

# **Element Materials Technology**

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# PART 24 MEASUREMENT REPORT

## Applicant Name:

Apple Inc. One Apple Park Way Cupertino, CA 95014 United States

**Test Procedure(s):** 

## Date of Testing:

04/11/2024 - 07/31/2024 **Test Report Issue Date:** 8/1/2024 **Test Site/Location:** Element Materials Technology, Morgan Hill, CA, USA **Test Report Serial No.:** 1C2405230021-04.BCG

ANSI C63.26-2015, TIA-603-E-2016, KDB 971168 D01 v03r01

FCC ID:	BCG-A3001
Applicant Name:	Apple Inc.
Application Type:	Certification
Model:	A3001, A3002
EUT Type:	Watch
FCC Classification:	PCS Licensed Transmitter Worn on Body (PCT)
FCC Rule Part:	24

his equipment has been shown to be can able of compliance with the applicable technical standards as indicated in the measurem

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RJ Ortanez Executive Vice President

Prepared by: WKR000006184

Reviewed by: WKR000006164



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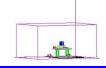


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					PAR at 0.1%	EI	RP	Emission
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	OBW [MHz]	[dB]	Max. Power [mW]	Max. Power [dBm]	Designator
WCDMA1900	5 MHz	Spread Spectrum	1852.4 - 1907.6	4.1025	3.28	11.350	10.55	4M10F9W
	1.4 MHz	QPSK	1850.7 - 1909.3	1.1058	5.92	13.032	11.15	1M11G7W
	1.4 101-12	16QAM	1850.7 - 1909.3	1.1039	6.54	11.722	10.69	1M10D7W
	3 MHz	QPSK	1851.5 - 1908.5	2.7080	5.86	13.062	11.16	2M71G7W
		16QAM	1851.5 - 1908.5	2.7146	6.54	11.561	10.63	2M71D7W
	5 MHz	QPSK	1852.5 - 1907.5	4.5407	5.88	13.552	11.32	4M54G7W
Band 2		16QAM	1852.5 - 1907.5	4.5431	6.52	11.803	10.72	4M54D7W
Danu Z	10MHz	QPSK	1855 - 1905	9.0463	5.70	12.912	11.11	9M05G7W
	TOMINZ	16QAM	1856 - 1905	5.2136	6.44	11.749	10.70	5M21D7W
	15 MHz	QPSK	1857.5 - 1902.5	13.5472	5.88	13.614	11.34	13M5G7W
-		16QAM	1857.5 - 1902.5	5.5928	6.42	11.749	10.70	5M59D7W
	20 MHz	QPSK	1860 - 1900	18.1808	5.56	13.583	11.33	18M2G7W
		16QAM	1860 - 1900	7.0361	6.42	11.749	10.70	7M04D7W
	1.4 MHz	QPSK	1850.7 - 1914.3	1.1058	5.74	12.942	11.12	1M11G7W
		16QAM	1850.7 - 1914.3	1.1039	6.42	11.508	10.61	1M10D7W
	3 MHz	QPSK	1851.5 - 1913.5	2.7080	5.88	13.032	11.15	2M71G7W
		16QAM	1851.5 - 1913.5	2.7146	6.66	11.588	10.64	2M71D7W
	5 MHz	QPSK	1852.5 - 1912.5	4.5407	5.88	13.521	11.31	4M54G7W
Band 25		16QAM	1852.5 - 1912.5	4.5431	6.52	12.023	10.80	4M54D7W
Danu 25	10 MHz	QPSK	1855 - 1910	9.0463	5.70	12.912	11.11	9M05G7W
		16QAM	1855 - 1910	5.2136	6.44	11.885	10.75	5M21D7W
	15 MHz	QPSK	1857.5 - 1907.5	13.5472	5.88	13.583	11.33	13M5G7W
		16QAM	1857.5 - 1907.5	5.5928	6.42	11.722	10.69	5M59D7W
	20 MHz	QPSK	1860 - 1905	18.1808	5.56	13.459	11.29	18M2G7W
	20 IVIHZ	16QAM	1860 - 1905	7.0361	6.40	11.641	10.66	7M04D7W

**EUT Overview** 

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# 1.0 INTRODUCTION

# 1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

# 1.2 Element Materials Technology Test Location

These measurement tests were conducted at the Element Materials Technology facility located at 18855 Adams Court, Morgan Hill, CA 95037. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014 and KDB 414788 D01 v01r01.

## 1.3 Test Facility / Accreditations

## Measurements were performed at Element Materials Technology

- Element Materials Technology is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.02 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- Element Materials Technology TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- Element Materials Technology facility is a registered (22831) test laboratory with the site description on file with ISED.
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Agreements (MRAs).

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# 2.0 PRODUCT INFORMATION

## 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Watch FCC ID:BCG-A3001**. The test data contained in this report pertains only to the emissions due to the EUT's licensed transmitters that operate under the provisions of Part 24.

Test Device Serial No.: KFW756T66W, GC5JC74LHJ, Y36KY3D40J, DLCH2T0002300006QM, DLCH5R000GR00006QM

## 2.2 Device Capabilities

This device contains the following capabilities:

850/1700/1900 WCDMA/HSPA, Multi-band LTE, 802.11b/g/n WLAN, 802.11a/n UNII, 802.15.4ab-NB, Bluetooth (1x, EDR, HDR4, HDR8, LE1M, LE2M), NFC, UWB, 60.5GHz Transmitter.

This device supports simultaneous transmission operations, which allows for multiple transmitters to transmit simultaneously on the same antenna. The table below shows all configurations possible.

	Antenna FCM					
Simultaneous Tx	WLAN	Bluetooth	802.15.4ab - NB	LTE/WCDMA	UNII	UWB
Config	802.11b/g/n	BDR, EDR, HDR4/8, LE1/2M	O-QP SK	Mid/High Band	802.11a/n	Ch.5/Ch.9
Config 1	✓	×	×	✓	×	✓
Config 2	×	$\checkmark$	×	✓	×	✓
Config 3	×	~	✓	✓	×	×
Config 4	✓	×	✓	✓	×	×
Config 5	×	✓	×	✓	✓	×
Config 6	×	$\checkmark$	×	✓	×	✓
Config 7	✓	×	×	✓	×	×
Config 8	✓	×	✓	×	×	×
Config 9	✓	×	×	×	×	✓
Config 10	×	$\checkmark$	×	×	✓	×
Config 11	×	✓	×	✓	×	×
Config 12	×	✓	✓	×	×	×
Config 13	×	✓	×	×	×	✓
Config 14	×	×	✓	✓	*	×
Config 15	×	×	×	✓	✓	×
Config 16	×	×	×	✓	*	✓

Table 2-1. Simultaneous Transmission Configurations

#### $\checkmark$ = Support; \* = Not Support

#### Note:

All the above simultaneous transmission configurations have been tested and the worst case configuration was found to be config 5 and reported in RF UNII, RF Bluetooth and RF Part 27b test reports.

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# 2.3 Antenna Description

The following antenna gains provided by the manufacturer were used for testing.

Frequency [MHz]	Antenna Gain [dBi]
	Antenna FCM
LTE Band 25/2	-13.1
WCDMA 1900	-13.1

Table 2-2. Highest Antenna Gain

# 2.4 Test Support Equipment

Apple Macbook	Model:	A1398	S/N:	FVFDHG8TP3XY
w/AC/DC Adapter	Model:	A1435	S/N:	N/A
Apple USB-C cable	Model:	N/A	S/N:	N/A
w/ Charging Dock	Model:	A2921	S/N:	DQ812910BZZ08V222
w/ Cradle	Model:	N/A	S/N:	CYV11630817A2SE03MEV1
Apple Magnetic Charger	Model:	A2515	S/N:	DLC217301501NR112
Apple Magnetic Charger	Model:	A2515	S/N:	DLC217301EZ1NR11A
Pathfinder Mocha X3100	Model:	920-13353-01	S/N:	DLCGMW0007G00000N7
SiP Socket	Model:	P1 N20X S PF 271	S/N:	FN6GTE0005G00000HS
DC Power Supply	Model:	KPS3010D	S/N:	N/A
Store Sample Wristband	Model:	N/A	S/N:	DLC316300CU1QGKA2
	<ul> <li>w/AC/DC Adapter</li> <li>Apple USB-C cable</li> <li>w/ Charging Dock</li> <li>w/ Cradle</li> <li>Apple Magnetic Charger</li> <li>Apple Magnetic Charger</li> <li>Pathfinder Mocha X3100</li> <li>SiP Socket</li> <li>DC Power Supply</li> </ul>	w/AC/DC AdapterModel:Apple USB-C cableModel:w/ Charging DockModel:w/ CradleModel:Apple Magnetic ChargerModel:Apple Magnetic ChargerModel:Apple Magnetic ChargerModel:SiP SocketModel:DC Power SupplyModel:	w/AC/DC AdapterModel:A1435Apple USB-C cableModel:N/Aw/ Charging DockModel:A2921w/ CradleModel:N/Aw/ CradleModel:N/AApple Magnetic ChargerModel:A2515Apple Magnetic ChargerModel:A2515Pathfinder Mocha X3100Model:920-13353-01SiP SocketModel:P1 N20X S PF 271DC Power SupplyModel:KPS3010D	WAC/DC AdapterModel:A1435S/N:Apple USB-C cableModel:N/AS/N:W/ Charging DockModel:A2921S/N:W/ CradleModel:N/AS/N:W/ CradleModel:N/AS/N:Apple Magnetic ChargerModel:A2515S/N:Apple Magnetic ChargerModel:A2515S/N:Pathfinder Mocha X3100Model:920-13353-01S/N:SiP SocketModel:P1 N20X S PF 271S/N:DC Power SupplyModel:KPS3010DS/N:

Table 2-3. Test Support Equipment

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# 2.5 Test Configuration

The EUT was tested per the guidance of ANSI C63.26-2015, TIA-603-E-2016 and KDB 971168 D01 v03r01. See Section 7.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

The worst case configuration was investigated for the various types of wristbands, metal and non-metal wristbands. The EUT was also investigated with and without wireless charger. The worst case configuration found was used for all testing.

For emissions from 1GHz – 18GHz, low, mid, and high channels were tested with highest power and worst case configuration. The emissions below 1GHz and above 18GHz were tested with the highest transmitting power and the worst case channel.

The EUT was manipulated through three orthogonal planes of X-orientation (flatbed), Y-orientation (landscape), and Z-orientation (portrait) during the testing. Only the worst case emissions were reported in this test report.

This device only supports 27RBs or less for 16-QAM uplink.

## 2.6 Software and Firmware

The test was conducted with firmware watchOS 11 installed on the EUT.

## 2.7 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

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# 3.0 DESCRIPTION OF TESTS

# 3.1 Evaluation Procedure

The measurement procedures described in the documents titled "American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services" (ANSI C63.26-2015 and TIA-603-E-2016) and "Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems" (KDB 971168 D01 v03r01) were used in the measurement of the EUT.

Deviation from Measurement Procedure.....None

# 3.2 Radiated Spurious Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm tall test table made of Styrodur is placed on top of the turn table. A Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

For radiated spurious emissions measurements and calculations, conversion method is used per the formulas in KDB 971168 Section 5.8.4. Field Strength (EIRP) is calculated using the following formulas:

 $E_{[dB\mu V/m]} = Measured amplitude level_{[dBm]} + 107 + Cable Loss_{[dB]} + Antenna Factor_{[dB/m]}$ 

And

 $EIRP[dBm] = E[dB\mu V/m] + 20logD - 104.8$ ; where D is the measurement distance in meters.

All radiated measurements are performed in a chamber that meets the site requirements per ANSI C63.4-2014.

Per KDB 414788 D01 v01r01, radiated emission test sites other than open-field test sites (e.g., shielded anechoic chambers), may be employed for emission measurements below 30MHz if characterized so that the measurements correspond to those obtained at an open-field test site. To determine test site equivalency, a reference sample transmitting at 149kHz was measured on an open field test site (asphalt with no ground plane) and then measured in the 3m semi-anechoic chamber. A calibrated 60cm loop antenna was used while the reference device was rotated through the X, Y and Z axis in order to capture the worst case level. A maximum deviation of 2.77dB at 149kHz was measured when comparing the 3 meter semi-anechoic chamber to the open field site.

Radiated spurious emission levels are investigated with the receive antenna horizontally and vertically polarized per ANSI C63.26-2015 and TIA-603-E-2016.

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# 4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.23-2012.All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the  $U_{CISPR}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	2.07
Radiated Disturbance (<30MHz)	4.12
Radiated Disturbance (30MHz-1GHz)	4.85
Radiated Disturbance (1-18GHz)	5.08
Radiated Disturbance (>18GHz)	5.22

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# 5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
ATM	180-442A-KF	20dB Nominal Gain Horn Antenna	3/14/2024	Annual	3/14/2025	T058701-01
ESPEC	SU-241	Tabletop Temperature Chamber	11/17/2023	Annual	11/17/2024	92009574
ETS-Lindgren	3117	Double Ridged Guide Antenna (1-18 GHz)	4/9/2024	Annual	4/9/2025	00218555
Fairview Microwave	FMCA1975-36	30MHz-40GHz Conducted Cable *	6/10/2024	Annual	6/10/2025	-
Fairview Microwave	M2CP1122-10	30MHz-40GHz Conducted Coupler *	6/10/2024	Annual	6/10/2025	1946
Rohde & Schwarz	ESW44	EMI Test Receiver	5/1/2024	Annual	5/1/2025	101867
Rohde & Schwarz	FSV40	Signal Analyzer (10Hz-40GHz)	5/29/2024	Annual	5/29/2025	101619
Rohde & Schwarz	FSW67	Signal and Spectrum Analyzer (2Hz-67GHz)	7/5/2024	Annual	7/5/2025	101366
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	8/15/2023	Annual	8/15/2024	101639
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	11/30/2023	Annual	11/30/2024	161616
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	12/27/2023	Annual	12/27/2024	164715
Rohde & Schwarz	HFH2-Z2	Loop Antenna	6/21/2024	Annual	6/21/2025	100519
Rohde & Schwarz	TS-PR1840	Pre-Amplifier (18GHz - 40GHz)	6/10/2024	Annual	6/10/2025	100057
Rohde & Schwarz	TS-PR8	Pre-Amplifier (30MHz - 8GHz)	7/3/2024	Annual	7/3/2025	102356
Schwarzbeck	VULB 9162	Bilog Antenna (30MHz - 6GHz)	4/29/2024	Annual	4/29/2025	00304

Table 5-1. Test Equipment

### Notes:

- 1. For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.
- 2. \* denotes passive equipment that have been internally verified/calibrated.

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# 6.0 SAMPLE CALCULATIONS

## **Emission Designator**

### WCDMA Emission Designator

Emission Designator = 4M16F9W WCDMA BW = 4.16 MHz F = Frequency Modulation 9 = Composite Digital Info W = Combination (Audio/Data)

## **QPSK Modulation**

Emission Designator = 8M62G7W BW = 8.62 MHz G = Phase Modulation 7 = Quantized/Digital Info W = Combination of Any

#### **QAM Modulation**

Emission Designator = 8M45D7W BW = 8.45 MHz D = Amplitude/Angle Modulated 7 = Quantized/Digital Info W = Combination of Any

## **Spurious Radiated Emission**

### Example: Spurious emission at 3700.40 MHz

The receive spectrum analyzer reading at 3 meters with the EUT on the turntable was -81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0 dBm on the spectrum analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3700.40 MHz. So 6.1 dB is added to the signal generator reading of -30.9 dBm yielding -24.80 dBm. The fundamental EIRP was 25.50 dBm so this harmonic was 25.50 dBm -(-24.80) = 50.3 dBc.

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# 7.0 TEST RESULTS

## 7.1 Summary

Company Name:	Apple Inc.
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FCC Classification:	PCS Licensed Transmitter Worn on Body (PCT)
Mode(s):	WCDMA/LTE

Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference
	Occupied Bandwidth	2.1049	N/A	N/A	Section 7.2
	Conducted Band Edge / Spurious Emissions	2.1051, 24.238(a)	-13 dBm at Band Edge and for all out-of-band emissions	PASS	Sections 7.3, 7.4
	Peak-Average Ratio	24.232(d)	< 13 dB	PASS	Section 7.5
CONDUCTED	Transmitter Conducted Output Power	2.1046	N/A	N/A	See RF Exposure Report
	Frequency Stability		Fundamental emissions stay within authorized frequency block over the temperature and voltage range as tested	PASS	Section 7.8
	Equivalent Isotropic Radiated Power	24.232(c)	< 2 Watts max. EIRP	PASS	Section 7.6
RADIATED	Radiated Spurious Emissions	2.1053, 24.238(a)	-13 dBm for all out-of-band emissions	PASS	Section 7.7

#### Table 7-1. Summary of Test Results

### Notes:

- 1. All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2. The analyzer plots were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT at all frequencies of interest.
- 3. All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.
- 4. All conducted emissions measurements are performed with automated test software to capture the corresponding plots necessary to show compliance. The measurement software utilized is EMC Software Tool v1.1.
- 5. For radiated emission measurements, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "Chamber Automation," Version 3.0.0.

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Test Report S/N:	Test Dates:	EUT Type:	Dama 12 of 01	
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# 7.2 Occupied Bandwidth §2.1049

### **Test Overview**

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

#### Test Procedure Used

KDB 971168 D01 v03r01 - Section 4.2

#### **Test Settings**

- 1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- 3. VBW  $\geq$  3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within

1-5% of the 99% occupied bandwidth observed in Step 7

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

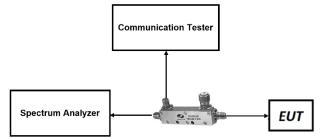


Figure 7-1. Test Instrument & Measurement Setup

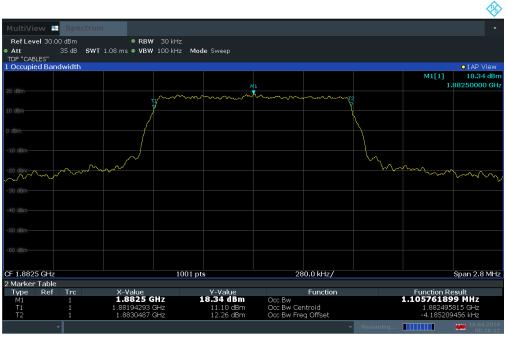
### Test Notes

None.

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 12 of 01
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# LTE Band 25/2



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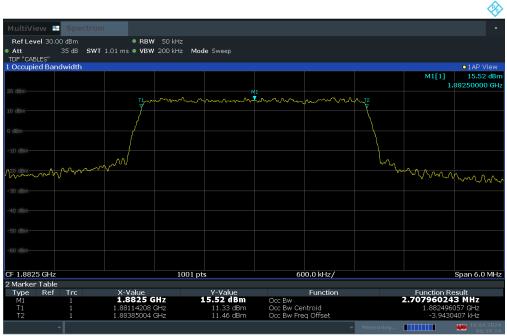


00:57:50 18.04.2024

Plot 7-2. Occupied Bandwidth Plot (LTE Band 25/2 - 1.4MHz 16-QAM - Full RB Configuration)

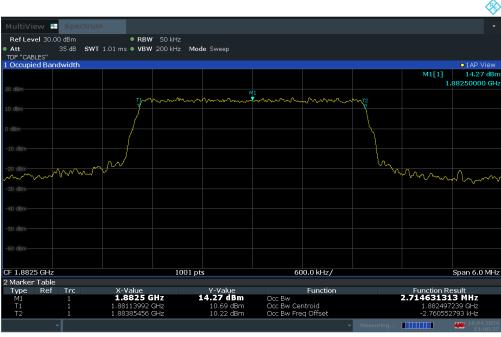
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 14 of 01
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Page 14 of 91
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00:59:14 18.04.2024



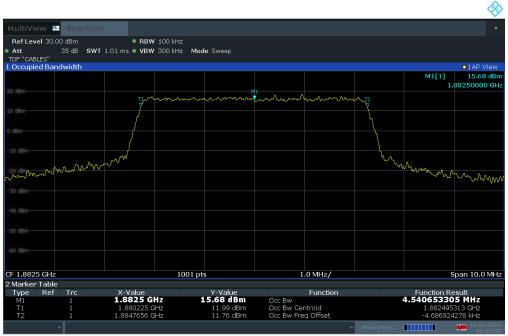


01:00:38 18.04.2024

Plot 7-4. Occupied Bandwidth Plot (LTE Band 25/2 - 3MHz 16-QAM - Full RB Configuration)

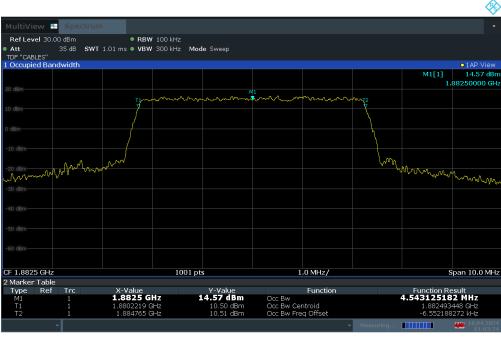
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 15 of 91
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01:02:01 18.04.2024



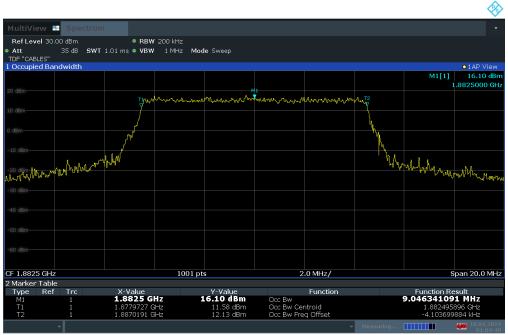


01:03:25 18.04.2024

Plot 7-6. Occupied Bandwidth Plot (LTE Band 25/2 - 5MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 16 of 01
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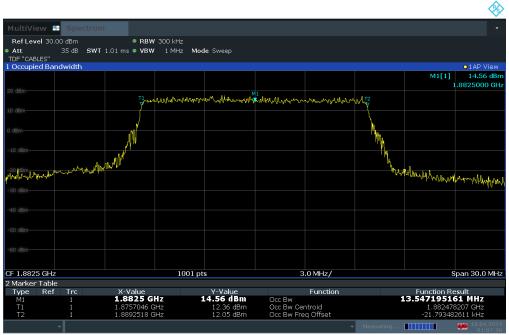


01:06:13 18.04.2024

Plot 7-8. Occupied Bandwidth Plot (LTE Band 25/2 - 10MHz 16-QAM - Full RB Configuration)

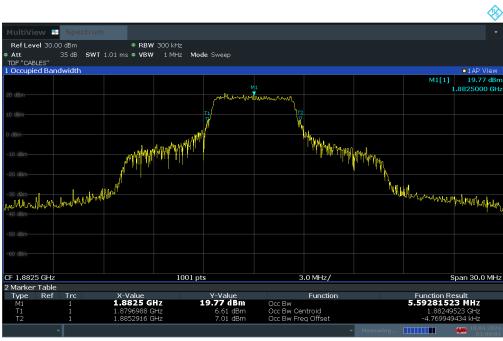
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 17 of 01
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Page 17 of 91
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01:07:37 18.04.2024



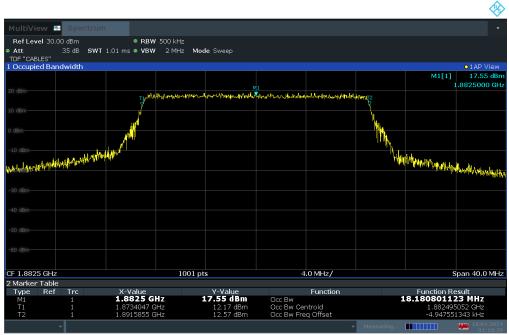


01:09:01 18.04.2024

Plot 7-10. Occupied Bandwidth Plot (LTE Band 25/2 - 15MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 18 of 91
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01:11:55 18.04.2024

Plot 7-12. Occupied Bandwidth Plot (LTE Band 25/2 - 20MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 19 of 91
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# WCDMA PCS



Plot 7-13. Occupied Bandwidth Plot (WCDMA, Ch. 9400)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 20 of 91	
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# 7.3 Spurious and Harmonic Emissions at Antenna Terminal §2.1051, §24.238(a)

## Test Overview and Limit

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

# The minimum permissible attenuation level of any spurious emission is $43 + 10 \log_{10}(P_{[Watts]})$ , where P is the transmitter power in Watts.

## Test Procedure Used

KDB 971168 D01 v03r01 - Section 6.0

## Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to 20GHz (separated into at least two plots per channel)
- 2. Detector = RMS
- 3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 4. Sweep time = auto couple
- 5. The trace was allowed to stabilize
- 6. Please see test notes below for RBW and VBW settings

#### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

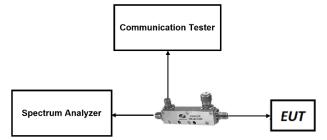


Figure 7-2. Test Instrument & Measurement Setup

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 21 of 91	
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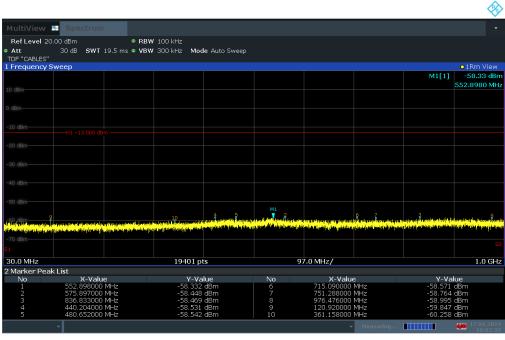
## Test Notes

1. Per Part 24, compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth 100 kHz or greater for measurements below 1GHz. 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. 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 emission are attenuated at least 26 dB below the transmitter power.

FCC ID: BCG-A3001	element 🤁	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 22 of 91
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Fage 22 01 91
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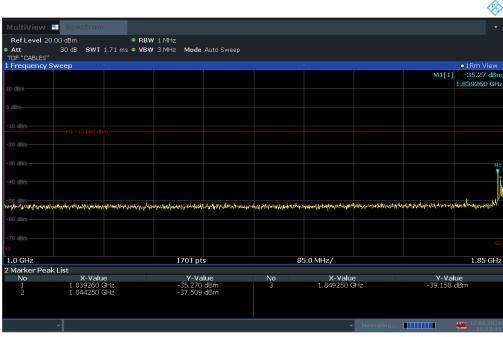


# LTE Band 25/2



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Plot 7-14. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



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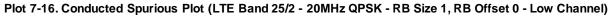
Plot 7-15. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

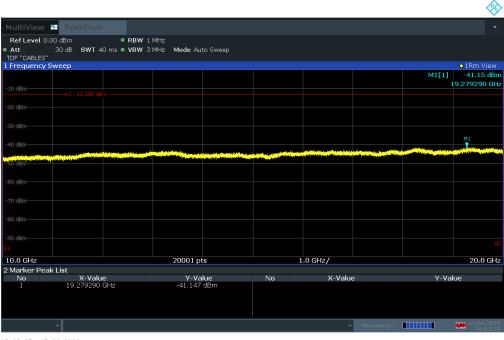
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 22 of 01	
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									<b>\$</b>
MultiView	Spectrum								•
Ref Level 20.	00 dBm	RBW	1 MHz						
<ul> <li>Att</li> </ul>	30 dB SWT 32	.4 ms 🗢 VBW	3 MHz Mode	Auto Sweep					
TDF "CABLES"									
1 Frequency S	weep				1				•1Rm View
								M1[1]	-45.84 dBm 9.654770 GHz
10 dBm									9.654770 GH2
0 dBm-									
-10 dBm									
-20 dBm									
-20 uBm-									
-30 dBm									
-30 ubiii									
-40 dBm									
									M1
-50 dBm				a later of the desident	الخطيفة الأعلية أوزاره ومحمد				
alitica a construction of the later	and the second sec	and sold has been all the							
-60 dBm									
-70 dBm-									
S1									52
1.915 GHz			16171 pt	ts	80	08.5 MHz/			10.0 GHz
2 Marker Peak	List								
No	X-Value		Y-Va		No	X-Value		Y-Va	lue
	9.654770 GH	Z	-45.836	dBm		4.997060 G	iHz	-48.042	dBm
									17.04.2024
	Ť.					~	Measuring		17.04.2024 18:03:07

18:03:07 17.04.2024





18:03:25 17.04.2024

Plot 7-17. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

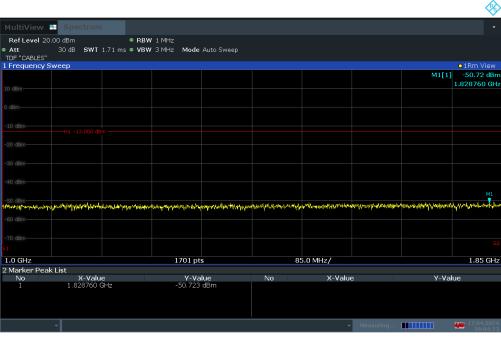
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 24 of 91	
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									<b></b>
MultiView	Spectrum								•
Ref Level 20. • Att			/ 100 kHz / 300 kHz <b>Mod</b>	le Auto Sweep					
TDF "CABLES" 1 Frequency S	ween								o1Rm View
1 Hoqueney o								M1[1]	-58.09 dBm
									883.3310 MHz
10 dBm									
0 dBm-									
u usm-									
-10 dBm-									
20 0011									
-20 dBm									
-30 dBm									
-40 dBm									
-50 dBm									
					2. <u>6</u> .			.5	4
-60 dBm	n knoch Margali kand bita	allas dité bah yan baikan dé		A second second at the structure of the		an a			
-70 dBm-	an a finit the an in Alfreder i field its	i in principal de la principal de la construction de la construction de la construction de la construction de l	and and we had a second of						
51									
30.0 MHz			19401 pt	is	9	7.0 MHz/			1.0 GHz
2 Marker Peak No	< List X-Valu	-	Y-Va	h	No	X-Valu		Y-Va	h un
1	883,331000		-58,090		6	587.546000		-58,800	
2	538.299000	MHz	-58.396	dBm		737.439000	MHz	-58.947	dBm
3 4	477.252000 955.527000		-58.536 -58.610		8 9	434.954000 325.860000		-59.233 -59.673	
5	955.527000 837.483000		-58.610		10	269.263000		-59.673	
	*						Measuring		17.04.2024
									18:04:35

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Plot 7-18. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



18:04:53 17.04.2024

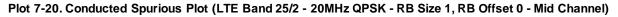
Plot 7-19. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

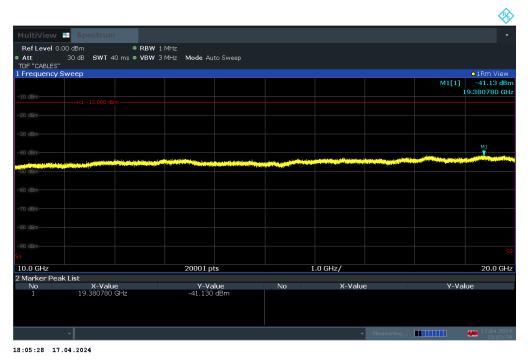
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 25 of 91	
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									<b>\$</b>
MultiView	Spectrum								•
Ref Level 20.0	0 dBm	• RBW 1	MHz						
<ul> <li>Att TDF "CABLES"</li> </ul>	30 dB <b>SWT</b> 32.4 m	ns • VBW 3	8 MHz Mode	Auto Sweep					
1 Frequency Sw	/eep								o1Rm View
10 dBm								M1[1]	-45.70 dBm 9.857760 GHz
20 000									
0 dBm									
-10 dBm									
-20 dBm									
-30 dBm									
-40 dBm-									M1
50 dBm			a station in the last		in the second	an industry propagation of the			
Addition of the second s	And the second secon			Machanilla and Minderson and Station					
-60 dBm-									
-70 dBm									52
51									
1.915 GHz			16171 pi	s	80	08.5 MHz/			10.0 GHz
2 Marker Peak I									
No	X-Value		Y-Va		No	X-Value		Y-Val	ue
1	9.857760 GHz		-45.696			4.998060 G		-47.885	
	v					~	Measuring		17.04.2024 18:05:10

18:05:10 17.04.2024





Plot 7-21. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

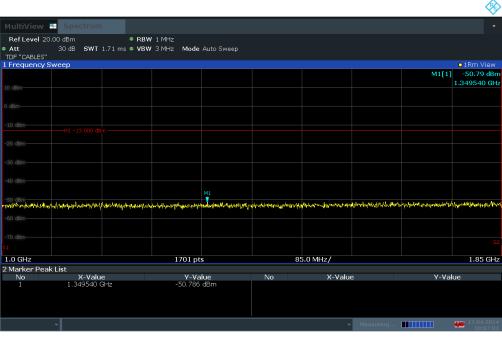
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 26 of 91	
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Diff "CABLES"       Image: Status of the statu		_								X
Att       30 db       SWT 19.5 ms * VBW 300 kHz       Mode Auto Sweep         Frequency Sweep       • 18m Vier         Frequency Sweep       M1[1]       ·58.05 dl         9 dm       Att       A11       ·58.05 dl         0 dm       Att       A11       ·58.05 dl       ·70.54000 MHz       ·58.05 dl         0 dm       Att       Att       Att       ·70.54000 MHz       ·75.88100 MHz       ·75.8800 dlm       ·70.52000 MHz       ·75.8800 dlm       ·70.520000 MHz       ·75.8800 dlm       ·70.52000 MHz       ·75.8800 dlm       ·70.520000 MHz       ·75.8800 dlm       ·70.5		- Spectrum								
I Review       I Review         I Review       I Review         I Review       <	Ref Level 20	).00 dBm	● RB₩	100 kHz						
Frequency Sweep       Image: State of the s	Att	30 dB SWT 19	.5 ms 🗢 VBW	300 kHz Mod	le Auto Sweep					
M1[1]     -58.05 dl       0 d8m     975.88100 M       0 d8m     975.88100 M       0 d8m     975.98100 M       0 d8m     975.98100 M       0 d8m     975.98100 M       0 d8m     97.0 MHz       1 of the set of	TDF "CABLES"									
2 dBm 4 4 4 521. 50000 MHz 58 230 dBm 6 950 928000 MHz 58 865 dBm 7 976 226000 MHz 58 865 dBm 7 976 226000 MHz 58 865 dBm 7 976 226000 MHz 590 45 dBm 7 976 82000 MHz 590 45 dBm 7 970 880 400 800 800 MHz 590 45 dBm 7 908 400 800 800 800 800 800 800 800 800 8	Frequency S	Sweep								O1Rm View
dBm     dBm <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>M1[1]</td> <td>-58.05 dB</td>									M1[1]	-58.05 dB
dBm     Image: Section of the sectin of the section of the section of the section of the section of										875.8810 MH
No     X-Value     Y-Value     No     X-Value     Y-Value       No     X-Value     Y-Value     No     X-Value     Y-Value       No     X-Value     Y-Value     No     X-Value     Y-Value       1     87.550 dBm     6     95.0 dBm     6     95.0 dBm       20.0 MHz     1.960 dBm     1.960 dBm     1.960 dBm     1.960 dBm       20.0 MHz     1.960 dBm     6     95.0 28000 MHz     -55.850 dBm       20.0 MHz     -55.850 dBm     7     97.6 226000 MHz     -55.863 dBm       20.0 MHz     -55.8100 MHz     -55.810 MHz     -55.810 MHz     -55.804 dBm       20.0 MHz     -55.8100 MHz     -55.810 dBm     7     97.6 226000 MHz     -55.863 dBm       20.0 MHz     -55.8100 MHz     -55.810 dBm     7     97.6 226000 MHz     -55.863 dBm       20.0 Structure     1.0 33.25000 MHz     -55.863 dBm     1.0 33.25000 MHz     -55.963 dBm       20.0 MHz     -55.810 dBm     7     97.6 22.6000 MHz     -55.863 dBm       20.0 Structure     -55.758 dBm     1.0 33.25000 MHz     -55.963 dBm       30.0 Structure     -55.758 dBm     1.0 33.25000 MHz     -55.963 dBm	0 dBm									
No     X-Value     Y-Value     No     X-Value     Y-Value       No     X-Value     Y-Value     No     X-Value     Y-Value       No     X-Value     Y-Value     No     X-Value     Y-Value       1     87.550 dBm     6     95.0 dBm     6     95.0 dBm       20.0 MHz     1.960 dBm     1.960 dBm     1.960 dBm     1.960 dBm       20.0 MHz     1.960 dBm     6     95.0 28000 MHz     -55.850 dBm       20.0 MHz     -55.850 dBm     7     97.6 226000 MHz     -55.863 dBm       20.0 MHz     -55.8100 MHz     -55.810 MHz     -55.810 MHz     -55.804 dBm       20.0 MHz     -55.8100 MHz     -55.810 dBm     7     97.6 226000 MHz     -55.863 dBm       20.0 MHz     -55.8100 MHz     -55.810 dBm     7     97.6 226000 MHz     -55.863 dBm       20.0 Structure     1.0 33.25000 MHz     -55.863 dBm     1.0 33.25000 MHz     -55.963 dBm       20.0 MHz     -55.810 dBm     7     97.6 22.6000 MHz     -55.863 dBm       20.0 Structure     -55.758 dBm     1.0 33.25000 MHz     -55.963 dBm       30.0 Structure     -55.758 dBm     1.0 33.25000 MHz     -55.963 dBm										
H1 - 13.000 dbm         H1 - 13.000 dbm           20 dbm         Image: Second Sec										
H1 - 13.000 dbm         H1 - 13.000 dbm           20 dbm         Image: Second Sec										
H1 - 13.000 dbm         H1 - 13.000 dbm           20 dbm         Image: Second Sec	-10 dBm									
No         X-Value         Y-Value         No         X-Value         Y-Value         Y-Value<										
No         X-Value         Y-Value         No         X-Value         Y-Value         Y-Value<										
No         X-Value         V-Value         V-V										
No         X-Value         V-Value         V-V										
No         X-Value         V-Value         V-V										
No         X-Value         V-Value         V-V										
No         X-Value         Y-Value         No         X-Value         Y-Value           1         875.881000 MHz         -58.250 dBm         6         950.0 MHz         -58.463 dBm         7         976.26000 MHz         -58.463 dBm         4         410.355000 MHz         -58.463 dBm         9         20.0 MHz         -58.463 dBm         10.0 GBm         6         950.92000 MHz         -58.463 dBm         10.0 GBm	40 dBm									
No         X-Value         Y-Value         No         X-Value         Y-Value           1         875.881000 MHz         -58.250 dBm         6         950.0 MHz         -58.463 dBm         7         976.26000 MHz         -58.463 dBm         4         410.355000 MHz         -58.463 dBm         9         20.0 MHz         -58.463 dBm         10.0 GBm         6         950.92000 MHz         -58.463 dBm         10.0 GBm										
No         X-Value         Y-Value         No         X-Value         Y-Value           1         875.881000 MHz         -58.250 dBm         6         950.0 MHz         -58.463 dBm         7         976.26000 MHz         -58.463 dBm         4         410.355000 MHz         -58.463 dBm         9         20.0 MHz         -58.463 dBm         10.0 GBm         6         950.92000 MHz         -58.463 dBm         10.0 GBm										
No         X-Value         V-Value         No         X-Value         V-Value           1         375.81000 MHz         -58.050 dBm         6         950.0200 MHz         -58.050 dBm           2         751.738000 MHz         -58.250 dBm         7         97.00 MHz         -58.050 dBm           3         572.497000 MHz         -58.250 dBm         7         97.00 MHz         -58.050 dBm           4         52.733 dBm         7         97.00 MHz         -58.063 dBm         5           5         703.540000 MHz         -58.753 dBm         9         280.252000 MHz         -59.043 dBm           5         703.540000 MHz         -58.753 dBm         10         33.352000 MHz         -60.419 dBm									641	
No         X-Value         V-Value         No         X-Value         V-Value           1         875.881000 MHz         -58.050 dBm         6         950.928000 MHz         -58.863 dBm           2         751.738000 MHz         -58.250 dBm         7         976.226000 MHz         -58.863 dBm           3         572.497000 MHz         -58.230 dBm         8         410.355000 MHz         -59.414 dBm           4         521.500000 MHz         -58.758 dBm         9         280.262000 MHz         -59.414 dBm           5         703.540000 MHz         -58.758 dBm         10         33.325000 MHz         -60.419 dBm								2	<b>*</b>	
No         X-Value         V-Value         No         X-Value         V-Value           1         875.881000 MHz         -58.050 dBm         6         950.928000 MHz         -58.863 dBm           2         751.738000 MHz         -58.250 dBm         7         976.226000 MHz         -58.863 dBm           3         572.497000 MHz         -58.230 dBm         8         410.355000 MHz         -59.414 dBm           4         521.500000 MHz         -58.758 dBm         9         280.262000 MHz         -59.414 dBm           5         703.540000 MHz         -58.758 dBm         10         33.325000 MHz         -60.419 dBm	60 dBm	a a difficiente a construction a difficiente de la construcción de la construcción de la construcción de la const	and table in Withhese	the location of the second	and an enter the state of the state	A state of the second second	and an instant of the part of the second	and the state of the second second	the present of the party of the party	den uit der Heilen
No         X-Value         Y-Value         Y-Y-Value         Y	Manufid of the other of the state	الالاروافية سفيا والكراواليناس والمواجعات و	a hill with the day of participant	the state of the set of the set of the set	Contraction of the second s	Martin and a second	والمغلقي وأعصبوا لوصاحيا فانتت	an al ay mantifician abal dia	a name of the last of the state	an to collected at
No         X-Value         V-Value         No         X-Value         V-Value           1         875.81000 MHz         -58.050 dBm         6         950.928000 MHz         -58.863 dBm           2         751.738000 MHz         -58.230 dBm         7         976.226000 MHz         -59.045 dBm           3         572.497000 MHz         -58.481 dBm         8         410.355000 MHz         -59.414 dBm           4         521.500000 MHz         -58.758 dBm         9         280.262000 MHz         -60.419 dBm           5         703.540000 MHz         -58.758 dBm         10         33.325000 MHz         -60.863 dBm	70 dBm									
No         X-Value         V-Value         No         X-Value         V-Value           1         875.81000 MHz         -58.050 dBm         6         950.928000 MHz         -58.863 dBm           2         751.738000 MHz         -58.230 dBm         7         976.226000 MHz         -59.045 dBm           3         572.497000 MHz         -58.481 dBm         8         410.355000 MHz         -59.414 dBm           4         521.500000 MHz         -58.758 dBm         9         280.262000 MHz         -60.419 dBm           5         703.540000 MHz         -58.758 dBm         10         33.325000 MHz         -60.863 dBm										
No         X-Value         V-Value         No         X-Value         V-Value           1         875.81000 MHz         -58.050 dBm         6         950.928000 MHz         -58.863 dBm           2         751.738000 MHz         -58.230 dBm         7         976.226000 MHz         -59.045 dBm           3         572.497000 MHz         -58.481 dBm         8         410.355000 MHz         -59.414 dBm           4         521.500000 MHz         -58.758 dBm         9         280.262000 MHz         -60.419 dBm           5         703.540000 MHz         -58.758 dBm         10         33.325000 MHz         -60.863 dBm										
No         X-Value         V-Value         No         X-Value         V-Value           1         675.81000 MHz         -58.050 dBm         6         950.928000 MHz         -58.863 dBm           2         751.738000 MHz         -58.230 dBm         7         976.226000 MHz         -59.045 dBm           3         572.497000 MHz         -58.431 dBm         8         410.355000 MHz         -59.414 dBm           4         521.500000 MHz         -58.758 dBm         9         220.262000 MHz         -60.863 dBm           5         703.540000 MHz         -58.758 dBm         10         33.325000 MHz         -60.863 dBm	30.0 MHz			19401 p	IS	9	7.0 MHz/			1.0 G⊦
1         875.881000 MHz         -58.050 dBm         6         950.928000 MHz         -58.863 dBm           2         751.738000 MHz         -58.230 dBm         7         976.226000 MHz         -59.045 dBm           3         572.497000 MHz         -58.431 dBm         8         410.355000 MHz         -59.414 dBm           4         521.500000 MHz         -58.753 dBm         9         280.262000 MHz         -50.419 dBm           5         703.540000 MHz         -58.753 dBm         10         33.325000 MHz         -60.419 dBm	Marker Peal	k List								
2         751.738000 MHz         -58.230 dBm         7         976.226000 MHz         -59.045 dBm           3         572.497000 MHz         -58.481 dBm         8         410.355000 MHz         -59.414 dBm           4         521.50000 MHz         -58.758 dBm         9         280.262000 MHz         -60.419 dBm           5         703.540000 MHz         -58.758 dBm         10         33.325000 MHz         -60.863 dBm						No				
3         572, 497000 MHz         -58, 481 dBm         8         410, 355000 MHz         -59, 414 dBm           4         521, 50000 MHz         -58, 753 dBm         9         280, 262000 MHz         -60, 419 dBm           5         703, 540000 MHz         -58, 758 dBm         10         33, 325000 MHz         -60, 863 dBm										
4 521.500000 MHz -58.753 dBm 9 280.262000 MHz -60.419 dBm 5 703.540000 MHz -58.758 dBm 10 33.325000 MHz -60.863 dBm										
5 703.540000 MHz -58.758 dBm 10 33.325000 MHz -60.863 dBm							410.355000	MHz		
							280.262000	MHZ		
x Measuring 17.04.20		703.540000 MF	ΠZ	-58.758	abm	10	33:325000	MHZ	-60.863	
										17.04.202

18:06:44 17.04.2024

Plot 7-22. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



18:07:01 17.04.2024

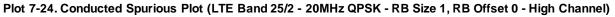
Plot 7-23. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

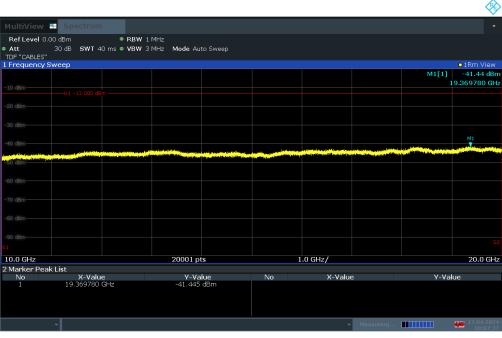
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 27 of 91	
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MultiView	Spectrum								•
Ref Level 20.	00 dBm	● RBW	1 MHz						
Att	30 dB SWT 32.4			Auto Sweep					
TDF "CABLES"									
1 Frequency S	weep								IRm View
								M1[1]	-39.09 dBm
10 dBm									1.915750 GHz
10 UBIII									
0 dBm									
U UBIII									
10.10									
-10 dBm									
-20 dBm									
-30 dBm									
М1									
-40 dBm									
			3			under man an ander	مدينية برور والمصحيحين و	ومعاليه والالمطرعة أمروه ورباله	ale and a surger billing
-50 dBm	a la literi de la		ale parte de la constanti de la			An a lot of a standard state of the second state of the state of the second state of t	and the local division of the local division	The second state of the se	interio scieto e a cin della di bettera di
NUMBER OF STREET				and the second					
-60 dBm									
-70 dBm									
S1									52
1.915 GHz			16171 p			308.5 MHz/			10.0 GHz
			16171.p	ts	<u> </u>	308.5 MHZ/			10.0 GHZ
2 Marker Peak No	X-Value		Y-Va	hue	No	X-Valu		Y-Va	
1	1.915750 GHz		-39.088	dBm	3	4.840570 (		47.997	
2	9.828260 GHz		-45.657	dBm			2112	.,	GDITT
									<b>17.04.2024</b>
	×					~	Measuring		17.04.2024 18:07:19

18:07:19 17.04.2024





18:07:37 17.04.2024

Plot 7-25. Conducted Spurious Plot (LTE Band 25/2 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 28 of 91	
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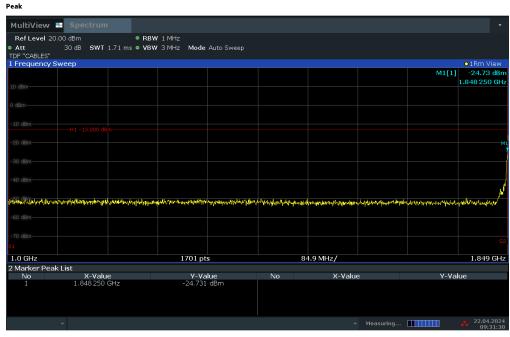


# WCDMA PCS

Peak								
MultiView	Spectrum							
Ref Level 20	0.00 dBm	RBW 100 kHz						
Att TDF "CABLES"	30 dB <b>SWT</b> 19.5 ms	s ● VBW 300 kHz Mode	e Auto Sweep					
1 Frequency :	Sweep							o1Rm View
							M1[1]	-55.74 dBr
								31.725 0 MH
-10 dBm								
-30 dBm								
-40 dBm								
50 dBm								
			5	4			3	
A CONTRACTOR OF THE OWNER OF THE	10 2	ite a best a billion to a first the distribution of the stand billion of	and the production of the state		A life of the life of the sector	a the still a still a still a		a an an fair a fair a fairte
Detail interests and and	ing fall bie en als fal ale als des bares ing fartes mitteral a	i la distante de la la constante de la del de la del de la del de la constante de la constante de la constante La constante de la constante de	فاستعفاني طناه فاتدار وتداده		a substance and the	فالمناقدة يشريقنا للاستعاد	Male and a second second second	1.1411
30.0 MHz		19401 pt	2	Q.	7.0 MHz/			1.0 GF
2 Marker Pea	ak List							110 0.
No	X-Value	Y-Val	ie	No	X-Value	<u>د</u>	Y-Va	lue
1	31.725 000 MHz	-55,745		6	419.655 000		-57.087	
2	957.827 000 MHz	-56.006			752.938 000		-57.180	dBm
	859.482000 MHz	-56.069			344.309 000		-58.150	
	545.848000 MHz	-56.631			218.765 000		-58.572	dBm
	448.553000 MHz	-56.875	dBm	10	169.418000	MHz	-58.689	dBm
						Measuring		
						mousunig		09:31:1

09:31:16 22.04.2024



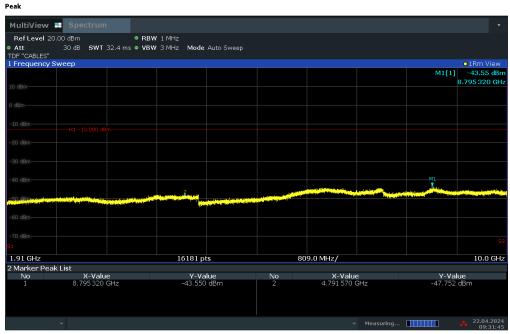


09:31:31 22.04.2024



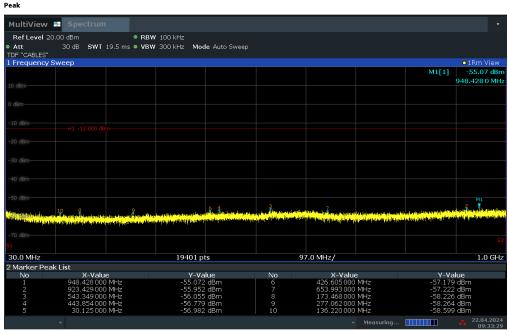
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 29 of 91	
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09:31:46 22.04.2024





09:33:29 22.04.2024

Plot 7-29. Conducted Spurious Plot (WCDMA Ch. 9400)

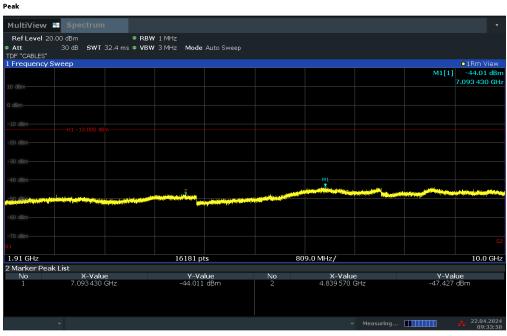
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Bogo 20 of 01	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Page 30 of 91	
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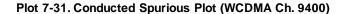
Peak									
MultiView	Spectrum								•
Ref Level 20.	.00 dBm	● RB₩	1 MHz						
<ul> <li>Att TDF "CABLES"</li> </ul>	30 dB SWT	1.71 ms 🗢 VBW	3 MHz Mode	Auto Sweep					
1 Frequency S	weep								●1Rm View
(1) (1)								M1[1]	-49.71 dBm 1.372 590 GHz
10 dBm									
0 dBm									
-10 dBm									
-20 dBm									
-30 dBm									
-40 dBm									
-50 dBm				M1		ugda <sup>n</sup> difiladadi.ydyne.chawleriad			
Survey frank Achilly IP (A <sup>th</sup> 493)	anthe for the stand and the second standing of the second standing o	ana ana ang tang tang tang tang tang tan	known hlader an drafan ard	wanaa waxaa mada	ent-allersisterial system	ugdat fffadod og fiper of endere og	international contracts	eligitates de la capacidades en el	here and the second states of
-60 dBm									
-70 dBm-									
51									
1.0 GHz			1701 pt	s	8.	4.9 MHz/			1.849 GHz
2 Marker Peak No	List X-Valu	_	Y-Va	h.e.	No	X-Value		Y-Va	hu e
1	1.372 590 (		-49.711	dBm	NO	x-value	:	Y-Va	ue
							Measuring		22.04.2024 09:33:43

09:33:44 22.04.2024





09:33:59 22.04.2024



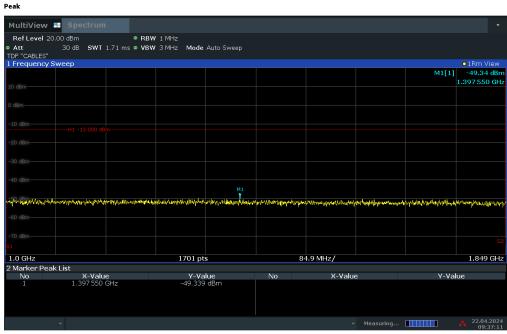
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 31 of 91
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Peak						
MultiView	Spectrum					•
Ref Level 20		3W 100 kHz				
<ul> <li>Att TDF "CABLES"</li> </ul>	30 dB SWT 19.5 ms • VE	3W 300 kHz Mode Auto Sweep				
1 Frequency S	Sweep					IRm View
					M1[1]	-55.82 dBm
						980.876 0 MHz
10 dBm						
0 dBm						
-10 dBm						
-20 dBm						
-30 dBm						
-40 dBm						
-50 dBm-						M1
Aller a street			a and the atthetated	and the descent of the second	10 Same and the state of the ball of the	in the pills press of the state of the
THE REPORT OF THE PARTY OF	n de la de la deservación de la deservación de la deservación de la deservación de la definición de la debina d A seu la traverse por servación de la deservación de la deservación de la deservación de la deservación de la de		and the second standard in the second se	A March ( Stranger & Hild & Collins or all	وأعلقهم وأوأده فالبلو ومتراويه أدورا والمقادية أتوا	interest of the second second second
	1 of the second second second					
-70 dBm						52
S1						
30.0 MHz		19401 pts	9	7.0 MHz/		1.0 GHz
2 Marker Pea	k List					
No	X-Value	Y-Value	No	X-Value		alue
1 2	980.876000 MHz 547.598000 MHz	-55.820 dBm -56.012 dBm	6	36.375 000 MHz 384.507 000 MHz		
3	840.633 000 MHz	-56.506 dBm	8	532.449 000 MHz		
4	468.502000 MHz	-56.578 dBm	9	792.486 000 MHz	-57.21	4 dBm
5	438.304000 MHz	-56.744 dBm	10	753.038 000 MHz	-57.25	2 dBm
					asuring	22.04.2024

09:36:57 22.04.2024



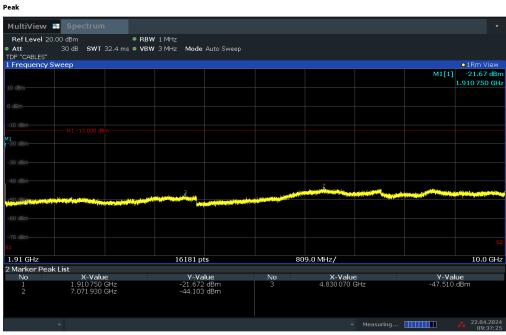


09:37:11 22.04.2024

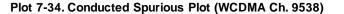


FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 32 of 91
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# 7.4 Band Edge Emissions at Antenna Terminal §2.1051, §24.238(a)

## Test Overview and Limit

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

# The minimum permissible attenuation level of any spurious emission is $43 + 10 \log_{10}(P_{[Watts]})$ , where P is the transmitter power in Watts.

### Test Procedure Used

KDB 971168 D01 v03r01 - Section 6.0

#### Test Settings

- 1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW > 1% of the emission bandwidth
- 4. VBW ≥ 3 x RBW
- 5. Detector = RMS
- 6. Number of sweep points  $\geq 2 \times \text{Span/RBW}$
- 7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 8. Sweep time = auto couple
- 9. The trace was allowed to stabilize

#### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

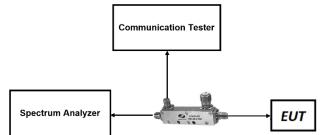


Figure 7-3. Test Instrument & Measurement Setup

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
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## Test Notes

 Per 24.238(a), 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 to demonstrate compliance with the out-of-band emissions limit. 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 emission are attenuated at least 26 dB below the transmitter power.

FCC ID: BCG-A3001	element 🤅	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 35 of 91
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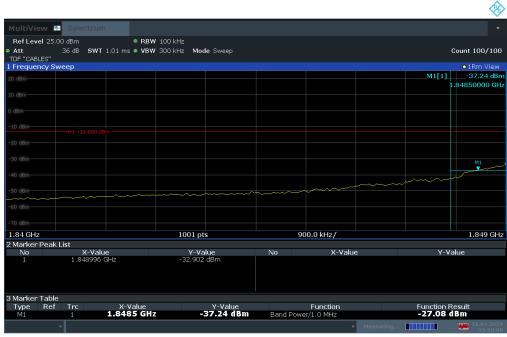
# LTE Band 25

Ref Level 25.0	00 dBm	• RBW 20 kHz						
Att	36 dB <b>SWT</b> 1.01 r	ns 🗢 VBW 100 kHz	Mode Sweep					Count 100/10
"DF "CABLES" Frequency Sv	veen							•1Rm Viev
	icep						M1[1]	-29.94 dB
								1.84998930 G
) dBm								
						~~~~		
				M1				
				~~~				
10. dBm								
.849 GHz		10	01 pts	1	70.0 kHz/			1.8507 G
Marker Peak No	List X-Value		Y-Value	No	X-Value		Y-Va	ahua
1	1.849989 GHz	-2	9.942 dBm	INO	x-value		Y-Va	alue

 $\wedge$ 

05:50:24 16.04.2024

#### Plot 7-35. Lower Band Edge Plot (LTE Band 25 – 1.4MHz QPSK – Full RB Configuration)



05:50:07 16.04.2024

#### Plot 7-36. Extended Lower Band Edge Plot (LTE Band 25 – 1.4MHz QPSK – Full RB Configuration)

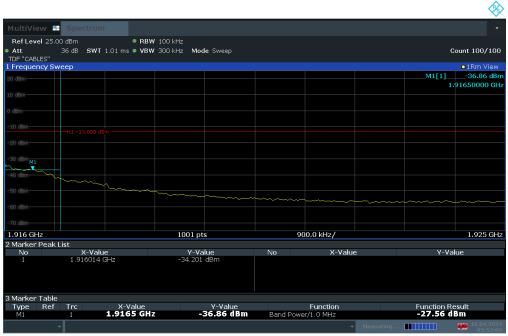
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 36 of 91
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MultiView	Spectrum							•
Ref Level 25.0		<ul> <li>RBW 20 kHz</li> <li>VBW 100 kHz Mode</li> </ul>					0	ount 100/100
TDF "CABLES"	So db Swi 1.01 ms	• VBW IUU KHZ Mode	Sweep				L.	ount 100/100
1 Frequency Sv	veep							o1Rm View
20 dBm							M1[1]	-30.68 dBm
							1.	91501070 GHz
10 dBm								
0 dBm								
-10 dBm-								
-20 dBm								
-30 dBm			M1					
50 Ubm			$\sim$					
-40 dBm						~ ~~ -		
-50 dBm								
-60 dBm								
								52
-70 dBm-								
1.9143 GHz		1001 pts	,	17	70.0 kHz/			1.916 GHz
2 Marker Peak	List							
No 1	X-Value 1.915011 GHz	Y-Valu -30.677 c		No	X-Value		Y-Va	ue
1	1.913011 GHz	-30.077 0	ып					
	*				*	Measuring		16.04.2024 05:51:48
								05:51:48

05:51:49 16.04.2024

Plot 7-37. Upper Band Edge Plot (LTE Band 25 – 1.4MHz QPSK – Full RB Configuration)



05:52:06 16.04.2024

Plot 7-38. Extended Upper Band Edge Plot (LTE Band 25 – 1.4MHz QPSK – Full RB Configuration)

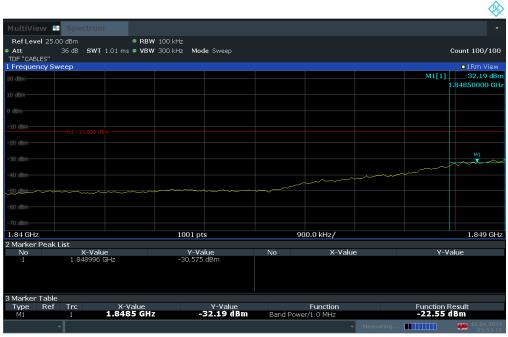
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 27 of 01	
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									(*)
MultiView	Spectrum								•
Ref Level 25. Att TDF "CABLES"	00 dBm 36 dB <b>SWT</b> 1.0	● RBW 96 ms ● VBW		ode Sweep				c	Count 100/100
1 Frequency Sv	weep								•1Rm View
								M1[1]	-30.54 dBm
20 dBm									.84998530 GHz
10 dBm									
10 dBm									
0 dBm							~~~~~		
o ubin									
-10 dBm									
-20 dBm									
-30 dBm				¥					
			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						
-40 dBm									
-50 dBm									
-60 dBm									
s 70 dBm									
1.849 GHz			1001	ots	2	50.0 kHz/			1.8515 GHz
2 Marker Peak									
No	X-Value			/alue	No	X-Value		Y-Va	lue
1	1.849985 GHz	Z	-30.53	37 dBm					
									16 04 2024
									16.04.2024 05:53:32

05:53:33 16.04.2024

Plot 7-39. Lower Band Edge Plot (LTE Band 25 – 3MHz QPSK – Full RB Configuration)



05:53:16 16.04.2024

Plot 7-40. Extended Lower Band Edge Plot (LTE Band 25 – 3MHz QPSK – Full RB Configuration)

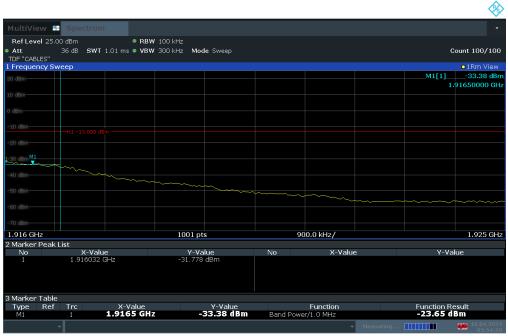
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 29 of 01	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Page 38 of 91	
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	Spectrum							
Ref Level 25.0			30 kHz					
Att DF "CABLES"	36 dB SWT 1.06	5 m s ● VBW	100 kHz I	Mode Sweep			Count 1	.00/10
Frequency Sv	/eep						<b>○</b> 1R	۲. Rin View
) dBm					M1[1	1]		0.00 dB
							1.91508	3470 GI
					~			
20 dBm								
30 dBm								
							 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
70 dBm								
.9135 GHz	1		1001	pts	2	50.0 kHz/	1.	916 G
Marker Peak No	List X-Value		Y	-Value	No	X-Value	Y-Value	
1	1.915085 GHz		-30.0	004 dBm			- Taido	

05:54:43 16.04.2024





05:55:00 16.04.2024

Plot 7-42. Extended Upper Band Edge Plot (LTE Band 25 – 3MHz QPSK – Full RB Configuration)

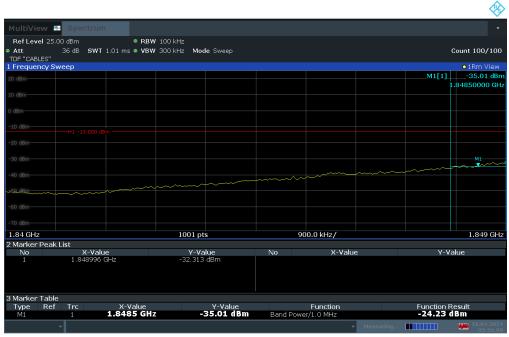
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 39 of 91	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Page 39 01 91	
			V2.2 09/07/2023	



MultiView	Spectrum							•
Ref Level 25	.00 dBm	• RBW 50 kHz						
• Att	36 dB SWT 1.04 m:	s 🔍 VBW 200 kHz 🛛 Mo	de Sweep				с	ount 100/100
TDF "CABLES" 1 Frequency S	ween							o1Rm View
						M1[1]		-30.10 dBm
20 dBm							1.	84977800 GHz
10 dBm								
0 dBm								
-10 dBm								
+20 dBm								
-20 UBM								
-30 dBm	M1							
-40 dBm								
-50 dBm								
-60 dBm								
oo abiii								
<b>51</b> 70 dBm								
1.849 GHz		1001 p	te .	2"	50.0 kHz/			1.8525 GHz
Norschart Torrest Contract Torrest Contr								
No	X-Value	Y-Va	alue	No	X-Value	2	Y-Va	lue
1	1.849778 GHz	-30.095	6 dBm					
	*				~	Measuring		16.04.2024 05:56:26

05:56:27 16.04.2024

Plot 7-43. Lower Band Edge Plot (LTE Band 25 – 5MHz QPSK – Full RB Configuration)



05:56:10 16.04.2024

Plot 7-44. Extended Lower Band Edge Plot (LTE Band 25 – 5MHz QPSK – Full RB Configuration)

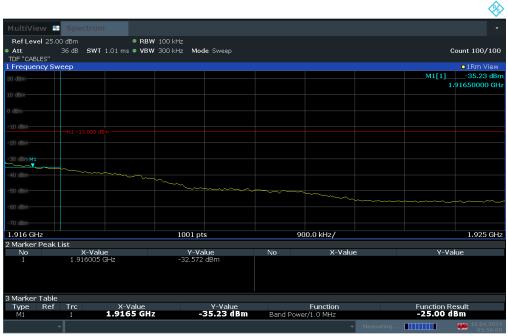
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 40 of 91
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Fage 40 of 91
			V2.2 09/07/2023



MultiView	Spectrum								•
Ref Level 25.0	00 dBm	● RBW	50 kHz						
Att	36 dB SWT 1	.04 ms 🗢 VBW	200 kHz 🛛 M	ode Sweep					Count 100/100
TDF "CABLES" 1 Frequency Sv	ween								●1Rm View
	(CCD							M1[1]	-30.05 dBm
20 dBm-									.91502620 GHz
10 dBm									
			~ ~ ~						
0 dBm						$\rightarrow$			
-10 dBm									
						$\sim$			
-20 dBm						<u> </u>			
-30 dBm-							M1		
-40 dBm									
-50 dBm									
-60 dBm-									
-00 ubiii									
-70 dBm-									sż
1.9125 GHz			1001	nte		350.0 kHz/			1.916 GHz
2 Marker Peak	List		1001						11910 0112
No	X-Value		Y-'	Value	No	X-Valu	2	Y-Va	lue
1	1.915026 GH	ΗZ	-30.0	45 dBm					
	-					~	Measuring		16.04.2024 05:57:42
									05:57:42

05:57:43 16.04.2024





05:58:00 16.04.2024

Plot 7-46. Extended Upper Band Edge Plot (LTE Band 25 – 5MHz QPSK – Full RB Configuration)

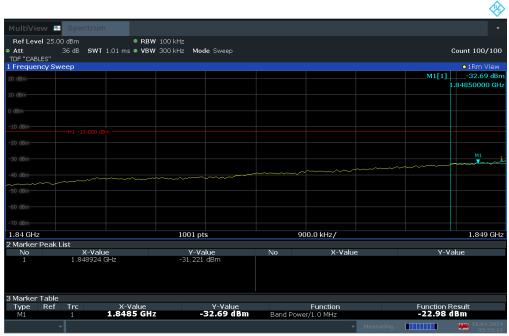
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 41 of 91	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch		
			V2.2 09/07/2023	



TDF "CABLES"       0 1Rm View         1 Frequency Sweep       0 1Rm View         0 dBm       M1[1]       .24.60 dB         10 dBm       1.84987210 GH         0 dBm       0 dBm         10 dBm       1.84987210 GH         20 dBm       0 dBm         20 dBm       0 dBm         20 dBm       0 dBm         40 dBm       0 dBm         20 dBm       0 dBm         40 dBm       0 dBm         50 dBm       0 dBm         1.849 GHz       1001 pts         600.0 kHz/       1.855 GH         No       X-Value       V-Value										
Att         36 di SWT 1.01 ms * VBW 300 kHz         Mode Sweep         Count 100/100           TDF*CQALES*         • 1Rm View         • 1Rm View         • 24.60 dB           0 dBm         M1[1]         .24.60 dB         .24.60 dB           0 dBm         M1[1]         .24.60 dB         .24.60 dB           0 dBm         H1 - 15.000 dBm         .000 dBm         .000 dBm         .000 dBm           20 dBm         .000 dBm         .000 dBm         .000 dBm         .000 dBm         .000 dBm           20 dBm         .000 dBm <th>MultiView</th> <th>Spectrum</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>•</th>	MultiView	Spectrum								•
TDF "CABLES"       0 1Rm View         1 frequency Sweep       0 1Rm View         0 d8m       M1[1]       -24.60 d8         0 d8m       1.84987210 G         0 d8m       0 d8m         20 d8m       0 d8m         1 1.849 GHz       1001 pts         600.0 kHz/       1.855 GHz         1 1.849872 GHz       -24.603 d8m	Ref Level 25.0	00 dBm	• RBW	100 kHz						
1       Frequency Sweep       • 1 Rm View         0       dam       M1[1]       -24.60 dB         0       dam       1.84987210 GF         10       dam       1.84987210 GF         20       dam       1.1110 GF         20 <t< th=""><th></th><th>36 dB SWT</th><th>1.01 ms 🗢 VBW</th><th>300 kHz Mod</th><th>le Sweep</th><th></th><th></th><th></th><th>(</th><th>Count 100/100</th></t<>		36 dB SWT	1.01 ms 🗢 VBW	300 kHz Mod	le Sweep				(	Count 100/100
0 dm       M1[1]       -24.60 dB         10 dm       1.849872 10 G         0 dm       0 dm         10 dm       1.349872 10 G         10 dm       1.349872 0 G         20 dm       1.349 GHz         1 1.849 GHz       1001 pts         60 dm       52         1 1.849872 GHz       Y-Value         1 1.849872 GHz       Y-Value         1 1.849872 GHz       Y-Value		VAAD								0 1 Pm Viow
1.84987210 Gl         0 dBm         1.84987210 Gl         0 dBm         10 dBm         1001 pts         600.0 kHz/         1.849 GHz         1.849872 GHz         -24.603 dBm         1.849872 GHz		меер				MILL	1			
1 dem 1 dem 20 dem 40 dem 50 dem	20 dBm									.84987210 GHz
10 dbm         11 - 13 - 000 dbm           20 dbm         11 - 13 - 000 dbm           20 dbm         11 - 13 - 000 dbm           40 dbm         -           40 dbm         -           50 dbm         -           40 dbm         -           50 dbm         -           1.349 GHz         1001 pts           600.0 kHz/         1.855 GHz           2 Marker Peak List         -           No         X-Value           1         1.849872 GHz           - 24.603 dBm         -	10 dBm-									
10 dbm         11 - 13 - 000 dbm           20 dbm         11 - 13 - 000 dbm           20 dbm         11 - 13 - 000 dbm           40 dbm         -           40 dbm         -           50 dbm         -           40 dbm         -           50 dbm         -           1.349 GHz         1001 pts           600.0 kHz/         1.855 GHz           2 Marker Peak List         -           No         X-Value           1         1.849872 GHz           - 24.603 dBm         -			~~~~							
1     11     120     dbm     1       20     dbm     1     1       20     dbm     1 <td< td=""><td>0 dBm</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	0 dBm									
1     11     120     dbm     1       20     dbm     1     1       20     dbm     1 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>										
20 dtm	-10 dBm		m							
0 dbm         1 <td>00 -10</td> <td></td> <td><math>\mathbb{M}</math></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	00 -10		$\mathbb{M}$							
50 dbm         52           570 dbm         52           570 dbm         52           1.849 GHz         1001 pts           600.0 kHz/         1.855 GH           2 Marker Peak List         Y-Value           No         X-Value           1         1.849672 GHz           -24.603 dBm         Y-Value	-20 UBM	1								
50 dbm         52           570 dbm         52           570 dbm         52           1.849 GHz         1001 pts           600.0 kHz/         1.855 GH           2 Marker Peak List         Y-Value           No         X-Value           1         1.849672 GHz           -24.603 dBm         Y-Value	-30 dBm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~								
50 dbm         52           570 dbm         52           570 dbm         52           1.849 GHz         1001 pts           600.0 kHz/         1.855 GH           2 Marker Peak List         Y-Value           No         X-Value           1         1.849672 GHz           -24.603 dBm         Y-Value	~~ ·									
S2         S2           7/0 d8m         S2           1.849 GHz         1001 pts           60 0.0 kHz/         1.855 GF           2 Marker Peak List         No           No         X-Value           1         1.849872 GHz           -24.603 dBm	-40 dBm									
S2         S2           7/0 d8m         S2           1.849 GHz         1001 pts           60 0.0 kHz/         1.855 GF           2 Marker Peak List         No           No         X-Value           1         1.849872 GHz           -24.603 dBm										
S2         S2<	-50 dBm-									
S2         S2<	-60 dBm-									
1.849 GHz         1001 pts         600.0 kHz/         1.855 GF           2 Marker Peak List         No         X-Value         Y-Value           No         X-Value         Y-Value         No         X-Value           1         1.849672 GHz         -24.603 dBm         Y-Value         Y-Value	oo abiii									
2 Marker Peak List No X-Value Y-Value No X-Value Y-Value 1 1.849872 GHz -24.603 dBm	<mark>s-</mark> 70 dBm									
2 Marker Peak List No X-Value Y-Value No X-Value Y-Value 1 1.849872 GHz -24.603 dBm	1.849 GHz			1001 pt	s	60	0.0 kHz/			1.855 GHz
1 1.849872 GHz -24.603 dBm										
						No	X-Value	;	Y-Va	alue
	No	X-Valu				No	X-Value	:	Y-Va	lue
<ul> <li>Measuring</li> <li>Measuring</li> </ul>		* <u> </u>					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Measuring		16.04.202 05:59:2

05:59:29 16.04.2024

Plot 7-47. Lower Band Edge Plot (LTE Band 25 – 10MHz QPSK – Full RB Configuration)



05:59:11 16.04.2024

Plot 7-48. Extended Lower Band Edge Plot (LTE Band 25 – 10MHz QPSK – Full RB Configuration)

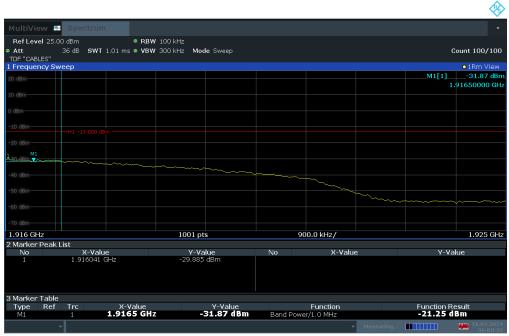
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 42 of 01	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Page 42 of 91	
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MultiView	Spectrum							•
Ref Level 25	5.00 dBm	RBW 100 kHz						
<ul> <li>Att</li> </ul>	36 dB SWT 1.01 m	ms 🗢 VBW 300 kHz	Mode Sweep				c	ount 100/100
TDF "CABLES" 1 Frequency								●1Rm View
				M1[1				-25.22 dBm
20 dBm							1.	91508590 GHz
10 dBm								
- 00 - 0								
0 dBm								
-10 dBm								
-20 dBm						M	~~	
-30 dBm								~~~~ .
-30 ubm-								
-40 dBm								
-50 dBm								
-60 dBm								
								52
-70 dBm								Ī
1.91 GHz		100	)1 pts	60	0.0 kHz/		,	1.916 GHz
2 Marker Pea								
No 1	X-Value 1.915086 GHz	_25	Y-Value .216 dBm	No	X-Value		Y-Va	lue
	1.915060 GHZ	-23	-210-00111					
	*				*	Measuring		16.04.2024 06:00:39
								06:00:39

06:00:39 16.04.2024

Plot 7-49. Upper Band Edge Plot (LTE Band 25 – 10MHz QPSK – Full RB Configuration)



06:00:57 16.04.2024

Plot 7-50. Extended Upper Band Edge Plot (LTE Band 25 – 10MHz QPSK – Full RB Configuration)

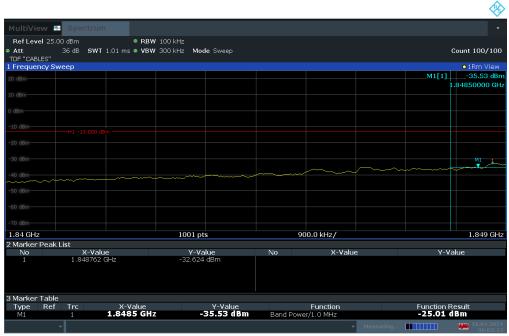
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 43 of 91	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Fage 43 01 91	
			V2.2 09/07/2023	



									<b>\$</b>
MultiView	Spectrum								•
Ref Level 25.0	0 dBm	● RBW	200 kHz						
	36 dB SWT 1.	.01 ms 🗢 VBW	1 MHz Mod	<b>le</b> Sweep				c	Count 100/100
TDF "CABLES" 1 Frequency Sw	(eep								•1Rm View
	сер							M1[1]	-24.55 dBm
20 dBm									.84990430 GHz
10 dBm									
10 UBIII						hummen		human	
0 dBm	/								
-10 dBm									
-20 dBm	MW								
mm	~v ·								
∿ <del>90</del> dBm									
-40 dBm									
-50 dBm									
-60 dBm									
s									
570 dBm									
1.849 GHz			1001 pt	s	85	50.0 kHz/			1.8575 GHz
2 Marker Peak I									
No 1	X-Value 1.849904 GH		۲-۷ <i>٤</i> 24.547-	dem	No	X-Value	2	Y-Va	lue
1	1.649904 Gr		-24.347	ubin					
	,					~	Measuring		16.04.2024 06:02:31
									06:02:31

06:02:31 16.04.2024

Plot 7-51. Lower Band Edge Plot (LTE Band 25 – 15MHz QPSK – Full RB Configuration)



06:02:13 16.04.2024

Plot 7-52. Extended Lower Band Edge Plot (LTE Band 25 – 15MHz QPSK – Full RB Configuration)

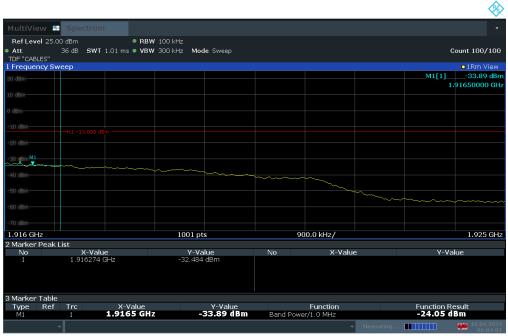
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 44 of 01	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Page 44 of 91	
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MultiView	Spectrum							•
Ref Level 25.	00 dBm 🔹	RBW 200 kHz						
• Att	36 dB SWT 1.01 ms 4	VBW 1 MHz Mod	le Sweep					Count 100/100
TDF "CABLES" 1 Frequency S	Ween							o1Rm View
							M1[1]	-23.71 dBm
20 dBm								.91507870 GHz
10 dBm-								
			·			m		
0 dBm							\	
-10 dBm								
-20 dBm							hm	a a a a a a a a a a a a a a a a a a a
-30 dBm							y - v v	m
50 0511								
-40 dBm-								
-50 dBm								
-60 dBm								
-70 dBm								
		1001						
1.9075 GHz 2 Marker Peak	. 1	1001 pt	s	8:	50.0 kHz/			1.916 GHz
2 Marker Peak	X-Value	Y-Va	lue	No	X-Valu	<u>_</u>	Y-Va	alue
1	1.915079 GHz	-23.710		1.0	in raid.	5		iae
								16.04.2024
	*				~	Measuring		16.04.2024 06:03:42

06:03:42 16.04.2024

Plot 7-53. Upper Band Edge Plot (LTE Band 25 – 15MHz QPSK – Full RB Configuration)



06:04:01 16.04.2024

Plot 7-54. Extended Upper Band Edge Plot (LTE Band 25 – 15MHz QPSK – Full RB Configuration)

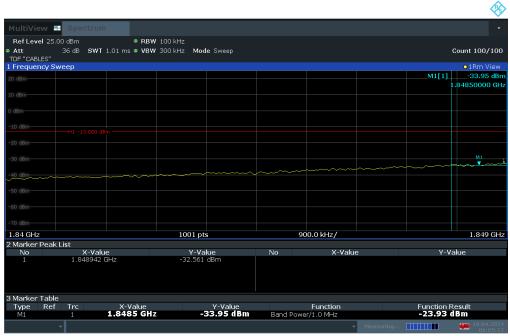
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 45 of 91	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Fage 45 01 91	
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								Sector 1
MultiView 🖿	Spectrum							•
Ref Level 25.00	) dBm	• RBW 200 kHz						
	36 dB <b>SWT</b> 1.01 ms	s●VBW 1MHz N	<b>lode</b> Sweep				с	ount 100/100
TDF "CABLES" 1 Frequency Swe	en							•1Rm View
							M1[1]	-24.37 dBm
20 dBm								.8495880 GHz
10 dBm								
			~~~~~					
0 dBm								
-10 dBm	-H1 -13 000 dBm							
-20 dBmM1	MANY							
and the v	r.							
-40 dBm								
-50 dBm-								
-60 dBm								
570 dBm 52								
1.849 GHz		1001			.1 MHz/			1.86 GHz
2 Marker Peak Li	iot	1001	pts	1	.1 MHZ/			1.86 GHZ
No	X-Value	Y-	Value	No	X-Value	:	Y-Va	lue
1	1.849588 GHz	-24.3	65 dBm					
								16.04.2024
~					~			16.04.2024 06:05:30

06:05:31 16.04.2024

Plot 7-55. Lower Band Edge Plot (LTE Band 25 – 20MHz QPSK – Full RB Configuration)



06:05:12 16.04.2024

Plot 7-56. Extended Lower Band Edge Plot (LTE Band 25 – 20MHz QPSK – Full RB Configuration)

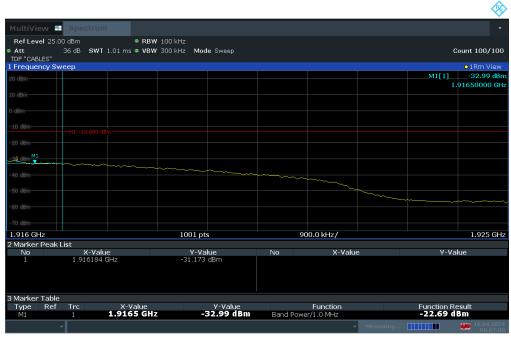
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 46 of 91	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Fage 40 01 91	
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4ultiView	Spectrum								,
Ref Level 25.0		• RBW	200 kHz						
Att	36 dB <b>SWT</b> 1.0			de Sweep				(	Count 100/10
IDF "CABLES" Frequency Sv	weed								•1Rm View
0 dBm								M1[1]	-24.41 dB
									1.9152140 G
~~~~~	~								
								<b></b>	
20 dBm									M1
								www.	hn thin
									· · · · · · · · · · · · · · · · · · ·
50 dBm									
.905 GHz			1001 p	ots		1.1 MHz/			1.916 G
Marker Peak									
No 1	X-Value 1.915214 GHz		۲-۷ 24,41	'alue 2 dBm	No	X-Valu	e	Y-Vá	alue
	*						Measuring		16.04.203 06:06:

06:06:42 16.04.2024

Plot 7-57. Upper Band Edge Plot (LTE Band 25 – 20MHz QPSK – Full RB Configuration)



06:07:00 16.04.2024

Plot 7-58. Extended Upper Band Edge Plot (LTE Band 25 – 20MHz QPSK – Full RB Configuration)

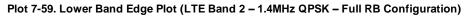
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 17 of 01	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Page 47 of 91	
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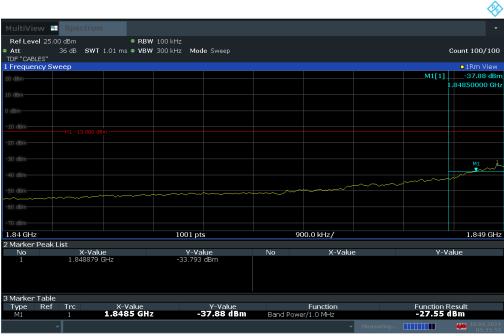


## LTE Band 2

Att	36 dB <b>SWT</b> 1.01 ms 🗢	RBW 20 kHz VBW 100 kHz Mode Sweep		Count 100/10
DF "CABLES" Frequency S				o1Rm Viev
) dBm				M1[1] -31.04 df
				1.84998930 G
.0 dBm				
			M1	
$\sim$				
0_dBm		<u> </u>		
0 dBm				
.849 GHz		1001 pts	170.0 kHz/	1.8507 G
Marker Pea				
	X-Value 1 849989 GHz	-31.044.dBm	No X-Value	Y-Value
Marker Pea No 1	K List X-Value 1.849989 GHz	Y-Value -31.044 dBm	No X-Value	Y-Value

05:32:11 16.04.2024





05:31:54 16.04.2024

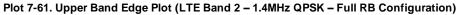
Plot 7-60. Extended Lower Band Edge Plot (LTE Band 2 – 1.4MHz QPSK – Full RB Configuration)

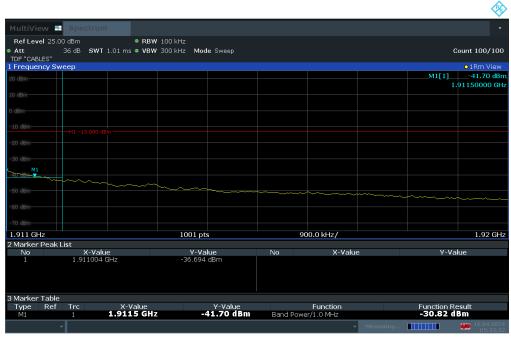
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 48 of 91	
1C2405230021-04.BCG	04/11/2024 - 07/31/2024	Watch	Fage 40 01 91	
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			(*S)
MultiView 📕 Spectrum			•
Ref Level 25.00 dBm	RBW 20 kHz		
Att 36 dB SWT 1.01 ms 🕯	VBW 100 kHz Mode Sweep		Count 100/100
TDF "CABLES" . Frequency Sweep			•1Rm View
			M1[1] -30.80 dBm
			1.91001070 GHz
.0 dBm			
20 dBm			
	M1		
-50 dBm			
1.9093 GHz	1001 pts	170.0 kHz/	1.911 GHz
Marker Peak List No X-Value	V. U-L		
No X-Value 1 1.910011 GHz	Y-Value -30.799 dBm	No X-Value	e Y-Value
			10.0.000
*		~	Measuring 16.04.2024 05:33:35

05:33:36 16.04.2024





05:33:53 16.04.2024

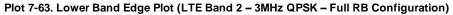
Plot 7-62. Extended Upper Band Edge Plot (LTE Band 2 – 1.4MHz QPSK – Full RB Configuration)

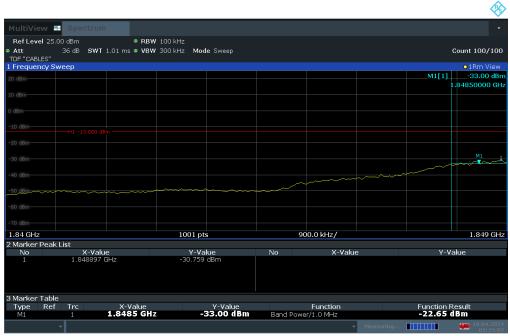
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 49 of 91
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Ref Level 25.0		RBW 30 kHz					
Att DF "CABLES"	36 dB <b>SWT</b> 1.06 ms 🗢	VBW 100 kHz Mod	e Sweep				Count 100/100
requency Sv	weep		1				O1Rm View
						M	1[1] -30.37 dB
							1.84998530 G
0 dBm							
u u u u u u u u u u u u u u u u u u u	——H1 -13.000 dBm ———						
0 dBm-							
		~~~~					
o dBm							
0 dBm							
849 GHz Marker Peak	Lint	1001 pt	S		250.0 kHz/		1.8515 G
No	X-Value	Y-Va	lue	No	X-Value		Y-Value
1	1.849985 GHz	-30.371	dBm				

05:35:20 16.04.2024





05:35:03 16.04.2024

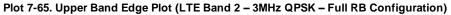
Plot 7-64. Extended Lower Band Edge Plot (LTE Band 2 – 3MHz QPSK – Full RB Configuration)

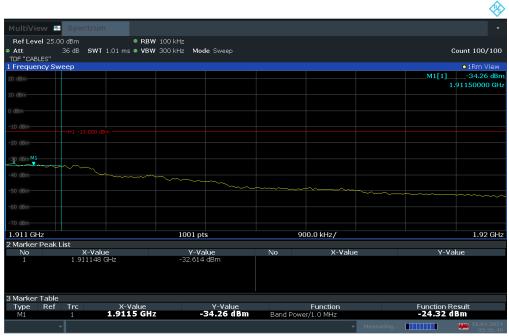
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 50 of 91
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			V2.2 09/07/2023



MultiView 📲	Spectrum								•
Ref Level 25.0	00 dBm	RBW	30 kHz						
Att	36 dB SWT 1.			Mode Sweep					Count 100/100
TDF "CABLES" Frequency Sw	veen								●1Rm View
								M1[1]	-30.94 dBn
									1.91009720 GHz
.0 dBm									
-20 dBm									
						$\sim$			↓
50 dBm									
1.9085 GHz			100	l pts	2	50.0 kHz/			1.911 GHz
Marker Peak I No	List X-Value			-Value	No	X-Value			/alue
1	1.910097 GH	İz	-30.	938 dBm	INU	X-Value	;	¥-1	laiue
	_								16.04.2024
	*					~	Measuring		16.04.2024 05:36:29

05:36:30 16.04.2024





05:36:47 16.04.2024

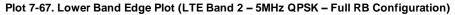
Plot 7-66. Extended Upper Band Edge Plot (LTE Band 2 – 3MHz QPSK – Full RB Configuration)

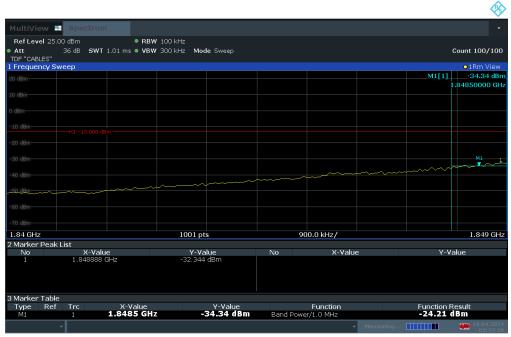
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 51 of 91
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							Sector 1
MultiView	Spectrum						•
Ref Level 25.0 Att TDF "CABLES"	00 dBm 36 dB <b>SWT</b> 1.04 ms	● RB₩ 50 kHz ● VBW 200 kHz Mod	le Sweep			с	ount 100/100
1 Frequency Sw	veep						o1Rm View
20 dBm-						M1[1]	-30.04 dBm
20 asm-						1.	84997380 GHz
10 dBm							
0 dBm				~~~~~			~~~~
-10 dBm							
-20 dBm							
		M1					
-30 dBm		~					
-40 dBm							
-50 dBm							
SO OBIT							
+60 dBm							
s 70 dBm							
1.849 GHz		1001 pt	e	35	0.0 kHz/		1.8525 GHz
2 Marker Peak	Liet	1001 pt	3				1.0020 0112
No	X-Value	Y-Va	lue	No	X-Value	Y-Va	ue
1	1.849974 GHz	-30.037	dBm				
							05:38:14

05:38:14 16.04.2024





05:37:57 16.04.2024

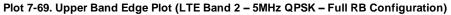
Plot 7-68. Extended Lower Band Edge Plot (LTE Band 2 – 5MHz QPSK – Full RB Configuration)

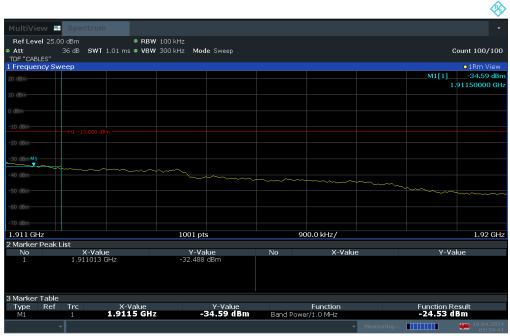
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 52 of 91
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			V2.2 09/07/2023



MultiView	Spectrum				•
Ref Level 25.0	odBm •	RBW 50 kHz			
Att TDF "CABLES"	36 dB <b>SWT</b> 1.04 ms •	VBW 200 kHz Mode Sweep			Count 100/100
I Frequency Sw	/еер				•1Rm View
20 dBm					M1[1] -30.69 dBr
					1.91002620 GH
20 dBm					
-30 dBm				M1	
					+
-70 dBm					
1.9075 GHz		1001 pts		350.0 kHz/	1.911 GH
2 Marker Peak L No	List X-Value	Y-Value	No	X-Value	Y-Value
1	1.910026 GHz	-30.688 dBm			
					200102
				• Measuring	. 16.04.202

05:39:25 16.04.2024





05:39:42 16.04.2024

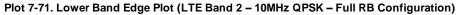
Plot 7-70. Extended Upper Band Edge Plot (LTE Band 2 – 5MHz QPSK – Full RB Configuration)

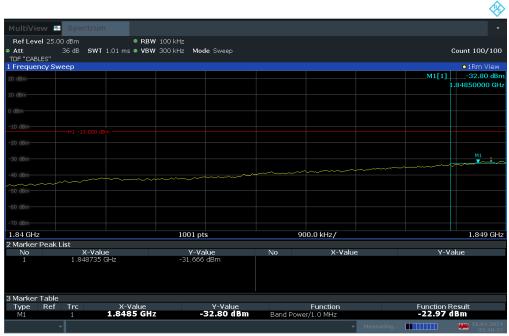
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 53 of 91
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Multiview       Spectrum       • RBW 100 kHz         • Att       36 dB       SWT 1.01 ms       • VBW 300 kHz       Count 100/100         TDF "CABLES"       • IRm View         10 dBm       • 11.34992010 GHz         0 dBm       • 0 dBm       • 0 dBm         10 dBm       • 0 dBm       • 0 dBm         0 dBm       • 0 dBm       • 0 dBm       • 0 dBm </th
• Att     36 dB     SWT 1.01 ms • VBW 300 kHz     Mode Sweep     Count 100/100       TDP*CAPLES*     • IRm View       1     Frequency Sweep     • IRm View       10 dBm     • IRm View     • IRm View
TDF "CARLES"           • 1 Frequency Sweep         • 1 Fm View           0 dBm         M1[1]         • 24.49 dBm           0 dBm         1.84992010 GHz           0 dBm         1.84992010 GHz         1           0 dBm         1.84992010 GHz         1           0 dBm         1.12 000 dBm         1         1           0 dBm         11 -12 000 dBm         1         1         1           0 dBm         1         1         1         1         1         1           0 dBm         1         1         1         1         1         1         1           10 dBm         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1
I Frequency Sweep         • 1Rm View           20 dBm         M1[1]         -24.49 dBm           1.84992010 GHz         1.84992010 GHz         0           0 dBm         0         0         0           10 dBm         1         0         0         0           0 dBm         0         0         0         0         0           10 dBm         11 -12 000 dBm         0         0         0         0         0           40 dBm         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0 <td< th=""></td<>
20 d8m 10 d8m
20 dam         1.84992010 GHz           10 dam         1.84992010 GHz           0 dam         1.900 dam           40 dam         1.900 dam           40 dam         1.900 dam
0 d8m 10 d8m 10 d8m 40 d8m
0 d8m 10 d8m 10 d8m 40 d8m
10 dBm
Hi14 000 d8m
Hi14 000 d8m
20 dBm
50 dBm
1.849 GHz         1001 pts         600.0 kHz/         1.855 GHz
2 Marker Peak List No X-Value Y-Value No X-Value Y-Value
No         X-value         Y-value         No         X-value         Y-value           1         1.849920 GHz         -24.486 dBm
▼ Measuring ₩ 16.04.2024 05.41:14

05:41:15 16.04.2024





05:40:57 16.04.2024

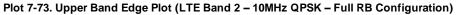
Plot 7-72. Extended Lower Band Edge Plot (LTE Band 2 – 10MHz QPSK – Full RB Configuration)

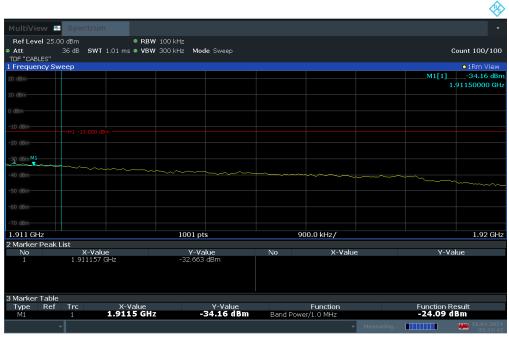
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 54 of 91
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MultiView	Spectrum							•
Ref Level 25.0	00 dBm	• RBW 100 kHz						
Att	36 dB <b>SWT</b> 1.01 m		Mode Sweep				c	Count 100/100
TDF "CABLES"								
1 Frequency Sv	veep						M1[1]	• 1Rm View -25.52 dBm
20 dBm								.91005000 GHz
								.91003000 012
10 dBm								
0 dBm								
U UBM								
-10 dBm-								
-20 dBm-						\	M1	
							h t	
-30 dBm								
-40 dBm								
TO dow								
-50 dBm-								
-60 dBm								
oo abiii								
-70 dBm-								52
1.905 GHz		100	01 pts		600.0 kHz/			1.911 GHz
2 Marker Peak	List	10.	51 pts		00010 KHZ7			1.911 0/12
No	X-Value		Y-Value	No	X-Value		Y-Va	lue
1	1.910050 GHz	-25	5.517 dBm					
								16 04 2024
	Ň.				*	Measuring		16.04.2024 05:42:25

05:42:25 16.04.2024





05:42:43 16.04.2024

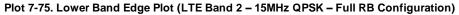
Plot 7-74. Extended Upper Band Edge Plot (LTE Band 2 – 10MHz QPSK – Full RB Configuration)

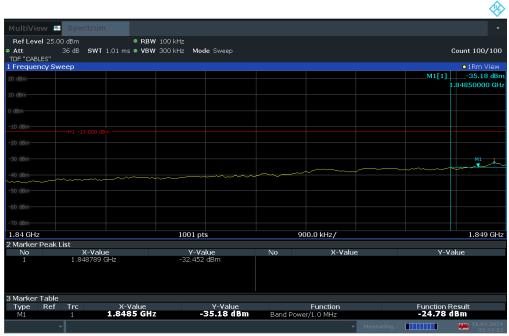
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 55 of 91
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								(*)
MultiView 🖶	Spectrum							•
Ref Level 25.00	) dBm	• RBW 200 kHz						
	36 dB <b>SWT</b> 1.01 ms	• VBW 1 MHz Mod	e Sweep					ount 100/100
TDF "CABLES" 1 Frequency Swi								●1Rm View
	ccp			M1[1]				-22.73 dBm
20 dBm							1.	84991280 GHz
10 dBm-								
10 dBm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					·····		······
0 dBm								
-10 dBm	/							
MI								
-20 dBm-	www							
- Mark	4V V							
- 38° dBm								
-40 dBm								
-50 dBm								
-60 dBm								
52								
s 70 dBm-								
1.849 GHz		1001 pts	6	85	0.0 kHz/			1.8575 GHz
2 Marker Peak L								
No 1	X-Value 1.849913 GHz	Y-Va -22.727		No	X-Value		Y-Va	ue
-	110 19910 0112		donn					
*					4			16.04.2024 05:44:12

05:44:12 16.04.2024





05:43:54 16.04.2024

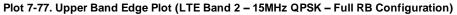
Plot 7-76. Extended Lower Band Edge Plot (LTE Band 2 – 15MHz QPSK – Full RB Configuration)

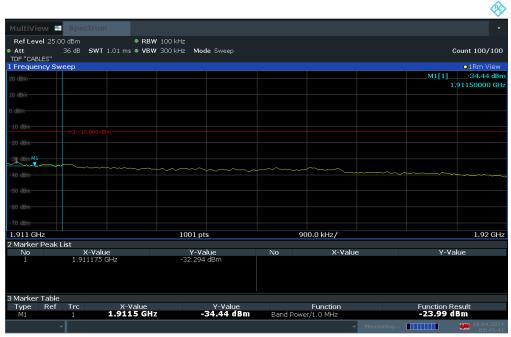
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo F6 of 01
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• 1 Rm View         20 dBm       1,91009570 GHz         10 dBm       1,91009570 GHz         1,9025 GHz       1,911 GHz         20 dBm       1,911 GHz										(*)
Att       36 db       SWT 1.01 ms * VBW       1 MHz       Mode Sweep       Count 100/100         TDF "CPLES"	MultiView	Spectrum								+
• 1 Em View         10 dem       M1[1]       -24.38 dem         20 dem       M1[1]       -24.38 dem         10 dem       10 dem       10 dem         -10 dem       -11 12.000 dem       -10 dem         -20 dem       -11 12.000 dem       -10 dem         -10 dem       -10 dem       -10 dem										
20 dim 20 dim	<ul> <li>Att TDF "CABLES"</li> </ul>	36 dB SWT 1.01	ms o VBW	1 MHz I	Mode Sweep				(	Count 100/100
20 dBm 10 dBm 	1 Frequency Sv	veep								O1Rm View
1.91009570 GHz 10 dBm -10 dB	an dam								M1[1]	-24.38 dBm
0 dBm 10 dBm	20 0611								1	.91009570 GHz
0 dBm 10 dBm	10 dBm-									
10 dBm +11 -13.000 dbm		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						mm		
10 dBm +11 -13.000 dbm	0 dBm							<u>م</u>		
-11 - 13.000 dbm     -13.000 dbm       -20 dbm     -40 dbm       -30 dbm     -10 - 10 - 10 - 10 - 10 - 10 - 10 - 10	o dom									
-11 - 13.000 dbm     -13.000 dbm       -20 dbm     -40 dbm       -30 dbm     -10 - 10 - 10 - 10 - 10 - 10 - 10 - 10	-10 dBm									
-20 dBm -40 dBm -50 dBm -60 dBm -70 dB										
-20 dBm -40 dBm -50 dBm -60 dBm -70 dB	-20 dBm								MA	1
40 dBm- 50 dBm- 60 dBm- 70 dBm- 70 dBm- 1.9025 GHz 1001 pts 850.0 kHz/ 1.911 GHz Warker Peak List									""WANN	h.
50 dēm. 60 dēm. 70 dēm. 1.9025 GHz 1001 pts 850.0 kHz/ 1.911 GHz Varker Peak List	-30 dBm									mann
50 dēm. 60 dēm. 70 dēm. 1.9025 GHz 1001 pts 850.0 kHz/ 1.911 GHz Varker Peak List										
60 dBm- 70 dBm- 1.9025 GHz 1001 pts 850.0 kHz/ 1.911 GHz Warker Peak List	-40 dBm									
60 dBm- 70 dBm- 1.9025 GHz 1001 pts 850.0 kHz/ 1.911 GHz Warker Peak List										
TO dBm:         S1         S2           10025 GHz         1001 pts         850.0 kHz/         1.911 GHz           2 Marker Peak List         5000 kHz/         1.911 GHz	-50 dBm-									
TO dBm:         S1         S2           10025 GHz         1001 pts         850.0 kHz/         1.911 GHz           2 Marker Peak List         5000 kHz/         1.911 GHz										
1.9025 GHz 1001 pts 850.0 kHz/ 1.911 GHz Marker Peak List	-60 dBm-									
1.9025 GHz 1001 pts 850.0 kHz/ 1.911 GHz Marker Peak List										
2 Marker Peak List	-70 dBm									
2 Marker Peak List	1.0005.0115			1001	nto					1.011.015
		1		1001	pts	0.	30.0 KHZ7			1,911 012
No X-Value Y-Value No X-Value Y-Value	2 Marker Peak	X-Value		v	-Value	No	X-Valu	e	Y-Va	alue
1 1.910096 GHz -24.378 dBm						1.0	, r r aid	0		140
		•						Measuring		16.04.2024
								Measuring		16.04.2024 05:45:23

05:45:24 16.04.2024





05:45:42 16.04.2024

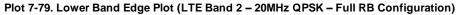
Plot 7-78. Extended Upper Band Edge Plot (LTE Band 2 – 15MHz QPSK – Full RB Configuration)

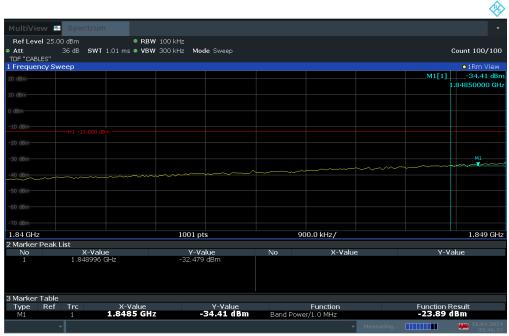
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 57 of 91
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								(*)
MultiView 🖿	Spectrum							-
Ref Level 25.00	) dBm	• RBW 200 kHz						
Att ::     TDF "CABLES"	36 dB <b>SWT</b> 1.01 ms	• VBW 1 MHz	Mode Sweep				с	ount 100/100
1 Frequency Swe	ер							o1Rm View
20 dBm-							M1[1]	-24.35 dBm
20 asm								1.8498410 GHz
10 dBm								
0 dBm								
-10 dBm								
0.0	J							
	M							
mmmm								
-40 dBm								
-50 dBm								
-60 dBm								
570 dBm 52								
1.849 GHz		100	l pts	<u> </u>	.1 MHz/			1.86 GHz
2 Marker Peak Li	ict	100	t pts	1	.I MHZ/			1.80 GHZ
No	X-Value	Y	-Value	No	X-Value	:	Y-Va	lue
1	1.849841 GHz	-24.	351 dBm					
				l				16.04.2024
~								<pre>16.04.2024 05:47:15</pre>

05:47:16 16.04.2024





05:46:58 16.04.2024

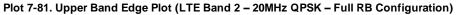
Plot 7-80. Extended Lower Band Edge Plot (LTE Band 2 – 20MHz QPSK – Full RB Configuration)

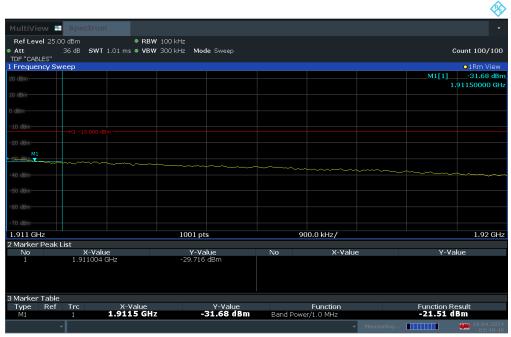
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 58 of 91
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				(*)
MultiView 🗄	Spectrum			•
Ref Level 25.00	JdBm ● RBN	<b>V</b> 200 kHz		
Att TDF "CABLES"	36 dB SWT 1.01 ms • VBV	V 1 MHz Mode Sweep		Count 100/100
1 Frequency Sw	eep			•1Rm View
				M1[1] -22.17 dBr
20 dBm				1.9102360 GH
10 dBm				
0 dBm				
-10 dBm-				
				м
-20 dBm				MI MI
-30 dBm-				
00 0011				
-40 dBm				
-50 dBm				
-60 dBm				
-70 dBm-				s
1.9 GHz		1001 pts	1.1 MHz/	1.911 GH
2 Marker Peak L No	.ist X-Value	Y-Value	No X-Valu	e Y-Value
1	1.910236 GHz	-22.169 dBm		
~				Measuring 16.04.202 05:48:2

05:48:28 16.04.2024





05:48:47 16.04.2024

Plot 7-82. Extended Upper Band Edge Plot (LTE Band 2 – 20MHz QPSK – Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 59 of 91
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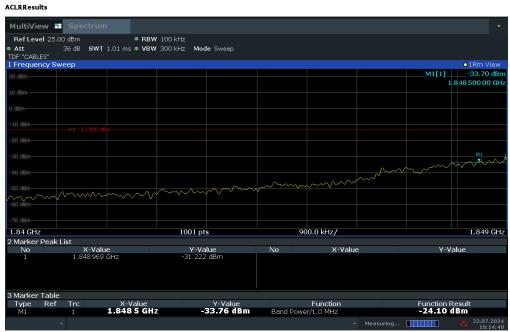


### WCDMA PCS

#### ACLRResults







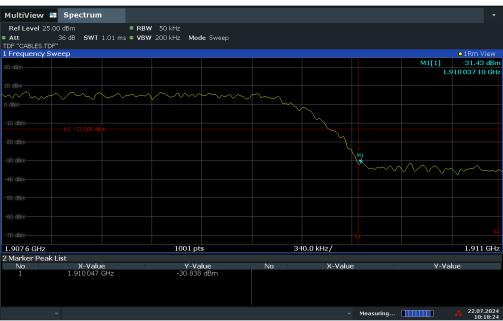
10:14:41 22.07.2024

Plot 7-84. Extended Lower Band Edge Plot (WCDMA PCS - Ch. 9262)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 60 of 91
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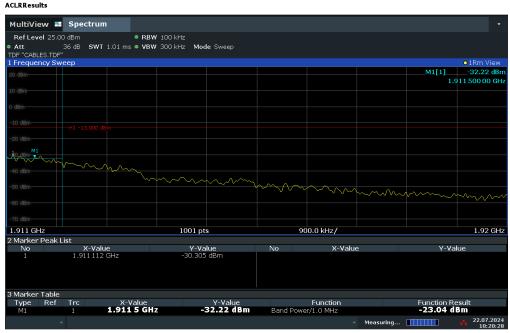


#### ACLRResults



10:18:25 22.07.2024





10:20:29 22.07.2024

Plot 7-86. Extended Upper Band Edge Plot (WCDMA PCS - Ch. 9538)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		
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# 7.5 Peak-Average Ratio

#### Test Overview and Limit

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

The peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time.

#### Test Procedure Used

KDB 971168 D01 v03r01 - Section 5.7.1

#### Test Settings

- 1. The signal analyzer's CCDF measurement profile is enabled
- 2. Frequency = carrier center frequency
- 3. Measurement BW ≥ OBW or specified reference bandwidth
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

#### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-4. Test Instrument & Measurement Setup

#### Test Notes

None.

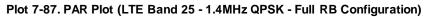
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 62 of 91
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## LTE Band 25



22:06:45 23.04.2024





Plot 7-88. PAR Plot (LTE Band 25 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 63 of 91
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22:09:36 23.04.2024

Plot 7-89. PAR Plot (LTE Band 25 - 3MHz QPSK - Full RB Configuration)



Plot 7-90. PAR Plot (LTE Band 25 - 3MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 64 of 01
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22:12:16 23.04.2024

Plot 7-91. PAR Plot (LTE Band 25 - 5MHz QPSK - Full RB Configuration)



Plot 7-92. PAR Plot (LTE Band 25 - 5MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 65 of 01
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22:14:53 23.04.2024

Plot 7-93. PAR Plot (LTE Band 25 - 10MHz QPSK - Full RB Configuration)



Plot 7-94. PAR Plot (LTE Band 25 - 10MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 66 of 91
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22:17:31 23.04.2024

Plot 7-95. PAR Plot (LTE Band 25 - 15MHz QPSK - Full RB Configuration)



Plot 7-96. PAR Plot (LTE Band 25 - 15MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 67 of 91
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22:20:10 23.04.2024

Plot 7-97. PAR Plot (LTE Band 25 - 20MHz QPSK - Full RB Configuration)



22:21:29 23.04.2024

Plot 7-98. PAR Plot (LTE Band 25 - 20MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 68 of 91
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## LTE Band 2







Plot 7-100. PAR Plot (LTE Band 2 - 1.4MHz 16-QAM - Full RB Configuration)

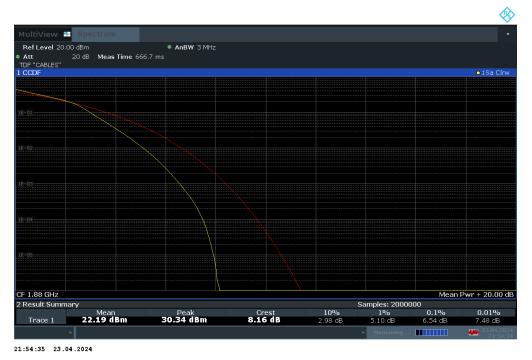
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 60 of 01
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21:53:17 23.04.2024

Plot 7-101. PAR Plot (LTE Band 2 - 3MHz QPSK - Full RB Configuration)



Plot 7-102. PAR Plot (LTE Band 2 - 3MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 70 of 01
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21:55:53 23.04.2024

Plot 7-103. PAR Plot (LTE Band 2 - 5MHz QPSK - Full RB Configuration)



Plot 7-104. PAR Plot (LTE Band 2 - 5MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 71 of 01
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21:58:34 23.04.2024

Plot 7-105. PAR Plot (LTE Band 2 - 10MHz QPSK - Full RB Configuration)



Plot 7-106. PAR Plot (LTE Band 2 - 10MHz 16-QAM - Full RB Configuration)

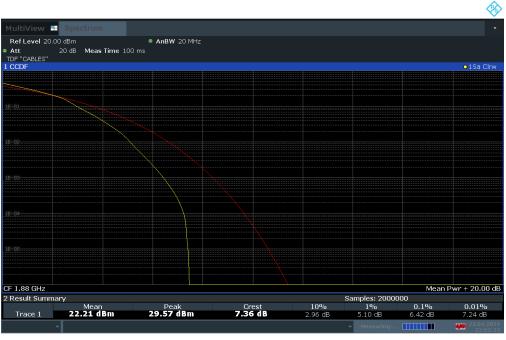
FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 72 of 91
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22:01:16 23.04.2024

Plot 7-107. PAR Plot (LTE Band 2 - 15MHz QPSK - Full RB Configuration)



22:02:34 23.04.2024

Plot 7-108. PAR Plot (LTE Band 2 - 15MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 72 of 01
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22:03:53 23.04.2024

Plot 7-109. PAR Plot (LTE Band 2 - 20MHz QPSK - Full RB Configuration)



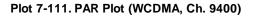
Plot 7-110. PAR Plot (LTE Band 2 - 20MHz 16-QAM - Full RB Configuration)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 74 of 01
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10:52:15 22.04.2024



FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 75 of 01
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## 7.6 Radiated Power (EIRP) §24.232(c)

## **Test Overview**

Equivalent Isotropic Radiated Power (EIRP) measurements are calculated by adding highest antenna gain to maximum measured conducted output power. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

## Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1 ANSI C63.26-2015 – Section 5.2.5.5

## Test Settings

The relevant equation for determining the EIRP from the conducted RF output power measured is:

EIRP = PMeas - LC + GT

Where:

EIRP = Equivalent Isotropic Radiated Power (expressed in the same units as PMeas, typically dBW or dBm)

PMeas = measured transmitter output power or PSD, in dBW or dBm

LC = signal attenuation in the connecting cable between the transmitter and antenna in dB

GT = gain of the transmitting antenna, in dBi (EIRP)

## Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

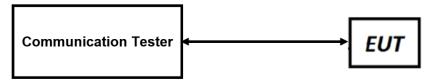


Figure 7-5. EIRP Measurement Setup

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
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### Test Notes

- 1. The EUT was tested in all possible test configurations. The worst case emissions are reported with the EUT modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2. This unit was tested with its standard battery.
- 3. The Level (dBm) readings in the table were taken with a correction table loaded into the base station simulator. The correction table was used to account for the signal attenuation in the connecting cable between the transmitter and antenna.
- 4. The Ant. Gains (GT) are listed in dBi.
- This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1".

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 77 of 91
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# 7.6.1 Antenna FCM – EIRP

## LTE Band 25

Bandwidth	Mod.	Frequency [MHz]	Ant. Gain [dBi]	RB Size/Offset	Conducted Power [dBm]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
		1850.7	-13.10	1 / 5	24.22	11.12	12.942	33.01	-21.89
1.4 MHz	QPSK	1882.5	-13.10	1/5	24.17	11.07	12.794	33.01	-21.94
		1914.3	-13.10	1/0	24.17	11.07	12.794	33.01	-21.94
	16-QAM	1882.5	-13.10	1/3	23.71	10.61	11.508	33.01	-22.40
		1851.5	-13.10	1/7	24.25	11.15	13.032	33.01	-21.86
3 MHz	QPSK	1882.5	-13.10	1/7	24.18	11.08	12.823	33.01	-21.93
3 10172		1913.5	-13.10	1/7	23.99	10.89	12.274	33.01	-22.12
	16-QAM	1851.5	-13.10	1 / 7	23.74	10.64	11.588	33.01	-22.37
		1852.5	-13.10	1/0	24.41	11.31	13.521	33.01	-21.70
5 MU-	QPSK	1882.5	-13.10	1/0	24.35	11.25	13.335	33.01	-21.76
5 MHz	MHZ	1912.5	-13.10	1 / 24	24.03	10.93	12.388	33.01	-22.08
	16-QAM	1852.5	-13.10	1/0	23.90	10.80	12.023	33.01	-22.21
		1855.0	-13.10	1/0	24.21	11.11	12.912	33.01	-21.90
40 MUL	QPSK	1882.5	-13.10	1/0	24.19	11.09	12.853	33.01	-21.92
10 MHz		1910.0	-13.10	1/0	24.12	11.02	12.647	33.01	-21.99
	16-QAM	1882.5	-13.10	1/0	23.85	10.75	11.885	33.01	-22.26
		1857.5	-13.10	1 / 37	24.43	11.33	13.583	33.01	-21.68
45 MU-	QPSK	1882.5	-13.10	1/0	24.20	11.10	12.882	33.01	-21.91
	15 MHz	1907.5	-13.10	1 / 37	24.14	11.04	12.706	33.01	-21.97
	16-QAM	1882.5	-13.10	1 / 37	23.79	10.69	11.722	33.01	-22.32
		1860.0	-13.10	1 / 99	24.39	11.29	13.459	33.01	-21.72
20 MU-	QPSK	1882.5	-13.10	1/0	24.18	11.08	12.823	33.01	-21.93
20 MHz		1905.0	-13.10	1 / 50	24.31	11.21	13.213	33.01	-21.80
	16-QAM	1905.0	-13.10	1 / 50	23.76	10.66	11.641	33.01	-22.35
Table 7.2 Antenno ECM EIPB Date (LTE Pand 25)									

Table 7-2. Antenna FCM EIRP Data (LTE Band 25)

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 78 of 91
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# LTE Band 2

Bandwidth	Mod.	Frequency [MHz]	Ant. Gain [dBi]	RB Size/Offset	Conducted Power [dBm]	ERP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
		1850.7	-13.10	1 / 5	24.25	11.15	13.032	33.01	-21.86
1.4 MHz	QPSK	1880.0	-13.10	1 / 0	24.21	11.11	12.912	33.01	-21.90
		1909.3	-13.10	1/0	24.23	11.13	12.972	33.01	-21.88
	16-QAM	1880.0	-13.10	1/3	23.79	10.69	11.722	33.01	-22.32
		1851.5	-13.10	1/7	24.26	11.16	13.062	33.01	-21.85
2 MU-	QPSK	1880.0	-13.10	1/7	24.20	11.10	12.882	33.01	-21.91
3 MHz		1908.5	-13.10	1 / 7	24.10	11.00	12.589	33.01	-22.01
	16-QAM	1851.5	-13.10	1/7	23.73	10.63	11.561	33.01	-22.38
		1852.5	-13.10	1/0	24.42	11.32	13.552	33.01	-21.69
5 MU-7	5 MHz QPSK	1880.0	-13.10	1/0	24.40	11.30	13.490	33.01	-21.71
		1907.5	-13.10	1/0	24.20	11.10	12.882	33.01	-21.91
	16-QAM	1852.5	-13.10	1 / 24	23.82	10.72	11.803	33.01	-22.29
		1855.0	-13.10	1/0	24.21	11.11	12.912	33.01	-21.90
10 MHz	QPSK	1880.0	-13.10	1/0	24.21	11.11	12.912	33.01	-21.90
		1905.0	-13.10	1 / 25	24.11	11.01	12.618	33.01	-22.00
	16-QAM	1880.0	-13.10	1/0	23.80	10.70	11.749	33.01	-22.31
		1857.5	-13.10	1/0	24.44	11.34	13.614	33.01	-21.67
45 MU-	QPSK	1880.0	-13.10	1/0	24.25	11.15	13.032	33.01	-21.86
	15 MHz	1902.5	-13.10	1 / 37	24.14	11.04	12.706	33.01	-21.97
	16-QAM	1880.0	-13.10	1/0	23.80	10.70	11.749	33.01	-22.31
		1860.0	-13.10	1 / 99	24.43	11.33	13.583	33.01	-21.68
20 MHz	QPSK	1880.0	-13.10	1/0	24.20	11.10	12.882	33.01	-21.91
		1900.0	-13.10	1 / 99	24.26	11.16	13.062	33.01	-21.85
	16-QAM	1860.0	-13.10	1/0	23.80	10.70	11.749	33.01	-22.31
		Table 7.2	• •						

Table 7-3. Antenna FCM EIRP Data (LTE Band 2)

FCC ID: BCG-A3001	element 🤤	element PART 24 MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 79 of 91
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Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [mW]	EIRP Limit [dBm]	Margin [dB]
1852.40	WCDMA1900	23.53	-13.10	10.43	11.041	33.01	-22.58
1880.00	WCDMA1900	23.65	-13.10	10.55	11.350	33.01	-22.46
1907.60	WCDMA1900	23.62	-13.10	10.52	11.272	33.01	-22.49

Table 7-4. Antenna FCM EIRP Data (WCDMA PCS)

FCC ID: BCG-A3001	element PART 24 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 80 of 91
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# 7.7 Radiated Spurious Emissions §2.1053, 24.238(a)

## **Test Overview**

Radiated spurious emissions measurements are performed using the field strength conversion method described in KDB 971168 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

## **Test Procedures Used**

KDB 971168 D01 v03r01 - Section 5.8

#### **Test Settings**

- 1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 2. VBW  $\geq$  3 x RBW
- 3. Span = 1.5 times the OBW
- 4. No. of sweep points  $\geq 2 \times \text{span} / \text{RBW}$
- 5. Detector = RMS
- 6. Trace mode = Average (Max Hold for pulsed emissions)
- 7. The trace was allowed to stabilize

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
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# Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

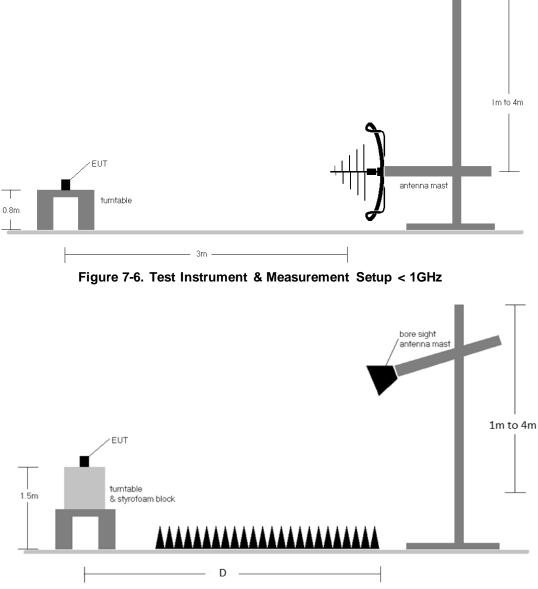


Figure 7-7. Test Instrument & Measurement Setup >1 GHz

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 82 of 91
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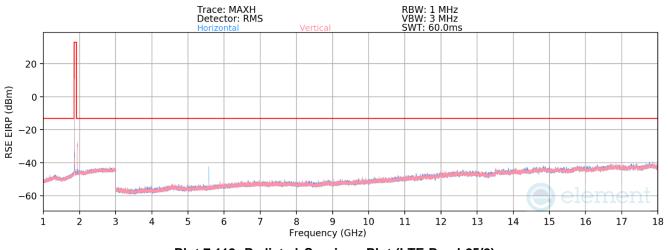
## Test Notes

- 1. Field strengths are calculated using the Measurement quantity conversions in KDB 971168 Section 5.8.4.
  - a. E(dBµV/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m)
  - b. EIRP (dBm) =  $E(dB\mu V/m)$  + 20logD 104.8; where D is the measurement distance in meters.
- This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1".
- 3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 4. This unit was tested with its standard battery.
- 5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 6. D is the measurement test distance and emissions 1-18GHz were measured at a 3 meters test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 7. No significant emissions were found for below 1GHz and Above 18GHz measurement.
- 8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
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# 7.7.1 Antenna FCM – Radiated Spurious Emission Measurement



# LTE Band 25/2



FCC ID: BCG-A3001	element	PART 24 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 94 of 01
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Bandwidth (MHz):	20
Frequency (MHz):	1860.0
RB / Offset:	1/50

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3720.0	Н	-	-	-78.23	4.84	33.61	-61.64	-13.00	-48.64
5580.0	н	276	138	-68.88	8.06	46.18	-49.08	-13.00	-36.08
7440.0	Н	-	-	-80.32	9.91	36.59	-58.66	-13.00	-45.66
9300.0	Н	-	-	-79.82	10.93	38.11	-57.15	-13.00	-44.15
11160.0	Н	-	-	-81.52	15.37	40.85	-54.41	-13.00	-41.41

Table 7-5. Antenna FCM Radiated Spurious Data (LTE Band 25/2 – Low Channel)

Bandwidth (MHz):	20
Frequency (MHz):	1882.5
RB / Offset:	1/50

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3765.0	Н	-	-	-78.59	5.07	33.48	-61.78	-13.00	-48.78
5647.5	Н	113	123	-75.98	8.18	39.20	-56.06	-13.00	-43.06
7530.0	Н	-	-	-80.31	9.99	36.68	-58.58	-13.00	-45.58
9412.5	Н	-	-	-79.88	11.28	38.40	-56.85	-13.00	-43.85
11295.0	Н	-	-	-82.20	16.08	40.88	-54.38	-13.00	-41.38

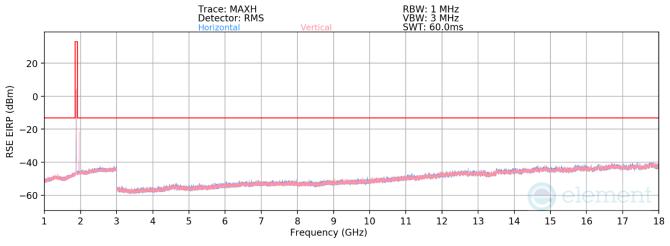
Table 7-6. Antenna FCM Radiated Spurious Data (LTE Band 25/2 - Mid Channel)

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3810.00	Н	-	-	-78.75	5.32	33.57	-61.68	-13.00	-48.68
5715.00	Н	355	278	-78.30	8.43	37.14	-58.12	-13.00	-45.12
7620.00	Н	-	-	-80.79	10.35	36.56	-58.70	-13.00	-45.70
9525.00	Н	-	-	-80.52	11.44	37.92	-57.34	-13.00	-44.34
11430.00	Н	-	-	-81.76	15.08	40.32	-54.94	-13.00	-41.94

Table 7-7. Antenna FCM Radiated Spurious Data (LTE Band 25/2 - High Channel)

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Plot 7-113. Radiated Spurious Plot (WCDMA PCS)

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Mode:	WCDMARMC
Channel:	9262
Frequency (MHz):	1852.4

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3704.8	V	-	-	-78.81	4.51	32.70	-62.56	-13.00	-49.56
5557.2	V	-	-	-80.63	7.89	34.26	-61.00	-13.00	-48.00
7409.6	V	-	-	-80.56	10.39	36.83	-58.43	-13.00	-45.43

Table 7-8. Antenna FCM Radiated Spurious Data (WCDMA PCS – Low Channel)

Mode:	WCDMARMC
Channel:	9400
Frequency (MHz):	1880

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3760.0	V	-	-	-79.06	4.90	32.84	-62.42	-13.00	-49.42
5640.0	V	-	-	-80.52	8.24	34.72	-60.54	-13.00	-47.54
7520.0	V	-	-	-80.49	9.91	36.42	-58.84	-13.00	-45.84

Table 7-9. Antenna FCM Radiated Spurious Data (WCDMA PCS – Mid Channel)

Mode:	WCDMA RMC		
Channel:	9538		
Frequency (MHz):	1907.6		

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3815.2	V	-	-	-78.99	5.16	33.17	-62.09	-13.00	-49.09
5722.8	V	-	-	-80.51	8.55	35.04	-60.22	-13.00	-47.22
7630.4	V	-	-	-80.95	10.21	36.26	-59.00	-13.00	-46.00

Table 7-10. Antenna FCM Radiated Spurious Data (WCDMA PCS – High Channel)

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# 7.8 Frequency Stability / Temperature Variation §2.1055, §24.235

### Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015 and TIA-603-E-2016. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 24 the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

#### Test Procedure Used

ANSI C63.26-2015

TIA-603-E-2016

#### Test Settings

- 1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
- The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
- 3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

#### Test Setup

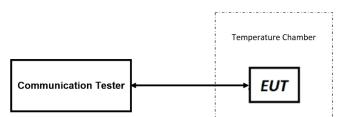


Figure 7-8. Test Instrument & Measurement Setup

#### Test Notes

None.

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# Frequency Stability / Temperature Variation

LTE B25/2							
	Operating Band Lo	wer Boundary (GHz)		1.850			
	Ref. Volt	age (VDC):		3.80			
-							
Voltage (%)	Power (VDC)	Temp (°C)	Measured Freq. (GHz)	Freq. Delta from Operating Range (GHz)			
		- 30	1.8505004	-0.0005004			
		- 20	1.8505386	-0.0005386			
		- 10	1.8505185	-0.0005185			
	3.80	0	1.8505308	-0.0005308			
100 %		+ 10	1.8505477	-0.0005477			
		+ 20 (Ref)	1.8505535	-0.0005535			
		+ 30	1.8505256	-0.0005256			
		+ 40	1.8505133	-0.0005133			
		+ 50	1.8504615	-0.0004615			
Battery Endpoint	3.40	+ 20	1.8505388	-0.0005388			

Table 7-11. LTE Band 25/2 Lower Boundary Frequency Stability Data

LTE B25/2								
	Operating Band Up	oper Boundary (GHz)		1.915				
	Ref. Volt	age (VDC):		3.80				
Voltage (%)	Power (VDC)	Temp (°C)	Measured Freq. (GHz)	Freq. Delta from Operating Range (GHz)				
		- 30	1.9143864	-0.0006136				
		- 20	1.9143855	-0.0006145				
		- 10	1.9143757	-0.0006243				
		0	1.9144385	-0.0005616				
100 %	3.80	+ 10	1.9144334	-0.0005666				
		+ 20 (Ref)	1.9143527	-0.0006473				
		+ 30	1.9143550	-0.0006450				
		+ 40	1.9144360	-0.0005640				
		+ 50	1.9144299	-0.0005701				
Battery Endpoint	3.40	+ 20	1.9143574	-0.0006426				

Table 7-12. LTE Band 25/2 Upper Boundary Frequency Stability Data

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WCDMA PCS								
	Operating Band Lo	ower Boundary (GHz)		1.850				
	Ref. Volt	age (VDC):		3.80				
Voltage (%)	Power (VDC)	Temp (°C)	Measured Freq. (GHz)	Freq. Delta from Operating Range (GHz)				
		- 30	1.8503507	-0.0003507				
		- 20	1.8503550	-0.0003550				
		- 10	1.8503502	-0.0003502				
	3.80	0	1.8503449	-0.0003449				
100 %		+ 10	1.8503504	-0.0003504				
		+ 20 (Ref)	1.8503438	-0.0003438				
		+ 30	1.8503442	-0.0003442				
		+ 40	1.8503457	-0.0003457				
		+ 50	1.8503489	-0.0003489				
Battery Endpoint	3.40	+ 20	1.8503480	-0.0003480				

Table 7-13. WCDMA PCS Lower Boundary Frequency Stability Data

WCDMA PCS								
	Operating Band Up	oper Boundary (GHz)		1.910				
	Ref. Volt	age (VDC):		3.80				
Voltage (%)	Power (VDC)	Temp (°C)	Measured Freq. (GHz)	Freq. Delta from Operating Range (GHz)				
		- 30	1.9096991	-0.0003009				
		- 20	1.9096591	-0.0003409				
		- 10	1.9096582	-0.0003418				
		0	1.9096602	-0.0003398				
100 %	3.80	+ 10	1.9096573	-0.0003427				
		+ 20 (Ref)	1.9096543	-0.0003457				
		+ 30	1.9096504	-0.0003496				
		+ 40	1.9096583	-0.0003417				
		+ 50	1.9096604	-0.0003396				
Battery Endpoint	3.40	+ 20	1.9096598	-0.0003402				

Table 7-14. WCDMA PCS Upper Boundary Frequency Stability Data

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# 8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the Apple **Watch FCC ID: BCG-A3001** complies with all the requirements of Part 24 of the FCC rules.

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