

FCC & ISED Radio Test Report**FCC ID: XGB-CWBB0027****IC: 3879A-CWBB0027****The report concerns: Class II Permissive Change**

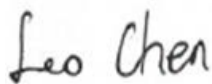
Report Reference No. : 25EFCB10002 11051
Date Sample(s) Received : 2025-10-10
Date of Tested..... : 2025-10-16
Date of issue..... : 2025-10-22
Testing Laboratory : DongGuan ShuoXin Electronic Technology Co., Ltd.
Zone A, 1F, No. 6, XinGang Road YuanGang Street,
Address : XinAn District, ChangAn Town, DongGuan City,
GuangDong, China

Applicant's name : Voyetra Turtle Beach, Inc.
Address : 44 South Broadway, 4th Floor, White Plains NY
10601, USA

Equipment : NSW2 Rematch Wireless Controller
Trade Mark : /
Model : CWBB0027
Ratings : I/P: 5VDC 500mA (Provided by USB-C)
3.7VDC 600mAh (Provided by the battery)

Test Engineer:

Jelena OuYang

Responsible Engineer :

Leo Chen

Authorized Signatory:

Smile Wang

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1 TEST REPORT DECLARE

Applicant for FCC	Voyetra Turtle Beach, Inc
Address for FCC	44 South Broadway, 4th Floor, White Plains NY 10601, USA
Manufacturer	Voyetra Turtle Beach, Inc
Address	44 South Broadway, 4th Floor, White Plains NY 10601, USA
Factory	1. SHENZHEN MYGT CO., LTD. 2. Hank Electronics Vietnam Ltd.
Address	1. D3. Tongfuyu Industrial Area Street Community of Shajing Town, BaoAn 518104 Shenzhen PEOPLE'S REPUBLIC OF CHINA 2. Lot 74B/75A, No.55, Road 11, VSIP Bac Ninh industrial, Urban, and Service Park, Dai Dong Commune, Tien Du District, 16353 Bac Ninh Province, VIETNAM
Equipment	NSW2 Rematch Wireless Controller
Model No.	CWBB0027
Trade Mark	/
Standard	FCC Part15, Subpart C (15.247) RSS-247 Issue 4 July 2025 RSS-Gen Issue 5 February 2021 ANSI C63.10-2020+Cor.1-2023
Issue History	This product has added RGB lights and new appearance colors. The layout of the components and the circuit have also been adjusted accordingly, but these changes will not affect the wireless performance. Therefore, this report only supplements the tests for radiation emission below 1GHz and RF output power. For other data, please refer to the original report 25EFSB08001 09151.

We Declare:

The equipment described above is tested by DongGuan ShuoXin Electronic Technology Co., Ltd(ATT). and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and DongGuan ShuoXin Electronic Technology Co., Ltd.(ATT) is assumed of full responsibility for the accuracy and completeness of these tests.

ATT is not responsible for the sampling stage, so the results only apply to the sample as received.

ATT's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. ATT shall have no liability for any declarations, inferences or generalizations drawn by the client or others from ATT issued reports.

2 SUMMARY OF TEST RESULTS

The EUT have been tested according to the applicable standards as referenced below:

Standard(s) Section		Test Item	Judgment	Remark
FCC	ISED			
15.207	RSS-Gen 8.8	AC Power Line Conducted Emissions	N/A	-----
15.247(d) 15.205(a) 15.209(a)	RSS-247 7.3 RSS-Gen 7.3 RSS-Gen 8.9 RSS-Gen 8.10	Radiated Emission	PASS	-----
15.247(a)(1)(iii)	RSS-247 6.2.3.1 (b)	Number of Hopping Frequency	N/A	-----
15.247(a)(1)(iii)	RSS-247 6.2.3.1 (b)	Average Time Of Occupancy	N/A	-----
15.247(a)(1)	RSS-247 6.2.3.1 (a)	Hopping Channel Separation	N/A	-----
15.247(a)(1)	RSS-247 6.2.3.1 (a) RSS-Gen 6.7	Bandwidth	N/A	-----
15.247(a)(1)	RSS-247 6.2.3.1 (a)	Maximum Output Power	N/A	-----
15.247(d)	RSS-247 6.6	Conducted Spurious Emission	N/A	-----
-	RSS-Gen 6.11	Frequency Stability	N/A	-----
15.203	-	Antenna Requirement	PASS	Note(2)

Note:

- (1) "N/A" denotes test is not applicable in this test report
- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

2.1 MEASUREMENT UNCERTAINTY

Test Item	Uncertainty
Uncertainty for Conduction emission test (9kHz-150kHz)	3.7 dB
Uncertainty for Conduction emission test (150kHz-30MHz)	3.3 dB
Uncertainty for Radiation Emission test (30MHz-200MHz)	4.60 dB (Polarize: V)
	4.60 dB (Polarize: H)
Uncertainty for Radiation Emission test (200MHz-1GHz)	6.10 dB (Polarize: V)
	5.08 dB (Polarize: H)
Uncertainty for Radiation Emission test (1GHz-6GHz)	5.01 dB (Polarize: V)
	5.01 dB (Polarize: H)
Uncertainty for Radiation Emission test (6GHz-18GHz)	5.26 dB (Polarize: V)
	5.26 dB (Polarize: H)
Uncertainty for Radiation Emission test (18GHz-40GHz)	5.06 dB (Polarize: V)
	5.06 dB (Polarize: H)
Uncertainty for radio frequency	$\pm 0.048\text{kHz}$
Uncertainty for conducted RF Power	$\pm 0.32\text{dB}$

Note:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Test Facility:

The Test site used by DongGuan ShuoXin Electronic Technology Co., Ltd. to collect test data is located on the Zone A, 1F, No. 6, XinGang Road YuanGang Street, XinAn District, ChangAn Town, DongGuan City, GuangDong, China

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

Item	Registration No.	Expiration Date
CNAS	L3098	2030-08-27
A2LA	4893.01	2026-06-30
Innovation, Science and Economic Development Canada (ISED)	11033A CAB identifier: CN0083	2026-06-30
Federal Communications Commission (FCC)	171688 Designation No.: CN1235	2026-06-30

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	NSW2 Rematch Wireless Controller	
Brand Name	/	
Test Model	CWBB0027	
Series Model	N/A	
Model Difference(s)	N/A	
Hardware Version	1.0	
Software Version	1.0	
Power Source	Supplied from USB-C or Battery	
Power Rating	5VDC 500mA (Provided by USB-C); 3.7VDC 600mAh (Provided by the battery)	
Operation Frequency	2402 MHz ~ 2480 MHz	
Modulation Technology	GFSK, $\pi/4$ -DQPSK, 8-DPSK	
Bit Rate of Transmitter	1Mbps /2Mbps /3Mbps	
Antenna Information	Antenna Type: PCB	Maximum Peak Gain: 1.63dBi
Max. Output Power	1Mbps: 1.110dBm (0.001291W) 2Mbps: 2.973dBm (0.001983W) 3Mbps: 3.371dBm (0.002173W)	
Max. EIRP	1Mbps: 2.740dBm (0.001879W) 2Mbps: 4.603dBm (0.002886W) 3Mbps: 5.001dBm (0.003163W)	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

3.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX Mode NOTE (1)
Mode 2	TX Mode Channel 01_3Mbps

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 2	TX Mode Channel 01_3Mbps

Note:

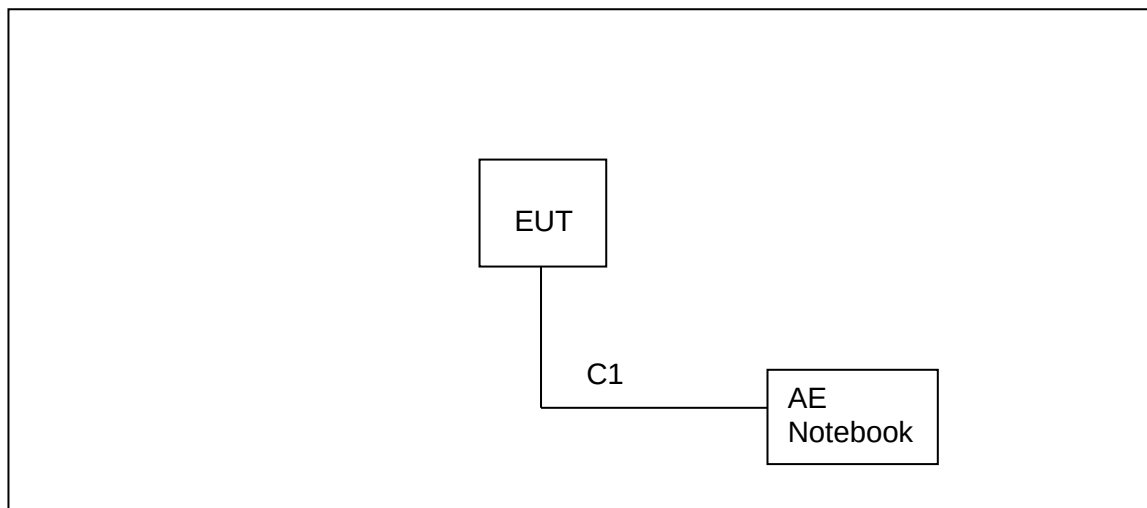
- (1) The measurements are performed at the high, middle, low available channels.
- (2) The measurements for Hopping Channel Separation, Bandwidth and Maximum Output Power were tested during 1Mbps, 2Mbps and 3Mbps, the worst case are 1Mbps and 3Mbps, only worst case was documented.

3.3 PARAMETERS OF TEST SOFTWARE

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

Test Software	CyBlueTool		
Frequency (MHz)	2402	2441	2480
Parameters(1Mbps)	Default	Default	Default
Parameters(3Mbps)	Default	Default	Default

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
AE	Notebook	Lenovo	/	/

Item	Cable Type	Shielded Type	Ferrite Core	Length
C1	USB-C Cable	NO	NO	1.0m

3.6 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage
Radiated Emissions-30 MHz to 1GHz	25.8°C	65.1%	DC 5V

4 RADIATED EMISSION TEST

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a) & RSS-Gen 8.10, then the 15.209(a) & RSS-Gen 8.9 limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-1000MHz)

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

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-30 MHz)

Frequency (MHz)	Magnetic field strength (H-Field) (μ A/m)	Measurement Distance (meters)
0.009-0.490	6.37/F(kHz)	300
0.490-1.705	6.37/F(kHz)	30
1.705-30.0	0.08	30

LIMITS OF RADIATED EMISSION MEASUREMENT (30 MHz-1000MHz)

Frequency (MHz)	Field Strength (μ V/m at 3m)
30-88	100
88-216	150
216-960	200
Above 960	500

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

Note:

- (1) The limit for radiated test was performed according to FCC PART 15C and RSS-247.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

4.2 TEST PROCEDURE AND SETTING

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. 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 find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. The test result is calculated as the following:
 - (1) Result = Reading + Correct Factor
 - (2) Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain + Attenuator
 - (3) Margin = Result - Limit

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	RBW 1MHz VBW 3MHz peak detector for Pk value RMS detector for AV value

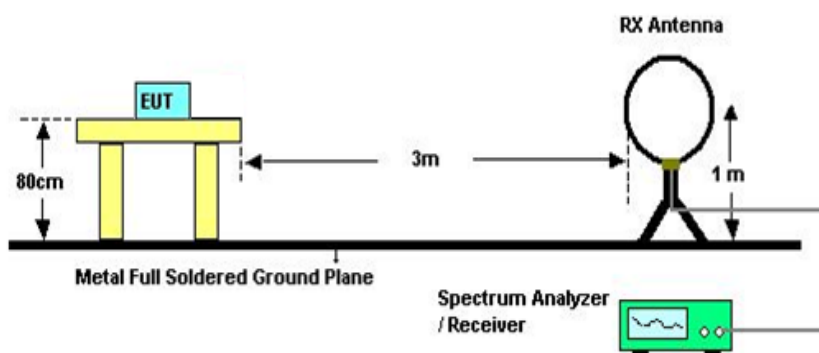
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

4.3 MEASUREMENT INSTRUMENTS LIST

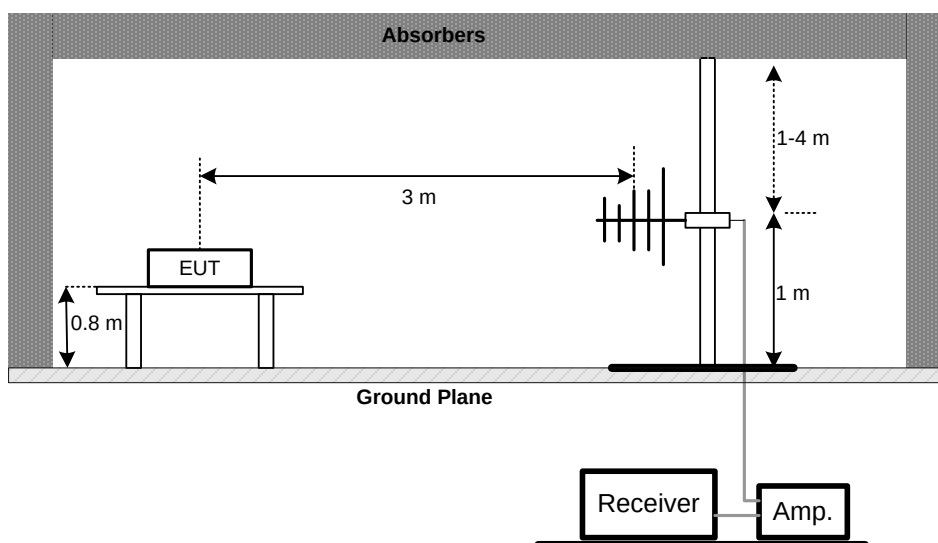
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	101307	05/20/2026
2	Spectrum Analyzer	Agilent	E4407B	US40240708	11/17/2025
3	Loop antenna	SCHWARZBECK K	FMZB1519	1519-062	04/01/2028
4	Broadband antenna	SCHWARZBECK	VULB9168	VULB9168-192	03/28/2026
5	HORN ANTENNA	SCHWARZBECK	BBHA9120D	9120D 1065	03/27/2026
6	Preamplifier Amplifier	HP	8447F	3113A05680	11/17/2025
7	PRE-AMPLIFIER	EMEC	EM01G26G	980136	03/27/2026
8	RF Cable	R&S	Test Cable 4	4	11/17/2025
9	RF Cable	R&S	Test Cable 5	5	11/17/2025
10	RF Cable	R&S	Test Cable 9	9	03/27/2026
11	RF Cable	R&S	Test Cable 10	10	03/27/2026
12	Measurement Software	Farad	EZ-EMC (Ver.ATT-03A)	N/A	N/A

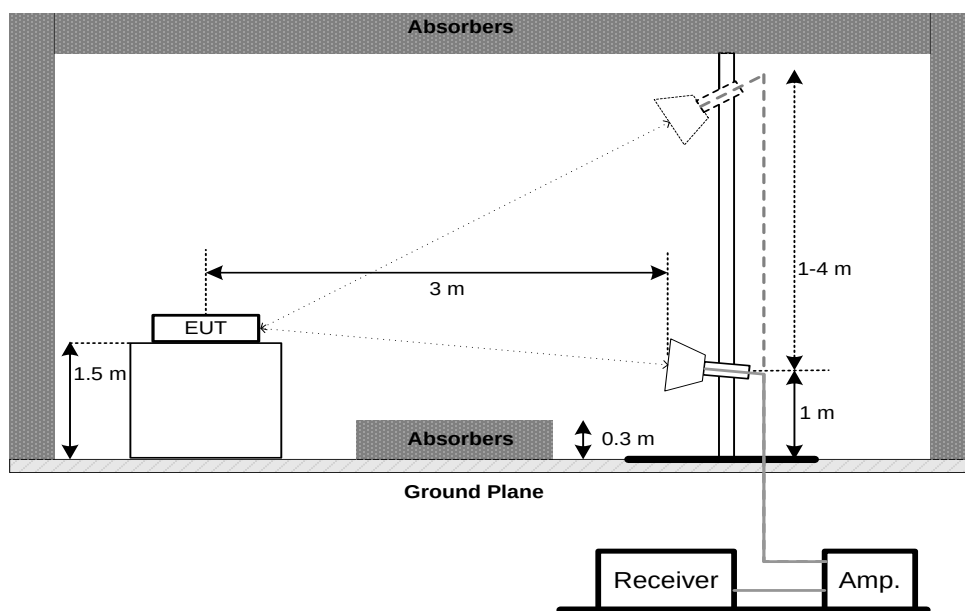
4.4 TESTSETUP

9 kHz-30 MHz



30 MHz to 1 GHz



Above 1 GHz**4.5 EUT OPERATING CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULTS - 9 kHz TO 30MHz

Test Mode:	TX Mode Channel 01 _3Mbps
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Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	P
--	--	--	--	P

Note:

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

Distance extrapolation factor = $20 \log (\text{specific distance/test distance})(\text{dB})$;

Limit line = specific limits(dBuv) + distance extrapolation factor

4.7 TEST RESULTS- 30 MHz TO 1000MHz

Test Mode: TX Mode Channel 01 _3Mbps

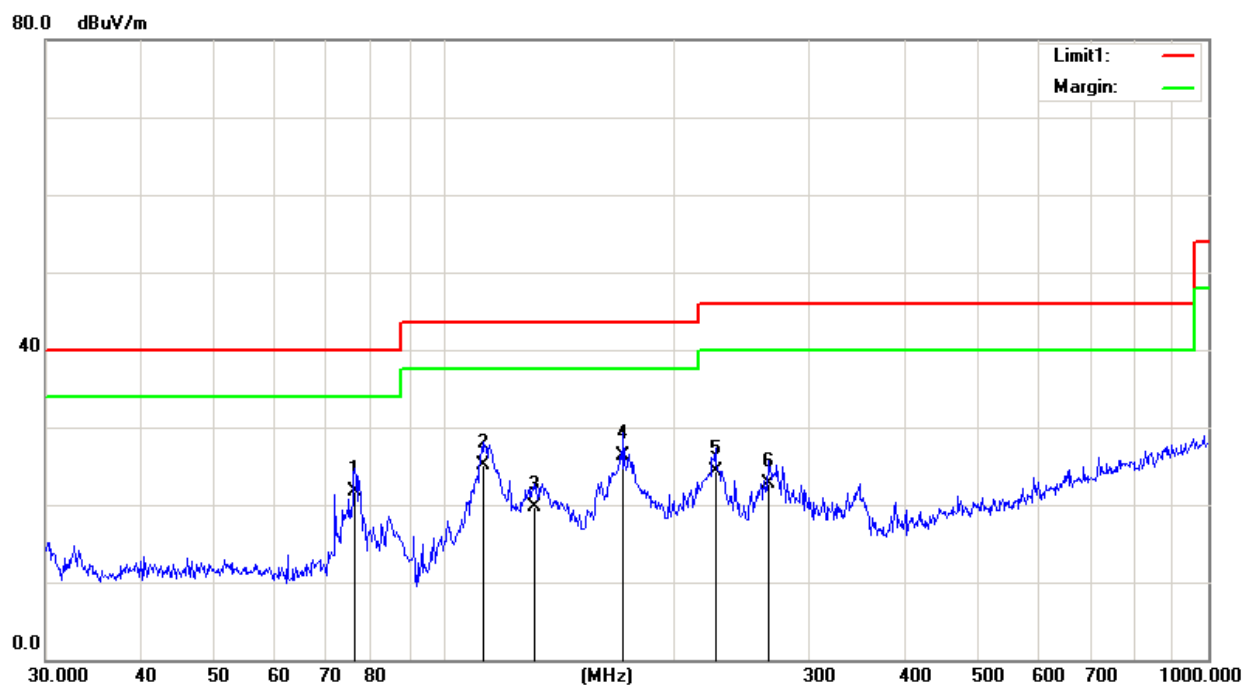
Vertical



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1	33.7986	40.80	-14.69	26.11	40.00	-13.89	QP	100	239	
2	77.3212	39.57	-16.04	23.53	40.00	-16.47	QP	100	358	
3 *	112.9196	49.01	-14.49	34.52	43.50	-8.98	QP	100	327	
4	171.3926	38.60	-12.08	26.52	43.50	-16.98	QP	100	306	
5	225.3080	35.29	-13.56	21.73	46.00	-24.27	QP	100	314	
6	267.5455	33.07	-11.41	21.66	46.00	-24.34	QP	100	289	

Test Mode: TX Mode Channel 01 _3Mbps

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Antenna Height cm	Table Degree	Comment
1		76.2442	37.81	-16.14	21.67	40.00	-18.33	QP	100	81
2		112.5244	39.50	-14.45	25.05	43.50	-18.45	QP	100	79
3		131.2965	32.13	-12.37	19.76	43.50	-23.74	QP	100	1
4	*	171.3926	38.44	-12.08	26.36	43.50	-17.14	QP	100	12
5		226.0994	37.90	-13.52	24.38	46.00	-21.62	QP	100	56
6		265.6757	34.03	-11.39	22.64	46.00	-23.36	QP	100	236

END OF TEST REPORT