

TEST REPORT

Product : RTK GNSS receiver
Trade mark : EMLID
Model/Type reference : REACH RS3
Serial Number : N/A
Report Number : EED32P80561203
FCC ID : 2BAYERCH205
Date of Issue : Jun. 25, 2023
Test Standards : 47 CFR Part 15 Subpart C
Test result : PASS

Prepared for:

Emlid Tech Kft.

Raday utca 33/A, 1st floor, 3rd door, Budapest,1092, Hungary

Prepared by:

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Date:

Jun. 25, 2023



Check No.:4815210423

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3 Test Summary

Test Item	Test Requirement	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203/15.247 (c)	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart C Section 15.207	PASS
DTS Bandwidth	47 CFR Part 15 Subpart C Section 15.247 (a)(2)	NOTE1
Maximum Conducted Output Power	47 CFR Part 15 Subpart C Section 15.247 (b)(3)	NOTE1
Maximum Power Spectral Density	47 CFR Part 15 Subpart C Section 15.247 (e)	NOTE1
Band edge measurements	47 CFR Part 15 Subpart C Section 15.247(d)	NOTE1
Conducted Spurious Emissions	47 CFR Part 15 Subpart C Section 15.247(d)	NOTE1
Restricted bands	47 CFR Part 15 Subpart C Section 15.205/15.209	NOTE1
Radiated Spurious Emission	47 CFR Part 15 Subpart C Section 15.205/15.209	PASS

Remark:

NOTE1:The test data refer to the report of ISL-17LR169FCDTS (FCC ID: ZQ6-AP6212A);

Company Name and Address shown on Report, the sample(s) and sample Information were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

4 General Information

4.1 Client Information

Applicant:	Emlid Tech Kft
Address of Applicant:	Raday utca 33/A, 1st floor, 3rd door, Budapest,1092, Hungary
Manufacturer:	Ningbo High-tech Zone Ladder Science co., Ltd
Address of Manufacturer:	3/F, Building #1, Zone B, No.428 Dongqing Road, High-tech Zone, Ningbo City, Zhejiang Province
Factory:	Ningbo High-tech Zone Ladder Science co., Ltd
Address of Factory:	3/F, Building #1, Zone B, No.428 Dongqing Road, High-tech Zone, Ningbo City, Zhejiang Province

4.2 General Description of EUT

Product Name:	RTK GNSS receiver	
Model No.:	REACH RS3	
Trade mark:	EMLID	
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location	
Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz	
Modulation Type:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20) : OFDM (64QAM, 16QAM,QPSK,BPSK)	
Number of Channel:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels	
Channel Separation:	5MHz	
Antenna Type:	Chip Antenna	
Antenna Gain:	0.5dBi	
Power Supply:	USB port:	DC 5.0V
	Battery:	DC 7.2V,5200mAh,37.44Wh
Test Voltage:	DC 5.0V	
Sample Received Date:	Apr. 21, 2023	
Sample tested Date:	Apr. 21, 2023 to Jun. 21, 2023	

Operation Frequency each of channel (802.11b/g/n HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

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:

802.11b/g/n (HT20)

Channel	Frequency
The lowest channel	2412MHz
The middle channel	2437MHz
The highest channel	2462MHz

4.3 Test Configuration

EUT Test Software Settings:	
Software:	SecureCRTPortable.exe
EUT Power Grade:	Default (Power level is built-in set parameters and cannot be changed and selected)
Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.	
Test Mode:	
We have 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:	
Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.	
Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	6.5Mbps
According to ANSI C63.10 standards, the test results are both the "worst case" and "worst setup" 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n(HT20) .	

4.4 Test Environment

Operating Environment:	
Radiated Spurious Emissions:	
Temperature:	22~25.0 °C
Humidity:	50~55 % RH
Atmospheric Pressure:	1010mbar
Conducted Emissions:	
Temperature:	22~25.0 °C
Humidity:	50~55 % RH
Atmospheric Pressure:	1010mbar
RF Conducted:	
Temperature:	22~25.0 °C
Humidity:	50~55 % RH
Atmospheric Pressure:	1010mbar

4.5 Description of Support Units

The EUT has been tested with associated equipment below.

1) support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Netbook	ASUSTek	/	FCC&CE	CTI
Adapter	XIAOMI	/	FCC&CE	CTI

4.6 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.7 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-40GHz)
3	Radiated Spurious emission test	3.3dB (9kHz-30MHz)
		4.3dB (30MHz-1GHz)
		4.5dB (1GHz-18GHz)
		3.4dB (18GHz-40GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

5 Equipment List

Conducted disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Receiver	R&S	ESCI	100435	05-06-2022 04-25-2023	05-05-2023 04-24-2024
LISN	R&S	ENV216	100098	09-27-2022	09-26-2023
Capacitive voltage probe	Schwarzbeck	CVP 9222C	00124	07-13-2022	07-12-2023
ISN	TESEQ	ISN T800	30297	12-29-2022	12-28-2023
Barometer	changchun	DYM3	1188	---	---
Temperature/ Humidity Indicator	Defu	TH128	/	---	---
Test software	Fara	EZ-EMC	EMC-CON 3A1.1	---	---

3M Semi-anechoic Chamber (2)- Radiated disturbance Test					
Equipment	Manufacturer	Model	Serial No.	Cal. Date	Due Date
3M Chamber & Accessory Equipment	TDK	SAC-3	---	05-22-2022	05-21-2025
Receiver	R&S	ESCI7	100938-003	09-28-2022	09-27-2023
Spectrum Analyzer	R&S	FSV40	101200	07-29-2022	07-28-2023
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-15-2021	04-14-2024
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-618	05-22-2022 05-21-2023	05-21-2023 05-20-2024
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1869	04-17-2021	04-16-2024
Horn Antenna	A.H.SYSTEMS	SAS-574	374	05-29-2021	05-28-2024
Preamplifier	Agilent	11909A	12-1	03-28-2023	03-27-2024
Preamplifier	EMCI	EMC051845SE	980380	12-23-2022	12-22-2023
Preamplifier	CD	PAP-1840-60	6041.6042	07-05-2022	07-04-2023
Cable line	Fulai(7M)	SF106	5219/6A	---	---
Cable line	Fulai(6M)	SF106	5220/6A	---	---
Cable line	Fulai(3M)	SF106	5216/6A	---	---
Cable line	Fulai(3M)	SF106	5217/6A	---	---
Test software	Fara	EZ-EMC	EMEC-3A1-Pre	---	---

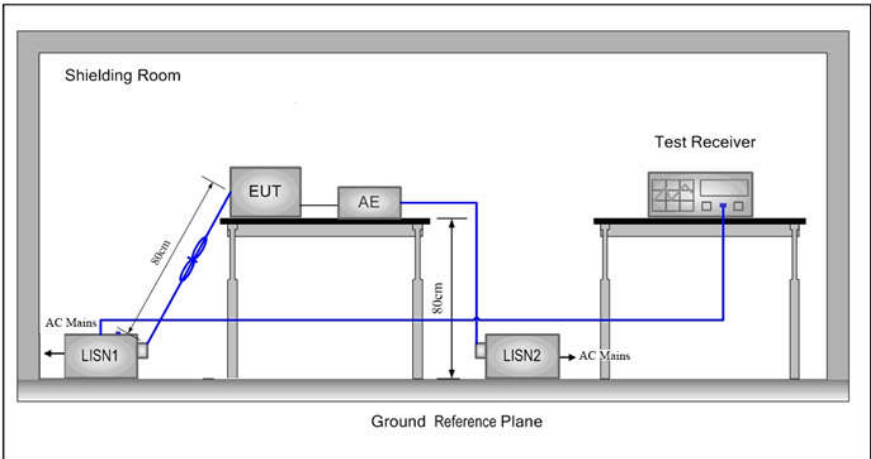
3M full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Fully Anechoic Chamber	TDK	FAC-3	---	01-09-2021	01-08-2024
Receiver	Keysight	N9038A	MY57290136	02-27-2023	02-26-2024
Spectrum Analyzer	Keysight	N9020B	MY57111112	02-21-2023	02-20-2024
Spectrum Analyzer	Keysight	N9030B	MY57140871	02-21-2023	02-20-2024
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	04-30-2021	04-29-2024
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-17-2021	04-16-2024
Horn Antenna	ETS-LINDGREN	3117	57407	07-04-2021	07-03-2024
Preamplifier	EMCI	EMC001330	980563	03-28-2023	03-27-2024
Preamplifier	Tonscend	TAP-011858	AP21B806112	07-29-2022	07-28-2023
Preamplifier	EMCI	EMC184055SE	980597	04-13-2023	04-12-2024
Communication test set	R&S	CMW500	102898	12-23-2022	12-22-2023
Temperature/Humidity Indicator	biaozhi	GM1360	EE1186631	04-11-2023	04-10-2024
RSE Automatic test software	JS Tonscend	JS36-RSE	10166	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0001		---
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	---	---
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	---	---
Cable line	Times	EMC104-NMNM-1000	SN160710	---	---
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	---	---
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	---	---
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	---	---
Cable line	Times	HF160-KMKM-3.00M	393493-0001	---	---

6 Test results and Measurement Data

6.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)
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. 15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
EUT Antenna:	Please see Internal photos
The antenna is Chip Antenna. The best case gain of the antenna is 0.5dBi.	

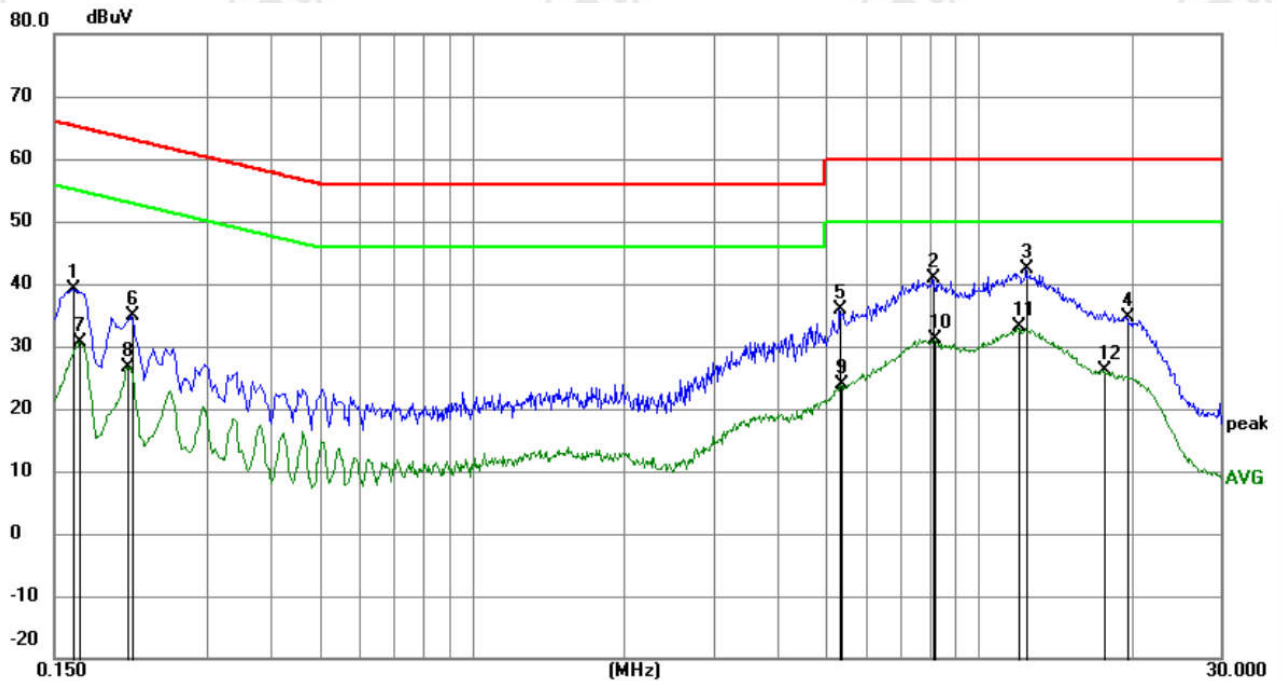
6.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test Setup:			
Test Procedure:	1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane. 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.		
Test Mode:	All modes were tested, only the worse case lowest channel of 1Mbps for 802.11b was recorded in the report.		

Test Results:	Pass
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Measurement Data

Live line:

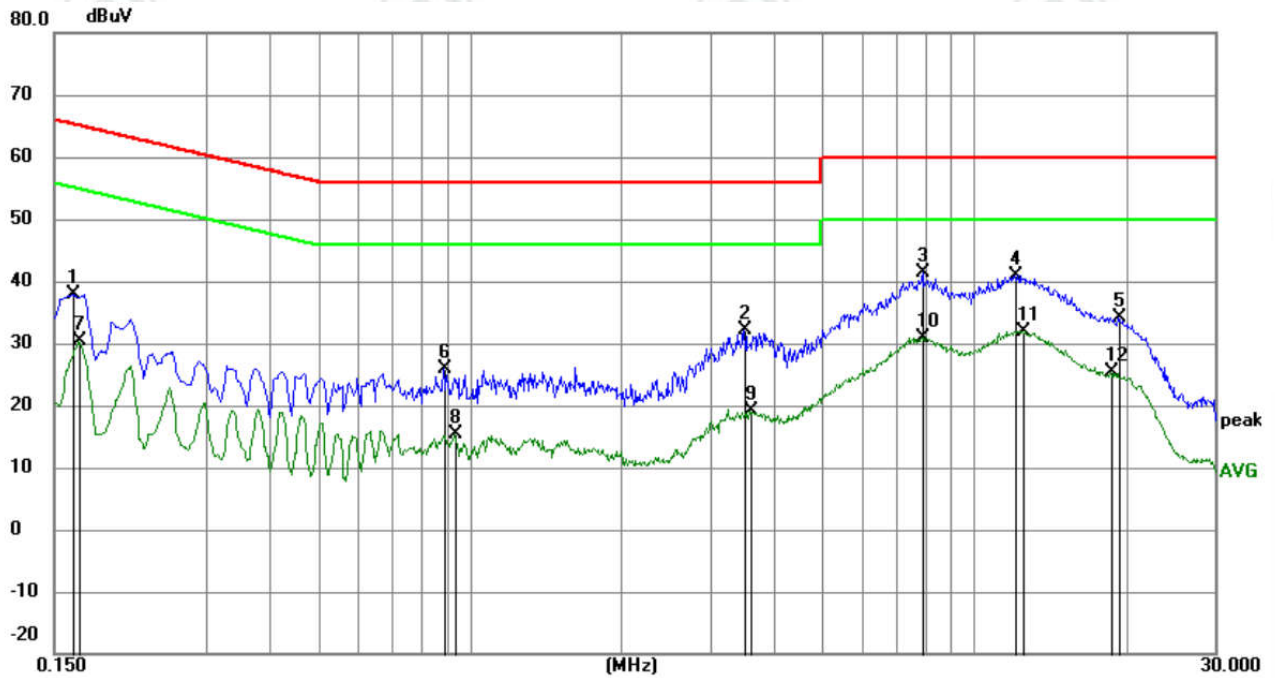


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1635	29.26	9.87	39.13	65.28	-26.15	peak	
2		8.1150	31.01	9.79	40.80	60.00	-19.20	peak	
3		12.4080	32.48	9.85	42.33	60.00	-17.67	peak	
4		19.5540	24.58	9.97	34.55	60.00	-25.45	peak	
5		5.3070	26.10	9.78	35.88	60.00	-24.12	peak	
6		0.2130	25.00	9.90	34.90	63.09	-28.19	peak	
7		0.1680	20.85	9.87	30.72	55.06	-24.34	AVG	
8		0.2085	16.72	9.89	26.61	53.26	-26.65	AVG	
9		5.3610	14.15	9.78	23.93	50.00	-26.07	AVG	
10		8.1780	21.34	9.79	31.13	50.00	-18.87	AVG	
11	*	11.9940	23.21	9.84	33.05	50.00	-16.95	AVG	
12		17.6460	16.15	9.95	26.10	50.00	-23.90	AVG	

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:



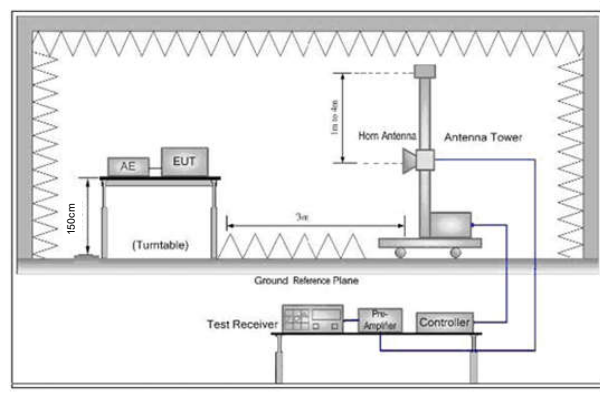
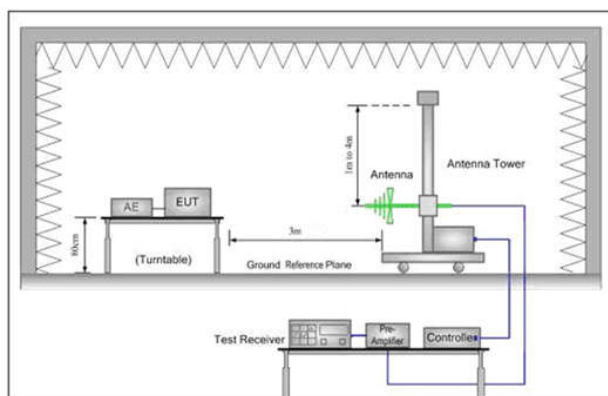
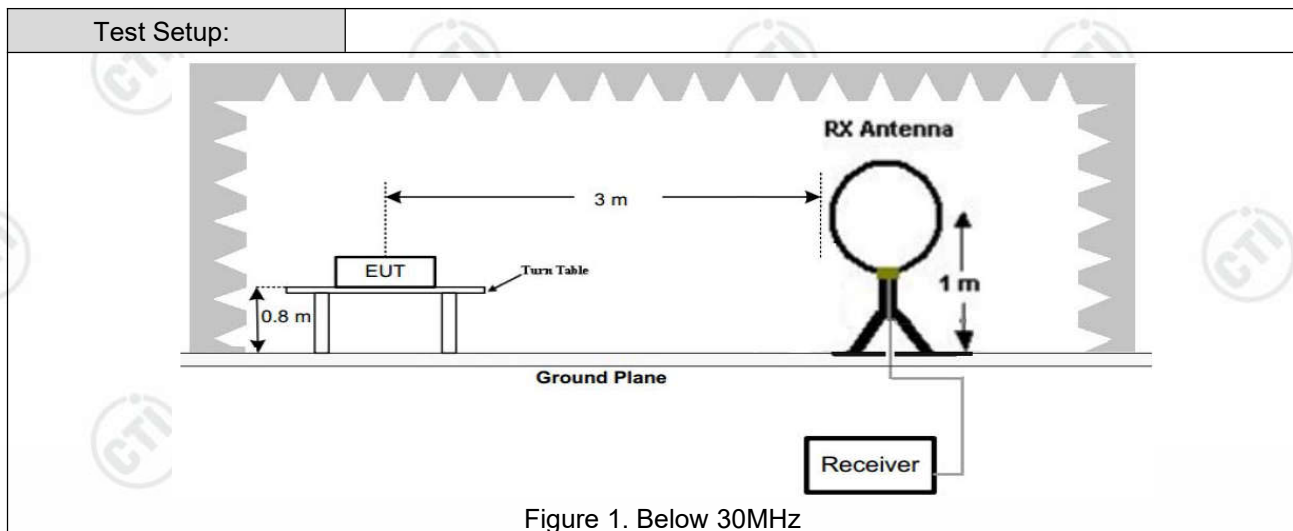
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1635	27.98	9.87	37.85	65.28	-27.43	peak	
2		3.4980	22.46	9.78	32.24	56.00	-23.76	peak	
3		7.8990	31.57	9.79	41.36	60.00	-18.64	peak	
4		12.0255	31.14	9.84	40.98	60.00	-19.02	peak	
5		19.3560	24.25	9.96	34.21	60.00	-25.79	peak	
6		0.8880	16.04	9.85	25.89	56.00	-30.11	peak	
7		0.1680	20.45	9.87	30.32	55.06	-24.74	AVG	
8		0.9375	5.58	9.84	15.42	46.00	-30.58	AVG	
9		3.6015	9.35	9.78	19.13	46.00	-26.87	AVG	
10		7.8990	21.19	9.79	30.98	50.00	-19.02	AVG	
11	*	12.4935	22.12	9.85	31.97	50.00	-18.03	AVG	
12		18.6944	15.36	9.96	25.32	50.00	-24.68	AVG	

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

6.3 Radiated Spurious Emission

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 2013				
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10kHz	Average
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				



Test Procedure:

- 1) Below 1G: The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
 - 2) Above 1G: The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- Note: For the radiated emission test above 1GHz:
- 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.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
 - The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both

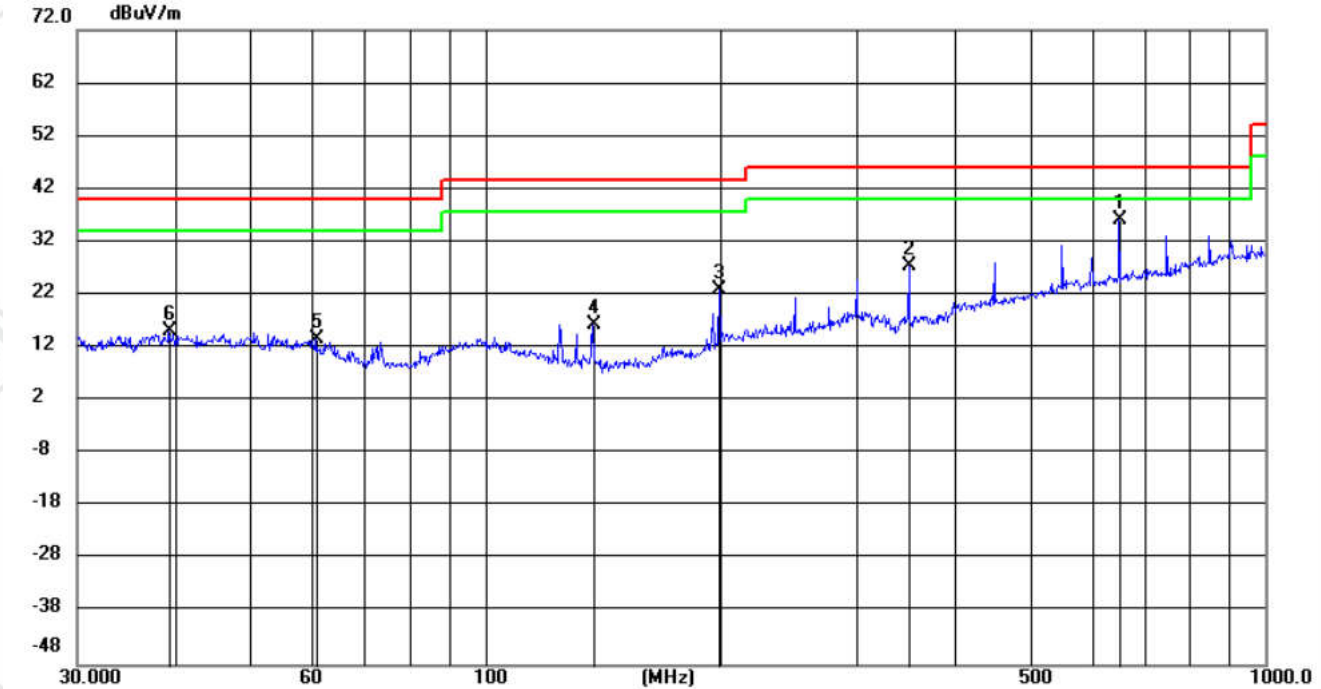
	horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel (2402MHz),the middle channel (2440MHz),the Highest channel (2480MHz) h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete.
Test Mode:	Refer to clause 5.3
Test Results:	Pass

Radiated Spurious Emission below 1GHz:

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes, only the worst case lowest channel of 1Mbps for 802.11b was recorded in the report.

Horizontal:

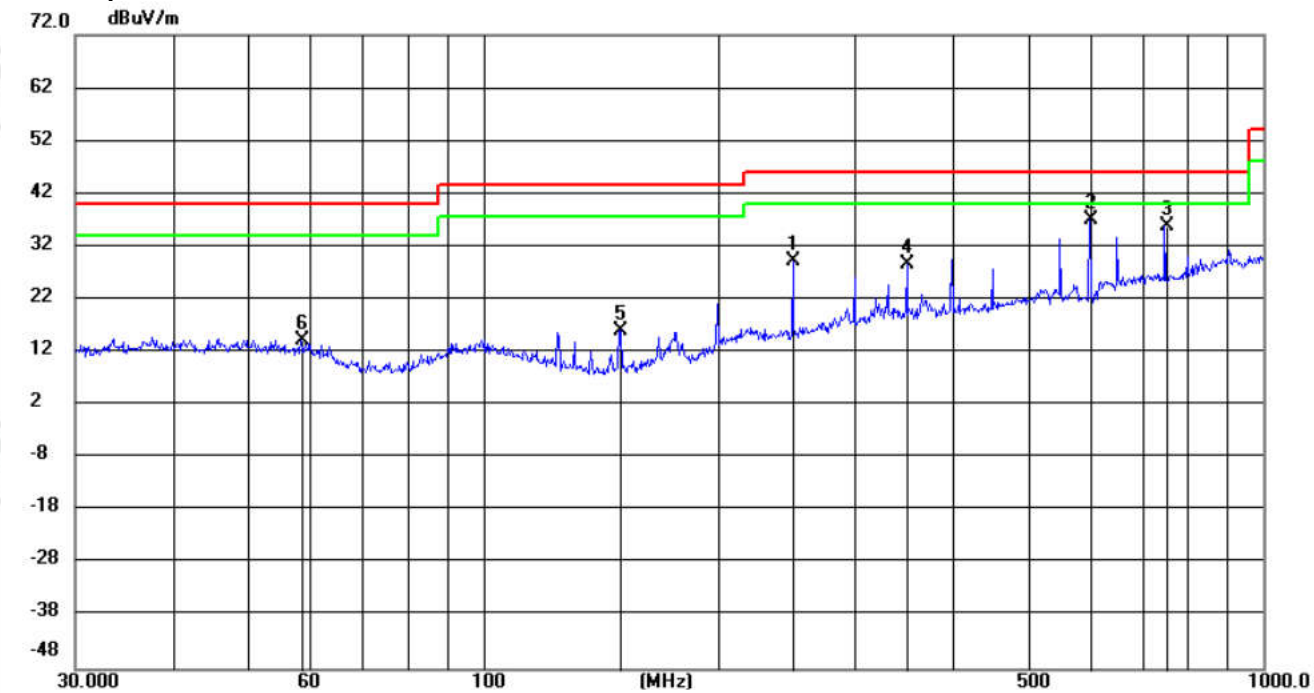
Test Graph



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	650.1154	11.88	24.39	36.27	46.00	-9.73	peak	199	59
2		350.0469	9.17	18.32	27.49	46.00	-18.51	peak	100	7
3		199.9855	9.08	13.78	22.86	43.50	-20.64	peak	100	89
4		137.5166	7.02	9.25	16.27	43.50	-27.23	peak	100	297
5		60.9069	0.52	13.25	13.77	40.00	-26.23	peak	100	286
6		39.3749	0.83	14.42	15.25	40.00	-24.75	peak	199	268

Vertical:

Test Graph



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Antenna Height cm	Table Degree	Comment
1		250.0380	13.80	15.52	29.32	46.00	-16.68	peak	100	352	
2	*	600.0573	12.99	24.03	37.02	46.00	-8.98	peak	100	90	
3		750.1083	10.19	25.57	35.76	46.00	-10.24	peak	100	352	
4		350.0469	10.40	18.32	28.72	46.00	-17.28	peak	100	320	
5		150.0108	6.10	10.08	16.18	43.50	-27.32	peak	100	279	
6		58.6126	0.51	13.67	14.18	40.00	-25.82	peak	100	195	

Radiated Spurious Emission above 1GHz:

Remark: Through Pre-scan, for 20MHz Occupied Bandwidth, 802.11 b mode was the worst case; only the worst case of was recorded in the report.

Mode:			802.11 b Transmitting			Channel:		2412MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1278.6279	1.01	40.23	41.24	74.00	32.76	PASS	H	PK
2	1762.2762	3.15	37.46	40.61	74.00	33.39	PASS	H	PK
3	3618.0412	-20.29	60.47	40.18	74.00	33.82	PASS	H	PK
4	4824.1216	-16.22	53.38	37.16	74.00	36.84	PASS	H	PK
5	6942.2628	-11.82	50.02	38.20	74.00	35.80	PASS	H	PK
6	10345.4897	-6.38	47.15	40.77	74.00	33.23	PASS	H	PK
7	1224.0224	0.86	38.85	39.71	74.00	34.29	PASS	V	PK
8	1733.0733	3.05	37.88	40.93	74.00	33.07	PASS	V	PK
9	3618.0412	-20.29	61.24	40.95	74.00	33.05	PASS	V	PK
10	4824.1216	-16.22	54.67	38.45	74.00	35.55	PASS	V	PK
11	6883.2589	-11.93	50.55	38.62	74.00	35.38	PASS	V	PK
12	9268.4179	-7.92	48.39	40.47	74.00	33.53	PASS	V	PK

Mode:			802.11 b Transmitting			Channel:		2437MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1379.838	1.32	38.31	39.63	74.00	34.37	PASS	H	PK
2	1885.4885	3.92	37.08	41.00	74.00	33.00	PASS	H	PK
3	3655.0437	-20.13	61.03	40.90	74.00	33.10	PASS	H	PK
4	4874.1249	-16.21	52.60	36.39	74.00	37.61	PASS	H	PK
5	5759.1839	-13.72	50.57	36.85	74.00	37.15	PASS	H	PK
6	8566.3711	-10.41	48.21	37.80	74.00	36.20	PASS	H	PK
7	1282.2282	1.01	38.90	39.91	74.00	34.09	PASS	V	PK
8	1737.2737	3.07	39.09	42.16	74.00	31.84	PASS	V	PK
9	3655.0437	-20.13	61.80	41.67	74.00	32.33	PASS	V	PK
10	4896.1264	-16.20	53.55	37.35	74.00	36.65	PASS	V	PK
11	5760.184	-13.71	51.11	37.40	74.00	36.60	PASS	V	PK
12	10089.4726	-7.02	46.62	39.60	74.00	34.40	PASS	V	PK

Mode:			802.11 b Transmitting			Channel:		2462MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1175.8176	0.82	38.78	39.60	74.00	34.40	PASS	H	PK
2	1665.8666	2.71	39.20	41.91	74.00	32.09	PASS	H	PK
3	3693.0462	-19.96	60.00	40.04	74.00	33.96	PASS	H	PK
4	4896.1264	-16.20	53.23	37.03	74.00	36.97	PASS	H	PK
5	7386.2924	-11.53	49.70	38.17	74.00	35.83	PASS	H	PK
6	11781.5854	-6.13	48.16	42.03	74.00	31.97	PASS	H	PK
7	1197.6198	0.80	39.05	39.85	74.00	34.15	PASS	V	PK
8	1793.6794	3.26	38.81	42.07	74.00	31.93	PASS	V	PK
9	3693.0462	-19.96	62.68	42.72	74.00	31.28	PASS	V	PK
10	4896.1264	-16.20	54.92	38.72	74.00	35.28	PASS	V	PK
11	7178.2786	-11.78	49.41	37.63	74.00	36.37	PASS	V	PK
12	11748.5832	-6.18	48.07	41.89	74.00	32.11	PASS	V	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		2412MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1269.4269	0.98	38.65	39.63	74.00	34.37	PASS	H	PK
2	1950.295	4.29	37.17	41.46	74.00	32.54	PASS	H	PK
3	3618.0412	-20.29	58.10	37.81	74.00	36.19	PASS	H	PK
4	4896.1264	-16.20	52.84	36.64	74.00	37.36	PASS	H	PK
5	7748.3166	-11.20	49.41	38.21	74.00	35.79	PASS	H	PK
6	10350.49	-6.37	46.70	40.33	74.00	33.67	PASS	H	PK
7	1279.0279	1.01	39.07	40.08	74.00	33.92	PASS	V	PK
8	1964.4964	4.37	37.64	42.01	74.00	31.99	PASS	V	PK
9	3618.0412	-20.29	60.87	40.58	74.00	33.42	PASS	V	PK
10	4896.1264	-16.20	53.58	37.38	74.00	36.62	PASS	V	PK
11	8018.3346	-11.52	48.22	36.70	74.00	37.30	PASS	V	PK
12	11192.5462	-6.41	47.95	41.54	74.00	32.46	PASS	V	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		2437MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1201.8202	0.80	39.19	39.99	74.00	34.01	PASS	H	PK
2	1596.2596	2.26	39.35	41.61	74.00	32.39	PASS	H	PK
3	3656.0437	-20.12	61.31	41.19	74.00	32.81	PASS	H	PK
4	5000.1333	-15.82	50.53	34.71	74.00	39.29	PASS	H	PK
5	9177.4118	-8.07	48.26	40.19	74.00	33.81	PASS	H	PK
6	12600.64	-4.12	47.30	43.18	74.00	30.82	PASS	H	PK
7	1331.2331	1.16	39.34	40.50	74.00	33.50	PASS	V	PK
8	1892.6893	3.97	37.36	41.33	74.00	32.67	PASS	V	PK
9	3656.0437	-20.12	61.68	41.56	74.00	32.44	PASS	V	PK
10	4896.1264	-16.20	54.03	37.83	74.00	36.17	PASS	V	PK
11	5760.184	-13.71	51.92	38.21	74.00	35.79	PASS	V	PK
12	9823.4549	-7.31	47.03	39.72	74.00	34.28	PASS	V	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		2462MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1145.6146	0.83	39.19	40.02	74.00	33.98	PASS	H	PK
2	1662.4662	2.69	38.90	41.59	74.00	32.41	PASS	H	PK
3	3693.0462	-19.96	64.85	44.89	74.00	29.11	PASS	H	PK
4	4896.1264	-16.20	53.93	37.73	74.00	36.27	PASS	H	PK
5	7386.2924	-11.53	51.17	39.64	74.00	34.36	PASS	H	PK
6	10801.5201	-6.23	47.94	41.71	74.00	32.29	PASS	H	PK
7	1189.0189	0.81	39.09	39.90	74.00	34.10	PASS	V	PK
8	1624.8625	2.45	38.09	40.54	74.00	33.46	PASS	V	PK
9	3693.0462	-19.96	65.07	45.11	74.00	28.89	PASS	V	PK
10	4896.1264	-16.20	55.99	39.79	74.00	34.21	PASS	V	PK
11	5760.184	-13.71	53.35	39.64	74.00	34.36	PASS	V	PK
12	9168.4112	-8.13	48.73	40.60	74.00	33.40	PASS	V	PK

Remark:

- The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- Scan from 9kHz to 25GHz, the disturbance above 10GHz and below 30MHz was very low. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.

7 PHOTOGRAPHS OF TEST SETUP

Refer to Report No.EED32P80561201 Appendix: Photographs of test setup.

8 PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No.EED32P80561201 Appendix: External photo and EED32P80561201
Appendix: Internal photo .

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***