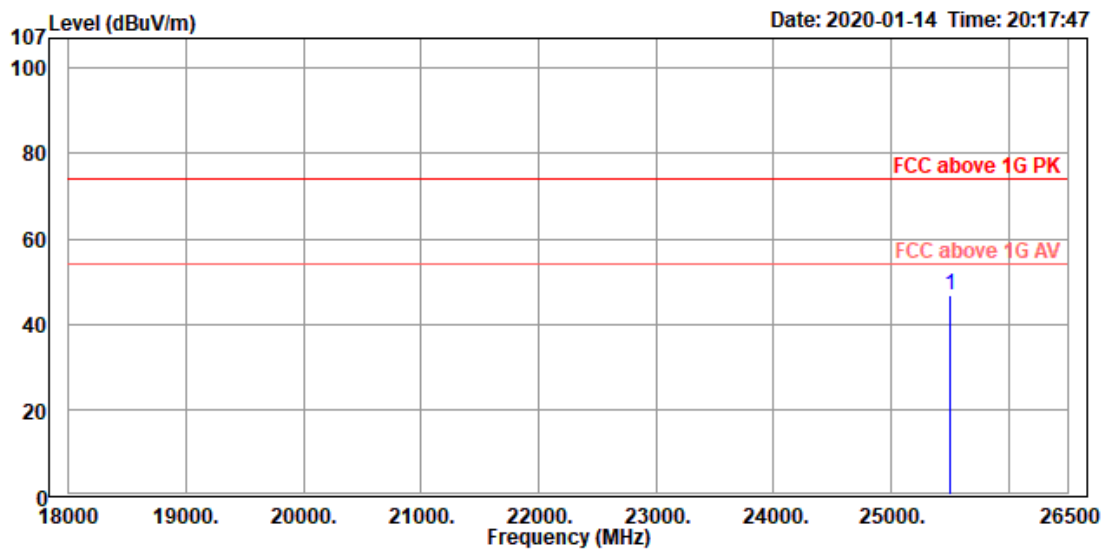
	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4960.000	44.71	48.10	-3.39	74.00	-29.29	100	323	Peak	
2	7440.000	48.90	44.04	4.86	74.00	-25.10	100	296	Peak	
3	9278.261	49.89	44.29	5.60	74.00	-24.11	100	243	Peak	

Spurious Emissions, TX Mode, 18GHz-26.5GHz

2402 MHz

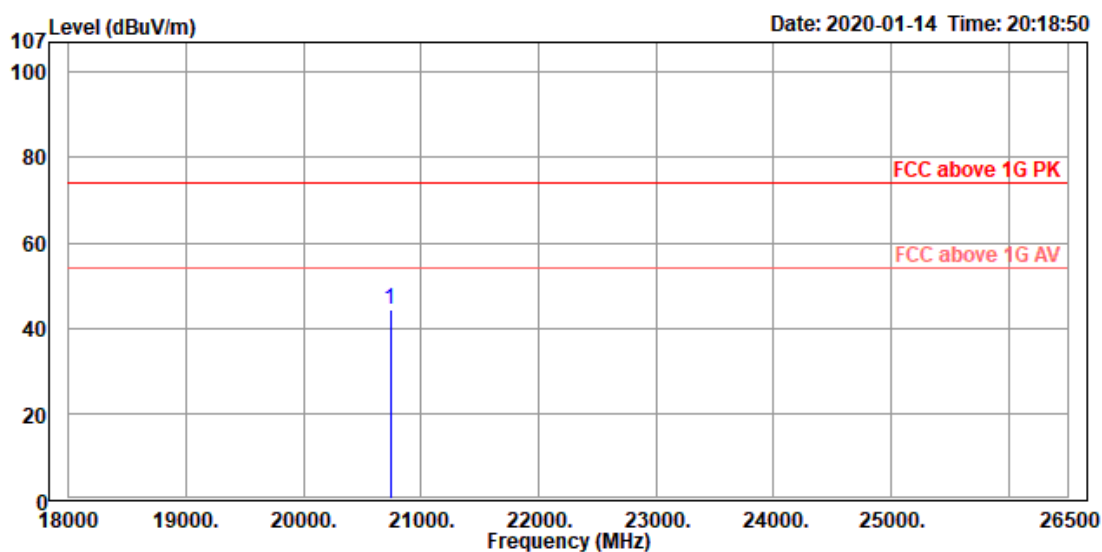


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Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2402
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	25502.170	46.69	38.36	8.33	74.00	-27.31	100	274	Peak	



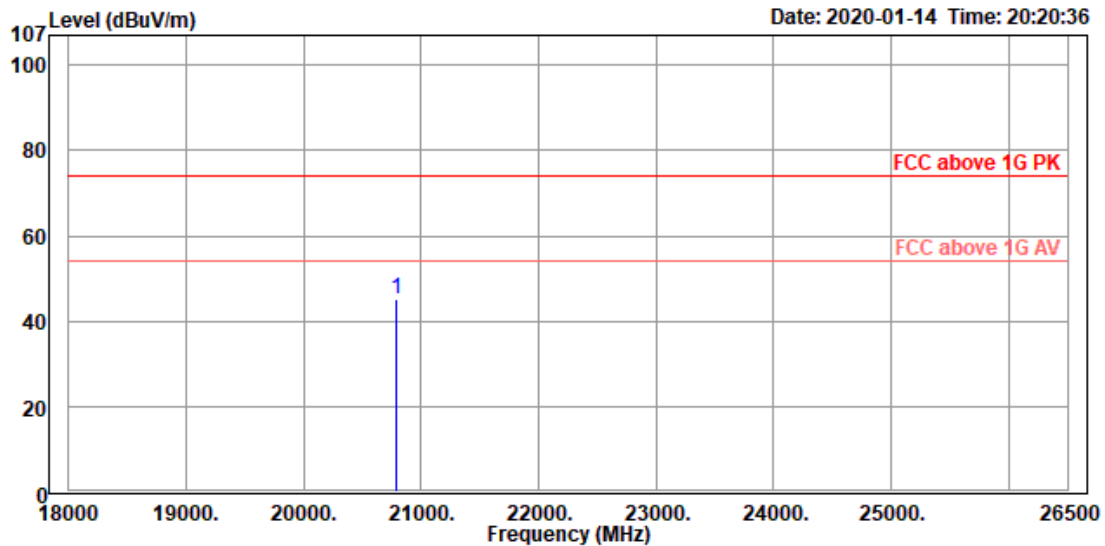
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2402
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	20734.780	44.54	38.70	5.84	74.00	-29.46	100	252	Peak	

2440 MHz

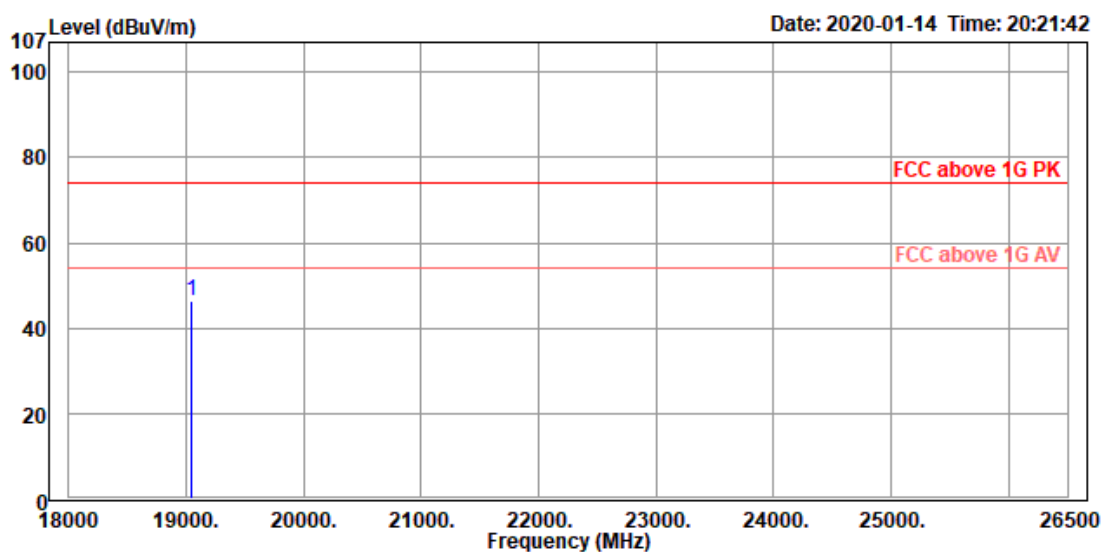


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Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2440
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	20784.060	45.20	39.31	5.89	74.00	-28.80	100	241	Peak	



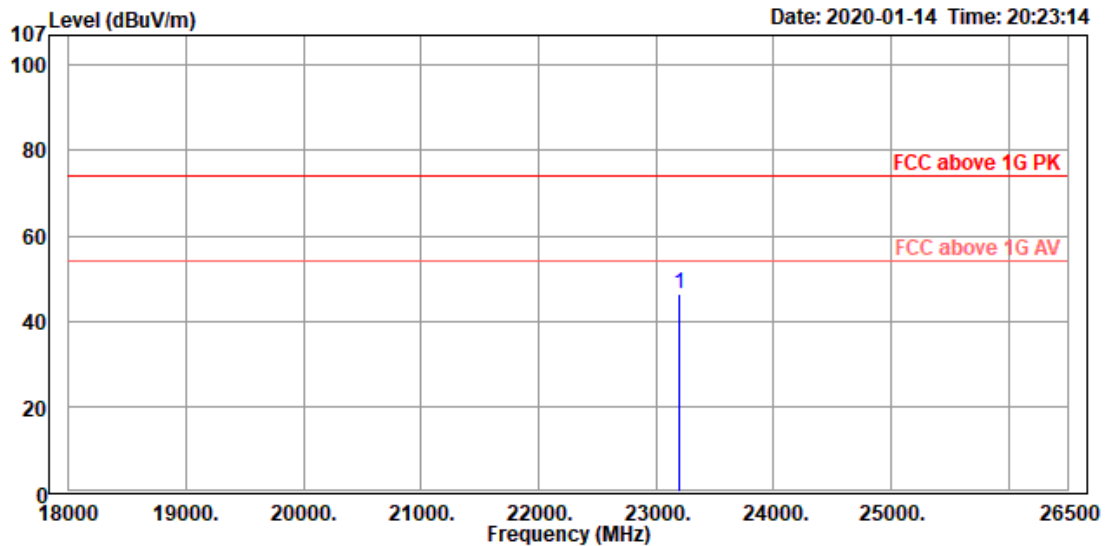
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2440
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	19047.100	46.55	40.57	5.98	74.00	-27.45	100	169	Peak	

2480 MHz

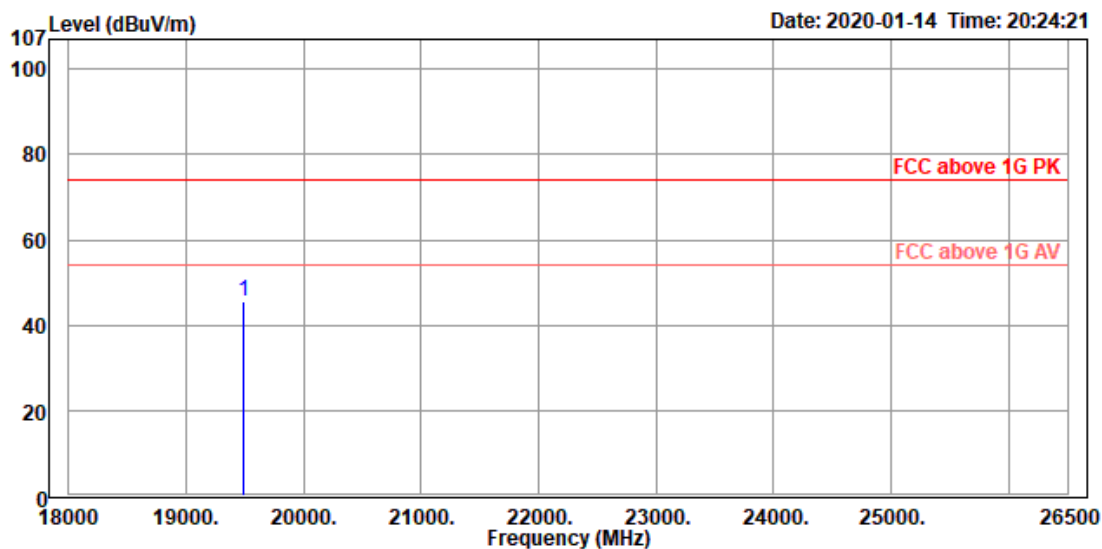


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Site : 966A Chamber A
Condition : FCC above 1G PK 3m horizontal
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2480
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	23198.550	46.55	38.73	7.82	74.00	-27.45	100	123	Peak	



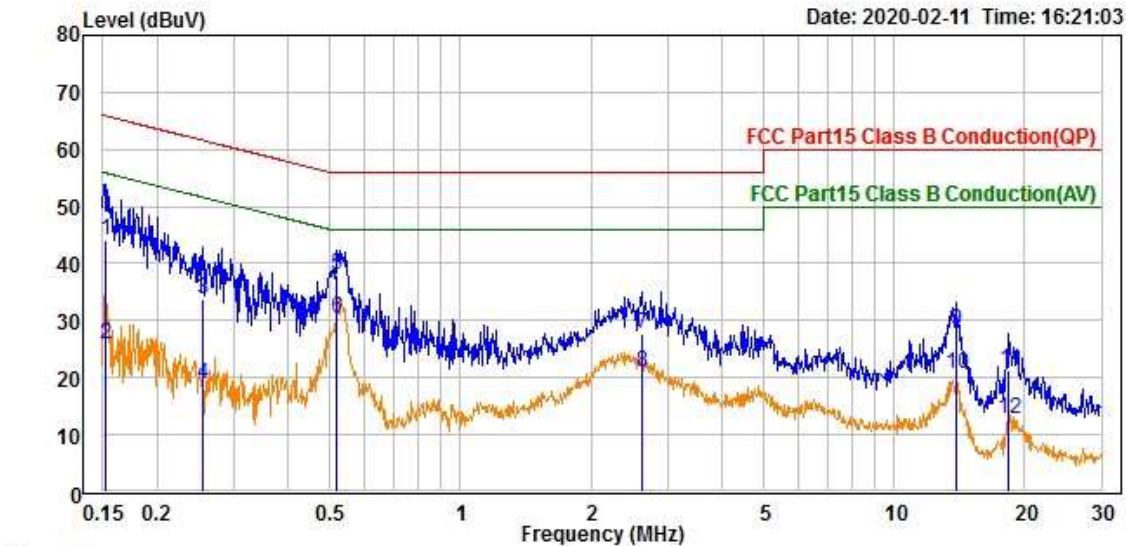
Site : 966A Chamber A
Condition : FCC above 1G PK 3m vertical
Test Engineer: Kevin Kuo
Product : Bluetooth stereo headset
Model No. : EP-E50A
Test Rating : 5Vdc by USB
Tmp/Hum : 20°C/49%
Power Setting: Default
Mode : TX-2480
Memo : Y(Stand)

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	19490.580	45.52	39.81	5.71	74.00	-28.48	100	45	Peak	

Spurious Emissions, AC Mains

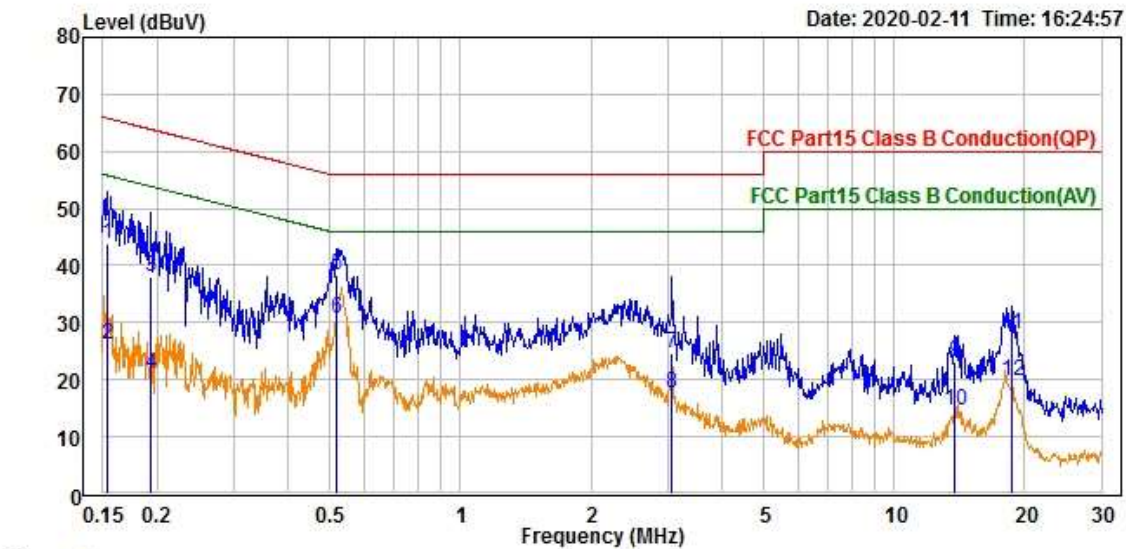


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Trace: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.152	34.62	9.61	44.23	65.92	-21.69	QP
2	0.152	16.16	9.61	25.77	55.92	-30.15	Average
3	0.254	24.07	9.61	33.68	61.61	-27.93	QP
4	0.254	9.30	9.61	18.91	51.61	-32.70	Average
5	0.519	28.44	9.62	38.06	56.00	-17.94	QP
6	0.519	20.91	9.62	30.53	46.00	-15.47	Average
7	2.622	18.10	9.65	27.75	56.00	-28.25	QP
8	2.622	11.28	9.65	20.93	46.00	-25.07	Average
9	13.855	18.65	9.75	28.40	60.00	-31.60	QP
10	13.855	10.87	9.75	20.62	50.00	-29.38	Average
11	18.407	11.44	9.79	21.23	60.00	-38.77	QP
12	18.407	2.91	9.79	12.70	50.00	-37.30	Average



Trace: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.153	34.12	9.62	43.74	65.83	-22.09	QP
2	0.153	16.46	9.62	26.08	55.83	-29.75	Average
3	0.193	28.36	9.62	37.98	63.89	-25.91	QP
4	0.193	11.22	9.62	20.84	53.89	-33.05	Average
5	0.519	28.60	9.63	38.23	56.00	-17.77	QP
6	0.519	21.01	9.63	30.64	46.00	-15.36	Average
7	3.075	15.09	9.66	24.75	56.00	-31.25	QP
8	3.075	7.85	9.66	17.51	46.00	-28.49	Average
9	13.786	13.22	9.78	23.00	60.00	-37.00	QP
10	13.786	4.70	9.78	14.48	50.00	-35.52	Average
11	18.684	18.17	9.82	27.99	60.00	-32.01	QP
12	18.684	9.82	9.82	19.64	50.00	-30.36	Average