

#### **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



### ACCURATE TECHNOLOGY CO., LTD.

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

	and the second	Sci	ence & Inc	dustry Park,I	Nanshan Sh	nenzhen	,P.R.Ch	ina	Fax	:+86-0755-265033
ob No	o.: STAR201	5 #438				F	Polarizat	ion: H	Horizont	al
tanda	ard: FCC PK					F	Power So	ource:	AC 120	V/60Hz
est it	em: Radiatio	n Test				0	Date: 15/	07/24/		
emp.	( C)/Hum.(%)	) 23 C/4	8 %			Г	ime: 18	/12/10		
UT:	Braven	2200m Port	able Blue	tooth Speal	ker	E	Ingineer	Signat	ure:	
lode:	TX 2402M	Hz(GFSK)				0	Distance	3m		
lodel	: 2200m									
lanuf	acturer: Brave	en LC								
lote:	Report NO.:	ATE201515	59							
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TUU	).0 dBu∀/m								limit1:	
90							<b>t</b> r		limit2:	
							A.			
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	2300.000									2440.0 MHz
	Freq.	Reading	Factor	Result	Limit	Margin	Detector	Height	Degree	Remark
10		(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(deg.)	Kennank
۱o.	(MHz)	, ,						1		
	2390.000	46.68	-7.53	39.15	74.00	-34.85	peak			
No.	. ,	, ,	-7.53 -7.53 -7.46	39.15 29.44 55.39	74.00 54.00 74.00	-34.85 -24.56 -18.61	peak peak peak			

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

-7.46

45.70

54.00

-8.30

peak

53.16

4

2400.000



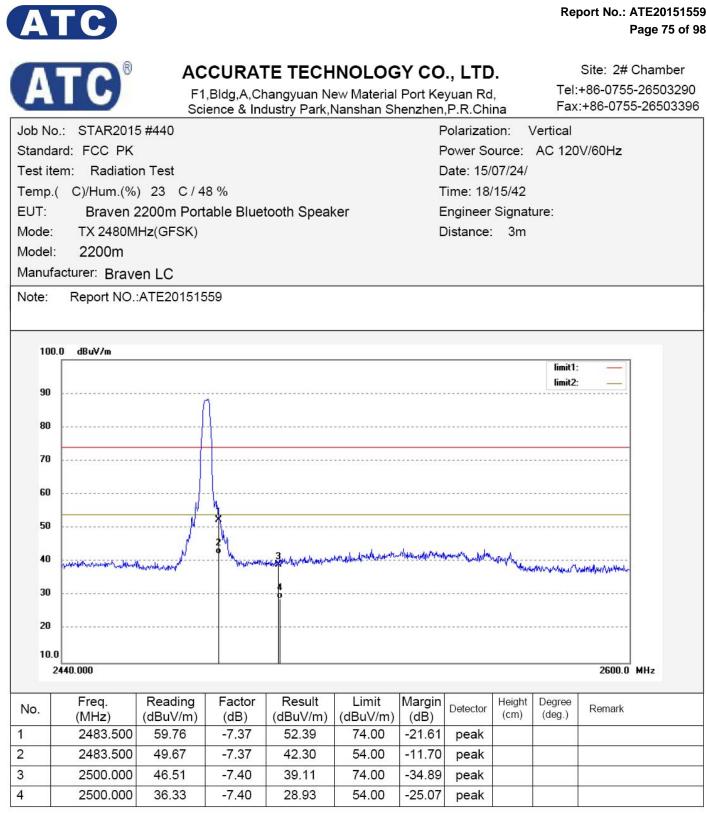
Site: 2# Chamber Tel:+86-0755-26503290

				hangyuan Ne dustry Park,I						:+86-0755-265033
ob No.	.: STAR2018	5 #437				F	Polarizati	ion: \	/ertical	
tanda	rd: FCC PK					F	Power So	ource:	AC 120	0V/60Hz
est ite	m: Radiatio	n Test					Date: 15/	07/24/		
emp.(	C)/Hum.(%)	) 23 C/4	8 %			Г	Time: 18/	/10/02		
UT:	Braven 2	2200m Port	able Blue	tooth Speal	ker	E	Engineer	Signat	ure:	
lode:	TX 2402M	Hz(GFSK)		-			Distance:	3m		
lodel:	2200m									
lanufa	cturer: Brave	en LC								
lote:	Report NO.:	ATE201515	59							
100.	0 dBu∀/m									
									limit1: limit2:	
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	300.000									2440.0 MHz
	Freq.	Reading	Factor	Result	Limit	Margin	Detector	Height	Degree	Pomark
۱o.	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Derector	(cm)	(deg.)	Remark
	2390.000	45.86	-7.53	38.33	74.00	-35.67	peak			
	2390.000	36.22	-7.53	28.69	54.00	-25.31	peak			
	2400.000	67.51	-7.46	60.05	74.00	-13.95	peak			
	2400.000	56.79		49.33						



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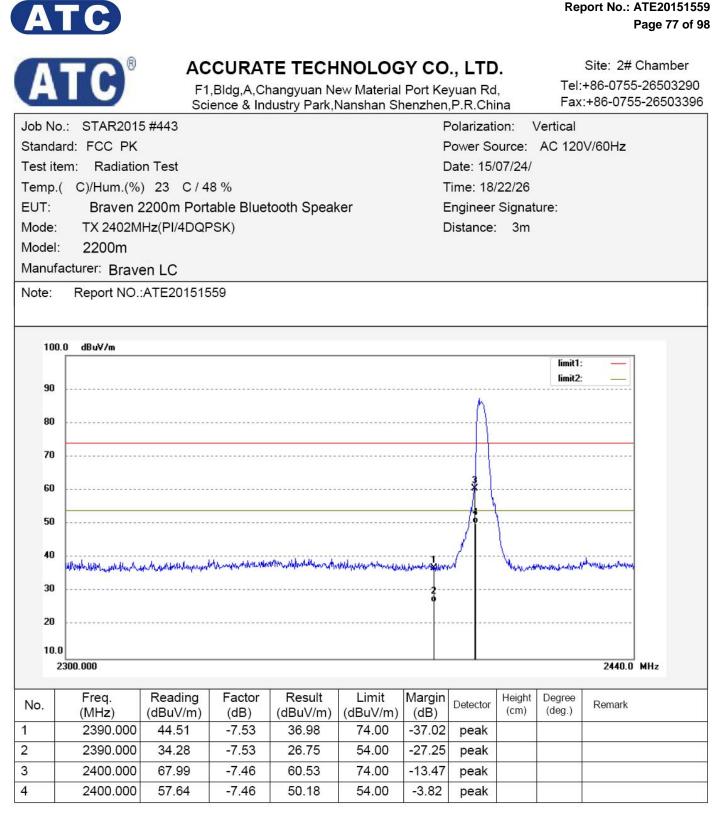
		Sci	ence & Inc	lustry Park,I	vansnan Sr	ienznen	P.R.Chi	na	I av	:+80-0755-26503	330
Job No	D.: STAR201	5 #439				F	Polarizati	on: H	Horizont	al	
Standa	ard: FCC PK					F	ower Sc	ource:	AC 120	V/60Hz	
Test ite	em: Radiatio	on Test					)ate: 15/	07/24/			
Temp.	( C)/Hum.(%	) 23 C/4	8 %			т	- ime: 18/	/14/18			
EUT:	Braven	2200m Port	able Blue	tooth Speal	ker	E	Ingineer	Signat	ure:		
Mode:		lHz(GFSK)					Distance:	3m			
Model	: 2200m										
Manuf	acturer: Brave	en LC									
Note:	Report NO.	:ATE201515	59								
100											
100	).0 dBu∀/m								limit1:		
90									limit2:		
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	2440.000									2600.0 MHz	
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	60.78	-7.37	53.41	74.00	-20.59	peak	(,	(3.)		
2	2483.500	50.67	-7.37	43.30	54.00	-10.70	peak				
3	2500.000	47.31	-7.40	39.91	74.00	-34.09					
4	2500.000	36.98	-7.40	29.58	54.00	-24.42	peak				
-							Pour				





Site: 2# Chamber Tel:+86-0755-26503290 +86-0755-26503306

		Sci	ence & Inc	dustry Park,	Nanshan Sh	enzhen	,P.R.Cł	nina	Fax	:+86-0755	-26503396
Job No	D.: STAR2018	5 #444				F	Polariza	tion: I	Horizont	al	
Standa	ard: FCC PK					F	Power S	ource:	AC 120	V/60Hz	
Test ite	em: Radiatio	n Test				C	Date: 15	/07/24/			
Temp.	( C)/Hum.(%)	) 23 C/4	8 %			г	Time: 18	8/25/30			
EUT:	Braven	2200m Port	able Blue	tooth Speal	ker	E	Inginee	r Signat	ure:		
Mode:	TX 2402M	Hz(PI/4DQF	SK)			0	Distance	e: 3m			
Model:	2200m										
Manuf	acturer: Brave	en LC									
Note:	Report NO.:	ATE201515	59								
100	).0 dBuV/m										
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-	2300.000									2440.0	Hz
No.	Freq.	Reading	Factor	Result		Margin	Detector	Height	Degree	Remark	
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(deg.)	Kontan	
1	2390.000	43.53	-7.53	36.00	74.00	-38.00	peak	-	0	2	
2	2390.000	33.76	-7.53	26.23	54.00	-27.77	peak		0		
3	2400.000	65.33	-7.46	57.87	74.00	-16.13	peak		0		
4	2400.000	55.64	-7.46	48.18	54.00	-5.82	peak				





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.Chin Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

	Science & Industry Park, Nanshan	Shenzhen,P.R.China Fax:+86-0755-26
b No.: STAR201	5 #441	Polarization: Horizontal
andard: FCC PK		Power Source: AC 120V/60Hz
st item: Radiatio	on Test	Date: 15/07/24/
emp.( C)/Hum.(%	) 23 C/48%	Time: 18/18/18
JT: Braven 2	2200m Portable Bluetooth Speaker	Engineer Signature:
ode: TX 2480M	IHz(PI/4DQPSK)	Distance: 3m
odel: 2200m		
anufacturer: Brav	en LC	
ote: Report NO.	:ATE20151559	
100.0 dBuV/m	ATE20131338	
100.0 dBuV/m	AT 20131339	limit1: — limit2: —
	ATE20131339	
100.0 dBuV/m		
100.0 dBuV/m 90		
100.0 dBuV/m 90		
100.0 dBuV/m 90 80 70		
100.0 dBuV/m 90		

	2440.000									2600.0 MHz
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	56.61	-7.37	49.24	74.00	-24.76	peak			
2	2483.500	46.13	-7.37	38.76	54.00	-15.24	peak			
3	2500.000	46.87	-7.40	39.47	74.00	-34.53	peak			
4	2500.000	36.72	-7.40	29.32	54.00	-24.68	peak			

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

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**WILT** 

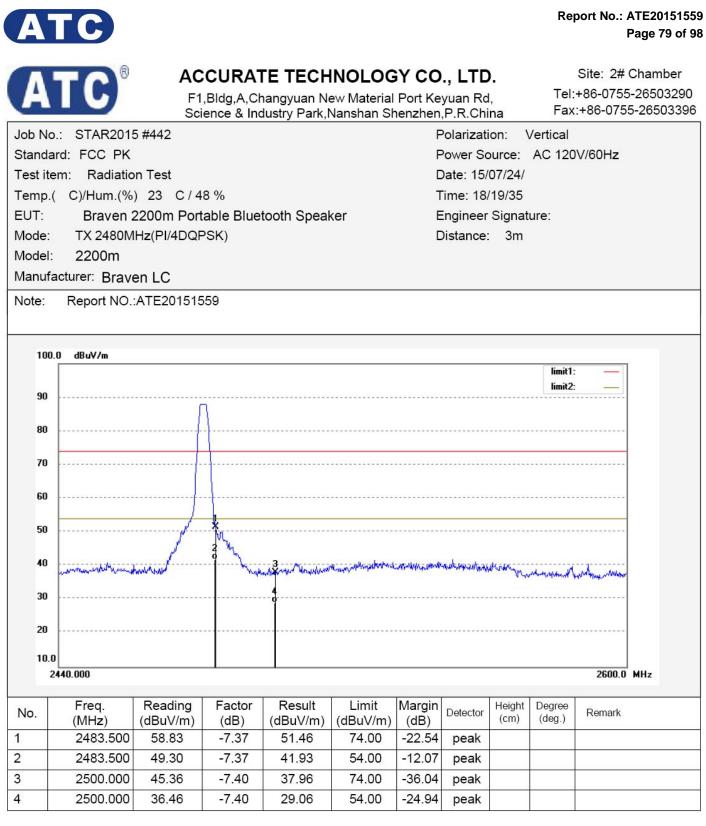
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10.0





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

Science & Industry Park,Nanshan S	Shenzhen, P.R.China Tax.+80-0735-20303
ob No.: STAR2015 #445	Polarization: Horizontal
Standard: FCC PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/07/24/
Temp.( C)/Hum.(%) 23 C / 48 %	Time: 18/27/57
EUT: Braven 2200m Portable Bluetooth Speaker	Engineer Signature:
Mode: TX 2402MHz(8DPSK)	Distance: 3m
Model: 2200m	
Manufacturer: Braven LC	
Note: Report NO.:ATE20151559	
100.0 dBuV/m	limit1: —
	limit2:
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	2300.000									2440.0	MHz
lo.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
	2390.000	43.55	-7.53	36.02	74.00	-37.98	peak				
	2390.000	33.81	-7.53	26.28	54.00	-27.72	peak				
	2400.000	68.21	-7.46	60.75	74.00	-13.25	peak				

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

60



ATA

# ACCURATE TECHNOLOGY CO., LTD.

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

				hangyuan Ne dustry Park,I							-26503290 5-26503396
Job Nc	D.: STAR2015	5 #446				F	Polarizati	ion: \	/ertical		
Standa	ard: FCC PK					F	Power So	ource:	AC 120	V/60Hz	
Fest ite	em: Radiatio	n Test				0	Date: 15/	07/24/			
Temp.	( C)/Hum.(%)	) 23 C/4	8 %			Т	Time: 18	/29/04			
EUT:	Braven 2	2200m Port	able Blue	tooth Speał	ker	E	Engineer	Signat	ure:		
Mode:	TX 2402M	Hz(8DPSK)				0	Distance	3m			
Model:	2200m										
Manufa	acturer: Brave	en LC									
Note:	Report NO.:	ATE201515	59								
100	).0 dBuV/m								limit1:	_	
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2	2300.000 Freq.	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
2 No.	2300.000	Reading (dBuV/m) 43.78	Factor (dB) -7.53	Result (dBuV/m) 36.25	Limit (dBuV/m) 74.00	Margin (dB) -37.75	Detector peak			Remark	
	2300.000 Freq. (MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)				Remark	

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

-7.46

48.84

54.00

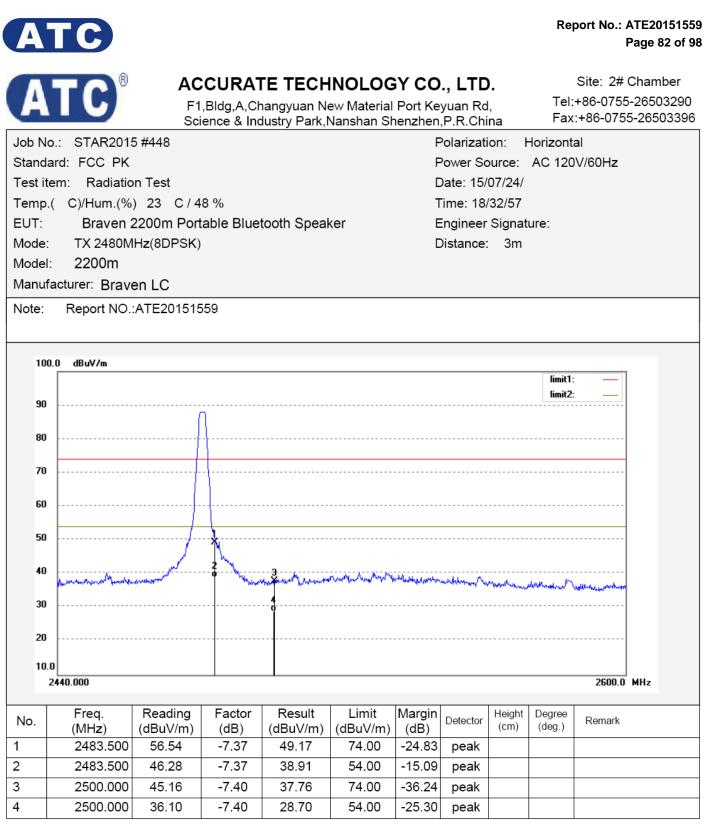
-5.16

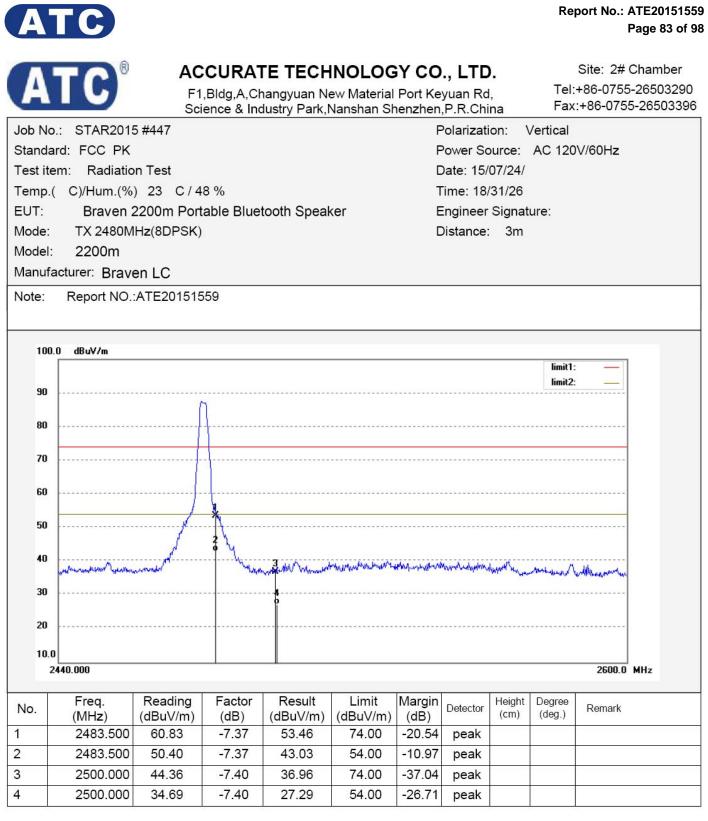
peak

56.30

4

2400.000







#### Hopping mode



### ACCURATE TECHNOLOGY CO., LTD.

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b N	o.: STAR201	5 #450				F	Polarizat	ion: H	Horizont	al	
and	ard: FCC PK					F	Power So	ource:	AC 120	V/60Hz	
st if	tem: Radiatio	on Test				0	Date: 15/	07/24/			
mp	.( C)/Hum.(%	) 23 C/4	8 %			Т	Time: 18	/38/50			
JT:	Braven	2200m Port	able Blue	tooth Speal	ker	E	Engineer	Signat	ure:		
ode	: HOPPING	GFSK)					Distance	3m			
odel	l: 2200m										
anut	facturer: Brave	en LC									
ote:	Report NO.	:ATE201515	559								
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o.	2300.000 Freq.	Reading	Factor	Result	Limit	Margin	Detector	Height (cm)	Degree (deg.)	Remark	
	2300.000 Freq. (MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)		Height (cm)	Degree (deg.)	Remark	
	2300.000 Freq. (MHz) 2390.000	(dBuV/m) 45.48	(dB) -7.53	(dBuV/m) 37.95	(dBuV/m) 74.00	(dB) -36.05	peak		<i>(</i> <b>) )</b>	Remark	
	2300.000 Freq. (MHz) 2390.000 2390.000	(dBuV/m) 45.48 35.69	(dB) -7.53 -7.53	(dBuV/m) 37.95 28.16	(dBuV/m) 74.00 54.00	(dB) -36.05 -25.84	peak peak		<i>(</i> <b>) )</b>	Remark	
	2300.000 Freq. (MHz) 2390.000 2390.000 2400.000	(dBuV/m) 45.48 35.69 60.00	(dB) -7.53 -7.53 -7.46	(dBuV/m) 37.95 28.16 52.54	(dBuV/m) 74.00 54.00 74.00	(dB) -36.05 -25.84 -21.46	peak peak peak		<i>(</i> <b>) )</b>	Remark	
	2300.000 Freq. (MHz) 2390.000 2390.000	(dBuV/m) 45.48 35.69 60.00 50.88	(dB) -7.53 -7.53	(dBuV/m) 37.95 28.16	(dBuV/m) 74.00 54.00	(dB) -36.05 -25.84	peak peak peak peak		<i>(</i> <b>) )</b>	Remark	

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

-7.40

-7.40

40.88

31.48

74.00

54.00

-33.12

-22.52

peak

peak

48.28

38.88

2500.000

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7

8

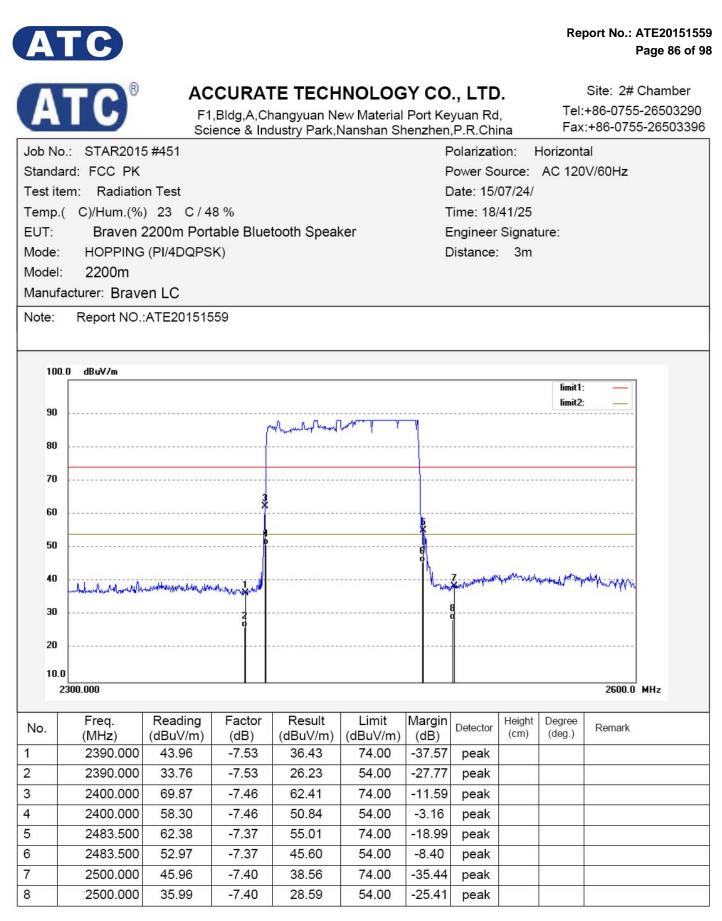




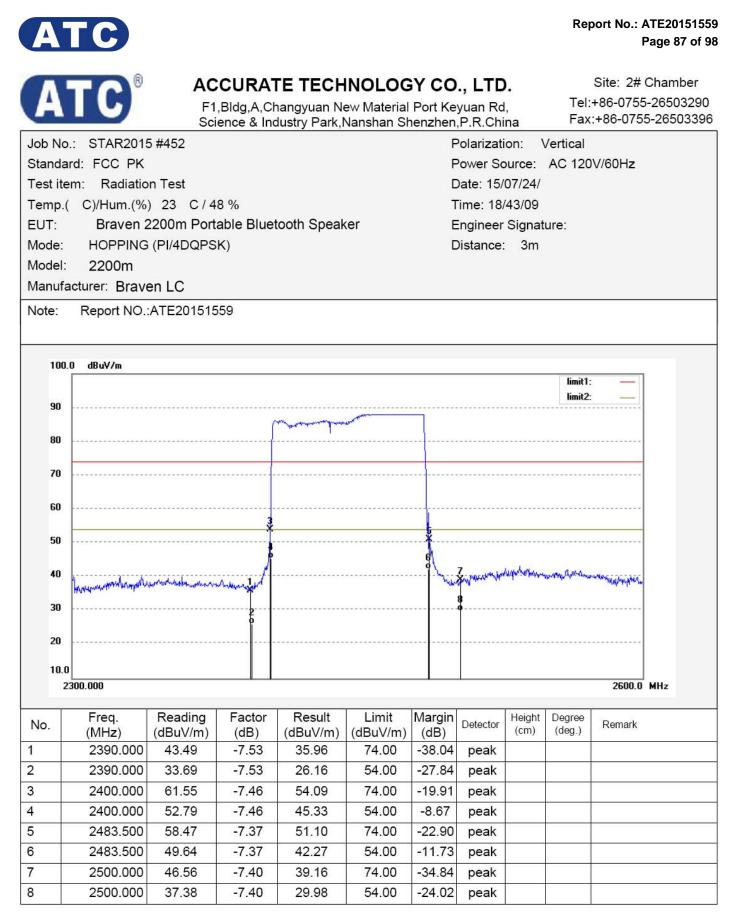
F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

2 5-	A CONTRACTOR OF STREET	Sci	ience & Ind	dustry Park,I	Nanshan Sh	nenzhen	,P.R.Chi	na	Fax	:+86-075	5-2650339
ob N	lo.: STAR201	5 #449				F	Polarizati	ion: \	/ertical		
tand	lard: FCC PK					F	Power So	ource:	AC 120	V/60Hz	
est it	tem: Radiatio	on Test				0	Date: 15/	07/24/			
emp	.( C)/Hum.(%	) 23 C/4	8 %			г	ime: 18	/37/00			
UT:	Braven	2200m Port	able Blue	tooth Speal	ker	E	Engineer	Signat	ure:		
lode							Distance				
lode		· · · ·									
lanu	facturer: Brave	en LC									
ote:	and the second second	ATE201515	559								
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	2300.000									2600.0	MHz
10	Freq.	Reading	Factor	Result	Limit	Margin	Detector	Height	Degree	Domort	
10.	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)		Detector	(cm)	(deg.)	Remark	
	2390.000	44.36	-7.53	36.83	74.00	-37.17	peak				
	2390.000	34.89	-7.53	27.36	54.00	-26.64	peak				
	2400.000	60.26	-7.46	52.80	74.00	-21.20	peak				
	2400.000	50.79	-7.46	43.33	54.00	-10.67	peak	ф. 			
	2483.500	63.32	-7.37	55.95	74.00	-18.05	peak		0		
	2483.500	53.97	-7.37	46.60	54.00	-7.40	peak				
	2500.000	47.45	-7.40	40.05	74.00	-33.95	peak		2		
	2500.000	38.37	-7.40	30.97	54.00	-23.03	peak	1			

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



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

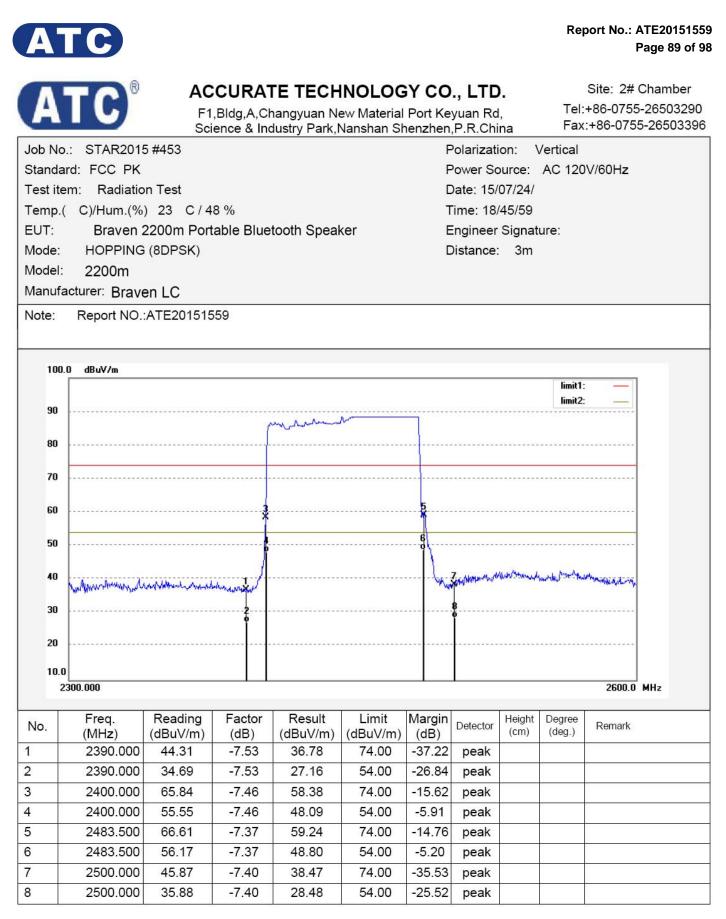


Note: Average measurement with peak detection at No.2, 4, 6, 8



<b>A</b> 1	<b>C</b>	F1	,Bldg,A,Cl	TE TECH hangyuan Ne dustry Park,i	ew Material	Port Ke	yuan Ro	Ι,		Site: 2# Chamber +86-0755-2650329 :+86-0755-2650339
Job No.:	STAR201	5 #454				F	Polarizat	ion: I	Horizont	al
Standard	FCC PK					F	Power So	ource:	AC 120	)V/60Hz
Test item	: Radiatio	n Test				0	Date: 15/	07/24/		
Гemp.(	C)/Hum.(%)	) 23 C/4	8 %			1	Time: 18	/47/18		
EUT:	Braven 2	2200m Port	able Blue	tooth Speal	ker	E	Engineer	Signat	ure:	
Mode:	HOPPING	(8DPSK)				0	Distance	3m		
Model:	2200m									
Manufact	urer: Brave	en LC								
Note:	Report NO.:	ATE201515	59							
100.0										
100.0	dBu¥/m								limit1:	-
									limit2:	
90					044 m <sup>(-7)</sup>					
80				Julyulu	17-11 I					
				1						
70					**********				*******	
<b>C0</b>			3							
60			Ť			5				
50										
						6				
40	a ma mander	when we restructed	that I and		*****	haven	Annu was an	had the share	myphyphyphyphyphyph	Nouppurgram
20	And had a constrainty to						8			
30			9				•			
20										
	1 000									2600.0 MHz
10.0										2000.0 MH2
10.0 2300						1.000	1	1.000.000 .0000		
2300	Freq.	Reading	Factor	Result		Margin	Detector	Height	Degree	Remark
2300 No.	Freq. (MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Delector	Height (cm)	Degree (deg.)	Remark
2300	Freq.						Delector			Remark

2	2390.000	34.62	-7.53	27.09	54.00	-26.91	peak	
3	2400.000	66.47	-7.46	59.01	74.00	-14.99	peak	
4	2400.000	56.79	-7.46	49.33	54.00	-4.67	peak	
5	2483.500	60.54	-7.37	53.17	74.00	-20.83	peak	
6	2483.500	50.22	-7.37	42.85	54.00	-11.15	peak	
7	2500.000	46.21	-7.40	38.81	74.00	-35.19	peak	
8	2500.000	36.43	-7.40	29.03	54.00	-24.97	peak	



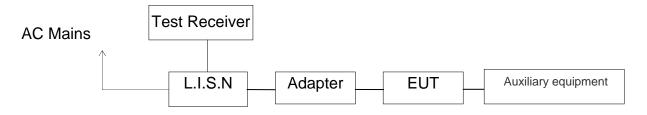
Note: Average measurement with peak detection at No.2, 4, 6, 8



### **12.AC POWER LINE CONDUCTED EMISSION FOR FCC PART**

### 15 SECTION 15.207(A)

### 12.1.Block Diagram of Test Setup



(EUT: Braven 2200m Portable Bluetooth Speaker)

### 12.2.Power Line Conducted Emission Measurement Limits

Frequency	Limit dB(µV)						
(MHz)	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 sh	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	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: 2009 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.



MEASUREMENT		hicating(/		,			
2015-7-21 11:1			-				
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.176000 1.756000 15.383000	46.20 33.70 30.80	11.7	65 56 60	18.5 22.3 29.2	ΏР	L1 L1 L1	GND GND GND
MEASUREMENT	RESULT	: "ZY72	111_fi	n2"			
2015-7-21 11:1			T in it	M :	Detecto	Time	DE
Frequency MHz		Transd dB			Detector	Line	PE
0.296000 1.250000 14.888000	36.30	11.6	46	14.1 22.7 24.8	AV	L1 L1 L1	GND GND GND
MEASUREMENT		: "ZY72	2112_fi	in"			
2015-7-21 11: Frequency		Transd	Limit	Margin	Detector	Line	PE
MHz	dBµV		dBµV		Decector	птие	11
0.170000 1.022000	40.90 37.00	10.5 11.6	56	19.0	~	N N	GND GND
			00		~		
15.077000	33.00	11.9	60	27.0	QP	Ν	GND
15.077000					QP	N	GND
15.077000 <b>MEASUREMENT</b> 2015-7-21 11:	<b>RESULT</b> 20	: "ZY72	2112_fi	in2"	~-		
15.077000 <b>MEASUREMENT</b>	<b>RESULT</b> 20	: "ZY72 Transd	2112_fi	i <b>n2"</b> Margin	QP Detector		
15.077000 <b>MEASUREMENT</b> 2015-7-21 11: Frequency	<b>RESULT</b> 20 Level	: "ZY72 Transd dB 11.4	2 <b>112_f</b> i Limit dBµV	i <b>n2"</b> Margin dB 13.8	Detector AV		



I SOL HIGUE . DI	commur	nicating(A	AC 240\	//60Hz)			
MEASUREMENT	RESULT	: "zy72	107_fi	in"			
2015-7-21 11							
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.168000 0.399000 0.471000	45.90 39.90 40.20	10.5 11.3 11.4		18.0	<i></i> ΏР	L1 L1 L1	GND GND GND
MEASUREMENT	RESULT	: "zy72	107_fi	in2"			
2015-7-21 11:							
Frequency MHz	Level dBµV				Detector	Line	PE
0.348000		11.1				L1	GND
0.390000	37.90	11.3	48	10.2		L1	GND
0.519000	35.10	11.5	46	10.9	AV	L1	GND
MEASUREMENT	RESULT				AV	L1	GND
<b>MEASUREMENT</b> 2015-7-21 11:	<b>RESULT</b>	: "zy72	108_fi	n"			
MEASUREMENT 2015-7-21 11: Frequency	<b>RESULT</b>	<b>: "zy72</b> Transd	108_fi	n"			GND PE
<b>MEASUREMENT</b> 2015-7-21 11: Frequency MHz	<b>RESULT</b> :09 Level dBµV	<b>: "zy72</b> Transd	<b>108_fi</b> Limit dBµV	<b>n"</b> Margin	Detector		
MEASUREMENT 2015-7-21 11: Frequency MHz 0.153000 0.177000	<b>RESULT</b> :09 Level dBµV 35.10 50.80	: "zy72 Transd dB 10.4 10.5	<b>108_fi</b> Limit dBµV 66 65	<b>n"</b> Margin dB 30.7 13.8	Detector QP QP	Line N N	PE GND GND
<b>MEASUREMENT</b> 2015-7-21 11: Frequency MHz 0.153000	<b>RESULT</b> :09 Level dBµV 35.10	: "zy72 Transd dB 10.4	<b>108_fi</b> Limit dBµV 66 65	<b>n"</b> Margin dB 30.7	Detector QP QP QP	Line N	PE GND
MEASUREMENT 2015-7-21 11: Frequency MHz 0.153000 0.177000 0.399000	<b>RESULT</b> :09 Level dBμV 35.10 50.80 41.80 36.60	: "zy72 Transd dB 10.4 10.5 11.3 11.5	108_fi Limit dBµV 66 65 58 56	<b>n</b> " Margin dB 30.7 13.8 16.1 19.4	Detector QP QP QP	Line N N N	PE GND GND GND
MEASUREMENT 2015-7-21 11: Frequency MHz 0.153000 0.177000 0.399000 0.510000 MEASUREMENT 2015-7-21 11:	<b>RESULT</b> 309 Level dBμV 35.10 50.80 41.80 36.60 <b>RESULT</b> 309	: "zy72 Transd dB 10.4 10.5 11.3 11.5 : "zy72	108_fi Limit dBµV 66 65 58 56 108_fi	<i>n"</i> Margin dB 30.7 13.8 16.1 19.4 <i>n2"</i>	Detector QP QP QP QP	Line N N N	PE GND GND GND GND
MEASUREMENT 2015-7-21 11: Frequency MHz 0.153000 0.177000 0.399000 0.510000 MEASUREMENT	<b>RESULT</b> 309 Level dBμV 35.10 50.80 41.80 36.60 <b>RESULT</b> 309	: "zy72 Transd dB 10.4 10.5 11.3 11.5 : "zy72 Transd	108_fi Limit dBµV 66 65 58 56 108_fi Limit	<i>n"</i> Margin dB 30.7 13.8 16.1 19.4 <i>n2"</i>	Detector QP QP QP	Line N N N	PE GND GND GND GND
MEASUREMENT 2015-7-21 11: Frequency MHz 0.153000 0.177000 0.399000 0.510000 MEASUREMENT 2015-7-21 11: Frequency	<b>RESULT</b> 309 Level dBμV 35.10 50.80 41.80 36.60 <b>RESULT</b> 109 Level	: "zy72 Transd dB 10.4 10.5 11.3 11.5 : "zy72 Transd	108_fi Limit dBµV 66 65 58 56 108_fi Limit dBµV	<i>n"</i> Margin dB 30.7 13.8 16.1 19.4 <i>m2"</i> Margin	Detector QP QP QP QP QP	Line N N N	PE GND GND GND GND

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

The spectral diagrams are attached as below.

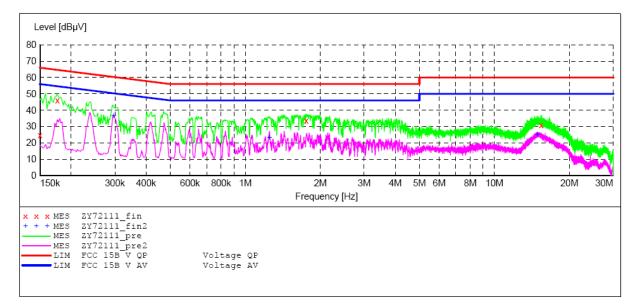


#### CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Manufacturer: Operating Condition:	Braven 2200m Portable Bluetooth Speaker Braven LC BT	M/N:2200m
Test Site:	2#Shielding Room	
Operator:	star	
Test Specification:	L 120V/60Hz	
Comment:	Report No.:ATE20151559	
Start of Test:	2015-7-21 / 11:16:05	

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

Short Desc	cription:		SUB_STD_VTE	RM2 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	LISN(ESH3-Z5)
			Average			



#### MEASUREMENT RESULT: "ZY72111 fin"

2015-7-21 11:	17						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dBµV	dB	dBµV	dB			
0.176000	46.20	10.5	65	18.5	QP	L1	GND
1.756000	33.70	11.7	56	22.3	ÕP	L1	GND
15.383000	30.80	11.9	60	29.2	ÕP	L1	GND
					~		

#### MEASUREMENT RESULT: "ZY72111 fin2"

2015-7-21 11	:17						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dBµV	dB	dBµV	dB			
0.296000	36.30	11.0	50	14.1	AV	L1	GND
1.250000	23.30	11.6	46	22.7	AV	L1	GND
14.888000	25.20	11.9	50	24.8	AV	L1	GND

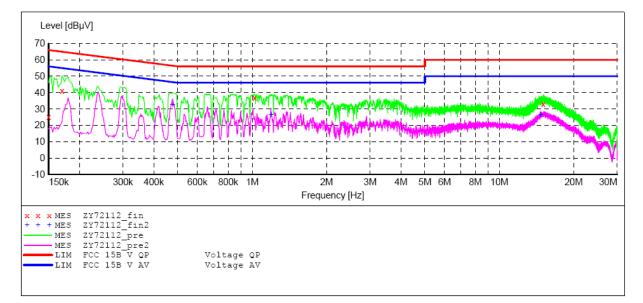


#### CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Manufacturer: Operating Condition:	Braven 2200m Portable Bluetooth Speaker Braven LC BT	M/N:2200m
Test Site:	2#Shielding Room	
Operator:	star	
Test Specification:	N 120V/60Hz	
Comment:	Report No.:ATE20151559	
Start of Test:	2015-7-21 / 11:18:17	

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

Short Desc	ription:		_SUB_STD_VTE	RM2 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	LISN(ESH3-Z5)
			Average			



#### MEASUREMENT RESULT: "ZY72112 fin"

2015-7-21 11:	20						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dBµV	dB	dBµV	dB			
0.170000	40.90	10.5	65	24.1	OP	N	GND
1.022000	37.00	11.6			QP	N	GND
15.077000	33.00	11.9	60	27.0		N	GND

#### MEASUREMENT RESULT: "ZY72112\_fin2"

Level Trans	d Limit Ma	rgin Detecto	r Line PE
dBµV d	B dBµV	dB	
32.60 11.	4 46	13.8 AV	N GND
26.20 11.	б 46	19.8 AV	N GND
26.20 11.	9 50	23.8 AV	N GND
	Level Transo dBµV dI 32.60 11.4 26.20 11.6	Level Transd Limit Ma dBµV dB dBµV 32.60 11.4 46 26.20 11.6 46	Level Transd Limit Margin Detecto dBµV dB dBµV dB 32.60 11.4 46 13.8 AV 26.20 11.6 46 19.8 AV

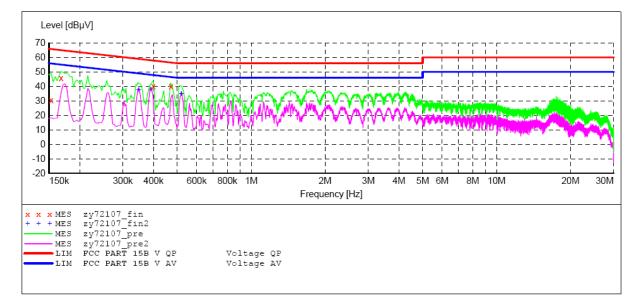


#### CONDUCTED EMISSION STANDARD FCC PART 15B

EUT:	Braven 2200m Portable Bluetooth Speaker M/N:2	200m
Manufacturer:	Braven LC	
Operating Condition:	BT Operation	
Test Site:	2#Shielding Room	
Operator:	star	
Test Specification:	L 240V/60Hz	
Comment:	Report No.:ATE20151559	
Start of Test:	2015-7-21 / 11:04:50	

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

$\sim$	CAN IADID	. v 100.						
	Short Desc	ription:		_SUB_STD_VTE	RM2 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	LISN(ESH3-Z5)	
				Average				



#### MEASUREMENT RESULT: "zy72107 fin"

2015-7-21 11:	06						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dBµV	dB	dBµV	dB			
0 1 60 0 0 0	45 00	10 5	<b>6 -</b>	10.0		- 1	~~~~
0.168000	45.90	10.5	65	19.2	QP	L1	GND
0.399000	39.90	11.3	58	18.0	QP	L1	GND
0.471000	40.20	11.4	57	16.3	QP	L1	GND
					-		

#### MEASUREMENT RESULT: "zy72107 fin2"

20	15-7-21 11:0	)6						
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dBµV	dB	dBµV	dB			
	0.348000	37.60	11.1	49	11.4	AV	L1	GND
	0.390000	37.90	11.3	48	10.2	AV	L1	GND
	0.519000	35.10	11.5	46	10.9	AV	L1	GND

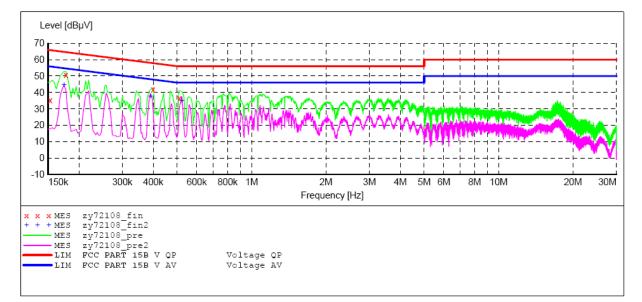


#### CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Manufacturer: Operating Condition:	Braven LC	M/N:2200m
Test Site:	2#Shielding Room	
Operator:	star	
Test Specification:	N 240V/60Hz	
Comment:	Report No.:ATE20151559	
Start of Test:	2015-7-21 / 11:07:03	

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

Short Desc	ription:		_SUB_STD_VTE	RM2 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	LISN(ESH3-Z5)	
			Average				

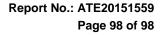


#### MEASUREMENT RESULT: "zy72108\_fin"

2015-7-21 11	:09						
Frequency				2	Detector	Line	PE
MHz	dBµV	dB	dBµV	dB			
0.153000	35.10	10.4	66	30.7	QP	N	GND
0.177000	50.80	10.5	65	13.8	ΏΡ	Ν	GND
0.399000	41.80	11.3	58	16.1	QP	Ν	GND
0.510000	36.60	11.5	56	19.4	QP	N	GND

#### MEASUREMENT RESULT: "zy72108 fin2"

2015-7-21 11	:09						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dBµV	dB	dBµV	dB			
0 174000	44 50	10 5		10.2			CNE
0.174000	44.50	10.5	55	10.3	AV	N	GND
0.390000	37.40	11.3	48	10.7	AV	N	GND
0.522000	34.70	11.5	46	11.3	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

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

