

FCC Test Report

Product Name	: GPS Sport Watch
Model No.	: TW-100
FCC ID.	: 2ADUC100S1218201401

Applicant	:	TSKY CO., LTD
Address	:	15F1, No.8, Ziqiang S. Rd., Zhubei
		City, Hsinchu County 302, Taiwan

Date of Receipt	:	2014/11/19
Issued Date	:	2014/12/16
Report No.	:	14B0457R-RFUSP73V00
Report Version	:	V1.0
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The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Test Report Certification

Issued Date : 2014/12/16 Report No. : 14B0457R-RFUSP73V00



Desident Name						
Product Name	•	GPS Sport Watch				
Applicant	:	TSKY CO., LTD				
Address	:	15F1, No.8, Ziqiang S. Rd., Zhubei City, Hsinchu County 302,				
		Taiwan				
Model No.	:	TW-100				
FCC ID.	:	2ADUC100S1218201401				
EUT Voltage	:	DC 3.7V (Power by Battery)				
Trade Name	:	TSKY				
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2013				
Test Result	:	Complied				
The test results relate only to	h th	e samples tested.				
The test report shall not be re	pro	duced except in full without the written approval of QuieTek Corporation.				
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Approved By		Roy Wang				
		(Roy Wang / Director)				

Laboratory Information

We, **QuieTek Corporation**, are an independent RF consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025 specified testing scopes:

Taiwan R.O.C.	:	TAF, Accreditation Number: 3024
USA	:	FCC, Registration Number: 365520
Canada	:	IC, Submission No: 150981

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site:<u>http://www.quietek.com/tw/ctg/cts/accreditations.htm</u> The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site :

http://www.quietek.com/

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1. General Information

1.1. EUT Description

Product Name	GPS Sport Watch
Trade Name	тѕкү
Model No.	TW-100
Frequency Range/Channel Number	2402~2480MHz / 40 Channels
Type of Modulation	Bluetooth 4.0(GFSK)
Antenna Type	Soldered on PCB
Antenna Gain	0dBi

Component	
USB Cable	Shielded, 0.8m

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

- 1. This device is a GPS Sport Watch including a 2.4GHz Bluetooth 4.0 function.
- 2. Regards to the frequency band operation; the lowest < middle and highest frequency of channel were selected to perform the test, and then shown on this report.
- 3. This device is a Bluetooth 4.0 in accordance with Part 15 regulations. The function receiving was measured and made a test report that the report number is 14B0457R-RFUSP01V00 under Declaration of Conformity.

1.2. Test Mode

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-Test Mode	
EMI	Mode 1: Transmit
Final Test Mode	
EMI	Mode 1: Transmit

Test Items	Mode	Modulation	Channel	Antenna	Result
Conducted Emission	1	GFSK	19	0	NA
Peak Power Output	1	GFSK	0/19/39	0	Complies
Radiated Emission	1	GFSK	0/19/39	0	Complies
RF antenna conducted test	1	GFSK	0/19/39	0	Complies
Radiated Emission Band Edge	1	GFSK	0/39	0	Complies
Occupied Bandwidth	1	GFSK	0/19/39	0	Complies
Power Density	1	GFSK	0/19/39	0	Complies

1.3. Tested System Details

QuieTek

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
N/A					

1.4. Configuration of tested System



1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Turn on the EUT power.
3	Configure the test mode, the test channel to start the continuous transmit.
4	Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)		15 - 35	26
Humidity (%RH)	Peak Power Outout	25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)		15 - 35	25
Humidity (%RH)	Padiated Emission	25 - 75	54
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)		15 - 35	25
Humidity (%RH)	Pond Edgo	25 - 75	50
Barometric pressure (mbar)	Band Edge	860 - 1060	950-1000
Temperature (°C)		15 - 35	26
Humidity (%RH)	Occupied Bandwidth	25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)		15 - 35	25
Humidity (%RH)	PE antenna conducted test	25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)		15 - 35	25
Humidity (%RH)	Power Density	25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000

2. Peak Power Output

2.1. Test Equipment

The following test equipment is used during the test:

Peak Power Output / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date	
Power Meter	Agilent	N1911A	MY45101353	2015/10/31	
Power Sensor	Agilent	N1921A	MY45241670	2015/10/31	

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.2. Test Setup



2.3. Test procedures

The EUT was setup according to ANSI C63.10; tested according to DTS test procedure of KDB558074 V03R02 for compliance to FCC 47CFR 15.247 requirements.

2.4. Limits

The maximum peak power shall be less 1 Watt.

2.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

2.6. Test Result

Product	GPS Sport Watch				
Test Item	Peak Power Output				
Test Mode	Mode 1: Transmit				
Date of Test	2014/12/10	Test Site	SR7		

GFSK

Channel No. Frequency (MHz)		Measure Level (dBm)	Limit (dBm)	Result
00	2402	-2.290	30	Pass
19	2440	-2.140	30	Pass
39	2480	-2.780	30	Pass

3. Radiated Emission

3.1. Test Equipment

The following test equipments are used during the test:

Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895(CB1)	2015/08/14
Double Ridged Guide	Schwarzback	BBHA 9120	D743	2015/02/12
Horn Antenna				
Pre-Amplifier	Quietek	AMF-4D.	888003	2015/06/02
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2015/02/06
Spectrum Analyzer	Agilent	E4440A	MY46187335	2015/01/12
k Type Cable	Huber Suhner	Sucoflex 102	25623/2	2015/02/10
Bilog Antenna	SCHAFFNER	CBL6112B	2895(CB1)	2015/08/14

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



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3.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits						
Frequency MHz	uV/m	dBuV/m				
30-88	100	40				
88-216	150	43.5				
216-960	200	46				
Above 960	500	54				

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.4. Test Procedure

The EUT was setup according to ANSI C63.10 and tested according to DTS test procedure of KDB558074 V03R02 for compliance to FCC 47CFR 15.247 requirements.

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10 on radiated measurement.

On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

3.6. Test Result

30MHz-1GHz Spurious

Site : CB1	Time : 2014/12/04 - 19:39
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2440MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		141.009	10.082	16.188	26.270	-17.230	43.500	QUASIPEAK
2		284.983	12.492	15.458	27.949	-18.051	46.000	QUASIPEAK
3		419.260	15.545	15.581	31.126	-14.874	46.000	QUASIPEAK
4		510.880	17.216	15.477	32.692	-13.308	46.000	QUASIPEAK
5	*	745.502	18.549	16.146	34.694	-11.306	46.000	QUASIPEAK
6		984.973	20.166	15.088	35.254	-18.746	54.000	QUASIPEAK

- 1. All Reading Levels are Quasi-Peak value.
- 2. "*", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor

Site : CB1	Time : 2014/12/04 - 19:44
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2440MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		115.802	10.613	15.868	26.481	-17.019	43.500	QUASIPEAK
2		271.894	12.264	15.729	27.993	-18.007	46.000	QUASIPEAK
3		413.928	15.437	15.348	30.785	-15.215	46.000	QUASIPEAK
4		668.911	17.834	15.791	33.625	-12.375	46.000	QUASIPEAK
5	*	757.136	18.690	15.921	34.611	-11.389	46.000	QUASIPEAK
6		988.366	20.194	15.124	35.318	-18.682	54.000	QUASIPEAK

- 1. All Reading Levels are Quasi-Peak value.
- 2. "*", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor

Harmonic & Spurious:

Site : CB1	Time : 2014/12/14 - 07:19
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2402MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4804.470	-0.581	46.420	45.839	-28.161	74.000	PEAK
2		7212.310	5.468	40.000	45.468	-28.532	74.000	PEAK
3		9607.390	9.183	38.900	48.083	-25.917	74.000	PEAK
4	*	12005.860	11.125	38.980	50.105	-23.895	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2014/12/14 - 07:28
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2402MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4804.500	-0.581	46.900	46.319	-27.681	74.000	PEAK
2		7202.930	5.448	39.270	44.717	-29.283	74.000	PEAK
3		9617.560	9.249	38.580	47.829	-26.171	74.000	PEAK
4	*	12015.700	11.120	38.350	49.470	-24.530	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2014/12/14 - 08:04
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2440MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4880.620	-0.396	45.576	45.180	-28.820	74.000	PEAK
2		7325.750	5.713	38.820	44.533	-29.467	74.000	PEAK
3	*	9765.980	10.210	38.320	48.530	-25.470	74.000	PEAK
4		12195.210	11.038	37.090	48.128	-25.872	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2014/12/14 - 07:42
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2440MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4880.450	-0.396	44.590	44.194	-29.806	74.000	PEAK
2		7323.360	5.709	39.400	45.108	-28.892	74.000	PEAK
3		9759.280	10.166	38.950	49.116	-24.884	74.000	PEAK
4	*	12192.020	11.040	38.280	49.320	-24.680	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2014/12/14 - 07:49
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4960.010	-0.202	44.760	44.558	-29.442	74.000	PEAK
2		7434.140	5.947	39.200	45.147	-28.853	74.000	PEAK
3	*	9918.480	11.197	38.460	49.657	-24.343	74.000	PEAK
4		12398.630	10.945	37.390	48.335	-25.665	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2014/12/14 - 07:52
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4960.120	-0.202	43.550	43.348	-30.652	74.000	PEAK
2		7444.430	5.970	38.340	44.310	-29.690	74.000	PEAK
3	*	9926.680	11.250	38.010	49.260	-24.740	74.000	PEAK
4		12404.920	10.943	37.140	48.082	-25.918	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The Emission above 13GHz were not included is because their levels are too low.

4. RF antenna conducted test

4.1. Test Equipment

The following test equipment is used during the test:

RF antenna conducted test / SR7

Spectrum Analyzer Agilent N9010A-EXA US47140172 2015/07/14	Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
	Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2015/07/14

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

RF Conducted Measurement:



4.3. Limits

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 an RF conducted or radiated measurement. 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) (see Section 15.205(c)).

4.4. Test Procedure

The EUT was setup according to ANSI C63.10 and tested according to DTS test procedure of KDB558074 V03R02 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

Pass

4.6. Test Result

39

2480

Product	GPS Sport Watch	GPS Sport Watch											
Test Item	RF antenna conducte	d test											
Test Mode	Vode 1: Transmit												
Date of Test	2014/12/07	014/12/07 Test Site SR7											
GFSK													
Channel No	Frequency	Measurement Leve	I Required Lim	nit	Desult								
Channel No.	(MHz)	(dB)	(dBc)		Result								
00	2402	33.379	≥20		Pass								
19	2440	47.397	≧20		Pass								

43.602

 ≥ 20



<u>Channel 00</u>

D Ag	🛛 Agilent Spectrum Analyzer - Swept SA															
<mark>⊯</mark> Cen	ter	Fre	ک 50 q	2.4020	00000 G	Hz	AC	SEN	Run		Avg T AvgHd	ALIGNAUT ype: Log-Pw	10 09: 1 1	21:01 Al TRAC TYP	M Dec 07, 2014	Frequency
10 d	B/div		Ref	^{In}	dBm	NU: Fast Gain:Lov	v	#Atten: 30	dB		Ext Ga	in: -1.50 dB	ΔMkr	2 2. 33.	98 MHz 379 dB	Auto Tune
Log 0.00 -10.0 -20.0									2Δ3							Center Freq 2.402000000 GHz
-30.0 -40.0 -50.0	-			and the second		ي المراجع المراجع الم	******	North Market	T AN	www	yest e des _{tra} les.	ىرىرىيى الرو ا بارىرى			-24.97 dBm	Start Freq 2.352000000 GHz
-60.0 -70.0 -80.0																Stop Freq 2.452000000 GHz
Cen #Re MXE	ter 2 s BV MODE N	2.40 N 1	020 00	0 GHz kHz	× 2.402 2	#V	BW 3	300 kHz -4.974 dE	3m	FUNCT	ION	Sweep	Sp 10.0 m	oan 1 ns (1 FUNCTIO	00.0 MHz 0001 pts) NVALUE	CF Step 10.000000 MHz <u>Auto</u> Man
2 3 4 5 6 7	Δ3 F	1	f	<u>(Δ)</u>	2.399 2	8 MHz 9 GHz	<u>(Δ)</u> .	33.379 -38.353 dE	dB 3m							Freq Offset 0 Hz
8 9 10 11 12 MSG												STA	TUS			

	gilent S	ipect	rum	Analyzer	- Swept	SA											
<mark>ж</mark> Сеі	nter	Fre	ء 50 q	2.440	0000	00 G	Hz	4	C SE	NSE:I	NT	Avg '	A Type: l told:>:	LIGNAUTO Log-Pwr	09:23:15 TR/ T	AM Dec 07, 2014 ACE 1 2 3 4 5 6	Frequency
10 c	IB/div	1	Ref	10.00	dBm	F PI	NO: Fas Gain:Lo	t (_p .) w	#Atten: 30	0 dB		Ext G	ain: -1	.50 dΒ ΔΜ	kr4 -49 47	.14 MHz .397 dB	Auto Tune
-10.0)									4 ∠	<u>5</u>						Center Freq 2.440000000 GHz
-30.0 -40.0 -50.0			3	an star wise physically	Periora participantes	م الدار الأكار الدرام		in the second	Marine Marine		Withow		**		, afait ^{al} gant a canto sing bin	-25.61 dBm	Start Freq 2.390000000 GHz
-60.0 -70.0 -80.0)																Stop Freq 2.490000000 GHz
Cer #Re MKE	nter: esB\ MODE N	2.44 N 1	100 00 f	0 GHz kHz	× 2	.440 2	#\ 7 GHz	/BW	300 kHz -5.607 dl	Bm	FUN	CTION	S1 FUNC	weep 1	Span 0.0 ms (FUNCI	100.0 MHz 10001 pts) ION VALUE	CF Step 10.000000 MHz <u>Auto</u> Man
2 3 4 5 6 7	Δ3 Ν Δ5 F	1 1 1	f f f	(Δ) (Δ)	2	43.1 .397 1 -49.1 .489 4	<u>3 MHz 4 GHz 4 MHz 1 GHz</u>	(Δ) (Δ)	47.561 -53.168 dl 47.397 -53.003 dl	dB Bm dB Bm							Freq Offset 0 Hz
8 9 10 11 12														CTATUS			



💴 Agilent	Spect	rum i	Analyzer -	Swept SA	1														
Cente	r Fre	50 ឆ q	2.4835	00000) GH	z	A	C	SEN	NSE:I	NT	Avg	Type	ALIGNAUT	o (: r	09:24:54 TRA TY	CE 1 2 3 4	2014 4 5 6	Frequency
10 dB/d	iv	Ref	In 10.00	dBm	PNC IFGa	0: Fast ain:Lov	: (_) V	#Atte	en: 30	dB		Ext	Gain:	-1.50 dB	Mk	r2 -6. 43	09 M .602	Hz dB	Auto Tune
-10.00									2Δ	3									Center Freq 2.483500000 GHz
-30.0		*****	ورز المحاود الم		****	Leff, alarand be	m	MA			3		وي الم	understations and	hu/hti-avi.mi	Q ertalista	-25.19	9 dBm	Start Freq 2.433500000 GHz
-60.0 — -70.0 — -80.0 —																			Stop Freq 2.533500000 GHz
Center #Res E MKR MOD	2.48 3W 1	3350 00	0 GHz KHz	× 2.47	79 78	#V GHz	BW	300 I Y -5.19	kHz 04 dE	3m	FUN	NCTION	(FU)	Sweep Notion wid	ء 10.0 الل	Span 1 ms (1	100.0 N 10001 p 0N VALUE	AHZ ots)	CF Step 10.000000 MHz <u>Auto</u> Man
2 <u>∆</u> 3 3 F 4 5 6 7	1	f	(Δ)	2.48	<u>-6.09</u> 85 87	<u>MHz</u> GHz	<u>(</u> Δ)	43. -48.79	.602 96 dE	dB 3m									Freq Offset 0 Hz
8 9 10 11 12														QTA1					

Report No: 14B0457R-RFUSP73V00

2402MHz (30MHz-1GHz)- GFSK

🛛 Agilent Spectrum Analyzer - Swept SA												
₩ Start Fre	50 Ω q 30.0000	00 MHz	40: East (Trig: Free	NSE:INT	Avg Type Avg Hold:	ALIGNAUT : Log-Pw >10/10	0 08:35:49 P r TRAC TYF	MDec 14, 2014 E 1 2 3 4 5 6 E MWWWWW	Frequency		
10 dB/div		dBm	Sain:Low	#Atten: 30) dB	Ext Gain:	-1.50 dB M	kr1 287.9 -52.4	72 MHz 25 dBm	Auto Tune		
10.0										Center Freq 515.000000 MHz		
-10.0										Start Freq 30.000000 MHz		
-20.0									-24.97 dBm	Stop Freq 1.000000000 GHz		
-40.0		●1								CF Step 97.000000 MHz <u>Auto</u> Man		
-60.0 	e foloito de forma fan y	, feing hendels , jehn	an da a laksing bila laks panganan dan panan dan g	did je dona dona dona na na postava dona dona dona dona dona dona dona do na postava do na postava do na postav na postava do na postava d	and Marine (1999) Marine (1999) Marine (1999)	a para di para Nationale di para di pa	dia a la antifación de la	ار افغان المربي (عبر والله مراكز الله المراجع المربي المربي المربي المربي المربي المربي المربي المربي المربي ا مربي المربي ال	l dalled for up to digital given ne relevant	Freq Offset 0 Hz		
Start 30.0 #Res BW) MHz 100 kHz		#VBW	300 kHz			Sweep	Stop 1.0 93.3 ms (4	0000 GHz 0001 pts)			

2402MHz (1GHz-8GHz)- GFSK

D Ag	ilent Spec	trum Analyze	r - Swept SA								
⊯ Sta	rt Freq	50 Ω 1.0000	00000 G	iHz i	AC SE	NSE:INT	Avg Typ	e: Log-Pwr	08:38:29 F	MDec 14, 2014 E 1 2 3 4 5 6	Frequency
10 d	B/div	Ref 20.0	Input: RF 0 dBm	PNO: Fast 🕞 IFGain:Low	HAtten: 3	≥Run)dB	Avg Hold Ext Gain	1>10/10 : -1.50 dB Mkr	1 3.160 9 -49.6	00 GHz 14 dBm	Auto Tune
10.0											Center Freq 4.50000000 GHz
0.00 -10.0											Start Freq 1.000000000 GHz
-20.0 -30.0										-24.97 dBm	Stop Freq 8.00000000 GHz
-40.0				● ¹			U.s. I		1.14		CF Step 700.000000 MHz <u>Auto</u> Man
-60.0	dalaapakelela 		alian nationalian		Hallong allow a dividual Palang pang pang apalan	a na an			an a	n pinakin kang pinakin Pinakin taka serengan	Freq Offset 0 Hz
Star #Re	rt 1.000 s BW 1	GHz 100 kHz		#VBW	300 kHz			Sweep	Stop 8 669 ms (4	.000 GHz 0001 pts)	
MSG								STAT	05		



D Agi	lent Spect	rum Analyzer	- Swept SA						500		
⊯ Star	t Freq	50 Ω 8.00000	0000 GH	Αι	c ser	VSE:INT	Avg Type	ALIGNAUTO : Log-Pwr	08:39:12 P TRAC	MDec 14, 2014 E 1 2 3 4 5 6	Frequency
10 di	B/div	Ref 20.00	nput: RF P IF dBm	NO: Fast 😱 Gain:Low	⁻ Trig: Free #Atten: 30	Run I dB	Avg Hold: Ext Gain:	>10/10 -1.50 dB Mkr	1 15.147 -48.73	7 2 GHz 36 dBm	Auto Tune
10.0											Center Freq 12.000000000 GHz
0.00											Start Freq 8.000000000 GHz
-20.0										-24.97 dBm	Stop Freq
-30.0 -40.0											CF Step
-50.0		La latan te legebie	ما الالتيان من المناظل ال	er hendelikasen suitere suite a same	well for the lines	un palastasjid	and a name		C. Jaser Colland Proved	1 Marina and Arridge	800.000000 MHz <u>Auto</u> Man
-60.0	1999) ((1990) (1999) (1999) 1999) ((1990) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (199	and the first state of the stat	the state of the second s	n Allen (an ann an A	anna (Marilla (Maril	and the state of the state	a shereeff to a star		and and a		Freq Offset 0 Hz
Star	t 8.000	GHz				^			Stop 16	.000 GHz	
#Re _{MSG}	s BW 1	00 kHz		#VBW	300 kHz			Sweep 7	765 ms (4	0001 pts)	

2402MHz (8GHz-16GHz)- GFSK

2402MHz (16GHz-25GHz - GFSK

🗊 Agilent Spectrum Analyzer - Swept SA												
ø Start Fr	^{50 Ω} req 16.00000	00000 GH		C SE		Avg Type Avg/Hold	ALIGNAUTO	08:48:58 P	MDec 14, 2014	Frequency		
10 dB/div	Ref 20.00	dBm	io: Fast 🖕	#Atten: 30	dB	Ext Gain:	-1.50 dB Mkr1	24.922 3 -42.6	75 GHz 79 dBm	Auto Tune		
10.0										Center Freq 20.50000000 GHz		
-10.0										Start Freq 16.00000000 GHz		
-20.0 -30.0									-24.97 dBm	Stop Freq 25.00000000 GHz		
-40.0		and a state large state	रम् क्रांज्य के विवास	a popular da parte da parte da la composición de la composición de la composición de la composición de la comp	an des justs die fielder	and a substantial damage of	a da u statestatest percente en prese			CF Step 900.000000 MHz Auto Man		
-60.0	and the second			n n stan						Freq Offset 0 Hz		
Start 16												
MSG							STAT	US				



😰 Agilent Spectrum Analyzer - Swept SA												
⊯ Star	t Freq	^{50 Ω} 30.00000	00 MHz	β.	I SER	NSE:INT	Avg Type	ALIGNAUTO	08:43:08 P	MDec 14, 2014 E 1 2 3 4 5 6	Frequency	
		In	put: RF PI IFC	NO: Fast 🖵 Gain:Low	#Atten: 30	dB	Avg Hold: Ext Gain:	>10/10 -1.50 dB	DI		Auto Tuno	
10 di	Didiu I	Def 20.00 /	dBm					Mk	r1 936.8 -52.9	05 MHz 81 dBm	Auto Tune	
Log		101 20.00 0			()				1			
											Center Freq	
10.0											515.000000 MHz	
0.00												
0.00											Start Freq	
-10.0											30.000000 MHz	
-20.0		-									Stop Fred	
			-							-25.61 dBm	1 00000000 GHz	
-30.0									-			
10.0											CE Sten	
-40.0											97.000000 MHz	
-50.0										1	<u>Auto</u> Man	
00.0				a dha wa a	daraha		يشير فيريان	ու կուն վերելու կողելու թ	الارباد بالمارية بالارد	لملما الدامر		
-60.0	Hoster (particular)	in the state of the state of	المالية المراجعة وبالكران المراجع	ille de de alemane. A la companya de	land data in the second se	lonens i storout i	an man ng menangan Terdapat ng menangan di	a natatut nikitiki.	والالتقام والمراجع والمراجع		Freq Offset	
	A list of the second second	بالمعطيلة أعتبان ليراهيه المغارضيات	وسلسا مرتان وحمق ورقاق	and a sea to the first	a service a service of the service o	of the result	treater blan a	antenda ser	Trans a ser	1. Contraction of	0 Hz	
-70.0		-										
Star	t 30.0 N	1Hz		10				1	Stop 1.0	0000 GHz		
#Re	s BW 10	00 kHz		#VBW	300 kHz		9	Sweep 9	13.3 ms (4	0001 pts)		
MSG								STATU	s			

2440MHz (30MHz-1GHz)- GFSK

2440MHz (1GHz-8GHz)- GFSK

💴 Agilent	🛛 Agilent Spectrum Analyzer - Swept SA												
Start F	50 Ω Freq 1.00000	0000 GHz	AC SE	e Run	Avg Type AvgIHold	ALIGNAUTO : Log-Pwr >10/10	08:42:47 F	MDec 14, 2014 E 1 2 3 4 5 6 PE MWWWWW	Frequency				
	1	IFGain:Low	#Atten: 3	0 dB	Ext Gain:	-1.50 dB Mkr1	□ 3.285 6	75 GHz	Auto Tune				
10 dB/d Log	liv Ref 20.00	dBm					-50.3	02 dBm					
									Center Freq				
10.0									4.500000000 GHz				
0.00									Start Freg				
-10.0 —							-		1.00000000 GHz				
-20.0 —							_		Oton Erog				
-30.0								-25.61 dBm	8.000000000 GHz				
									CE Stop				
-40.0		I ▲1							700.000000 MHz				
-50.0		or do with a gall and with the ag	and the first	العالي العام و	يور با يو <mark>ر العرابين ا</mark> ور	والمتلفظ والمتلاط	الرمل بمنحول سأنط أطأته	وخلير ومغر ألغانيا فل					
-60.0	ulturi i secon estera dan secon	na internetienen auf die staat die Staate Nationalie se staat die staat die Staate	nd dammade, para da pi Nan Kalina da kara da pi	there are the second	la literatura da	a di la su	. and a state of the second	the statistic street and so the	Freq Offset				
-70.0 —									0 H2				
Start 1 #Res E	Start 1.000 GHz Stop 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 669 ms (40001 pts)												
MSG													



D Agi	Agilent Spectrum Analyzer - Swept SA													
₩ Star	t Freq	50 Ω 8.00000	0000 GH	Z	C SE		Avg Type AvgHold:	ALIGNAUTO	08:41:26 P TRAC	MDec 14, 2014 E 1 2 3 4 5 6 E M MANAAAAA	Frequency			
			nput: RF P IF≀	NO: Fast () Gain:Low	#Atten: 30	dB	Ext Gain:	-1.50 dB Mkr	1 15.123	^{TPNNNNN} 34GHz	Auto Tune			
10 di	3/div	Ref 20.00	dBm		e				-49.70	63 dBm				
10.0											Center Freq			
											12.000000000000			
0.00 -10.0											Start Freq 8.000000000 GHz			
-20.0										-25.61 dBm	Stop Freq			
-30.0					· · · · · · · · · · · · · · · · · · ·					<u> </u>	10.00000000 GHz			
-40.0										1	CF Step 800.000000 MHz Auto Man			
-50.0	وروز أواخا ومعاداوا مروز	الأستيم والمالط الألف	وفا والمتحقق والمعاد والمتاط	الويافنيا ويراتلك العيابي	فالمالية فالمربط المرام	unang kalanda na sa	الملطون المراطعة	فالتعط السيام أوتوري	the traction of	alle au sala fuga si daga alle				
-60.0	na na jihihiti Car	and an other states and	^{ere} Hanson	a fear gan a fear an	and the second secon	alaman a sa s	and a faile of a loss of the	de la serie de contra a contra se			Freq Offset 0 Hz			
-70.0														
Otor	+ 9 000	<u></u>	4		,				Stop 16	000 CH2				
#Re	s BW 1	00 kHz		#VBW	300 kHz			Sweep 7	765 ms (4	0001 pts)				
MSG								STATUS	5					

2440MHz (8GHz-16GHz)- GFSK

2440MHz (16GHz-25GHz - GFSK

🎾 Agilent Spe	ectrum Analyzer -	Swept SA								
⋈ Start Fre	^{50 Ω} q 16.00000	00000 GH		C SE	NSE:INT	Avg Type Avg/Hold	ALIGNAUTO	08:40:46 P TRAC	MDec 14, 2014	Frequency
10 dB/div	m Ref 20.00 (d Bm	Sain:Low	#Atten: 30) dB	Ext Gain:	-1.50 dB Mkr1	24.831 7 -42.0	00 GHz 01 dBm	Auto Tune
10.0										Center Freq 20.50000000 GHz
-10.0										Start Freq 16.00000000 GHz
-20.0									-25.61 dBm	Stop Freq 25.00000000 GHz
-40.0	, al file tile junction at the	and a state of the		Garan berende bebyet	ultines, stapidiule	111/26	a a gu dha dhara a shi	ال رو الم المسلم الم الم الم الم المسلم الم الم الم معام المسلم المسلم الم الم الم الم الم الم المسلم المسلم الم	athe the stille of these	CF Step 900.000000 MHz <u>Auto</u> Man
-60.0		and a second	ىلىرىمى _{غۇ} رىقىدا تەسىيە يىلىلىرىغى ب	a a a a la transfera da Canal (d	<u>а най - ла так в</u> ело, ср.,					Freq Offset 0 Hz
Start 16.0 #Res BW	000 GHz 100 kHz		, #VBW	300 kHz			Sweep	Stop 25 861 ms (4	.000 GHz 0001 pts)	



🗊 Agi	lent Spectr	rum Analyzer	- Swept SA		•						
⊯ Star	t Freq	50 Ω 30.0000	00 MHz	Δ	.c ser	VSE:INT	Avg Type	ALIGNAUTO	08:43:39 PI TRAC	4Dec 14, 2014 E 1 2 3 4 5 6	Frequency
40.1		Def 20.00	nput: RF P IF	NO: Fast 😱 Gain:Low	#Atten: 30	dB	Ext Gain:	-1.50 dB Mkr	1 972.10 -53 11	61 MHz	Auto Tune
10 di Log					, , , , , , , , , , , , , , , , , , ,						Center Freq 515.000000 MHz
0.00											Start Freq 30.000000 MHz
-20.0										-25.19 dBm	Stop Freq
-30.0 -40.0											CF Step 97.000000 MHz
-50.0 -60.0	ullo, dal da	i di na di	an dan dahar kara sa	n di sind a sin palanin fa		h les de diversely dels de stresperse	ر المراجع المر محمد المراجع ال	a di jili da ka	an til konsta fog bland bl		Freq Offset
-70.0											
Star #Re: ^{MSG}	t 30.0 N s BW 10	/IHZ 00 kHz		#VBW	300 kHz			Sweep 93	stop 1.0 3.3 ms (4)	000 GHz 0001 pts)	

2480MHz (30MHz-1GHz)- GFSK

2480MHz (1GHz-8GHz)- GFSK

💴 Agilent Sp	ectrum Analyzer - S	owept SA								
ø Start Fre	50 Ω eq 1.000000	000 GHz		C SE	NSE:INT	Avg Type AvgIHold	ALIGNAUTO : Log-Pwr >10/10	08:44:47 F TRAC TY	MDec 14, 2014 E 1 2 3 4 5 6 E MWWWWW	Frequency
10 dB/div	Ref 20.00 c	IFG	ain:Low	#Atten: 30) dB	Ext Gain:	-1.50 dB Mkr1	6.441 9 -49.3	75 GHz 98 dBm	Auto Tune
10.0										Center Freq 4.500000000 GHz
0.00 -10.0										Start Freq 1.000000000 GHz
-20.0									-25.19 dBm	Stop Freq 8.000000000 GHz
-40.0			and to 1.5			معالية مار	¢1			CF Step 700.000000 MHz <u>Auto</u> Man
-60.0	an and an	y Dall Manager (1994) y Dall (1994)					Salar and the Lord			Freq Offset 0 Hz
Start 1.00	00 GHz 100 kHz		#VBW	300 kHz			Sweep (Stop 8 569 ms (4	.000 GHz 0001 pts)	
MSG							STATUS	S		



D Agi	ilent Specti	rum Analyzer	- Swept SA						6 0		
الا Star	t Frea	50 Ω 8.00000	0000 GHz	A1	C SEI	VSE:INT	Avg Type	ALIGNAUTO : Log-Pwr	08:45:10 P	MDec 14, 2014	Frequency
10 dl	B/div	Ref 20.00	nput: RF P IF(dBm	NO: Fast 😱 Gain:Low	¹ Trig: Free #Atten: 30	Run dB	Avg Hold: Ext Gain:	>10/10 -1.50 dB Mkr	1 15.497 -49.69	4 GHz 4 dBm	Auto Tune
10.0											Center Freq 12.000000000 GHz
0.00 -10.0											Start Freq 8.000000000 GHz
-20.0 -30.0									-	-25.19 dBm	Stop Freq 16.00000000 GHz
-40.0										↓ ¹	CF Step 800.000000 MHz <u>Auto</u> Man
-60.0	ng gandoorigi Anno Andrea	a sala <mark>biya nya sala ^{din}ika nya sala sala sala sala sala sala sala sa</mark>	an a	a la su a cara a ca	A (Mary Log, Alberty & Antha Mary Physics and A Market	The part of the second s	n () (na) _{d agus} () (ann (i a' i I' d Mae, ann an Airl (i a' ag	n bi nan Lilinaa (Linaa) Ang maa maay kiraaa	il en de de la state de la ser en La ser de la ser en s	na an ann an tao an Ann. San an Ann an Ann an Ann	Freq Offset 0 Hz
-70.0 Star #Re	t 8.000 s BW 1	GHz 00 kHz		#VBW	300 kHz			Sweep	Stop 16 765 ms (4	.000 GHz 0001 pts)	
MSG		anana - Matalana		10000000000000000000000000000000000000				STATU	s	• • •	

2480MHz (8GHz-16GHz)- GFSK

2480MHz (16GHz-25GHz - GFSK

🎾 Agilent Spe	ctrum Analyzer - S	Swept SA								
ø Start Fre	^{50 ຄ} q 16.00000	0000 GH	Z	C SE	NSE:INT	Avg Type Avg/Hold	LIGNAUTO	08:46:02 P	MDec 14, 2014	Frequency
10 dB/div	Ref 20.00 c	J B m	iain:Low	#Atten: 30) dB	Ext Gain:	-1.50 dB Mkr1	24.939 0 -42.3	25 GHz 01 dBm	Auto Tune
10.0										Center Freq 20.50000000 GHz
-10.0										Start Freq 16.00000000 GHz
-20.0									-25.19 dBm	Stop Freq 25.000000000 GHz
-40.0 -50.0	, saladd wr	a a constant	utation to be a state of the	a decimination of the state of the	ران، ودار روی این این این این این این این این این ای		a ha a sina ba a shi ba ha	111 - 4 2 g . y . y . d all (y . a . h 20 - 111 - 4 2 g . y . y . y . y . y . y . y . y . y .		CF Step 900.000000 MHz <u>Auto</u> Man
-60.0		The state of the second state of the		and an and a state of a second						Freq Offset 0 Hz
Start 16.0 #Res BW	000 GĤz 100 kHz		#VBW	300 kHz			Sweep	Stop 25 861 ms (4	.000 GHz 0001 pts)	
MSG	TOO KIIZ		#*65**	300 KH2			SWEED	us	0001 pts)	

5. Band Edge

5.1. Test Equipment

The following test equipments are used during the test:

Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Double Ridged Guide	Schwarzback	BBHA 9120	D743	2015/02/12
Horn Antenna				
Spectrum Analyzer	Agilent	E4440A	MY46187335	2015/01/12
k Type Cable	Huber Suhner	Sucoflex 102	25623/2	2015/02/10

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup

RF Radiated Measurement:



5.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

5.4. Test Procedure

The EUT was setup according to ANSI C63.10 and tested according to DTS test procedure of KDB558074 V03R02 for compliance to FCC 47CFR 15.247 requirements.

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10 on radiated measurement.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

5.6. Test Result

Site : CB1	Time : 2014/12/14 - 10:04
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2402MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	30.411	24.468	54.879	-19.121	74.000	PEAK
2		2389.200	31.232	25.254	56.487	-17.513	74.000	PEAK
3		2390.000	31.241	24.480	55.721	-18.279	74.000	PEAK
4	*	2402.300	31.369	52.651	84.019	10.019	74.000	PEAK
5		2483.500	31.980	24.486	56.465	-17.535	74.000	PEAK
6		2496.100	31.946	26.086	58.031	-15.969	74.000	PEAK
7		2500.000	31.934	23.901	55.836	-18.164	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2014/12/14 - 10:05
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2402MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	30.411	11.945	42.356	-11.644	54.000	AVERAGE
2		2389.800	31.239	12.201	43.440	-10.560	54.000	AVERAGE
3		2390.000	31.241	12.181	43.422	-10.578	54.000	AVERAGE
4	*	2402.100	31.366	51.437	82.803	28.803	54.000	AVERAGE
5		2483.500	31.980	12.325	44.304	-9.696	54.000	AVERAGE
6		2483.900	31.978	12.316	44.294	-9.706	54.000	AVERAGE
7		2500.000	31.934	12.268	44.203	-9.797	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2014/12/14 - 10:11
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2402MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	30.411	23.167	53.578	-20.422	74.000	PEAK
2		2386.600	31.206	24.695	55.901	-18.099	74.000	PEAK
3		2390.000	31.241	23.028	54.269	-19.731	74.000	PEAK
4	*	2402.300	31.369	48.736	80.104	6.104	74.000	PEAK
5		2483.500	31.980	24.089	56.068	-17.932	74.000	PEAK
6		2487.900	31.968	25.272	57.240	-16.760	74.000	PEAK
7		2500.000	31.934	23.123	55.058	-18.942	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2014/12/14 - 10:12
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2402MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	30.411	11.927	42.338	-11.662	54.000	AVERAGE
2		2389.800	31.239	12.239	43.478	-10.522	54.000	AVERAGE
3		2390.000	31.241	12.227	43.468	-10.532	54.000	AVERAGE
4	*	2402.100	31.366	47.607	78.973	24.973	54.000	AVERAGE
5		2483.500	31.980	12.327	44.306	-9.694	54.000	AVERAGE
6		2483.600	31.979	12.330	44.309	-9.691	54.000	AVERAGE
7		2500.000	31.934	12.311	44.246	-9.754	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2014/12/14 - 10:17
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	30.411	22.935	53.346	-20.654	74.000	PEAK
2		2384.500	31.184	25.045	56.229	-17.771	74.000	PEAK
3		2390.000	31.241	23.755	54.996	-19.004	74.000	PEAK
4	*	2479.800	31.989	47.176	79.166	5.166	74.000	PEAK
5		2483.500	31.980	22.703	54.682	-19.318	74.000	PEAK
6		2498.000	31.940	25.549	57.489	-16.511	74.000	PEAK
7		2500.000	31.934	23.504	55.439	-18.561	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2014/12/14 - 10:18
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	30.411	11.803	42.214	-11.786	54.000	AVERAGE
2		2389.500	31.236	12.061	43.297	-10.703	54.000	AVERAGE
3		2390.000	31.241	12.061	43.302	-10.698	54.000	AVERAGE
4	*	2480.100	31.989	46.054	78.043	24.043	54.000	AVERAGE
5		2483.500	31.980	12.567	44.546	-9.454	54.000	AVERAGE
6		2483.600	31.979	12.505	44.484	-9.516	54.000	AVERAGE
7		2500.000	31.934	12.263	44.198	-9.802	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2014/12/14 - 10:25
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	30.411	22.661	53.072	-20.928	74.000	PEAK
2		2386.200	31.202	24.922	56.124	-17.876	74.000	PEAK
3		2390.000	31.241	22.926	54.167	-19.833	74.000	PEAK
4	*	2479.800	31.989	49.249	81.239	7.239	74.000	PEAK
5		2483.500	31.980	24.615	56.594	-17.406	74.000	PEAK
6		2491.700	31.958	25.554	57.511	-16.489	74.000	PEAK
7		2500.000	31.934	24.068	56.003	-17.997	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2014/12/14 - 10:26
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by Battery)
EUT : GPS Sport Watch	Note : 2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	30.411	11.857	42.268	-11.732	54.000	AVERAGE
2		2389.500	31.236	12.049	43.285	-10.715	54.000	AVERAGE
3		2390.000	31.241	12.029	43.270	-10.730	54.000	AVERAGE
4	*	2480.100	31.989	48.251	80.240	26.240	54.000	AVERAGE
5		2483.500	31.980	12.726	44.705	-9.295	54.000	AVERAGE
6		2483.600	31.979	12.676	44.655	-9.345	54.000	AVERAGE
7		2500.000	31.934	12.268	44.203	-9.797	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

6. Occupied Bandwidth

6.1. Test Equipment

The following test equipment is used during the test:

Occupied Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2015/07/14
		111 / 141	PL 2	

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

6.2. Test Setup



6.3. Limits

The 6 dB bandwidth must be greater than 500 kHz.

6.4. Test Procedures

The EUT was setup according to ANSI C63.10; tested according to DTS test procedure of KDB558074 V03R02 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 1% of EBW, Span greater than RBW.

6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

6.6. Test Result

Product	GPS Sport Watch				
Test Item	Occupied Bandwidth				
Test Mode	Mode 1: Transmit				
Date of Test	2014/12/07	Test Site	SR7		

GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	0.691	≧0.5	Pass
19	2440	0.664	≧0.5	Pass
39	2480	0.663	≧0.5	Pass

DAgilent Spectrum Analyzer - Occupied	BW				
Ω 50 Ω Center Freq 2.402000000 Input: RF Input: RF	AC SI Center F Center F Trig: Fre #IFGain:Low #Atten: 3	ENSE:INT req: 2.402000000 GHz e Run Avg Hold 0 dB Ext Gain:	ALIGNAUTO 09:11:47 Radio Sto :>100/100 : -1.50 dB Radio De	AM Dec 07, 2014 d: None vice: BTS	Freq / Channel
10 dB/div Ref 10 dBm			1 1		
-10					Center Freq 2.402000000 GHz
-20					
-40 -50				www.m	
-70					
Center 2.402 GHz #Res BW 100 kHz	#VI	BW 300 kHz	SI Sw	oan 3 MHz eep 1 ms	CF Step 300.000 kHz <u>Auto</u> Man
Occupied Bandwidtl 1.(n 0822 MHz	Total Power	0.76 dBm		
Transmit Freq Error	24.604 kHz	OBW Power	99.00 %		
x dB Bandwidth	691.0 kHz	x dB	-6.00 dB		

💴 Agilent S	pectrum Analyzer	- Occupied BW		ne.							
w Center	50 Ω Freq 2.440	000000 G Input: RF #IF(Hz Gain:Low	AC SE Center F Trig: Fre #Atten: 3	inse:INT req: 2.44000 e Run 0 dB	0000 GHz Avg Hold Ext Gain:	ALIGN AUTO I:> 100/100 : -1.50 dB	09:13:02 A Radio Std Radio Dev	M Dec 07, 2014 : None vice: BTS	Frec	l Channel
10 dB/div ^{Log}	Ref 10	dBm									
-10						And the second s				2.44	Center Freq
-20			-				North Contraction of the second secon	- Martin			
-40 -50 -60								- ¹ / ₂	han pour		
-70											Name of States
Center #Res B\	2.44 GHz N 100 kHz			#VE	 3W 300 k	Hz		Sp Swe	an 3 MHz ep 1 ms	<u>Auto</u>	CF Step 300.000 kHz Man
Occi	Occupied Bandwidth 1.0793 MH				Total Power			0.74 dBm			
Trans v dB	smit Freq E Bandwidth	rror	25.725	kHz ⊭⊔⇒	OBW P	ower	99	9.00 %			
MSG	Bandwiddin		004.5	кпа	XUB		STATUS				

💴 Agilent S	pectrum Analyze	r - Occupied B\	W		e						
Center	50 Ω Freq 2.480)000000 (Input: RF #I	GHz FGain:Low	AC Cen Trig / #Att	SENSE:INT Iter Freq: 2.4800 I: Free Run en: 30 dB	000000 GHz Avg Hol Ext Gair	ALIGNAUTO d:> 100/100 h: -1.50 dB	09:13:43/ Radio Std Radio Dev	M Dec 07, 2014 I: None vice: BTS	Fred	ן / Channel
10 dB/div Log	Ref 10) dBm	-					1			
-10					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	and the second s				(2.48	Center Freq 0000000 GHz
-20		married and									
-50 <mark>-50</mark>	-Autor and a start										
-70											CF Step
Center #Res BV	2.48 GHz N 100 kHz				#VBW 300	kHz		Sp Swe	an 3 MHz eep 1 ms	<u>Auto</u>	300.000 kHz Man
Οςςι	upied Bar	idwidth 1.0	779	MHz	Total	Power	1.82	2 dBm			
Trans	smit Freq E	rror	14.34	9 kHz	OBW	Power	9	9.00 %			
x dB	Bandwidth		663	.4 kHz	x dB		-6.	.00 dB			

7. Power Density

7.1. Test Equipment

The following test equipment is used during the test:

Power Density / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2015/07/14

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

7.2. Test Setup



7.3. Limits

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8dBm in any 3kHz band during any time interval of continuous transmission.

7.4. Test Procedures

The EUT was setup according to ANSI C63.10; tested according to DTS test procedure of KDB558074 V03R02 for compliance to FCC 47CFR 15.247 requirements.

7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

7.6. Uncertainty

The measurement uncertainty is defined as ±1.27dB.

7.7. Test Result

Product	GPS Sport Watch		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2014/12/07	Test Site	SR7

Channel No.	Frequency	Measurement	Limit	Popult
Channel No.	(MHz)	(dBm)	(dBm)	Result
0	2402	-12.897	≦8	Pass
19	2440	-13.197	≦8	Pass
39	2480	-11.564	≦8	Pass

D Agi	ilent Spectrum	Analyzer - S	iwept SA								
₩ Cen	ter Freq	Ω 2.4020	00000 G	Hz	AC SE		Avg Type	ALIGNAUTO	09:16:29 Al TRAC	M Dec 07, 2014	Frequency
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0.00						1					Center Freq 2.402000000 GHz
-10.0 -20.0				howing	Mallinguingen W	understation and	Maniful Whenlas				Start Freq 2.400500000 GHz
-30.0 -40.0			J	When the second s				M.			Stop Freq 2.403500000 GHz
-50.0 -60.0	nyhiyyimikinikilay	yyunghalan an	when I					W	hlinning lipted and high	WWW WWW	CF Step 300.000 kHz <u>Auto</u> Man
-70.0											Freq Offset 0 Hz
-80.0 Cen	ter 2.4020	000 GHz		41 (514)					Span 3	.000 MHz	
#RC MSG	S BW 101	(HZ		#vBW	JU KHZ			Sweep 29	9.3 ms (1	0001 pts)	







🗊 Agi	lent Spect	rum Analyzer	- Swept SA								
₩ Cen	ter Fre	50 Ω eq 2.480	000000 G	GHz	AC SE		Avg Type	ALIGNAUTO	09:14:56 A	M Dec 07, 2014	Frequency
10 di	B/div	ا Ref 10.00	nput: RF IF	PNO: Far 🕞 Gain:Low	#Atten: 30) dB	Ext Gain:	-1.50 dB Mkr1 2.	.480 11 -11.5	5 8 GHz 64 dBm	Auto Tune
0.00						¥1					Center Freq 2.480000000 GHz
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-30.0 -40.0			, аран (¹	of the second se			<u>\</u>	N.			Stop Freq 2.481500000 GHz
-50.0 -60.0	Marriel Marrier	Here and the second sec						- V	an and the second	urten staat	CF Step 300.000 kHz <u>Auto</u> Man
-70.0											Freq Offset 0 Hz
Cen #Re	ter 2.48 s BW 1	30000 GH2 0 kHz	z	#VBW	30 kHz			Sweep 2	Span 3 9.3 ms (1	0000 MHz 0001 pts)	
MSG								STATUS			