2/F., Garment Centre,
576 Castle Peak Road, Kowloon,
Hong Kong.

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TEST REPORT

Report No.: 20010329HKG-001

OV Loop, Inc

Application For Certification
(Original Grant)

FCC ID: 2AVSI-OVTPD01

Transceiver

Prepared and Checked by:	**Approved by:**
Signed On File Wong Cheuk Ho, Herbert Lead Engineer	Digitally signed by Terry Chan Location: Intertek Testing Services Hong Kong Ltd. Chan Chi Hung, Terry Manager Date: March 12, 2020

TEST REPORT

GENERAL INFORMATION

Grantee:	OV Loop, Inc
Grantee Address:	400 West Cummings Park, Suite 2050, Woburn, Massachusetts 01801, United States.
Contact Person:	William Bachrach
Brand Name:	OV Valet™
Model:	OV-TPD01
Type of EUT:	Transceiver
Description of EUT:	Tokenized Payment Device
Serial Number:	N/A
FCC ID:	2AVSI-OVTPD01
Date of Sample Submitted:	March 02, 2020
Date of Test:	March 02, 2020 to March 12, 2020
Report No.:	20010329HKG-001
Report Date:	March 12, 2020
Environmental Conditions:	Temperature: +10 to 40°C Humidity: 10 to 90%
Conclusion:	Test was conducted by client submitted sample. The submitted sample as received complied with the 47 CFR Part 15 Certification.

TEST REPORT

SUMMARY OF TEST RESULT

Test Specification	Reference	Results
Transmitter Power Line Conducted Emissions	15.207	Pass
Radiated Emission Radiated Emission on the Bandedge	15.249, 15.209	Pass
Radiated Emission in Restricted Bands	15.205	Pass

The equipment under test is found to be complying with the following standards:
FCC Part 15, October 1, 2018 Edition

Note: 1. The EUT uses a permanently attached antenna which, in accordance to section 15.203, is considered sufficient to comply with the pervisions of this section.
2. Pursuant to FCC part 15 Section 15.215(c), the 20 dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over excepted variations in temperature and supply voltage were considered.

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TEST REPORT

1.0 GENERAL DESCRIPTION

1.1 Product Description

The Equipment Under Test (EUT) is a Tokenized Payment Device (OV Valet™) which is a low-cost contactless payment IoT (Internet of Things) device.

The applicant declared that only Bluetooth BLE is used in the EUT.

The MST operates in the frequency range between 0.8 kHz to 5 kHz (below 9kHz).

The NFC passive tag operates at 13.56MHz (single channel).

The EUT is powered by an internal 3.8V rechargeable battery. The USB port is for charging internal battery purpose only.

Antenna Type: Internal, Integral

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

1.2 Related Submittal(s) Grants

This is a single application for certification of a transceiver.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013). All radiated measurements were performed in an 3m Chamber . Preliminary scans were performed in the 3m Chamber only to determine worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the **"Justification Section"** of this Application.

1.4 Test Facility

The 3m Chamber and conducted measurement facility used to collect the radiated data is located at Workshop No. 3, G/F., World-Wide Industrial Centre, 43-47 Shan Mei Street, Fo Tan, Sha Tin, N.T., Hong Kong. This test facility and site measurement data have been placed on file with the FCC.

TEST REPORT

2.0 SYSTEM TEST CONFIGURATION

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.10 (2013).

The device was powered by 3.8VDC (1 x 3.8V fully charged rechargeable battery) and/or USB Port of 5VDC. Both powering methods were tested. Only the worse-case result is shown in report (powered by USB port).

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The rear of unit shall be flushed with the rear of the table.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was mounted to a plastic stand if necessary and placed on the wooden turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

All connecting cables of EUT and peripherals were manipulated to find the maximum emission.

Different data rates have been tested. Worst case is reported only.

2.2 EUT Exercising Software

The EUT exercise program (if any) used during radiated testing was designed to exercise the various system components in a manner similar to a typical use.

2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

2.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

Uncertainty and Compliance - Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

2.5 Support Equipment List and Description

1. HP Notebook Computer (Adaptor Model: HSTNN-CA15)
2. 1 x LAN cable of 2m long
   (Provided by Intertek)
3. 1 x USB cable of 0.1m long
   (Provided by Applicant)

TEST REPORT

3.0 EMISSION RESULTS

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any), Average Factor (optional) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG - AV

where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
AV = Average Factor in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:

FS = RR + LF

where FS = Field Strength in dBµV/m
RR = RA - AG - AV in dBµV
LF = CF + AF in dB

Assume a receiver reading of 52.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB are added. The amplifier gain of 29 dB and average factor of 5 dB are subtracted, giving a field strength of 32 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 52.0 dBµV/m
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
AV = 5.0 dB
FS = RR + LF
FS = 18 + 9 = 27 dBµV/m

RR = 18.0 dBµV
LF = 9.0 dB

Level in µV/m = Common Antilogarithm [(27 dBµV/m)/20] = 22.4 µV/m

TEST REPORT

3.2 Radiated Emission Configuration Photograph

The worst case in radiated emission was found at 38.284 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgment: Passed by 13.2 dB

3.4 Conducted Emission Configuration Photograph

The worst case in line-conducted emission was found at 0.186 MHz

For electronic filing, the worst-case line-conducted configuration photographs are saved with filename: conducted photo.pdf.

3.5 Conducted Emission Data

For electronic filing, the graph and data table of conducted emission is saved with filename: conducted.pdf.

Judgment: Pass by 14.5 dB

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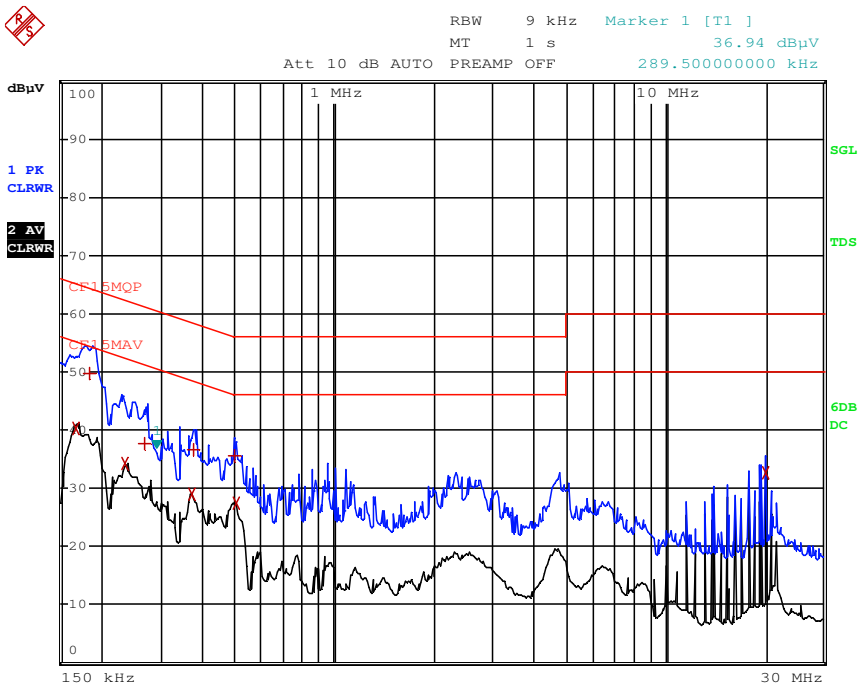
CONDUCTED EMISSION

Model: OV-TPD01
Date of Test: March 12, 2020
Worst-Case Operating Mode: Bluetooth BLE Operating and Charging with PC



EDIT PEAK LIST (Final Measurement Results)

Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
2	CISPR Average	168 kHz	40.30	N	-14.75
1	Quasi Peak	186 kHz	49.69	L1	-14.52
2	CISPR Average	235.5 kHz	34.37	L1	-17.87
1	Quasi Peak	271.5 kHz	37.54	L1	-23.52
2	CISPR Average	370.5 kHz	29.07	L1	-19.41
1	Quasi Peak	375 kHz	36.66	N	-21.72
1	Quasi Peak	496.5 kHz	35.67	L1	-20.37
2	CISPR Average	501 kHz	27.51	L1	-18.48
2	CISPR Average	20.0895 MHz	32.58	N	-17.41

Note: Measurement Uncertainty is ±4.2dB at a level of confidence of 95%.

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RADIATED EMISSIONS

Model: OV-TPD01
Date of Test: March 12, 2020
Worst-Case Operating Mode: Transmitting

Table 1
Pursuant to FCC Part 15 Section 15.249 Requirement

Lowest Channel

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Average (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	2402.000	51.4	33	29.4	47.8	94.0	-46.2
H	***4804.000***	***26.1***	***33***	***34.9***	***28.0***	***54.0***	***-26.0***
H	7206.000	17.1	33	37.9	22.0	54.0	-32.0
H	9608.000	18.0	33	40.4	25.4	54.0	-28.6
H	***12010.000***	***18.1***	***33***	***40.5***	***25.6***	***54.0***	***-28.4***
H	14412.000	21.2	33	40.0	28.2	54.0	-25.8

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	2402.000	100.2	33	29.4	96.6	114.0	-17.4
H	***4804.000***	***46.3***	***33***	***34.9***	***48.2***	***74.0***	***-25.8***
H	7206.000	37.1	33	37.9	42.0	74.0	-32.0
H	9608.000	38.4	33	40.4	45.8	74.0	-28.2
H	***12010.000***	***38.1***	***33***	***40.5***	***45.6***	***74.0***	***-28.4***
H	14412.000	41.0	33	40.0	48.0	74.0	-26.0

NOTES:
1. Peak Detector Data unless otherwise stated. Average measurement method is according to ANSI C63.10.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative sign in the column shows value below limit.

4. Horn antenna is used for the emission over 1000MHz.

5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.

6. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

TEST REPORT

Model: OV-TPD01
Date of Test: March 12, 2020
Worst-Case Operating Mode: Transmitting

Table 2
Pursuant to FCC Part 15 Section 15.249 Requirement

Middle Channel

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Average (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	2442.000	51.1	33	29.4	47.5	94.0	-46.5
H	***4884.000***	***24.1***	***33***	***34.9***	***26.0***	***54.0***	***-28.0***
H	***7326.000***	***17.3***	***33***	***37.9***	***22.2***	***54.0***	***-31.8***
H	9768.000	17.8	33	40.4	25.2	54.0	-28.8
H	***12210.000***	***17.1***	***33***	***40.5***	***24.6***	***54.0***	***-29.4***
H	14652.000	22.4	33	38.4	27.8	54.0	-26.2

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	2442.000	100.0	33	29.4	96.4	114.0	-17.6
H	***4884.000***	***46.1***	***33***	***34.9***	***48.0***	***74.0***	***-26.0***
H	***7326.000***	***37.5***	***33***	***37.9***	***42.4***	***74.0***	***-31.6***
H	9768.000	39.4	33	40.4	46.8	74.0	-27.2
H	***12210.000***	***39.1***	***33***	***40.5***	***46.6***	***74.0***	***-27.4***
H	14652.000	42.8	33	38.4	48.2	74.0	-25.8

NOTES:

1. Peak Detector Data unless otherwise stated. Average measurement method is according to ANSI C63.10.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative sign in the column shows value below limit.

4. Horn antenna is used for the emission over 1000MHz.

5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.

6. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

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Model: OV-TPD01
Date of Test: March 12, 2020
Worst-Case Operating Mode: Transmitting

Table 3
Pursuant to FCC Part 15 Section 15.249 Requirement

Highest Channel

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Average (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	2480.000	50.6	33	29.4	47.0	94.0	-47.0
H	***4960.000***	***24.5***	***33***	***34.9***	***26.4***	***54.0***	***-27.6***
H	***7440.000***	***17.5***	***33***	***37.9***	***22.4***	***54.0***	***-31.6***
H	9920.000	18.2	33	40.4	25.6	54.0	-28.4
H	***12400.000***	***18.3***	***33***	***40.5***	***25.8***	***54.0***	***-28.2***
H	14880.000	23.1	33	38.4	28.5	54.0	-25.5

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	2480.000	99.8	33	29.4	96.2	114.0	-17.8
H	***4960.000***	***46.7***	***33***	***34.9***	***48.6***	***74.0***	***-25.4***
H	***7440.000***	***37.6***	***33***	***37.9***	***42.5***	***74.0***	***-31.5***
H	9920.000	39.1	33	40.4	46.5	74.0	-27.5
H	***12400.000***	***38.7***	***33***	***40.5***	***46.2***	***74.0***	***-27.8***
H	14880.000	43.0	33	38.4	48.4	74.0	-25.6

NOTES:
1. Peak Detector Data unless otherwise stated. Average measurement method is according to ANSI C63.10.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative sign in the column shows value below limit.

4. Horn antenna is used for the emission over 1000MHz.

5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.

6. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

TEST REPORT

Model: OV-TPD01
Date of Test: March 12, 2020
Worst-Case Operating Mode: Bluetooth BLE Operating and Charging with PC

Table 4
Pursuant to FCC Part 15 Section 15.209 Requirement

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
H	38.284	32.8	16	10.0	26.8	40.0	-13.2
V	54.250	26.6	16	11.0	21.6	40.0	-18.4
V	70.094	31.2	16	7.0	22.2	40.0	-17.8
V	81.306	30.2	16	7.0	21.2	40.0	-18.8
V	***112.994***	***28.5***	***16***	***14.0***	***26.5***	***43.5***	***-17.0***
V	219.514	23.8	16	17.0	24.8	46.0	-21.2

NOTES:
1. Quasi-Peak Detector Data unless otherwise stated.
2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative sign in the column shows value below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.
6. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

TEST REPORT

4.0 EQUIPMENT PHOTOGRAPHS

For electronic filing, the photographs are saved with filename: external photos.pdf and internal photos.pdf.

5.0 PRODUCT LABELLING

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

6.0 TECHNICAL SPECIFICATIONS

For electronic filing, the block diagram and schematic of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

7.0 INSTRUCTION MANUAL

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

TEST REPORT

8.0 MISCELLANEOUS INFORMATION

The miscellaneous information includes details of the test procedure and measured bandwidth / calculation of factor such as pulse desensitization and averaging factor (calculation and timing diagram).

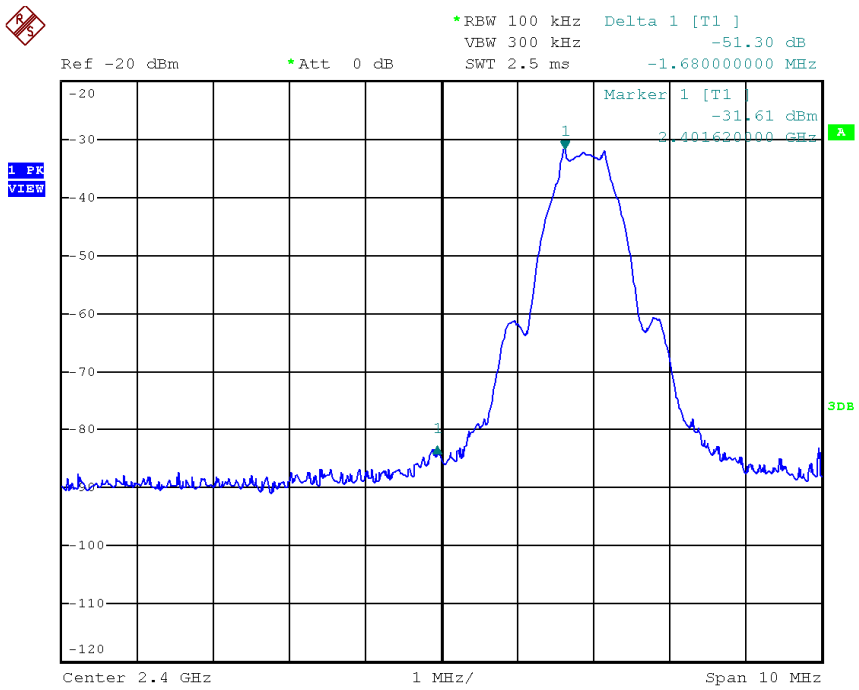
8.1 Radiated Emission on the Bandedge

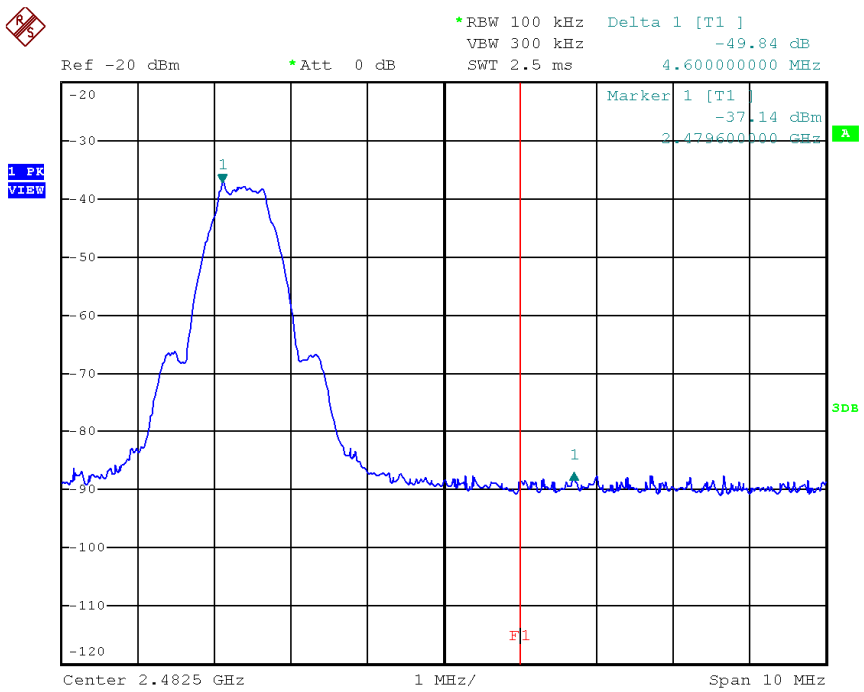
From the following plots, they show that the fundamental emissions are confined in the specified band (2400MHz to 2483.5MHz). In case of the fundamental emissions are within two standard bandwidths from the bandedge, the delta measurement technique is used for determining bandedge compliance. Standard bandwidth is the bandwidth specified by ANSI C63.10 (2013) for frequency being measured.

Emissions radiated outside of the specified frequency bands, except harmonics, are attenuated by 50dB below the level of the fundamental or to the general radiated emissions limits in Section 15.209 , whichever is the lesser attenuation, which meet the requirement of part 15.249(d).

TEST REPORT

PEAK MEASUREMENT





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PEAK MEASUREMENT

Bandedge compliance is determined by applying marker-delta method, i.e. (Bandedge Plot).

Lower bandedge

Peak Resultant field strength = Fundamental emissions (peak value) – delta from the plot

=96.6 dBµV/m – 51.3 dB
=45.3 dBµV/m

Average Resultant field strength = Fundamental emissions (average value) – delta from the plot

=47.8 dBµV/m – 51.3 dB
=-3.5 dBµV/m

Upper bandedge

Peak Resultant field strength = Fundamental emissions (peak value) – delta from the plot

=96.2 dBµV/m – 49.8 dB
=46.4 dBµV/m

Average Resultant field strength = Fundamental emissions (average value) – delta from the plot

=47.0 dBµV/m – 49.8 dB
=-2.8 dBµV/m

The resultant field strength meets the general radiated emission limit in Section 15.209, which does not exceed 74 dBµV/m (Peak Limit) and 54 dBµV/m (Average Limit).

TEST REPORT

8.2 Discussion of Pulse Desensitization

Pulse desensitivity is not applicable for this device. The effective period (Teff) is approximately 320μs for a digital "1" bit which illustrated on technical specification, with a resolution bandwidth (3dB) of 3MHz, so the pulse desensitivity factor is 0dB.

8.3 Calculation of Average Factor

N/A.

TEST REPORT

8.4 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services Hong Kong Ltd. in the measurements of transmitter operating under the Part 15, Subpart C rules.

The transmitting equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately 0.8m in height above the ground plane for emission measurement at or below 1GHz and 1.5m in height above the ground plane for emission measurement above 1GHz. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axis to obtain maximum emission levels. The antenna height and polarization are also varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in Exhibit 8.3.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower. For line conducted emissions, the range scanned is 150 kHz to 30 MHz.

TEST REPORT

8.4 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements were made as described in ANSI C63.10 (2013).

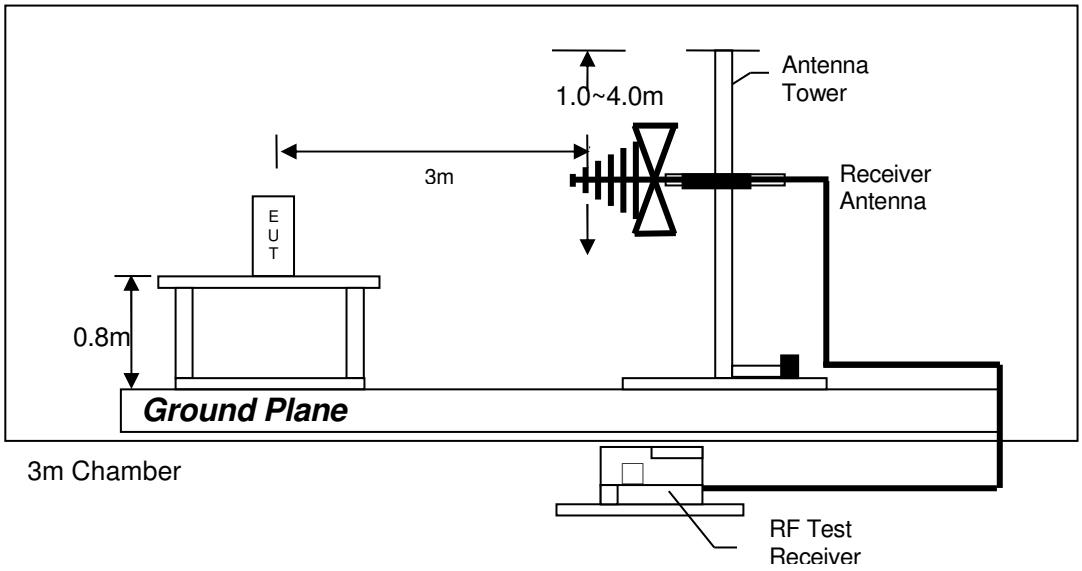
The IF bandwidth used for measurement of radiated signal strength was 100 kHz or greater when frequency is below 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. A discussion of whether pulse desensitivity is applicable to this unit is included in this report (See Exhibit 8.1). Above 1000 MHz, a resolution bandwidth of 3 MHz is used.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the forbidden bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, unless otherwise reported. Measurements taken at a closer distance are so marked.

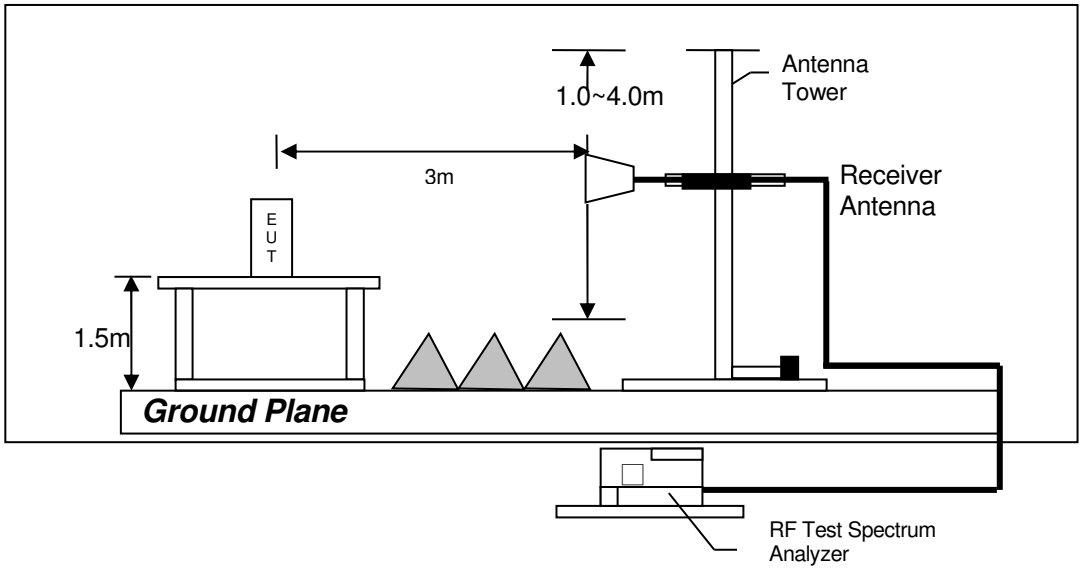
TEST REPORT

8.4.1 Radiated Emission Test Setup

The figure below shows the test setup, which is utilized to make these measurements.



Test setup of radiated emissions up to 1GHz



Test setup of radiated emissions above 1GHz

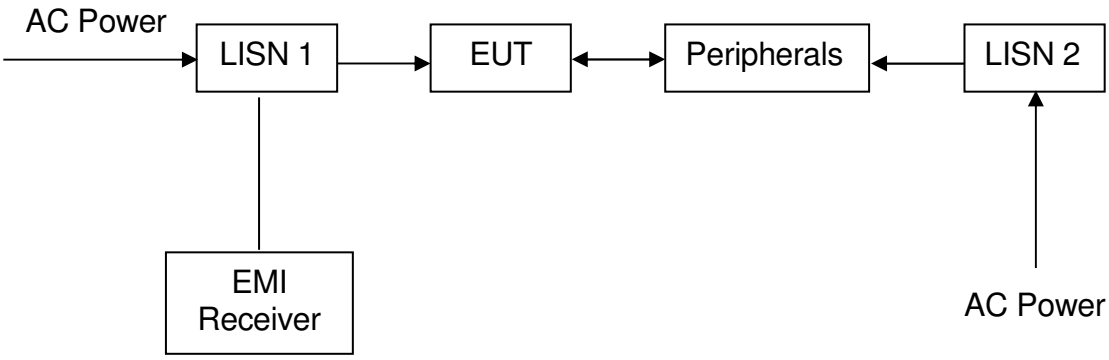
TEST REPORT

8.4.2 Conducted Emission Test Procedures

For tabletop equipment, the EUT along with its peripherals were placed on a 1.0m(W)×1.5m(L) and 0.8m in height wooden table. For floor-standing equipment, the EUT and all cables were insulated, if required, from the ground plane by up to 12 mm of insulating material. The EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled.

All connecting cables of EUT and peripherals were moved to find the maximum emission.

8.4.3 Conducted Emission Test Setup



TEST REPORT

9.0 EQUIPMENT LIST

1) Radiated Emissions Test

Equipment	EMI Test Receiver	Spectrum Analyzer	Biconical Antenna
Registration No.	EW-3156	EW-2249	EW-0571
Manufacturer	R&S	ROHDESCHWARZ	EMCO
Model No.	ESR26	FSP30	3104C
Calibration Date	August 01, 2019	May 16, 2019	July 23, 2019
Calibration Due Date	August 01, 2020	May 16, 2020	July 23, 2021

Equipment	Log Periodic Antenna	Double Ridged Guide Antenna	14m Double Shield RF Cable (20MHz - 6GHz)
Registration No.	EW-0447	EW-1133	EW-2074
Manufacturer	EMCO	EMCO	RADIALL
Model No.	3146	3115	Nm-RG142-
Calibration Date	September 25, 2019	November 29, 2018	March 31, 2019
Calibration Due Date	March 25, 2021	May 29, 2020	March 31, 2020

Equipment	15m 40GHz indoor RF Cable	RF Preamplifier (9kHz to 6000MHz)	Solid State Low Noise Preamplifier Assembly (1 - 18)GHz
Registration No.	EW-3032	EW-3424	EW-3229
Manufacturer	GREATBILLION	SCHWARZBECK	BONN ELEKTRO
Model No.	SMA(m) St-SMA (m) St, 15m long	BBV9744	BLMA 0118-5G
Calibration Date	May 14, 2019	July 23, 2019	June 28, 2019
Calibration Due Date	May 14, 2020	July 23, 2020	June 28, 2020

Equipment	Pyramidal Horn Antenna	Notch Filter (cutoff frequency 2.4GHz to 2.5GHz) 2 pieces	Active Loop H-field (9kHz to 30MHz)
Registration No.	EW-0905	EW-2213	EW-3326
Manufacturer	EMCO	MICROTRONICS	EMCO
Model No.	3160-09	BRM50701-02	6502
Calibration Date	July 23, 2019	July 12, 2019	March 21, 2019
Calibration Due Date	January 23, 2021	May 13, 2020	September 21, 2020

TEST REPORT

2) Conducted Emissions Test

Equipment	RF Cable 80cm (RG142) (9kHz to 30MHz)	Artificial Mains Network	EMI Test Receiver
Registration No.	EW-2451	EW-2874	EW-3156
Manufacturer	RADIALL	ROHDESCHWARZ	R&S
Model No.	RF Cable 80cm (RG142) (9kHz to 30MHz)	ENV-216	ESR26
Calibration Date	December 08, 2019	July 05, 2019	August 01, 2019
Calibration Due Date	December 08, 2020	July 05, 2020	August 01, 2020

3) Bandwidth/Bandedge Measurement Test

Equipment	40GHz 5m RF Cable	Spectrum Analyzer
Registration No.	EW-2701	EW-2249
Manufacturer	GREATBILLION	ROHDESCHWARZ
Model No.	sma m-m 5m 40G	FSP30
Calibration Date	May 14, 2019	May 16, 2019
Calibration Due Date	May 14, 2020	May 16, 2020

END OF TEST REPORT