	BUREAU VERITAS
	FCC Test Report
Report No.:	RFBASM-WTW-P20120918-5
FCC ID:	QYLGET125K
Test Model:	GET-125
Received Date:	Dec. 29, 2020
Test Date:	Jan. 26 ~ Mar. 30, 2021
Issued Date:	Apr. 08, 2021
Applicant:	Getac Technology Corporation.
Address:	5F., Building A, No. 209, Sec.1, Nangang Rd.,Nangang Dist., Taipei City 11568, Taiwan, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
	Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specifican, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.



Table of Contents

Re	elease Control Record	. 3
1	Certificate of Conformity	. 4
2	Summary of Test Results	. 5
	2.1 Measurement Uncertainty2.2 Modification Record	. 5 . 5
3	General Information	. 6
	 3.1 General Description of EUT	. 6 . 7 . 7 . 8 . 8 . 9
4	Test Types and Results	10
	 4.1 Radiated Emission and Bandedge Measurement	10 10 11 12 13 13 14 20 20 21 22 22 22 23
5	Pictures of Test Arrangements	27
A	ppendix – Information of the Testing Laboratories	28



Release Control Record

Issue No.	Description	Date Issued
RFBASM-WTW-P20120918-5	Original Release	Apr. 08, 2021



Certificate of Conformity 1

Product:	Digitizer Module
Brand:	EMRight
Test Model:	GET-125
Sample Status:	Mass Product
Applicant:	Getac Technology Corporation.
Test Date:	Jan. 26 ~ Mar. 30, 2021
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.209)
	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 :

Gina Liu / Specialist

Rho C Approved by :

Date: Apr. 08, 2021

Dylan Chiou / Senior Project Engineer



2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.209)			
FCC Clause Test Item Resul		Result	Remarks
15.207	Conducted emission test	Pass	Meet the requirement of limit. Minimum passing margin is -15.47 dB at 0.57796 MHz.
15.209	Radiated emission test	Pass	Meet the requirement of limit. Minimum passing margin is -6.18 dB at 49.4 MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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
	9 kHz ~ 30 MHz	3.04 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB

2.2 Modification Record

There were no modifications required for compliance.



3 General Information

3.1 General Description of EUT

Product	Digitizer Module	
Brand	EMRight	
Test Model	GET-125	
Status of EUT	Mass Product	
Power Supply Rating	5 Vdc (host equipment)	
Operating Frequency	511 kHz	
Antenna Connector	N/A	
Accessory Device	Refer to Note as below	
Data Cable Supplied	Refer to Note as below	

Note:

1. The EUT is authorized for use in specific End-product. Please refer to below for more details.

Product	Brand	Model	Description
		K120	
		K120G2	
Tablet	Getac	K120Y (Y= 10 characters, Y can be 0-9, a-z, A-Z, "-",	For marketing purpose
		"_" or blank for marketing purpose and no impact	
		safety related critical components and constructions	

2. The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	Chicony	A15-090P1A	INPUT: 100-240Vac, 1.2A max, 50-60Hz OUTPUT: 19.0Vdc, 4.74A, 90W
Battery	Getac	BP3S1P2100S-01	Rating: 11.1Vdc 2040mAh, 23Wh Typical Capacity: 2100mAh, 24Wh
Battery	Getac	BP4S1P3450P-01	Rating: 14.4Vdc 3300mAh, 48Wh Typical Capacity: 3450mAh, 50Wh
Earphone	N/A	N/A	
USB Cable	N/A	N/A	
LCD Panel	Innolux	N125HCE-HN1	FHD
	Foxlink	FN20FF-679H	FHD
Camera	Foxlink	FN80AF-443H-2	8M
	FOXLINK	FO20FF-790H	FHD

3. 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.



3.2 Description of Test Modes

1 channel is provided to this EUT:

Channel	Frequency (kHz)	
1	5111	

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure	Applicable To		President	
Mode	RE<1G	PLC	Description	
А	\checkmark	\checkmark	Touch Pen	
В	\checkmark	\checkmark	Button Push	
	RE 10 De dista di Essia sia a		PLO Develop Line Operation of Environment	

Where

RE<1G: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

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	Available Channel	Tested Channel
A, B	1	1

Power Line Conducted Emission Test:

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	Available Channel	Tested Channel		
A,. B	1	1		

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By	
RE	25 deg. C, 65 % RH	120 Vac, 60 Hz	Tim Chen	
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Cookie Ku	



3.3 Description of Support Units

10010						
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
^	Maritanto			CN-0J257M-72872-0A6-08JL	Dee	
А.	Monitor"2	DELL	02410	CN-0J257M-72872-0A6-02NL	Doc	
В.	Monitor	ViewSonic	VX2457-MHD	UG0182942333	N/A	
C.	3.0 HDD	TOSHIBA	DTB305	450KWGVQT3ZB	N/A	
D.	USB 3.0 Flash Drive*3	HP	v250w	N/A	FCC Doc	
E.	MODEM	ACEEX	1414V/3	0401008245	IFAXDM1414	
F.	Earphone	Apple	N/A	N/A	N/A	
G.	USB MOUSE	DELL	MS111-P	CN-011D3V-71581-1CJ-019A	N/A	
Н.	Touch Pen	N/A	N/A	N/A	N/A	
١.	Load	N/A	N/A	N/A	N/A	
	Tablet	K120	N/A	N/A	NI/A	Provided
J.	Tablet	1120	IN/A	N/A	IN/A	by Client

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.

Note: All power cords of the above support units are non-shielded (1.8m).

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	HDMI Cable	2	1.8	Ν	0	
2.	Display Cable	1	1.2	N	0	
3.	USB Cable	1	0.5	N	0	
4.	USB Cable	1	2.0	Ν	0	
5.	RS232 Cable	1	1.2	N	0	
6.	Audio Cable	1	1.2	N	0	
7.	DC Cable	1	1.5	Ν	0	Accessory of the EUT
8.	LAN Cable	2	5	Ν	0	RJ45, Cat5e
9.	AC Power Cable	1	1.7	Ν	0	Accessory of the EUT

3.3.1 Configuration of System under Test





3.4 General Description of Applied Standards

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

FCC Part 15, Subpart C (15.209)

ANSI C63.10-2013

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



4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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.



4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Mar. 18, 2020	Mar. 17, 2021
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 07, 2020	Dec. 06, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 16, 2020	Apr. 15, 2021
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Nov. 06, 2020	Nov. 05, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 06, 2020	Jul. 05, 2021
Preamplifier EMCI	EMC001340	980201	Oct. 21, 2020	Oct. 20, 2021
Preamplifier EMCI	EMC 330H	980112	Oct. 07, 2020	Oct. 06, 2021
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 07, 2020	Oct. 06, 2021
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	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 10.



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 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.

Note:

- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
- 2. 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>



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

4.1.6 EUT Operating Conditions

Set the EUT under transmission condition continuously at specific channel frequency.



4.1.7 Test Results

Mode A

EUT Test Condition		Measurement Detail		
Input Power	120 Vac, 60 Hz	Frequency Range	0.009 ~ 30 MHz	
Environmental Conditions	25 deg. C, 65 % RH	Detector Function	Quasi-Peak	
Tested By	Tim Chen		1	

Antenna Polarity & Test Distance: Parallel at 3 m									
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark	
0.10234	-51.56	9.13	-60.69	27.4	-78.96	100	118	QP	
1.021	-7.02	13.19	-20.21	27.42	-34.44	100	194	QP	
7.314	-8.67	10.63	-19.3	29.54	-38.21	100	16	QP	
13.941	-8.46	10.15	-18.61	29.54	-38	100	98	QP	
19.045	-9.67	8.76	-18.43	29.54	-39.21	100	238	QP	
28.03	-9.85	8.38	-18.23	29.54	-39.39	100	157	QP	
		Automa D	- I	-1 D:-1	. Dawa awalia				

Antenna Polarity & Test Distance: Perpendicular at 3 m

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
0.09656	-51	9.65	-60.65	27.9	-78.9	100	216	QP
1.021	-7.02	13.19	-20.21	27.42	-34.44	100	119	QP
7.284	-8.52	10.79	-19.31	29.54	-38.06	100	135	QP
15.523	-9.74	8.81	-18.55	29.54	-39.28	100	297	QP
22.388	-8.36	9.98	-18.34	29.54	-37.9	100	162	QP
29.164	-9.73	8.48	-18.21	29.54	-39.27	100	312	QP

Antenna Polarity & Test Distance: Ground-parallel at 3 m

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
0.09473	-50.53	10.09	-60.62	28.07	-78.6	100	307	QP
1.021	-7.02	13.19	-20.21	27.42	-34.44	100	183	QP
5.404	-5.67	14.1	-19.77	29.54	-35.21	100	178	QP
12.03	-9.08	9.62	-18.7	29.54	-38.62	100	237	QP
19.373	-9.33	9.09	-18.42	29.54	-38.87	100	16	QP
27.821	-9.91	8.33	-18.24	29.54	-39.45	87	0	QP

Remarks:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Factor (dB/m)

2. The other emission levels were very low against the limit.

- 3. Margin value = Emission level Limit value.
- 4. The factor value already contains the test distance interpolation coefficient.
- 5. Above limits have been translated by the formula



EUT Test Condition		Measurement Detail		
Input Power	120 Vac, 60 Hz	Frequency Range	30 MHz ~ 1000 MHz	
Environmental Conditions	25 deg. C, 65 % RH	Detector Function	Quasi-Peak	
Tested By	Tim Chen			





		-							
Antenna Polarity & Test Distance: Horizontal at 3 m									
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark	
50.37	29.14	41.7	-12.56	40	-10.86	259	191	QP	
168.71	33.19	46.75	-13.56	43.5	-10.31	167	235	QP	
353.01	31.89	41.83	-9.94	46	-14.11	183	227	QP	
532.46	30.12	34.81	-4.69	46	-15.88	235	102	QP	
723.55	30.84	31.59	-0.75	46	-15.16	118	64	QP	
943.74	34.53	31.31	3.22	46	-11.47	266	71	QP	
		Antenna	a Polarity &	Test Dista	nce: Vertica	l at 3 m			
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark	
49.4	33.82	46.3	-12.48	40	-6.18	148	329	QP	
187.14	33.18	48.56	-15.38	43.5	-10.32	254	108	QP	
353.01	28.36	38.3	-9.94	46	-17.64	133	49	QP	
551.86	27.79	32.1	-4.31	46	-18.21	280	129	QP	
742.95	31.99	31.94	0.05	46	-14.01	241	97	QP	
927.25	34.93	31.95	2.98	46	-11.07	145	233	QP	

1. Emission Level = Read Level + Factor

2. Margin value = Emission level – Limit value.

3. The other emission levels were very low against the limit.



Mode B				
EUT Test Condition		Measurement Detail		
Input Power	120 Vac, 60 Hz	Frequency Range	0.009 ~ 30 MHz	
Environmental Conditions	25 deg. C, 65 % RH	Detector Function	Quasi-Peak	
Tested By	Tim Chen			

	Antenna Polarity & Test Distance: Parallel at 3 m							
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
0.09304	-43.17	17.43	-60.6	28.22	-71.39	100	163	QP
1.021	-8.33	11.88	-20.21	27.42	-35.75	100	233	QP
6.239	-8.35	11.2	-19.55	29.54	-37.89	100	167	QP
13.045	-9.86	8.79	-18.65	29.54	-39.4	100	222	QP
21.791	-8.74	9.62	-18.36	29.54	-38.28	100	353	QP
27.582	-9.82	8.42	-18.24	29.54	-39.36	100	79	QP
		Antenna P	olarity & Te	st Distance	: Perpendi	cular at 3 m		
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
0.09304	-43.17	17.43	-60.6	28.22	-71.39	100	109	QP
1.021	-8.33	11.88	-20.21	27.42	-35.75	100	325	QP
6.12	-7.64	11.94	-19.58	29.54	-37.18	100	267	QP
12.239	-8.28	10.41	-18.69	29.54	-37.82	100	124	QP
20.627	-9.15	9.23	-18.38	29.54	-38.69	100	183	QP
26.418	-8.94	9.32	-18.26	29.54	-38.48	100	74	QP
	Antenna Polarity & Test Distance: Ground-parallel at 3 m							
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark

27.48

27.42

29.54

29.54

29.54

29.54

-78.68

-35.75

-37.63

-38.07

-39.54

-39.28

100

100

100

100

100

100

215

184

111

304

257

166

QP

QP

QP

QP

QP

QP

28 Remarks:

0.10136

1.021

7.344

14.359

22.717

1. Emission level (dBuV/m) = Raw Value (dBuV) + Factor (dB/m)

2. The other emission levels were very low against the limit.

9.49

11.88

11.2

10.06

8.34

8.5

3. Margin value = Emission level – Limit value.

-51.2

-8.33

-8.09

-8.53

-10

-9.74

4. The factor value already contains the test distance interpolation coefficient.

-60.69

-20.21

-19.29

-18.59

-18.34

-18.24

5. Above limits have been translated by the formula



EUT Test Condition		Measurement Detail		
Input Power	120 Vac, 60 Hz	Frequency Range	30 MHz ~ 1000 MHz	
Environmental Conditions	25 deg. C, 65 % RH	Detector Function	Quasi-Peak	
Tested By	Tim Chen			

Horizontal



Vertical





Antenna Polarity & Test Distance: Horizontal at 3 m									
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark	
49.4	24.93	37.41	-12.48	40	-15.07	172	356	QP	
141.55	26.78	39.38	-12.6	43.5	-16.72	169	231	QP	
353.01	32	41.94	-9.94	46	-14	206	317	QP	
556.71	31.82	35.98	-4.16	46	-14.18	145	28	QP	
751.68	31.02	30.83	0.19	46	-14.98	294	166	QP	
951.5	34.9	31.6	3.3	46	-11.1	261	75	QP	
		Antenn	a Polarity &	Test Dista	nce: Vertica	l at 3 m			
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark	
48.43	32.51	44.99	-12.48	40	-7.49	156	301	QP	
162.89	30.38	43.55	-13.17	43.5	-13.12	158	264	QP	
353.01	28.74	38.68	-9.94	46	-17.26	267	188	QP	
551.86	26.74	31.05	-4.31	46	-19.26	237	94	QP	
762.35	31.39	31.13	0.26	46	-14.61	109	255	QP	
926.28	34.45	31.48	2.97	46	-11.55	283	41	QP	

1. Emission Level = Read Level + Factor

2. Margin value = Emission level – Limit value.

3. The other emission levels were very low against the limit.



4.2 Conducted Emission Measurement

	Conducted Limit (dBuV)					
Frequency (MHZ)	Quasi-Peak	Average				
0.15 - 0.5	66 - 56	56 - 46				
0.50 - 5.0	56	46				
5.0 - 30.0	60	50				

Note:

- 1. The lower limit shall apply at the transition frequencies.
- 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
- 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102783	Jan. 06, 2021	Jan. 05, 2022
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 18, 2021	Jan. 17, 2022
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 18, 2020	Aug. 17, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	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 Shielded Room 2 (Conduction 2).

3. The VCCI Site Registration No. is C-12047.



4.2.3 Test Procedures

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit 20 dB) was not recorded.
- **NOTE:** The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz 30 MHz.



4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.



4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	22℃, 66%RH
Tested by	Cookie Ku	Test Date	2021/3/30
Test Mode	Mode A		

	Phase Of Power : Line (L)									
No	Frequency	Correction Factor	Readin (dB	g Value uV)	Emissio (dB	on Level uV)	Lir (dB	nit uV)	Maı (d	gin B)
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.25800	10.08	27.99	13.86	38.07	23.94	61.50	51.50	-23.43	-27.56
2	0.40600	10.09	28.55	13.53	38.64	23.62	57.73	47.73	-19.09	-24.11
3	0.69000	10.11	29.88	17.32	39.99	27.43	56.00	46.00	-16.01	-18.57
4	3.45800	10.20	21.24	12.25	31.44	22.45	56.00	46.00	-24.56	-23.55
5	6.07800	10.25	21.46	10.66	31.71	20.91	60.00	50.00	-28.29	-29.09
6	16.38200	10.40	25.07	16.07	35.47	26.47	60.00	50.00	-24.53	-23.53

Remarks:

- 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2. The emission levels of other frequencies were very low against the limit.
- 3. Margin value = Emission level Limit value
- 4. Correction factor = Insertion loss + Cable loss

5. Emission Level = Correction Factor + Reading Value





Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	22℃, 66%RH
Tested by	Cookie Ku	Test Date	2021/3/30
Test Mode	Mode A		

	Phase Of Power : Neutral (N)									
No	Frequency	Correction Factor	Readin (dB	g Value suV)	Emissio (dB	on Level uV)	Lir (dB	nit uV)	Mar (d	gin B)
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.25400	10.09	26.58	12.06	36.67	22.15	61.63	51.63	-24.96	-29.48
2	0.38600	10.10	27.11	10.99	37.21	21.09	58.15	48.15	-20.94	-27.06
3	0.57796	10.11	30.42	17.08	40.53	27.19	56.00	46.00	-15.47	-18.81
4	3.44600	10.24	20.43	11.61	30.67	21.85	56.00	46.00	-25.33	-24.15
5	8.33800	10.37	22.61	8.00	32.98	18.37	60.00	50.00	-27.02	-31.63
6	16.71400	10.57	24.13	16.16	34.70	26.73	60.00	50.00	-25.30	-23.27

- 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2. The emission levels of other frequencies were very low against the limit.
- 3. Margin value = Emission level Limit value
- 4. Correction factor = Insertion loss + Cable loss
- 5. Emission Level = Correction Factor + Reading Value





Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	22℃, 66%RH
Tested by	Cookie Ku	Test Date	2021/3/30
Test Mode	Mode B		

Phase Of Power : Line (L)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.24485	10.08	26.04	11.13	36.12	21.21	61.93	51.93	-25.81	-30.72
2	0.40200	10.09	27.40	16.04	37.49	26.13	57.81	47.81	-20.32	-21.68
3	1.25398	10.15	21.88	12.84	32.03	22.99	56.00	46.00	-23.97	-23.01
4	3.59000	10.21	21.17	13.44	31.38	23.65	56.00	46.00	-24.62	-22.35
5	5.99400	10.25	18.52	12.56	28.77	22.81	60.00	50.00	-31.23	-27.19
6	16.93800	10.41	23.59	17.58	34.00	27.99	60.00	50.00	-26.00	-22.01

- 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2. The emission levels of other frequencies were very low against the limit.
- 3. Margin value = Emission level Limit value
- 4. Correction factor = Insertion loss + Cable loss
- 5. Emission Level = Correction Factor + Reading Value





Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	22℃, 66%RH
Tested by	Cookie Ku	Test Date	2021/3/30
Test Mode	Mode B		

Phase Of Power : Neutral (N)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.24600	10.08	25.84	10.92	35.92	21.00	61.89	51.89	-25.97	-30.89
2	0.39800	10.10	27.03	11.87	37.13	21.97	57.90	47.90	-20.77	-25.93
3	0.69000	10.12	28.32	16.57	38.44	26.69	56.00	46.00	-17.56	-19.31
4	3.49800	10.24	20.17	12.05	30.41	22.29	56.00	46.00	-25.59	-23.71
5	6.27400	10.32	20.60	10.46	30.92	20.78	60.00	50.00	-29.08	-29.22
6	16.65000	10.57	25.58	16.57	36.15	27.14	60.00	50.00	-23.85	-22.86

- 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2. The emission levels of other frequencies were very low against the limit.
- 3. Margin value = Emission level Limit value
- 4. Correction factor = Insertion loss + Cable loss
- 5. Emission Level = Correction Factor + Reading Value





5 Pictures of Test Arrangements

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



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.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC/RF Lab Tel: 886-2-26052180 Fax: 886-2-26051924 Hsin Chu EMC/RF/Telecom Lab Tel: 886-3-6668565 Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab Tel: 886-3-3183232 Fax: 886-3-3270892

Email: <u>service.adt@tw.bureauveritas.com</u> Web Site: <u>www.bureauveritas-adt.com</u>

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

--- END ---