

## FCC Test Report

**Report No.:** RFBEBW-WTW-P21020566A-1

**FCC ID:** KA2WAX1850A1

**Test Model:** DWA-F18

**Received Date:** Oct. 20, 2021

**Test Date:** Nov. 08, 2021 ~ Dec. 10, 2021

**Issued Date:** Mar. 31, 2022

**Applicant:** D-Link Corporation

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

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33383, Taiwan

**FCC Registration /**  
**Designation Number:** 788550 / TW0003



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## Table of Contents

<b>Release Control Record .....</b>	<b>3</b>
<b>1 Certificate of Conformity .....</b>	<b>4</b>
<b>2 Summary of Test Results.....</b>	<b>5</b>
2.1 Measurement Uncertainty.....	5
2.2 Modification Record .....	5
<b>3 General Information .....</b>	<b>6</b>
3.1 General Description of EUT .....	6
3.2 Description of Test Modes.....	8
3.2.1 Test Mode Applicability and Tested Channel Detail.....	9
3.3 Description of Support Units .....	10
3.3.1 Configuration of System under Test .....	10
3.4 General Description of Applied Standards and References .....	10
<b>4 Test Types and Results .....</b>	<b>11</b>
4.1 Radiated Emission and Bandedge Measurement .....	11
4.1.1 Limits of Radiated Emission and Bandedge Measurement .....	11
4.1.2 Test Instruments .....	13
4.1.3 Test Procedures.....	14
4.1.4 Deviation from Test Standard .....	14
4.1.5 Test Setup.....	15
4.1.6 EUT Operating Conditions.....	16
4.1.7 Test Results .....	17
<b>5 Pictures of Test Arrangements.....</b>	<b>21</b>
<b>Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band) .....</b>	<b>22</b>
<b>Annex B- Band-edge measurement.....</b>	<b>23</b>
<b>Appendix – Information of the Testing Laboratories .....</b>	<b>24</b>

### Release Control Record

Issue No.	Description	Date Issued
RFBEBW-WTW-P21020566A-1	Original Release	Mar. 31, 2022

## 1 Certificate of Conformity

**Product:** VR Air Bridge Powered by Quest Link Software

**Brand:** D-Link

**Test Model:** DWA-F18

**Sample Status:** Engineering Sample

**Applicant:** D-Link Corporation

**Test Date:** Nov. 08, 2021 ~ Dec. 10, 2021

**Standards:** 47 CFR FCC Part 15, Subpart E (Section 15.407)  
ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Lena Wang , Date: Mar. 31, 2022  
Lena Wang / Specialist

Approved by : Jeremy Lin , Date: Mar. 31, 2022  
Jeremy Lin / Project Engineer

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(9)	AC Power Conducted Emissions	N/A	Refer to note
15.407(b) (1/2/3/4(i/ii)/9)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -4.03 dB at 56.19 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	N/A	Refer to note
---	Occupied Bandwidth Measurement	N/A	Refer to note
15.407(a)(1/2/3)	Peak Power Spectral Density	N/A	Refer to note
15.407(e)	6 dB Bandwidth	N/A	Refer to note
15.407(g)	Frequency Stability	N/A	Refer to note
15.203	Antenna Requirement	N/A	Refer to note

Note:

- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
- For U-NII-1, U-NII-2A, U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- Only Radiated Spurious Emissions tests was performed for this addendum. Refer to original report for other test data.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

<b>Product</b>	VR Air Bridge Powered by Quest Link Software
<b>Brand</b>	D-Link
<b>Test Model</b>	DWA-F18
<b>Status of EUT</b>	Engineering Sample
<b>Power Supply Rating</b>	5.0 Vdc (host equipment)
<b>Modulation Type</b>	256QAM, 64QAM, 16QAM, QPSK, BPSK 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
<b>Modulation Technology</b>	OFDM, OFDMA
<b>Transfer Rate</b>	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps 802.11ax: up to 1200 Mbps
<b>Operating Frequency</b>	5180 ~ 5240 MHz, 5745 ~ 5825 MHz
<b>Number of Channel</b>	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 2 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 1 for 802.11ac (VHT80), 802.11ax (HE80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 2 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 1 for 802.11ac (VHT80), 802.11ax (HE80)
<b>Antenna Type</b>	Chain 0 PIFA antenna with 1.2 dBi gain (5180 ~ 5240 MHz) PIFA antenna with 2 dBi gain (5745 ~ 5825 MHz) Chain 1 PCB antenna with 2.1 dBi gain (5180 ~ 5240 MHz) PCB antenna with 0.2 dBi gain (5745 ~ 5825 MHz)
<b>Antenna Connector</b>	N/A
<b>Accessory Device</b>	Refer to Note as below
<b>Data Cable Supplied</b>	Refer to Note as below

**Note:**

1. This report is issued as a supplementary report to BV CPS report no. RFBEBW-WTW-P21020566-1. The difference compared with original report is changing model name, product name and HW change (remove Flash) and SW change (remove DFS band), therefore only Radiated Spurious Emissions tests was performed for this addendum. Refer to original report for other test data.

2. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

Modulation Mode	CDD	Beamforming	TX Function
802.11a	Support	Not Support	2TX (MIMO)
802.11n (HT20)	Support	Support	2TX (MIMO)
802.11n (HT40)	Support	Support	2TX (MIMO)
802.11ac (VHT20)	Support	Support	2TX (MIMO)
802.11ac (VHT40)	Support	Support	2TX (MIMO)
802.11ac (VHT80)	Support	Support	2TX (MIMO)
802.11ax (HE20)	Support	Support	2TX (MIMO)
802.11ax (HE40)	Support	Support	2TX (MIMO)
802.11ax (HE80)	Support	Support	2TX (MIMO)

\* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40 / VHT80 and 802.11ax mode for HE20 / HE40 / HE80, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

\*For 802.11n and 802.11ac and 802.11ax, CDD mode and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

3. The EUT contains following accessory devices.

Product	Brand	Model	Description
Cradle	Nienyi	NA	I/P: +5 Vdc, 0.9 A O/P: 5 Vdc, 0.9 A Power code:0.91m, non-shielded cable, with w/o ferrite core

4. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
6. 2.4 and 5GHz WLAN cannot transmit simultaneously

### 3.2 Description of Test Modes

#### For 5180 ~ 5240 MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency (MHz)
42	5210

#### For 5745 ~ 5825 MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency (MHz)
155	5775



### 3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To		Description
	RE $\geq$ 1G	RE<1G	
-	√	√	-

Where **RE $\geq$ 1G**: Radiated Emission above 1 GHz **RE<1G**: Radiated Emission below 1 GHz

**Note:**

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.
2. "-" means no effect.

#### **Radiated Emission Test (Above 1 GHz):**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36	OFDM	BPSK	6.0
-	5745-5825	802.11a	149 to 165	157	OFDM	BPSK	6.0

#### **Radiated Emission Test (Below 1 GHz):**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5745-5825	802.11a	149 to 165	157	OFDM	BPSK	6.0

#### **Test Condition:**

Applicable To	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Wade Huang
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Wade Huang

### 3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

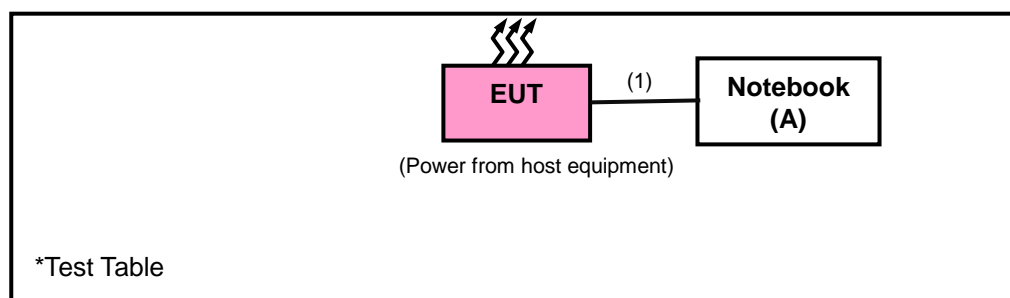
No.	Product	Brand	Model No.	Serial No.	FCC ID
A	Notebook	DELL	E5420	76WNBT1	N/A

No.	Signal Cable Description of The Above Support Units
1.	USB Extension cord: 0.9m

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Items A acted as communication partners to transfer data.

#### 3.3.1 Configuration of System under Test



### 3.4 General Description of Applied Standards and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

#### Test Standard:

##### FCC Part 15, Subpart E (15.407)

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

#### References Test Guidance:

##### KDB 789033 D02 General UNII Test Procedures New Rules v02r01

##### KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

## 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

#### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (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

**Note:**

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, 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.

# Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) <sup>*1</sup> PK:10 (dBm/MHz) <sup>*2</sup> PK:15.6 (dBm/MHz) <sup>*3</sup> PK:27 (dBm/MHz) <sup>*4</sup>	PK: 68.2 (dBμV/m) <sup>*1</sup> PK:105.2 (dBμV/m) <sup>*2</sup> PK: 110.8 (dBμV/m) <sup>*3</sup> PK:122.2 (dBμV/m) <sup>*4</sup>
<sup>*1</sup> beyond 75 MHz or more above of the band edge. <sup>*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. <sup>*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. <sup>*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			

## Note:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

#### 4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102579	Jul. 05, 2021	Jul. 04, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Oct. 29, 2021	Oct. 28, 2022
HORN Antenna SCHWARZBECK(with 4dB PAD)	9120D	209	Nov. 22, 2020	Nov. 21, 2021
			Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK(with 3dB PAD)	BBHA 9170	BBHA9170241	Oct. 29, 2021	Oct. 28, 2022
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	July 24, 2021	July 23, 2022
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 22, 2021	Mar. 21, 2022
Pre-amplifier (18GHz- 40GHz) EMC	EMC184045SE	980610	Jun. 05, 2021	Jun. 04, 2022
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Jul. 24, 2021	Jul. 23, 2022
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Jul. 24, 2021	Jul. 23, 2022
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Jul. 24, 2021	Jul. 23, 2022
BandPass Filter (2.4G) MICRO-TRONICS	BRM17690-01	002	Sep. 04, 2021	Sep. 03, 2022
BandPass Filter (5G) MICRO-TRONICS	BRM50716-01	G010	Sep. 04, 2021	Sep. 03, 2022
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	BAF-02	3	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.

#### 4.1.3 Test Procedures

##### **For Radiated Emission below 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case 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 Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

##### **Note:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.

##### **For Radiated Emission above 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- 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 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

##### **Note:**

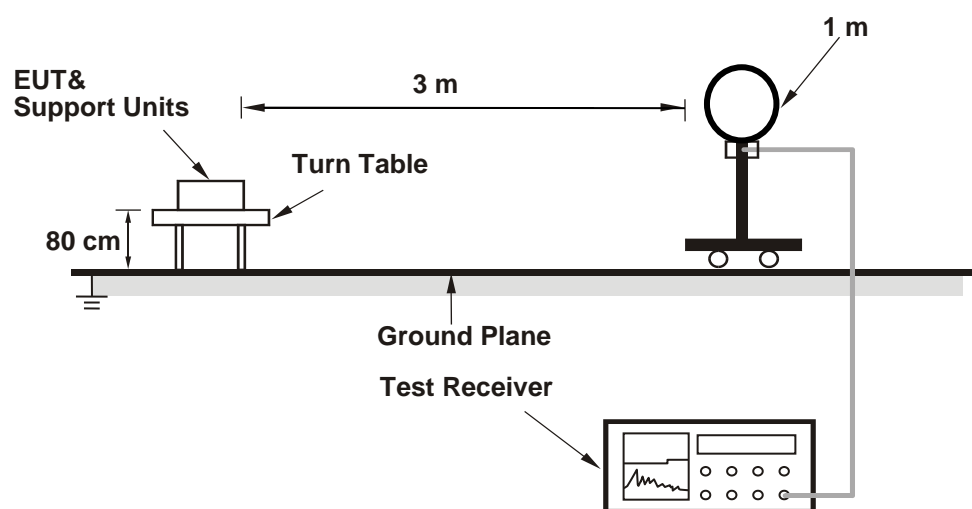
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle < 98 %) or 10 Hz (Duty cycle  $\geq 98$  %) for Average detection (AV) at frequency above 1 GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.1.4 Deviation from Test Standard

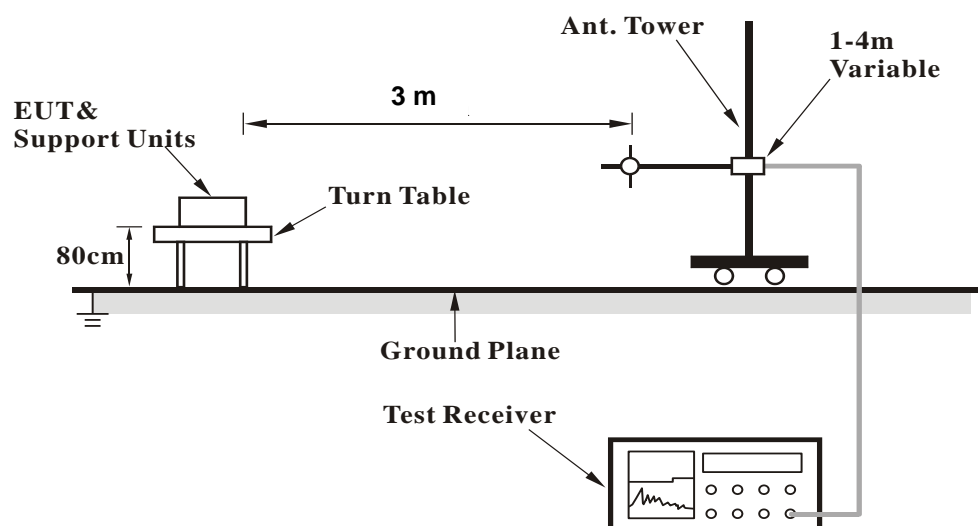
No deviation.

#### 4.1.5 Test Setup

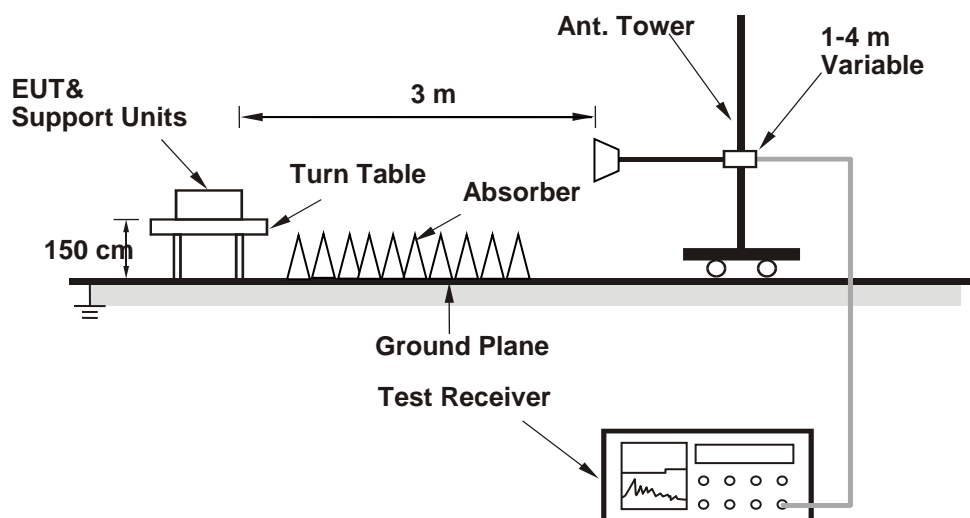
##### <Radiated Emission below 30 MHz>



##### <Radiated Emission 30 MHz to 1 GHz>



### <Radiated Emission above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.1.6 EUT Operating Conditions

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.



#### 4.1.7 Test Results

##### Above 1 GHz Data :

##### 802.11a

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 36 : 5180 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	56.0 PK	74.0	-18.0	1.01 H	132	54.1	1.9
2	5150.00	45.1 AV	54.0	-8.9	1.01 H	132	43.2	1.9
3	*5180.00	101.8 PK			1.01 H	132	61.8	40.0
4	*5180.00	92.5 AV			1.01 H	132	52.5	40.0
5	#10360.00	53.6 PK	68.2	-14.6	3.16 H	149	45.5	8.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	56.5 PK	74.0	-17.5	1.61 V	238	54.6	1.9
2	5150.00	44.2 AV	54.0	-9.8	1.61 V	238	42.3	1.9
3	*5180.00	102.2 PK			1.61 V	238	62.2	40.0
4	*5180.00	93.2 AV			1.61 V	238	53.2	40.0
5	#10360.00	53.3 PK	68.2	-14.9	1.74 V	264	45.2	8.1

##### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 157 : 5785 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5619.20	61.9 PK	68.2	-6.3	1.00 H	125	59.2	2.7
2	*5785.00	106.5 PK			1.00 H	125	64.9	41.6
3	*5785.00	96.9 AV			1.00 H	125	55.3	41.6
4	#5963.20	62.2 PK	68.2	-6.0	1.00 H	125	58.7	3.5
5	11570.00	55.6 PK	74.0	-18.4	2.16 H	144	46.8	8.8
6	11570.00	44.3 AV	54.0	-9.7	2.16 H	144	35.5	8.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5614.00	60.5 PK	68.2	-7.7	1.45 V	267	57.9	2.6
2	*5785.00	108.6 PK			1.45 V	267	67.0	41.6
3	*5785.00	99.9 AV			1.45 V	267	58.3	41.6
4	#5978.40	62.3 PK	68.2	-5.9	1.45 V	267	58.9	3.4
5	11570.00	56.2 PK	74.0	-17.8	1.00 V	131	47.4	8.8
6	11570.00	47.4 AV	54.0	-6.6	1.00 V	131	38.6	8.8

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

### 9 kHz ~ 30 MHz Data:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

### 30 MHz ~ 1 GHz Worst-Case Data:

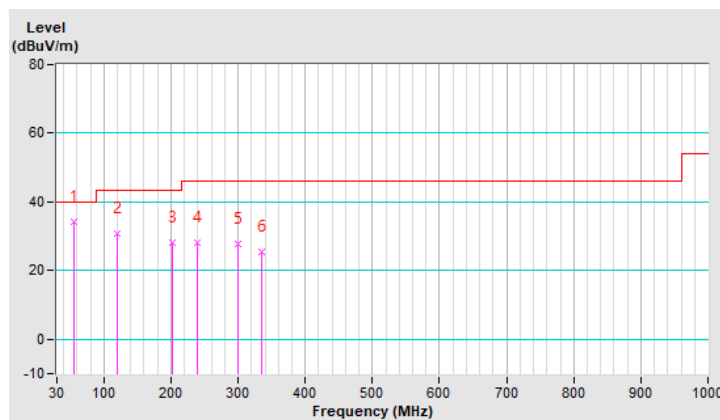
#### 802.11a

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 157 : 5785 MHz
<b>Frequency Range</b>	30MHz ~ 1GHz	<b>Detector Function</b>	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	55.22	34.27 QP	40.00	-5.73	1.00 H	183	52.75	-18.48
2	120.21	30.94 QP	43.50	-12.56	1.00 H	138	51.41	-20.47
3	202.66	28.22 QP	43.50	-15.28	1.50 H	58	50.18	-21.96
4	239.52	28.17 QP	46.00	-17.83	1.50 H	92	48.23	-20.06
5	299.66	27.66 QP	46.00	-18.34	1.00 H	163	45.71	-18.05
6	335.55	25.62 QP	46.00	-20.38	2.00 H	1	42.63	-17.01

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

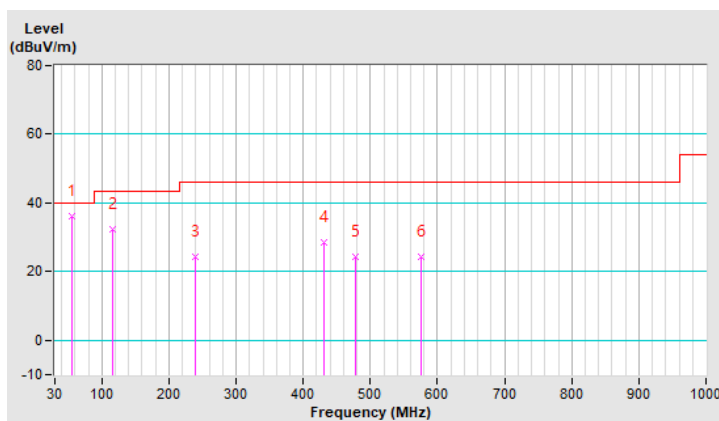


RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	56.19	35.97 QP	40.00	-4.03	1.00 V	101	54.40	-18.43
2	115.36	32.37 QP	43.50	-11.13	1.00 V	328	53.28	-20.91
3	239.52	24.36 QP	46.00	-21.64	2.00 V	227	44.42	-20.06
4	431.58	28.47 QP	46.00	-17.53	1.00 V	177	43.11	-14.64
5	477.17	24.18 QP	46.00	-21.82	1.50 V	204	37.95	-13.77
6	575.14	24.35 QP	46.00	-21.65	1.50 V	178	36.10	-11.75

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



## 5 Pictures of Test Arrangements

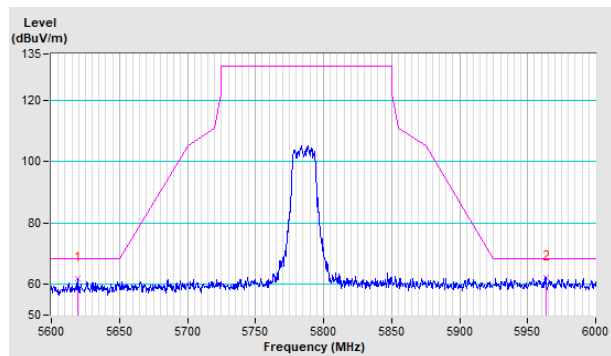
Please refer to the attached file (Test Setup Photo).

## Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

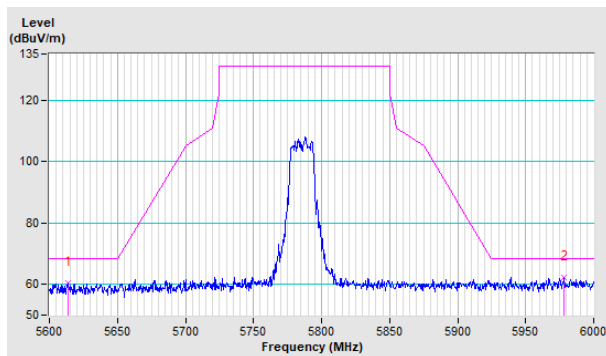
802.11a

CH 157 5785 MHz

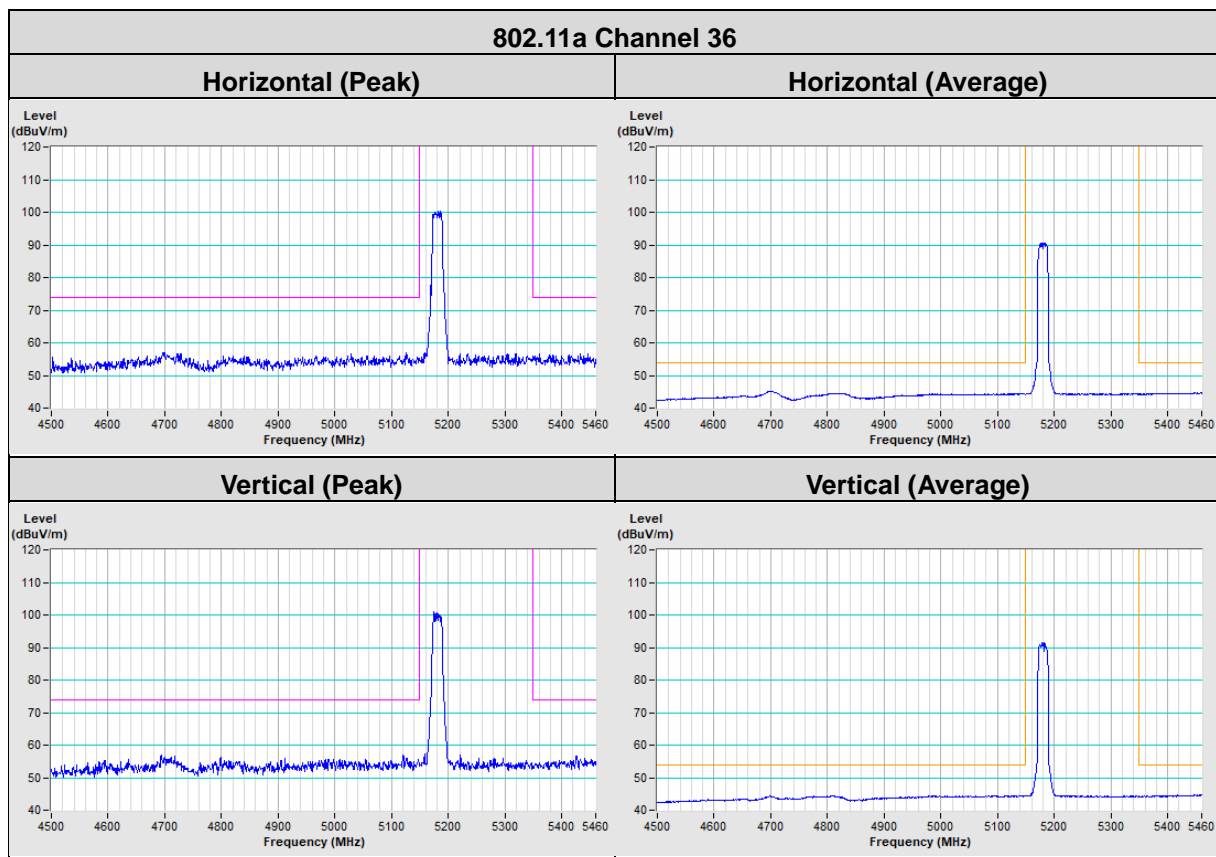
Horizontal



Vertical



## Annex B- Band-edge measurement



## Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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