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TEST REPORT

Report No.: 23120030HKG-001

Application For Original Grant of 47 CFR Part 15 Certification

New Family of RSS-247 Issue 3 Equipment Certification

VTech Telecommunications Ltd.

FCC ID: EW780-2365-00A

IC: 1135B-80236500A

Prepared and Checked by:	**Approved by:**
Signed on File Leung Chun Ning, Peter Assistant Engineer	Digitally signed by Herbert Wong Location: Intertek Testing Services Hong Kong Limited Wong Cheuk Ho, Herbert Assistant Supervisor Date: February 05, 2024

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.
Manufacturer Name:	VTech (Dongguan) Telecommunications Limited
Manufacturer Address:	VTech Science Park, Xia Ling Bei Management Zone, Liaobu, Dongguan, Guangdong, China.
FCC Specification Standard:	FCC Part 15, October 1, 2022 Edition
FCC ID:	EW780-2365-00A
FCC Model(s):	VM819 BU, VM819-2 BU, VM819-ab BU, VM3252 BU, VM3252-2 BU, VM350 BU, VM350-2 BU
IC Specification Standard:	RSS-247 Issue 3, August 2023 RSS-Gen Issue 5 Amendment 2, February 2021
IC:	1135B-80236500A
HVIN:	35-201931BUB
VTech Model(s):	VM819 BU, VM819-2 BU, VM819-ab BU, VM3252 BU, VM3252-2 BU, VM350 BU, VM350-2 BU
PMN:	VM819 BU, VM819-2 BU, VM3252 BU, VM3252-2 BU, VM350 BU, VM350-2 BU
Type of EUT:	Spread Spectrum Transmitter
Description of EUT:	Video Baby Monitor
Sample Receipt Date:	December 08, 2023
Date of Test:	December 08, 2023 to January 10, 2024
Report Date:	February 05, 2024
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 / RSS-247 Issue 3 Certification.

TEST REPORT

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TEST REPORT

EXHIBIT 1 TEST RESULTS SUMMARY & STATEMENT OF COMPLIANCE

1.1 Summary of Test Results

Test Items	FCC Part 15 Section	RSS-210/ RSS-Gen#	Results	Details See Section
Antenna Requirement	15.203	8.3#	Pass	2.1
Max. Conducted Output Power	15.247(b)(1) & (4)	5.4(2)	Pass	4.1
Max. 20dB RF Bandwidth	N/A	5.1(1)	N/A	4.2
Min. No. of Hopping Frequencies	15.247(a)(1)(iii)	5.1(4)	Pass	4.3
Min. Hopping Channel Carrier Frequency Separation	15.247(a)(1)	5.1(2)	Pass	4.4
Average Time of Occupancy	15.247(a)(1)(iii)	5.1(4)	Pass	4.5
Out of Band Antenna Conducted Emission	15.247(d)	5.5	Pass	4.6
Radiated Emission in Restricted Bands and Spurious Emissions	15.247(d)	8.10#	Pass	4.8
AC Power Line Conducted Emission	15.207 & 15.107	8.8#	Pass	4.9

Note: Pursuant to FCC Part 15 Section 15.215(c), the 20dB 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 expected variations in temperature and supply voltage were considered.

1.2 Statement of Compliance

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

FCC Part 15, October 1, 2022 Edition
RSS-247 Issue 3, August 2023
RSS-Gen Issue 5 Amendment 2, February 2021

TEST REPORT

EXHIBIT 2 GENERAL DESCRIPTION

2.1 Product Description

The VM819 BU (35-201931BUB) is a Video Monitor - Baby Unit.

The Equipment Under Test (EUT) operates at frequency range of 2405MHz to 2475MHz. There are totally 32 non-overlapping channels and 16 active channels out of the 32 channels. The channels are shown in below table.

2405	2407	2409	2411	2413
2415	2418	2420	2422	2424
2426	2428	2430	2433	2435
2437	2439	2441	2444	2446
2450	2452	2454	2456	2458.5
2460.5	2462.5	2467	2469	2471
2473	2475			

The EUT is powered by AC/DC Adaptor.
(Model: VT05EUS06040; Input: 100-240VAC 50/60Hz; Output: 6.0VDC 0.4A)

The antenna(s) used in the EUT is integral, and the test sample is a prototype.
Maximum Antenna Gain: 0dBi

For FCC, the Model(s): VM819-2 BU, VM819-ab BU, VM3252 BU, VM3252-2 BU, VM350 BU, VM350-2 BU are the same as the Model: VM819 BU in electronics/electrical designs including software & firmware, PCB layout and construction design/physical design/enclosure as declared by client. The only differences between these models are model number to be sold for marketing purpose as declared by client.

For IC, the Model(s): VM819-2 BU, VM3252 BU, VM3252-2 BU, VM350 BU, VM350-2 BU are the same as the Model: VM819 BU in electronics/electrical designs including software & firmware, PCB layout and construction design/physical design/enclosure as declared by client. The only differences between these models are model number to be sold for marketing purpose as declared by client.

The circuit description and frequency hopping algorithm are attached in the Appendix and saved with filename: descri.pdf.

2.2 Test Methodology

Both AC power line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013). Preliminary radiated scans and all radiated measurements were performed in radiated emission test sites. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. Antenna port conducted measurements were performed according to ANSI C63.10 (2013) and KDB Publication No. 558074 D01 v05r02 (April 02, 2019) All other measurements were made in accordance with the procedures in 47 CFR Part 2 and RSS-Gen Issue 5 Amendment 2, February 2021.

TEST REPORT

2.3 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 SAR, China. This test facility and site measurement data have been fully placed on file with FCC and Industry Canada No.: 2042H, CABID is “HKAP01”.

2.4 Related Submittal Grants

This is a single application for certification of a transceiver (FHSS Portion).

TEST REPORT

EXHIBIT 3 SYSTEM TEST CONFIGURATION

3.1 Justification

For radiated emissions testing, the equipment under test (EUT) was setup to transmit / receive continuously 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 is powered by AC/DC Adaptor.
(Model: VT05EUS06040; Input: 100-240VAC 50/60Hz; Output: 6.0VDC 0.4A)

For the measurements, the EUT was attached to a plastic stand if necessary and placed on the wooden turntable at 0.8m height from the ground plane for emission testing at or below 1GHz and 1.5m for emission measurements above 1GHz. If the baby unit attached to peripherals, they were connected and operational (as typical as possible). The parent unit was remotely located as far from the antenna and the baby as possible to ensure full power transmission from the parent unit. Else, the base was wired to transmit full power with modulation.

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. Radiated emissions were 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 any intentional radiator powered by AC power line, measurements of the radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

For transmitter radiated measurement, the spectrum analyzer resolution bandwidth was 100 kHz for frequencies below 1000 MHz. The resolution bandwidth was 3 MHz for frequencies above 1000 MHz.

Radiated emission measurement for 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. Receiver was performed from 30MHz to the fifth harmonic of the highest frequency or 40GHz, whichever is lower.

Emission that are directly caused by digital circuits in the transmit path and transmitter portion were measured, and the limit are according to FCC Part 15 Section 15.209. Digital circuitries used to control additional functions other than the operation of the transmitter are subject to FCC Part 15 Section 15.109 Limits.

TEST REPORT

3.1 Justification (Cont'd)

Detector function for radiated emissions was in peak mode. Average readings, when required, were 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 section 4.3.4.

Determination of pulse desensitization was made according to *Hewlett Packard Application Note 150-2, Spectrum Analysis... Pulsed RF.* The effective period (Teff) was referred to Exhibit 4.3.4. With the resolution bandwidth 1MHz and spectrum analyzer IF bandwidth 3dB, the pulse desensitization factor was 0dB.

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.

3.2 EUT Exercising Software

The EUT exercise program (ComTestSerial v3.0.0.108) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

TEST REPORT

3.3 Details of EUT and Description of Accessories

Details of EUT:

An AC/DC Adaptor (Provided with the unit) was used to power the device. Their descriptions are listed below.

An AC/DC adaptor (Model: VT05EUS06040; Input: 100-240VAC 50/60Hz; Output: 6.0VDC 0.4A) (Provided by Applicant)

Description of Accessories:

Parent Unit (Provided by Applicant)

3.4 Measurement Uncertainty

Decision Rule for compliance: For FCC/IC standard, the measured value must be within the limits of applicable standard without accounting for the measurement uncertainty. For EN/IEC/HKTA/HKTC standard, conformity rules will be used as per standard directly excepted EN/IEC 61000-3-2, EN/IEC 61000-3-3, HKTA1004, HKCA1008, HKTA1019, HKTA1020, HKTA1041 and HKTA1044.

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.

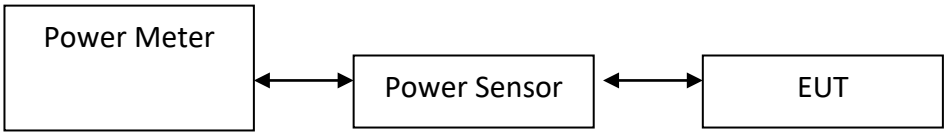
TEST REPORT

EXHIBIT 4 TEST RESULTS

4.1 Maximum Conducted (Peak) Output Power at Antenna Terminals

RF Conducted measurement Test Setup by a Spectrum Analyzer

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



☒ The antenna power of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

☐ The antenna port of the EUT was connected to the input of a spectrum analyzer. The analyzer was set for RBW>20dB bandwidth and power was read directly in dBm. External attenuation and cable loss were compensated for using the OFFSET function of the analyzer.

Baby Unit Peak Antenna Gain = 0 dBi (Refer to Test Data.pdf)

Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2405 (P.12)	14.82	30.3
Middle Channel: 2439 (P.28)	11.91	15.5
High Channel: 2475 (P.36)	13.03	20.1

Cable loss: 0.5dB External Attenuation: 0dB

Cable loss, external attenuation: ☒ included in OFFSET function
☐ added to SA raw reading

dBm Max. Output Level = 14.82 dBm

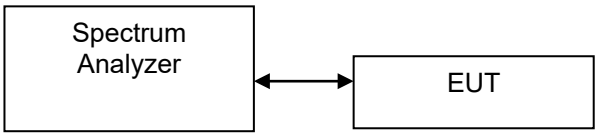
Limits:

0.125W (21dBm) for antennas with gains of 6dBi or less.

TEST REPORT

4.2 Maximum 20dB RF Bandwidth

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



The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was chosen so that the display was a result of the hopping channel modulation. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 20dB lower than PEAK level. The 20dB bandwidth was determined from where the channel output spectrum intersected the display line.

Baby Unit (Refer to Test Data.pdf)

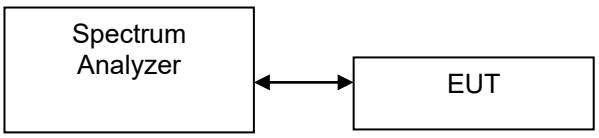
Frequency (MHz)	20dB Bandwidth (kHz)
Low Channel: 2405 (P.13)	2455
Middle Channel: 2439 (P.25)	2495
High Channel: 2475 (P.33)	2495

Limits:

N/A for 2400-2483.5MHz

4.3 Minimum Number of Hopping Frequencies

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



With the analyzer set to MAX HOLD readings were taken for 2-3 minutes in each band. The channel peaks so recorded were added together, and the total number compared to the minimum number of channels required in the regulation.

	Baby Unit
No. of Hopping Channels:	16

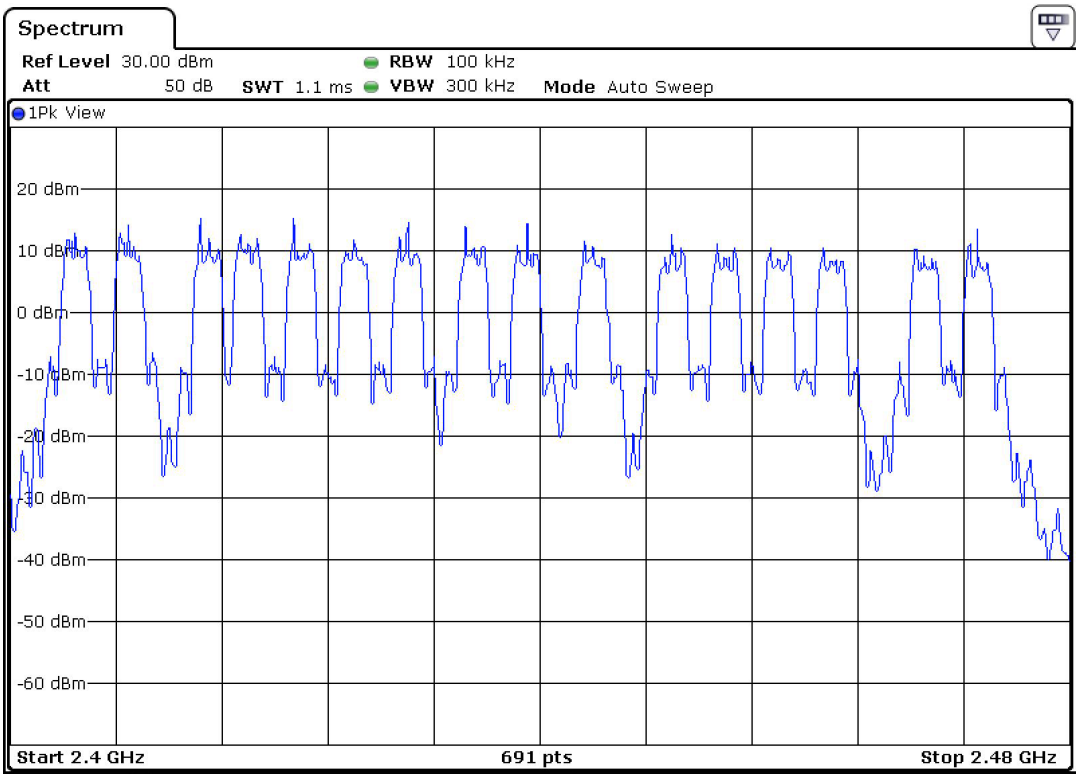
Minimum Requirements:

At least 15 hopping channels for 2400MHz-2483.5MHz

The plots of number of hopping frequencies are saved as below.

TEST REPORT

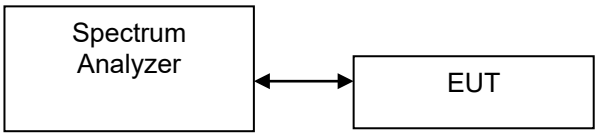
PLOTS OF NUMBER OF HOPPING FREQUENCIES



TEST REPORT

4.4 Minimum Hopping Channel Carrier Frequency Separation

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



Using the DELTA MARKER function of the analyzer, the frequency separation between two adjacent channels was measured and met the requirement.

Baby Unit	
Channel Separation (Channel 11 and Channel 12)	1983kHz

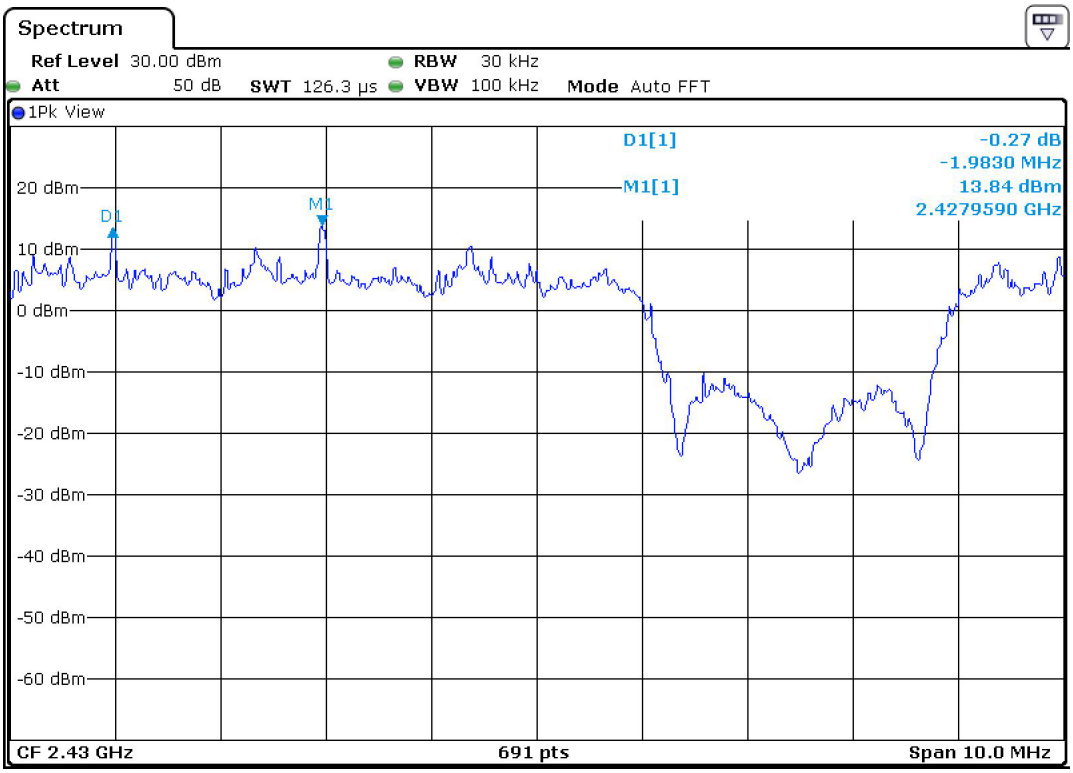
Limits:

The channel separation must be larger than:
2/3 of 20dB bandwidth of hopping channel: 1663.3kHz

The plot(s) of hopping channel carrier frequency separation is saved as below.

TEST REPORT

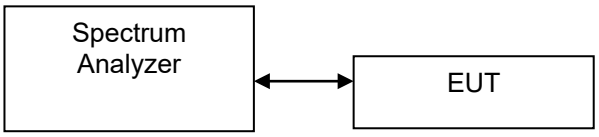
PLOTS OF HOPPING CHANNEL CARRIER FREQUENCY SEPARATION



TEST REPORT

4.5 Average Channel Occupancy Time

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



The spectrum analyzer center frequency was set to one of the known hopping channels. The SWEEP was set to 1ms, the SPAN was set to ZERO SPAN, and the TRIGGER was set to VIDEO. The time duration of the transmission so captured was measured with the MARKER DELTA function.

The SWEEP was then set to the time required by the regulation (20 seconds for 902-928 MHz devices, if the 20dB bandwidth is less than 250kHz, 10 seconds for 902-928 MHz if the 20dB bandwidth is or greater than 250kHz, "0.4 seconds x Number of hopping channels employed" seconds for 2400-2483.5 MHz, 30 seconds for 5725-5850 MHz). The analyzer was set to SINGLE SWEEP, the total ON time was added and compared against the limit (0.4 seconds).

Baby Unit (Worst-Case) (Refer to Test Data.pdf P.10)	
Average Occupancy Time (Traffic – in a clear RF environment) =	286.28ms

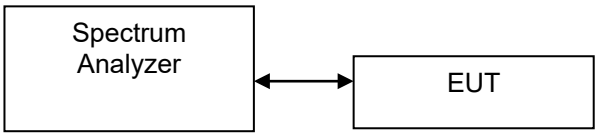
Limits:

Average 0.4 seconds maximum occupancy in:
2400MHz-2483.5MHz
(Traffic – in a clear RF environment)

TEST REPORT

4.6 Out of Band Conducted Emissions

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



In any 100kHz bandwidth outside the EUT passband, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20dB below that of the maximum in-band 100 kHz emission.

The plot(s) of bandedge compliance is shown the worst-case which has been already considered between enable and disable the hopping function of the EUT.

Furthermore, delta measurement technique for measuring bandedge emissions was incorporated in the test of the edge at 2483.5MHz.

Limits:

All spurious emission and up to the tenth harmonic was measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

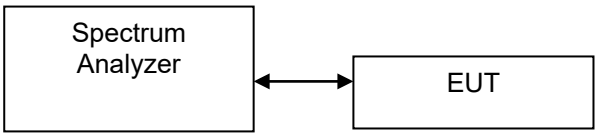
Baby Unit (Refer to Test Data.pdf)

Frequency (MHz)	Out of Band Conducted Emissions	Band Edge (Frequency Dependent)	Band Edge (Frequency Independent)
Low Channel: 2405	P.22	P.16	P.4
Middle Channel: 2439	P.30	N/A	N/A
High Channel: 2475	P.43	P.37	P.7

TEST REPORT

OCCUPIED BANDWIDTH

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



Occupied Bandwidth Results: (Baby Unit)

Frequency (MHz)	Occupied Bandwidth (kHz)
Low Channel: 2405 (P.14)	2297
Middle Channel: 2439 (P.26)	2337
High Channel: 2475 (P.34)	2416

TEST REPORT

4.7 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 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
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 reflects 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 dBμV 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 dBμV/m. This value in dBμV/m is converted to its corresponding level in μV/m.

RA = 62.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29 dB
PD = 0.0 dB
AV = -10 dB
FS = 62.0 + 7.4 + 1.6 – 29.0 + 0.0 + (-10.0) = 32.0 dBμV/m

Level in μV/m = Common Antilogarithm [(32.0 dBμV/m)/20] = 39.8 μV/m

TEST REPORT

4.8 Transmitter Radiated Emission and Spurious Emission

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.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

4.8.1 Radiated Emission Configuration Photograph

Worst Case Radiated Emission

at Baby Unit: 2483.5MHz

The worst case radiated emission configuration photographs are attached in the Appendix and saved with filename: setup photos.pdf

4.8.2 Radiated Emission Data

The data in tables 1-4 list the significant emission frequencies, the limit and the margin of compliance.

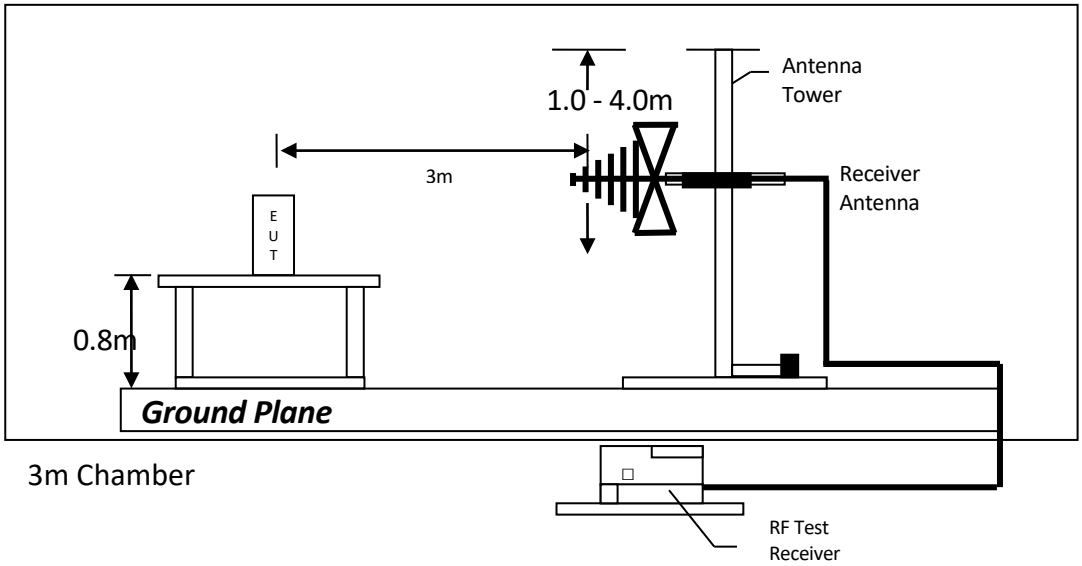
Judgement –

Baby Unit: Passed by 5.3 dB

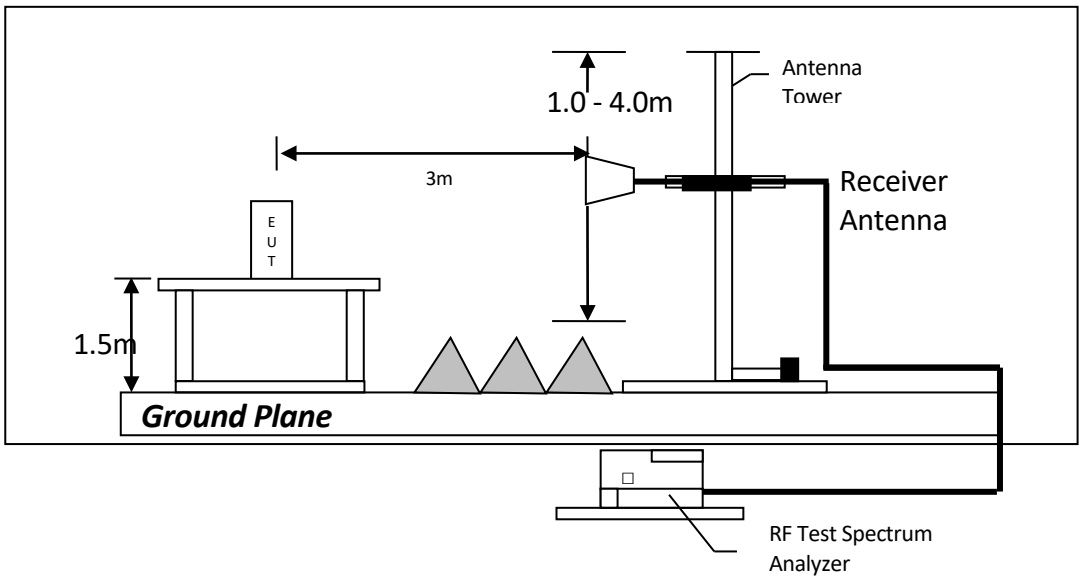
TEST REPORT

4.8.3 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

RADIATED EMISSION DATA

Mode: TX-Channel 2405

Table 1, Baby Unit

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	2390.000	49.8	33	29.4	46.2	54.0	-7.8
H	4810.000	35.6	33	34.9	37.5	54.0	-16.5
V	7215.000	33.2	33	37.9	38.1	54.0	-15.9
H	9620.000	27.7	33	40.4	35.1	54.0	-18.9
V	12025.000	29.9	33	40.5	37.4	54.0	-16.6
H	14430.000	34.6	33	40.0	41.6	54.0	-12.4

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)
V	2390.000	69.2	33	29.4	65.6	74.0	-8.4
H	4810.000	54.6	33	34.9	56.5	74.0	-17.5
V	7215.000	55.2	33	37.9	60.1	74.0	-13.9
H	9620.000	41.5	33	40.4	48.9	74.0	-25.1
V	12025.000	43.2	33	40.5	50.7	74.0	-23.3
H	14430.000	48.3	33	40.0	55.3	74.0	-18.7

NOTES:
1. Peak detector is used for the emission measurement.
2. Average detector is used for the average data of emission measurement.
3. All measurements were made at 3 meters.
4. Negative value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz
6. Emissions within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-Gen Section 8.10
7. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

TEST REPORT

RADIATED EMISSION DATA

Mode: TX-Channel 2439

Table 2, Baby Unit

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	4878.000	36.3	33	34.9	38.2	54.0	-15.8
V	7317.000	30.2	33	37.9	35.1	54.0	-18.9
H	9756.000	28.4	33	40.4	35.8	54.0	-18.2
H	12195.000	30.2	33	40.5	37.7	54.0	-16.3
H	14634.000	35.6	33	38.4	41.0	54.0	-13.0

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	4878.000	55.9	33	34.9	57.8	74.0	-16.2
V	7317.000	50.0	33	37.9	54.9	74.0	-19.1
H	9756.000	42.2	33	40.4	49.6	74.0	-24.4
H	12195.000	43.4	33	40.5	50.9	74.0	-23.1
H	14634.000	49.2	33	38.4	54.6	74.0	-19.4

NOTES:
1. Peak detector is used unless otherwise stated.
2. Average detector is used for the average data of emission measurement.
3. All measurements were made at 3 meters.
4. Negative value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz
6. Emissions within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-Gen Section 8.10
7. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

TEST REPORT

RADIATED EMISSION DATA

Mode: TX-Channel 2475

Table 3, Baby Unit

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	2483.500	52.3	33	29.4	48.7	54.0	-5.3
H	4950.000	34.6	33	34.9	36.5	54.0	-17.5
H	7425.000	30.0	33	37.9	34.9	54.0	-19.1
H	9900.000	27.9	33	40.4	35.3	54.0	-18.7
V	12375.000	30.2	33	40.5	37.7	54.0	-16.3
V	14850.000	35.3	33	38.4	40.7	54.0	-13.3

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)
V	2483.500	71.2	33	29.4	67.6	74.0	-6.4
H	4950.000	54.2	33	34.9	56.1	74.0	-17.9
H	7425.000	48.3	33	37.9	53.2	74.0	-20.8
H	9900.000	41.4	33	40.4	48.8	74.0	-25.2
V	12375.000	43.2	33	40.5	50.7	74.0	-23.3
V	14850.000	48.5	33	38.4	53.9	74.0	-20.1

NOTES:
1. Peak detector is used unless otherwise stated.
2. Average detector is used for the average data of emission measurement.
3. All measurements were made at 3 meters.
4. Negative value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz
6. Emissions within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-Gen Section 8.10
7. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

TEST REPORT

RADIATED EMISSION DATA

Mode: BU Operating

Table 4, Baby Unit

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	504.088	25.4	16	26.0	35.4	46.0	-10.6
V	515.970	23.6	16	27.0	34.6	46.0	-11.4
V	527.974	29.3	16	27.0	40.3	46.0	-5.7
V	552.103	24.2	16	28.0	36.2	46.0	-9.8
V	624.004	21.5	16	29.0	34.5	46.0	-11.5
V	959.988	22.6	16	33.0	39.6	46.0	-6.4

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.
4. Emissions within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-Gen Section 8.10
5. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

TEST REPORT

4.9 AC Power Line Conducted Emission

EUT connects to AC power line. Emission Data is listed in following pages.

4.9.1 AC Power Line Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration

at 0.1545 MHz

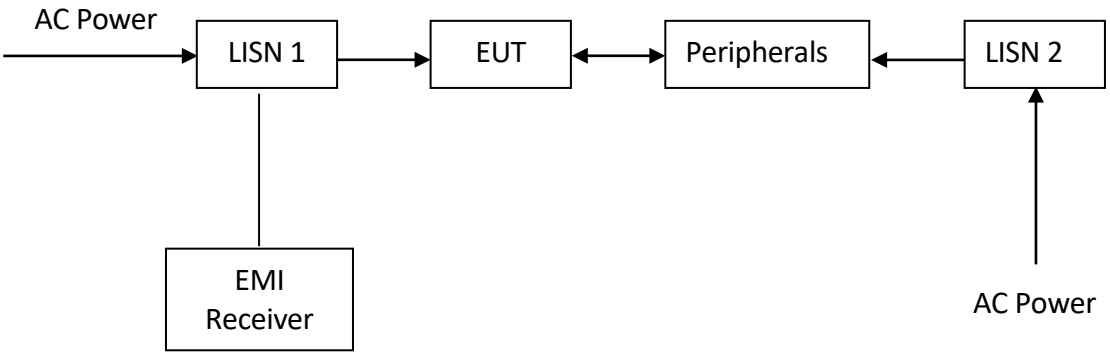
The worst-case line conducted configuration photographs are attached in the Appendix and saved with filename: setup photos.pdf.

4.9.2 AC Power Line Conducted Emission Data

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

Passed by 15.5 dB margin compare with Quasi Peak limit.

4.9.3 Conducted Emission Test Setup



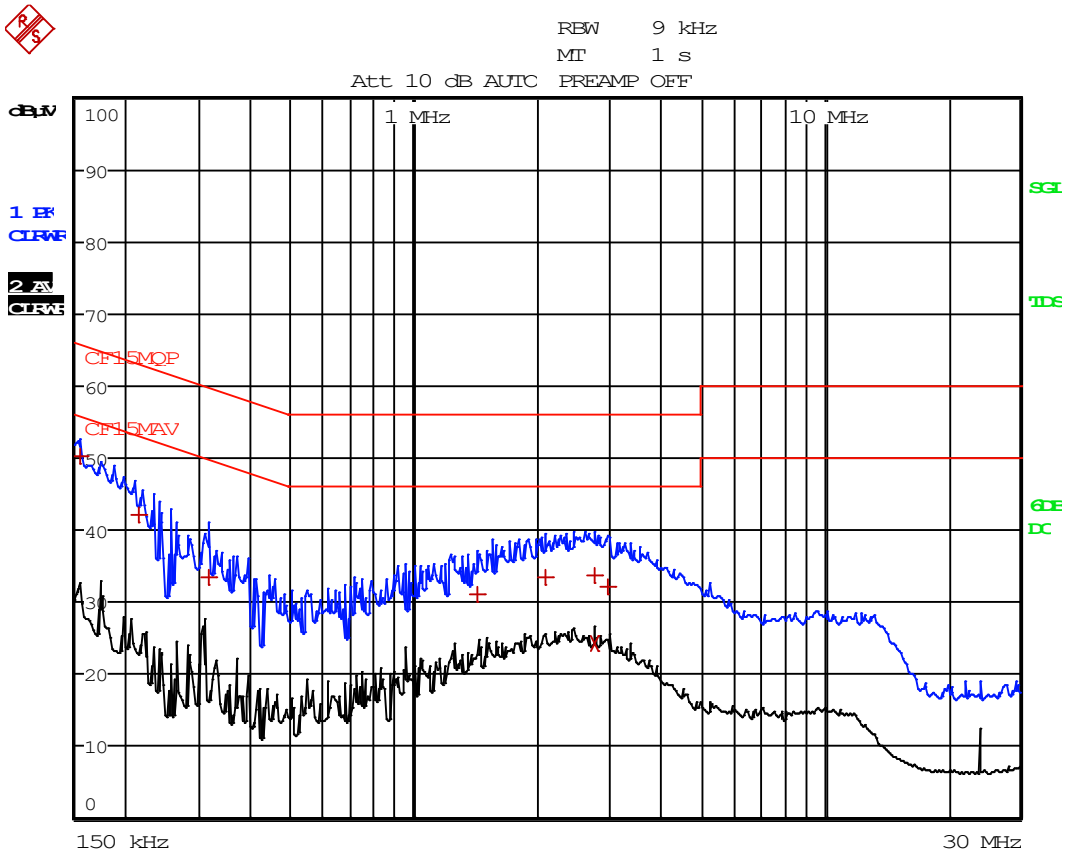
The EUT along with its peripherals were placed on a 1.0m(W)×1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50 ohm 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.

TEST REPORT

AC POWER LINE CONDUCTED EMISSION

Worst Case: BU Operating



TEST REPORT

AC POWER LINE CONDUCTED EMISSION

Worst Case: BU Operating

EDIT PEAK LIST (Final Measurement Results)

Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

	TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	154.5 kHz	50.24	N	-15.51
1	Quasi Peak	217.5 kHz	42.09	N	-20.82
1	Quasi Peak	316.5 kHz	33.46	N	-26.33
1	Quasi Peak	1.4235 MHz	31.08	N	-24.91
1	Quasi Peak	2.0985 MHz	33.53	L1	-22.46
1	Quasi Peak	2.7465 MHz	33.85	N	-22.14
2	CISPR Average	2.7555 MHz	24.20	L1	-21.80
1	Quasi Peak	2.985 MHz	32.07	L1	-23.92

TEST REPORT

EXHIBIT 5 EQUIPMENT LIST

1) Radiated Emissions Test

Equipment	Signal and Spectrum Analyzer (10Hz to 40GHz)	Biconical Antenna (30MHz to 300MHz)	EMI Test Receiver 7GHz
Registration No.	EW-3016	EW-3242	EW-3603
Manufacturer	ROHDESCHWARZ	EMCO	ROHDESCHWARZ
Model No.	FSV40	3110C	ESR7
Calibration Date	December 13, 2022	May 26, 2021	December 06, 2022
Calibration Due Date	March 13, 2024	February 26, 2024	March 06, 2024

Equipment	Log Periodic Antenna	Double Ridged Guide Antenna (1GHz - 18GHz)	Active Loop H-field (9kHz to 30MHz)
Registration No.	EW-3243	EW-0194	EW-3302
Manufacturer	EMCO	EMCO	EMCO
Model No.	3148B	3115	6502
Calibration Date	June 03, 2021	May 10, 2023	September 08, 2022
Calibration Due Date	March 30, 2024	November 10, 2024	March 08, 2024

Equipment	RF Preamplifier (9kHz to 6000MHz)	2.4GHz Notch Filter	14m Double Shield RF Cable (9kHz - 6GHz)
Registration No.	EW-3006b	EW-3435	EW-2376
Manufacturer	SCHWARZBECK	MICROWAVE	RADIALL
Model No.	BBV9718	N0324413	n m/br56/bnc m 14m
Calibration Date	February 15, 2022	June 16, 2022	January 26, 2022
Calibration Due Date	February 15, 2024	March 16, 2024	January 26, 2024

Equipment	RF Cable 14m (1GHz to 26.5GHz)	14m Double Shield RF Cable (20MHz to 6GHz)	Pyramidal Horn Antenna
Registration No.	EW-2781	EW-2074	EW-0905
Manufacturer	GREATBILLION	RADIALL	EMCO
Model No.	SMA m/SHF5MPU /SMA m ra14m,26G	N(m)-RG142-BNC(m) L=14M	3160-09
Calibration Date	December 12, 2022	December 10, 2021	July 20, 2021
Calibration Due Date	March 12, 2024	March 10, 2024	February 20, 2024

TEST REPORT

5.0 EQUIPMENT LIST (CONT'D)

2) Conducted Emissions Test

Equipment	RF Cable 240cm (RG142) (9kHz to 30MHz)	Artificial Mains Network	EMI Test Receiver 7GHz
Registration No.	EW-2454	EW-2501	EW-3481
Manufacturer	RADIALL	ROHDESCHWARZ	ROHDESCHWARZ
Model No.	Bnc m st / 142 / bnc mra 240cm	ENV-216	ESR7
Calibration Date	June 13, 2023	September 11, 2021	December 21, 2021
Calibration Due Date	June 13, 2024	March 11, 2024	March 21, 2024

3) Conductive Measurement Test

Equipment	5m RF Cable (40GHz)	RF Power Meter with Power Sensor (N1921A)	EMI Test Receiver 7GHz
Registration No.	EW-2701	EW-3309	EW-3481
Manufacturer	RADIALL	ROHDESCHWARZ	ROHDESCHWARZ
Model No.	Sma m-m 5m 40G	NRP-Z81	ESR7
Calibration Date	November 24, 2020	February 14, 2023	December 21, 2021
Calibration Due Date	February 24, 2024	February 14, 2024	March 21, 2024

4) Control Software for Radiated Emission

Software Information	
Software Name	EMC32
Manufacturer	ROHDESCHWARZ
Software version	10.50.40 & 10.40.10

END OF TEST REPORT