

GIObal United Technology Services Co., Ltd.

Report No.: GTS201911000111F01

TEST REPORT

Applicant:	Shenzhen Hysiry Technology Co., Ltd.				
Address of Applicant:	2403D, 24th floor, coast huanqing building, no.24 futian road, xu town community, futian street, futian district, shenzhen				
Manufacturer/Factory:	Shenzhen Hysiry Technology Co., Ltd.				
Address of Manufacturer/Factory:	2403D, 24th floor, coast huanqing building, no.24 futian road, xu town community, futian street, futian district, shenzhen				
Equipment Under Test (E	EUT)				
Product Name:	Bluetooth remote control				
Model No.:	BR1				
Trade Mark:	HUSIRU 汇思锐				
FCC ID:	2AKBP-BR1				
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247				
Date of sample receipt:	2019-10-24				
Date of Test:	2019-10-24 to 2019-11-2				
Date of report issued:	2019-11-20				
Test Result :	PASS *				

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

RobinsonLo

Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.



2 Version

Version No.	Date	Description
00	2019-11-20	Original

Prepared By:

hantly

Date:

2019-11-20

2019-11-20

Project Engineer

Check By:

Date: binson

Reviewer



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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	N/A
Conducted Output Power	15.247 (b)(3)	Pass
Channel Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Band Edge	15.247(d)	Pass
Spurious Emission	15.205/15.209	Pass

Remarks:

- 1. Pass: The EUT complies with the essential requirements in the standard.
- 2. Test according to ANSI C63.10:2013

Measurement Uncertainty

Test Item	Frequency Range Measurement Uncertainty Note					
Radiated Emission	3.8039dB	(1)				
Radiated Emission200MHz-1GHz3.9679dB(1)						
Radiated Emission1GHz-18GHz4.29dB(1)						
Radiated Emission18GHz-40GHz3.30dB(1)						
AC Power Line Conducted 0.15MHz ~ 30MHz 3.44dB (1)						
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.						



5 General Information

5.1 General Description of EUT

Product Name:	Bluetooth remote control
Model No.:	BR1
Test sample(s) ID:	GTS201911000111-1
Sample(s) Status:	Engineer sample
Serial No.:	N/A
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Channel Numbers:	40
Bluetooth version: Bluetooth 5.0	
RF Output Power:	BLE 1M:-9.51dBm
	BLE 2M:-9.48dBm
Modulation Type:	GFSK
Antenna Type:	PCB Antenna
Antenna Gain:	1.7dBi
Power Supply:	Input: DC 3V for button battery



Operation F	Operation Frequency each of channel						
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402 MHz	11	2422 MHz	21	2442 MHz	31	2462 MHz
2	2404 MHz	12	2424 MHz	22	2444 MHz	32	2464 MHz
3	2406 MHz	13	2426 MHz	23	2446 MHz	33	2466 MHz
4	2408 MHz	14	2428 MHz	24	2448 MHz	34	2468 MHz
5	2410 MHz	15	2430 MHz	25	2450 MHz	35	2470 MHz
6	2412 MHz	16	2432 MHz	26	2452 MHz	36	2472 MHz
7	2414 MHz	17	2434 MHz	27	2454 MHz	37	2474 MHz
8	2416 MHz	18	2436 MHz	28	2456 MHz	38	2476 MHz
9	2418 MHz	19	2438 MHz	29	2458 MHz	39	2478 MHz
10	2420 MHz	20	2440 MHz	30	2460 MHz	40	2480 MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2442MHz
The Highest channel	2480MHz



5.2 Test mode

Transmitting mode Keep the EUT in continuously transmitting mode

Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.

5.3 Description of Support Units

None.

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• FCC — Registration No.: 381383

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

• IC — Registration No.: 9079A

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A

• NVLAP (LAB CODE:600179-0)

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.7 Test Location

All tests were performed at: Global United Technology Services Co., Ltd. Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960



6 Test Instruments list

Rad	Radiated Emission:					
ltem	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 03 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 26 2019	June. 25 2020
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 26 2019	June. 25 2020
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 26 2019	June. 25 2020
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 26 2019	June. 25 2020
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 26 2019	June. 25 2020
9	Coaxial Cable	GTS	N/A	GTS211	June. 26 2019	June. 25 2020
10	Coaxial cable	GTS	N/A	GTS210	June. 26 2019	June. 25 2020
11	Coaxial Cable	GTS	N/A	GTS212	June. 26 2019	June. 25 2020
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 26 2019	June. 25 2020
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 26 2019	June. 25 2020
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 26 2019	June. 25 2020
15	Band filter	Amindeon	82346	GTS219	June. 26 2019	June. 25 2020
16	Power Meter	Anritsu	ML2495A	GTS540	June. 26 2019	June. 25 2020
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 26 2019	June. 25 2020
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 26 2019	June. 25 2020
19	Splitter	Agilent	11636B	GTS237	June. 26 2019	June. 25 2020
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 26 2019	June. 25 2020
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 19 2019	Oct. 18 2020
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 19 2019	Oct. 18 2020
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 19 2019	Oct. 18 2020
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 26 2019	June. 25 2020



RF C	RF Conducted Test:					
ltem	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 26 2019	June. 25 2020
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 26 2019	June. 25 2020
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 26 2019	June. 25 2020
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 26 2019	June. 25 2020
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 26 2019	June. 25 2020
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 26 2019	June. 25 2020
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 26 2019	June. 25 2020
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 26 2019	June. 25 2020

Gene	General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 26 2019	June. 25 2020	
2	Barometer	ChangChun	DYM3	GTS255	June. 26 2019	June. 25 2020	



7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement: FCC Part15 C Section 15.203 /247(c)					
15.203 requirement:					
responsible party shall be us antenna that uses a unique of	be designed to ensure that no antenna other than that furnished by the sed with the device. The use of a permanently attached antenna or of an coupling to the intentional radiator, the manufacturer may design the unit in be replaced by the user, but the use of a standard antenna jack or bited.				
15.247(c) (1)(i) requirement	t:				
operations may employ trans	2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point smitting antennas with directional gain greater than 6dBi provided the power of the intentional radiator is reduced by 1 dB for every 3 dB that the na exceeds 6dBi.				
E.U.T Antenna:	E.U.T Antenna:				
The antennas are PCB ante appendix II for details	enna, the best case gain of the antennas are 1.7dBi, reference to the				



7.2 Conducted Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02
Limit:	30dBm
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Test Mode	Test channel	Peak Output Power (dBm)	Limit(dBm)	Result
	Lowest	-10.755		
BLE 1M	Middle	-9.975		
	Highest	-9.511	20.00	Daga
	Lowest	-10.709	30.00	Pass
BLE 2M	Middle	-9.937		
	Highest	-9.477		



7.3 Channel Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)				
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02				
Limit:	>500KHz				
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane				
Test Instruments:	Refer to section 6.0 for details				
Test mode:	Refer to section 5.2 for details				
Test results:	Pass				

Measurement Data

Test Mode	Test channel	6dB Bandwidth	99% Bandwidth	Limit(KHz)	Result
		(MHz)	(MHz)	Linin(Rinz)	Result
	Lowest	0.669	1.055		
BLE 1M	Middle	0.661	1.054		
	Highest	0.661	1.054	500	Doop
	Lowest	1.118	2.069	>500	Pass
BLE 2M	Middle	1.113	2.065		
	Highest	1.136	2.068		

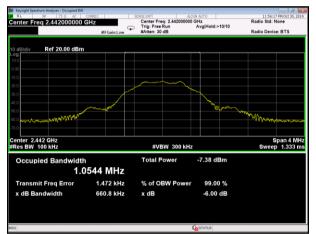


Test plot as follows: BLE 1M :

Report No.: GTS201911000111F01



Lowest channel



Middle channel

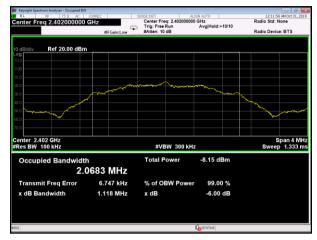


Highest channel

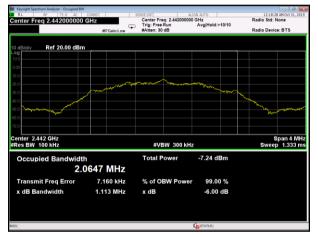


BLE 2M :

Report No.: GTS201911000111F01



Lowest channel



Middle channel



Highest channel



7.4 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)			
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02			
Limit:	8dBm/3kHz			
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 6.0 for details			
Test mode:	Refer to section 5.2 for details			
Test results:	Pass			

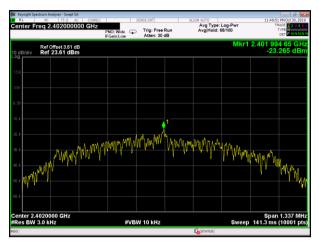
Measurement Data

Test Mode	Test channel	Power Spectral Density (dBm/3kHz)	Limit(dBm/3kHz)	Result	
	Lowest	-23.265			
BLE 1M	Middle	-22.519			
	Highest	-22.049	8.00	Deep	
	Lowest	-27.473	8.00	Pass	
BLE 2M	Middle	-26.752			
	Highest	-26.401			

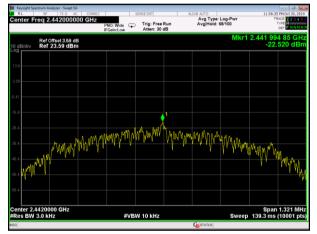


Test plot as follows: BLE 1M :

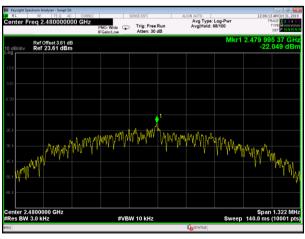
Report No.: GTS201911000111F01



Lowest channel



Middle channel

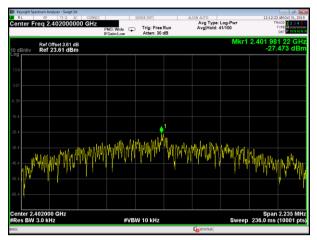


Highest channel

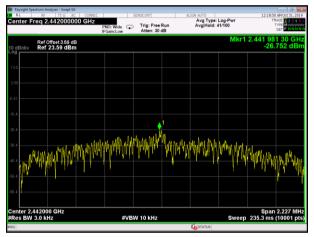


BLE 2M :

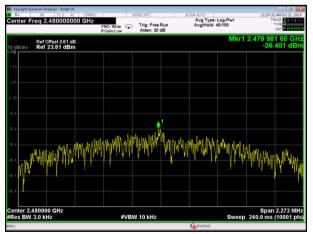
Report No.: GTS201911000111F01



Lowest channel



Middle channel



Highest channel



7.5 Band edges

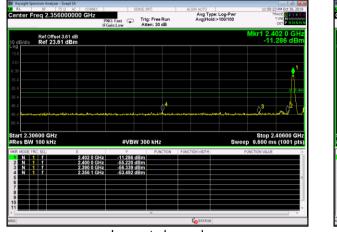
7.5.1 Conducted Emission Method

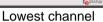
Test Requirement:	FCC Part15 C Section 15.247 (d)				
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02				
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the 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.				
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane				
Test Instruments:	Refer to section 6.0 for details				
Test mode:	Refer to section 5.2 for details				
Test results:	Pass				

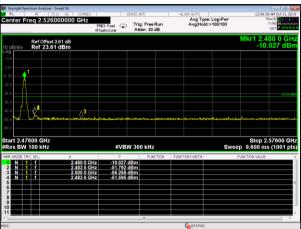
GTS

Test plot as follows:

BLE 1M :







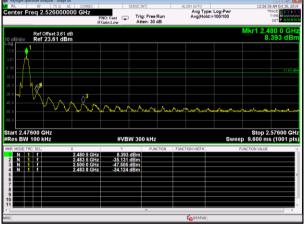
Report No.: GTS201911000111F01

Highest channel

BLE 2M :

	Al	NO:Fast 😱 Trig Gain:Low Att	en: 30 dB	-		T PINNIN
dB/div Ref 23	et 3.61 dB 5.61 dBm				Mkr1 2.402 8.06	0 GI 63 dB
g						1
61						-A
9						-1.9
4						∂^2
4						-fi V
4					\$ N (4
4					- M A AL	
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4		,		athreen and the contract of the		
4 martin and a second	z	#VBW 30		the stand the stand the second se	Stop 2.40 Sweep 9.600 ms (1	600 G
art 2.30600 GHz es BW 100 kHz	Z X	Y			Stop 2.40	600 GI 1001 pi
art 2.30600 GH2 es BW 100 kHz	z 2.402 0 GHz 2.400 0 GHz	Y 8.063 dBm -23.346 dBm	0 kHz		Stop 2.40 Sweep 9.600 ms (1	600 G 1001 p
4 4 art 2.30600 GH2 es BW 100 kHz R MODE TRC SCL N 1 f	z : 2.402.0 GHz	Y 8.063 dBm	0 kHz		Stop 2.40 Sweep 9.600 ms (1	600 GI 1001 pi
4 art 2.30600 GH2 es BW 100 kHz MODE TRC SCL N 1 f	Z 2. 2.402 0 GHz 2.400 0 GHz 2.300 0 GHz	Y 8.063 dBm -23.346 dBm -44.529 dBm	0 kHz		Stop 2.40 Sweep 9.600 ms (1	600 G 1001 p
4 art 2.30600 GH2 es BW 100 kHz MODE TRC SCL N 1 f	Z 2. 2.402 0 GHz 2.400 0 GHz 2.300 0 GHz	Y 8.063 dBm -23.346 dBm -44.529 dBm	0 kHz		Stop 2.40 Sweep 9.600 ms (1	600 GI
4 4 art 2.30600 GH2 es BW 100 kHz R MODE TRC SCL N 1 f	Z 2. 2.402 0 GHz 2.400 0 GHz 2.300 0 GHz	Y 8.063 dBm -23.346 dBm -44.529 dBm	0 kHz		Stop 2.40 Sweep 9.600 ms (1	600 G

Lowest channel



Highest channel



7.5.2 Radiated Emission Method

Test Requirement:	FCC Part15 C S	Section 15.20	9 and 15.205				
Test Method:	ANSI C63.10:2013						
Test Frequency Range:	All of the restric 2500MHz) data			the worst b	and's (2310MHz to		
Test site:	Measurement Distance: 3m						
Receiver setup:	Frequency Detector RBW VBW Value						
	Above 1GHz	Peak	1MHz	3MHz	Peak		
	Above IGHZ	RMS	1MHz	3MHz	Average		
Limit:	Freque	ency	Limit (dBuV/	/m @3m)	Value		
	Above 1	GH7	54.0		Average		
Test setup:	7,00701	Onz	74.0	0	Peak		
	Tum Table - range - ra		Test Antenna < 1m 4m >	1			
Test Procedure:	 the ground a determine the determine the 2. The EUT was antenna, whi tower. 3. The antenna ground to de horizontal an measuremer 4. For each sus and then the and the rota the maximun 5. The test-recess Specified Ba 6. If the emission the limit spect of the EUT whave 10dB m peak or avera sheet. 7. The radiation And found th 	t a 3 meter ca e position of t s set 3 meters ch was moun height is vari termine the m d vertical pola it. spected emiss antenna was table was turn n reading. eiver system v ndwidth with l on level of the sified, then tes rould be repon hargin would be age method a n measurement e X axis posit	amber. The tal he highest rac s away from the ted on the top ed from one maximum value arizations of the sion, the EUT tuned to heig ned from 0 de was set to Pea Maximum Hol EUT in peak sting could be ted. Otherwis per e-tested of as specified ar	ble was rota diation. The interferent of a variab meter to found of the field the antenna was arrange hts from 1 r grees to 360 ak Detect Fu d Mode. mode was stopped an e the emiss me by one u and then report	le-height antenna r meters above the l strength. Both are set to make the ed to its worst case neter to 4 meters 0 degrees to find		
Test Instruments:	Refer to section						
Test mode:	Refer to section	5.2 for detail	S				
Test results:	Pass						



Measurement Data

9KHz~30MHz

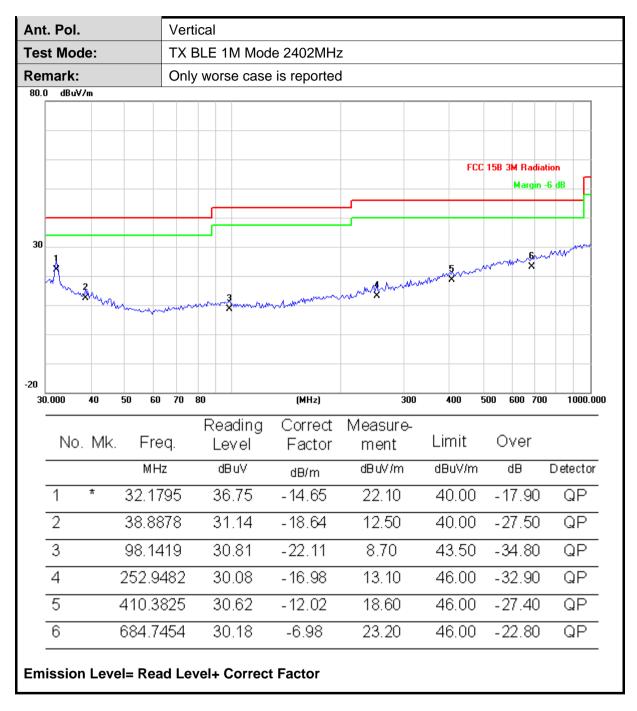
From 9KHz to 30MHz: Conclusion: PASS

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

Ant. Pol.			Horizontal										
Test Mode:				TX BLE 1M Mode 2402MHz									
Rema			Only	/ woi	rse cas	e is reporte	d						
80.0	dBuV/m												
									FC	C 15B	3M Rac Margi		
											maiy	n -o i	
-								ı — —					
30					_							. he	m
								www.xw	3~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~ <mark>6</mark> ~~X	www	~~~	
Min	mmonder						manter	× ^					
	mound						and when the	XXXX					
	which	mm	mum	www	hunder	hunn	wannam	XXXX					
	www.	mm	muu	www	hunn	han	www.who	×					
	- March	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mu	www	hunn	hand	tourdelingengen	X					
20				www	hunder								
		50		70	dan na ha	harren	(MHz)	300		500	600	700	1000.000
20	0 40	50	60			eading	(MHz) 1 Correct	300 Measure	400	500	600		1000.000
20	0 40		60	req.		eading Level	(MHz)	300 Measure ment	400 - Limit	500	600 : OVE	er	
20	0 40	50	60			eading	(MHz) 1 Correct	300 Measure	400	500	600	er	1000.000
20	0 40	50	60 . F	req.		eading Level	(мн₂) g Correct Factor	300 Measure ment	400 - Limit	500 m	600 : OVE	ər	
20	0 40 	50	60 . F 254.	req. Hz		eading Level dBuV	(MH₂) g Correct Factor dB/m	300 Measure ment dBuV/m	400 Limit dBuV/	500	600 : OVe	er 50	Detecto
20	0 40 No.	50	60 . F 254. 303.	req. Hz 7284		eading Level dBuV 28.44	(MH₂) g Correct Factor dB/m -16.94	300 Measure ment dBuV/m 11.50	400 - Limit dBuV/ 46.0	500 m 0	600 : OVE dB - 34.	er 50	Detecto
20	0 40 No.	50	60 . F 254. 303. 361.	req. Hz 7284 5437		eading Level dBuV 28.44 29.97	(мн₂) (Correct Factor dB/m -16.94 -15.87	300 Measure- ment dBuV/m 11.50 14.10	400 Limit dBuV/ 46.0 46.0	500 m 0 0	600 3 Ove dB -34. -31.	er 50 90	Detecto QP QP
20	0 40 No. 1 2 3	50	60 . F 254. 303. 361. 422.	req. Hz 7284 5437 7139		eading Level dBuV 28.44 29.97 29.25	(мн₂) (Correct Factor dB/m -16.94 -15.87 -13.85	300 Measure- ment dBuV/m 11.50 14.10 15.40	400 Limit dBuV/ 46.0 46.0 46.0	500 m 0 0	600 3 OVe dB - 34. - 31. - 30.	er 50 90 60	Detecto QP QP QP





GTS

Above 1G

Report No.: GTS201911000111F01

Ant. Pol. Test Mode:				Hori	zontal					
				TX E	TX BLE 1M Mode 2402MHz					
	No. Mk. Fre		eq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MI	Ηz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
	1 * 4803.7 2 4803.8		.712	28.31	12.42	40.73	54.00	- 13.27	AVG	
			.820	42.00	12.42	54.42	74.00	- 19.58	peak	

Ant	t. Pol.			Vert	ical							
Tes	Test Mode:				TX BLE 1M Mode 2402MHz							
	No. Mk. Fre		req.	Reading Level	Correct Factor	Measure- ment	Limit	Over				
			N	1Hz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector		
	1 4804.0 2 * 4804.1		4.096	40.53	12.42	52.95	74.00	-21.05	peak			
			4.168	28.22	12.42	40.64	54.00	- 13.36	AVG			

Ant	. Pol.			Horiz	zontal					
Tes	t Mod	le:		TX E	BLE 1M Mod	e 2442MHz				
	No	. Mk	. Fre	əq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MH	łz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
	1	*	4882.	722	28.14	12.90	41.04	54.00	-12.96	AVG
	2		4883.	736	42.61	12.90	55.51	74.00	- 18.49	peak

An	t. Pol			Vert	Vertical								
Tes	st Mo	de:		TXI	TX BLE 1M Mode 2442MHz								
	No	. M	k. Fre	eq.	Reading Level	Correct Factor	Measure- ment	Limit	Over				
			MH	łz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector			
	1	*	4882.	518	28.11	12.90	41.01	54.00	- 12.99	AVG			
	2		4882.	560	42.08	12.90	54.98	74.00	- 19.02	peak			



An	t. Pol			Horizontal								
Tes	st Mo	de:		TX BLE 1M Mode 2480MHz								
	No	. Mk	. Freq	Reading 1. Level	Correct Factor	Measure- ment	Limit	Over				
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dÐ	Detector			
	1		4960.69	96 41.58	13.38	54.96	74.00	- 19.04	peak			
	2	*	4960.90	06 27.98	13.38	41.36	54.00	-12.64	AVG			

Ant	. Pol.				Verti	ical								
Tes	t Moo	le:			TX E	TX BLE 1M Mode 2480MHz								
	No	. N	Лk.	Fre	eq.	Reading Level	Correct Factor	Measure- ment	Limit	Over				
				MH	Iz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector			
	1	*		4960.	606	27.99	13.38	41.37	54.00	- 12.63	AVG			
	2			4961.	122	41.44	13.38	54.82	74.00	- 19, 18	peak			

Ant	t. Pol			Hori	zontal							
Tes	st Mo	de:		TX E	TX BLE 2M Mode 2402MHz							
	No	b. Mł	c. Fre	eq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
			MH	łz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector		
	1		4802.	956	41.84	12.41	54.25	74.00	- 19.75	peak		
	2	*	4804.	762	27.94	12.43	40.37	54.00	- 13.63	AVG		

Ant	Ant. Pol.			V	Vertical								
Tes	st Mo	de:		T	X BLE 2M Mod	de 2402MH	Z						
					D a a dia a	0							
	No	. M	lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over				
				MHz	dBuV	dB/m	dBuV/m	dBuV/m	dÐ	Detector			
	1		4	4803.700	0 42.06	12.42	54.48	74.00	- 19.52	peak			
	2	*	4	4804.408	8 27.98	12.42	40.40	54.00	- 13.60	AVG			



An	t. Pol.			Hori	izontal						
Tes	st Moo	le:		TX I	BLE 2M Moo	de 2442MH	Z				
	No	. Mk	. Fre	ıq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MH	Z	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	
	1		4883.3	328	42.19	12.90	55.09	74.00	- 18.91	peak	
	2	*	4885.3	368	27.99	12.92	40.91	54.00	-13.09	AVG	

Ant	. Pol.			Verti	cal					
Tes	t Mod	le:		TX B	LE 2M Mode	e 2442MHz				
	No	. M	k. Fre	əq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MH	Ηz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
	1	*	4882.	500	28.19	12.90	41.09	54.00	- 12.91	AVG
	2		4884.	552	42.09	12.92	55.01	74.00	- 18.99	peak

Ant	. Po	Ι.		Hori	Horizontal								
Tes	st Mo	de:		TX E	TX BLE 2M Mode 2480MHz								
	N	o. M	k. Fr	eq.	Reading Level	Correct Factor	Measure- ment	Limit	Over				
			Mł	Ηz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector			
	1	*	4961	.296	41.80	13.38	55.18	74.00	- 18.82	peak			
	2		4961	.458	27.92	13.39	41.31	74.00	-32.69	peak			

Ant	. Pol	•		Vert	Vertical								
Tes	st Mo	de:		TX E	TX BLE 2M Mode 2480MHz								
	No	b. M	к. F	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over				
			1	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dÐ	Detector			
	1		496	0.258	42.27	13.37	55.64	74.00	- 18.36	peak			
	2	*	496	1.284	27.93	13.38	41.31	54.00	-12.69	AVG			

Remark:

1.No report for the emission which more than 10 dB below the prescribed limit.

2.Emission Level= Read Level+ Correct Factor



7.6 Spurious Emission

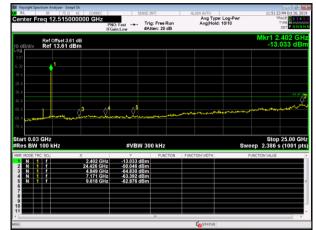
7.6.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass



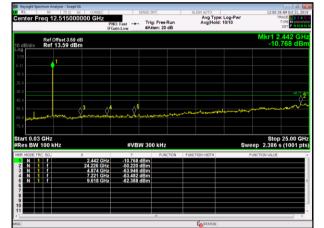
Test plot as follows: BLE 1M: Lowest channel

Report No.: GTS201911000111F01



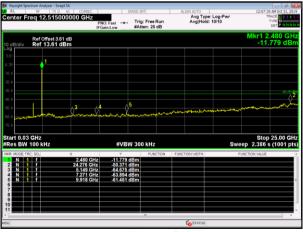
Middle channel

30MHz~25GHz



30MHz~25GHz

Highest channel

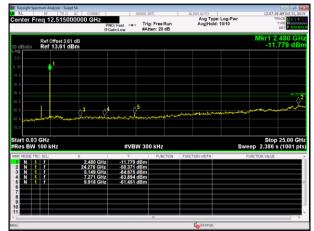


³⁰MHz~25GHz



BLE 2M: Lowest channel

Report No.: GTS201911000111F01



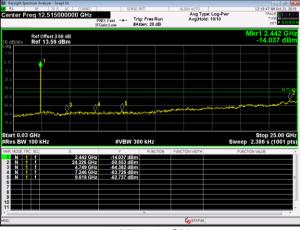
30MHz~25GHz

Middle channel

Highest channel

nter Freq 12.515	PNC):Fast →→ Trip in:Low #At	: Free Run ten: 20 dB	Avg Type: Lo Avg Hold: 10/	10	DET PNNN
Ref Offset 3 dB/div Ref 13.61	.61 dB dBm					2.402 GH 4.974 dBi
9 51						
19 1						
4						
.4						
4						-41.48 c
4	2 4	۸5				- Martin
	and and and and	man	ميحيد المرسمين		and and the second	
.4						
art 0.03 GHz					Sto	p 25.00 GH
es BW 100 kHz		#VBW 30	0 kHz		Sweep 2.386	s (1001 pt
R MODE TRC SCL	×	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	E
N 1 T	2.402 GHz 24.650 GHz	-14.974 dBm -49.842 dBm				
N 1 1 N 1 F	4.999 GHz 7.271 GHz	-64.963 dBm -63.312 dBm				
	9.618 GHz	-63.323 dBm				
N 1 f						

30MHz~25GHz







8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

-----End-----