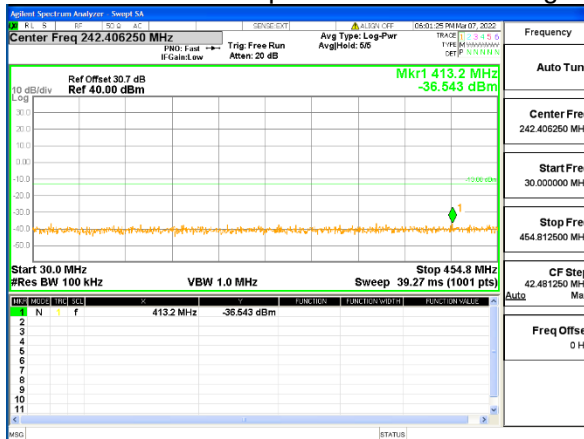
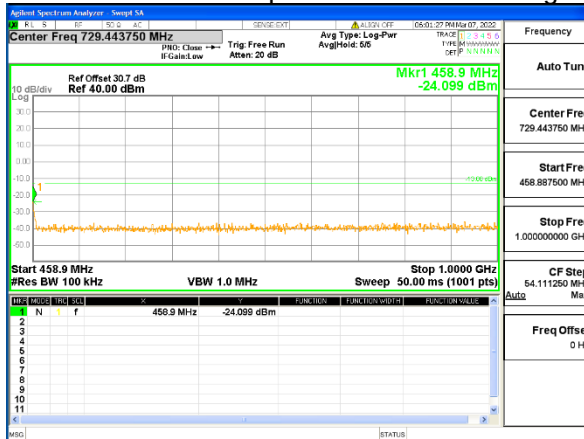


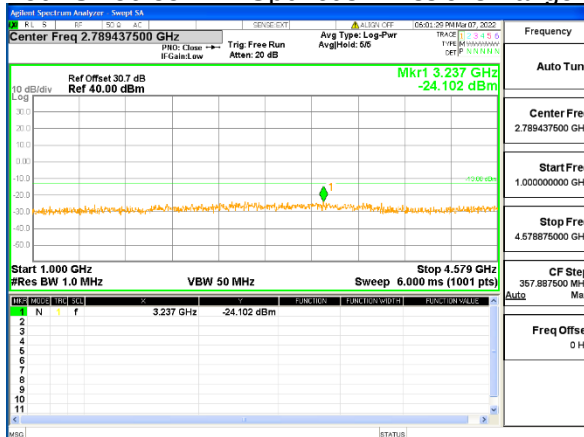
450PS 456.85 MHz Spurious Emissions Range 3



450PS 456.85 MHz Spurious Emissions Range 4



450PS 456.85 MHz Spurious Emissions Range 5



Noise Figure

Governing Doc	FCC Part 90.219	Room Temperature (°C)	
Test Procedure	ANSI/TIA-603- E; FCC KDB 935210 D05, v01r03	Relative Humidity (%)	
Test Location	Richmond	Barometric Pressure (kPa)	
Test Engineer		Date	
EUT Voltage	☒ +48VDC ☐ 120VAC @ 60Hz		
Test Equipment Used	Manufacturer	Model	Serial Number
Signal Generator	Keysight	N5172B	MY53050270
Spectrum Analyzer	Keysight	N9010A	MY50520285
Calibration date	Oct 9, 2021		
Calibration due	Oct 9, 2023		
Frequency Range:	☒ 2 times of the passband on each band		
Detector:	☒ Average		
RBW:	☒ 910 kHz		
Type of Facility:	☒ Tabletop		
Distance:	☒ Direct		
Noise Figure on each band is less than the 9 dB required.			
Compliant ☒ Non-Compliant ☐ Not Applicable ☐			

Test setup

Description of test set-up: Based on FCC KDB 935210 D05 Indus Booster Basic Meas v01r03: 2019, the system maximum gain and the noise density is measured. Measurements were performed within the EUT's passband. The noise figure is then calculated by $NF = NP - Gain + KTB \text{ Noise}$; where NP is in band noise power per Herz, Gain is measured at the maximum noise frequency with -55 dBm input signal in UL. KTB Noise is 174dB/Hz. The EUT was set to Operation Mode #1 with configuration Mode #1.
<pre> graph LR SA[Spectrum Analyzer] --- hd37[hd37] hd37 --- EUT[EUT] EUT --- T[50 Ω Terminator] </pre>

Results

Test Band	Gain (dB)	kToB (dBm/Hz)	Measured Value (dBm/Hz)	Noise Figure (dB)
800PS	92.1	-174	-73.2	8.75
700PS	91	-174	-76.2	6.77
450PS	90.4	-174	-77.8	5.83

Frequency Stability

The AH37 and hd37 are synchronized to the same reference clock. Therefore there is no frequency error after down and up frequency conversion are performed.

The frequency stability check is not applicable to the EUT.

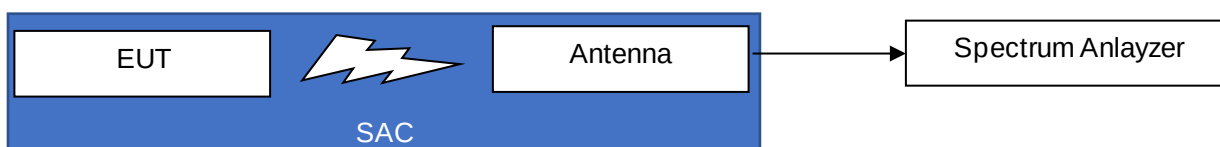
Radiated Emissions – Enclosure

Governing Doc	FCC Part 2.1053, FCC Part 90.210 & FCC Part 90.219	Room Temperature (°C)	
Test Procedure	ANSI TIA-603-D	Relative Humidity (%)	
Test Location	Richmond	Barometric Pressure (kPa)	
Test Engineer		Date	March 7, 2022
EUT Voltage	☒ DC ☐ 120VAC @ 60Hz		
Test Equipment Used	Manufacturer	Model	Identifier
Spectrum Analyzer	KeySight	N9038A	702
Broadband Antenna	Sunol	JB1	371
Loop Antenna	ComPower	AL-130	241
Horn Antenna	A.H Systems	SAS-571	227C
RF Preamplifier	Agilent	8449B	273
EMC Shielded Enclosure	USC	USC-26	374
Note1) NCR = No Calibration Required, but NSA was done at 2016.			
Frequency Range:	☒ 9kHz-30MHz ☒ 30-1000MHz ☒ 1-18GHz		
Detector:	☒ Peak (for Prescan) ☒ Quasi-Peak(for Formal) ☒ Average(for Formal)		
RBW/VBW:	☒ 9/30kHz ☒ 120/300kHz ☒ 1/3MHz		
Type of Facility:	☒ SAC ☐ FSOATS ☐ in-situ		
Distance:	☒ 3meter ☐ 10meter ☐ 1meter		
Arrangement of EUT:	☒ Table-top only ☐ Floor-standing only ☐ Rack Mounted		
Compliant ☒ Non-Compliant ☐ Not Applicable ☐			

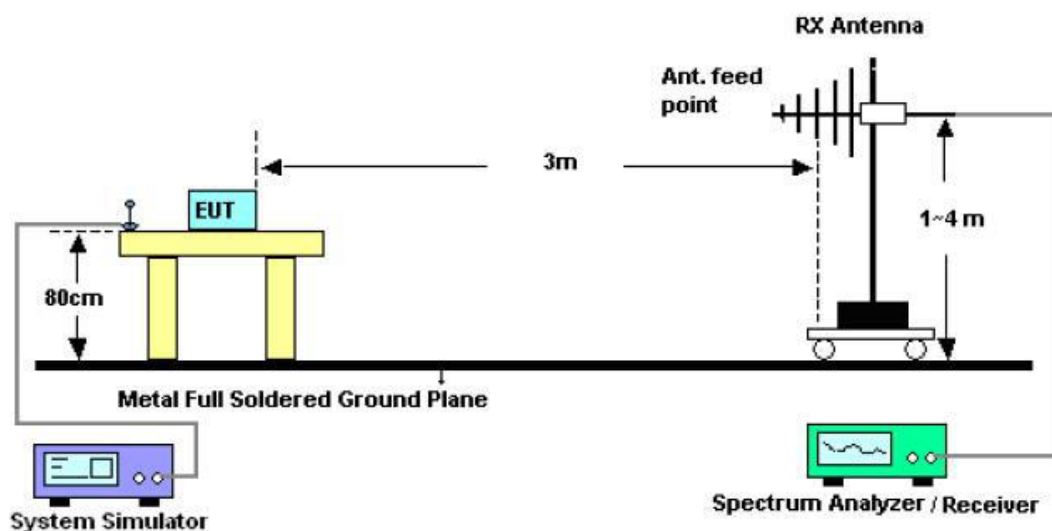
Test setup

Description of test set-up:

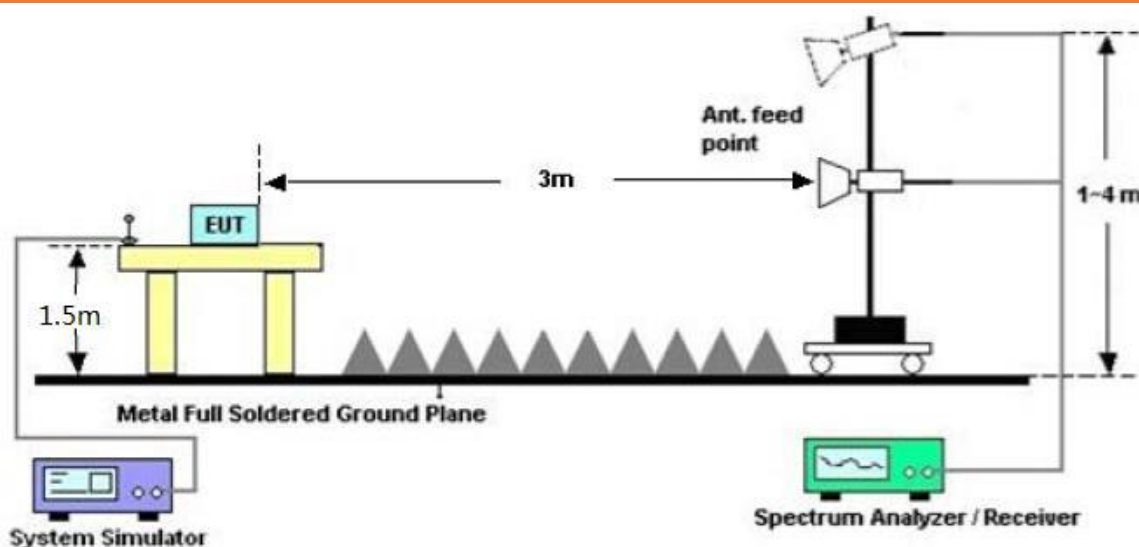
The EUT was placed on a nonconducting platform (i.e., an “EUT support table”), of nominal size 1 m by 1.5 m, whose top surface is nominally 80 cm above the reference ground plane. The EUT was set up on 3 meters away from the EUT. The EUT was set continually on its Radio, 5W Max., which was downlinked from airHost. And the output of RF was terminated via 30dB attenuator, for rejecting the high power of carrier. The lowest, middle and highest channels were used for measuring of all radiated spurious emissions . The EUT was set to **Operation Mode #1 with configuration Mode #1.**



- Radiated Emission 30 to 1,000MHz, with JB-1



- Radiated Emission 1 to 18GHz, with SAS-571



Measurement Procedure

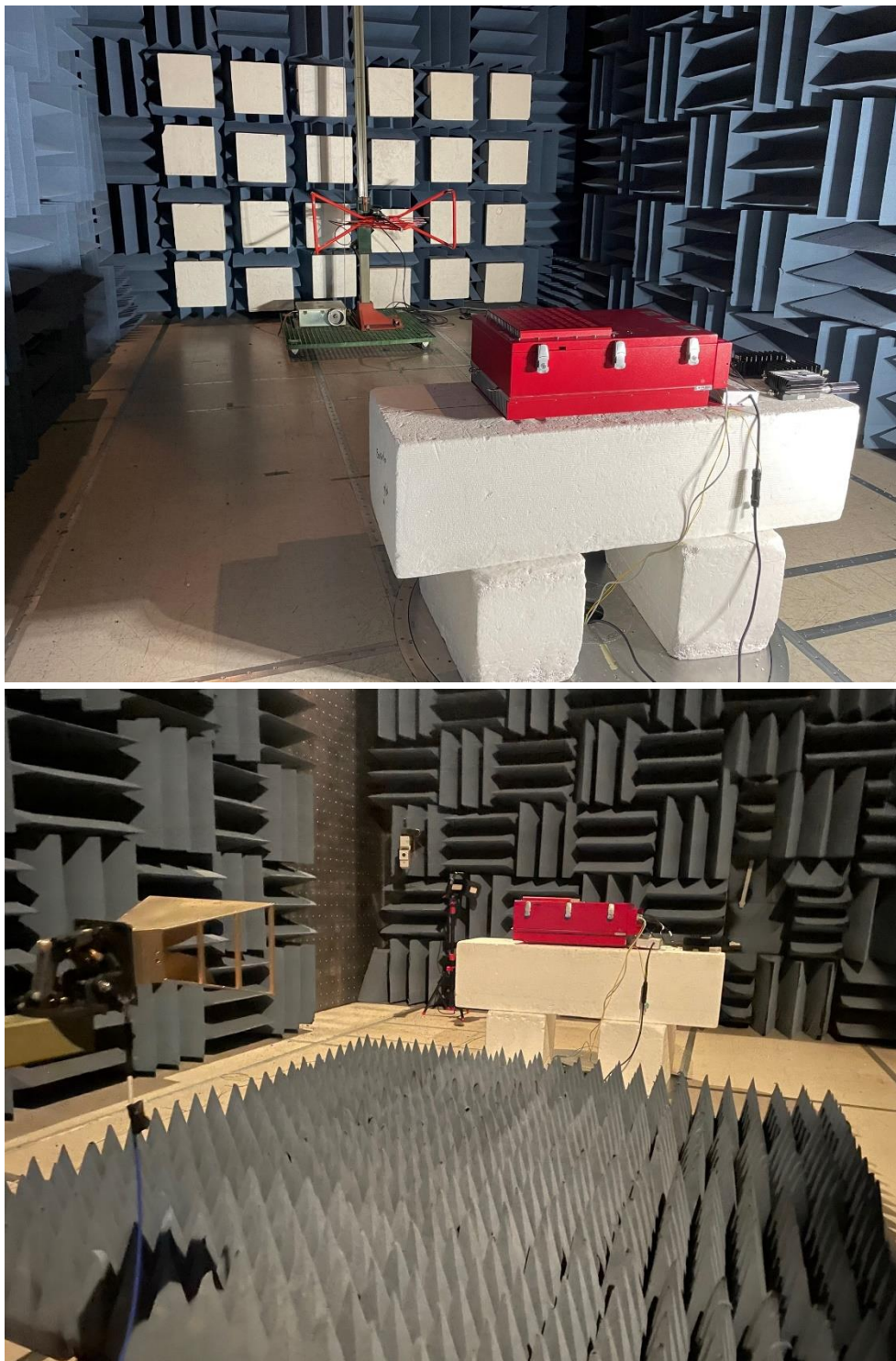
Testing was performed in accordance with the test standard(s) referenced in the test summary section of this report. The Equipment Under Test (EUT) was configured based upon the requirements of the applicable test standard. Initially, the primary emission frequencies are identified by positioning a broadband receive antenna three meter from the EUT.

Scans were made with an EMC Analyzer, controlled by EMC Test Software, Tile7!, from 30kHz to 18GHz with the receiver in the peak mode. The receiver IF bandwidth was 9kHz, 120 kHz or 1MHz as appropriate for the frequency and scan step was about 30kHz. To ensure that the maximum emission at each discrete frequency of interest is observed, the receive antenna is varied in height from one to four meters and rotated to produce horizontal and vertical polarities while the turntable is rotated to determine the worst emitting configuration. Under 30MHz was only tested at 1meter height and Antenna was changed both polarization, Horizontal and Vertical. Measurements were then made using CISPR quasi peak when the peak readings were within 10dB of the limit line. The numerical results are included herein to demonstrate compliance.

Test Result

The output of EUT was set to 1 Watt(+30dBm), the PASS level of Spurious is: $43 + 10\log(P) = 43 + 10\log(1) = 43\text{dB}$ attenuation = -13dBm Since of radiated measurement was performed at 3 meters, the limit line was converted to dBuV/m using the formulas ad outlined in KDB 971168: -13 dBm ERP = 84.38 dBuV/m at 3 meters. Spurious Emission level (dBuV/m) = Detected level (dBuV) + Path Loss(dB) + Antenna Factor (dB/m) - Preamplifier's Gain (dB)

Test setup picture:



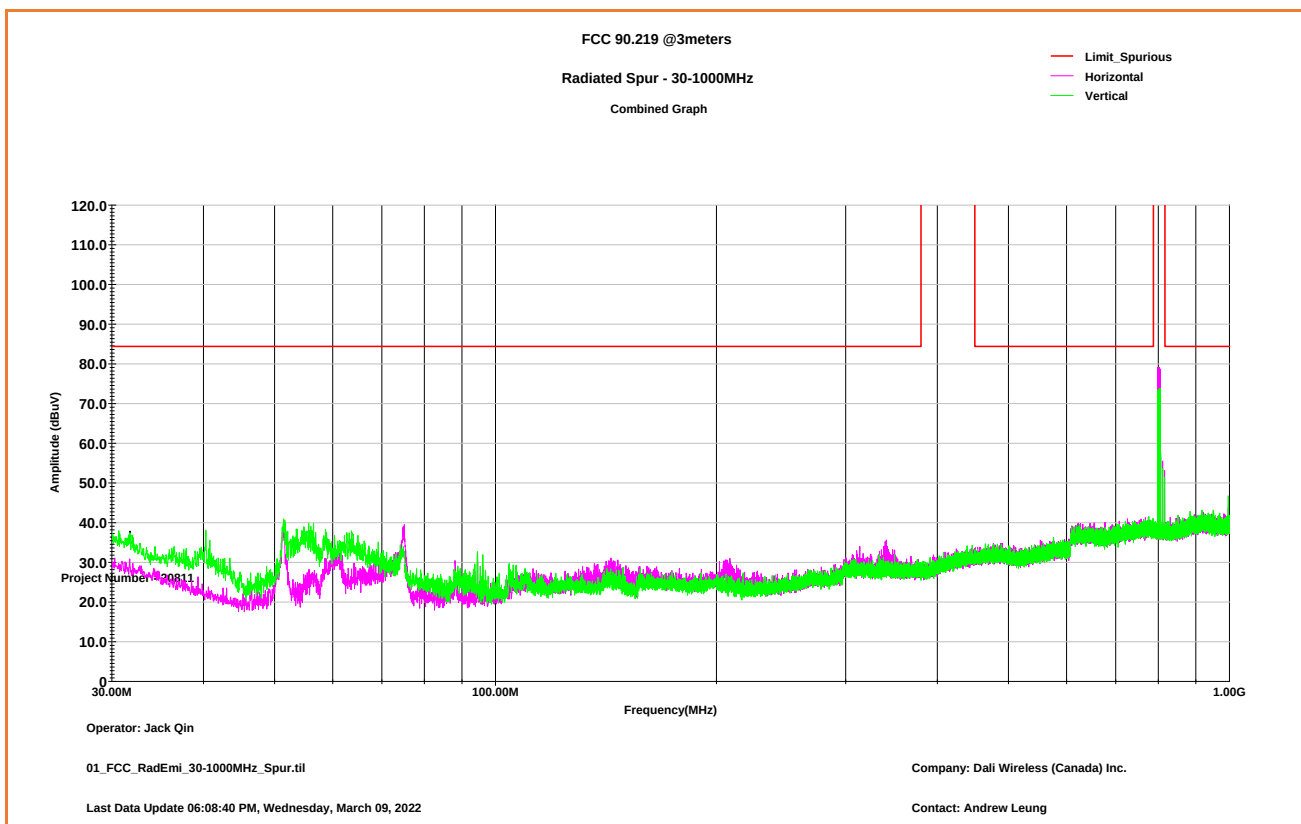
Prepared by: LabTest Certification Inc.
Date Issued: April 11 2022
Project No.: 20811

Client: Dali Wireless, Inc.
Report No.: 20.01.20811
Revision No.: 1

Graphical Representation for Emission - Radiated 30kHz to 30MHz

Spectrum was scanned manually from 30kHz to 30MHz. No automated plot is available for this frequency range. No spurious emissions from the product were detectable

Graphical Representation for Emission - Radiated 30MHz to 1GHz



Graphical Representation for Emission - Radiated 1 to 9GHz

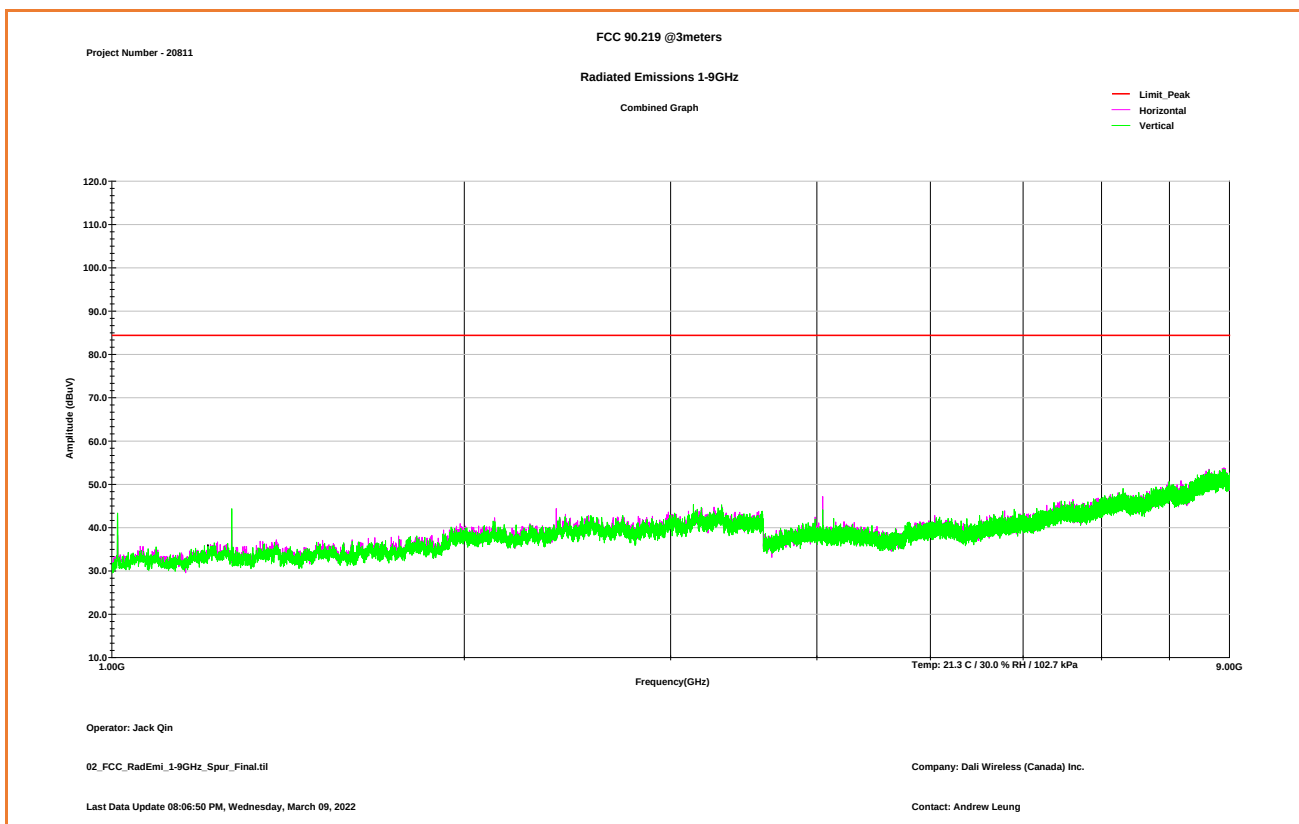


Table Representation for Emission - Radiated 30MHz to 9GHz

No Emissions were measured. All emissions detected, other than the fundamental, were related to the Digital Mode circuitry. No Transmitter Spurious Emissions were detectable and are greater than 20dB below the limit line.

APPENDIX A: ISO 17025:2005 Accreditation Certificate



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

Labtest Certification, Inc.
3128, 20800 Westminster HWY
Richmond B.C. V6V 2W3

has been assessed by ANAB
and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the field of

TESTING

Refer to the accompanying Scope of Accreditation for information regarding the types of tests to which this accreditation applies.

AT-2033

Certificate Number


ANAB Approval

Certificate Valid: 08/07/2017-03/04/2018
Version No. 004 Issued: 08/07/2017



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Labtest Certification, Inc.
3128, 20800 Westminster HWY
Richmond, B.C. V6V 2W3
Kavinder Dhillon Ruben Ugarte Phone: 604-247-0444
kdhillon@labtestcert.com rubenUgarte@labtestcert.com
www.labtestcert.com

TESTING

Valid to: March 4, 2018

Certificate Number: A-T-2033

Testing performed in support of FCC DoC and Certification approval procedures

Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments
Unintentional Radiators (FCC Part 15, Subpart B)	• ANSI C63.4-2014		
Industrial, Scientific, and Medical Equipment (FCC Part 18)	• FCC MP-5, (February 1986)		
• Consumer ISM equipment			
Intentional Radiators (FCC Part 15 Subpart C)	• ANSI C63.10-2013		
UPCS (FCC Part 15, Subpart D)	• ANSI C63.17-2013		
• Unlicensed Personal Communication Systems devices			
U-NII without DFS Intentional Radiators (FCC Part 15, Subpart E)	• ANSI C63.10-2013	KDB Publication 789033	
• Unlicensed National Information Infrastructure Devices (U-NII without DFS)			
U-NII with DFS Intentional Radiators (FCC Part 15 Subpart E)	• FCC KDB Publication 905462 D02 UNII DFS Compliance Procedures New Rules v01 (April 8, 2016)		
• Unlicensed National Information Infrastructure U-NII Devices with Dynamic Frequency Selection (DFS)			
UWB Intentional Radiators (FCC Part 15, Subpart F)	• ANSI C63.10-2013		
• Ultra-wideband Operation			
BPL Intentional Radiators (FCC Part 15, Subpart G)	• ANSI C63.10-2013		
• Access Broadband Over Power Line (Access BPL)			
White Space Device Intentional Radiators (FCC Part 15, Subpart H)	• ANSI C63.10-2013		
• White Space Devices			

Version 003 Issued: 08/07/2017

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Testing performed in support of FCC DoC and Certification approval procedures

Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments
Commercial Mobile Services (FCC Licensed Radio Service Equipment) •Part 22 (cellular) •Part 24 •Part 25 (non-microwave) •Part 27	• ANSI/TIA-603-D • TIA-102.CAAA-D	KDB Publication 971168	
General Mobile Radio Services (FCC Licensed Radio Service Equipment) •Part 22 (non-cellular) •Part 90 (non-microwave) •Part 95 •Part 97 •Part 101 (non-microwave)	• ANSI/TIA-603-D • TIA-102.CAAA-D		Microwave Frequencies, as used in this part, refers to frequencies of 890 MHz and above.
Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment) •Part 96	• ANSI/TIA-603-D • TIA-102.CAAA-D	KDB Publication 971168	
Maritime and Aviation Radio Services (FCC Licensed Radio Service Equipment) •Part 80 •Part 87	• ANSI/TIA-603-D		
Microwave and Millimeter Bands Radio Services (FCC Licensed Radio Service Equipment) •Part 25 •Part 74 •Part 90 (90Y, 90Z, D SRC) •Part 101	• ANSI/TIA-603-D • TIA-102.CAAA-D		
Broadcast Radio Services (FCC Licensed Radio Service Equipment) •Part 73 •Part 74 (non-microwave)	• ANSI/TIA-603-D • TIA-102.CAAA-D		
RF Exposure •Devices subject to SAR requirements	• IEEE Std 1528™-2013	KDB Publication 865664 KDB Publication 447498	
Hearing Aid Compatibility (Part 20) •HAC for Commercial mobile services	• ANSI C63.19-2007; or • ANSI C63.19-2011		



Testing performed in support of FCC DoC and Certification approval procedures

Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments
Signal Boosters (Part 20) •Wideband Consumer signal boosters •Provider-specific signal boosters •Industrial signal boosters	- FCC KDB Publication 935210 D03 Signal Booster Measurements v04 (February 12, 2016) - FCC KDB Publication 935210 D04 Provider Specific Booster Measurements v02 (February 12, 2016) - FCC KDB Publication 935210 D05 Indus Booster Basic Meas v01r01 (February 12, 2016)		

Electromagnetic Compatibility (EMC)

Test Method	Test Specification(s)	Range	Comments
Unintentional Radiators	ANSI C63.4-2003 ANSI C63.4-2009		
Radiated and Conducted Emissions	ANSI C63.4:2014; FCC O STMP-05 (1986); ICES-001(2006); ICES-002(2013); ICES-003(2016); ICES-005(2009); CISPR 16-1-1(2015); CISPR 16-1-2(2014); CISPR 16-1-3(2006); CISPR 16-2-1(2014); CISPR 16-2-2(2010); CISPR 16-2-3(2014); CISPR 16-2-5(2008); CISPR 16-4-2(2014); EN 55016-1-1(2010); EN 55016-1-2(2014); EN 55016-1-3(2006); EN 55016-1-4(2010); EN 55016-2-1(2014); EN 55016-2-2(2011); EN 55016-2-3(2014); EN 55016-4-2(2014); CISPR 11(2012); EN 55011(2013); AS/NZS CISPR 11(2013); KN 11 (RRA Announce 2015-110, Dec, 03, 2015); VCCI V-3 (up to 6 GHz); VCCI V-5; CNS 13438	9 kHz to 40 GHz	



END OF REPORT

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