FCC Test Report

Report No.: AGC03652230302FE10

FCC ID	:	2AJFWXOSSA
PRODUCT DESIGNATION	:	Original Equipment
BRAND NAME	:	Smart GPS Cycling Computer
MODEL NAME	:	XOSS
APPLICANT	:	NAV, A1, A2, A3, A4, A5, NAV+
DATE OF ISSUE	:	Shanghai Dabuziduo Information and Technology Co., Ltd.
STANDARD(S)	:	FCC Part 15 Subpart C §15.249
REPORT VERSION	:	V 1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jun.06, 2023	Valid	Initial Release

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1. GENERAL INFORMATION

Applicant	Shanghai Dabuziduo Information and Technology Co., Ltd.
Address	Room 602 East Tower 6F XINGZHE Office No.800 Guo Shun East Road, Yangpu District, Shanghai P.R.China
Manufacturer	Shanghai Dabuziduo Information and Technology Co., Ltd.
Address	Room 602 East Tower 6F XINGZHE Office No.800 Guo Shun East Road, Yangpu District, Shanghai P.R.China
Factory	Shanghai Dabuziduo Information and Technology Co., Ltd.
Address	Room 602 East Tower 6F XINGZHE Office No.800 Guo Shun East Road, Yangpu District, Shanghai P.R.China
Product Designation	Smart GPS Cycling Computer
Brand Name	XOSS
Test Model	NAV
Series Model	A1, A2, A3, A4, A5, NAV+
Declaration of Difference	All the same except for the model name and appearance color
Date of receipt of test item	Mar. 24, 2023
Date of test	Mar. 24, 2023 to Jun. 06, 2023
Deviation	None
Condition of Test Sample	Normal
Report Template	AGCRT-JP-BLE/RF

Prepared By	Bibo Zhang (Project Engineer)	Jun. 06, 2023
Reviewed By	Calvin Liu (Reviewer)	Jun. 06, 2023
Approved By	Max Zhang (Authorized Officer)	Jun. 06, 2023

2. PRODUCT INFORMATION

2.1 PRODUCT TECHNICAL DESCRIPTION

Hardware Version	V1.5C
Software Version	V0.1
Equipment Specification	ANT+
Frequency Band	2400MHz-2483.5MHz
Operation Frequency	2457MHz
Modulation Type	GFSK
Number of channels	1 Channel
Field Strength of Fundamental	92.68dBuV/m(Average)@3m
Antenna Designation	Chip Antenna
Antenna Gain	2.1dBi
Power Supply	DC 3.7V by battery or DC 5V by adapter

2.2 TEST FREQUENCY LIST

Frequency Band	Channel Number	Frequency
2400~2483.5MHz	01	2457MHz

2.3 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2AJFWXOSSA** filing to comply with Part 2, Part 15 of the Federal Communication Commission rules.

2.4 TEST METHODOLOGY

The tests were performed according to following standards:

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 15	Radio Frequency Devices
3	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

2.5 SPECIAL ACCESSORIES

Not available for this EUT intended for grant.

2.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2.7 ANTENNA REQUIREMENT

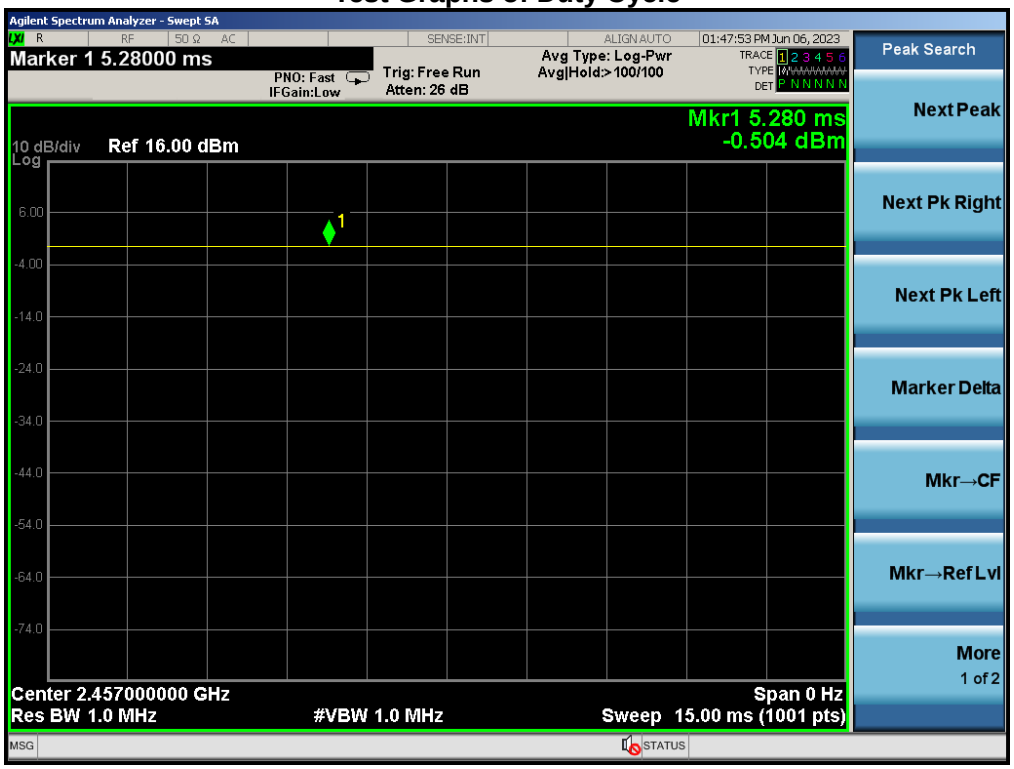
Standard Requirement
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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.
EUT Antenna:
The non-detachable antenna inside the device cannot be replaced by the user at will. The gain of the antenna is 2.1dBi.

2.8 DUTY CYCLE

The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW=1MHz, VBW=1MHz. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Test Mode	Frequency	Duty Cycle
TX	2457MHz	100%

Test Graphs of Duty Cycle



3. TEST ENVIRONMENT

3.1 ADDRESS OF THE TEST LABORATORY

Laboratory: Attestation of Global Compliance (Shenzhen) Co., Ltd.

Address: 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

3.2 TEST FACILITY

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

CNAS-Lab Code: L5488

Attestation of Global Compliance (Shenzhen) Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 5054.02

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 975832

Attestation of Global Compliance (Shenzhen) Co., Ltd. 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 our files with Registration 975832.

IC-Registration No.: 24842 (CAB identifier: CN0063)

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the Certification and Engineering Bureau of Industry Canada. The acceptance letter from the IC is maintained in our files with Registration 24842.

3.3 ENVIRONMENTAL CONDITIONS

	NORMAL CONDITIONS	EXTREME CONDITIONS
Temperature range (℃)	15 - 35	-10 - 45
Relative humidty range	20 % - 75 %	20 % - 75 %
Pressure range (kPa)	86 - 106	86 - 106
Power supply	--	--
Note: The Extreme Temperature and Extreme Voltages declared by the manufacturer.		

3.4 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ±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%.

Item	Measurement Uncertainty
Uncertainty of Conducted Emission for AC Port	U_c = ±2.9 dB
Uncertainty of Radiated Emission below 1GHz	U_c = ±3.9 dB
Uncertainty of Radiated Emission above 1GHz	U_c = ±4.9 dB
Uncertainty of total RF power, conducted	U_c = ±0.8 dB
Uncertainty of RF power density, conducted	U_c = ±2.6 dB
Uncertainty of spurious emissions, conducted	U_c = ±2 %
Uncertainty of Occupied Channel Bandwidth	U_c = ±2 %

3.5 LIST OF EQUIPMENTS USED

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
Test Receiver	R&S	ESCI	10096	Feb. 18, 2023	Feb. 17, 2024
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Aug. 04, 2022	Aug. 03, 2023
2.4GHz Filter	EM Electronics	N/A	N/A	Mar. 18, 2022	Mar. 19, 2024
Attenuator	ZHINAN	E-002	N/A	Aug. 04, 2022	Aug. 03, 2024
Horn Antenna	SCHWARZBECK	BBHA9170	768	Oct. 31, 2021	Oct. 30, 2023
Active Loop Antenna (9K-30Mhz)	ZHINAN	ZN30900C	18051	Mar. 12, 2022	Mar. 11, 2024
Double-Ridged Waveguide Horn	ETS	3117	00034609	Apr. 23, 2023	Apr. 22, 2024
Preamplifier Assembly	ETS	3117PA	00225134	Sep. 01, 2022	Sep. 02, 2024
Wideband Antenna	SCHWARZBECK	VULB9168	VULB9168-494	Jan. 05, 2023	Jan. 04, 2025
Test Software	FARA	EZ-EMC(Ver.RA-03A)	N/A	N/A	N/A
Test software	Tonscend	JS32-RE(Ver.2.5)	N/A	N/A	N/A

4.SYSTEM TEST CONFIGURATION

4.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

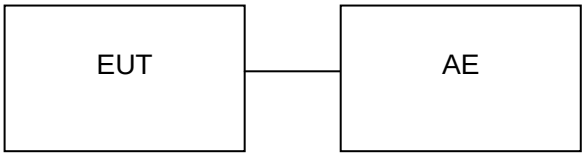
4.2 EUT EXERCISE

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

4.3 CONFIGURATION OF TESTED SYSTEM

Radiated Emission Configure:

Conducted Emission Configure:



4.4 EQUIPMENT USED IN TESTED SYSTEM

The Following Peripheral Devices And Interface Cables Were Connected During The Measurement:
☐ Test Accessories Come From The Laboratory
☒ Test Accessories Come From The Manufacturer

Item	Equipment	Model No.	Identifier	Note
1	Smart GPS Cycling Computer	NAV	2AJFWXOSSA	EUT

4.5 SUMMARY OF TEST RESULTS

Item	FCC Rules	Description Of Test	Result
1	§15.203	Antenna Equipment	Pass
2	§15.249(a)	Field Strength of Fundamental	Pass
3	§15.209, §15.249	Radiated Emission& Band Edge	Pass
4	§15.215	20dB Bandwidth	Pass
9	§15.207	AC Power Line Conducted Emission	Pass

Note: 1.N/A means not applicable

5. DESCRIPTION OF TEST MODES

Summary table of Test Cases	
Test Item	Data Rate / Modulation
	ANT+ / GFSK
Radiated&Conducted Test Cases	Mode 1: ANT+ Tx_2457MHz
AC Conducted Emission	Mode 1: ANT+ Tx_2457MHz

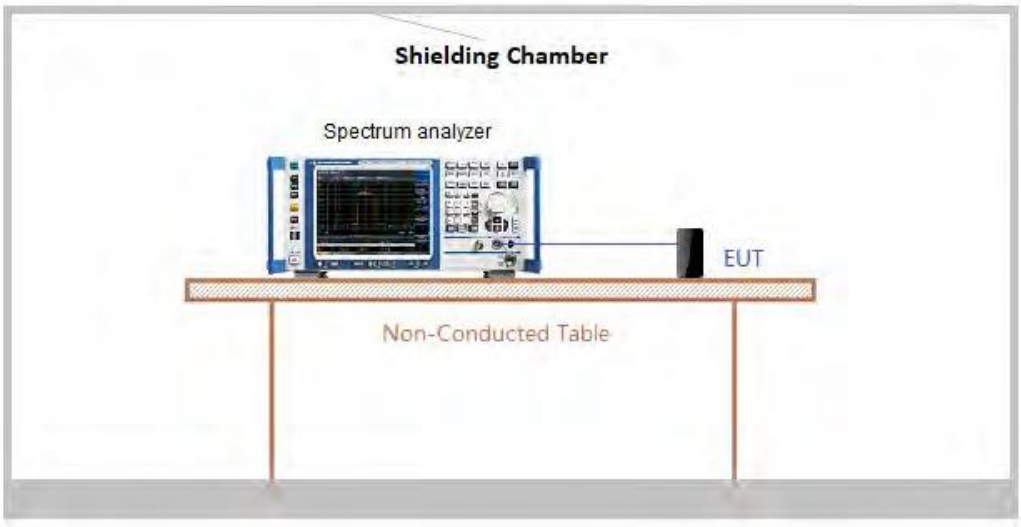
Note:
1. Only the result of the worst case was recorded in the report, if no other cases.
2. The battery is full-charged during the test.
3. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
4. For Conducted Test method, a temporary antenna connector is provided by the manufacture.
5. The maximum duty cycle of the product is greater than 98%

6. 20 DB BANDWIDTH

6.1 MEASUREMENT PROCEDURE

1. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 30 kHz. Set the Video bandwidth (VBW) = 100 kHz. In order to make an accurate measurement.
4. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) ≥ 3 * RBW.
5. Measure and record the results in the test report.

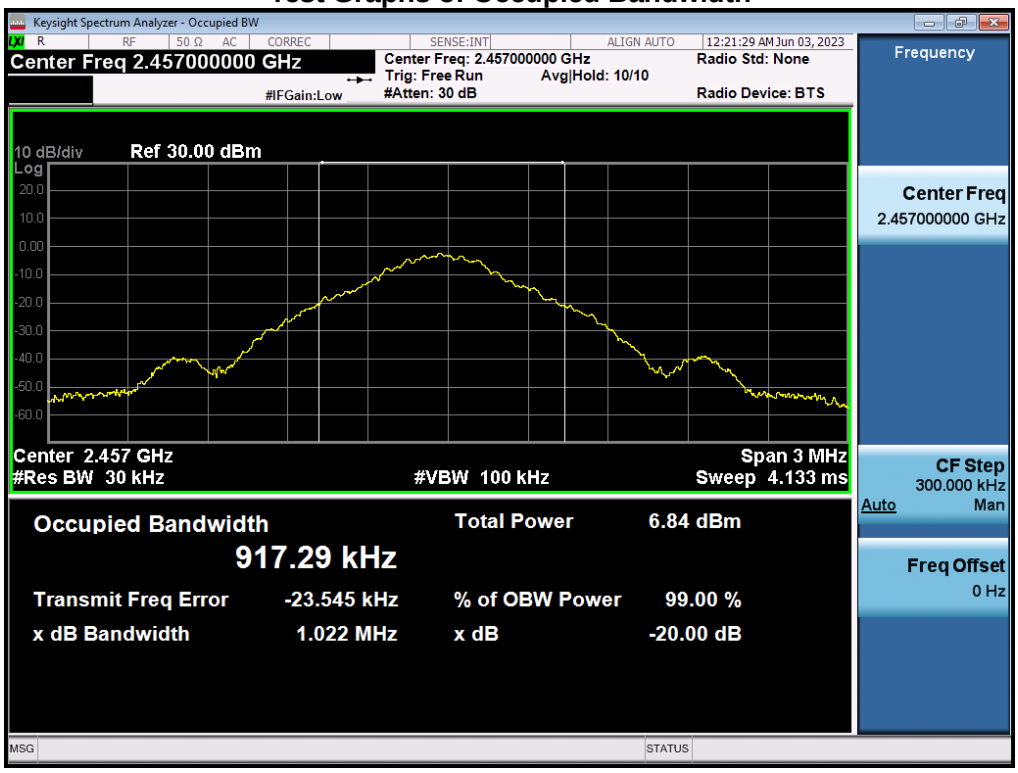
6.2 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)



6.3 MEASUREMENT RESULTS

Test Data of Occupied Bandwidth and -20dB Bandwidth					
Test Mode	Test Channel (MHz)	99% Occupied Bandwidth (MHz)	-20dB Bandwidth (MHz)	Limits (MHz)	Pass or Fail
GFSK	2457	0.917	1.022	N/A	Pass

Test Graphs of Occupied Bandwidth



7. RADIATED EMISSION

7.1 LIMITS OF RADIATED EMISSION TEST

15.249 Limit in the below table has to be followed:

Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
900-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

15.209 Limit in the below table has to be followed:

Frequency (MHz)	Distance Meters	Field Strengths Limit	
		μV/m	dB(μV)/m
0.009 ~ 0.490	300	2400/F(kHz)	---
0.490 ~ 1.705	30	24000/F(kHz)	---
1.705 ~ 30	30	30	---
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	Other:74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Remark： (1) Emission level dBμV = 20 log Emission level μV/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

7.2 MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

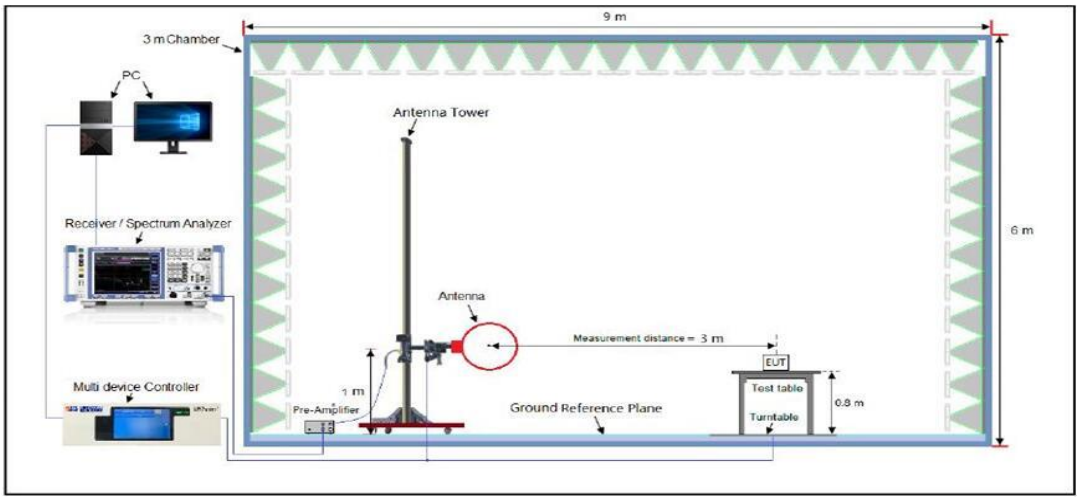
The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1GHz~26.5GHz 1MHz/3MHz for Peak, 1MHz/3MHz for Average

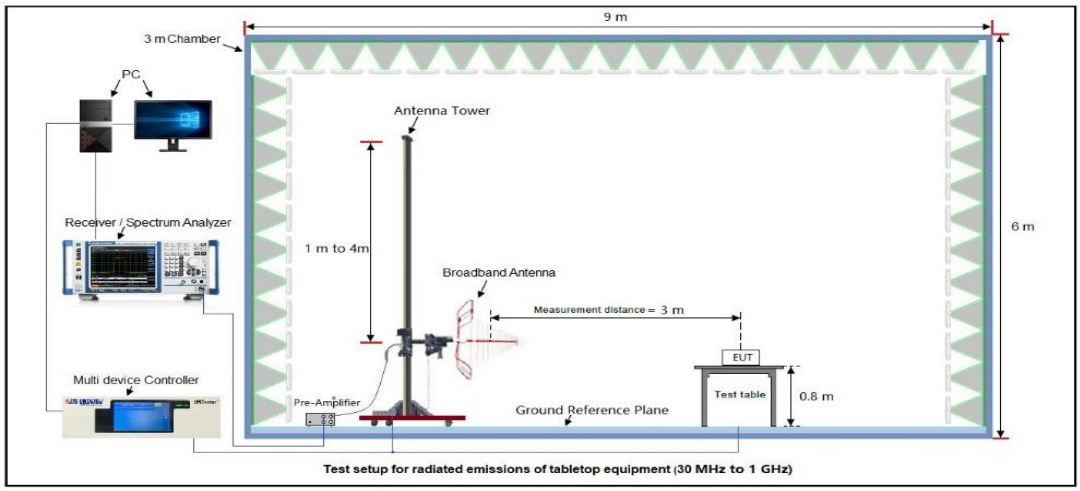
Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

7.3 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)

RADIATED EMISSION TEST SETUP 9KHz-30MHz

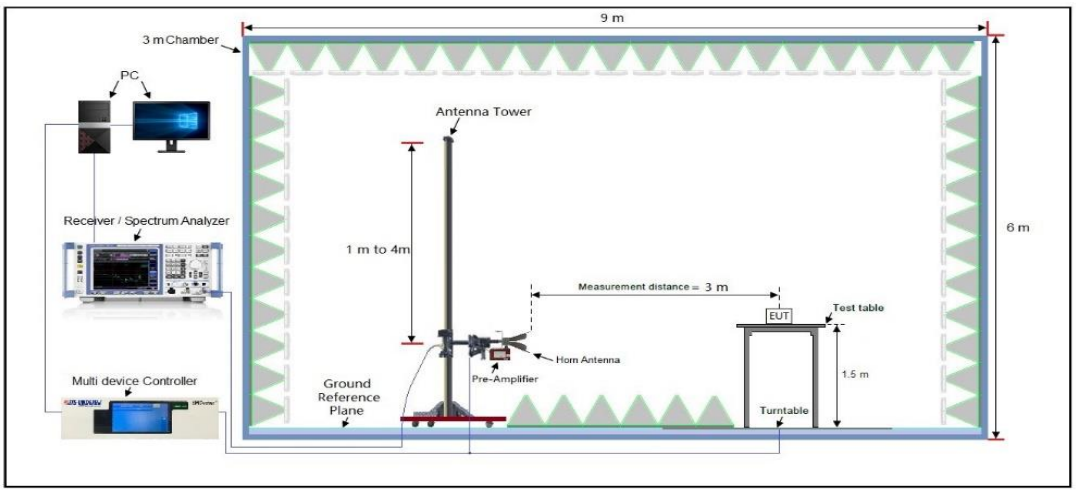


RADIATED EMISSION TEST SETUP 30MHz-1000MHz



Test setup for radiated emissions of tabletop equipment (30 MHz to 1 GHz)

RADIATED EMISSION TEST SETUP ABOVE 1000MHz



7.4 MEASUREMENT RESULT

FIELD STRENGTH OF FUNDAMENTAL

EUT	Smart GPS Cycling Computer	**Model Name**	NAV
Temperature	21°C	**Relative Humidity**	53%
Pressure	985hPa	**Test Voltage**	Normal Voltage
Test Modulation	GFSK	**Polarization**	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
2457	43.63	49.05	92.68	114.00	-21.32	peak
2457	42.31	49.05	91.36	94.00	-2.64	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Smart GPS Cycling Computer	**Model Name**	NAV
Temperature	21°C	**Relative Humidity**	53%
Pressure	985hPa	**Test Voltage**	Normal Voltage
Test Modulation	GFSK	**Polarization**	Vertical

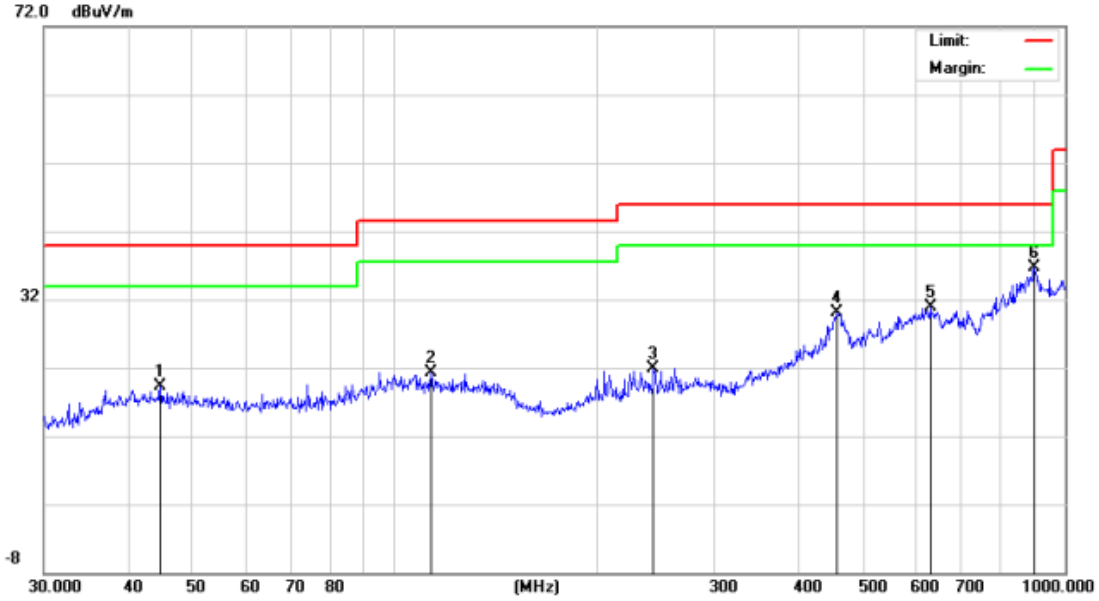
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
2457	41.97	49.05	91.02	114.00	-22.98	peak
2457	42.11	49.05	91.16	94.00	-2.84	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION BELOW 30MHZ

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

RADIATED EMISSION FROM 30MHZ TO 1000MHZ

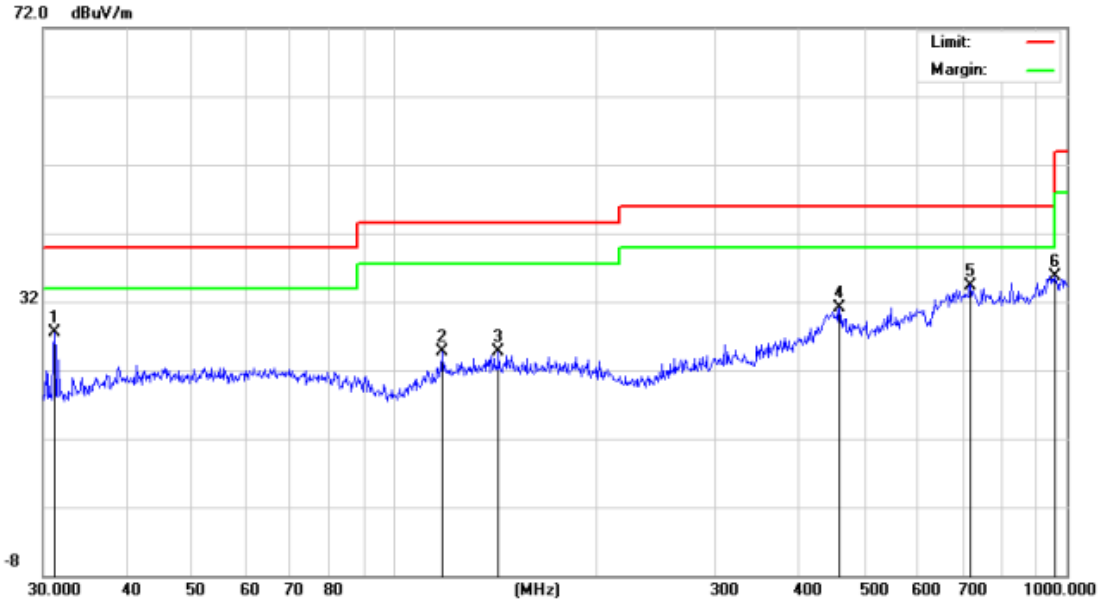
EUT	Smart GPS Cycling Computer	**Model Name**	NAV
Temperature	21°C	**Relative Humidity**	53%
Pressure	985hPa	**Test Voltage**	Normal Voltage
Test Mode	Mode 1	**Antenna**	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		44.7433	5.72	13.57	19.29	40.00	-20.71	peak
2		113.3163	5.56	15.67	21.23	43.50	-22.27	peak
3		243.3772	6.56	15.30	21.86	46.00	-24.14	peak
4		457.5073	4.21	25.86	30.07	46.00	-15.93	peak
5		629.4772	5.65	25.25	30.90	46.00	-15.10	peak
6	*	900.1474	4.89	31.78	36.67	46.00	-9.33	peak

RESULT: PASS

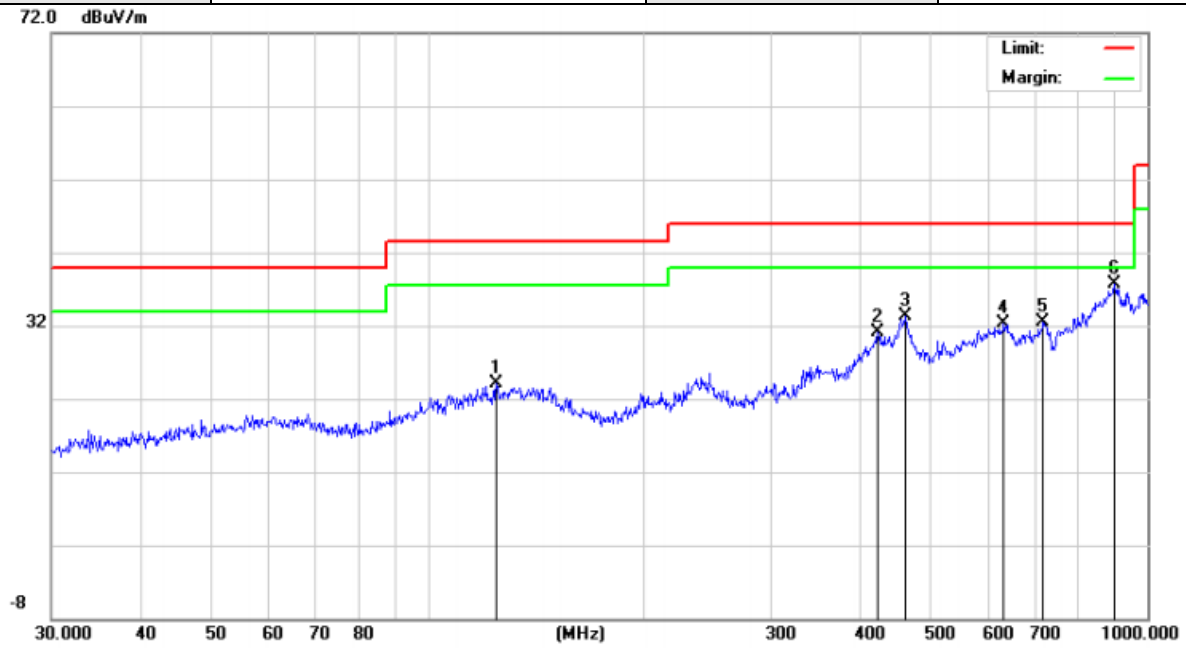
EUT	Smart GPS Cycling Computer	Model Name	NAV
Temperature	21°C	Relative Humidity	53%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		31.1798	13.43	13.99	27.42	40.00	-12.58	peak
2		117.7725	7.48	17.31	24.79	43.50	-18.71	peak
3		142.8243	6.57	18.20	24.77	43.50	-18.73	peak
4		459.1144	5.78	25.24	31.02	46.00	-14.98	peak
5		719.1995	5.63	28.77	34.40	46.00	-11.60	peak
6	*	958.7943	5.40	30.25	35.65	46.00	-10.35	peak

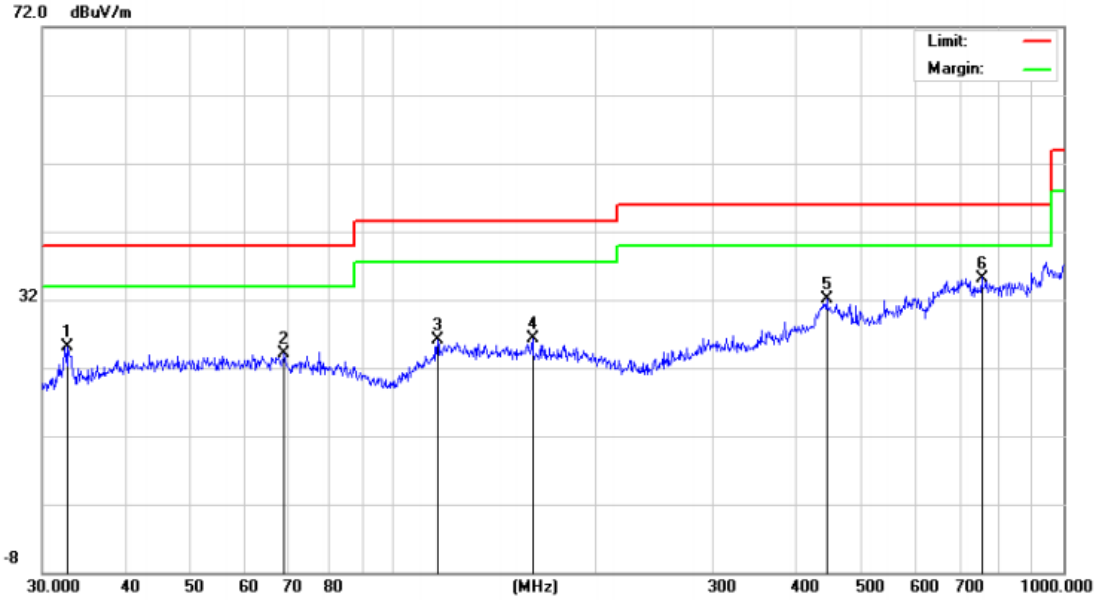
RESULT: PASS
Note: 1. Factor=Antenna Factor + Cable loss, Over=Measurement-Limit.

EUT	Smart GPS Cycling Computer	Model Name	NAV+
Temperature	21°C	Relative Humidity	53%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		124.5690	7.12	16.97	24.09	43.50	-19.41	peak
2		422.0577	6.28	24.73	31.01	46.00	-14.99	peak
3		460.7271	6.03	27.23	33.26	46.00	-12.74	peak
4		631.6884	7.13	25.26	32.39	46.00	-13.61	peak
5		716.6820	6.19	26.35	32.54	46.00	-13.46	peak
6	*	900.1471	5.97	31.78	37.75	46.00	-8.25	peak

EUT	Smart GPS Cycling Computer	Model Name	NAV+
Temperature	21°C	Relative Humidity	53%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		32.7486	10.67	14.51	25.18	40.00	-14.82	peak
2		68.8721	7.07	17.01	24.08	40.00	-15.92	peak
3		116.5400	7.29	18.75	26.04	43.50	-17.46	peak
4		161.4740	8.15	18.22	26.37	43.50	-17.13	peak
5		443.2943	6.10	25.95	32.05	46.00	-13.95	peak
6	*	755.3872	7.30	27.90	35.20	46.00	-10.80	peak

RADIATED EMISSION ABOVE 1GHZ

EUT	Smart GPS Cycling Computer	**Model Name**	NAV
Temperature	21°C	**Relative Humidity**	53%
Pressure	985hPa	**Test Voltage**	Normal Voltage
Test Mode	Mode 1	**Antenna**	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4914.000	46.68	0.08	46.76	74	-27.24	peak
4914.000	37.28	0.08	37.36	54	-16.64	AVG
7371.000	43.17	2.21	45.38	74	-28.62	peak
7371.000	34.22	2.21	36.43	54	-17.57	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Smart GPS Cycling Computer	**Model Name**	NAV
Temperature	21°C	**Relative Humidity**	53%
Pressure	985hPa	**Test Voltage**	Normal Voltage
Test Mode	Mode 1	**Antenna**	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4914.000	48.12	0.08	48.2	74	-25.8	peak
4914.000	38.77	0.08	38.85	54	-15.15	AVG
7371.000	45.69	2.21	47.9	74	-26.1	peak
7371.000	34.25	2.21	36.46	54	-17.54	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RESULT: PASS

Note:

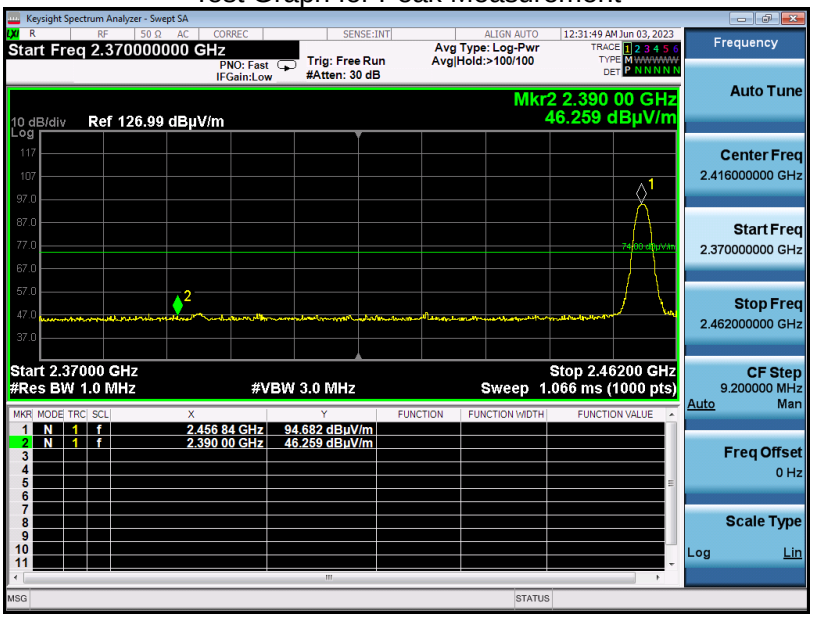
The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin=Emission Level-Limit.
The “Factor” value can be calculated automatically by software of measurement system.

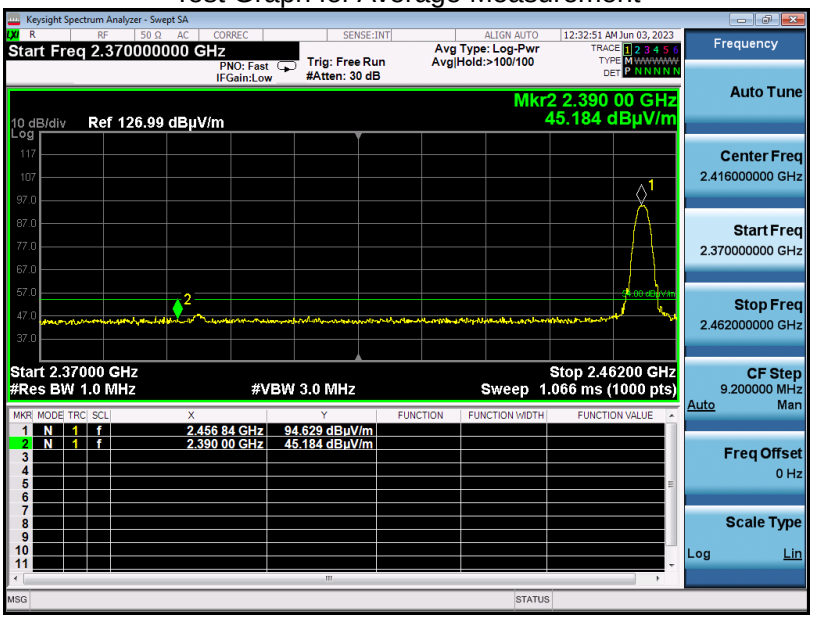
TEST RESULT FOR BAND EDGE EMISSION AT RESTRICTED BANDS

EUT	Smart GPS Cycling Computer	Model Name	NAV
Temperature	21°C	Relative Humidity	53%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Test Graph for Peak Measurement



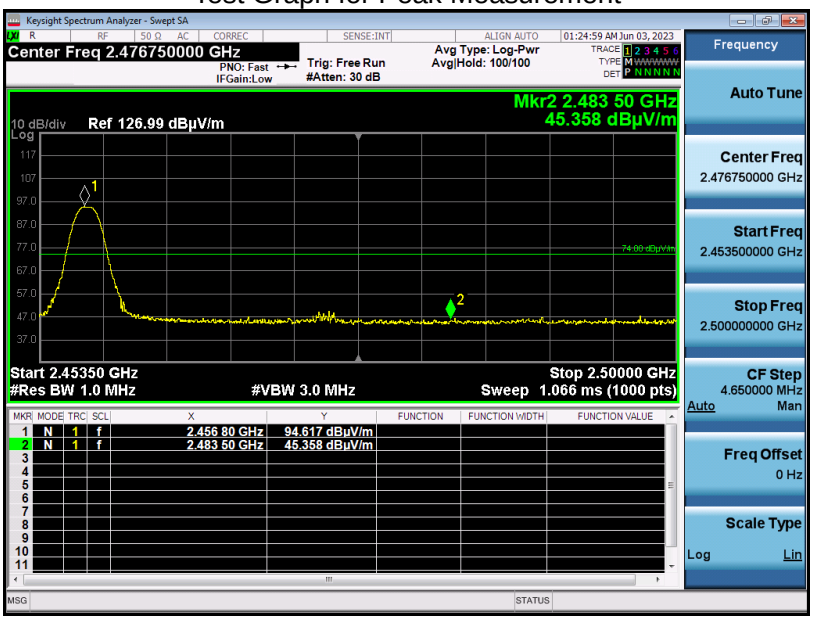
Test Graph for Average Measurement



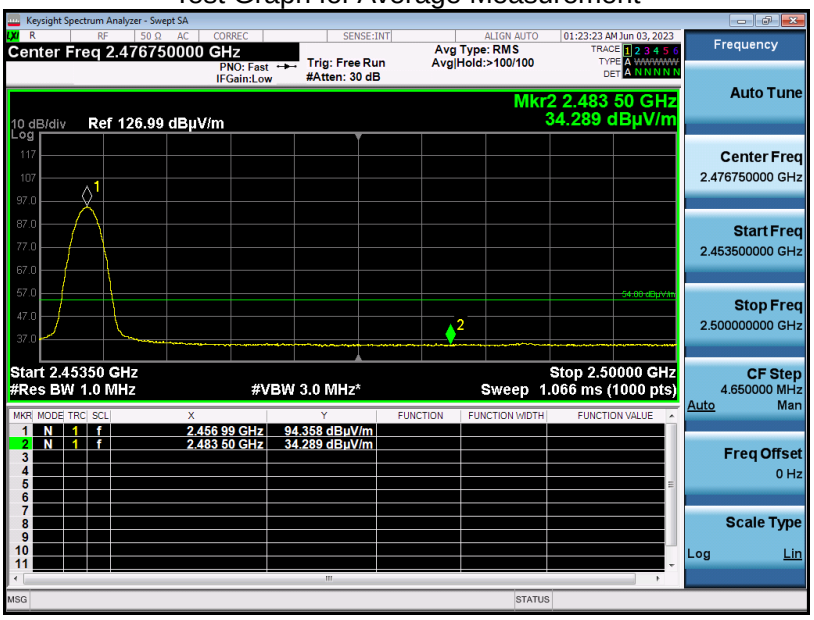
RESULT: PASS

EUT	Smart GPS Cycling Computer	Model Name	NAV
Temperature	21°C	Relative Humidity	53%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Test Graph for Peak Measurement

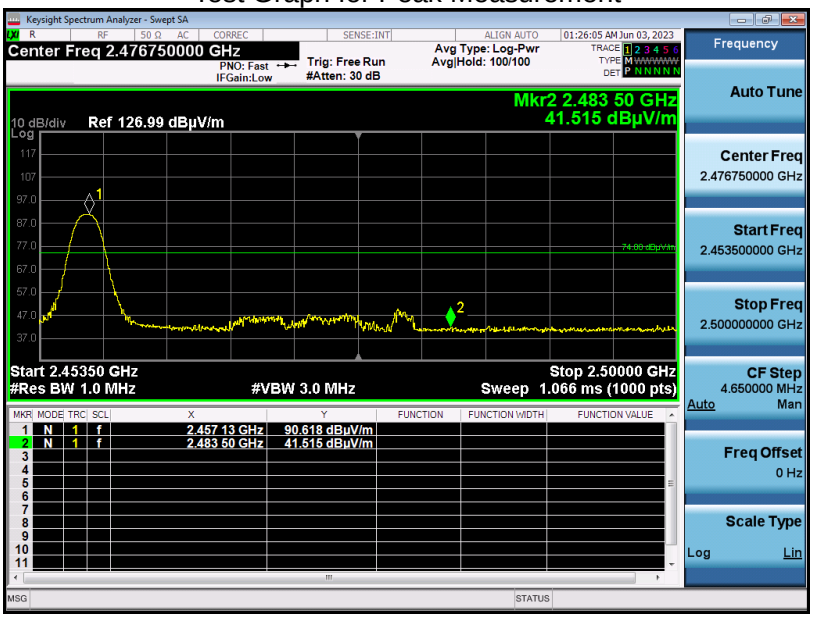


Test Graph for Average Measurement

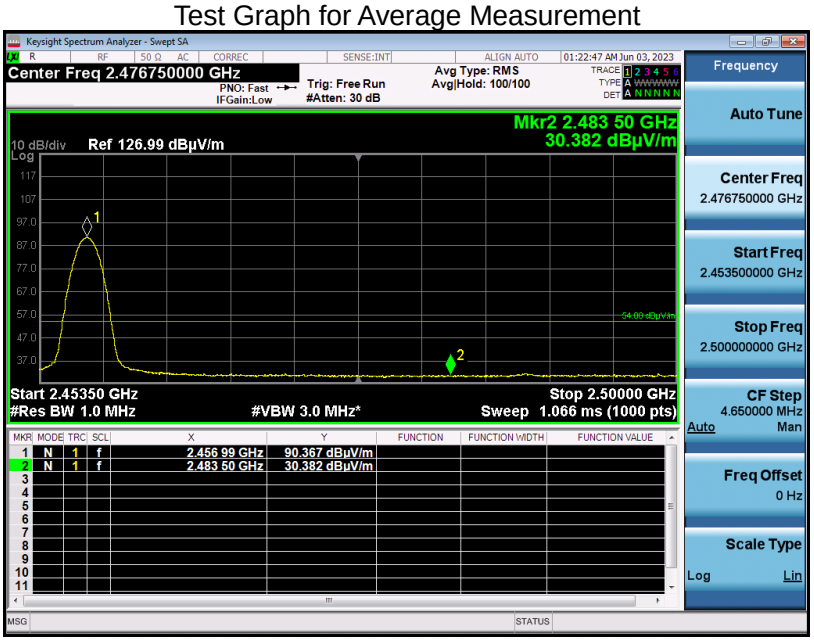


RESULT: PASS

Test Graph for Peak Measurement



Test Graph for Average Measurement



RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level

2. The factor had been edited in the “Input Correction” of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB(µV) to represent the Amplitude. Use the F dB(µV/m) to represent the Field Strength. So A=F.

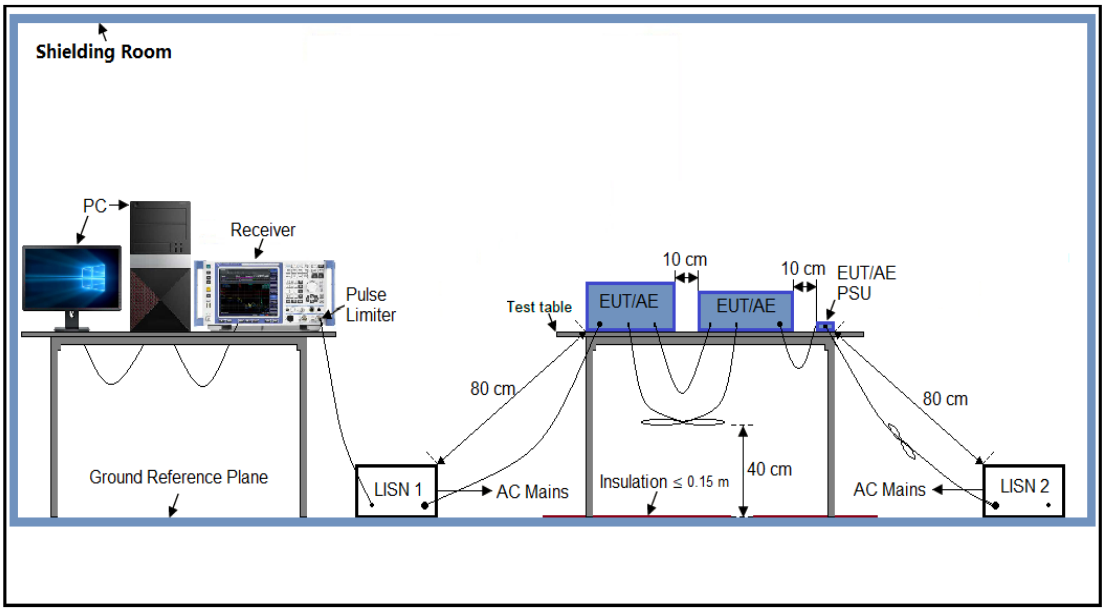
8. AC LINE CONDUCTED EMISSION TEST

8.1 LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P. (dBμV)	Average (dBμV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Note: 1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

8.2 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)



8.3 PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. All support equipment received AC120V/60Hz power from a LISN, if any.
5. The EUT received DC 5V power from adapter which received AC120V/60Hz power from a LISN.
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

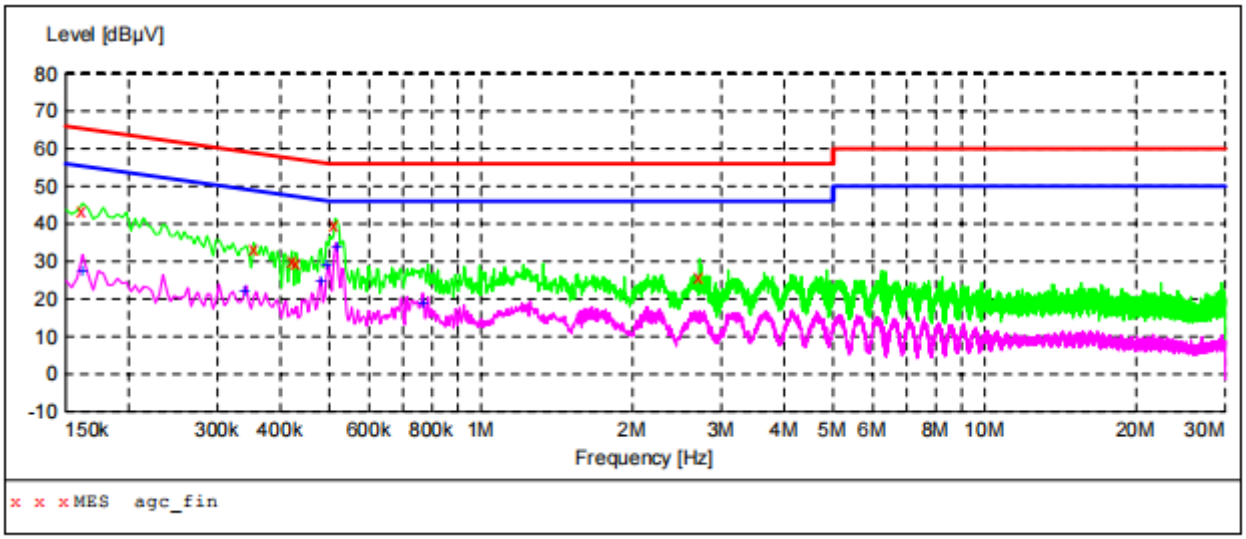
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

8.4 FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

8.5 MEASUREMENT RESULTS

LINE CONDUCTED EMISSION TEST-L1



2023/6/1 15:09

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.162000	43.20	6.8	65	22.2	QP	L1
0.354000	33.10	5.8	59	25.8	QP	L1
0.422000	30.30	5.6	57	27.1	QP	L1
0.430000	29.70	5.6	57	27.6	QP	L1
0.514000	39.50	5.4	56	16.5	QP	L1
2.718000	25.90	6.5	56	30.1	QP	L1

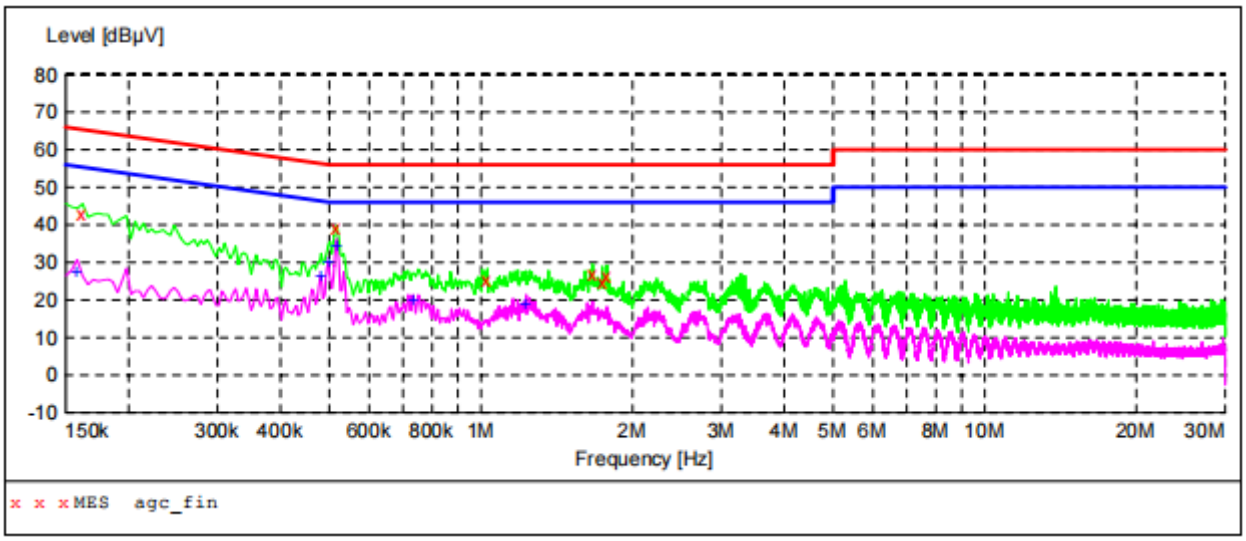
MEASUREMENT RESULT: "agc_fin2"

2023/6/1 15:07

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.162000	27.40	6.8	55	28.0	AV	L1
0.342000	22.00	5.9	49	27.2	AV	L1
0.482000	24.90	5.4	46	21.4	AV	L1
0.498000	29.10	5.4	46	16.9	AV	L1
0.518000	34.10	5.4	46	11.9	AV	L1
0.766000	19.10	5.4	46	26.9	AV	L1

RESULT: PASS

LINE CONDUCTED EMISSION TEST-N



2023/6/1 15:13

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.162000	42.70	6.8	65	22.7	QP	N
0.518000	39.20	5.4	56	16.8	QP	N
1.030000	25.10	5.5	56	30.9	QP	N
1.666000	26.90	6.2	56	29.1	QP	N
1.742000	25.00	6.3	56	31.0	QP	N
1.778000	26.50	6.3	56	29.5	QP	N

MEASUREMENT RESULT: "agc_fin2"

2023/6/1 15:12

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.158000	27.40	6.8	56	28.2	AV	N
0.482000	26.20	5.4	46	20.1	AV	N
0.498000	29.90	5.4	46	16.1	AV	N
0.518000	34.60	5.4	46	11.4	AV	N
0.734000	20.10	5.4	46	25.9	AV	N
1.230000	19.10	5.7	46	26.9	AV	N

RESULT: PASS

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC03652230302AP02

APPENDIX B: PHOTOGRAPHS OF EUT

Refer to the Report No.: AGC03652230302AP03

-----END OF REPORT-----

Conditions of Issuance of Test Reports

1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").

2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.

3.The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.

4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.

5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.

6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.

7.Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.

8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.

9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.