

Shenzhen Toby Technology Co., Ltd.



Report No.: TBR-C-202203-0298-17

Page: 1 of 48

Radio Test Report

FCC ID: 2A376-HL100A & IC: 27908-HL100A

Report No. : TBR-C-202203-0298-17

Applicant: Smart Harvest Instruments Inc.

Equipment Under Test (EUT)

EUT Name : Light Hotspot Miner

Model No. : HL100

Series Model No. : ----

Brand Name : Smart Harvest Instruments

Sample ID : 202203-0298-3-1#& 202203-0298-3-2#

Receipt Date : 2021-04-06

Test Date : 2022-04-06 to 2022-05-26

Issue Date : 2022-05-26

Standards : FCC Part 15 Subpart C 15.247

RSS-247 Issue 2 February 2017

RSS-Gen Issue 5 March 2019

Test Method : ANSI C63.10: 2013

KDB 558074 D01 15.247 Meas Guidance v05r02

Conclusions : PASS

In the configuration tested, the EUT complied with the standards specified above.

Witness Engineer :

Engineer Supervisor : WW SV

Engineer Manager :

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

TB-RF-074-1.0



Contents

CON	ITENIS	2
1.	GENERAL INFORMATION ABOUT EUT	5
	1.1 Client Information	5
	1.2 General Description of EUT (Equipment Under Test)	5
	1.3 Block Diagram Showing the Configuration of System Tested	6
	1.4 Description of Support Units	7
	1.6 Description of Test Software Setting	8
	1.7 Measurement Uncertainty	
	1.8 Test Facility	
2.	TEST SUMMARY	10
3.	TEST SOFTWARE	10
4.	TEST EQUIPMENT	11
5.	CONDUCTED EMISSION	
	5.1 Test Standard and Limit	12
	5.2 Test Setup	
	5.3 Test Procedure	
	5.4 Deviation From Test Standard	13
	5.5 EUT Operating Mode	13
	5.6 Test Data	13
6.	RADIATED AND CONDUCTED UNWANTED EMISSIONS	14
	6.1 Test Standard and Limit	14
	6.2 Test Setup	15
	6.3 Test Procedure	
	6.4 Deviation From Test Standard	17
	6.5 EUT Operating Mode	17
	6.6 Test Data	17
7.	EMISSIONS IN NONRESTRICTED FREQUENCY BANDS	18
	7.1 Test Standard and Limit	18
	7.2 Test Setup	18
	7.3 Test Procedure	18
	7.4 Deviation From Test Standard	
	7.5 EUT Operating Mode	
	7.6 Test Data	
8.	BANDWIDTH TEST	20
	8.1 Test Standard and Limit	20
	8.2 Test Setup	20
	8.3 Test Procedure	
	8.4 Deviation From Test Standard	
	8.5 EUT Operating Mode	
	8.6 Test Data	21



Report No.: TBR-C-202203-0298-17 Page: 3 of 48

9.	PEAK OUTPUT POWER	22
	9.1 Test Standard and Limit	22
	9.2 Test Setup	
	9.3 Test Procedure	
	9.4 Deviation From Test Standard	22
	9.5 EUT Operating Mode	22
	9.6 Test Data	
10.	POWER SPECTRAL DENSITY	23
	10.1 Test Standard and Limit	23
	10.2 Test Setup	23
	10.3 Test Procedure	23
	10.4 Deviation From Test Standard	23
	10.5 Antenna Connected Construction	23
	10.6 Test Data	23
11.	ANTENNA REQUIREMENT	24
	11.1 Test Standard and Limit	24
	11.2 Deviation From Test Standard	24
	11.3 Antenna Connected Construction	24
	11.4 Test Data	24
ATT	ACHMENT ACONDUCTED EMISSION TEST DATA	25
ATT	ACHMENT BUNWANTED EMISSIONS DATA	27
ATT	ACHMENT CEMISSIONS IN NONRESTRICTED FREQUENCY BANDS DATA	39
ATT	ACHMENT DBANDWIDTH DATA	41
ATT	ACHMENT E—PEAK OUTPUT POWER DATA	45
ATT	ACHMENT F—POWER SPECTRAL DENSITY DATA	47



Report No.: TBR-C-202203-0298-17 Page: 4 of 48

Revision History

Report No.	Version	Description	Issued Date
TBR-C-202203-0298-17	Rev.01	Initial issue of report	2022-05-26
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Page: 5 of 48

1. General Information about EUT

1.1 Client Information

Applicant : Smart Harvest Instrur		Smart Harvest Instruments Inc.
Address :		180 Northfield Drive West, Unit 4 Waterloo Canada N2L 0C7
Manufacturer		Smart Harvest Instruments Inc.
Address		180 Northfield Drive West, Unit 4 Waterloo Canada N2L 0C7

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Light Hotspot Miner				
HVIN/Models No.	÷	HL100				
Model Different	3					
		Operation Frequency:	LoRa(500KHz): 903MHz-914.2MHz			
Product		Number of Channel:	8 channels			
Description		Antenna Gain:	3dBi External Antenna			
		Bit Rate of Transmitter:	50kbps			
Power Rating		Adapter: LX10AA-050210-ZU Input:100-240V~50/60Hz 0.35A Output:5V2.1A				
Software Version		v1.0.0-211201				
Hardware Version	1	N/A				
Damada						

- (1) The antenna gain and adapter provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (3) Antenna information provided by the applicant. And the type of antenna please see the external photos.



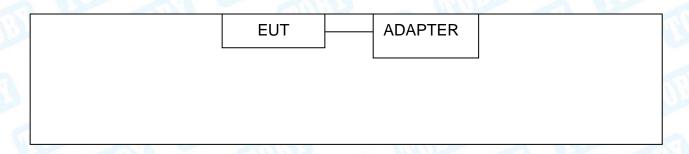
Page: 6 of 48

(4) Channel List:

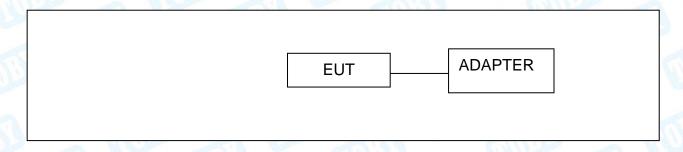
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	903	04	907.8	07	912.6
02	904.6	05	909.4	08	914.2
03	906.2	06	911		

1.3 Block Diagram Showing the Configuration of System Tested

Conducted Test



Radiated Test





Page: 7 of 48

1.4 Description of Support Units

Equipment Information								
Name	Model	FCC ID/SDOC	Manufacturer	Used "√"				
Adapter			LvXiangYuan					
	Cable Information							
Number	Shielded Type	Ferrite Core	Length	Note				
Cable 1	Yes	NO	1.0M	Accessory				

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test					
Final Test Mode Description					
Mode 1 TX Mode					
	For Radiated Test				
Final Test Mode Description					
Mode 2 TX Mode					
Mode 3 TX Mode (Channel 01/04/08)					

Note:

- (1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.
 - According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels.
- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a Mobile unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.



Page: 8 of 48

1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF setting.

Test Software Version		SecureCRT	
Frequency	903MHz	907.8MHz	914.2MHz
LoRa	26	26	26

1.7 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U _{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	±3.50 dB ±3.10 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.50 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB



Page: 9 of 48

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F.,Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351. Designation Number: CN1223.

IC Registration No.: (11950A)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A. CAB identifier: CN0056.



Report No.: TBR-C-202203-0298-17 Page: 10 of 48

2. Test Summary

Standard Section		To at Home	Tank Campula(a)	ld	D
FCC	IC	Test Item	Test Sample(s)	Judgment	Remark
FCC 15.207(a)	RSS-Gen 8.8	Conducted Emission	202203-0298-3-1#	PASS	N/A
FCC 15.209 & 15.247(d)	RSS-Gen 8.9 & RSS 247 5.5	Radiated Unwanted Emissions	202203-0298-3-1#	PASS	N/A
FCC 15.203	RSS-247 6.8	Antenna Requirement	202203-0298-3-2#	PASS	N/A
FCC 15.247(a)(2)	RSS-247 5.2(a)	6dB Bandwidth	202203-0298-3-2#	N/A	N/A
	RSS-Gen 6.7	99% Occupied bandwidth	202203-0298-3-2#	PASS	N/A
FCC 15.247(b)(3)	RSS-247 5.4(d)	Peak Output Power and E.I.R.P	202203-0298-3-2#	PASS	N/A
FCC 15.247(e)	RSS-247 5.2(b)	Power Spectral Density	202203-0298-3-2#	PASS	N/A
FCC 15.247(d)	RSS-Gen 8.10& RSS-247 5.5	Band Edge Measurements	202203-0298-3-2#	PASS	N/A
FCC 15.207(a)	RSS-Gen 8.10& RSS-247 5.5	Conducted Unwanted Emissions	202203-0298-3-2#	PASS	N/A
FCC 15.247(d)	RSS-Gen 8.9 & RSS 247 5.5	Emissions in nonrestricted frequency bands	202203-0298-3-2#	PASS	N/A
	RSS-Gen 8.10& RSS-247 5.5	On Time and Duty Cycle	202203-0298-3-2#	1	N/A

Note: N/A is an abbreviation for Not Applicable.

3. Test Software

Test Item	Test Software	Manufacturer	Version No.
Conducted Emission	EZ-EMC	EZ	CDI-03A2
Radiation Emission	EZ-EMC	EZ	FA-03A2RE
RF Conducted Measurement	MTS-8310	MWRFtest	V2.0.0.0
RF Test System	JS1120	Tonscend	V2.6.88.0336



Report No.: TBR-C-202203-0298-17 Page: 11 of 48

4. Test Equipment

Conducted Emission	on Test				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 02, 2021	Jul. 01, 2022
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 02, 2021	Jul. 01, 2022
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 02, 2021	Jul. 01, 2022
LISN	Rohde & Schwarz	ENV216	101131	Jul. 02, 2021	Jul. 01, 2022
Radiation Emission	n Test (A Site)		'	-	
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jul. 02, 2021	Jul. 01, 2022
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 02, 2021	Jul. 01, 2022
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Feb. 27, 2022	Feb. 26, 2024
Horn Antenna	ETS-LINDGREN	3117	00143207	Feb. 26, 2022	Feb. 25, 2024
Horn Antenna	SCHWARZBECK	BBHA 9170	1118	Feb. 26, 2022	Feb. 25, 2024
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 06, 2021	Jul. 05, 2022
Pre-amplifier	SONOMA	310N	185903	Feb. 26, 2022	Feb. 25, 2023
Pre-amplifier	HP (8449B	3008A00849	Feb. 26, 2022	Feb. 25, 2023
HF Amplifier	Tonscend	TAP0184050	AP21C806129	Sep. 03, 2021	Sep. 02, 2022
Radiation Emission	n Test (B Site)				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jul. 02, 2021	Jul. 01, 2022
MXA Signal Analyzer	Agilent	N9020A	MY47380425	Sep. 03, 2021	Sep. 02, 2022
EMI Test Receiver	Rohde & Schwarz	ESU-8	100472	Feb. 26, 2022	Feb. 25, 2023
Bilog Antenna	SCHWARZBECK	VULB 9168	1225	Dec. 05, 2021	Dec. 04, 2023
Horn Antenna	SCHWARZBECK	BBHA 9120 D	2463	May 20, 2021	May 19, 2023
Horn Antenna	SCHWARZBECK	BBHA 9170	1118	Feb. 26, 2022	Feb. 25, 2024
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 06, 2021	Jul. 05, 2022
HF Amplifier	Tonscend	TAP9E6343	AP21C806117	Sep. 03, 2021	Sep. 02, 2022
HF Amplifier	Tonscend	TAP051845	AP21C806141	Sep. 03, 2021	Sep. 02, 2022
HF Amplifier	Tonscend	TAP0184050	AP21C806129	Sep. 03, 2021	Sep. 02, 2022
Antenna Conducte	d Emission				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 02, 2021	Jul. 01, 2022
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jul. 02, 2021	Jul. 01, 2022
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 03, 2021	Sep. 02, 2022
Spectrum Analyzer	KEYSIGT	N9020B	MY60110172	Sep. 03, 2021	Sep. 02, 2022
TIME	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Sep. 03, 2021	Sep. 02, 2022
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Sep. 03, 2021	Sep. 02, 2022
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Sep. 03, 2021	Sep. 02, 2022
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Sep. 03, 2021	Sep. 02, 2022
RF Control Unit	Tonsced	JS0806-2	21F8060439	Sep. 03, 2021	Sep. 02, 2022



Page: 12 of 48

5. Conducted Emission

5.1 Test Standard and Limit

5.1.1 Test Standard

RSS-Gen 8.8

FCC Part 15,207

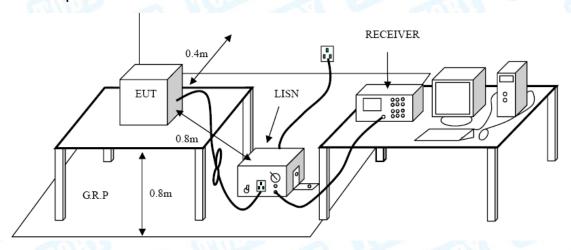
5.1.2 Test Limit

F	Maximum RF Line	Voltage (dBμV)
Frequency	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Notes:

- (1) *Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

5.2 Test Setup



5.3 Test Procedure

- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- ●I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- ●LISN at least 80 cm from nearest part of EUT chassis.
- ●The bandwidth of EMI test receiver is set at 9 kHz, and the test frequency band is from 0.15MHz to 30MHz.



Page: 13 of 48

5.4 Deviation From Test Standard

No deviation

5.5 EUT Operating Mode

Please refer to the description of test mode.

5.6 Test Data

Please refer to the Attachment A.

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Report No.: TBR-C-202203-0298-17 Page: 14 of 48

6. Radiated and Conducted Unwanted Emissions

6.1 Test Standard and Limit

6.1.1 Test Standard

RSS-Gen 8.9 & RSS 247 5.5 FCC Part 15.209 & FCC Part 15.247(d)

6.1.2 Test Limit

Genera	al field strength limits	at frequencies Below	30MHz
Frequency	Field Strength	Field Strength	Measurement
(MHz)	(µA/m)*	(microvolt/meter)**	Distance (meters)
0.009~0.490	6.37/F (F in kHz)	2400/F(KHz)	300
0.490~1.705	63.7/F (F in kHz)	24000/F(KHz)	30
1.705~30.0	0.08	30	30

Note: 1, The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

2, *is for RSS Standard, **is for FCC Standard.

General field s	trength limits at frequenc	ies above 30 MHz
Frequency (MHz)	Field strength (µV/m at 3 m)	Measurement Distance (meters)
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

th limits at frequencies	Above 1000MHz
Distance of	3m (dBuV/m)
Peak	Average
74	54
	Peak

Note:

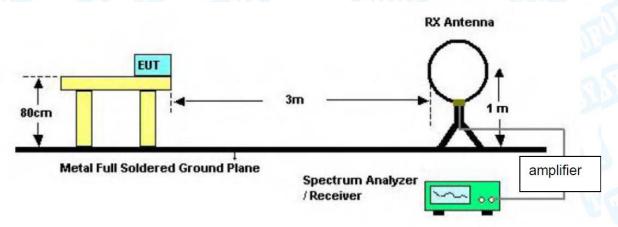
- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

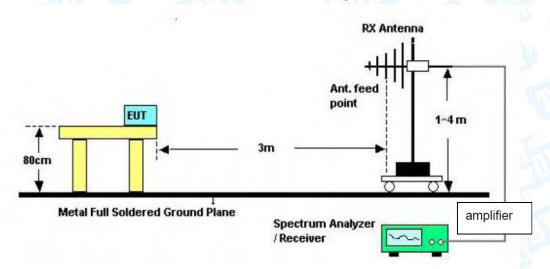
Page: 15 of 48

6.2 Test Setup

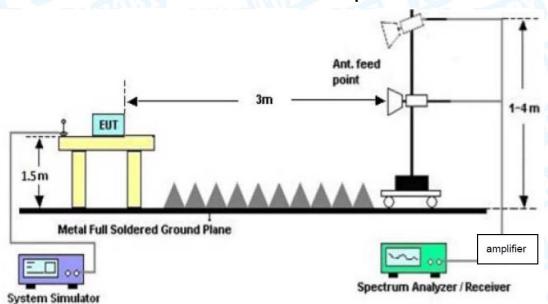
Radiated measurement



Below 30MHz Test Setup



Below 1000MHz Test Setup

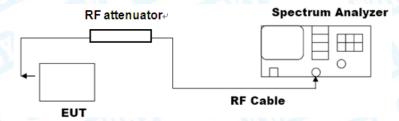


Above 1GHz Test Setup



Page: 16 of 48

Conducted measurement



6.3 Test Procedure

---Radiated measurement

- ●The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Below 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- Testing frequency range 30MHz-1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection. Testing frequency range 9KHz-150Hz the measuring instrument use VBW=200Hz with Quasi-peak detection. Testing frequency range 9KHz-30MHz the measuring instrument use VBW=9kHz with Quasi-peak detection.
- Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- For the actual test configuration, please see the test setup photo.



Page: 17 of 48

--- Conducted measurement

Reference level measurement

Establish a reference level by using the following procedure:

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set the span to≥1.5 times the DTS bandwidth.
- c) Set the RBW = 100 kHz.
- d) Set the VBW≥[3*RBW].
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

Emission level measurement

Establish an emission level by using the following procedure:

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100 kHz.
- c) Set the VBW≥[3*RBW].
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

6.4 Deviation From Test Standard

No deviation

6.5 EUT Operating Mode

Please refer to the description of test mode.

6.6 Test Data

Please refer to the Attachment B.



Page: 18 of 48

7. Emissions in nonrestricted frequency bands

7.1 Test Standard and Limit

7.1.1 Test Standard

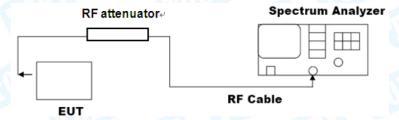
RSS-Gen 8.10 & RSS 247 5.5 FCC Part 15.205 & FCC Part 15.247(d)

7.1.2 Test Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

7.2 Test Setup

Conducted measurement



7.3 Test Procedure

Reference level measurement

Establish a reference level by using the following procedure:

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set the span to \geq 1.5 times the DTS bandwidth.
- c) Set the RBW = 100 kHz.
- d) Set the VBW ≥ [3*RBW].
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.



Page: 19 of 48

Emission level measurement

Establish an emission level by using the following procedure:

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100 kHz.
- c) Set the VBW ≥ [3*RBW].
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

7.4 Deviation From Test Standard

No deviation

7.5 EUT Operating Mode

Please refer to the description of test mode.

7.6 Test Data

Please refer to the Attachment C.



Page: 20 of 48

8. Bandwidth Test

8.1 Test Standard and Limit

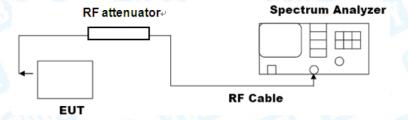
8.1.1 Test Standard

RSS-Gen 6.7 & RSS 247 5.2(a) FCC Part 15.205 & FCC Part 15.247(d)

8.1.2 Test Limit

Test Item	Limit
-6dB bandwidth (DTS bandwidth)	>=500 KHz
99% occupied bandwidth	1

8.2 Test Setup



8.3 Test Procedure

--- DTS bandwidth

- The steps for the first option are as follows:
- a) Set RBW = 100 kHz.
- b) Set the VBW≥[3*RBW].
- c) Detector = peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

---occupied bandwidth

- The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:
- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.



Page: 21 of 48

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

8.4 Deviation From Test Standard

No deviation

8.5 EUT Operating Mode

Please refer to the description of test mode.

8.6 Test Data

Please refer to the Attachment D.



Page: 22 of 48

9. Peak Output Power

9.1 Test Standard and Limit

9.1.1 Test Standard

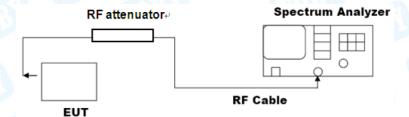
RSS 247 5.4

FCC Part 15.247(b)(3)

9.1.2 Test Limit

Test Item	Limit
Peak Output Power	not exceed 1 W or 30dBm
E.I.R.P	not exceed 4 W or 36dBm

9.2 Test Setup



9.3 Test Procedure

---RBW≥DTS bandwidth

● The following procedure shall be used when an instrument with a resolution bandwidth that is greater than

the DTS bandwidth is available to perform the measurement:

- a) Set the RBW≥DTS bandwidth.
- b) Set VBW≥[3*RBW].
- c) Set span≥[3*RBW].
- d) Sweep time = auto couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

9.4 Deviation From Test Standard

No deviation

9.5 EUT Operating Mode

Please refer to the description of test mode.

9.6 Test Data

Please refer to the Attachment E.



Page: 23 of 48

10. Power Spectral Density

10.1 Test Standard and Limit

10.1.1 Test Standard

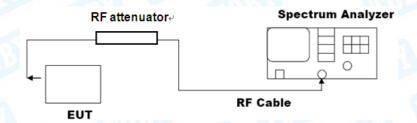
RSS 247 5.2(b)

FCC Part 15.247(e)

10.1.2 Test Limit

Test Item	Limit
Power Spectral Density	8dBm(in any 3 kHz)

10.2 Test Setup



10.3 Test Procedure

- The following procedure shall be used if maximum peak conducted output power was used to determine compliance, and it is optional if the maximum conducted (average) output power was used to determine compliance:
- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to 3 kHz≤RBW≤100 kHz.
- d) Set the VBW ≥[3*RBW].
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

10.4 Deviation From Test Standard

No deviation

10.5 Antenna Connected Construction

Please refer to the description of test mode.

10.6 Test Data

Please refer to the Attachment F.



Page: 24 of 48

11. Antenna Requirement

11.1 Test Standard and Limit

11.1.1 Test Standard

RSS 247 6.8 FCC Part 15.203

11.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

11.2 Deviation From Test Standard

No deviation

11.3 Antenna Connected Construction

The gains of the antenna used for transmitting is 0dBi, and the antenna de-signed with Unique connector antenna and consideration of replacement. Please see the EUT photo for details.

11.4 Test Data

The EUT antenna is a Dipole Antenna. It complies with the standard requirement.

	Antenna Type	
ang)	Permanent attached antenna	
3	⊠Unique connector antenna	
	Professional installation antenna	



Page: 25 of 48

Attachment A--Conducted Emission Test Data

		ECH I I	200		
Temperature:	24.5℃	Relat	ive Humidity:	44%	CHILDRE
Test Voltage:	AC 120V/60Hz		113		
Terminal:	Line		N N	The same	
Test Mode:	Mode 1				
Remark:	Only worse case i	s reported.		2.0	
30.0 dBuV	**************************************	^^^\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	M/M/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W	QP: AVG:	peak AVG
-20 0.150	0.5	(MHz)	5		30.000
No. Mk.	Reading Freq. Level	Factor	leasure- ment Limit		
	MHz dBuV	dB	dBuV dBuV	dB	Detector
	0.1539 30.43			-23.73	QP
	0.1539 12.96			-31.20	AVG
3 (0.5380 17.57		29.05 56.00		QP
4 (0.5380 14.61	11.48	26.09 46.00	-19.91	AVG
5 (0.6460 24.95	11.44	36.39 56.00	-19.61	QP
6 * 0	0.6460 22.28	11.44	33.72 46.00	-12.28	AVG
7 1	1.0660 13.95	11.15	25.10 56.00	-30.90	QP
8 1	1.0660 11.21	11.15	22.36 46.00	-23.64	AVG
9 1	1.8220 12.10	10.67	22.77 56.00	-33.23	QP
10 1	1.8220 9.26	10.67	19.93 46.00	-26.07	AVG
11 12	2.2060 16.84	10.32	27.16 60.00	-32.84	QP
	2.2060 2.77			-36.91	AVG

- 1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
- 2. Margin (dB) =QuasiPeak/Average (dBuV)-Limit (dBuV)





Temperature:	24.5℃	R	Relative Hun	nidity:	44%	
Test Voltage:	AC 120V/60Hz	Vision III		V		MUL
Terminal:	Neutral		1 Albert		1	
Test Mode:	Mode 1	711/2		CIN		
Remark:	Only worse case is re	eported.				1100
30 dBuV		***\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Mwww	QP: AVG:	peak
-20 0.150 No. Mk. F	_	(MHz) orrect actor	Measure- ment	Limit	Over	30.000
	MHz dBu∨	dB	dBu∀	dBuV	dB	Detector
1 0.	1500 30.50 1	1.59	42.09	65.99	-23.90	QP
2 0.	1500 13.34 1	1.59	24.93	55.99	-31.06	AVG
3 0.5	5500 21.82 1	1.49	33.31	56.00	-22.69	QP
4 0.9	5500 13.78 1	1.49	25.27	46.00	-20.73	AVG
5 0.6	6380 27.78 1	1.46	39.24	56.00	-16.76	QP
6 * 0.6	6380 19.97 1	1.46	31.43	46.00	-14.57	AVG
7 1.0	0740 17.91 1	1.15	29.06	56.00	-26.94	QP
8 1.0	0740 9.23 1	1.15	20.38	46.00	-25.62	AVG
9 1.7		0.68			-29.46	QP
		0.68			-27.16	AVG
		0.22			-32.67	QP
		0.22			-33.01	AVG
	= LISN Factor (dB) + Cab	-	-			

2. Margin (dB) =QuasiPeak/Average (dBuV)-Limit (dBuV)



Page: 27 of 48

Attachment B--Unwanted Emissions Data

---Radiated Unwanted Emissions

9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB

Below the permissible value has no need to be reported.

30MHz~1GHz

Tempera	ature:	24.3°	3	2		Relative Hu	imiaity:	45%	1 12
Test Vol	tage:	AC 12	20V/60	0Hz					
Ant. Pol		Horizo	ontal						· 84
Test Mo	de:	Mode	2 (90	3MHz)		Fig.	100	
Remark		Only	worse	case i	is reported.	MOD		1 1 1 to	
80.0 dB	ıV/m								
70					Fund	lamental Freque	ncv		
60									
							1 1	C 3M Radiatio	n
50							Margin -6 di	В	
40					5	<u> </u>			
30				3 X	4 × *				
			6	1	11 T T T J J J J J J J J J J J J J J J J	Lie allein			ll یا lbea.
20	1 *	al a lan	Á					LLUNG HELDER HOLDER	Alvinia (Nobes
MAN	of the land of the		MA JOHAN				Mary Andrews	hadin day a day day day day day day day day d	Awhay Was
10	rtulphylph ld	orat kilden elk e	MA JAMAN			** **********************************	Markey April Miller Long	yyanday bayar ka A	Myletii Liftipea
MAN	**************************************	rMAPN _{KN}	M	, tool year (All Look)		**************************************	Makahakala	yynydlaightey w ^{rech} t	Amber
10 MM	AND THE PROPERTY AND	ru/Ma/ka	MA AMARIANA	, to a light look p		**\/ _{\\\\}	Maka Andrews	agangsilanjah taga salah	My Dea
10 / 0	**************************************	60.00	and the second	und philosoph	(MHz)	300		And the state of t	1000.0
10 0 -10 -20 30.000	Freque		M M	And Market					
10	Frequ	ency	1	ading	Factor	Level	Limit	Margin	
10 0 -10 -20 30.000 No.	(MH	ency lz)	(dB	ading BuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	1000.0
10 0 -10 -20 30.000 No.	(MH 47.82	ency Iz) 260	(dB 45	ading BuV)	Factor (dB/m) -22.66	Level (dBuV/m) 23.08	Limit (dBuV/m) 40.00	Margin (dB) -16.92	Detector peak
10 -10 -20 30.000 No. 1 2	(MF 47.82 79.24	ency (z) 260 426	(dB 45 52	ading BuV)	Factor (dB/m) -22.66 -26.57	Level (dBuV/m) 23.08 26.42	Limit (dBuV/m) 40.00 40.00	Margin (dB) -16.92 -13.58	Detector peak peak
10 0 -10 -20 30.000 No. 1 2 3	47.82 79.24 95.76	ency (z) 260 426 322	(dB 45 52 55	ading 8uV) 5.74 99	Factor (dB/m) -22.66 -26.57 -25.75	Level (dBuV/m) 23.08 26.42 30.01	Limit (dBuV/m) 40.00 40.00 43.50	Margin (dB) -16.92 -13.58 -13.49	Detector peak peak peak
10 0 -10 -20 30.000 No. 1 2 3 4	47.82 79.24 95.76 125.0	ency (z) 260 426 622	(dB 45 52 55 52	ading BuV) 5.74 5.76 5.54	Factor (dB/m) -22.66 -26.57 -25.75 -22.97	Level (dBuV/m) 23.08 26.42 30.01 29.57	Limit (dBuV/m) 40.00 40.00 43.50 43.50	Margin (dB) -16.92 -13.58 -13.49 -13.93	Detector peak peak peak peak
10 0 -10 -20 30.000 No. 1 2 3	47.82 79.24 95.76	ency (z) 260 426 622	(dB 45 52 55 52	ading 8uV) 5.74 99	Factor (dB/m) -22.66 -26.57 -25.75	Level (dBuV/m) 23.08 26.42 30.01	Limit (dBuV/m) 40.00 40.00 43.50	Margin (dB) -16.92 -13.58 -13.49	Detector peak peak peak

^{*:}Maximum data x:Over limit !:over margin

- Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = QuasiPeak (dB μ V/m)-Limit QPK(dB μ V/m)





Page: 28 of 48

Tempera	ature:	24.3°	C		R	elative Hun	nidity: 2	15%			
Test Vol	tage:	AC 12	20V/60	0Hz	SI V	6.00	130		THIS.		
Ant. Pol		Vertic	'ertical								
Test Mo	de:	Mode	lode 2 (903MHz)								
Remark	:	Only	worse	case i	is reported.		13		Mil		
80.0 dB	uV/m										
70					Fui	ndamental Frequ	uency				
60											
							1 1	C 3M Radiation	,		
50						5	Margin -6-dl				
40	X	ź.		3	i i i	 	6				
30	4.1.u/l	/\\\\	1 1 1	المعراف والأراف		M. JANA L. JA	Ĭ	Marin	Mpe:		
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10	11	W W	MM A	ןייי ניין און ייון	MARK 1 1	Alach A Lill a Jury Mark	MACATINATIVANIA MAN	H. W. William			
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10		My 4/1/	WAY Y''	(* H) 7 ***	wiki kanana	Alak A I II A MANA	war Walania ya	HW WINNER CONTRACTOR			
10	"	W 404	WVV V	P	udik 1	And a lift of Man	www.Thataman.	H.A. WAR			
10 0		60 00	W/W - V - '	P	(MHz)	300	uu I	A A A A A A A A A A A A A A A A A A A	1000.0		
10 0 -10 -20	Frequ (MF	ency	1	ading	гмн _г л Factor (dB/m)	Level	Limit (dBuV/m)	Margin			
10 0 -10 -20 30.000		ency Iz)	(dB	_	Factor	Level	Limit	Margin	1000.0		
10 0 -10 -20 30.000 No.	(MH	ency Iz) 586	(dB 59	uV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	1000.0		
10 0 -10 -20 30.000 No.	(MH 47.6	ency Hz) 586 948	(dB 59.	.30	Factor (dB/m) -22.66	Level (dBuV/m) 36.64	Limit (dBuV/m) 40.00	Margin (dB)	Detecto		
10 0 -10 -20 30.000 No. 1 * 2 !	47.6 56.3	ency Hz) 586 948	(dB 59. 59.	.30 .24	Factor (dB/m) -22.66 -23.23	Level (dBuV/m) 36.64 36.01	Limit (dBuV/m) 40.00 40.00	Margin (dB) -3.36 -3.99	Detector peak peak		
10 0 -10 -20 30.000 No. 1 * 2 !	(MH 47.69 56.39 95.70	ency 1z) 586 948 622	59. 59. 63.	.30 .24 .22	Factor (dB/m) -22.66 -23.23 -25.75	Level (dBuV/m) 36.64 36.01 37.47	Limit (dBuV/m) 40.00 40.00 43.50	Margin (dB) -3.36 -3.99 -6.03	Detector peak peak peak		

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = QuasiPeak (dB μ V/m)-Limit QPK(dB μ V/m)





empera	ature:	24.3°C				Relative Hu	ımidity:	45%	
est Vol	tage:	AC 12	20V/6	0Hz		6.00			CHIT:
nt. Pol	•	Horizo	ontal			aU			65
est Mo	de:	Mode	2 (90	7.8MH	łz)		2 BAT		
Remark		Only	worse	case i	is reported.				(II)
80.0 dB	uV/m								
						Fundamental Fi	requency		
70									
60							(RF)FCC 15	iC 3M Radiatio	on _
50							Margin -6 d	IB	
40					,	- - ×			$+$ μ
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20	dissipped the state of the stat	W/M/W/	NA NA	AMA MAKAN		AMANA AMANA	tolomy of White Tolom	rypen blushading Mr.	Murdi Vilipe
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20 10	ikh _{lingu} ihh ⁱ hij	60.00		X Author	(MHz)	300		pypolish kapaday Ale	1000.0
20 10 0 -10 -20	* White the second sec			Authoritation and		1		NICT	1000.0
20 10 -10 -20	Frequ (MF	ency	1	ading BuV)	(MHz) Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	1000.0
20 10 0 -10 -20 30.000		ency łz)	(dE	_	Factor	Level	Limit	Margin	1000.0
20 10 0 -10 -20 30.000	(MH	ency Iz) 260	(dE	BuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	1000.0
20 10 0 -10 -20 30.000 No.	(MH 47.8	ency Hz) 260 426	(dE 47 53	3uV) ′.08	Factor (dB/m) -22.66	Level (dBuV/m) 24.42	Limit (dBuV/m) 40.00	Margin (dB)	1000.0 Detector peak
20 10 0 -10 -20 30.000 No.	(MF 47.8 79.2	ency Hz) 260 426 622	(dE 47 53 55	3uV) 7.08 3.13	Factor (dB/m) -22.66 -26.57	Level (dBuV/m) 24.42 26.56	Limit (dBuV/m) 40.00 40.00	Margin (dB) -15.58 -13.44	Detector peak peak
20 10 0 -10 -20 30.000 No.	(MH 47.83 79.24 95.70	ency 1z) 260 426 622	(dE 47 53 55 55	3uV) 7.08 3.13 5.51	Factor (dB/m) -22.66 -26.57 -25.75	Level (dBuV/m) 24.42 26.56 29.76	Limit (dBuV/m) 40.00 40.00 43.50	Margin (dB) -15.58 -13.44 -13.74	Detector peak peak peak

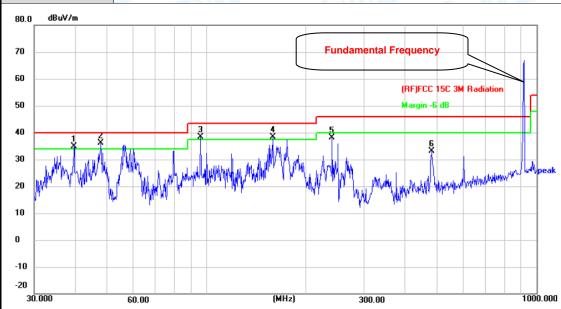
- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = QuasiPeak (dB μ V/m)-Limit QPK(dB μ V/m)





Page: 30 of 48

Temperature:	24.3℃	Relative Humidity:	45%
Test Voltage:	AC 120V/60Hz		W. College
Ant. Pol.	Vertical		
Test Mode:	Mode 2 (907.8MHz)		
Remark:	Only worse case is reporte	ed.	



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1!	39.7146	57.92	-23.03	34.89	40.00	-5.11	peak
2 *	47.8260	58.73	-22.66	36.07	40.00	-3.93	peak
3 !	95.7622	64.18	-25.75	38.43	43.50	-5.07	peak
4!	158.6677	59.85	-21.47	38.38	43.50	-5.12	peak
5	239.9874	60.77	-22.53	38.24	46.00	-7.76	peak
6	480.5276	49.32	-16.09	33.23	46.00	-12.77	peak

^{*:}Maximum data x:Over limit !:over margin

- Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = QuasiPeak (dB μ V/m)-Limit QPK(dB μ V/m)





Page: 31 of 48

Temp	pera	mperature: 24.			3	1	Relative H	imidity:	45%		
Test	Volt	age:	AC 12	20V/6	60Hz	THE VE		187		EHIT:	
Ant.	Pol.		Horiz	Horizontal							
Test	Mod	le:	Mode	Mode 2 (914.2MHz)							
Rem			Only	worse	e case	is reported		13		Mil	
80.0	dBuV	//m									
70							Fundamen	tal Frequency			
60								(RF)FCC 15	C 3M Radiatio		
50								Margin -6 d	В		
40					2		+ 1	5 X			
30					Q	3	11 11 6.	*	6		
		1 X				Ĭ. Jh hu	المالا الألام المالم		. Ž.	ALAM WINDE	
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10 de la companya de	.000	Arguetthat Aug	60.00	May July	Kurd (Allahara	(MHz)	1			1000.0	
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10 de la companya de			ency lz)	(dE	ading	Factor	Level	Limit	Margin	1000.0	
10 0 -10 -20 30.1	D.	(MH	ency Iz) 260	(dE	ading	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	1000.0	
10 0 -10 -20 30.	D.	(MH 47.82	ency (z) 260	(dE 46 56	ading BuV)	Factor (dB/m) -22.66	Level (dBuV/m) 23.90	Limit (dBuV/m) 40.00	Margin (dB) -16.10	Detector peak	
10 -10 -20 30.1 No	D.	47.82 95.76	ency (z) 260 322	(dE 46 56 51	ading 3uV) 5.56 5.42	Factor (dB/m) -22.66 -25.75	Level (dBuV/m) 23.90 30.67	Limit (dBuV/m) 40.00 43.50	Margin (dB) -16.10 -12.83	Detector peak peak	
10 V). *	95.76 119.0	ency (z) 260 322 180 874	(dE 46 56 51 61	ading BuV) 6.56 6.42	Factor (dB/m) -22.66 -25.75 -23.38	Level (dBuV/m) 23.90 30.67 28.55	Limit (dBuV/m) 40.00 43.50 43.50	Margin (dB) -16.10 -12.83 -14.95	Detector peak peak peak	

^{*:}Maximum data x:Over limit !:over margin

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = QuasiPeak (dB μ V/m)-Limit QPK(dB μ V/m)





Page: 32 of 48

Tem	pera	ture:	24.3°	С	39			Relative	Hun	nidity:	4	15%			
Test	Volt	age:	AC 1	20V/	60H	łz									
Ant.	Pol.		Vertic	Vertical											
Test	Mod	de:	Mode	Mode 2 (914.2MHz)											
Rem	nark:		Only	wors	se ca	ase i	s reporte	d.		13			M	11	
80.0	dBu\	V/m													7
70								Funda	amenta	l Frequen	су				
60											\pm	→			
50										1 1		3M Radi	iation	- II	-
							_	<u>6</u>		Marg	n-6-dB			\dashv	
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30	w/w	al all	Mh		111	1.1	1 IN 18	Mar A dia	M					lynthy. Lot	Mpea
		'N' YENDUL BELLE	4 19 1 .	11 . //	الوالت المها	dudina.dl	AN AYN ANAY'' 1"	E YU WASANIA					I .a. N.D		
20	M.,	ALIMIA. A	J 140	n Jacobs	JAN TY	/ ///////////////////////////////////	Maybala. 1.	r " _{NA} NYTY	The state of	NAME TANDA	AN JAMAN	ymphilipadd ⁴ h	fristylly.	(ALTON	
20 10	M _M	, II 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	W WAN	dd Jad bra	ghter (^{mill} ly	Y VAH ^O YVAH	MITALINIANA. I		r h _{hyd} r	Not White	AN THAN	ymathlynindith	l _{eth} rop ¹ 9 ₃ 91	(ma)	
1	Mili	, 11, 14 May 1, 14	V W	hi Jadiha	JANK "NY	4144414	Maryana I.	, _{**} **********************************	r h _{upp} r	Narry July My	Antaly	ymaghill privil th	J _{errick} NY	dam.	
10	Militar	J. Mila.	V VIII	ed Jedler	AND THE	4449/444	Mary Andrew 1.	[,] " _{\max} ary"r\p	r h _{ypot} r	North July	VIII THAN	ymaghall and differ	I _{PH} OP N.P.	dates.	
10 0 -10 -20	M _M , ,	TINHY" Y	V Va	de Jack Hara	,/M(**\)	1 1441/114	Maryana II	* ** _{**} *******************************	r hoyal	Power July Ma	THE PARTY OF THE P	ymathl and th	L _{TH} OP TYP		
10 0 -10 -20	0.000	111/11/11	60.00		,MH ^(*) 4	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(MH:		300.0	00	A Jaken	propell and the	l _{en} ory 19 ¹		00.00
10 0 -10 -20 30).000 lo.	Frequ (MI	iency		eadi Bu\	_	Factor (dB/m)	Lev	/el	Lim		Març (dB	gin		00.00
10 0 -10 -20 30			iency Hz)	(d		V)	Factor	Lev	/el V/m)	Lim	//m)	Març	gin	100	00.00
10 0 -10 -20 30 N	lo.	(MI	iency Hz)	(d	lBu\	V) 9	Factor (dB/m)	Lev (dBu)	/el //m) 96	Lim (dBu\	//m) 00	Març (dB	gin 3)	100	oo.oo
10 0 -10 -20 30 N	lo. ! 2 !	(MI 39.7	nency Hz) 146 260	(d 5	Bu\ 57.9	V) 9 8	Factor (dB/m)	Lev (dBu)	/el //m) 96 82	Lim (dBu\ 40.0	//m) 00 00	Març (dB	gin 3) 14	Dete	oo.oo
10 0 -10 -20 30 N	lo. ! 2 !	(MI 39.7 47.8	146 260 948	(d 5 5	Bu\ 57.9 58.4	V) 99 8 20	Factor (dB/m) -23.03 -22.66	Lev (dBu) 34.	/el //m) 96 82 97	Lim (dBu\ 40.0	//m) 00 00 00	Març (dB -5.0	gin 3) 94 8	Dete	oo.oo
10 0 -10 -20 30 N	lo.	39.7 47.8 56.3	146 260 948	(d) 55 5 6	37.9 57.9 58.4 59.2	V) 99 88 20 79	Factor (dB/m) -23.03 -22.66 -23.23	Lev (dBu ¹ 34. 35.	/el //m) 96 82 97	Lim (dBu\/ 40.0 40.0	//m) 00 00 00 00	Marg (dB -5.0 -4.1 -4.0	gin 3) 94 8 93	Dete	ecto ak ak ak

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = QuasiPeak (dB μ V/m)-Limit QPK(dB μ V/m)





Page: 33 of 48

Above 1GHz

Temperature:	24.3℃	Relative Humidity:	45%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX 903MHz	A D	
Remark:	Only worse case is reported		a lillus

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	1806.339	63.04	-7.77	55.27	74.00	-18.73	peak
2 *	1806.471	53.15	-7.77	45.38	54.00	-8.62	AVG

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)
- 4. The tests evaluated1-10GHz, The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
- 5. No report for the emission which more than 20dB below the prescribed limit.

Temperature:	24.3℃	Relative Humidity:	45%
Test Voltage:	AC 120V/60Hz		MUL
Ant. Pol.	Vertical		CIII)
Test Mode:	TX 903MHz		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	1806.328	52.08	-7.77	44.31	54.00	-9.69	AVG
2	1806.428	63.38	-7.77	55.61	74.00	-18.39	peak

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
- 2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)
- 4. The tests evaluated1-10GHz, The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
- 5. No report for the emission which more than 20dB below the prescribed limit.





Page: 34 of 48

Temperature:	24.3℃	Relative Humidity:	45%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX 907.8MHz	A D	
Remark:	Only worse case is reported	. (11)	A HILL

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1 *	1815.780	52.21	-7.69	44.52	54.00	-9.48	AVG
2	1815.889	62.51	-7.69	54.82	74.00	-19.18	peak

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)
- 4. The tests evaluated1-10GHz, The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
- 5. No report for the emission which more than 20dB below the prescribed limit.

			LOW HALL THE THE PARTY OF THE P
Temperature:	24.3℃	Relative Humidity:	45%
Test Voltage:	AC 120V/60Hz		CALL TO SERVICE OF THE PARTY OF
Ant. Pol.	Vertical		CIII)
Test Mode:	TX 907.8MHz		TOP

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	1815.891	53.07	-7.69	45.38	54.00	-8.62	AVG
2	1815.951	63.03	-7.69	55.34	74.00	-18.66	peak

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
- 2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)
- 4. The tests evaluated1-10GHz, The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
- 5. No report for the emission which more than 20dB below the prescribed limit.





Page: 35 of 48

Temperature:	24.3℃	Relative Humidity:	45%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX 914.2MHz		
Remark:	Only worse case is reported	d.	A VIV

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	1828.554	63.98	-7.60	56.38	74.00	-17.62	peak
2 *	1828.664	52.97	-7.60	45.37	54.00	-8.63	AVG

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
 2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)
- 4. The tests evaluated1-10GHz, The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
- 5. No report for the emission which more than 20dB below the prescribed limit.

Mark Mark Control			
Temperature:	24.3℃	Relative Humidity:	45%
Test Voltage:	AC 120V/60Hz		MAG
Ant. Pol.	Vertical		
Test Mode:	TX 914.2MHz		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	1828.658	52.88	-7.60	45.28	54.00	-8.72	AVG
2	1828.765	63.07	-7.60	55.47	74.00	-18.53	peak

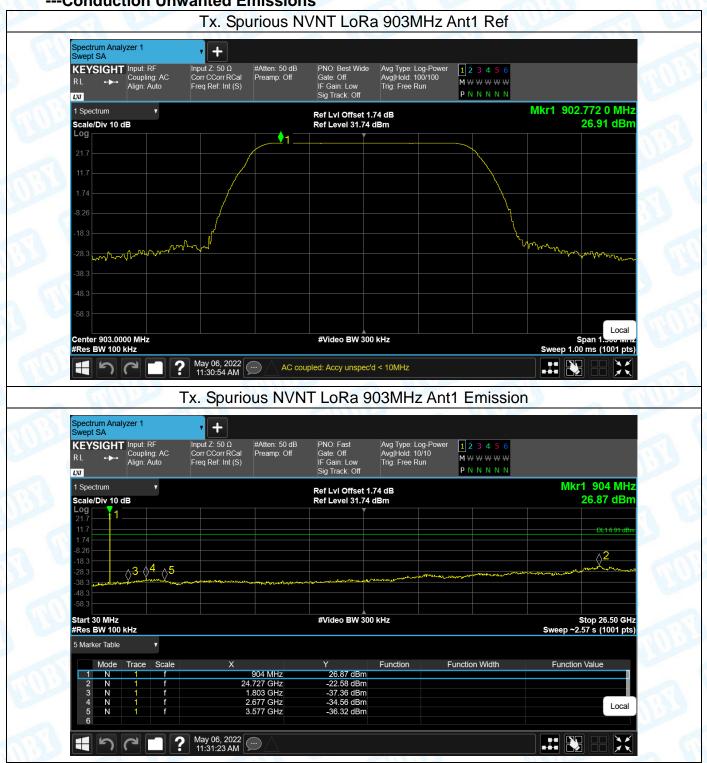
- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
- 2. Peak/AVG (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = Peak/AVG (dB μ V/m)-Limit PK/AVG(dB μ V/m)
- 4. The tests evaluated1-10GHz, The testing has been conformed to the 10th harmonic of the highest fundamental frequency.
- 5. No report for the emission which more than 20dB below the prescribed limit.



Page: 36 of 48



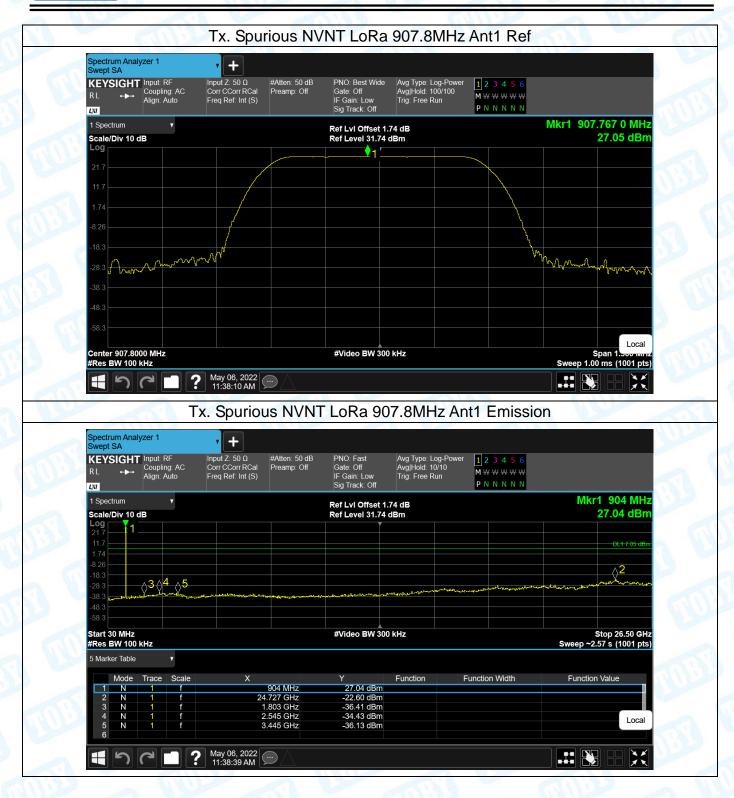
--- Conduction Unwanted Emissions





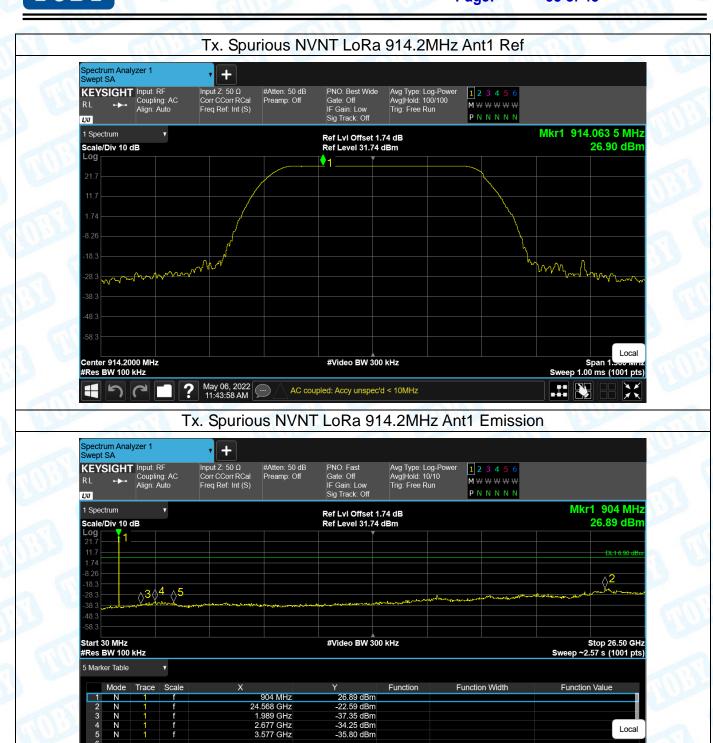


Page: 37 of 48





Page: 38 of 48



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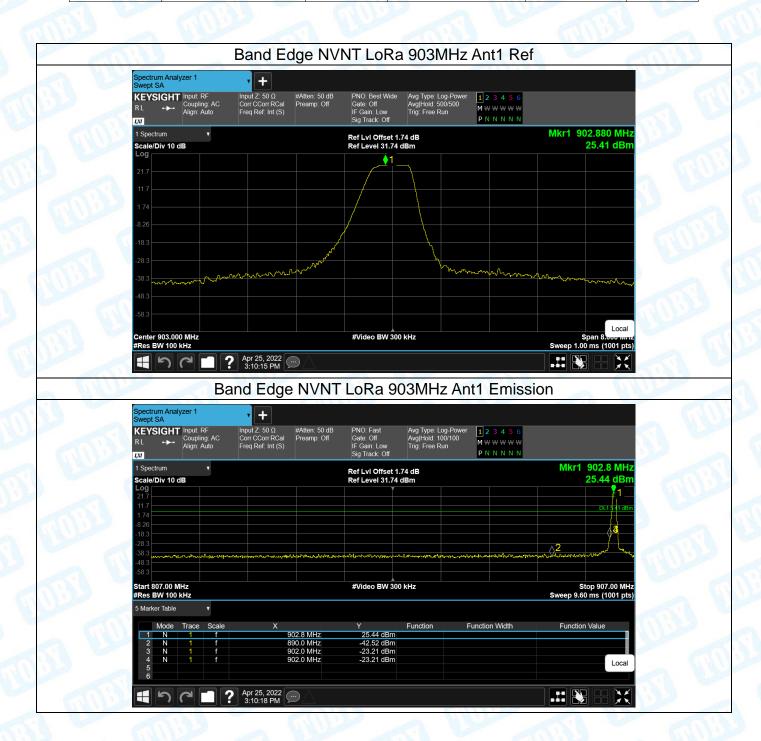




Page: 39 of 48

Attachment C--Emissions In Nonrestricted Frequency Bands Data

Condition	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	903	Ant1	-49.49	-20	Pass
NVNT	907.8	Ant1	-49.65	-20	Pass
NVNT	914.2	Ant1	-49.49	-20	Pass





Page: 40 of 48









Page: 41 of 48

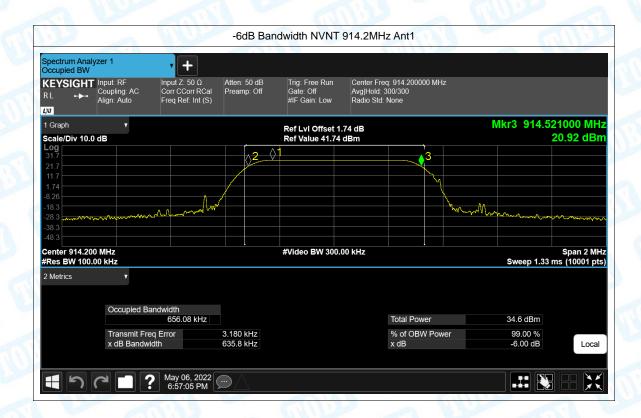
Attachment D--Bandwidth Data

Condition	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	903	Ant1	0.6355	0.5	Pass
NVNT	907.8	Ant1	0.6762	0.5	Pass
NVNT	914.2	Ant1	0.6358	0.5	Pass





Page: 42 of 48





Condition	ndition Frequency (MHz)		99% OBW (MHz)
NVNT	903	Ant1	0.50066
NVNT	907.8	Ant1	0.50059
NVNT	914.2	Ant1	0.49897





Page: 44 of 48



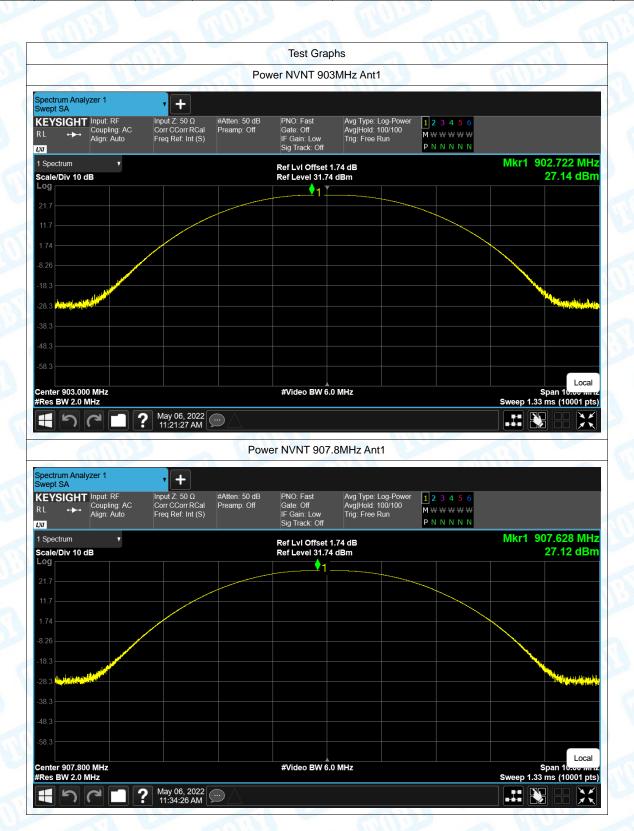


Report No.: TBR-C-202203-0298-17

Page: 45 of 48

Attachment E—Peak Output Power Data

Condition	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	903	Ant1	27.14	0	27.14	30	Pass
NVNT	907.8	Ant1	27.12	0	27.12	30	Pass
NVNT	914.2	Ant1	27.00	0	27	30	Pass





Report No.: TBR-C-202203-0298-17

Page: 46 of 48



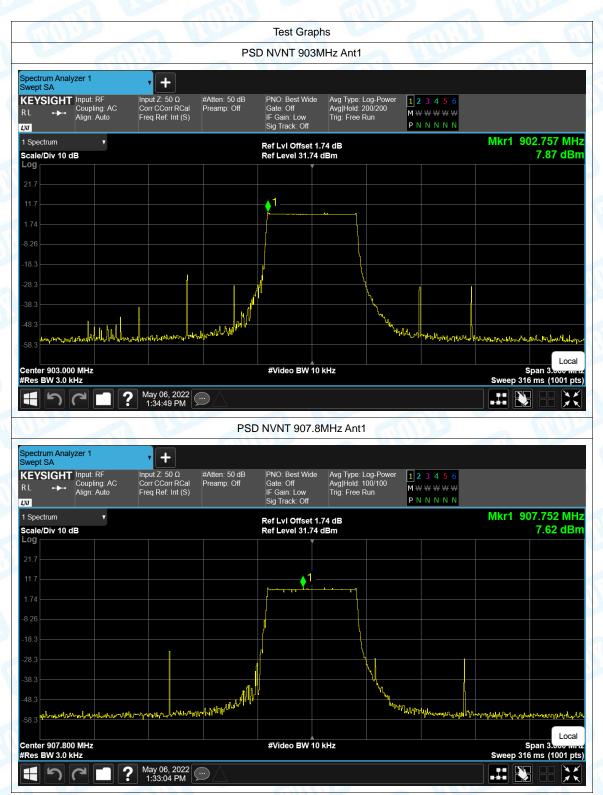




Page: 47 of 48

Attachment F—Power Spectral Density Data

Condition	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	903	Ant1	7.87	8	Pass
NVNT	907.8	Ant1	7.62	8	Pass
NVNT	914.2	Ant1	7.34	8	Pass



Page: 48 of 48



----END OF REPORT-----