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TEST REPORT

Report Number: 20120571HKG-004

Application For Class II Permissive Change of 47 CFR Part 15 Certification
Class II Permissive Change of RSS-213 Issue 3 Equipment Certification

Unlicensed Personal Communication Service Devices/
2 GHz License-exempt Personal Communications Service Devices

(Handset)

FCC ID: EW780-9867-00
IC: 1135B-80167801

Prepared and Checked by:	**Approved by:**
Signed On File Leung Chiu Kuen, Stanley Engineer	Intertek Testing Services Hong Kong Ltd. Lead Engineer Date: May 18, 2021

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, 2019 Edition
FCC ID:	EW780-9867-00
FCC Model(s):	CL82XY9, CL82219, CL82229, CL82319, CL82419, CL80119, CL801Y9, CL83519, CL83XY9
IC Specification Standard:	RSS-213 Issue 3, March 2015 RSS-Gen Issue 5, April 2018
IC:	1135B-80167801
HVIN:	35-201171HS
VTech Model(s):	CL82219, CL82229, CL82319, CL82419, CL82XY9, CL80119, CL801Y9, CL83519, CL83XY9
PMN for VTech Models "CL82219, CL82229, CL82319, CL82419, CL82XY9":	CL82219/CL82229/CL82319/CL82419
PMN for VTech Models "CL80119, CL801Y9":	CL80119
PMN for VTech Models "CL83519, CL83XY9":	CL83519
Type of EUT:	Unlicensed Personal Communications Service Devices
Description of EUT:	DECT 6.0 Cordless Telephone - Handset
Serial Number:	N/A
Sample Receipt Date:	December 11, 2020
Date of Test:	December 11 - December 23, 2020
Report Date:	May 18, 2021
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-213 Issue 3 Certification.

TEST REPORT

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1.0 TEST RESULTS SUMMARY & STATEMENT OF COMPLIANCE

1.1 Summary of Test Results

General Technical Requirements					
Test Items	**RSS-213 / RSS-Gen# Clause**	**FCC Part 15 Section**	**Test Procedure ANSI C63.17 / ANSI C63.4***	**Results**	**Details See Section**
Occupied/Emission Bandwidth	5.5	15.323(a)	6.1.3	Pass	4.1
Power Spectral Density	5.7	15.319(d)	6.1.5	Pass	4.2

Specific Requirements for UPCS Device					
Test Items	**RSS-213 Clause**	**FCC Part 15 Section**	**Test Procedure ANSI C63.17**	**Results**	**Details See Section**
Unwanted Emission Inside the Sub-Band	5.8.2	15.323(d)	6.1.6.1	Pass	4.3
Emissions Outside the Sub-Band	5.8.1	15.323(d)	6.1.6.2	Pass	4.4
Frame Period and Jitter	5.2(13)	15.323(e)	6.2.3	Pass	4.5

1.2 Statement of Compliance

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

FCC Part 15, October 1, 2019 Edition
RSS-213 Issue 3, March 2015
RSS-Gen Issue 5, April 2018

TEST REPORT

2.0 GENERAL DESCRIPTION

2.1 Product Description

The CL82XY9 (35-201171HS) is a DECT 6.0 Cordless Telephone - Handset. 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 Handset is powered by a Ni-MH type rechargeable battery pack (2.4V 400mAh).

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

The Model(s): CL82219, CL82229, CL82319, CL82419, CL80119, CL801Y9, CL83519 and CL83XY9 are the same as the Model: CL82XY9 in electrical designs including software & firmware, PCB layout and construction design/physical design/enclosure as declared by client. The only differences between these models are color, model number, package type and no. of Handset and Charger to be sold for marketing purpose as declared by client. Suffix (X) indicates different any alphanumeric character is presenting no. of Handset and suffix (Y) indicates different number (0, 1, 2, 3, 4, 5, 6, 7, 8) is presenting different package type or color of enclosure; Y=Number (9) is presenting different package type or color of enclosure with Wireless Speaker. Suffix (“X,Y” in CL82XY9) indicates different number of handset and extra charger, and different package type or different color of enclosure. Suffix (“Y” in CL801Y9) indicates different package type or 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) 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 / RSS-Gen Issue 5 (2018).

2.4 Test Facility

The radiated emission test site, facility and antenna port conducted measurement facility used to collect the radiated 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.

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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 handset was powered by a fully charged battery.

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 IC and antenna for handset of CL82XY9 is the same with original granted model CL82215. Therefore conducted emission measurement for peak transmit power, frame repetition stability, carrier stability and listen before transmit requirements for CL82XY9 are skipped.

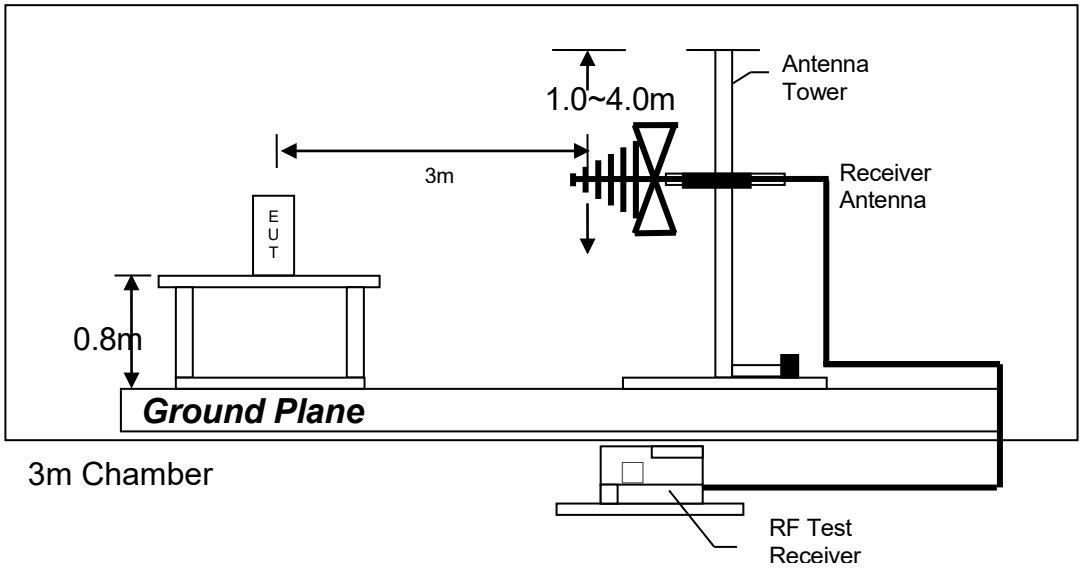
All connecting cables of EUT and peripherals were manipulated to find the maximum emission.

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

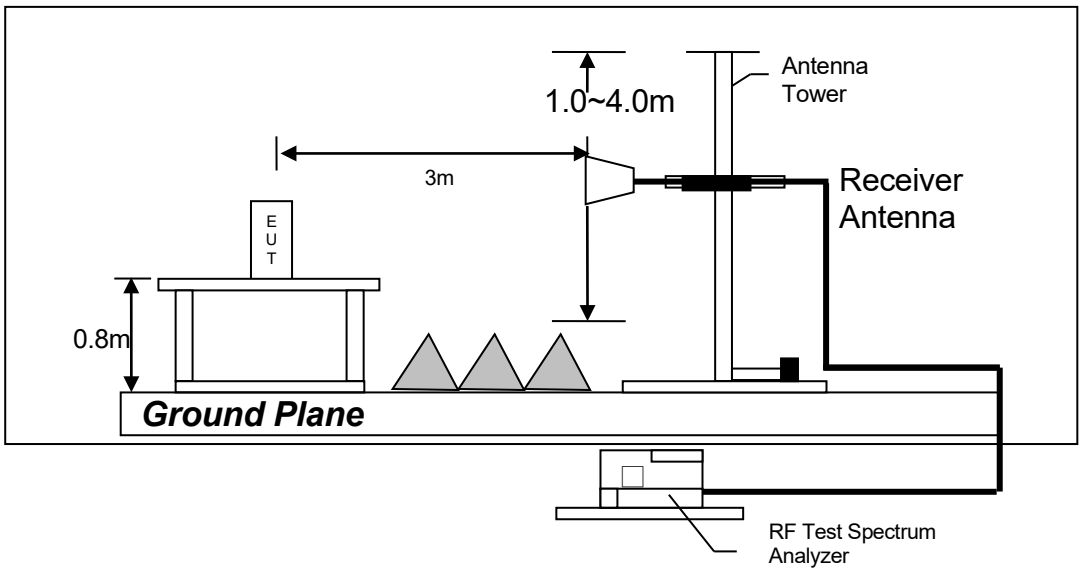
TEST REPORT

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

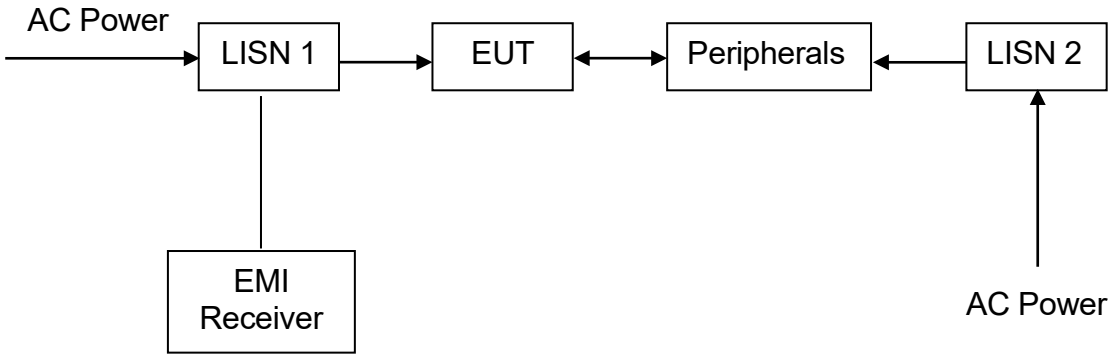


Figure 3.3.1

TEST REPORT

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 impendence 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.

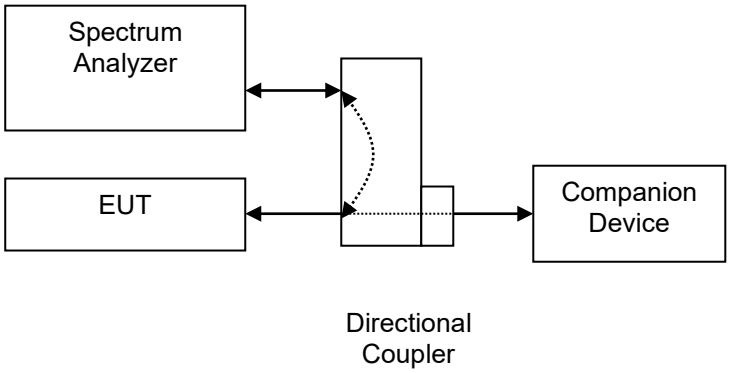


Figure 3.4.1

3.5 Conducted Monitoring and Operation Test Configuration

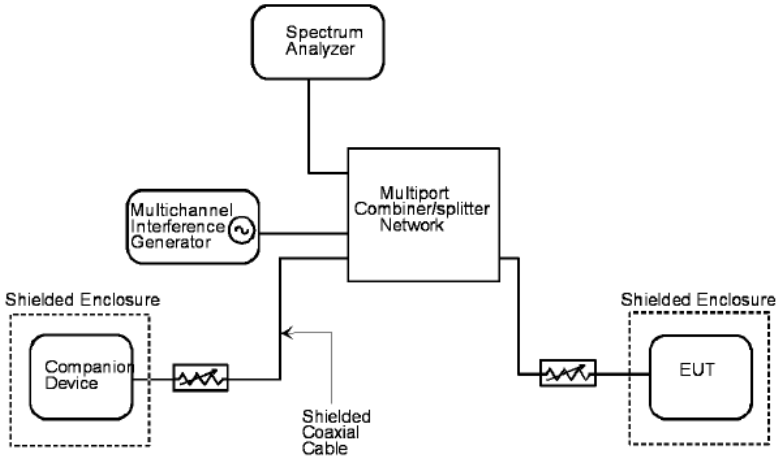


Figure 3.5.1

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.

TEST REPORT

3.7 Details of EUT and Description of Accessories

Details of EUT:

A battery (provided with the unit) was used to power the device. Their descriptions are listed below.

(1) Handset: A ''Ni-MH'' type rechargeable battery pack (2.4V 400mAh, Brand: Corun, Ni-MH AAA400*2) (Supplied by Client)
(2) Handset: A ''Ni-MH'' type rechargeable battery pack (2.4V 400mAh, Brand: Coslight, LH040-3AH45C2B) (Supplied by Client)
(3) Handset: A ''Ni-MH'' type rechargeable battery pack (2.4V 400mAh, Brand: GPI, VT40AAAHC2BMJZ) (Supplied by Client)
(4) Handset: A ''Ni-MH'' type rechargeable battery pack (2.4V 400mAh, Brand: High Power, Ni-MH AAA400*2) (Supplied by Client)

Description of Accessories:

(1) Base Unit, Model: CL82XY9, FCC: EW780-9867-00 (Supplied by Client)

3.8 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. For these excepted or not mentioned standards, Cl 4.2.2 of ILAC-G8:09/2019 decision rules will be reference and guard band will be equal to our measurement uncertainty with 95% confidence level (k=2). In case, the measured value is within guard band region, undetermined decision will be used. 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 ± 5.3dB, ± 4.2dB, ±1dB, ±23Hz, 0.1μs 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.

TEST REPORT

4.0 MEASUREMENT RESULTS

4.1 Emission Bandwidth, FCC Rule 15.323(a) / RSS-213 Clause 5.5:

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 and RSS-Gen clause 4.6.1. Test setup is shown in section 3.4 Figure 3.4.1.

Test Results:

I. Handset - Traffic Carrier

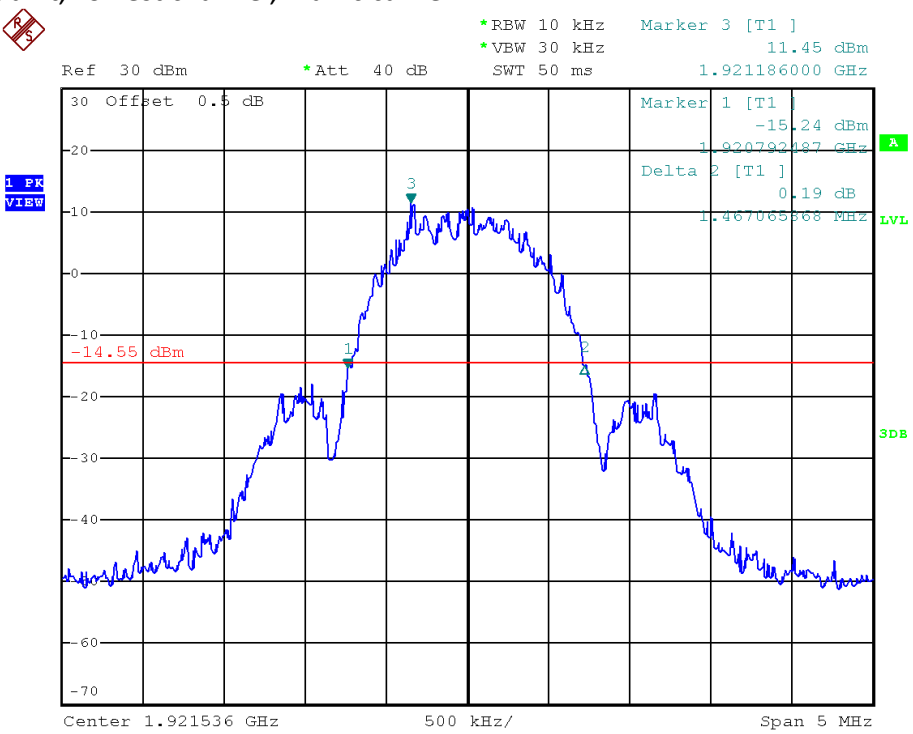
Channel	Channel Frequency (MHz)	Measuring Signal Level	Measured Emission Bandwidth (MHz)	Results
Lowest	1921.536	26 dB down	1.47	Pass
Highest	1928.448	26 dB down	1.47	Pass

The plots of emission bandwidth are saved as below.

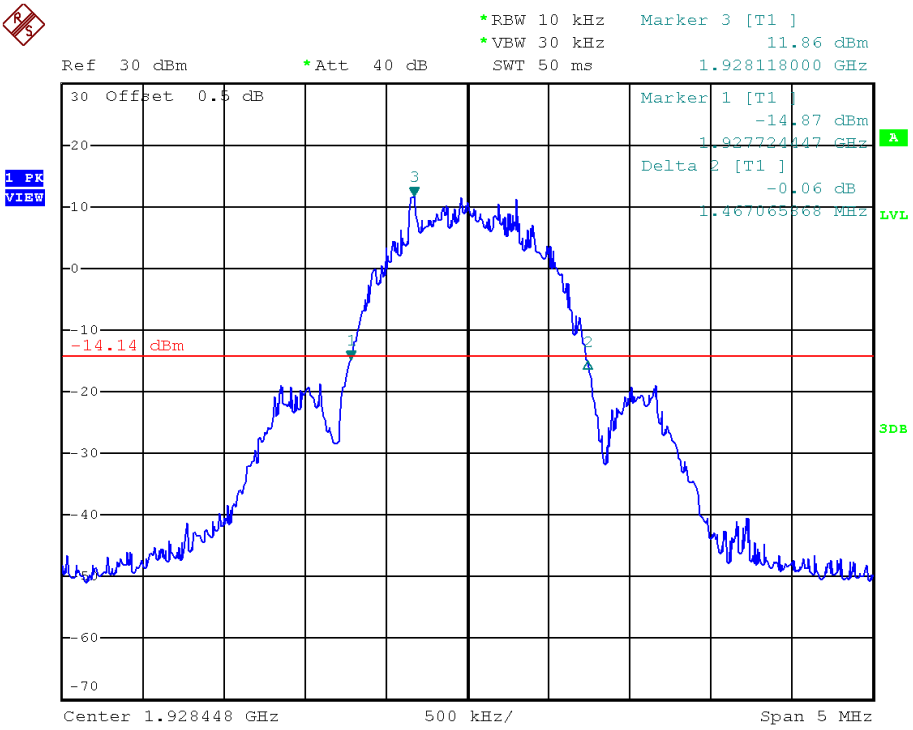
TEST REPORT

PLOTS OF EMISSION BANDWIDTH

Handset unit, Lowest channel, Traffic carrier



Handset unit, Highest channel, Traffic carrier



TEST REPORT

4.2 Power Spectral Density, FCC Rule 15.319(d) / RSS-213 Clause 5.7:

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. Handset - Traffic Carrier

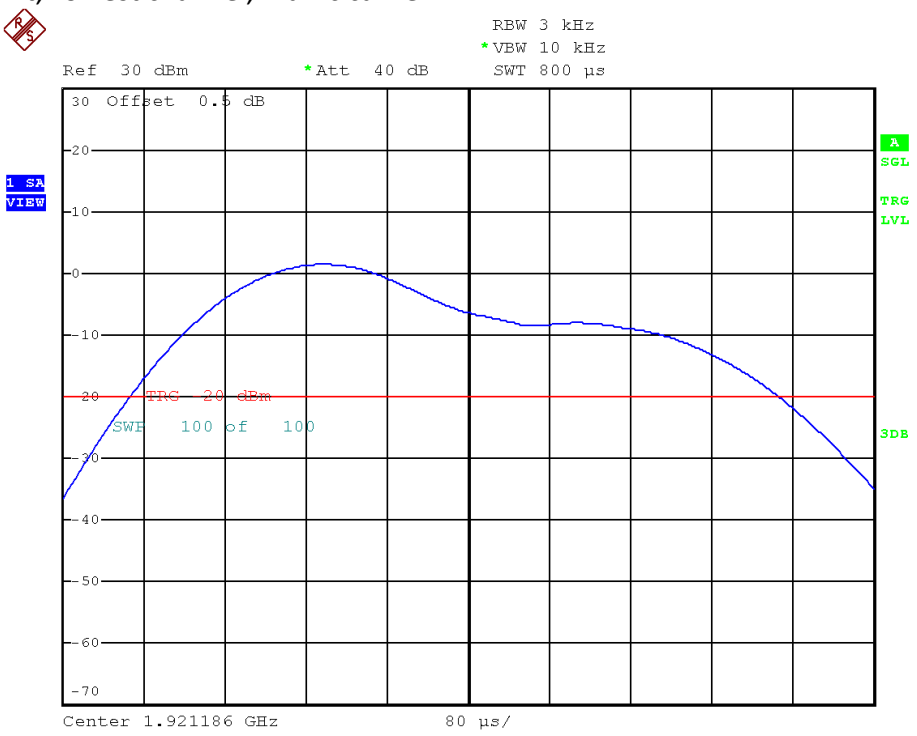
Channel	Channel Frequency (MHz)	Measured Power Spectral Density (dBm/3kHz)	Limit (dBm/3 kHz)	Results
Lowest	1921.536	-5.1	4.8	Pass
Highest	1928.448	-6.0	4.8	Pass

The plots of the power spectral density are as below.

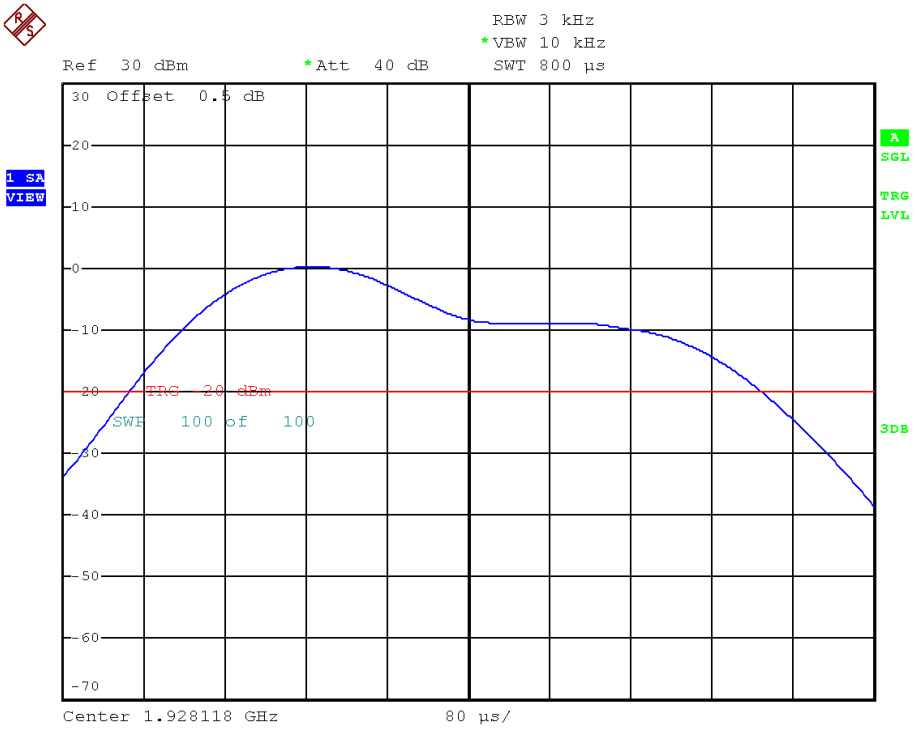
TEST REPORT

PLOTS OF THE POWER SPECTRAL DENSITY

Handset unit, Lowest channel, Traffic carrier



Handset unit, Highest channel, Traffic carrier



TEST REPORT

4.3 Unwanted Emission Inside the Sub-Band, FCC Rule 15.323(d) / RSS-213 Clause 5.8.2:

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

1. In the bands between 1*B* and 2*B* 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 2*B* and 3*B* 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 3*B* 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. Handset - Traffic Carrier

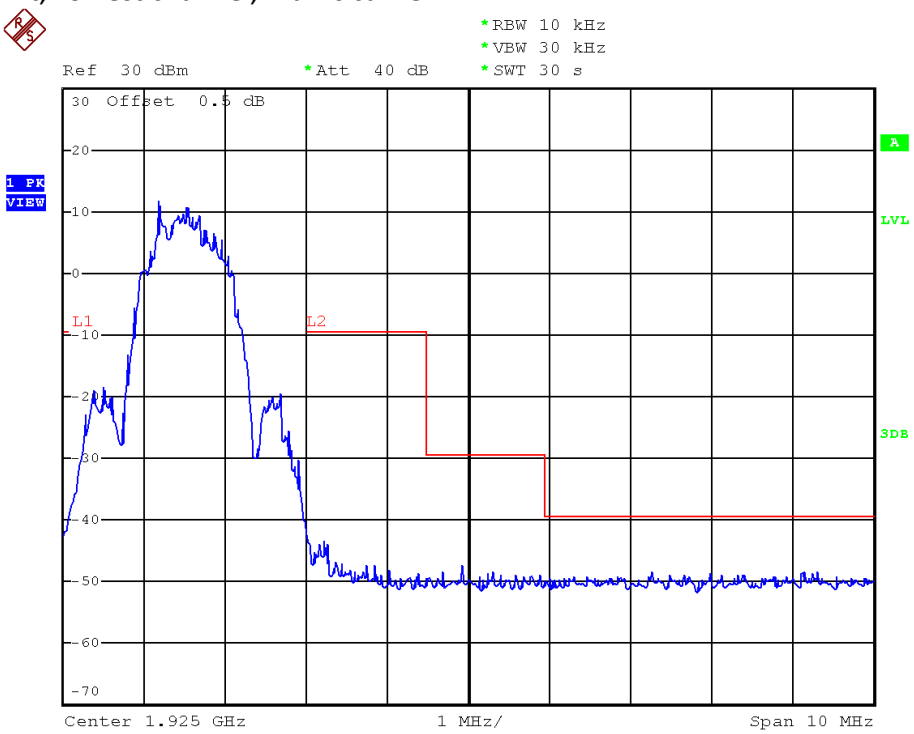
Channel	Channel Frequency (MHz)	Results
Lowest	1921.536	Pass
Middle	1924.992	Pass
Highest	1928.448	Pass

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

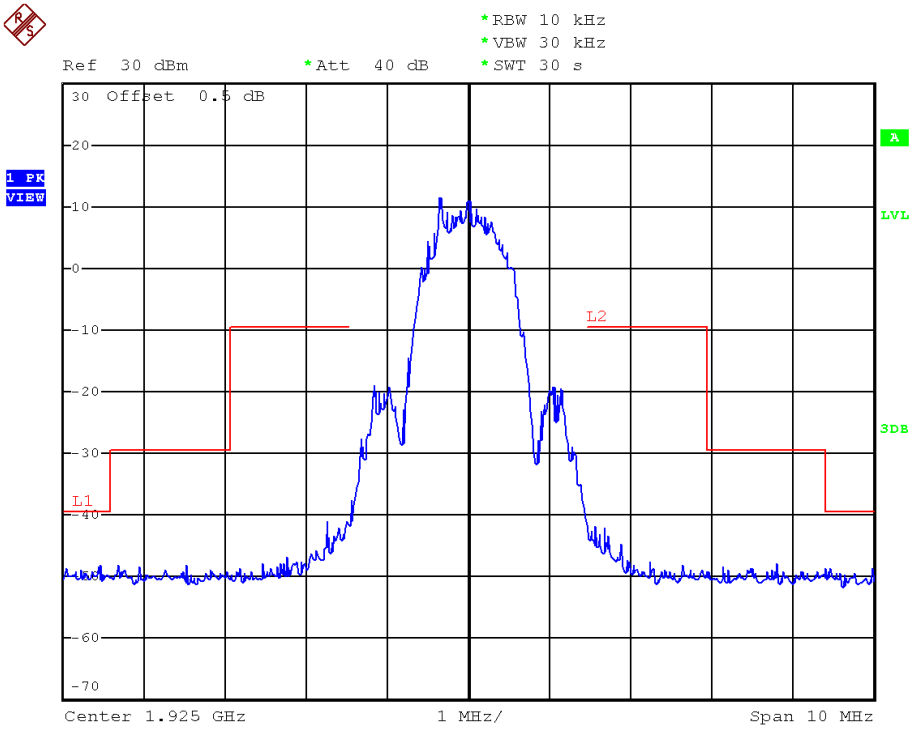
TEST REPORT

PLOTS OF THE UNWANTED EMISSION INSIDE THE SUB-BAND

Handset unit, Lowest channel, Traffic carrier



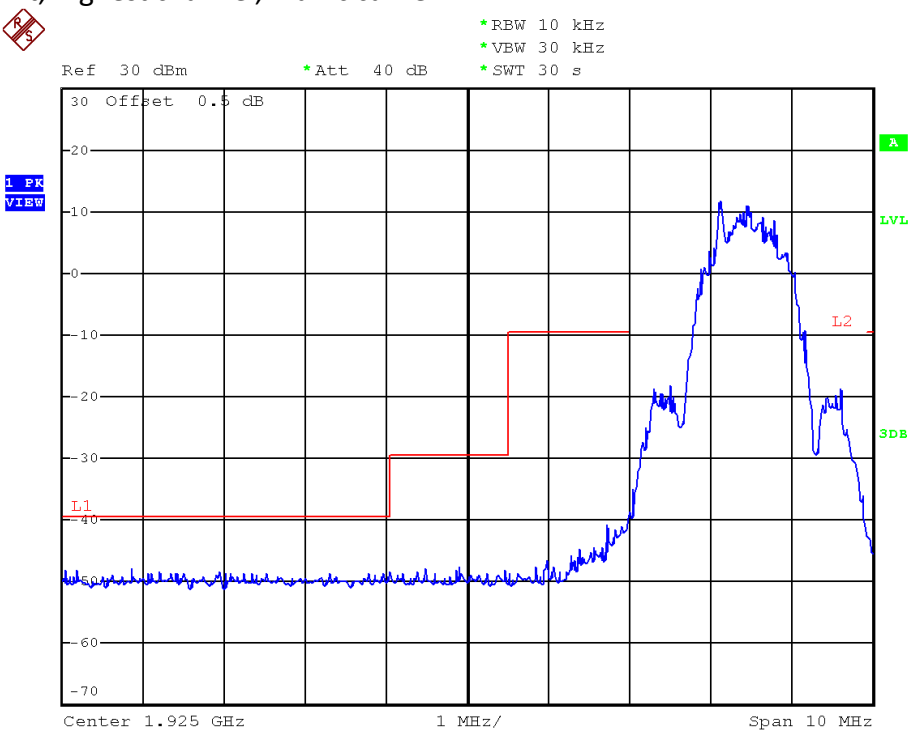
Handset unit, Middle channel, Traffic carrier



TEST REPORT

PLOTS OF THE UNWANTED EMISSION INSIDE THE SUB-BAND

Handset unit, Highest channel, Traffic carrier



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4.4 Emissions Outside the Sub-Band, FCC Rule 15.323(d) / RSS-213 Clause 5.8.1:

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 / RSS-210 Clause 2.5.

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 / RSS-Gen Clause 8.9	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 / RSS-Gen Clause 8.9	Pass

TEST REPORT

4.4.1 Radiated Emissions Configuration Photographs:

Worst Case Radiated Emission
at
3843.072 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 1.1 dB margin

TEST REPORT

RADIATED EMISSIONS DATA

Mode: Transmission

Table 1, Handset

Pursuant to FCC Part 15 Section 15.323 (d) / RSS-213 Clause 5.8.1 Emissions Requirements

Lowest Channel

Polarization	Frequency (MHz)	Measured Power (dBm)	Power Limit (dBm)	Margin (dB)
V	1919.983	-35.1	-9.5	-25.6
V	1918.749	-48.8	-29.5	-19.3
V	1917.349	-52.9	-39.5	-13.4

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, Handset

Pursuant to FCC Part 15 Section 15.209 / RSS-Gen Clause 8.9 Emissions Requirements

Lowest Channel

Polari-zation	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	3843.072	72.6	33	33.3	72.9	27.6	45.3	54.0	-8.7
V	5764.608	57.9	33	36.6	61.5	27.6	33.9	54.0	-20.1
H	7686.144	55.1	33	38.9	61.0	27.6	33.4	54.0	-20.6
H	9607.680	41.0	33	40.4	48.4	27.6	20.8	54.0	-33.2
V	11529.216	36.0	33	40.5	43.5	27.6	15.9	54.0	-38.1
H	13450.752	37.3	33	41.9	46.2	27.6	18.6	54.0	-35.4

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)
H	3843.072	72.6	33	33.3	72.9	74.0	-1.1
V	5764.608	57.9	33	36.6	61.5	74.0	-12.5
H	7686.144	55.1	33	38.9	61.0	74.0	-13.0
H	9607.680	41.0	33	40.4	48.4	74.0	-25.6
V	11529.216	36.0	33	40.5	43.5	74.0	-30.5
H	13450.752	37.3	33	41.9	46.2	74.0	-27.8

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.

TEST REPORT

Mode: Transmission

Table 3, Handset

Pursuant to FCC Part 15 Section 15.323 (d) / RSS-213 Clause 5.8.1 Emissions Requirements

Highest Channel

Polarization	Frequency (MHz)	Measured Power (dBm)	Power Limit (dBm)	Margin (dB)
V	1930.073	-35.0	-9.5	-25.5
V	1931.537	-47.1	-29.5	-17.6
V	1932.588	-51.7	-39.5	-12.2

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, Handset

Pursuant to FCC Part 15 Section 15.209 / RSS-Gen Clause 8.9 Emissions Requirements

Highest Channel

Polari-zation	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	3856.896	72.0	33	33.3	72.3	27.6	44.7	54.0	-9.3
H	5785.344	64.0	33	36.6	67.6	27.6	40.0	54.0	-14.0
H	7713.792	58.6	33	38.9	64.5	27.6	36.9	54.0	-17.1
V	9642.240	34.9	33	40.4	42.3	27.6	14.7	54.0	-39.3
V	11570.688	36.4	33	40.5	43.9	27.6	16.3	54.0	-37.7
H	13499.136	37.6	33	41.9	46.5	27.6	18.9	54.0	-35.1

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	3856.896	72.0	33	33.3	72.3	74.0	-1.7
H	5785.344	64.0	33	36.6	67.6	74.0	-6.4
H	7713.792	58.6	33	38.9	64.5	74.0	-9.5
V	9642.240	34.9	33	40.4	42.3	74.0	-31.7
V	11570.688	36.4	33	40.5	43.9	74.0	-30.1
H	13499.136	37.6	33	41.9	46.5	74.0	-27.5

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

Table 5, Handset

Pursuant to FCC Part 15 Section 15.323 (d) / RSS-213 Clause 5.8.1 Emissions Requirements

Polarization	Frequency (MHz)	Measured Power (dBm)	Power Limit (dBm)	Margin (dB)
V	144.004	-75.1	-39.5	-35.6
V	225.742	-74.0	-39.5	-34.5
V	289.388	-77.2	-39.5	-37.7
V	361.754	-74.3	-39.5	-34.8
V	481.896	-71.1	-39.5	-31.6
H	964.358	-54.9	-39.5	-15.4

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.

TEST REPORT

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 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 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 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 = 29.0 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

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4.4.4 Average Factor Calculation and Transmitter ON Time Measurements, FCC Rule 15.35(b, c) / RSS-Gen cl 4.5

Handset: (for single-slot operation)

Duty Cycle (DC) = 1/24

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

[ ] 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.

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

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4.5 Frame Period and Jitter, FCC Rule 15.323(e) / RSS-213 Clause 5.2(13):

The frame period (a set of consecutive time slots in which the position of each time slot can be identified by reference to a synchronizing source) of EUT operating in these sub-bands shall be 20 ms or 10 ms/X where X is a positive whole number.

The jitter (time-related, abrupt, spurious variations in the duration of the frame interval) introduced at the two ends of such a communication link shall not exceed 25 μs for any two consecutive transmissions. Transmissions shall be continuous in every time and spectrum window during the frame period defined for EUT.

Measurements are made in accordance with ANSI C63.17 sub-clause 6.2.3. Test setup is shown in section 3.4 Figure 3.4.1. A spectrum analyzer measures the time duration between the rising edges of two consecutive frames. The measurements are taken over 100,000 frames. These measurement values are used to compute mean value and the difference between any two consecutive frame periods. The mean value is the frame period.

Test Results:

I. Handset

Measured Maximum Jitter (μs)	Limit (μs)	Result
-0.0405	±25	Pass

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5.0 EQUIPMENT LIST

1) Radiated Emissions Test

Equipment	EMI Test Receiver	Spectrum Analyzer	Biconical Antenna
Registration No.	EW-3156	EW-3281	EW-0571
Manufacturer	ROHDESCHWARZ	R&S	EMCO
Model No.	ESR26	FSP40	3104C
Calibration Date	September 30, 2020	March 04, 2020	July 23, 2019
Calibration Due Date	September 30, 2021	March 04, 2021	January 23, 2021

Equipment	Log Periodic Antenna	High Frequency Coaxial Cable Assembly (4 pcs)	Double Ridged Guide Antenna
Registration No.	EW-0447	EW-2107	EW-0194
Manufacturer	EMCO	RADIALL	EMCO
Model No.	3146	SMA(m)-SHF5MPU-SMA(m) R.A 14m	3115
Calibration Date	September 25, 2019	July 03, 2020	September 26, 2019
Calibration Due Date	March 25, 2021	July 03, 2021	March 26, 2021

Equipment	Notch Filter (cutoff frequency 1.9GHz to 2.0GHz)	Pyramidal Horn Antenna (18.0 - 26.5)GHz
Registration No.	EW-23620	EW-0905
Manufacturer	MITRON	EMCO
Model No.	N0319502	3160-09
Calibration Date	August 29, 2020	July 23, 2019
Calibration Due Date	August 29, 2021	January 23, 2021

3) Conductive Measurement Test

Equipment	Coaxial Directional Coupler	Spectrum Analyzer	Digital Radiocommunication Tester for DECT
Registration No.	EW-2337	EW-3281	EW-1739
Manufacturer	MAGNA	R&S	ROHDESCHWARZ
Model No.	4222-16	FSP40	CMD60
Calibration Date	Nil*	March 04, 2020	June 17, 2020
Calibration Due Date	Nil*	March 04, 2021	June 17, 2021

Equipment	Vector Signal Generator	DECT 01 02 03 (SMA - SMA) Cable x 3 pcs	Digital Multimeter
Registration No.	EW-3457	EW-3102	EW-1810
Manufacturer	R&S	N/A	FLUKE
Model No.	SMBV100B	EMC2 SMA - SMA	189
Calibration Date	February 25, 2020	June 06, 2018	December 10, 2019
Calibration Due Date	February 25, 2021	June 06, 2019	December 25, 2020

END OF TEST REPORT