

TEST REPORT

Report Number: 18010782HKG-004

Application For Class II Permissive Change of 47 CFR Part 15 Certification

Unlicensed Personal Communication Service Devices

(Parent Unit)

FCC ID: EW780-9982-01

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TEST REPORT

GENERAL INFORMATION

Grantee:	VTech Telecommunications Ltd.
Grantee Address:	23/F., Tai Ping Industrial Centre, Block 1, 57 Ting Kok Road, Tai Po, Hong Kong.
FCC Specification Standard:	FCC Part 15, October 1, 2016 Edition
FCC ID:	EW780-9982-01
FCC Model(s):	DM1211 PU, DM1211-2PU, DM1211-ab PU
Type of EUT:	Unlicensed Personal Communications Service Devices
Description of EUT:	Digital Audio Baby Monitor - Parent Unit
Serial Number:	N/A
Sample Receipt Date:	January 16, 2018
Date of Test:	January 18 - 31, 2018
Report Date:	January 31, 2018
Environmental Conditions:	Temperature: +10 to 40°C Humidity: 10 to 90%

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EXHIBIT 1 TEST RESULTS SUMMARY & STATEMENT OF COMPLIANCE

1.0 TEST RESULTS SUMMARY & STATEMENT OF COMPLIANCE

1.1 Summary of Test Results

GENERAL TECHNICAL REQUIREMENTS				
TEST ITEMS	FCC PART 15 SECTION	TEST PROCEDURE ANSI C63.17 / ANSI C63.4*	RESULTS	DETAILS SEE SECTION
Occupied/Emission Bandwidth	15.323(a)	6.1.3	Pass	4.1
Power Spectral Density	15.319(d)	6.1.5	Pass	4.2
AC Power Line Conducted Emissions from EUT	15.315	7 *	Pass	4.5

SPECIFIC REQUIREMENTS FOR UPCS DEVICE				
TEST ITEMS	FCC PART 15 SECTION	TEST PROCEDURE ANSI C63.17	RESULTS	DETAILS SEE SECTION
Unwanted Emission Inside the Sub-Band	15.323(d)	6.1.6.1	Pass	4.3
Emissions Outside the Sub-Band	15.323(d)	6.1.6.2	Pass	4.4

1.1 Statement of Compliance

The equipment under test is found to be complying with the following standards:

FCC Part 15, October 1, 2016 Edition

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EXHIBIT 2 GENERAL DESCRIPTION

2.0 GENERAL DESCRIPTION

2.1 Product Description

The DM1211 PU is a Digital Audio Monitor - Parent Unit. It operates at frequency range of 1921.536MHz to 1928.448MHz with 5 channels (1921.536MHz, 1923.264MHz, 1924.992MHz, 1926.720MHz and 1928.448MHz). The Parent Unit is powered by a Ni-MH type rechargeable battery pack (2.4V 750mAh) and/or an adaptor 100-120VAC 60Hz 150mA.

The antenna used in parent unit is integral, and the test sample is a prototype.

The Model(s): DM1211-2 PU and DM1211-ab PU are the same as the Model: DM1211 PU in electronics/electrical designs including software & firmware, PCB layout and construction design/physical design/enclosure. The only differences between these models are color, cosmetic details and model number to be sold for marketing purpose. Suffix (a,b) indicates different number of parent unit, and different color of enclosure.

2.2 Purpose of Change

The purpose of change is saved with filename: product change.pdf

2.3 Test Methodology

The radiated emission measurements for unintentional radiator (if any) and AC power line-conducted emission measurements were performed according to the test procedures specified in ANSI C63.4 (2014). The radiated emission measurements for intentional radiator contained in UPCS device, conducted emission measurements, Listen Before Transmit (LBT) tests, Time Frame and Frequency Stability tests were performed according to the test procedures specified in ANSI C63.17 (2013). All radiated measurements were performed in radiated emission test site. Preliminary scans were performed in the radiated emission test site 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. All other measurements were made in accordance with the procedures in 47 CFR Part 2.

2.4 Test Facility

The radiated emission test site, AC power line conducted measurement facility and antenna port conducted measurement facility used to collect the radiated data, AC Power Line conducted data, and conductive data are at Intertek Testing Services Hong Kong Ltd., which 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 fully placed on file with FCC.

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EXHIBIT 3 SYSTEM TEST CONFIGURATION

3.0 SYSTEM TEST CONFIGURATION

3.1 Justification

For emissions testing, the equipment under test (EUT) was set up to transmit continuously in burst mode with pseudo-random data to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables (if any) were manipulated to produce worst-case emissions.

The EUT was powered by a fully charged battery and/or a 100-120VAC 60Hz 150mA to 6VDC 400mA adaptor.

For the measurements, the EUT was attached to a plastic stand if necessary and placed on the wooden turntable. If the EUT is attached to accessories, they were connected and operational (as typical as possible).

The signal was maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization were varied during the search for maximum signal level. The antenna height was varied from 1 to 4 meters. Detector function was in peak mode. Radiated emissions are taken at three meters unless the signal level was too low for measurement at that distance. If necessary, a pre-amplifier was used and/or the test was conducted at a closer distance.

For UPCS transmitter radiated measurement, the spectrum analyzer resolution bandwidth was approximately 1% of EUT emission bandwidth, unless otherwise specified.

Radiated emission measurements for UPCS transmitter were performed 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 to 40 GHz, whichever is lower.

RF module for parent unit of DM1211 PU is the same with original granted model DM202 PU. Therefore conducted emission measurement for peak transmit power, jitter, frame repetition stability, carrier stability and listen before transmit requirements for DM202 PU are skipped.

For AC line conducted emission test, the EUT along with its peripherals were placed on a 1.0m(W)x1.5m(L) and 0.8m in height wooden table and 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 50ohm coupling impedance for measuring instrument. The LISN housing, measuring instrument case, reference ground plane, and vertical ground plane were bounded together. The excess power cable between the EUT and the LISN was bundled.

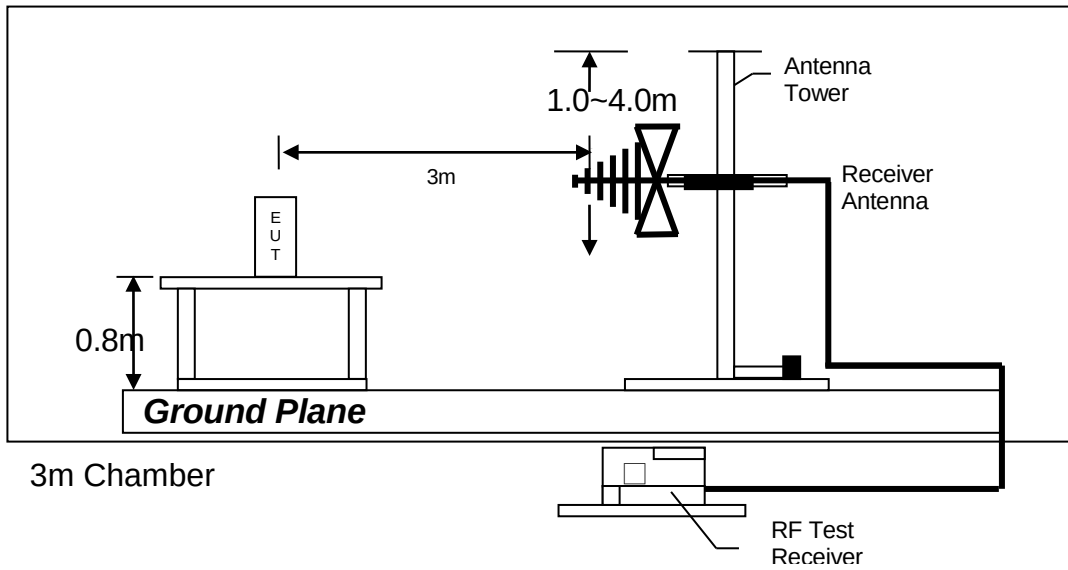
All connecting cables of EUT and peripherals were manipulated to find the maximum emission.

All relevant operation modes have been tested, and the worst case data is included in this report.

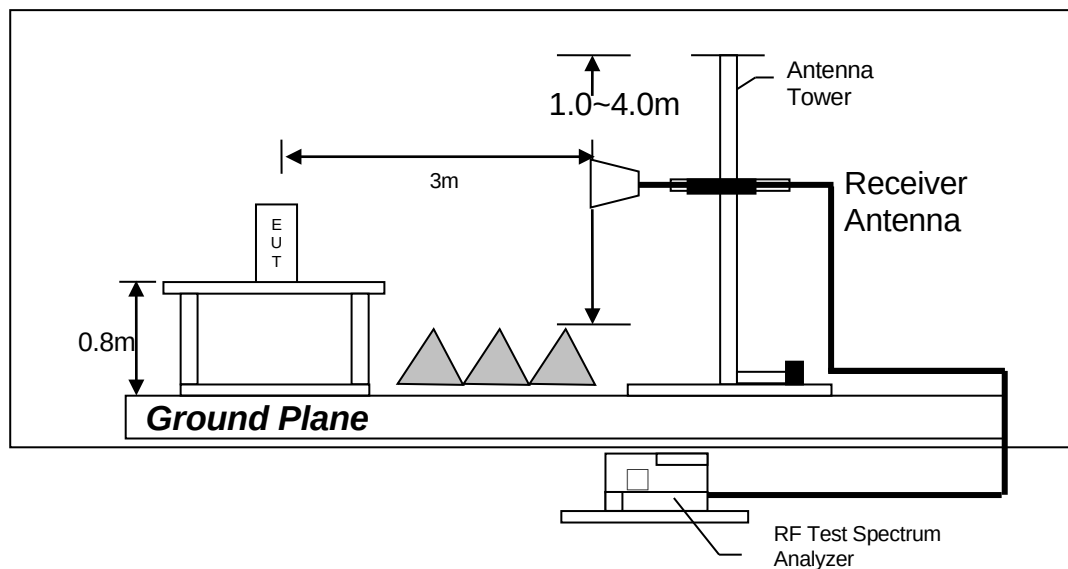
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3.2 Radiated Emission Test Setup

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

Figure 3.2.1

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3.3 AC Line Conducted Emission Test Setup

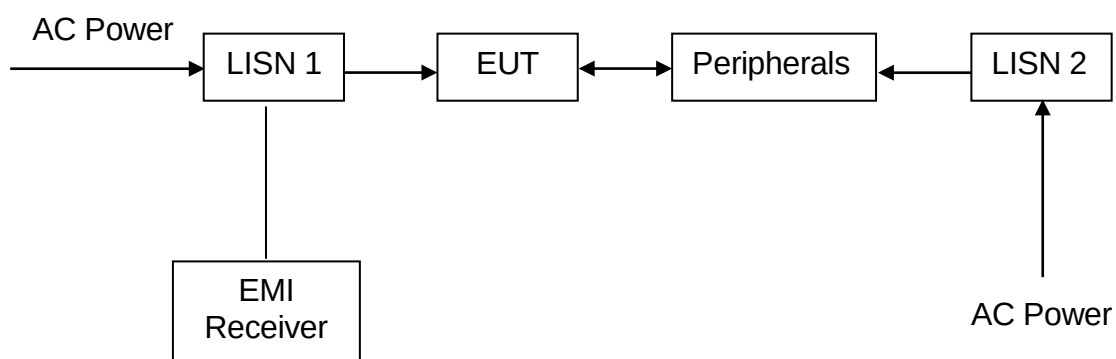


Figure 3.3.1

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3.4 Conducted Emission Test Configuration

The setup and equipment setting were made in accordance with ANSI C63.17. The antenna of EUT transmitter was replaced by a coaxial cable. The impedance matching of connection, cable loss and external RF attenuator are taken into account. The EUT was arranged to communicate via a fixed carrier frequency between its transmitter and a companion device. The transmission was configured in burst mode with pseudo-random data as typical as normal operation.

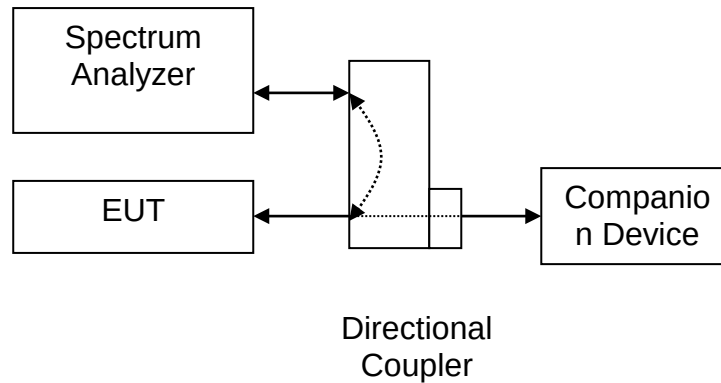


Figure 3.4.1

3.5 Conducted Monitoring and Operation Test Configuration

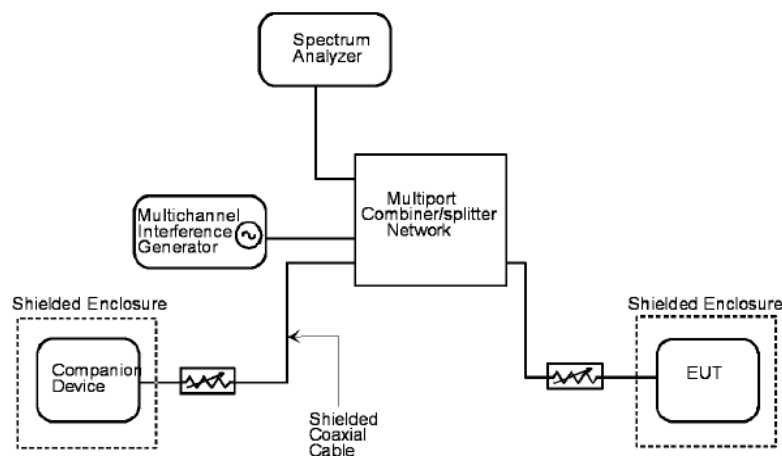


Figure 3.5.1

3.6 EUT Exercising Software

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

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3.7 Details of EUT and Description of Accessories

Details of EUT:

An AC adaptor and/or a battery (provided with the unit) were used to power the device. Their descriptions are listed below.

- (1) An AC adaptor (100-120VAC 60Hz 150mA to 6VDC 400mA, Model: S003AKU0600040, Brand: Ten Pao) (Supplied by Client)
- (2) A Ni-MH type rechargeable battery (2.4V 750mAh, Model: BT166342/BT266342, Brand: GPI) (Supplied by Client)
- (2) A Ni-MH type rechargeable battery (2.4V 750mAh, Model: BT166342/BT266342, Brand: Corun) (Supplied by Client)

Description of Accessories:

- (1) Vtech Baby Unit, Model: DM1211 BU, FCC ID: EW780-0144-00 (Supplied by client)

3.8 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered. The values of the Measurement uncertainty for radiated emission test, AC line conducted emission test and RF conducted test, frequency stability and timing jitter are $\pm 5.3\text{dB}$, $\pm 4.2\text{dB}$, $\pm 1\text{dB}$, $\pm 23\text{Hz}$, $0.1\mu\text{s}$ respectively.

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.

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EXHIBIT 4 TEST RESULTS

4.0 MEASUREMENT RESULTS

4.1 Emission Bandwidth, FCC Rule 15.323(a):

Operation shall be contained within the 1920 – 1930 MHz band. The emission bandwidth (B) shall be less than 2.5 MHz and greater than 50 kHz.

Measurements are made in accordance with ANSI C63.17 sub-clause 6.1.3. Test setup is shown in section 3.4 Figure 3.4.1.

Test Results:

I. Parent Unit- Traffic Carrier

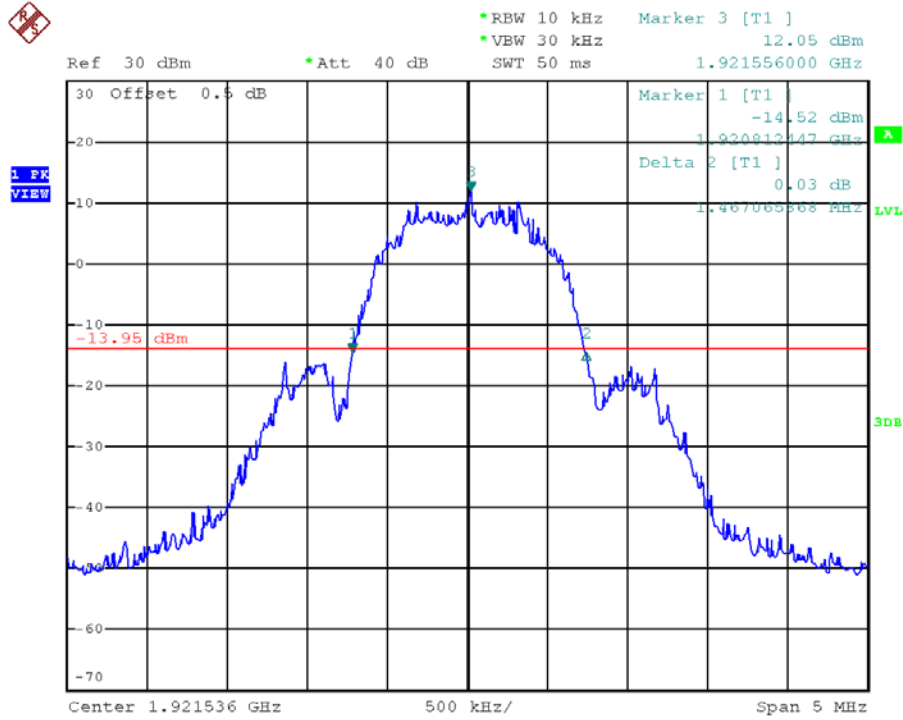
Channel	Channel Frequency (MHz)	Measuring Signal Level	Measured Emission Bandwidth (MHz)	Results
Lowest	1921.536	26 dB down	1.47	Pass
Highest	1928.448	26 dB down	1.47	Pass

The plots of emission bandwidth are saved as below.

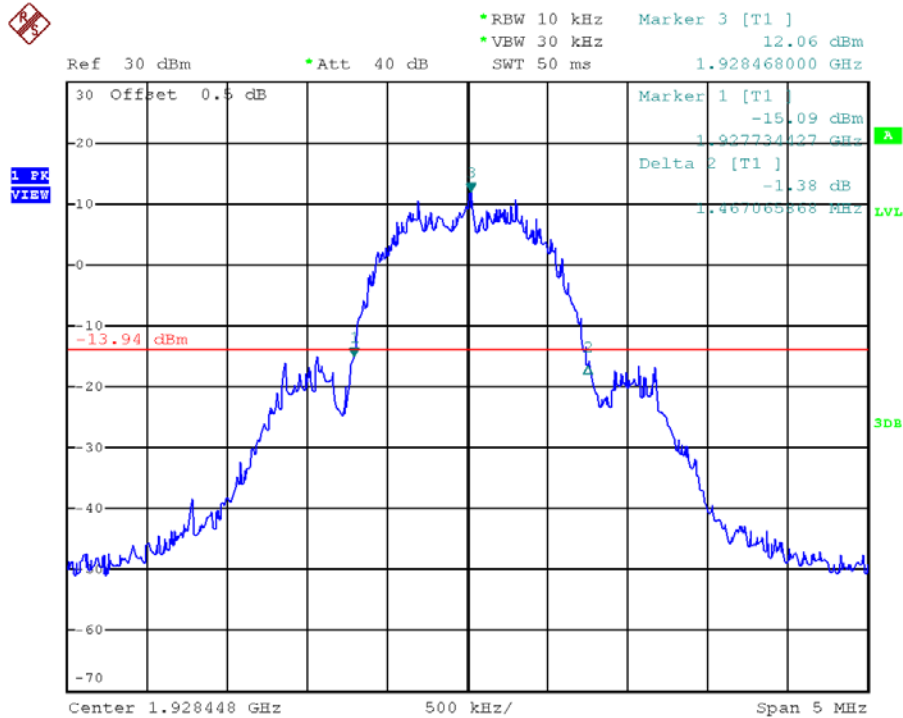
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PLOTS OF EMISSION BANDWIDTH

Parent unit, Lowest channel, Traffic carrier



Parent unit, Highest channel, Traffic carrier



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4.2 Power Spectral Density, FCC Rule 15.319(d):

Power spectral density shall not exceed 3 mW (4.8dBm) in any 3 kHz bandwidth as measured with a spectrum analyzer having a resolution bandwidth of 3 kHz.

Measurements are made in accordance with ANSI C63.17 sub-clause 6.1.5. Test setup is shown in section 3.4 Figure 3.4.1.

Test Results:

I. Parent Unit- Traffic Carrier

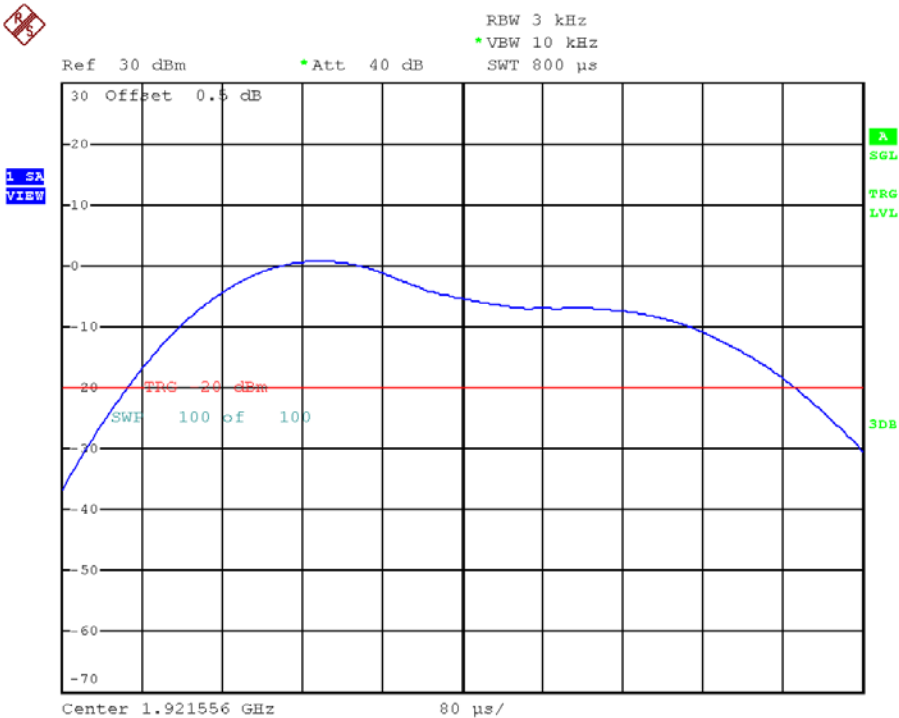
Channel	Channel Frequency (MHz)	Measured Power Spectral Density (dBm/3kHz)	Limit (dBm/3 kHz)	Results
Lowest	1921.536	-5.2	4.8	Pass
Highest	1928.448	-5.4	4.8	Pass

The plots of the power spectral density are as below.

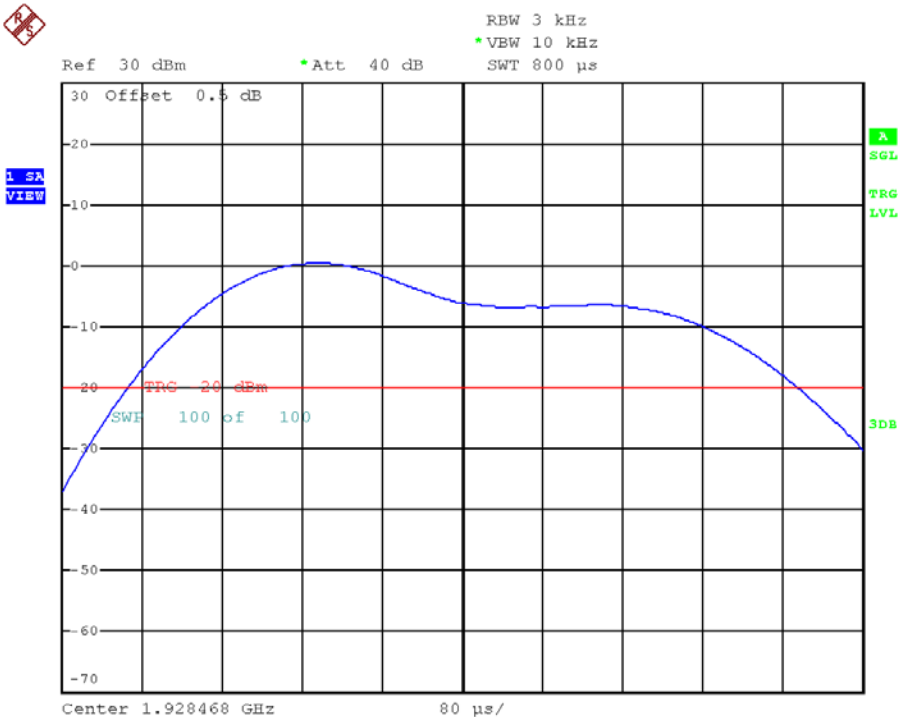
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PLOTS OF THE POWER SPECTRAL DENSITY

Parent unit, Lowest channel, Traffic carrier



Parent unit, Highest channel, Traffic carrier



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4.3 Unwanted Emission Inside the Sub-Band, FCC Rule 15.323(d):

Emissions inside the sub-band must comply with the following emission mask:

1. In the bands between $1B$ and $2B$ measured from the center of the emission bandwidth, emission shall be at least 30 dB below the permitted peak transmit power.
2. In the bands between $2B$ and $3B$ measured from the center of the emission bandwidth, emission shall be at least 50 dB below the permitted peak transmit power.
3. In the bands between $3B$ and the band edge, emission shall be at least 60 dB below the permitted peak transmit power.

Where B = emission bandwidth in Hz

Measurements are made in accordance with ANSI C63.17 sub-clause 6.1.6.1. Test setup is shown in section 3.4 Figure 3.4.1

Test Results:

I. Parent Unit- Traffic Carrier

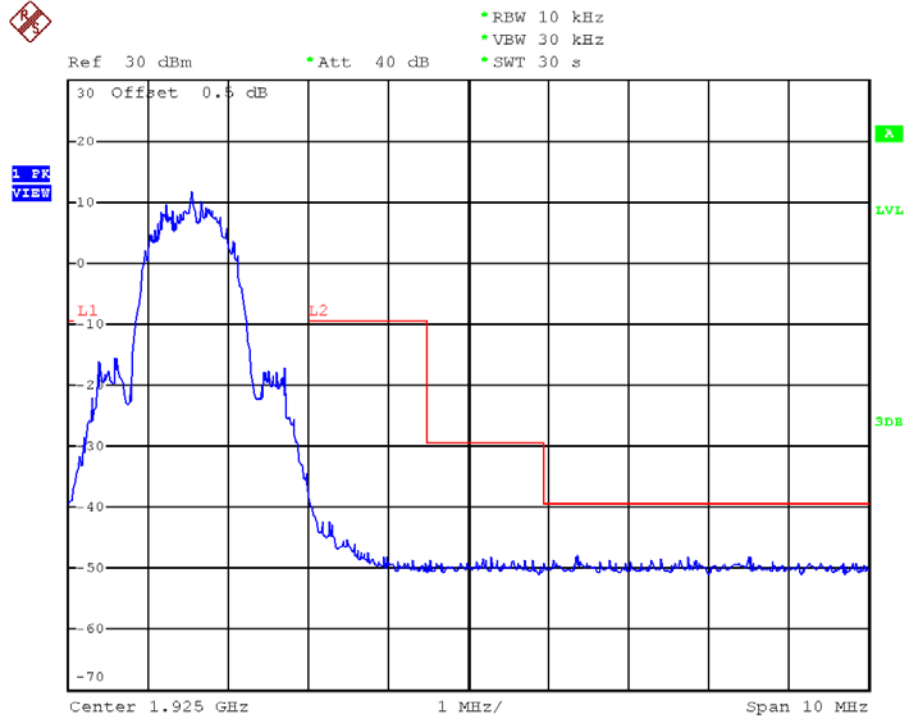
Channel	Channel Frequency (MHz)	Results
Lowest	1921.536	Pass
Middle	1924.992	Pass
Highest	1928.448	Pass

The plots of the unwanted emission inside the sub-band are as below.

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Plots of the unwanted emission inside the sub-band

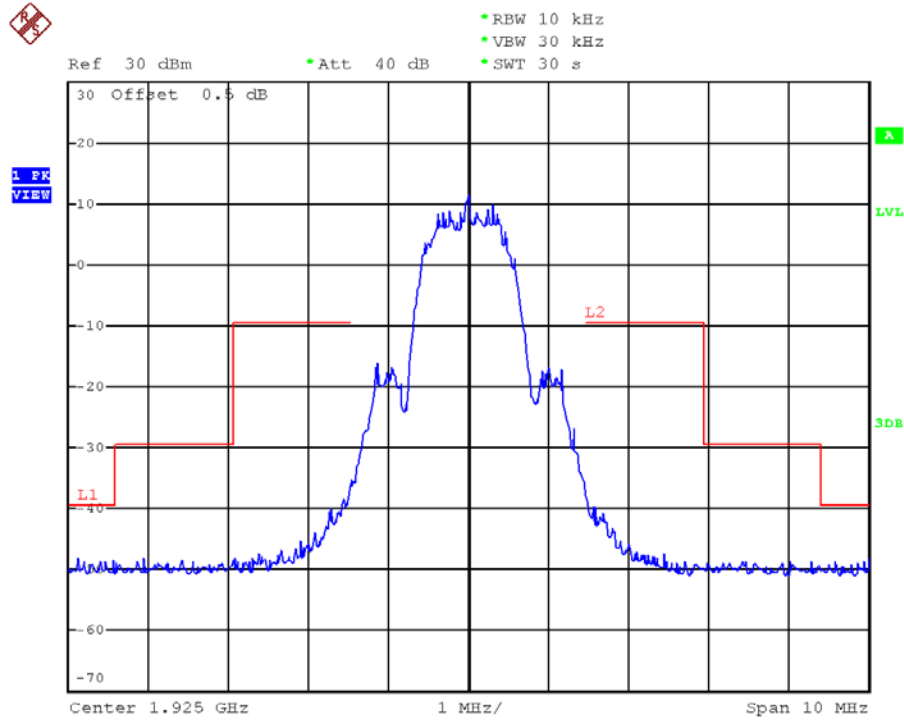
Parent unit, Lowest channel, Traffic carrier



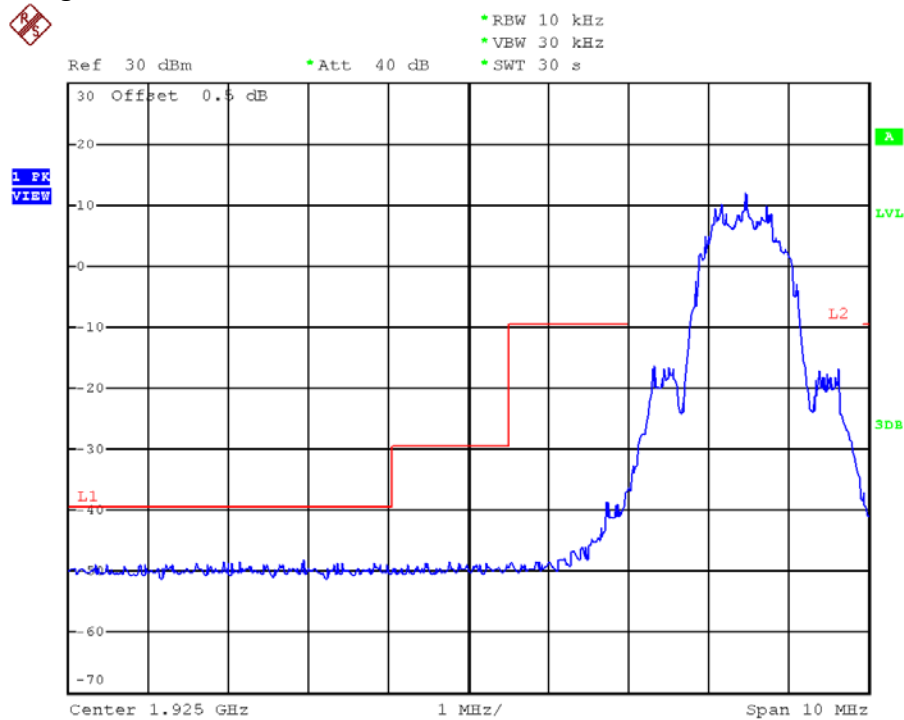
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Plots of the unwanted emission inside the sub-band

Parent unit, Middle channel, Traffic carrier



Parent unit, Highest channel, Traffic carrier



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4.4 Emissions Outside the Sub-Band, FCC Rule 15.323(d):

Emissions outside the sub-band shall be attenuated below a reference power of 112 mW (20.5 dBm) as follows:

1. 30 dB between the band edge and 1.25 MHz above or below the band;
2. 50 dB between 1.25 and 2.5 MHz above or below the band; and
3. 60 dB at 2.5 MHz or greater above or below the band, or shall meet the requirement of FCC Rule 15.319(g) which shall not exceed the limits of FCC Rule 15.209.

Example: Calculation of Limit for emissions between the band edge and 1.25 MHz (1920.000 – 1918.750 MHz)

The emissions shall not exceed the Limit: 20.5 dBm – 30 dB = -9.5 dBm

Measurements are made in accordance with ANSI C63.17 sub-clause 6.1.6.2. Radiated emissions test method is used. Emissions that are directly caused by digital circuits in the transmit path and transmitter portion are measured.

Test setup is shown in section 3.2 Figure 3.2.1

Test Results:

Channel	Carrier Frequency (MHz)	Measured Band (MHz)	Limit (dBm)	Results
Lowest	1921.536	1920.000 - 1918.750	-9.5	Pass
		1918.750 - 1917.500	-29.5	Pass
		0.009 - 1917.500 & 1932.500 - 19300.000	-39.5 / FCC Rule 15.209	Pass
Highest	1928.448	1930.000 - 1931.250	-9.5	Pass
		1931.250 - 1932.500	-29.5	Pass
		0.009 – 1917.500 & 1932.500 - 19300.000	-39.5 / FCC Rule 15.209	Pass

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4.4.1 Radiated Emissions Configuration Photographs:

Worst Case Radiated Emission
at

3843.082 MHz

The worst case radiated emission configuration photographs are saved with filename: config photos.pdf

4.4.2 Radiated Emissions Data:

Data are 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. All measurements were performed with peak detection unless otherwise specified.

The data in table 1-5 list the significant emission frequencies, the limit and the margin of compliance.

Judgement:

Passed by 7.1 dB margin compared with peak limit

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RADIATED EMISSIONS DATA

Mode: Transmission

Table 1, Parent Unit

Pursuant To FCC Part 15 Section 15.323 (d) Emissions Requirements

Lowest Channel

Polarization	Frequency (MHz)	Measured Power (dBm)	Power Limit (dBm)	Margin (dB)
V	1919.812	-44.6	-9.5	-35.1
V	1918.505	-55.0	-29.5	-25.5
V	1917.447	-55.9	-39.5	-16.4

NOTES:

1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters.
3. Negative value in the margin column shows emission below limit.

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Mode: Transmission

Table 2, Parent Unit

Pursuant To FCC Part 15 Section 15.209 Emissions Requirements

Lowest Channel

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBμV/m)	Average Factor (dB)	Calculated at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
H	3843.082	66.6	33	33.3	66.9	27.6	39.3	54.0	-14.7
H	5764.623	57.8	33	36.6	61.4	27.6	33.8	54.0	-20.2
H	7686.164	53.9	33	38.9	59.8	27.6	32.2	54.0	-21.8
H	9607.705	46.2	33	40.4	53.6	27.6	26.0	54.0	-28.0
H	11529.246	58.7	33	40.5	66.2	27.6	38.6	54.0	-15.4
H	13450.787	50.2	33	41.9	59.1	27.6	31.5	54.0	-22.5

Polarization	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	3843.082	66.6	33	33.3	66.9	74.0	-7.1
H	5764.623	57.8	33	36.6	61.4	74.0	-12.6
H	7686.164	53.9	33	38.9	59.8	74.0	-14.2
H	9607.705	46.2	33	40.4	53.6	74.0	-20.4
H	11529.246	58.7	33	40.5	66.2	74.0	-7.8
H	13450.787	50.2	33	41.9	59.1	74.0	-14.9

NOTES:

1. Peak detector is used for the emission measurement.
2. The resolution bandwidth of the spectrum analyzer was set 100 kHz and 1 MHz for spurious emission measurements below 1 GHz and above 1 GHz respectively.
3. All measurements were made at 3 meters.
4. Negative value in the margin column shows emission below limit.

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Mode: Transmission

Table 3, Parent Unit

Pursuant To FCC Part 15 Section 15.323 (d) Emissions Requirements

Highest Channel

Polarization	Frequency (MHz)	Measured Power (dBm)	Power Limit (dBm)	Margin (dB)
V	1930.174	-43.9	-9.5	-34.4
V	1931.288	-54.0	-29.5	-24.5
V	1932.662	-54.4	-39.5	-14.9

NOTES:

1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters.
3. Negative value in the margin column shows emission below limit.

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Mode: Transmission

Table 4, Parent Unit

Pursuant To FCC Part 15 Section 15.209 Emissions Requirements

Highest Channel

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBμV/m)	Average Factor (dB)	Calculated at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
V	3856.880	65.8	33	33.3	66.1	27.6	38.5	54.0	-15.5
H	5785.320	57.6	33	36.6	61.2	27.6	33.6	54.0	-20.4
H	7713.760	53.4	33	38.9	59.3	27.6	31.7	54.0	-22.3
H	9642.200	45.7	33	40.4	53.1	27.6	25.5	54.0	-28.5
H	11570.640	59.4	33	40.5	66.9	27.6	39.3	54.0	-14.7
H	13499.080	50.9	33	41.9	59.8	27.6	32.2	54.0	-21.8

Polarization	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)
V	3856.880	65.8	33	33.3	66.1	74.0	-7.9
H	5785.320	57.6	33	36.6	61.2	74.0	-12.8
H	7713.760	53.4	33	38.9	59.3	74.0	-14.7
H	9642.200	45.7	33	40.4	53.1	74.0	-20.9
H	11570.640	59.4	33	40.5	66.9	74.0	-7.1
H	13499.080	50.9	33	41.9	59.8	74.0	-14.2

NOTES:

1. Peak detector is used for the emission measurement.
2. The resolution bandwidth of the spectrum analyzer was set 100 kHz and 1 MHz for spurious emission measurements below 1 GHz and above 1 GHz respectively.
3. All measurements were made at 3 meters.
4. Negative value in the margin column shows emission below limit.

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Mode: Talk mode

Table 5, Parent Unit

Pursuant To RSS-213 Clause 5.8.1 Emissions Requirements

Polarization	Frequency (MHz)	Measured Power (dBm)	Power Limit (dBm)	Margin (dB)
V	35.578	-66.3	-39.5	-26.8
V	39.458	-68.7	-39.5	-29.2
V	44.793	-69.6	-39.5	-30.1
V	53.765	-73.4	-39.5	-33.9
V	147.370	-65.1	-39.5	-25.6
V	294.931	-71.0	-39.5	-31.5

NOTES:

1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters.
3. Negative value in the margin column shows emission below limit.

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4.4.3 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + CF - AG + PD + AV$$

Where FS = Field Strength in dB μ V/m

RA = Receiver Amplitude (including preamplifier) in dB μ V

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB

AG = Amplifier Gain in dB

PD = Pulse Desensitization in dB

AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + CF - AG + PD + AV$$

Example

Assume a receiver reading of 62.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29.0 dB is subtracted. The pulse desensitization factor of the spectrum analyzer is 0.0 dB, and the resultant average factor is -10.0 dB. The net field strength for comparison to the appropriate emission limit is 32.0 dB μ V/m. This value in dB μ V/m is converted to its corresponding level in μ V/m.

$$RA = 62.0 \text{ dB}\mu\text{V}$$

$$AF = 7.4 \text{ dB}$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

$$PD = 0.0 \text{ dB}$$

$$AV = -10 \text{ dB}$$

$$FS = 62.0 + 7.4 + 1.6 - 29.0 + 0.0 + (-10.0) = 32.0 \text{ dB}\mu\text{V/m}$$

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(32.0 \text{ dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}$$

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4.4.4 Average Factor Calculation and Transmitter ON Time Measurements, FCC Rule 15.35(b, c)

Parent Unit: (for single-slot operation)

Duty Cycle (DC) = Maximum ON time
= 1/24

Average Factor (AF) = $20 \log (DC)$
= $20 * \log (1/24)$
= -27.6 dB

[] The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SPAN function on the analyzer was set to ZERO. The transmitter ON time was determined from the resultant time-amplitude display:

Please refer to the attached plots for more details:

The plots of Transmitter ON Time Measurements are as below.

[] Please refer to the attached transmitter timing diagram that are provided by manufacturer

[] Not applicable - No average factor is required.

[x] Please refer to Technical Description (descri.pdf) for more details

TEST REPORT

4.5 AC Power Line Conducted Emissions, FCC Rule 15.315:

The AC power line conducted emission shall not exceed the limits of FCC Rule 15.207.

Measurements are made in accordance with ANSI C63.4 sub-clause 7. Emissions that are directly caused by digital circuits in the transmit path and transmitter portion are measured.

Test setup is shown in section 3.3 Figure 3.3.1.

- ☐ Not applicable – EUT is only powered by battery for operation.
- ☒ EUT connects to AC power line. Emission Data is listed in following pages.
- ☐ Baby Unit connects to AC power line and has transmission. Parent Unit connects to AC power line (indirectly) but has no transmission. Emission Data of Baby Unit is listed in following pages.
- ☐ Parent Unit connects to AC power line (indirectly) only during charging. Emission Data is listed in following pages.

TEST REPORT

4.5.1 AC Power Line Conducted Emissions Configuration Photographs:

Worst Case AC Power Line Conducted Emission
at

420 kHz

The worst case AC power Line conducted emission configuration photographs are saved with filename:
config photos.pdf

4.5.2 AC Power Line Conducted Emissions Data:

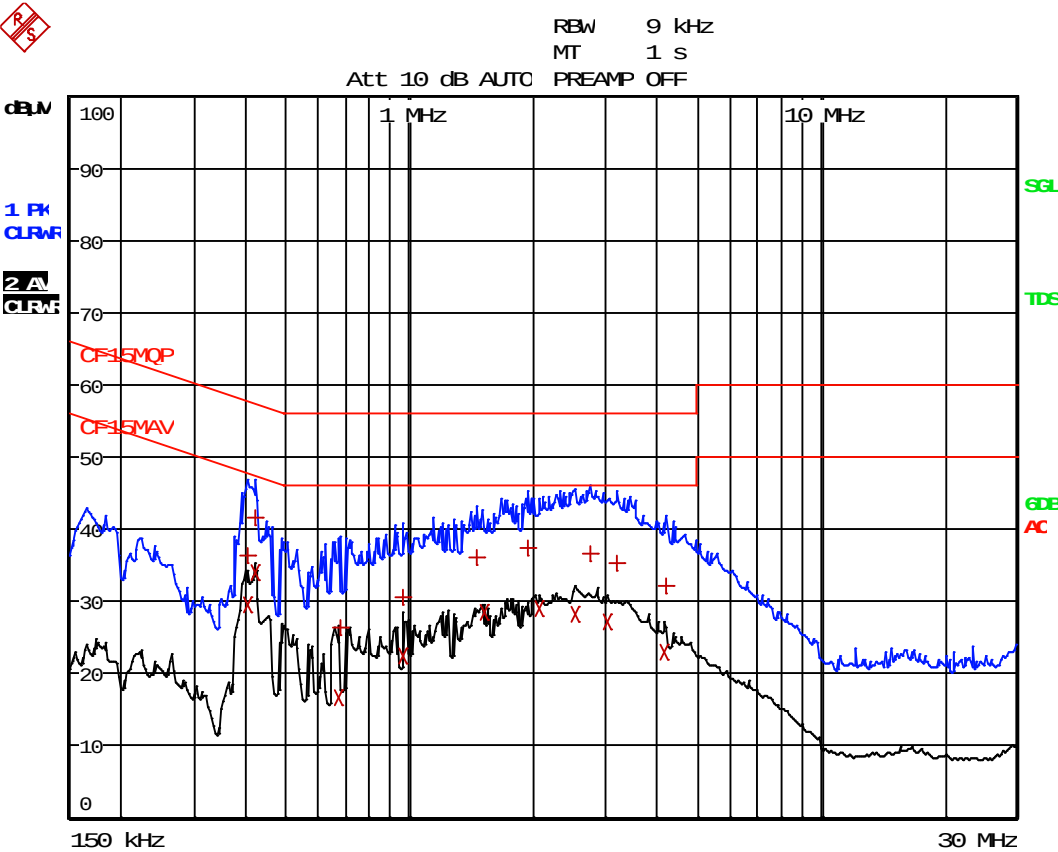
The plot(s) and data in the following pages list the significant emission frequencies, the limit and the worst case margin of compliance.

Judgment:

Passed by 13.42 dB margin compared with CISPR average limit

TEST REPORT

Worst Case: Talk mode



TEST REPORT

Worst Case:

Talk mode

EDIT PEAK LIST (Final Measurement Results)				
Trace1:	CF15MOP			
Trace2:	CF15MAV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBuV		DELTA LIMIT dB
1 Quasi Peak	402 kHz	36.24	N	-21.57
2 CISPR Average	402 kHz	29.65	N	-18.16
1 Quasi Peak	420 kHz	41.67	L1	-15.77
2 CISPR Average	420 kHz	34.02	N	-13.42
2 CISPR Average	667.5 kHz	16.59	N	-29.41
1 Quasi Peak	676.5 kHz	26.37	L1	-29.62
1 Quasi Peak	964.5 kHz	30.64	N	-25.35
2 CISPR Average	964.5 kHz	22.38	L1	-23.61
1 Quasi Peak	1.4595 MHz	36.12	L1	-19.87
2 CISPR Average	1.5225 MHz	28.46	L1	-17.53
1 Quasi Peak	1.9455 MHz	37.27	N	-18.72
2 CISPR Average	2.0625 MHz	29.06	L1	-16.93
2 CISPR Average	2.5395 MHz	28.30	L1	-17.69
1 Quasi Peak	2.751 MHz	36.52	L1	-19.47
2 CISPR Average	3.03 MHz	27.26	L1	-18.73
1 Quasi Peak	3.1875 MHz	35.25	L1	-20.74
2 CISPR Average	4.191 MHz	22.86	N	-23.13
1 Quasi Peak	4.209 MHz	32.22	L1	-23.77

TEST REPORT

EXHIBIT 5 EQUIPMENT LIST

5.0 Equipment List

1) Radiated Emissions Test

Equipment	BiConiLog Antenna - 26MHz to 6000MHz	EMI Test Receiver (9kHz to 3GHz)	Double Ridged Guide Antenna
Registration No.	EW-3061	EW-2500	EW-0194
Manufacturer	EMCO	ROHDESCHWARZ	EMCO
Model No.	3142E	ESCI	3115
Calibration Date	Nov. 02, 2017	Oct. 13, 2017	Aug. 10, 2016
Calibration Due Date	Nov. 02, 2018	Oct. 13, 2018	Feb. 10, 2018

Equipment	Notch Filter (cutoff frequency 1.9GHz to 2.0GHz)	Pyramidal Horn Antenna	Spectrum Analyzer
Registration No.	EW-2360	EW-0905	EW-3110
Manufacturer	MICROWAVE	EMCO	R&S
Model No.	N0319502	3160-09	FSP30
Calibration Date	Jan. 17, 2018	Aug. 12, 2017	Feb. 06, 2017
Calibration Due Date	Jan. 17, 2019	Feb. 18, 2019	Feb. 06, 2018

Equipment	RF Cable 9kHz to 1000MHz	RF Pre-amplifier 3 pcs (9kHz to 40GHz)
Registration No.	EW-3170	EW-3006
Manufacturer	N/A	SCHWARZBECK
Model No.	9kHz to 1000MHz	BBV 9744
Calibration Date	Mar. 20, 2017	Mar. 23, 2017
Calibration Due Date	Mar. 20, 2018	Mar. 23, 2018

2) Conducted Emissions Test

Equipment	EMI Test Receiver	RF Cable 9kHz to 1000MHz	LISN
Registration No.	EW-2251	EW-3170	EW-2874
Manufacturer	ROHDESCHWARZ	N/A	R&S
Model No.	ECSI	9kHz to 1000MHz	ENV-216
Calibration Date	Mar. 03, 2017	Mar. 20, 2017	Mar. 16, 2017
Calibration Due Date	Mar. 03, 2018	Mar. 20, 2018	Mar. 16, 2018

TEST REPORT

3) Conductive Measurement Test

Equipment	Coaxial directional coupler	Spectrum Analyzer	Digital Radiocommunication Tester for DECT
Registration No.	EW-2337	EW-2253	EW-2460
Manufacturer	MAGNA	R&S	ROHDE SCHWARZ
Model No.	4222-16	FSP40	CMD60
Calibration Date	Nil*	Jul. 24, 2017	Apr. 17, 2017
Calibration Due Date	Nil*	Jul. 24, 2018	Apr. 17, 2018

Equipment	Vector Signal Generator	Temperature & Humidity Chamber	DECT 01 02 03 (SMA - SMA) Cable x 3 pcs
Registration No.	EW-3063	EW-2134	EW-3102
Manufacturer	R&S	GIANT FORCE	N/A
Model No.	SMBV100A	GTH-750-40-CP-SD	EMC2 SMA - SMA
Calibration Date	Jul. 27, 2017	Aug. 29, 2017	Feb. 13, 2017
Calibration Due Date	Jul. 27, 2018	Sep. 4, 2018	Feb. 13, 2018

Equipment	Power Combiner 10 to 2500 MHz
Registration No.	EW-3067
Manufacturer	MINICIRCUITS
Model No.	15542 ZFSC-2-2500 00106
Calibration Date	Feb. 13, 2017
Calibration Due Date	Feb. 13, 2018

END OF TEST REPORT