

Radiated Band Edge Result

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

3. Display the measurement of peak values.

Test Procedure:

The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground(Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

Let the EUT work in TX (Hopping off, Hopping on) modes measure it.

We select 2402MHz, 2480MHz TX frequency to transmit(Hopping off mode).

We select 2402-2480MHz TX frequency to transmit(Hopping on mode).

During the radiated emission test, the spectrum analyzer was set with the following configurations:

- 1.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
- 2.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
- 3.All modes of operation were investigated and the worst-case emissions are reported.

Non-hopping mode



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Job No.: STAR2016 #123

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2402MHz(GFSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

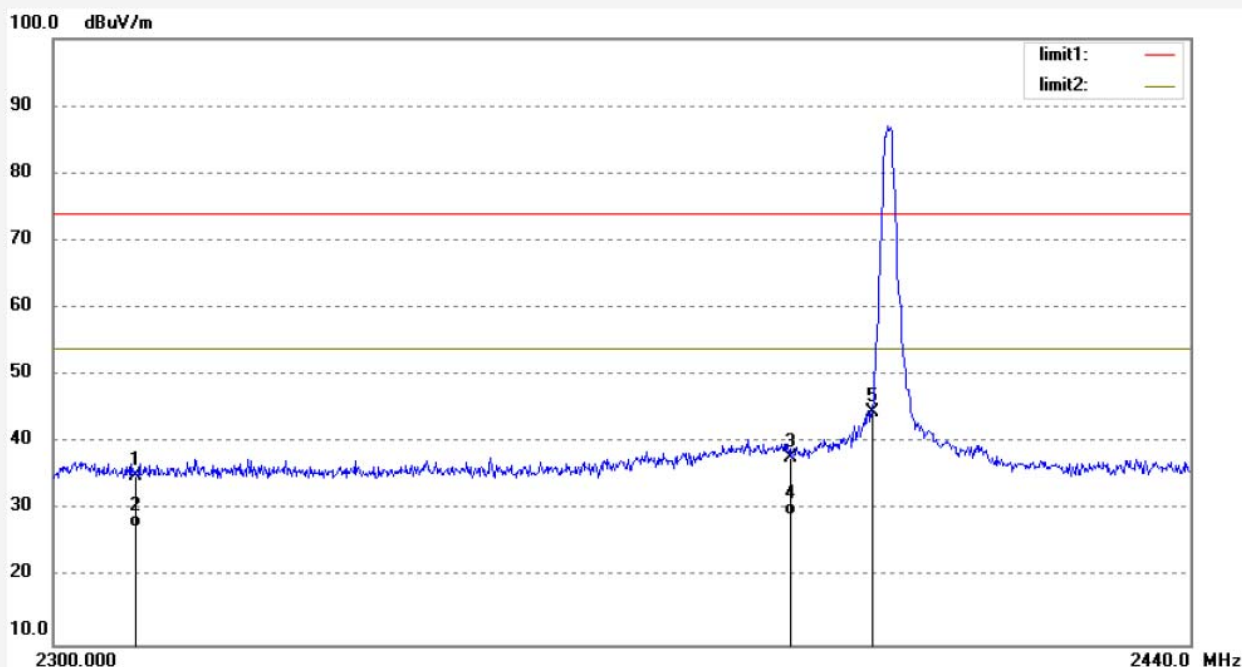
Date: 2016-5-26

Time: 9/15/37

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	43.21	-8.21	35.00	74.00	-39.00	peak			
2	2310.000	35.67	-8.21	27.46	54.00	-26.54	peak			
3	2390.000	45.88	-8.00	37.88	74.00	-36.12	peak			
4	2390.000	37.28	-8.00	29.28	54.00	-24.72	peak			
5	2400.000	52.56	-7.97	44.59	74.00	-29.41	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #122

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2402MHz(GFSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

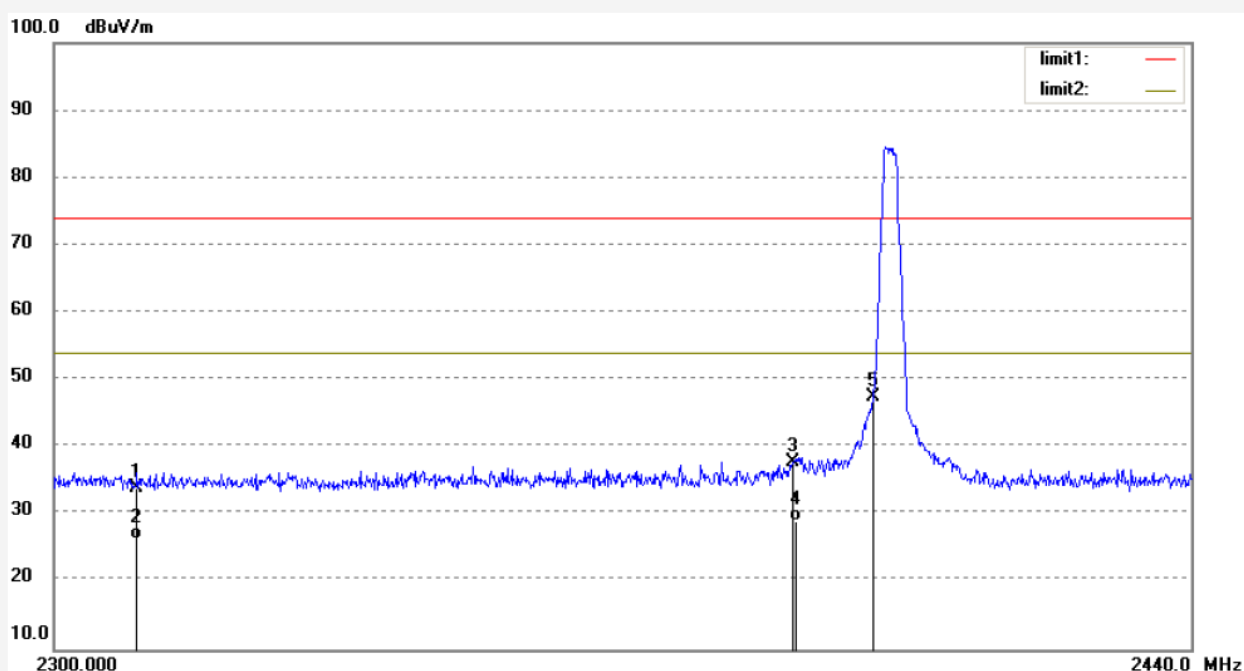
Date: 2016-5-26

Time: 9/11/45

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	42.15	-8.21	33.94	74.00	-40.06	peak			
2	2310.000	34.61	-8.21	26.40	54.00	-27.60	peak			
3	2390.000	45.82	-8.00	37.82	74.00	-36.18	peak			
4	2390.000	37.00	-8.00	29.00	54.00	-25.00	peak			
5	2400.000	55.35	-7.97	47.38	74.00	-26.62	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #124

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2480MHz(GFSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

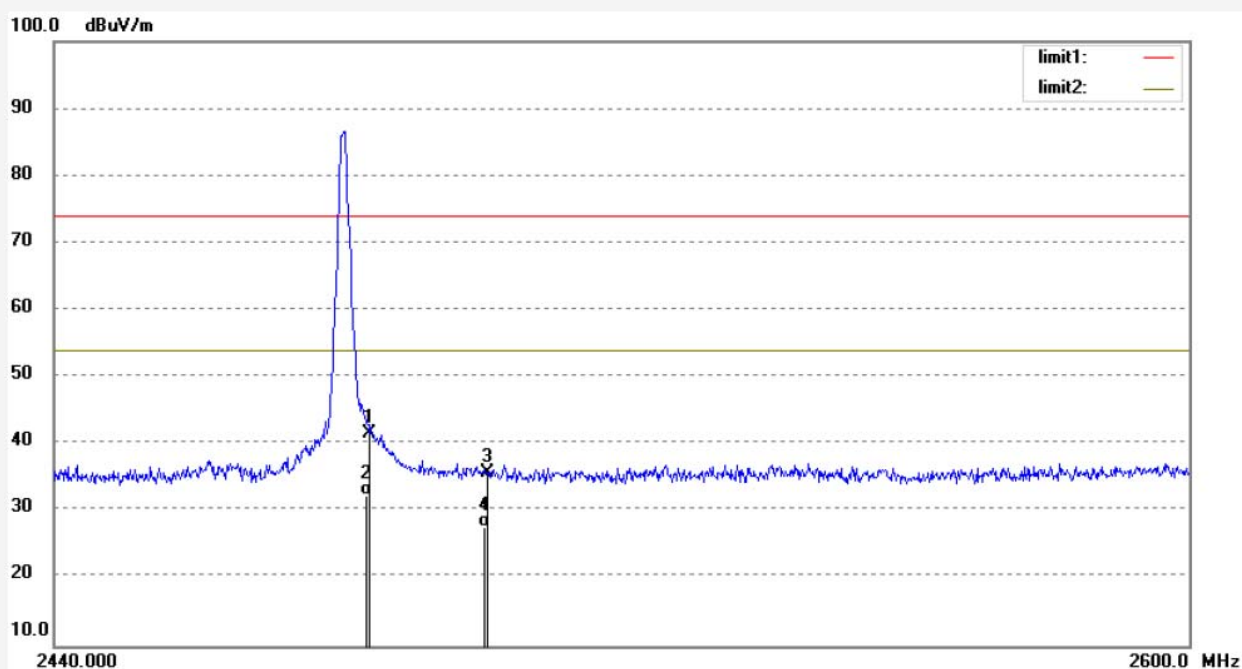
Date: 2016-5-26

Time: 9/19/09

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	49.31	-7.76	41.55	74.00	-32.45	peak			
2	2483.500	40.10	-7.76	32.34	54.00	-21.66	peak			
3	2500.000	43.49	-7.71	35.78	74.00	-38.22	peak			
4	2500.000	35.31	-7.71	27.60	54.00	-26.40	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #125

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2480MHz(GFSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

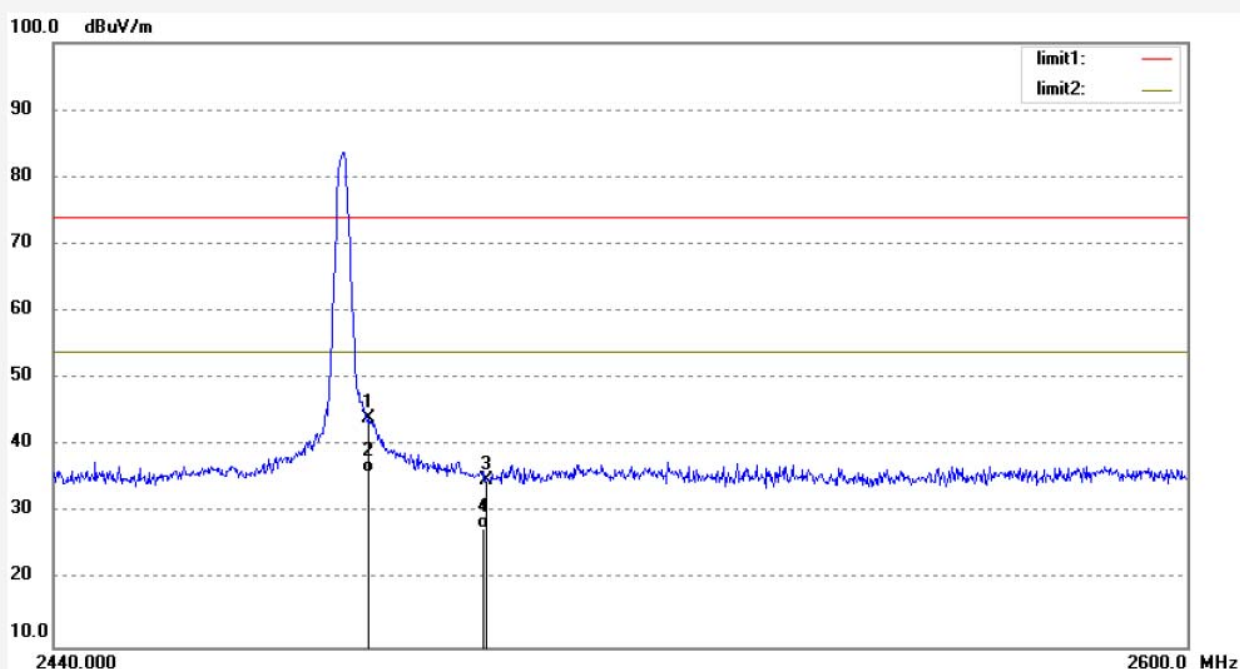
Date: 2016-5-26

Time: 9/23/45

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	51.95	-7.76	44.19	74.00	-29.81	peak			
2	2483.500	43.67	-7.76	35.91	54.00	-18.09	peak			
3	2500.000	42.59	-7.71	34.88	74.00	-39.12	peak			
4	2500.000	35.38	-7.71	27.67	54.00	-26.33	peak			

Note: Average measurement with peak detection at No.2&4



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Job No.: STAR2016 #128

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2402MHz(pi/4 DQPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

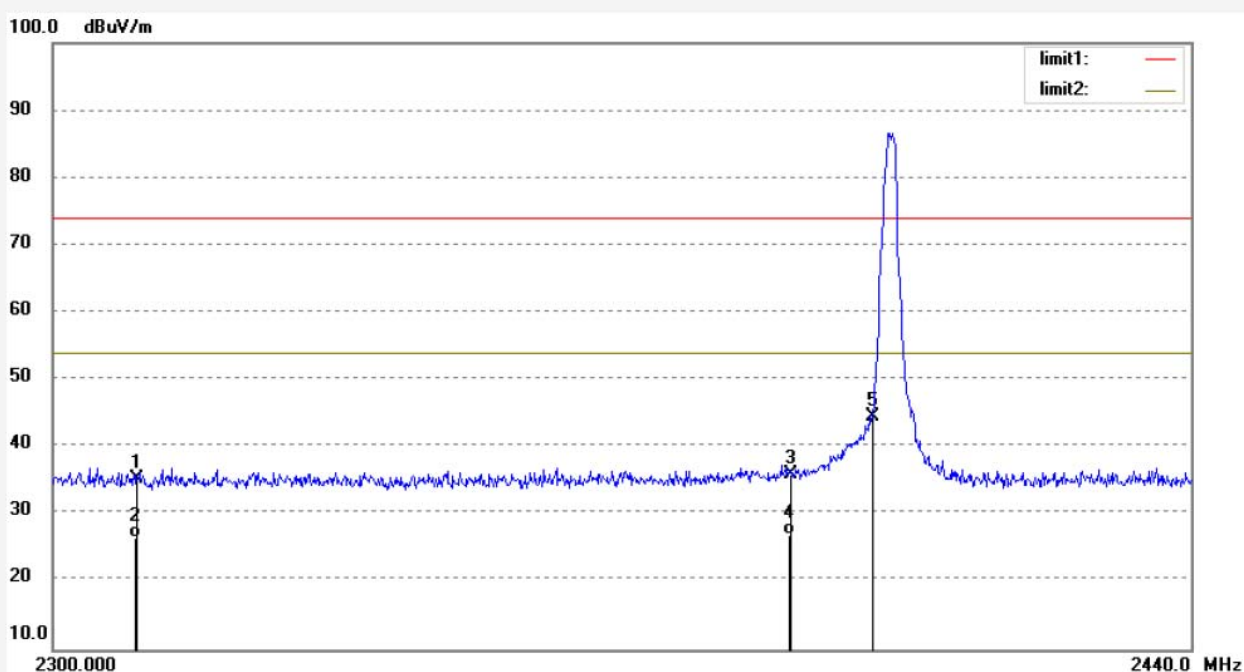
Date: 2016-5-26

Time: 9/34/40

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	43.56	-8.21	35.35	74.00	-38.65	peak			
2	2310.000	34.78	-8.21	26.57	54.00	-27.43	peak			
3	2390.000	43.93	-8.00	35.93	74.00	-38.07	peak			
4	2390.000	35.00	-8.00	27.00	54.00	-27.00	peak			
5	2400.000	52.50	-7.97	44.53	74.00	-29.47	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #129

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2402MHz(pi/4 DQPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

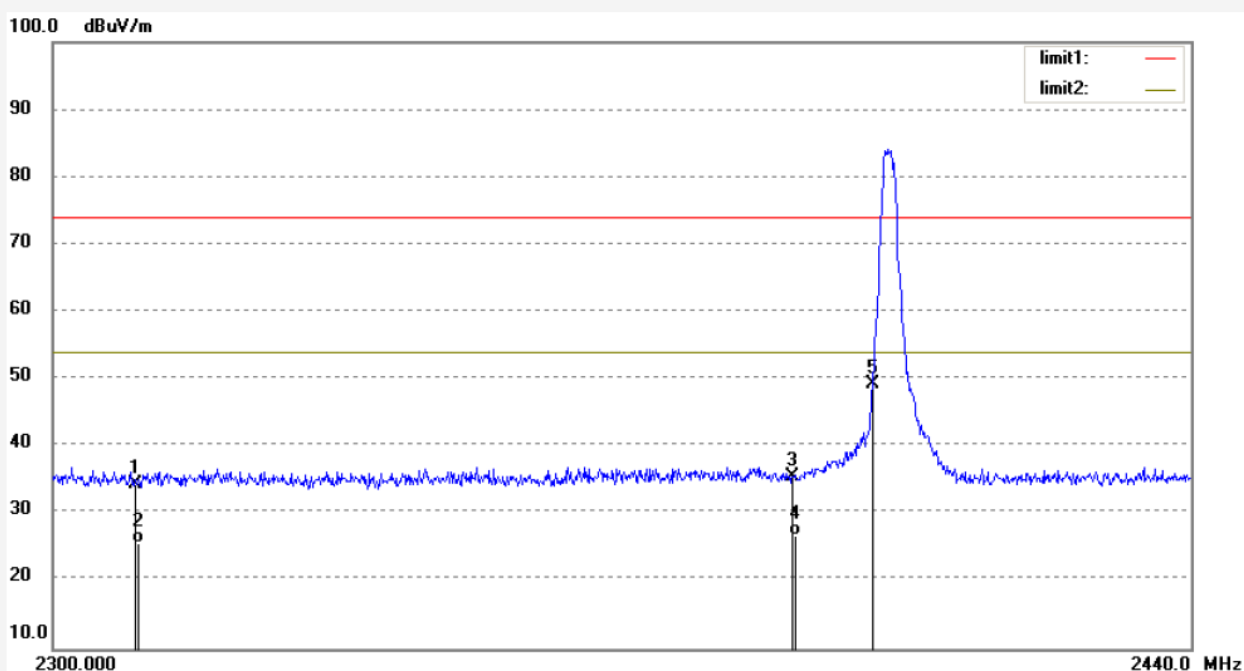
Date: 2016-5-26

Time: 9/38/39

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	42.54	-8.21	34.33	74.00	-39.67	peak			
2	2310.000	33.92	-8.21	25.71	54.00	-28.29	peak			
3	2390.000	43.60	-8.00	35.60	74.00	-38.40	peak			
4	2390.000	34.67	-8.00	26.67	54.00	-27.33	peak			
5	2400.000	57.18	-7.97	49.21	74.00	-24.79	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #127

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2480MHz(pi/4 DQPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

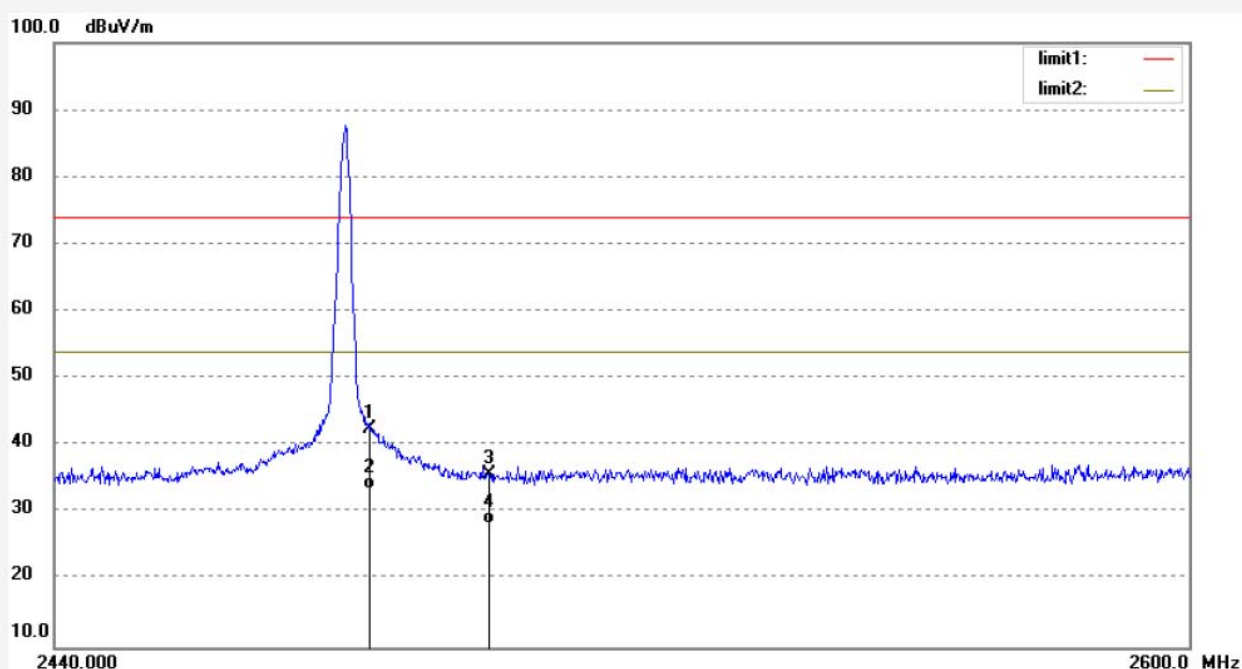
Date: 2016-5-26

Time: 9/31/16

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	50.29	-7.76	42.53	74.00	-31.47	peak			
2	2483.500	41.20	-7.76	33.44	54.00	-20.56	peak			
3	2500.000	43.43	-7.71	35.72	74.00	-38.28	peak			
4	2500.000	36.13	-7.71	28.42	54.00	-25.58	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #126

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2480MHz(pi/4 DQPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

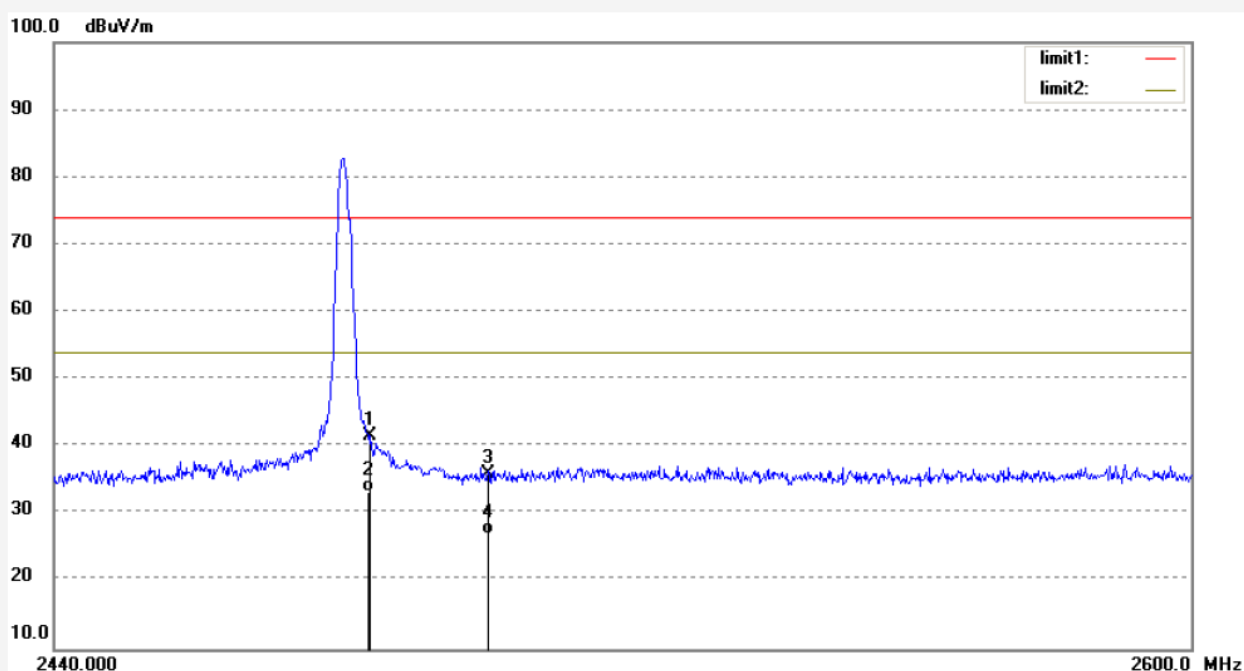
Date: 2016-5-26

Time: 9/27/23

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	49.28	-7.76	41.52	74.00	-32.48	peak			
2	2483.500	41.00	-7.76	33.24	54.00	-20.76	peak			
3	2500.000	43.62	-7.71	35.91	74.00	-38.09	peak			
4	2500.000	34.72	-7.71	27.01	54.00	-26.99	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #131

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2402MHz(8DPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

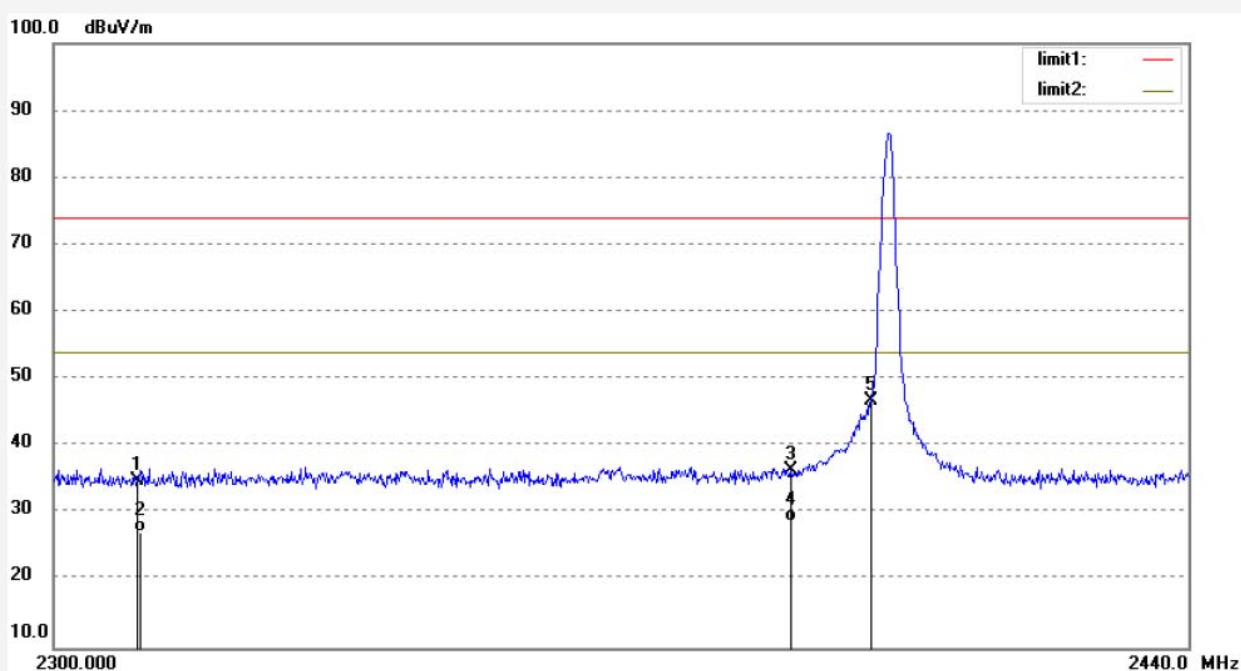
Date: 2016-5-26

Time: 9/45/27

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	43.07	-8.21	34.86	74.00	-39.14	peak			
2	2310.000	35.32	-8.21	27.11	54.00	-26.89	peak			
3	2390.000	44.47	-8.00	36.47	74.00	-37.53	peak			
4	2390.000	36.71	-8.00	28.71	54.00	-25.29	peak			
5	2400.000	54.87	-7.97	46.90	74.00	-27.10	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #130

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2402MHz(8DPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

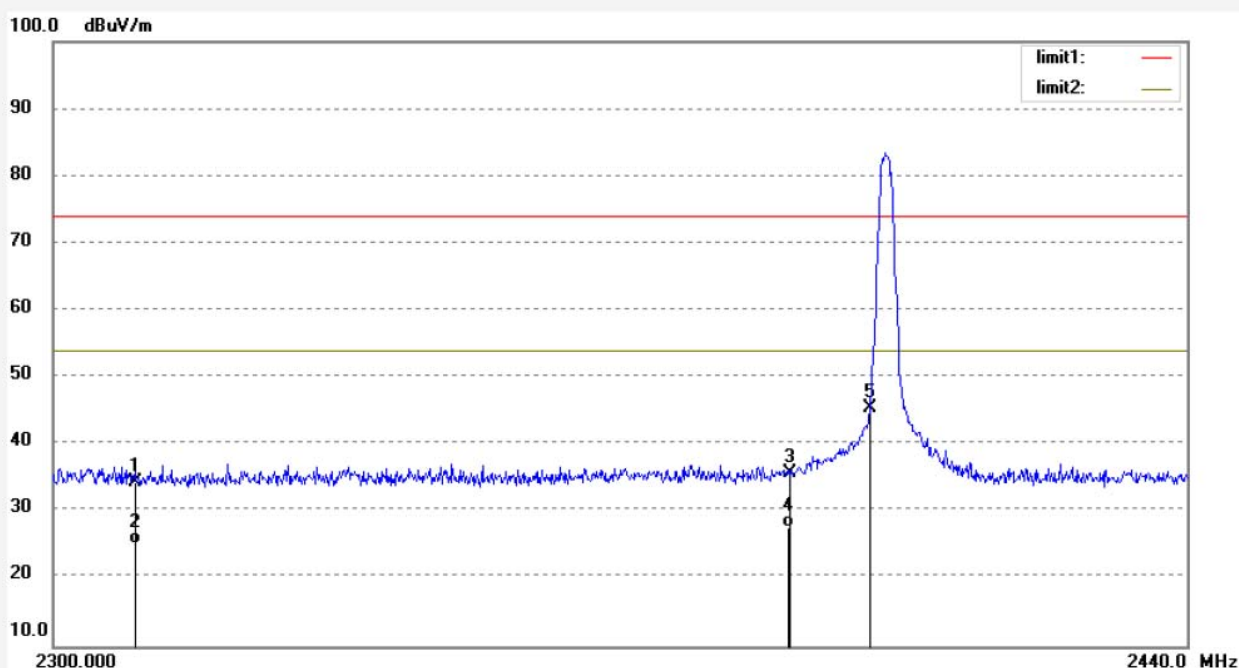
Date: 2016-5-26

Time: 9/42/42

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	42.60	-8.21	34.39	74.00	-39.61	peak			
2	2310.000	33.44	-8.21	25.23	54.00	-28.77	peak			
3	2390.000	43.68	-8.00	35.68	74.00	-38.32	peak			
4	2390.000	35.61	-8.00	27.61	54.00	-26.39	peak			
5	2400.000	53.44	-7.97	45.47	74.00	-28.53	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #132

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2480MHz(8DPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

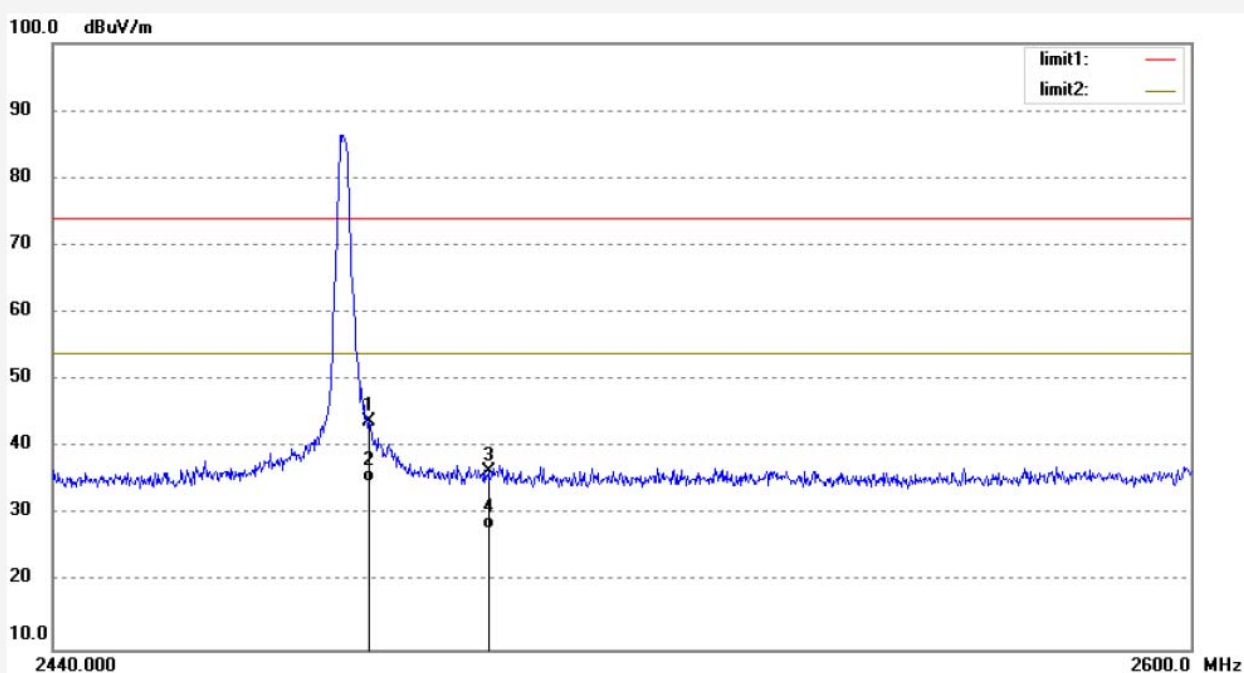
Date: 2016-5-26

Time: 9/48/11

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	51.57	-7.76	43.81	74.00	-30.19	peak			
2	2483.500	42.73	-7.76	34.97	54.00	-19.03	peak			
3	2500.000	44.13	-7.71	36.42	74.00	-37.58	peak			
4	2500.000	35.62	-7.71	27.91	54.00	-26.09	peak			

Note: Average measurement with peak detection at No.2&4

Job No.: STAR2016 #133

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: TX 2480MHz(8DPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

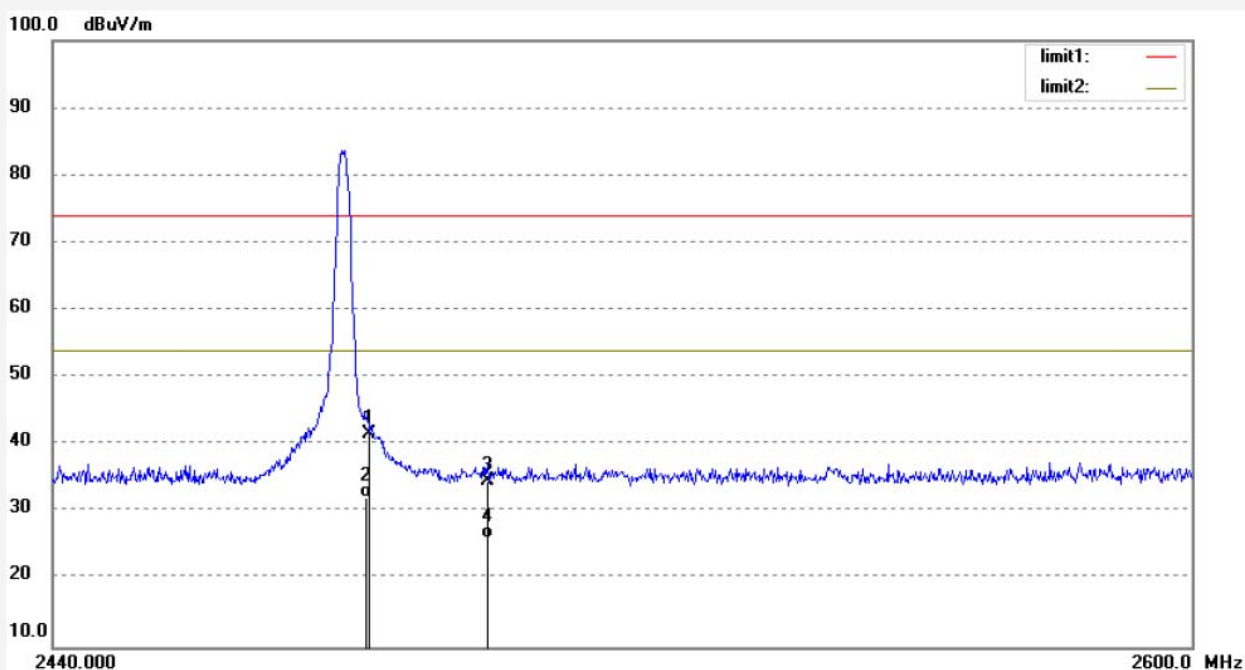
Date: 2016-5-26

Time: 9/51/23

Engineer Signature:

Distance: 1m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	49.38	-7.76	41.62	74.00	-32.38	peak			
2	2483.500	40.00	-7.76	32.24	54.00	-21.76	peak			
3	2500.000	42.27	-7.71	34.56	74.00	-39.44	peak			
4	2500.000	33.69	-7.71	25.98	54.00	-28.02	peak			

Note: Average measurement with peak detection at No.2&4

Hopping mode



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Job No.: STAR2016 #135

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: HOPPING (GFSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

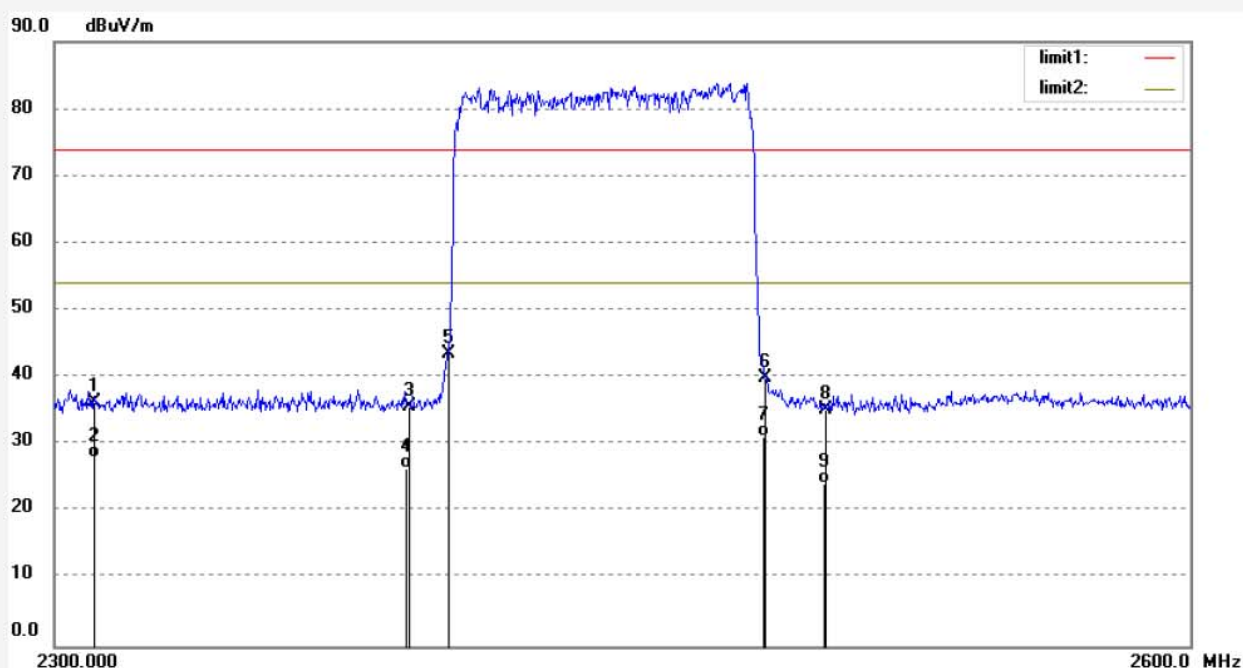
Date: 2016-5-26

Time: 9/58/45

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	44.60	-8.21	36.39	74.00	-37.61	peak			
2	2310.000	36.17	-8.21	27.96	54.00	-26.04	peak			
3	2390.000	43.73	-8.00	35.73	74.00	-38.27	peak			
4	2390.000	34.52	-8.00	26.52	54.00	-27.48	peak			
5	2400.000	51.61	-7.97	43.64	74.00	-30.36	peak			
6	2483.500	47.66	-7.76	39.90	74.00	-34.10	peak			
7	2483.500	39.00	-7.76	31.24	54.00	-22.76	peak			
8	2500.000	42.97	-7.71	35.26	74.00	-38.74	peak			
9	2500.000	32.00	-7.71	24.29	54.00	-29.71	peak			

Note: Average measurement with peak detection at No.2&4&7&9

Job No.: STAR2016 #134

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: HOPPING (GFSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

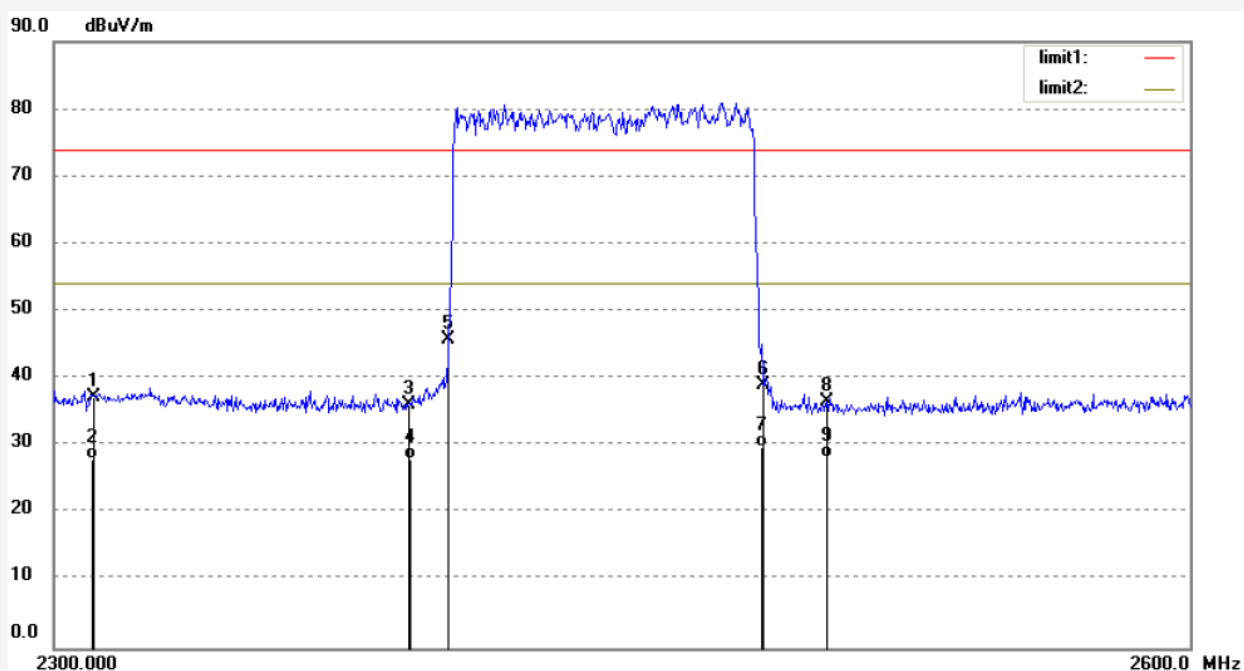
Date: 2016-5-26

Time: 9/54/32

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	45.43	-8.21	37.22	74.00	-36.78	peak			
2	2310.000	36.27	-8.21	28.06	54.00	-25.94	peak			
3	2390.000	44.09	-8.00	36.09	74.00	-37.91	peak			
4	2390.000	35.97	-8.00	27.97	54.00	-26.03	peak			
5	2400.000	53.83	-7.97	45.86	74.00	-28.14	peak			
6	2483.500	46.71	-7.76	38.95	74.00	-35.05	peak			
7	2483.500	37.67	-7.76	29.91	54.00	-24.09	peak			
8	2500.000	44.38	-7.71	36.67	74.00	-37.33	peak			
9	2500.000	36.00	-7.71	28.29	54.00	-25.71	peak			

Note: Average measurement with peak detection at No.2&4&7&9

Job No.: STAR2016 #136

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: HOPPING (pi/4 DQPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

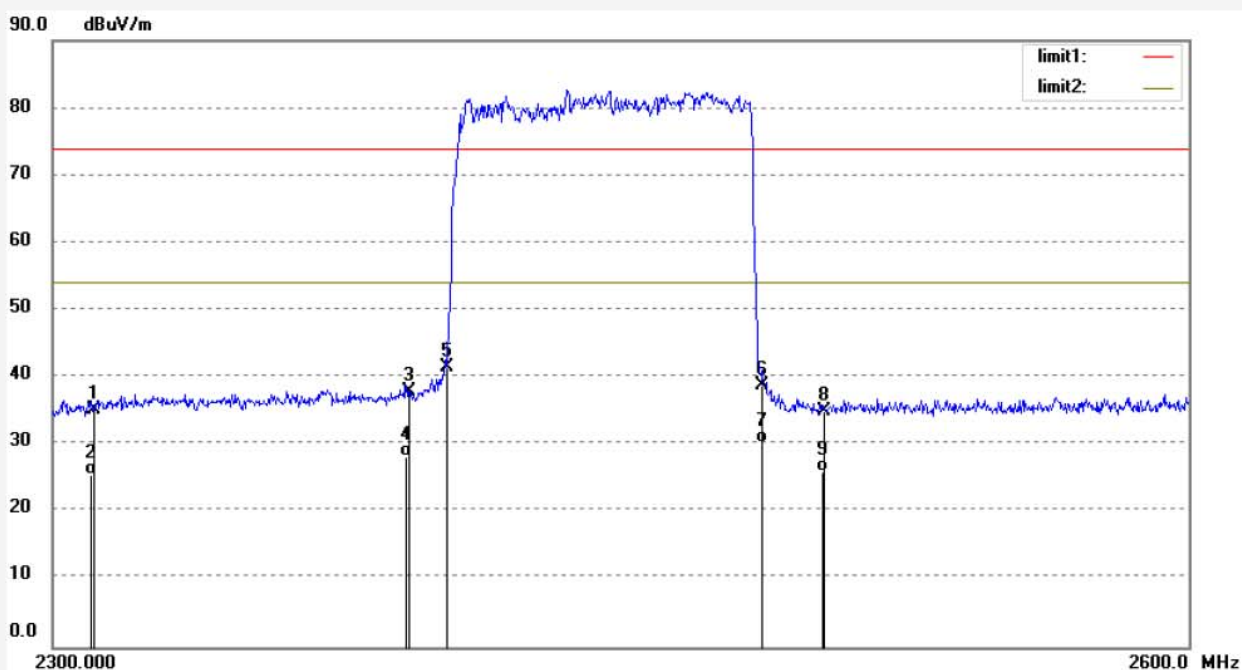
Date: 2016-5-26

Time: 10/03/44

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	43.46	-8.21	35.25	74.00	-38.75	peak			
2	2310.000	33.67	-8.21	25.46	54.00	-28.54	peak			
3	2390.000	45.83	-8.00	37.83	74.00	-36.17	peak			
4	2390.000	36.17	-8.00	28.17	54.00	-25.83	peak			
5	2400.000	49.41	-7.97	41.44	74.00	-32.56	peak			
6	2483.500	46.51	-7.76	38.75	74.00	-35.25	peak			
7	2483.500	38.11	-7.76	30.35	54.00	-23.65	peak			
8	2500.000	42.73	-7.71	35.02	74.00	-38.98	peak			
9	2500.000	33.69	-7.71	25.98	54.00	-28.02	peak			

Note: Average measurement with peak detection at No.2&4&7&9

Job No.: STAR2016 #137

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: HOPPING (pi/4 DQPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

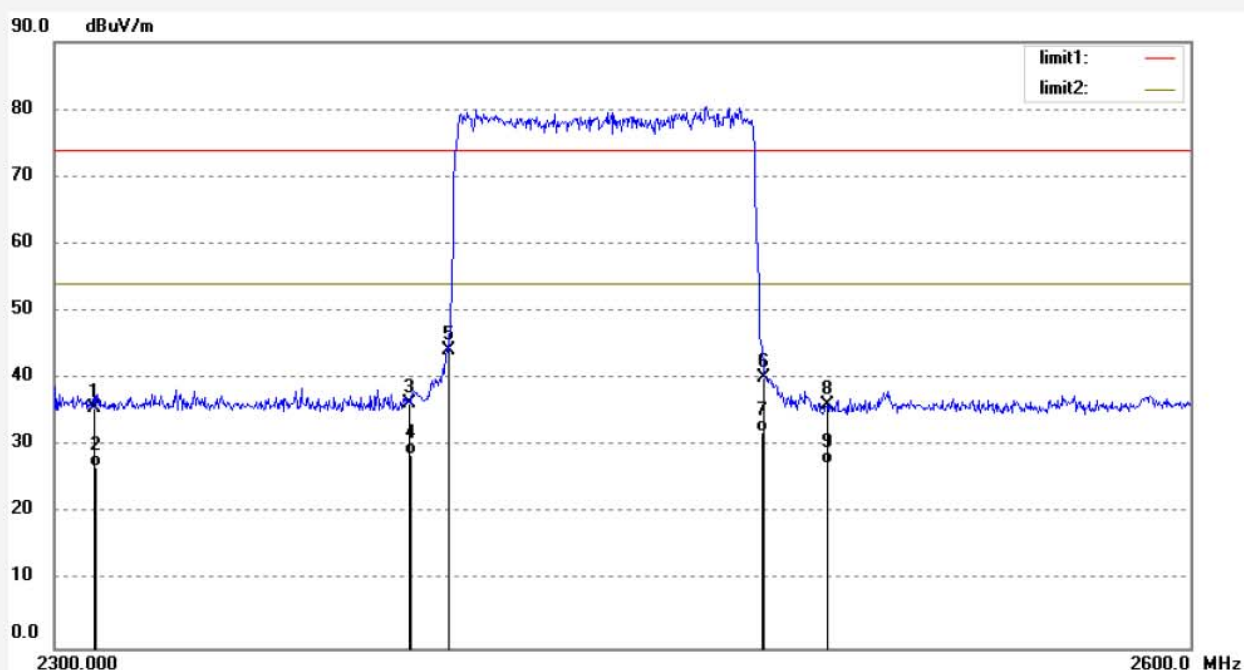
Date: 2016-5-26

Time: 10/07/54

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	43.83	-8.21	35.62	74.00	-38.38	peak			
2	2310.000	35.14	-8.21	26.93	54.00	-27.07	peak			
3	2390.000	44.43	-8.00	36.43	74.00	-37.57	peak			
4	2390.000	36.61	-8.00	28.61	54.00	-25.39	peak			
5	2400.000	52.26	-7.97	44.29	74.00	-29.71	peak			
6	2483.500	47.94	-7.76	40.18	74.00	-33.82	peak			
7	2483.500	39.87	-7.76	32.11	54.00	-21.89	peak			
8	2500.000	43.85	-7.71	36.14	74.00	-37.86	peak			
9	2500.000	35.10	-7.71	27.39	54.00	-26.61	peak			

Note: Average measurement with peak detection at No.2&4&7&9

Job No.: STAR2016 #139

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: HOPPING (8DPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

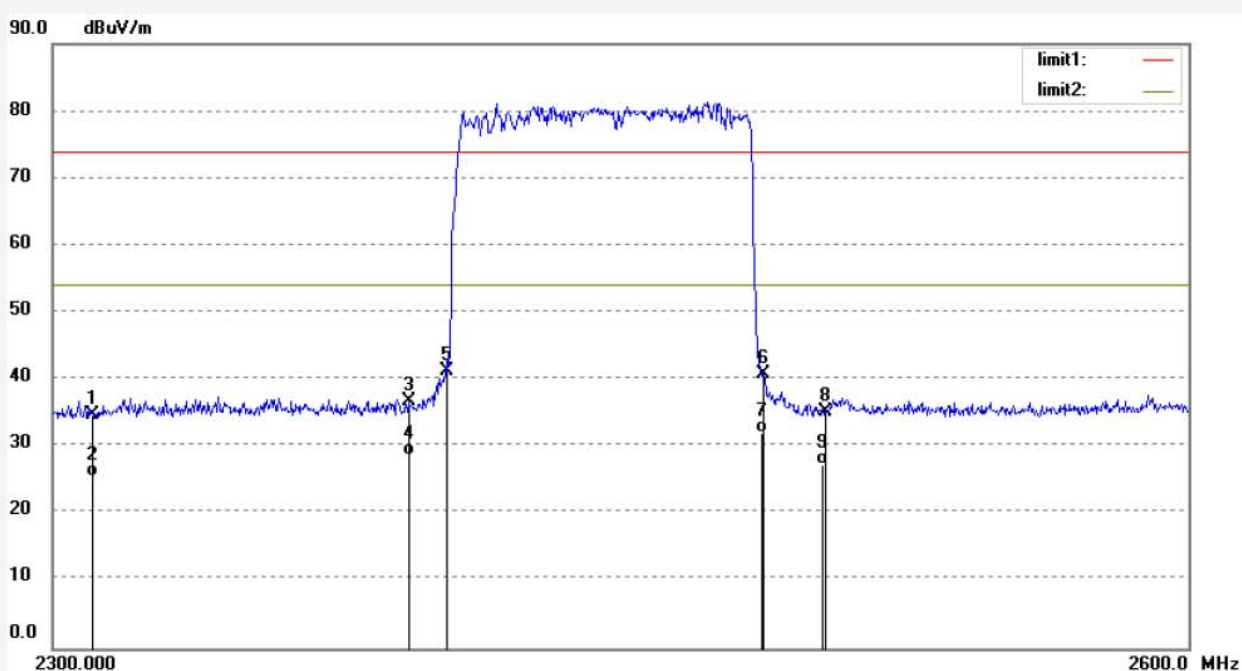
Date: 2016-5-26

Time: 10/17/14

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20160944



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	42.92	-8.21	34.71	74.00	-39.29	peak			
2	2310.000	33.65	-8.21	25.44	74.00	-48.56	peak			
3	2390.000	44.81	-8.00	36.81	74.00	-37.19	peak			
4	2390.000	36.71	-8.00	28.71	54.00	-25.29	peak			
5	2400.000	49.25	-7.97	41.28	74.00	-32.72	peak			
6	2483.500	48.64	-7.76	40.88	74.00	-33.12	peak			
7	2483.500	39.77	-7.76	32.01	54.00	-21.99	peak			
8	2500.000	42.92	-7.71	35.21	74.00	-38.79	peak			
9	2500.000	35.00	-7.71	27.29	54.00	-26.71	peak			

Note: Average measurement with peak detection at No.2&4&7&9

Job No.: STAR2016 #138

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: RUGGED WIRELESS SPEAKER

Mode: HOPPING (8DPSK)

Model: CB-335088B

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

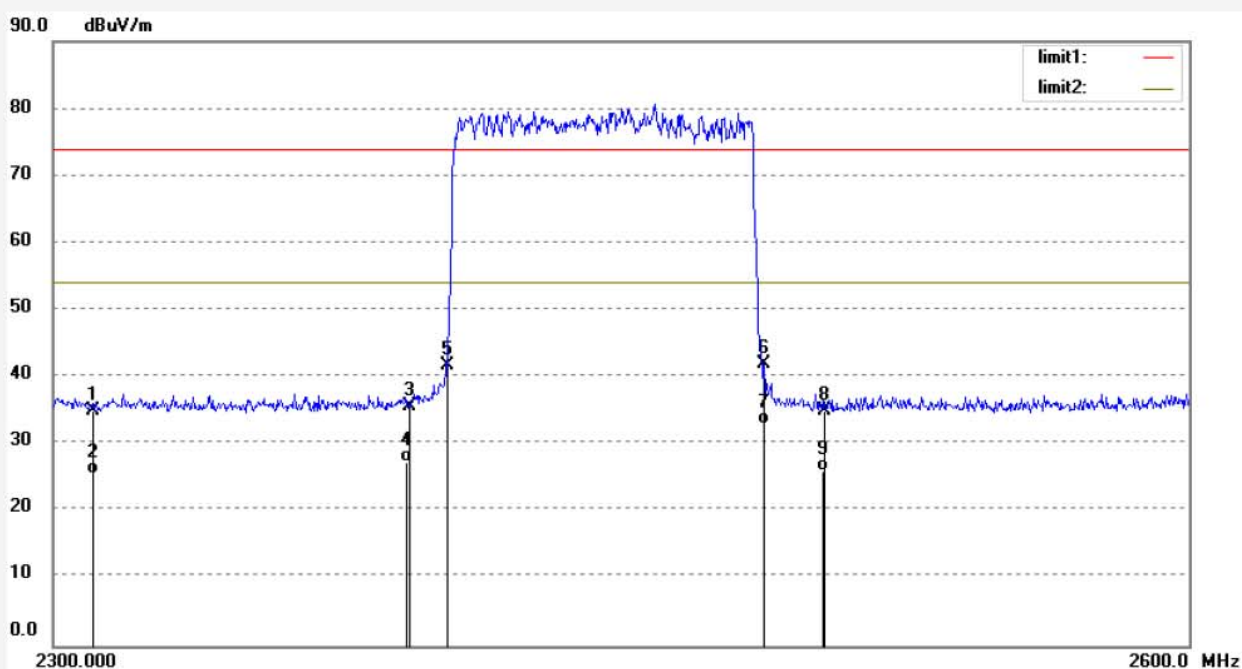
Date: 2016-5-26

Time: 10/12/22

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20160944



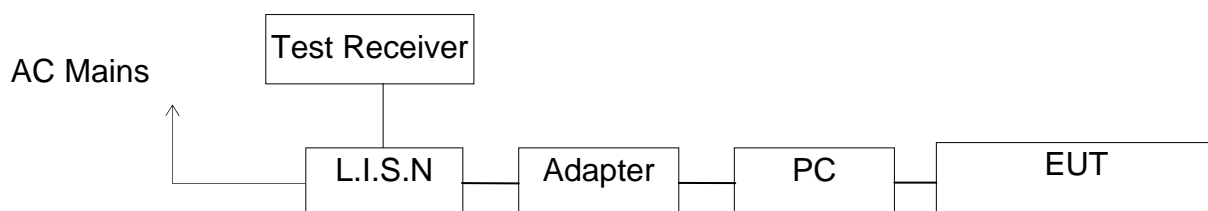
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	43.26	-8.21	35.05	74.00	-38.95	peak			
2	2310.000	33.69	-8.21	25.48	54.00	-28.52	peak			
3	2390.000	43.61	-8.00	35.61	74.00	-38.39	peak			
4	2390.000	35.39	-8.00	27.39	54.00	-26.61	peak			
5	2400.000	49.63	-7.97	41.66	74.00	-32.34	peak			
6	2483.500	49.72	-7.76	41.96	74.00	-32.04	peak			
7	2483.500	40.64	-7.76	32.88	54.00	-21.12	peak			
8	2500.000	42.65	-7.71	34.94	74.00	-39.06	peak			
9	2500.000	33.67	-7.71	25.96	54.00	-28.04	peak			

Note: Average measurement with peak detection at No.2&4&7&9

12.AC POWER LINE CONDUCTED EMISSION FOR FCC PART

15 SECTION 15.207(A)

12.1.Block Diagram of Test Setup



(EUT: RUGGED WIRELESS SPEAKER)

12.2.Power Line Conducted Emission Measurement Limits

Frequency (MHz)	Limit dB(μ V)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

NOTE1: The lower limit shall apply at the transition frequencies.
 NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

12.3.Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

12.4.Operating Condition of EUT

12.4.1.Setup the EUT and simulator as shown as Section 5.1.

12.4.2.Turn on the power of all equipment.

12.4.3.Let the EUT work in test mode and measure it.

12.5. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2014 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

12.6. Power Line Conducted Emission Measurement Results

PASS.

The frequency range from 150kHz to 30MHz is checked.

Note: The adapter of PC supports only 120 volts

Test mode : BT communicating(AC 120V/60Hz)

MEASUREMENT RESULT: "XQKK004_fin"

5/23/2016 8:57AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.380000	42.30	10.7	58	16.0	QP	L1	GND
0.435000	40.40	10.7	57	16.8	QP	L1	GND
3.940000	45.10	11.1	56	10.9	QP	L1	GND

MEASUREMENT RESULT: "XQKK004_fin2"

5/23/2016 8:57AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	36.50	10.7	48	11.9	AV	L1	GND
0.430000	34.60	10.7	47	12.7	AV	L1	GND
3.870000	35.30	11.1	46	10.7	AV	L1	GND

MEASUREMENT RESULT: "XQKK003_fin"

5/23/2016 8:53AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	45.90	10.7	58	12.5	QP	N	GND
0.425000	46.50	10.7	57	10.8	QP	N	GND
3.960000	44.30	11.1	56	11.7	QP	N	GND

MEASUREMENT RESULT: "XQKK003_fin2"

5/23/2016 8:53AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.380000	38.60	10.7	48	9.7	AV	N	GND
0.420000	37.90	10.7	47	9.5	AV	N	GND
3.890000	36.40	11.1	46	9.6	AV	N	GND

Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.

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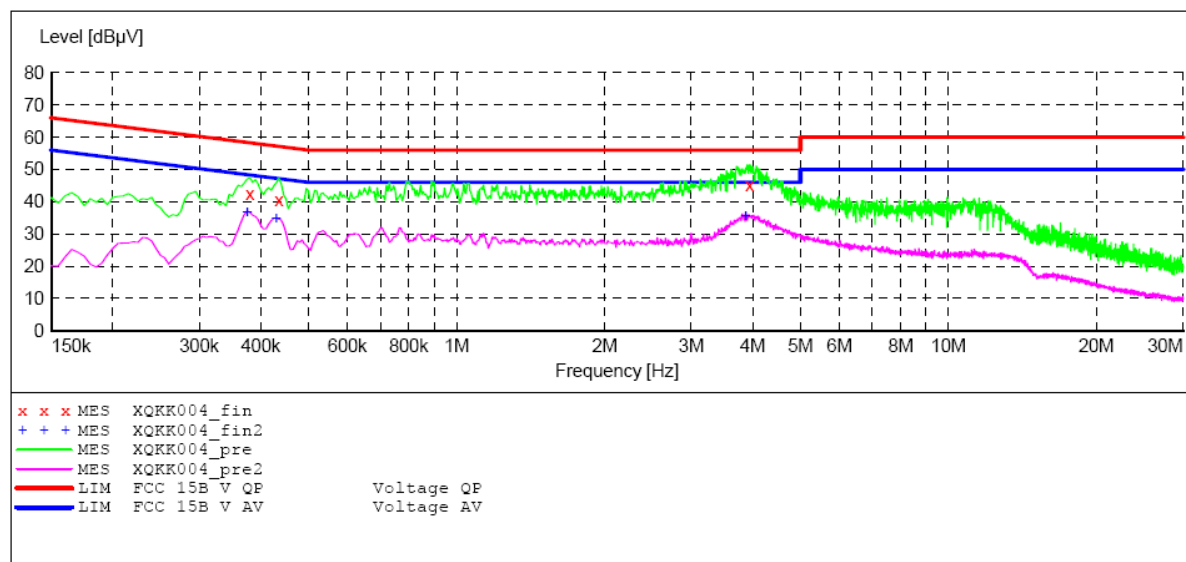
CONDUCTED EMISSION STANDARD FCC PART15B

EUT: RUGGED WIRELESS SPEAKER M/N:CB-335088B
 Manufacturer: CLEVER BRIGHT
 Operating Condition: BT OPERATION
 Test Site: 1#Shielding Room
 Operator: star
 Test Specification: L 120V/60Hz
 Comment: Report No.:ATE20160944
 Start of Test: 5/23/2016 / 8:54:31AM

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	Average			
			QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
			Average			



MEASUREMENT RESULT: "XQKK004_fin"

5/23/2016 8:57AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.380000	42.30	10.7	58	16.0	QP	L1	GND
0.435000	40.40	10.7	57	16.8	QP	L1	GND
3.940000	45.10	11.1	56	10.9	QP	L1	GND

MEASUREMENT RESULT: "XQKK004_fin2"

5/23/2016 8:57AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	36.50	10.7	48	11.9	AV	L1	GND
0.430000	34.60	10.7	47	12.7	AV	L1	GND
3.870000	35.30	11.1	46	10.7	AV	L1	GND

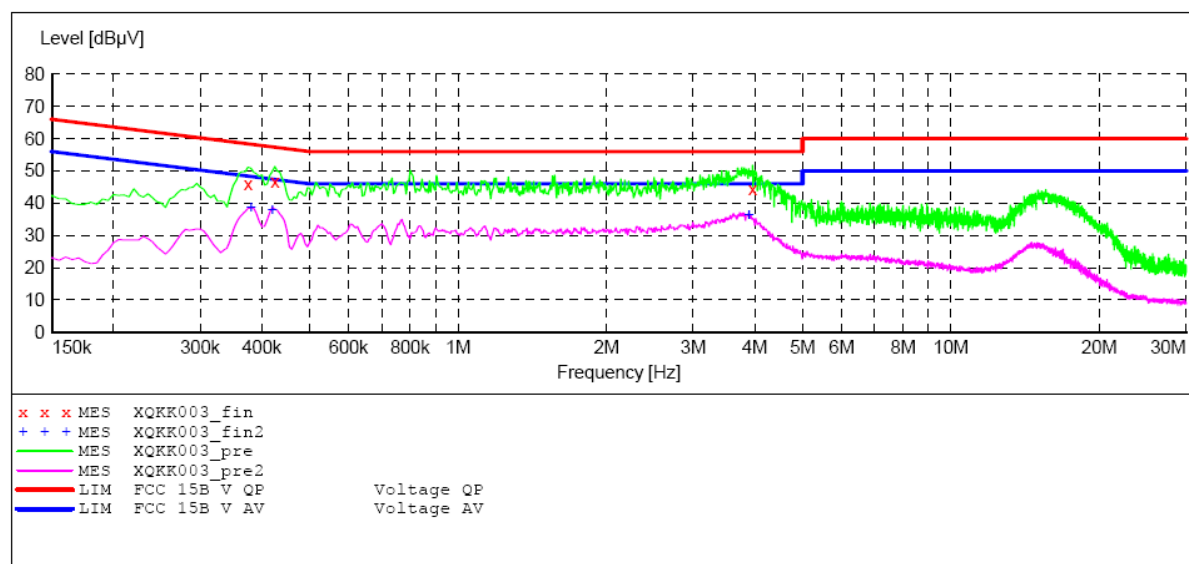
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART15B

EUT: RUGGED WIRELESS SPEAKER M/N:CB-335088
 Manufacturer: CLEVER BRIGHT
 Operating Condition: BT OPERATION
 Test Site: 1#Shielding Room
 Operator: star
 Test Specification: N 120V/60Hz
 Comment: Report No.:ATE20160944
 Start of Test: 5/23/2016 / 8:50:23AM

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008
 Average
 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "XQKK003_fin"

5/23/2016 8:53AM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.375000	45.90	10.7	58	12.5	QP	N	GND
0.425000	46.50	10.7	57	10.8	QP	N	GND
3.960000	44.30	11.1	56	11.7	QP	N	GND

MEASUREMENT RESULT: "XQKK003_fin2"

5/23/2016 8:53AM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.380000	38.60	10.7	48	9.7	AV	N	GND
0.420000	37.90	10.7	47	9.5	AV	N	GND
3.890000	36.40	11.1	46	9.6	AV	N	GND

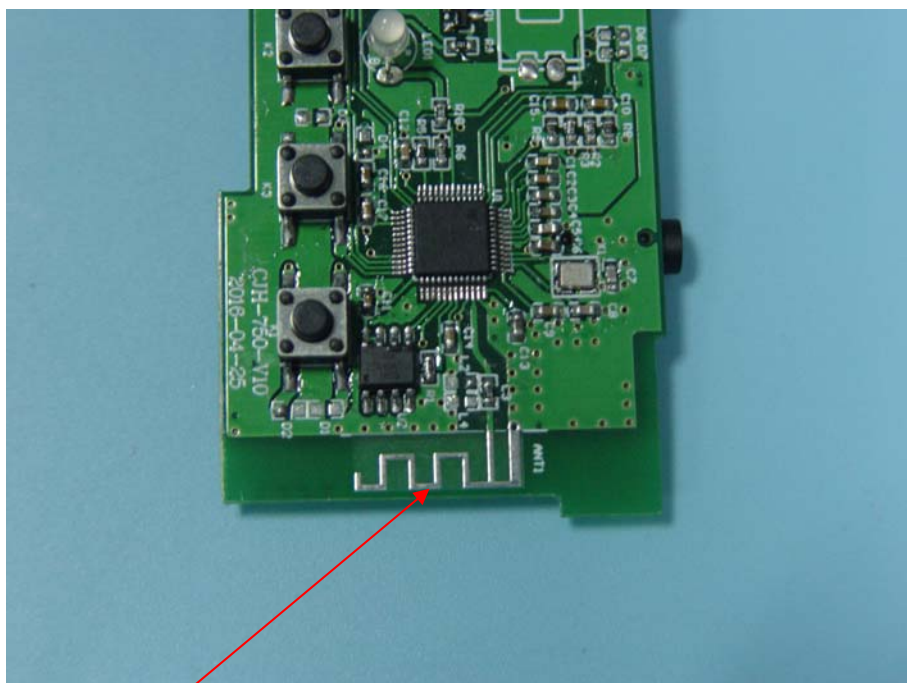
13.ANTENNA REQUIREMENT

13.1.The Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

13.2.Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna