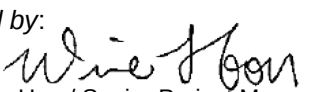
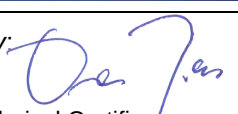


Prüfbericht-Nr.: Test Report No.:	50049995 001	Auftrags-Nr.: Order No.:	164063589	Seite 1 von 33 Page 1 of 33
Kunden-Referenz-Nr.: Client Reference No.:	429028	Auftragsdatum: Order date:	17.05.2016	
Auftraggeber: Client:	Compupal (Group) Corporation. No.1555 Jiashan Avenue, Jiashan 314113, Zhejiang, China			
Prüfgegenstand: Test item:	Sound Bar with Bluetooth			
Bezeichnung / Typ-Nr.: Identification / Type No.:	SB20			
Auftrags-Inhalt: Order content:	FCC Certification and Verification			
Prüfgrundlage: Test specification:	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 FCC KDB Publication 447498 v06 CFR47 FCC Part 15: Subpart B Section 15.107 CFR47 FCC Part 15: Subpart B Section 15.109 RSS-247 Issue 1 May 2015 RSS-102 Issue 5 March 2015 RSS-Gen Issue 4 November 2014			
Wareneingangsdatum: Date of receipt:	17.05.2016			
Prüfmuster-Nr.: Test sample No.:	A000360740-009, 014			
Prüfzeitraum: Testing period:	21.05.2016 - 18.06.2016			
Ort der Prüfung: Place of testing:	Shenzhen Accurate Technology Co., Ltd.			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von / tested by:  11.07.2016 Winnie Hou / Senior Project Manager		kontrolliert von / reviewed by:  13.07.2016 Owen Tian / Technical Certifier		
Datum Date	Name / Stellung Name / Position	Unterschrift Signature	Datum Date	Name / Stellung Name / Position
Sonstiges / Other: FCC ID: Z5Y-SB20, IC: 10828A-SB20				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.				



TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: *Passed*

5.1.2 PEAK OUTPUT POWER

RESULT: *Passed*

5.1.3 99% BANDWIDTH

RESULT: *Passed*

5.1.4 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100KHZ BANDWIDTH

RESULT: *Passed*

5.1.5 SPURIOUS EMISSION

RESULT: *Passed*

5.1.6 20dB BANDWIDTH

RESULT: *Passed*

5.1.7 FREQUENCY SEPARATION

RESULT: *Passed*

5.1.8 NUMBER OF HOPPING FREQUENCY

RESULT: *Passed*

5.1.9 TIME OF OCCUPANCY

RESULT: *Passed*

5.1.10 CONDUCTED EMISSIONS

RESULT: *Passed*

5.1.11 RADIATED EMISSION

RESULT: *Passed*

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1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:
Appendix 1: Test Result

2. Test Sites

2.1 Test Facilities

Shenzhen Accurate Technology Co., Ltd.

F1, Bldg. A, Changyuan New Material Port, Keyuan Rd., Science & Industry Park Nanshan District, Shenzhen 518057, P.R. China

FCC Registration No.: 752051

Test site Industry Canada No.: 5077A-2

The tests at the test site have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Spurious emission and Radiated emission				
Spectrum Analyzer	Rohde&Schwarz	FSV40	101495	2017-01-01
Test Receiver	Rohde&Schwarz	ESCS30	100307	2017-01-01
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	2017-01-01
Loop Antenna	Schwarzbeck	FMZB1516	1516131	2017-01-01
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	2017-01-01
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	2017-01-01
RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	2017-01-01
Pre-Amplifier	Rohde&Schwarz	CBLU11835 40-01	3791	2017-01-01
Radio Spectrum Test				
Spectrum Analyzer	Rohde & Schwarz	ESPI3	100396/003	2017-01-09
Spectrum Analyzer	Agilent	E7405A	MY45115511	2017-01-09
Conducted Emission				
Test Receiver	Rohde & Schwarz	ESCS30	100307	2017-01-09
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	2017-01-09
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	2017-01-09
50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283933	2017-01-09

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are $\pm 3\text{dB}$.

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix 1 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The Shenzhen Accurate Technology Co., Ltd. test facility located at F1, Bldg. A, Changyuan New Material Port, Keyuan Rd., Science & Industry Park Nanshan District, Shenzhen 518057, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUT is sound bar with Bluetooth function.
For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	Sound Bar with Bluetooth
Type Designation:	SB20
FCC ID	Z5Y-SB20
IC	10828A-SB20

Table 3: Technical Specification of Bluetooth (BDR & EDR)

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Bluetooth Core Version	2.1+EDR
Channel Number	79 channels
Channel separation	1MHz
Extreme Temperature Range	-20°C to +80°C
Operation Voltage	DC18V via AC/DC Adapter
Modulation	GFSK, 8DPSK, $\pi/4$ DQPSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	-2dBi
RF Output Power	0.00108W (0.32dBm)

Table 4: RF channel and frequency of Bluetooth (BDR & EDR mode)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402.00	20	2422.00	40	2442.00	60	2462.00
1	2403.00	21	2423.00	41	2443.00	61	2463.00
2	2404.00	22	2424.00	42	2444.00	62	2464.00
3	2405.00	23	2425.00	43	2445.00	63	2465.00
4	2406.00	24	2426.00	44	2446.00	64	2466.00
5	2407.00	25	2427.00	45	2447.00	65	2467.00
6	2408.00	26	2428.00	46	2448.00	66	2468.00
7	2409.00	27	2429.00	47	2449.00	67	2469.00
8	2410.00	28	2430.00	48	2450.00	68	2470.00
9	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	2480.00
19	2421.00	39	2441.00	59	2461.00		

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Bluetooth mode (BDR & EDR)
 - 1. Transmitting on low channel
 - 2. Transmitting on middle channel
 - 3. Transmitting on high channel
- B. On, Bluetooth hopping mode
- C. Play with AUX IN
- D. Play with RCA IN
- E. Play with OPTICAL IN
- F. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- | | |
|-------------------------|----------------------|
| - Bill of Material | - Circuit Diagram |
| - PCB Layout | - Instruction Manual |
| - Photo Document | - Rating Label |
| - Technical Description | |

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2014 and ANSI C63.10: 2013.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested with following accessories:

Description	Manufacturer	Type	S/N
iPhone6S PLUS	Apple	ML6D2 CH/A	C35QJ76JGRWM
Notebook	LENOVO	ThinkPad X240	N/A
Printer	HP	1015	CNFG030424
Multimedia Player	TOSHIBA	STOR.E TV+	N/A
DVD Player	KENUO	966T1	N/A

4.4 Countermeasures to achieve EMC Compliance

The test sample, which has been tested, contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

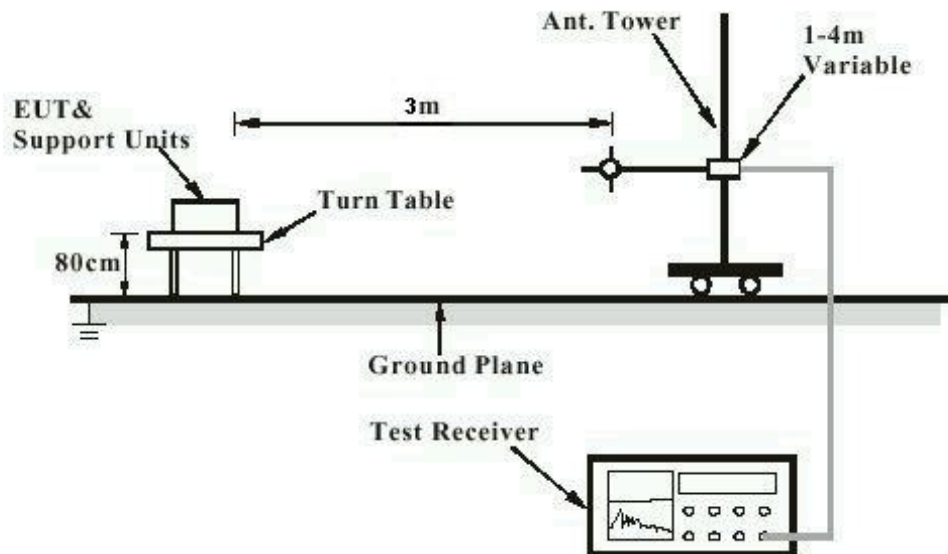


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

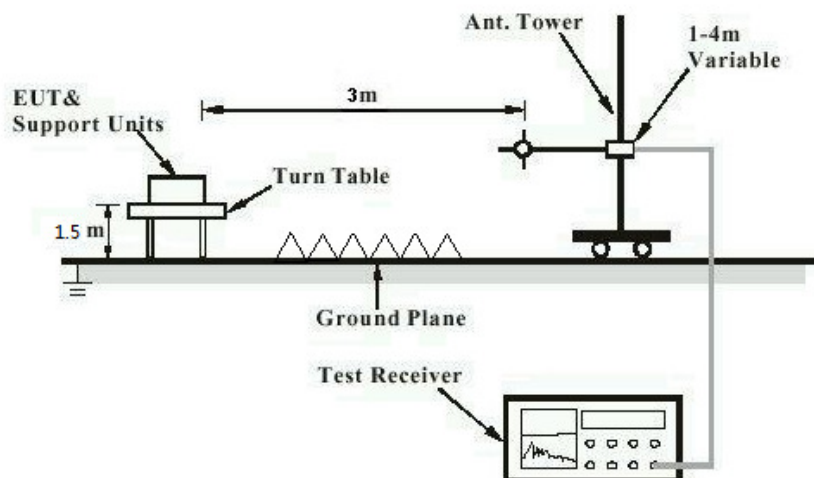


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement

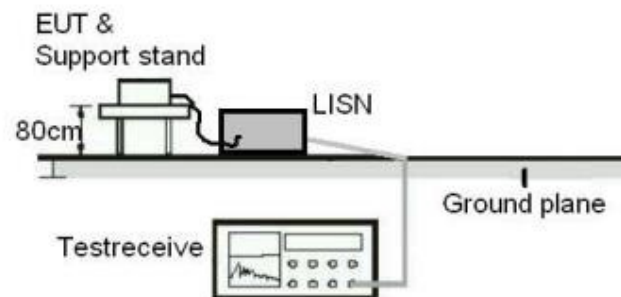
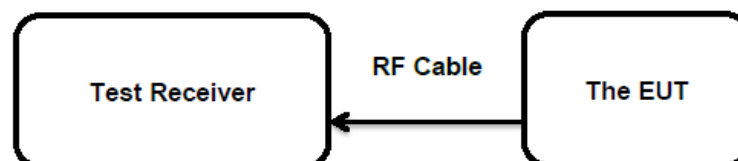


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test standard	:	FCC Part 15.247(b)(4) and Part 15.203 RSS-Gen 6.7
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is -2dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT photo for details.

Note: The cable loss is taken into account in results.

5.1.3 99% Bandwidth

RESULT:**Passed**

Date of testing : 2016-06-18
Test standard : RSS-Gen clause 6.6
Basic standard : ANSI C63.10: 2013
Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 25°C
Relative humidity : 55%
Atmospheric pressure : 101 kPa

Table 6: Test result of 99% Bandwidth

Test Mode	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)
BDR	2402	929.09	/
	2441	929.09	
	2480	929.09	
EDR	2402	1107.09	/
	2441	1107.09	
	2480	1102.75	

Note: The cable loss is taken into account in results.

**5.1.4 Conducted spurious emissions measured in 100kHz
Bandwidth****RESULT:****Passed**

Date of testing	:	2016-06-18
Test standard	:	FCC part 15.247(d) RSS-247 Clause 5.5
Basic standard	:	ANSI C63.10: 2013
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	Shield room

Test setup

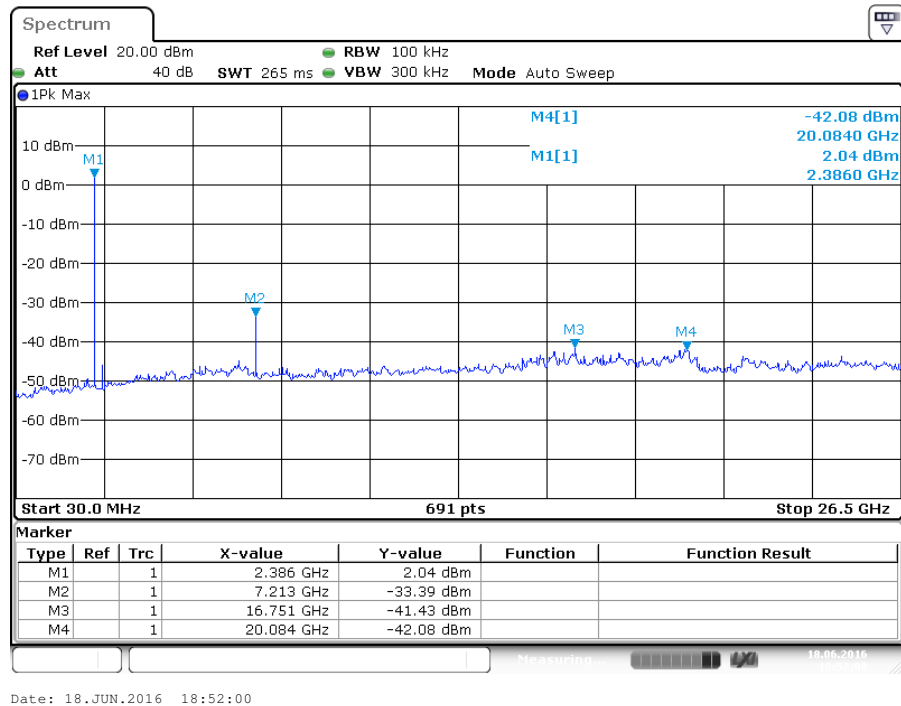
Test Channel	:	Low/ High
Operation mode	:	A
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

All emissions are more than 20dB below fundamental, details refer to following test plot, and compliance is achieved as well.

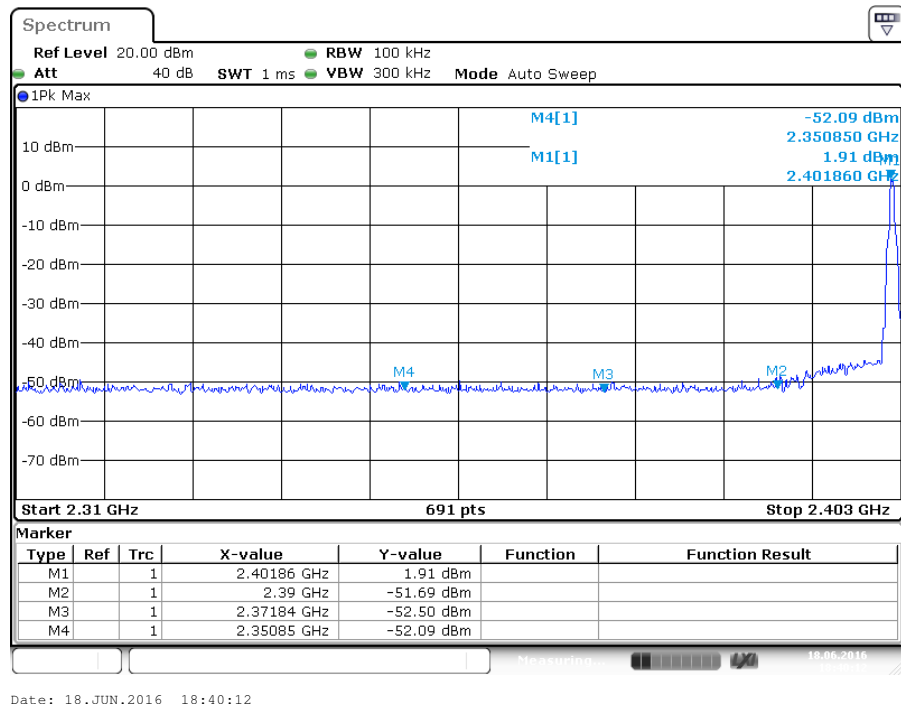
Test Plot of 100kHz Bandwidth of Frequency Band Edge

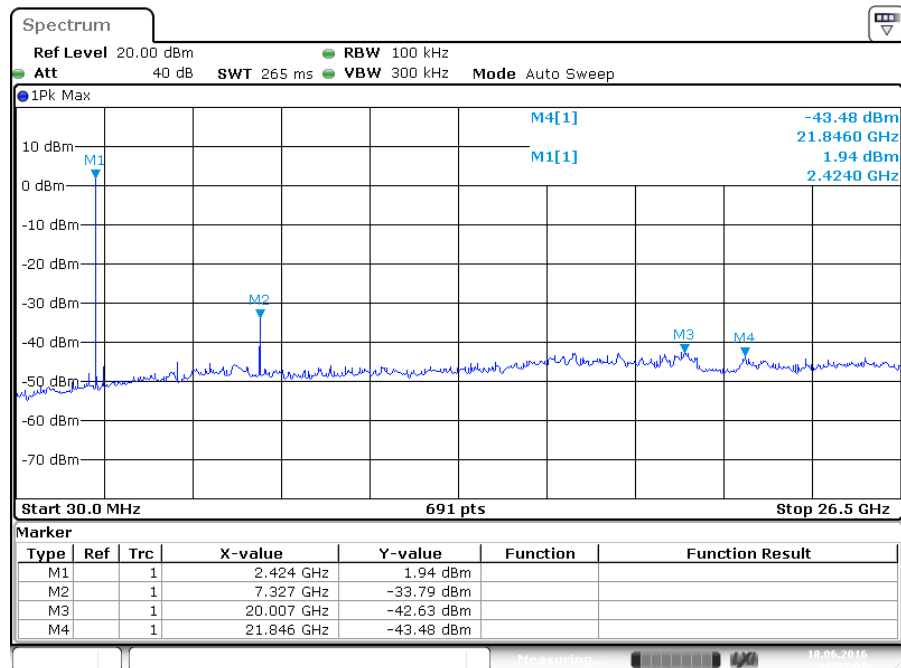
BDR mode

Low Channel

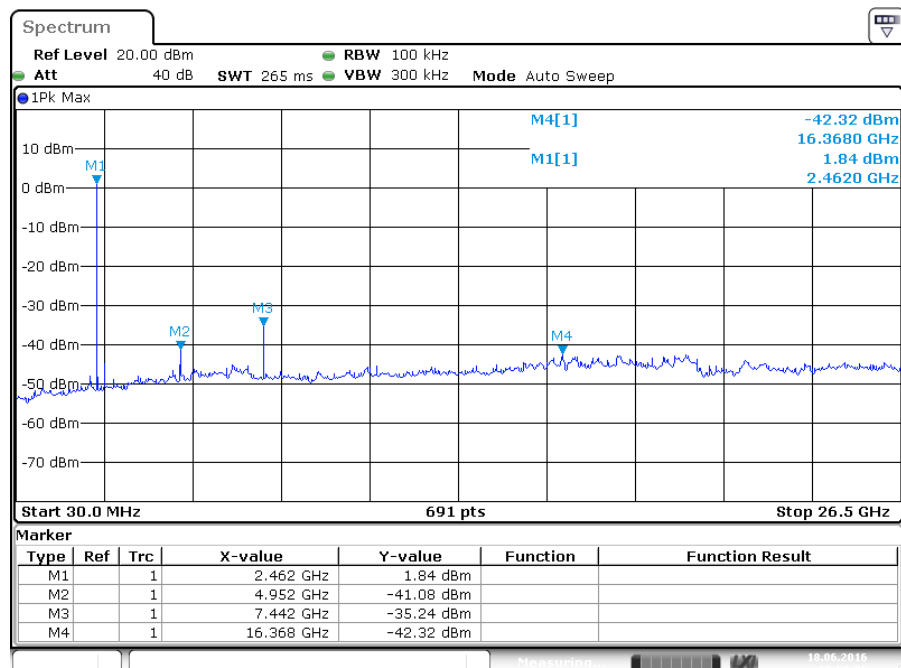


Low Channel, Band Edge

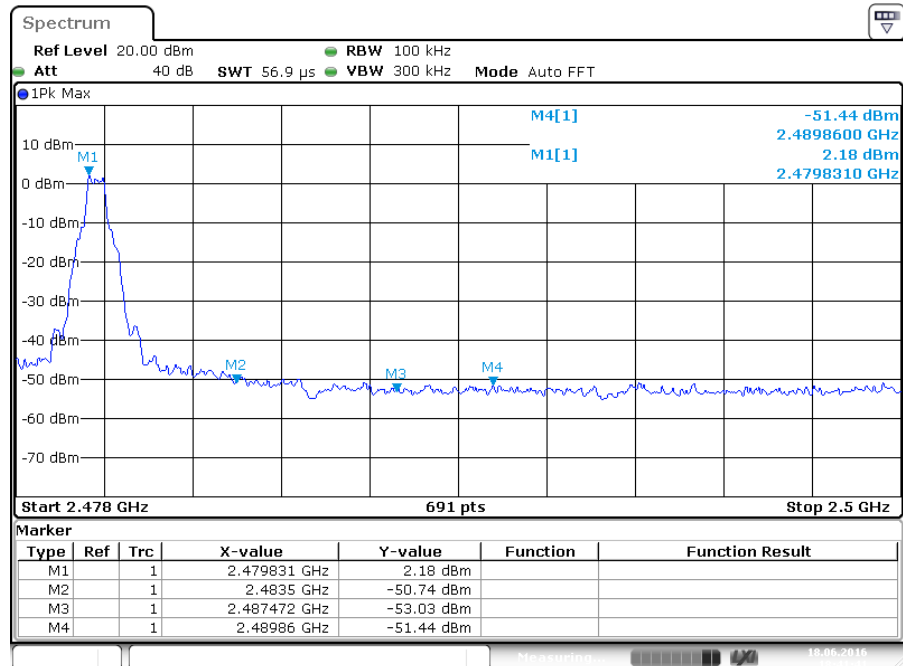
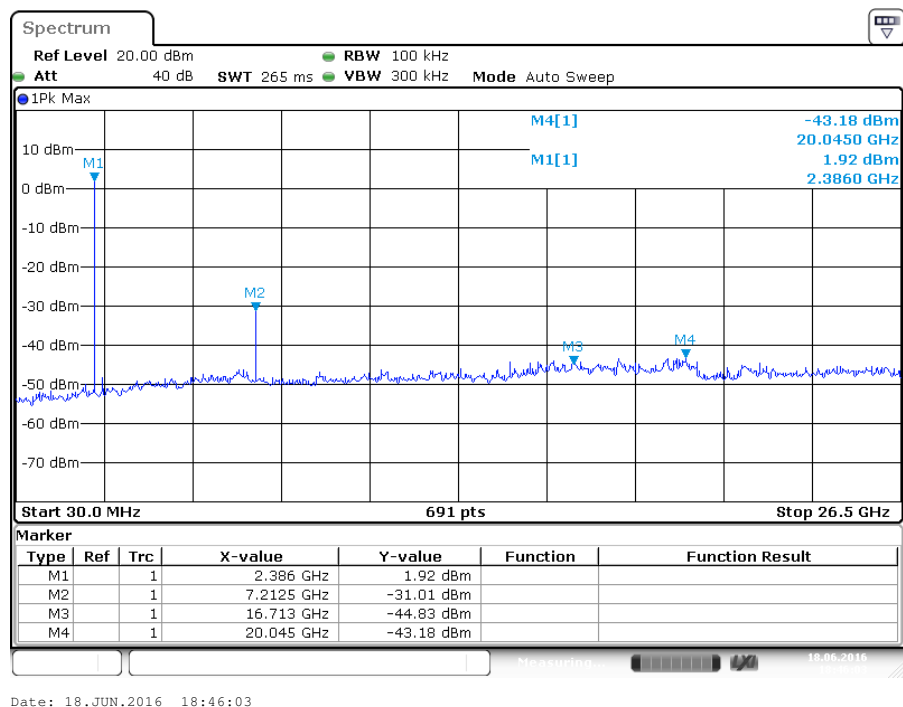


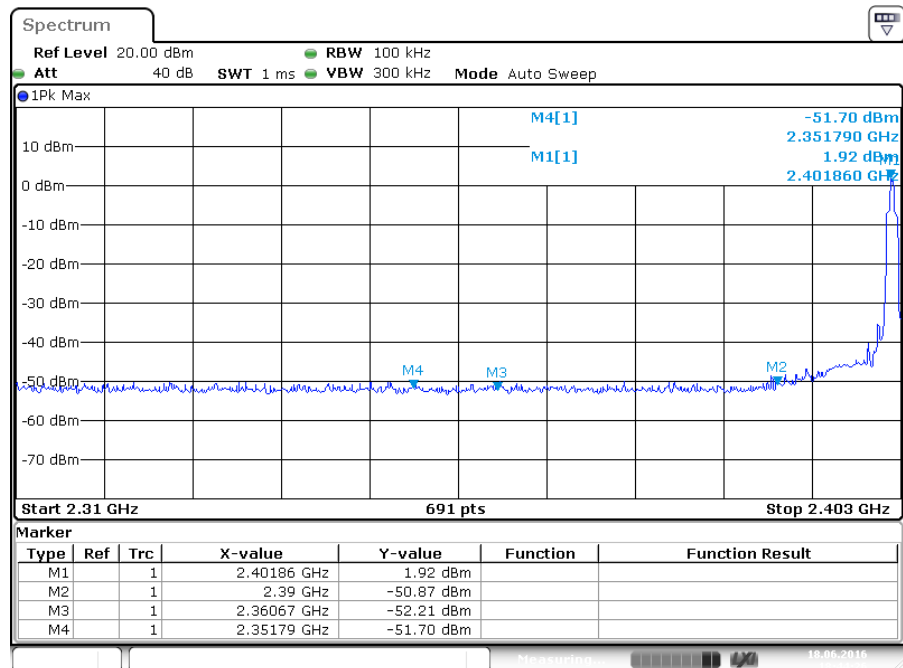
Middle Channel


Date: 18.JUN.2016 18:51:07

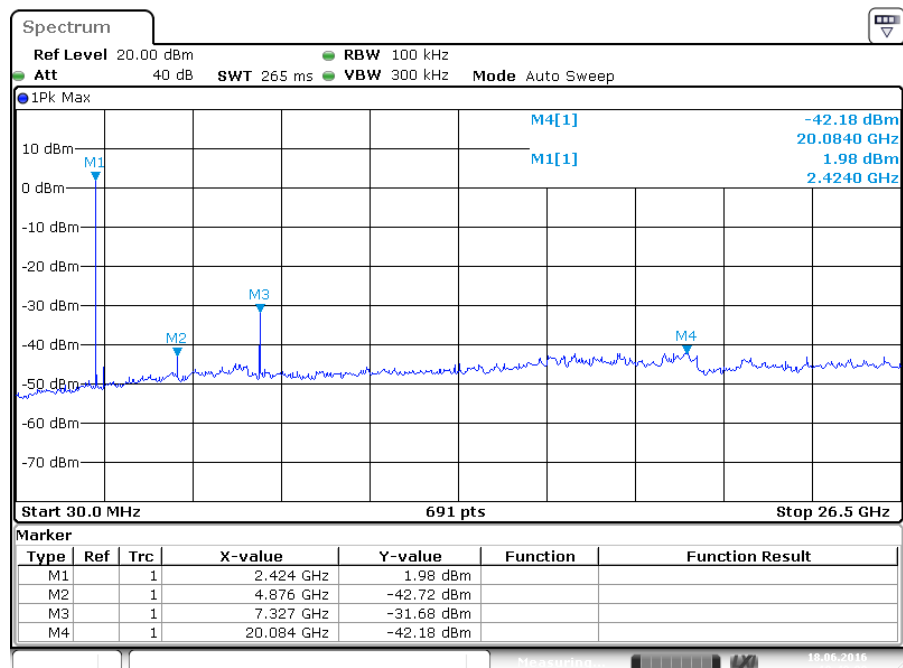
High Channel


Date: 18.JUN.2016 18:50:06

High Channel, Band Edge

EDR mode
Low Channel


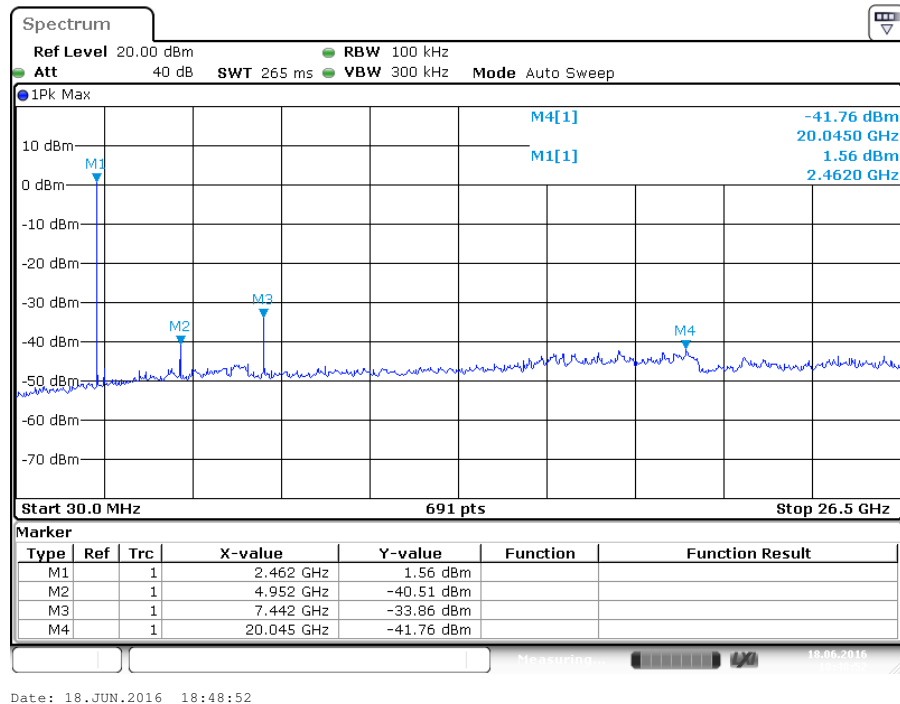
Low Channel, Band Edge


Date: 18.JUN.2016 18:44:26

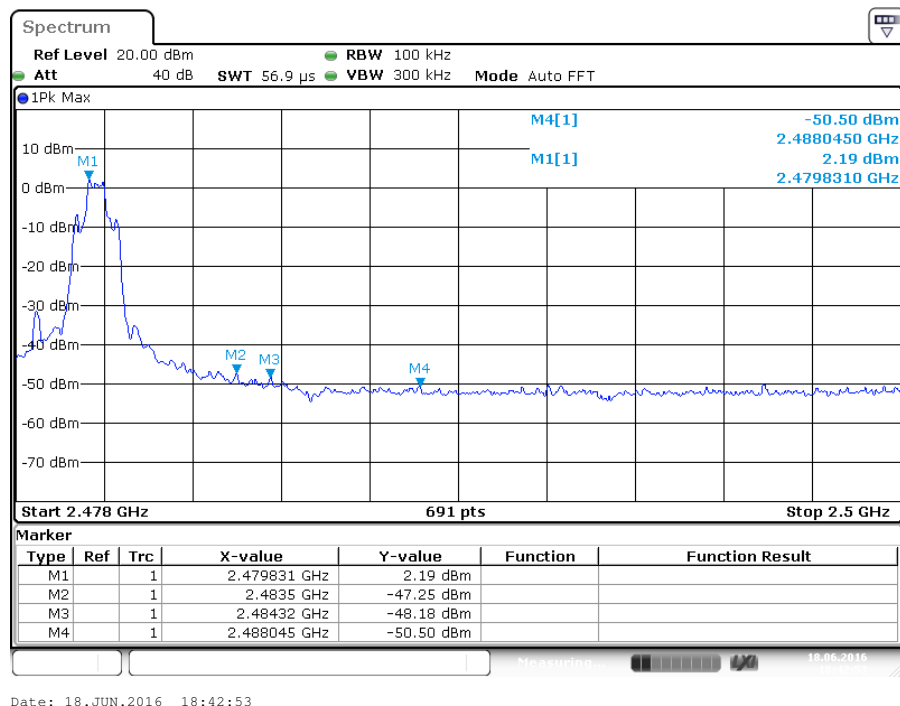
Middle Channel


Date: 18.JUN.2016 18:48:00

High Channel



High Channel, Band Edge



5.1.5 Spurious Emission

RESULT:**Passed**

Date of testing	:	2016-06-17 to 2016-06-18
Test standard	:	FCC part 15.247(d) FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	:	ANSI C63.10: 2013
Limits	:	Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Table 4 & Table 5
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Remark:

During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions. After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation shown in the test setup photos.

Testing was carried out within frequency range 9kHz to the tenth harmonics.

For details refer to Appendix 1.

Test Mode	Channel Frequency (MHz)	20dB Bandwidth (kHz)	2/3 of 20dB Bandwidth (kHz)	Limit (MHz)
BDR	2402	525.3	350.200	/
	2441	521.0	347.333	
	2480	525.3	350.200	
EDR	2402	890.0	593.333	/
	2441	890.0	593.333	
	2480	894.3	596.200	

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
Adjacency Channel	2442			
High Channel	2480	1	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
Adjacency Channel	2479			

5.1.8 Number of hopping frequency**RESULT:****Passed**

Date of testing : 2016-06-18
Test standard : FCC part 15.247(a)(1)(iii)
RSS-247 Clause 5.1(4)
Basic standard : ANSI C63.10: 2013
Limits : ≥ 15 non-overlapping channels
Kind of test site : Shield room

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : B
Ambient temperature : 25°C
Relative humidity : 55%
Atmospheric pressure : 101 kPa

Table 9: Test result of Number of hopping frequency

Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
<u>2400</u> to <u>2483.5</u> MHz	79	≥ 15	Pass

5.1.9 Time of Occupancy

RESULT:
Passed

Date of testing : 2016-06-18
 Test standard : FCC part 15.247(a)(1)(iii)
 RSS-247 Clause 5.1(4)
 Basic standard : ANSI C63.10: 2013
 Limits : <0.4s
 Kind of test site : Shield room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A
 Ambient temperature : 25°C
 Relative humidity : 55%
 Atmospheric pressure : 101 kPa

Table 10: Test result of Time of Occupancy

Test Mode	Channel	Data Packet	Pulse width (ms)	Measured Dwell time(s)	Limit (s)
BDR mode	2402	DH1	0.428	0.137	< 0.4s
		DH3	1.710	0.274	
		DH5	2.978	0.318	
	2441	DH1	0.428	0.137	
		DH3	1.725	0.276	
		DH5	2.978	0.318	
	2480	DH1	0.428	0.137	
		DH3	1.739	0.278	
		DH5	2.978	0.318	
EDR mode	2402	3DH1	0.428	0.137	
		3DH3	1.732	0.277	
		3DH5	2.993	0.319	
	2441	3DH1	0.435	0.139	
		3DH3	1.732	0.277	
		3DH5	2.993	0.319	
	2480	3DH1	0.428	0.137	
		3DH3	1.703	0.272	
		3DH5	2.993	0.319	

Note:

Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

5.1.10 Conducted emissions

RESULT:**Passed**

Date of testing	:	2016-05-21
Test standard	:	FCC Part 15.107(a) & FCC Part 15.207(a) RSS-Gen Clause 8.8
Basic standard	:	ANSI C63.10: 2013 & ANSI C63.4: 2014
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.207(a) & FCC Part 15.207(a) RSS-Gen Table 3
Kind of test site	:	Shield room

Test setup

Input Voltage	:	AC 120V, 60Hz via AC/DC Adapter
Operation Mode	:	B, C, D, E
Earthing	:	Not connected
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

For details refer to Appendix 1.

5.1.11 Radiated Emission

RESULT:**Passed**

Date of testing	:	2016-06-03
Test standard	:	FCC Part 15.109(a) & FCC Part 15.209(a) RSS-Gen 8.9
Basic standard	:	ANSI C63.4: 2014
Frequency range	:	30 - 6000MHz
Classification	:	Class B
Limit	:	FCC Part 15.109(a) & FCC Part 15.209(a) RSS-Gen Table 4
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Input Voltage	:	AC 120V, 60Hz via AC/DC Adapter
Operation mode	:	C, D, E
Earthing	:	Not connected
Ambient temperature	:	Refer to Appendix 1
Relative humidity	:	Refer to Appendix 1
Atmospheric pressure	:	Refer to Appendix 1

Test data refer to Appendix 1.

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Figure 1: Test figure of spurious emissions, mode A.1, Horizontal polarity (9kHz – 30MHz)

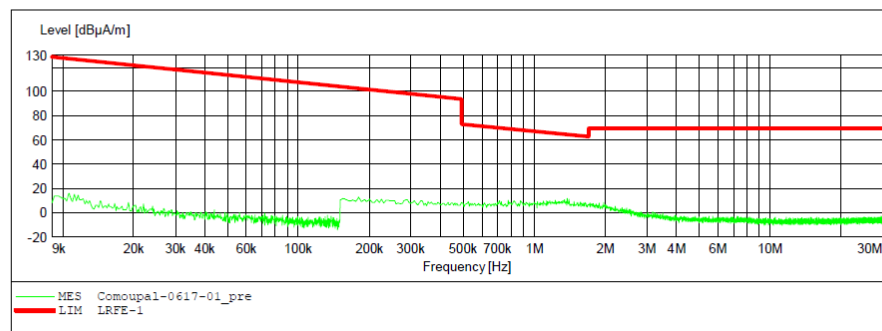
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3m Radiated

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
 Manufacturer: Comoupal (Group) Corporation
 Operating Condition: TX 2402MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: AC 120V/60Hz
 Comment: X
 Start of Test: 2016-6-17 /

SCAN TABLE: "LFRE Fin"

Short Description: _SUB_STD_VTERM2 1.70				Detector	Meas. Time	IF Bandw.	Transducer
Start Frequency	Stop Frequency	Step Width					
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



**Figure 2: Test figure of spurious emissions, mode A.1, Vertical polarity
(9kHz – 30MHz)**

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FCC Class B 3m Radiated

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
Manufacturer: Comoupal (Group) Corporation
Operating Condition: TX 2402MHz
Test Site: 2# Chamber
Operator: LGWADE
Test Specification: AC 120V/60Hz
Comment: Y
Start of Test: 2016-6-17 /

SCAN TABLE: "LFRE Fin"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

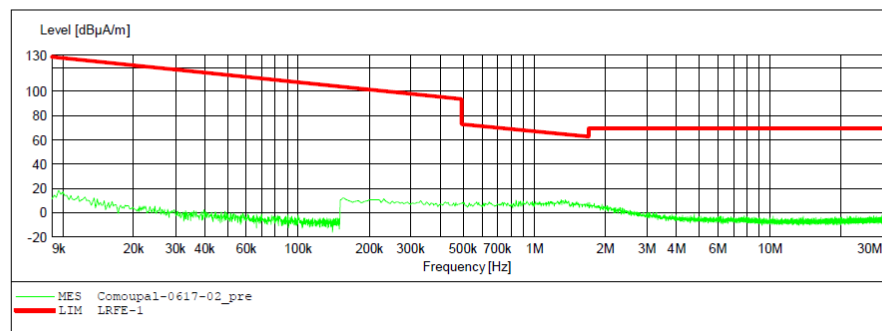


Figure 3: Test figure of spurious emissions, mode A.1, Horizontal polarity (30MHz – 1GHz)

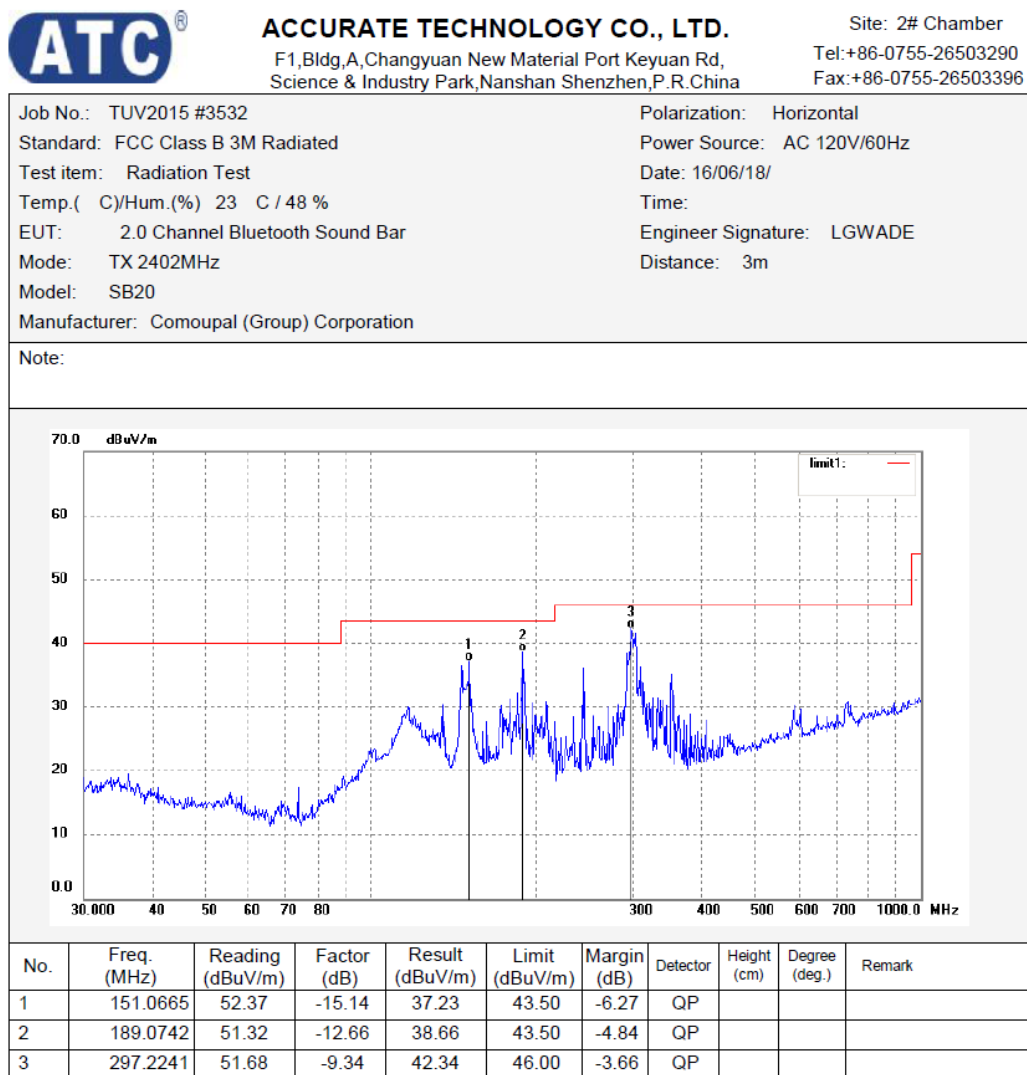


Figure 4: Test figure of spurious emissions, mode A.1, Vertical polarity (30MHz – 1GHz)

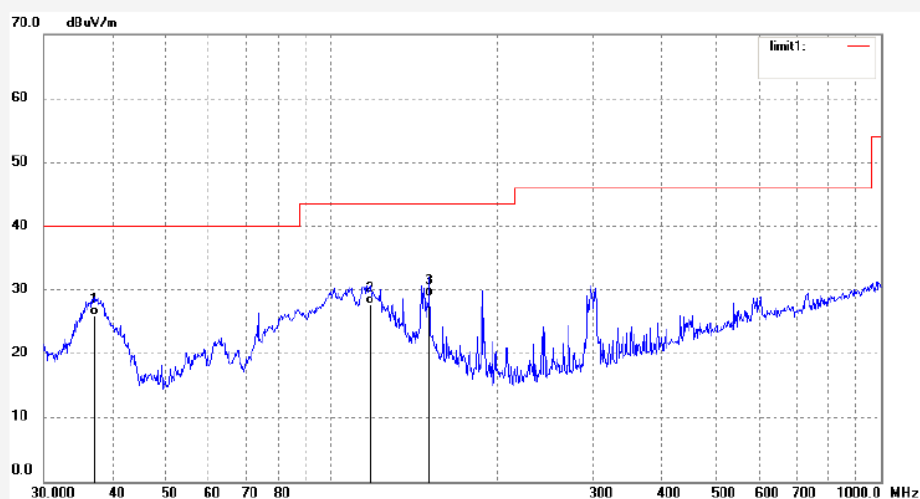


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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3533	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	37.1550	36.88	-10.90	25.98	40.00	-14.02	QP			
2	117.7724	40.90	-13.14	27.76	43.50	-15.74	QP			
3	151.0665	44.02	-15.14	28.88	43.50	-14.62	QP			

Figure 5: Test figure of spurious emissions, mode A.1, Horizontal polarity (1GHz –18GHz)

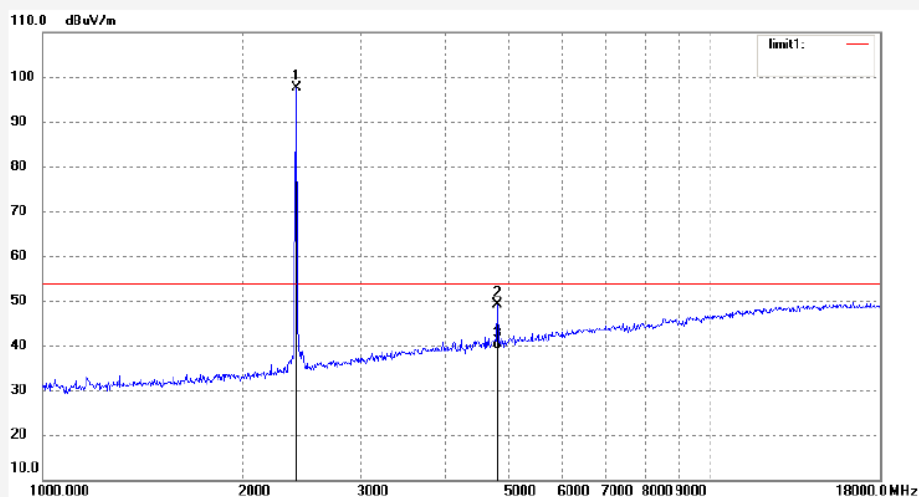


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3516	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	105.20	-7.45	97.75	/	/	peak			
2	4804.027	49.36	-0.30	49.06	74.00	-24.94	peak			
3	4804.027	39.53	-0.30	39.23	54.00	-14.77	AVG			

Figure 6: Test figure of spurious emissions, mode A.1, Vertical polarity (1GHz – 18GHz)

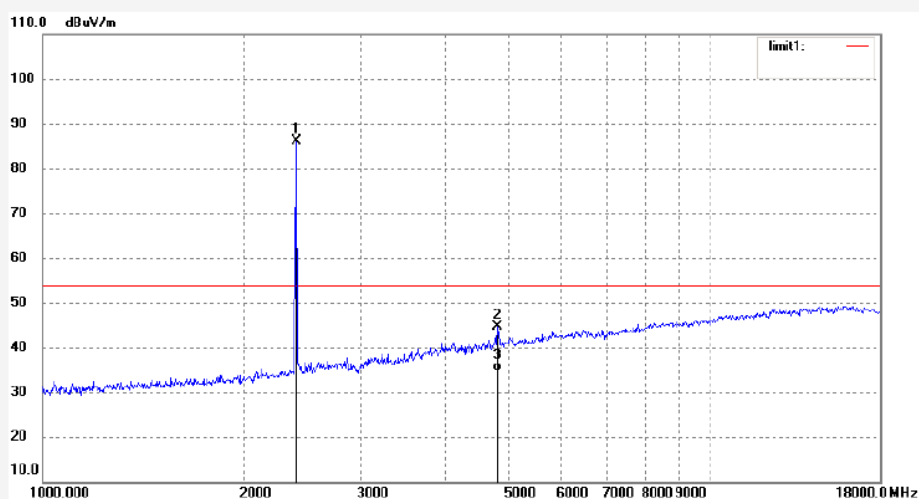


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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3517	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	93.59	-7.45	86.14	/	/	peak			
2	4804.028	44.97	-0.30	44.67	74.00	-29.33	peak			
3	4804.028	34.86	-0.30	34.56	54.00	-19.44	AVG			

Figure 7: Test figure of spurious emissions, mode A.1, Horizontal polarity (18GHz –25GHz)

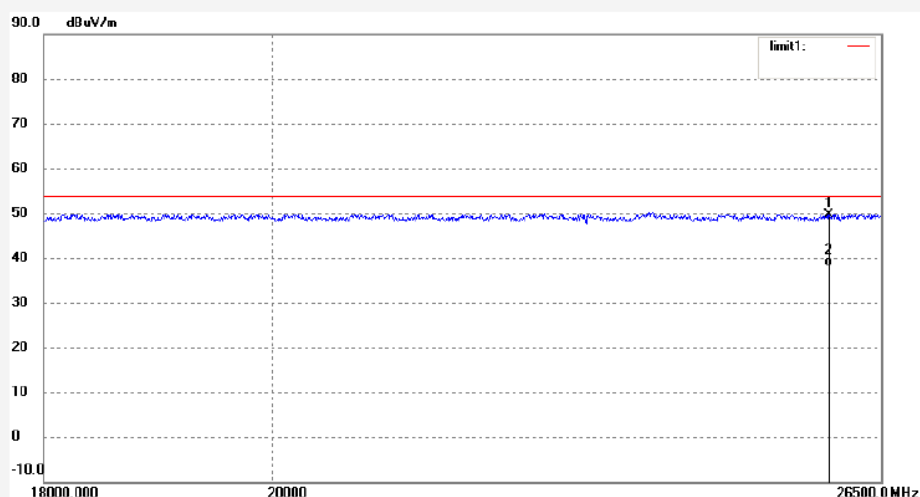


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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3527	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25872.091	33.25	16.50	49.75	74.00	-24.25	peak			
2	25872.091	21.73	16.50	38.23	54.00	-15.77	AVG			

Figure 8: Test figure of spurious emissions, mode A.1, Vertical polarity (18GHz – 25GHz)

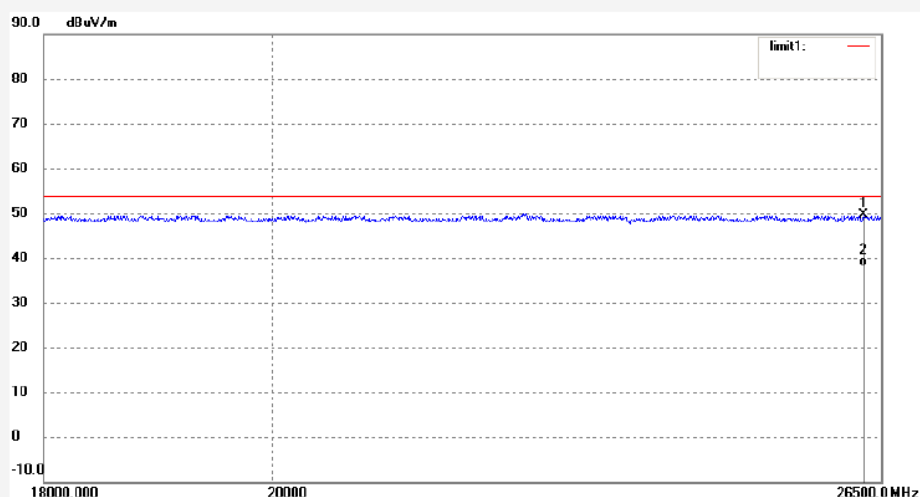


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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3526	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26285.633	32.58	17.04	49.62	74.00	-24.38	peak			
2	26285.633	21.19	17.04	38.23	54.00	-15.77	AVG			

Figure 9: Test figure of spurious emissions, mode A.2, Horizontal polarity (9kHz – 30MHz)

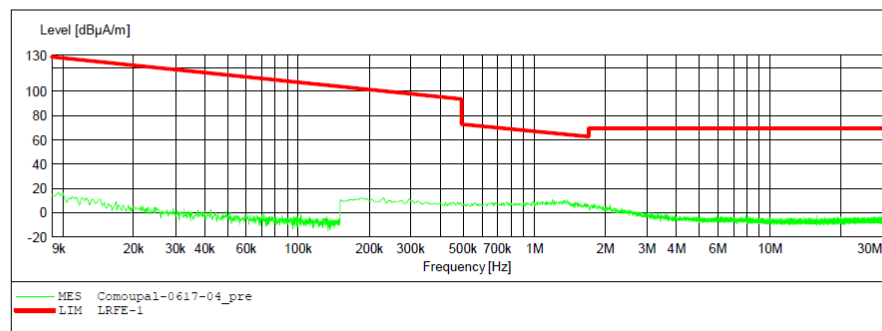
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3m Radiated

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
 Manufacturer: Comoupal (Group) Corporation
 Operating Condition: TX 2441MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: AC 120V/60Hz
 Comment: X
 Start of Test: 2016-6-17 /

SCAN TABLE: "LFRE Fin"

Short Description: _SUB_STD_VTERM2 1.70						
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



**Figure 10: Test figure of spurious emissions, mode A.2, Vertical polarity
(9kHz – 30MHz)**

ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3m Radiated

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
 Manufacturer: Comoupal (Group) Corporation
 Operating Condition: TX 2441MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: AC 120V/60Hz
 Comment: Y
 Start of Test: 2016-6-17 /

SCAN TABLE: "LFRE Fin"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

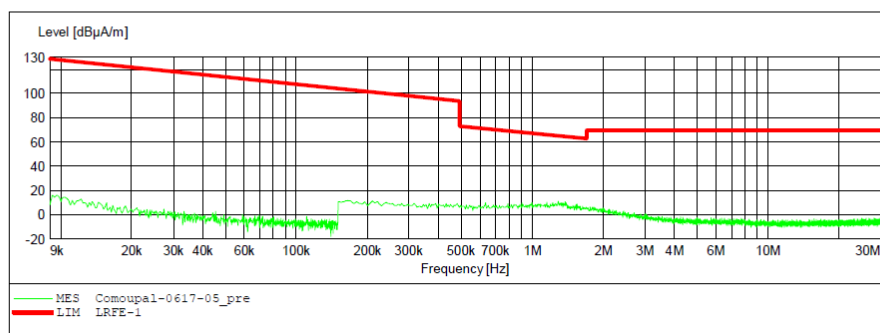


Figure 11: Test figure of spurious emissions, mode A.2, Horizontal polarity (30MHz – 1GHz)



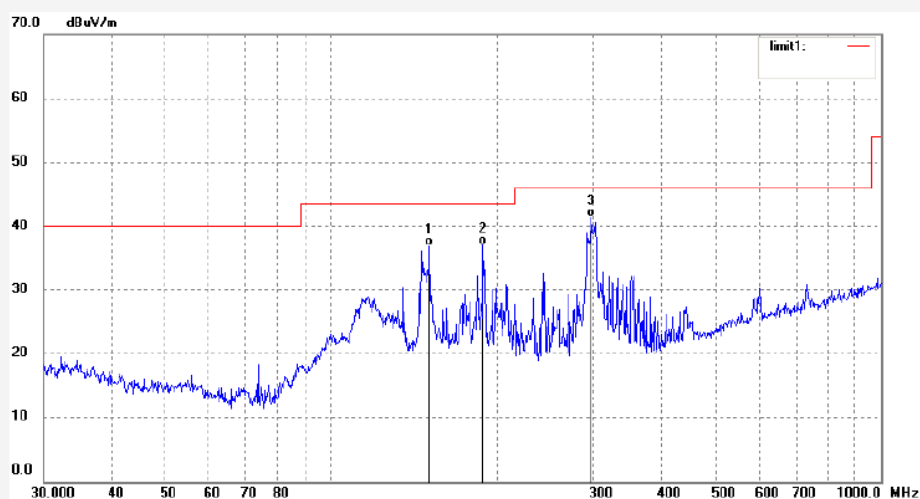
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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3535
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: 2.0 Channel Bluetooth Sound Bar
Mode: TX 2441MHz
Model: SB20
Manufacturer: Comoupal (Group) Corporation

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 16/06/18/
Time:
Engineer Signature: LGWADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	151.0665	52.01	-15.14	36.87	43.50	-6.63	QP			
2	189.0742	49.67	-12.66	37.01	43.50	-6.49	QP			
3	297.2241	50.75	-9.34	41.41	46.00	-4.59	QP			

Figure 12: Test figure of spurious emissions, mode A.2, Vertical polarity (30MHz – 1GHz)

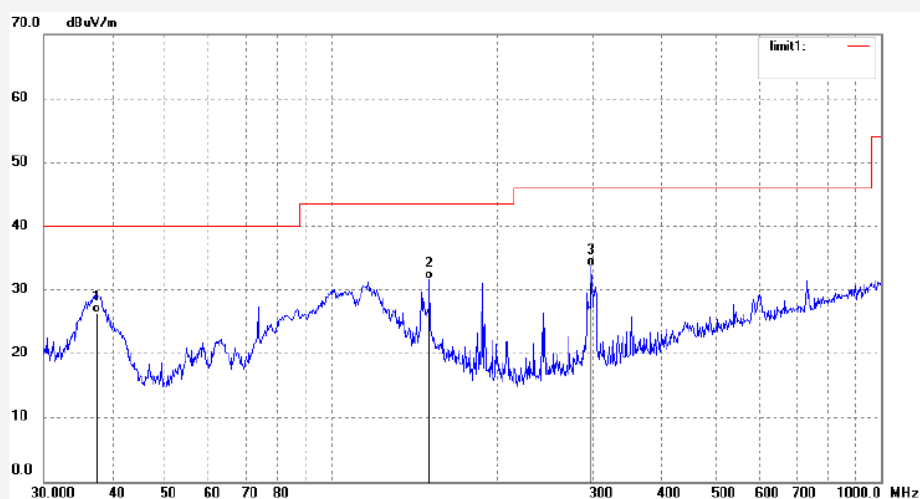


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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3534	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	37.4164	37.36	-10.96	26.40	40.00	-13.60	QP			
2	151.0665	46.79	-15.14	31.65	43.50	-11.85	QP			
3	297.2241	42.96	-9.34	33.62	46.00	-12.38	QP			

Figure 13: Test figure of spurious emissions, mode A.2, Horizontal polarity (1GHz – 18GHz)

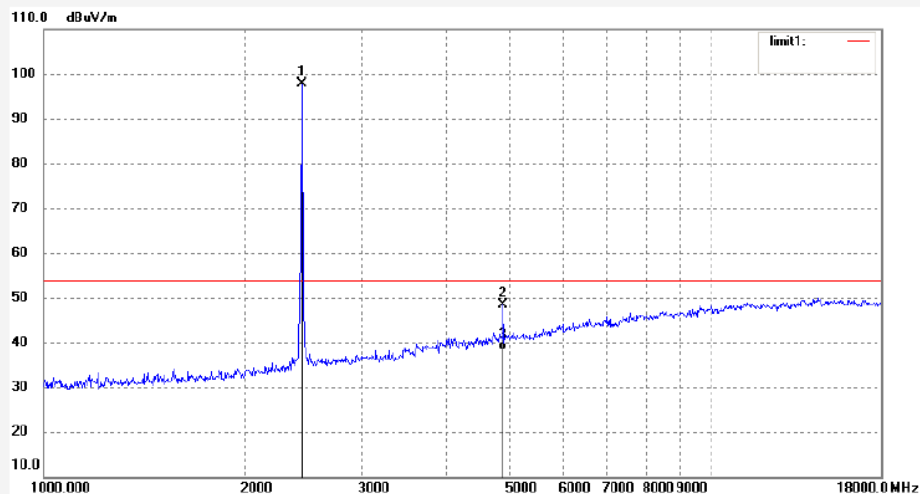


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3520	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	105.18	-7.35	97.83	/	/	peak			
2	4882.025	48.36	0.14	48.50	74.00	-25.50	peak			
3	4882.025	38.07	0.14	38.21	54.00	-15.79	AVG			

Figure 14: Test figure of spurious emissions, mode A.2, Vertical polarity (1GHz – 18GHz)

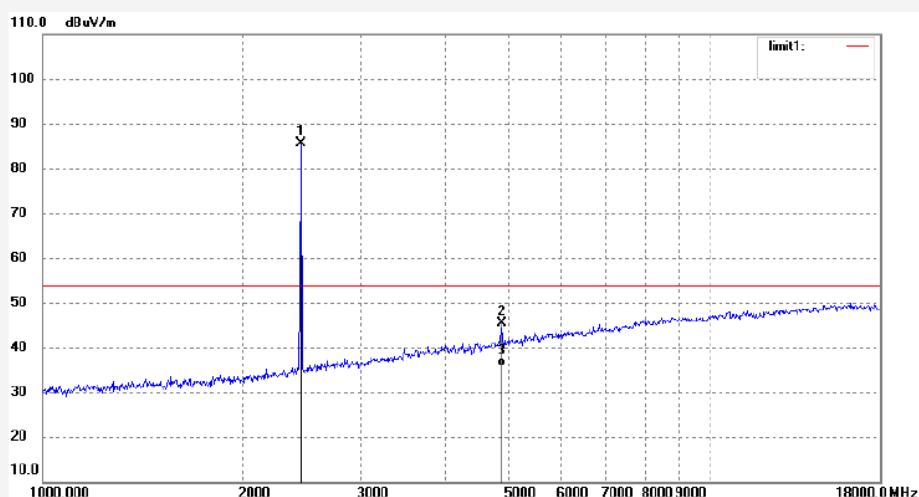


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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3521	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	93.07	-7.35	85.72	/	/	peak			
2	4882.030	45.21	0.14	45.35	74.00	-28.65	peak			
3	4882.030	35.54	0.14	35.68	54.00	-18.32	AVG			

Figure 15: Test figure of spurious emissions, mode A.2, Horizontal polarity (18GHz – 25GHz)

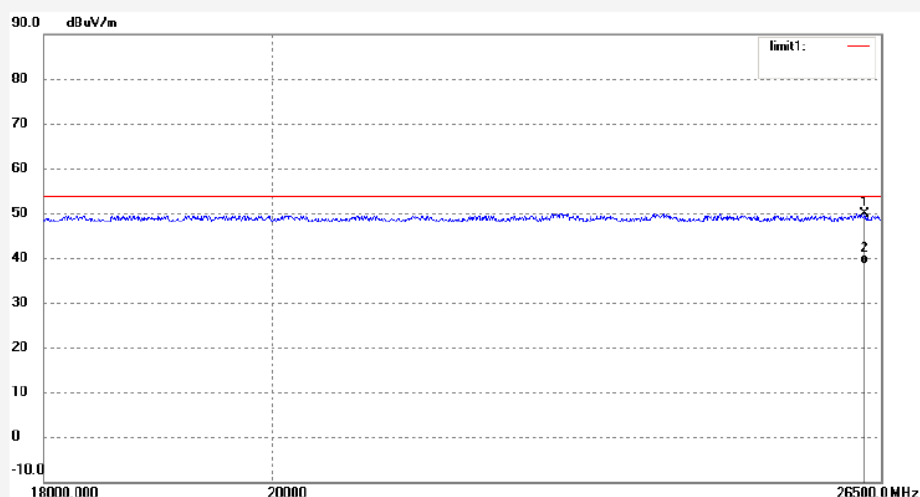


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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3528	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26305.974	33.45	16.50	49.95	74.00	-24.05	peak			
2	26305.974	22.06	16.50	38.56	54.00	-15.44	AVG			

Figure 16: Test figure of spurious emissions, mode A.2, Vertical polarity (18GHz – 25GHz)



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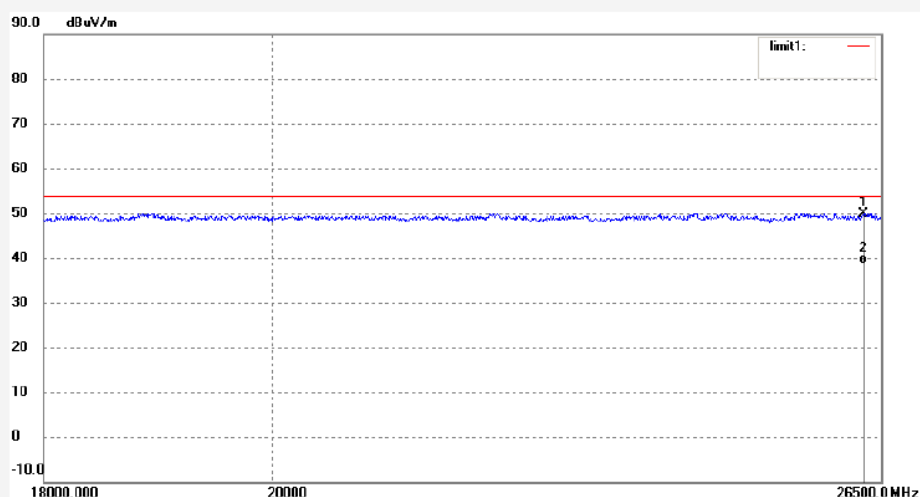
Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: TUV2015 #3529	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26285.633	32.93	17.04	49.97	74.00	-24.03	peak			
2	26285.633	21.54	17.04	38.58	54.00	-15.42	AVG			

Figure 17: Test figure of spurious emissions, mode A.3, Horizontal polarity (9kHz – 30MHz)

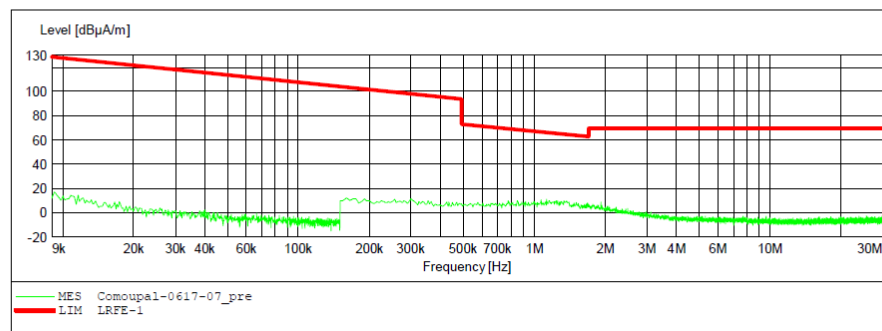
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3m Radiated

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
 Manufacturer: Comoupal (Group) Corporation
 Operating Condition: TX 2480MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: AC 120V/60Hz
 Comment: X
 Start of Test: 2016-6-17 /

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



**Figure 18: Test figure of spurious emissions, mode A.3, Vertical polarity
(9kHz – 30MHz)**

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FCC Class B 3m Radiated

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
 Manufacturer: Comoupal (Group) Corporation
 Operating Condition: TX 2480MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: AC 120V/60Hz
 Comment: Y
 Start of Test: 2016-6-17 /

SCAN TABLE: "LFRE Fin"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

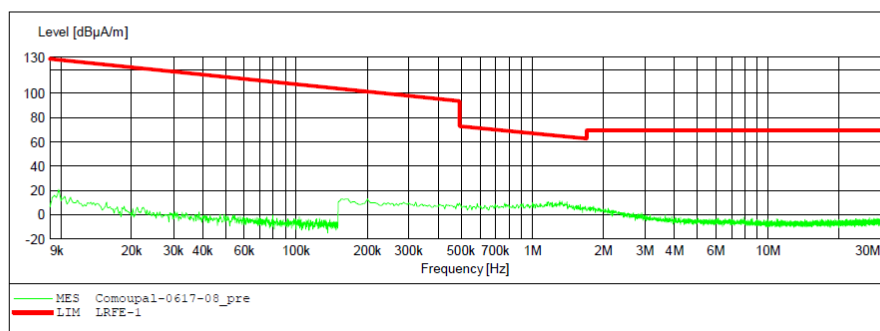


Figure 19: Test figure of spurious emissions, mode A.3, Horizontal polarity (30MHz – 1GHz)

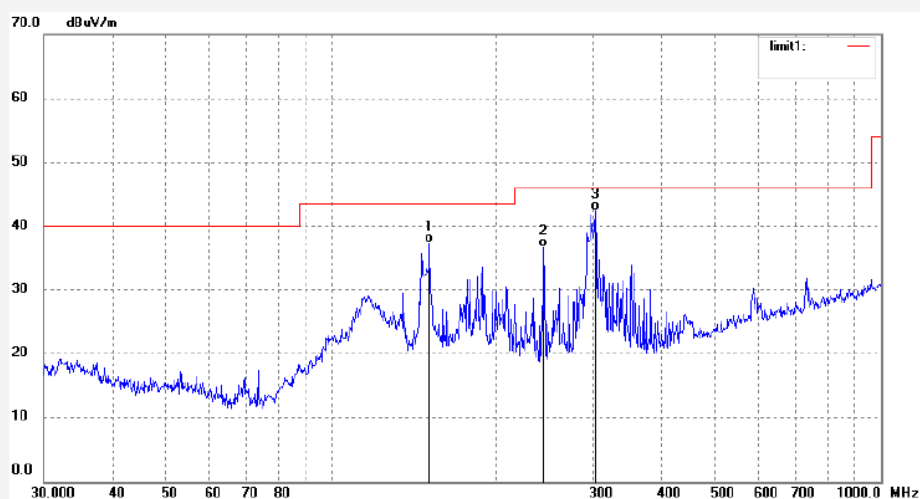


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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3536	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	151.0665	52.53	-15.14	37.39	43.50	-6.11	QP			
2	243.3771	47.56	-10.82	36.74	46.00	-9.26	QP			
3	302.4812	51.72	-9.24	42.48	46.00	-3.52	QP			

Figure 20: Test figure of spurious emissions, mode A.3, Vertical polarity (30MHz – 1GHz)

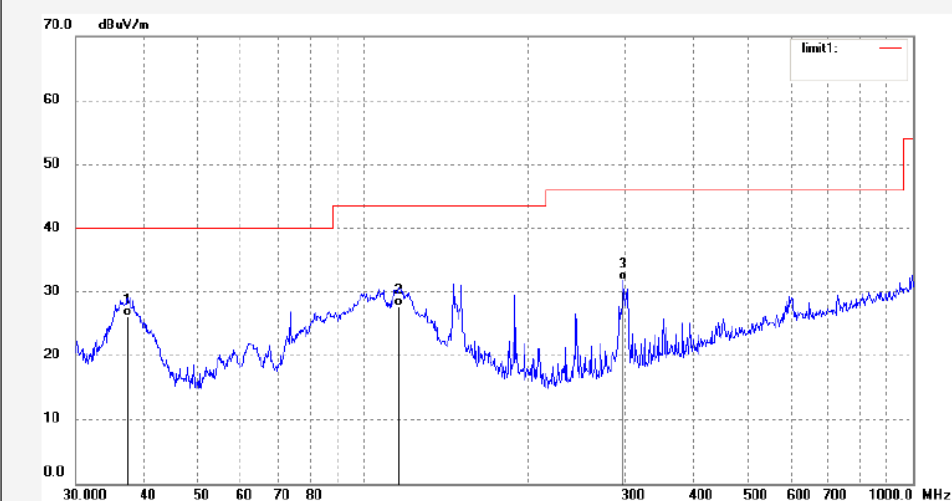


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3537	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	37.2854	37.11	-10.93	26.18	40.00	-13.82	QP			
2	116.1320	40.82	-13.15	27.67	43.50	-15.83	QP			
3	297.2241	41.17	-9.34	31.83	46.00	-14.17	QP			

Figure 21: Test figure of spurious emissions, mode A.3, Horizontal polarity (1GHz –18GHz)

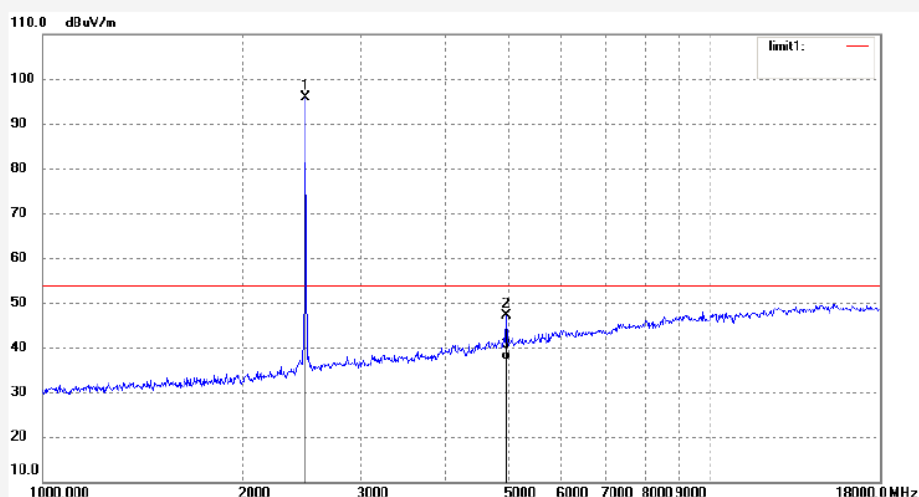


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3523	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	103.34	-7.37	95.97	/	/	peak			
2	4960.024	46.64	0.52	47.16	74.00	-26.84	peak			
3	4960.024	36.73	0.52	37.25	54.00	-16.75	AVG			

Figure 22: Test figure of spurious emissions, mode A.3, Vertical polarity (1GHz – 18GHz)

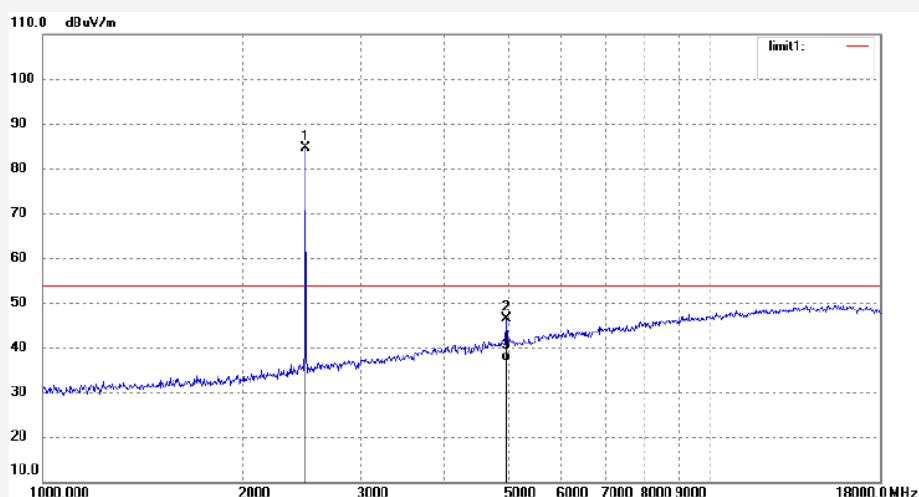


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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3522	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	92.00	-7.37	84.63	/	/	peak			
2	4960.023	45.81	0.52	46.33	74.00	-27.67	peak			
3	4960.023	36.42	0.52	36.94	54.00	-17.06	AVG			

Figure 23: Test figure of spurious emissions, mode A.3, Horizontal polarity (18GHz –25GHz)

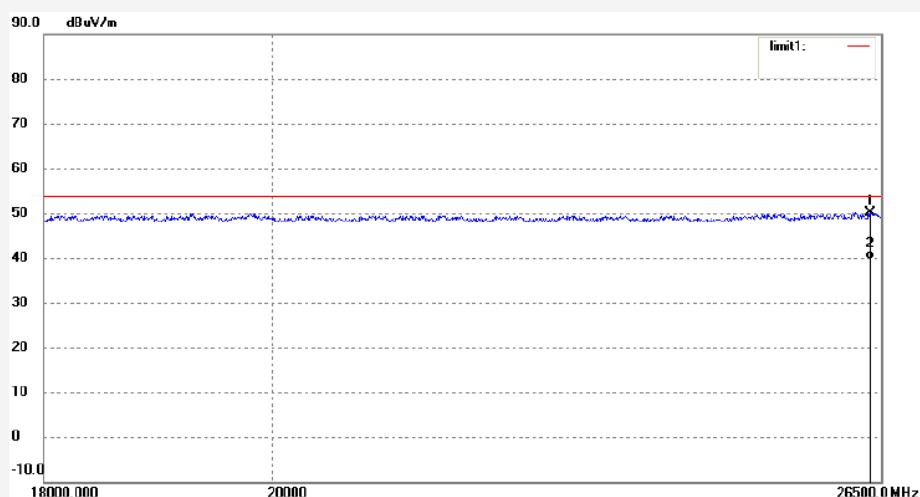


ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3531	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26367.091	33.69	16.50	50.19	74.00	-23.81	peak			
2	26367.091	23.06	16.50	39.56	54.00	-14.44	AVG			

Figure 24: Test figure of spurious emissions, mode A.3, Vertical polarity (18GHz – 25GHz)



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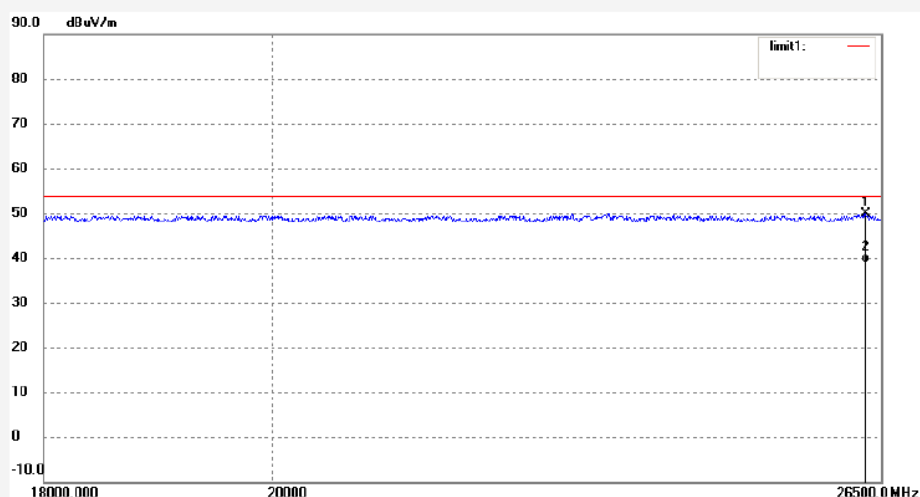
Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: TUV2015 #3530	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26316.150	32.95	17.02	49.97	74.00	-24.03	peak			
2	26316.150	21.89	17.02	38.91	54.00	-15.09	AVG			

Figure 25: Test figure of Radiated emissions in restricted bands, Mode A.1, Horizontal

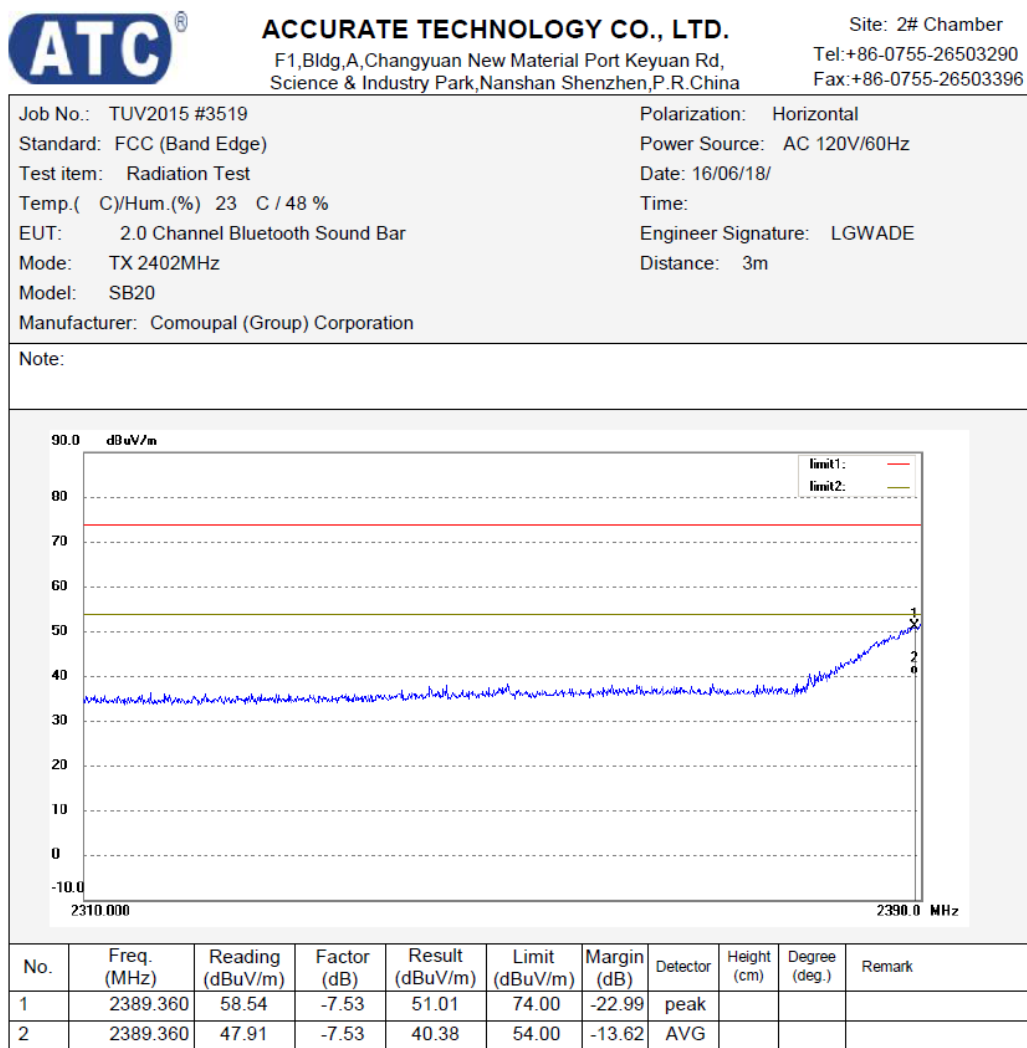


Figure 26: Test figure of Radiated emissions in restricted bands, Mode A.1, Vertical

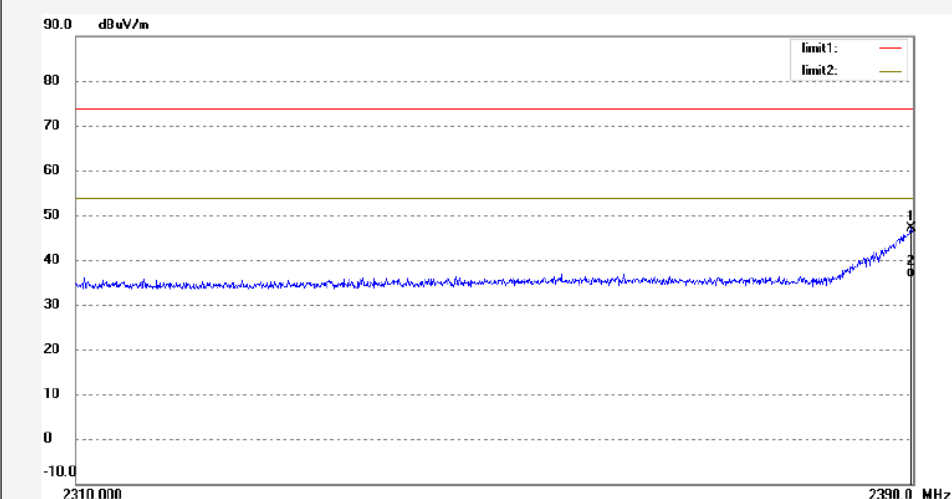


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3518	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.840	54.62	-7.53	47.09	74.00	-26.91	peak			
2	2389.840	43.74	-7.53	36.21	54.00	-17.79	AVG			

Figure 27: Test figure of Radiated emissions in restricted bands, Mode A.3, Horizontal

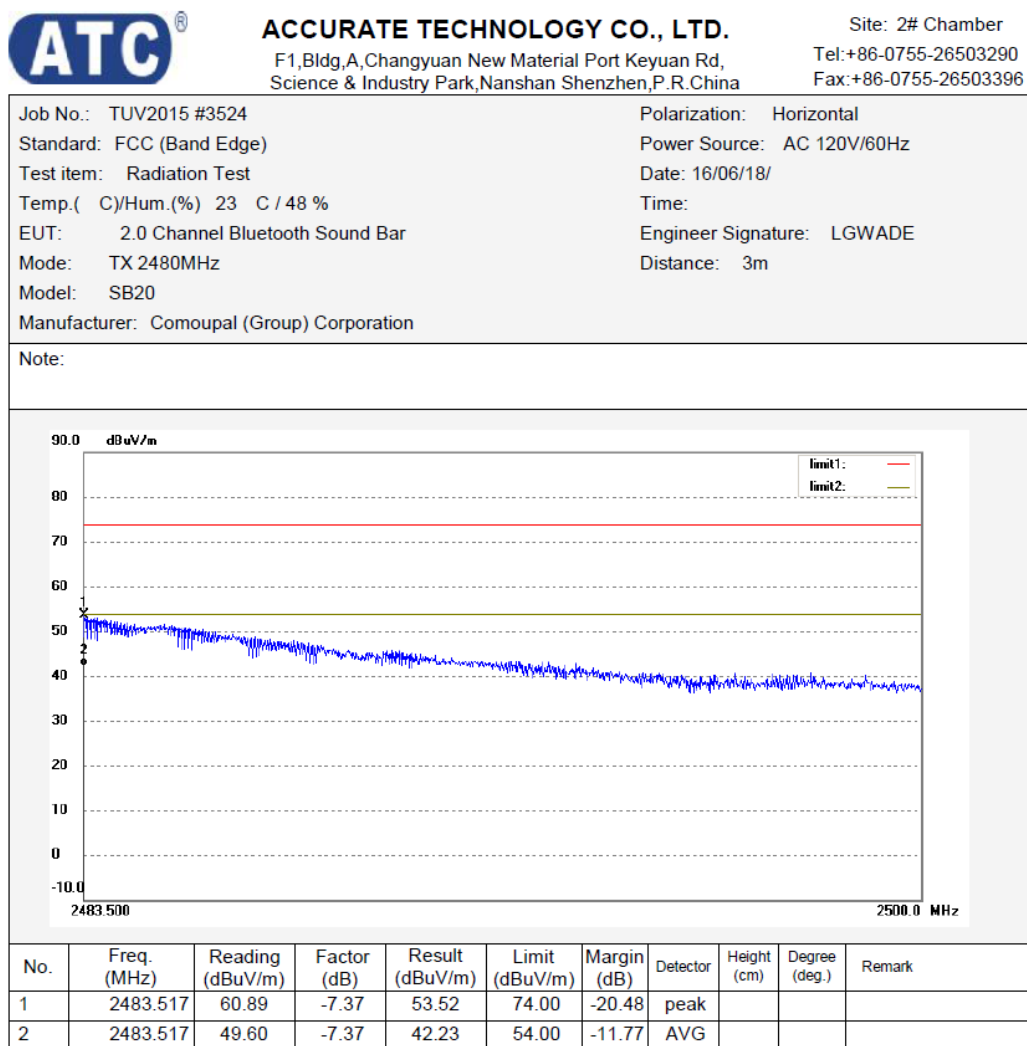


Figure 28: Test figure of Radiated emissions in restricted bands, Mode A.3, Vertical

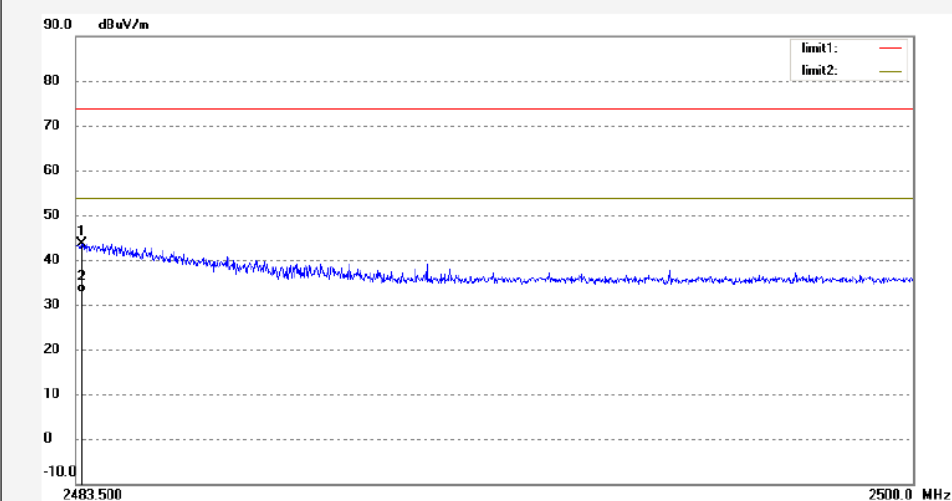


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3525	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/18/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.615	51.08	-7.37	43.71	74.00	-30.29	peak			
2	2483.615	39.97	-7.37	32.60	54.00	-21.40	AVG			

Figure 29: Test figure of Conducted emissions, Mode B, line live

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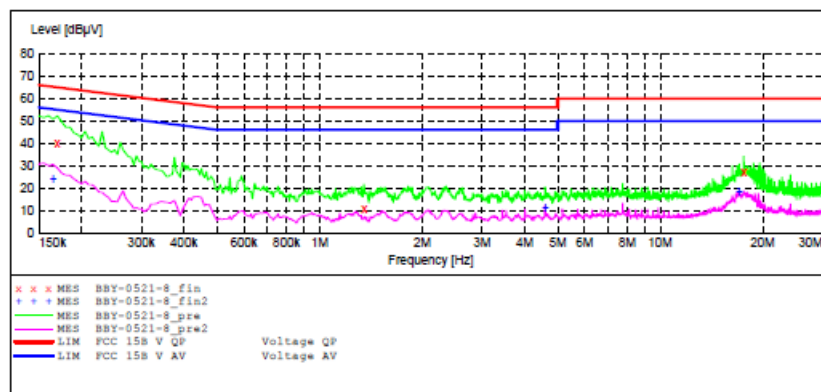
CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
 Manufacturer: Comoupal (Group) Corporation
 Operating Condition: On With Bluetooth
 Test Site: 1#Shielding Room
 Operator: LGWADE
 Test Specification: L 120V/60Hz
 Comment: Mains Port
 Start of Test: 5/21/2016 /

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: "BBY-0521-8_fin"

5/21/2016							
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.170000	39.90	10.5	65	25.1	QP	L1	GND
1.350000	10.80	10.9	56	45.2	QP	L1	GND
17.575000	27.30	11.4	60	32.7	QP	L1	GND

MEASUREMENT RESULT: "BBY-0521-8_fin2"

5/21/2016							
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.165000	24.30	10.5	55	30.9	AV	L1	GND
4.590000	11.40	11.1	46	34.6	AV	L1	GND
17.035000	18.10	11.4	50	31.9	AV	L1	GND

Figure 30: Test figure of Conducted emissions, Mode B, line neutral

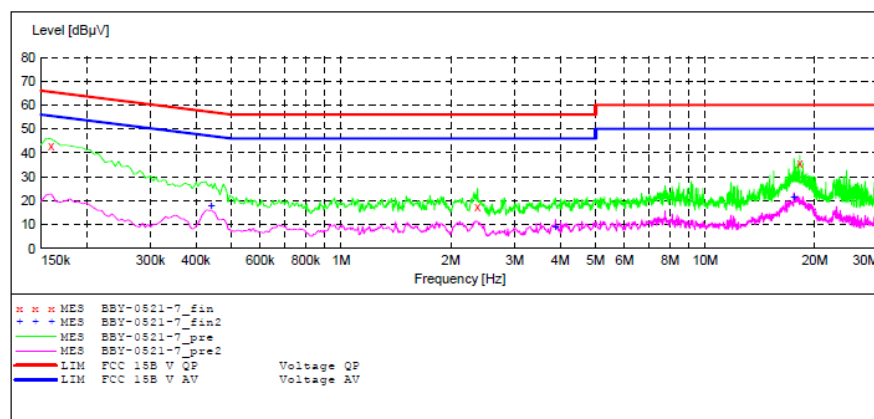
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
 Manufacturer: Comoupal (Group) Corporation
 Operating Condition: On With Bluetooth
 Test Site: 1#Shielding Room
 Operator: LGWADE
 Test Specification: N 120V/60Hz
 Comment: Mains Port
 Start of Test: 5/21/2016 /

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

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLR8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	Average			
			QuasiPeak	1.0 s	9 kHz	NSLR8126 2008
			Average			



MEASUREMENT RESULT: "BBY-0521-7_fin"

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.160000	42.70	10.5	66	22.8	QP	N	GND
2.370000	17.50	11.0	56	38.5	QP	N	GND
18.175000	35.40	11.4	60	24.6	QP	N	GND

Figure 31: Test figure of Conducted emissions, Mode C, line live

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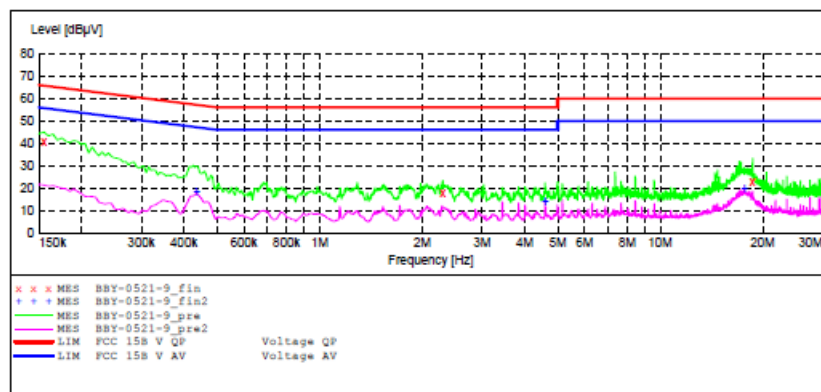
CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
Manufacturer: Comoupal (Group) Corporation
Operating Condition: Aux in
Test Site: 1#Shielding Room
Operator: LGWADE
Test Specification: L 120V/60Hz
Comment: Mains Port
Start of Test: 5/21/2016 /

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: "BBY-0521-9_fin"

5/21/2016							
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.155000	41.00	10.5	66	24.7	QP	L1	GND
2.300000	17.60	11.0	56	38.4	QP	L1	GND
18.670000	22.90	11.4	60	37.1	QP	L1	GND

MEASUREMENT RESULT: "BBY-0521-9_fin2"

5/21/2016							
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.435000	18.70	10.7	47	28.5	AV	L1	GND
4.590000	14.00	11.1	46	32.0	AV	L1	GND
17.680000	19.90	11.4	50	30.1	AV	L1	GND

Figure 32: Test figure of Conducted emissions, Mode C, line neutral

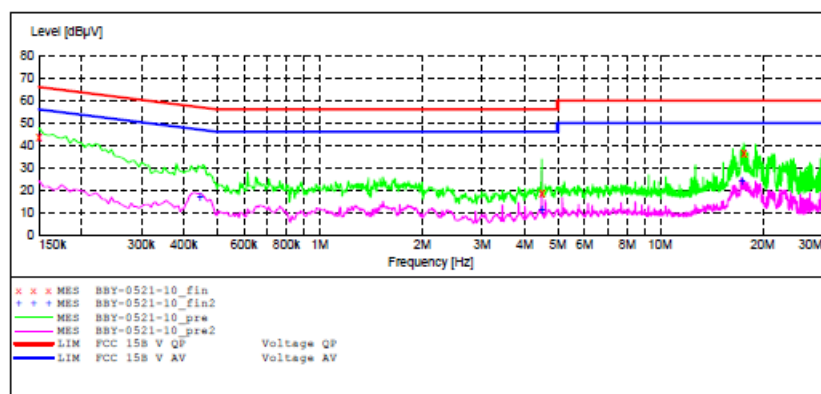
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
Manufacturer: Comoupal (Group) Corporation
Operating Condition: Aux in
Test Site: 1#Shielding Room
Operator: LGWADE
Test Specification: N 120V/60Hz
Comment: Mains Port
Start of Test: 5/21/2016 /

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: "BBY-0521-10_fin"

5/21/2016
Frequency Level Transd Limit Margin Detector Line PE
MHz dBμV dB dB dB
0.150000 43.50 10.5 66 22.5 QP N GND
4.490000 18.30 11.1 56 37.7 QP N GND
17.575000 36.10 11.4 60 23.9 QP N GND

MEASUREMENT RESULT: "BBY-0521-10_fin2"

5/21/2016
Frequency Level Transd Limit Margin Detector Line PE
MHz dBμV dB dB dB
0.445000 17.20 10.7 47 29.8 AV N GND
4.490000 11.50 11.1 46 34.5 AV N GND
17.320000 23.80 11.4 50 26.2 AV N GND

Figure 33: Test figure of Conducted emissions, Mode D, line live

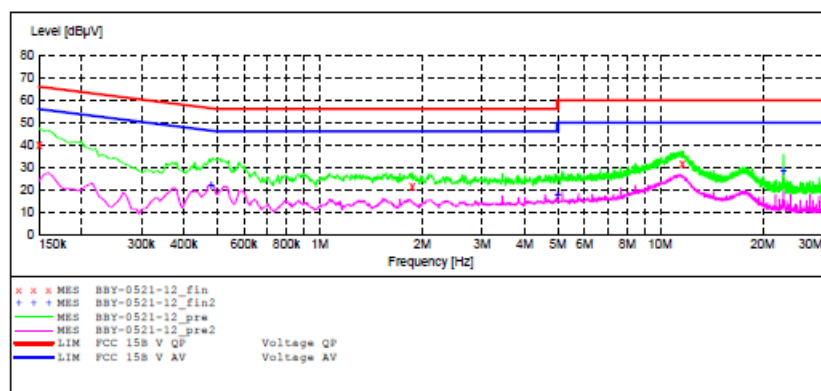
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
Manufacturer: Comoupal (Group) Corporation
Operating Condition: RCA in
Test Site: 1#Shielding Room
Operator: LGWADE
Test Specification: L 120V/60Hz
Comment: Mains Port
Start of Test: 5/21/2016 /

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

Short Description: SUB STD_VIERM2 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: "BBY-0521-12_fin"

5/21/2016

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	39.80	10.5	66	26.2	QP	L1	GND
1.870000	21.00	11.0	56	35.0	QP	L1	GND
11.620000	31.40	11.3	60	28.6	QP	L1	GND

MEASUREMENT RESULT: "BBY-0521-12_fin2"

5/21/2016

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.480000	22.30	10.7	46	24.0	AV	L1	GND
4.990000	17.60	11.2	46	28.4	AV	L1	GND
22.990000	28.40	11.4	50	21.6	AV	L1	GND

Figure 34: Test figure of Conducted emissions, Mode D, line neutral

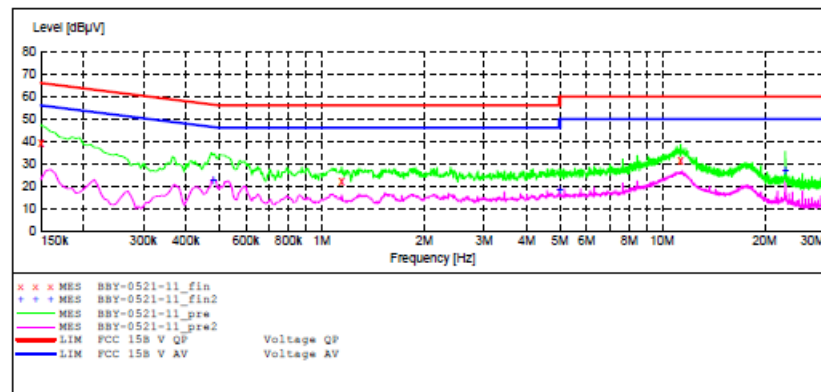
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
Manufacturer: Comoupal (Group) Corporation
Operating Condition: RCA in
Test Site: 1#Shielding Room
Operator: LGWADE
Test Specification: N 120V/60Hz
Comment: Mains Port
Start of Test: 5/21/2016 /

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: "BBY-0521-11_fin"

5/21/2016

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.150000	39.20	10.5	66	26.8	QP	N	GND
1.145000	22.30	10.9	56	33.7	QP	N	GND
11.335000	31.40	11.3	60	28.6	QP	N	GND

MEASUREMENT RESULT: "BBY-0521-11_fin2"

5/21/2016

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.480000	22.50	10.7	46	23.8	AV	N	GND
4.990000	18.30	11.2	46	27.7	AV	N	GND
22.975000	27.00	11.4	50	23.0	AV	N	GND

Figure 35: Test figure of Conducted emissions, Mode E, line live

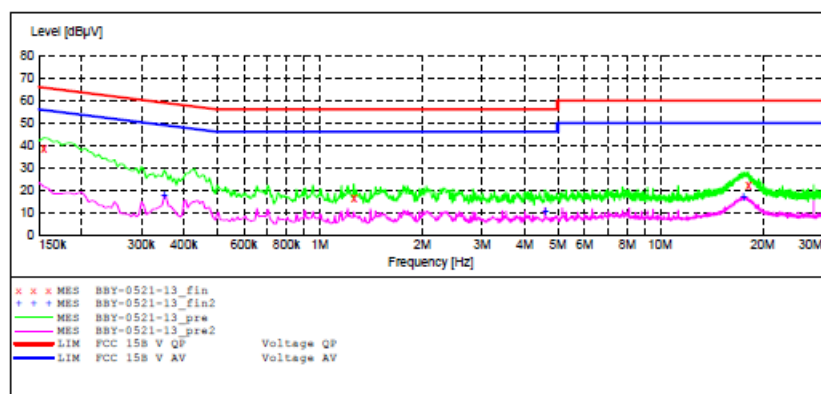
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
Manufacturer: Comoupal (Group) Corporation
Operating Condition: Optical in
Test Site: 1#Shielding Room
Operator: LGWADE
Test Specification: L 120V/60Hz
Comment: Mains Port
Start of Test: 5/21/2016 /

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: "BBY-0521-13_fin"

5/21/2016

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.155000	38.40	10.5	66	27.3	QP	L1	GND
1.260000	16.00	10.9	56	40.0	QP	L1	GND
18.145000	22.00	11.4	60	38.0	QP	L1	GND

MEASUREMENT RESULT: "BBY-0521-13_fin2"

5/21/2016

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.350000	17.40	10.6	49	31.6	AV	L1	GND
4.590000	10.70	11.1	46	35.3	AV	L1	GND
17.560000	17.10	11.4	50	32.9	AV	L1	GND

Figure 36: Test figure of Conducted emissions, Mode E, line neutral

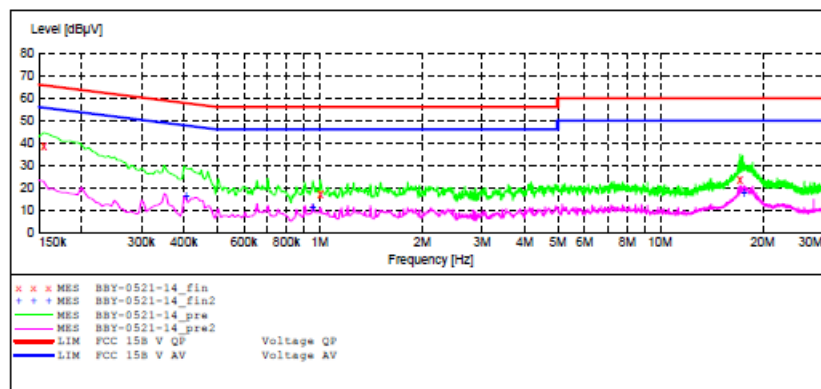
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: 2.0 Channel Bluetooth Sound Bar M/N:SB20
Manufacturer: Comoupal (Group) Corporation
Operating Condition: Optical in
Test Site: 1#Shielding Room
Operator: LGWADE
Test Specification: N 120V/60Hz
Comment: Mains Port
Start of Test: 5/21/2016 /

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: "BBY-0521-14_fin"

5/21/2016
Frequency Level Transd Limit Margin Detector Line PE
MHz dBμV dB dBμV dB
0.155000 38.30 10.5 66 27.4 QP N GND
1.005000 16.90 10.8 56 39.1 QP N GND
17.170000 23.30 11.4 60 36.7 QP N GND

MEASUREMENT RESULT: "BBY-0521-14_fin2"

5/21/2016
Frequency Level Transd Limit Margin Detector Line PE
MHz dBμV dB dBμV dB
0.405000 16.00 10.7 48 31.8 AV N GND
0.955000 11.40 10.8 46 34.6 AV N GND
17.605000 18.00 11.4 50 32.0 AV N GND

Figure 37: Test figure of Radiated emissions, Mode C, Below 1GHz, Horizontal

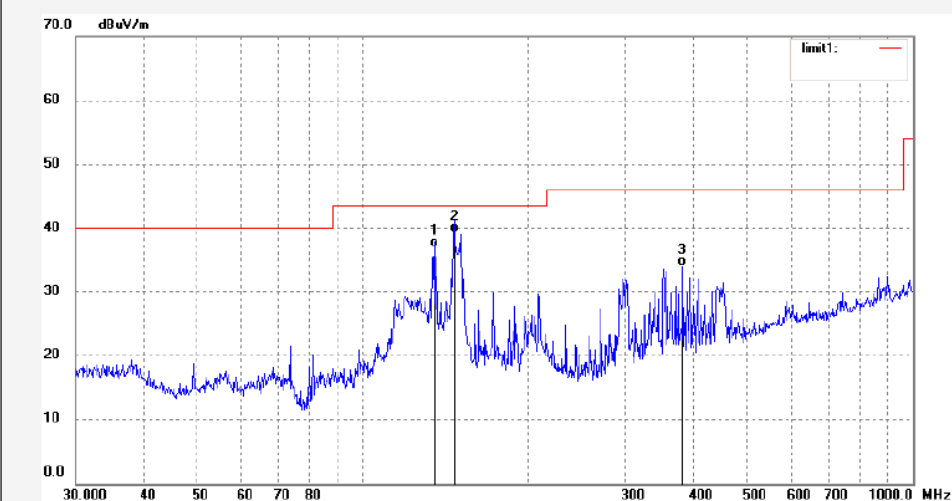


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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3349	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2016-6-2
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: Aux in	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	135.0319	51.04	-14.08	36.96	43.50	-6.54	QP			
2	146.3735	54.48	-15.21	39.27	43.50	-4.23	QP			
3	381.2485	41.33	-7.32	34.01	46.00	-11.99	QP			

Figure 38: Test figure of Radiated emissions, Mode C, Below 1GHz, Vertical

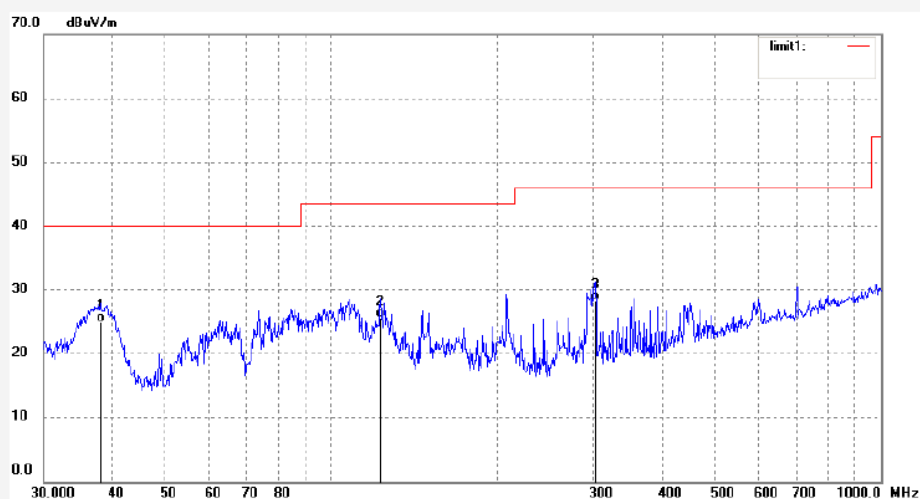


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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3350	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2016-6-2
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: Aux in	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	38.0782	35.99	-11.11	24.88	40.00	-15.12	QP			
2	122.8340	39.12	-13.47	25.65	43.50	-17.85	QP			
3	302.4812	37.56	-9.24	28.32	46.00	-17.68	QP			

Figure 39: Test figure of Radiated emissions, Mode C, Above 1GHz, Horizontal

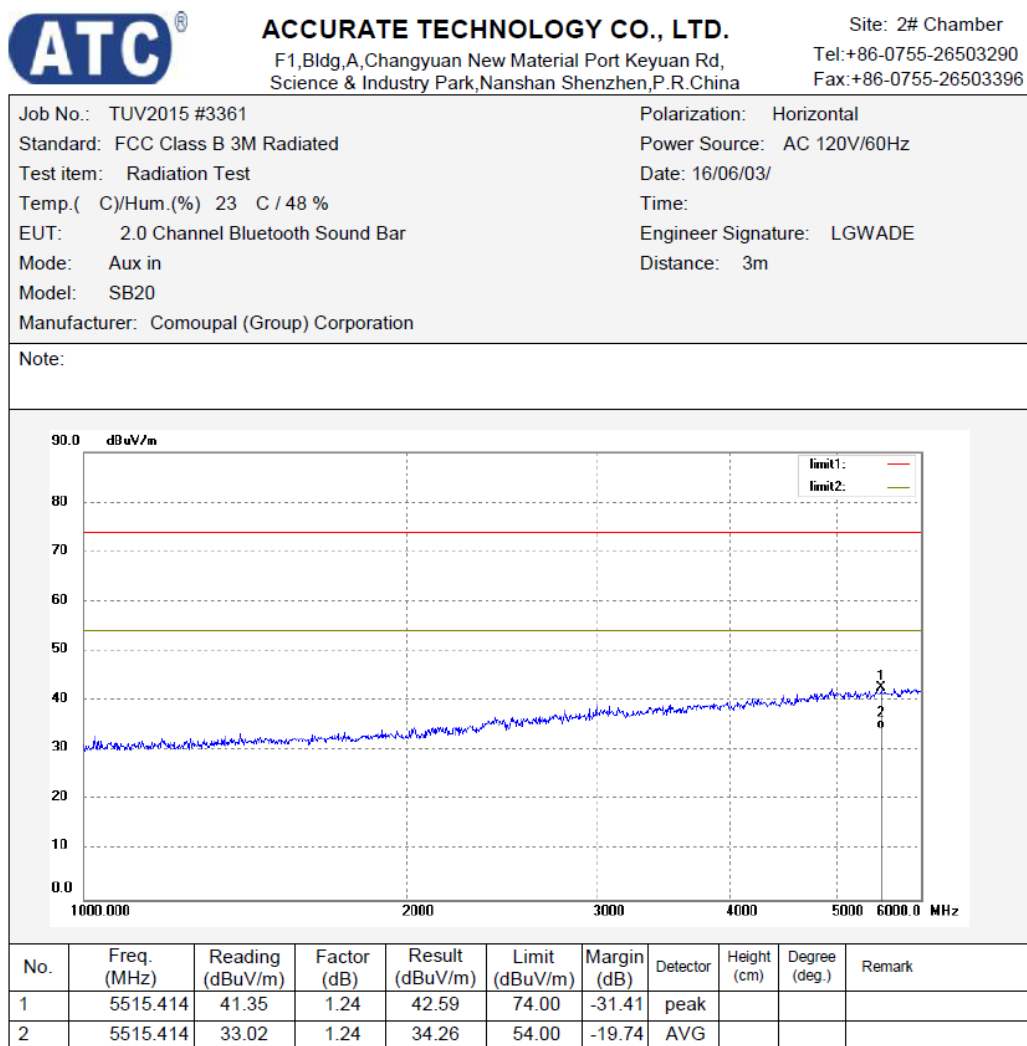


Figure 40: Test figure of Radiated emissions, Mode C, Above 1GHz, Vertical

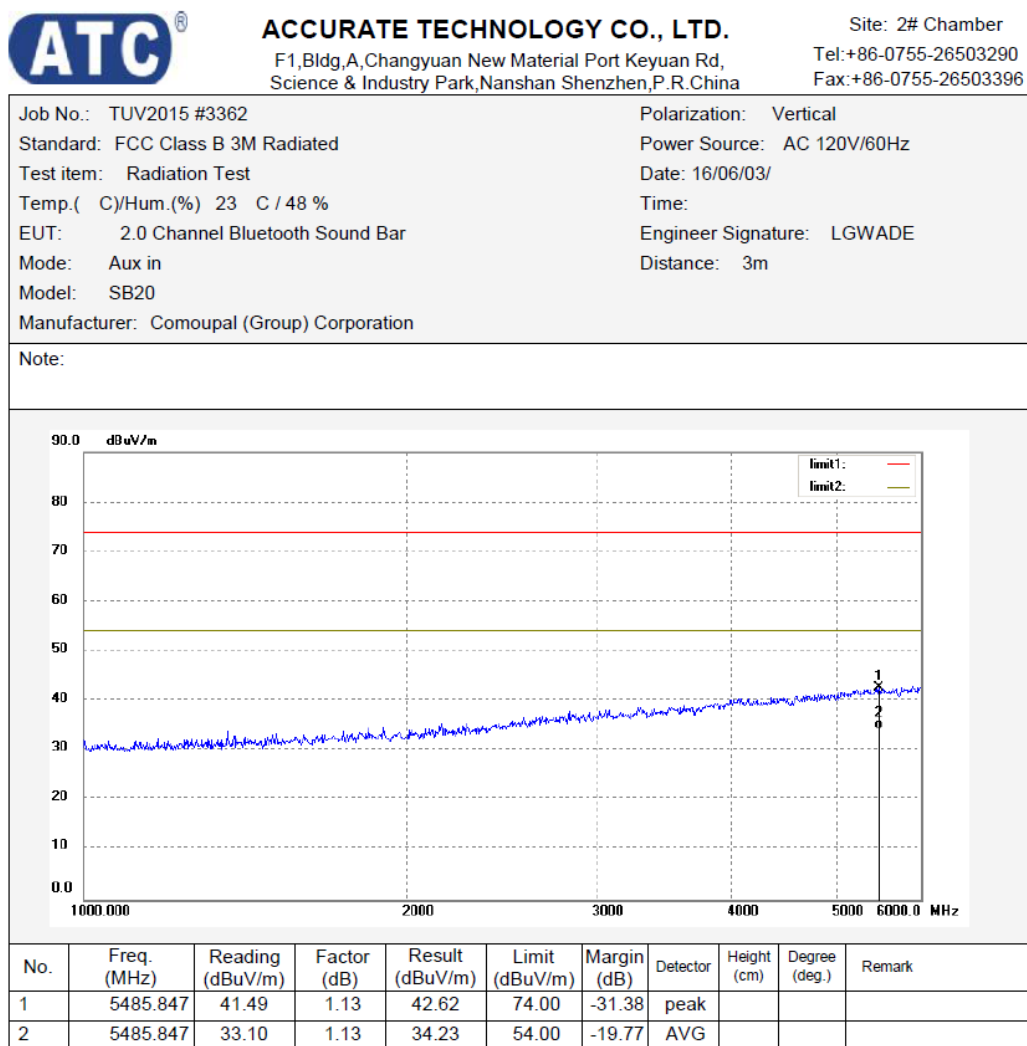


Figure 41: Test figure of Radiated emissions, Mode D, Below 1GHz, Horizontal



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Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: TUV2015 #3355

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: 2.0 Channel Bluetooth Sound Bar

Mode: RCA in

Model: SB20

Manufacturer: Comoupal (Group) Corporation

Polarization: Horizontal

Power Source: AC 120V/60Hz

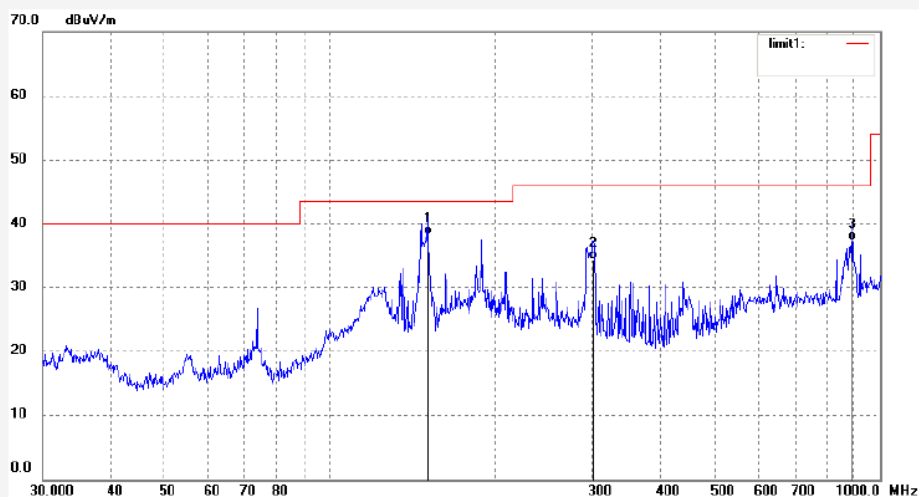
Date: 2016-6-2

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	150.5378	53.33	-15.16	38.17	43.50	-5.33	QP			
2	301.4223	43.67	-9.26	34.41	46.00	-11.59	QP			
3	890.7278	36.08	1.27	37.35	46.00	-8.65	QP			

Figure 42: Test figure of Radiated emissions, Mode D, Below 1GHz, Vertical

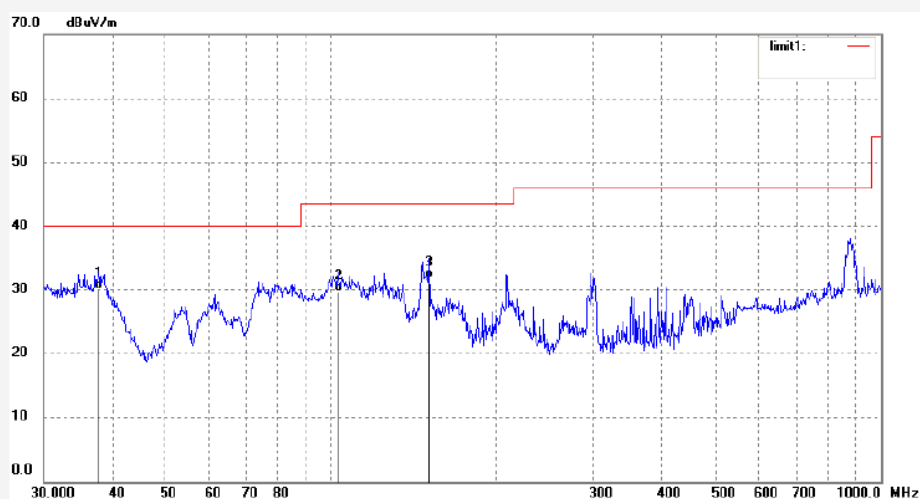


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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3354	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2016-6-2
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: RCA in	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	37.8121	41.01	-11.05	29.96	40.00	-10.04	QP			
2	103.0799	43.38	-13.63	29.75	43.50	-13.75	QP			
3	150.5378	46.99	-15.16	31.83	43.50	-11.67	QP			

Figure 43: Test figure of Radiated emissions, Mode D, Above 1GHz, Horizontal

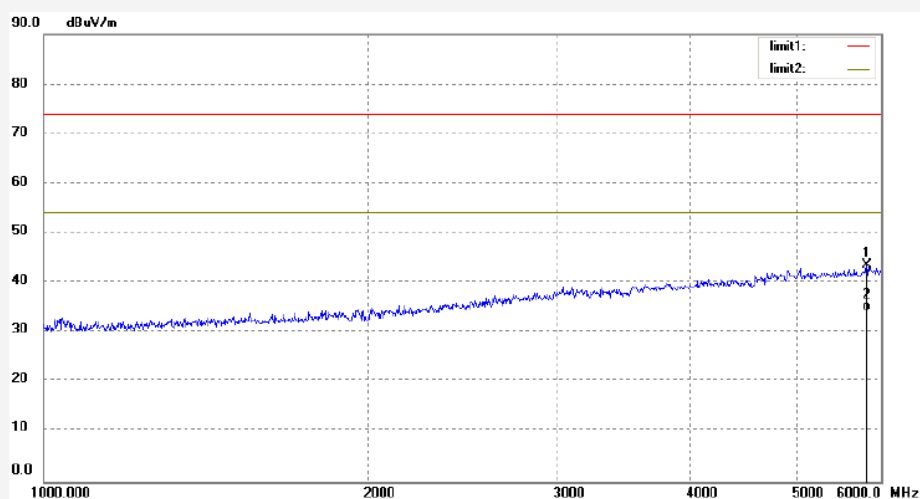


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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: TUV2015 #3357	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/03/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: RCA in	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5819.996	41.48	1.97	43.45	74.00	-30.55	peak			
2	5819.996	32.26	1.97	34.23	54.00	-19.77	AVG			

Figure 44: Test figure of Radiated emissions, Mode D, Above 1GHz, Vertical

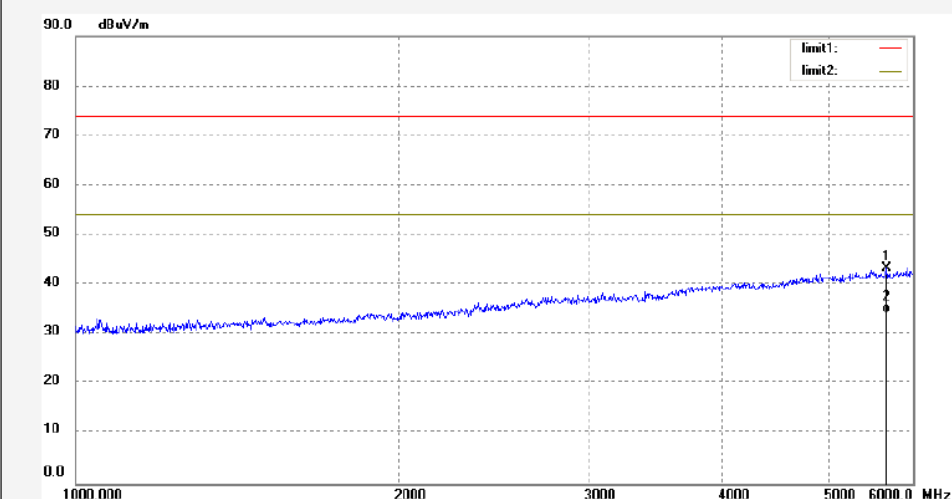


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3358	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/03/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: RCA in	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5675.819	42.04	1.20	43.24	74.00	-30.76	peak			
2	5675.819	33.06	1.20	34.26	54.00	-19.74	AVG			

Figure 45: Test figure of Radiated emissions, Mode E, Below 1GHz, Horizontal

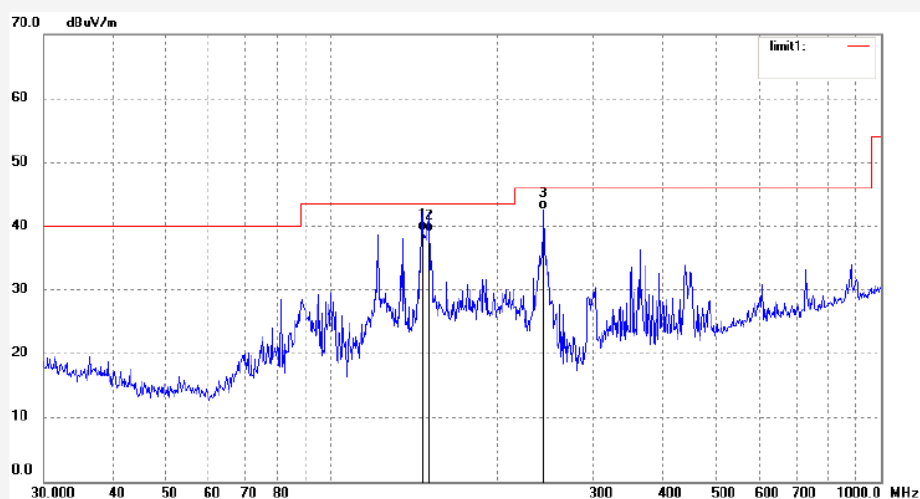


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3352	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2016-6-2
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: Optical in	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	146.3735	54.44	-15.21	39.23	43.50	-4.27	QP			
2	150.5378	54.32	-15.15	39.17	43.50	-4.33	QP			
3	243.3771	53.44	-10.82	42.62	46.00	-3.38	QP			

Figure 46: Test figure of Radiated emissions, Mode E, Below 1GHz, Vertical

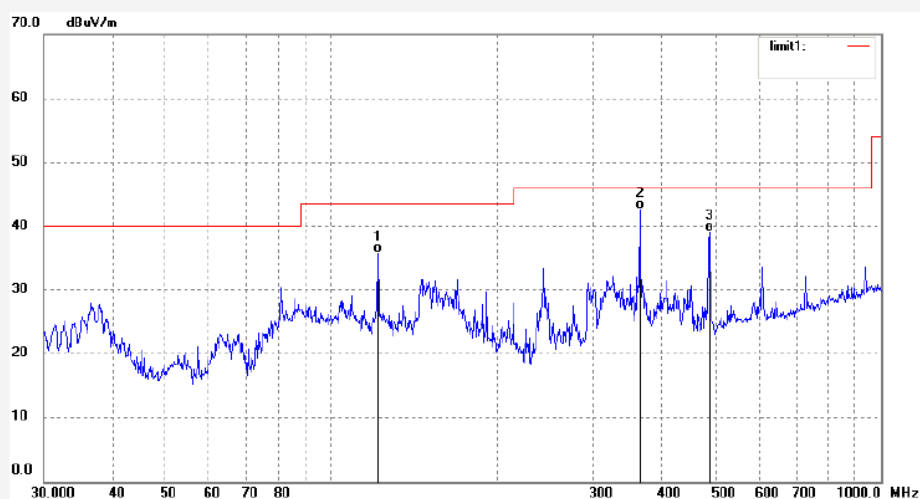


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3351	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2016-6-2
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: Optical in	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	121.5485	49.10	-13.32	35.78	43.50	-7.72	QP			
2	364.2595	50.11	-7.57	42.54	46.00	-3.46	QP			
3	487.3150	44.27	-5.23	39.04	46.00	-6.96	QP			

Figure 47: Test figure of Radiated emissions, Mode E, Above 1GHz, Horizontal

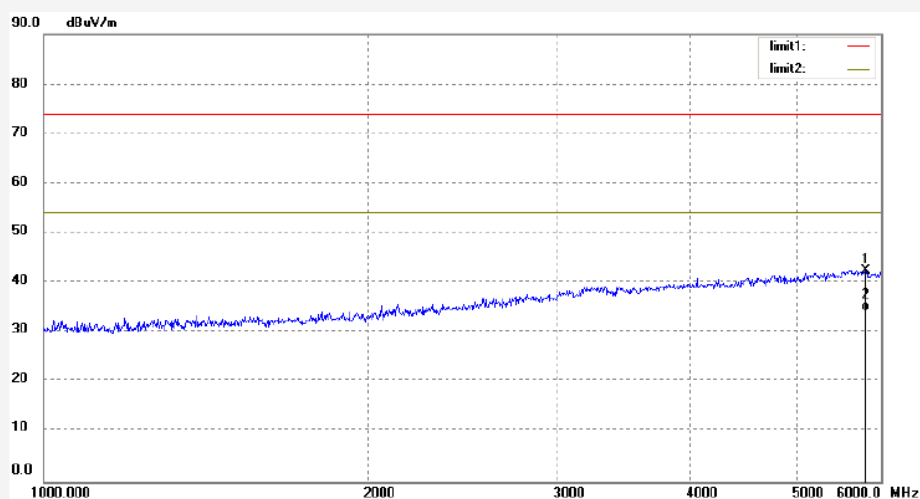


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3360	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/03/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: Optical in	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5809.577	40.53	1.98	42.51	74.00	-31.49	peak			
2	5809.577	32.28	1.98	34.26	54.00	-19.74	AVG			

Figure 48: Test figure of Radiated emissions, Mode E, Above 1GHz, Vertical

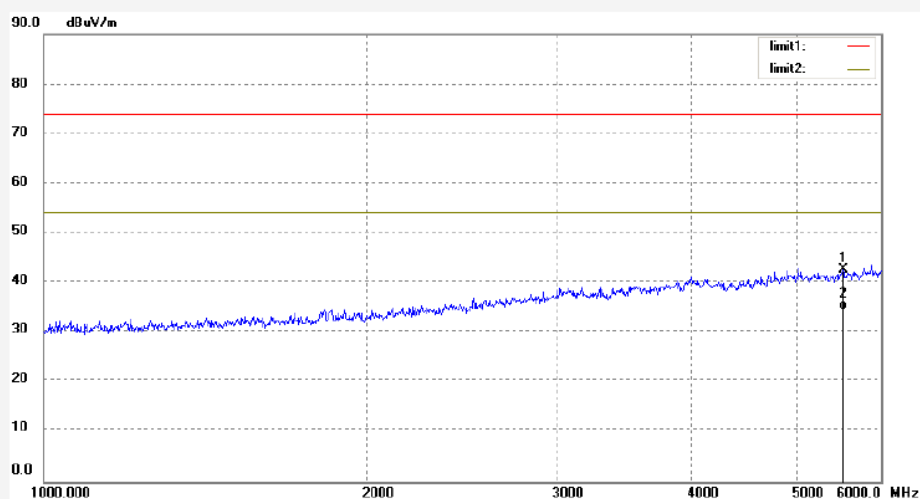


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Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: TUV2015 #3359	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/06/03/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: 2.0 Channel Bluetooth Sound Bar	Engineer Signature: LGWADE
Mode: Optical in	Distance: 3m
Model: SB20	
Manufacturer: Comoupal (Group) Corporation	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5535.214	41.35	1.30	42.65	74.00	-31.35	peak			
2	5535.214	33.27	1.30	34.57	54.00	-19.43	AVG			