

# **ADDENDUM TEST REPORT**

FCC Part 15 Subpart F 15.519 Hand-Held UWB Device

Report No.: ALER05-U2 Rev A

Company: Alereon Inc.

Model Name: AL5350B Based UWB Modules



# ADDENDUM TEST REPORT

Company Name: Alereon Inc.

Model Name: AL5350B Based UWB Modules

To: FCC CFR 47 Part 15 Subpart F 15.519

Test Report Serial No.: ALER05-U2 Rev A

This report is supported by: ALER03-U2

Applicant: Alereon Inc.

10800 Pecan Park Blvd, STE 100

Austin, Texas 78750

USA

Issue Date: 18th July 2022

# This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.

575 Boulder Court Pleasanton California 94566 USA

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MiCOM Labs is an ISO 17025 Accredited Testing Laboratory



To: FCC CFR 47 Part 15 Subpart F 15.519

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# 1. ACCREDITATION, LISTINGS & RECOGNITION

# 1.1. TESTING ACCREDITATION

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per the international standard ISO/IEC 17025:2017. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.01. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-01.pdf



# **Accredited Laboratory**

A2LA has accredited

# MICOM LABS

Pleasanton, CA

for technical competence in the field of

# Electrical Testing

This laboratory is accredited in accordance with the recognized international Standard ISO/IEC 17025:2017 General requirements for the competence of festing and calibration laboratories. 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).



Presented this 14th day of January 2022.

Vice President, Accreditation Services For the Accreditation Council Certificate Number 2381.01 Valid to November 30, 2023

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

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personnel. All changes will be noted in the Document History section of the report.

MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com



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# 1.2. RECOGNITION

MiCOM Labs, Inc is widely recognized for its wireless testing and certification capabilities. In addition to being recognized for Testing and Certification under Phase 2 Mutual Recognition Agreements (MRA) with Canada, Europe, United Kingdom and Japan, our international recognition includes Conformity Assessment Body (CAB) designation status under agreements with Asia Pacific (APEC) MRA Phase 1 countries giving acceptance of MiCOM Labs test reports. MiCOM Labs test reports are accepted globally.

Country	Recognition Body	Status	MRA Phase	Identification No.
USA	Federal Communications Commission (FCC)	ТСВ	-	US0159 Test Firm Designation#: US1084
Canada	Industry Canada (ISED)	FCB	APEC MRA 2	US0159 ISED#: 4143A
Japan	MIC (Ministry of Internal Affairs and Communication) Japan Approvals Institute for Telecommunication Equipment (JATE)	CAB	Japan MRA 2	RCB 210
	VCCI			A-0012
Europe	European Commission	NB	EU MRA 2	NB 2280
United Kingdom	Department for Business, Energy & Industrial Strategy (BEIS)	AB	UK MRA 2	AB 2280
Mexico	Instituto Federal de Telecomunicaciones (IFT)	CAB	Mexico MRA 1	US0159
Australia	Australian Communications and Media Authority (ACMA)			
Hong Kong	Office of the Telecommunication Authority (OFTA)			
Korea	Ministry of Information and Communication Radio Research Laboratory (RRL)	CAB	APEC MRA 1	US0159
Singapore	Infocomm Development Authority (IDA)	CAB	APEC WIRA I	050159
Taiwan	National Communications Commission (NCC) Bureau of Standards, Metrology and Inspection (BSMI)			
Vietnam	Ministry of Communication (MIC)			

TCB – Telecommunications Certification Bodies (TCB)

FCB - Foreign Certification Body

CAB - Conformity Assessment Body

NB - Notified Body

AB – Approved Body

MRA - Mutual Recognition Agreement

MRA PhasePhase I - recognition for product testing

Phase II – recognition for both product testing and certification

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# 1.3. PRODUCT CERTIFICATION

MiCOM Labs, Inc. is an accredited Product Certification Body per the international standard ISO/IEC 17065:2012. The company is accredited by the American Association for Laboratory Accreditation (A2LA) <a href="https://www.a2la.org">www.a2la.org</a> test laboratory number 2381.02. MiCOM Labs test schedule is available at the following URL; <a href="https://www.a2la.org/scopepdf/2381-02.pdf">https://www.a2la.org/scopepdf/2381-02.pdf</a>



# **Accredited Product Certification Body**

A2LA has accredited

# MICOM LABS

Pleasanton, CA

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC-17065;2012 Requirements for bodies certifying products, processes and services. This product certification body also meets the AZLA R322 – Specific Requirements – Notified Body Accreditation Requirements and AZLA R308 - Specific Requirements - ISO-IEC 17065 - Telecommunication Certification Body Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a management system.



Presented this 14th day of January 2022

Vice President, Accreditation Services For the Accreditation Council Certificate Number 2381.02 Valid to November 30, 2023

For the product certification scriemes to which the accreditation applies, please refer to the organization's Product Certification Scope of Accreditation

United States of America – Telecommunication Certification Body (TCB) Industry Canada – Certification Body, CAB Identifier – US0159 Europe – Notified Body (NB), NB Identifier - 2280 UK – Approved Body (AB), AB Identifier - 2280 Japan – Recognized Certification Body (RCB), RCB Identifier - 210

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# 2. DOCUMENT HISTORY

Document History							
Revision	Date	Comments					
Draft	12 <sup>th</sup> July 2022	Draft for review Compliance program added three additional antennas: Band 1: 3,168 – 4,752 MHz Band 2: 6,366 – 7,920 MHz Band 3: 7,500 – 9,000 MHz					
Rev A	18 <sup>th</sup> July 2022	Initial Release					

In the above table the latest report revision will replace all earlier versions.

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# 3. TEST RESULT CERTIFICATE

Manufacturer: Alereon Inc.

10800 Pecan Park Blvd, STE 100

Austin, Texas 78750

USA

Model: AL5350B Based UWB Modules

**Equipment Type:** Mobile & Portable Client Device

**S/N's:** AL5804 Impact: 21390399

Test Date(s): 1st - 6th July 2022

Tested By: MiCOM Labs, Inc.

575 Boulder Court

Pleasanton, California 94566

USA

Telephone: +1 925 462 0304

Fax: +1 925 462 0306

Website: www.micomlabs.com

STANDARD(S)

FCC CFR 47 Part 15 Subpart F 15.519

**TEST RESULTS** 

**EQUIPMENT COMPLIES** 

MiCOM Labs, Inc. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

#### Notes:

- 1. This document reports conditions under which testing was conducted and the results of testing performed.
- 2. Details of test methods used have been recorded and kept on file by the laboratory.
- 3. Test results apply only to the item(s) tested.

Approved & Released for MiCOM Labs, Inc. by:

Graeme Grieve

Quality Manager MiCOM Labs, Inc.

Gordon Hurst

President & CEO MiCOM Labs, Inc.

TESTING CERT #2381.01

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# 4. REFERENCES AND MEASUREMENT UNCERTAINTY

# 4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
ı	FCC 47 CFR Part F	2018	Radio Frequency Devices; Subpart F –Ultra Wide Band Devices
II	A2LA	August 2018	R105 - Requirement's When Making Reference to A2LA Accreditation Status
III	ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
IV	ANSI C63.4	2014	American National Standards for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
V	ETSI TR 100 028	2001-12	Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics
VI	M 3003	Edition 3 Nov.2012	Expression of Uncertainty and Confidence in Measurements
VII	FCC 47 CFR Part 2.1033 2016		FCC requirements and rules regarding photographs and test setup diagrams.
VIII	KDB 393764 D01 UWB FAQ v02	January 29, 2018	Ultra-Wideband (UWB) Devices frequently asked questions

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# 4.2. Test and Uncertainty Procedure

Conducted and radiated emission measurements were conducted in accordance with American National Standards Institute ANSI C63.4, listed in the Normative References section of this report.

Measurement uncertainty figures are calculated in accordance with ETSI TR 100 028 Parts 1 and 2.

Measurement uncertainties stated are based on a standard uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95 % in accordance with UKAS document M 3003 listed in the Normative References section of this report.

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# 5. PRODUCT DETAILS AND TEST CONFIGURATIONS

# 5.1. <u>Technical Details</u>

Details	Description
Purpose:	
	47 Part 15 Subpart F 15.519 Ultra-Wideband (UWB); Hand-Held
	Device
Applicant:	Alereon Inc.
	10800 Pecan Park Blvd, STE 100
Manufacturan	Austin, TX 78750 USA
Manufacturer:	
Laboratory performing the tests:	·
	575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	
Date EUT received:	
	FCC Part 15 Subpart F 15.519
Dates of test (from - to):	·
No of Units Tested:	
	AL5350B Based UWB Modules
` '	AL5804 Impact: 1.7g, L1.215" x W0.565", Rev 1, SW Rev 30006
	Indoors and Outdoors
Declared Frequency Range(s):	
Type of Modulation:	BPM/BPSK
EUT Modes of Operation:	UWB
Declared Nominal Output Power (dBm):	-41.3 dBm
Rated Input Voltage and Current:	AL5804 Impact: 5.0 VDC, 180mA
Operating Temp Range:	-40 to +85°C
(manufacturers declaration)	
Product Application:	Mobile & Portable Client Devices

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# 5.2. Scope Of Test Program

Alereon Inc. Company: AL5350B Based UWB Modules

The scope of the test program was to test the Alereon Inc. Company AL5350B Based UWB Modules configurations in the frequency ranges 3100 - 10600 MHz for compliance against the following specification:

### FCC CFR 47 Part 15 Subpart F - 15.519

Compliance Measurement Procedures for Unlicensed National Information Infrastructure devices operating in the 3100 - 10600 MHz bands.

#### **Model**

AL5804 Impact – USB Interface

This program covers the following antennas added by the manufacturer:

- Membrane Patch Antenna
- Left Visor Patch Antenna
- Right Visor Patch Antenna

The following testing was performed on each antenna:

- Radiated Spurious Emissions 960 MHz to 18000 MHz
- Calculated Average Transmitting Power
- Calculated Peak Power Density

Additional tests required will be found in the test reports listed below:

Digital Emissions from 30MHz to 1GHz can be found in the MiCOM Labs test report ALER03-U4 Ultra-Wide Bandwidth RF can be found in the MiCOM Labs test report ALER03-U2 Shutdown Timing Requirements can be found in the MiCOM Labs test report ALER03-U2

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# 5.3. Equipment Model(s) and Serial Number(s)

Type (EUT/ Support)	Equipment Description (Including Brand Name)	Mfr.	Model No.	Serial No.
EUT	Impact	Alereon Inc	AL5804	21390399
Support	Host Board	Alereon Inc	N/A	N/A
Support	Laptop	Lenovo	N/A	N/A

## 5.4. Antenna Details

Туре	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X- Pol	Frequency Band (GHz)
Chip	Not Provided	Membrane	Patch	4.0/12.0/5.0	N/A		No	3.0/6.0/9.0
Chip	Not Provided	Left Visor	Patch	-2.0/5.0/0.0	N/A		No	3.0/6.0/9.0
Chip	Not Provided	Right Visor	Patch	2.0/3.0/1.0	N/A		No	3.0/6.0/9.0

BF Gain - Beamforming Gain

Dir BW - Directional BeamWidth

X-Pol - Cross Polarization

# 5.5. Cabling and I/O Ports

Custom 60 pin interface to Host Board/ USB

- a. USB Type A Port
- b. Custom USB Port
- c. Serial Port
- d. Parallel Interface

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# 5.6. Test Configurations

Results for the following configurations are provided in this report:

Band(s)	Transmission Rate	Channel Frequency te (MHz)				
Dana(o)		Low	Mid	High		
1	Max	3432	3960	4488		
3	Max	6600	7128	7656*		
6	Max	7656*	8184	8712		

Serial #:

# 5.7. Equipment Modifications

The following modifications were required to bring the equipment into compliance:

1. NONE

# 5.8. Deviations from the Test Standard

The following deviations from the test standard were required in order to complete the test program:

1. NONE

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<sup>\*</sup>These frequencies are the same for Band 3 and Band 6. As a result, radiated testing only presents a single set of results.



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# 6. TEST SUMMARY

List of Measurements

Test Header	Result	Data Link
UWB Bandwidth → AL5804 Impact	Complies	See MiCOM Labs test report ALER03-U2
Average Transmit Power	Complies	View Data
Peak Power Density	Complies	View Data
Spurious Radiated Emissions	Complies	View Data
Spurious Radiated Emissions in GPS Bands	Complies	View Data
Shutdown Timing Requirements	Complies	See MiCOM Labs test report ALER03-U2
Emissions below 1 GHz	Complies	
- AL5804 Impact	Complies	See MiCOM Labs test report ALER03-U4
AC Wireline Emissions	*Not Applicable	Vdc Modules
Comments: None		

<sup>\*</sup>Modules are dc powered

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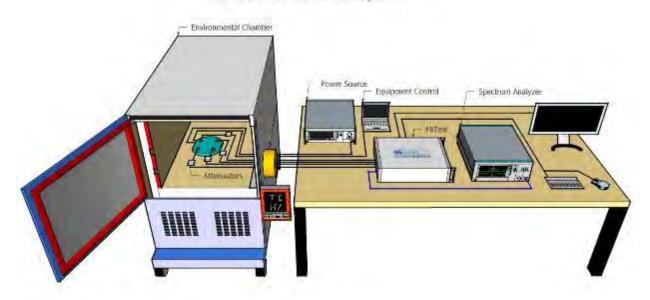
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# 7. TEST EQUIPMENT CONFIGURATION(S)

# 7.1. Conducted Test Setup

### MiTest Automated Test System



A full system calibration was performed on the test station and any resulting system losses (or gains) were considered in the production of all final measurement data.

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
#3 SA	MiTest Box to SA	Fairview Microwave	SCA1814- 0101-72	#3 SA	7 Oct 2022
#3P1	EUT to MiTest box port 1	Fairview Microwave	SCA1814- 0101-72	#3P1	7 Oct 2022
#3P2	EUT to MiTest box port 2	Fairview Microwave	SCA1814- 0101-72	#3P2	7 Oct 2022
#3P3	EUT to MiTest box port 3	Fairview Microwave	SCA1814- 0101-72	#3P3	7 Oct 2022
#3P4	EUT to MiTest box port 4	Fairview Microwave	SCA1812- 0101-72	#3P4	7 Oct 2022
249	Thermocouple; Resistance Thermometer	Thermotronics	GR2105-02	9340 #2	30 Oct 2022
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	8 Oct 2022
398	MiTest RF Conducted Test Software	MiCOM	MiTest ATS	Version 4.2.3.0	Not Required
405	DC Power Supply 0-60V	Agilent	6654A	MY4001826	Cal when used
408	USB to GPIB interface	National Instruments	GPIB-USB HS	14C0DE9	Not Required
441	USB Wideband Power Sensor	Boonton	55006	9179	20 Sep 2022

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442	USB Wideband Power Sensor	Boonton	55006	9181	19 Oct 2022
445	PoE Injector	D-Link	DPE-101GL	QTAH1E2000625	Not Required
461	Spectrum Analyzer	Agilent	E4440A	MY46185537	27 Sep 2023
493	USB Wideband Power Sensor	Boonton	55006	9634	8 Oct 2022
494	USB Wideband Power Sensor	Boonton	55006	9726	19 Oct 2022
510	Barometer/Thermometer	Digi Sense	68000-49	170871375	4 Jan 2023
512	MiTest Cloud Solutions RF Test Box	MiCOM	2nd Gen with DFS	512	29 Jun 2023
555	Rhode & Schwarz Receiver (Firmware Version : 2.00 SP1)	Rhode & Schwarz	ESW 44	101893	28 Jun 2023
75	Environmental Chamber	Thermatron	SE-300-2-2	27946	20 Feb 2023

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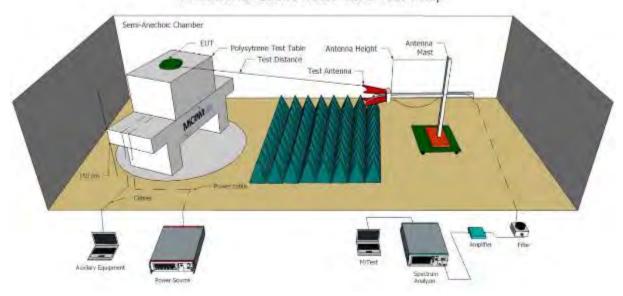
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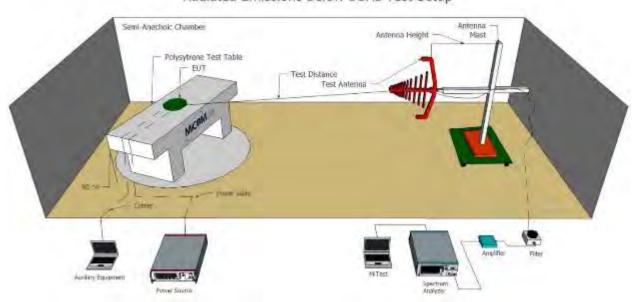
# 7.2. Radiated Emissions - 3m Chamber

The following tests were performed using the radiated test set-up shown in the diagram below. Radiated emissions above and below 1GHz.

## Radiated Emissions Above 1GHz Test Setup



### Radiated Emissions Below 1GHz Test Setup



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A full system calibration was performed on the test station and any resulting system losses (or gains) were considered in the production of all final measurement data.

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Asset#	Description	Manufacturer	Model#	Serial#	<b>Calibration Due Date</b>
330	Variac 0-280 Vac	Staco Energy Co	3PN1020B	0546	Cal when used
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CU101	04R08507	Not Required
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	8 Oct 2022
298	3M Radiated Emissions Chamber Maintenance Check	MiCOM	3M Chamber	298	24 Jul 2022
336	Active loop Ant 10kHz to 30 MHz	EMCO	EMCO 6502	00060498	29 Nov 2022
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	29 Sep 2023
373	26III RMS Multimeter	Fluke	Fluke 26 series III	76080720	29 Sep 2022
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	27 Oct 2022
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	30 Sep 2023
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	2 Nov 2022
410	Desktop Computer	Dell	Inspiron 620	WS38	Not Required
411	Mast/Turntable Controller	Sunol Sciences	SC98V	060199-1D	Not Required
412	USB to GPIB Interface	National Instruments	GPIB-USB HS	11B8DC2	Not Required
413	Mast Controller	Sunol Science	TWR95-4	030801-3	Not Required
414	DC Power Supply 0-60V	HP	6274	1029A01285	Cal when used
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
416	Gigabit ethernet filter	ETS-Lingren	Gigafoil 260366	None	Not Required
447	MiTest Rad Emissions Test Software	MiCOM	Rad Emissions Test Software Version 1.0	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	27 Oct 2022
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	27 Oct 2022
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	27 Oct 2022
480	Cable - Bulkhead to Amp	SRC Haverhill	157-3050360	480	6 Oct 2022
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-3050787	481	6 Oct 2022

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510	Barometer/Thermometer	Digi Sense	68000-49	170871375	4 Jan 2023
554	Precision SMA Cable	Fairview Microwave	SCE18060101- 400CM	554	6 Oct 2022
555	Rhode & Schwarz Receiver (Firmware Version : 2.00 SP1)	Rhode & Schwarz	ESW 44	101893	28 Jun 2023

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# 8. MEASUREMENT AND PRESENTATION OF TEST DATA

The measurement and graphical data presented in this test report was generated automatically using state-of-the-art technology creating an easy to read report structure. Numerical measurement data is separated from supporting graphical data (plots) through hyperlinks. Numerical measurement data can be reviewed without scrolling through numerous graphical pages to arrive at the next data matrix.

Plots have been relegated into the Appendix 'Graphical Data'.

Test and report automation was performed by <u>MiTest</u>. <u>MiTest</u> is an automated test system developed by MiCOM Labs. <u>MiTest</u> is the first cloud based modular test system enabling end-to-end automation of regulatory compliance testing for conducted RF testing.





The MiCOM Labs "MiTest" Automated Test System" (Patent Pending)

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# 9. TEST RESULTS

# 9.1. Average Transmit Power

Conducted Test Conditions for Average Output Power					
Standard:	FCC CFR 47:15.519	Ambient Temp. (°C):	24.0 - 27.5		
Test Heading:	Radiated Emissions UWB Transmission	Rel. Humidity (%):	32 - 45		
Standard Section(s):	15.519 ( c )	Pressure (mBars):	999 - 1001		
Reference Document(s):	None				

#### **Test Procedure for UWB Transmission**

Testing was performed under ambient conditions at nominal voltage.

Test configuration and setup used for the measurement was per the Conducted Test Set-up section specified in this document. Supporting KDB's referenced below.

#### **Operating Frequency Band:**

3100-10600 MHz

#### Limits Maximum EIRP (dBm)

Frequency	EIRP Limit
(MHz)	(dBm)
3100 - 10600	-41.3

Antenna data sheets provided did not provide gains for frequencies between ranges of 3GHz to 6GHz and 6GHz to 9GHz. As such the gains used for each frequency listed represent the worst case scenario.

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### 9.1.1. Membrane Patch Antenna

### **Equipment Configuration for Average RF Output Power**

Variant:	Band Group 1 / 3 / 6	Duty Cycle (%):	99
Data Rate:	200Mbp/s	Antenna Gain (dBi):	4.0 / 12.0 / 5.0
Modulation:	BPM/BPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

#### **Test Measurement Results**

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
3432.00	-47.06	-43.06	-41.30	-1.76	0.0
3960.00	-49.59	-45.59	-41.30	-4.29	0.0
4488.00	-45.50	-41.50	-41.30	-0.20	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
6600.00	-53.87	-41.87	-41.30	-0.57	8.0
7128.00	-53.92	-41.92	-41.30	-0.62	8.0
7656.00	-53.94	-41.94	-41.30	-0.64	8.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
7656.00	-53.94	-41.94	-41.30	-0.64	8.0
8184.00	-46.60	-41.60	-41.30	-0.30	1.0
8712.00	-47.12	-42.12	-41.30	-0.82	1.0

Traceability to Industry Recognized Test Methodologies			
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER		
Uncertainty:	±1.33 dB		

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### 9.1.2. Left Patch Antenna

### **Equipment Configuration for Average RF Output Power**

Variant:	Band Group 1 / 3 / 6	Duty Cycle (%):	99
Data Rate:	200Mbp/s	Antenna Gain (dBi):	-2.0 / 5.0 / 0.0
Modulation:	BPM/BPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

#### **Test Measurement Results**

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
3432.00	-47.06	-49.06	-41.30	-7.76	0.0
3960.00	-49.59	-51.59	-41.30	-10.29	0.0
4488.00	-45.50	-47.50	-41.30	-6.20	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
6600.00	-46.46	-41.46	-41.30	-0.16	0.0
7128.00	-46.74	-41.74	-41.30	-0.44	0.0
7656.00	-46.52	-41.52	-41.30	-0.22	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
7656.00	-46.52	-41.52	-41.30	-0.22	0.0
8184.00	-45.92	-45.92	-41.30	-4.62	0.0
8712.00	-46.30	-46.30	-41.30	-5.00	0.0

Traceability to Industry Recognized Test Methodologies				
Work Instruction: WI-01 MEASURING RF OUTPUT POWER				
Uncertainty:	±1.33 dB			

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# 9.1.3. Right Patch Antenna

### **Equipment Configuration for Average RF Output Power**

Variant:	Band Group 1 / 3 / 6	Duty Cycle (%):	99
Data Rate:	200Mbp/s	Antenna Gain (dBi):	2.0 / 3.0 / 1.0
Modulation:	BPM/BPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

#### **Test Measurement Results**

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
3432.00	-47.06	-45.06	-41.30	-3.76	0.0
3960.00	-49.59	-47.59	-41.30	-6.29	0.0
4488.00	-45.50	-43.50	-41.30	-2.20	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
6600.00	-46.46	-43.46	-41.30	-2.16	0.0
7128.00	-46.74	-43.74	-41.30	-2.44	0.0
7656.00	-46.52	-43.52	-41.30	-2.22	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
7656.00	-46.52	-43.52	-41.30	-2.22	0.0
8184.00	-45.92	-44.92	-41.30	-3.62	0.0
8712.00	-46.30	-45.30	-41.30	-4.00	0.0

Traceability to Industry Recognized Test Methodologies				
Work Instruction: WI-01 MEASURING RF OUTPUT POWER				
Uncertainty:	±1.33 dB			

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# 9.2. Peak Power Density

Test Conditions for Maximum Peak Power Density					
Standard:         FCC CFR 47:15.519 (e)         Ambient Temp. (°C):         24.0 - 27.5					
Test Heading:	Peak Power Density	Rel. Humidity (%):	32 - 45		
Standard Section(s):	ANSI C63.10 Section 10.3.6 <b>Pressure (mBars):</b> 999 - 1001				
Reference Document(s):	None				

#### **Test Procedure for UWB Transmission**

Testing was performed under ambient conditions at nominal voltage.

Test configuration and setup used for the measurement was per the Radiated Test Set-up section specified in this document. Supporting KDB's referenced below.

Measurements were gathered with a RBW of 1MHz and converted to 50MHz using the following formula:

EIRP1 MHz = EIRP50 MHz +  $20\log(30MHz/50MHz) = 0dBm + (-4.43dBm) = -4.43dBm$ (dBuV/m) = P(e.i.r.p.(dBm)) + 95.2

#### **Operating Frequency Band:**

3100-10600 MHz

### Limits Maximum EIRP (dBm)

Frequency	EIRP Limit	EIRP Limit
(MHz)	(dBm/50MHz)	(dBm/30MHz)
3100 - 10600	0	-4.43

Antenna data sheets provided did not provide gains for frequencies between ranges of 3GHz to 6GHz and 6GHz to 9GHz. As such the gains used for each frequency listed represent the worst case scenario.

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### 9.2.1. Membrane Patch Antenna

### **Equipment Configuration for Average RF Output Power**

Variant:	Band Group 1 / 3 / 6	Duty Cycle (%):	99
Data Rate:	200Mbp/s	Antenna Gain (dBi):	4.0 / 12.0 / 5.0
Modulation:	BPM/BPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

#### **Test Measurement Results**

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
3432.00	-16.73	-12.73	0.00	-12.73	0.0
3960.00	-15.25	-11.25	0.00	-11.25	0.0
4488.00	-16.64	-12.64	0.00	-12.64	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
6600.00	-21.30	-9.30	0.00	-9.30	8.00
7128.00	-21.69	-9.69	0.00	-9.69	8.00
7656.00	-23.18	-11.68	0.00	-11.18	8.00

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
7656.00	-18.52	-6.52	0.00	-6.52	8.0
8184.00	-16.47	-11.47	-4.43	-7.04	0.0
8712.00	-18.97	-13.97	-4.43	-9.54	0.0

Traceability to Industry Recognized Test Methodologies			
Work Instruction: WI-01 MEASURING RF OUTPUT POWER			
Uncertainty:	±1.33 dB		

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### 9.2.2. Left Patch Antenna

### **Equipment Configuration for Average RF Output Power**

Variant:	Band Group 1 / 3 / 6	Duty Cycle (%):	99
Data Rate:	200Mbp/s	Antenna Gain (dBi):	-2.0 / 5.0 / 0.0
Modulation:	BPM/BPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

#### **Test Measurement Results**

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
3432.00	-16.73	-18.73	0.00	-18.73	0.0
3960.00	-15.25	-17.25	0.00	-17.25	0.0
4488.00	-16.64	-18.64	0.00	-18.64	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
6600.00	-14.25	-9.25	0.00	-9.25	0.0
7128.00	-16.92	-11.92	0.00	-11.92	0.0
7656.00	-17.17	-12.17	0.00	-12.17	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
7656.00	-12.65	-7.65	0.00	-7.65	0.0
8184.00	-16.47	-16.47	-4.43	-12.04	0.0
8712.00	-18.97	-18.97	-4.43	-14.54	0.0

Traceability to Industry Recognized Test Methodologies			
Work Instruction: WI-01 MEASURING RF OUTPUT POWER			
Uncertainty:	±1.33 dB		

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### 9.2.3. Right Patch Antenna

### **Equipment Configuration for Average RF Output Power**

Variant:	Band Group 1 / 3 / 6	Duty Cycle (%):	99
Data Rate:	200Mbp/s	Antenna Gain (dBi):	2.0 / 3.0 / 1.0
Modulation:	BPM/BPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

#### **Test Measurement Results**

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
3432.00	-16.73	-14.73	0.00	-14.73	0.0
3960.00	-15.25	-13.25	0.00	-13.25	0.0
4488.00	-16.64	-14.64	0.00	-14.64	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
6600.00	-14.25	-11.25	0.00	-11.25	0.0
7128.00	-16.92	-13.92	0.00	-13.92	0.0
7656.00	-17.17	-14.17	0.00	-14.17	0.0

Test Frequency MHz	Measured Output Power(dBm)	Calculated EIRP	EIRP Limit	Margin	EUT Power Setting
	Port A	dBm	dBm	dB	Numeric
7656.00	-12.65	-9.65	0.00	-9.65	0.0
8184.00	-16.47	-15.47	-4.43	-11.04	0.0
8712.00	-18.97	-17.97	-4.43	-13.54	0.0

Traceability to Industry Recognized Test Methodologies			
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER		
Uncertainty:	±1.33 dB		

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## 9.3. Transmitter Spurious Band Emissions

Radia	ted Test Conditions for Radiated Spu	Radiated Test Conditions for Radiated Spurious and Band-Edge Emissions									
Standard:	FCC CFR 47 15.519	Ambient Temp. (°C):	20.0 - 24.5								
Test Heading:	Radiated Spurious and Band-Edge Emissions	Rel. Humidity (%):	32 - 45								
Standard Section(s):	ANSI C63.10 Section 10.2 + 10.3	999 - 1001									
Reference Document(s):	See Normative References										

#### Test Procedure for Radiated Spurious and Band-Edge Emissions

Radiated emissions for restricted bands above 1 GHz are measured in the anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in max hold mode. Depending on the frequency band spanned a notch filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned.

Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation

employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 MHz.

### Limits for Restricted Bands (15.205, 15.209)

Peak emission: 68.23 dBuV/m Average emission: 54 dBuV/m

#### **Field Strength Calculation**

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. All factors are included in the reported data.

FS = R + AF + CORR - FO

10 1(1711 1 00111)

#### where:

FS = Field Strength

R = Measured Spectrum analyzer Input Amplitude

AF = Antenna Factor

CORR = Correction Factor = CL - AG + NFL

CL = Cable Loss

AG = Amplifier Gain

FO = Distance Falloff Factor

NFL = Notch Filter Loss

Measurements made at 1 meter to meet noise floor to limit requirements

Freque	ency Range	Average Limit			
MHz	MHz	EIRP (dBm)	EIRP at 1 Meters (dBuV/m)		
960	1610	-75.3	29.4		
1610	1990	-63.3	41.4		
1990	3100	-61.3	43.4		
3100	10600	-41.3	63.4		
10600	18000	-61.3	43.4		

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# Radiated Spurious Emissions in the GPS Bands 15.519 (d)

Frequen	cy Range	Average Limit		
MHz	MHz	EIRP (dBm)	EIRP at 1 Meters (dBuV/m)	
1164	1240	-85.3	19.47	
1559	1610	-85.3	19.47	

50 MHz Peak Emissions 15.519 (e)

Within 50 MHz bandwidth centered on highest radiated emissions  $f_M$ , Limit is 0.0 dBm EIRP. At 1-meter distance the equivalent level is 104.77 dBuV/m

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### 9.3.1. Membrane Patch Antenna

### 9.3.1.1. Band 1

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Membrane Patch	Variant:	Band Group 1
Antenna Gain (dBi):	4.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3432.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	960.00– 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1019.91	28.39	Average	Horizontal	150	0	29.40	-1.01	Dees		
2	1380.74	26.13	Average	Vertical	150	0	29.40	-3.27	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610-1990 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1680.06	32.57	Average	Horizontal	150	0	41.40	-8.83	Dees			
2	1680.06	26.28	Average	Vertical	150	0	41.40	-15.12	<u>Pass</u>			
Test No	tes: EUT pov	vered by L	JSB 5.0V, Measu	rement dist	ance 1 me	ter			•			

	1990-3100 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	3100.00	29.20	Average	Horizontal	150	0	43.40	-14.20	Door			
2	3035.49	26.90	Average	Vertical	150	0	43.40	-16.50	<u>Pass</u>			
Test No	tes: FUT nov	vered by I	ISB 5 0V Measi	rement dist	ance 1 me	ter						

	3100-10600 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	3265.33	55.51	Average	Horizontal	150	0	63.40	-7.89	Doos			
2	3550.90	53.98	Average	Vertical	150	0	63.40	-9.42	<u>Pass</u>			
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter											

	10600-18000 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	17896.19	39.05	Average	Horizontal	150	0	43.4	-4.35	Door		
2	17896.19	39.05	Average	Vertical	150	0	43.4	-4.35	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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#### **Equipment Configuration for Spurious Emissions**

Antenna:	Membrane Patch	Variant:	Band Group 1
Antenna Gain (dBi):	4.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3960.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	960.00- 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1019.91	28.52	Average	Horizontal	150	0	29.4	-0.88	Doos		
2	1500.58	26.32	Average	Vertical	150	0	29.4	-3.08	<u>Pass</u>		
Test No	tes: FUT pov	vered by l	ISB 5 0V Measu	rement dist	ance 1 me	ter					

	1610-1990 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1680.06	32.55	Average	Horizontal	150	0	41.40	-8.85	Page		
2	1680.06	26.31	Average	Vertical	150	0	41.40	-15.09	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990-3100 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	2730.74	27.99	Average	Horizontal	150	0	43.40	-15.41	Paga		
2	3035.49	26.90	Average	Vertical	150	0	43.40	-16.50	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100-10600 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	3746.92	56.07	Average	Horizontal	150	0	63.40	-7.33	Daga		
2	3791.38	48.17	Average	Vertical	150	0	63.40	-15.23	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	10600-18000 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	17896.19	38.96	Average	Horizontal	150	0	43.4	-4.44	Door		
2	17896.19	39.13	Average	Vertical	150	0	43.4	-4.27	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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#### **Equipment Configuration for Spurious Emissions**

Antenna:	Membrane Patch	Variant:	Band Group 1
Antenna Gain (dBi):	4.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	4488.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	960.00- 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1019.91	28.39	Average	Horizontal	150	0	29.4	-1.01	Dees		
2	1299.49	26.24	Average	Vertical	150	0	29.4	-3.16	<u>Pass</u>		
Test No	Test Notes: FUT powered by USB 5 0V. Measurement distance 1 meter										

	1610-1990 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1680.06	32.49	Average	Horizontal	150	0	41.40	-8.91	Page		
2	1680.06	26.37	Average	Vertical	150	0	41.40	-15.03	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990-3100 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	2730.74	28.03	Average	Horizontal	150	0	43.40	-15.37	Pass	
2	3035.49	26.74	Average	Vertical	150	0	43.40	-16.66	<u>r ass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100-10600 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	4422.64	52.51	Average	Horizontal	150	0	63.40	-10.89	Doos		
2	4332.46	47.18	Average	Vertical	150	0	63.40	-16.22	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	10600-18000 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	17896.19	38.96	Average	Horizontal	150	0	43.4	-4.44	Door		
2	17896.19	39.13	Average	Vertical	150	0	43.4	-4.27	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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### 9.3.1.2. Band 3

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Membrane Patch	Variant:	Band Group 3
Antenna Gain (dBi):	12.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	6600.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	960.00- 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1019.91	28.58	Average	Horizontal	150	0	29.4	-0.82	Doos		
2	1380.07	26.85	Average	Vertical	150	0	29.4	-2.55	<u>Pass</u>		
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	1610-1990 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1680.06	33.38	Average	Horizontal	150	0	41.40	-8.02	Dago		
2	1680.06	27.10	Average	Vertical	150	0	41.40	-14.30	<u>Pass</u>		
Test No	Test Notes: FUT powered by USB 5 0V. Measurement distance 1 meter										

1990-3100 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	2730.74	28.91	Average	Horizontal	150	0	43.40	-14.49	Door	
2	3091.10	27.15	Average	Vertical	150	0	43.40	-16.25	Pass Pass	
Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

3100-10600 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	6752.30	54.19	Average	Horizontal	150	0	63.40	-9.21	Door	
2	6737.27	36.43	Average	Vertical	150	0	63.40	-26.97	<u>Pass</u>	
Test No	Test Notes: EUT powered by USB 5.0V. Measurement distance 1 meter									

10600-18000 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	17896.19	39.98	Average	Horizontal	150	0	43.4	-3.42	Doos	
2	17896.19	39.98	Average	Vertical	150	0	43.4	-3.42	<u>Pass</u>	
Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

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## **Equipment Configuration for Spurious Emissions**

Antenna:	Membrane Patch	Variant:	Band Group 3
Antenna Gain (dBi):	12.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7128.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

				960	.00– 1610	.00 MHz					
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail										
1	1019.91	28.71	Average	Horizontal	150	0	29.4	-0.69	Dago		
2	1380.74	26.82	Average	Vertical	150	0	29.4	-2.58	<u>Pass</u>		
Test No	Test Notes: FLIT nowered by LISB 5.0V. Measurement distance 1 meter										

1610-1990 MHz Hgt Frequency Level Measurement Limit Margin Pass Azt Num Pol MHz dBµV/m Type cm Deg dBµV/m dB /Fail 1680.06 33.47 Average Horizontal 150 0 41.40 -7.93 <u>Pass</u> 1680.06 -14.27

0

41.40

150

Vertical

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

Average

27.13

				1	990-3100	MHz			
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2730.74	28.87	Average	Horizontal	150	0	43.40	-14.53	Door
2	3033.26	27.30	Average	Vertical	150	0	43.40	-16.10	<u>Pass</u>
Toot No	Test Notes: ELIT reversed by LISP 5.0V. Measurement distance 1 meter								

**Test Notes:** EUT powered by USB 5.0V, Measurement distance 1 meter

3100-10600 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail									
1	7338.47	55.03	Average	Horizontal	150	0	63.40	-8.37	Door	
2	7353.50	38.51	Average	Vertical	150	0	63.40	-24.89	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	10600-18000 MHz										
Num	m Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail										
1	17896.19	39.98	Average	Horizontal	150	0	43.4	-3.42	Paga		
2	17896.19	39.90	Average	Vertical	150	0	43.4	-3.50	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.1.3. Bands 3 & 6

## **Equipment Configuration for Spurious Emissions**

Antenna:	Membrane Patch	Variant:	Band Group 3/6
Antenna Gain (dBi):	12.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7656.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00– 1610.00 MHz										
Num	lum Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail										
1	1019.91	28.65	Average	Horizontal	150	0	29.4	-0.75	Doos		
2	2 1380.74 26.80 Average Vertical 150 0 29.4 -2.60										
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	1610-1990 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail										
1	1680.06	33.44	Average	Horizontal	150	0	41.40	-7.96	Dago		
2	2 1680.06 26.94 Average Vertical 150 0 41.40 -14.46										
Test No	Test Notes: FUT powered by USB 5.0V. Measurement distance 1 meter										

	1990-3100 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	2730.74	29.02	Average	Horizontal	150	0	43.40	-14.38	Dago		
2	3035.49	27.20	Average	Vertical	150	0	43.40	-16.20	<u>Pass</u>		
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	3100-10600 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail										
1	7578.95	56.31	Average	Horizontal	150	0	63.40	-7.09	Door		
2	7503.80	41.25	Average	Vertical	150	0	63.40	-22.15	<u>Pass</u>		
Test No	Fest Notes: EUT powered by USB 5.0V. Measurement distance 1 meter										

	10600-18000 MHz										
Num	Frequency         Level Measurement MHz         Pol MHz         Hgt Cm         Azt Deg         Limit Margin dBμV/m         Margin Pass										
1	17896.19	39.98	Average	Horizontal	150	0	43.4	-3.42	Door		
2	2 17896.19 39.98 Average Vertical 150 0 43.4 -3.42										
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

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## 9.3.1.4. Band 6

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Membrane Patch	Variant:	Band Group 6
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8184.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1610.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1019.91	28.71	Average	Horizontal	150	0	29.4	-0.69	Door	
2	1380.74	26.63	Average	Vertical	150	0	29.4	-2.77	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610-1990 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1680.06	33.27	Average	Horizontal	150	0	41.40	-8.13	Door		
2	1680.06	26.96	Average	Vertical	150	0	41.40	-14.44	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990-3100 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	2730.74	28.87	Average	Horizontal	150	0	43.40	-14.53	Doos		
2	1990.00	25.58	Average	Vertical	150	0	43.40	-17.82	<u>Pass</u>		
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	3100-10600 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	8150.10	56.84	Average	Horizontal	150	0	63.40	-6.56	Door		
2	8150.10	41.42	Average	Vertical	150	0	63.40	-21.98	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	10600-18000 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	17896.19	39.98	Average	Horizontal	150	0	43.4	-3.42	Dees		
2	17896.19	39.75	Average	Vertical	150	0	43.4	-3.65	<u>Pass</u>		
Test No	Test Notes: EUT powered by USB 5.0V. Measurement distance 1 meter										

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#### **Equipment Configuration for Spurious Emissions**

Antenna:	Membrane Patch	Variant:	Band Group 6
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8712.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1610.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1019.91	28.63	Average	Horizontal	150	0	29.4	-0.77	Door	
2	1380.74	26.74	Average	Vertical	150	0	29.4	-2.66	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610-1990 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1680.06	33.31	Average	Horizontal	150	0	41.40	-8.09	Dage		
2	1680.06	28.73	Average	Vertical	150	0	41.40	-12.67	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990-3100 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	2730.74	28.72	Average	Horizontal	150	0	43.40	-14.68	Doos	
2	3035.49	27.40	Average	Vertical	150	0	43.40	-16.00	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100-10600 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	8585.97	55.69	Average	Horizontal	150	0	63.40	-7.71	Doos	
2	8540.88	37.68	Average	Vertical	150	0	63.40	-25.72	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	10600-18000 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	17896.19	39.83	Average	Horizontal	150	0	43.4	-3.57	Dago	
2	17896.19	39.90	Average	Vertical	150	0	43.4	-3.50	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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# 9.3.2. Left Patch Antenna

## 9.3.2.5. Band 1

## **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 1
Antenna Gain (dBi):	-2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3432.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00– 1610.00 MHz									
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass  MHz dBμV/m Type Cm Deg dBμV/m dB /Fail									
1	1065.51	28.39	Average	Horizontal	150	0	29.40	-1.01	Dees	
2	1065.51	27.98	Average	Vertical	150	0	29.40	-1.42	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00- 1990.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1680.06	33.49	Average	Horizontal	150	0	41.40	-7.91	Dago		
2	2 1984.67 26.13 Average Vertical 150 0 41.40 -15.27										
Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter											

	1990.00– 3100.00 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail										
1	2730.74	29.35	Average	Horizontal	150	0	43.40	-14.05	Doos		
2	2 3095.55 27.74 Average Vertical 150 0 43.40 -15.66										
Test No	Test Notes: FUT powered by USB 5 0V. Measurement distance 1 meter										

	3100.00- 10600.00 MHz									
Num	Num     Frequency MHz     Level Level Level Level Bull Measurement Level Level Measurement Level Measurement Level Level Level Level Measurement Level Level Level Level Measurement Level Level Measurement Level Level Level Measurement Level									
1	3641.08	52.83	Average	Horizontal	150	0	63.40	-10.57	Doos	
2	2 3550.90 48.56 Average Vertical 150 0 63.40 -14.84									
Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	10600.00– 18000.00 MHz									
Num	Num         Frequency         Level dBμV/m         Measurement Type         Pol cm         Hgt cm         Azt Deg         Limit dBμV/m         Margin dBμV/m         Pass /Fail									
1	17896.19	39.37	Average	Horizontal	150	0	43.40	-4.03	Door	
2	17896.19	39.37	Average	Vertical	150	0	43.40	-4.03	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 1
Antenna Gain (dBi):	-2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3960.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	960.00- 1610.00 MHz										
Num	lum Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail										
1	1065.51	28.06	Average	Horizontal	150	0	29.40	-1.34	Doos		
2	1065.51	27.92	Average	Vertical	150	0	29.40	-1.48	<u>Pass</u>		
Took No	Test Notes: CLIT powered by USD 5.01/ Measurement distance 1 mater										

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00– 1990.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1680.06	33.58	Average	Horizontal	150	0	41.40	-7.82	Door	
2	1680.06	28.51	Average	Vertical	150	0	41.40	-12.89	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00- 3100.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	2730.74	29.35	Average	Horizontal	150	0	43.40	-14.05	Door	
2	3042.16	27.47	Average	Vertical	150	0	43.40	-15.93	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100.00- 10600.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	3761.32	55.47	Average	Horizontal	150	0	63.40	-7.93	Dago	
2	3550.90	27.89	Average	Vertical	150	0	63.40	-35.51	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	10600.00– 18000.00 MHz									
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type cm Deg dBμV/m dB /Fail									
1	17896.19	39.37	Average	Horizontal	150	0	43.40	-4.03	Dage	
2	17896.19	39.29	Average	Vertical	150	0	43.40	-4.11	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 1
Antenna Gain (dBi):	-2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	4488.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1065.51	27.86	Average	Horizontal	150	0	29.40	-1.54	Dees		
2	1065.51	27.65	Average	Vertical	150	0	29.40	-1.75	<u>Pass</u>		
Test No	Test Notes: FUT powered by USB 5 0V. Measurement distance 1 meter										

	1610.00– 1990.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1680.06	33.38	Average	Horizontal	150	0	41.40	-8.02	Page	
2	1898.62	26.14	Average	Vertical	150	0	41.40	-15.26	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00- 3100.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	2730.74	29.39	Average	Horizontal	150	0	43.40	-14.01	Door	
2	3042.16	27.28	Average	Vertical	150	0	43.40	-16.12	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100.00- 10600.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	4603.01	53.94	Average	Horizontal	150	0	63.40	-9.46	Door	
2	4708.22	49.08	Average	Vertical	150	0	63.40	-14.32	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	10600.00– 18000.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	17896.19	39.29	Average	Horizontal	150	0	43.40	-4.11	Daga	
2	17896.19	39.13	Average	Vertical	150	0	43.40	-4.27	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.2.6. Band 3

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 3
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	6600.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1610.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1259.60	28.07	Average	Horizontal	150	0	29.40	-1.33	Door	
2	1065.51	29.36	Average	Vertical	150	0	29.40	-0.04	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00– 1990.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1637.41	29.39	Average	Horizontal	150	0	41.40	-12.01	Dago		
2	1985.43	26.23	Average	Vertical	150	0	41.40	-15.17	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00- 3100.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	2365.93	28.08	Average	Horizontal	150	0	43.40	-15.32	Dees		
2	2 2626.19 27.43 Average Vertical 150 0 43.40 -15.97										
Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter											

	3100.00– 10600.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	6752.30	54.73	Average	Horizontal	150	0	63.40	-8.67	Doos		
2	6662.12	53.06	Average	Vertical	150	0	63.40	-10.34	<u>Pass</u>		
Toot No	Test Notes: FLIT reward by LICP F OV Measurement distance 1 mater										

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	10600.00- 18000.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	17896.19	39.21	Average	Horizontal	150	0	43.40	-4.19	Doos		
2 17896.19 39.21 Average Vertical 150 0 43.40 -4.19											
Test No	Test Notes: EUT powered by USB 5.0V. Measurement distance 1 meter										

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## **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 3
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7128.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1610.00 MHz											
Num	Num     Frequency MHz     Level dBμV/m     Measurement Type     Pol cm     Hgt cm     Azt cm     Limit dBμV/m     Margin dB Margin dB Margin dB     Pass /Fail											
1	1065.51	28.93	Average	Horizontal	150	0	29.40	-0.47	Doos			
2	2 1065.51 29.01 Average Vertical 150 0 29.40 -0.39											
Test No	Test Notes: FUT powered by USB 5 0V. Measurement distance 1 meter											

	1610.00– 1990.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1950.40	29.08	Average	Horizontal	150	0	41.40	-12.32	Page			
2	1983.15	26.17	Average	Vertical	150	0	41.40	-15.23	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00- 3100.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	2365.93	28.27	Average	Horizontal	150	0	43.40	-15.13	Door			
2	2626.19	27.24	Average	Vertical	150	0	43.40	-16.16	<u>Pass</u>			
Toot No	too: ELIT no	vored by I	ISB 5 OV Mood	romant dist	ongo 1 ma	tor						

**Test Notes:** EUT powered by USB 5.0V, Measurement distance 1 meter

	3100.00- 10600.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	7143.09	52.50	Average	Horizontal	150	0	63.40	-10.90	Dago			
2	6932.67	47.47	Average	Vertical	150	0	63.40	-15.93	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	10600.00– 18000.00 MHz										
Num	Num     Frequency MHz     Level dBμV/m     Measurement Type     Pol cm     Hgt Deg     Azt Limit dBμV/m     Margin dB Margin										
1	17896.19	39.13	Average	Horizontal	150	0	43.40	-4.27	Door		
2	17896.19	39.21	Average	Vertical	150	0	43.40	-4.19	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.2.7. Bands 3 & 6

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Groups 3 & 6
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7656.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1610.00 MHz										
Num	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$										
1	1065.51	28.97	Average	Horizontal	150	0	29.40	-0.43	Door		
2	1065.51	29.18	Average	Vertical	150	0	29.40	-0.22	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00- 1990.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1680.06	26.46	Average	Horizontal	150	0	41.40	-14.94	Dago			
2	1985.43	26.14	Average	Vertical	150	0	41.40	-15.26	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00- 3100.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	2730.74	28.64	Average	Horizontal	150	0	43.40	-14.76	Doos			
2	2 1990.00 25.99 Average Vertical 150 0 43.40 -17.41											
Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter												

	3100.00- 10600.00 MHz											
Num	Frequency MHz         Level dBμV/m         Measurement Type         Pol cm         Hgt cm         Azt Deg         Limit dBμV/m         Margin dBμV/m         Pass //Fail											
1	7458.72	53.39	Average	Horizontal	150	0	63.40	-10.01	Door			
2	2 7488.78 53.01 Average Vertical 150 0 63.40 -10.39											
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter											

10600.00- 18000.00 MHz Pass Measurement Frequency Level Hgt Azt Limit Margin Pol Num MHz dBµV/m Type cm Deg dBµV/m dB /Fail 17896.19 39.13 Horizontal 150 -4.27 Average 0 43.40 **Pass** 17896.19 39.13 Average Vertical 150 0 43.40 -4.27

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.2.8. Band 6

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 6
Antenna Gain (dBi):	0.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8184.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00– 1610.00 MHz										
Num	Num     Frequency MHz     Level dBμV/m     Measurement Type     Pol cm     Hgt cm     Azt Deg     Limit dBμV/m     Margin dBμV/m     Pass /Fail										
1	1065.51	28.97	Average	Horizontal	150	0	29.40	-0.43	Door		
2	1065.51	29.06	Average	Vertical	150	0	29.40	-0.34	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00– 1990.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1680.06	30.69	Average	Horizontal	150	0	41.40	-10.71	Doos		
2	1680.06	22.64	Average	Vertical	150	0	41.40	-18.76	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00- 3100.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	3037.72	27.05	Average	Horizontal	150	0	43.40	-16.35	Dees		
2	2 3037.72 26.99 Average Vertical 150 0 43.40 -16.41										
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	3100.00- 10600.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	8390.58	40.17	Average	Horizontal	150	0	63.40	-23.23	Doos			
2	8390.58	53.30	Average	Vertical	150	0	63.40	-10.10	<u>Pass</u>			
Toot No	Test Nation FLIT reviewed by LISP 5.0V. Management distance 1 mater											

**Test Notes:** EUT powered by USB 5.0V, Measurement distance 1 meter

	10600.00- 18000.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	17896.19	39.92	Average	Horizontal	150	0	43.40	-3.48	Dees		
2	17896.19	39.21	Average	Vertical	150	0	43.40	-4.19	<u>Pass</u>		
Test No	Test Notes: FUT powered by USB 5.0V. Measurement distance 1 meter										

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### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 6
Antenna Gain (dBi):	0.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8712.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	960.00- 1610.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1065.51	28.73	Average	Horizontal	150	0	29.40	-0.67	Dago			
2	1065.51	28.95	Average	Vertical	150	0	29.40	-0.45	<u>Pass</u>			
Test No	Test Notes: FLIT powered by USB 5.0V. Measurement distance 1 meter											

1610.00- 1990.00 MHz Frequency Level Measurement Hgt Limit Margin Pass Azt Num Pol MHz dBµV/m Type cm Deg dBµV/m dB /Fail

1897.86 26.30 Average Horizontal 150 0 41.40 -15.10 <u>Pass</u> 1680.06 26.69 Vertical 150 0 41.40 -14.71 Average Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00– 3100.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	2677.35	27.71	Average	Horizontal	150	0	43.40	-15.69	Pass		
2	2 2677.35 27.16 Average Vertical 150 0 43.40 -16.24										
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	3100.00- 10600.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	8510.82	49.68	Average	Horizontal	150	0	63.40	-13.72	Door		
2	2 8555.91 53.09 Average Vertical 150 0 63.40 -10.31										
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	10600.00 18000.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	17896.19	39.13	Average	Horizontal	150	0	43.40	-4.27	Doos	
2	17896.19	39.13	Average	Vertical	150	0	43.40	-4.27	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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# 9.3.3. Right Patch Antenna

## 9.3.3.9. Band 1

## **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 1
Antenna Gain (dBi):	2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3432.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00– 1000.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	980.12	22.72	Average	Horizontal	150	0	29.40	<u>-6.68</u>	Dana		
2	962.00	28.83	Average	Vertical	150	0	29.40	<u>-0.57</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1000.00- 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1380.18	26.96	Average	Horizontal	150	0	29.40	<u>-2.44</u>	Dees		
2 1019.56 25.92 Average Vertical 150 0 29.40 -3.48											
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	1610.00- 1990.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1680.01	31.62	Average	Horizontal	150	0	41.40	<u>-9.78</u>	Dees	
2	2 1983.15 25.30 Average Vertical 150 0 41.40 -16.10									
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter									

	1990.00- 3100.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	2626.19	27.78	Average	Horizontal	150	0	43.40	<u>-15.62</u>	Door	
2	2 3095.55 26.71 Average Vertical 150 0 43.40 -16.69									
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter									

3100.00– 10600.00 MHz									
Num	Num     Frequency     Level dBμV/m     Measurement Type     Pol cm     Hgt Deg     Azt Limit dBμV/m     Margin dB M								
1	3460.72	52.26	Average	Horizontal	150	0	63.40	<u>-11.14</u>	Door
2	3355.51	49.16	Average	Vertical	150	0	63.40	<u>-14.24</u>	<u>Pass</u>

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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	10600.00- 18000.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	17896.19	38.80	Average	Horizontal	150	0	43.40	<u>-4.6</u>	Daga	
2	17896.19	38.80	Average	Vertical	150	0	43.40	<u>-4.6</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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#### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 1
Antenna Gain (dBi):	2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3960.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00– 1000.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	979.96	22.68	Average	Horizontal	150	0	29.40	<u>-6.72</u>	Paga	
2	962.00	28.26	Average	Vertical	150	0	29.40	<u>-1.14</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1000.00- 1610.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1019.56	27.69	Average	Horizontal	150	0	29.40	<u>-1.71</u>	Dago	
2	1019.56	27.35	Average	Vertical	150	0	29.40	<u>-2.05</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00– 1990.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1680.06	29.41	Average	Horizontal	150	0	41.40	<u>-11.99</u>	Door	
2	1983.91	26.22	Average	Vertical	150	0	41.40	<u>-15.18</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00– 3100.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	2730.74	30.47	Average	Horizontal	150	0	43.40	<u>-12.93</u>	Doos	
2	3042.16	28.07	Average	Vertical	150	0	43.40	<u>-15.33</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100.00- 10600.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	4107.01	53.16	Average	Horizontal	150	0	63.40	<u>-10.24</u>	Daga	
2	4107.01	51.83	Average	Vertical	150	0	63.40	<u>-11.57</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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	10600.00- 18000.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	17896.19	40.20	Average	Horizontal	150	0	43.40	<u>-3.20</u>	Daga	
2	17896.19	40.12	Average	Vertical	150	0	43.40	<u>-3.28</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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#### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 1
Antenna Gain (dBi):	2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	4488.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1000.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	980.04	22.64	Average	Horizontal	150	0	29.40	<u>-1.71</u>	Paga			
2	962.00	28.03	Average	Vertical	150	0	29.40	<u>-1.37</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1000.00- 1610.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1019.56	28.84	Average	Horizontal	150	0	29.40	<u>-0.56</u>	Dage			
2	1013.45	29.12	Average	Vertical	150	0	29.40	<u>-0.28</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00- 1990.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1680.06	31.65	Average	Horizontal	150	0	41.40	<u>-9.75</u>	Daga			
2	1983.91	26.72	Average	Vertical	150	0	41.40	<u>-14.68</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00- 3100.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	2730.74	30.18	Average	Horizontal	150	0	43.40	<u>-13.22</u>	Daga			
2	3042.16	27.71	Average	Vertical	150	0	43.40	<u>-15.69</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100.00- 10600.00 MHz											
Num	Ium     Frequency     Level Measurement MHz     Pol     Hgt cm     Azt Deg     Limit dBμV/m     Margin Margin Margin dBμV/m     Pass /Fail											
1	4618.04	50.31	Average	Horizontal	150	0	63.40	<u>-13.09</u>	Dago			
2	4287.37	48.56	Average	Vertical	150	0	63.40	<u>-14.84</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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	10600.00- 18000.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	17896.19	40.12	Average	Horizontal	150	0	43.40	<u>-3.28</u>	Daga			
2	17896.19	40.12	Average	Vertical	150	0	43.40	<u>-3.28</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.3.10. Band 3

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 3
Antenna Gain (dBi):	3.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	6600.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1000.00 MHz											
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail											
1	980.04	22.37	Average	Horizontal	150	0	29.40	<u>-7.03</u>	Door			
2	961.92	27.85	Average	Vertical	150	0	29.40	<u>-1.55</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1000.00- 1610.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1380.18	27.77	Average	Horizontal	150	0	29.40	<u>-1.63</u>	Paga			
2	1013.45	27.68	Average	Vertical	150	0	29.40	<u>-1.72</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00– 1990.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1680.06	31.57	Average	Horizontal	150	0	41.40	<u>-9.83</u>	Doos			
2	2 1984.67 26.52 Average Vertical 150 0 41.40 -14.88											
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter											

	1990.00- 3100.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1990.00	25.86	Average	Horizontal	150	0	43.40	<u>-17.54</u>	Doos			
2	3042.16	27.56	Average	Vertical	150	0	43.40	<u>-15.84</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100.00- 10600.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	6662.12	54.77	Average	Horizontal	150	0	63.40	<u>-8.63</u>	Door			
2	6722.24	50.14	Average	Vertical	150	0	63.40	<u>-13.26</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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	10600.00– 18000.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	17896.19	39.83	Average	Horizontal	150	0	43.40	<u>-3.57</u>	Dana		
2	17896.19	39.83	Average	Vertical	150	0	43.40	<u>-3.57</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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#### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 3
Antenna Gain (dBi):	3.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7128.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1000.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	981.80	22.49	Average	Horizontal	150	0	29.40	<u>-6.91</u>	Door	
2	961.92	27.70	Average	Vertical	150	0	29.40	<u>-1.70</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1000.00- 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1019.56	28.04	Average	Horizontal	150	0	29.40	<u>-1.36</u>	Dago		
2	1019.56	28.10	Average	Vertical	150	0	29.40	<u>-1.30</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

1610.00– 1990.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	1741.74	28.37	Average	Horizontal	150	0	41.40	<u>-13.03</u>	Doos
2	1988.48	26.71	Average	Vertical	150	0	41.40	<u>-14.69</u>	<u>Pass</u>

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00- 3100.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	2677.35	28.63	Average	Horizontal	150	0	43.40	<u>-14.77</u>	Doos		
2	3033.27	27.40	Average	Vertical	150	0	43.40	<u>-16.00</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100.00- 10600.00 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Cm Deg dBμV/m dB /Fail										
1	7308.42	52.21	Average	Horizontal	150	0	63.40	<u>-11.19</u>	Daga		
2	6962.72	47.59	Average	Vertical	150	0	63.40	<u>-15.81</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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	10600.00- 18000.00 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail										
1	17896.19	39.75	Average	Horizontal	150	0	43.40	<u>-3.65</u>	Dago		
2	17896.19	39.53	Average	Vertical	150	0	43.40	<u>-3.87</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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# 9.3.3.11. Bands 3 & 6

## **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Groups 3 & 6
Antenna Gain (dBi):	3.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7656.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1000.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	983.00	22.49	Average	Horizontal	150	0	29.40	-6.91	Door	
2	961.92	27.74	Average	Vertical	150	0	29.40	-1.66	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1000.00– 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1019.55	28.71	Average	Horizontal	150	0	29.40	-0.69	Doos		
2	1013.44	28.25	Average	Vertical	150	0	29.40	-1.15	<u>Pass</u>		
Test Notes: FUT powered by USB 5 0V. Measurement distance 1 meter											

	1610.00– 1990.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1986.95	26.41	Average	Horizontal	150	0	41.40	-14.99	Doos		
2	1984.66	26.60	Average	Vertical	150	0	41.40	-14.80	<u>Pass</u>		
Toot No	too: ELIT no	vored by I	ICD F OV Mood	romont dist	ongo 1 ma	tor					

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1990.00- 3100.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	3033.26	27.25	Average	Horizontal	150	0	43.40	-16.15	Doos		
2	3031.04	27.31	Average	Vertical	150	0	43.40	-16.09	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

3100.00– 10600.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	7488.77	55.01	Average	Horizontal	150	0	63.40	-8.39	Door
2	7804.40	52.73	Average	Vertical	150	0	63.40	-10.67	<u>Pass</u>

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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	10600.00– 18000.00 MHz										
Num	Num         Frequency         Level Measurement         Pol cm         Hgt Deg         Azt Limit Margin         Margin Pass           MHz         dBμV/m         Type         cm         Deg         dBμV/m         dB         /Fail										
1	17896.19	39.68	Average	Horizontal	150	0	43.40	-3.72	Doos		
2	17896.19	39.75	Average	Vertical	150	0	43.40	-3.65	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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# 9.3.3.12. Band 6

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 6
Antenna Gain (dBi):	1.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8184.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1000.00 MHz									
Num	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$									
1	980.36	22.29	Average	Horizontal	150	0	29.40	<u>-6.50</u>	Poos	
2	962.00	27.83	Average	Vertical	150	0	29.40	<u>-1.57</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1000.00- 1610.00 MHz										
Num	Num Frequency Level Measurement Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail										
1	1380.18	28.17	Average	Horizontal	150	0	29.40	<u>-1.23</u>	Dago		
2	1013.45	26.68	Average	Vertical	150	0	29.40	<u>-2.72</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00– 1990.00 MHz										
Num	Num         Frequency MHz         Level dBμV/m         Measurement Type         Pol cm         Hgt cm         Azt Deg         Limit dBμV/m         Margin dBμV/m         Pass /Fail										
1	1680.06	32.89	Average	Horizontal	150	0	41.40	<u>-8.51</u>	Dees		
2	2 1956.49 26.29 Average Vertical 150 0 41.40 -15.11										
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	1990.00– 3100.00 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass  MHz dBμV/m Type Cm Deg dBμV/m dB /Fail										
1	2730.74	29.50	Average	Horizontal	150	0	43.40	<u>-13.90</u>	Doos		
2	3035.49	27.30	Average	Vertical	150	0	43.40	<u>-16.10</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100.00- 10600.00 MHz										
Num	Frequency   Level   Measurement   Pol   Hgt   Azt   Limit   Margin   Pass   Hgt   Azt   Limit   Hgt   Azt   Limit   Margin   Pass   Hgt   Azt   Limit   Hgt										
1	8029.86	52.70	Average	Horizontal	150	0	63.40	<u>-10.70</u>	Dees		
2 8360.52 48.72 Average Vertical 150 0 63.40 -14.68											
Test No	Test Notes: EUT powered by USB 5.0V. Measurement distance 1 meter										

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	10600.00– 18000.00 MHz										
Num	Num     Frequency     Level Measurement     Pol cm     Hgt Azt Deg     Limit dBμV/m     Margin dB μV/m     Pass /Fail										
1	17896.19	39.53	Average	Horizontal	150	0	43.40	<u>-3.87</u>	Dees		
2	17896.19	39.37	Average	Vertical	150	0	43.40	<u>-4.03</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 6
Antenna Gain (dBi):	1.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8712.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	960.00- 1000.00 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB //Fail										
1	981.80	22.60	Average	Horizontal	150	0	29.40	<u>-6.80</u>	Dees		
2	962.00	27.72	Average	Vertical	150	0	29.40	<u>-1.68</u>	<u>Pass</u>		
Test No	Test Notes: FUT powered by USB 5 0V. Measurement distance 1 meter										

	1000.00– 1610.00 MHz									
Num	Num									
1	1380.18	28.28	Average	Horizontal	150	0	29.40	<u>-1.12</u>	Page	
2	1013.45	28.80	Average	Vertical	150	0	29.40	<u>-0.60</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1610.00– 1990.00 MHz								
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	1680.06	32.82	Average	Horizontal	150	0	41.40	<u>-8.58</u>	Door
2	1985.43	26.31	Average	Vertical	150	0	41.40	<u>-15.09</u>	<u>Pass</u>

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

1990.00– 3100.00 MHz									
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type cm Deg dBμV/m dB //Fail								
1	2730.74	29.53	Average	Horizontal	150	0	43.40	<u>-13.87</u>	Doos
2	3031.04	27.16	Average	Vertical	150	0	43.40	<u>-16.24</u>	<u>Pass</u>

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	3100.00– 10600.00 MHz								
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Cm Deg dBμV/m dB /Fail								
1	8555.91	54.14	Average	Horizontal	150	0	63.40	<u>-9.26</u>	Door
2	8360.52	31.48	Average	Vertical	150	0	63.40	<u>-31.92</u>	<u>Pass</u>

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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	10600.00- 18000.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	17896.19	39.53	Average	Horizontal	150	0	43.40	<u>-3.87</u>	Daga	
2	17896.19	39.45	Average	Vertical	150	0	43.40	<u>-3.95</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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# 9.3.4. Membrane Patch Antenna GPS Emissions

## 9.3.4.13. Band 1

## **Equipment Configuration for Spurious Emissions GPS**

Antenna:	Membrane Patch	Variant:	Band Group 1
Antenna Gain (dBi):	4.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3432.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00 – 1240.00 MHz									
Num	lum Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Cm Deg dBμV/m dB /Fail									
1	1232.08	5.93	Average	Horizontal	150	0	19.47	-13.54	Doos	
2	1199.94	7.67	Average	Vertical	150	0	19.47	-11.8	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00 - 1610.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1559.91	9.61	Average	Horizontal	150	0	19.47	-9.86	Door	
2	1559.91	9.23	Average	Vertical	150	0	19.47	-10.24	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## **Equipment Configuration for Spurious Emissions GPS**

Antenna:	Membrane Patch	Variant:	Band Group 1
Antenna Gain (dBi):	4.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3960.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00 – 1240.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1169.93	7.58	Average	Horizontal	150	0	19.47	-11.89	Door	
2	1199.94	6.73	Average	Vertical	150	0	19.47	-12.74	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00 - 1610.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1559.91	10.65	Average	Horizontal	150	0	19.47	-8.82	Dago	
2	1559.91	9.23	Average	Vertical	150	0	19.47	-10.24	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## **Equipment Configuration for Spurious Emissions GPS**

Antenna:	Membrane Patch	Variant:	Band Group 1
Antenna Gain (dBi):	4.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	4488.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00 – 1240.00 MHz											
Num	Num     Frequency     Level dBμV/m     Measurement Type     Pol cm     Hgt Deg     Azt Limit dBμV/m     Margin dBμV/m     Pass dBμV/m											
1	1169.93	7.80	Average	Horizontal	150	0	19.47	-11.67	Page			
2	1169.93	6.64	Average	Vertical	150	0	19.47	-12.83	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00 - 1610.00 MHz												
Num	Num Frequency Level Measurement MHz dBμV/m Type Pol Cm Deg dBμV/m Margin Pass /Fail												
1	1559.91	9.97	Average	Horizontal	150	0	19.47	-9.50	Door				
2	1559.91	9.04	Average	Vertical	150	0	19.47	-10.43	<u>Pass</u>				

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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# 9.3.4.14. Band 3

## **Equipment Configuration for Spurious Emissions GPS**

Antenna:	Membrane Patch	Variant:	Band Group 3
Antenna Gain (dBi):	12.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	6600.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

				1164	.00 – 1240	0.00 MHz					
Num	Num         Frequency MHz         Level Level Level Level Level Measurement Level MHz         Pol Communication         Hgt Communication         Azt Communication         Limit Level Margin Level MAR										
1	1165.06	8.19	Average	Horizontal	150	0	19.47	-11.28	Dees		
2	1169.93	6.13	Average	Vertical	150	0	19.47	-13.34	<u>Pass</u>		
Test No	tes: EUT pov	vered by L	JSB 5.0V. Measu	rement dist	ance 1 me	ter					

	1559.00 - 1610.00 MHz												
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail				
1	1559.91	9.42	Average	Horizontal	150	0	19.47	-10.05	Dago				
2	1559.91	9.97	Average	Vertical	150	0	19.47	-9.50	<u>Pass</u>				

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## **Equipment Configuration for Spurious Emissions GPS**

Antenna:	Membrane Patch	Variant:	Band Group 3
Antenna Gain (dBi):	12.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7128.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00 – 1240.00 MHz											
Num	Num     Frequency     Level dBμV/m     Measurement Type     Pol cm     Hgt cm     Azt Deg     Limit dBμV/m     Margin dBμV/m     Pass //Fail											
1	1222.02	6.88	Average	Horizontal	150	0	19.47	-12.59	Page			
2	1169.93	7.13	Average	Vertical	150	0	19.47	-12.34	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00 - 1610.00 MHz												
Num	NumFrequency MHzLevel dBμV/mMeasurement TypePolHgt cmAzt DegLimit dBμV/mMargin dBPass /Fail												
1	1585.98	8.94	Average	Horizontal	150	0	19.47	-10.53	Dago				
2	1559.91	10.49	Average	Vertical	150	0	19.47	-8.98	<u>Pass</u>				

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.4.15. Bands 3 & 6

## **Equipment Configuration for Spurious Emissions GPS**

Antenna:	Membrane Patch	Variant:	Band Group 3/6
Antenna Gain (dBi):	12.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7656.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

				1164	.00 – 1240	0.00 MHz					
Num	Num         Frequency MHz         Level Level Level Level Level Bh/Level Level										
1	1169.93	6.13	Average	Horizontal	150	0	19.47	-13.34	Dago		
2	1169.93	6.89	Average	Vertical	150	0	19.47	-12.58	<u>Pass</u>		
Test No	tes: EUT pov	vered by L	JSB 5.0V. Measu	rement dist	ance 1 me	ter					

	1559.00 - 1610.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1559.91	8.63	Average	Horizontal	150	0	19.47	-10.84	Dees			
2	1559.91	9.42	Average	Vertical	150	0	19.47	-10.05	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.4.16. Band 6

#### **Equipment Configuration for Spurious Emissions GPS**

Antenna:	Membrane Patch	Variant:	Band Group 6
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8184.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00 – 1240.00 MHz											
Num	Num     Frequency     Level dBμV/m     Measurement Type     Pol cm     Hgt Deg     Azt Limit dBμV/m     Margin dBμV/m     Pass dBμV/m											
1	1222.02	6.62	Average	Horizontal	150	0	19.47	-12.85	Page			
2	1199.94	7.21	Average	Vertical	150	0	19.47	-12.26	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00 - 1610.00 MHz											
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type cm Deg dBμV/m dB /Fail											
1	1559.91	9.42	Average	Horizontal	150	0	19.47	-10.05	Dago			
2	1559.91	9.79	Average	Vertical	150	0	19.47	-9.68	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## **Equipment Configuration for Spurious Emissions GPS**

Antenna:	Membrane Patch	Variant:	Band Group 6
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8712.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00 – 1240.00 MHz										
Num	Num         Frequency         Level dBμV/m         Measurement Type         Pol cm         Hgt Deg         Azt Limit dBμV/m         Margin dBμV/m         Pass Pass Pasi										
1	1169.93	6.89	Average	Horizontal	150	0	19.47	-12.58	Page		
2	1169.93	7.13	Average	Vertical	150	0	19.47	-12.34	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00 - 1610.00 MHz										
Num	Num         Frequency MHz         Level dBμV/m         Measurement Type         Pol cm         Hgt cm         Azt Deg         Limit dBμV/m         Margin dB         Pass /Fail										
1	1559.91	14.55	Average	Horizontal	150	0	19.47	-4.92	Dago		
2	1559.91	9.97	Average	Vertical	150	0	19.47	-9.50	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.5. Left Patch Antenna GPS Emissions

## 9.3.5.17. Band 1 GPS

## **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 1 GPS
Antenna Gain (dBi):	-2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3432.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz											
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass  MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail											
1	1222.03	9.25	Average	Horizontal	150	0	19.47	-10.22	Dees			
2	1222.03	9.80	Average	Vertical	150	0	19.47	-9.67	<u>Pass</u>			
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter											

	1559.00– 1610.00 MHz										
Num	Num         Frequency         Level dBμV/m         Measurement Type         Pol cm         Hgt Deg         Azt Limit dBμV/m         Margin dB Margin dB         Pass /Fail										
1	1559.92	12.29	Average	Horizontal	150	0	19.47	-7.18	Doos		
2	1559.92	12.69	Average	Vertical	150	0	19.47	-6.78	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 1 GPS
Antenna Gain (dBi):	-2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3960.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	1164.00- 1240.00 MHz											
Num	Num Frequency Level Measurement MHz dBμV/m Type Pol cm Deg dBμV/m Margin Pass /Fail											
1	1222.03	9.62	Average	Horizontal	150	0	19.47	-9.85	Dago			
2	1222.03	9.62	Average	Vertical	150	0	19.47	-9.85	<u>Pass</u>			
Toot No	toe: ELIT nov	vorad by I	ISB 5 OV Moosi	romont dict	anco 1 mo	tor						

**Test Notes:** EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00- 1610.00 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Cm Deg dBμV/m dB /Fail										
1	1559.92	11.29	Average	Horizontal	150	0	19.47	-8.18	Doos		
2	1585.98	6.90	Average	Vertical	150	0	19.47	-12.57	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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#### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 1 GPS
Antenna Gain (dBi):	-2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	4488.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1222.03	8.66	Average	Horizontal	150	0	19.47	-10.81	Doos		
2	1222.03	10.15	Average	Vertical	150	0	19.47	-9.32	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00- 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1559.92	11.13	Average	Horizontal	150	0	19.47	-8.34	Door		
2	1589.98	9.33	Average	Vertical	150	0	19.47	-10.14	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.5.18. Band 3 GPS

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 3 GPS
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	6600.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz										
Num	Num         Frequency         Level Measurement         Pol Cm         Hgt Cm         Azt Deg         Limit dBμV/m         Margin dBμV/m         Pass /Fail										
1	1222.03	9.06	Average	Horizontal	150	0	19.47	-10.41	Page		
2	1222.03	9.06	Average	Vertical	150	0	19.47	-10.41	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00- 1610.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1559.92	12.43	Average	Horizontal	150	0	19.47	-7.04	Door			
2	1585.98	7.86	Average	Vertical	150	0	19.47	-11.61	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 3 GPS
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7128.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	1164.00- 1240.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1222.03	9.06	Average	Horizontal	150	0	19.47	-10.41	Dago			
2	1222.03	9.80	Average	Vertical	150	0	19.47	-9.67	<u>Pass</u>			
Toot No	toe: ELIT nov	vored by I	ISB 5 0V/ Moasi	romont dict	anco 1 mo	tor						

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00- 1610.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1559.92	12.69	Average	Horizontal	150	0	19.47	-6.78	Door			
2	1585.98	8.73	Average	Vertical	150	0	19.47	-10.74	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.5.19. Bands 3 & 6 GPS

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Groups 3 & 6 GPS
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7656.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz											
Num	Num											
1	1222.03	9.25	Average	Horizontal	150	0	19.47	-10.22	Page			
2	1222.03	9.25	Average	Vertical	150	0	19.47	-10.22	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00- 1610.00 MHz											
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail			
1	1559.92	12.56	Average	Horizontal	150	0	19.47	-6.91	Dago			
2	1585.98	7.15	Average	Vertical	150	0	19.47	-12.32	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.5.20. Band 6 GPS

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 6 GPS
Antenna Gain (dBi):	5.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8184.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz									
Num	Num     Frequency     Level dBμV/m     Measurement Type     Pol cm     Hgt cm     Azt Deg     Limit dBμV/m     Margin dB     Pass /Fail									
1	1222.03	9.44	Average	Horizontal	150	0	19.47	-10.03	Page	
2	1222.03	9.25	Average	Vertical	150	0	19.47	-10.22	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00– 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1559.92	12.29	Average	Horizontal	150	0	19.47	-7.18	Dago		
2	1559.92	8.21	Average	Vertical	150	0	19.47	-11.26	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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### **Equipment Configuration for Spurious Emissions**

Antenna:	Left Patch	Variant:	Band Group 6 GPS
Antenna Gain (dBi):	Antenna Info Here	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8712.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	1164.00- 1240.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1222.03	9.80	Average	Horizontal	150	0	19.47	-9.67	Dees	
2	1169.94	9.02	Average	Vertical	150	0	19.47	-10.45	<u>Pass</u>	
Test No	tes: FUT nov	vered by I	ISB 5 0V Measi	rement dist	ance 1 me	ter				

	1559.00– 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1559.92	13.19	Average	Horizontal	150	0	19.47	-6.28	Dago		
2	1585.98	6.90	Average	Vertical	150	0	19.47	-12.57	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.6. Right Patch Antenna GPS Emissions

## 9.3.6.21. Band 1 GPS

## **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 1 GPS
Antenna Gain (dBi):	2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3432.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1240.00	5.13	Average	Horizontal	150	0	19.47	<u>-14.34</u>	Doos		
2	1236.66	5.70	Average	Vertical	150	0	19.47	<u>-13.77</u>	<u>Pass</u>		
Test No	Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter										

	1559.00– 1610.00 MHz										
Num	Num     Frequency MHz     Level dBμV/m     Measurement Type     Pol cm     Hgt Deg     Azt Limit dBμV/m     Margin dB Margin										
1	1559.92	12.43	Average	Horizontal	150	0	19.47	<u>-7.04</u>	Dago		
2	1559.92	6.27	Average	Vertical	150	0	19.47	<u>-13.20</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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#### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 1 GPS
Antenna Gain (dBi):	2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	3960.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	1164.00- 1240.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1222.03	10.15	Average	Horizontal	150	0	19.47	<u>-9.32</u>	Dago		
2	1238.78	6.00	Average	Vertical	150	0	19.47	<u>-13.47</u>	<u>Pass</u>		
Tost No	tos: FLIT nov	vered by I	ISB 5 0V/ Measu	rement diet	ance 1 me	tor					

1559.00- 1610.00 MHz Frequency Level Measurement Hgt Azt Limit Margin **Pass** Num Pol dBμV/m MHz  $dB\mu V/m$ /Fail Deg dB Type cm Average 1585.98 14.11 Horizontal 150 0 19.47 <u>-5.36</u> <u>Pass</u> 1559.92 14.76 150 0 19.47 <u>-4.71</u> Average Vertical

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 1 GPS
Antenna Gain (dBi):	2.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	4488.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1169.94	9.74	Average	Horizontal	150	0	19.47	<u>-9.73</u>	Door		
2	1222.03	8.46	Average	Vertical	150	0	19.47	<u>-11.01</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00- 1610.00 MHz											
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type cm Deg dBμV/m dB //Fail											
1	1559.92	12.29	Average	Horizontal	150	0	19.47	<u>-7.18</u>	Door			
2	1559.92	6.80	Average	Vertical	150	0	19.47	<u>-12.67</u>	<u>Pass</u>			

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.6.22. Band 3 GPS

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 3 GPS
Antenna Gain (dBi):	3.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	6600.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type cm Deg dBμV/m dB /Fail										
1	1222.03	9.80	Average	Horizontal	150	0	19.47	<u>-9.67</u>	Door		
2	1222.03	8.04	Average	Vertical	150	0	19.47	<u>-11.43</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00– 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail		
1	1559.92	12.15	Average	Horizontal	150	0	19.47	<u>-7.32</u>	Door		
2	1559.92	6.80	Average	Vertical	150	0	19.47	<u>-12.67</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 3 GPS
Antenna Gain (dBi):	3.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7128.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

#### **Test Measurement Results**

	1164.00- 1240.00 MHz											
Num	Ium Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type Pol cm Deg dBμV/m dB /Fail											
1	1169.94	9.57	Average	Horizontal	150	0	19.47	<u>-9.90</u>	Door			
2	1222.03	7.82	Average	Vertical	150	0	19.47	<u>-11.65</u>	<u>Pass</u>			
Tost No	tos: FLIT nov	vered by I	ISB 5 0V Measi	rement dist	ance 1 me	ter						

1559.00- 1610.00 MHz Frequency Level Measurement Hgt Azt Limit Margin **Pass** Num Pol MHz  $dB\mu V/m$ /Fail Deg dBµV/m dB Type cm 1559.92 13.07 Average Horizontal 150 0 19.47 <u>-6.40</u> <u>Pass</u> 1559.92 150 0 19.47 -10.84 8.63 Average Vertical

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.6.23. Bands 3 & 6 GPS

### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Groups 3 & 6 GPS
Antenna Gain (dBi):	3.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	7656.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz										
Num	Num         Frequency         Level dBμV/m         Measurement Type         Pol cm         Hgt Deg         Azt Limit dBμV/m         Margin dB Margin										
1	1169.94	8.83	Average	Horizontal	150	0	19.47	<u>-10.64</u>	Door		
2	1222.03	7.82	Average	Vertical	150	0	19.47	<u>-11.65</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

	1559.00– 1610.00 MHz										
Num	Num         Frequency         Level Measurement         Pol cm         Hgt cm         Azt Limit Deg         Margin dBμV/m         Pass /Fail										
1	1559.92	11.58	Average	Horizontal	150	0	19.47	<u>-7.89</u>	Daga		
2	1559.92	7.53	Average	Vertical	150	0	19.47	<u>-11.94</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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## 9.3.6.24. Band 6 GPS

#### **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 6 GPS
Antenna Gain (dBi):	1.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8184.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

	1164.00- 1240.00 MHz										
Num	Num Frequency Level Measurement Pol Hgt Azt Limit Margin Pass MHz dBμV/m Type cm Deg dBμV/m dB //Fail										
1	1222.03	9.25	Average	Horizontal	150	0	19.47	<u>-10.22</u>	Door		
2	1222.03	9.62	Average	Vertical	150	0	19.47	<u>-9.85</u>	<u>Pass</u>		

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

1559.00- 1610.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	1559.92	15.16	Average	Horizontal	150	0	19.47	<u>-4.31</u>	Door
2	1559.92	15.35	Average	Vertical	150	0	19.47	<u>-4.12</u>	<u>Pass</u>

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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Serial #: ALER05-U2 Rev A

## **Equipment Configuration for Spurious Emissions**

Antenna:	Right Patch	Variant:	Band Group 6 GPS
Antenna Gain (dBi):	1.0	Modulation:	BPM/BPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99%
Channel Frequency (MHz):	8184.00	Data Rate:	200Mbp/s
Power Setting:	Max	Tested By:	SB

## **Test Measurement Results**

1164.00- 1240.00 MHz									
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	1222.03	9.25	Average	Horizontal	150	0	19.47	<u>-10.22</u>	Door
2	1222.03	9.25	Average	Vertical	150	0	19.47	<u>-10.22</u>	<u>Pass</u>

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

1559.00- 1610.00 MHz										
Num	Frequency MHz	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	1559.92	15.44	Average	Horizontal	150	0	19.47	<u>-4.03</u>	Dago	
2	1559.92	15.35	Average	Vertical	150	0	19.47	<u>-4.12</u>	<u>Pass</u>	

Test Notes: EUT powered by USB 5.0V, Measurement distance 1 meter

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o: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A

# A. APPENDIX - GRAPHICAL IMAGES

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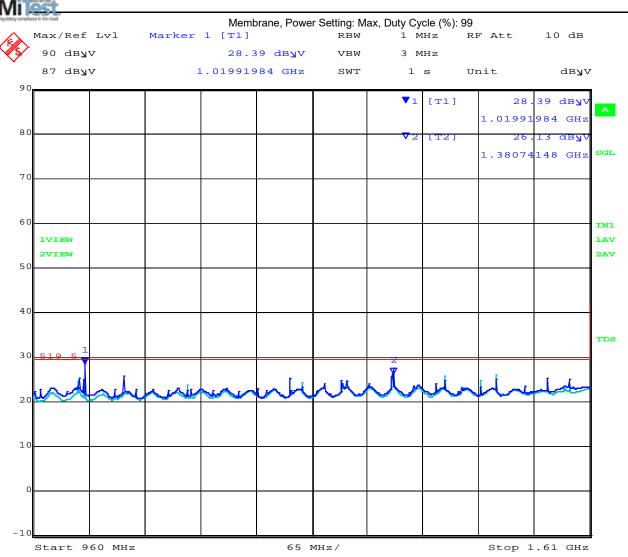
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A

# A.1 Transmitter Spurious Emissions

## A.1.1 Membrane Patch Antenna Band 1

#### RADIATED SPURIOUS EMISSIONS 0.960-1.61GHz



Date: 5.JUL.2022 14:40:03

**Back to Matrix** 

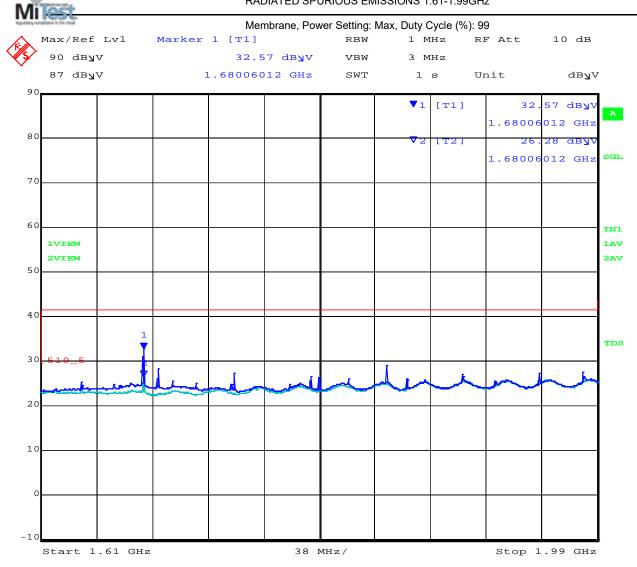
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FCC CFR 47 Part 15 Subpart F 15.519 To:

Serial #: ALER05-U2 Rev A

## RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz



Date: 5.JUL.2022 14:50:00

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Stop 3.1 GHz

FCC CFR 47 Part 15 Subpart F 15.519 To:

Serial #: ALER05-U2 Rev A

## RADIATED SPURIOUS EMISSIONS 1.99-3.1GHz

Mi le Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW Marker 1 [T1] 1 MHz RF Att 10 dB 90 dbyv 29.20 dByV 3 MHz VBW 87 dByV 3.10000000 GHz SWT dBy∨ Unit 1 s V1 [T1] 20 dBy 3.10000000 GHz 80 26.90 dBy 3.03549098 GHz SGL IN1 1VIEW 1AV 2VIEW 2AV 40 TDS 30 10

111 MHz/

Date: 5.JUL.2022 15:05:39

Start 1.99 GHz

# **Back to Matrix**

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FCC CFR 47 Part 15 Subpart F 15.519 To:

Serial #: ALER05-U2 Rev A

### RADIATED SPURIOUS EMISSIONS 3.1-10.6GHz

Mi le Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW Marker 1 [T1] 1 MHz RF Att 10 dB 90 dbyv 55.51 dByV 3 MHz VBW 87 dByV 3.26533066 GHz SWT dBy∨ Unit 1 s **▼**1 [T1] 51 dBען 3.26533066 GH2 80 98 dBy 3.55090180 GHz SGL IN1 1AV 2AV 40 TDS 30 10 Start 3.1 GHz 750 MHz/ Stop 10.6 GHz

Date: 5.JUL.2022 15:06:19

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FCC CFR 47 Part 15 Subpart F 15.519 To:

Serial #: ALER05-U2 Rev A

#### RADIATED SPURIOUS EMISSIONS 10.6-18GHz

Mi le Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW Marker 1 [T1] 1 MHz RF Att 10 dB 90 dbyv 39.05 dByV 3 MHz VBW 87 dByV 17.89619238 GHz SWT dBy∨ Unit 1 s **▼**1 [T1] 39.05 dBy 7.89619 238 GH2 80 dB7 7.89619238 GHz SGL IN1 1AV 1VIEW 2VIEW 2AV 40 TDS 30 10 Start 10.6 GHz 740 MHz/ Stop 18 GHz

Date: 5.JUL.2022 15:16:40

## **Back to Matrix**

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To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A

#### RADIATED SPURIOUS EMISSIONS 0.960-1.61GHz

Miles Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl Marker 1 [T1] RBW 1 MHz 10 dB RF Att 90 dByV 28.52 dByV VBW 3 MHz 87 dByV 1.01991984 GHz SWT Unit dBy∇ 1 s V1 [T1] 52 dBy\ 1.01991984 GH2 80 dB7 1.50058116 GHz SGL 60 IN1 1VIEW 1AV 2VIEW 2AV 40 TDS 30 10 Start 960 MHz 65 MHz/ Stop 1.61 GHz

Date: 5.JUL.2022 14:41:13

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FCC CFR 47 Part 15 Subpart F 15.519 To:

Serial #: ALER05-U2 Rev A

# RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Mi le Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW Marker 1 [T1] 1 MHz RF Att 10 dB 90 dByV 32.55 dByV 3 MHz VBW 87 dByV 1.68006012 GHz SWT Unit dBy∇ 1 s V1 [T1] 55 dBע**זע** 1.68006012 GHz 80 26.31 dBy 1.68006012 GHz SGL IN1 1VIEW 1AV 2VIEW 2AV 50 40 TDS 30 10 Start 1.61 GHz 38 MHz/ Stop 1.99 GHz

Date: 5.JUL.2022 14:51:37

## **Back to Matrix**

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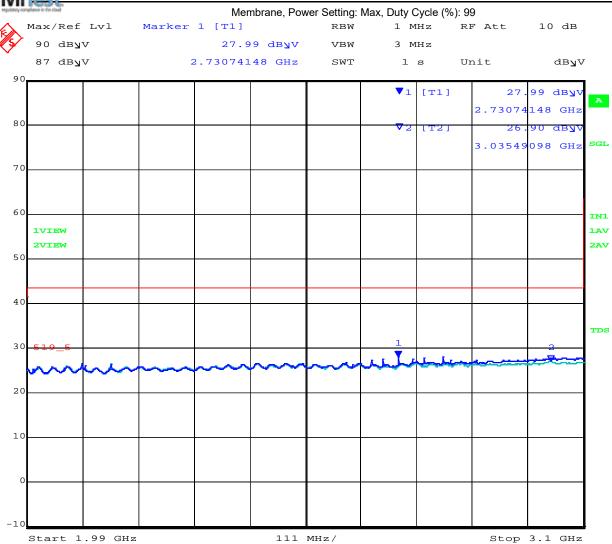


To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A

# Millest.....

#### RADIATED SPURIOUS EMISSIONS 1.99-3.1GHz



Date: 5.JUL.2022 15:03:14

## **Back to Matrix**

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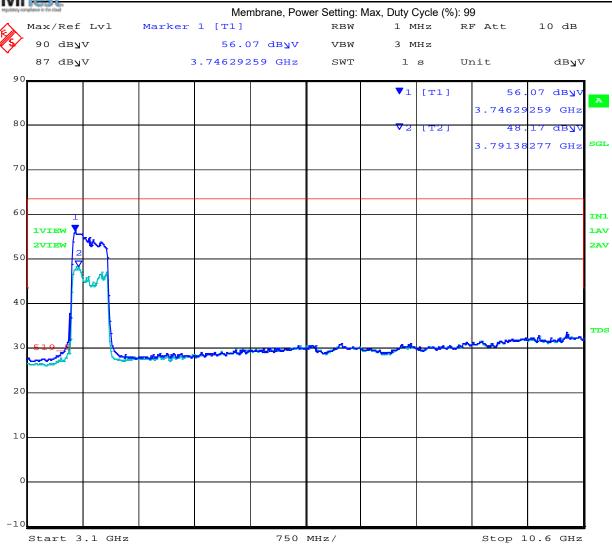


**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 3.1-10.6GHz



Date: 5.JUL.2022 15:09:28

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Stop 18 GHz

To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A

#### RADIATED SPURIOUS EMISSIONS 10.6-18GHz

Mi le Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW Marker 1 [T1] 1 MHz RF Att 10 dB 90 dbyv 3 MHz 38.96 dByV VBW 87 dByV 17.89619238 GHz SWT dBy∨ Unit 1 s **▼**1 [T1] 96 dB**y**ī 7.89619238 GHz 80 39.13 dBy 7.89619238 GHz SGL IN1 1AV 1VIEW 2VIEW 2AV 40 TDS 30 10

740 MHz/

Date: 5.JUL.2022 15:14:34

Start 10.6 GHz

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Stop 1.61 GHz

**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A

#### RADIATED SPURIOUS EMISSIONS 0.960-1.61GHz

Miles Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl Marker 1 [T1] RBW 1 MHz RF Att 10 dB 90 dByV 28.39 dByV VBW 3 MHz 87 dByV 1.01991984 GHz SWT Unit dBy∇ 1 s V1 [T1] 39 dBy 1.01991 984 GH2 80 dB7 1.38074148 GHz SGL 60 IN1 1VIEW 1AV 2VIEW 2AV 50 40 TDS 30 10

65 MHz/

Date: 5.JUL.2022 14:41:58

Start 960 MHz

**Back to Matrix** 

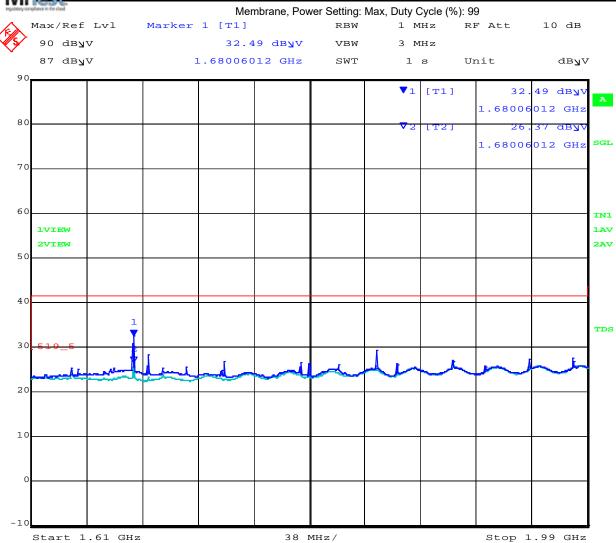
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Serial #: ALER05-U2 Rev A

# RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz



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FCC CFR 47 Part 15 Subpart F 15.519 To:

Serial #: ALER05-U2 Rev A

## RADIATED SPURIOUS EMISSIONS 1.99-3.1GHz

Mi le Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW Marker 1 [T1] 1 MHz RF Att 10 dB 28.03 dByV 90 dbyv 3 MHz VBW 87 dByV 2.73074148 GHz SWT dBy∨ Unit 1 s V1 [T1] 28.03 dBy 2.73074148 GHz 80 dBy 3.03549098 GHz SGL IN1 1VIEW 1AV 2VIEW 2AV 50 40 TDS 30 10 111 MHz/ Start 1.99 GHz Stop 3.1 GHz

Date: 5.JUL.2022 15:01:28

## **Back to Matrix**

Issue Date: 18th July 2022 Page: 105 of 269



FCC CFR 47 Part 15 Subpart F 15.519 To:

Serial #: ALER05-U2 Rev A

## RADIATED SPURIOUS EMISSIONS 3.1-10.6GHz

Mi le Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW Marker 1 [T1] 1 MHz RF Att 10 dB 90 dbyv 52.51 dByV 3 MHz VBW 87 dByV 4.42264529 GHz SWT dBy∨ Unit 1 s **▼**1 [T1] 51 dBען 4.42264529 GH2 80 18 dBV 4.33246493 GHz SGL IN1 1VIEW 1AV 2VIEW 2AV 50 40 TDS 30 10 Start 3.1 GHz 750 MHz/ Stop 10.6 GHz

Date: 5.JUL.2022 15:11:30

## **Back to Matrix**

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FCC CFR 47 Part 15 Subpart F 15.519 To:

Serial #: ALER05-U2 Rev A

## RADIATED SPURIOUS EMISSIONS 10.6-18GHz

Mi le Membrane, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW Marker 1 [T1] 1 MHz RF Att 10 dB 90 dbyv 3 MHz 38.96 dByV VBW 87 dByV 17.89619238 GHz SWT dBy∨ Unit 1 s V1 [T1] 96 dB**y**ī 7.89619238 GHz 80 39.13 dBy 7.89619238 GHz SGL IN1 1AV 1VIEW 2VIEW 2AV 40 TDS 30 10 Start 10.6 GHz 740 MHz/ Stop 18 GHz

Date: 5.JUL.2022 15:13:19

# **Back to Matrix**

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To: FCC CFR 47 Part 15 Subpart F 15.519

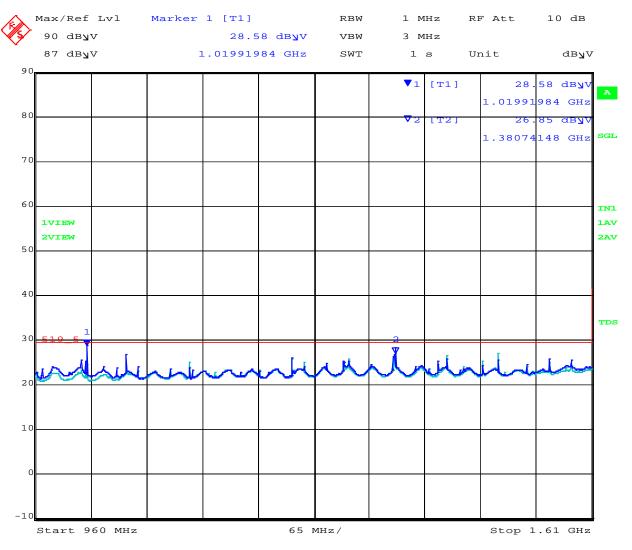
Serial #: ALER05-U2 Rev A

## A.1.2 Membrane Patch Antenna Band 3



#### RADIATED SPURIOUS EMISSIONS 0.960-1.61GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:11:01

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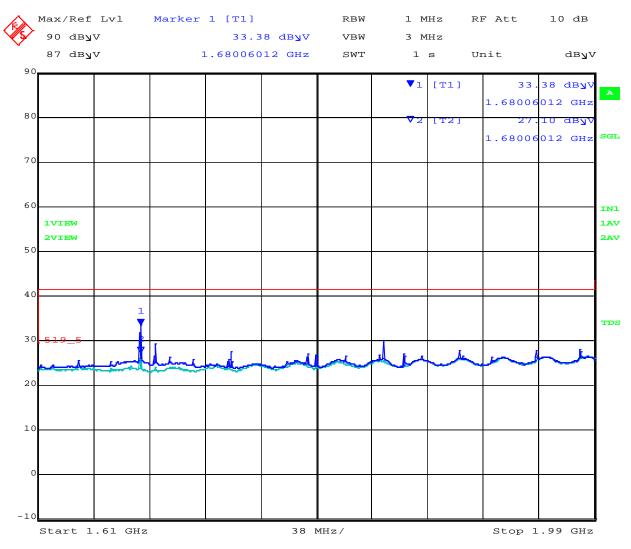
**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:22:08

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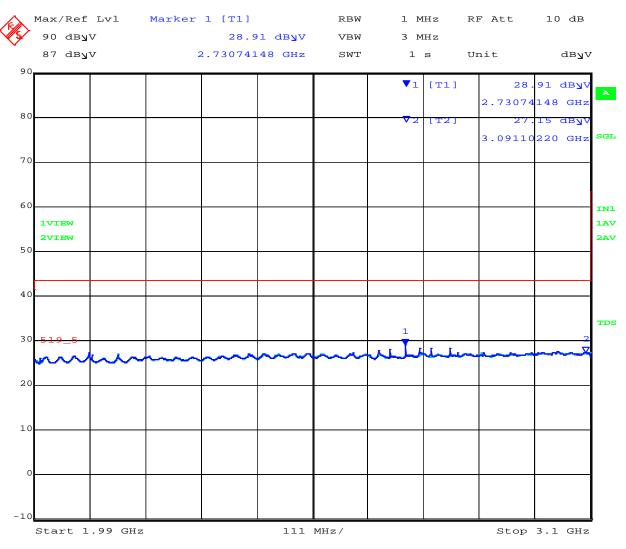
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.99-3.1GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:48:36

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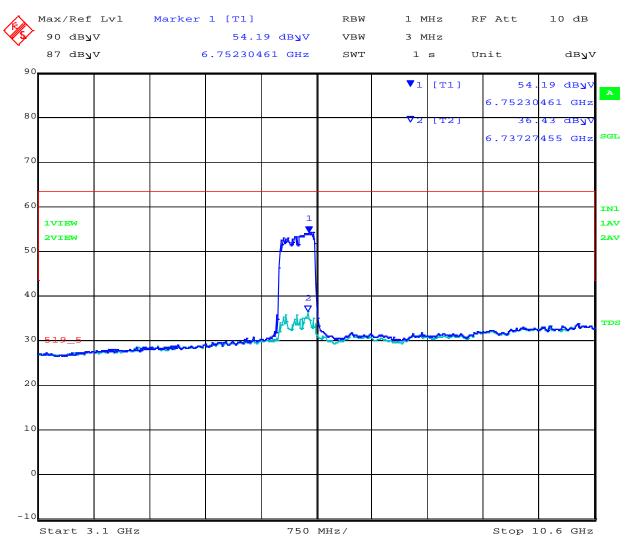
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 3.1-10.6GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:49:42

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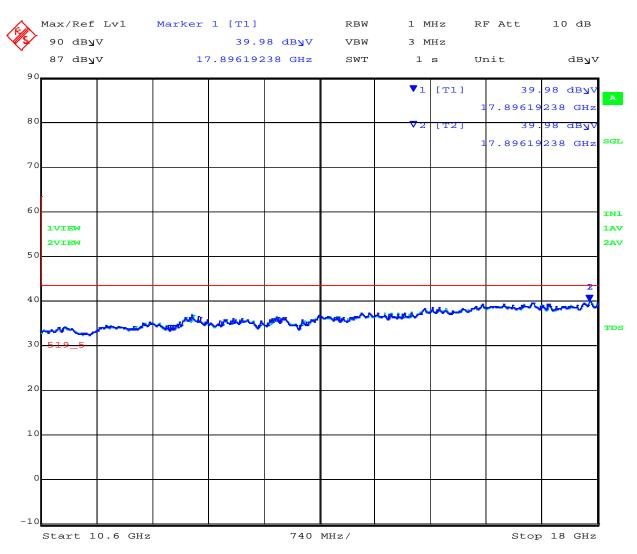
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### **RADIATED SPURIOUS EMISSIONS 10.6-18GHz**

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 08:50:11

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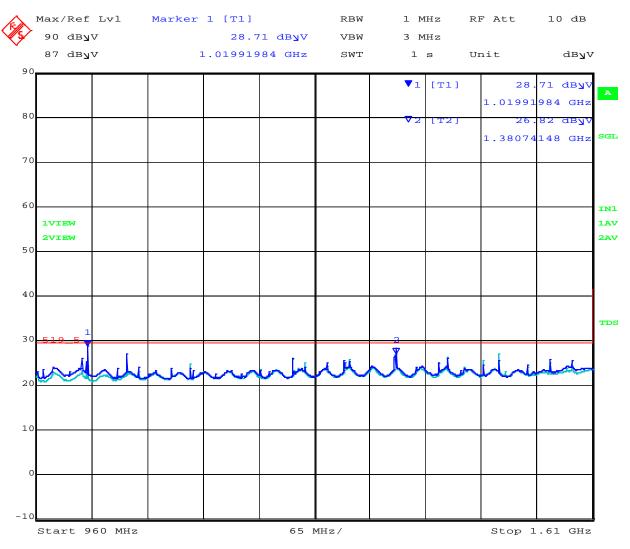
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 0.960-1.61GHz

# Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:11:50

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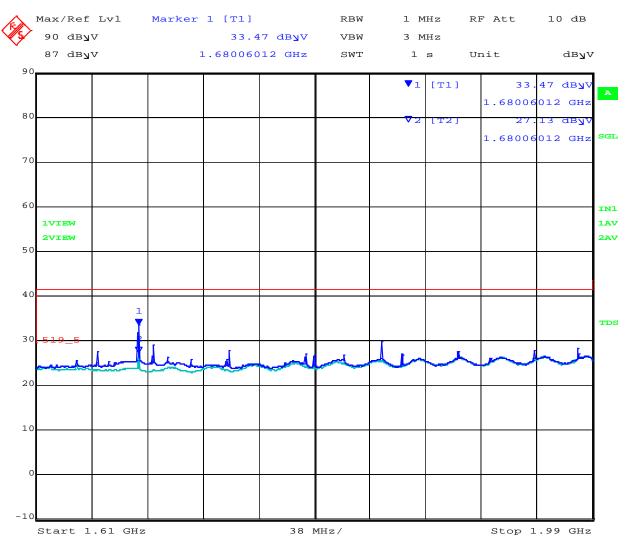
**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:24:56

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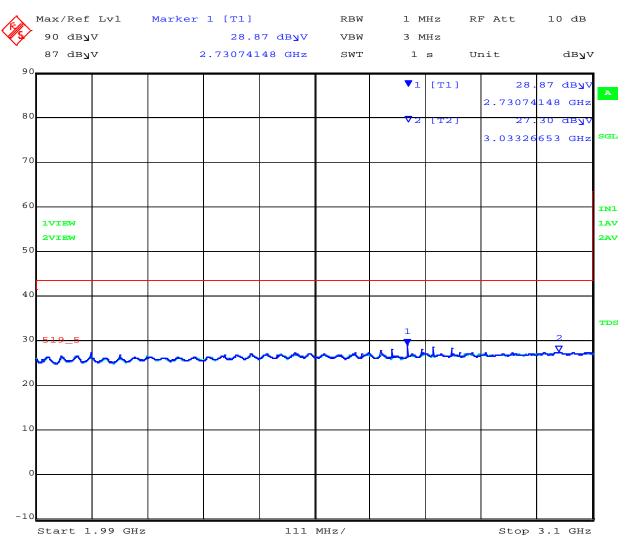
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.99-3.1GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:46:57

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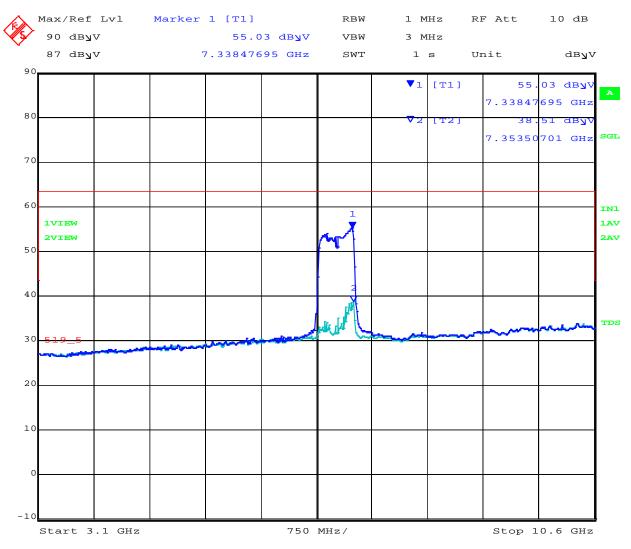
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 3.1-10.6GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:53:44

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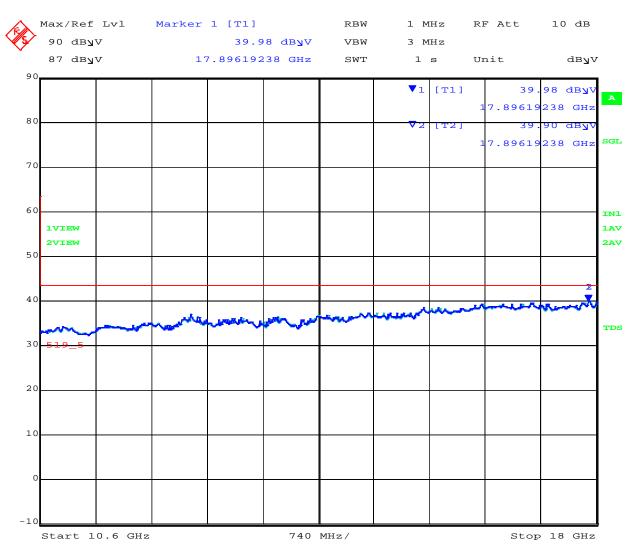
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### **RADIATED SPURIOUS EMISSIONS 10.6-18GHz**

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 08:47:02

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To: FCC CFR 47 Part 15 Subpart F 15.519

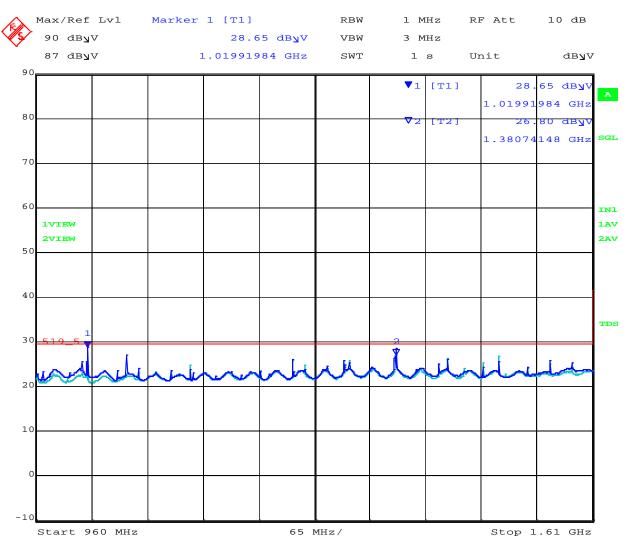
Serial #: ALER05-U2 Rev A

# A.1.3 Membrane Patch Antenna Band 3 & 6



## RADIATED SPURIOUS EMISSIONS 0.960-1.61GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:15:37

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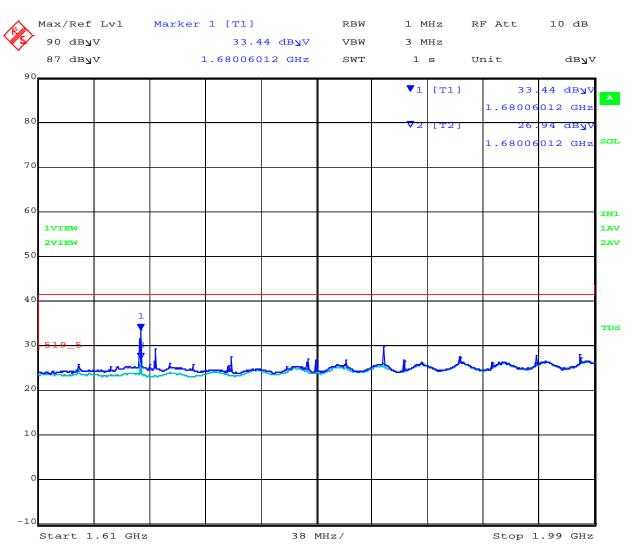
**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:28:14

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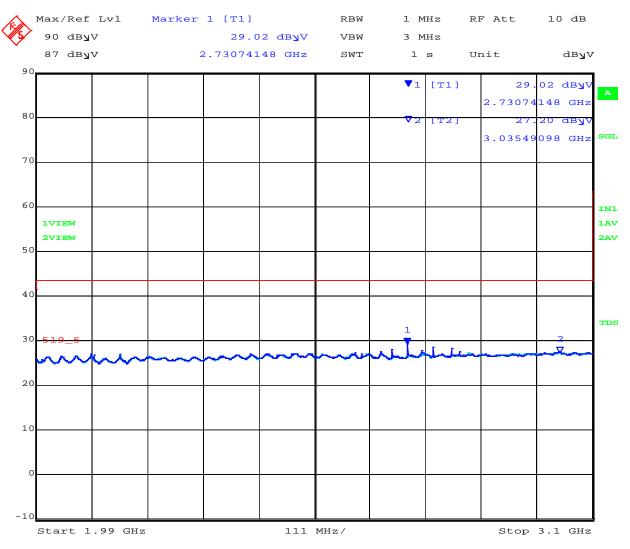
**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.99-3.1GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:44:36

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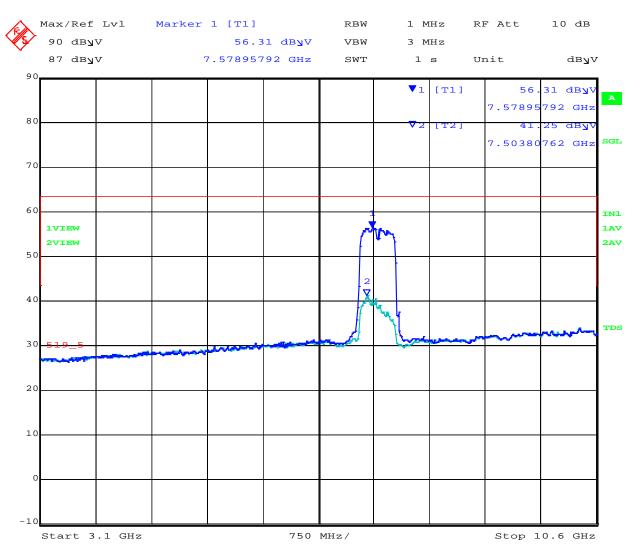
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 3.1-10.6GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:58:00

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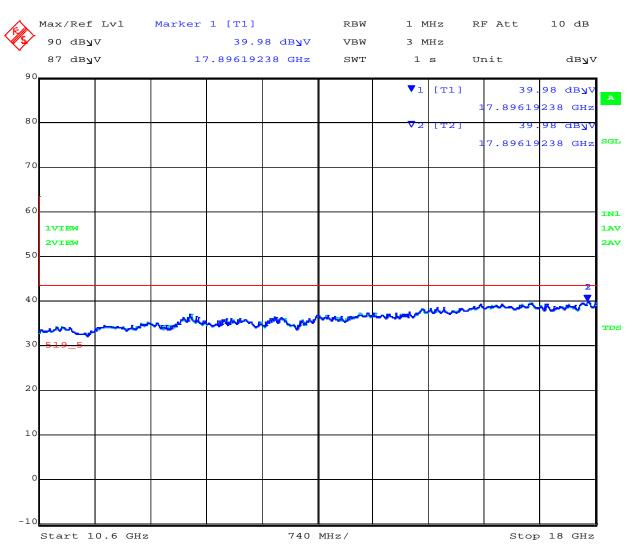
**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### **RADIATED SPURIOUS EMISSIONS 10.6-18GHz**

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 08:48:16

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To: FCC CFR 47 Part 15 Subpart F 15.519

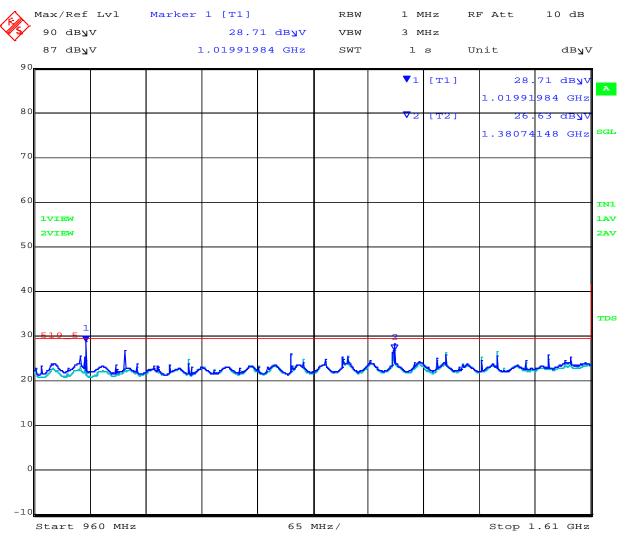
Serial #: ALER05-U2 Rev A

# A.1.4 Membrane Patch Antenna Band 6



## RADIATED SPURIOUS EMISSIONS 0.960-1.61GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:19:26

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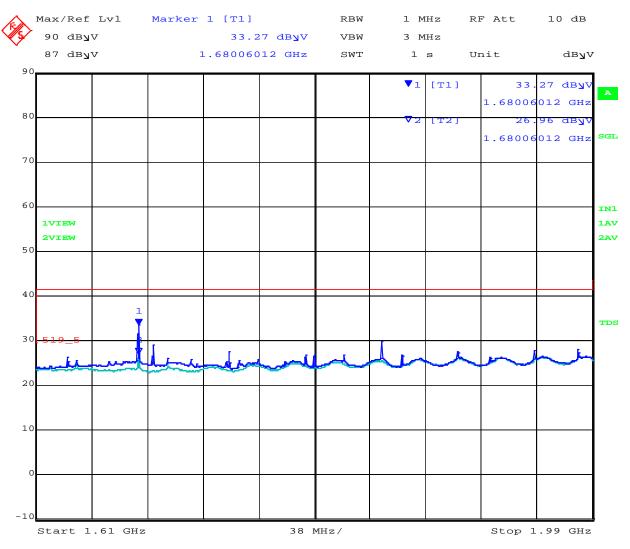
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



### RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:37:05

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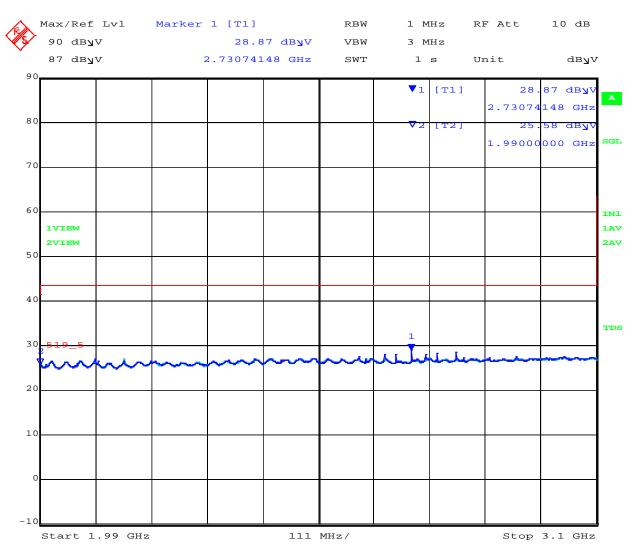
**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.99-3.1GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:38:02

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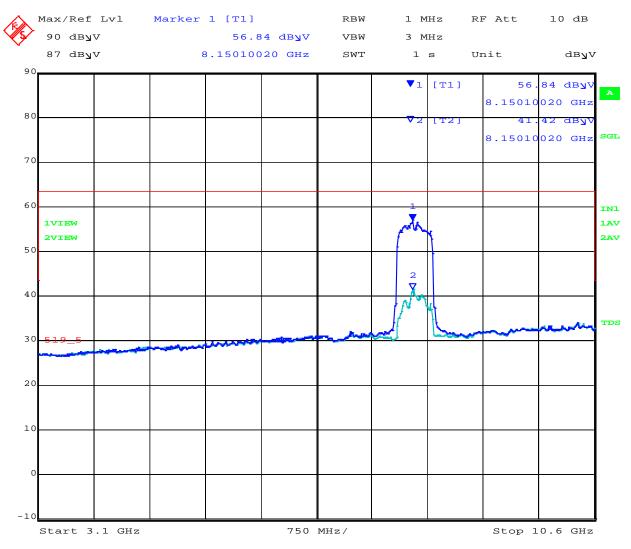
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### **RADIATED SPURIOUS EMISSIONS 3.1-10.6GHz**

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 10:00:41

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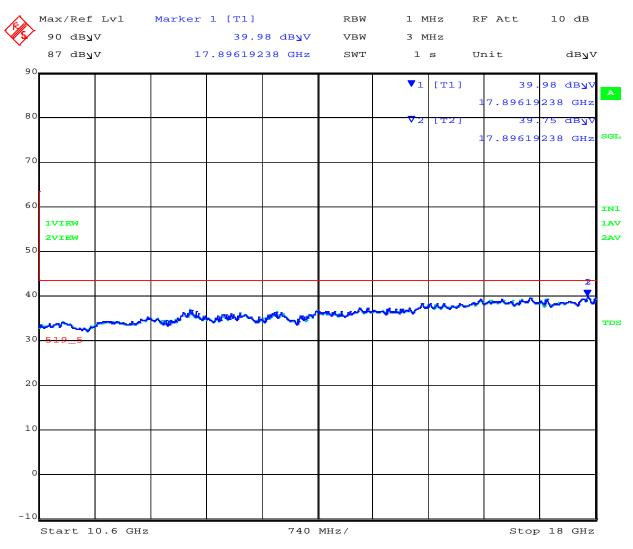
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### **RADIATED SPURIOUS EMISSIONS 10.6-18GHz**

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 08:51:49

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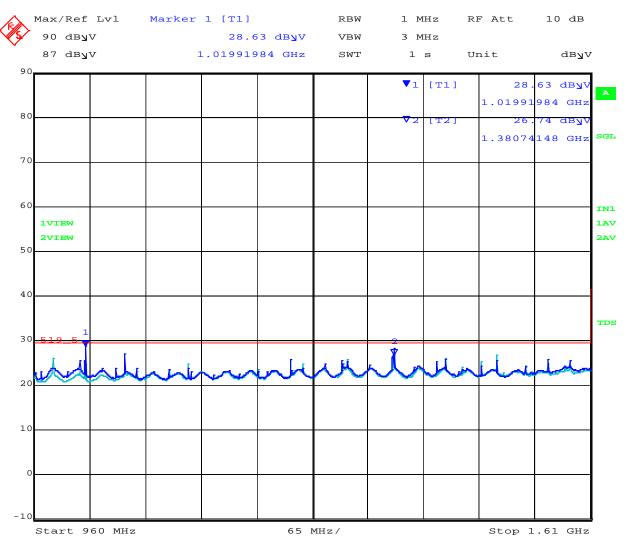
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 0.960-1.61GHz

# Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:20:15

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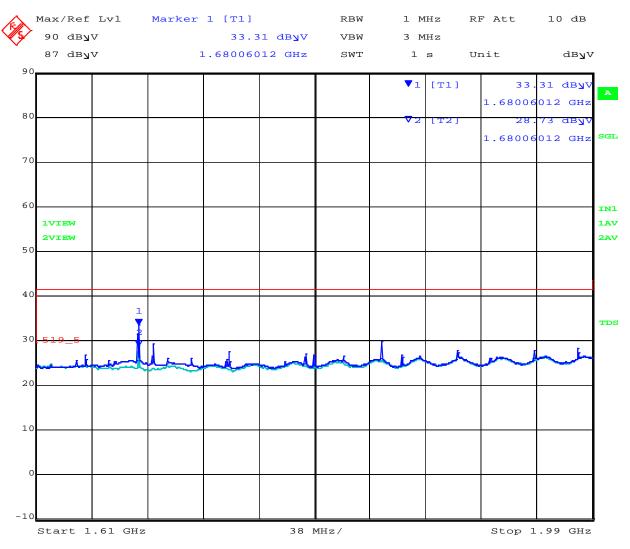
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:29:02

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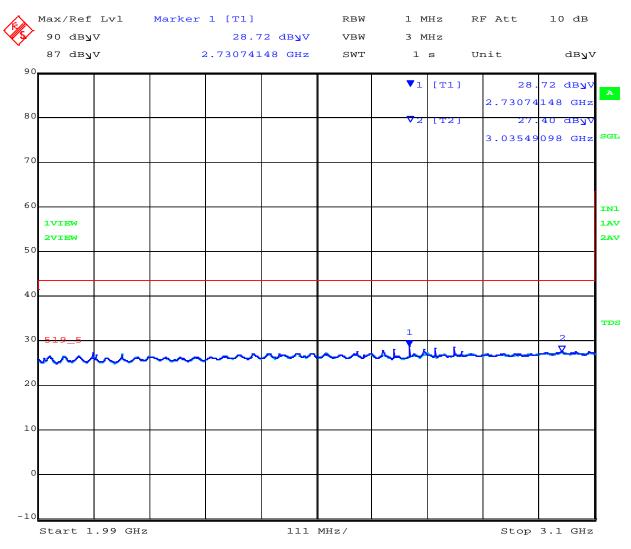
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



### RADIATED SPURIOUS EMISSIONS 1.99-3.1GHz

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:42:47

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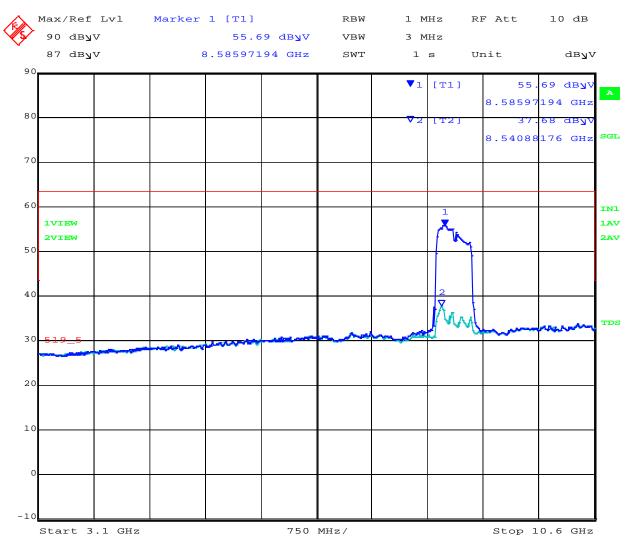
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### **RADIATED SPURIOUS EMISSIONS 3.1-10.6GHz**

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 09:59:52

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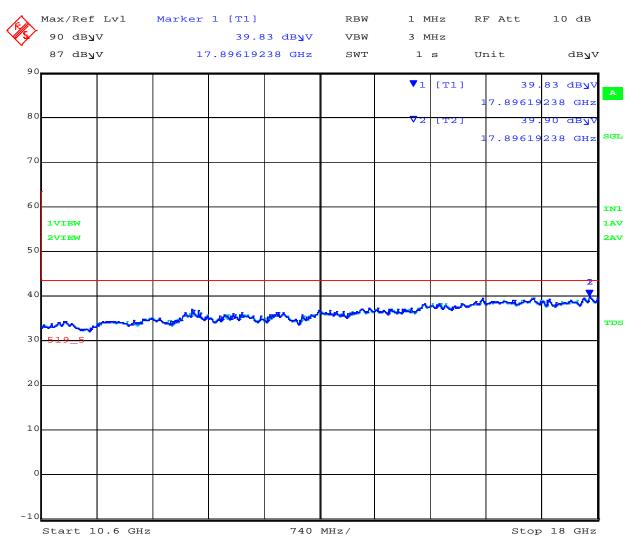
To: FCC CFR 47 Part 15 Subpart F 15.519

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#### **RADIATED SPURIOUS EMISSIONS 10.6-18GHz**

Membrane, Power Setting: Max, Duty Cycle (%): 99



Date: 6.JUL.2022 08:52:50

**Back to Matrix** 

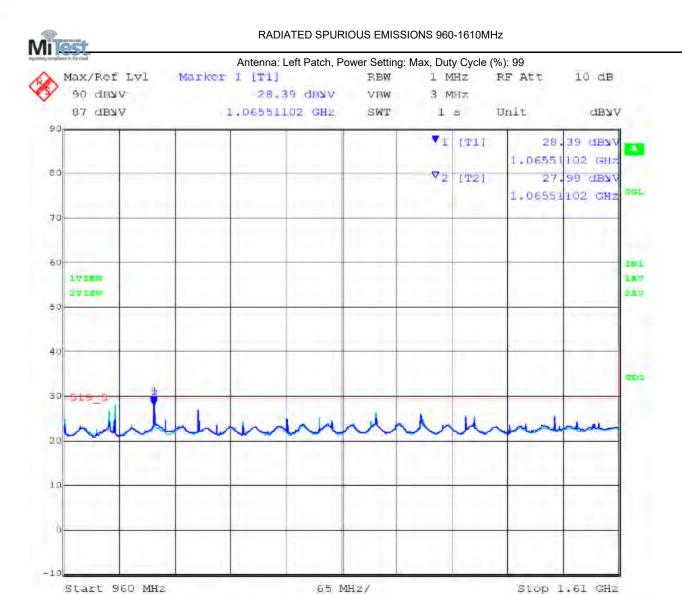
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# A.1.5 Left Patch Antenna Band 1



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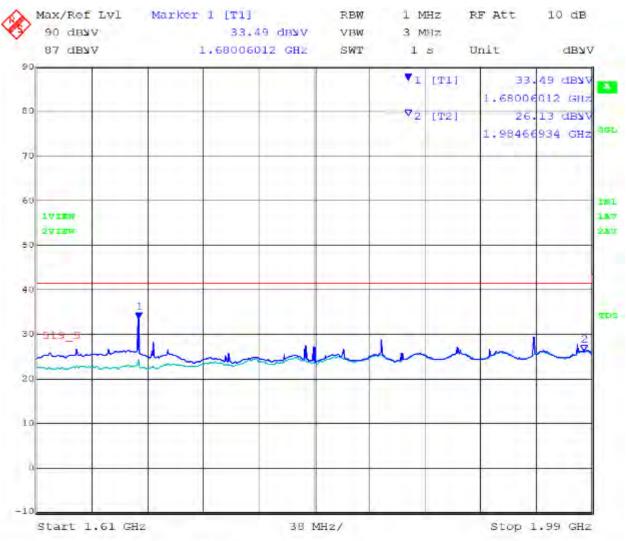
**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:03:51

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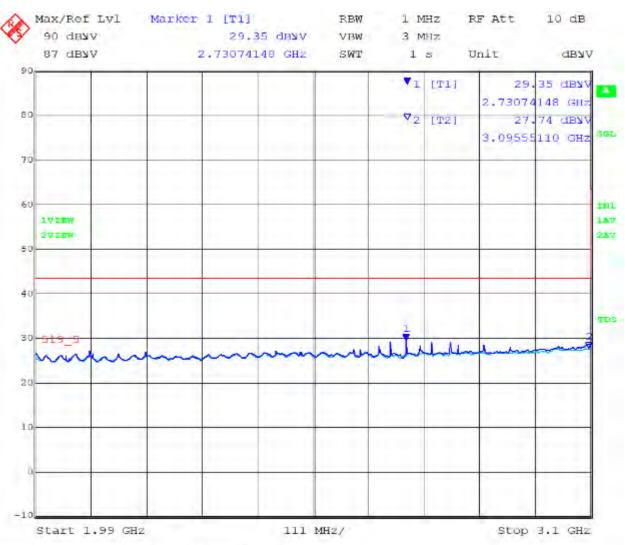
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:34:59

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#### RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:36:58

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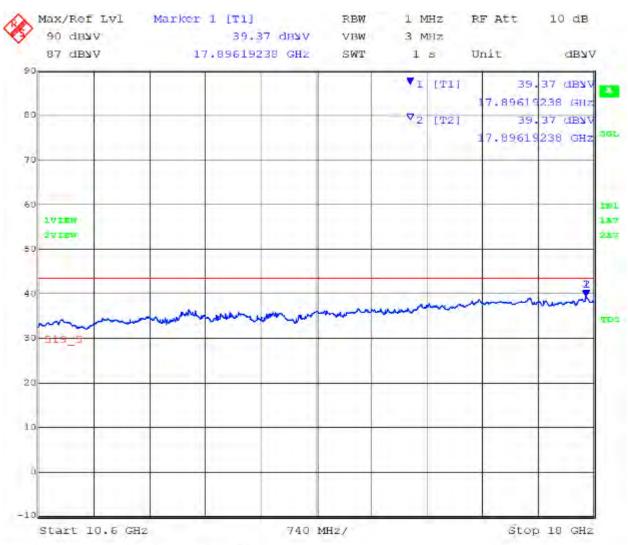
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#### RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:51:23

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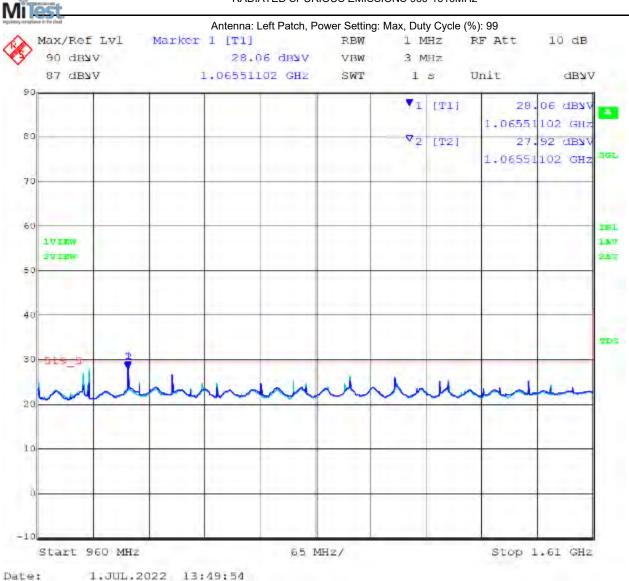
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#### RADIATED SPURIOUS EMISSIONS 960-1610MHz



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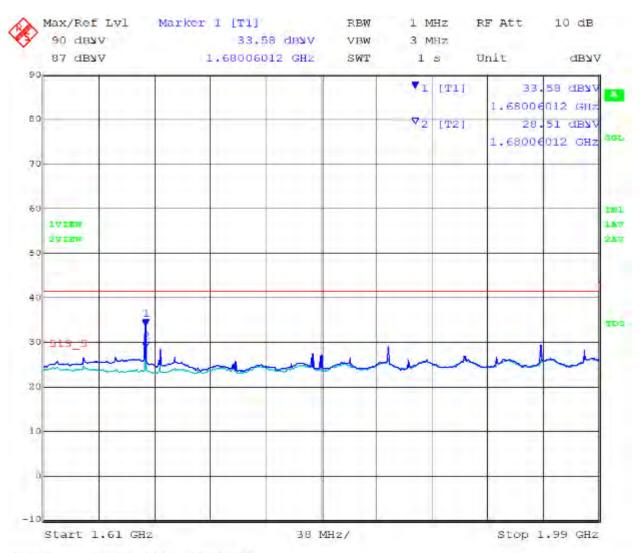
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:02:23

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#### RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:33:39

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#### RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:38:52

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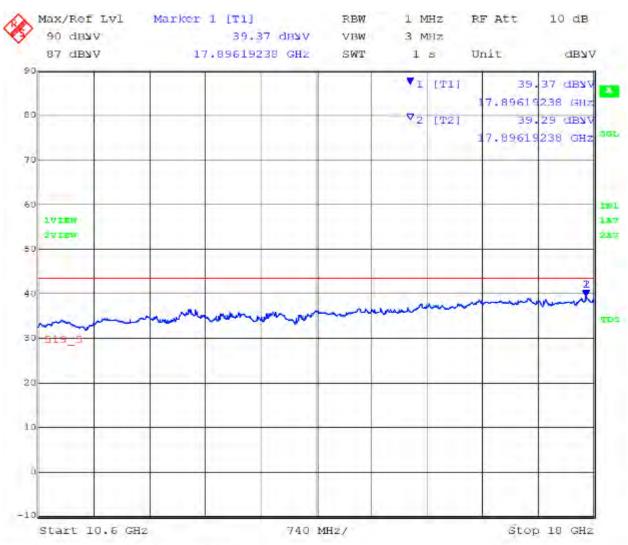
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#### RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:50:48

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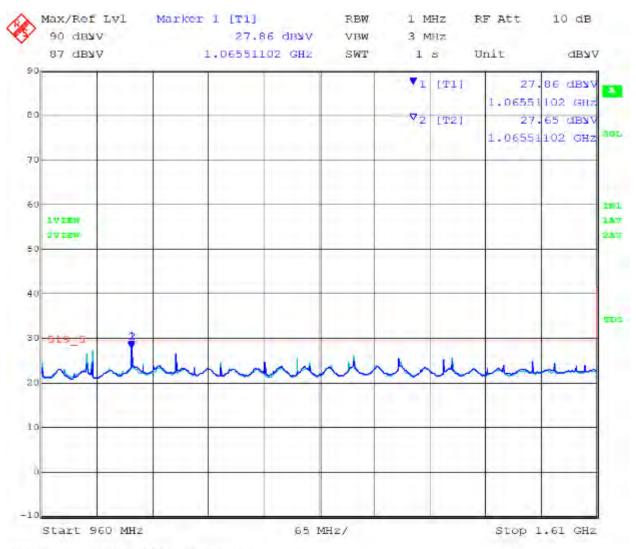
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 960-1610MHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 13:54:38

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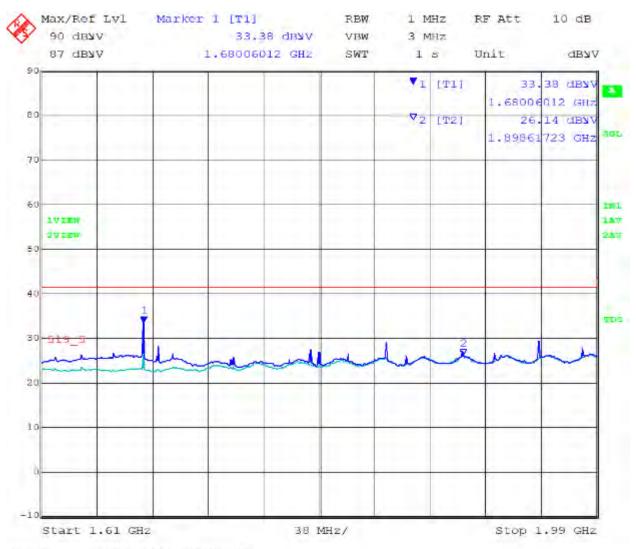
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:06:35

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## RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:13:45

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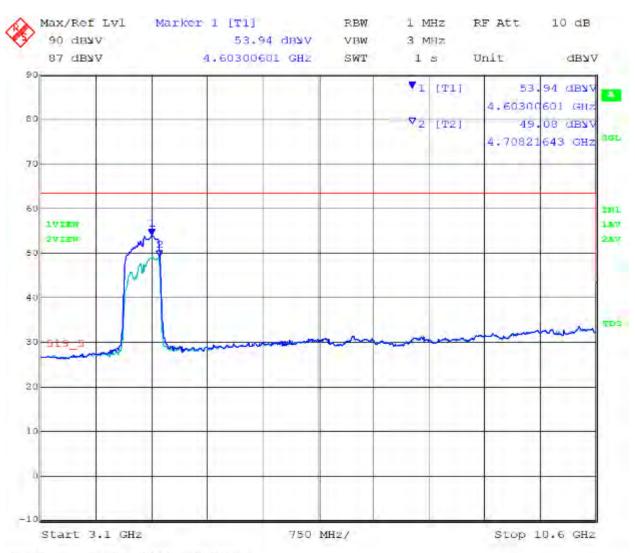
To: FCC CFR 47 Part 15 Subpart F 15.519

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## RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:42:17

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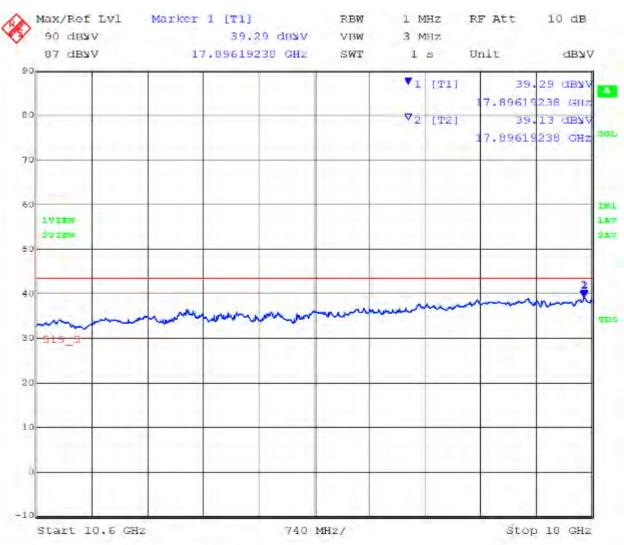
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



## RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 1.JUL.2022 14:48:47

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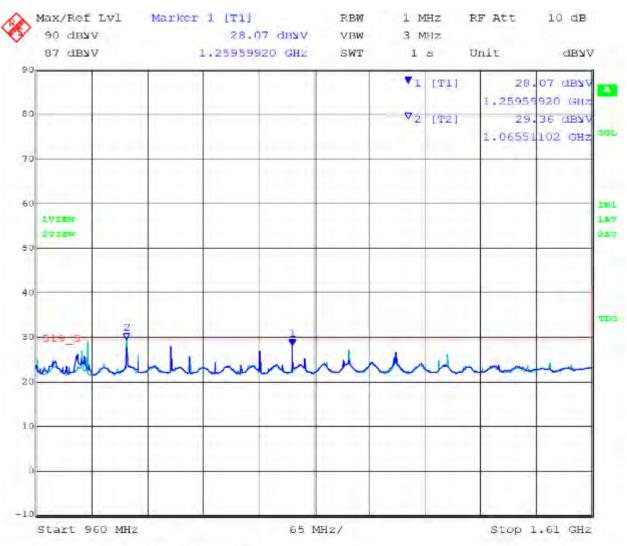
Serial #: ALER05-U2 Rev A

## A.1.6 Left Patch Antenna Band 3



## RADIATED SPURIOUS EMISSIONS 960-1610MHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 08:43:28

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## RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:21:52

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## RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:40:30

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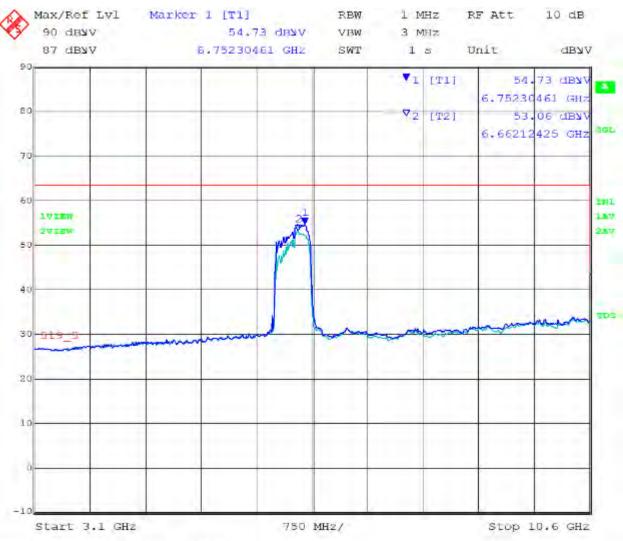
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



## RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:45:11

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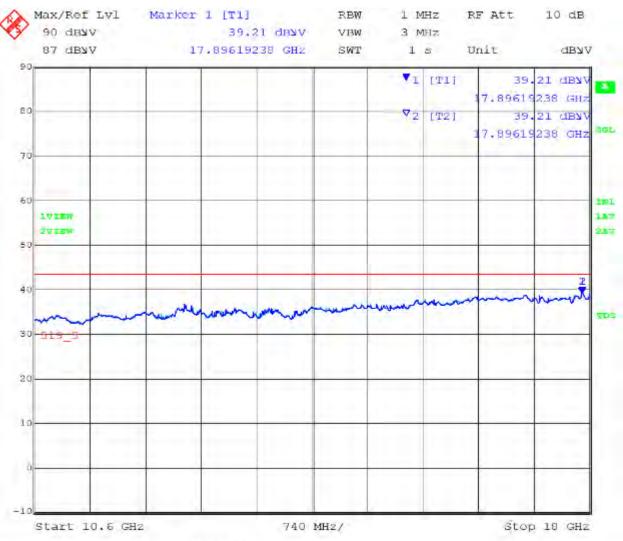
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## RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:56:53

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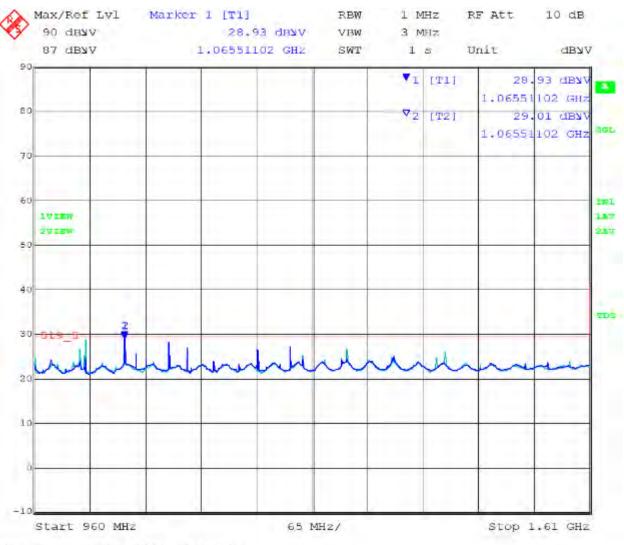
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



## RADIATED SPURIOUS EMISSIONS 960-1610MHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 08;51:10

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## RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:25:15

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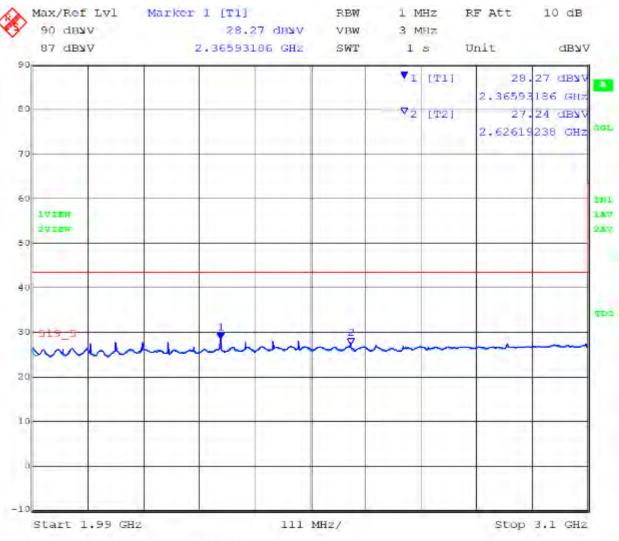
To: FCC CFR 47 Part 15 Subpart F 15.519

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## RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:34:13

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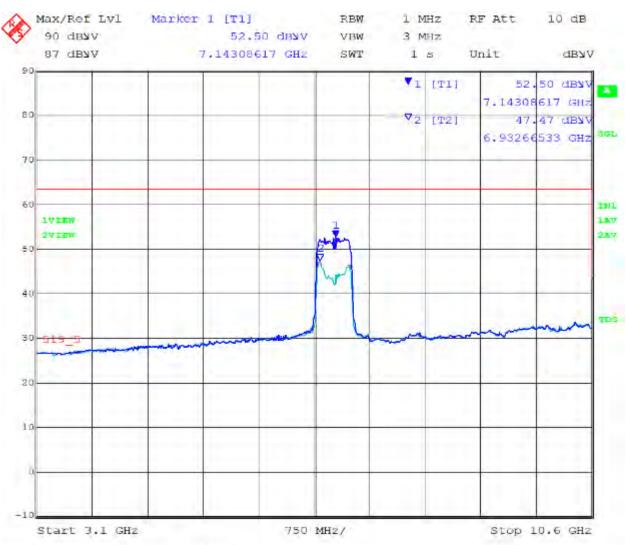
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## RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:50:12

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## RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:56:05

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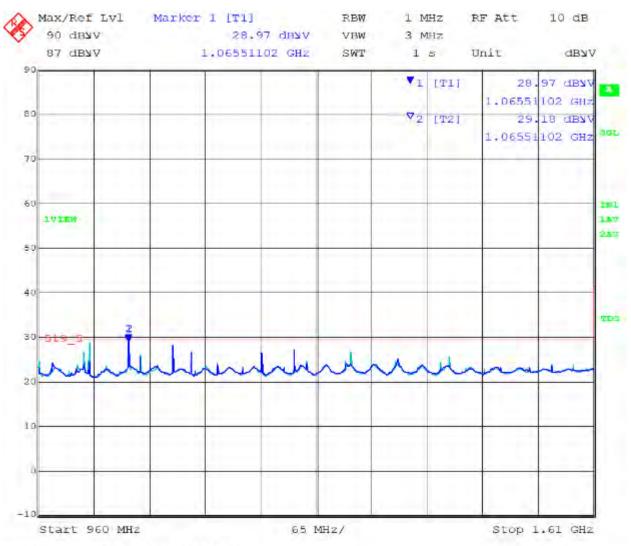
Serial #: ALER05-U2 Rev A

## A.1.7Left Patch Antenna Band 3 & 6



## RADIATED SPURIOUS EMISSIONS 960-1610MHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 08:57:20

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## RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:27:38

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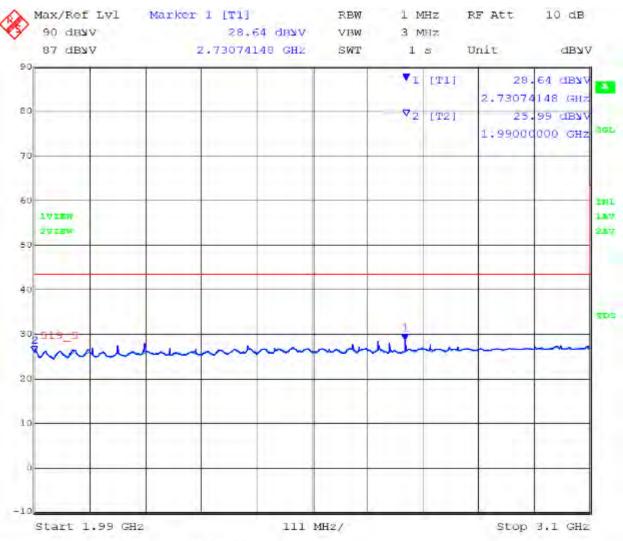
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



## RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:31:27

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## RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:52:11

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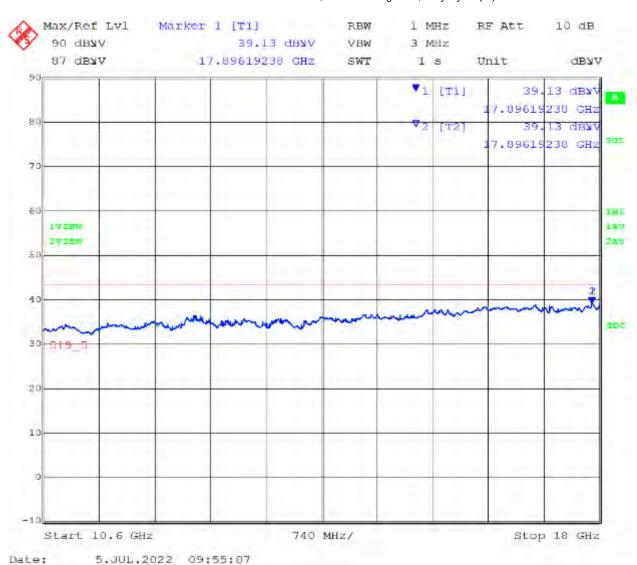
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## RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



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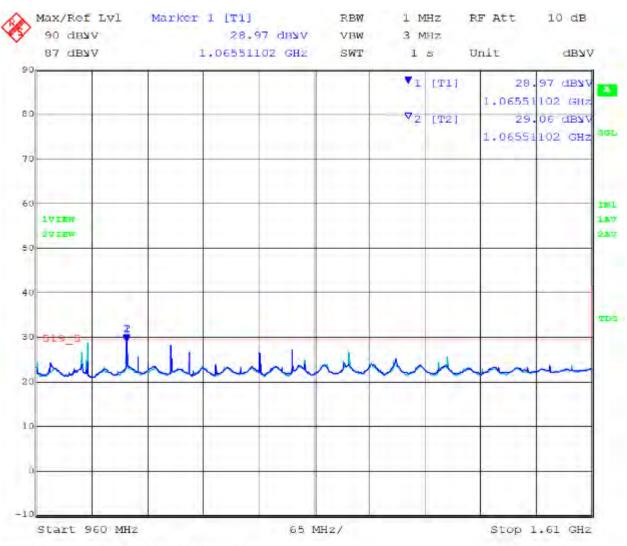
Serial #: ALER05-U2 Rev A

## A.1.8 Left Patch Antenna Band 6



## RADIATED SPURIOUS EMISSIONS 960-1610MHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:00:26

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## RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 10:20:42

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## RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 10:22:16

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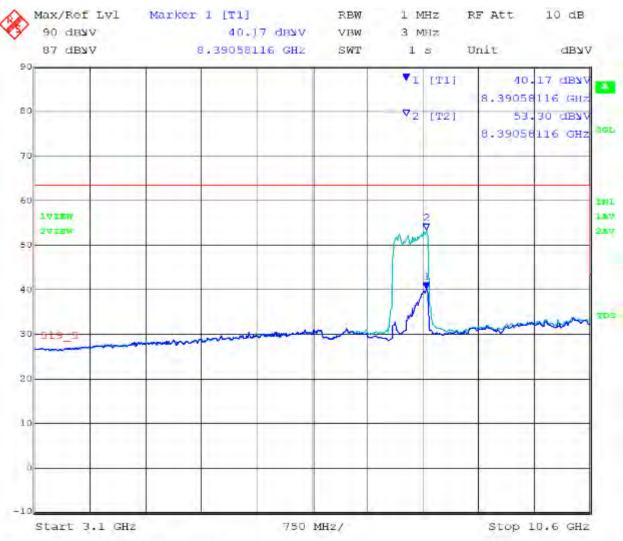
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## RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 10:23:31

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## RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 10:00:18

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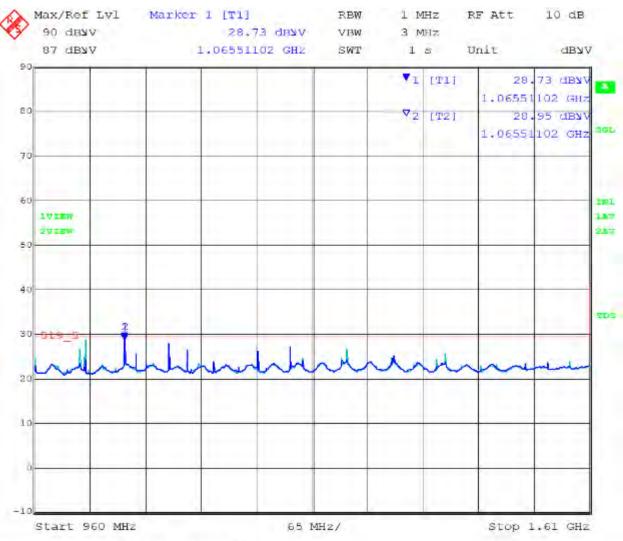
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



## RADIATED SPURIOUS EMISSIONS 960-1610MHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 09:03:45

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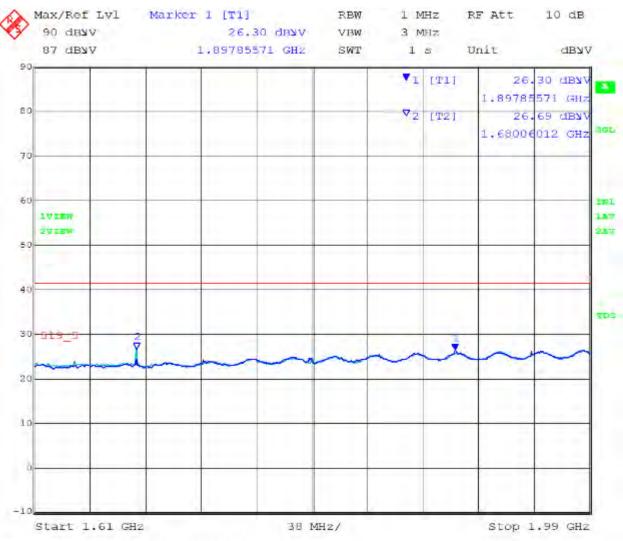
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## RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 10:06:14

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## RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 10:05:09

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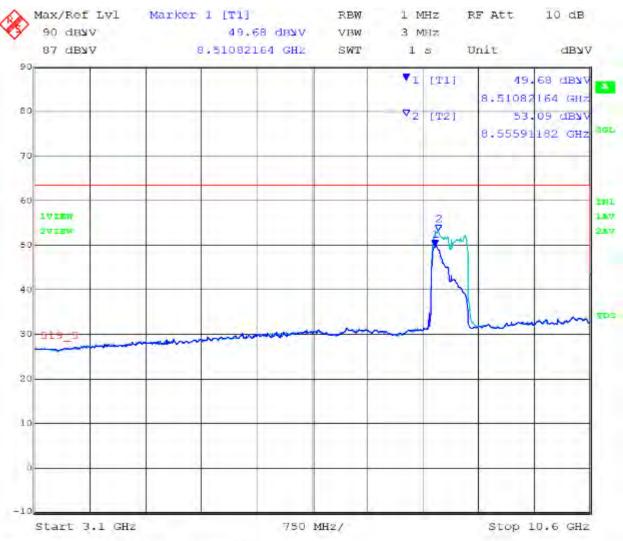
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## RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 10:04:05

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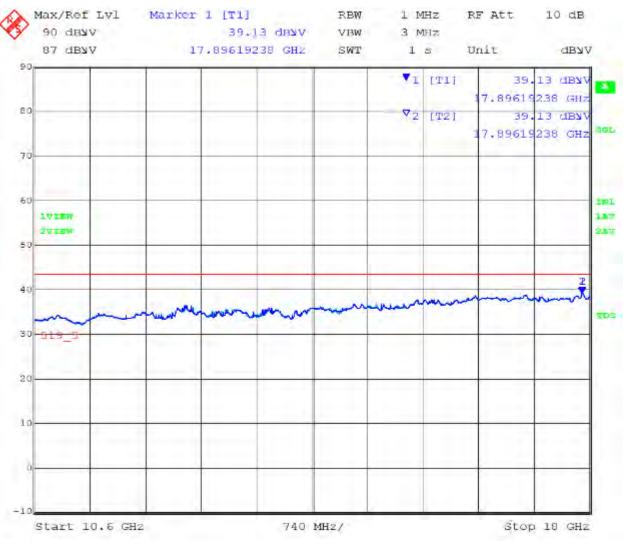
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## RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Left Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 10:02:46

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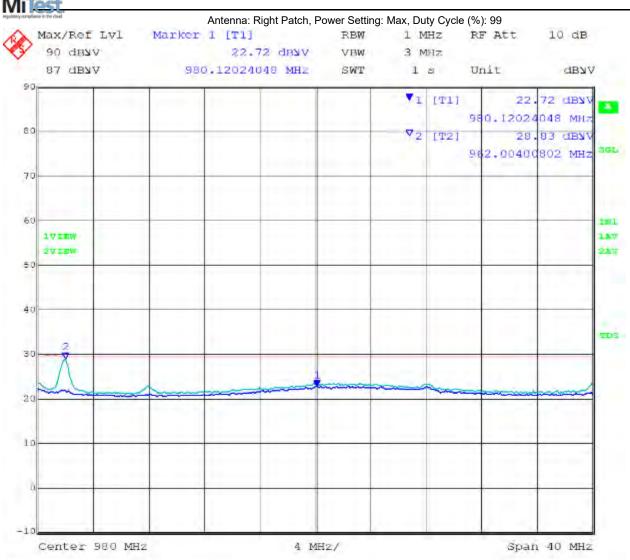


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## A.1.9 Right Patch Antenna Band 1

# RADIATED SPURIOUS EMISSIONS 960-1000MHz



Date: 29.JUN.2022 15:34:27

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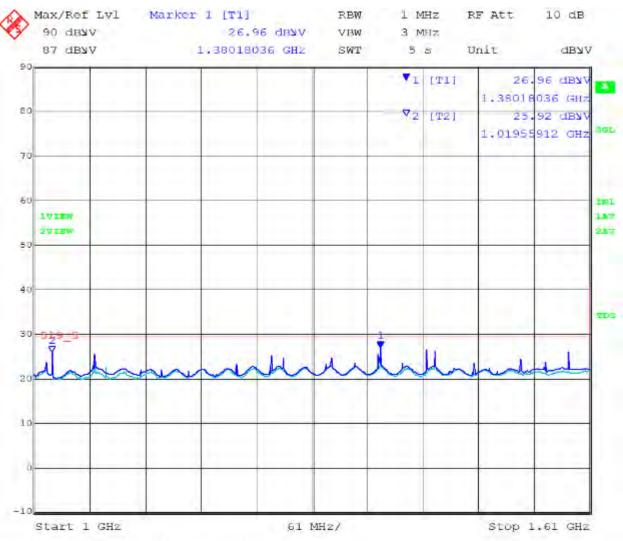
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## RADIATED SPURIOUS EMISSIONS 1.0-1.61GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 27.JUN.2022 15:49:39

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## RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 27.JUN.2022 15:53:28

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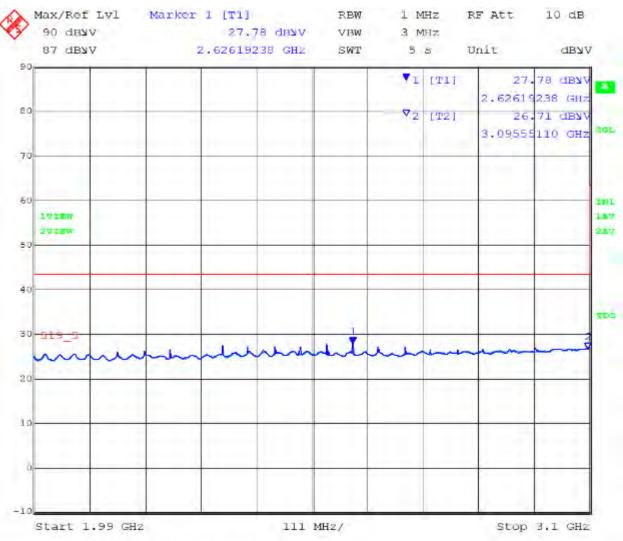
**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



## RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 27.JUN.2022 15:54:35

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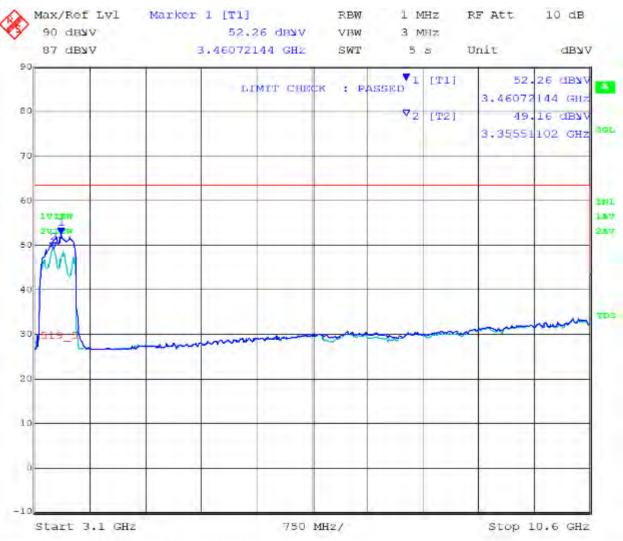
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## RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 27.JUN.2022 15:55:43

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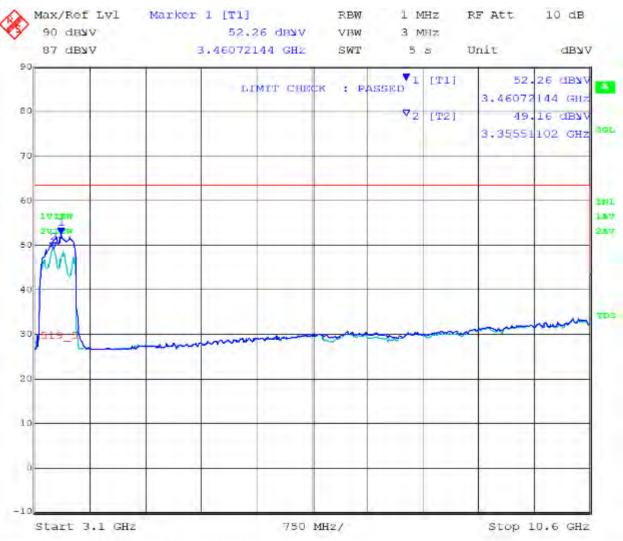
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



## RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 27.JUN.2022 15:55:43

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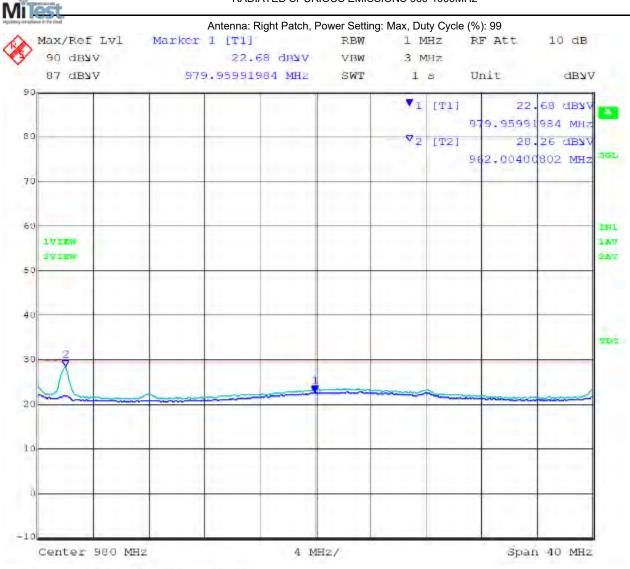
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## RADIATED SPURIOUS EMISSIONS 960-1000MHz



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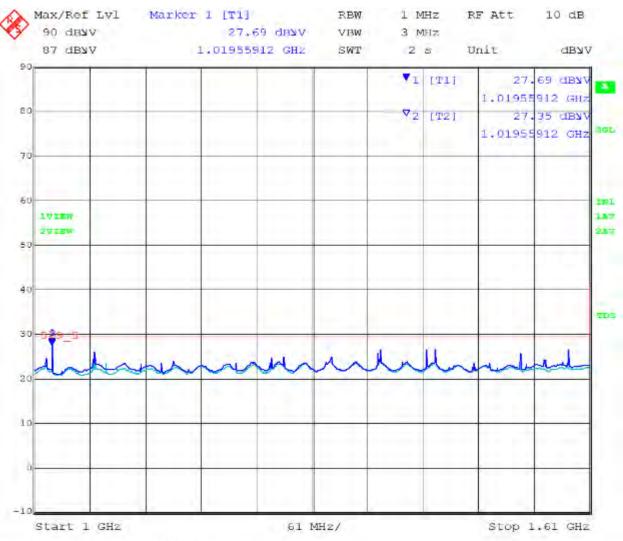
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



## RADIATED SPURIOUS EMISSIONS 1.0-1.61GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 28.JUN.2022 09:12:05

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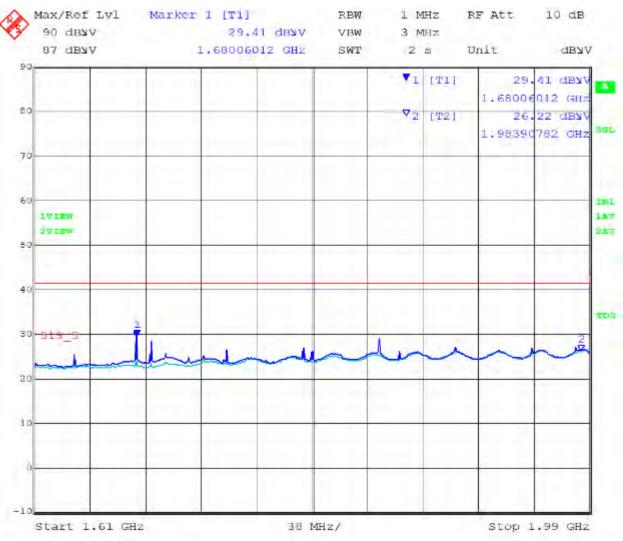
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 28.JUN.2022 09:14:47

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**Issue Date**: 18<sup>th</sup> July 2022 **Page**: 181 of 269



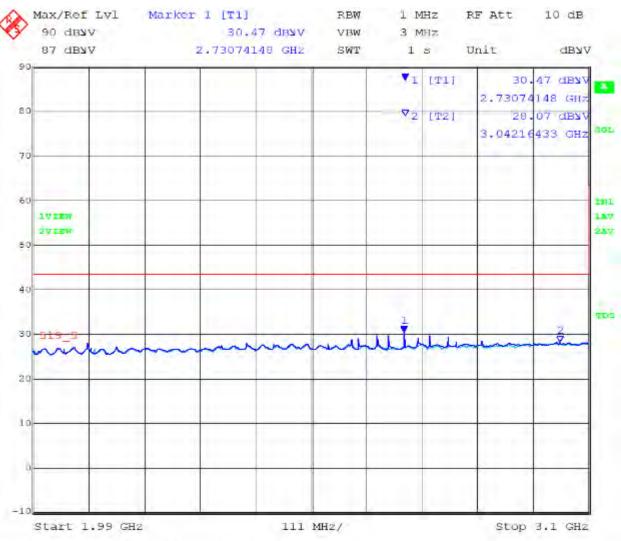
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 08:55:15

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Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 08:57:19

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Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 09:02:09

**Back to Matrix** 

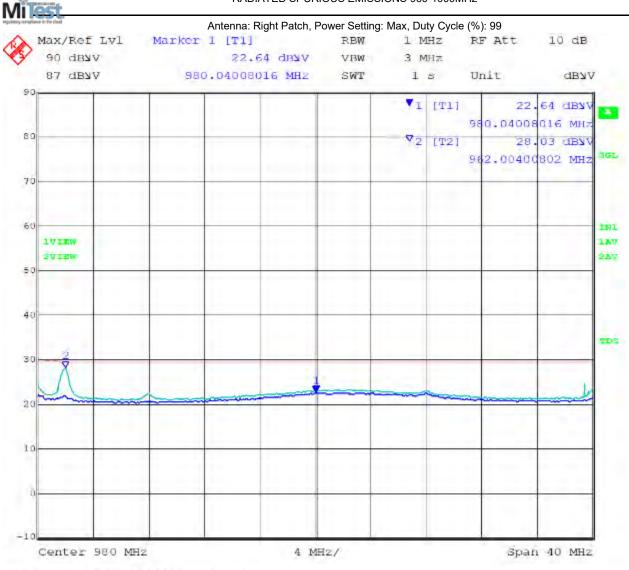
Issue Date: 18<sup>th</sup> July 2022 Page: 184 of 269



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Serial #: ALER05-U2 Rev A

# RADIATED SPURIOUS EMISSIONS 960-1000MHz



Date: 29.JUN.2022 15:51:02

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To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.0-1.61GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 09:10:48

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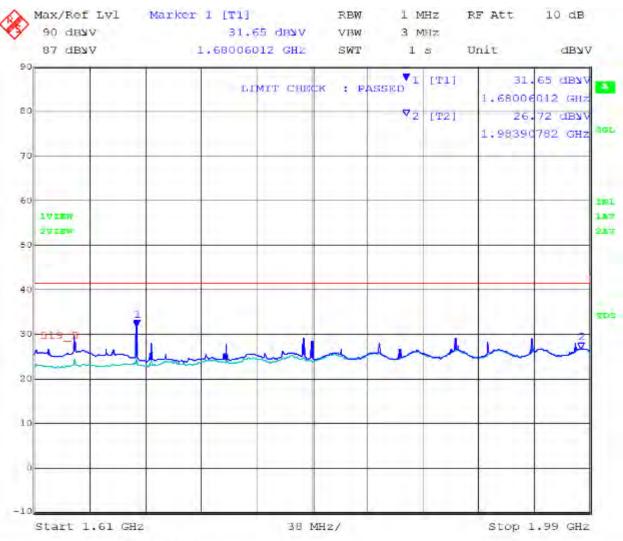
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 09:28:08

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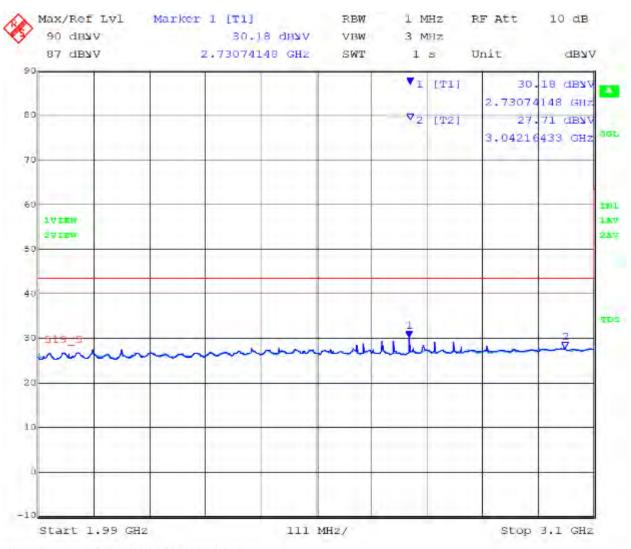
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 09:31:15

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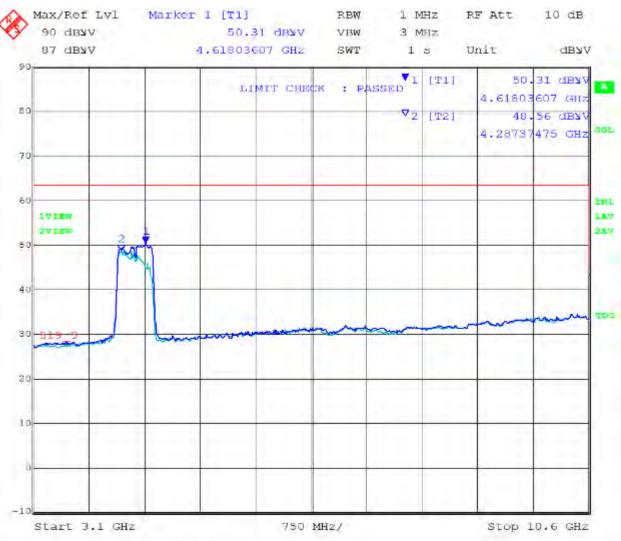
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 09:38:17

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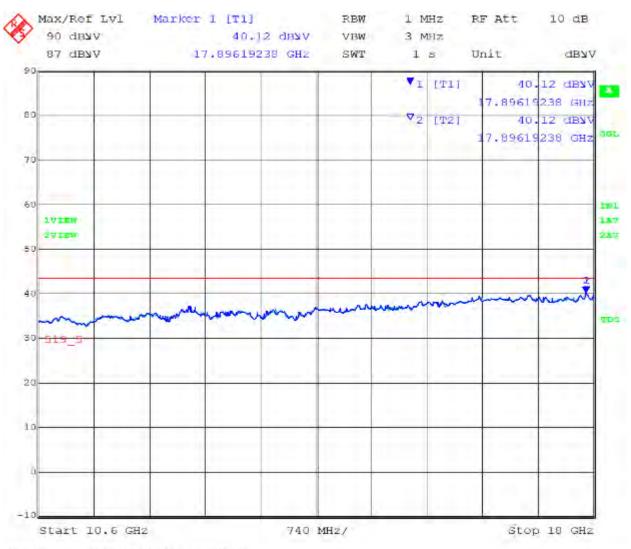
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 09:06:14

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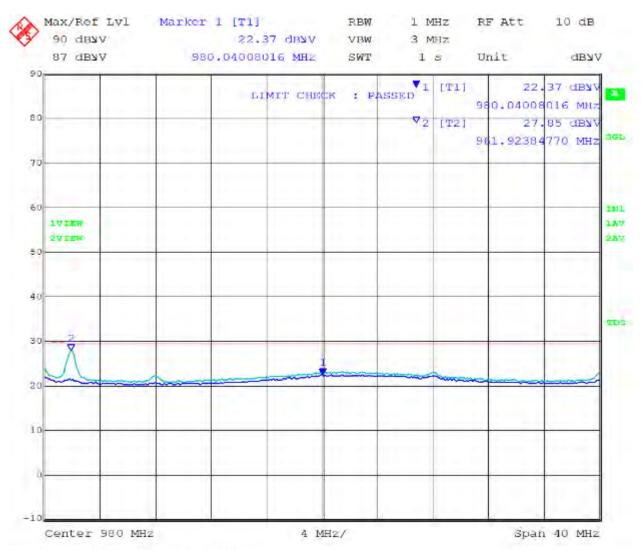
Serial #: ALER05-U2 Rev A

# A.1.10 Right Patch Antenna Band 3



# RADIATED SPURIOUS EMISSIONS 960-1000MHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 29.JUN.2022 16:11:37

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Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.0-1.61 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 09:55:32

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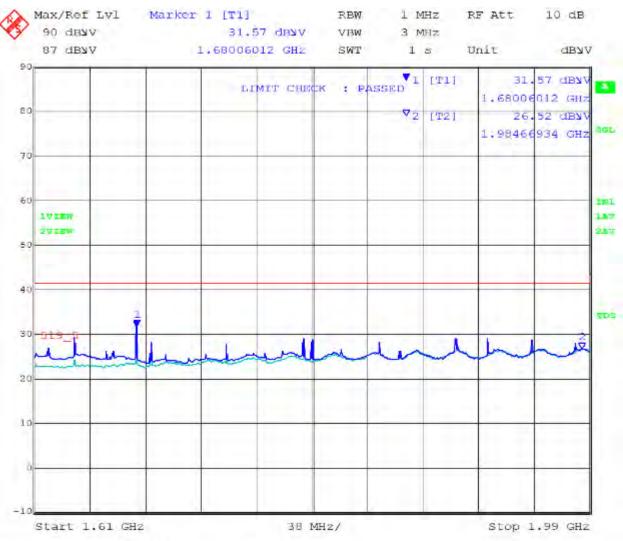
**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 10:00:42

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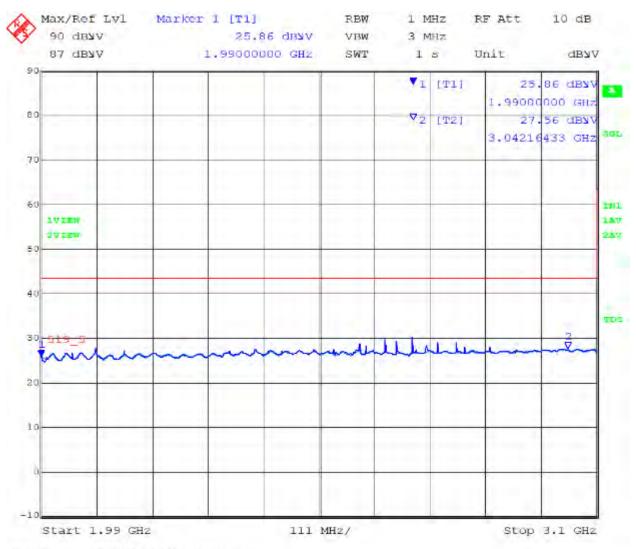
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 10:16:23

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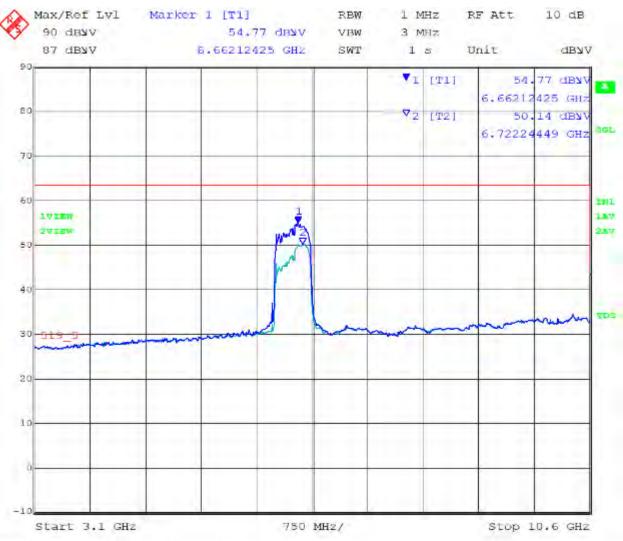
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 10:19:41

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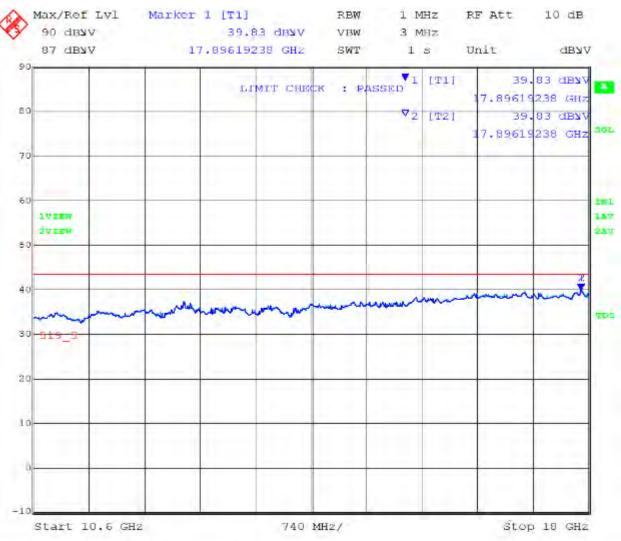
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 10:21:57

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Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 960-1000MHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 29.JUN.2022 16:12:17

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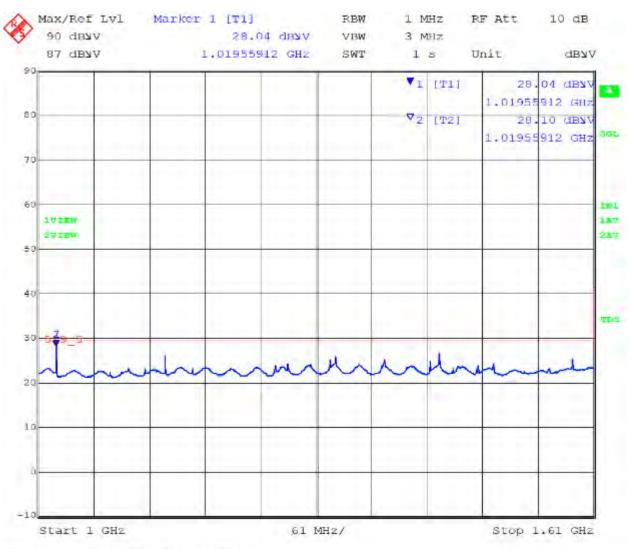
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.0-1.61 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 11:14:12

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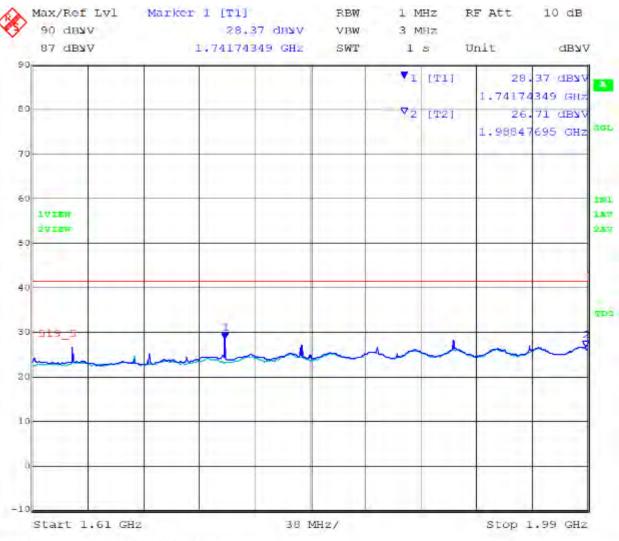
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 11:15:28

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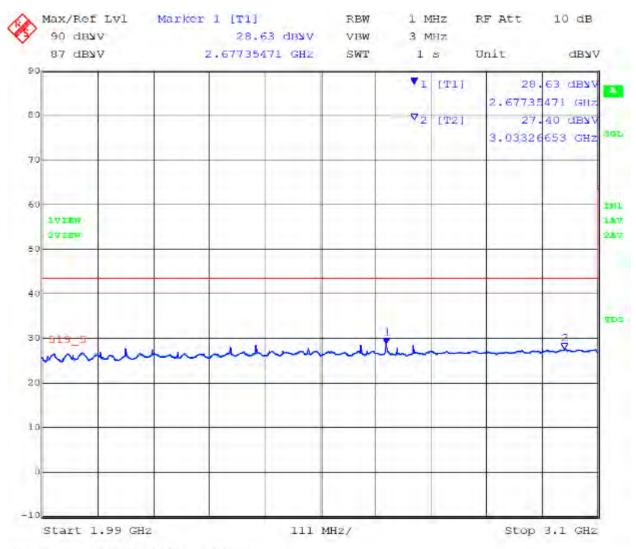
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 11:21:04

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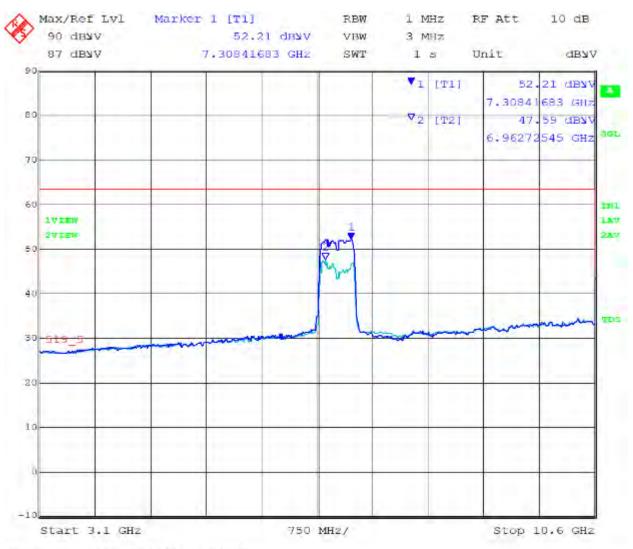
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 11:28:52

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To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 11:30:15

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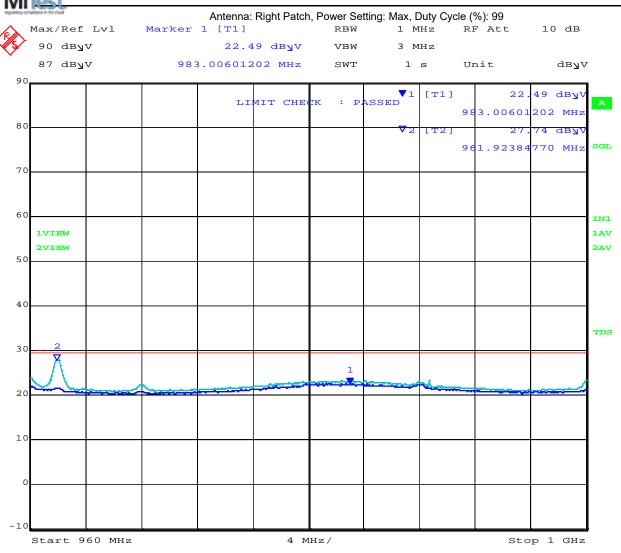
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A

# A.1.12 Right Patch Antenna Bands 3 & 6

# A Property of

# RADIATED SPURIOUS EMISSIONS 960-1000MHz



Date: 29.JUN.2022 16:13:19

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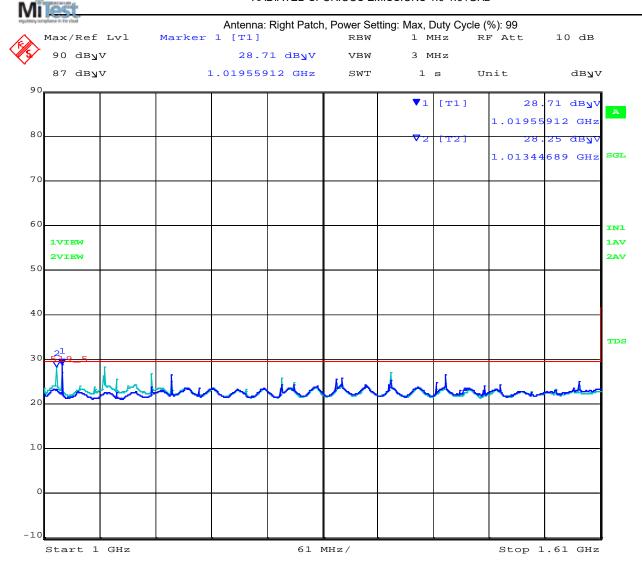
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Serial #: ALER05-U2 Rev A

# RADIATED SPURIOUS EMISSIONS 1.0-1.61GHz



Date: 30.JUN.2022 11:42:53

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Serial #: ALER05-U2 Rev A

# RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Miles Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl Marker 1 [T1] 1 MHz RF Att RBW 10 dB 90 dbyv 3 MHz 26.41 dByV VBW 87 dByV 1.98695391 GHz SWT Unit dBy∇ 1 s V1 [T1] 41 dB אַז 1.98695391 GHz 80 26.60 dBy 1.98466934 GHz SGL 60 IN1 1VIEW 1AV 2VIEW 2AV 50 40 TDS 30 10 Start 1.61 GHz 38 MHz/ Stop 1.99 GHz

Date: 30.JUN.2022 11:38:40

# **Back to Matrix**

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Serial #: ALER05-U2 Rev A

# RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Miles Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl Marker 1 [T1] 1 MHz RF Att RBW 10 dB 90 dbyv 3 MHz 27.25 dByV VBW 87 dByV 3.03326653 GHz SWT Unit dBy∇ 1 s V1 [T1] 25 dBy\ 3.03326 653 GHz 80 31 dB**y** 3.03104208 GHz SGL 60 IN1 1VIEW 1AV 2VIEW 2AV 40 TDS 30 10 Start 1.99 GHz 111 MHz/ Stop 3.1 GHz

Date: 30.JUN.2022 11:37:40

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**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A

# RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Miles Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl Marker 1 [T1] 1 MHz RBW 10 dB RF Att 90 dbyv 55.01 dByV VBW 3 MHz 87 dByV 7.48877756 GHz SWT Unit dBy∇ 1 s V1 [T1] 01 dByV 7.48877 756 GH2 80 dBy 7.80440<mark>882 GHz</mark> SGL IN1 1AV 1VIEW 2VIEW 2AV 40 TDS 30 10 Start 3.1 GHz 750 MHz/ Stop 10.6 GHz

Date: 30.JUN.2022 11:35:59

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**To:** FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A

# RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Miles Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl Marker 1 [T1] 1 MHz RBW 10 dB RF Att 90 dbyv 3 MHz 39.68 dByV VBW 87 dByV 17.89619238 GHz SWT Unit dBy∇ 1 s V1 [T1] 68 dB**y**7 7.89619 238 GH2 80 dBy 7.89619238 GHz SGL IN1 1AV 1VIEW 2VIEW 2AV 40 TDS 30 10 Start 10.6 GHz 740 MHz/ Stop 18 GHz

Date: 30.JUN.2022 11:31:31

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Serial #: ALER05-U2 Rev A

# A.1.11 Right Patch Antenna Band 6



# RADIATED SPURIOUS EMISSIONS 960-1000MHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 29.JUN.2022 16:26:38

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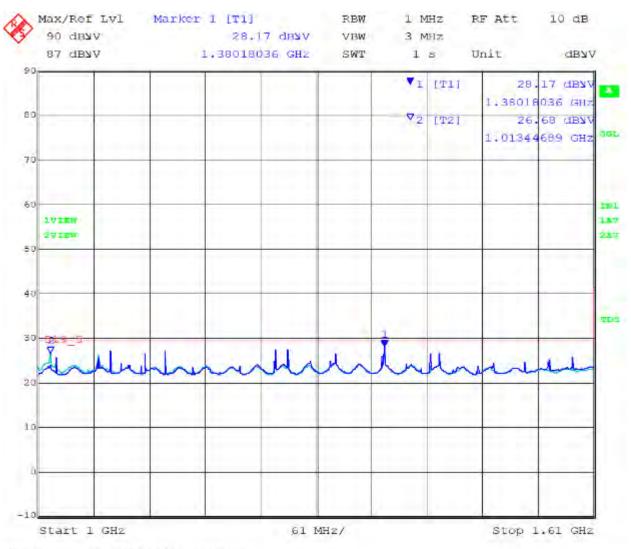
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.0-1.61GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 13:40:34

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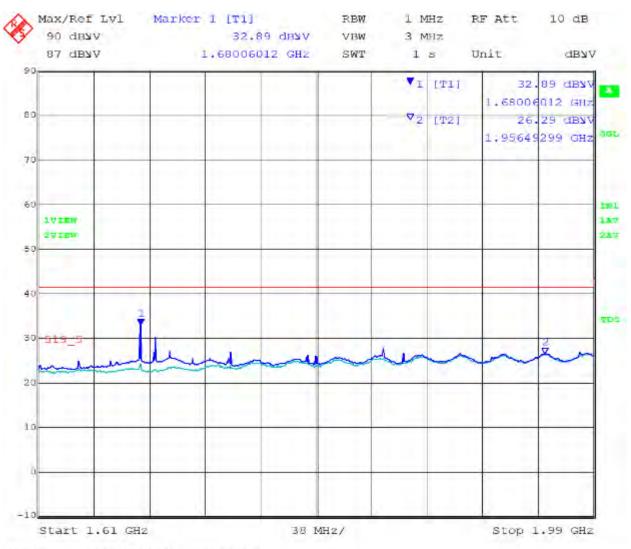
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 14:04:47

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Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 14:11:26

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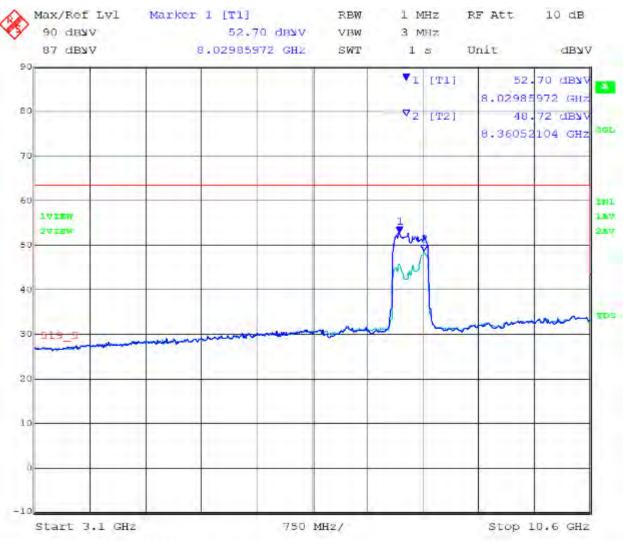
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 14:16:16

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To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 14:25:56

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Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 960-1000MHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 29.JUN.2022 16:28:40

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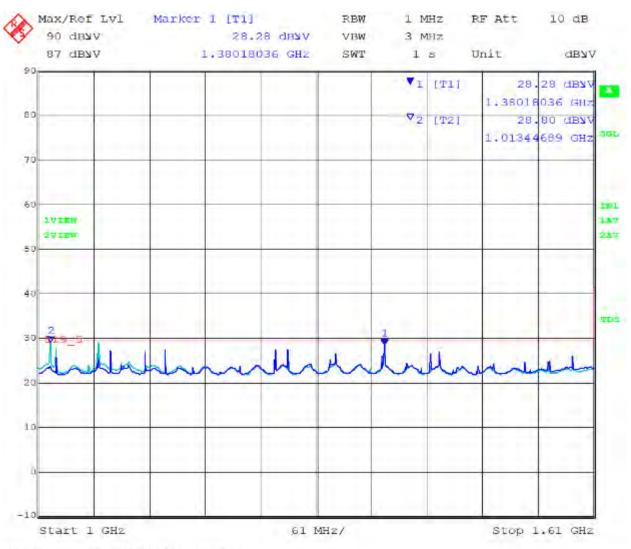
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



# RADIATED SPURIOUS EMISSIONS 1.0-1.61GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 13:42:15

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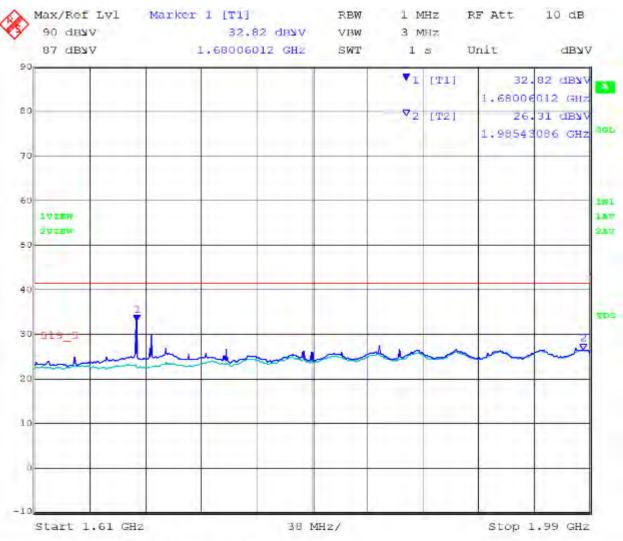
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.61-1.99GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 14:06:49

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#### RADIATED SPURIOUS EMISSIONS 1.99-3.10GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 14:10:09

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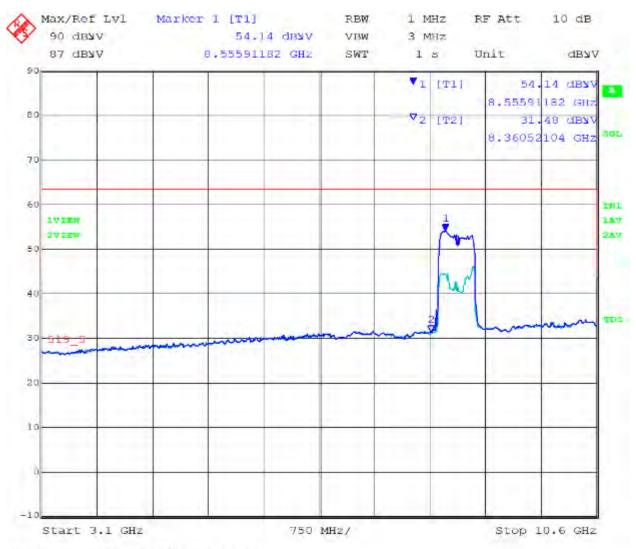
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 3.10-10.60 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 14:18:20

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Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 10.60-18.00 GHz

Antenna: Right Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 30.JUN.2022 14:25:13

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Stop 1.24 GHz

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# A.2 GPS Transmitter Spurious Emissions

## A.2.1 Membrane Patch Antenna Band 1 GPS

## RADIATED SPURIOUS EMISSIONS 1.164-1.240GHz Dual Patch, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl 10 kHz Marker 1 [T1] RF Att 10 dB RBW 90 dByV 5.93 dByV VBW 30 kHz 87 dByV 1.23208016 GHz SWT 1.9 s Unit dвуV **V**1 [T1] .93 dBy 1.23208<mark>016 GH</mark>2 80 1.19994389 GHz SGL 70 60 1AV 1VIEW 2AV 2VIEW 5 ( 40 TDS 30 2.0 1.0

Date: 5.JUL.2022 11:30:20

Start 1.164 GHz

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- 1 C

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7.6 MHz/



**To:** FCC CFR 47 Part 15 Subpart F 15.519

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### RADIATED SPURIOUS EMISSIONS 1.559-1.610GHz

Mi Te Dual Patch, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW 10 kHz RF Att Marker 1 [T1] 10 dB 90 dbyv 9.61 dByV VBW 30 kHz 87 dByV 1.55991984 GHz SWT 1.3 s Unit dBy∇ **▼**1 [T1] 61 dBy 1.55991984 GH2 80 dB**y** 1.55991984 GHz SGL 60 IN1 1VIEW 1AV 2VIEW 2AV 50 40 TDS 30 10 Start 1.559 GHz 5.1 MHz/ Stop 1.61 GHz

Date: 5.JUL.2022 13:33:38

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Stop 1.24 GHz

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### RADIATED SPURIOUS EMISSIONS 1.164-1.240GHz

Miles Dual Patch, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl Marker 1 [T1] RBW 10 kHz RF Att 10 dB 90 dByV 7.58 dByV VBW 30 kHz 87 dByV 1.16993988 GHz SWT 1.9 s Unit dBy∇ V1 [T1] 58 dB**y**7 1.16993988 GH2 80 dBy 1.19994389 GHz SGL 60 IN1 1VIEW 1AV 2VIEW 2AV 50 40 TDS 30

7.6 MHz/

Date: 5.JUL.2022 11:31:13

Start 1.164 GHz

# **Back to Matrix**

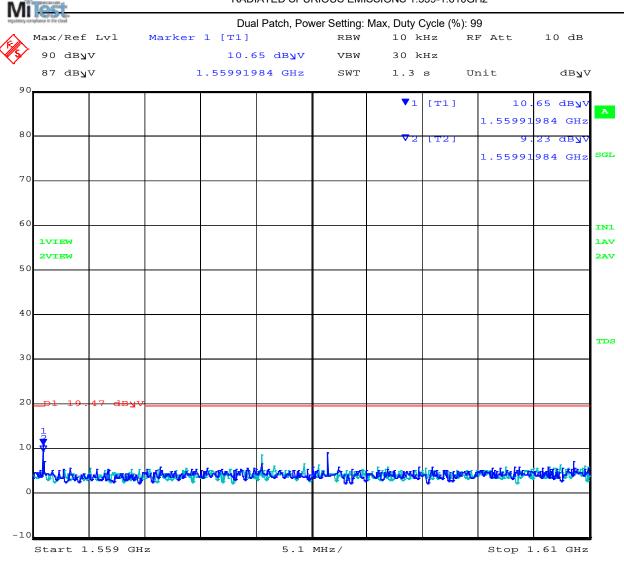
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# RADIATED SPURIOUS EMISSIONS 1.559-1.610GHz



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Serial #: ALER05-U2 Rev A

### RADIATED SPURIOUS EMISSIONS 1.164-1.240GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl Marker 1 [T1] RBW 10 kHz RF Att 90 dB**y**V 7.80 dByV 30 kHz VBW 87 dByV 1.16993988 GHz 1.9 s SWT Unit dByV **▼**1 [T1] 80 dBy 1.16993988 GHz 80 1.16993988 GHz SGL 70 1VIEW 1AV 2AV 2VIEW 50 40 TDS 30 10 Start 1.164 GHz 7.6 MHz/ Stop 1.24 GHz

Date: 5.JUL.2022 11:38:27

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### RADIATED SPURIOUS EMISSIONS 1.559-1.610GHz

Mi Te Dual Patch, Power Setting: Max, Duty Cycle (%): 99 Max/Ref Lvl RBW 10 kHz RF Att Marker 1 [T1] 10 dB 90 dbyv 9.97 dByV VBW 30 kHz 87 dByV 1.55991984 GHz SWT 1.3 s Unit dBy∇ **▼**1 [T1] 97 dBy 1.55991984 GHz 80 dB**y** 1.55991984 GHz SGL 60 IN1 1VIEW 1AV 2VIEW 2AV 50 40 TDS 30 Start 1.559 GHz 5.1 MHz/ Stop 1.61 GHz

Date: 5.JUL.2022 13:37:09

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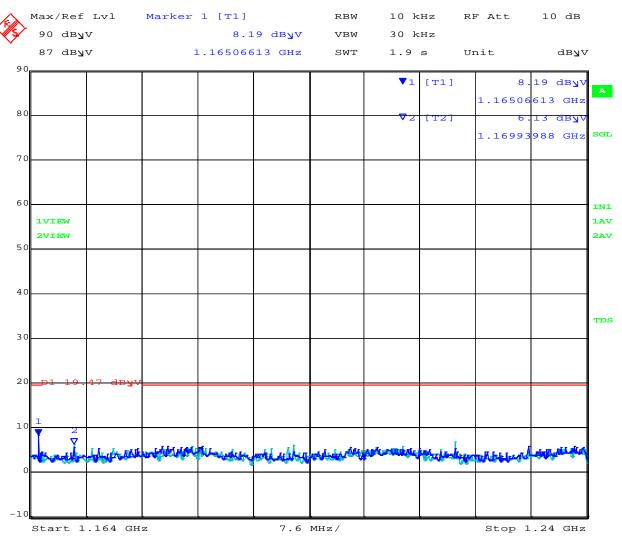
Serial #: ALER05-U2 Rev A

### A.2.2 Membrane Patch Antenna Band 3 GPS



### RADIATED SPURIOUS EMISSIONS 1.164-1.240GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 11:43:52

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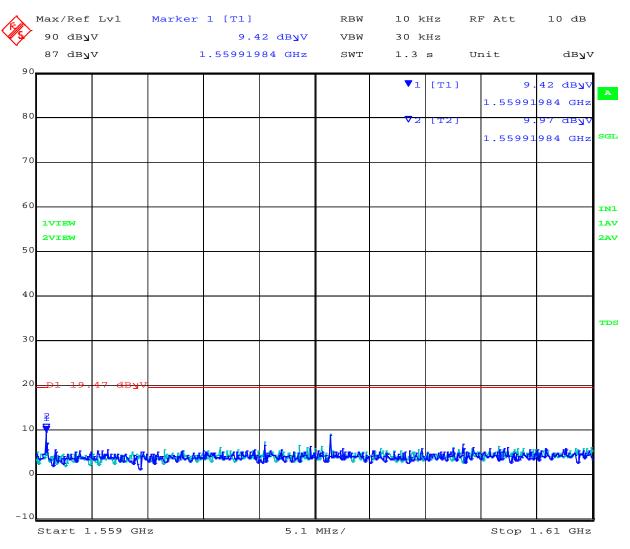
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.559-1.610GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 13:29:09

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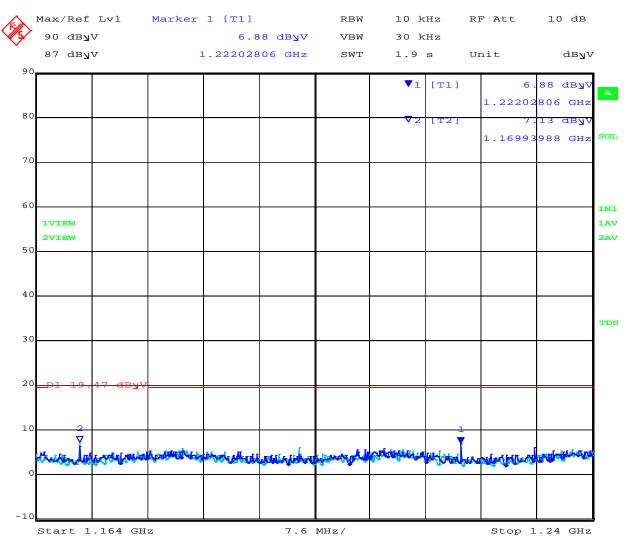
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



### RADIATED SPURIOUS EMISSIONS 1.164-1.240GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 13:07:56

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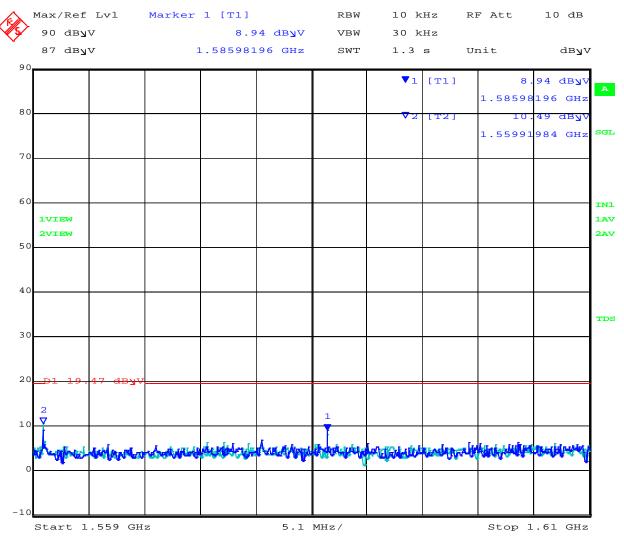
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.559-1.610GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



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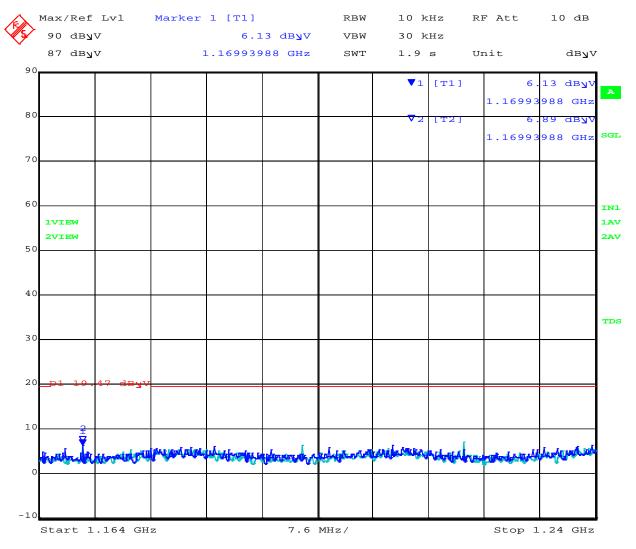
Serial #: ALER05-U2 Rev A

### A.2.3 Membrane Patch Antenna Band 3 & 6 GPS



#### RADIATED SPURIOUS EMISSIONS 1.164-1.240GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 13:08:43

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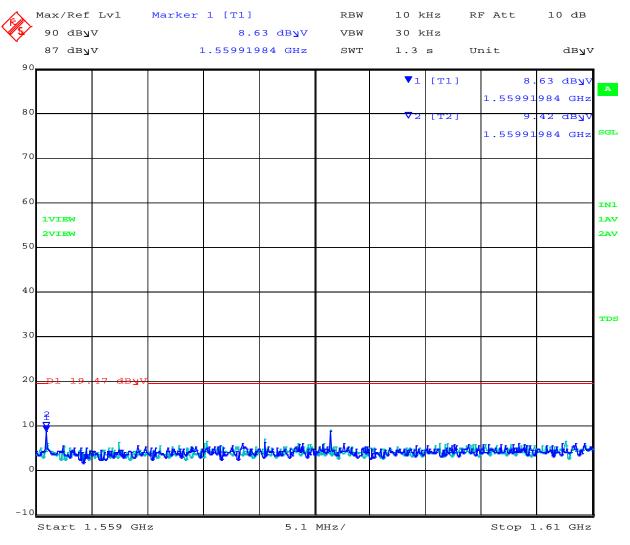
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



#### RADIATED SPURIOUS EMISSIONS 1.559-1.610GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 13:17:32

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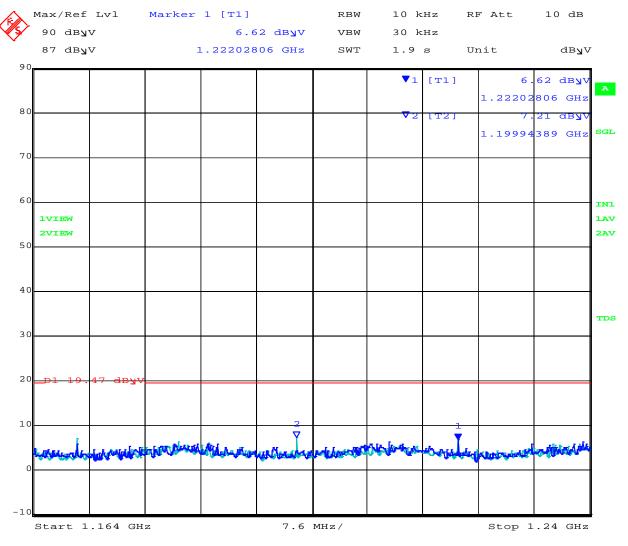
Serial #: ALER05-U2 Rev A

## A.2.4 Membrane Patch Antenna Band 6 GPS



### RADIATED SPURIOUS EMISSIONS 1.164-1.240GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 13:09:43

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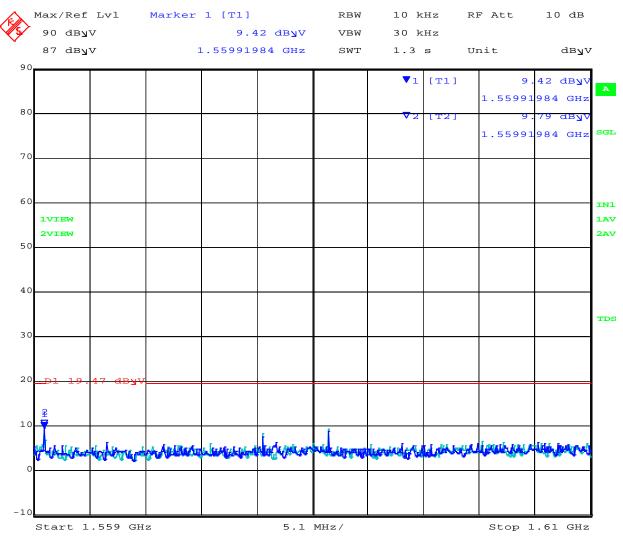
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



### RADIATED SPURIOUS EMISSIONS 1.559-1.610GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 13:15:08

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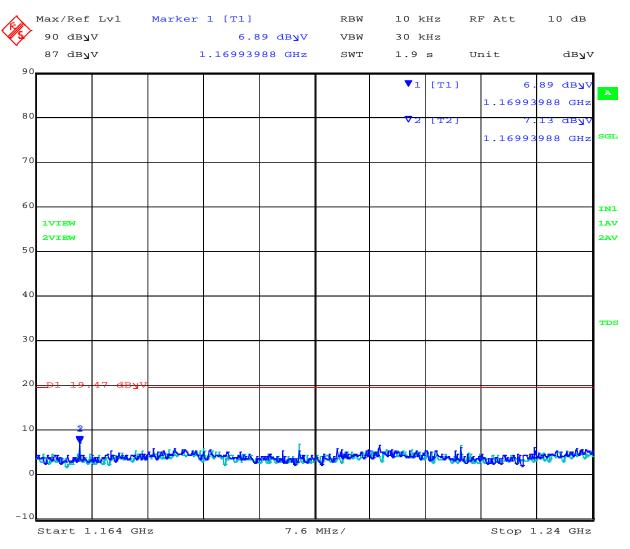
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



### RADIATED SPURIOUS EMISSIONS 1.164-1.240GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 13:10:38

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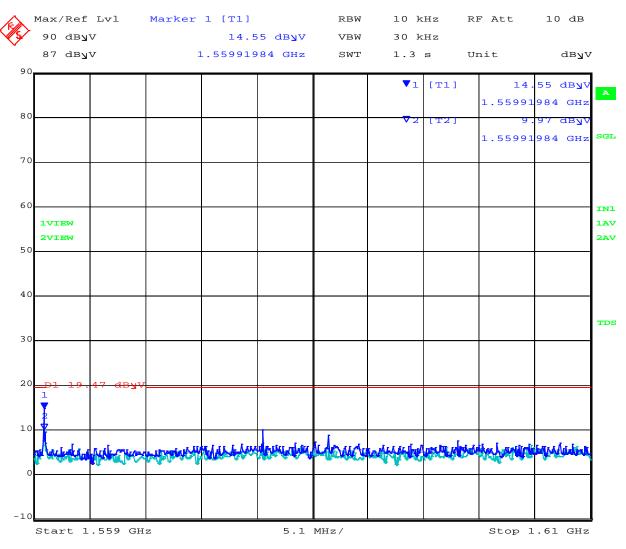
To: FCC CFR 47 Part 15 Subpart F 15.519

Serial #: ALER05-U2 Rev A



### RADIATED SPURIOUS EMISSIONS 1.559-1.610GHz

Dual Patch, Power Setting: Max, Duty Cycle (%): 99



Date: 5.JUL.2022 13:12:11

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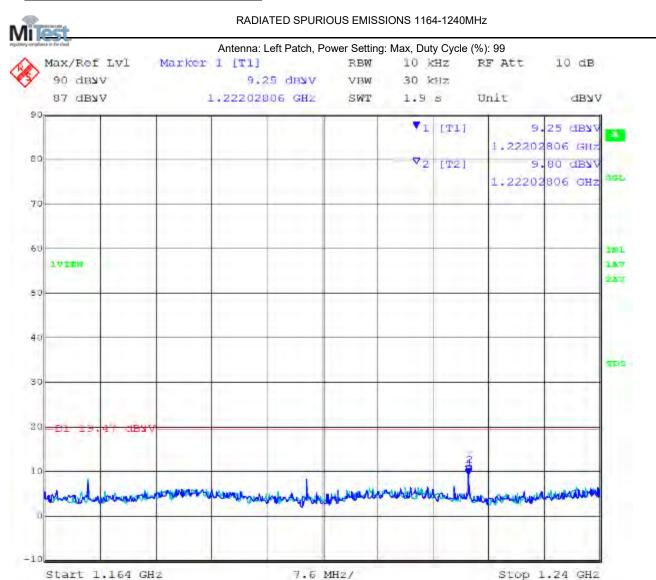
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# A.2.5 Left Patch Antenna Band 1 GPS



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1.JUL.2022 08:56:24

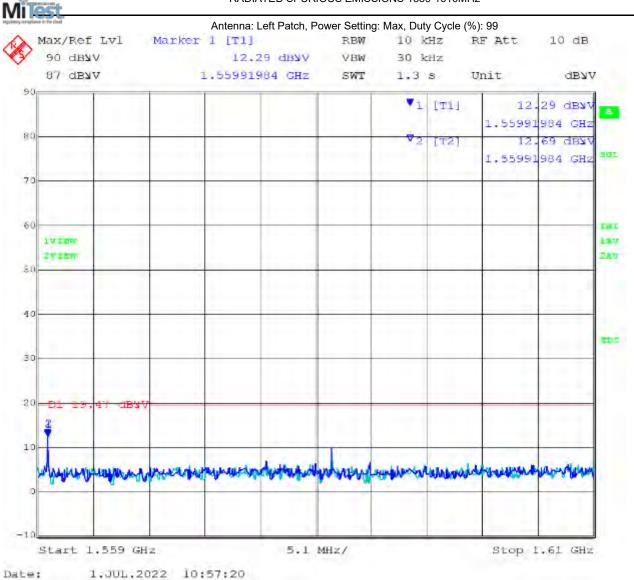
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### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



**Back to Matrix** 

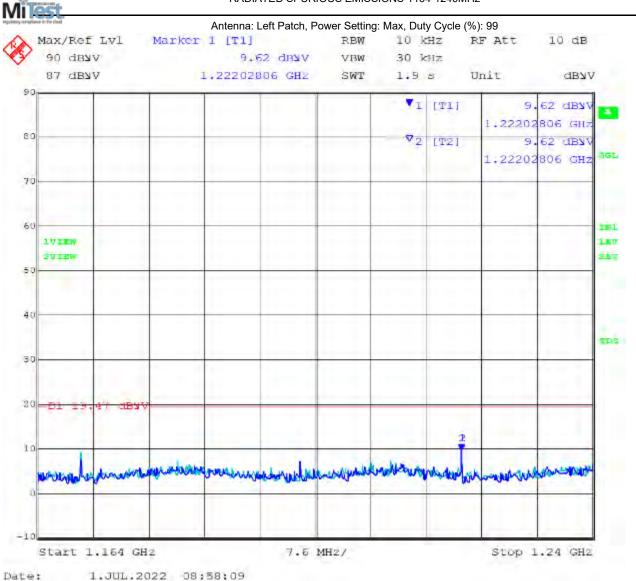
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### RADIATED SPURIOUS EMISSIONS 1164-1240MHz



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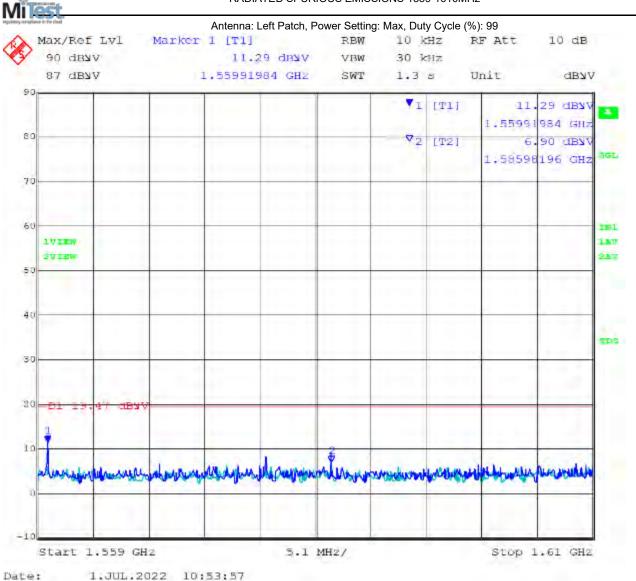
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### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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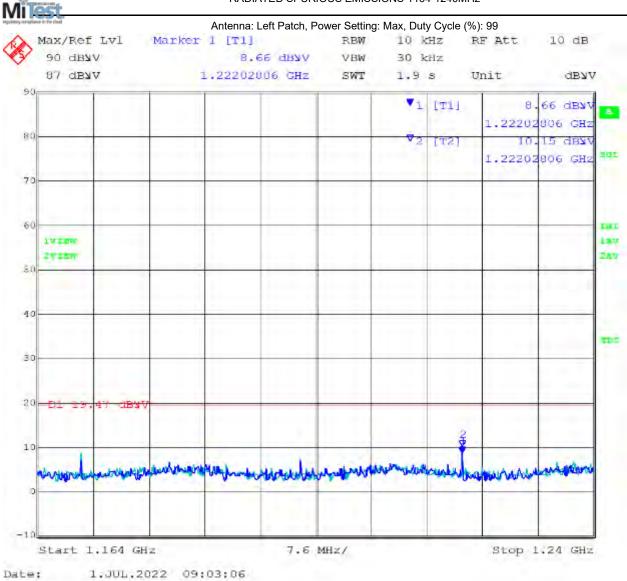
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### RADIATED SPURIOUS EMISSIONS 1164-1240MHz



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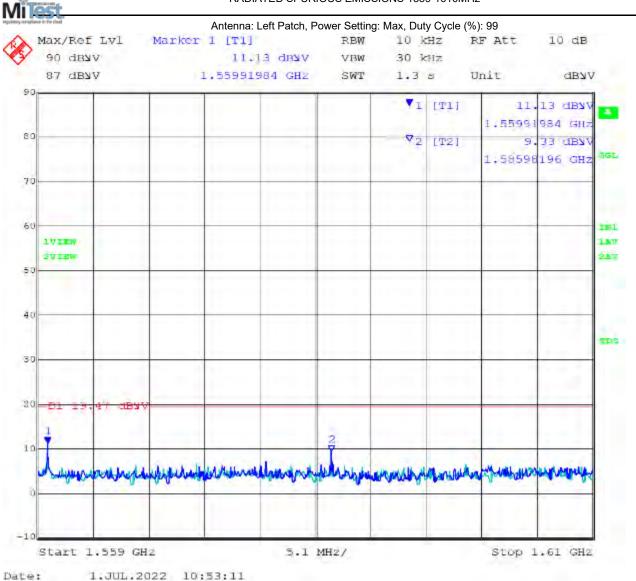
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### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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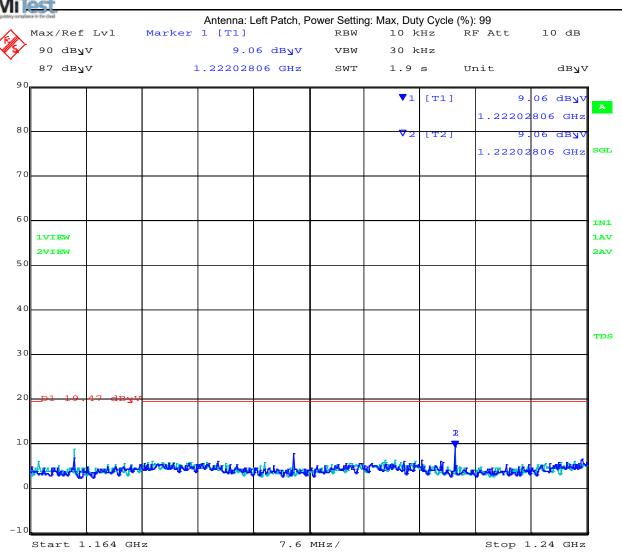


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Serial #: ALER05-U2 Rev A

# A.2.6 Left Patch Antenna Band 3 GPS

# RADIATED SPURIOUS EMISSIONS 1164-1240MHz



Date: 1.JUL.2022 09:23:59

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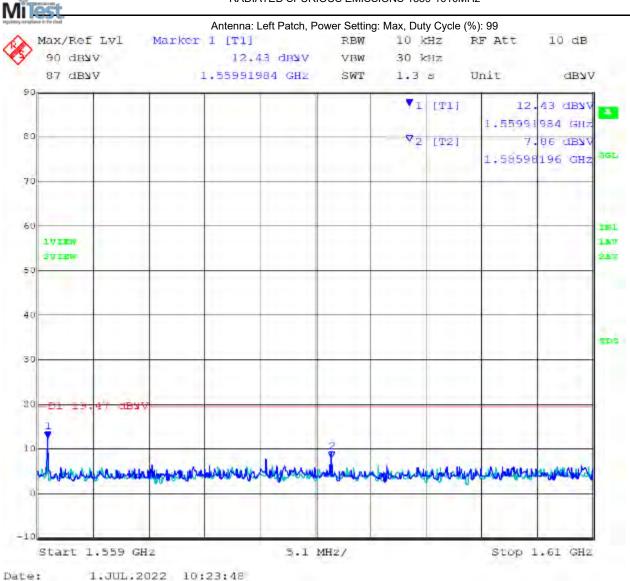
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### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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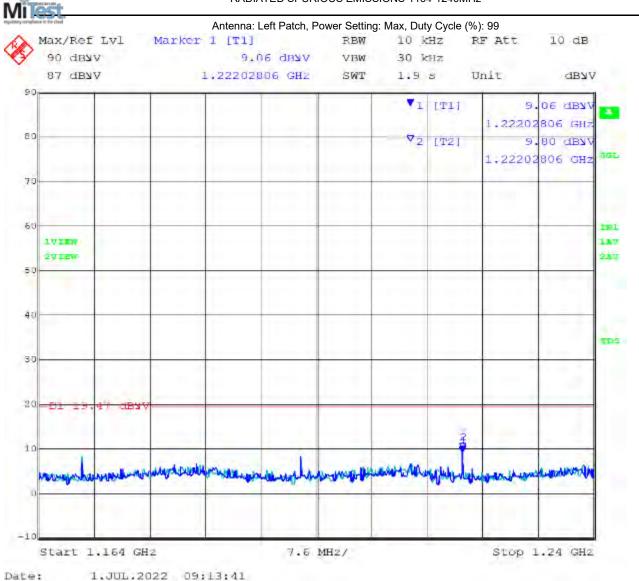
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### RADIATED SPURIOUS EMISSIONS 1164-1240MHz



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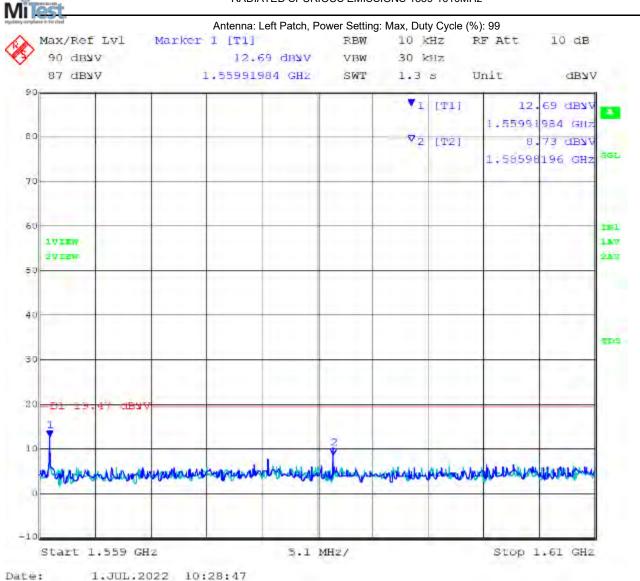
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### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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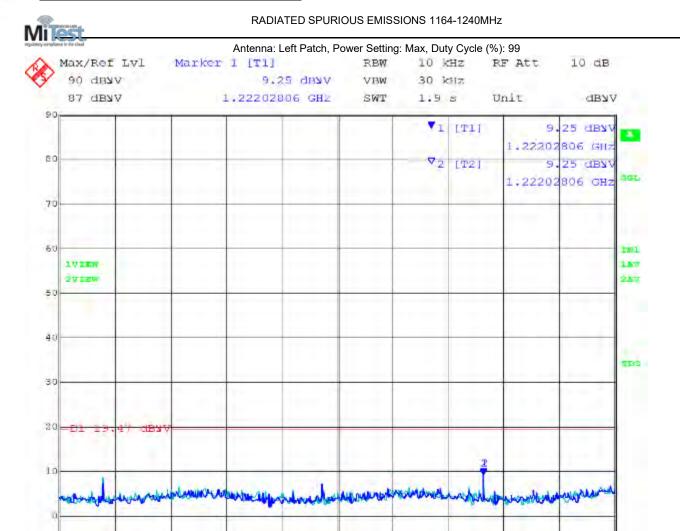


Stop 1.24 GHz

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# A.2.7 Left Patch Antenna Band 3 & 6 GPS



Date: 1.JUL.2022 09:05:54

Start 1.164 GHz

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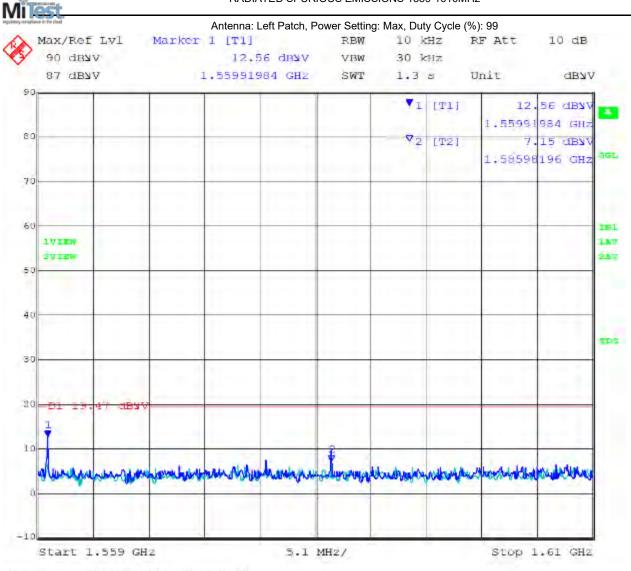
7.6 MH2/



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### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



Date: 1.JUL.2022 10:43:39

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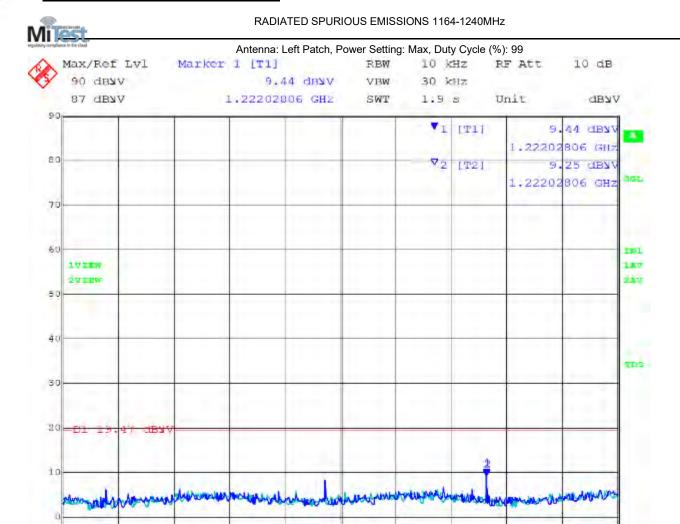


Stop 1.24 GHz

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# A.2.8 Left Patch Antenna Band 6 GPS



Date: 1.JUL.2022 09:52:51

Start 1.164 GHz

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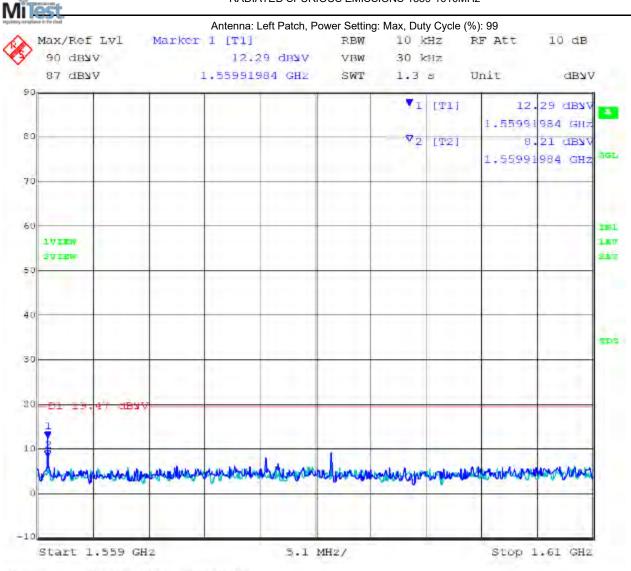
7.5 MH2/



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Serial #: ALER05-U2 Rev A

### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



Date: 1.JUL.2022 10:22:02

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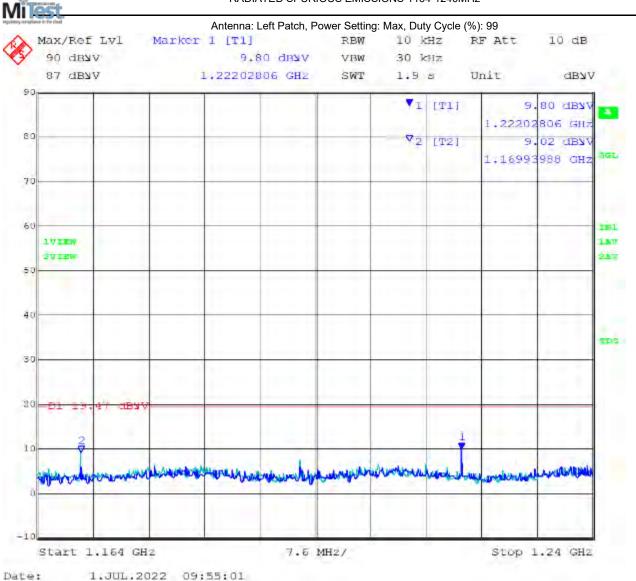
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### RADIATED SPURIOUS EMISSIONS 1164-1240MHz



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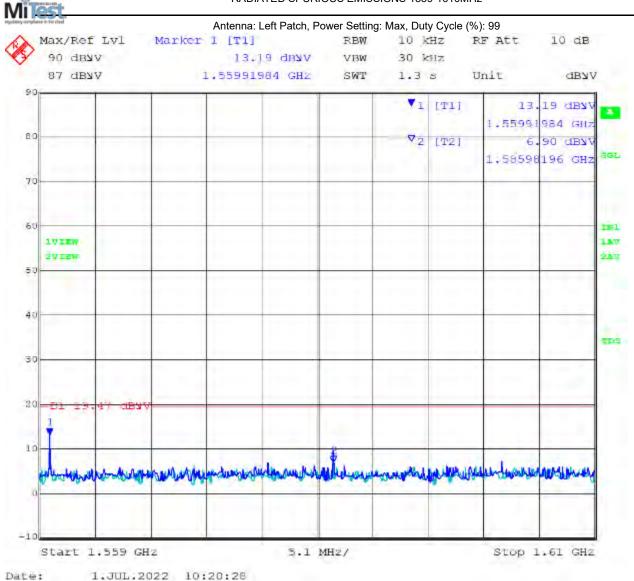
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### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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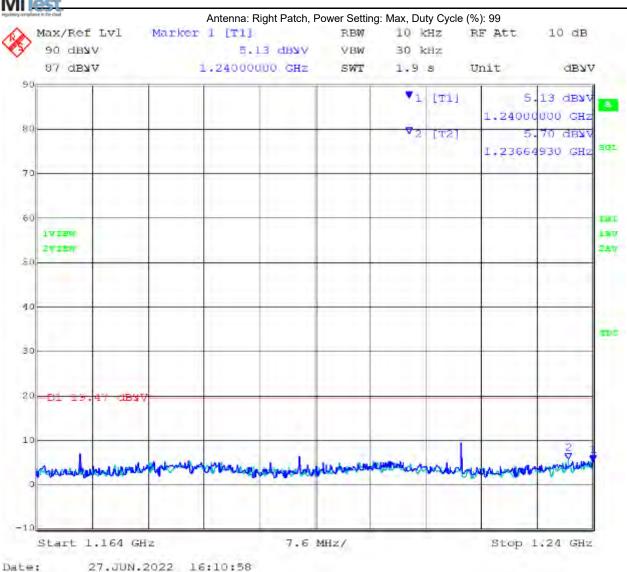


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Serial #: ALER05-U2 Rev A

### A.2.9 Right Patch Antenna Band 1 GPS





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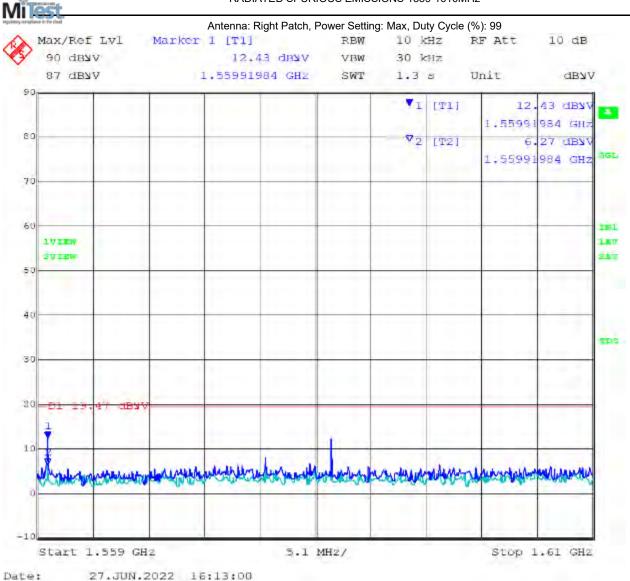
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#### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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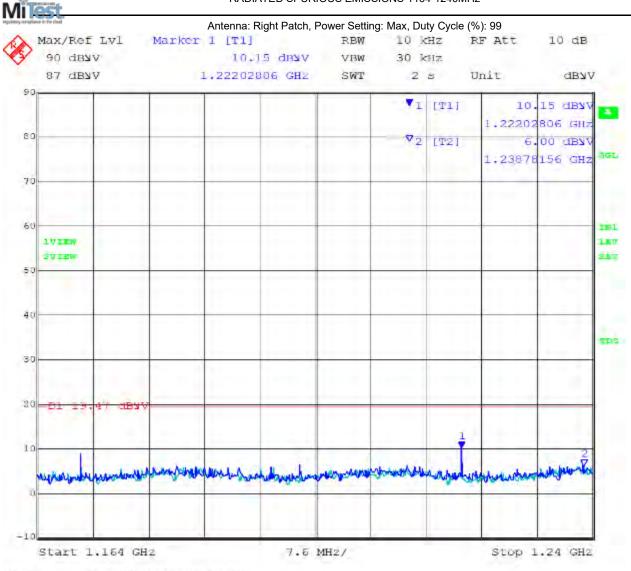
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#### RADIATED SPURIOUS EMISSIONS 1164-1240MHz



Date: 28.JUN.2022 08:59:01

**Back to Matrix** 

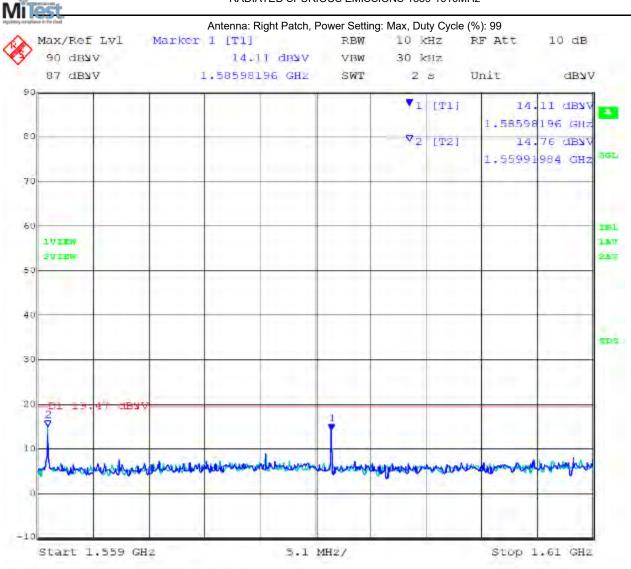
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#### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



Date: 28.JUN.2022 08:36:04

**Back to Matrix** 

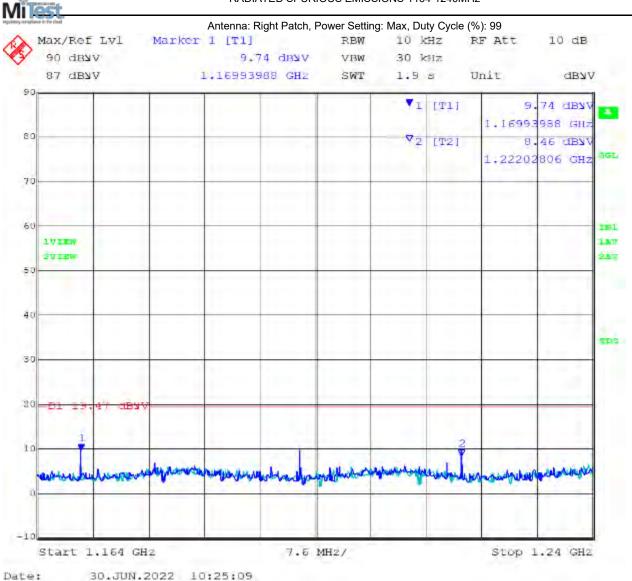
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#### RADIATED SPURIOUS EMISSIONS 1164-1240MHz



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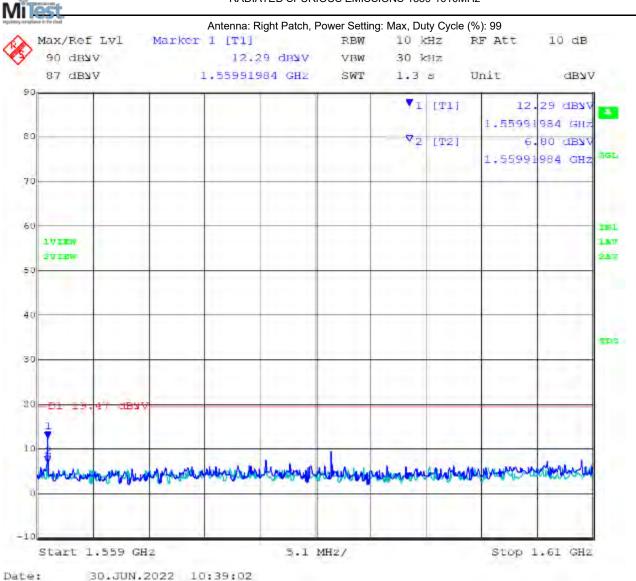
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#### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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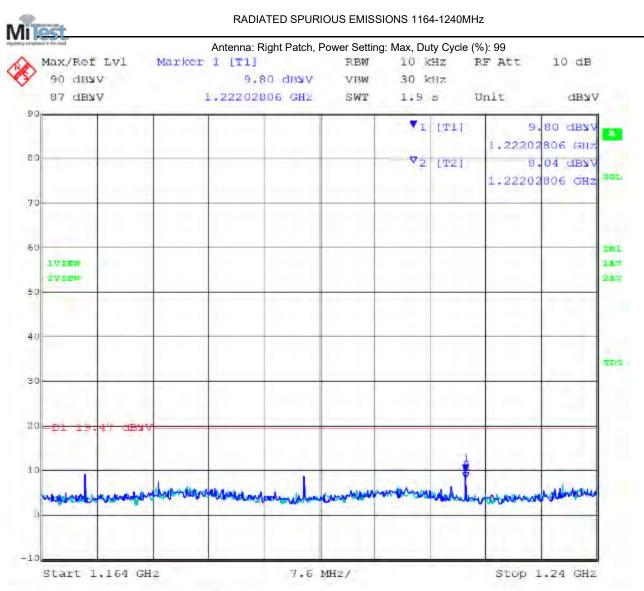
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# A.2.10 Right Patch Antenna Band 3 GPS



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30.JUN.2022 10:23:58

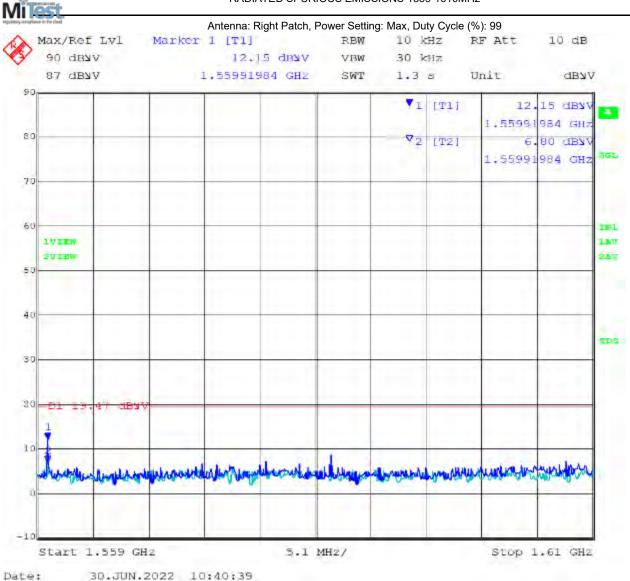
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#### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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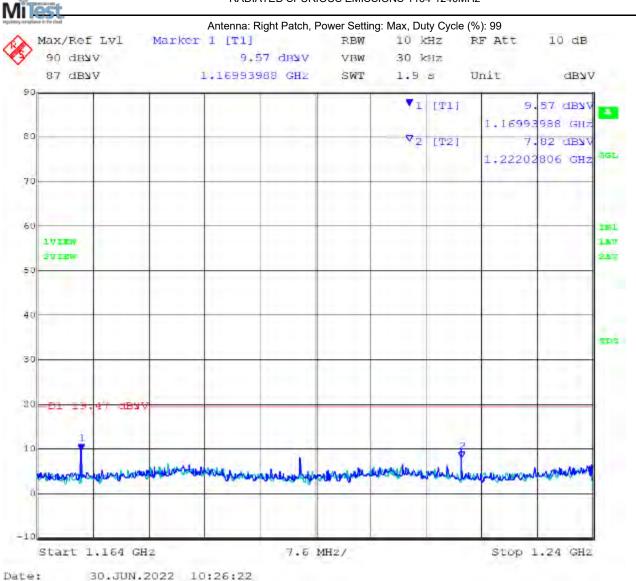
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#### RADIATED SPURIOUS EMISSIONS 1164-1240MHz



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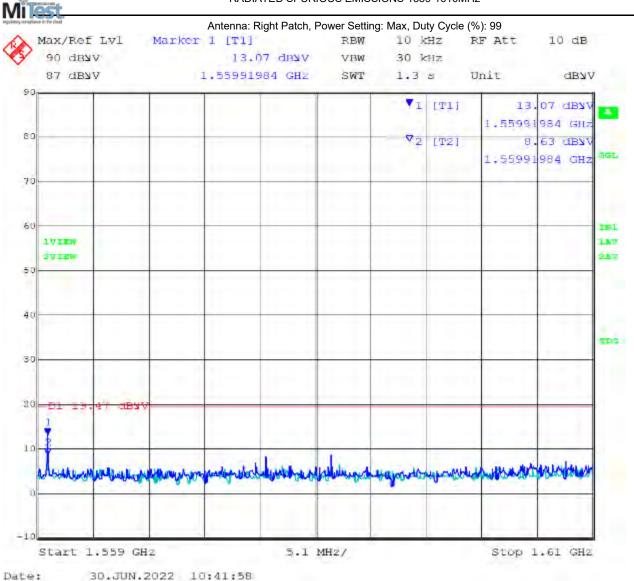
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#### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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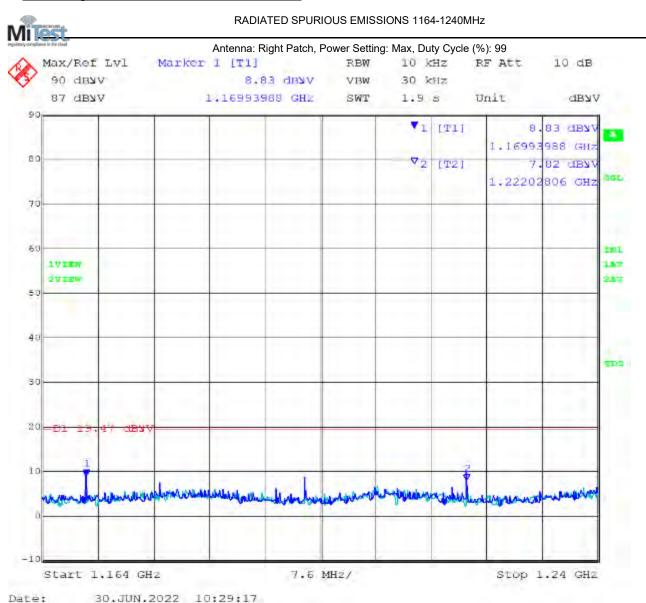
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## A.2.11 Right Patch Antenna Band 3 & 6 GPS



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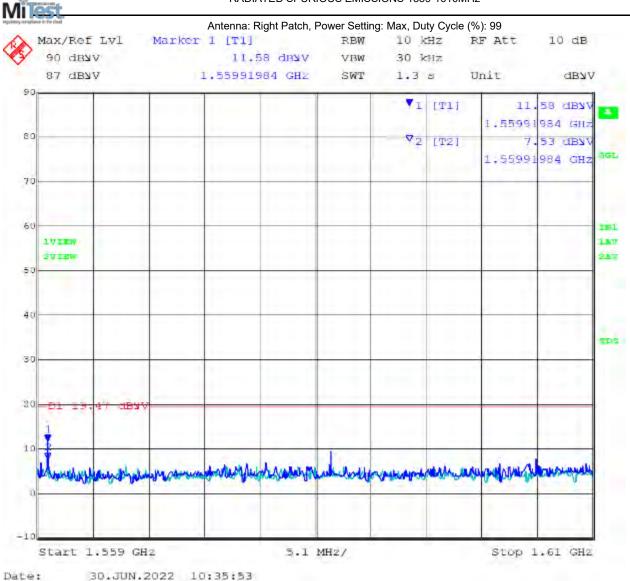
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#### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



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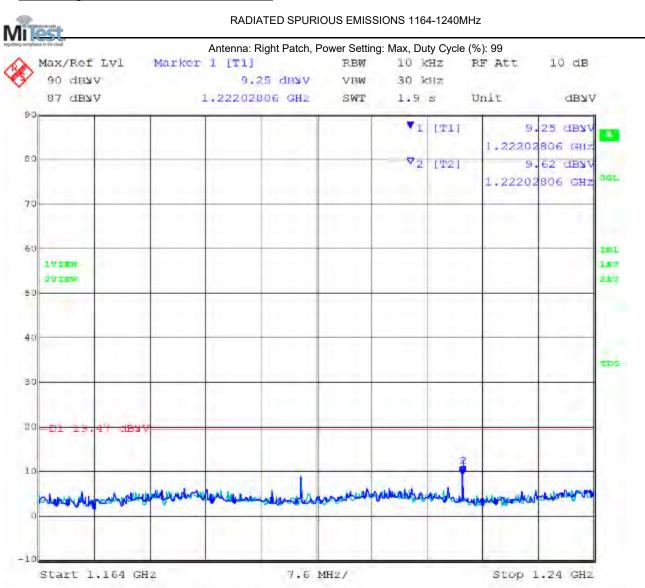
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## A.2.12 Right Patch Antenna Band 6 GPS



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Date:

30.JUN.2022 16:18:05

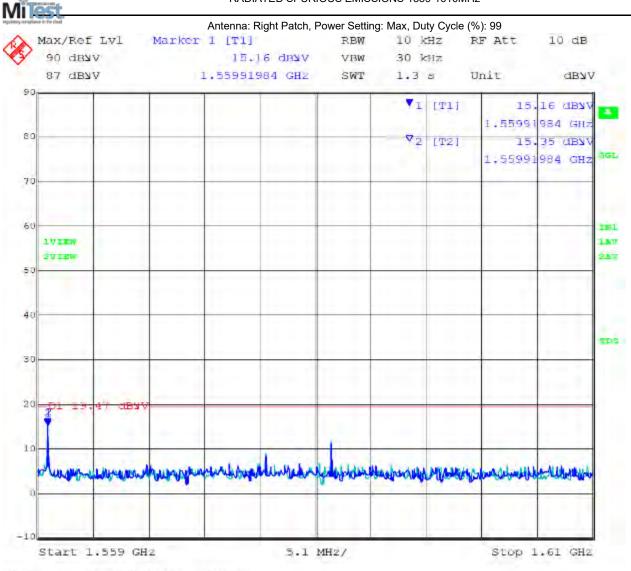
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#### RADIATED SPURIOUS EMISSIONS 1559-1610MHz



Date: 30.JUN.2022 16:21:11

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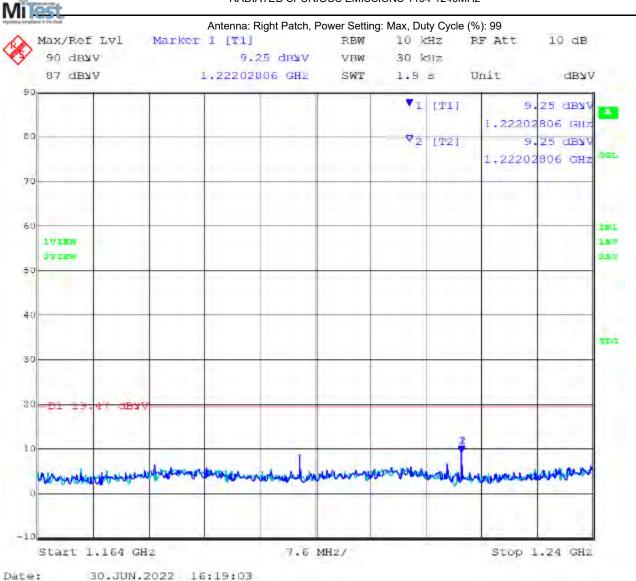
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#### RADIATED SPURIOUS EMISSIONS 1164-1240MHz



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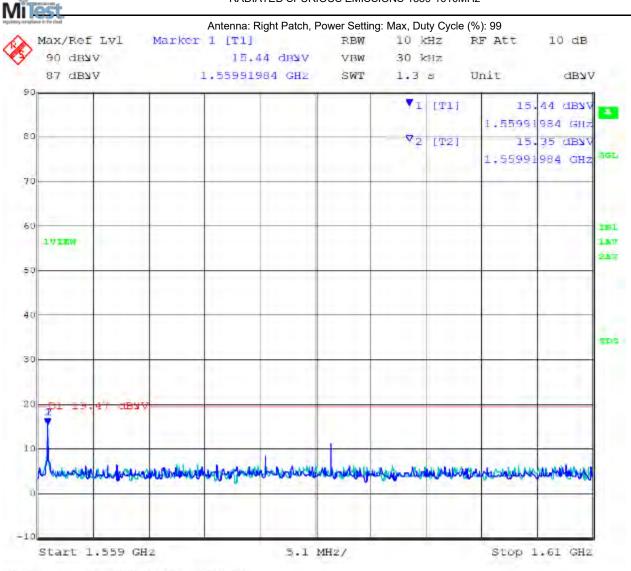
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