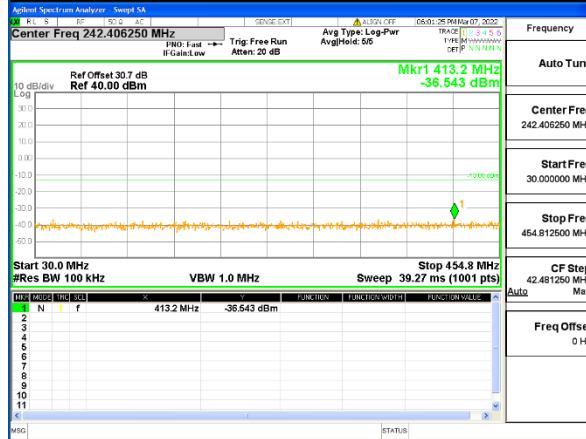
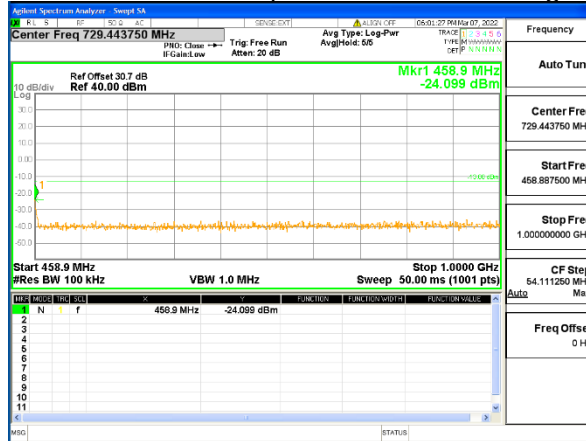


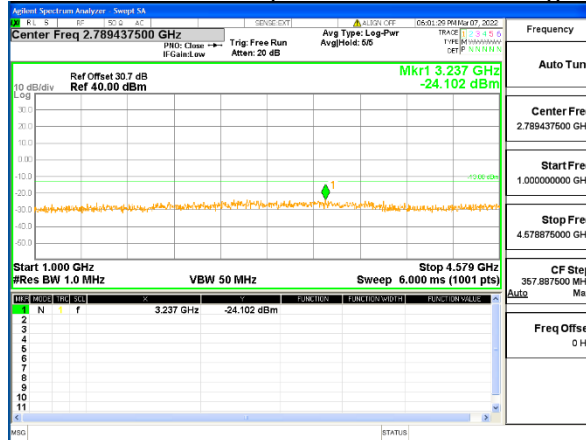
450PS 456.85 MHz Spurious Emissions Range 3



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	<input checked="" type="checkbox"/> +48VDC <input type="checkbox"/> 120VAC @ 60Hz				
Test Equipment Used	Manufacturer	Model	Serial Number	Calibration date	Calibration due
Signal Generator	Keysight	N5172B	MY53050270	Oct 9, 2021	Oct 9, 2023
Spectrum Analyzer	Keysight	N9010A	MY50520285	Oct 11, 2021	Oct 11, 2023
Frequency Range:	<input checked="" type="checkbox"/> 2 times of the passband on each band				
Detector:	<input checked="" type="checkbox"/> Average				
RBW:	<input checked="" type="checkbox"/> 910 kHz				
Type of Facility:	<input checked="" type="checkbox"/> Tabletop				
Distance:	<input checked="" type="checkbox"/> Direct				
Noise Figure on each band is less than the 9 dB required.					
Compliant <input checked="" type="checkbox"/> Non-Compliant <input type="checkbox"/> Not Applicable <input type="checkbox"/>					

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.

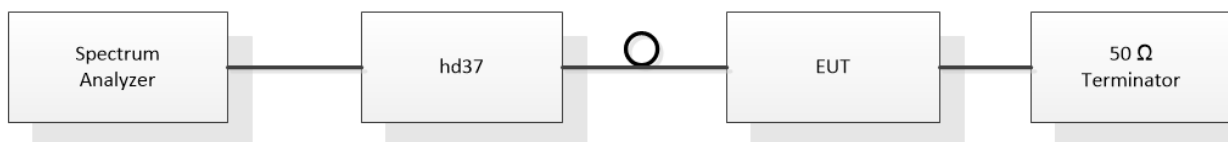
The noise figure is then calculated by $NF = NP - Gain + KTB \text{ Noise}$; where

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.**



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

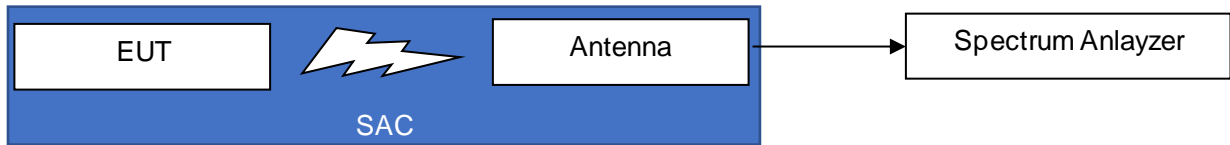
Governing Doc	FCC Part 2.1053, FCC Part 90.210 & FCC Part 90.219	Room Temperature (°C)			
Test Procedure	ANSI TIA-603-D	Relative Humidity (%)			
Test Location	Richmond	Barometric Pressure (kPa)			
Test Engineer		Date	March 7, 2022		
EUT Voltage	<input checked="" type="checkbox"/> DC	<input type="checkbox"/> 120VAC @ 60Hz			
Test Equipment Used	Manufacturer	Model	Identifier	Calibration date	Calibration
Spectrum Analyzer	KeySight	N9038A	702	18-Apr-2017	18-Apr-2018
Broadband Antenna	Sunol	JB1	371	29-Mar-2016	29-Mar-2018
Loop Antenna	ComPower	AL-130	241	28-Oct-2015	28-Oct-2017
Horn Antenna	A.H Systems	SAS-571	227C	22-Sep-2016	22-Sep-2018
RF Pre-amplifier	Agilent	8449B	273	NCR	NCR
EMC Shielded Enclosure	USC	USC-26	374	NCR ¹	NCR ¹
Note1) NCR = No Calibration Required, but NSA was done at 2016.					
Frequency Range:	<input checked="" type="checkbox"/> 9kHz-30MHz	<input checked="" type="checkbox"/> 30-1000MHz	<input checked="" type="checkbox"/> 1-18GHz		
Detector:	<input checked="" type="checkbox"/> Peak (for Prescan)	<input checked="" type="checkbox"/> Quasi-Peak(for Formal)	<input checked="" type="checkbox"/> Average(for Formal)		
RBW/VBW:	<input checked="" type="checkbox"/> 9/30kHz	<input checked="" type="checkbox"/> 120/300kHz	<input checked="" type="checkbox"/> 1/3MHz		
Type of Facility:	<input checked="" type="checkbox"/> SAC	<input type="checkbox"/> FSOATS	<input type="checkbox"/> <i>in-situ</i>		
Distance:	<input checked="" type="checkbox"/> 3meter	<input type="checkbox"/> 10meter	<input type="checkbox"/> 1meter		
Arrangement of EUT:	<input checked="" type="checkbox"/> Table-top only	<input type="checkbox"/> Floor-standing only	<input type="checkbox"/> Rack Mounted		
Compliant <input checked="" type="checkbox"/> Non-Compliant <input type="checkbox"/> Not Applicable <input type="checkbox"/>					

Test setup

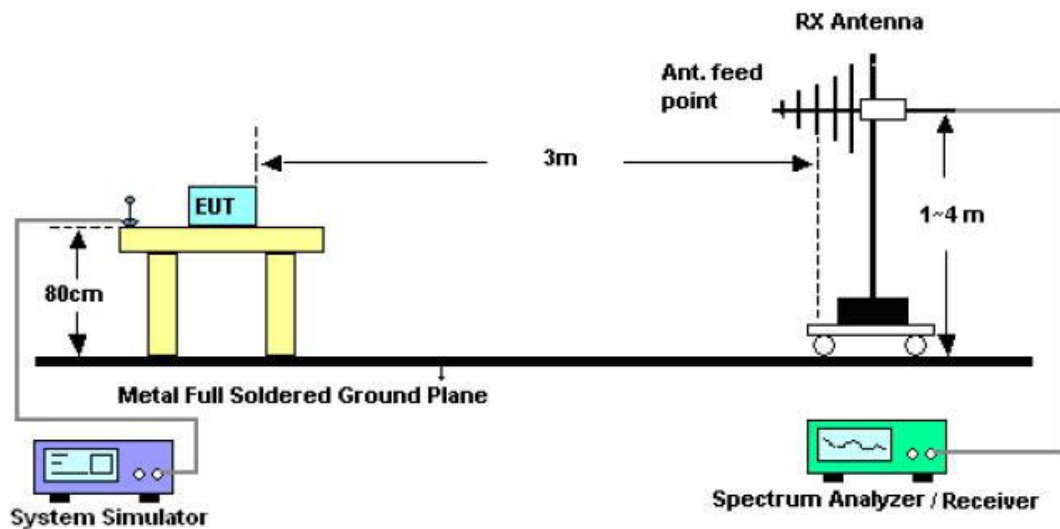
Description of test set-up:

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 .

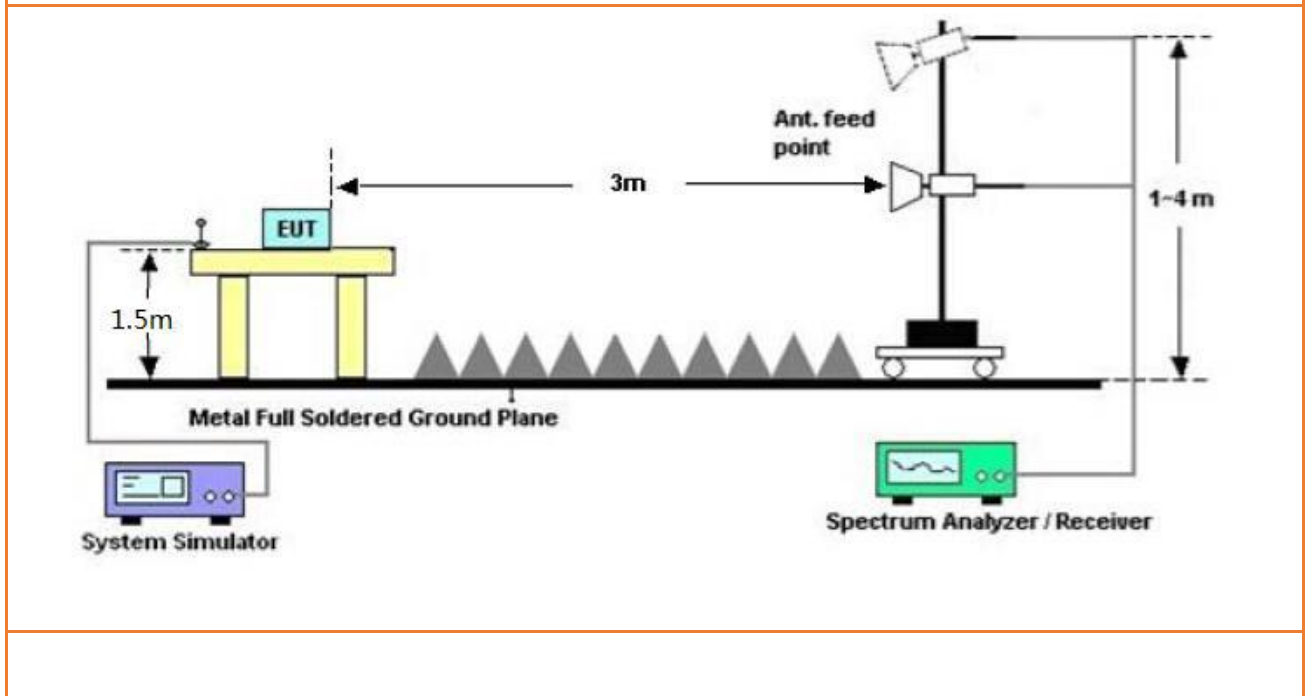
The EUT was set to **Operation Mode #1 with configuration Mode #1.**



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



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



Measurement Procedure

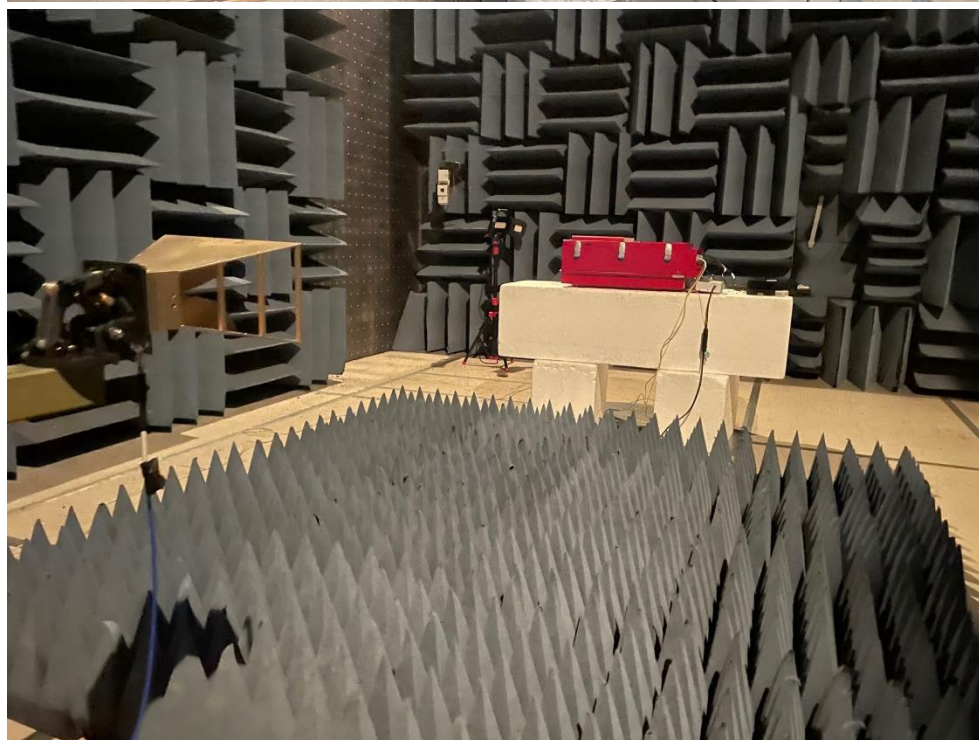
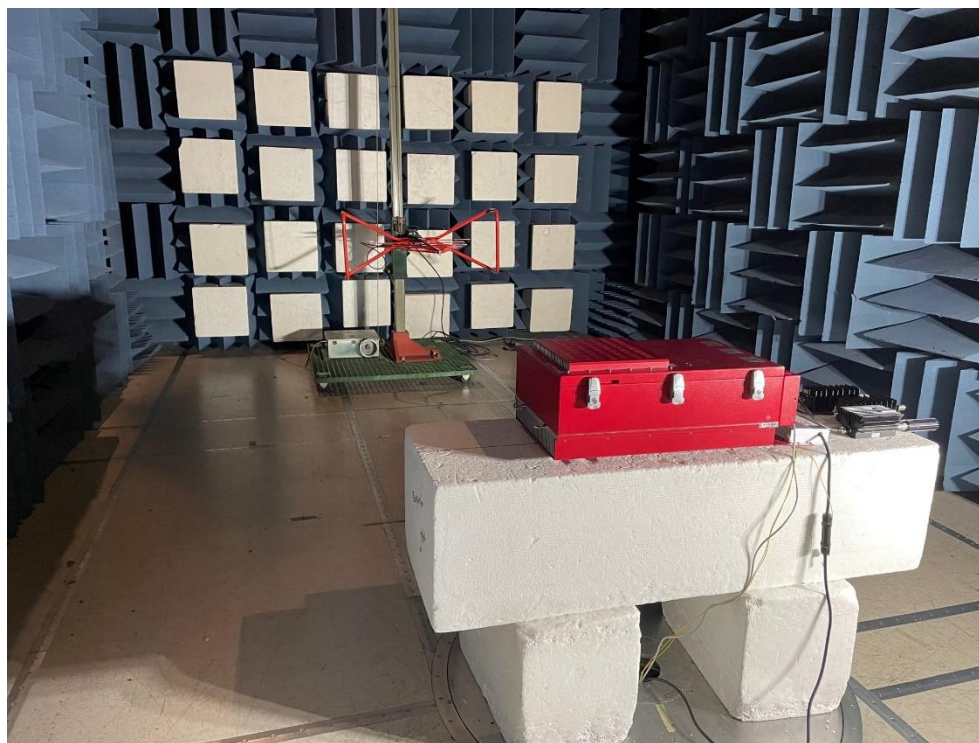
Testing was performed in accordance with the test standard(s) referenced in the test summary section of this report. The Equipment Under Test (EUT) was configured based upon the requirements of the applicable test standard. Initially, the primary emission frequencies are identified by positioning a broadband 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: $-13\text{dBm ERP} = 84.38\text{dBuV/m}$ 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:



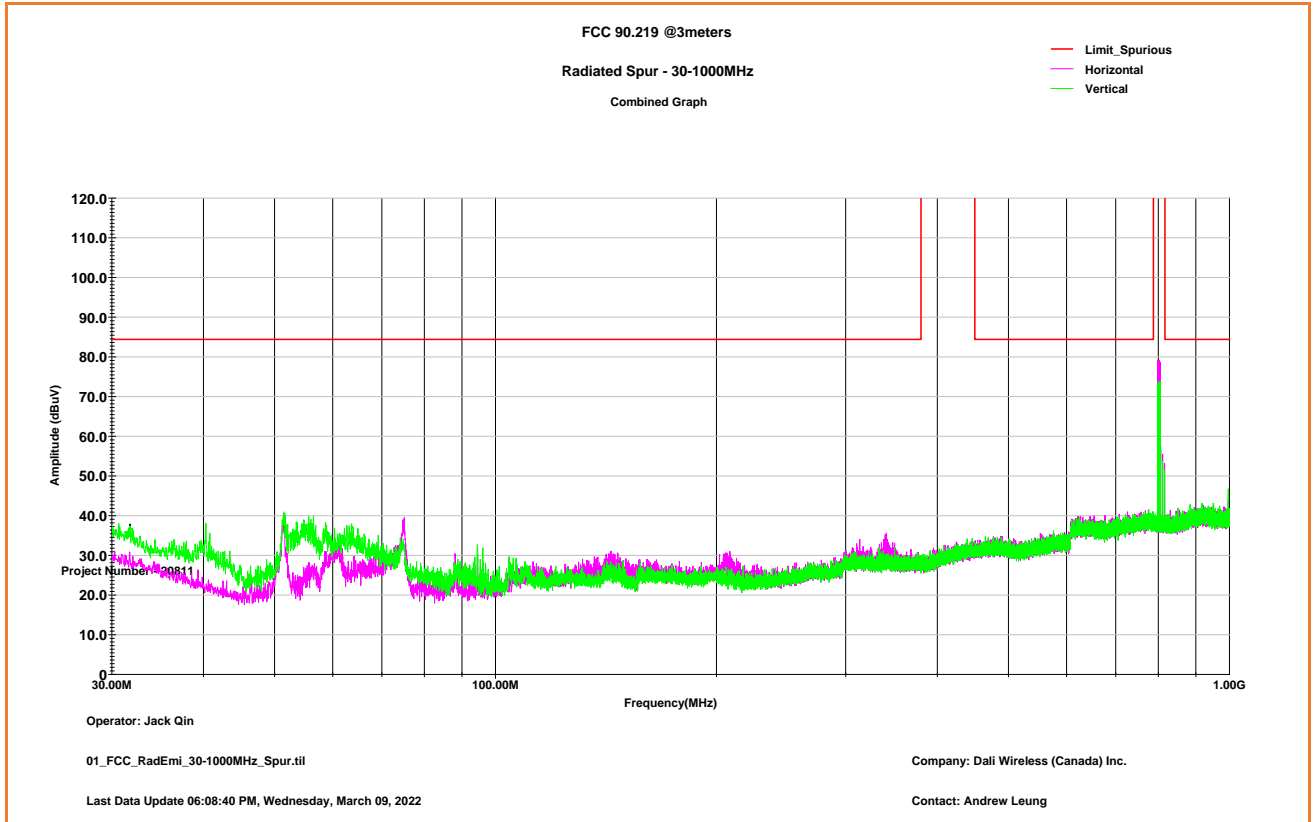
Prepared by: LabTest Certification Inc.
Date Issued: April 11 2022
Project No.: 20811

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

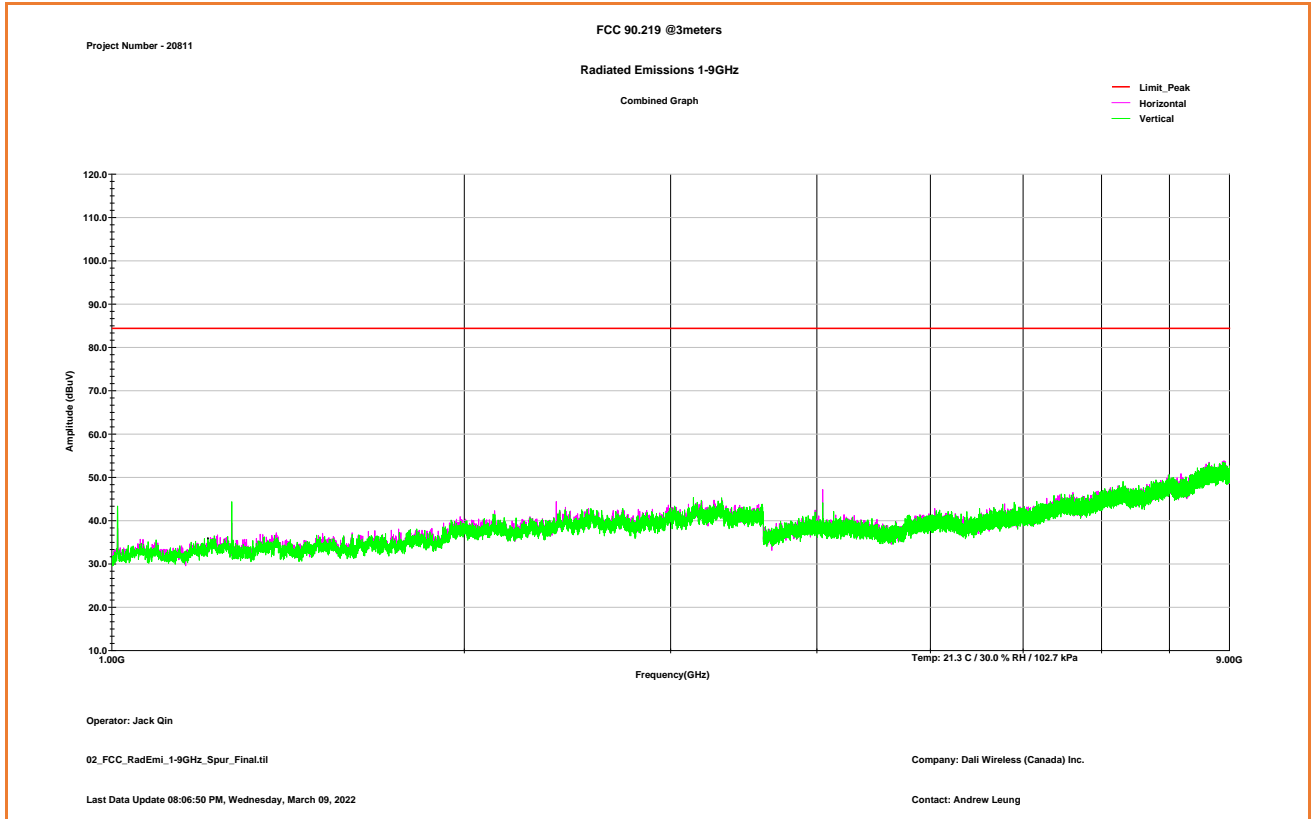


Table Representation for Emission - Radiated 30MHz to 9GHz

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





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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ANSI/TIA-603-D TIA-102.CAAA-D 		
Broadcast Radio Services (FCC Licensed Radio Service Equipment) •Part 73 •Part 74 (non-microwave)	<ul style="list-style-type: none"> ANSI/TIA-603-D TIA-102.CAAA-D 		
RF Exposure •Devices subject to SAR requirements	<ul style="list-style-type: none"> IEEE Std 1528™-2013 	KDB Publication 865664 KDB Publication 447498	
Hearing Aid Compatibility (Part 20) •HAC for Commercial mobile services	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

Page 88 of 88

This document shall not be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from LabTest Certification Inc.