

APPLICATION CERTIFICATION FCC Part 15C On Behalf of COZZIA USA, LLC

Smart Luxury Chair Model No.: EC-730B, CZ-730

FCC ID: 2AHZV-EC-730B

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Report No.	:	ATE20160494
Date of Test	:	Mar 25, 2016-Apr 19, 2016
Date of Report	:	Apr 19, 2016



TABLE OF CONTENTS

Description

Page

Test Report Certification

1. G	GENERAL INFORMATION	5
1.1.	Description of Device (EUT)	5
1.2.	Carrier Frequency of Channels	
1.3.	Special Accessory and Auxiliary Equipment	6
1.4.	Description of Test Facility	
1.5.	Measurement Uncertainty	7
2. N	IEASURING DEVICE AND TEST EQUIPMENT	8
3. O	PERATION OF EUT DURING TESTING	9
3.1.	Operating Mode	9
3.2.	1 6	
4. T	EST PROCEDURES AND RESULTS	
5. P	OWER LINE CONDUCTED MEASUREMENT	
5.1.	Block Diagram of Test Setup	
5.2.	Power Line Conducted Emission Measurement Limits	
5.3.	Configuration of EUT on Measurement	
5.4.	Operating Condition of EUT	
5.5.	Test Procedure	
5.6.	Power Line Conducted Emission Measurement Results	
6. 6	DB BANDWIDTH MEASUREMENT	
6.1.	Block Diagram of Test Setup	
6.2.	The Requirement For Section 15.247(a)(2)	
6.3.	EUT Configuration on Measurement	
6.4.	Operating Condition of EUT	
6.5.	Test Procedure	
6.6.	Test Result	
	AAXIMUM PEAK OUTPUT POWER	
7.1.	Block Diagram of Test Setup	
7.1.	The Requirement For Section 15.247(b)(3)	
7.2.	EUT Configuration on Measurement	
7.4.	Operating Condition of EUT	
7.5.	Test Procedure	
7.6.	Test Result	
	OWER SPECTRAL DENSITY MEASUREMENT	
8.1.	Block Diagram of Test Setup	
8.2.	The Requirement For Section 15.247(e)	
8.3.	EUT Configuration on Measurement	
8.4.	Operating Condition of EUT	
8.5.	Test Procedure	
8.6.	Test Result	
	AND EDGE COMPLIANCE TEST	
9.1.	Block Diagram of Test Setup	
9.2.	The Requirement For Section 15.247(d)	
9.3.	EUT Configuration on Measurement	
9.4.	Operating Condition of EUT	
ID: 2AHZV		ACCURATE TECHNOLOGY CO., LTD

Report No.: ATE20160494 Page 3 of 50

	6

9.5.	Test Procedure	27
9.5. 9.6.	Test Result	
10. RA	DIATED SPURIOUS EMISSION TEST	
10.1.	Block Diagram of Test Setup	
10.2.	The Limit For Section 15.247(d)	
10.3.	Restricted bands of operation	
10.4.	Configuration of EUT on Measurement	
10.5.	Operating Condition of EUT	
10.6.		
10.7.	The Field Strength of Radiation Emission Measurement Results	
11. AN	TENNA REQUIREMENT	
11.1.	The Requirement	
	Antenna Construction	



Test Report Certification

Applicant	: COZZIA USA, LLC
Manufacturer	: XIAMEN HEALTHCARE ELECTRONIC CO., LTD.
EUT Description	: Smart Luxury Chair
Model No.	: EC-730B, CZ-730
Trade Mark	

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247: 2015 ANSI C63.10: 2013

The EUT was tested according to DTS test procedure of Apr 08, 2016 KDB558074 D01 DTS Meas Guidance v03r05 for compliance to FCC 47CFR 15.247 requirements

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : Date of Report:

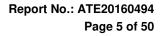
Prepared by :

Mar 25, 2016-Apr 19, 2016 Apr 19, 2016

(Mark Chen, Engineer)

Approved & Authorized Signer :

(Sean Liu, Manager)





1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Smart Luxury Chair
Model Number	:	EC-730B, CZ-730
		(Note: These samples are same except their Model is different. So we prepare EC-730B for test only.)
Bluetooth version	:	Bluetooth V4.0 BLE
Frequency Range	:	2402MHz-2480MHz
Number of Channels	:	40
Antenna Gain	:	2.5dBi
Antenna type	:	Plate loaded ceramic Antenna
Power Supply	:	AC 120V/60Hz
Modulation mode	:	GFSK
Applicant	:	COZZIA USA, LLC
Address	:	14515 E, Don Julian Road, City of Industry, CA, 91746,
		United States
Manufacturer	:	XIAMEN HEALTHCARE ELECTRONIC CO., LTD.
Address	:	62-63#Building, Siming Zone, Tongan Industrial District, Xiamen City, Fujian Province, P.R. China
Date of sample received	:	Mar 25, 2016
Date of Test	:	Mar 25, 2016-Apr 19, 2016
Address Date of sample received	: :	XIAMEN HEALTHCARE ELECTRONIC CO., LTD. 62-63#Building, Siming Zone, Tongan Industrial District, Xiamen City, Fujian Province, P.R. China Mar 25, 2016



Channel	Frequceny (MHz)	Channel	Frequceny (MHz)	Channel	Frequceny (MHz)	Channe 1	Frequceny (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

1.2.Carrier Frequency of Channels

1.3. Special Accessory and Auxiliary Equipment

N/A



1.4.Description of Test Facility

EMC Lab	:	Accredited by TUV Rheinland Shenzhen
		Listed by FCC The Registration Number is 752051
		Listed by Industry Canada The Registration Number is 5077A-2
		Accredited by China National Accreditation Committee for Laboratories The Certificate Registration Number is L3193
Name of Firm Site Location	:	ACCURATE TECHNOLOGY CO. LTD F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China

1.5.Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	=	4.06dB, k=2



2. MEASURING DEVICE AND TEST EQUIPMENT

Kind of equipment	Manufacturer	Туре	S/N	Calibrated dates	Calibrated until
Rind of equipment	Wanutacturer	Турс	5/11	Cambrated dates	
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 9, 2016	1 Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 9, 2016	1 Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 9, 2016	1 Year
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 9, 2016	1 Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 14, 2016	1 Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 14, 2016	1 Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 14, 2016	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 14, 2016	1 Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 9, 2016	1 Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 9, 2016	1 Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 9, 2016	1 Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 9, 2016	1 Year

Table 1: List of Test and Measurement Equipment

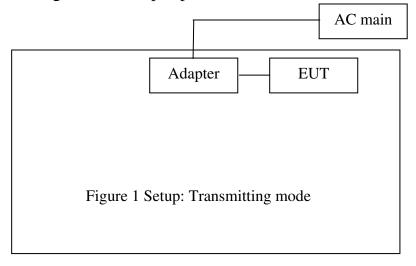


3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **BLE Transmitting mode** Low Channel: 2402MHz Middle Channel: 2440MHz High Channel: 2480MHz

3.2. Configuration and peripherals





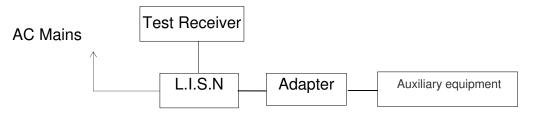
4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.247(d)	Conducted Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant



5. POWER LINE CONDUCTED MEASUREMENT

5.1.Block Diagram of Test Setup



(EUT: Smart Luxury Chair)

5.2. 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					
NOTE2: The limit decrease	5.00 - 30.00 60.0 50.0 NOTE1: The lower limit shall apply at the transition frequencies. NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.						

5.3.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.

5.4. Operating Condition of EUT

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

- 5.4.2. Turn on the power of all equipment.
- 5.4.3.Let the EUT work in test mode and measure it.



5.5.Test Procedure

The EUT is put on the plane 0.1 m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2014 on Conducted Emission Measurement.

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

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

5.6. Power Line Conducted Emission Measurement Results

PASS.

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



Test mode : BT communicating(AC 120V/60Hz) EUT mode : EC-730B							
MEASUREMENT	RESULT	: "0493	-1_fir	1 ″			
3/28/2016 4:5 Frequency MHz		Transd dB	Limit dBµV		Detector	Line	PE
0.150000 0.400000 1.685000	57.90 45.50 38.60	10.7	58		QP	L1 L1 L1	GND GND GND
MEASUREMENT	RESULT	: "0493	-1_fir	12"			
3/28/2016 4:5 Frequency MHz			Limit dBµV	-	Detector	Line	PE
$0.150000 \\ 0.605000 \\ 0.745000$	52.10 34.60 34.10				AV	L1 L1 L1	GND GND GND
MEASUREMENT	RESULT	: "0493	-2_fin	ı ″			
3/28/2016 5:0 Frequency MHz				-	Detector	Line	PE
2.280000	58.20 46.70 44.10	11.0		9.3	QP	N N N	GND GND GND
MEASUREMENT	RESULT	: "0493	-2_fir	12"			
3/28/2016 5:0 Frequency MHz			Limit dBµV	-	Detector	Line	PE
0.150000 0.740000 2.280000	51.60 33.10 34.80		56 46 46		AV	N N N	GND GND GND

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

The spectral diagrams are attached as below.



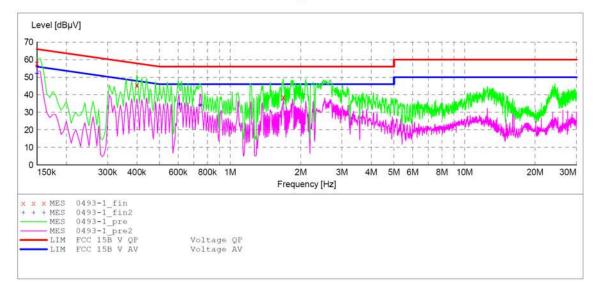
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART15B

EUT: Smart Luxury Chair M/N:EC-730B Manufacturer: HEALTHCARE Operating Condition: BT Communicating Test Site: 1#Shielding Room Operator: Frank Test Specification: L 120V/60Hz Comment: Report No.:ATE20160494 Start of Test: 3/28/2016 / 4:56:49PM

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

Short Desc	ription:	_S	UB_STD_VTE	RM2 1.70		
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak Average	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "0493-1 fin"

3/28/2016 4:5	9 PM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	57.90	10.5	66	8.1	QP	L1	GND
0.400000	45.50	10.7	58	12.4	QP	L1	GND
1.685000	38.60	10.9	56	17.4	QP	L1	GND

MEASUREMENT RESULT: "0493-1 fin2"

3/28/2016 4:5	9PM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	52.10	10.5	56	3.9	AV	L1	GND
0.605000	34.60	10.7	46	11.4	AV	L1	GND
0.745000	34.10	10.8	46	11.9	AV	L1	GND



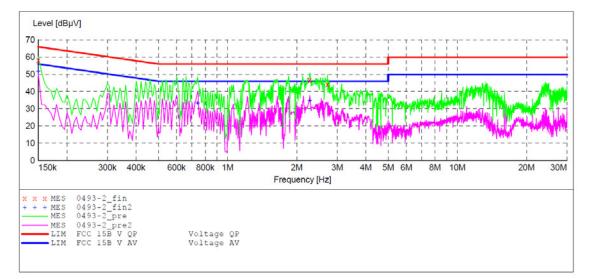
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART15B

EUT:	Smart Luxury Chair M/N:EC-730B
Manufacturer:	HEALTHCARE
Operating Condition:	BT Communicating
Test Site:	1#Shielding Room
Operator:	Frank
Test Specification:	N 120V/60Hz
Comment:	Report No.: ATE20160494
Start of Test:	3/28/2016 / 5:00:40PM

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

Short Desc	ription:		SUB STD VTE	RM2 1.70		
Start	-	Step	Detector		IF	Transducer
Frequency	Frequency	Wiath		Time	Bandw.	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak Average	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "0493-2 fin"

ine PE	
GND	
GND)
GND)
	GND GND

MEASUREMENT RESULT: "0493-2_fin2"

3,	/28/2016 5:0	3PM						
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.150000	51.60	10.5	56	4.4	AV	N	GND
	0.740000	33.10	10.8	46	12.9	AV	N	GND
	2.280000	34.80	11.0	46	11.2	AV	N	GND



6. 6DB BANDWIDTH MEASUREMENT

6.1.Block Diagram of Test Setup



(EUT: Smart Luxury Chair)

6.2. The Requirement For Section 15.247(a)(2)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

6.3.EUT Configuration on Measurement

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

6.4. Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

- 6.4.2.Turn on the power of all equipment.
- 6.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

6.5.Test Procedure

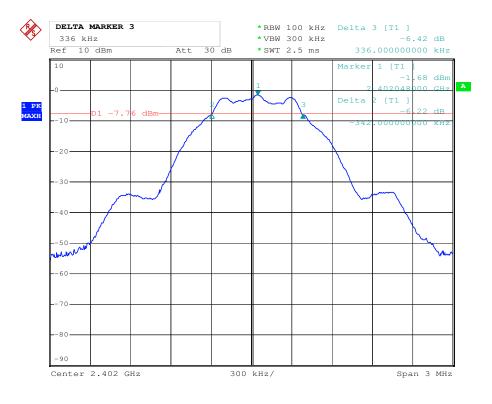
- 6.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 6.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to300 kHz.
- 6.5.3.The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.



6.6.Test Result

Channel	Frequency (MHz)	6 dB Bandwith (MHz)	Minimum Limit(MHz)	PASS/FAIL
0	2402	0.678	0.5	PASS
19	2440	0.672	0.5	PASS
39	2480	0.660	0.5	PASS

The spectrum analyzer plots are attached as below.



channel 0

Date: 18.APR.2016 16:02:36

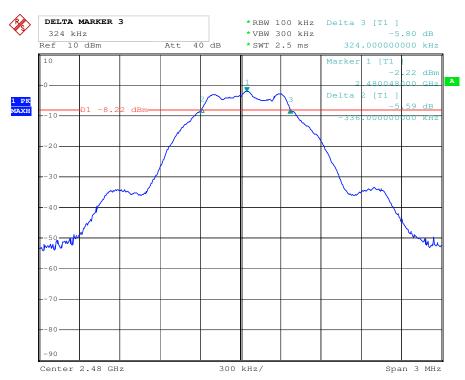






Date: 18.APR.2016 16:04:48





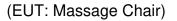
Date: 18.APR.2016 16:07:18



7. MAXIMUM PEAK OUTPUT POWER

7.1.Block Diagram of Test Setup





7.2. The Requirement For Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

7.3.EUT Configuration on Measurement

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

7.4. Operating Condition of EUT

7.4.1.Setup the EUT and simulator as shown as Section 7.1.

- 7.4.2.Turn on the power of all equipment.
- 7.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

7.5.Test Procedure

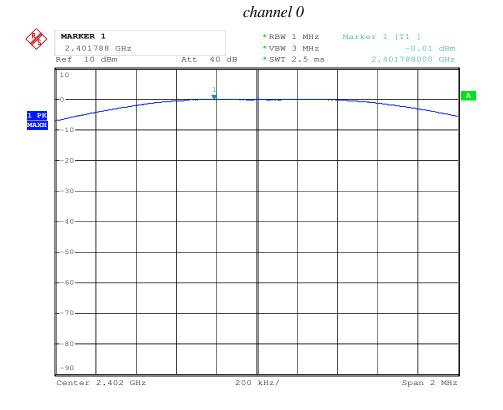
- 7.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 7.5.2.Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz.
- 7.5.3.Measurement the maximum peak output power.



7.6.Test Result

Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
0	2402	-0.01	30	PASS
19	2440	-1.38	30	PASS
39	2480	-2.21	30	PASS

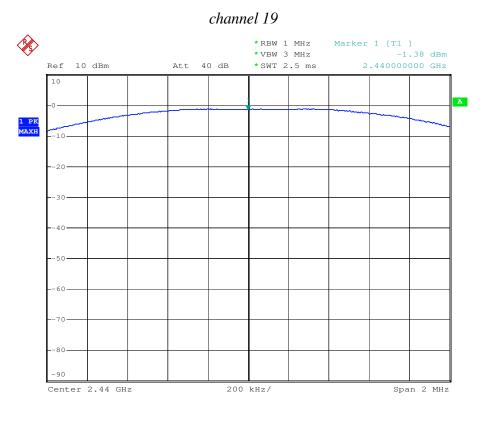
The spectrum analyzer plots are attached as below.



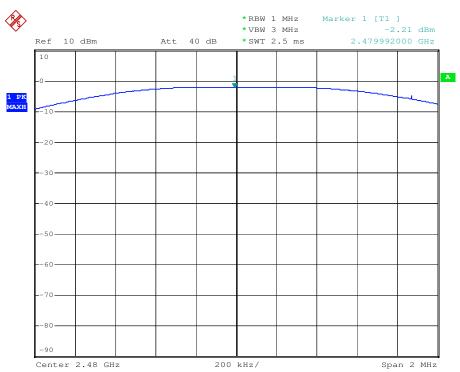
Date: 18.APR.2016 15:54:19

FCC ID: 2AHZV-EC-730B





Date: 18.APR.2016 15:57:05



channel 39

Date: 18.APR.2016 15:58:10



8. POWER SPECTRAL DENSITY MEASUREMENT

8.1.Block Diagram of Test Setup



(EUT: Smart Luxury Chair)

8.2. The Requirement For Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

8.3.EUT Configuration on Measurement

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

8.4. Operating Condition of EUT

- 8.4.1.Setup the EUT and simulator as shown as Section 8.1.
- 8.4.2.Turn on the power of all equipment.
- 8.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.



8.5.Test Procedure

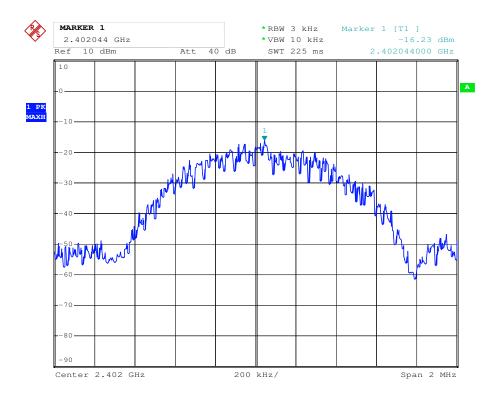
- 8.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 8.5.2.Measurement Procedure PKPSD:
- 8.5.3. This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.
 - 1. Set analyzer center frequency to DTS channel center frequency.
 - 2. Set the span to 1.5 times the DTS channel bandwidth.
 - 3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
 - 4. Set the VBW \geq 3 x RBW.
 - 5. Detector = peak.
 - 6. Sweep time = auto couple.
 - 7. Trace mode = max hold.
 - 8. Allow trace to fully stabilize.
 - 9. Use the peak marker function to determine the maximum amplitude level.
 - 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
- 8.5.4.Measurement the maximum power spectral density.



8.6.Test Result

CHANNEL NUMBER	FREQUENCY (MHz)	PSD (dBm/3KHz)	LIMIT (dBm/3KHz)	PASS/FAIL
0	2402	-16.23	8	PASS
19	2440	-16.53	8	PASS
39	2480	-17.04	8	PASS

The spectrum analyzer plots are attached as below.

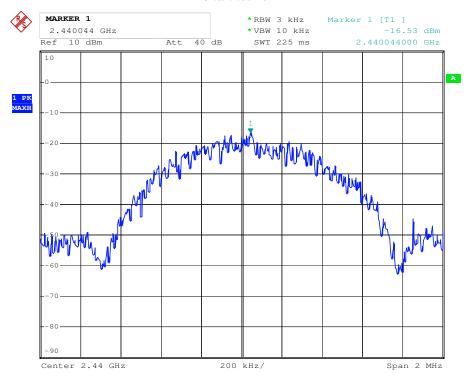


channel 0

Date: 18.APR.2016 16:12:43

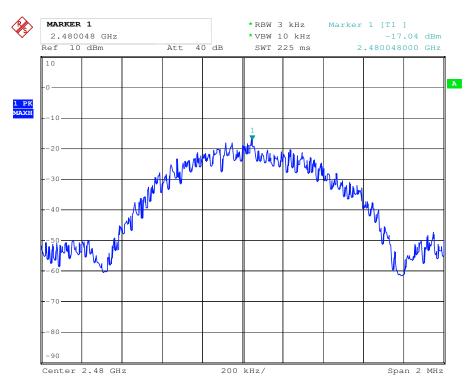


channel 19



Date: 18.APR.2016 16:11:35





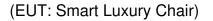
Date: 18.APR.2016 16:10:31



9. BAND EDGE COMPLIANCE TEST

9.1.Block Diagram of Test Setup





9.2. The Requirement For Section 15.247(d)

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

9.3.EUT Configuration on Measurement

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



9.4.Operating Condition of EUT

- 9.4.1.Setup the EUT and simulator as shown as Section 9.1.
- 9.4.2.Turn on the power of all equipment.
- 9.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

9.5.Test Procedure

Conducted Band Edge:

- 9.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.
- 9.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.
- 9.5.3. Radiate Band Edge:
- 9.5.4. The EUT is placed on a turntable, which is 0.1m above the ground plane and worked at highest radiated power.
- 9.5.5.The turntable was rotated for 360 degrees to determine the position of maximum emission level.
- 9.5.6.EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 9.5.7.Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

9.5.8.RBW=1MHz, VBW=1MHz

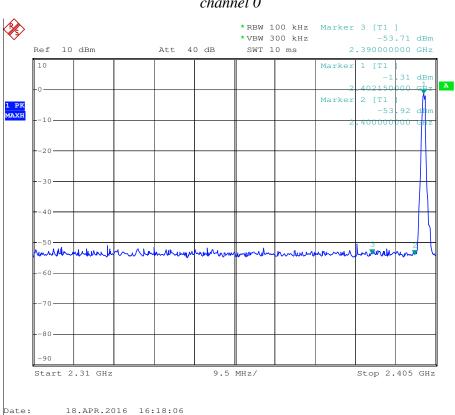
9.5.9.The band edges was measured and recorded.

9.6.Test Result

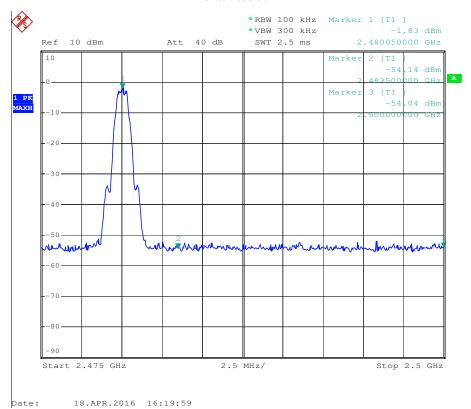
Pass

Channel	Frequency	Delta peak to band emission	Limit(dBc)
0	2.4GHz	52.40	20
39	2.4835GHz	52.31	20





channel 0



channel 39



Radiated Band Edge Result

Date of Test:	Apr 19, 2016	Temperature:	25°C
EUT:	Smart Luxury Chair	Humidity:	50%
Model No.:	EC-730B	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2402MHz) GFSK	Test Engineer:	Frank

Frequency	Reading	(dBµV/m)	Factor(dB)	Result(dBµV/m)	Limit(dl	BμV/m)	Margi	n(dB)	Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
2390.000	33.09	42.58	-7.53	25.56	35.05	54.00	74.00	-28.44	-38.95	Vertical
2400.000	53.10	62.53	-7.46	45.64	55.07	54.00	74.00	-8.36	-18.93	Vertical
2390.000	33.24	42.37	-7.53	25.71	34.84	54.00	74.00	-28.29	-39.16	Horizontal
2400.000	52.10	61.55	-7.46	44.64	54.09	54.00	74.00	-9.36	-19.91	Horizontal

Date of Test:	Apr 19, 2016	Temperature:	25°C
EUT:	Smart Luxury Chair	Humidity:	50%
Model No.:	EC-730B	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2480MHz) GFSK	Test Engineer:	Frank

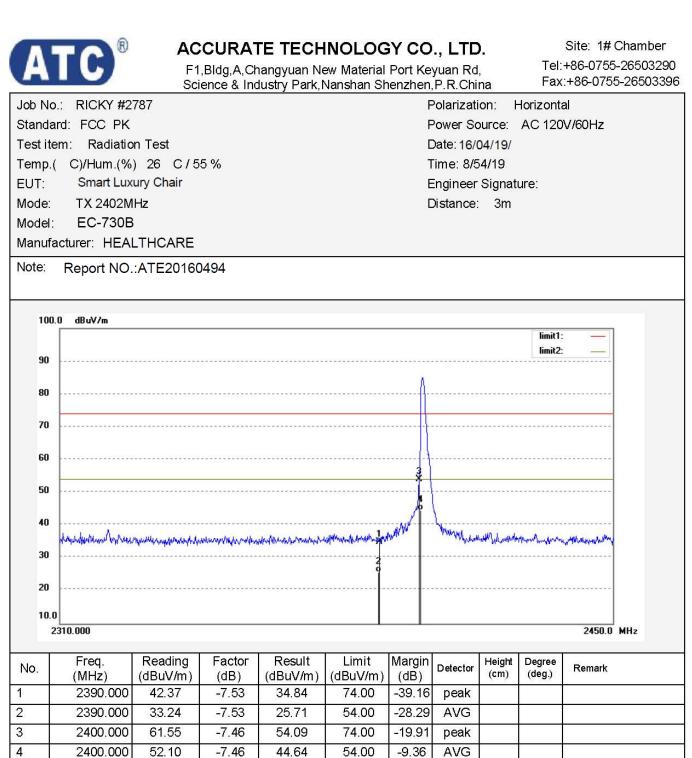
Frequency	Reading	(dBµV/m)	Factor(dB)	Result(dBµV/m)	Limit(dl	BµV/m)	Margi	in(dB)	Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	41.25	50.21	-7.37	33.88	42.84	54.00	74.00	-20.12	-31.16	Vertical
2500.000	32.67	41.90	-7.40	25.27	34.50	54.00	74.00	-28.73	-39.50	Vertical
2483.500	38.97	49.25	-7.37	31.60	41.88	54.00	74.00	-22.40	-32.12	Horizontal
2500.000	32.10	42.42	-7.40	24.70	35.02	54.00	74.00	-29.30	-38.98	Horizontal

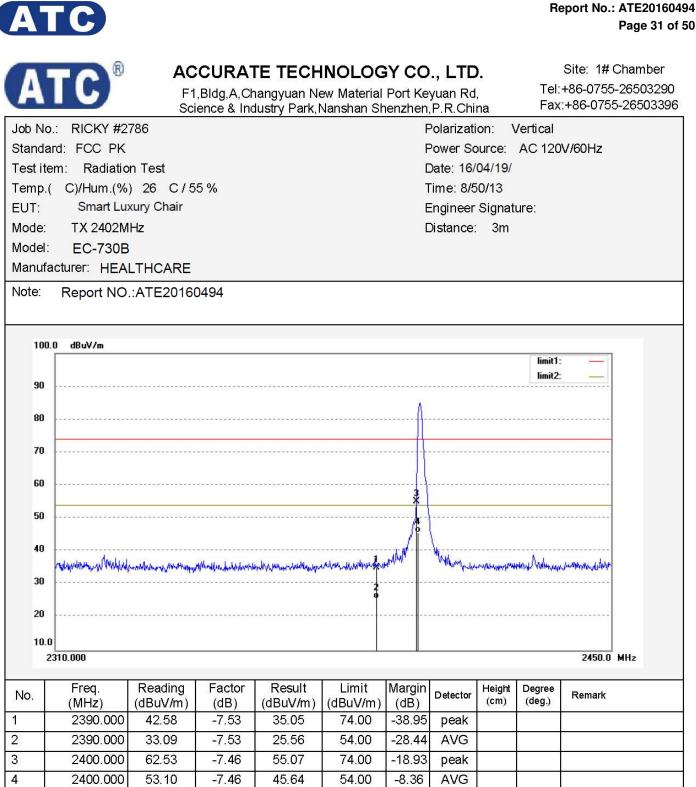
Note:

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

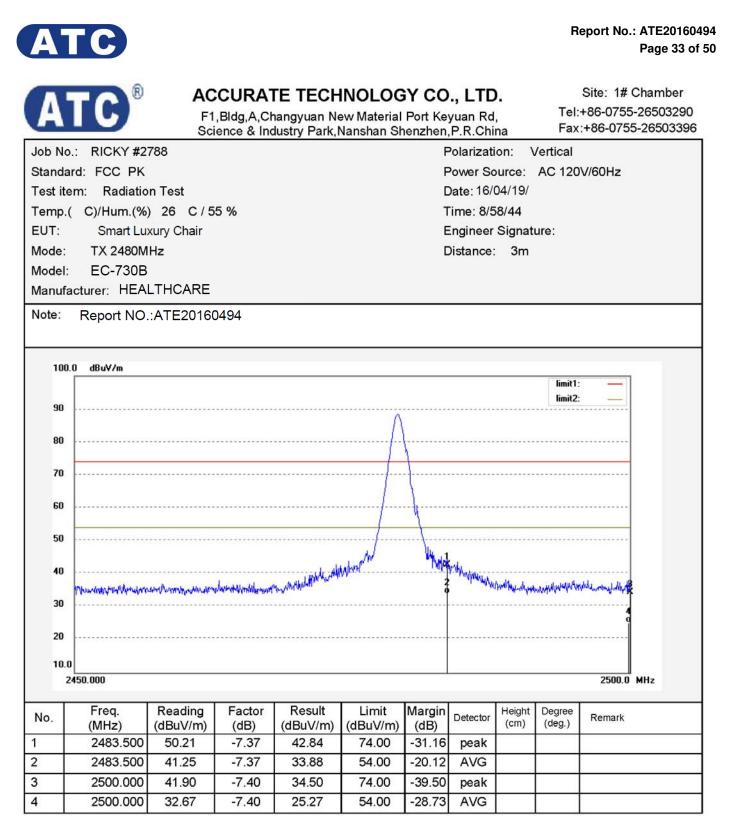
- 2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows: Result = Reading + Corrected Factor
- 3. Display the measurement of peak values.







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Standa	ard: FCC PK					F	Power Sc	urce:	AC 120	V/60Hz	
est ite	em: Radiation	Test				[Date: 16/(04/19/			
emp.	(C)/Hum.(%)	26 C/5	5 %			7	Fime: 9/0	3/57			
UT:	Smart Luxu	ıry Chair				E	Engineer	Signati	ure:		
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60 50 40 30 20 10.0 2 20	0 2450.000 Freq. f (MHz) (0	Reading dBuV/m)	(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		Degree (deg.)		MHz
60 50 40 30 20 10.1 2 NO.	0 2450.000 Freq. I (MHz) (0 2483.500	Reading dBuV/m) 49.25	(dB) -7.37	Result (dBuV/m) 41.88	Limit (dBuV/m) 74.00	Margin (dB) -32.12	Detector	Height			MHz
60 50 40 30 20	0 2450.000 Freq. f (MHz) (0	Reading dBuV/m)	(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector peak AVG	Height			MHz



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

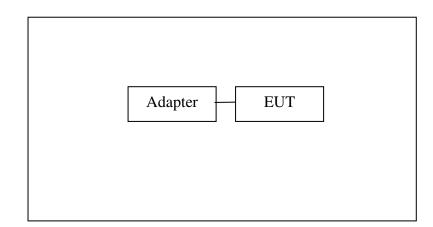
3. Display the measurement of peak values.



10.RADIATED SPURIOUS EMISSION TEST

10.1.Block Diagram of Test Setup

10.1.1.Block diagram of connection between the EUT and peripherals



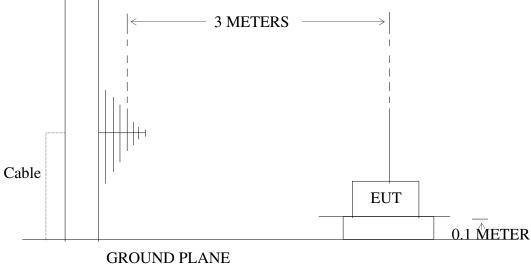
Setup: Transmitting mode

(EUT: Smart Luxury Chair)

10.1.2. Semi-Anechoic Chamber Test Setup Diagram

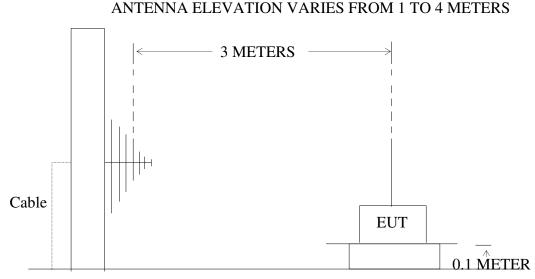
Below 1GHz

ANTENNA ELEVATION VARIES FROM 1 TO 4 METERS





Above 1GHz



GROUND PLANE

10.2.The Limit For Section 15.247(d)

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



10.3.Restricted bands of operation

10.3.1.FCC Part 15.205 Restricted bands of operation

pem	inteed in any of the neque	ney bands listed below.	
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	$(^{2})$
13.36-13.41			

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

¹Until February 1, 1999, this restricted band shall be 0.490-0.510²Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

10.4.Configuration of EUT on Measurement

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



10.5. Operating Condition of EUT

10.5.1.Setup the EUT and simulator as shown as Section 10.1.

- 10.5.2.Turn on the power of all equipment.
- 10.5.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

10.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.1 meter high above ground(Below 1GHz). 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.

The bandwidth of test receiver is set at 9 kHz in below 30MHz. and set at 120 kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9 kHz to 25GHz is checked.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

10.7.The Field Strength of Radiation Emission Measurement Results PASS.

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

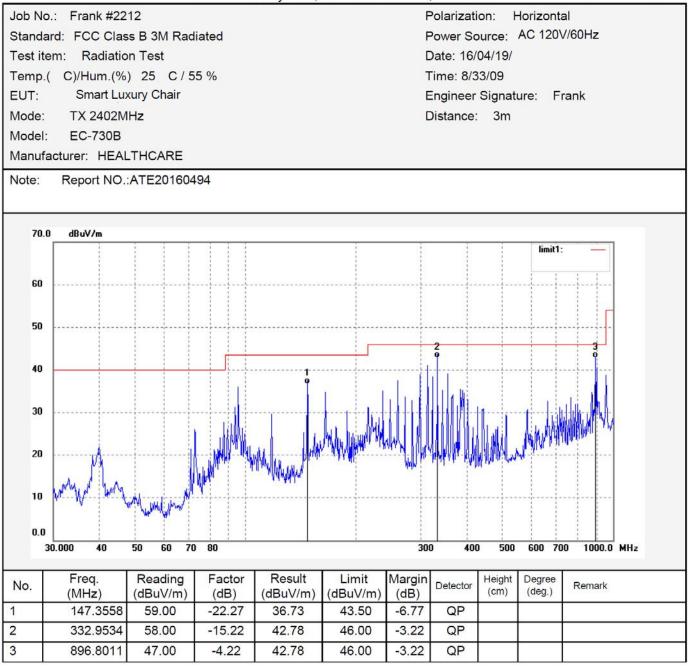
2. *: Denotes restricted band of operation.

3. The radiation emissions from 18-25GHz are not reported, because the test values lower than the limits of 20dB.





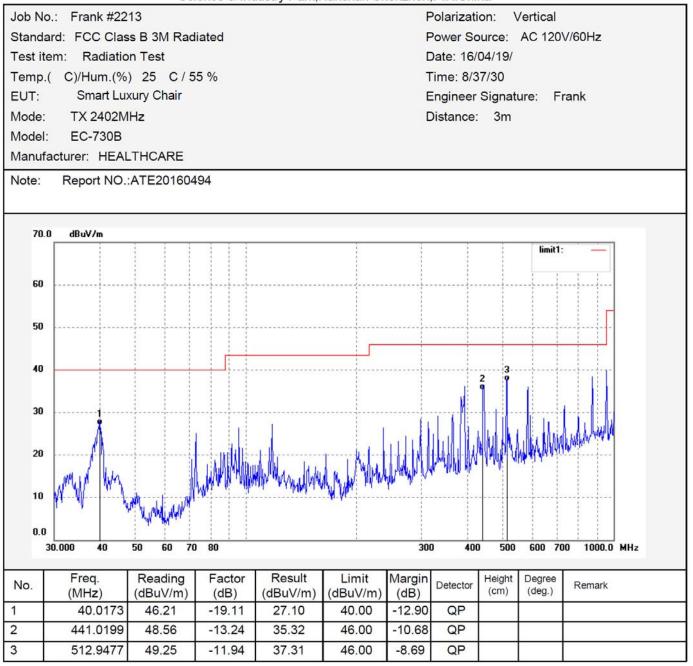
F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China







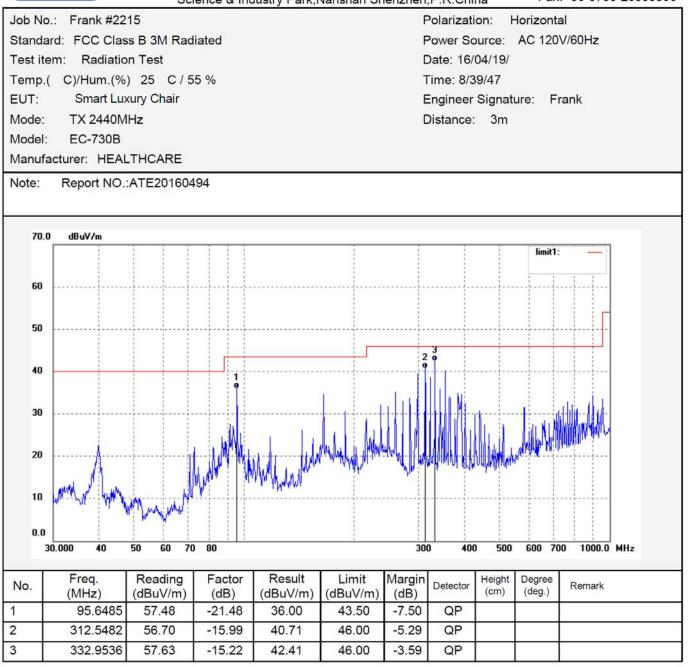
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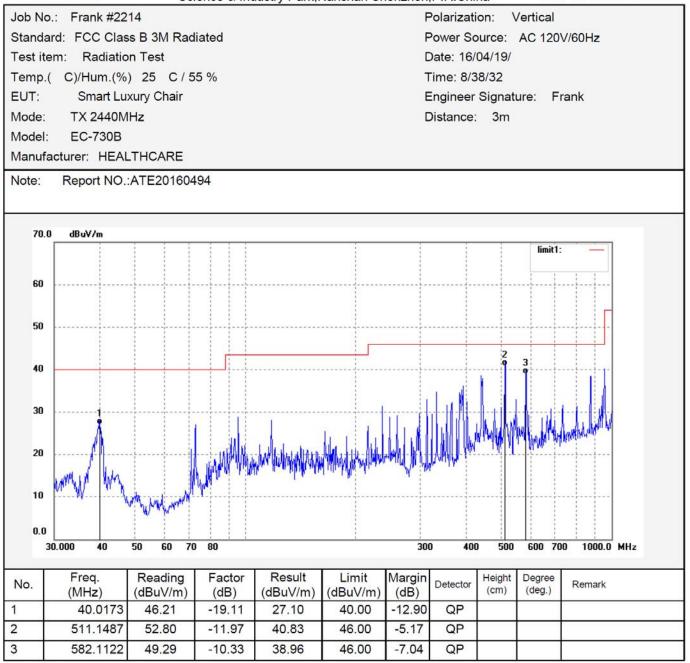
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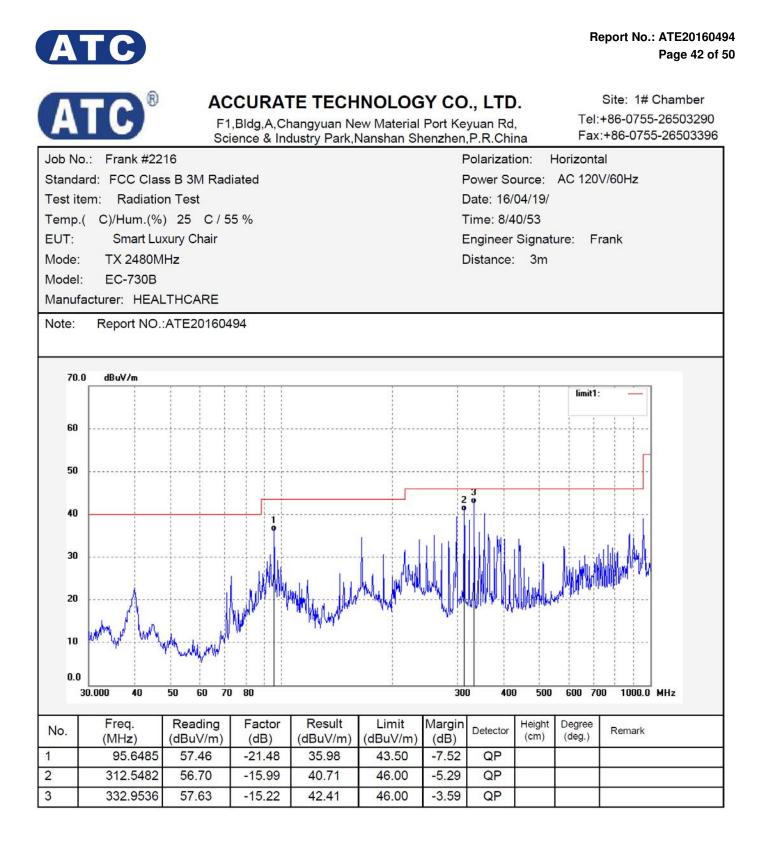


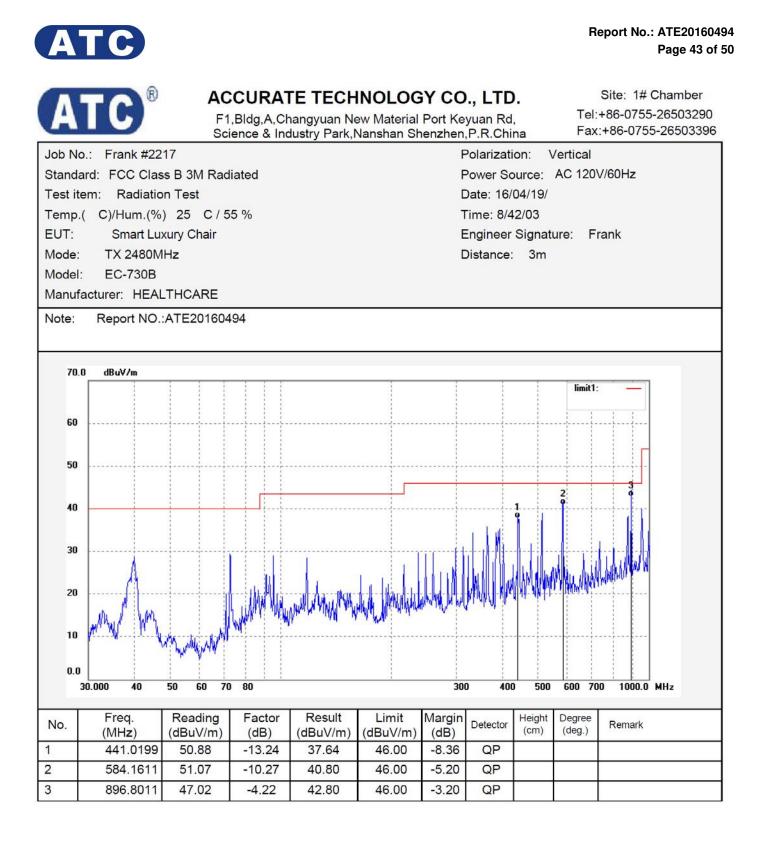




F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China



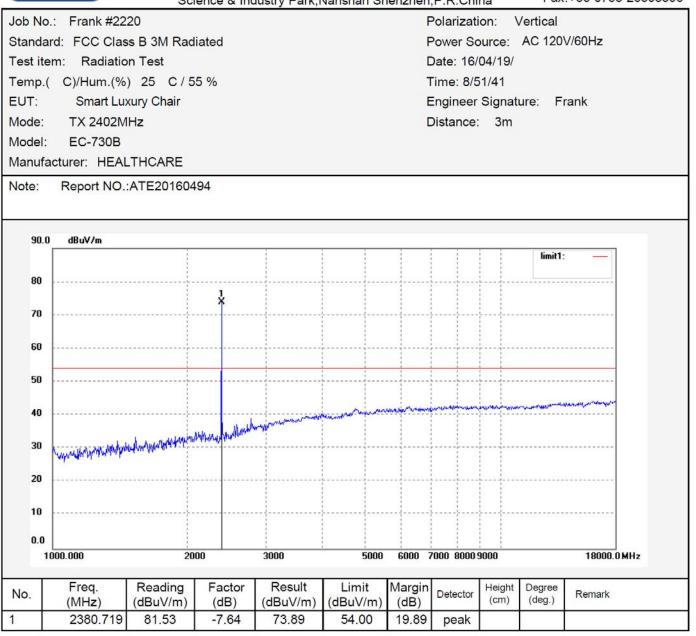








F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China





ATC ATC[®]

ACCURATE TECHNOLOGY CO., LTD.

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

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tandard: FCC Class B 3M Radiated							Power Source: AC 120V/60Hz					
est item: Radiation Test							Date: 16/04/19/					
Femp.(C)/Hum.(%) 25 C / 55 %							Time: 9/01/06					
UT:	Smart Lux	kury Chair				E	Engineer	Signat	ure: F	rank		
ode:	TX 2440M	Hz				0	Distance:	3m				
odel:	EC-730B											
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A	ГС								R	eport No.: ATE201604 Page 48 of
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Job No	.: Frank #22	23				I	Polarizat	ion: H	Horizonta	al
Standa	rd: FCC Clas	s B 3M Rad	liated			I	Power So	ource:	AC 120\	//60Hz :
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Manufa	acturer: HEAL	THCARE								
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EUT: Smart Luxury Chair							Engineer Signature: Frank					
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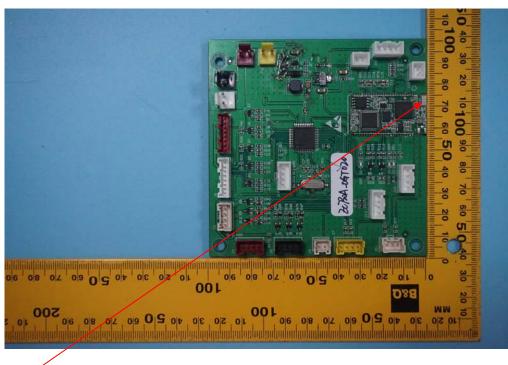
11.ANTENNA REQUIREMENT

11.1.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.

11.2.Antenna Construction

Device is equipped with Plate loaded ceramic Antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 2.5dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna