

Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC166185 Page: 1 of 45

# FCC Radio Test Report FCC ID: 2ARUI-7451

### **Original Grant**

Report No.	TB-FCC166185					
Applicant	American Exchange Time LLC					
Equipment Under Test (EUT)						
EUT Name	Smart Band					
Model No.	7451					
Serial Model No.	7452, 7456, 7458, 7459, 7468, 7489, 7491, 7591, 7592, 7593 8050, 8081, 8082	3,				
Brand Name	iTouch Slim					
Receipt Date	2019-05-21					
Test Date	2019-05-22 to 2019-07-24					
Issue Date	2019-07-25					
Standards	FCC Part 15: 2018, Subpart C(15.247)					
Test Method	ANSI C63.10: 2013					
Conclusions	PASS					
	In the configuration tested, the EUT complied with the standards specified above,					
Test/Witness Engineer	: Jack TECHNOL Jack Deng					
Engineer	· TNAI CUS CARE					

Supervisor

Engineer Manager



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

TB-RF-074-1.0



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# **Revision History**

Report No.	Version	Description	Issued Date
TB-FCC166185	Rev.01	Initial issue of report	2019-07-25
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### 1. General Information about EUT

### **1.1 Client Information**

Applicant	-	American Exchange Time LLC
Address	:	No.1441 Broadway 27th Floor, New York, NY 10018
Manufacturer	Manufacturer : ShenZhen KY Technology Co., Ltd	
Address	-	4th Floor, Building A4, Anle Industrial Zone, NO.172, Hangcheng Road, Xixiang Town, Baoan District, ShenZhen

### 1.2 General Description of EUT (Equipment Under Test)

EUT Name		Smart Band	Smart Band			
Models No.		7451				
Model Difference	:	All these models are the same PCB, layout and electrical circuit, the only different is Color of the bands.				
	3	Operation Frequency:	Bluetooth 4.0(BLE): 2402MHz~2480MHz			
	e	Number of Channel:	Bluetooth 4.0(BLE): 40 channels see note(3)			
Product		RF Output Power:	GFSK: 0.847dBm			
Description	Ŀ	Antenna Gain:	0dBi FPC Antenna			
		Modulation Type:	GFSK			
		Bit Rate of Transmitter:	1Mbps(GFSK)			
Power Rating		Input:DC 5V0.5A by USI DC 3.7V by 45mAh Li-io				
Software Version	÷	V3.6	THE TOP			
Hardware Version	2	V03				
Connecting I/O Port(S)	:	Please refer to the User's Manual				

#### Note:

This Test Report is FCC Part 15.247 for Bluetooth BLE, the test procedure follows the FCC KDB 558074 D01 DTS Means Guidance v05.

- (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (2) Antenna information provided by the applicant.
- (3) Channel List:



Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	14	2430	28	2458
01	2404	15	2432	29	2460
02	2406	16	2434	30	2462
03	2408	17	2436	31	2464
04	2410	18	2438	32	2466
05	2412	19	2440	33	2468
06	2414	20	2442	34	2470
07	2416	21	2444	35	2472
08	2418	22	2446	36	2474
09	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454		
13	2428	27	2456		

### 1.3 Block Diagram Showing the Configuration of System Tested

ADAPTER		EUT			
	CABLE 1		_		
	81 M				
		EUT			



### 1.4 Description of Support Units

Equipment Information						
Name	Model	FCC ID/VOC	Manufacturer	Used "√"		
ADAPTER	FJ-SW1202000U		1	$\checkmark$		
Cable	1			$\checkmark$		

### **1.5 Description of Test Mode**

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test					
Final Test Mode Description					
Mode 1	Power Supply+TX Mode				

For Radiated Test					
Final Test Mode	Description				
Mode 2	TX Mode				
Mode 3	TX Mode (Channel 00/20/39)				

Note: Only worse case is reported Mode 1

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

- BLE Mode: GFSK Modulation Transmitting mode.
- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a portable unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.



### 1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF setting.

Test Software Version	nrfgo				
Frequency	2402 MHz	2442MHz	2480 MHz		
BLE GFSK	DEF	DEF	DEF		

### 1.7 Measurement Uncertainty

The reported uncertainty of measurement y  $\pm$  U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U <sub>Lab</sub> )
	Level Accuracy:	
Conducted Emission	9kHz~150kHz	±3.42 dB
	150kHz to 30MHz	±3.42 dB
Radiated Emission	Level Accuracy:	±4.60 dB
	9kHz to 30 MHz	±4.00 dB
Radiated Emission	Level Accuracy:	±4.40 dB
	30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy:	
	Above 1000MHz	±4.20 dB



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### 1.8 Test Facility

The testing was performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at:1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China.

At the time of testing, the following bodies accredited the Laboratory:

#### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

#### A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01. FCC Accredited Test Site Number: 854351.

#### IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

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# 2. Test Summary

Standard Section			ludament	Domork
FCC	IC	Test Item	Judgment	Remark
15.203		Antenna Requirement	PASS	N/A
15.207(a)	RSS-GEN 7.2.4	Conducted Emission	PASS	N/A
15.205&15.247(d)	RSS-GEN 7.2.2	Band-Edge & Unwanted Emissions into Restricted Frequency	PASS	N/A
15.247(a)(2)	RSS 247 5.2 (1)	6dB Bandwidth	PASS	N/A
15.247(b)(3)	RSS 247 5.4 (4)	Conducted Max Output Power	PASS	N/A
15.247(e)	RSS 247 5.2 (2)	Power Spectral Density	PASS	N/A
15.205, 15.209&15.247(d)	RSS 247 5.5	Transmitter Radiated Spurious &Unwanted Emissions into Restricted Frequency	PASS	N/A



# 3. Test Equipment

Conducted Emiss	ion Test			_	
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 13, 2019	Jul. 12, 2020
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 13, 2019	Jul. 12, 2020
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 13, 2019	Jul. 12, 2020
LISN	Rohde & Schwarz	ENV216	101131	Jul. 13, 2019	Jul. 12, 2020
Radiation Emissio	on Test			-	-
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 13, 2019	Jul. 12, 2020
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 13, 2019	Jul. 12, 2020
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Jan. 27, 2019	Jan. 26, 2020
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Jan. 27, 2019	Jan. 26, 2020
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.03, 2019	Mar. 02, 2020
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar.03, 2019	Mar. 02, 2020
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jan. 27, 2019	Jan. 26, 2020
Pre-amplifier	Sonoma	310N	185903	Mar.04, 2019	Mar. 03, 2020
Pre-amplifier	HP	8449B	3008A00849	Mar.03, 2019	Mar. 02, 2020
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.03, 2019	Mar. 02, 2020
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna Conducte	ed Emission				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 13, 2019	Jul. 12, 2020
Spectrum Analyzer	Rohde & Schwarz	ESCI	100010/007	Jul. 13, 2019	Jul. 12, 2020
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 15, 2018	Sep. 14, 2019
Vector Signal Generator	Agilent	N5182A	MY50141294	Sep. 15, 2018	Sep. 14, 2019
Analog Signal Generator	Agilent	N5181A	MY50141953	Sep. 15, 2018	Sep. 14, 2019
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO26	Sep. 15, 2018	Sep. 14, 2019
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO29	Sep. 15, 2018	Sep. 14, 2019
NF FUWEI JENSOF	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO31	Sep. 15, 2018	Sep. 14, 2019
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO33	Sep. 15, 2018	Sep. 14, 2019



### 4. Conducted Emission Test

- 4.1 Test Standard and Limit
  - 4.1.1Test Standard FCC Part 15.207
  - 4.1.2 Test Limit

Conducted Emission Test Limit
-------------------------------

Eroquonov	Maximum RF Line Voltage (dBµ	
Frequency	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

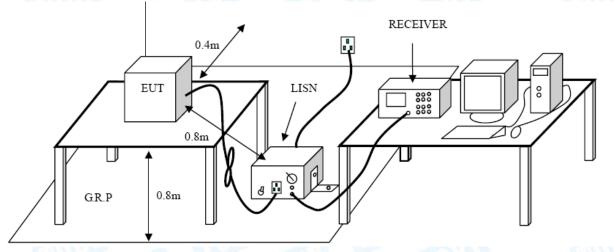
Notes:

(1) \*Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequencies.

(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2 Test Setup



### 4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9 kHz, and the test frequency band is from 0.15MHz to 30MHz.

4.4 EUT Operating Mode

Please refer to the description of test mode.

### 4.5 Test Da5ta

Please refer to the Attachment A.



### 5. Radiated Emission Test

- 5.1 Test Standard and Limit
  - 5.1.1 Test Standard
    - FCC Part 15.247(d)
  - 5.1.2 Test Limit

#### Radiated Emission Limits (9kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

### Radiated Emission Limit (Above 1000MHz)

Frequency (MHz)	Distance Met	ers(at 3m)
	Peak (dBuV/m)	Average (dBuV/m)
Above 1000	74	54

#### Note:

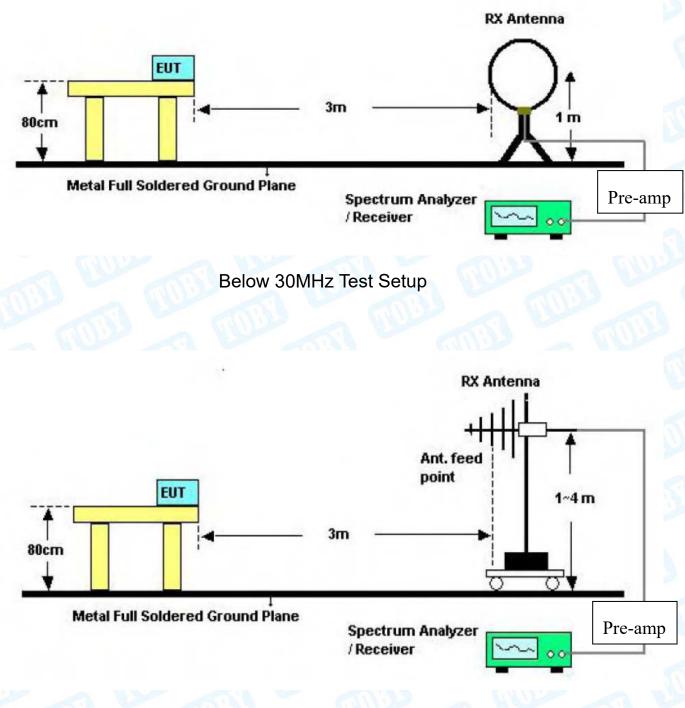
(1) The tighter limit applies at the band edges.

(2) Emission Level (dBuV/m)=20log Emission Level (uV/m)



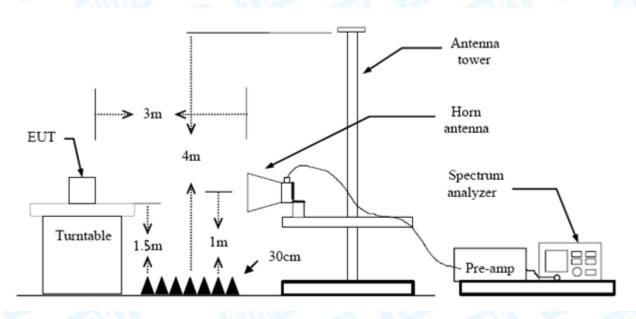
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5.2 Test Setup



Below 1000MHz Test Setup





Above 1GHz Test Setup

### 5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.



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### 5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

### 5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Please refer to the Attachment B.

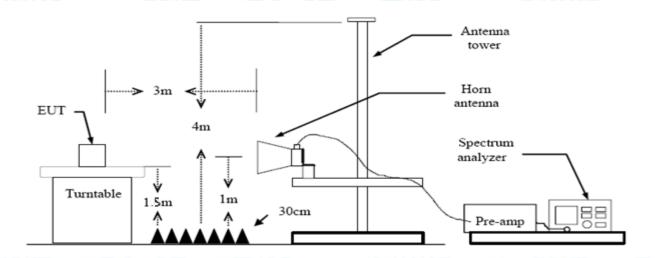


### 6. Restricted Bands Requirement

- 6.1 Test Standard and Limit
  - 6.1.1 Test Standard
    - FCC Part 15.247(d) FCC Part 15.205
  - 6.1.2 Test Limit

Restricted Frequency Band (MHz)	Distance Me	eters(at 3m)
	Peak (dBuV/m)	Average (dBuV/m)
2310 ~2390	74	54
2483.5 ~2500	74	54

### 6.2 Test Setup



### 6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector



mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

6.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values. Please refer to the Attachment C.

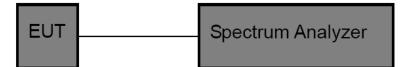


### 7. Bandwidth Test

- 7.1 Test Standard and Limit
  - 7.1.1 Test Standard
    - FCC Part 15.247 (a)(2)
  - 7.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-247			
Test Item	Limit	Frequency Range(MHz)	
Bandwidth	>=500 KHz (6dB bandwidth)	2400~2483.5	

### 7.2 Test Setup



### 7.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
- (3)Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:100 kHz, and Video Bandwidth:300 kHz, Detector: Peak, Sweep Time set auto.

### 7.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, middle and high channel for the test.

### 7.5 Test Data

Please refer to the Attachment D.



### 8. Peak Output Power Test

- 8.1 Test Standard and Limit
  - 8.1.1 Test Standard
    - FCC Part 15.247 (b)(3)
  - 8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-247			
Test Item	Limit	Frequency Range(MHz)	
Peak Output Power	1 Watt or 30 dBm	2400~2483.5	

### 8.2 Test Setup



### 8.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement is according to section 9.1.1 of KDB 558074 D01 DTS Meas Guidance v05.

- (1) Set the RBW≥DTS Bandwidth
- (2) Set VBW≥3\*RBW
- (3) Set Span≥3\*RBW
- (4) Sweep time=auto
- (5) Detector= peak
- (6) Trace mode= maxhold.
- (7) Allow trace to fully stabilize, and then use peak marker function to determine the peak amplitude level.

### 8.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.

### 8.5 Test Data

Please refer to the Attachment E.

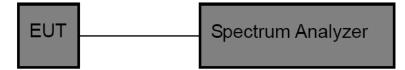


### 9. Power Spectral Density Test

- 9.1 Test Standard and Limit
  - 9.1.1 Test Standard
    - FCC Part 15.247 (e)
  - 9.1.2 Test Limit

FCC Part 15 Subpart C(15.247)			
Test Item Limit Frequency Range(MHz			
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5	

### 9.2 Test Setup



### 9.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser center frequency to DTS channel center frequency.
- (3) Set the span to 1.5 times the DTS bandwidth.
- (4) Set the RBW to: 3 kHz
- (5) Set the VBW to: 10 kHz
- (6) Detector: peak
- (7) Sweep time: auto
- (8) Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

### 9.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

### 9.5 Test Data

Please refer to the Attachment F.



### 10. Antenna Requirement

### 10.1 Standard Requirement

#### 10.1.1 Standard

FCC Part 15.203

#### 10.1.2 Requirement

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### 10.2 Antenna Connected Construction

The gains of the antenna used for transmitting is 0dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

#### 10.3 Result

The EUT antenna is a FPC Antenna. It complies with the standard requirement.

Antenna Type		
	Permanent attached antenna	1
3 4	Unique connector antenna	1
a u	Professional installation antenna	

### **Attachment A-- Conducted Emission Test Data**

TOBY

Temperature:	<b>25</b> ℃	Call	Re	elative Hum	idity:	55%	
Fest Voltage:	AC 120	/ 60Hz	-	AL P	G	(III)	
Terminal:	Line	-	MUS			1	100
Test Mode:	Mode 1	1999		(III)	9	~	M. M.
Remark:	Only wo	rse case is	reported		1	22	
90.0 dBuV							
						QE	/G:
40							
Kunnerto	un Northur	X.	×	×.			
a constrainty	uyu V KMUYAAA	and the marker war	. Maller Maller and	when the weather a second water and	ummunum	ware and a state of the second	and a start of the
markente	we Vhong	manyou	where we are a second	mannam			
-10							
0.150	0.5		(MHz)	5			30.00
		Reading	Correct	5 Measure-			30.00
0.150 No. Mk.	0.5 Freq.	Level			Limit	Over	30.00
		Level dBuV	Correct	Measure-	Limit dBuV	Over dB	30.00 Detector
	Freq.	Level	Correct Factor	Measure- ment			
No. Mk.	Freq. MHz	Level dBuV	Correct Factor dB	Measure- ment dBuV	dBuV	dB	Detector
No. Mk.	Freq. MHz 0.1548	Level dBuV 11.47	Correct Factor dB 9.58	Measure- ment dBuV 21.05	dBuV 65.73 55.73	dB -44.68	Detector
No. Mk.	Freq. MHz 0.1548 0.1548	Level dBuV 11.47 6.41	Correct Factor dB 9.58 9.58	Measure- ment dBuV 21.05 15.99	dBuV 65.73 55.73 57.65	dB -44.68 -39.74	Detector QP AVG
No. Mk.	Freq. MHz 0.1548 0.1548 0.4100	Level dBuV 11.47 6.41 13.83	Correct Factor dB 9.58 9.58 9.60	Measure- ment dBuV 21.05 15.99 23.43	dBuV 65.73 55.73 57.65 47.65	dB -44.68 -39.74 -34.22	Detector QP AVG QP
No. Mk.	Freq. MHz 0.1548 0.1548 0.4100 0.4100 0.4660	Level dBuV 11.47 6.41 13.83 6.75 16.02	Correct Factor dB 9.58 9.58 9.60 9.60 9.60	Measure- ment dBuV 21.05 15.99 23.43 16.35 25.62	dBuV 65.73 55.73 57.65 47.65 56.58	dB -44.68 -39.74 -34.22 -31.30 -30.96	Detector QP AVG QP AVG QP
No. Mk.	Freq. MHz 0.1548 0.1548 0.4100 0.4100 0.4660 0.4660	Level dBuV 11.47 6.41 13.83 6.75 16.02 7.93	Correct Factor dB 9.58 9.58 9.60 9.60 9.60 9.60	Measure- ment dBuV 21.05 15.99 23.43 16.35 25.62 17.53	dBuV 65.73 55.73 57.65 47.65 56.58 46.58	dB -44.68 -39.74 -34.22 -31.30 -30.96 -29.05	Detector QP AVG QP AVG QP AVG
No. Mk. 1 2 3 4 5 6 * 7	Freq. MHz 0.1548 0.1548 0.4100 0.4100 0.4660 0.4660 1.2860	Level dBuV 11.47 6.41 13.83 6.75 16.02 7.93 9.68	Correct Factor dB 9.58 9.58 9.60 9.60 9.60 9.60 9.60	Measure- ment dBuV 21.05 15.99 23.43 16.35 25.62 17.53 19.28	dBuV 65.73 55.73 57.65 47.65 56.58 46.58 56.00	dB -44.68 -39.74 -34.22 -31.30 -30.96 -29.05 -36.72	Detector QP AVG QP AVG QP AVG QP
No. Mk. 1 2 3 4 5 6 * 7 8	Freq. MHz 0.1548 0.1548 0.4100 0.4100 0.4660 0.4660 1.2860 1.2860	Level dBuV 11.47 6.41 13.83 6.75 16.02 7.93 9.68 5.14	Correct Factor dB 9.58 9.58 9.60 9.60 9.60 9.60 9.60 9.60	Measure- ment dBuV 21.05 15.99 23.43 16.35 25.62 17.53 19.28 14.74	dBuV 65.73 55.73 57.65 47.65 56.58 46.58 56.00 46.00	dB -44.68 -39.74 -34.22 -31.30 -30.96 -29.05 -36.72 -31.26	Detector QP AVG QP AVG QP AVG QP AVG
No. Mk. 1 2 3 4 5 6 * 7 8 9	Freq. MHz 0.1548 0.1548 0.4100 0.4100 0.4660 0.4660 1.2860 1.2860 2.2820	Level dBuV 11.47 6.41 13.83 6.75 16.02 7.93 9.68 5.14 9.68	Correct Factor dB 9.58 9.58 9.60 9.60 9.60 9.60 9.60 9.60 9.60 9.60	Measure- ment dBuV 21.05 15.99 23.43 16.35 25.62 17.53 19.28 14.74 19.30	dBuV 65.73 55.73 57.65 47.65 56.58 46.58 56.00 46.00 56.00	dB -44.68 -39.74 -34.22 -31.30 -30.96 -29.05 -36.72 -31.26 -36.70	Detector QP AVG QP AVG QP AVG QP AVG
No. Mk. 1 2 3 4 5 6 * 7 8 9 10	Freq. MHz 0.1548 0.1548 0.4100 0.4100 0.4660 0.4660 1.2860 1.2860 2.2820 2.2820	Level dBuV 11.47 6.41 13.83 6.75 16.02 7.93 9.68 5.14 9.68 5.19	Correct Factor dB 9.58 9.58 9.60 9.60 9.60 9.60 9.60 9.60 9.60 9.62 9.62	Measure- ment dBuV 21.05 15.99 23.43 16.35 25.62 17.53 19.28 14.74 19.30 14.81	dBuV 65.73 55.73 57.65 47.65 56.58 46.58 56.00 46.00 56.00 46.00	dB -44.68 -39.74 -34.22 -31.30 -30.96 -29.05 -36.72 -31.26 -36.70 -31.19	Detector QP AVG QP AVG QP AVG QP AVG
No. Mk.	Freq. MHz 0.1548 0.1548 0.4100 0.4100 0.4660 0.4660 1.2860 1.2860 2.2820	Level dBuV 11.47 6.41 13.83 6.75 16.02 7.93 9.68 5.14 9.68	Correct Factor dB 9.58 9.58 9.60 9.60 9.60 9.60 9.60 9.60 9.60 9.60	Measure- ment dBuV 21.05 15.99 23.43 16.35 25.62 17.53 19.28 14.74 19.30	dBuV 65.73 55.73 57.65 47.65 56.58 46.58 56.00 46.00 56.00 56.00	dB -44.68 -39.74 -34.22 -31.30 -30.96 -29.05 -36.72 -31.26 -36.70	Detector QP AVG QP AVG QP AVG QP AVG



Temperature:	<b>25</b> ℃		Relative Humidity:	55%
Test Voltage:	AC 120V 60H	łz	AUL -	200
Terminal:	Neutral			133
Test Mode:	Mode 1			- BI
Remark:	Only worse c	ase is reported	CUID 2	a Week
90.0 dBuV	M.M.M.M.M.	hadagan addhan Abrilian ya ana ana ana ana ana ana ana ana an	Mayerlan parter by Mer hadrak and have	
-10	0.5	(MHz)	5	30.000

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0.1940	11.29	9.58	20.87	63.86	-42.99	QP
2	0.1940	6.19	9.58	15.77	53.86	-38.09	AVG
3	0.2940	10.62	9.59	20.21	60.41	-40.20	QP
4	0.2940	6.03	9.59	15.62	50.41	-34.79	AVG
5	0.4660	11.10	9.60	20.70	56.58	-35.88	QP
6	0.4660	5.35	9.60	14.95	46.58	-31.63	AVG
7	0.9540	9.30	9.60	18.90	56.00	-37.10	QP
8	0.9540	4.89	9.60	14.49	46.00	-31.51	AVG
9	2.6740	9.84	9.63	19.47	56.00	-36.53	QP
10 *	2.6740	5.14	9.63	14.77	46.00	-31.23	AVG
11	5.7060	9.81	9.78	19.59	60.00	-40.41	QP
12	5.7060	5.37	9.78	15.15	50.00	-34.85	AVG



### Attachment B-- Radiated Emission Test Data And

### **Conducted Emission Test Data**

### ----- Radiated Emission Test Data

#### 9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB Below the permissible value has no need to be reported.

#### 30MHz~1GHz

		1		6			R								~
mperatu	ire:	25	5℃	2	3				Relativ	ve Hu	umidi	ty:	2	55%	ó
st Voltag	ge:	A	C 12	20\	/ 60	Hz			WP	2	~				
nt. Pol.		Н	oriz	ont	al	A	20	18		1	12	130		_	
st Mode	:	Μ	lode	2 :	24	021	MHz		-	J		0	-		
mark:		0	nly	wo	rse	cas	e is	reported	20		-		1	10	-
80.0	dBu¥∕ı	m													
-											(RF)FI	CC 15C	3M Rad		
										_			Mar	gin -6 d	16
30						_			5	6 X	methe				
		1				2	-	3	4 		Jun w	~~~	Mand	nym Av	
N.	home	u.Jr	Mar .			Ň		MMM	Man	Myn	w <sup>a</sup> 1		_		
-		<u> </u>		how	- Martine								_		
-															
-20	.000	40	50	60	70 8			(MHz)		300	400	500	600	700	1000.000
		40	50	60							400	500	600	700	1000.000
No	o. Mk	. I	Fred	7.		ead _eve		Correct Factor	Meas mer		Limi	t	Ove	er	
			MHz	:		dBu	V	dB/m	dBuV	//m	dBuV	//m	dE	3	Detector
1		45	.375	55	:	34.7	'5	-21.70	13.0	)5	40.0	00	-26	.95	QP
2		96	.098	36	:	35.4	6	-22.05	13.4	11	43.5	50	-30	.09	QP
3		143	3.32	61	:	36.9	94	-22.14	14.8	30	43.5	50	-28	.70	QP
4		203	3.52	28	;	37.5	52	-19.77	17.7	75	43.5	50	-25	.75	QP
5		504	5.13	29		30.3	34	-8.59	21.7	75	46.0	00	-24	.25	QP
5		030		20											

\*:Maximum data x:Over limit !:over margin



Temperature:	<b>25°</b> ℃		Re	elative Humid	ity:	55%		
Test Voltage:	AC 120\	/ 60Hz	2	- RU	100	-		
Ant. Pol.	Vertical	1000			(A)	197		-
Test Mode:	Mode 2	2402MF	łz				-	
Remark:	Only wo	rse case i	s reported	MIDE		2	120	1
80.0 dBu¥/m								
					(BE)E(	C 15C 3M	Badiation	
							Margin -6 (	18 <b>(</b>
30 2.3							6	
1 2 3 1 X X X 1			45 XX			mme	yn	m
Marry Marry	Mar Marken		Marthurson	. ann when	wenne	Mary .		
· · · · ·	man	mound	Just Mahan	un man				
-20								
30.000 40 50	60 70	80	(MHz)	300	400	500 6	00 700	1000

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		38.8878	38.66	-18.59	20.07	40.00	-19.93	QP
2	*	45.3755	44.34	-21.70	22.64	40.00	-17.36	QP
3		49.7068	45.05	-23.14	21.91	40.00	-18.09	QP
4		135.5062	41.50	-22.47	19.03	43.50	-24.47	QP
5		147.4036	41.26	-21.71	19.55	43.50	-23.95	QP
6		719.1995	30.89	-6.72	24.17	46.00	-21.83	QP

\*:Maximum data x:Over limit !:over margin

# TOBY

### Above 1GHz

Tempo	eratu	ire:	<b>25℃</b>		র্ত	Relative Hu	imidity:	55%	200
Test V	/olta	ge:	DC 3	3.7V			-	12	
Ant. P	Pol.		Horiz	zontal		32	2 GIT	L'AND	
Test N	Node	:	BLE	Mode TX 24	102 MHz	-			NO.
Rema	rk:					/hich more tha 3uV/m, AVG: {			
No.	Mk	. Fre	q.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
No.	Mk	. Fre мн	·				Limit dBuV/m	Over	Detector
No.	Mk		z	Level	Factor	ment			Detector peak



1

2

\*

Temperature	: 25°	С	$\sim$ $\sim$	<b>Relative Hun</b>	nidity:	55%	- COR
Test Voltage:	DC	3.7V	33	117		-	Charles and the second
Ant. Pol.	Ver	tical	-	20	6.11	132	
Test Mode:	BL	E Mode TX 24	402 MHz				
Remark:				which more tha 3uV/m, AVG: 5			G
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector

14.44

14.44

57.78

43.31

74.00

54.00

-16.22

-10.69

peak

AVG

Emission Level= Read Level+ Correct Factor

43.34

28.87

4804.582

4804.582



Temperature	: 25°	C		Relative Hu	midity:	55%	100
Test Voltage:	DC	3.7V					Cherry Contraction
Ant. Pol.	Hor	izontal	-	11	1177	133	
Test Mode:	BLE	E Mode TX 24	42 MHz			1	A.L
Remark:		report for the scribed limit (					e e
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dD/m	dBuV/m	dBuV/m	dB	Detecto

		IVITIZ	dBuv	dB/m	ubuv/m	uBuv/m	uв	Delector
1	*	4883.344	29.22	14.91	44.13	54.00	-9.87	AVG
2		4883.464	43.47	14.91	58.38	74.00	-15.62	peak



Temperature:	<b>25</b> ℃	Relative Humidit	ty: 55%
Test Voltage:	DC 3.7V		1
Ant. Pol.	Vertical		THE REAL
Test Mode:	BLE Mode TX 244	42 MHz	
Remark:		emission which more than 15 Peak: 74dBuV/m, AVG: 54dBu	
		Correct Measure-	it Over

No	. Mk.	Freq.	Level	Factor	ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4880.656	43.13	14.90	58.03	74.00	-15.97	peak
2	*	4883.500	29.25	14.91	44.16	54.00	-9.84	AVG



Temperature	e: 25℃ Relative Humidity: 55%
Test Voltage:	: DC 3.7V
Ant. Pol.	Horizontal
Test Mode:	BLE Mode TX 2480 MHz
Remark:	No report for the emission which more than 15 dB below the prescribed limit (Peak: 74dBuV/m, AVG: 54dBuV/m).
No. Mk.	Reading Correct Measure- Freq. Level Factor ment Limit Over

			LOVOI	ructor	mont			
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4960.552	29.42	15.40	44.82	54.00	-9.18	AVG
2		4961.416	43.86	15.40	59.26	74.00	-14.74	peak

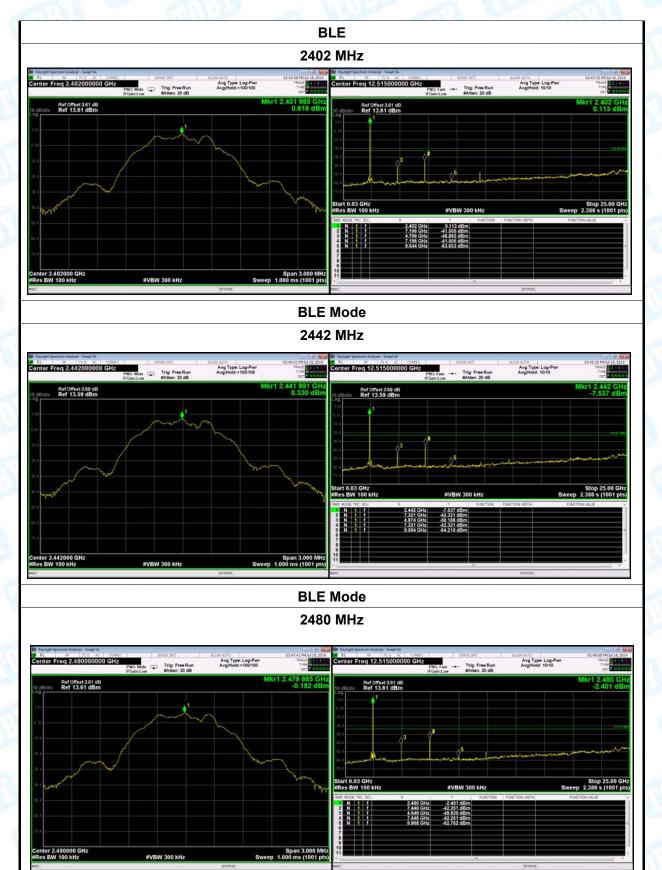


Temperature:	<b>25</b> ℃		Relative Humidity:	55%
Test Voltage:	DC 3.7V		AUD-	a Ver
Ant. Pol.	Vertical	-		133
Test Mode:	BLE Mode TX 24	80 MHz		(Ra
Remark:			vhich more than 15 dB 3uV/m, AVG: 54dBuV/m	
	prescribed limit (I	Peak: 74d	3uV/m, AVG: 54dBuV/n	ו).
	Reading	Correct	Measure-	

No.	Mk.	Freq.	-	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4958.668	43.08	15.39	58.47	74.00	-15.53	peak
2	*	4958.668	29.22	15.39	44.61	54.00	-9.39	AVG



### -----Conducted Emission Test Data



### Attachment C-- Restricted Bands Requirement and

### Band-edge Test Data

### (1) Radiation Test

diation	lest	100		GHLE				
Tempera	ature	: <b>25</b> ℃	1	Re	elative Hur	nidity:	55%	N D D
Test Vol	tage:	DC 3.7			1 See			6
Ant. Pol	•	Horizon	tal	600		0105		
Test Mo	de:	BLE Mo	ode TX 2402	MHz			1170	1
Remark		N/A	The second					71
100.0 dBu	W/m							
						(RF) FCC	PART 15C (PE	4 X (AK) 3
50						(RF) FC	C PART 15C (A 1 X 2 X	WG)
0.0	2315.0	0 2325.00	2335.00 234	5.00 2355.00	2365.00	2375.00 238	5.00	2405.00 MHz
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	43.09	2.82	45.91	74.00	-28.09	peak
2		2390.000	32.09	2.82	34.91	54.00	-19.09	AVG
3	*	2402.200	69.46	2.87	72.33	Fundamental	Frequency	AVG
4	Х	2402.400	82.65	2.87	85.52	Fundamental I	Frequency	peak

Emission Level= Read Level+ Correct Factor



Tempe	eratur	e:	25	°C					Re	lativ	e Hu	mid	ity:		55%				
lest V	oltage	):	D	C 3.7	٧٧	61	18	5		_	9	1	10		de la				2
Ant. P	ol.		Ve	ertica	al	23		-	2		1			20		9		-	
lest M	lode:		BL	E M	lode	TX :	2402	MHz							-	1	5		
Remai	rk:		N/	A	1	1				1	111	0.2		_	2	142	N.	1	
100.0 d	Bu¥/m						_				1								7
																	2		
													(BI	F) FCC	PART	15C (PE			
					_												3		
														IFI FC	C PAR	T 15C (A	VGI		ł
50					_										1		1	t	
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																			1
					_														
0.0																			
2307.0	00 2317	.00	2327	.00	2337.	.00	2347.0	0 2	357.00	236	7.00	2377	7.00	2387	7.00		240	7.00	MH
			_			adi		Corr		Mea				••	~				
No	. Mk		Fre	q.	L	eve		Fac	ctor	m	ent		Lim	It	0	ver			
			MH2	z	c	lBu∖	/	dB/	m	dB	uV/m		dBu	V/m	(	dB	De	tect	or
1		23	90.0	000	4	2.5	2	2.8	2	45	5.34		74.	00	-2	8.66	p	ea	k
2		23	90.0	000	3	1.5	1	2.8	2	34	4.33		54.	00	-1	9.67	A	V	G
3	Х	24	02.2	200	6	4.4	4	2.8	7	67	7.31	Fun	damer	ntal F	reque	ncy	A	V	G
4	*	24	02.4	00	8	9.3	2	2.8	7	92	2.19	Fun	dame	ntal F	reque	ncy	p	ea	k



Temperature:	<b>25</b> ℃	Re	lative Humidity:	55%
Fest Voltage:	DC 3.7V	33	AUPE	~ ~
Ant. Pol.	Horizontal	1 CON	61	139
Fest Mode:	BLE Mode TX 2	480 MHz		(Bar)
Remark:	N/A		MUDE	2 1195
100.0 dBuV/m				
2				
×				
1 ×			(05) 500	PART 15C (PEAK)
A			(nr) rcc	PANT ISC (FEAK)
3				
×			(RF) FC	C PART 15C (AVG)
50				
/ ¥				
$P \sim$	~			
0.0				
2474.000 2484.00	2494.00 2504.00 25	14.00 2524.00 2	534.00 2544.00 255	4.00 2574.00 M

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2480.000	74.94	3.38	78.32	54.00	24.32	AVG
2	Х	2480.200	88.42	3.38	91.80	74.00	17.80	peak
3		2483.500	56.91	3.41	60.32	- Fundamental	Frequency	peak
4		2483.500	36.94	3.41	40.35	Fundamental	Frequency	AVG



est Voltage: DC 3.7V Int. Pol. Vertical est Mode: BLE Mode TX 2480 MHz lemark: N/A 100.0 dBuV/m 1 x 2 (RF) FCC PART 15C (PEAK) 3 (RF) FCC PART 15C (PEAK) 50 3 (RF) FCC PART 15C (AVG) 50 0.0	empera	ture:	<b>25</b> ℃		R	elative Hun	nidity:	55%	
est Mode:         BLE Mode TX 2480 MHz           iemark:         N/A           100.0         dBuV/m           1         x           2         (RF) FCC PART 15C (PEAK)           3         (RF) FCC PART 15C (PEAK)           50         x	est Volt	age:	DC 3.7	٧٧	5	- 61	10 50		A CONTRACT
N/A           100.0         dBuV/m           1         X           2         (RF) FCC PART 15C (PEAK)           3         (RF) FCC PART 15C (AVG)           50         X	nt. Pol		Vertica		-	11	G	600	
100.0 dBuV/m	est Mo	de:	BLE M	ode TX 248	0 MHz		3		2
1         (RF) FCC PART 15C (PEAK)           2         (RF) FCC PART 15C (PEAK)           3         (RF) FCC PART 15C (AVG)           50         4	emark:		N/A	A RAN		(THE	99	A 4	No.
X         (RF) FCC PART 15C (PEAK)           X         Image: Constraint of the second se	100.0 dBu	₩/m							
	50	< 2 X 3 X 4							
	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
• • • • •			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
No. Mk. Freq. Level Factor ment Limit Over	1	X	2479.600	81.64	3.38	85.02	Fundament	tal Frequency	peak
No. Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dBu/m         dBuV/m         dBuV/m         dB         Detector	2	* :	2480.000	68.13	3.38	71.51	– ⊢unɑamen	tai ⊢requency	AVG
No. Mk.       Freq.       Level       Factor       ment       Limit       Over         MHz       dBuV       dB/m       dBuV/m       dBuV/m       dB       Detector         1       X       2479.600       81.64       3.38       85.02       Fundamental Frequency       peak         2       *       2480.000       68.13       3.38       71.51       Fundamental Frequency       AVG	3		2483.500	49.82	3.41	53.23	74.00	-20.77	peak
No. Mk.       Freq.       Level       Factor       ment       Limit       Over         MHz       dBuV       dB/m       dBuV/m       dBuV/m       dB       Detector         1       X       2479.600       81.64       3.38       85.02       Fundamental Frequency       peak         2       *       2480.000       68.13       3.38       71.51       Fundamental Frequency       AVG	4		2483.500	33.71	3.41	37.12	54.00	-16.88	AVG



### (2) Conducted Test

Temperature:	<b>25</b> ℃	<b>Relative Humidity:</b>	55%
Test Voltage:	DC 3.7V		139
Test Mode:	BLE Mode TX 2402MHz /	BLE Mode TX 2480MH	z
Remark:	The EUT is programed in a	continuously transmittin	g mode

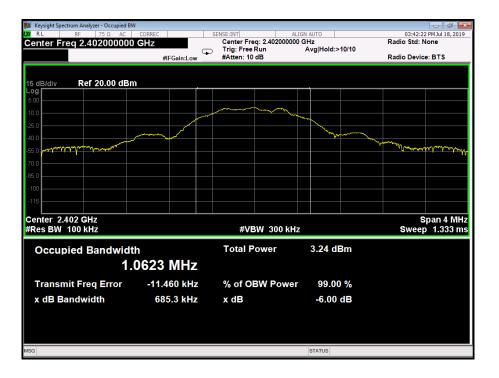
RL	RF		C CORREC	SE	INSE:INT		AL	IGN AUTO			0 PM Jul 18, 201
enter F	req 2	.3560000	P	PNO: Fast 😱	Trig: Free R Atten: 30 d			Avg Type Avg Hold	: Log-Pwr :>100/100	т	RACE 1 2 3 4 TYPE MWWW DET PNNN
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.og 13.6											
3.61											1
5.39											, i
16.4											
26.4											
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46.4									<u>4</u>		\  \  \  \  \  \  \
56.4	And the second second	~~~~~	- Antonia - Antonia - Antonia	and a second between the	And the second states	-	-	al-anternation	harden		م <sup>1</sup> الهم
56.4											
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IKR MODE T		(112	Х	× UEA	FUNC		ELINCT	ION WIDTH		FUNCTION VALUE	, (1001 pt
	1 f		2.402 0 GHz	0.924 d	Bm	non.	- One			01010111202	
	1 f 1 f		2.400 0 GHz	-47.185 d -56.137 d	Bm Bm						
1 N 2 N 3 N 4 N	1 f 1 f 1 f			-47.185 d -56.137 d -54.164 d	Bm Bm Bm						
1 N 2 N 3 N 4 N 5 6	1 f 1 f		2.400 0 GHz 2.390 0 GHz	-47.185 d -56.137 d -54.164 d	Bm Bm Bm						
1 N 2 N 3 N 4 N 5	1 f 1 f		2.400 0 GHz 2.390 0 GHz	-47.185 d -56.137 d -54.164 d	Bm Bm Bm						
1 N 2 N 3 N 4 N 5 6 7 8 9	1 f 1 f		2.400 0 GHz 2.390 0 GHz	<u>-47.185 d</u> -56.137 d -54.164 d	Bm Bm Bm						
1 N 2 N 3 N 4 N 5 6 7 8 9 9	1 f 1 f		2.400 0 GHz 2.390 0 GHz	-47.185 d -56.137 d -54.164 d	Bm Bm						
1 N 2 N 3 N 4 N 5 6 7 8	1 f 1 f		2.400 0 GHz 2.390 0 GHz	-47.185 d -56.137 d -54.164 d	Bm Bm Bm Bm Bm Bm Bm Bm Bm Bm Bm Bm Bm B			STATUS			· ·

RL	RF		AC CORREC		SENSE:INT		ALIGN AUTO			PM Jul 18, 201
enter	Freq	2.52600	0000 GHz	PNO: Fast 😱 FGain:Low	Trig: Free Atten: 30			rpe: Log-Pwr Id:>100/100	TF	ACE 1 2 3 4 1
0 dB/div		f Offset 3.6 f <b>23.61 d</b>						l	Mkr1 2.4 0.	30 0 GH 190 dBi
og 13.6										
3.61	<b>∳</b> <sup>1</sup>									
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6.4										-19.86 d
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6.4	_ <u>_</u>	2								
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i6.4										
tart 2.4 Res Bl				#VB	N 300 kHz			Sweep	Stop 2. 9.600 ms	57600 GH (1001 pt
KR MODE	TRC SCI	-	× 2.480 0 GHz	Y 0.190		CTION	FUNCTION WIDTH	FL	INCTION VALUE	
2 N			2.480 0 GHz 2.483 5 GHz 2.500 0 GHz	-52.444	dBm					
3 N 4 N 5	1 f		2.483 5 GHz	-50.074	dBm					
6										
8										
0										

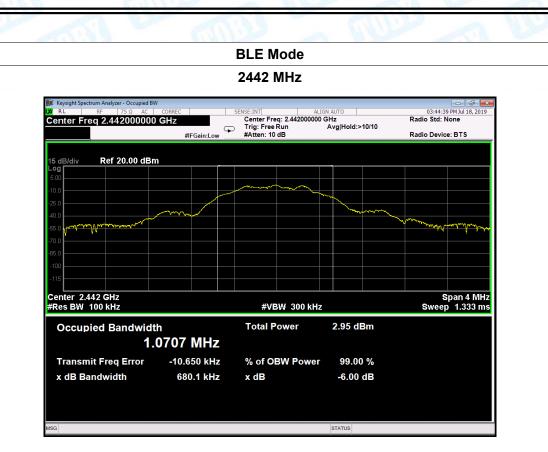
### Attachment D-- Bandwidth Test Data

Temperature:	<b>25℃</b>		Relative Humidity:	55%			
Test Voltage:	DC 3.7V						
Test Mode:	BLE TX Mode						
Channel frequency		6dB Bandwidth	99% Bandwidth	Limit			
(MHz)		(kHz)	(kHz)	(kHz)			
2402		685.3	1062.3				
2442		680.1	1070.7	>=500			
2480		683.3	1060.5				
		<b>D I D I D</b>					

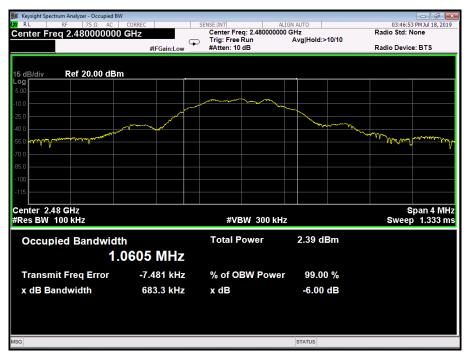
#### BLE Mode







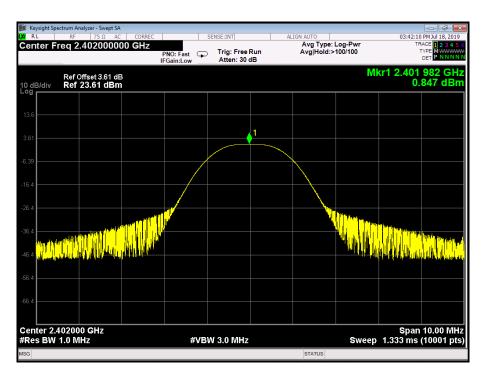
### BLE Mode



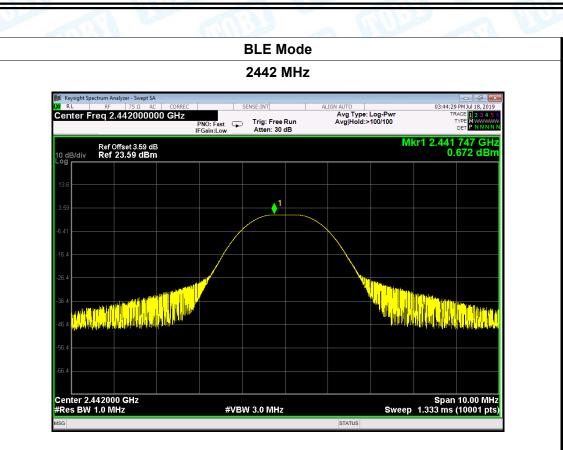


### **Attachment E-- Peak Output Power Test Data**

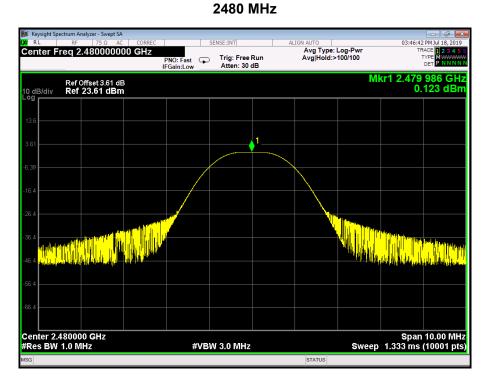
Temperature:	<b>25</b> ℃	Relative Humidity:		55%			
Test Voltage:	DC 3.7V						
Test Mode:	BLE TX Mode						
Channel frequency (MHz)		Test Result (dBm)		Limit (dBm)			
2402		0.847					
2442		0.672 30		30			
2480		0.123					
		BLE Mode					







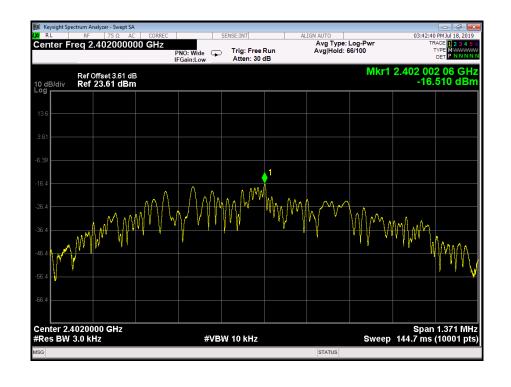
### BLE Mode



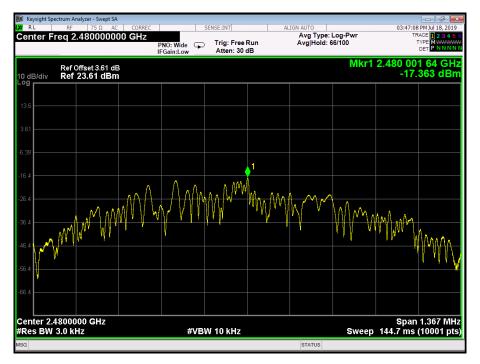
## **Attachment F-- Power Spectral Density Test Data**

TOBY

Temperature:	<b>25</b> ℃	Relative H	Relative Humidity:				
Test Voltage:	DC 3.7V		61	111			
Test Mode:	BLE TX Mode						
Channel Frequency		Power Density	Limit		Booult		
(MHz)		(dBm/3kHz)	(dBm/3kHz)		Result		
2402		-16.510					
2442		-16.790	8		PASS		
2480		-17.363					
		BLE Mode	1				







#### BLE Mode 2480 MHz

