

Certificate #5376.01



**EUROFINS ELECTRICAL TESTING SERVICE (SHENZHEN) CO., LTD.** 

# RADIO TEST - REPORT

**FCC&ISED Compliance Test Report** 

**Product name: Smart Hub** 

Model name: AMP Bridge WIFI/Ethernet to RF V1

FCC ID: 2AU29AMPSNHUBV1

IC: 25624-AMPSNHUBV1

Test Report Number: EFGX23090181-IE-01-E02



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## 1 General Information

#### 1.1 Notes

The results of this test report relate exclusively to the item tested as specified in chapter "Description of test item" and are not transferable to any other test items.

Eurofins Product Testing Service (Shenzhen) Co., Ltd. is not responsible for any generalisations and conclusions drawn from this report. Any modification of the test item can lead to invalidity of test results and this test report may therefore be not applicable to the modified test item.

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Operator:				
2023-12-25		Bruce Zheng / Project Engineer	Inve Zhong	
Date	Eurofins-Lab.	Name / Title	Signature	
Technical r	esponsibility for area	a of testing:		
2023-12-25		Albert Xu / Lab Manager	After In	
Date	Eurofins-Lab.	Name / Title	Signature	



## 1.2 Testing laboratory

#### Eurofins Electrical Testing Service (Shenzhen) Co., Ltd.

1st Floor, Building 2, Chungu, Meisheng Huigu Science and Technology Park, No. 83 Dabao Road, Bao'an District, Shenzhen. P.R.China.

Telephone : +86-755-82911867 Fax : +86-755-82910749

The Laboratory has passed the Accreditation by the American Association for Laboratory Accrediation

(A2LA). The Accreditation number is 5376.01

The Laboratory has been listed by industry Canada to perform electromagnetic emission

measurements, The CAB identifier is CN0088

## 1.3 Details of approval holder

Name : Turnils North America

Address : 1750 Satellite Blvd, Suite 100, Buford GA 30518,

United States

Telephone : ./. Fax : ./.

#### 1.4 Details of Manufacturer

Name : Turnils North America

Address : 1750 Satellite Blvd, Suite 100, Buford GA 30518,

**United States** 

Telephone : ./. Fax : ./.

## 1.5 Application details

Date of receipt of application : 2023-09-14 Date of receipt of test item : 2023-09-14

Date of test : 2023-09-14 to 2023-10-23

Date of issue : 2023-12-25

#### 1.6 Test item

Product type : Smart Hub

Model name : AMP Bridge WIFI/Ethernet to RF V1

Sample ID : 230915-02-001

Brand : ./.
Serial number : ./.

Ratings : USB 5V DC Test voltage : USB 5V DC

FCC ID : 2AU29AMPSNHUBV1 IC : 25624-AMPSNHUBV1

PMN : Smart Hub

HVIN : AMP Bridge WIFI/Ethernet to RF V1

Additional information : ./.



#### RadioTechnical data

Frequency range : 433.92MHz

Radio Tech. : N/A

Frequency channel : 1 Channel Modulation : GFSK

Antenna type : PCB antenna



#### 1.7 Test standards

Test Standards			
FCC Part 15 Subpart C	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators		
RSS-210 Issue 10 December 2019	Licence-Exempt Radio Apparatus: Category I Equipment		
RSS-GEN Issue 5 February 2021	RSS-Gen — General Requirements for Compliance of Radio Apparatus		

#### **Test Method**

1: ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz. 2: ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices.



## 2 Technical test

#### 2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.	
or	
The deviations as specified were ascertained in the course of the tests performed.	

#### 2.2 Test environment

Temperature : 20 ... 25°C

Relative humidity content : 30 ... 60%

Air pressure : 100 ... 101kPa

## 2.3 Measurement uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

System Measurement Uncertainty			
Test Items	Extended Uncertainty		
Uncertainty for Conducted RF test	RF Power Conducted: 1.16dB Frequency test involved:		
	1.05×10-7 or 1%		
Uncertainty in conducted measurements	1.96dB		
Uncertainty for Radiated Spurious Emission 25MHz-3000MHz	Horizontal: 4.46dB;		
	Vertical: 4.54dB;		
Uncertainty for Radiated Spurious Emission 3000MHz-18000MHz	Horizontal: 4.42dB;		
	Vertical: 4.41dB;		
Uncertainty for Radiated Spurious Emission 18000MHz-	Horizontal: 4.63dB;		
40000MHz	Vertical: 4.62dB;		

#### 2.4 Test mode

The EUT was set at continuously transmitting during the test.



## 2.5 Test equipment utilized

EQUIPMENT ID	EQUIPMENT NAME	MODEL NO.	CAL. DUE DATE
23-2-13-05	EMI Test Receiver	ESR3	2024-03-21
23-2-13-06	LISN	NNLK 8127 RC	2024-03-21
23-2-10-16	Attenuator	VTSD 9561-F	2024-03-21
23-2-13-01	EMI Test Receiver	ESR7	2024-03-22
23-2-13-02	Signal Analyzer	N9020B-544	2024-03-22
23-2-12-01	Active Loop Antenna	FMZB 1519B	2024-03-22
	TRILOG Broadband		2024-05-29
23-2-12-02	Antenna	VULB9168	
23-2-12-03	Horn Antenna	3117	2024-05-29
23-2-12-04	Horn Antenna	BBHA 9170	2024-05-29
23-2-10-01	Preamplifier	BBV9745	2024-03-22
23-2-10-02	Preamplifier	EMC001330	2024-03-22
23-2-10-03	Preamplifier	EMC051845SE	2024-03-22
23-2-10-14	Switch and Control Unit	ERIT-E-JS0806-SF1	N/A

2.6 Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.	S/N
N/A	N/A	N/A	N/A

#### 2.7 Test software information

Test Software Version	N/A		
Modulation	Setting TX Power	TX Pattern	Packet Type
GFSK	Default	Default	Default

2.8 Customized Configurations

EUT Conf.	Signal Description	Operating Frequency	Duty Cycle
TM1	GFSK	433.92MHz	100%

### 2.9 Test Environments

Enviroment Parameter	Temperature	Voltage	Relative Humidity
101.7Kpa	26.5℃	5V DC	68.3%



## 2.10 Test results

		Technical Requirements			
FCC Part 15 Su	bpart C/ RSS-210 Iss	sue 9/RSS-Gen Issue 5			
Test Condition			Test Result	Verdict	Test Site
§15.207	RSS-GEN 8.8	Conducted emission AC power port	See page 10	Pass	Site 1
§15.231(a)(1)	RSS-210 A1.1	Automatically Deativate	See page 13	Pass	Site 1
§15.231(b)(3)	RSS-210 A1.2	Field strength of fundamental	See page 21	Pass	Site 1
§15.231(b)(3) §15.209 & §15.205	RSS-210 A1.2 RSS-GEN 6.13 RSS-GEN 8.9 RSS-GEN 8.10	Field strength of spurious emission	See page 21	Pass	Site 1
§15.231(c)		-20dB Bandwidth	See page 15	Pass	Site 1
	RSS-GEN 6.7	99% Occupied Bandwidth	See page 15	Pass	Site 1
§15.203	RSS-GEN 6.8	Antenna requirement	See note 1	Pass	

Remark 1: N/A – Not Applicable.

Note 1: The EUT uses internal antenna, According to §15.203/ RSS-GEN 6.8, it is considered sufficiently to comply with the provisions of this section.



## 3 Technical Requirement

#### 3.1 Conducted Emission

#### **Test Method:**

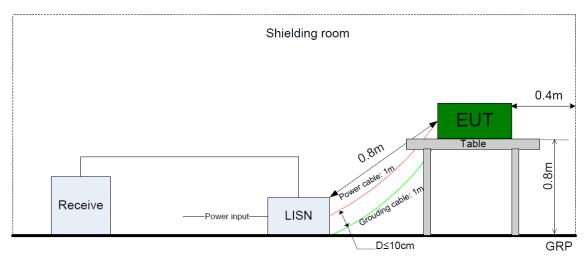
The test method was referred to the subclause 5.2 of ANSI C63.4-2014.

- 1. The EUT was placed on a table, which is 0.8m above ground plane
- 2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
- 3. Maximum procedure was performed to ensure EUT compliance
- 4. A EMI test receiver is used to test the emissions from both sides of AC line

#### **Test Setup:**

The mains cable of the EUT (per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.1 m.



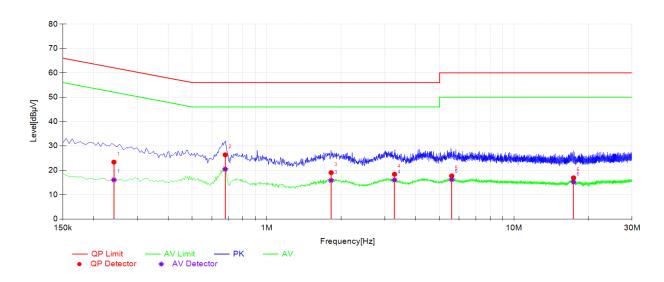
#### Limit:

Frequency	QP Limit	AV Limit
MHz	dΒμV	dΒμV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linear.



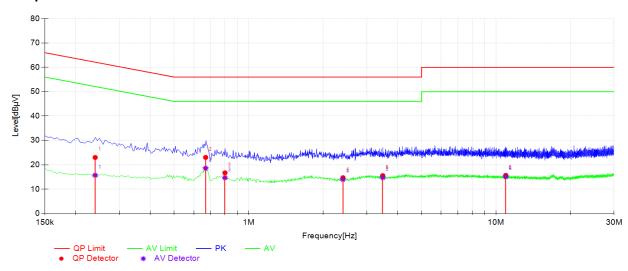
## **Test Result:**



Final D	Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Туре	Verdict
1	0.2411	10.26	23.37	62.06	38.69	16.08	52.06	35.98	L1	PASS
2	0.6797	10.28	26.36	56.00	29.64	20.48	46.00	25.52	L1	PASS
3	1.8217	10.29	19.04	56.00	36.96	15.87	46.00	30.13	L1	PASS
4	3.2869	10.30	18.38	56.00	37.62	16.05	46.00	29.95	L1	PASS
5	5.5969	10.37	17.73	60.00	42.27	16.23	50.00	33.77	L1	PASS
6	17.4052	10.56	16.93	60.00	43.07	15.23	50.00	34.77	L1	PASS



#### **Test Graph**



Final D	Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Type	Verdict
1	0.2394	10.26	23.02	62.12	39.10	15.71	52.12	36.41	N	PASS
2	0.6695	10.28	23.05	56.00	32.95	18.61	46.00	27.39	N	PASS
3	0.8016	10.27	16.72	56.00	39.28	14.69	46.00	31.31	N	PASS
4	2.4049	10.31	14.73	56.00	41.27	14.01	46.00	31.99	N	PASS
5	3.4818	10.37	15.58	56.00	40.42	14.77	46.00	31.23	N	PASS
6	10.9457	10.46	15.70	60.00	44.30	15.07	50.00	34.93	N	PASS



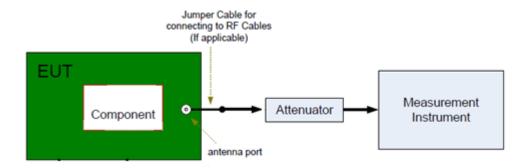
#### 3.2 Automatically Deativate

#### **Test Method**

- 1. Connect EUT test port to spectrum analyzer.
- 2. Set the EUT to transmit maximum output power at 433.92MHz.
- 3. RBW=1MHz, VBW≥3RBW, Span=0MHz, Sweep = 10s, Detector function = Average, Sweep time = single
- Remark transmission time and record test plot.

#### **Test Setup:**

The component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The press a button of the EUT is to emit the specified signals for the purpose of measurements.



#### Limits:

According to §15.231 (a) (1) & RSS-210 A1.1, automatically deactivate limit as below:

A manually operated transmitter shall be equipped with a push-to-operate switch and be under manual control at all times during transmission. When released, the transmitter shall cease transmission within no more than 5 seconds of being released.



#### **Test Data:**

Time of Transmitting (s)	Limit (sec)	Result
4.22	5	Pass



**Test Result: Pass** 



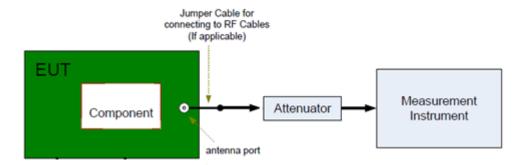
#### 3.3 20dB bandwidth

#### **Test Method:**

- 1. Connect EUT test port to spectrum analyzer.
- 2. Set the EUT to transmit maximum output power at 433.92MHz.
- 3. Then set the EUT to transmit at high, middle and low frequency separately.
- 4. Set Span = approximately 1.5 to 5 times the 99% bandwidth.
- 5. Set RBW  $\geq$  1% to 5% of the 99% bandwidth, VBW :  $3\times$  RBW.
- 6. Set Sweep = auto.
- 7. Set Detector function = Peak.
- 8. Allow the trace to stabilize.
- 9. Repeat above procedures until all frequencies measured were complete.

#### **Test Setup:**

The component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The press a button of the EUT is to emit the specified signals for the purpose of measurements.



#### Limit:

According to §15.231 (c), automatically deactivate limit as below:

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz.

According to RSS-GEN 6.7, no limit for 99% bandwidth



#### **Test Result**

20dB Bandwidth (KHz)	99% Bandwidth (KHz)	Limit (KHz)	Result
82.51	79.84	1084.80	Pass





## 3.4 Field strength of fundamental, Field strength of spurious emission for transmitter and Restricted bands

#### **Test Method:**

- 1: The EUT was place on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2: The EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 3: The height of antenna 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.
- 4: 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 5: Use the following spectrum analyzer settings According to C63.10:

For Above 1GHz

Span = wide enough to capture the peak level of the in-band emission and all spurious RBW = 1MHz, VBW≥RBW for peak measurement and VBW = 10Hz for average measurement, Sweep = auto, Detector function = peak, Trace = max hold.

For Below 1GHz

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious RBW = 100 KHz, VBW≥RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

For Below 30MHz

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious RBW = 200 Hz, VBW ≥ RBW from 9KHz to 0.15MHz, RBW 9KHz VBW ≥ RBW from 0.15MHz to 30MHz for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

#### Note:

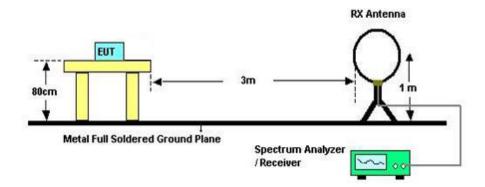
- 1: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for peak detection (PK) at frequency above 1GHz.
- 3: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average ((duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (20log(1/duty cycle)).
- 4: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.

#### **Test Setup:**

#### Test Setup 1: Radiated Emission test below 30MHz

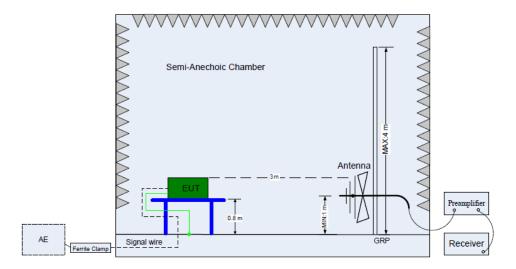
The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.4. The test distance is 3m. The setup is according to ANSI C63.4.





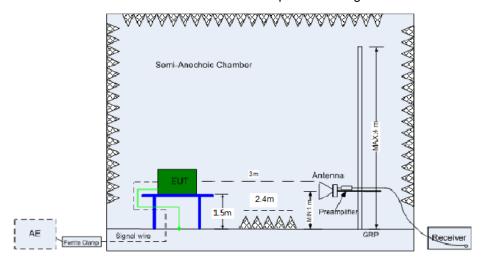
#### Test Setup 2: Radiated Emission test below 1GHz

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.4. The test distance is 3m. The setup is according to ANSI C63.4.



#### Test Setup 3: Radiated Emission test above 1GHz

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.4. The test distance is 3m. The setup is according to ANSI C63.4.





#### Limit:

Radiated emissions which fall in the restricted bands, as defined in section15.205, must comply with the radiated emission limits specified in section 15.209.

#### § 15.209

Frequency	Field Strength	Field Strength	Detector
MHz	uV/m	dBμV/m	
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

#### §15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41			

#### **RSS-GEN 8.10**

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	1660 - 1710	9.0 - 9.2
0.495 - 0.505	16.69475 - 16.69525	1718.8 - 1722.2	9.3 - 9.5
2.1735 - 2.1905	25.5 - 25.67	2200 - 2300	10.6 - 12.7
3.020 - 3.026	37.5 - 38.25	2310 - 2390	13.25 - 13.4
4.125 - 4.128	73 - 74.6	2483.5 - 2500	14.47 - 14.5
4.17725 - 4.17775	74.8 - 75.2	2655 - 2900	15.35 - 16.2
.20725 - 4.20775	108 – 138	3260 - 3267	17.7 - 21.4
5.677 - 5.683	149.9 - 150.05	3332 - 3339	22.01 - 23.12
6.215 - 6.218	156.52475 - 156.52525	3345.8 - 3358	23.6 - 24.0
6.26775 - 6.26825	156.7 - 156.9	3500 - 4400	31.2 - 31.8
6.31175 - 6.31225	162.0125 - 167.17	4500 - 5150	36.43 - 36.5
8.291 - 8.294	167.72 - 173.2	5350 - 5460	Above 38.6
8.362 - 8.366	240 – 285	7250 - 7750	
8.37625 - 8.38675	322 - 335.4	8025 - 8500	
8.41425 - 8.41475	399.9 - 410		
12.29 - 12.293	608 - 614		_
12.51975 - 12.52025	960 - 1427		



## §15.231 (b) In addition to the provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	2,250	225
70-130	1,250	125
130-174	<sup>1</sup> 1,250 to 3,750	<sup>1</sup> 125 to 375
174-260	3,750	375
260-470	<sup>1</sup> 3,750 to 12,500	<sup>1</sup> 375 to 1,250
Above 470	12,500	1,250

RSS-210 A1.2 (b) Unwanted emissions shall be 10 times below the fundamental emissions field strength limits in Table A1 or comply with the limits specified in RSS-Gen, whichever is less stringent.

Fundamental Frequency (MHz), Excluding Restricted Frequency Bands Specified in RSS- Gen	Field Strength of the Fundamental Emissions (µV/m at 3m)
70-130	1,250
130-174	1,250 to 3,750*
174-260 (Note 1)	3,750
260-470 (Note 1)	3,750 to 12,500*
Above 470	12,500

<sup>\*</sup> Linear interpolation with frequency, f, in MHz:

For 130-174 MHz: Field Strength ( $\mu$ V/m) = (56.82 × f)-6136 For 260-470 MHz: Field Strength ( $\mu$ V/m) = (41.67 × f)-7083

**Note 1:** Frequency bands 225-328.6 MHz and 335.4-399.9 MHz are designated for the exclusive use of the Government of Canada. Manufacturers should be aware of possible harmful interference and degradation of their licence-exempt radio equipment in these frequency bands.

#### Field Strength of the Fundamental Emissions

The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit.

Fundamental Average (dBµV/m) = 80.82dBuV/m (Average)

Fundamental Peak  $(dB\mu V/m) = 80.82dBuV/m + 20 = 100.82dBuV/m$ 

#### Field Strength of the Spurious Emissions

The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit.

Fundamental Average ( $dB\mu V/m$ ) = 60.82dBuV/m (Average)

Fundamental Peak  $(dB\mu V/m) = 60.82dBuV/m + 20 = 80.82dBuV/m$ 

#### Remark:

- (1) "\*" means the emission(s) appear within the restrict bands shall follow the requirement of section 15.205.
- (2) Data of measurement within this frequency range shown "--" in the table above means the reading of emissions are the noise floor or attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Above 1GHz: Corrector factor = Antenna Factor + Cable Loss Amplifier Gain.
- (4) Below 1GHz: Corrector factor = Antenna Factor + Cable Loss Amplifier Gain.



(5) Note: The low frequency, which started from 9 kHz to 30MHz with X/Y/Z axis, was prescanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.



## Field Strength of the Fundamental Emissions PK

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	433.92	78.64	-5.61	100.82	22.18	100	43	Horizontal	PASS
2	433.92	78.86	-5.61	100.82	21.96	100	84	Vertical	PASS

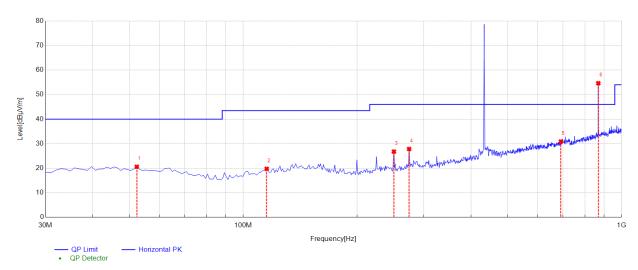
According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Result of PK=Reading Level +Antenna Factor + Cable Loss - Amplifier Gain.

Result of AV= Reading Level +Antenna Factor + Cable Loss - Amplifier Gain+Duty factor.



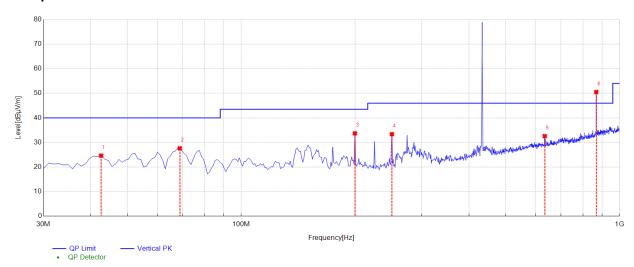
#### Field strength of spurious emission for transmitter 30MHz – 1GHz



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	52.3100	20.62	-9.38	40.00	19.38	100	250	Horizontal	PASS
2	115.360	19.77	-11.40	43.50	23.73	100	190	Horizontal	PASS
3	250.190	26.80	-10.46	46.00	19.20	100	90	Horizontal	PASS
4	274.440	27.85	-9.55	46.00	18.15	100	82	Horizontal	PASS
5	691.540	30.91	-0.46	46.00	15.09	100	236	Horizontal	PASS
6	868.080	54.65	3.05	80.82	26.17	100	51	Horizontal	PASS



## **Test Graph**



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	42.6100	24.66	-9.06	40.00	15.34	100	137	Vertical	PASS
2	68.8000	27.63	-11.69	40.00	12.37	100	252	Vertical	PASS
3	199.750	33.73	-12.76	43.50	9.77	100	350	Vertical	PASS
4	250.190	33.38	-10.46	46.00	12.62	100	175	Vertical	PASS
5	634.310	32.59	-1.42	46.00	13.41	100	117	Vertical	PASS
6	868.080	50.50	3.05	80.82	30.32	100	78	Vertical	PASS



Field strength of spurious emission for transmitter above 1GHz According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	1301.5344	65.72	39.48	-26.24	74.00	34.52	150	201	Horizontal	PASS
2	2168.7792	63.16	42.00	-21.16	74.00	32.00	150	42	Horizontal	PASS
3	2603.7358	67.40	47.38	-20.02	74.00	26.62	150	74	Horizontal	PASS
4	3038.6925	61.13	41.56	-19.57	74.00	32.44	150	145	Horizontal	PASS
5	3756.5043	58.70	40.96	-17.74	74.00	33.04	150	238	Horizontal	PASS
6	4340.8939	59.98	44.30	-15.68	74.00	29.70	150	210	Horizontal	PASS

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	1301.5344	64.52	38.28	-26.24	74.00	35.72	150	206	Vertical	PASS
2	2019.3462	61.09	39.57	-21.52	74.00	34.43	150	109	Vertical	PASS
3	2480.9873	64.64	44.38	-20.26	74.00	29.62	150	142	Vertical	PASS
4	2603.7358	66.69	46.67	-20.02	74.00	27.33	150	45	Vertical	PASS
5	3038.6925	62.40	42.83	-19.57	74.00	31.17	150	154	Vertical	PASS
6	4340.8939	63.48	47.80	-15.68	74.00	26.20	150	245	Vertical	PASS

**END**