



VERIFICATION TEST REPORT

FCC Part 22, 24, 27, 90
IC RSS 130, 132, 133, 139

Report No.: LYFT14-U6 Rev A

Company: Lyft, Inc.

Model: BIT-01-2

VERIFICATION TEST REPORT

Company: Lyft, Inc.

Model: BIT-01-2

Standard: FCC Part 22, 24, 27, 90 & ISSED RSS 130, 132, 133, 139

Test Report Serial No.: LYFT14-U6 Rev A

This report supersedes: NONE

Applicant: Lyft, Inc
185 Berry St #5000
San Francisco,
California 94107
USA

Issue Date: 16th July 2022

This Test Report is Issued Under the Authority of:

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MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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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>



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)	TCB	-	US0159 Test Firm Designation#: US1084
Canada	Industry Canada (ISED)	FCB	APEC MRA 2	US0159 ISED#: 4143A
Japan	MIC (Ministry of Internal Affairs and Communication)	CAB	Japan MRA 2	RCB 210
	Japan Approvals Institute for Telecommunication Equipment (JATE)			
	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)	CAB	APEC MRA 1	US0159
Hong Kong	Office of the Telecommunication Authority (OFTA)			
Korea	Ministry of Information and Communication Radio Research Laboratory (RRL)			
Singapore	Infocomm Development Authority (IDA)			
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 Phase I - recognition for product testing

MRA Phase II – recognition for both product testing and certification

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) www.a2la.org test laboratory number 2381.02. MiCOM Labs test schedule is available at the following URL; <http://www.a2la.org/scopepdf/2381-02.pdf>



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

2. DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	5th July 2022	Draft report for client review.
Rev A	16 th July 2022	Initial Release

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

3. TEST RESULT CERTIFICATE

Manufacturer: Lyft, Inc 185 Berry St #5000 San Francisco California 94107 USA	Tested By: MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model: BIT-01-2	Telephone: +1 925 462 0304
Equipment Type: Bicycle Interface Module	Fax: +1 925 462 0306
S/N's: FK1924WSAM5010913 FK1938WSSF6016027	
Test Date(s): 17 th - 22 nd June 2022	Website: www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC Part 22, 24, 27, 90 & ISSED RSS 130, 132, 133, 139	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.

4. REFERENCES AND MEASUREMENT UNCERTAINTY

4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
I	A2LA	October 2020	R105 - Requirement's When Making Reference to A2LA Accreditation Status
II	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
III	M 3003	Edition 3 Nov.2012	Expression of Uncertainty and Confidence in Measurements
IV	KDB 412172 D01	August 7, 2015	EIRP and ERP are similarly defined as the product of the power supplied to the antenna and the antenna gain. The primary difference is that for ERP the antenna gain is expressed relative to an ideal half-wave dipole antenna, whereas with EIRP the antenna gain is expressed relative to an ideal (theoretical) isotropic antenna. EIRP and ERP can be expressed mathematically as described in the following sections.1
V	RSS-130 Issue 2	February 2019	RSS-130 Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz
VI	RSS-132 Issue 3	January 2013	RSS-132 Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz
VII	RSS-133 Issue 6, Amendment 1	January 2018	RSS-133 2GHz Personal Communications Services. This Radio Standards Specification (RSS) sets out the requirements for certification of transmitters and receivers used in radio communications systems to provide Personal Communications Services (PCS) in the bands 1850-1915 MHz and 1930-1995 MHz.
VIII	RSS-139 Issue 3	July 2015	RSS-139 Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz
IX	FCC Part 22H	June 10, 2022	Subpart H – Cellular Radio Telephone Service: The rules in this subpart govern the licensing and operation of cellular radiotelephone systems. (a) Block A: 824-835 MHz and 845-846.5 MHz (b) Block B: 835-845 MHz and 846.5-849 MHz
X	FCC Part 24E	June 10, 2022	Subpart E—Broadband PCS; (c) This subpart sets out the regulations licensing and operations of personal communications services authorized in the 1850-1910 and 1930-1990 MHz bands.
XI	FCC Part 27C, H	June 10, 2022	Miscellaneous Wireless Communications Services This part .. for the provision of wireless communications services in the following bands. (2) 746-758 MHz, 775-788 MHz, and 805-806 MHz. (3) 698-746 MHz, 1710-1755 MHz
XII	FCC Part 90S	June 10, 2022	Subpart S - Regulations Governing Licensing and Use of Frequencies in the 806-824, 851-869, 896-901, and 935-940 MHz Bands

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.

5. PRODUCT DETAILS AND TEST CONFIGURATIONS

5.1. Technical Details

Details	Description
Purpose:	Test of the Lyft, Inc.BIT-01-2 to requirements of FCC Part 22, 24E, 27C, 90S & ISSED RSS-130, 132, 133, 199
Applicant:	Lyft, Inc 185 Berry St #5000 San Francisco, California 94107 USA
Manufacturer:	Same as Applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	LYFT14-U6 Rev A
Date EUT received:	14 June 2022
Standard(s) applied:	FCC Part 22, 24E, 27C, 90S & ISSED RSS-130, 132, 133, 139
Dates of test (from - to):	17 th – 22 nd June 2022
No of Units Tested:	2
Type Of Equipment:	Bicycle Interface Module
Model(s):	BIT-01-2
Equipment Secondary Function(s):	None
Type of Technology:	IOT
Installation type:	Mobile installation
Construction/Location for Use:	Outdoor
Declared Frequency Range(s):	LTE Band 2:1850 - 1910 MHz; LTE Band 4: 1710 - 1755 MHz; LTE Band 5: 824-849 MHz LTE Band 12:699 - 716 MHz LTE Band 13: 777-787 MHz; LTE Band 25: 1850-1915 MHz; LTE Band 26: 814-849 MHz
Type of Modulation:	QPSK, 16QAM
Declared Nominal Output Power (dBm):	23
Transmit/Receive Operation:	Transceiver
Rated Input Voltage and Current:	36VDC / 100mA Battery
Operating Temperature Range:	-20°C to +50°C
Equipment Dimensions:	270 x 70 x 40mm
Weight:	400grams
Hardware Rev:	Rev 1
Software Rev:	2022.23.100

5.2. Scope Of Test Program

Lyft, Inc.BIT-01-2

The scope of the test program was a verification test of the Lyft, Inc.BIT-01-2 Bicycle Interface Module configurations with the pre-certified LTE Module in the specified frequency bands for compliance against the following IMT Cellular Network specifications:

FCC Part 22 Subpart H – Cellular Radio Telephone Service

The rules in this subpart govern the licensing and operation of cellular radiotelephone systems.

- (a) Block A: 824-835 MHz and 845-846.5 MHz
- (b) Block B: 835-845 MHz and 846.5-849 MHz

FCC Part 24 Subpart E – Broadband PCS

This subpart sets out the regulations governing the licensing and operations of personal communications services authorized in the 1850-1910 and 1930-1990 MHz bands.

FCC Part 27 - Miscellaneous Wireless Communications Services

This part states the conditions under which spectrum is made available and licensed for the provision of wireless communications services in the following bands... 746-758 MHz, 775-788 MHz, and 805-806 MHz, 698-746 MHz. 1710 - 1755 MHz

FCC Part 90Subpart S Private Land Mobile Radio Services

Regulations Governing Licensing and Use of Frequencies in the 806-824, 851-869, 896-901, and 935-940 MHz Bands

Industry Canada RSS-130 Issue 2

This Radio Standards Specification (RSS) sets out the requirements for equipment operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz bands.

Industry Canada RSS-132 Issue 3

RSS-132 Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz

Industry Canada RSS-133 Issue 6

RSS-133 2 GHz Personal Communications Services sets out the requirements for certification of transmitters and receivers used in radio communications systems to provide Personal Communications Services (PCS) in the bands 1850-1915 MHz and 1930-1995 MHz.

Industry Canada RSS-139 Issue 3

RSS-139 Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz

Pre Certified Quectel EG91-NAXD LTE module tested by TA Technology (Shanghai) Co., Ltd.
Test Report numbers:-

- R2006A0379-R6 Dated 29th July 2020.
- R2006A0379-R5 Dated 21st August 2020
- R2006A0379-R4 Dated 29th July 2020.
- R2006A0379-R3 Dated 21st August 2020
- R2006A0379-R2 Dated 8th July 2020
- R2006A0379-R1 Dated 21st August 2020

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

Type (EUT/Support)	Equipment Description (Including Brand Name)	Mfr.	Model No.	Serial No.
EUT	Bicycle Interface Module	Lyft Inc	BIT-01-2	FK1924WSAM5010913 FK1938WSSF6016027
Support	Laptop	Lenovo	N/A	N/A
Support	Power Supply	XP Power	ACM36US36	

5.4. External A.C/D.C. Power Adaptor

The BIT-01-2 is powered via 36V Battery in normal usage, no external ac/dc adaptor is used.

5.5. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
integral	Taoglas	PCS.06A	Chip	1.1	-	360		698-803
integral	Taoglas	PCS.06A	Chip	1.3	-	360		814-894
integral	Taoglas	PCS.06A	Chip	3.8	-	360		1710-1880
integral	Taoglas	PCS.06A	Chip	3.7	-	360		1850-1995
integral	Taoglas	PCS.06A	Chip	3.4	-	360		1920-2170

BF Gain - Beamforming Gain

Dir BW - Directional BeamWidth

X-Pol - Cross Polarization

5.6. Cabling and I/O Ports

Port Type	Max Cable Length	Conn Type	Environment
Power + Digital I/O	<3m	Higo MiniB 6 Female	End-User
External Vehicle Lock	<3m	Higo MiniB 4 Male	End-User
External Headlight	<3m	Higo MiniB 2 Pin Female	End-User

5.7. Test Configurations

Test configurations are as noted in the test results.

LTE Band No.	Bandwidth (MHz)	Channels No.'s	Frequencies (MHz)
2	1.4	18607, 18900, 19192	1850.7, 1880.0, 1909.2
4	1.4	19957, 20175, 20392	1710.7, 1732.0, 1754.2
5	1.4	20407, 20525, 20642	824.7, 836.5, 848.2
12	1.4	23017, 23095, 23172	699.7, 707.5, 715.2
13	5	23205, 23230, 23254	779.5, 782.0, 784.5
25	1.4	26047, 26365, 26682	1850.7, 1882.5, 1914.2
26	1.4	26697, 26865, 27032	814.7, 831.5, 848.2

Verification Testing only of pre-certified module (Quextel EG91-NAXD)) tested by; TA Technology (Shanghai) Co LTD.

Test Report numbers;-

R2006A0379-R6 Dated 29th July 2020.
R2006A0379-R5 Dated 21st August 2020
R2006A0379-R4 Dated 29th July 2020.
R2006A0379-R3 Dated 21st August 2020
R2006A0379-R2 Dated 8th July 2020
R2006A0379-R1 Dated 21st August 2020

5.8. Equipment Modifications

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

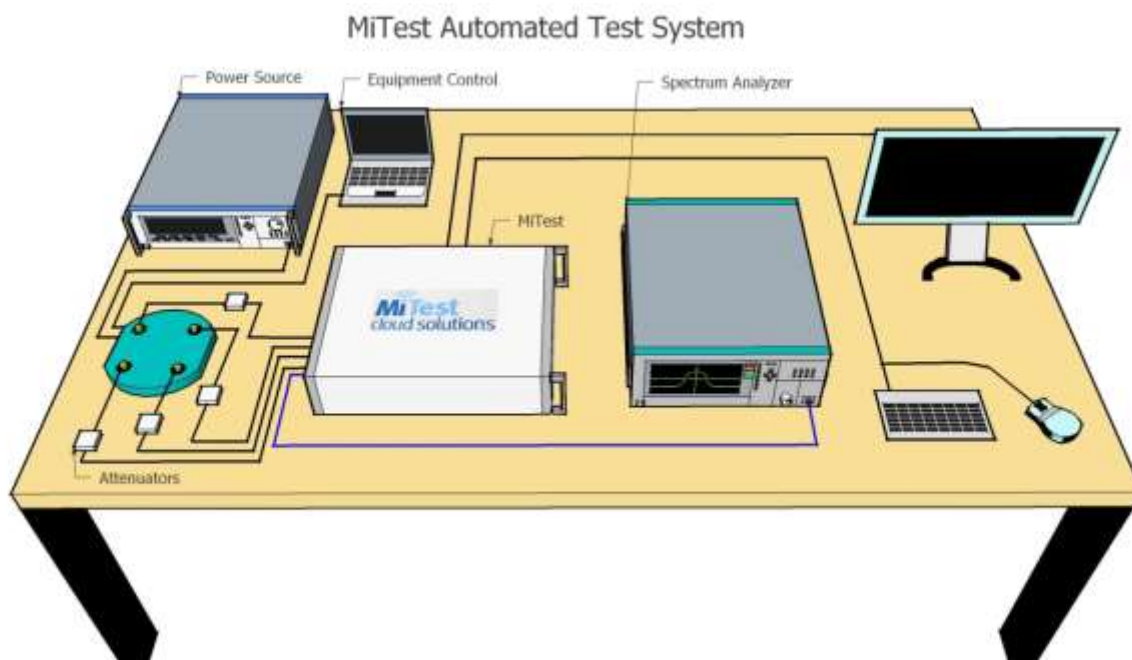
1. NONE

5.9. Deviations from the Test Standard

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

1. NONE

6.1. RF Conducted Testing

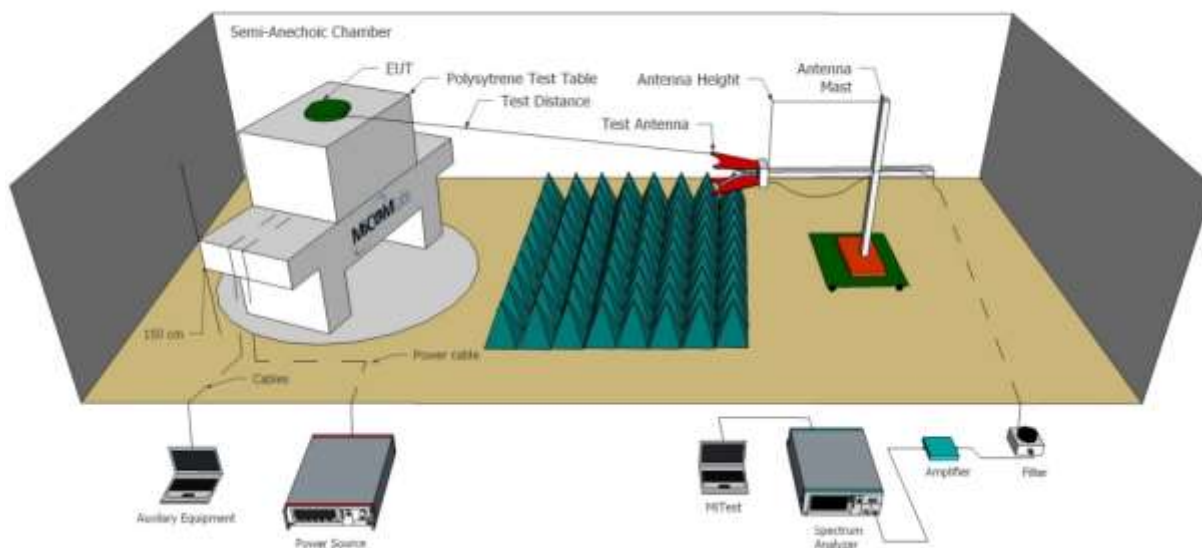


Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
127	Power Supply	HP	6674A	US36370530	Cal when used
248	Resistance Thermometer	Thermotronics	GR2105-02	9340 #1	30 Oct 2022
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	8 Oct 2022
398	MiTest RF Conducted Test Software	MiCOM	MiTest ATS	Version 4.2.3.0	Not Required
419	Laptop with Labview Software	Lenova	W520	TS02	Not Required
420	USB to GPIB Interface	National Instruments	GPIB-USB HS	1346738	Not Required
440	USB Wideband Power Sensor	Boonton	55006	9178	8 Oct 2022
445	PoE Injector	D-Link	DPE-101GL	QTAH1E2000625	Not Required
461	Spectrum Analyzer	Agilent	E4440A	MY46185537	27 Sep 2023
510	Barometer/Thermometer	Digi Sense	68000-49	170871375	4 Jan 2023
515	MiTest Cloud Solutions RF Test Box	MiCOM	2nd Gen with DFS	515	7 Oct 2022
516	USB Wideband Power Sensor	Boonton	RTP5006	10511	12 Oct 2022
517	USB Wideband Power Sensor	Boonton	RTP5006	10510	8 Oct 2022
555	Rhode & Schwarz Receiver (Firmware Version : 2.00 SP1)	Rhode & Schwarz	ESW 44	101893	28 Jun 2023
74	Environmental Chamber Chamber 3	Tenney	TTC	12808-1	Not Required
RF#2 GPIB#1	GPIB cable to Power Supply	HP	GPIB	None	Not Required
RF#2 SMA#1	EUT to Mitest box port 1	Flexco	SMA Cable port1	None	7 Oct 2022
RF#2 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	7 Oct 2022
RF#2 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	7 Oct 2022
RF#2 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	7 Oct 2022
RF#2 SMA#SA	Mitest box to SA	Flexco	SMA Cable SA	None	7 Oct 2022
RF#2 USB#1	USB Cable to Mitest Box	Dynex	USB Cable	None	Not Required

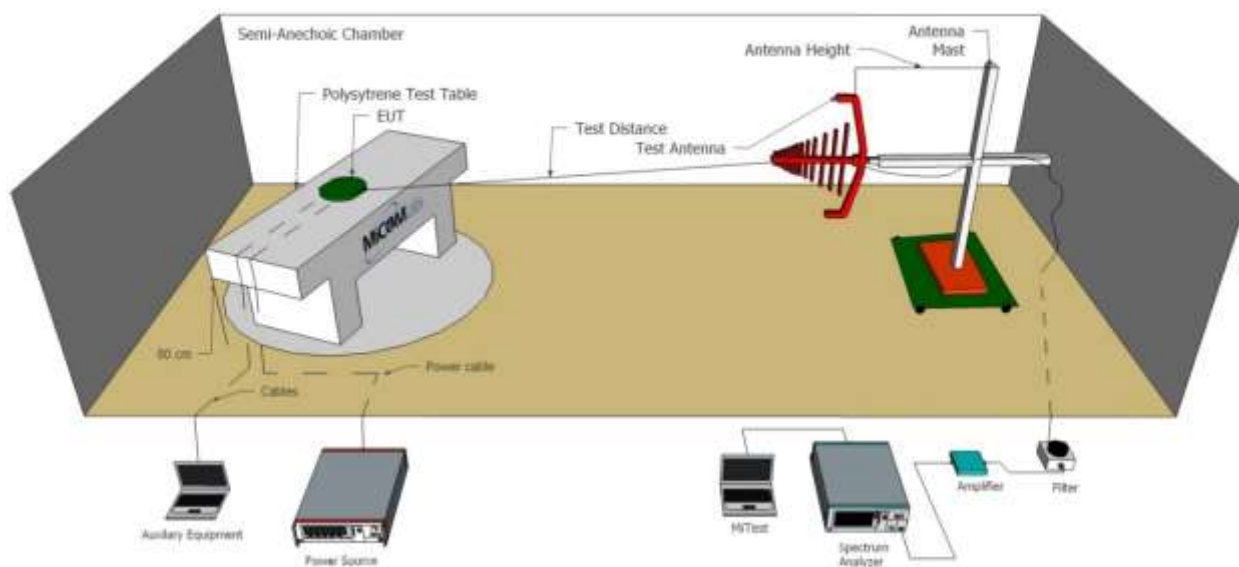
6.2. Radiated Emissions - 3m Chamber

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



Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
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
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	29 Sep 2023
346	1.6 TO 10GHz High Pass Filter	EWT	EWT-57-0112	H1	6 Oct 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
415	Turntable Controller	Sunol Sciences	Turntable Controller	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
466	Low Pass Filter DC-1500 MHz	Mini-Circuits	NLP-1750+	VUU10401438	6 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
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
557	LTE Filter 703 - 748 4 MHz	Warison	WFIL-N703-748F-04	557	27 Apr 2023
558	LTE Filter 832-862 MHz	Warison	WFIL-N832-862F-02	558	26 Apr 2023
560	LTE Filter 1710-1785 MHz	Warison	WFIL-N1710-1785F-05	560	26 Apr 2023
CC05	Confidence Check	MiCOM	CC05	None	24 Jul 2022

7. 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 [MiTest](#). [MiTest](#) is an automated test system developed by MiCOM Labs. [MiTest](#) 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)

8. TEST SUMMARY

Test Header	Result	Data Link
Transmitter Test Parameters		
Conducted Output Power	Complies	View Data
Transmitter Spurious Emissions	Complies	View Data

Note: The EUT is a pre-certified module incorporated in a host with antennas. This report is a verification report of the pre-certified module in the host.

The cellular radio module was tested by TA Technology (Shanghai) Co LTD.

Refer to Test Reports numbers;-

R2006A0379-R6 Dated 29th July 2020.
R2006A0379-R5 Dated 21st August 2020
R2006A0379-R4 Dated 29th July 2020.
R2006A0379-R3 Dated 21st August 2020
R2006A0379-R2 Dated 8th July 2020
R2006A0379-R1 Dated 21st August 2020

9. TEST RESULTS

9.1. Conducted Output Power

Conducted Test Conditions for Output Power			
Standard:	FCC Part 22, 24E, 27C, H IC RSS-130, 132, 133, 139	Ambient Temp. (°C):	24.0 - 27.5
Test Heading:	EIRP	Rel. Humidity (%):	32 - 45
Standard Section(s):	FCC 22, FCC 24E: 24.232 (d) FCC 27C: 27.50 (b), (d) FCC 90S: RSS-130: 4.6, RSS-132:5.4, RSS-133: 6.4, RSS-139: 6.5	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Output Power

With reference to the test configuration identified in Section 8.1 Conducted Test Setup the EUT was set to transmit on the appropriate centre frequency of the selected frequency band and bandwidth. Output Power was measured on each of the active chain(s) (antenna outputs) using a power sensor connected to each antenna terminal.

Testing was performed under ambient conditions.

Limits Output Power - Band 2, 25:

FCC 24E: §24.232

(c) Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

RSS-133: 6.4 Transmitter Output Power and Equivalent Isotropically Radiated Power:

The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510.

Limits Output Power - Band 4,12,13:

FCC 27.50

(b) (10) Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

(d)(4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

RSS-130: 4.6 Transmitter Output Power and Effective Radiated Power:

For base and fixed equipment other than fixed subscriber equipment, refer to SRSP-518 for the e.i.r.p. limits.

RSS-139: 6.6 Transmitter Output Power and Effective Radiated Power:

The equivalent isotropically radiated power (e.i.r.p.) for mobile and portable transmitters shall not exceed one watt.

Limits Output Power - Band 5:

FCC 22.913: (5): The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

RSS-132: 5.4: Transmitter Output Power and Effective Radiated Power:

The transmitter output power shall be measured in terms of average power. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts. Refer to SRSP-503 for base station e.i.r.p. limits.

Limits Output Power – Band 26:

FCC 90S 90.635b (806-824 MHz): The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw)

FCC 22.913 (a)(2) (824-849 MHz): The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

RSS-132: 5.4: Transmitter Output Power and Effective Radiated Power:

The transmitter output power shall be measured in terms of average power. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts. Refer to SRSP-503 for base station e.i.r.p. limits.

Band 2: Conducted Output Power

Equipment Configuration for Maximum Output Power

Variant:	LTE Band 2	Duty Cycle (%):	99
Data Rate:	Not Applicable	Antenna Gain (dBi):	3.7
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:	Power Class 3; 1.4MHz Bandwidth		

Test Measurement Results

Test Frequency (MHz)	Temperature	Measured Power	Limit	Margin	Tolerance
		dBm	dBm	dB	dB
1850.70	25 °C	22.86	23.0	-0.14	Pass
1800.00		22.89	23.0	-0.11	Pass
1909.20		22.93	23.0	-0.07	Pass

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Uncertainty:	1.33 dB

Band 4: Conducted Output Power

Equipment Configuration for Maximum Output Power

Variant:	LTE Band 4	Duty Cycle (%):	99
Data Rate:	Not Applicable	Antenna Gain (dBi):	3.8
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:	Power Class 3; 1.4MHz Bandwidth		

Test Measurement Results

Test Frequency (MHz)	Temperature	Measured Power	Limit	Margin	Tolerance
		dBm	dBm	dB	dB
1710.70	25 °C	22.97	23.0	-0.03	Pass
1732.50		22.87	23.0	-0.13	Pass
1754.20		22.92	23.0	-0.08	Pass

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Uncertainty:	1.33 dB

Band 5: Conducted Output Power

Equipment Configuration for Maximum Output Power

Variant:	LTE Band 5	Duty Cycle (%):	99
Data Rate:	Not Applicable	Antenna Gain (dBi):	1.3
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:	Power Class 3; 1.4MHz Bandwidth		

Test Measurement Results

Test Frequency (MHz)	Temperature	Measured Power	Limit	Margin	Tolerance
		dBm	dBm	dB	dB
824.70	25 °C	22.80	23.0	-0.20	Pass
836.50		22.71	23.0	-0.29	Pass
848.20		22.85	23.0	-0.15	Pass

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Uncertainty:	1.33 dB

Band 12: Conducted Output Power

Equipment Configuration for Maximum Output Power

Variant:	LTE Band 12	Duty Cycle (%):	99
Data Rate:	Not Applicable	Antenna Gain (dBi):	1.1
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:	Power Class 3; 1.4MHz Bandwidth		

Test Measurement Results

Test Frequency (MHz)	Temperature	Measured Power	Limit	Margin	Tolerance
		dBm	dBm	dB	dB
699.70	25 °C	22.59	23.0	-0.41	Pass
707.50		22.53	23.0	-0.47	Pass
715.20		22.67	23.0	-0.33	Pass

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Uncertainty:	1.33 dB

Band 13: Conducted Output Power

Equipment Configuration for Maximum Output Power

Variant:	LTE Band 13	Duty Cycle (%):	99
Data Rate:	Not Applicable	Antenna Gain (dBi):	1.1
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:	Power Class 3; 5.0MHz Bandwidth		

Test Measurement Results

Test Frequency (MHz)	Temperature	Measured Power	Limit	Margin	Tolerance
		dBm	dBm	dB	dB
779.50	25 °C	22.84	23.0	-0.16	Pass
782.00		22.50	23.0	-0.50	Pass
785.50		22.71	23.0	-0.29	Pass

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Uncertainty:	1.33 dB

Band 25: Conducted Output Power

Equipment Configuration for Maximum Output Power

Variant:	LTE Band 25	Duty Cycle (%):	99
Data Rate:	Not Applicable	Antenna Gain (dBi):	3.7
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:	Power Class 3; 1.4MHz Bandwidth		

Test Measurement Results

Test Frequency (MHz)	Temperature	Measured Power	Limit	Margin	Tolerance
		dBm	dBm	dB	dB
1850.70	25 °C	22.75	23.0	-0.25	Pass
1882.50		22.78	23.0	-0.22	Pass
1914.20		22.82	23.0	-0.18	Pass

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Uncertainty:	1.33 dB

Band 26: Conducted Output Power

Equipment Configuration for Maximum Output Power

Variant:	LTE Band 26	Duty Cycle (%):	99
Data Rate:	Not Applicable	Antenna Gain (dBi):	1.3
Modulation:	QPSK	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:	Power Class 3		

Test Measurement Results

Test Frequency (MHz)	Temperature	Measured Power	Limit	Margin	Tolerance
		dBm	dBm	dB	dB
814.70	25 °C	22.77	23.0	-0.23	Pass
831.50		22.45	23.0	-0.55	Pass
848.20		22.57	23.0	-0.43	Pass

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Uncertainty:	1.33 dB

9.2. Radiated Transmitter Emissions

Radiated Test Conditions for Transmitter Spurious Emissions			
Standard:	FCC Part 22, 24E, 27C, IC RSS-130, 132, 133, 139	Ambient Temp. (°C):	20.0 - 24.5
Test Heading:	Out of Band Emissions	Rel. Humidity (%):	32 - 45
Standard Section(s):	FCC 22:917(a), FCC 24E: 238(a) FCC 27C, H: 27.53 (c), (g) FCC 90S, RSS-130: 4.7.1 RSS-132:5.5, RSS-133: 6.5, RSS-139: 6.5	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Out of Band Emissions

With reference to the test configuration identified in Section 8.1 Conducted Test Setup the EUT was set to transmit on the appropriate center frequency of the selected frequency band and bandwidth. Out of Band emissions was tested under QPSK.

Testing was performed under ambient conditions.

Limits Out of Band Emissions

Band 2, 25:

FCC 24E: §24.238 Emission limitations for Broadband PCS equipment.

- (a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

RSS-133: 6.5 (i) In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p(\text{watts})$. 2 GHz Personal Communications Services RSS-133 4

(ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p(\text{watts})$. If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

- (b) *Measurement procedure.* Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Band 4, 12,13:

FCC 27C: §27.53 Emission limits for Miscellaneous Wireless Communications Services.

(c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB;

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(h) AWS emission limits—(1) *General protection levels.* Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.

RSS-130: 4.7.1 The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

RSS-139: 6.6 Transmitter Unwanted Emissions

(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block,² which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.

(ii) After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.

Band 5:

FCC 22H: 917(a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

RSS-132: 5.5 Transmitter Unwanted Emissions

Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts).

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

Band 26:

FCC 90S 90.691 (806-824 MHz): (2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log(P)$ decibels

FCC 22H: 917(a) 824-849 MHz: *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

RSS-132: 5.5 824-849 MHz: Transmitter Unwanted Emissions

Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts).

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

Band 2: Radiated Transmitter Emissions

FCC 24E: §24.238 Emission limitations for Broadband PCS equipment.

(a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. ~ -13 dBm or 82.23 dBuV/m

Spurious Emissions 30-1000 MHz

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 2
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1850.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	176.45	61.73	4.48	-19.79	46.42	MaxQP	Horizontal	126	93	82.2	-35.8	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 2
Antenna Gain (dBi):	3.7	Modulation:	
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1880.00	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	174.19	63.35	4.46	-19.73	48.08	MaxQP	Horizontal	112	263	82.2	-34.2	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 2
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1909.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	176.78	66.10	4.48	-19.79	50.79	MaxQP	Horizontal	114	93	82.2	-31.4	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Spurious Emissions 1-12 GHz

Equipment Configuration for Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 2
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1850.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 12000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	1850.68	88.75	1.75	30.73	121.24	Fundamental	Horizontal	150	0	--	--	
#1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#3	1910.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

Equipment Configuration for Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 2
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1880.00	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 12000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	1880.06	87.45	1.76	31.04	120.25	Fundamental	Horizontal	150	0	--	--	
#1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#3	1910.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

Equipment Configuration for Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 2
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1909.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 12000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	1909.21	86.65	1.75	31.16	119.57	Fundamental	Horizontal	150	0	--	--	
#1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#3	1910.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

Band 4: Radiated Transmitter Emissions

FCC 27.53 h: AWS emission limits—(1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.. ~ -13 dBm or 82.23 dBuV/m

Spurious Emissions 30-1000 MHz

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 4
Antenna Gain (dBi):	3.8	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1710.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	174.36	64.83	4.46	-19.73	49.56	MaxQP	Horizontal	113	253	82.2	-32.7	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 4
Antenna Gain (dBi):	3.8	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1732.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	174.15	62.30	4.46	-19.73	47.03	MaxQP	Horizontal	129	252	82.2	-35.2	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Not Applicable	Variant:	LTE Band 4
Antenna Gain (dBi):	Not Applicable	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1754.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	174.42	65.35	4.46	-19.73	50.08	MaxQP	Horizontal	112	101	82.2	-32.2	Pass
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.												

Spurious Emissions 1-10 GHz

Equipment Configuration for Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 4
Antenna Gain (dBi):	3.8	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1710.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1710.63	54.41	1.67	-15.86	40.22	Fundamental	Horizontal	100	0	--	--	
#2	2110.69	52.72	1.84	-12.80	41.77	Call Box DL	Horizontal	176	38	--	--	Pass
#3	3421.44	65.93	2.34	-12.01	56.26	Max Peak	Horizontal	142	111	82.2	-26.0	Pass
#4	5132.14	58.68	3.07	-12.23	49.52	Max Peak	Horizontal	123	91	82.2	-32.7	Pass
#5	6842.96	54.03	3.49	-8.21	49.31	Max Peak	Vertical	186	48	82.2	-32.9	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 1.7G Filter in front of amp to prevent overloads

Equipment Configuration for Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 4
Antenna Gain (dBi):	3.8	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1732.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1732.52	51.91	1.66	-15.58	38.00	Fundamental	Vertical	100	0	--	--	
#2	2132.41	52.66	1.88	-12.78	41.76	Call Box	Horizontal	100	0	--	--	
#3	3464.96	66.76	2.38	-11.94	57.20	Max Peak	Horizontal	122	321	82.2	-25.0	Pass
#4	5197.49	60.75	2.97	-12.33	51.40	Max Peak	Vertical	121	1	82.2	-30.8	Pass
#5	6929.76	54.60	3.59	-8.13	50.06	Max Peak	Vertical	98	207	82.2	-32.2	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 1.7G Filter in front of amp to prevent overloads

Equipment Configuration for Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 4
Antenna Gain (dBi):	3.8	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1754.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1754.26	62.26	1.70	-15.26	48.69	Fundamental	Horizontal	100	146	--	--	
#2	2154.24	52.53	1.86	-12.85	41.54	Call Box	Vertical	100	149	--	--	
#3	3508.61	68.59	2.36	-11.97	58.98	Max Peak	Horizontal	98	319	82.2	-23.3	Pass
#4	5262.74	60.92	3.05	-11.65	52.32	Max Peak	Vertical	98	1	82.2	-29.9	Pass
#5	7016.32	57.18	3.60	-8.06	52.72	Max Peak	Vertical	98	121	82.2	-29.5	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 1.7G Filter in front of amp to prevent overloads

Band 5: Radiated Transmitter Emissions

FCC 22H:917(a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. ~ -13 dBm or 82.23 dBuV/m

Spurious Emissions 30-1000 MHz

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 5
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	824.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	824.65	102.54	6.69	-9.05	100.18	Fundamental	Horizontal	100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 30 dB attenuation..

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 5
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	836.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	175.59	58.33	4.47	-19.76	43.04	MaxQP	Horizontal	108	257	82.2	-39.2	Pass
#2	836.49	58.37	6.72	-8.87	56.22	Fundamental	Horizontal	100	274	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 840M Notch in front of amp to prevent overload.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 5
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	848.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	175.76	59.23	4.47	-19.76	43.94	MaxQP	Horizontal	101	264	82.2	-38.3	Pass
#2	848.05	51.51	6.80	-9.01	49.31	Peak (NRB)	Horizontal	100	0	--	--	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 840M Notch in front of amp to prevent overload.

Spurious Emissions 1-10 GHz

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 5
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	824.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1649.36	68.50	1.65	-16.48	53.67	Max Peak	Vertical	125	110	82.2	-28.6	Pass
#2	2474.18	58.90	1.98	-11.91	48.98	Max Peak	Vertical	189	173	82.2	-33.3	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 5
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	836.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1672.86	73.26	1.65	-16.28	58.63	Max Peak	Horizontal	195	150	82.2	-23.6	Pass
#2	2509.42	62.53	2.03	-11.87	52.69	Max Peak	Vertical	101	119	82.2	-29.5	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 5
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	848.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1696.96	71.47	1.67	-16.03	57.11	Max Peak	Horizontal	164	157	82.2	-25.1	Pass
#2	2544.93	63.06	2.03	-11.79	53.30	Max Peak	Vertical	155	148	82.2	-28.9	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Band 12: Radiated Transmitter Emissions

FCC 27.53g: Emission limits for Miscellaneous Wireless equipment.

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. ~ -13 dBm or 82.23 dBuV/m

Spurious Emissions 30-1000 MHz

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 12
Antenna Gain (dBi):	1.1	Modulation:	
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	699.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	174.43	63.14	4.46	-19.73	47.87	MaxQP	Horizontal	112	248	82.2	-34.4	Pass
#2	699.38	67.27	6.31	-10.33	63.25	Fundamental	Horizontal	100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. Band 12, 1.4M Bandwidth. 700 MHz Notch in front of amp to prevent overloads.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 12
Antenna Gain (dBi):	1.1	Modulation:	
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	707.5	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	157.13	62.13	4.39	-19.04	47.48	MaxQP	Horizontal	101	102	82.2	-34.8	Pass
#2	172.42	63.76	4.46	-19.61	48.60	MaxQP	Horizontal	112	261	82.2	-33.6	Pass
#3	185.49	60.56	4.53	-19.98	45.10	MaxQP	Horizontal	101	280	82.2	-37.1	Pass
#4	707.23	50.36	6.34	-10.28	46.42	Fundamental	Horizontal	1100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. Band 12, 1.4M Bandwidth. 700 MHz notch in front of amp to prevent overloads.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 12
Antenna Gain (dBi):	1.1	Modulation:	
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	715.2	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	176.41	60.33	4.48	-19.79	45.02	MaxQP	Horizontal	127	126	82.2	-37.2	Pass
#2	715.19	46.13	6.37	-10.28	42.22	Fundamental	Horizontal	100	27	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. Band 12, 1.4M Bandwidth. 700 MHz Notch in front of amp to prevent overloads.

Spurious Emissions 1-10 GHz

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 12
Antenna Gain (dBi):	1.1	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	699.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2099.36	54.29	1.85	-12.82	43.33	Max Peak	Vertical	162	181	82.2	-38.9	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 12
Antenna Gain (dBi):	1.1	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	707.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2122.47	53.38	1.86	-12.78	42.46	Max Peak	Vertical	98	41	82.2	-39.8	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 12
Antenna Gain (dBi):	1.1	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	715.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 100000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2145.79	53.61	1.88	-12.82	42.67	Max Peak	Vertical	98	3	82.2	-39.6	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Band 13: Radiated Transmitter Emissions

FCC 27.53c: Emission limits for Miscellaneous Wireless equipment.

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB; ~ -13 dBm or 82.23 dBuV/m

Spurious Emissions 30-1000 MHz

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 13
Antenna Gain (dBi):	1.1	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	779.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	779.34	103.95	6.56	-9.53	100.98	Fundamental	Horizontal	100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth. 30 dB attenuation..

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 13
Antenna Gain (dBi):	1.1	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	782.00	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	782.08	104.97	6.57	-9.48	102.07	Fundamental	Horizontal	100	0	--	--	
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth. 30 dB attenuation..												

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 13
Antenna Gain (dBi):	1.1	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	784.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	784.47	104.83	6.58	-9.53	101.88	Fundamental	Horizontal	100	0	--	--	
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth. 30 dB attenuation..												

Spurious Emissions 1-10 GHz

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 13
Antenna Gain (dBi):	1.1	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	779.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1558.99	73.89	1.58	-16.85	58.62	Max Peak	Horizontal	100	13	82.2	-23.6	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth.

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 13
Antenna Gain (dBi):	1.1	Modulation:	
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	782.00	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1564.01	66.75	1.61	-16.85	51.52	Max Peak	Horizontal	180	144	82.2	-30.7	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth.

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 13
Antenna Gain (dBi):	1.1	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	784.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1568.78	64.56	1.63	-16.84	49.35	Max Peak	Horizontal	167	196	82.2	-32.9	Pass
#2	1568.78	53.14	1.63	-16.84	37.93	Max Avg	Horizontal	167	196	124.2	-86.3	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth.

Band 25: Radiated Transmitter Emissions

FCC 24E: §24.238 Emission limitations for Broadband PCS equipment.

(a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. ~ -13 dBm or 82.23 dBuV/m

Spurious Emissions 30-1000 MHz

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 25
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1850.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	174.24	61.14	4.46	-19.73	45.87	MaxQP	Horizontal	98	105	82.2	-36.4	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 25
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1882.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	174.34	61.11	4.46	-19.73	45.84	MaxQP	Horizontal	115	79	82.2	-36.4	Pass
#2	174.34	61.94	4.46	-19.73	46.67	MaxQP	Horizontal	115	266	82.2	-35.6	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 25
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1914.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	174.61	68.41	4.46	-19.73	53.14	MaxQP	Horizontal	116	265	82.2	-29.1	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Spurious Emissions 1-12 GHz

Equipment Configuration for 2390 MHz Radiated Band-Edge Emissions

Antenna:	Integral	Variant:	LTE Band 25
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1850.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 12000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	1850.68	88.85	1.75	30.73	121.34	Fundamental	Horizontal	151	-3	--	--	
#1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#3	1915.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

Equipment Configuration for 2390 MHz Radiated Band-Edge Emissions

Antenna:	Integral	Variant:	LTE Band 25
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1882.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 120000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	1882.56	88.49	1.76	31.04	121.29	Fundamental	Horizontal	151	0	--	--	
#1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#3	1915.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

Equipment Configuration for 2390 MHz Radiated Band-Edge Emissions

Antenna:	Integral	Variant:	LTE Band 25
Antenna Gain (dBi):	3.7	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	1914.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 12000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	1914.21	87.04	1.75	31.16	119.96	Fundamental	Horizontal	150	0	--	--	
#1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#3	1915.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

Band 26: Radiated Transmitter Emissions

FCC 90S 90.691 (806-824 MHz): (2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10\log(P)$ decibels

FCC 22H: 917(a) 824-849 MHz: *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB.

Spurious Emissions 30-1000 MHz

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 26
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	814.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	814.61	104.31	6.68	-9.10	101.89	Fundamental	Horizontal	100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 30 dB attenuation..

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 26
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Integral	Duty Cycle (%):	
Channel Frequency (MHz):	831.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	175.92	56.68	4.47	-19.76	41.39	MaxQP	Horizontal	106	121	82.2	-40.8	Pass
#2	813.78	28.02	6.68	-9.07	25.63	MaxQP	Horizontal	191	210	82.2	-56.6	Pass
#3	831.47	55.24	6.72	-8.93	53.03	Fundamental	Horizontal	100	88	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 840M Notch in front of amp to prevent overload.

Equipment Configuration for Radiated Digital Emissions

Antenna:	Integral	Variant:	LTE Band 26
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	848.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	176.18	61.01	4.48	-19.79	45.70	MaxQP	Horizontal	98	100	82.2	-36.5	Pass
#2	848.14	55.55	6.80	-9.01	53.35	Peak (NRB)	Horizontal	100	110	--	--	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 840M Notch in front of amp to prevent overload.

Spurious Emissions 1-10 GHz

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 26
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	814.70	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1629.27	73.88	1.63	-16.53	58.98	Max Peak	Horizontal	126	37	82.2	-23.3	Pass
#2	2444.38	59.54	2.01	-12.04	49.51	Max Peak	Vertical	101	165	82.2	-32.7	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 26
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	831.50	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1662.95	73.64	1.66	-16.37	58.92	Max Peak	Horizontal	182	149	82.2	-23.3	Pass
#2	2494.53	57.00	2.00	-11.84	47.16	Max Peak	Vertical	160	59	82.2	-35.1	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

Equipment Configuration for Restricted Band Spurious Emissions

Antenna:	Integral	Variant:	LTE Band 26
Antenna Gain (dBi):	1.3	Modulation:	QPSK
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	
Channel Frequency (MHz):	848.20	Data Rate:	Full RB
Power Setting:	Max	Tested By:	JMH

Test Measurement Results

1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	1696.43	72.37	1.67	-16.03	58.01	Max Peak	Horizontal	106	148	82.2	-24.2	Pass
#2	2544.58	64.48	2.03	-11.79	54.72	Max Peak	Vertical	122	143	82.2	-27.5	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

APPENDIX

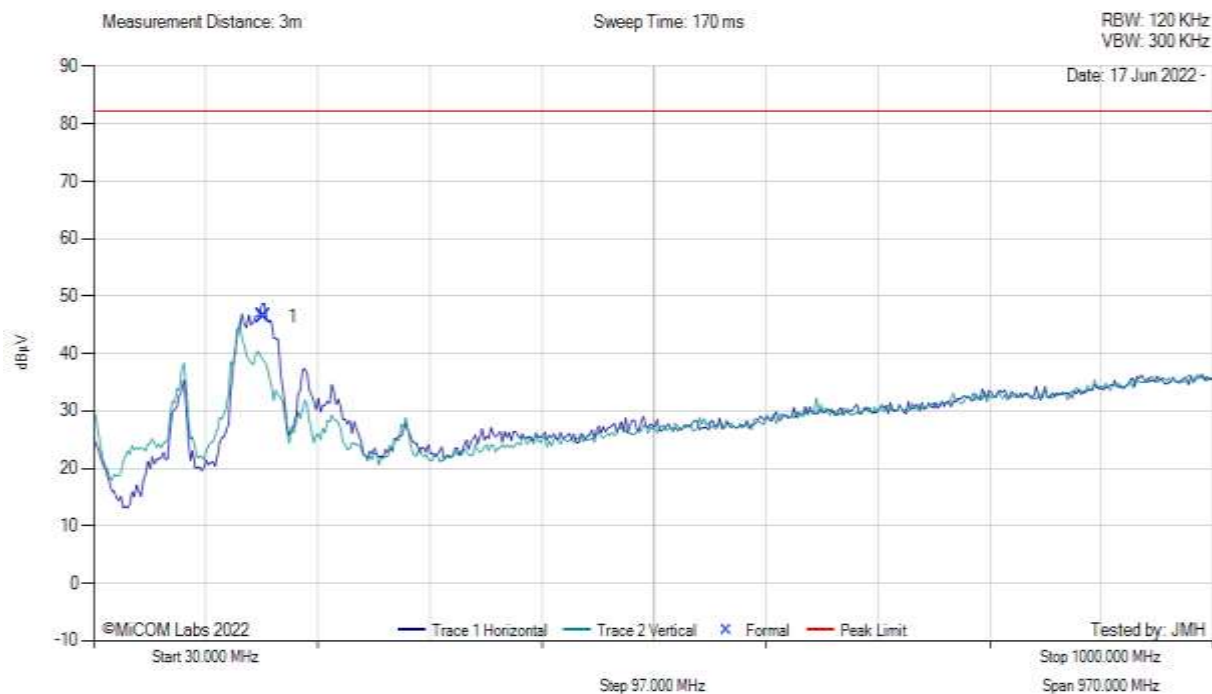
A.1. Emissions

Band 2: Radiated Transmitter Emissions

Spurious Emissions 30-1000 MHz



Variant: LTE Band 2, Test Freq: 1850.70 MHz, Power Setting: Max

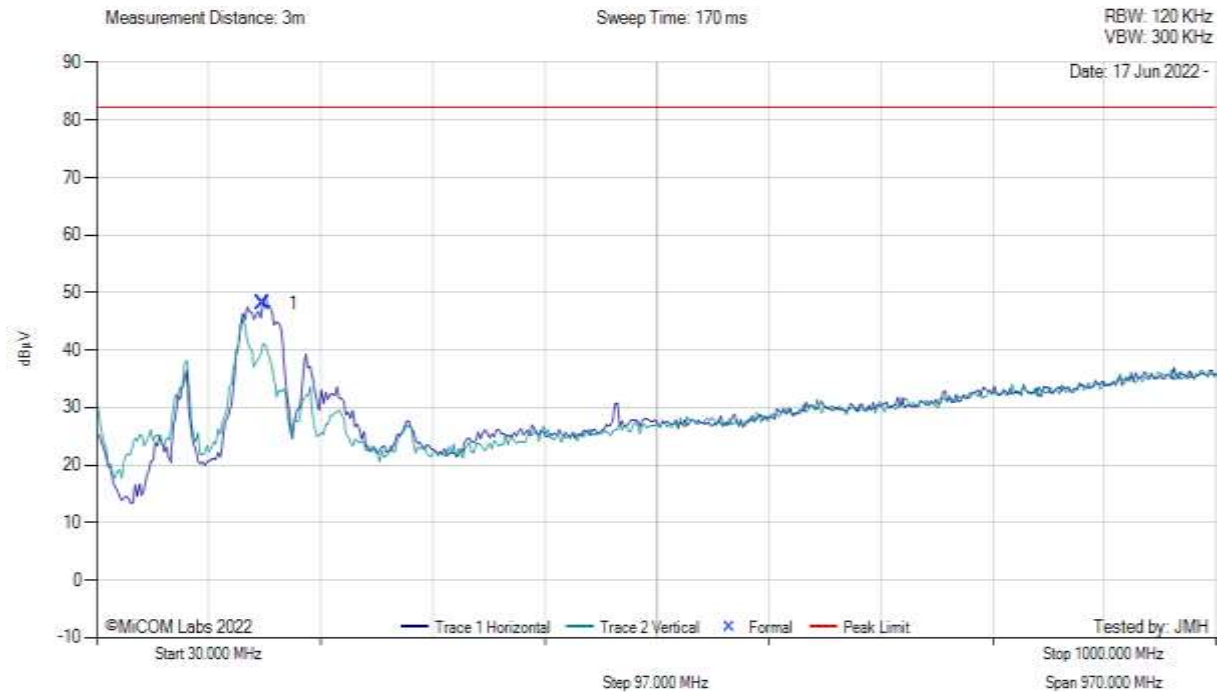


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	176.45	61.73	4.48	-19.79	46.42	MaxQP	Horizontal	126	93	82.2	-35.8	Pass
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.												

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Variant: LTE Band 2, Test Freq: 1880.00 MHz, Power Setting: Max

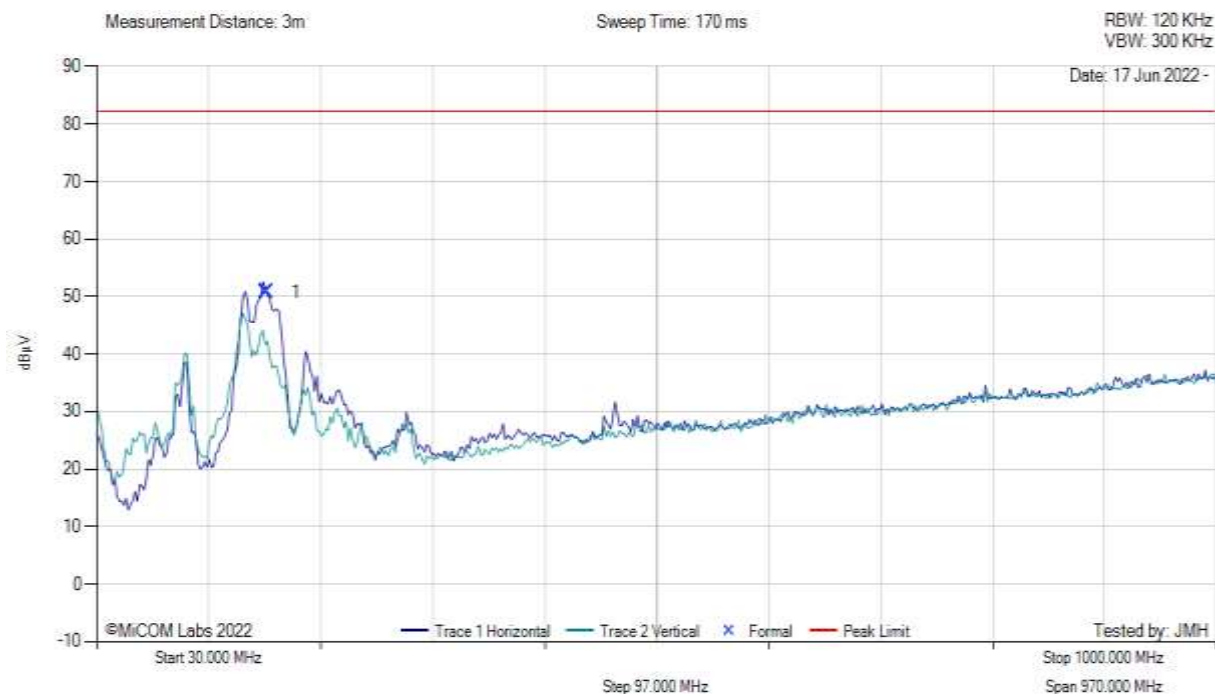


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	174.19	63.35	4.46	-19.73	48.08	MaxQP	Horizontal	112	263	82.2	-34.2	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Variant: LTE Band 2, Test Freq: 1909.20 MHz, Power Setting: Max



30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	176.78	66.10	4.48	-19.79	50.79	MaxQP	Horizontal	114	93	82.2	-31.4	Pass

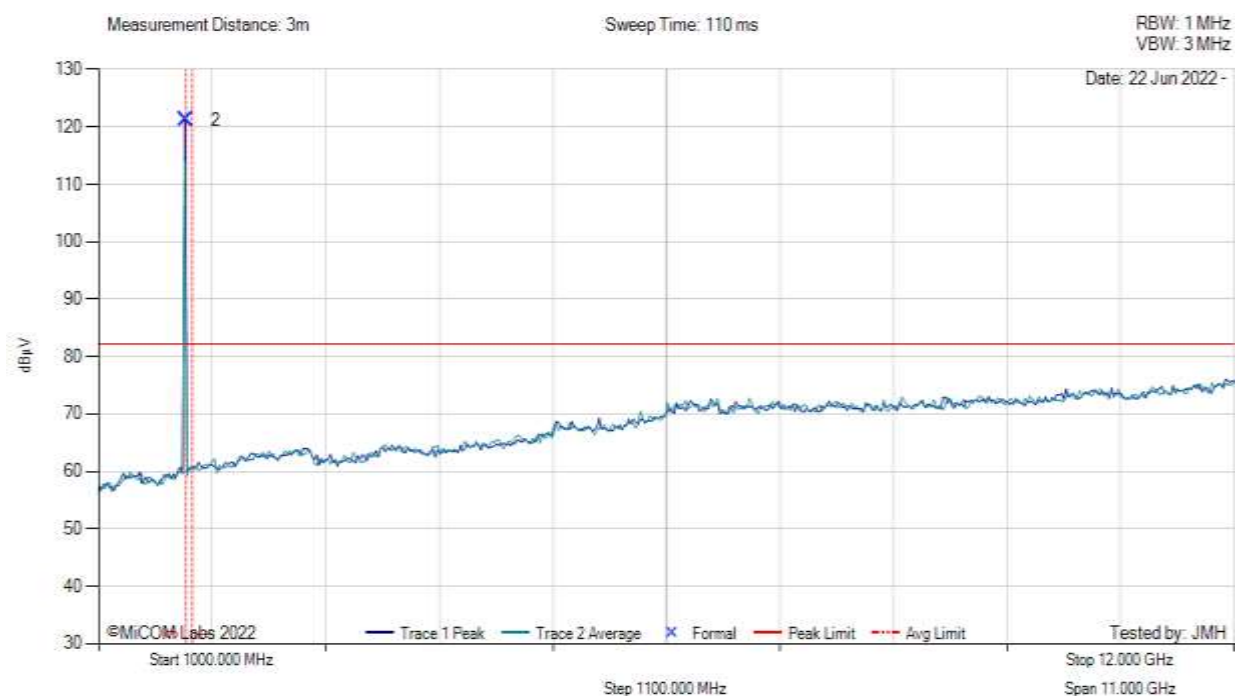
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Spurious Emissions 1-12 GHz



Variant: LTE Band 2, Test Freq: 1850.70 MHz, Power Setting: Max

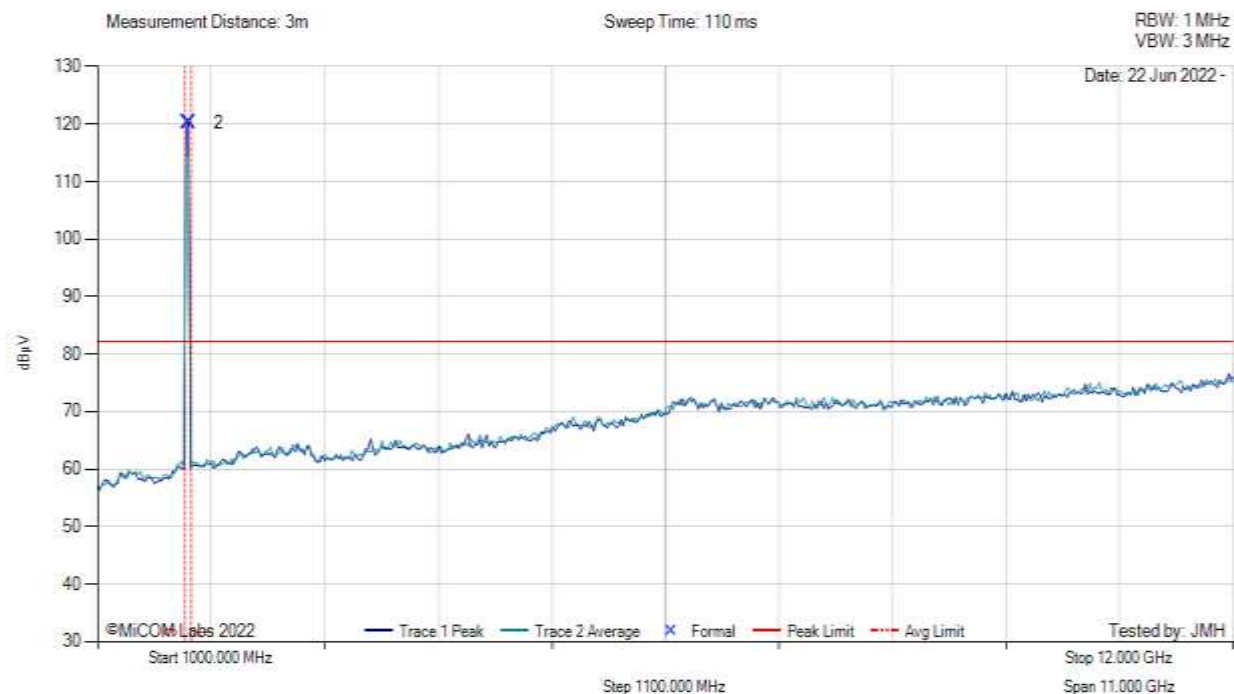


1000.00 - 12000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	1850.68	88.75	1.75	30.73	121.24	Fundamental	Horizontal	150	0	--	--	
1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
3	1910.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

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Variant: LTE Band 2, Test Freq: 1880.00 MHz, Power Setting: Max

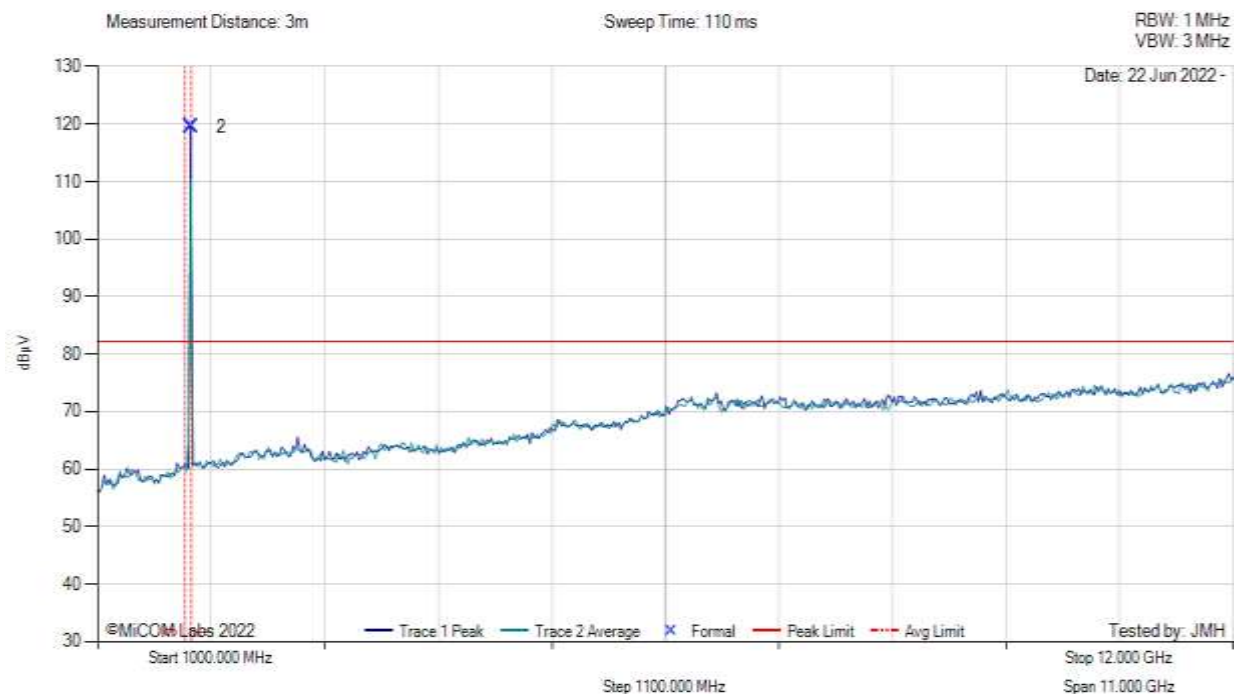


1000.00 - 12000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	1880.06	87.45	1.76	31.04	120.25	Fundamental	Horizontal	150	0	--	--	
1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
3	1910.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

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Variant: LTE Band 2, Test Freq: 1909.20 MHz, Power Setting: Max



1000.00 - 12000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	1909.21	86.65	1.75	31.16	119.57	Fundamental	Horizontal	150	0	--	--	
1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
3	1910.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

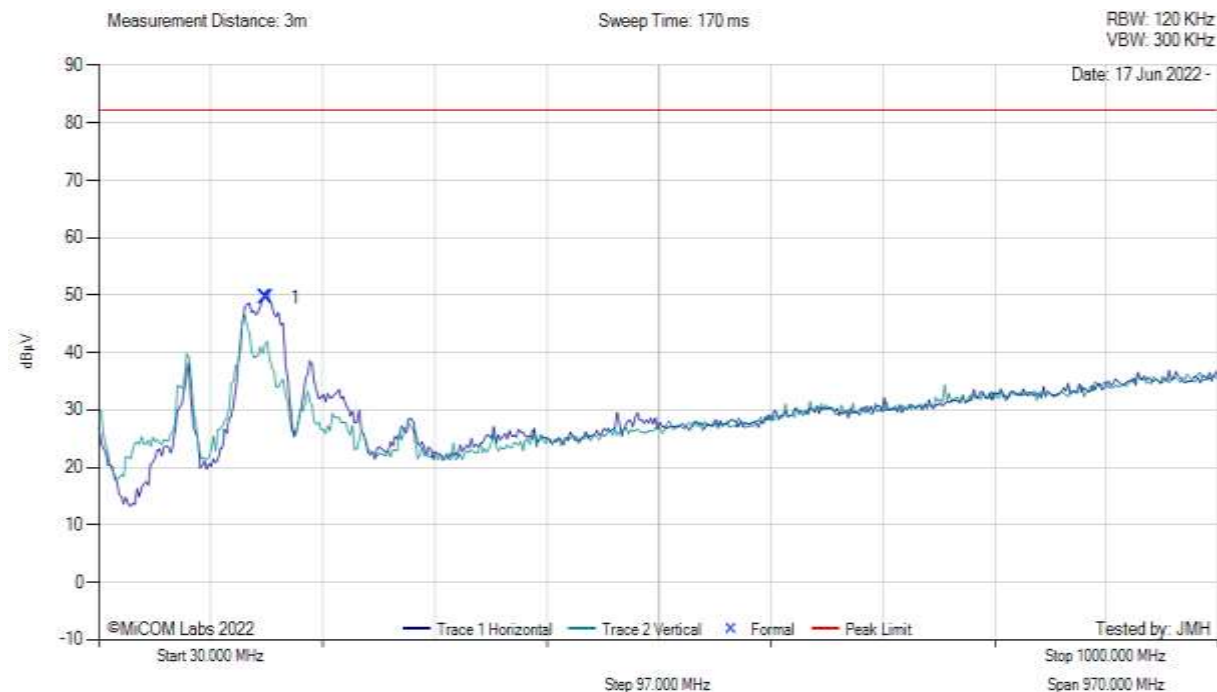
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Band 4: Radiated Transmitter Emissions

Spurious Emissions 30-1000 MHz



Variant: LTE Band 4, Test Freq: 1710.70 MHz, Power Setting: Max

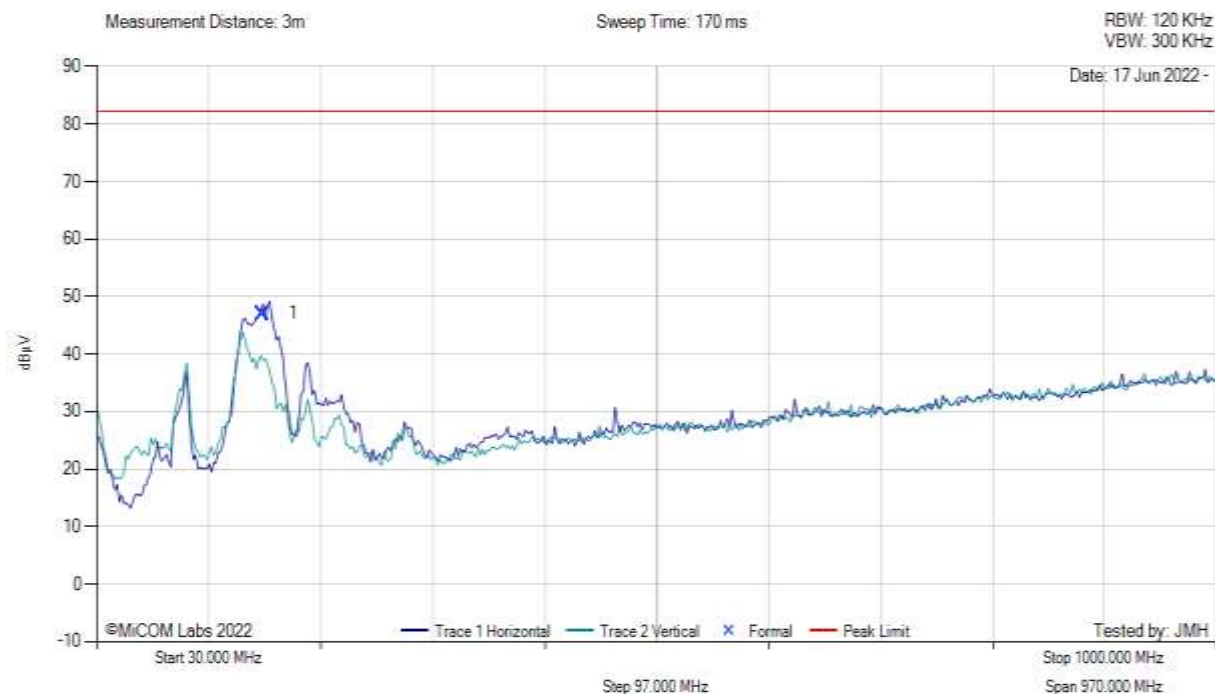


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	174.36	64.83	4.46	-19.73	49.56	MaxQP	Horizontal	113	253	82.2	-32.7	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Variant: LTE Band 4, Test Freq: 1732.50 MHz, Power Setting: Max

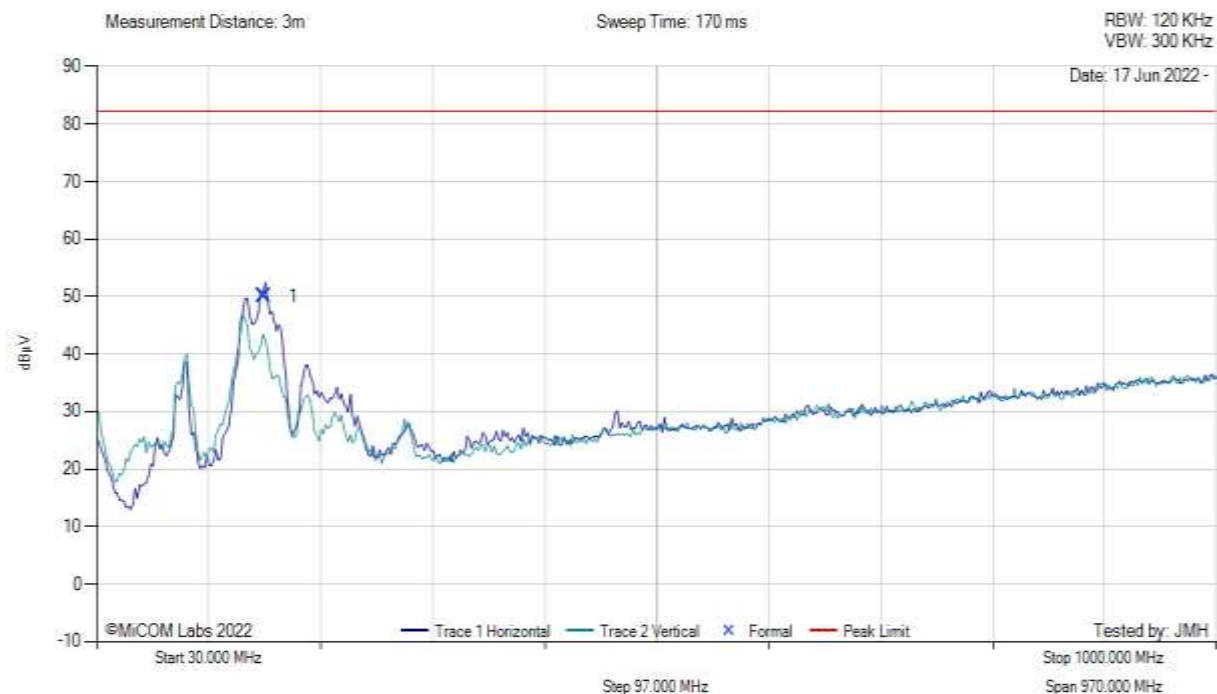


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	174.15	62.30	4.46	-19.73	47.03	MaxQP	Horizontal	129	252	82.2	-35.2	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Variant: LTE Band 4, Test Freq: 1754.20 MHz, Power Setting: Max



30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	174.42	65.35	4.46	-19.73	50.08	MaxQP	Horizontal	112	101	82.2	-32.2	Pass

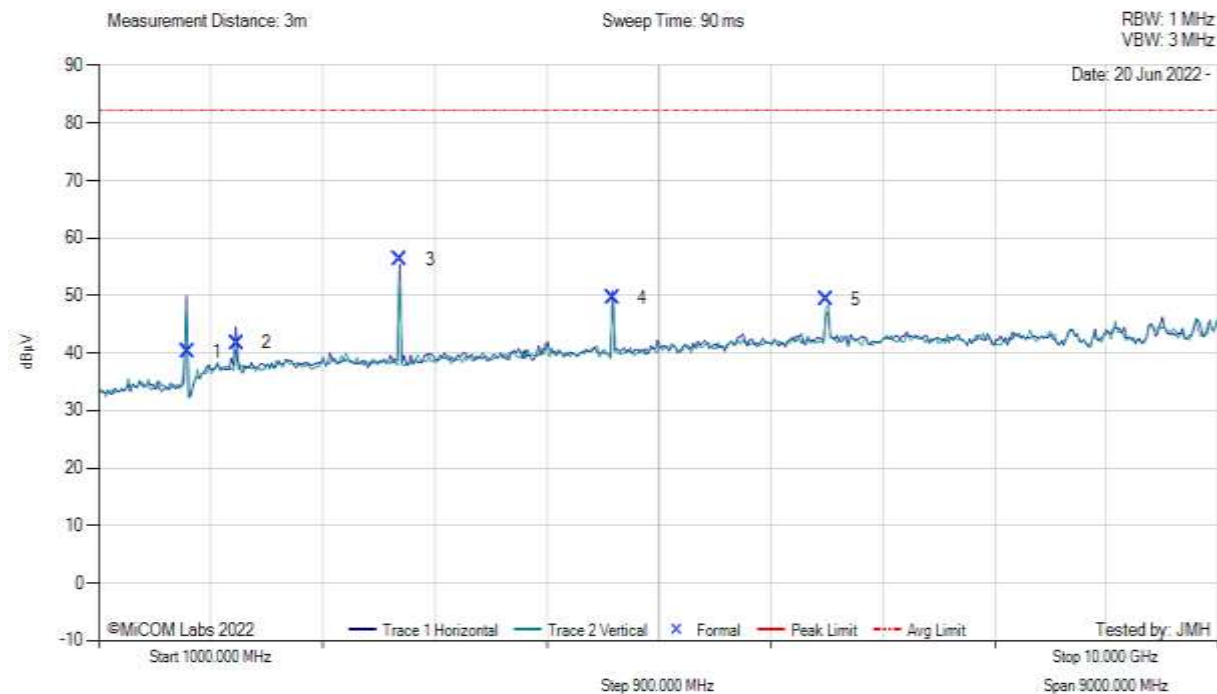
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Spurious Emissions 1-10 GHz



Variant: LTE Band 4, Test Freq: 1710.70 MHz, Power Setting: Max

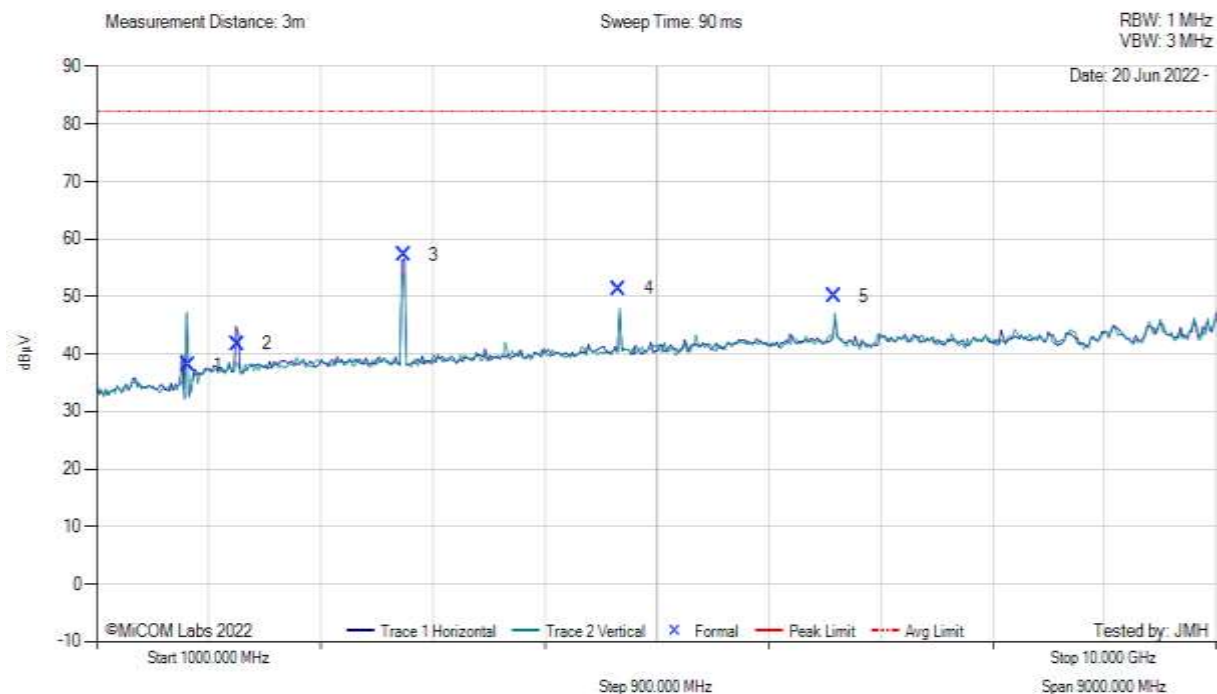


1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1710.63	54.41	1.67	-15.86	40.22	Fundamental	Horizontal	100	0	--	--	
2	2110.69	52.72	1.84	-12.80	41.77	Call Box DL	Horizontal	176	38	--	--	Pass
3	3421.44	65.93	2.34	-12.01	56.26	Max Peak	Horizontal	142	111	82.2	-26.0	Pass
4	5132.14	58.68	3.07	-12.23	49.52	Max Peak	Horizontal	123	91	82.2	-32.7	Pass
5	6842.96	54.03	3.49	-8.21	49.31	Max Peak	Vertical	186	48	82.2	-32.9	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 1.7G Filter in front of amp to prevent overloads

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Variant: LTE Band 4, Test Freq: 1732.50 MHz, Power Setting: Max



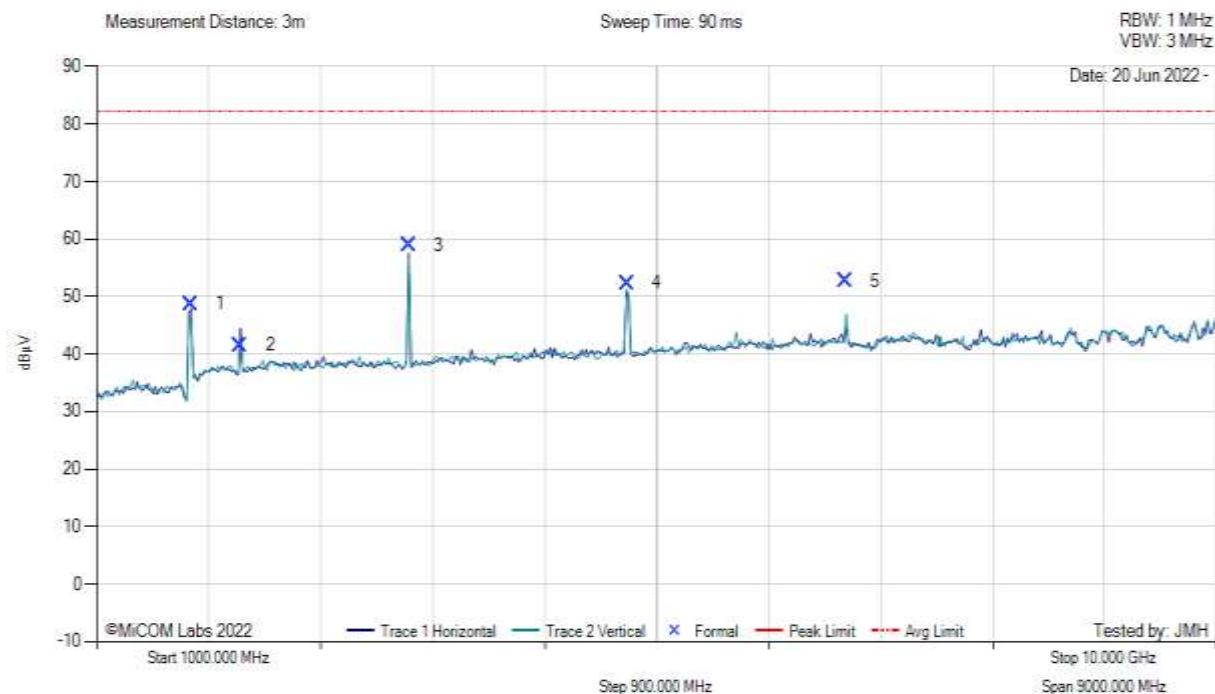
1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1732.52	51.91	1.66	-15.58	38.00	Fundamental	Vertical	100	0	--	--	
2	2132.41	52.66	1.88	-12.78	41.76	Call Box	Horizontal	100	0	--	--	
3	3464.96	66.76	2.38	-11.94	57.20	Max Peak	Horizontal	122	321	82.2	-25.0	Pass
4	5197.49	60.75	2.97	-12.33	51.40	Max Peak	Vertical	121	1	82.2	-30.8	Pass
5	6929.76	54.60	3.59	-8.13	50.06	Max Peak	Vertical	98	207	82.2	-32.2	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 1.7G Filter in front of amp to prevent overloads

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Variant: LTE Band 4, Test Freq: 1754.20 MHz, Power Setting: Max



1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1754.26	62.26	1.70	-15.26	48.69	Fundamental	Horizontal	100	146	--	--	
2	2154.24	52.53	1.86	-12.85	41.54	Call Box	Vertical	100	149	--	--	
3	3508.61	68.59	2.36	-11.97	58.98	Max Peak	Horizontal	98	319	82.2	-23.3	Pass
4	5262.74	60.92	3.05	-11.65	52.32	Max Peak	Vertical	98	1	82.2	-29.9	Pass
5	7016.32	57.18	3.60	-8.06	52.72	Max Peak	Vertical	98	121	82.2	-29.5	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 1.7G Filter in front of amp to prevent overloads

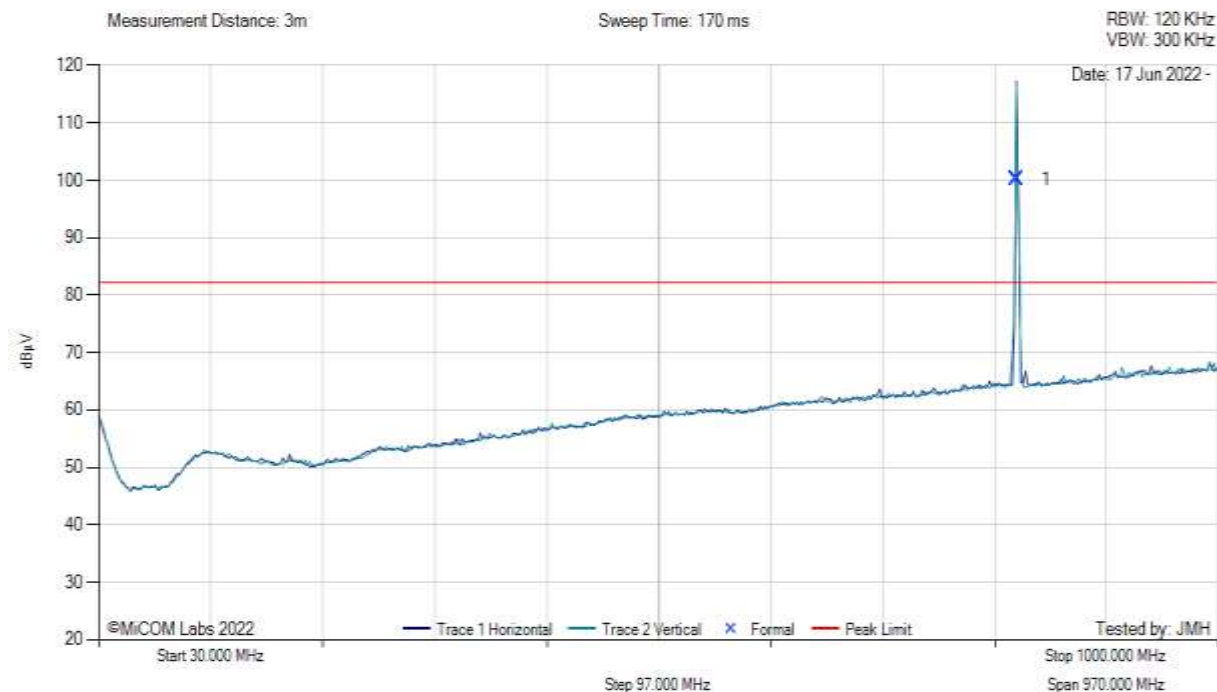
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Band 5: Radiated Transmitter Emissions

Spurious Emissions 30-1000 MHz



Variant: LTE Band 5, Test Freq: 824.70 MHz, Power Setting: Max

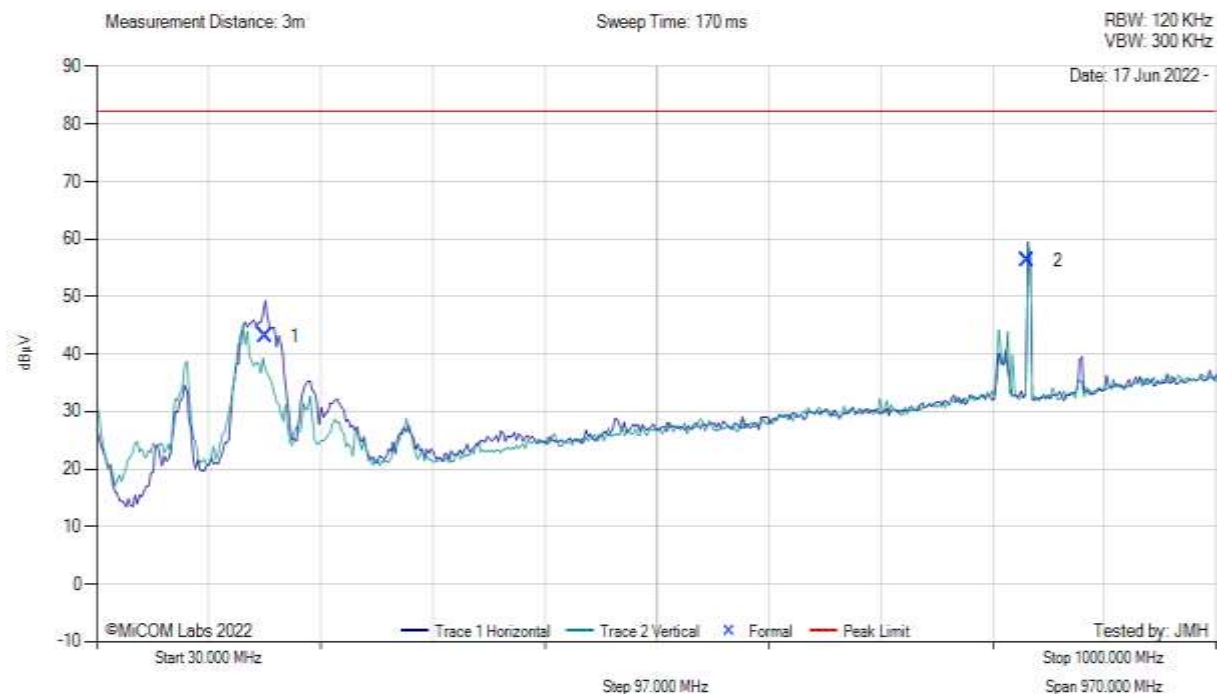


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	824.65	102.54	6.69	-9.05	100.18	Fundamental	Horizontal	100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 30 dB attenuation..

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Variant: LTE Band 5, Test Freq: 836.50 MHz, Power Setting: Max



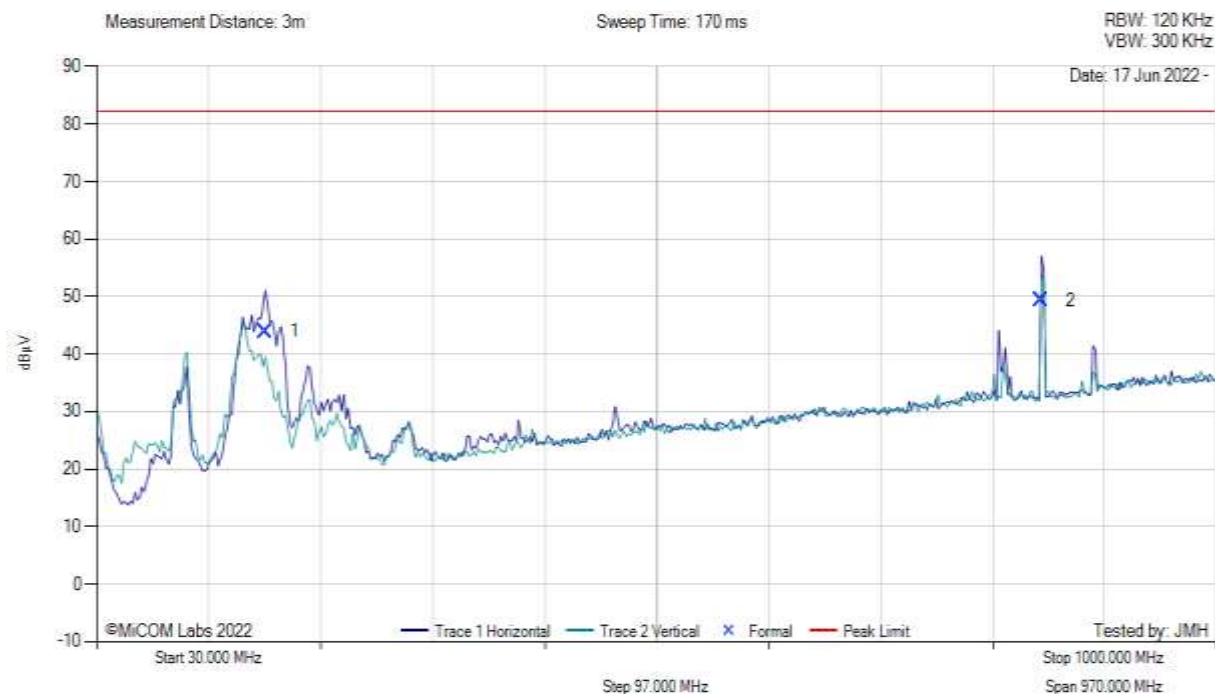
30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	175.59	58.33	4.47	-19.76	43.04	MaxQP	Horizontal	108	257	82.2	-39.2	Pass
2	836.49	58.37	6.72	-8.87	56.22	Fundamental	Horizontal	100	274	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 840M Notch in front of amp to prevent overload.

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Variant: LTE Band 5, Test Freq: 848.20 MHz, Power Setting: Max



30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	175.76	59.23	4.47	-19.76	43.94	MaxQP	Horizontal	101	264	82.2	-38.3	Pass
2	848.05	51.51	6.80	-9.01	49.31	Peak (NRB)	Horizontal	100	0	--	--	Pass

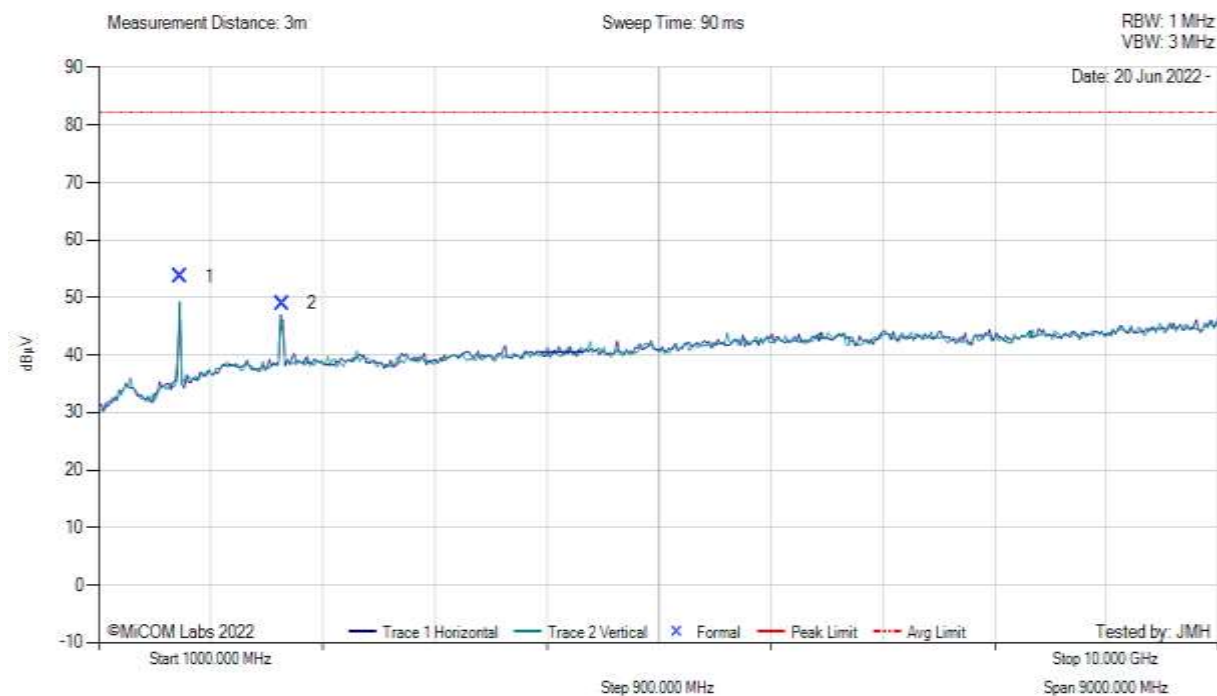
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 840M Notch in front of amp to prevent overload.

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Spurious Emissions 1-10 GHz



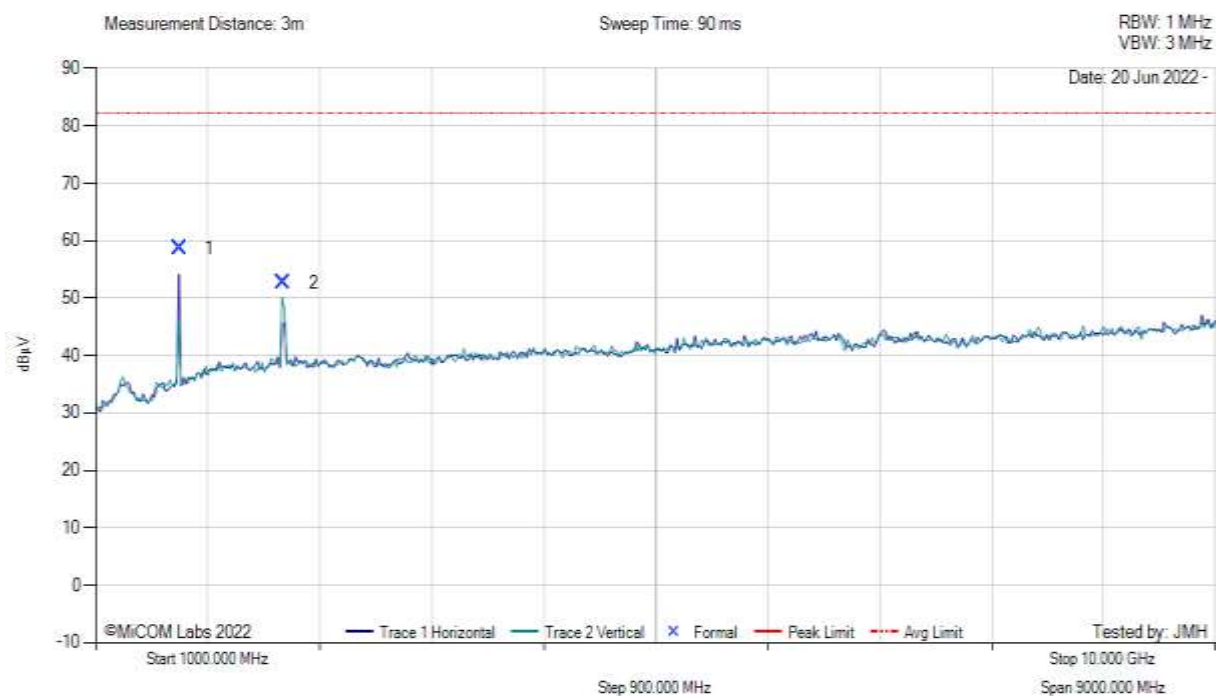
Variant: LTE Band 5, Test Freq: 824.70 MHz, Power Setting: Max



1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1649.36	68.50	1.65	-16.48	53.67	Max Peak	Vertical	125	110	82.2	-28.6	Pass
2	2474.18	58.90	1.98	-11.91	48.98	Max Peak	Vertical	189	173	82.2	-33.3	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

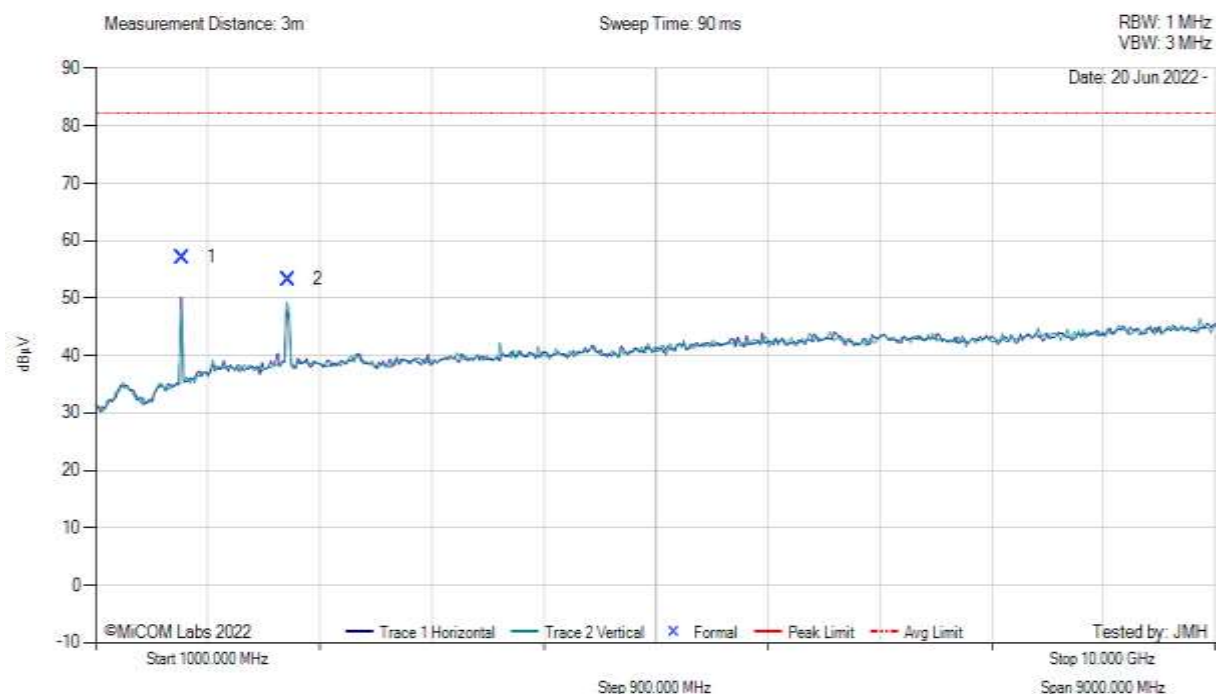
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1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1672.86	73.26	1.65	-16.28	58.63	Max Peak	Horizontal	195	150	82.2	-23.6	Pass
2	2509.42	62.53	2.03	-11.87	52.69	Max Peak	Vertical	101	119	82.2	-29.5	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1696.96	71.47	1.67	-16.03	57.11	Max Peak	Horizontal	164	157	82.2	-25.1	Pass
2	2544.93	63.06	2.03	-11.79	53.30	Max Peak	Vertical	155	148	82.2	-28.9	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

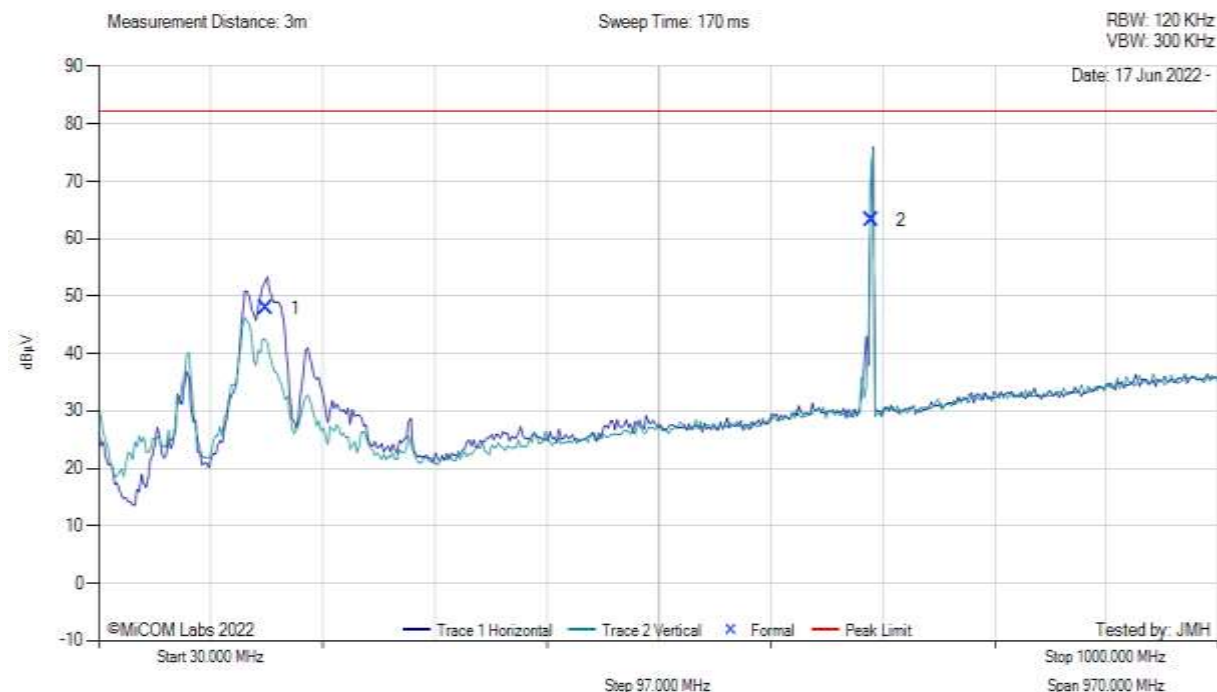
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Band 12: Radiated Transmitter Emissions

Spurious Emissions 30-1000 MHz



Variant: LTE Band 12, Test Freq: 699.70 MHz, Power Setting: Max

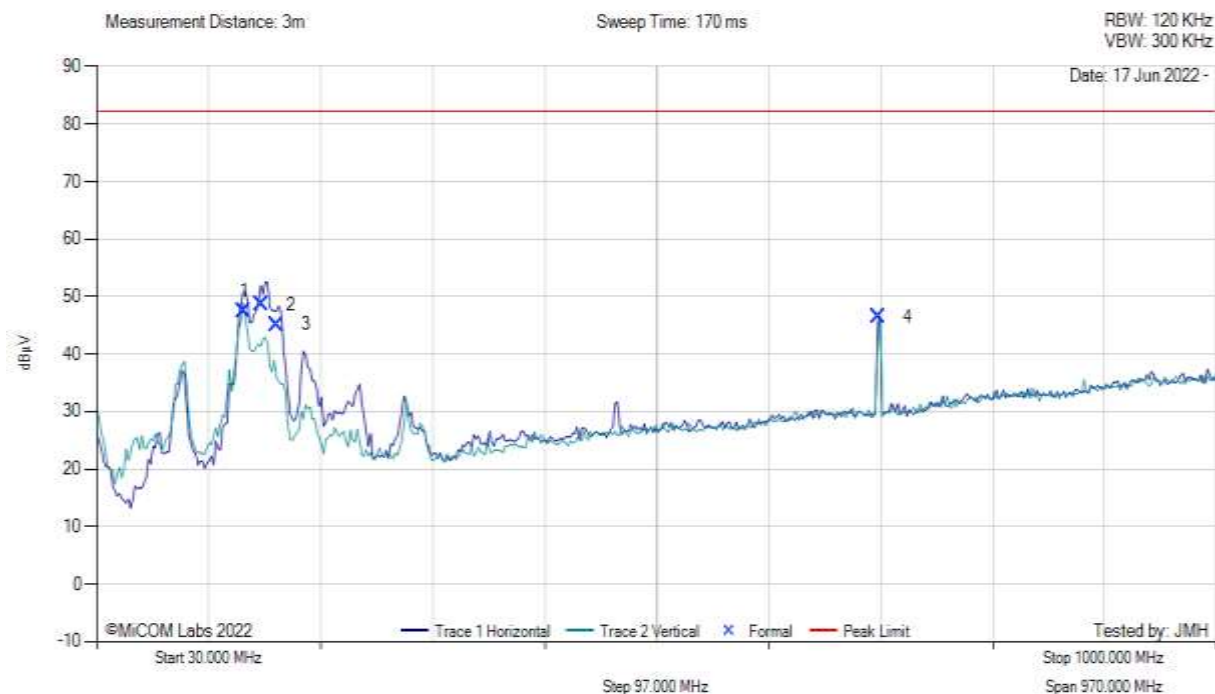


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	174.43	63.14	4.46	-19.73	47.87	MaxQP	Horizontal	112	248	82.2	-34.4	Pass
2	699.38	67.27	6.31	-10.33	63.25	Fundamental	Horizontal	100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. Band 12, 1.4M Bandwidth. 700 MHz Notch in front of amp to prevent overloads.

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Variant: LTE Band 12, Test Freq: 707.5 MHz, Power Setting: Max

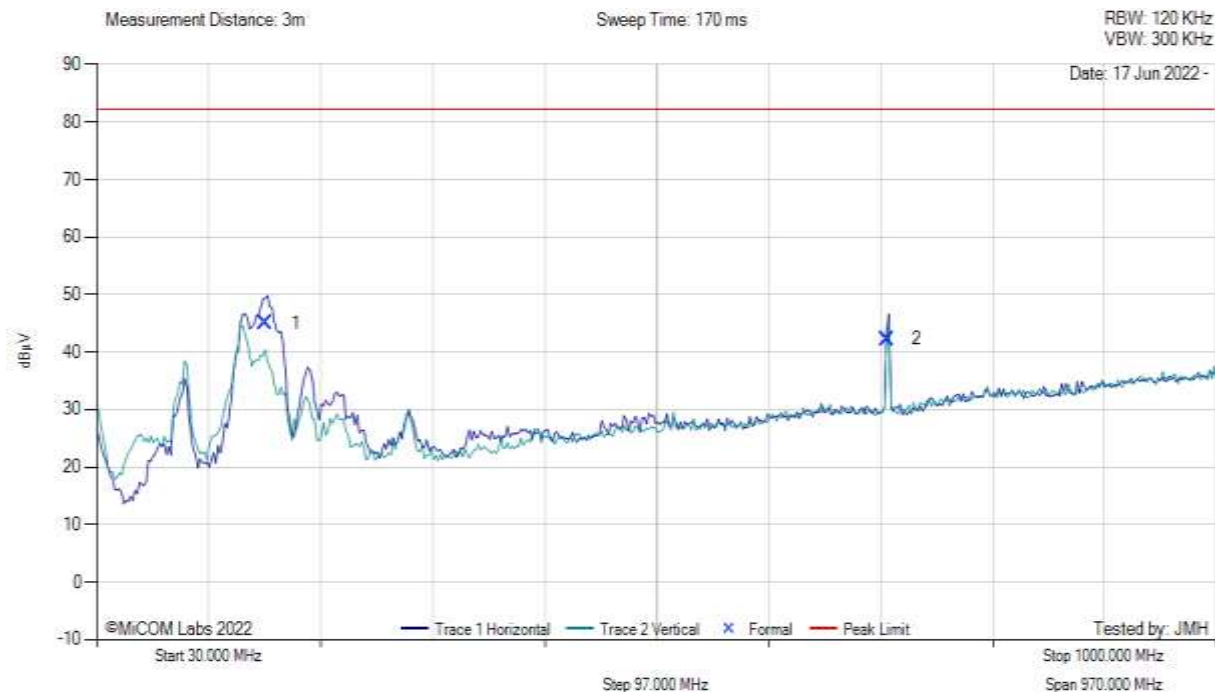


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	157.13	62.13	4.39	-19.04	47.48	MaxQP	Horizontal	101	102	82.2	-34.8	Pass
2	172.42	63.76	4.46	-19.61	48.60	MaxQP	Horizontal	112	261	82.2	-33.6	Pass
3	185.49	60.56	4.53	-19.98	45.10	MaxQP	Horizontal	101	280	82.2	-37.1	Pass
4	707.23	50.36	6.34	-10.28	46.42	Fundamental	Horizontal	1100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. Band 12, 1.4M Bandwidth. 700 MHz notch in front of amp to prevent overloads.

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Variant: LTE Band 12, Test Freq: 715.2 MHz, Power Setting: Max



30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	176.41	60.33	4.48	-19.79	45.02	MaxQP	Horizontal	127	126	82.2	-37.2	Pass
2	715.19	46.13	6.37	-10.28	42.22	Fundamental	Horizontal	100	27	--	--	

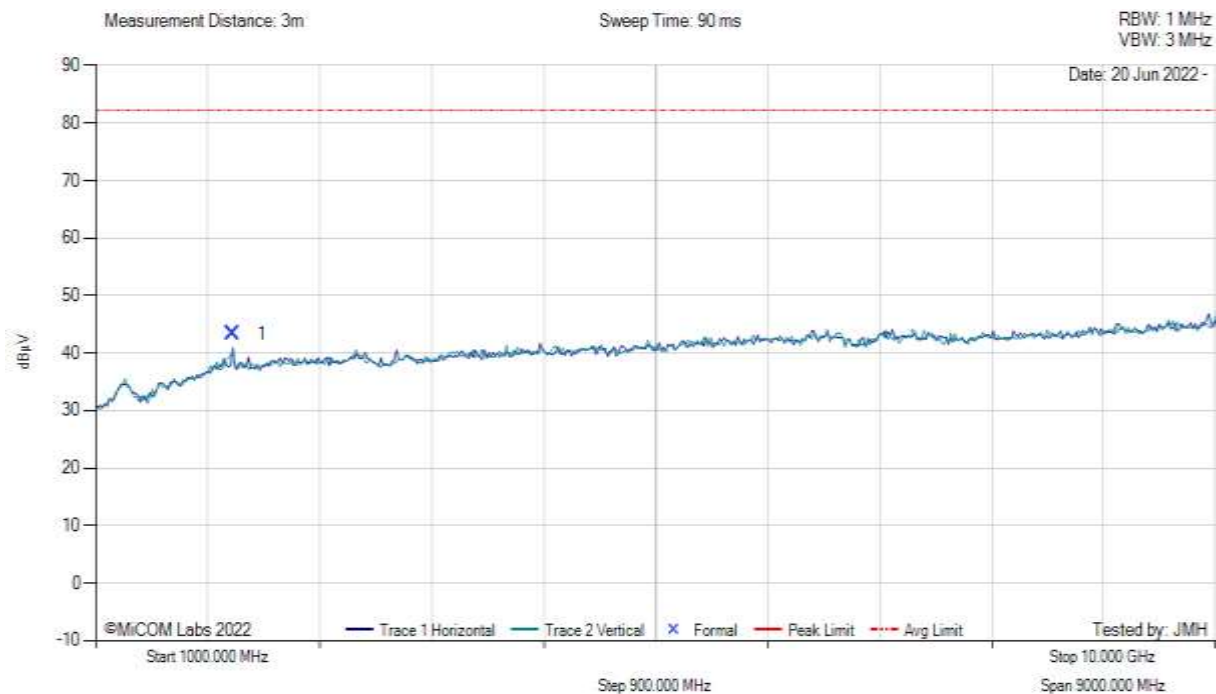
Test Notes: BIT-01-2 powered by 36V AC/DC PS. Band 12, 1.4M Bandwidth. QPSK Modulation. 700 MHz Notch in front of amp to prevent overloads.

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Spurious Emissions 1-10 GHz



Variant: LTE Band 12, Test Freq: 699.70 MHz, Power Setting: Max

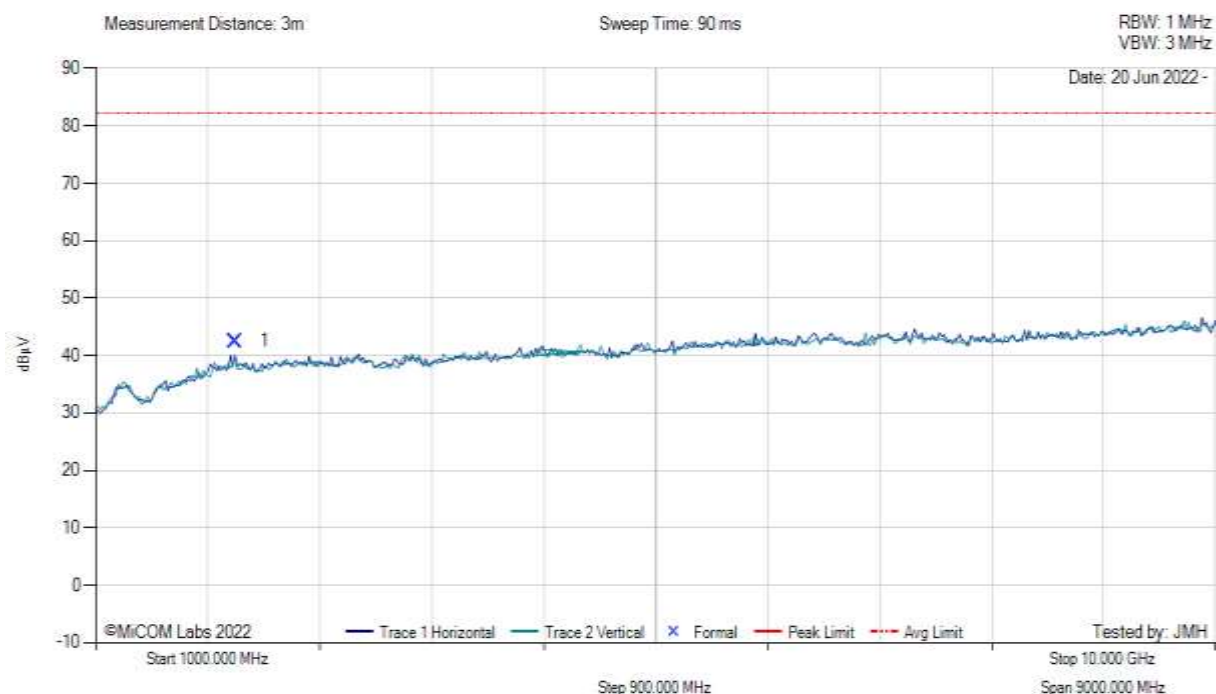


1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2099.36	54.29	1.85	-12.82	43.33	Max Peak	Vertical	162	181	82.2	-38.9	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Variant: LTE Band 12, Test Freq: 707.50 MHz, Power Setting: Max

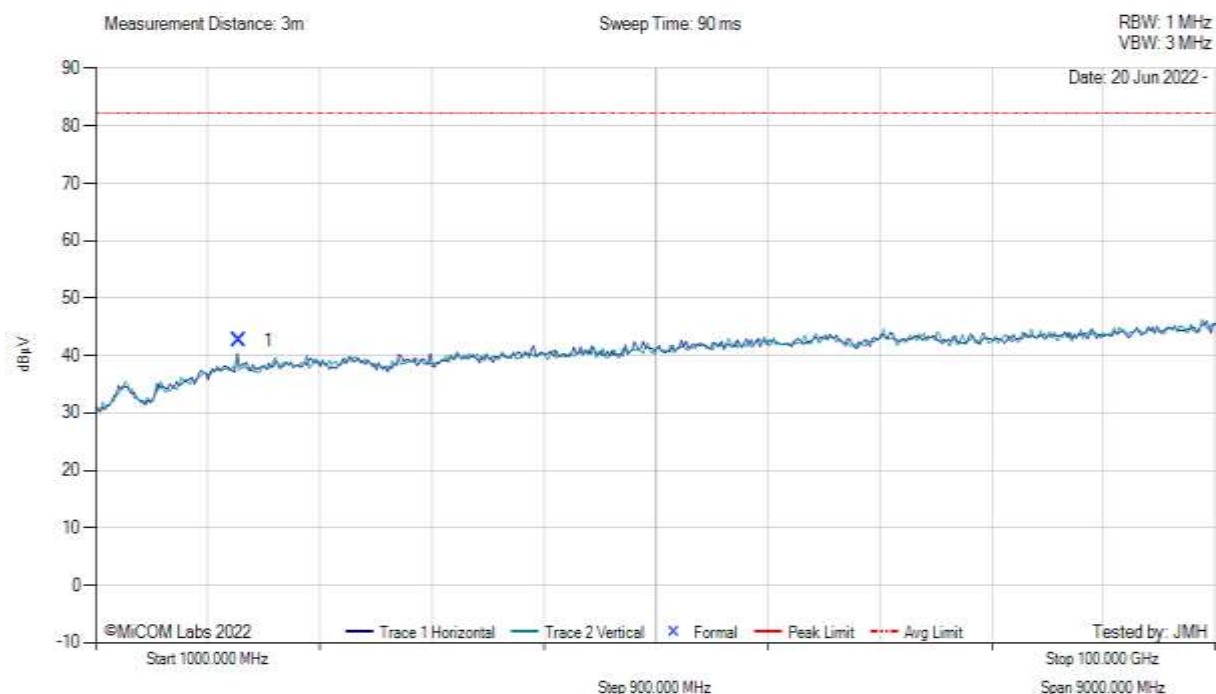


1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2122.47	53.38	1.86	-12.78	42.46	Max Peak	Vertical	98	41	82.2	-39.8	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Variant: LTE Band 12, Test Freq: 715.20 MHz, Power Setting: Max



1000.00 - 100000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2145.79	53.61	1.88	-12.82	42.67	Max Peak	Vertical	98	3	82.2	-39.6	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

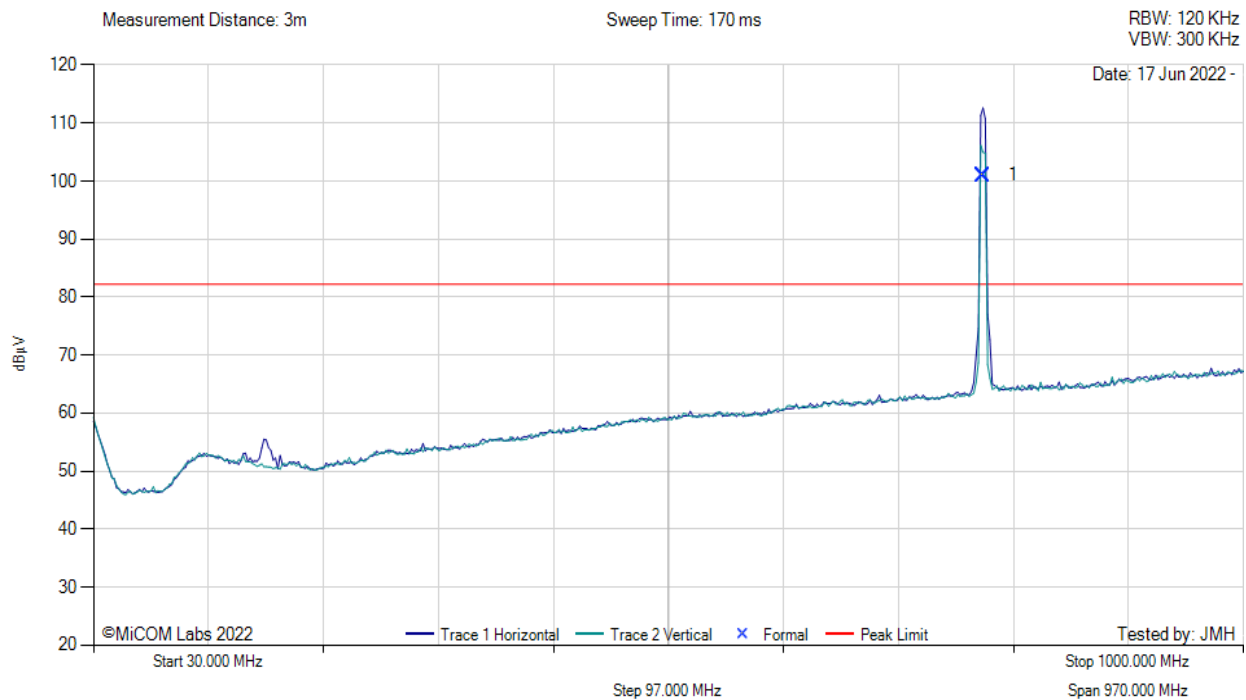
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Band 13: Radiated Transmitter Emissions

Spurious Emissions 30-1000 MHz



Variant: LTE Band 13, Test Freq: 779.50 MHz, Power Setting: Max

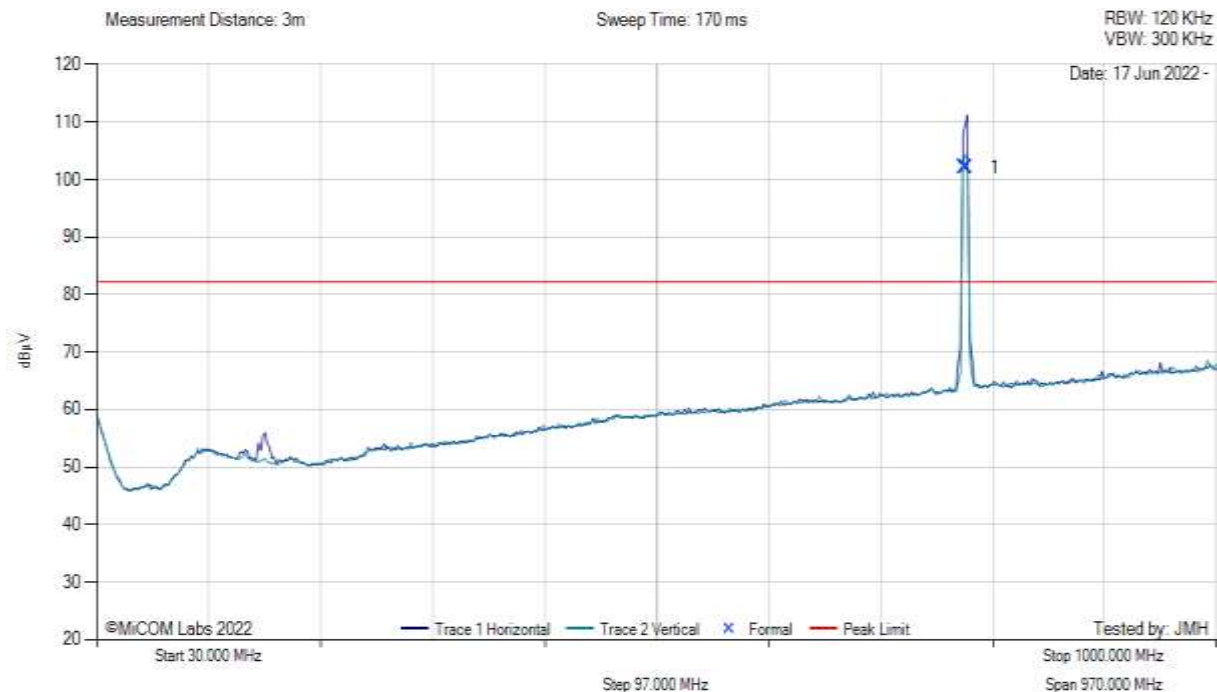


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	779.74	103.95	6.56	-9.53	100.98	Fundamental	Horizontal	100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth. 30 dB attenuation..

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Variant: LTE Band 13, Test Freq: 782.00 MHz, Power Setting: Max

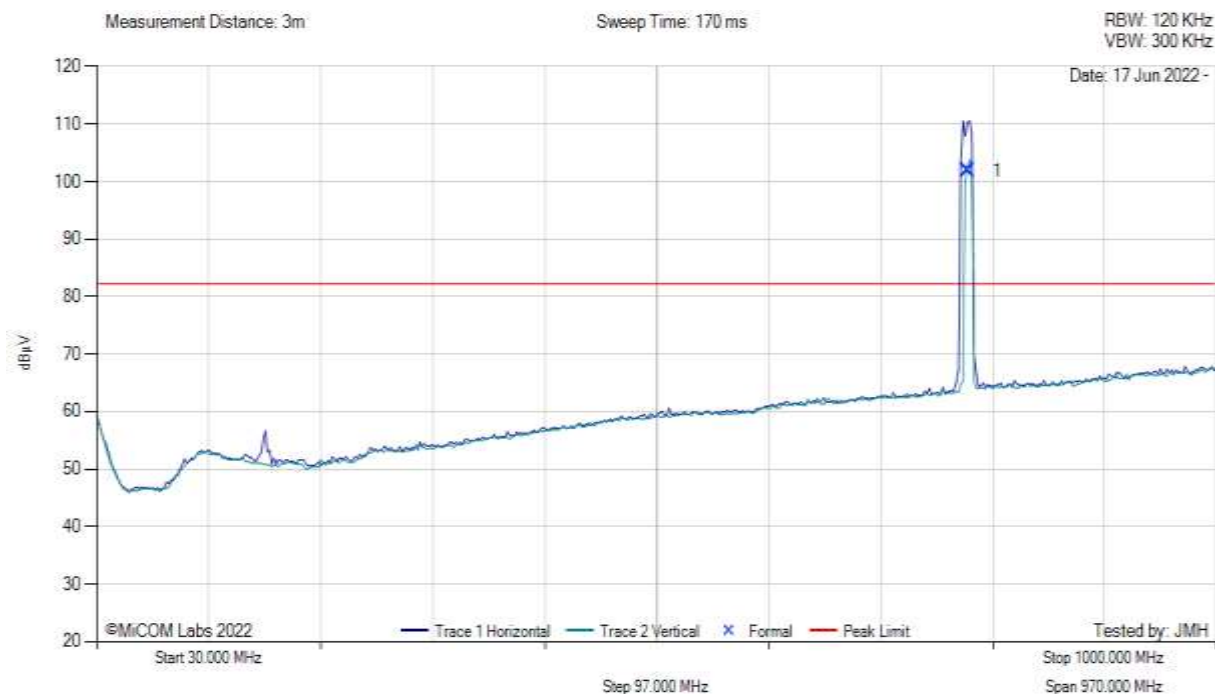


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	782.08	104.97	6.57	-9.48	102.07	Fundamental	Horizontal	100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth. 30 dB attenuation..

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Variant: LTE Band 13, Test Freq: 784.50 MHz, Power Setting: Max



30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	784.47	104.83	6.58	-9.53	101.88	Fundamental	Horizontal	100	0	--	--	

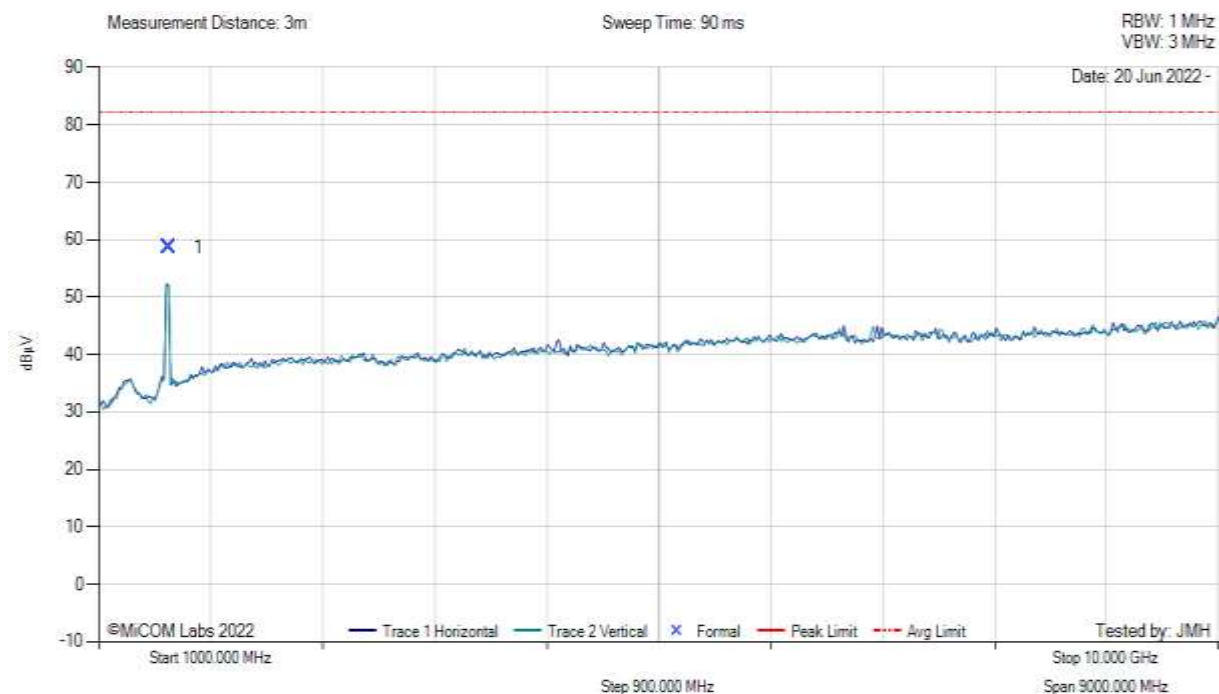
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth. 30 dB attenuation..

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Spurious Emissions 1-10 GHz



Variant: LTE Band 13, Test Freq: 779.50 MHz, Power Setting: Max

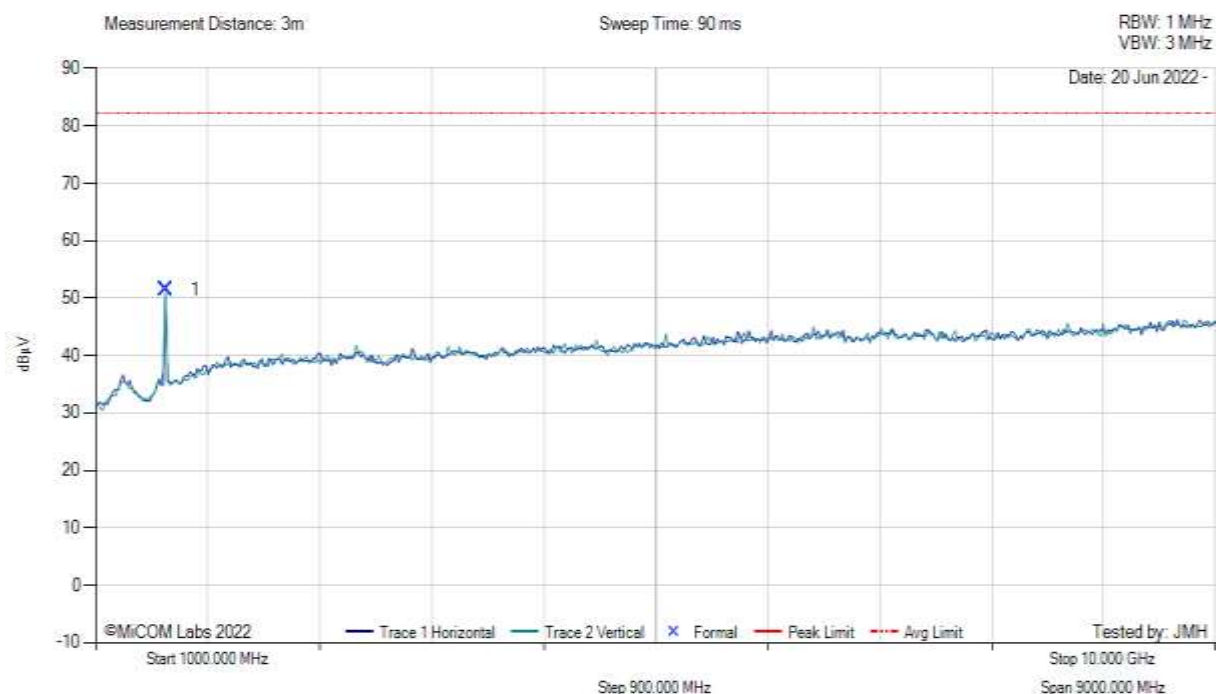


1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1558.99	73.89	1.58	-16.85	58.62	Max Peak	Horizontal	100	13	82.2	-23.6	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth.

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Variant: LTE Band 13, Test Freq: 782.00 MHz, Power Setting: Max

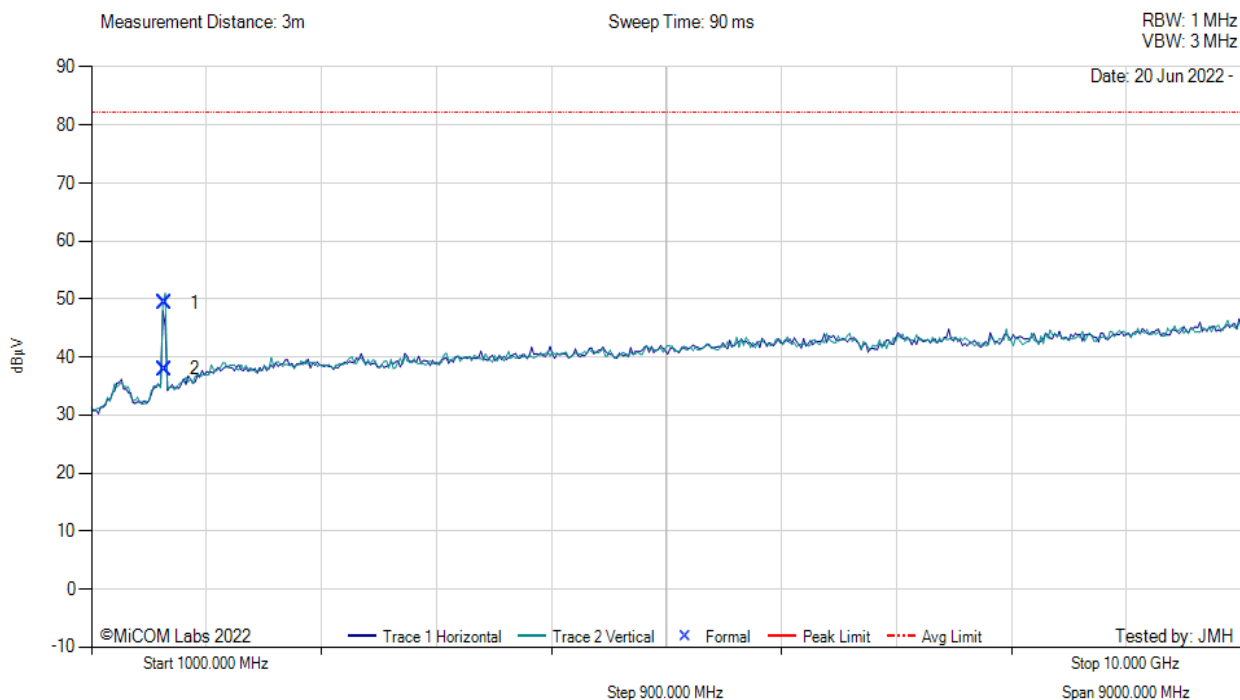


1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1564.01	66.75	1.61	-16.85	51.52	Max Peak	Horizontal	180	144	82.2	-30.7	Pass
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth.												

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Variant: LTE Band 13, Test Freq: 784.50 MHz, Power Setting: Max



1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1568.78	64.56	1.63	-16.84	49.35	Max Peak	Horizontal	167	196	82.2	-32.9	Pass
2	1568.78	53.14	1.63	-16.84	37.93	Max Avg	Horizontal	167	196	124.2	-86.3	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 5M Bandwidth.

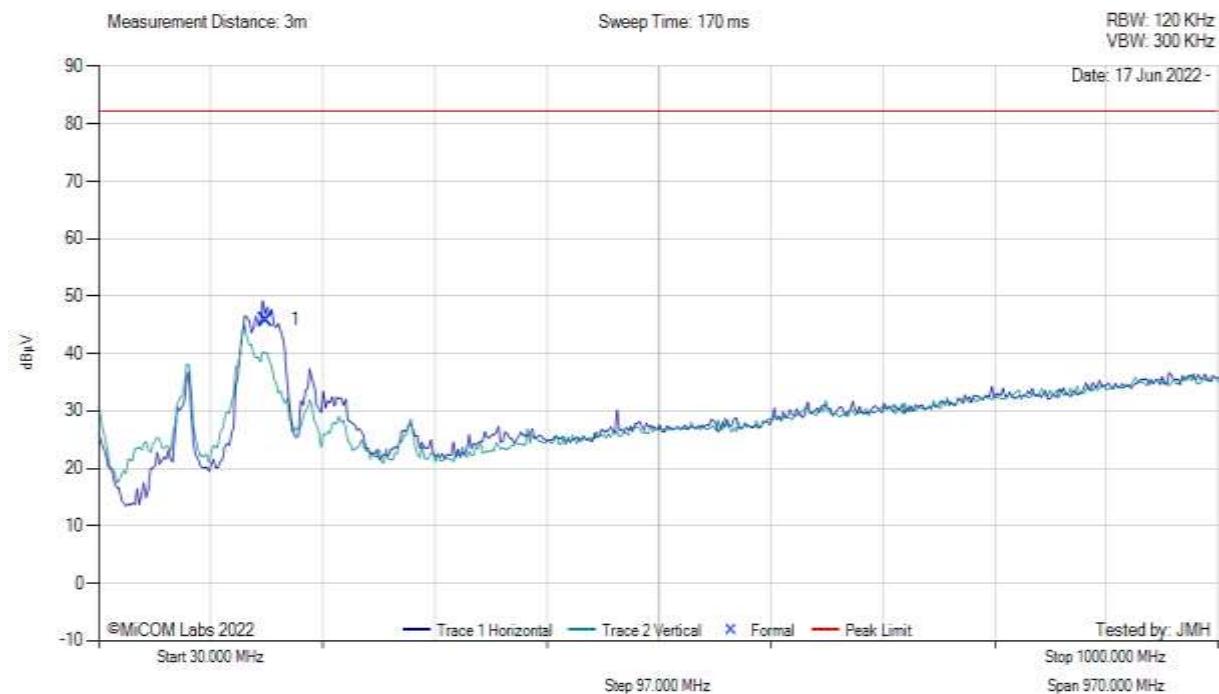
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Band 25: Radiated Transmitter Emissions

Spurious Emissions 30-1000 MHz



Variant: LTE Band 25, Test Freq: 1850.70 MHz, Power Setting: Max

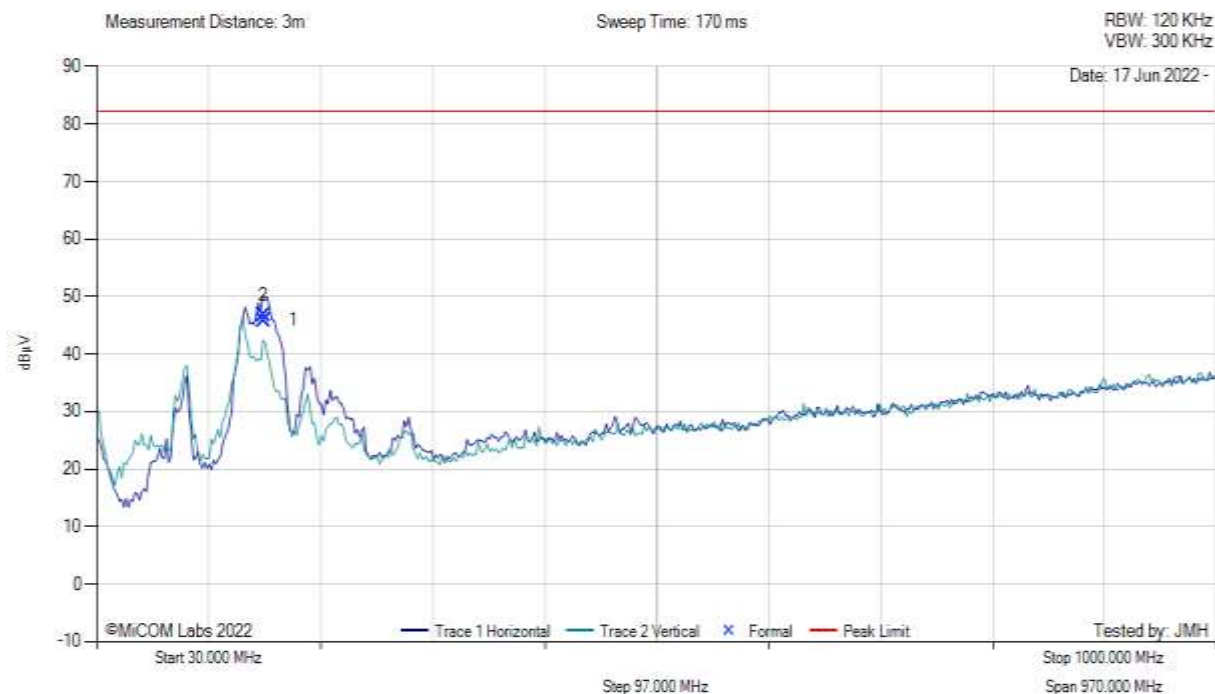


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	174.24	61.14	4.46	-19.73	45.87	MaxQP	Horizontal	98	105	82.2	-36.4	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Variant: LTE Band 25, Test Freq: 1882.50 MHz, Power Setting: Max

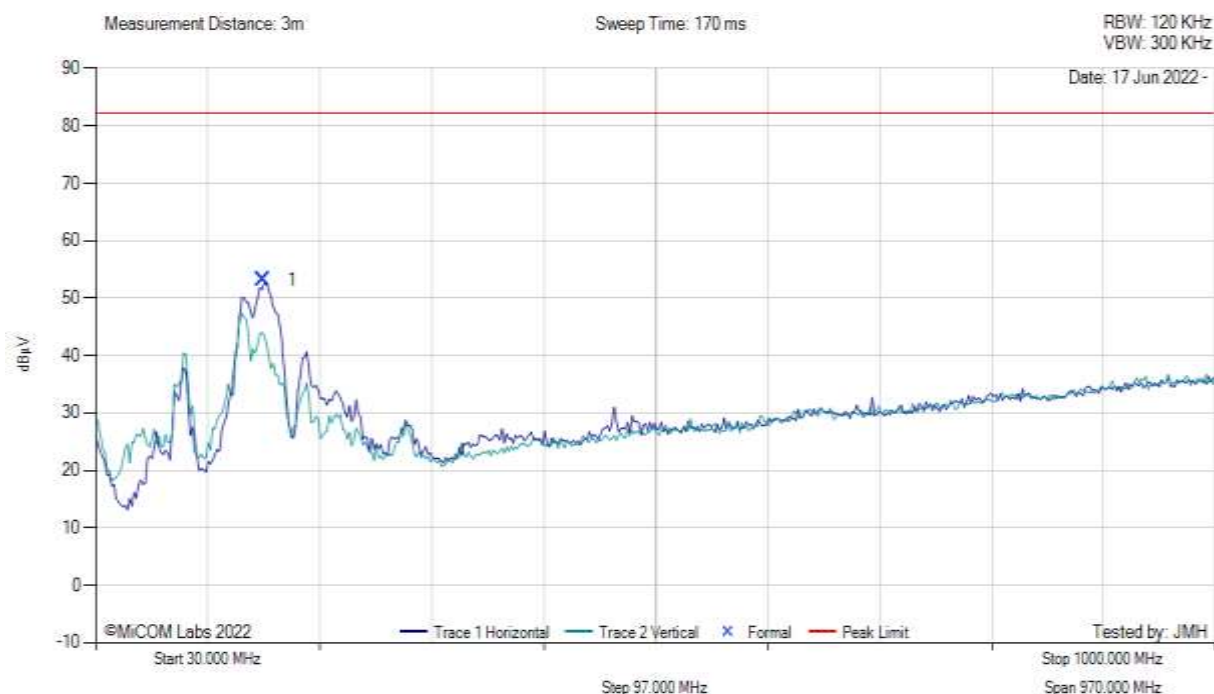


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	174.34	61.11	4.46	-19.73	45.84	MaxQP	Horizontal	115	79	82.2	-36.4	Pass
2	174.34	61.94	4.46	-19.73	46.67	MaxQP	Horizontal	115	266	82.2	-35.6	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Variant: LTE Band 25, Test Freq: 1914.20 MHz, Power Setting: Max



30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	174.61	68.41	4.46	-19.73	53.14	MaxQP	Horizontal	116	265	82.2	-29.1	Pass

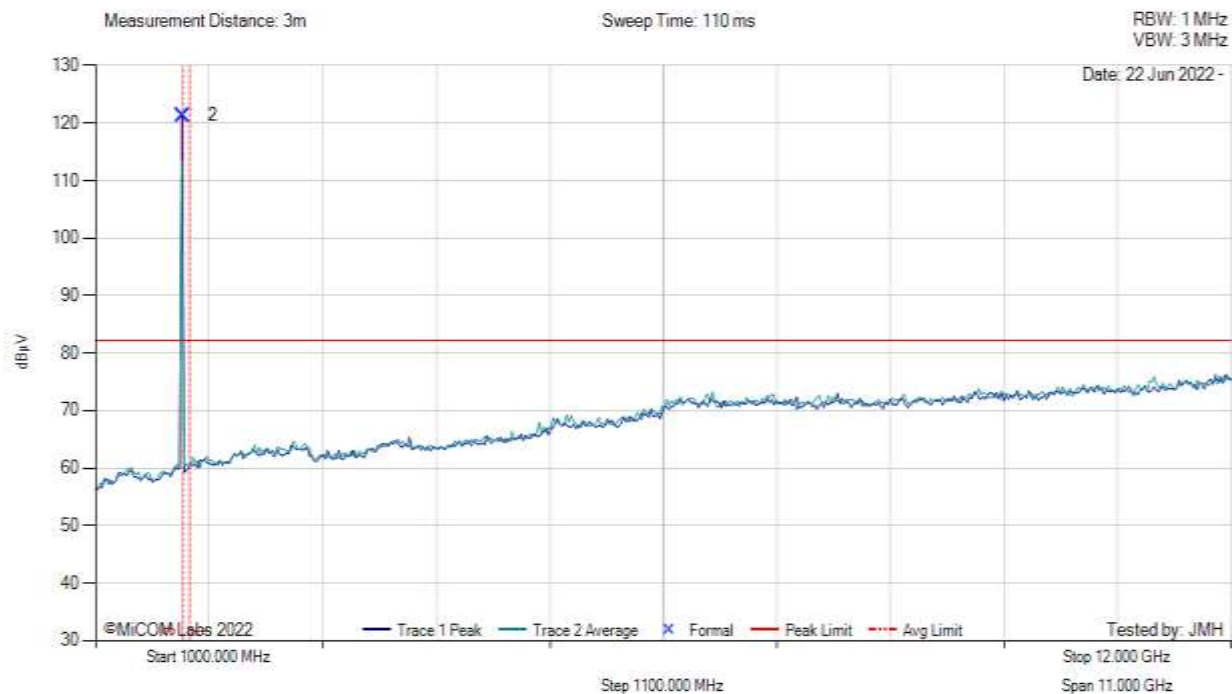
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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Spurious Emissions 1-12 GHz



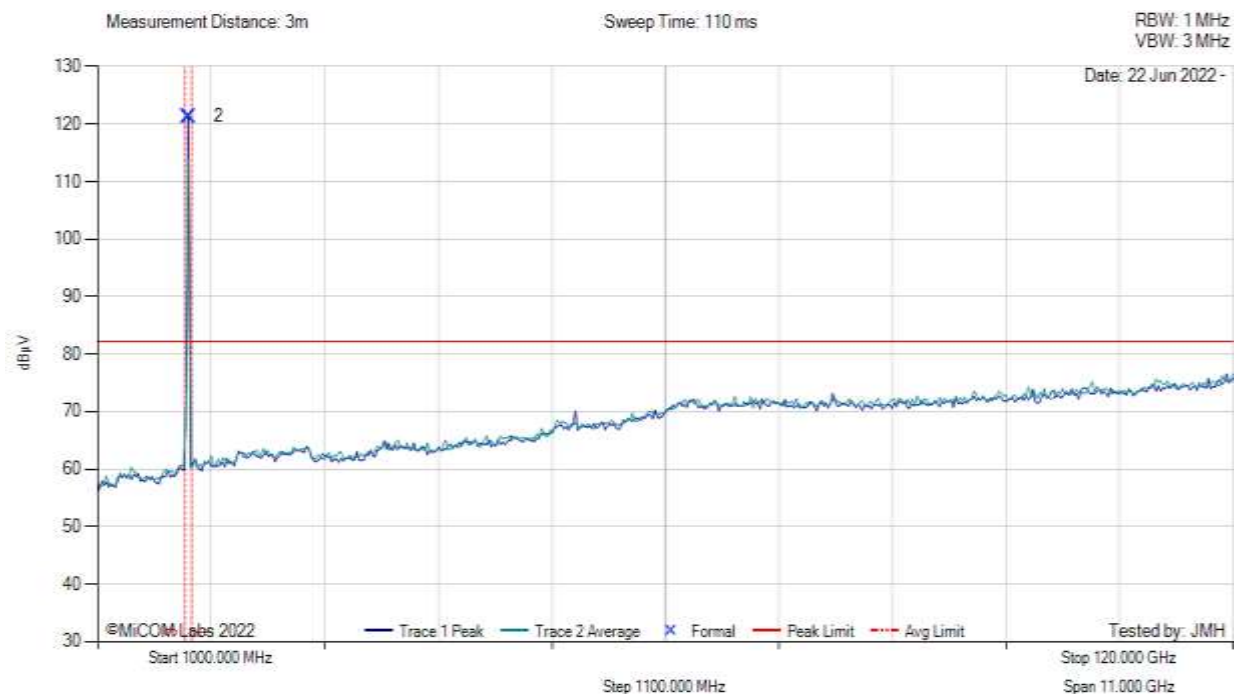
Variant: LTE Band 25, Test Freq: 1850.70 MHz, Power Setting: Max



1000.00 - 12000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	1850.68	88.85	1.75	30.73	121.34	Fundamental	Horizontal	151	-3	--	--	
1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
3	1915.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth												

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Variant: LTE Band 25, Test Freq: 1882.50 MHz, Power Setting: Max



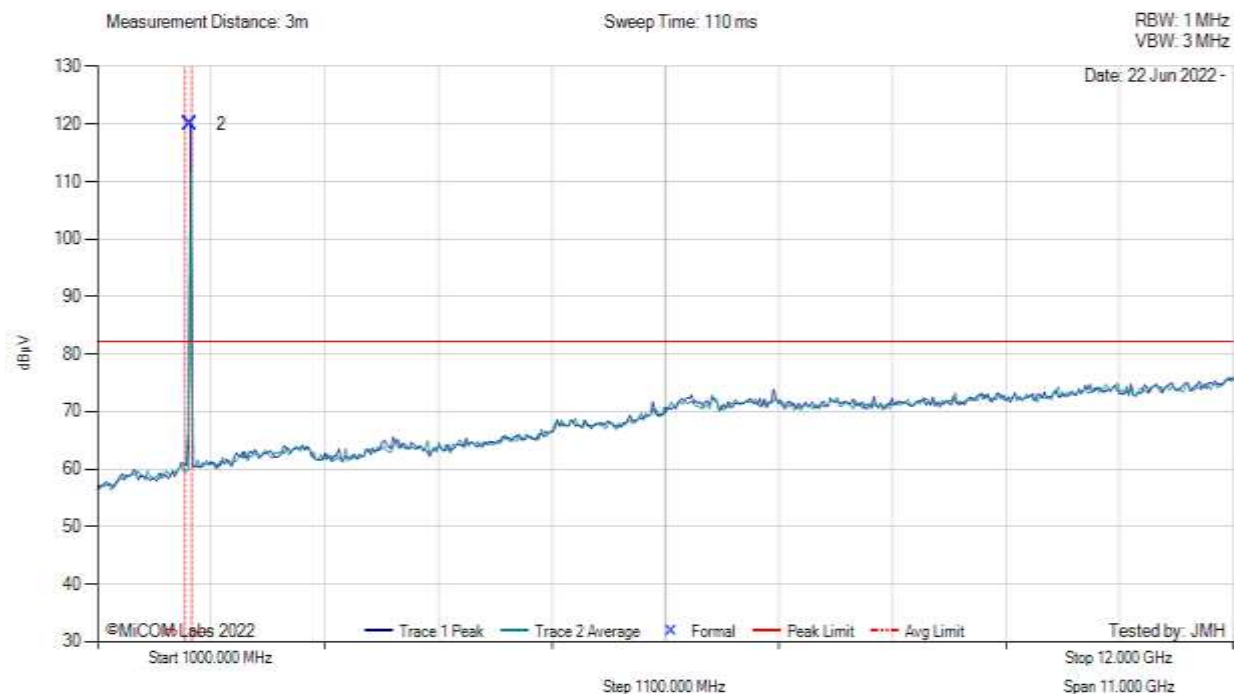
1000.00 - 120000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	1882.56	88.49	1.76	31.04	121.29	Fundamental	Horizontal	151	0	--	--	
1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
3	1915.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

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Variant: LTE Band 25, Test Freq: 1914.20 MHz, Power Setting: Max



1000.00 - 12000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	1914.21	87.04	1.75	31.16	119.96	Fundamental	Horizontal	150	0	--	--	
1	1850.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
3	1915.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth

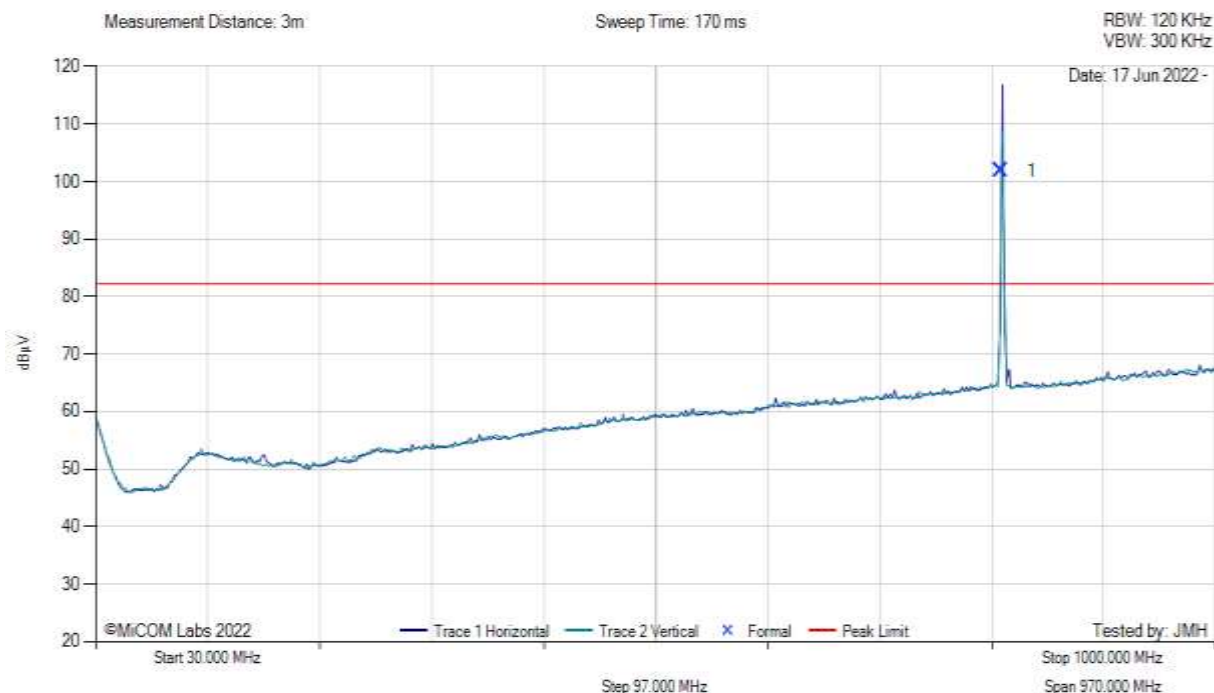
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Band 26: Radiated Transmitter Emissions

Spurious Emissions 30-1000 MHz



Variant: LTE Band 26, Test Freq: 814.70 MHz, Power Setting: Max

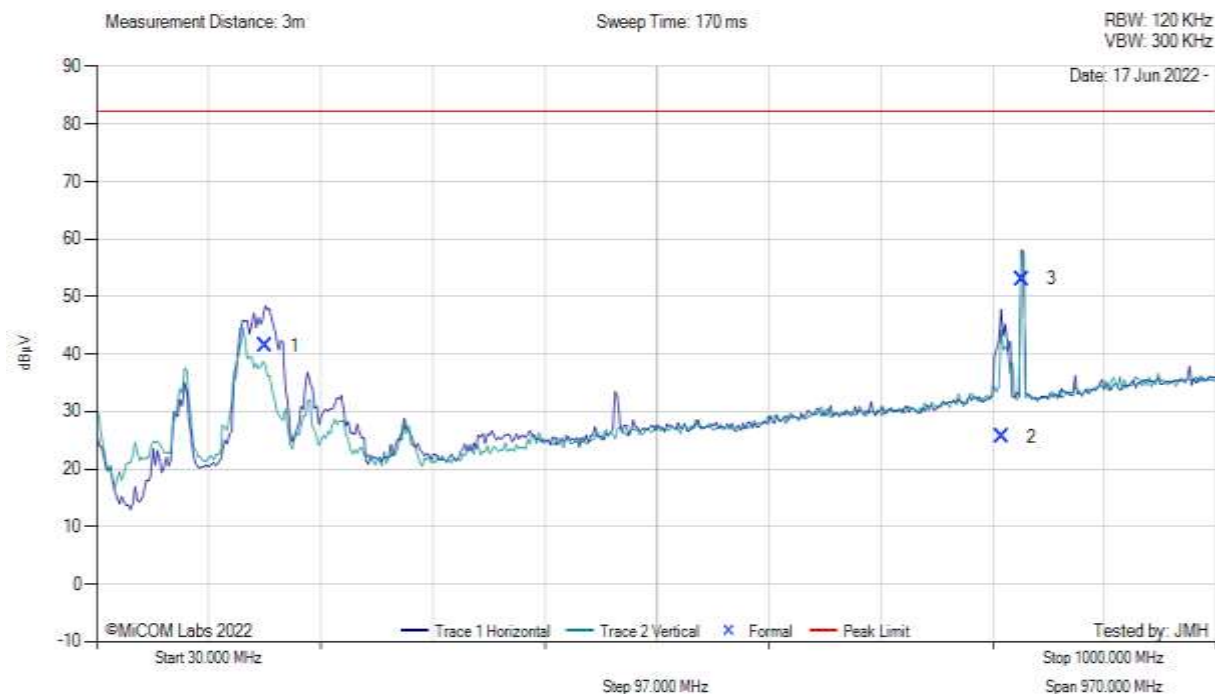


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	814.61	104.31	6.68	-9.10	101.89	Fundamental	Horizontal	100	0	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 30 dB attenuation..

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Variant: LTE Band 26, Test Freq: 831.50 MHz, Power Setting: Max

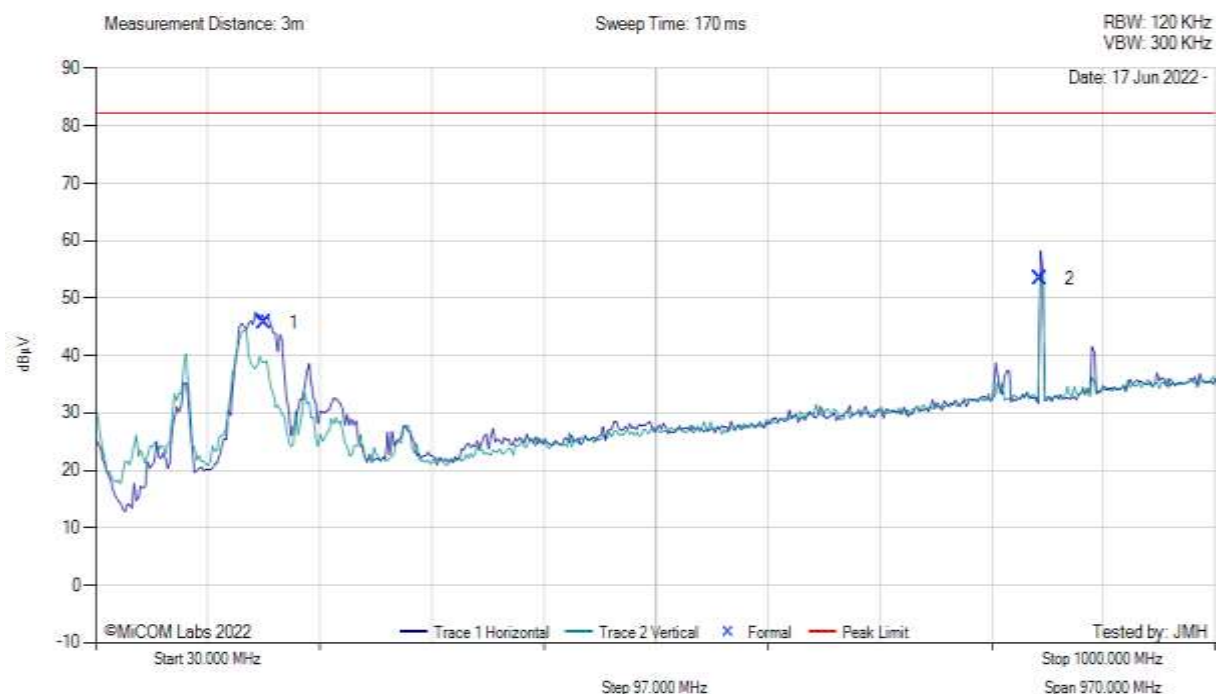


30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	175.92	56.68	4.47	-19.76	41.39	MaxQP	Horizontal	106	121	82.2	-40.8	Pass
2	813.78	28.02	6.68	-9.07	25.63	MaxQP	Horizontal	191	210	82.2	-56.6	Pass
3	831.47	55.24	6.72	-8.93	53.03	Fundamental	Horizontal	100	88	--	--	

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 840M Notch in front of amp to prevent overload.

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Variant: LTE Band 26, Test Freq: 848.20 MHz, Power Setting: Max



30.00 - 1000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	176.18	61.01	4.48	-19.79	45.70	MaxQP	Horizontal	98	100	82.2	-36.5	Pass
2	848.14	55.55	6.80	-9.01	53.35	Peak (NRB)	Horizontal	100	110	--	--	Pass

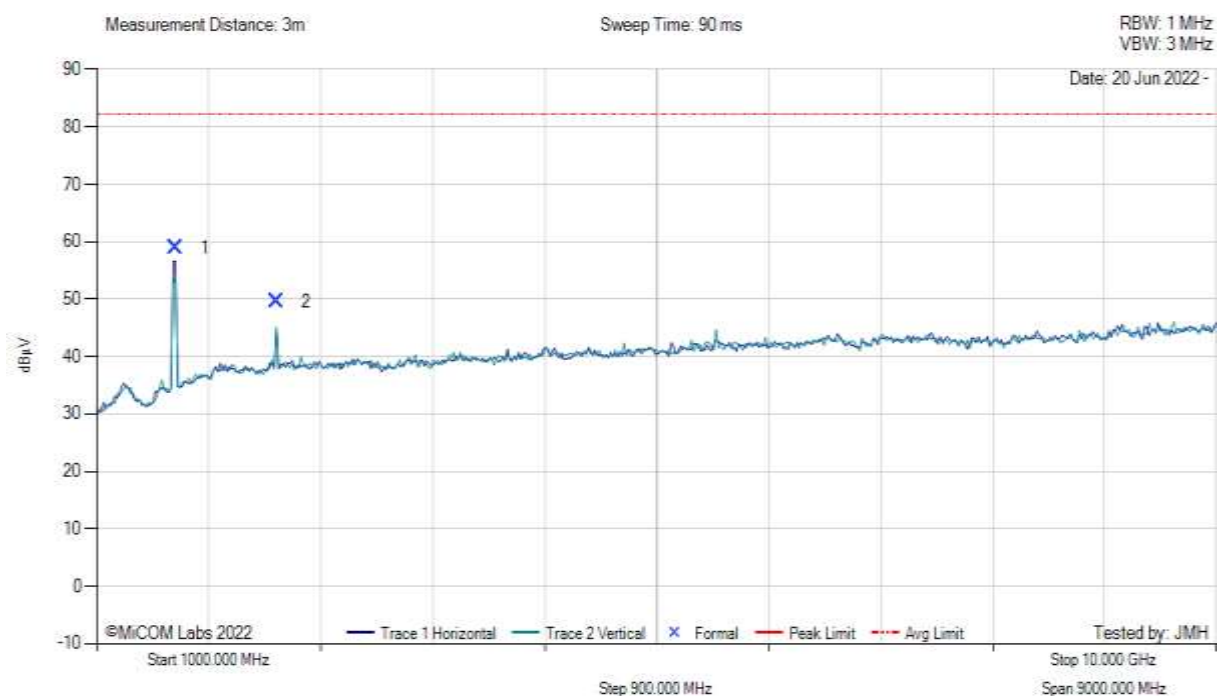
Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth. 840M Notch in front of amp to prevent overload.

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Spurious Emissions 1-10 GHz



Variant: LTE Band 26, Test Freq: 814.70 MHz, Power Setting: Max

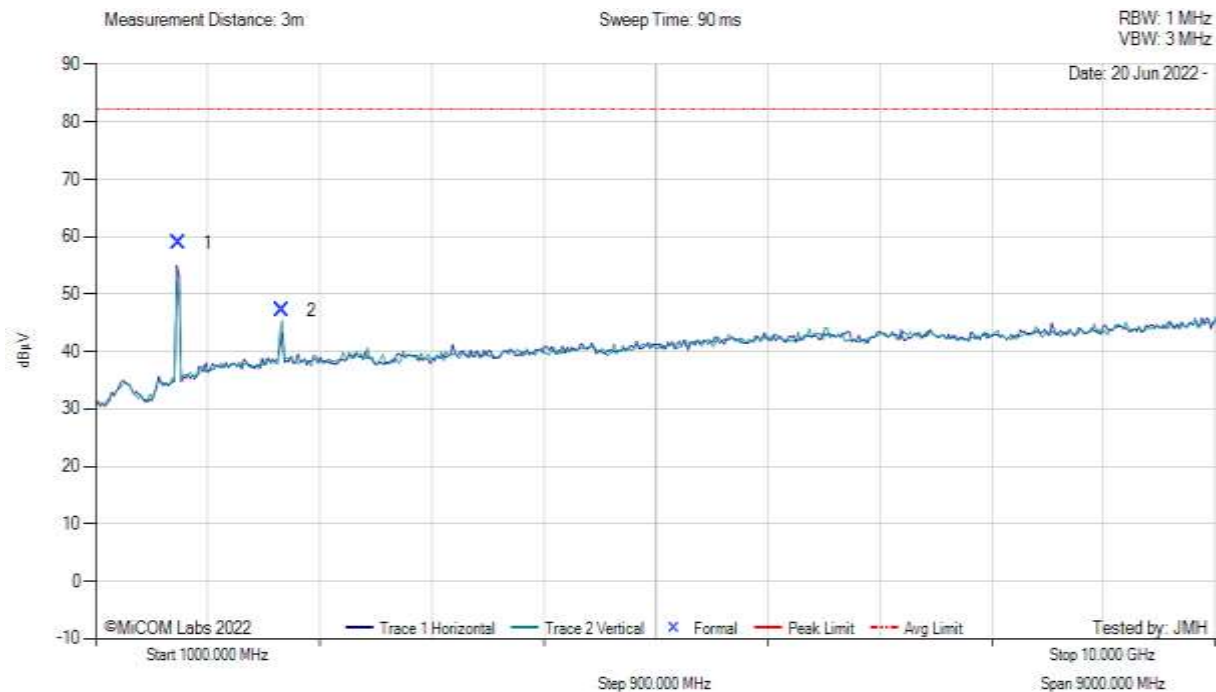


1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1629.27	73.88	1.63	-16.53	58.98	Max Peak	Horizontal	126	37	82.2	-23.3	Pass
2	2444.38	59.54	2.01	-12.04	49.51	Max Peak	Vertical	101	165	82.2	-32.7	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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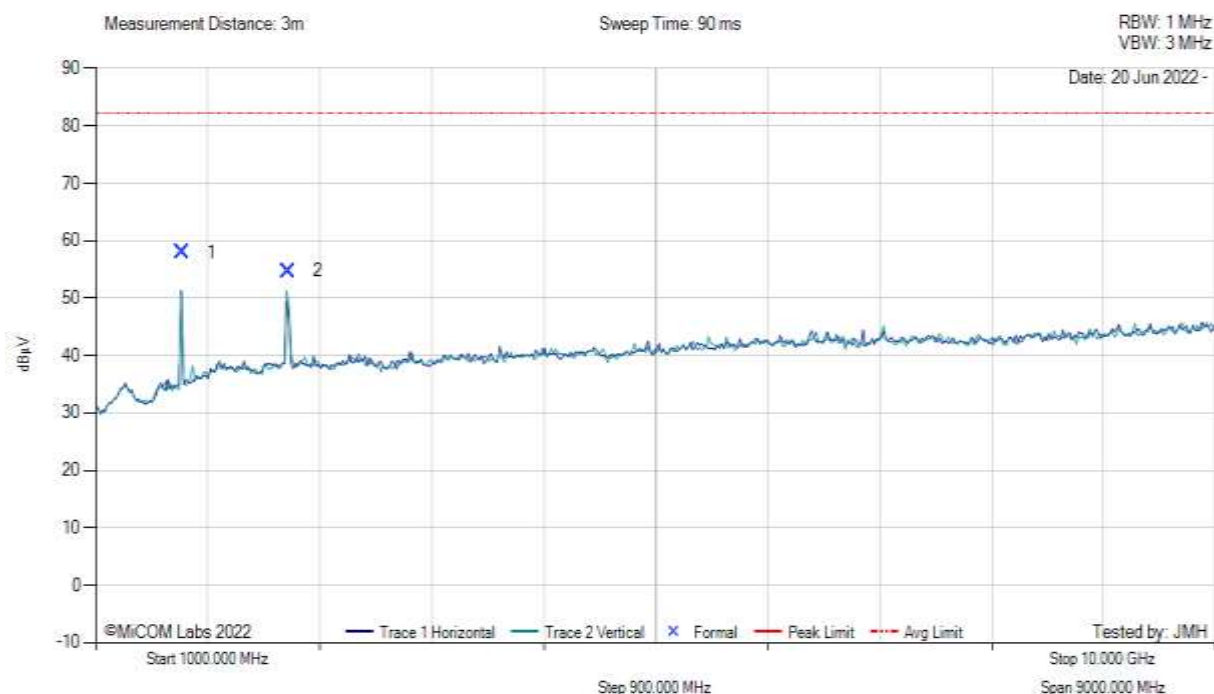
Variant: LTE Band 26, Test Freq: 831.50 MHz, Power Setting: Max



1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1662.95	73.64	1.66	-16.37	58.92	Max Peak	Horizontal	182	149	82.2	-23.3	Pass
2	2494.53	57.00	2.00	-11.84	47.16	Max Peak	Vertical	160	59	82.2	-35.1	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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1000.00 - 10000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	1696.43	72.37	1.67	-16.03	58.01	Max Peak	Horizontal	106	148	82.2	-24.2	Pass
2	2544.58	64.48	2.03	-11.79	54.72	Max Peak	Vertical	122	143	82.2	-27.5	Pass

Test Notes: BIT-01-2 powered by 36V AC/DC PS. 1.4M Bandwidth.

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