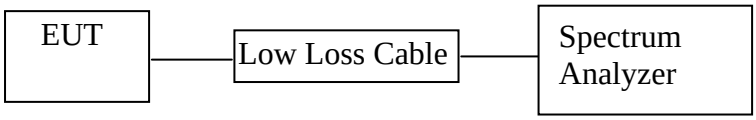
11.BAND EDGE COMPLIANCE TEST

11.1.Block Diagram of Test Setup



(EUT: Active Floorstanding Loudspeaker System)

11.2.The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

11.3.EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

11.4.Operating Condition of EUT

11.4.1.Setup the EUT and simulator as shown as Section 11.1.

11.4.2.Turn on the power of all equipment.

11.4.3.Let the EUT work in TX (Hopping off, Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

11.5.Test Procedure

11.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

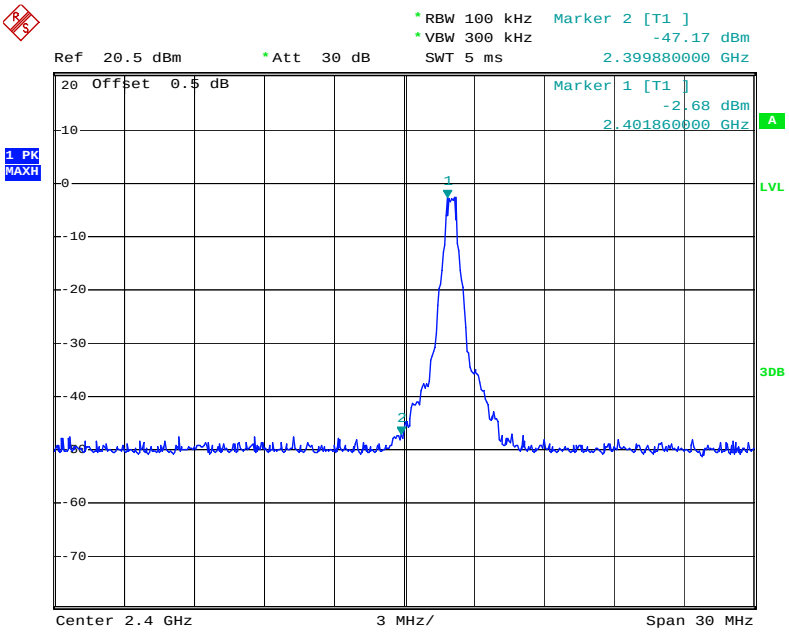
11.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz with convenient frequency span including 100 kHz bandwidth from band edge.

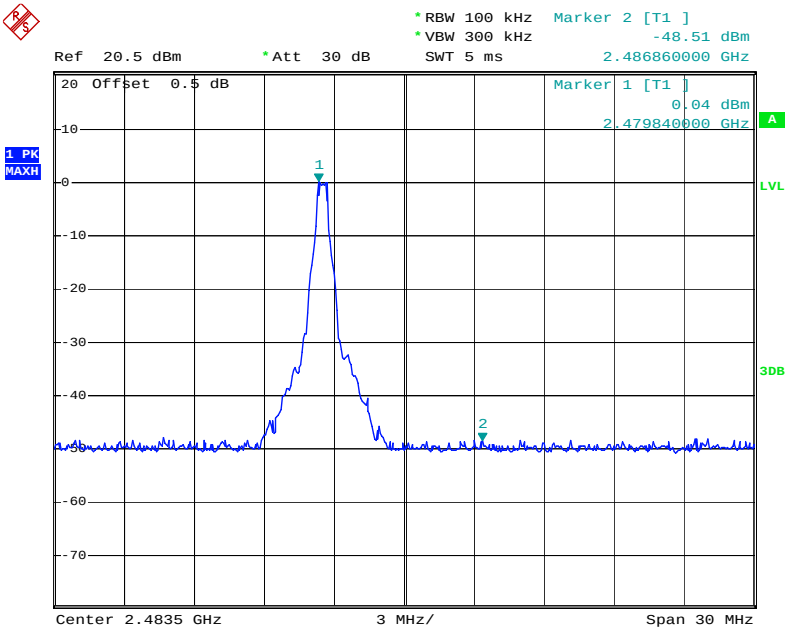
11.5.3.The band edges was measured and recorded.

11.6.Test Result

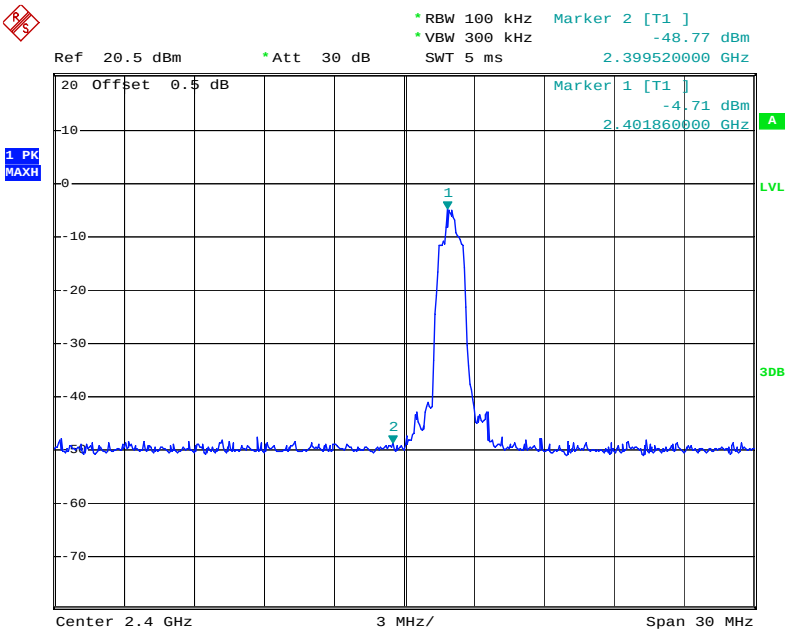
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
GFSK		
2399.880	44.49	> 20dBc
2486.860	48.55	> 20dBc
Π/4-DQPSK Mode		
2399.520	44.06	> 20dBc
2490.400	46.58	> 20dBc
8DPSK		
2398.920	43.27	> 20dBc
2485.300	46.71	> 20dBc

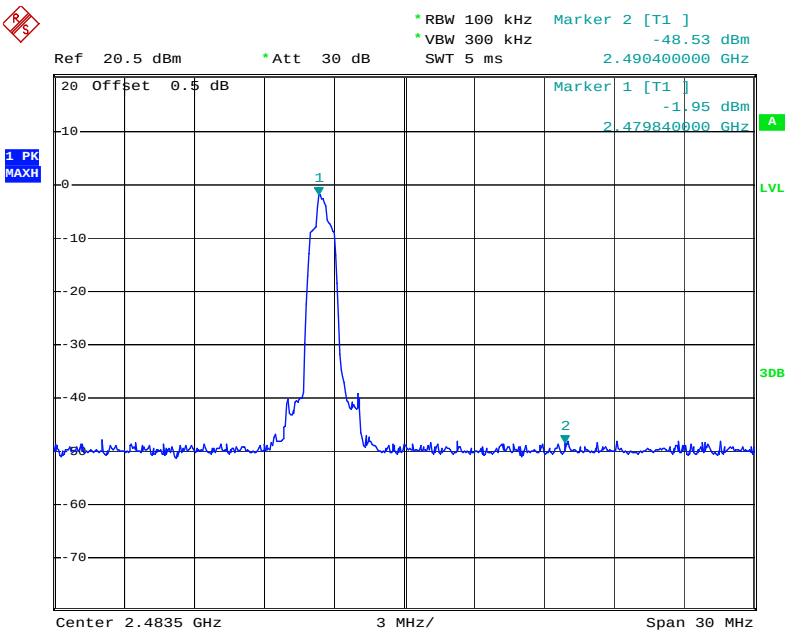
GFSK


RBW 100 kHz
VBW 300 kHz
SWT 5 ms
Marker 2 [T1]
-47.17 dBm
2.399880000 GHz
Ref 20.5 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-2.68 dBm
2.401860000 GHz
1 PK
MAXH
A
LVL
3DB
Center 2.4 GHz
3 MHz/
Span 30 MHz

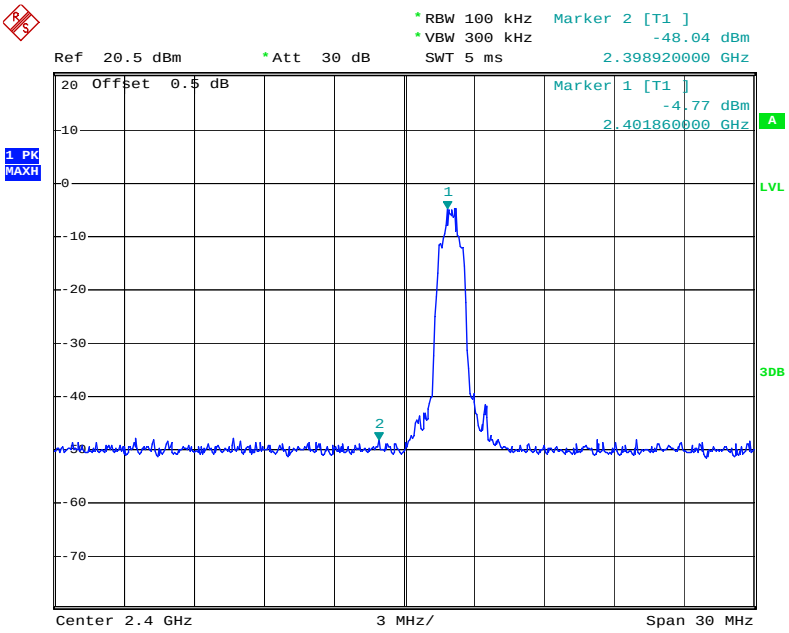

RBW 100 kHz
VBW 300 kHz
SWT 5 ms
Marker 2 [T1]
-48.51 dBm
2.486860000 GHz
Ref 20.5 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
0.04 dBm
2.479840000 GHz
1 PK
MAXH
A
LVL
3DB
Center 2.4835 GHz
3 MHz/
Span 30 MHz

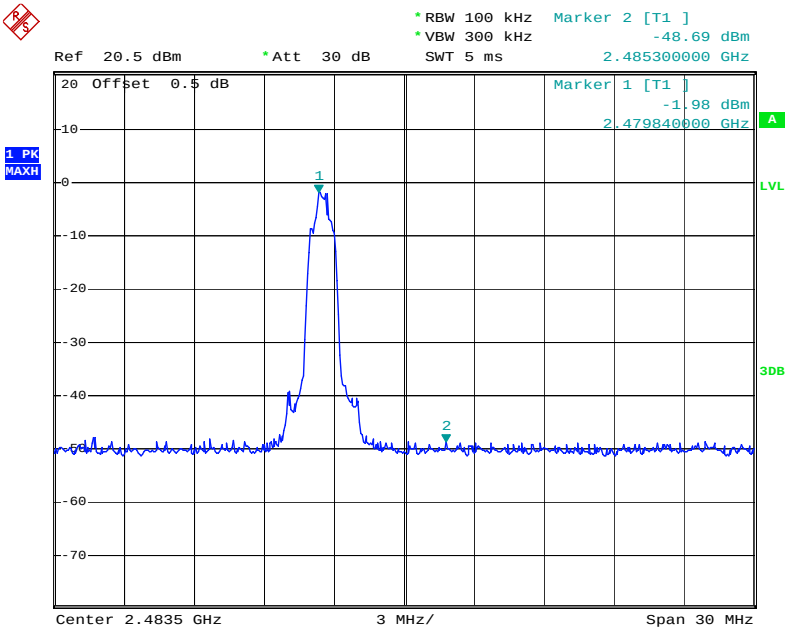
Π/4-DQPSK Mode





8DPSK


RBW 100 kHz
VBW 300 kHz
Ref 20.5 dBm
Att 30 dB
SWT 5 ms
Marker 2 [T1]
-48.04 dBm
2.398920000 GHz
Offset 0.5 dB
Marker 1 [T1]
-4.77 dBm
2.401860000 GHz
1 PK
MAXH
A
LVL
3DB
Center 2.4 GHz
3 MHz/
Span 30 MHz


RBW 100 kHz
VBW 300 kHz
Ref 20.5 dBm
Att 30 dB
SWT 5 ms
Marker 2 [T1]
-48.69 dBm
2.485300000 GHz
Offset 0.5 dB
Marker 1 [T1]
-1.98 dBm
2.479840000 GHz
1 PK
MAXH
A
LVL
3DB
Center 2.4835 GHz
3 MHz/
Span 30 MHz

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 0.1 meter high above ground. 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 bilog 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 interface cables must be manipulated according to ANSI C63.4: 2009 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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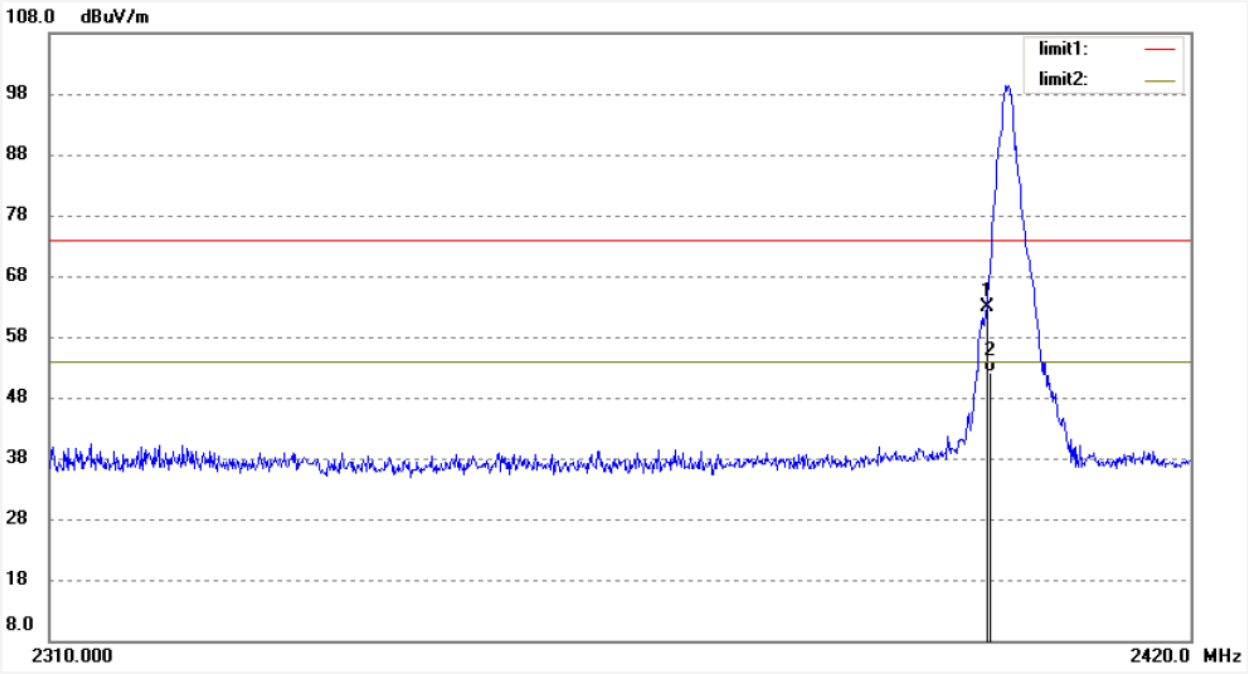
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Ricky #182
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Active Floorstanding Loudspeaker System
Mode: TX 2402MHz(GFSK)
Model: EXAT21-BK
Manufacturer: 3SIXTY

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/10/
Time: 12/48/42
Engineer Signature: Ricky
Distance: 3m

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	70.45	-7.46	62.99	74.00	-11.01	peak			
2	2400.000	59.69	-7.46	52.23	54.00	-1.77	Peak			

Note: Average measurement with peak detection at No.2

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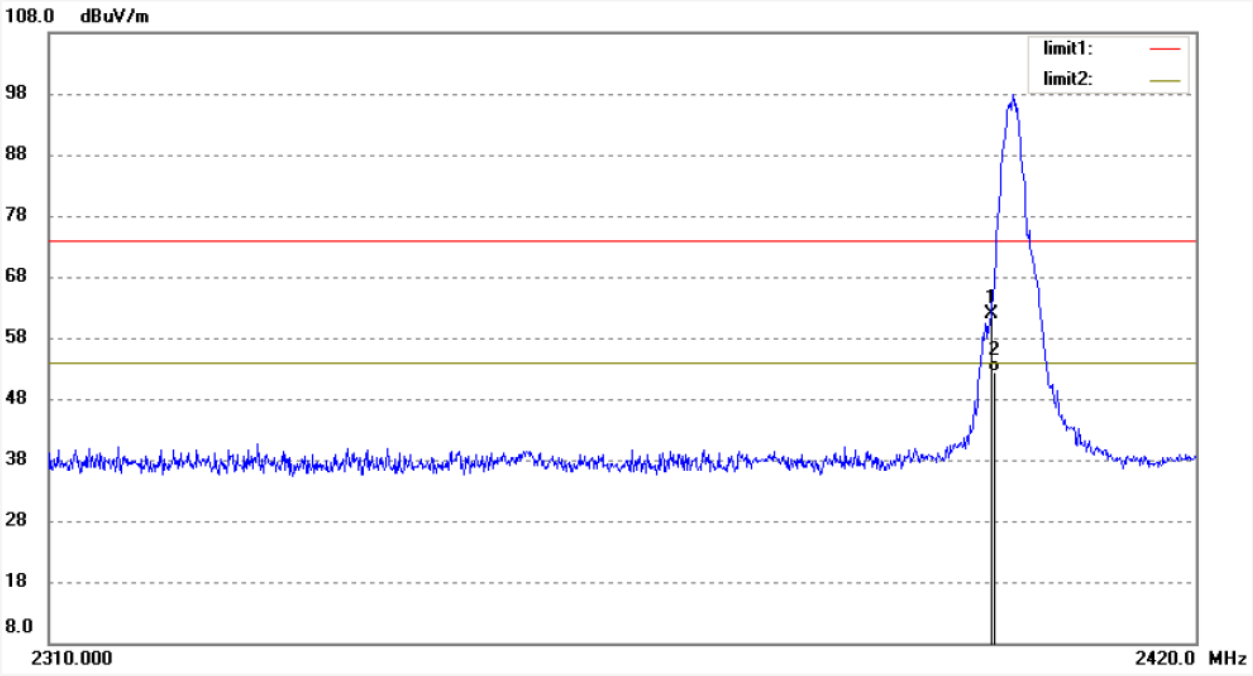
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Ricky #181	Polarization: Vertical
Standard: FCC 15C PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12/46/01
EUT: Active Floorstanding Loudspeaker System	Engineer Signature: Ricky
Mode: TX 2402MHz(GFSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	69.22	-7.46	61.76	74.00	-12.24	peak			
2	2400.000	59.91	-7.46	52.45	54.00	-1.55	Peak			

Note: Average measurement with peak detection at No.2

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Site: 2# Chamber
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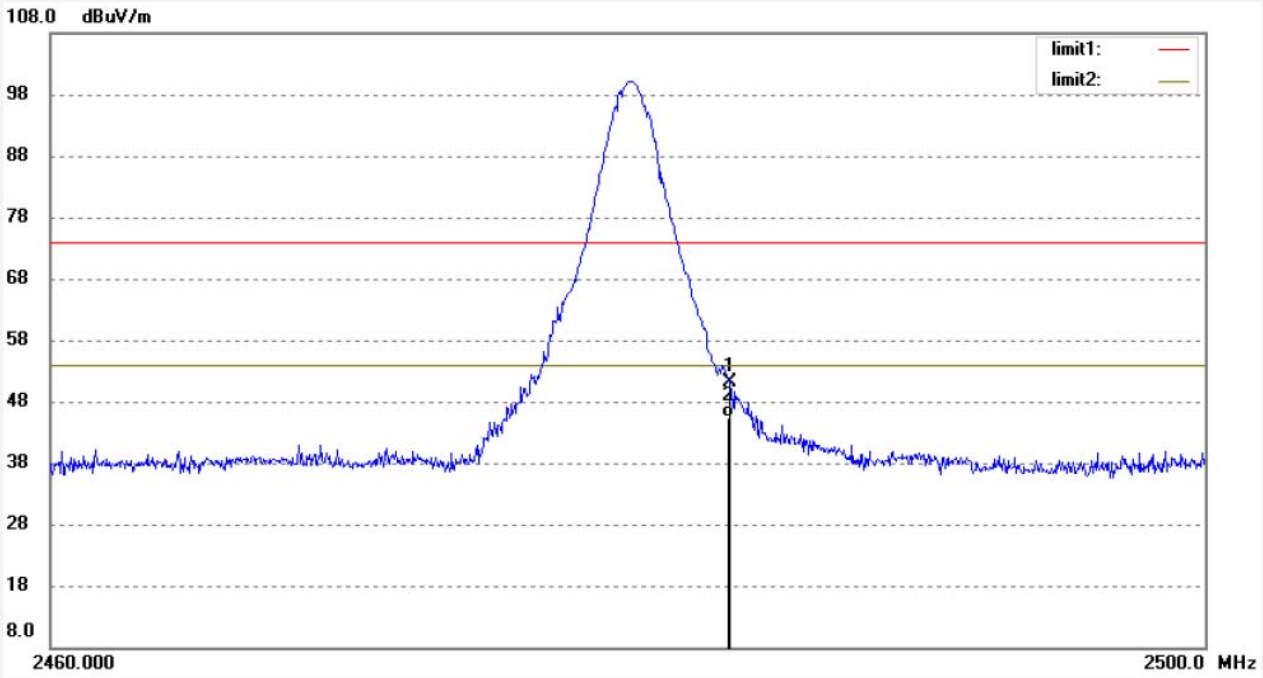
Fax:+86-0755-26503396

Job No.: Ricky #183
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Active Floorstanding Loudspeaker System
Mode: TX 2480MHz(GFSK)
Model: EXAT21-BK
Manufacturer: 3SIXTY

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/10/
Time: 12/50/11
Engineer Signature: Ricky
Distance: 3m

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.529	58.57	-7.37	51.20	74.00	-22.80	peak			
2	2483.529	52.63	-7.37	45.26	54.00	-8.74	Peak			

Note: Average measurement with peak detection at No.2

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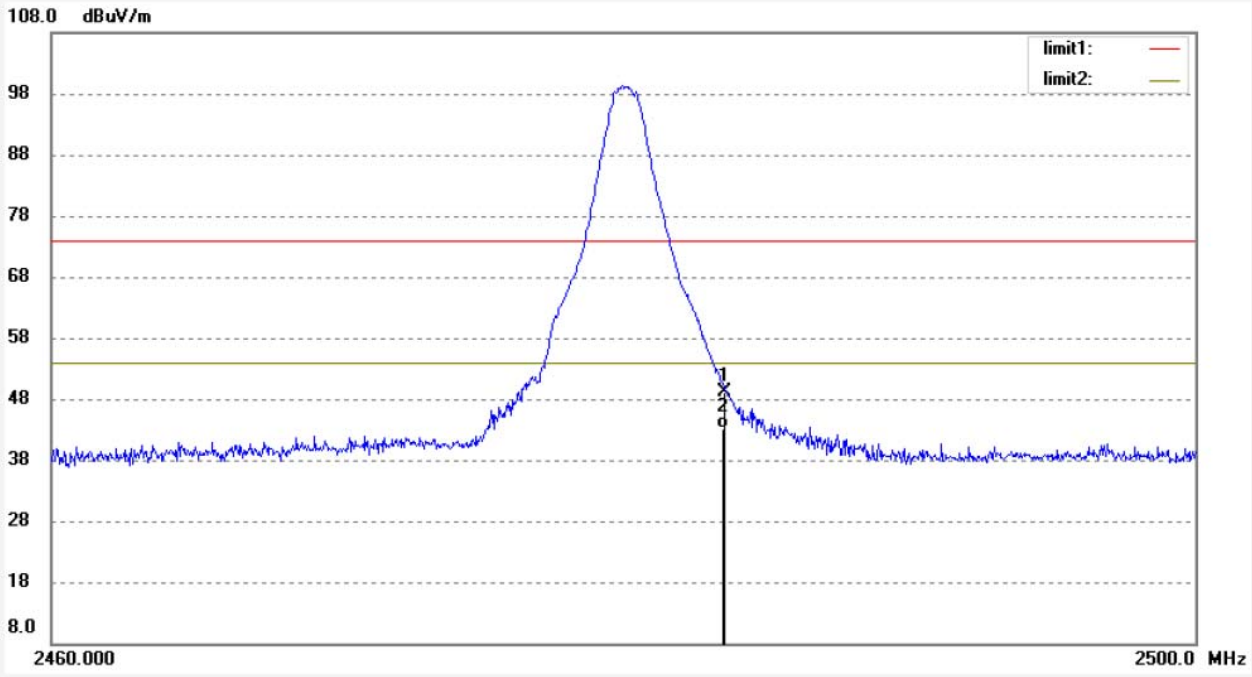
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Ricky #184	Polarization: Vertical
Standard: FCC 15C PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12/54/15
EUT: Active Floorstanding Loudspeaker System	Engineer Signature: Ricky
Mode: TX 2480MHz(GFSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.529	56.48	-7.37	49.11	74.00	-24.89	peak			
2	2483.529	50.52	-7.37	43.15	54.00	-10.85	Peak			

Note: Average measurement with peak detection at No.2

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Site: 2# Chamber
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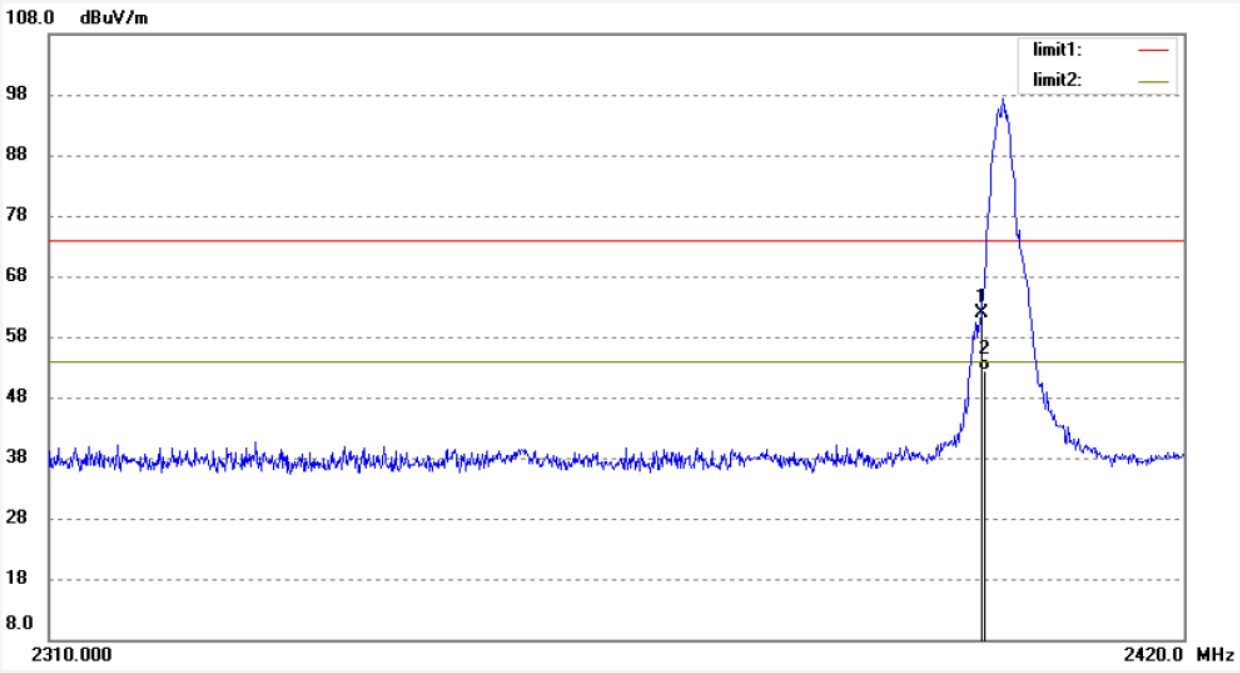
Fax:+86-0755-26503396

Job No.: Ricky #185	Polarization: Vertical
Standard: FCC 15C PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12/56/01
EUT: Active Floorstanding Loudspeaker System	Engineer Signature: Ricky
Mode: TX 2402MHz(PI/4DQPSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	69.31	-7.46	61.85	74.00	-12.15	peak			
2	2400.000	59.88	-7.46	52.42	54.00	-1.58	Peak			

Note: Average measurement with peak detection at No.2

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Site: 2# Chamber
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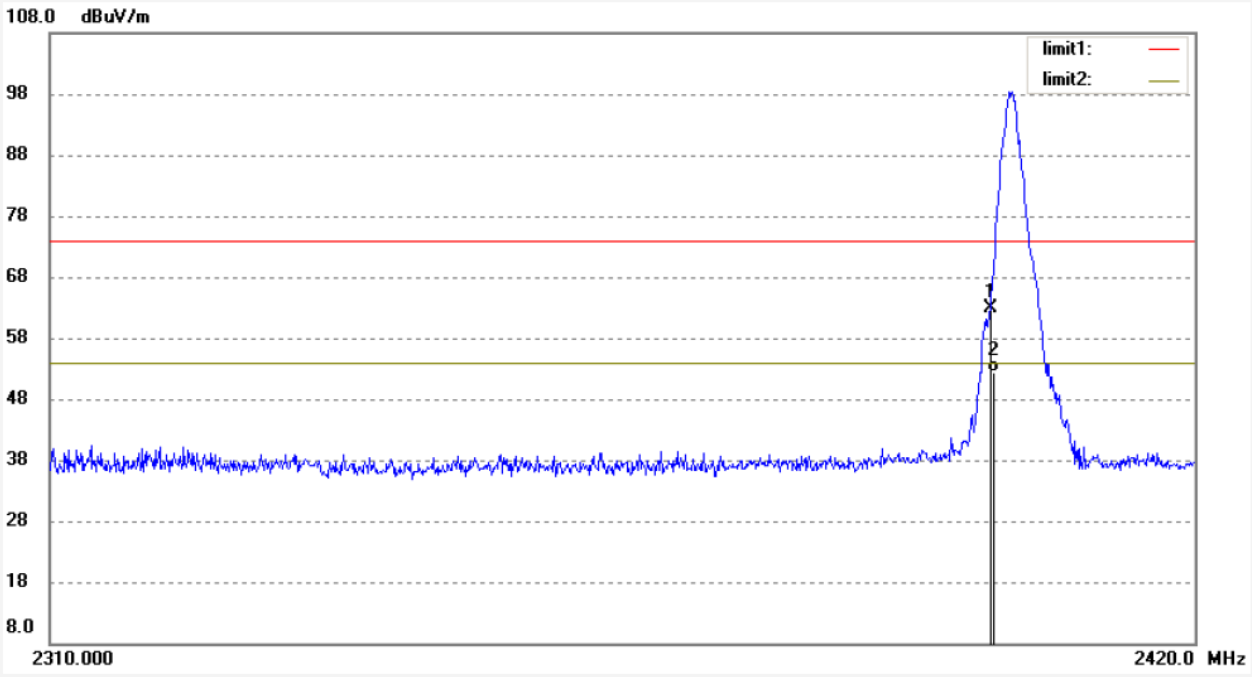
Fax:+86-0755-26503396

Job No.: Ricky #186
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Active Floorstanding Loudspeaker System
Mode: TX 2402MHz(PI/4DQPSK)
Model: EXAT21-BK
Manufacturer: 3SIXTY

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/10/
Time: 12/57/18
Engineer Signature: Ricky
Distance: 3m

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	70.46	-7.46	63.00	74.00	-11.00	peak			
2	2400.000	59.77	-7.46	52.31	54.00	-1.69	Peak			

Note: Average measurement with peak detection at No.2

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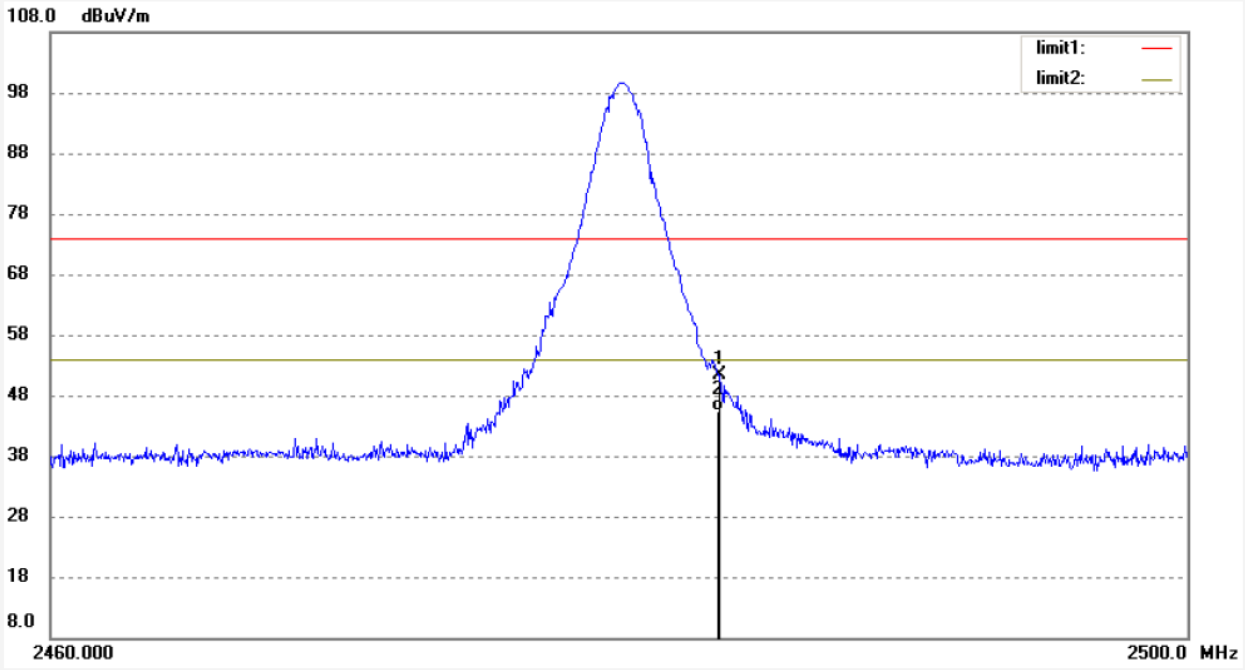
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Ricky #187	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12/59/22
EUT: Active Floorstanding Loudspeaker System	Engineer Signature: Ricky
Mode: TX 2480MHz(PI/4DQPSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.529	58.66	-7.37	51.29	74.00	-22.71	peak			
2	2483.529	52.79	-7.37	45.42	54.00	-8.58	Peak			

Note: Average measurement with peak detection at No.2

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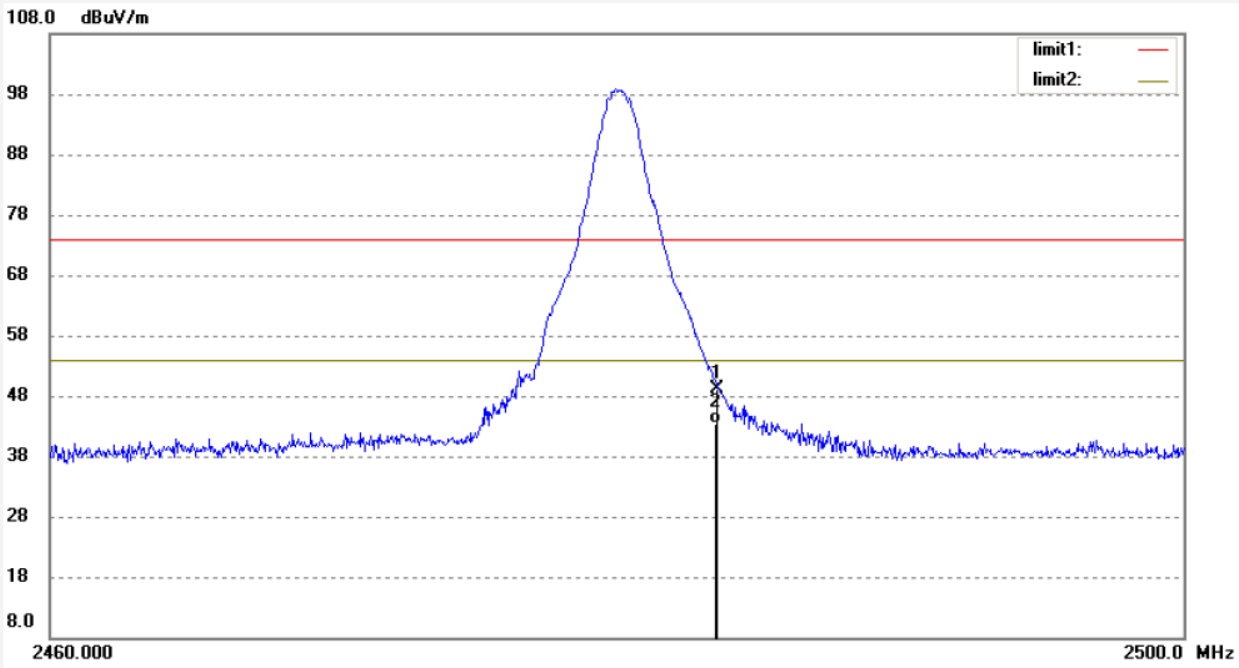
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Ricky #188	Polarization: Vertical
Standard: FCC 15C PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 13/01/20
EUT: Active Floorstanding Loudspeaker System	Engineer Signature: Ricky
Mode: TX 2480MHz(PI/4DQPSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.529	56.56	-7.37	49.19	74.00	-24.81	peak			
2	2483.529	50.67	-7.37	43.30	54.00	-10.70	Peak			

Note: Average measurement with peak detection at No.2

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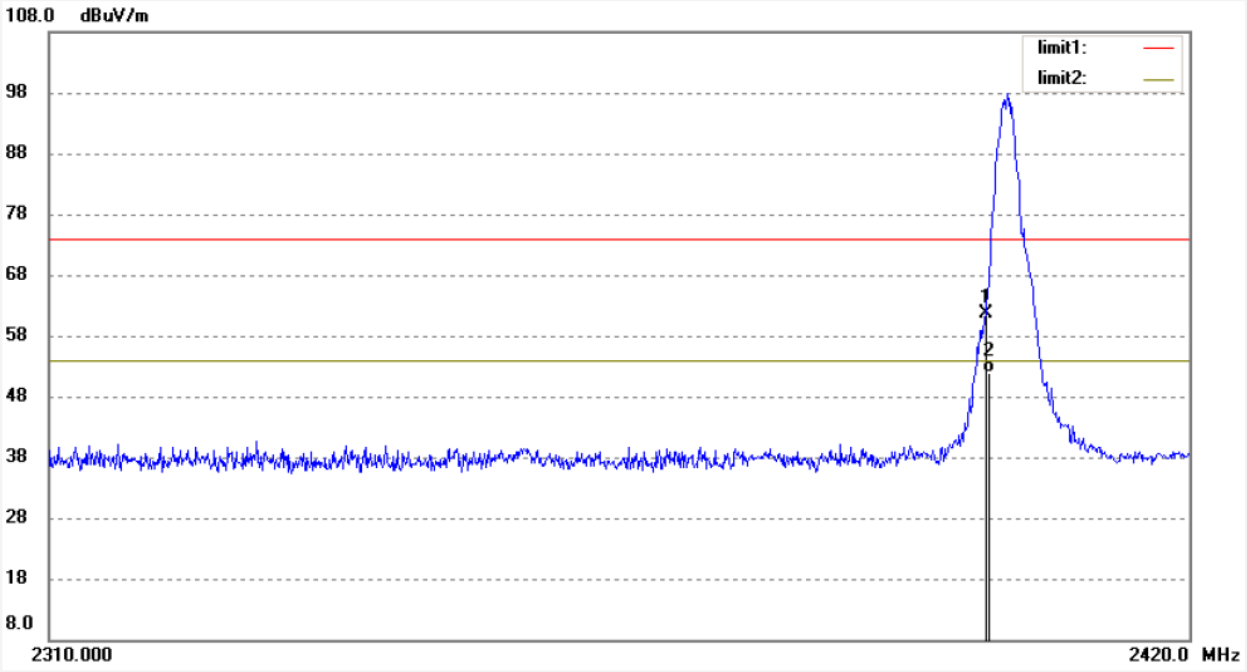
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Ricky #189	Polarization: Vertical
Standard: FCC 15C PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 13/03/35
EUT: Active Floorstanding Loudspeaker System	Engineer Signature: Ricky
Mode: TX 2402MHz(8QPSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	69.03	-7.46	61.57	74.00	-12.43	peak			
2	2400.000	59.35	-7.46	51.89	54.00	-2.11	Peak			

Note: Average measurement with peak detection at No.2

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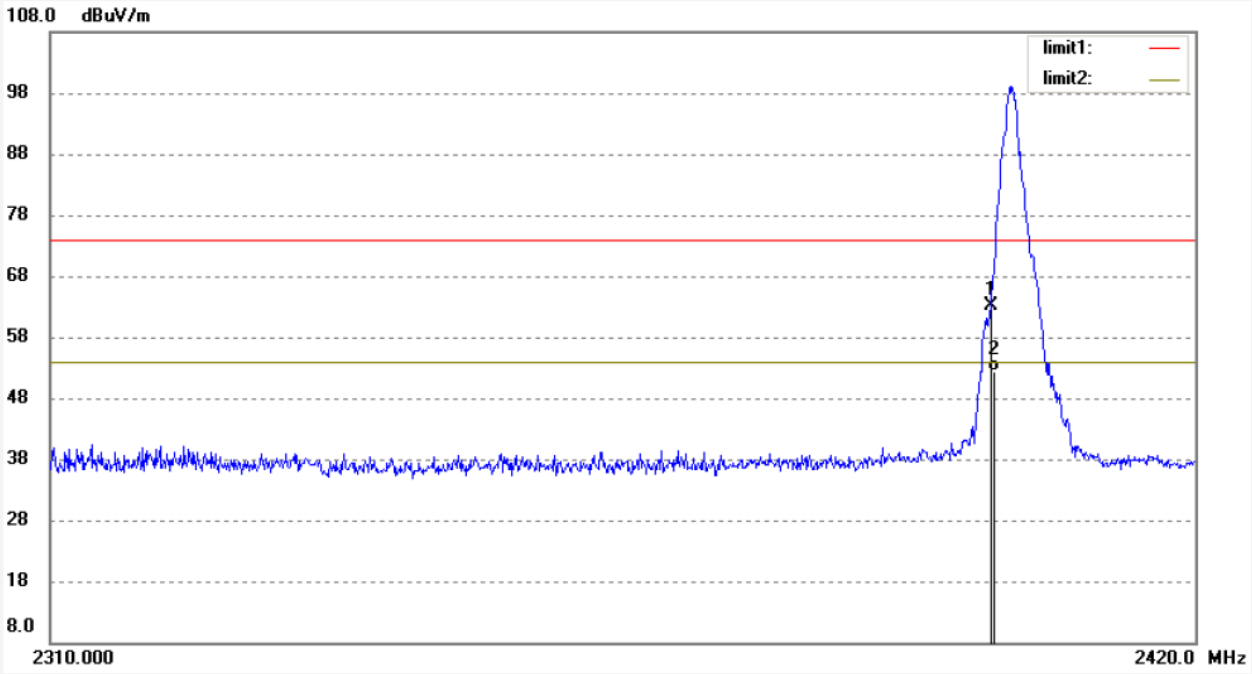
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Ricky #190	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 13/04/57
EUT: Active Floorstanding Loudspeaker System	Engineer Signature: Ricky
Mode: TX 2402MHz(8QPSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	70.56	-7.46	63.10	74.00	-10.90	peak			
2	2400.000	59.72	-7.46	52.26	54.00	-1.74	Peak			

Note: Average measurement with peak detection at No.2

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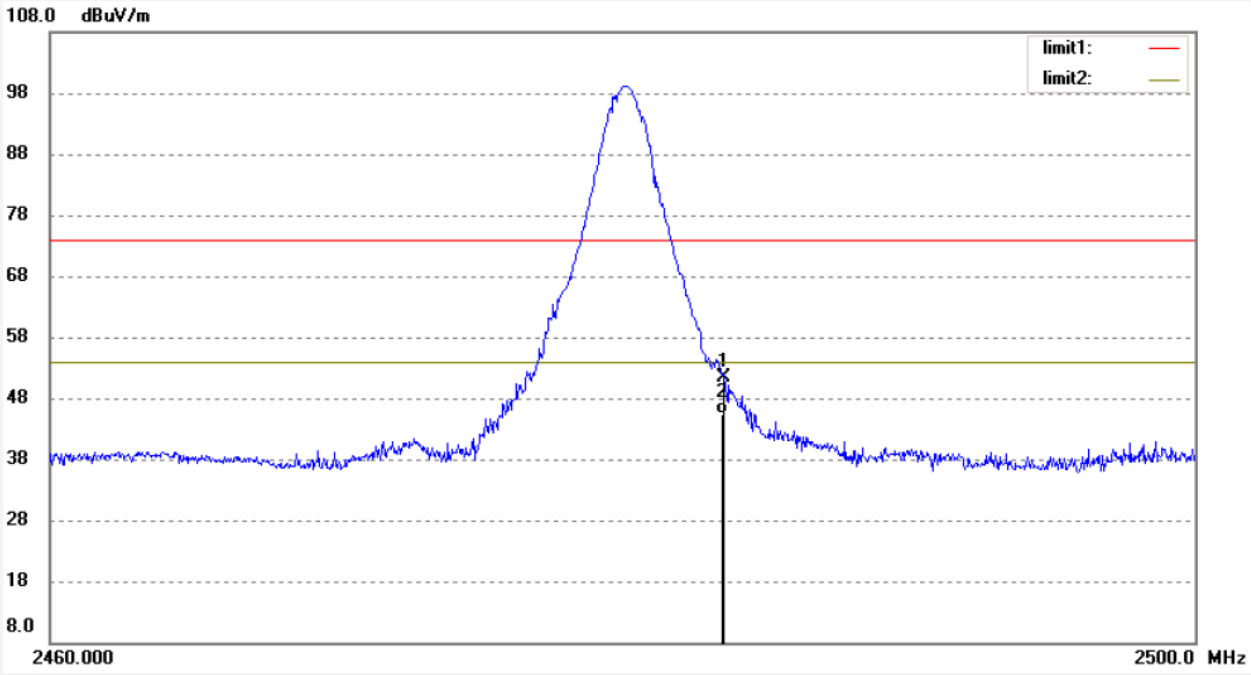
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Ricky #191	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 13/06/19
EUT: Active Floorstanding Loudspeaker System	Engineer Signature: Ricky
Mode: TX 2480MHz(8QPSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.529	58.67	-7.37	51.30	74.00	-22.70	peak			
2	2483.529	52.81	-7.37	45.44	54.00	-8.56	Peak			

Note: Average measurement with peak detection at No.2

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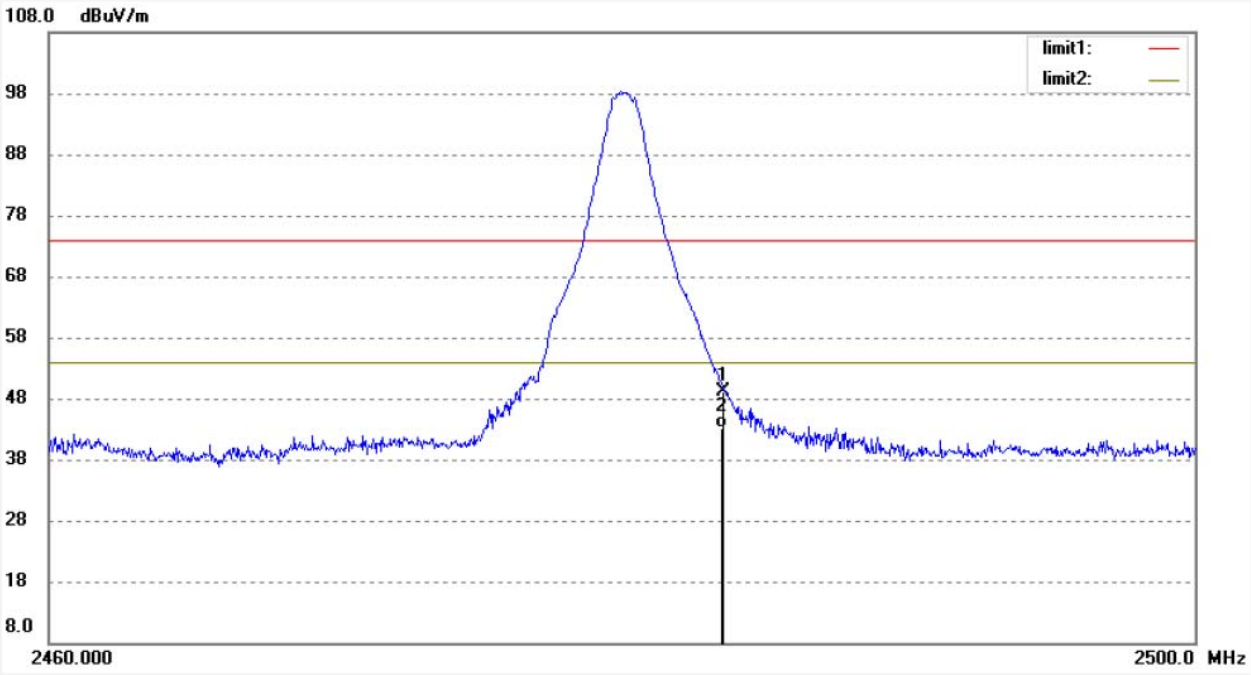
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Ricky #192	Polarization: Vertical
Standard: FCC 15C PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 13/09/55
EUT: Active Floorstanding Loudspeaker System	Engineer Signature: Ricky
Mode: TX 2480MHz(8QPSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.529	56.44	-7.37	49.07	74.00	-24.93	peak			
2	2483.529	50.62	-7.37	43.25	54.00	-10.75	Peak			

Note: Average measurement with peak detection at No.2

Hopping mode

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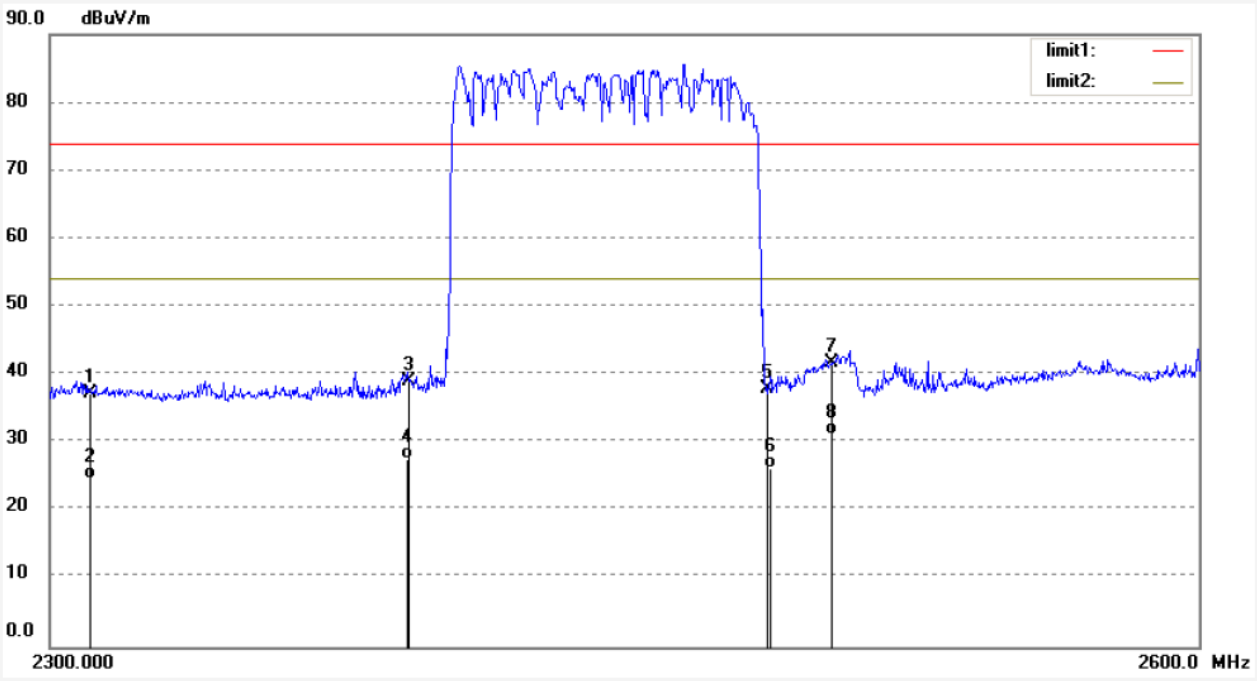
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #3027
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Active Floorstanding Loudspeaker System
Mode: HOPPING (GFSK)
Model: EXAT21-BK
Manufacturer: 3SIXTY

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/10/
Time: 11/22/51
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20141958



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	44.18	-6.99	37.19	74.00	-36.81	peak			
2	2310.000	31.58	-6.99	24.59	54.00	-29.41	Peak			
3	2390.000	45.89	-6.78	39.11	74.00	-34.89	peak			
4	2390.000	34.25	-6.78	27.47	54.00	-26.53	Peak			
5	2483.500	44.36	-6.54	37.82	74.00	-36.18	peak			
6	2483.500	32.69	-6.54	26.15	54.00	-27.85	Peak			
7	2500.000	48.29	-6.50	41.79	74.00	-32.21	peak			
8	2500.000	37.66	-6.50	31.16	54.00	-22.84	Peak			

Note: Average measurement with peak detection at No.2, 4, 6, 8

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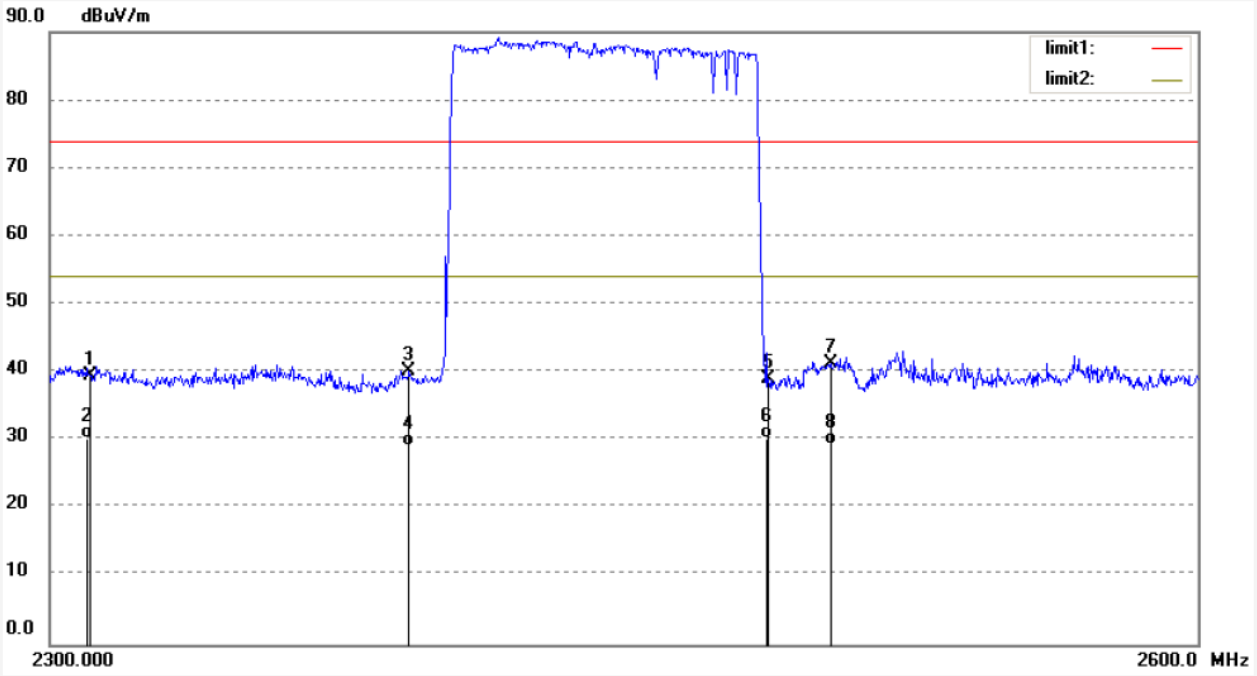
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #3028
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Active Floorstanding Loudspeaker System
Mode: HOPPING (GFSK)
Model: EXAT21-BK
Manufacturer: 3SIXTY

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 14/10/10/
Time: 11/25/42
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20141958



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	46.43	-6.99	39.44	74.00	-34.56	peak			
2	2310.000	37.25	-6.99	30.26	54.00	-23.74	Peak			
3	2390.000	46.86	-6.78	40.08	74.00	-33.92	peak			
4	2390.000	35.86	-6.78	29.08	54.00	-24.92	Peak			
5	2483.500	45.50	-6.54	38.96	74.00	-35.04	peak			
6	2483.500	36.87	-6.54	30.33	54.00	-23.67	Peak			
7	2500.000	47.78	-6.50	41.28	74.00	-32.72	peak			
8	2500.000	35.88	-6.50	29.38	54.00	-24.62	Peak			

Note: Average measurement with peak detection at No.2, 4, 6, 8

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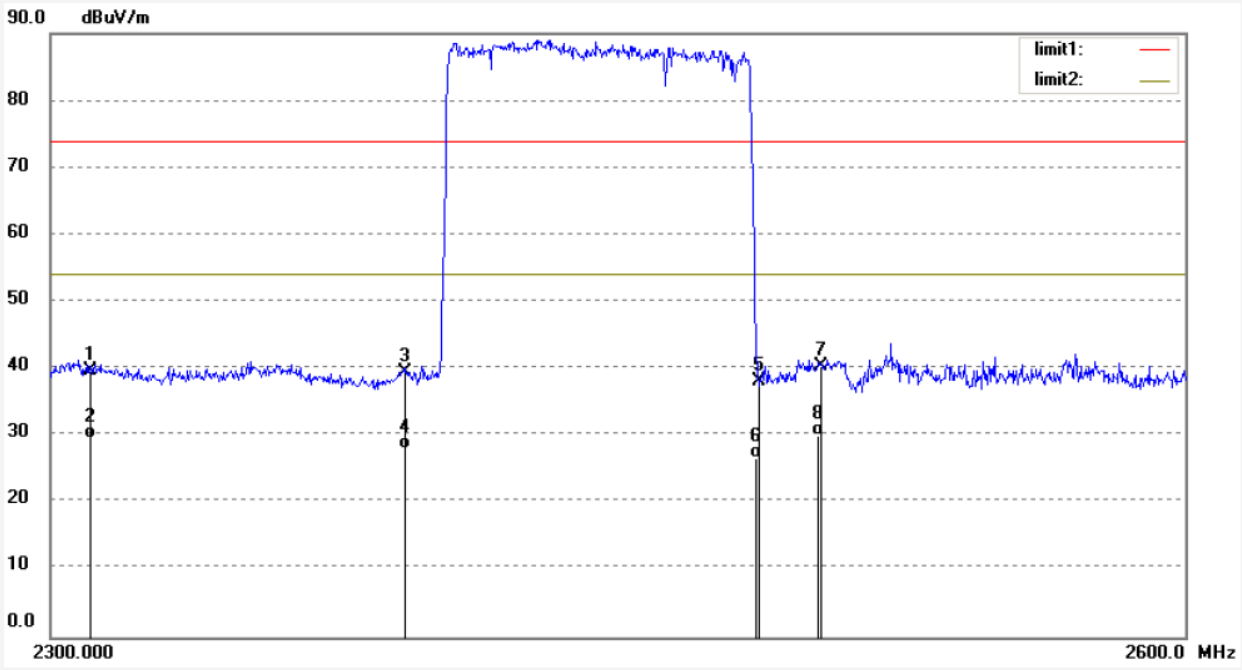
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #3029	Polarization: Vertical
Standard: FCC PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 11/28/17
EUT: Active Floorstanding Loudspeaker System	Engineer Signature:
Mode: HOPPING (PI/4DQPSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



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	46.75	-6.99	39.76	74.00	-34.24	peak			
2	2310.000	36.55	-6.99	29.56	54.00	-24.44	Peak			
3	2390.000	46.28	-6.78	39.50	74.00	-34.50	peak			
4	2390.000	34.89	-6.78	28.11	54.00	-25.89	Peak			
5	2483.500	44.59	-6.54	38.05	74.00	-35.95	peak			
6	2483.500	33.24	-6.54	26.70	54.00	-27.30	Peak			
7	2500.000	46.93	-6.50	40.43	74.00	-33.57	peak			
8	2500.000	36.43	-6.50	29.93	54.00	-24.07	Peak			

Note: Average measurement with peak detection at No.2, 4, 6, 8

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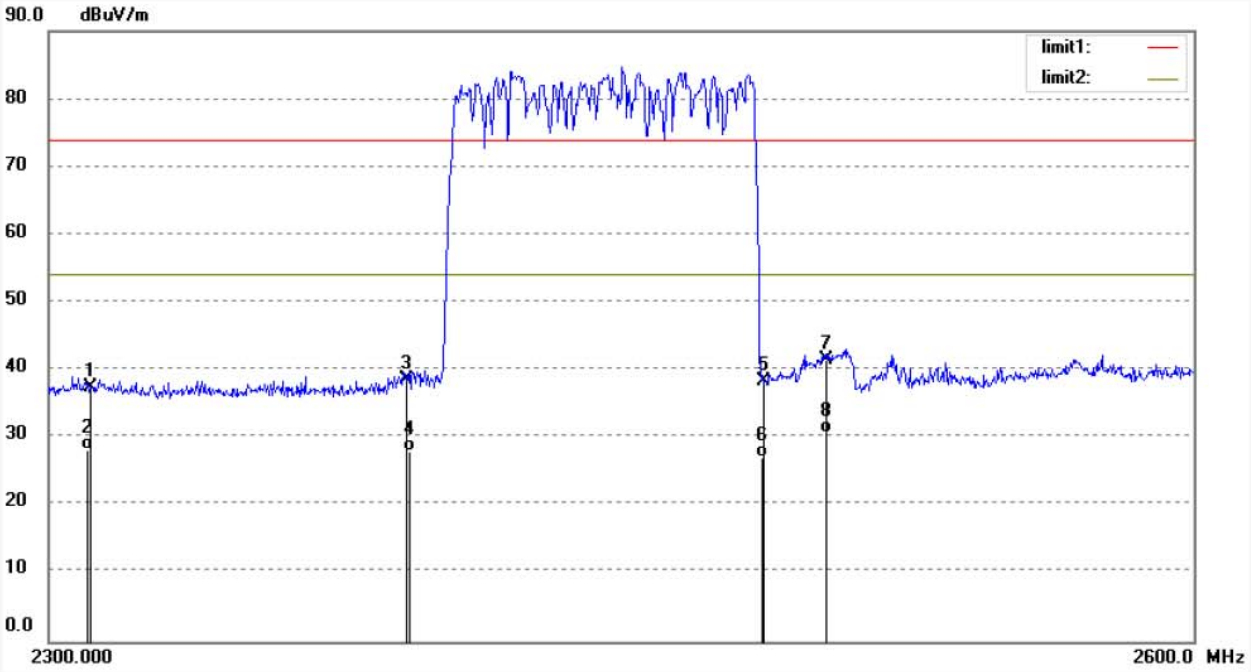
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #3030
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Active Floorstanding Loudspeaker System
Mode: HOPPING (PI/4DQPSK)
Model: EXAT21-BK
Manufacturer: 3SIXTY

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/10/
Time: 11/31/16
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20141958



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	44.36	-6.99	37.37	74.00	-36.63	peak			
2	2310.000	35.24	-6.99	28.25	54.00	-25.75	Peak			
3	2390.000	45.45	-6.78	38.67	74.00	-35.33	peak			
4	2390.000	34.80	-6.78	28.02	54.00	-25.98	Peak			
5	2483.500	44.82	-6.54	38.28	74.00	-35.72	peak			
6	2483.500	33.58	-6.54	27.04	54.00	-26.96	Peak			
7	2500.000	48.09	-6.50	41.59	74.00	-32.41	peak			
8	2500.000	37.32	-6.50	30.82	54.00	-23.18	Peak			

Note: Average measurement with peak detection at No.2, 4, 6, 8

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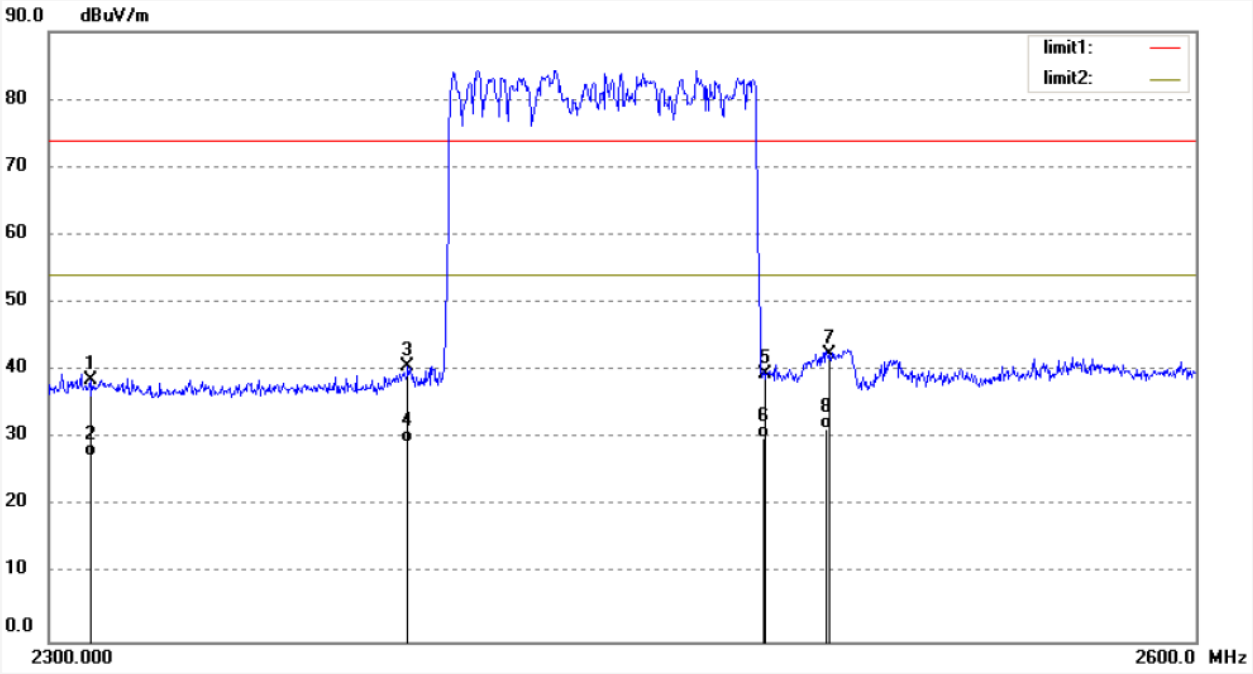
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #3031	Polarization: Horizontal
Standard: FCC PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 14/10/10/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 11/36/34
EUT: Active Floorstanding Loudspeaker System	Engineer Signature:
Mode: HOPPING (8QPSK)	Distance: 3m
Model: EXAT21-BK	
Manufacturer: 3SIXTY	

Note: Report No.:ATE20141958



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	45.68	-6.99	38.69	74.00	-35.31	peak			
2	2310.000	34.29	-6.99	27.30	54.00	-26.70	Peak			
3	2390.000	47.42	-6.78	40.64	74.00	-33.36	peak			
4	2390.000	36.10	-6.78	29.32	54.00	-24.68	Peak			
5	2483.500	45.92	-6.54	39.38	74.00	-34.62	peak			
6	2483.500	36.61	-6.54	30.07	54.00	-23.93	Peak			
7	2500.000	48.96	-6.50	42.46	74.00	-31.54	peak			
8	2500.000	37.88	-6.50	31.38	54.00	-22.62	Peak			

Note: Average measurement with peak detection at No.2, 4, 6, 8

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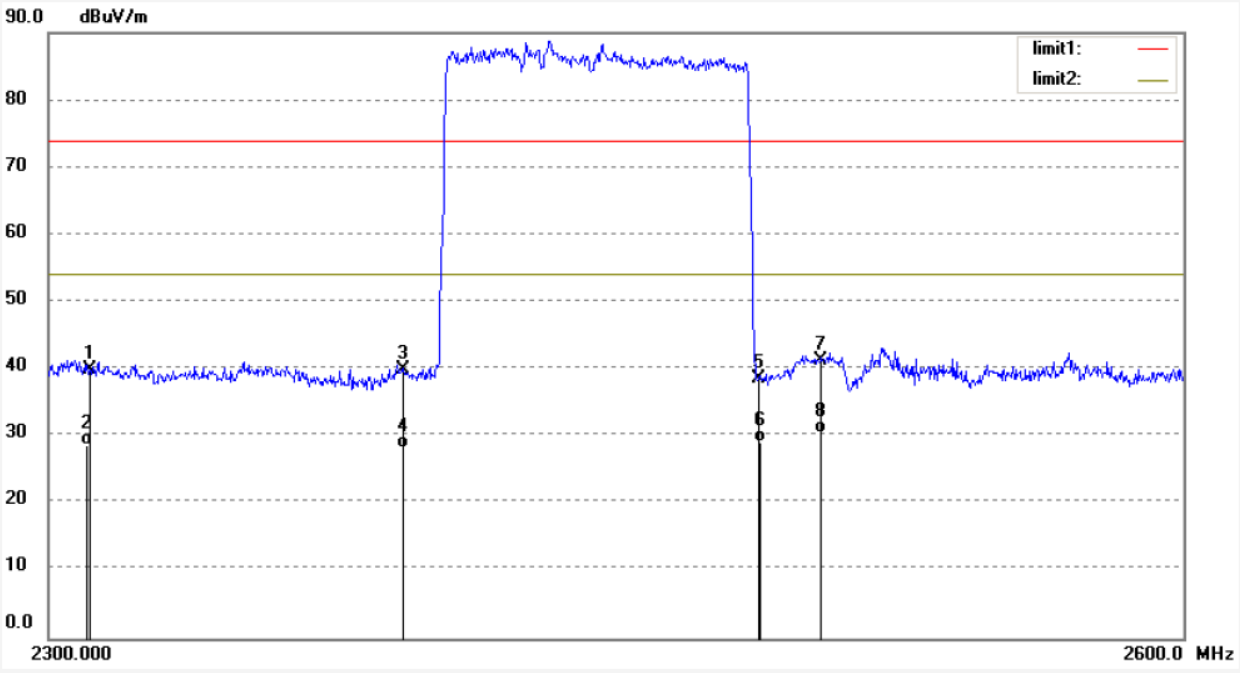
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #3032
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Active Floorstanding Loudspeaker System
Mode: HOPPING (8QPSK)
Model: EXAT21-BK
Manufacturer: 3SIXTY

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 14/10/10/
Time: 11/39/37
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20141958



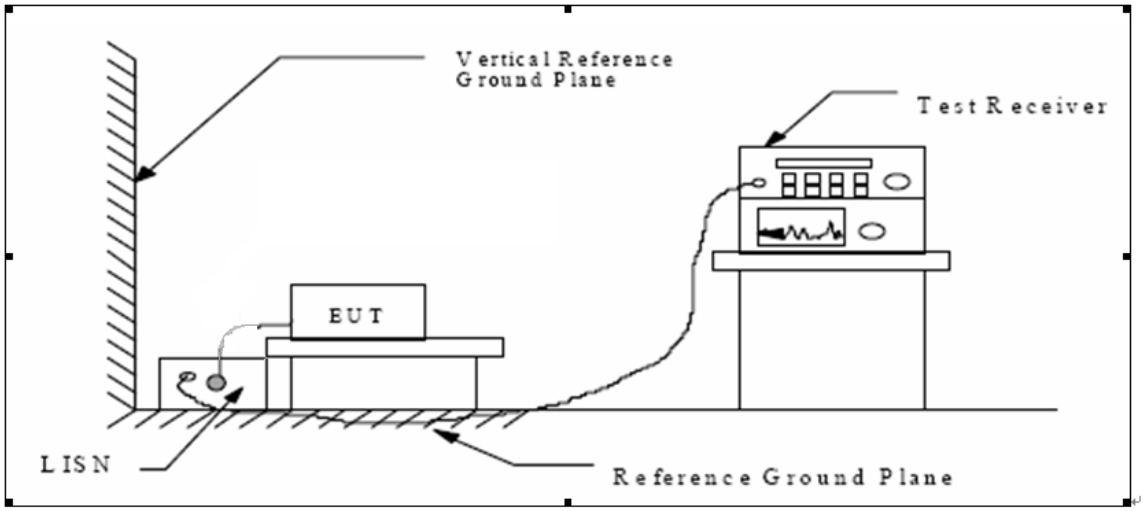
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	46.88	-6.99	39.89	74.00	-34.11	peak			
2	2310.000	35.60	-6.99	28.61	54.00	-25.39	Peak			
3	2390.000	46.74	-6.78	39.96	74.00	-34.04	peak			
4	2390.000	35.10	-6.78	28.32	54.00	-25.68	Peak			
5	2483.500	45.21	-6.54	38.67	74.00	-35.33	peak			
6	2483.500	35.66	-6.54	29.12	54.00	-24.88	Peak			
7	2500.000	47.76	-6.50	41.26	74.00	-32.74	peak			
8	2500.000	36.91	-6.50	30.41	54.00	-23.59	Peak			

Note: Average measurement with peak detection at No.2, 4, 6, 8

12. AC POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)

12.1. Block Diagram of Test Setup

12.1.1. Shielding Room Test Setup Diagram



12.2. The Emission Limit

12.2.1. Conducted Emission Measurement Limits According to Section 15.207(a)

Frequency (MHz)	Limit dB(μV)	
	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

* Decreases with the logarithm of the frequency.

12.3. Configuration of EUT on Measurement

The equipment are installed on the Conducted Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

12.4.Operating Condition of EUT

12.4.1.Setup the EUT and simulator as shown as Section 12.1.

12.4.2.Turn on the power of all equipment.

12.4.3.Let the EUT work in Test mode measure it.

12.5.Test Procedure

The EUT is put on the plane 0.1m 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- 2009 on Conducted Emission Measurement.

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

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

12.6.Power Line Conducted Emission Measurement Results

PASS.

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

Test mode : BT Operation

MEASUREMENT RESULT: "TST011_fin"

10/10/2014 4:54PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	53.40	10.5	66	12.6	QP	L1	GND
0.250000	50.90	10.6	62	10.9	QP	L1	GND
0.375000	41.10	10.7	58	17.3	QP	L1	GND

MEASUREMENT RESULT: "TST011_fin2"

10/10/2014 4:54PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.155000	22.90	10.5	56	32.8	AV	L1	GND
0.270000	19.70	10.6	51	31.4	AV	L1	GND
0.400000	9.70	10.7	48	38.2	AV	L1	GND

MEASUREMENT RESULT: "TST012_fin"

10/10/2014 4:58PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.155000	49.90	10.5	66	15.8	QP	N	GND
0.245000	46.30	10.6	62	15.6	QP	N	GND
0.410000	32.90	10.7	58	24.7	QP	N	GND

MEASUREMENT RESULT: "TST012_fin2"

10/10/2014 4:58PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.160000	19.60	10.5	56	35.9	AV	N	GND
0.250000	16.30	10.6	52	35.5	AV	N	GND
0.410000	4.90	10.7	48	42.7	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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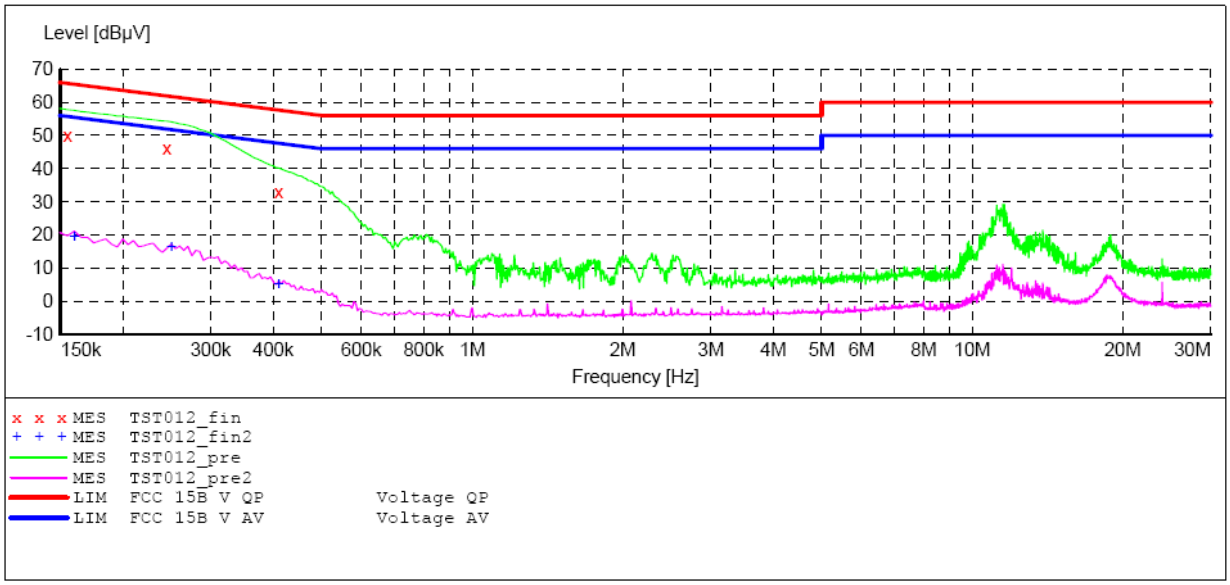
CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  Active Floorstanding Loudspeaker System   M/N:EXAT21-BK
Manufacturer:         3SIXTY
Operating Condition:  BT Operation
Test Site:            1#Shielding Room
Operator:             star
Test Specification:   N  120V/60Hz
Comment:              Report No.:ATE20141958
Start of Test:        10/10/2014 / 4:55:53PM
```

SCAN TABLE: "V 150K-30MHz fin"

```
  Short Description:          _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF       Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   4.5 kHz   QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "TST012_fin"

10/10/2014 4:58PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.155000	49.90	10.5	66	15.8	QP	N	GND
0.245000	46.30	10.6	62	15.6	QP	N	GND
0.410000	32.90	10.7	58	24.7	QP	N	GND

MEASUREMENT RESULT: "TST012_fin2"

10/10/2014 4:58PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.160000	19.60	10.5	56	35.9	AV	N	GND
0.250000	16.30	10.6	52	35.5	AV	N	GND
0.410000	4.90	10.7	48	42.7	AV	N	GND

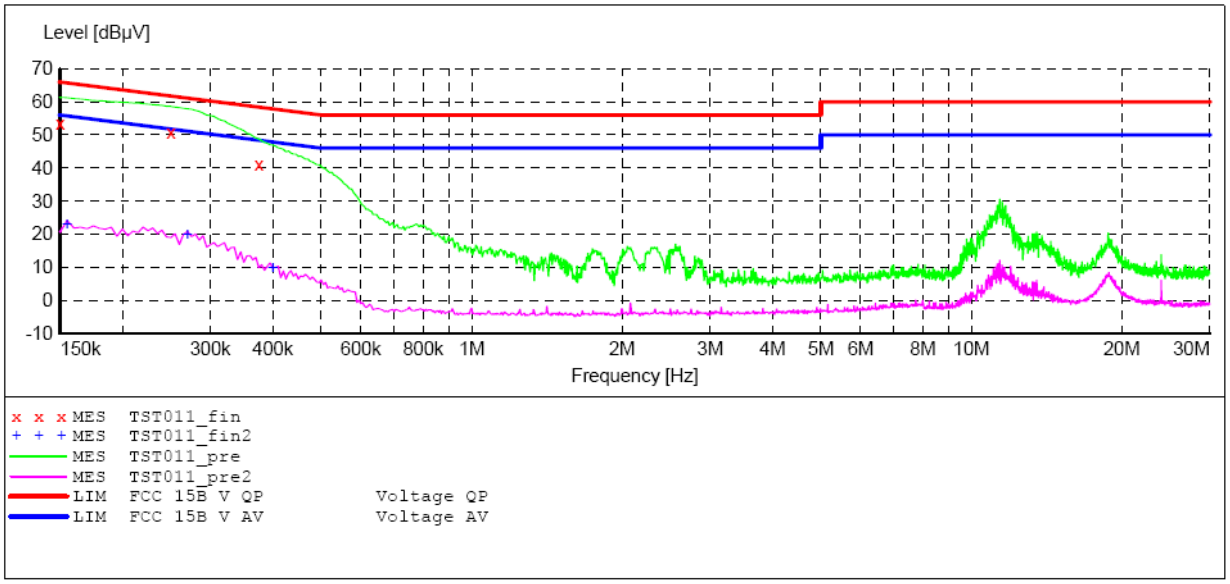
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  Active Floorstanding Loudspeaker System   M/N:EXAT21-BK
Manufacturer:         3SIXTY
Operating Condition:  BT Operation
Test Site:            1#Shielding Room
Operator:             star
Test Specification:   L  120V/60Hz
Comment:              Report No.:ATE20141958
Start of Test:        10/10/2014 / 4:50:50PM
```

SCAN TABLE: "V 150K-30MHz fin"

```
  Short Description:            _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF       Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   4.5 kHz   QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "TST011_fin"

10/10/2014 4:54PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	53.40	10.5	66	12.6	QP	L1	GND
0.250000	50.90	10.6	62	10.9	QP	L1	GND
0.375000	41.10	10.7	58	17.3	QP	L1	GND

MEASUREMENT RESULT: "TST011_fin2"

10/10/2014 4:54PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.155000	22.90	10.5	56	32.8	AV	L1	GND
0.270000	19.70	10.6	51	31.4	AV	L1	GND
0.400000	9.70	10.7	48	38.2	AV	L1	GND

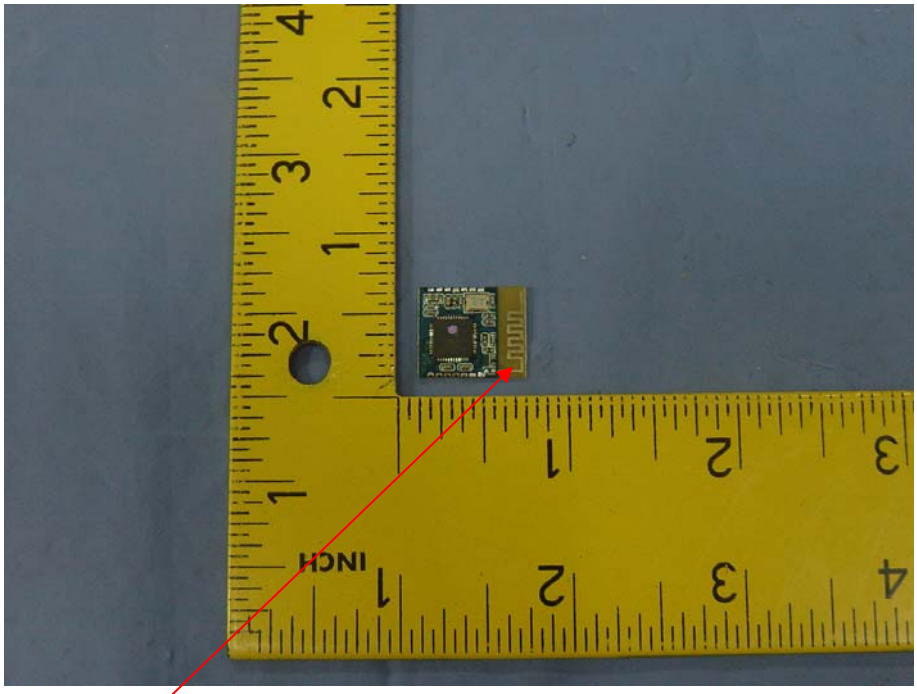
13. ANTENNA REQUIREMENT

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

The antenna is PCB Layout antenna, no consideration of replacement. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna