

Page 1 of 22

FCC PART 15, SUBPART B and C; RSS-247 and RSS-GEN TEST REPORT

for

DOCK CONTROLLER

MODEL: COPERNICUS

Prepared for

TARGUS 1211 N. MILLER ST ANAHEIM, CALIFORNIA 92806

Prepared by: Korke Jajimoto

KYLE FUJIMOTO

Approved by: James Rom

JAMES ROSS

COMPATIBLE ELECTRONICS INC. 114 OLINDA DRIVE BREA, CALIFORNIA 92823 (714) 579-0500

DATE: NOVEMBER 27, 2019

	REPORT	APPENDICES				TOTAL	
	BODY	A	B	С	D	E	
PAGES	22	2	2	2	17	94	139

This report shall not be reproduced, except in full, without the written approval of Compatible Electronics.

TESTING NVLAP LAB CODE 200528-0

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



TABLE OF CONTENTS

Section / Title	PAGE
GENERAL REPORT SUMMARY	4
SUMMARY OF TEST RESULTS	5
1. PURPOSE	6
2 Δ DMINISTR ΔΤΙVΕ DΔΤΔ	7
2. ADVINUSTRATIVE DATA	7
2.1 Location of resting 2.2 Traceability Statement	7
2.2 Cognizant Personnel	7 7
2.4 Date Test Sample was Received	7
2.5 Disposition of the Test Sample	7
2.6 Abbreviations and Acronyms	7
3. APPLICABLE DOCUMENTS	8
4. DESCRIPTION OF TEST CONFIGURATION	9
4.1 Description of Test Configuration – Emissions	9
4.1.1 Cable Construction and Termination	9
5 I ISTS OF FUT ACCESSORIES AND TEST FOUIPMENT	11
5. EISTS OF EUT, ACCESSORIES AND TEST EQUILIBRIUM	11
5.2 Emissions Test Equipment	11
	12
6. TEST SITE DESCRIPTION	13
6.1 Test Facility Description	13
6.2 EUT Mounting, Bonding and Grounding	13
6.3 Measurement Uncertainty	13
7. CHARACTERISTICS OF THE TRANSMITTER	14
7.1 Channel Description and Frequencies	14
7.2 Antenna Gain	14
8. TEST PROCEDURES	15
8.1 RF Emissions	15
8.1.1 Conducted Emissions Test	15
8.1.2 Radiated Emissions (Spurious and Harmonics) Test	16
8.1.3 RF Emissions Test Results	17
8.2 DTS Bandwidth	18
8.3 Maximum Conducted Output Power	18
8.4 Emissions in Non-Restricted Bands	19
8.5 KF Band Edges	20
8.0 Spectral Density Test 8.7 Variation of the Input Dewar	21
o. / variation of the input rower	21
9. CONCLUSIONS	22

Brea Division			
114 Olinda Drive			
Brea, CA 92823			
(714) 579-0500			

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



LIST OF APPENDICES

APPENDIX	TITLE				
А	Laboratory Accreditations and Recognitions				
В	Modifications to the EUT				
С	Additional Models Covered Under This Report				
D	Diagrams, Charts, and Photos				
	Test Setup Diagrams				
	Radiated and Conducted Emissions Photos				
	Antenna and Effective Gain Factors				
Е	Data Sheets				

LIST OF FIGURES

FIGURE	TITLE
1	Layout of the Semi-Anechoic Test Chamber
2	Conducted Emissions Test Setup

LIST OF TABLES

TABLE	TITLE
1	Conducted Emissions Test Results
2	Radiated Emissions Test Results

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Page 4 of 22

GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the federal government.

Device Tested:	Dock Controller Model: Copernicus S/N: N/A
Product Description:	The EUT controls the power output to other Targus docking stations.
Modifications:	The EUT was not modified during the testing.
Customer:	Targus 1211 N. Miller St Anaheim, California 92806
Test Dates:	September 24; October 10-11; November 4, 8, 11-14 and 22, 2019

Test Specifications covered by accreditation:

Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247; RSS-247 and RSS-GEN Test Procedure: ANSI C63.4 and ANSI C63.10



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	The EUT complies with the Class B limits of CFR Title 47, Part 15 Subpart B; the limits of CFR Title 47, Part 15, Subpart C, section 15.207; RSS-247 and RSS-GEN See section 6.3 for Measurement Uncertainty
2	Spurious Radiated RF Emissions, 30 MHz – 1000 MHz	The EUT complies with the Class B limits of CFR Title 47, Part 15 Subpart B; the limits of CFR Title 47, Part 15, Subpart C, section 15.209; RSS-247 and RSS-GEN See section 6.3 for Measurement Uncertainty
3	Spurious Radiated RF Emissions, 9 kHz – 30 MHz and 1000 MHz – 25 GHz	The EUT complies with the Class B limits of CFR Title 47, Part 15, Subpart B; CFR Title 47, Part 15, Subpart C, section 15.247(d); RSS-247 and RSS-GEN See section 6.3 for Measurement Uncertainty
4	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 9 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d); RSS-247 and RSS- GEN
5	Emissions produced by the intentional radiator in restricted bands, 9 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, section 15.247 (d); RSS-247 and RSS-GEN
6	DTS Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(2); RSS-247
7	Maximum Conducted Output Power	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3); RSS-247
8	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (d); RSS-247
9	Power Spectral Density from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e); RSS-247

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Dock Controller, Model: Copernicus. The emissions measurements were performed according to the measurement procedure described in ANSI C63.10 and ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the <u>Class B specification limits defined by CFR Title 47, Part 15,</u> Subpart B and Subpart C, sections 15.205, 15.207, 15.209, and 15.247; RSS-247 and RSS-GEN.



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



2. ADMINISTRATIVE DATA

2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Targus

Dan Tsang Jonathan Yau Director, Product Management Field Application Engineer

Compatible Electronics Inc.

Kyle Fujimoto Harvey Samaco Test Engineer Test Technician

2.4 Date Test Sample was Received

The test sample was received on prior to the initial test date.

2.5 Disposition of the Test Sample

The test sample has been returned to Targus as of December 6, 2019.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

Radio Frequency
Electromagnetic Interference
Equipment Under Test
Part Number
Serial Number
Hewlett Packard
Information Technology Equipment
Corrected Meter Limit
Line Impedance Stabilization Network
Not Applicable
Bluetooth Low Energy

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emissions Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
ANSI C63.4 2014	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
ANSI C63.10 2013	American National Standard for Testing Unlicensed Wireless Devices
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
KDB 558074 D01 v05r02	Guidance for Performing Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under Section 15.247 of the FCC Rules
RSS-Gen Issue 5 April 2019 Amendment 1	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 2 February 2017	Digital Transmissions Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The Dock Controller, Model: Copernicus (EUT) was connected to a power supply adapter via its DC power input.

When being programmed, the EUT was also connected to a laptop and programming board. The laptop was also connected to an AC Adapter. The programming allowed the EUT to operate at the low, middle, and high channels for 802.11g, 802.11n as well as BLE. The laptop was removed prior to the testing.

The EUT was continuously transmitting both the WiFi and BLE simultaneously.

The amplitude of the fundamental for both the BLE and WiFi did not change when both radios were simultaneously transmitting. Also, there were no additional emissions detected.

Note: The BLE is from a pre-certified RF module, so no radio tests were performed on it. The spurious emissions were verified that the emissions were not higher when both the BLE and WiFi were simultaneously transmitting.

The BLE is a pre-certified modular approval under the FCC ID: 2AG4NWISE1012B

It was determined that the emissions were at their highest level when the EUT was operating in the above configuration. The final emissions data was taken in this mode of operation and any cables were maximized. All initial investigations were performed with the EMI Receiver in manual mode scanning the frequency range continuously. Photographs of the test setup are in Appendix D of this report.

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



4.1.1 Cable Construction and Termination

- **<u>Cable 1</u>** This is a 0.10 meter unshielded cable connecting the EUT to the Thunderbolt 3 Dock. This cable is hard wired at the EUT end and has a 6 millimeter DC power out cable connected to the Thunderbolt 3 Dock.
- <u>Cable 2</u> This is a 1.75 meter unshielded cable connecting from a 110 AC power source to the EUT AC adapter. This cable has a 3-prong AC power connector and an IEC 320 C5 connector at the EUT AC adapter end.
- <u>Cable 3</u> This is a 1 meter unshielded cable connecting the EUT AC adapter to the EUT. This cable is hard wired at the EUT AC adapter end and a DC power out connector on the EUT end. The cable has a molded ferrite at the EUT end.
- <u>Cable 4*</u> This is a 1 meter unshielded cable connecting the AC power source to the laptop AC adapter. This cable has a 2 prong AC power connector and an IEC 320 C7 connector at the laptop AC adapter end. The cable was removed prior to the testing as it was only used with the laptop to program the EUT.
- <u>Cable 5*</u> This is a 1.65 meter unshielded cable connecting the laptop AC adapter to the laptop. This cable is hard wired to the laptop AC adapter and has a USB type 'C' connector at the laptop end. The cable was removed prior to the testing as it was only used with the laptop to program the EUT.
- <u>Cable 6*</u> This is a 1 meter unshielded cable connecting the USB-to-Ethernet adapter to the programming board. This cable has a RJ-45 connector at each end. The cable was removed prior to the testing as it was only used with the laptop to program the EUT.
- <u>Cable 7*</u> This is a 1 meter unshielded cable connecting the Laptop to the EUT. This cable has a USB type 'A' connector at the laptop end and 4 jumper cables at the EUT end. The cable was removed prior to the testing as it was only used with the laptop to program the EUT.
- <u>Cable 8*</u> This is a 1 meter unshielded cable connecting the Laptop to the EUT. This cable has a USB type 'A' connector at the laptop end and 4 jumper cables at the EUT end. The cable was removed prior to the testing as it was only used with the laptop to program the EUT.

*Used to program the EUT only and then was removed during normal operation.

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
DOCK CONTROLLER (EUT)	TARGUS	COPERNICUS	N/A	OXM000104
AC ADAPTER (EUT)	TARGUS	APA150205	N/A	N/A
BLE MODULE	WISILICA	WISE1012A	N/A	2AG4NWISE1012B
LAPTOP***	LENOVO	T430	101-2037	N/A
THINKPAD LAPTOP 6 TH GENERATION***	LENOVO	THINKPAD X1 CARBON	P/N: SL10Q79187	N/A
AC ADAPTER (LAPTOP)***	LENOVO	ADLX65YCC2A	N/A	N/A
THUNDERBOLT 3 DOCK	TARGUS	DOCK 220	1806001173	N/A
PROGRAMMING BOARD***	N/A	N/A	N/A	N/A
USB TO ETHERNET ADAPTER***	INSIGNIA	NS-PU98505	N/A	N/A
UENERGYTESTAPP*	CSR	2.4.3	N/A	N/A
ATHEROS ART 2**	ATHEROS	2.67	N/A	N/A

*Used to program the EUT to transmit BLE

Used to program the EUT to transmit at 2412, 2437, and 2462 MHz on a continuous basis *Used to program the EUT only and then was removed from the test site during normal operation

> Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



5.2 **Emissions Test Equipment**

EQUIPMENT TYPE	MANU- FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE		
RADIATED AND CONDUCTED EMISSIONS TEST EQUIPMENT							
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A		
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A		
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A		
EMI Receiver, 20 Hz – 26.5 GHz	Keysight Technologies	N9038A	MY5120150	August 23, 2019	1 Year		
CombiLog Antenna	Com-Power	AC-220	061093	June 5, 2019	2 Year		
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A		
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A		
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A		
Power Sensor	ETS Lindgren	EMPower	00151018	March 19, 2019	2 Year		
Turntable	Com-Power	TT-100	N/A	N/A	N/A		
Antenna-Mast	Com-Power	AM-100	N/A	N/A	N/A		
Horn Antenna	Com-Power	AH-118	071175	February 22, 2018	2 Year		
Preamplifier	Com-Power	PA-118	181653	January 25, 2019	1 Year		
Preamplifier	Com-Power	PA-840	711013	May 10, 2018	2 Year		
Horn Antenna	Com-Power	AH-826	071957	N/A	N/A		
Loop Antenna	Com-Power	AL-130R	121090	February 5, 2019	2 Year		
LISN (EUT)	Com-Power	LI-215A	191951	August 7, 2019	1 Year		
LISN (ACC)	Com-Power	LI-215A	191952	August 7, 2019	1 Year		
Attenuator 10 dB	SureCall	SC-ATT-10	17100025	November 27, 2018	1 Year		

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for emissions test location.

6.2 EUT Mounting, Bonding and Grounding

For frequencies 1 GHz and below: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

For frequencies above 1 GHz: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 1.5 meters above the ground plane.

The EUT was not grounded.

6.3 Measurement Uncertainty

Compatible Electronics' U_{lab} value is less than U_{cispr} , thus based on this – compliance is deemed to occur if no measured disturbance exceeds the disturbance limit

$$u_{\mathsf{c}}(y) = \sqrt{\sum_{i} c_i^2 \ u^2(x_i)}$$

MEASUREMENT TYPE	UNCERTAINTY VALUES
Radiated Emissions	3.26 dB (Vertical)
30 MHz to 1000 MHz	3.19 dB (Horizontal)
Radiated Emissions	3.67 dB
1 GHz to 40 GHz	(Both Vertical and Horizontal)
AC Line Conducted Emissions	2.72 dB
0.15 MHz to 30 MHz	(Line and Neutral Leads)

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



7. **CHARACTERISTICS OF THE TRANSMITTER**

7.1 **Channel Description and Frequencies**

The EUT operates on eleven channels. The 802.11g, and 802.11n all operate at the same channels and frequencies.

Channel 1 – 2412 MHz Channel 2 – 2417 MHz Channel 3 – 2422 MHz Channel 4 – 2427 MHz Channel 5 – 2432 MHz Channel 6 – 2437 MHz Channel 7 – 2442 MHz Channel 8 – 2447 MHz Channel 9 – 2452 MHz Channel 10 – 2457 MHz Channel 11 – 2462 MHz

7.2 Antenna Gain

The gain of the BLE antenna is 2.0 dBi. The gain of the WiFi antenna is 2.1 dBi.

> **Brea Division 114 Olinda Drive** Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

8.1 **RF Emissions**

8.1.1 Conducted Emissions Test

The EMI Receiver was used as a measuring meter. A 10 dB Attenuator was used for the protection of the EMI Receiver input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the EMI Receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by computer software. The final qualification data is located in Appendix E.

The six highest reading are listed in Table 2.

Test Results:

The EUT complies with the **Class B** limits of **CFR** Title 47, Part 15, Subpart B; the limits of CFR Title 47, Part 15, Subpart C, Section 15.207; and RSS-GEN. Please see Appendix E for the data sheets.

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver was used as the measuring meter. Below 1 GHz, a built-in, internal preamplifier was used to increase the sensitivity of the instrument. At frequencies above 1 GHz, external preamplifiers were used. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit.

The frequencies above 1 GHz were averaged by using the RMS detector function on the EMI Receiver.

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1 GHz	120 kHz	Combilog Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The measurement bandwidths and transducers used for the radiated emissions test were:

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

The six highest reading are listed in Table 1.

Test Results:

The EUT complies with the **Class B** limits of **CFR** Title 47, Part 15, Subpart B; the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.247 (d); RSS-GEN and RSS-247 for radiated emissions. Please see Appendix E for the data sheets.

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



8.1.3 RF Emissions Test Results

Table 1.0RADIATED EMISSION RESULTS
Dock Controller, Model: Copernicus

Frequency MHz	Corrected Reading* dBuV/m	Specification Limit dBuV/m	Delta (Cor. Reading – Spec. Limit) dB
215.80 (H) (802.11n)	42.02	43.50	-1.48
215.60 (H) (802.11g)	41.93	43.50	-1.57
214.60 (H) (802.11n)	41.60	43.50	-1.90
213.80 (H) (802.11n)	41.59	43.50	-1.91
212.60 (H) (802.11n)	41.05	43.50	-2.45
211.20 (H) (802.11n)	40.79	43.50	-2.71

Table 2.0CONDUCTED EMISSION RESULTS
Dock Controller, Model: Copernicus

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.290 (BL) (802.11n)	39.46 (AVG)	50.39	-10.92
0.286 (BL) (802.11n)	39.20 (AVG)	50.48	-11.27
0.242 (BL) (802.11n)	40.01 (AVG)	51.78	-11.77
0.282 (WL) (802.11n)	38.65 (AVG)	50.48	-11.83
0.246 (BL) (802.11g)	39.53 (AVG)	51.79	-12.26
0.286 (WL) (802.11g)	37.96 (AVG)	50.30	-12.34

Notes:

(H)	Horizontal
(V)	Vertical
(BL)	Black Lead
(WL)	White Lead
(QP)	Quasi Peak
(AVG)	Average

* The complete emissions data is given in Appendix E of this report.

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



8.2 DTS Bandwidth

The DTS Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the EUT. The following steps were performed for measuring the DTS Bandwidth.

- 1. Set RBW = 100 kHz
- 2. Set the video bandwidth (VBW) to equal or greater than 3 times the RBW
- 3. Detector = Peak
- 4. Trace Mode = Max Hold
- 5. Sweep = Auto Couple
- 6. Allow the trace to stabilize

7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (a)(2); and RSS-247.

8.3 Maximum Peak Conducted Output Power

The Maximum Peak Conducted Output Power was measured using the Power meter. The Maximum Peak Conducted Output Power was measured using the procedure described in section 11.9.1.3 of ANSI C63.10. The Maximum Peak Conducted Output Power was then taken.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (b)(3); and RSS-247.

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



8.4 **Emissions in Non-Restricted Bands**

The emissions in the non-restricted frequency bands measurements were performed using the EMI receiver directly connected to the EUT. The reference level was established by setting the instrument center frequency to DTS channel center frequency. The span was set to > 1.5 times the DTS bandwidth. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with sweep set to auto. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the level and 20 dB below that was the reference level. For emission level measurement, the center frequency and span were set to encompass the frequency range to be measured. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with a sweep time set to auto. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the maximum amplitude level. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (d); and RSS-247.

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



8.5 **RF Band Edges**

The RF band edges were measured using the EMI Receiver. The RF band edges were measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The following steps were performed for measuring the spectral density.

The RF band edges were taken at 2390 MHz when the EUT was on the low channel and 2483.5 MHz when the EUT was on the high channel using the EMI Receiver. A preamplifier was used to boost the signal level, with the plots being taken at a 3 meter test distance. The radiated emissions test procedure as describe in section 8.1.2 of this test report was used to maximize the emission.

The RF band edge was also taken at 2400 MHz when the EUT was on the low channel. The following steps were performed for measuring the band edge at 2400 MHz:

- 1. Set analyzer center frequency to DTS channel center frequency
- 2. Set the span wide enough to cover the band edges.
- 3. Set the RBW to 100 kHz
- 4. Set the VBW \ge 3 X RBW
- 5. Detector = Peak
- 6. Sweep time = auto couple
- 7. Allow the trace to stabilize
- 8. Use the peak marker function to determine the maximum amplitude level

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (d) for band edges; and RSS-247. Please see the data sheets located in Appendix E.

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



8.6 Spectral Density Test

The spectrum density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The following steps were performed for measuring the spectral density.

- 1. Set analyzer center frequency to DTS channel center frequency
- 2. Set the span to at least 1.5 times the OBW.
- 3. Set the RBW to 3 kHz \leq RBW \leq 100 kHz
- 4. Set the VBW \geq [3 X RBW]
- 5. Detector = peak
- 6. Sweep time = auto couple
- 7. Trace mode = max hold
- 8. Allow trace to fully stabilize
- 9. Use the peak marker function to determine the maximum amplitude level within the RBW
- 10. If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (e); and RSS-247.

8.7 Variation of the Input Power

The variation of the input power test was performed using the EMI Receiver. The EUT input power was varied between 85% and 115% of the nominal rated supply voltage. The carrier frequency was monitored for any change in amplitude.

Test Results:

The carrier frequency and amplitude did not change.

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



9. **CONCLUSIONS**

The Dock Controller, Model: Copernicus (EUT), as tested, meets all of the specification limits defined in CFR Title 47, Part 15, Subpart B, and Subpart C, sections 15.205, 15.207, 15.209 and 15.247; RSS-GEN and RSS-247.



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



LABORATORY ACCREDITATIONS AND RECOGNITIONS



For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025. For the most up-to-date version of our scopes and certificates please visit http://celectronics.com/guality/scope/

Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



APPENDIX B

MODIFICATIONS TO THE EUT

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B, and FCC 15.247, RSS-GEN, and RSS-247 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

The EUT was not modified during the testing.



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



APPENDIX C

ADDITIONAL MODELS COVERED **UNDER THIS REPORT**

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Dock Controller Model: Copernicus S/N: N/A

There are no additional models covered under this report.



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Page D1

APPENDIX D

DIAGRAMS AND CHARTS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FIGURE 1: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FIGURE 2: CONDUCTED EMISSIONS TEST SETUP



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



COM-POWER AL-130R

LOOP ANTENNA

S/N: 121090

CALIBRATION DATE: FEBRUARY 5, 2019

FREQUENCY	MAGNETIC	ELECTRIC
(MHz)	(dB / m)	(dB / m)
0.01	15.6	-35.9
0.02	14.8	-36.7
0.03	15.6	-35.9
0.04	15.1	-36.4
0.05	14.4	-37.0
0.06	14.6	-36.9
0.07	14.4	-37.1
0.08	14.3	-37.1
0.09	14.5	-36.9
0.10	14.1	-37.3
0.20	14.1	-37.3
0.30	14.0	-37.4
0.40	14.0	-37.4
0.50	14.2	-37.2
0.60	14.2	-37.2
0.70	14.2	-37.2
0.80	14.2	-37.3
0.90	14.3	-37.2
1.00	14.5	-37.0
2.00	14.5	-36.9
3.00	14.5	-36.9
4.00	14.7	-36.8
5.00	14.6	-36.9
6.00	14.6	-36.9
7.00	14.6	-36.9
8.00	14.6	-36.9
9.00	14.6	-36.9
10.00	14.8	-36.6
11.00	14.9	-36.6
12.00	14.8	-36.6
13.00	14.8	-36.7
14.00	14.6	-36.8
15.00	14.5	-36.9
16.00	14.5	-37.0
17.00	14.6	-36.9
18.00	14.7	-36.7
19.00	14.8	-36.6
20.00	14.9	-36.6
21.00	14.6	-36.8
22.00	14.2	-37.2
23.00	13.7	-37.7
24.00	13.3	-38.2
25.00	13.0	-38.5
26.00	12.9	-38.6
27.00	13.0	-38.5
28.00	13.1	-38.4
29.00	13.1	-38.4
30.00	12.9	-38.5

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61093

CALIBRATION DATE: JUNE 5, 2019

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	22.10	200	15.30
35	20.90	250	16.80
40	20.10	300	19.00
45	19.40	350	19.60
50	18.40	400	21.70
60	15.10	450	21.60
70	12.00	500	22.20
80	11.60	550	22.70
90	13.50	600	24.20
100	14.70	650	24.40
120	15.90	700	24.50
125	15.90	750	25.40
140	14.80	800	26.30
150	15.50	850	26.70
160	19.80	900	27.50
175	15.20	950	27.80
180	14.90	1000	27.90

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Dock Controller

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 22, 2018

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.71	10.0	40.08
1.5	25.46	10.5	40.75
2.0	29.26	11.0	41.78
2.5	27.95	11.5	41.02
3.0	29.03	12.0	40.32
3.5	29.70	12.5	40.96
4.0	30.71	13.0	40.29
4.5	31.62	13.5	39.48
5.0	33.23	14.0	39.89
5.5	35.07	14.5	42.75
6.0	34.43	15.0	40.98
6.5	34.98	15.5	38.54
7.0	36.75	16.0	39.40
7.5	37.10	16.5	39.40
8.0	37.66	17.0	41.74
8.5	39.29	17.5	42.58
9.0	37.75	18.0	44.68
9.5	38.23		

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



COM-POWER PA-118

PREAMPLIFIER

S/N: 181653

CALIBRATION DATE: JANUARY 25, 2019

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	40.10	6.0	40.60
1.1	40.10	6.5	39.50
1.2	40.00	7.0	39.40
1.3	39.70	7.5	39.30
1.4	39.60	8.0	39.20
1.5	39.90	8.5	40.50
1.6	40.00	9.0	39.60
1.7	39.70	9.5	39.50
1.8	39.50	10.0	38.80
1.9	39.60	11.0	38.70
2.0	39.90	12.0	42.20
2.5	40.10	13.0	40.00
3.0	40.80	14.0	40.30
3.5	40.60	15.0	40.20
4.0	40.50	16.0	41.00
4.5	41.60	17.0	39.70
5.0	39.20	18.0	40.90
5.5	40.00		

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 10, 2018

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	26.90	31.0	24.56
19.0	24.65	31.5	25.84
20.0	25.74	32.0	26.93
21.0	24.78	32.5	27.76
22.0	24.83	33.0	25.76
23.0	24.81	33.5	26.76
24.0	25.52	34.0	26.51
25.0	24.90	34.5	27.49
26.0	25.92	35.0	27.64
26.5	26.53	35.5	27.45
27.0	26.41	36.0	25.08
27.5	24.78	36.5	25.61
28.0	25.13	37.0	24.69
28.5	29.29	37.5	24.10
29.0	28.44	38.0	24.83
29.5	27.51	38.5	24.41
30.0	27.12	39.0	24.44
30.5	26.42	39.5	22.96
		40.0	22.29

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044


COM-POWER AH-826

HORN ANTENNA

S/N: 71957

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(GHz)	(dB)	(GHz)	(dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





FRONT VIEW

TARGUS DOCK CONTROLLER MODEL: COPERNICUS FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – 30 MHz to 1000 MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400





REAR VIEW

TARGUS DOCK CONTROLLER MODEL: COPERNICUS FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – 30 MHz to 1000 MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400





FRONT VIEW

TARGUS DOCK CONTROLLER MODEL: COPERNICUS FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





REAR VIEW

TARGUS DOCK CONTROLLER MODEL: COPERNICUS FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400





FRONT VIEW

TARGUS DOCK CONTROLLER MODEL: COPERNICUS FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – 18 GHz to 25 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400





REAR VIEW

TARGUS DOCK CONTROLLER MODEL: COPERNICUS FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – 18 GHz to 25 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400







FRONT VIEW

TARGUS DOCK CONTROLLER MODEL: COPERNICUS FCC SUBPART B AND C; RSS-GEN and RSS-247 - CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





REAR VIEW

TARGUS DOCK CONTROLLER MODEL: COPERNICUS FCC SUBPART B AND C; RSS-GEN and RSS-247 – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400



APPENDIX E

DATA SHEETS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400 Page E1



RADIATED EMISSIONS

DATA SHEETS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Note: No Emissions Detected form 9 kHz to 30 MHz

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400 Page E3



Title: Radiated Final - FCC Class B File: 1 - Agilent - Final Scan - 802.11g - FCC Class B - 30 MHz to 1000 MHz.set Operator: Harvey Samaco EUT Toyne: Docking Station EUT Condition: The EUT is continuously transmitting BLE and at 2412 MHz Company: Targus Model: Copernicus S/N: IV/A Note: Power Level - 3

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
211.90	н	41.11	39.57	-2.39	-3.93	43.50	15.30	1.55	102.25	127.14
212.40	н	41.06	39.75	-2.44	-3.75	43.50	15.35	1.55	105.00	111.20
213.00	н	40.94	39.53	-2.56	-3.97	43.50	15.40	1.55	99.50	111.20
213.50	н	41.19	39.50	-2.31	-4.00	43.50	15.45	1.56	106.50	111.08
213.90	н	41.03	38.95	-2.47	-4.55	43.50	15.50	1.56	110.75	111.20
214.50	н	41.09	38.56	-2.41	-4.94	43.50	15.50	1.56	100.00	127.14
215.10	н	41.23	39.54	-2.27	-3.96	43.50	15.51	1.56	360.00	111.14
215.60	н	43.33	41.93	-0.17	-1.57	43.50	15.56	1.56	22.75	111.14
216.20	н	41.08	39.39	-4.92	-6.61	46.00	15.60	1.57	359.75	111.32

Note: No Emissions Detected form 9 kHz to 30 MHz



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400 Page E4

11/11/2019 2:14:28 PM Sequence: Final Measurements





Note: No Emissions Detected form 9 kHz to 30 MHz

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400 Page E5



Title: Radiated Final - FCC Class B File: 2 - Agilent - Final Scan - 802.11n - FCC Class B - 30 MHz to 1000 MHz.set Operator: Harvey Samaco EUT Type: Docking Station EUT Condition: The EUT is continuously transmitting BLE and at 2412 MHz Company: Targus Model: Copernicus S/N: N/A Note: Power Level - 3

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
211.20	н	42.15	40.79	-1.35	-2.71	43.50	15.30	1.55	22.75	127.14
211.50	н	40.57	38.81	-2.93	-4.69	43.50	15.30	1.55	359.75	127.20
212.60	н	42.63	41.05	-0.87	-2.45	43.50	15.36	1.55	22.00	111.32
213.10	н	41.00	39.74	-2.50	-3.76	43.50	15.42	1.55	359.50	111.20
213.80	н	43.22	41.59	-0.28	-1.91	43.50	15.47	1.56	23.25	127.14
214.10	н	41.28	39.65	-2.22	-3.85	43.50	15.49	1.56	360.00	126.01
214.60	н	42.81	41.60	-0.69	-1.90	43.50	15.50	1.56	29.00	110.91
215.10	н	41.52	40.13	-1.98	-3.37	43.50	15.53	1.56	360.25	111.14
215.80	н	43.15	42.02	-0.35	-1.48	43.50	15.58	1.56	21.00	110.97
216.80	н	41.21	39.82	-4.79	-6.18	46.00	15.60	1.57	360.00	111.08
217.70	н	43.04	41.38	-2.96	-4.62	46.00	15.60	1.57	22.00	111.26

Note: No Emissions Detected form 9 kHz to 30 MHz

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400

11/11/2019 3:05:13 PM Sequence: Final Measurements



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - X-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4824.00	45.33	V	73.97	-28.64	Peak	202.00	100.58	
4824.00	33.60	V	53.97	-20.37	Avg	202.00	100.58	
7236.00								No Emission
7236.00						and the second second	and the second second	Detected
9648.00								N/A - Not in Restricted Band
9648.00						- Alexandrian (Alexandrian)		Done Via Conducted
12060.00								No Emission
12060.00								Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - Y-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4824.00	48.07	V	73.97	-25.90	Peak	227.75	169.05	
4824.00	35.35	V	53.97	-18.62	Avg	227.75	169.05	
7236.00								No Emission
7236.00								Detected
9648.00								N/A - Not in Restricted Band
9648.00						A sum		Done Via Conducted
12060.00								No Emission
12060.00						Sauce Sectored		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - Z-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4824.00	47.27	V	73.97	-26.70	Peak	196.25	155.02	
4824.00	35.43	V	53.97	-18.54	Avg	196.25	155.02	
7236.00								No Emission
7236.00						and the second		Detected
9648.00								N/A - Not in Restricted Band
9648.00						1		Done Via Conducted
12060.00								No Emission
12060.00						and manual		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



D1 Page E10

FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - X-Axis 802.11 g Mode - Power Level 3

Freq.	Level	Pol	Limit	Margin	Peak / QP /	Table Angle	Ant. Height	Commonts
4824.00	49.98	H H	73.97	-23.99	Peak	152 50	117.83	Comments
4824.00	35.69	Н	53.97	-18.28	Ava	152.50	117.83	
					Ŭ			
7236.00								No Emission
7236.00								Detected
9648.00								N/A - Not in Restricted Band
9648.00								Done Via Conducted
12060.00								No Emission
12060.00						and man		Detected
14472.00				and the second sec				No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - Y-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4824.00	45.94	H H	73.97	-28.03	Peak	18.25	100.00	
4824.00	33.67	Н	53.97	-20.30	Avg	18.25	100.00	
7236.00								No Emission
7236.00								Detected
9648.00								N/A - Not in Restricted Band
9648.00								Done Via Conducted
12060.00								No Emission
12060.00						and man		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
ļ								
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - Z-Axis 802.11 g Mode - Power Level 3

Freq.	Level	Pol			Peak / QP /	Table Angle	Ant. Height	
(MHz)	(dBuV/m)	(v/h)	Limit	Margin	Avg	(deg)	(cm)	Comments
4824.00	45.34	Н	73.97	-28.63	Peak	87.00	100.00	
4824.00	32.66	Н	53.97	-21.31	Avg	87.00	100.00	
7236.00								No Emission
7236.00								Detected
						-		
9648.00								N/A - Not in Restricted Band
9648.00						1		Done Via Conducted
12060.00								No Emission
12060.00						Carrier Springer		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - X-Axis 802.11 g Mode - Power Level 3

Freq.	Level	Pol	Limit	Margin	Peak / QP /	Table Angle	Ant. Height	Commonts
4874.00	44.46	V	73.97	-29.51	Peak	228.75	100.00	Comments
4874.00	32.27	V	53.97	-21.70	Ava	228.75	100.00	
7311.00								No Emission
7311.00							_	Detected
9748.00								N/A - Not in Restricted Band
9748.00						1		Done Via Conducted
12185.00								No Emission
12185.00						and the second		Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - Y-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4874.00	44.42	V	73.97	-29.56	Peak	104.00	100.00	
4874.00	32.14	V	53.97	-21.83	Avg	104.00	100.00	
7311.00								No Emission
7311.00								Detected
9748.00								N/A - Not in Restricted Band
9748.00								Done Via Conducted
12185.00								No Emission
12185.00						and manufacture		Detected
14622.00				a series data				N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - Z-Axis 802.11 g Mode - Power Level 3

Freq.	Level	Pol	1		Peak / QP /	Table Angle	Ant. Height	0
(INITIZ)	(aBuv/m)	(v/n)			Avg	(aeg)	(CM)	Comments
4674.00	47.07	V	73.97	-20.10	Реак	310.75	131.00	
4874.00	35.01	V	53.97	-18.96	Avg	318.75	131.80	
7044.00								
7311.00							· · · · · · · · · · · · · · · · · · ·	NO Emission
/311.00								Detected
9748.00								N/A - Not in Restricted Band
9748.00								Done Via Conducted
12185.00								No Emission
12185.00						Summer Southern		Detected
								/
14622.00				n san hi				N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - X-Axis 802.11 g Mode - Power Level 3

Freq.		Pol	Limit	Margin	Peak / QP /	Table Angle	Ant. Height	Commonto
4874.00	<u>(авауліт)</u> 47 51	<u>(v/п)</u> Н	73 97	-26.46	Peak	(deg)	100.00	Comments
4874.00	35.08	н	53.97	-18 89	Ava	155.75	100.00	
107 1.00	00.00		00.01	10.00	7.09	100.10	100.00	
7311.00								No Emission
7311.00						and the second		Detected
9748.00								N/A - Not in Restricted Band
9748.00								Done Via Conducted
12185.00								No Emission
12185.00						and the second		Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - Y-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4874.00	47.23	Н	73.97	-26.74	Peak	165.00	147.74	
4874.00	34.78	Н	53.97	-19.19	Avg	165.00	147.74	
7311.00								No Emission
7311.00								Detected
				1000				
9748.00								N/A - Not in Restricted Band
9748.00						Rate		Done Via Conducted
12185.00								No Emission
12185.00						Sauce Sauces		Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - Z-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deq)	Ant. Height (cm)	Comments
4874.00	45.99	H	73.97	-27.98	Peak	199.50	156.70	
4874.00	33.63	Н	53.97	-20.34	Avg	199.50	156.70	
7311.00								No Emission
7311.00							_	Detected
9748.00								N/A - Not in Restricted Band
9748.00						A second		Done Via Conducted
12185.00								No Emission
12185.00						Causer Sectore		Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - X-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4924.00	43.44	V	73.97	-30.53	Peak	126.75	100.00	
4924.00	32.02	V	53.97	-21.95	Avg	126.75	100.00	
7386.00								No Emission
7386.00							_	Detected
9848.00								N/A - Not in Restricted Band
9848.00						A mark		Done Via Conducted
12310.00								No Emission
12310.00						Same and same		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - Y-Axis 802.11 g Mode - Power Level 3

Freq.	Level	Pol (v/b)	Limit	Margin	Peak / QP /	Table Angle (deg)	Ant. Height	Comments
4924.00	45.13	V	73.97	-28.84	Peak	0.00	176.16	
4924.00	32.68	V	53.97	-21.29	Ava	0.00	176.16	
					Ŭ			
7386.00								No Emission
7386.00								Detected
9848.00								N/A - Not in Restricted Band
9848.00						1		Done Via Conducted
12310.00								No Emission
12310.00						and the second		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - Z-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deq)	Ant. Height (cm)	Comments
4924.00	48.36	V	73.97	-25.61	Peak	307.50	100.00	
4924.00	36.53	V	53.97	-17.44	Avg	307.50	100.00	
7386.00								No Emission
7386.00								Detected
9848.00								N/A - Not in Restricted Band
9848.00								Done Via Conducted
12310.00								No Emission
12310.00						and and all		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - X-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4924.00	45.19	H	73.97	-28.78	Peak	245.00	250.00	
4924.00	32.89	H	53.97	-21.08	Ava	245.00	250.00	
					Ŭ			
7386.00								No Emission
7386.00								Detected
9848.00								N/A - Not in Restricted Band
9848.00						A second		Done Via Conducted
12310.00								No Emission
12310.00						Cause Sectore		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - Y-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4924.00	46.71	H	73.97	-27.26	Peak	0.00	100.00	
4924.00	34.78	Н	53.97	-19.19	Avg	0.00	100.00	
7386.00								No Emission
7386.00								Detected
9848.00								N/A - Not in Restricted Band
9848.00								Done Via Conducted
12310.00								No Emission
12310.00						and man		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/4/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - Z-Axis 802.11 g Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4924.00	43.91	H	73.97	-30.06	Peak	350.00	100.00	
4924.00	33.17	H	53.97	-20.80	Avg	350.00	100.00	
					Ŭ			
7386.00								No Emission
7386.00						and the second		Detected
9848.00								N/A - Not in Restricted Band
9848.00						1		Done Via Conducted
12310.00								No Emission
12310.00						and manufacture		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247 Targus Dock Controller Model: Copernicus

Date: 11/4/2019 Lab: D Tested By: Harvey Samaco

Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 25 GHz 802.11 g Mode - Power level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the digital portion
							the second	of the EUT
				11100				
								No Emissions Detected
						1 A read		from 9 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - X-Axis 802.11 n Mode - Power Level 3

Freq.	Level	Pol			Peak / QP /	Table Angle	Ant. Height	
(MHz)	(dBuV/m)	(v/h)	Limit	Margin	Avg	(deg)	(cm)	Comments
4824.00	44.28	V	73.97	-29.69	Peak	38.50	100.00	
4824.00	32.08	V	53.97	-21.89	Avg	38.50	100.00	
7236.00								No Emission
7236.00								Detected
9648.00								N/A - Not in Restricted Band
9648.00						1		Done Via Conducted
12060.00								No Emission
12060.00						Carrier Springer		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - Y-Axis 802.11 n Mode - Power Level 3

Freq.		Pol	Limit	Margin	Peak / QP /	Table Angle	Ant. Height	Commonts
	42.81	(v/II) \/	73.97	-31 16	Peak	(ueg)	100.00	Comments
4824.00	30.62	V	53.97	-23 35	Ava	156.25	100.00	
4024.00	00.02	v	00.07	20.00	7.vg	100.20	100.00	
7236.00								No Emission
7236.00								Detected
9648.00								N/A - Not in Restricted Band
9648.00						A		Done Via Conducted
12060.00								No Emission
12060.00						and and all		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044


FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - Z-Axis 802.11 n Mode - Power Level 3

Freq.		Pol	Limit	Margin	Peak / QP /	Table Angle	Ant. Height	Commonts
4824.00	47.80	(v/II) V	73.97	-26 17	Peak	313 50	100.00	Comments
4824.00	36.18	V	53.97	-17.80	Ava	313.50	100.00	
102 1100	00110		00.01		,g	010100	100100	
7236.00								No Emission
7236.00								Detected
9648.00								N/A - Not in Restricted Band
9648.00						A second		Done Via Conducted
12060.00								No Emission
12060.00						Cause Services		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - X-Axis 802.11 n Mode - Power Level 3

Freq.		Pol	Limit	Margin	Peak / QP /	Table Angle	Ant. Height	Commonts
4824.00	46.96	<u>(</u> ()/II) Н	73.97	-27 02	Peak	141 00	100.00	Comments
4824.00	35 58	н	53.97	-18.39	Ava	141.00	100.00	
7236.00								No Emission
7236.00								Detected
9648.00								N/A - Not in Restricted Band
9648.00								Done Via Conducted
12060.00								No Emission
12060.00						and manufacture		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - Y-Axis 802.11 n Mode - Power Level 3

Freq.		Pol	Lingit	Merein	Peak / QP /	Table Angle	Ant. Height	Commente
(IVITZ) 4824.00		<u>(v/n)</u> н	LIIIII 73.07	-27.88	Avg Poak	(deg)	100.00	Comments
4824.00	33.78	н	53.97	-20.20	Δνα	0.00	100.00	
4024.00	00.70		00.07	20.20	Avg	0.00	100.00	
7236.00								No Emission
7236.00								Detected
9648.00								N/A - Not in Restricted Band
9648.00						1		Done Via Conducted
12060.00								No Emission
12060.00						and the second		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Low Channel Transmit Mode - Z-Axis 802.11 n Mode - Power Level 3

Freq.		Pol	Limit	Morgin	Peak / QP /	Table Angle	Ant. Height	Commonto
	44.61	(v/II) H	73.97	-29.36	Peak	140 50	168 16	Comments
4824.00	32.58	н	53.07	-23.30	Δνα	140.50	168 16	
4024.00	02.00		00.07	21.00	Avg	140.00	100.10	
7236.00								No Emission
7236.00								Detected
9648.00								N/A - Not in Restricted Band
9648.00						A		Done Via Conducted
12060.00								No Emission
12060.00						and manufacture		Detected
14472.00								No Emission
14472.00								Detected
16884.00								N/A - Not in Restricted Band
16884.00								Done Via Conducted
19296.00								No Emission
19296.00								Detected
21708.00								N/A - Not in Restricted Band
21708.00								Done Via Conducted
24120.00								N/A - Not in Restricted Band
24120.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - X-Axis 802.11 n Mode - Power Level 3

Freq.	Level	Pol			Peak / QP /	Table Angle	Ant. Height	
(MHz)	(dBuV/m)	(v/h)	Limit	Margin	Avg	(deg)	(cm)	Comments
4874.00	44.19	V	73.97	-29.78	Peak	76.00	100.00	
4874.00	30.24	V	53.97	-23.73	Avg	76.00	100.00	
7311.00								No Emission
7311.00								Detected
9748.00								N/A - Not in Restricted Band
9748.00						1		Done Via Conducted
12185.00								No Emission
12185.00						Current Structure		Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - Y-Axis 802.11 n Mode - Power Level 3

Frea.	Level	Pol			Peak / QP /	Table Angle	Ant. Height	
(MHz)	(dBuV/m)	(v/h)	Limit	Margin	Avg	(deg)	(cm)	Comments
4874.00	49.58	V	73.97	-24.39	Peak	205.50	163.20	
4874.00	35.96	V	53.97	-18.01	Avg	205.50	163.20	
7311.00								No Emission
7311.00								Detected
9748.00								N/A - Not in Restricted Band
9748.00						1.000		Done Via Conducted
12185.00								No Emission
12185.00						and manufacture		Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - Z-Axis 802.11 n Mode - Power Level 3

Frea.	Level	Pol			Peak / QP /	Table Angle	Ant. Height	
(MHz)	(dBuV/m)	(v/h)	Limit	Margin	Avg	(deg)	(cm)	Comments
4874.00	48.69	V	73.97	-25.28	Peak	166.75	100.00	
4874.00	35.01	V	53.97	-18.97	Avg	166.75	100.00	
7311.00								No Emission
7311.00								Detected
9748.00								N/A - Not in Restricted Band
9748.00								Done Via Conducted
12185.00								No Emission
12185.00								Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - X-Axis 802.11 n Mode - Power Level 3

Freq.		Pol	Limit	Morgin	Peak / QP /	Table Angle	Ant. Height	Commonto
4874.00	44 57	<u>(v/II)</u> Н	73.97	-29.40	Peak	295 75	128.46	Comments
4874.00	32 27	н	53.97	-21.70	Ava	295.75	128.46	
107 1.00	02.21		00.01	21.70	7.09	200.10	120.10	
7311.00								No Emission
7311.00						and the second		Detected
9748.00								N/A - Not in Restricted Band
9748.00								Done Via Conducted
12185.00								No Emission
12185.00						and manufacture		Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - Y-Axis 802.11 n Mode - Power Level 3

Freq.	Level	Pol (v/b)	Limit	Margin	Peak / QP /	Table Angle	Ant. Height	Comments
4874.00	49.03	H	73.97	-24.94	Peak	0.00	100.00	Comments
4874.00	36.68	H	53.97	-17.29	Avg	0.00	100.00	
					Ŭ			
7311.00								No Emission
7311.00								Detected
9748.00								N/A - Not in Restricted Band
9748.00						10000		Done Via Conducted
12185.00								No Emission
12185.00						and man		Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - Middle Channel Transmit Mode - Z-Axis 802.11 n Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deq)	Ant. Height (cm)	Comments
4874.00	48.82	Н	73.97	-25.15	Peak	280.75	100.00	
4874.00	33.56	Н	53.97	-20.41	Avg	280.75	100.00	
7311.00								No Emission
7311.00								Detected
9748.00								N/A - Not in Restricted Band
9748.00						1		Done Via Conducted
12185.00								No Emission
12185.00						and the second		Detected
14622.00								N/A - Not in Restricted Band
14622.00								Done Via Conducted
17059.00								N/A - Not in Restricted Band
17059.00								Done Via Conducted
19496.00								No Emission
19496.00								Detected
21933.00								N/A - Not in Restricted Band
21933.00								Done Via Conducted
24370.00								N/A - Not in Restricted Band
24370.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - X-Axis 802.11 n Mode - Power Level 3

Freq.		Pol	Limit	Morgin	Peak / QP /	Table Angle	Ant. Height	Commonto
4924.00	43 51	(v/II) \/	73.97	-30.46	Peak	272 25	100.00	Comments
4924.00	30.25	V	53.97	-23 72	Ava	272.20	100.00	
102 1100	00.20		00.01	20112	, trg	212.20	100100	
7386.00								No Emission
7386.00								Detected
9848.00								N/A - Not in Restricted Band
9848.00						A		Done Via Conducted
12310.00								No Emission
12310.00						and manual		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - Y-Axis 802.11 n Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4924.00	44.27	V	73.97	-29.70	Peak	73.75	100.00	
4924.00	31.94	V	53.97	-22.03	Avg	73.75	100.00	
					Ŭ			
7386.00								No Emission
7386.00								Detected
							and the second s	
9848.00								N/A - Not in Restricted Band
9848.00						N. Carlos		Done Via Conducted
12310.00								No Emission
12310.00						Carlos Sourcester		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - Z-Axis 802.11 n Mode - Power Level 3

Freq.	Level	Pol	Limit	Margin	Peak / QP /	Table Angle	Ant. Height	Commonts
4924.00	45 71	\/	73.97	-28.26	Peak	328 25	100.00	Comments
4924.00	34 01	V	53.97	-19.96	Ava	328 25	100.00	
	0.101					0_00		
7386.00								No Emission
7386.00								Detected
9848.00								N/A - Not in Restricted Band
9848.00						1		Done Via Conducted
12310.00								No Emission
12310.00						Current Sourcester		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - X-Axis 802.11 n Mode - Power Level 3

Freq.	Level	Pol	Lingit	Manain	Peak / QP /	Table Angle	Ant. Height	O commente
(IMHZ)	(aBuv/m)	(v/n)			Avg	(aeg)	(cm)	Comments
4924.00	40.01		13.91	-20.00	Реак	299.50	100.00	
4924.00	33.33	Н	53.97	-20.64	Avg	299.50	100.00	
7000.00								
7386.00							· · · · · · · · · · · · · · · · · · ·	NO Emission
7386.00								Detected
9848.00								N/A - Not in Restricted Band
9848.00								Done Via Conducted
12310.00								No Emission
12310.00						Salara Sancing Salara		Detected
14772.00				n san Ai				N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - Y-Axis 802.11 n Mode - Power Level 3

Freq.		Pol	1 : :4	Manain	Peak / QP /	Table Angle	Ant. Height	Commente
(WHZ)	(aBuv/m)	(v/n) ⊔			Avg Dook	(aeg)	(cm)	Comments
4924.00	40.07		73.97	-20.10	Ave	220.25	100.00	
4924.00	33.77		53.97	-20.20	Avg	330.20	100.00	
7386.00								No Emission
7386.00								Detected
								Dottottou
9848.00				18				N/A - Not in Restricted Band
9848.00								Done Via Conducted
						August and a second		
12310.00								No Emission
12310.00						Carlos Sources		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 11/04/2019 Lab: D Tested By: Harvey Samaco

Harmonics - High Channel Transmit Mode - Z-Axis 802.11 n Mode - Power Level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deq)	Ant. Height (cm)	Comments
4924.00	43.59	H	73.97	-30.38	Peak	311.25	198.49	
4924.00	32.31	Н	53.97	-21.66	Avg	311.25	198.49	
7386.00								No Emission
7386.00								Detected
9848.00								N/A - Not in Restricted Band
9848.00						1.		Done Via Conducted
12310.00								No Emission
12310.00						Carlos Concentration		Detected
14772.00								N/A - Not in Restricted Band
14772.00								Done Via Conducted
17234.00								N/A - Not in Restricted Band
17234.00								Done Via Conducted
19696.00								No Emission
19696.00								Detected
22158.00								No Emission
22158.00								Detected
24620.00								N/A - Not in Restricted Band
24620.00								Done Via Conducted

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247 Targus Dock Controller

Model: Copernicus

Date: 08/26/2019 Lab: D Tested By: Harvey Samaco

Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 25 GHz 802.11 n Mode - Power level 3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the digital portion
								of the EUT
				1000				
								No Emissions Detected
						1 A mar		from 9 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
						The second second		
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



-6 dB BANDWIDTH

DATA SHEETS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



🇾 К	eysight	Spect	rum A	Analyzer - Swept SA										
LXI	S		RF	50 Ω AC	CORREC		SENSE:	INT SOU	RCE OFF	ALIGN A	UTO		02:39:2	4 AM Nov 23, 2019
Ma	rker	1 2	2 40	79500000	00 GHz					#A	vg Type	Voltage	Т	RACE 1 2 3 4 5 6
	NO			10000000		PNO: Fast	👝 Tri	g: Free	Run			-		TYPE WMWWW
					1	FGain:Low	#A	tten: 40	dB					DETNPNNN
													VIKET 2.40	7 95 GHZ
10 c	∃B/di∖	,	Ref	⁷ 28.00 dBm	1								-	7.17 dBm
Log					-									
18 (ال ــــــــــــــــــــــــــــــــــــ													
1.0.1	1													
8.00) —													
2.00							1							
-2.00	'								_			_		
-12.0						- Vmm	www.	ⅆℊℊℙℯℯℯℴℨⅉ℄ℰⅉ֊		── ৵ ₽₽₽ [₩] ₩₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩	<u> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</u>	3		-13.17 dBm
						A3					Ϋ́			
-22.0	' 		- 54-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	᠕ᡙᡧᢧᢌᡛᢢᢛᡐᡗ	hund n.					WY	handhandhan	man-allen conserves	
-32 (1 Marcall	wyh	Mr.A.a.k	۳×										uunna a
	4. 4. 1													" " WWWWWW
-42.0) — I													
-52.0														
-32.0	ĺ.													
-62.0) —													
Cer	nter	2.4	120	0 GHz									Spar	50.00 MHz
#D.	e Ri	A/ 1	00	kH7		#	VRM 30	0 kHz				Swee	n 4 800 m	e (1001 nte)
WIN			vv	NT12		"	V DVV JU	V N112				OMCC	р 4.000 m	5 (1001 pts)
MKR	MODE	TRC	SCL		x	,	Y	FUN	CTION	FUNCTION W	/IDTH		FUNCTION VALUE	•
1	N	2	f		2.407 95 GHz	-7	.17 dBm	_						
2	Δ3	2	f	<u>(Δ)</u>	16.70 MHz	z (Δ)	-4.35 dB							
3	F	2	f		2.403 75 GHz	-14	.54 dBm							
4														
5														=
6														
7														
8														
10														
11														_
														· · ·
			_											
MSG										S	TATUS			

-6 dB Bandwidth - Low Channel - 802.11 g Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



🊺 Ke	/sight Spe	ctrum A	nalyzer - Swep	t SA								
LXI	S	RF	50 Ω	AC CORREC		SENSE:	INT SOUR	CE OFF	ALIGN AUTO		02:41:3	1 AM Nov 23, 2019
Mar	ker 1	2.44	230000	0000 GHz	PNO: Fast	Tri #A	g: Free I tten: 40	Run dB	#Avg T	ype: Voltage	TF	RACE 1 2 3 4 5 (TYPE WMWWWW DET N P N N N I
											Mkr1 2.44	2 30 GHz
10 di	3/div	Ref	28.00 di	3m							-7	7.10 dBm
Log												
18.0												
8.00									. 1			
-2.00							b			243		
-12.0					X2	entron a la entron en			and a short of the second of the second s			-13.10 dBm
-22.0			My Martin Martin	+ Walesplace	And have					b_{μ}	- พำเห็นราให้มองสามและ	
-32.0	phylopology and	ትባትላሉላል										WYUWWWWWWWW
-42.0												
-52.0												
-62.0												
Cen #Re	ter 2.4 s BW	1370) 100	0 GHz kHz		#\	/BW 30	0 kHz			Swe	Span ep 4.800 ms	50.00 MHz (1001 pts)
MKR		C SCL		X	Y	,	FUN	TION	FUNCTION WIDTH		FUNCTION VALUE	
1	N 2	f		2.442 30 G	lz -7.	10 dBm						
2	Δ <u>3</u> 2 F2	f	<u>(Δ)</u>	<u>16.65 M</u> 2.428 75 G	lz (Δ) lz -15	<u>-0.15 dB</u> 24 dBm						
4												
6												
7												
9												
10												-
•												۱.
MSG									STATUS			

-6 dB Bandwidth - Middle Channel - 802.11 g Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



🔟 Kee	wight 9	Snectr	A cours	nalvzer	- Swan	4 S V																	
	S	specu	RF		50 O		COF	REC			S	ENSE:1	NT SOU	RCE OFF		ALIGN AUT	0				2:42:40	AM Nov 23	2019
Mar	er	12	46	435	000	000		7				LIIOLII			,	#Av	g Type	: Voltage			TF	ACE 123	4 5 6
man	NO1	1 2		-100	000	000		12	PNO:	Fast		Tri	g: Free	Run									www
									IFGair	:Low	-	#At	tten: 40	dB								DET	INNN
																			N	lkr1 3	2 46	4 35 G	:Hz
			D - 6		· ~ - II																	28 4	Rm
Loa	3/017		Rer		JU al	зm								1								.20 a	
18.0																							
10.0																							
8.00																							
-2.00									_														
12.0									,	and the	-ur-ur-ur-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	_ϒ ၯၮၯႃၯႜႜႜႜႜႜၛ႞ၯ	1 mont	howene	monu	~^ ²²	73				-13.3	28 dBm
-12.0										<u>Хз</u>				Y			-γ						
-22.0			• L • NI.	- MAR	_{የሰመካ}	ᡁᢧᡰᠣᠲ	www	hrvent	hirtor	4	\rightarrow							ᠬᢦᢦᡊᡊᡘᡆᡀᢑ	ᠬᡙᡳ᠕ᡎ	Mundre	Matte		
-32.0	non-MA	միսի	ለነለግ																		- 0 0 V V V	M WWWW	h
42.0	[
-42.0																							
-52.0																							
-62.0																							
Cen	ter 2	2.46	i201	0 GH	z									-		_		·		ş	Span	50.00 I	MHz
#Re	s BV	N 1	00	kHz						#	VBV	V 30	0 kHz					S	weer	4.80	0 ms	(1001	pts)
MKR	NODE	TRC	SCL			X	101.0				Y	1	FUN	ICTION	FUN	CTION WID	TH		Fl	JNCTION \	/ALUE		^
2	N A3	2	Ŧ	(A)		2	<u>464 3</u> 16 6	<u>5 GH</u> 5 MH	Z Z (A)	-	<u>-1 28 0</u>	<u>abm</u> 5 dB			+								
3	F	2	f			2	.453 7	5 GH	z	-1:	3.66 0	dBm											
4																							
5																							=
7	\rightarrow														+								
8																							
9																							
10																							_
																							*
MEC						_										CT.	TUR						
MSG																514	105						

-6 dB Bandwidth - High Channel - 802.11 g Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



🚺 Ke	/sight Spe	ctrum A	Analyzer - Swept	SA									
LXI	S	RF	50 Ω	AC CORREC		SENS	E:INT SOU	RCE OFF	ALIGN	AUTO		02:48:1	0 AM Nov 23, 2019
Mar	ker 1	2.41	6050000	0000 GHz		-		D	#	#Avg Type	e: Voltage	т	
					PNO: Fast	ु 🗣 🕌	Atten: 40	dB					DET NPNNN
					II Guilleon	•						Mke4 9.44	6 05 CH-
		_										WIKET 2.41	0 00 GHZ
10 di Loa	B/div	Ref	28.00 dE	3m									7.50 GBII
18.0													
0.00													
0.00									⊾ 1				
-2.00										. ^	2Δ3		
-12.0					X 2	UVAN ANALAN	╼╍∼ ╻╻╱╻╌╵╵┚╌╏┍╻┝╻┝		and and a start of the start of	the work			-13.56 dBm
-22.0		n e. 4	֊ հ.մտում-դերոների	hour war war	MANUL S					\	Double the March 1080		
-32.0	MAN	ዀኯኯኯኯ											WWWWWWWWWWW
42.0													-910
-42.0													
-52.0													
-62.0													
Cen #Do	ter 2.4	4120	U GHZ			41/D14/ 2					D 111	Spar	1 50.00 MHz
#Re	SDW	100	ΝПΖ			#VDVV J	оо кп2				SWE	ep 4.800 m	s (Tuur pis)
MKR	MODE TF	C SCL		Х		Y	FUN	ICTION	FUNCTION	I WIDTH		FUNCTION VALUE	*
2	N 2 A3 2	i i	(A)	2.416 05 GF	1Ζ 1Ζ (Λ)	-7.56 dBr -0.33 dl	n B						
3	F 2	f	(12)	2.403 15 G	lz -	14.11 dBr	n						
4													
6													
7													
8													
10													
11													
MEC		_								CTATUS			
MSG										STATUS			

-6 dB Bandwidth - Low Channel - 802.11 n Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Ker	uni ada ta Car		Amelian		54															
Key	signt op	DE	Anaiyze	so o	SA AC	COPPEC			CENC			AL T					0	2-40-15	AM Nov 22	2010
Mar	kor 1	2/1	2204	50 52					SENS	E.INT 500	KCE UFF	ALI	#Ava 1	Type:	Voltage		0	Z.49.13 TR	AM NOV 23,	4 5 6
Mai	NGI I	Z.4.)23.	0000	000	GHZ	PNO:	East		rig: Free	Run							1		rwww
							IFGai	n:Low	¥ #	Atten: 40) dB								DET N P N	INNN
																N.	ket 0	12	2.05.0	
																W	KI I 2			
10 di	3/div	Re	f 28.	00 dE	3m														.65 a	ΒШ
LOG																				
18.0	\vdash																			_
8.00																				_
										1										
-2.00														^ 2	Δ3					
-12.0								and a share and	<u>๙๛๛๚</u> ๛๚๛๛	ላለህሥራላኮላክ	The second se	ብየሳ <u>ን</u> የሲፈር የሰላ የ	₽₹₽~₽₽~₽₽₹₽₽₽₽	~{/					-13 6	i5 dBm
22.0						Ka MABABAD	anad	13						۲ ۱۳						
-22.0	_Dr	Mr. Marken	-prollin	MAADAAA	LUL-U-A	<u>1940 - 1490 a</u>								-	wwwwwww	m had	WWWww	ույիսի	የባንግሥል	
-32.0	ALM WAR																			Viny
-42.0																				
-42.0																				
-52.0																				_
-62.0																				
Cen	ter 2	4370	n GI	17													2	han	50.00 P	MHZ
#Do	e RM	100		12				#\		00 kHz	,				SW	oon	1 20	n me	/1001	nte)
"NG	3 0 9 9		NHZ												30	eeb	4.00	v ma	(1001	ptəj
MKR I	Mode T	RC SCL			Х			Y	r -	FUN	ICTION	FUNCT	ION WIDTH	I		FU	NCTION V	ALUE		*
1	N	2 f			2.4	32 95 GH	z	-7	.65 dBr	n										
2	Δ3	2 f	<u>(Δ)</u>			17.85 MI	<u>Iz</u> (Δ)		<u>-0.14 d</u>	B										_
3		2 1			2.4	28 15 GF	12	-14	.16 dBr	n										-
5																				=
6																				
7																				
8																				_
10																				
11																				
•																				•
MEC													STATI	ie.						
MSG													STATU	3						

-6 dB Bandwidth - Middle Channel - 802.11 n Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Ker	vsiaht S	Spectrum	n Ani	alvzer - Swept SA												
LXI	S	F	RE	50 Ω AC	CORREC			SENSE:	INT SOUR	RCE OFF	AL	IGN AUTO			02:50:3	5 AM Nov 23, 2019
Mar	ker	124	65	4500000	00 GHz							#Avg T	ype:	Voltage	т	RACE 1 2 3 4 5 6
TH TEXT	ι.σ.		00	1000000		PNO: Fa	st 🖵	Tri	g: Free	Run		-		-		TYPE WMWWW
						IFGain:L	ow	#A	tten: 40	dB						DETINPNNN
														N	/kr1 2 46	5 45 GHz
																7 67 dBm
10 di Loa	Bidiv	R	er 2	28.00 aBn	1					1					_	
10 0																
10.0																
8.00	\vdash		\rightarrow													
-2.00											1_					
2.00							- A Barrel	vwwww	ᡔ᠕ᢞᡗᢔᡗᠲᠴᡄ᠇ᢧᡕᢧ	LANNY WY	myhower	www.	~ ^ 2	∆3		10.07.15
-12.0						<u>ک</u> لا				h			\forall			-1.3.67.dHm
-22.0	L				mound	hurika, ,							<u> </u>	DAN IN AMARAN	below has been been been below	
22.0	الالماريس	pranta	WY	holor di servere										ere addre a fide addr	ու օրը հետ հայ քաղ քաղ	Walna Williams
-32.0	V 0															1. AN AN AN
-42.0	\vdash															
-52.0																
02.0																
-62.0			\rightarrow													
Cen	ter 2	2.462	00	GHz											Spar	1 50.00 MHz
#Re	s BV	V 100) k	Hz			#VB	W 30	10 kHz					Swee	p 4.800 m	s (1001 pts)
MKR	MODE	TRC SC	21		X		Y		ELIN	CTION	EUNC			F		
1	N	2 f			2 465 45 GH	7	-7 67	dBm	1010	CHON	Tone				ONCHON VALUE	
2	Δ3	2 f	(Δ)	17.90 MH	IZ (Δ)	-2.0)8 dB								
3	F	2 f			2.453 15 GH	z	-14.89	dBm								
4																
6																=
7																
8																
9											ļ					
10																
	_		_			_	_					0747				
MSG												STATUS	2			

-6 dB Bandwidth - High Channel - 802.11 n Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



SPECTRAL DENSITY OUTPUT

DATA SHEETS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Spectral Density - Low Channel - 802.11 g Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Spectral Density - Middle Channel - 802.11 g Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Spectral Density - High Channel - 802.11 g Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Spectral Density - Low Channel - 802.11 n Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Spectral Density - Middle Channel - 802.11 n Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Spectral Density - High Channel - 802.11 n Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



PEAK OUTPUT POWER

DATA SHEETS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



TARGUS

DOCK CONTROLLER

MODEL: COPERNICUS

PEAK POWER OUTPUT

802.11 g MODE

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
2412	-3.06	30.00	-33.06
2437	-2.76	30.00	-32.76
2462	-2.74	30.00	-32.74

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



TARGUS

DOCK CONTROLLER

MODEL: COPERNICUS

PEAK POWER OUTPUT

802.11 n MODE

FREQUENCY	LEVEL	Limit*	Margin						
(MHz)	(dBm)	(dBm)	(dB)						
2412	-3.41	30.00	-33.41						
2437	-2.94	30.00	-32.94						
2462	-2.76	30.00	-32.76						

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



BAND EDGES

DATA SHEETS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



FCC 15.247

Targus Dock Controller Model: Copernicus Date: 10/26/2019 Lab: D Tested By: Harvey Samaco

Band Edges - 802.11 g Mode Lower Band Edge

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2412.00	90.77	Н			Peak	89.00	100.00	Fundamental
2412.00	82.77	Н			Avg	89.00	100.00	Z-Axis Worst Case
2390.00	62.63	Н	73.97	-11.34	Peak	89.00	100.00	Band Edge
2390.00	49.23	Н	53.97	-4.74	Avg	89.00	100.00	Z-Axis Worst Case
2412.00	90.47	V		-	Peak	199.50	100.00	Fundamental
2412.00	82.51	V	(Avg	199.50	100.00	X-Axis Worst Case
						, AD		
2390.00	64.51	V	73.97	-9.46	Peak	199.50	100.00	Band Edge
2390.00	50.01	V	53.97	-3.96	Avg	199.50	100.00	X-Axis Worst Case
					ang a sin	5. 1994-1997 - 1994 1997		

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044


FCC 15.247

Targus Dock Controller Model: Copernicus Date: 10/26/2019 Lab: D Tested By: Harvey Samaco

Band Edges - 802.11 g Mode Upper Band Edge

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2462.00	92.58	Н			Peak	244.25	250.00	Fundamental
2462.00	83.13	Н			Avg	244.25	250.00	X-Axis Worst Case
2483.50	63.13	Н	73.97	-10.84	Peak	244.25	250.00	Band Edge
2483.50	47.02	Н	53.97	-6.95	Avg	244.25	250.00	X-Axis Worst Case
2462.00	84.71	V			Peak	308.00	100.00	Fundamental
2462.00	76.14	V	(Avg	308.00	100.00	Z-Axis Worst Case
						, AD		
2483.50	55.89	V	73.97	-18.08	Peak	308.00	100.00	Band Edge
2483.50	40.44	V	53.97	-13.53	Avg	308.00	100.00	Z-Axis Worst Case
						5. 1994-1997 - 1994-1997 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -		

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



a ... Werkfoll and land a support of the second s

🕻 Ke	ysight S	pectrum Ar	nalyzer - Swept S	A							
	S	RF PRES	EL 50Ω A	C CORREC		SENSE:INT SOUR	CE OFF AL	IGN AUTO		12:48:10	5 AM Oct 26, 2019
lar	ker	3 2.39	0000000	000 GHz	PNO: Fast G	Trig: Free F #Atten: 20 (Run dB	Avg Type:	Voltage	TF	ACE 1 2 3 4 5 6 TYPE WMWWWW DET R P N N N N
0 dl	B/div	Ref	116.99 di	ЗμV					N	lkr3 2.39 49	0 00 GHz .23 dBµV
9 9 107											*
97.0									Ϊ		
37.0 '7.0											
67.0								2 month and	Γ Υ		-New Incl
57.0								3			53%37 gDpV

27. Sta	ort 2.	310	00	GHz								S	top 2.4	14000 GH	lz
#R	es B	WV (1	515	PRJ T.U IVIH	2	#VB	W 3.0 MIH	2			5	weep 1	7 1.0 S	(1001 pt	S)
MKF	MODE	TRC	SCL	3	x	Y	FL	JNCTION	FUNCT	ON WIDTH		FUNCTION	VALUE		
1	N	2	f		2.416 21 GHz	90.77	dBµV								
2	N	2	f		2.390 0 GHz	62.632	dBµV								
3	N	1	f		2.390 0 GHz	49.23	dBµV								
4	N	1	f		2.416 21 GHz	82.77	dBµV								
5															Ξ
6															
8															
10															
11															
		_													_
MSG										STATUS					

Mr. Marian

Band Edges - 2412 MHz - Horizontal Polarization - 802.11 g Mode - Z-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



							_	_	_				
鱦 Кеј	/sight (Spect	rum A	nalyzer - Swept SA		_	_						
LXI	S	RF	PRES	EL 50 Ω AC	CORREC		SENSE	INT SOU	RCE OFF	ALIGN AUT	0	12:41:0	3 AM Oct 26, 2019
Mar	ker	42	.41	40000000	00 GHz					Avg	Type: Voltage	, TI	RACE 1 2 3 4 5 6
						PNO: Fast		ig: Free	Run				
						IFGain:Low	#A	tten: 20	dB				DEI
												Mkr/ 2/1	4.00 GHz
												00	
10 di	3/div		Ref	116.99 dB	μV							82	.οι ασμν
Log													
107	<u> </u>												×
07.0											-	1	
97.0											۲\ ۱		
87.0													
											W/		
77.0										×2 .			
67.0											[Lull (rtslow		<u>.</u>
											}		^{putp} the the
57.0									- 11				53.90 dDpV
47.0					hell a line and	dZala k. a			M LOUP	WV			have the
40.0				J. AWWYYY Y	1	A NUMBER OF	a	- AND W	"ม"				
37.0	~{utran	*/~/~	l-m-N	hadden i	-		"Radio della Physical	"Trong the					
27.0													
Star	t 2.:	310	00 Q	GHz								Stop 2.	44000 GHz
#Re	s B\	N (C	CISF	PR) 1.0 MH	Z	#	VBW 3.	0 MHz				Sweep 171.0 s	s (1001 pts)
				,									,
MKR	NODE	TRC	SCL]	X		Y	FUN	CTION	FUNCTION WID	ТН	FUNCTION VALUE	<u>^</u>
1	Ν	2	f		2.414 00 GH	z 90	.47 dBµV						
2	N	2	f		2.390 0 GH	z 64.	511 dBµV						
3	N	1	1		2.390 0 GH	z 50	.01 dBµV						
4	N	1	<u> </u>		<u>2.414 00 GH</u>	z 82	<u>.51 abuv</u>						
6													=
7													
8													
9													
10													
11													-
•								III					•
MSG										STA	TUS		
mod										STA	100		

Band Edges - 2412 MHz - Vertical Polarization - 802.11 g Mode - X-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400



Keysight Spe	ectrum A	Analyzer - Swept SA						
S	RF PRE	SEL 50 Ω AC CORREC	SENS	E:INT SOURCE OFF	ALIGN AUTO		01:13:03	AM Oct 26, 201
arker 4	2.45	59600000000 GHz	PNO: Fast 😱 T IFGain:Low #	Trig: Free Run Atten: 20 dB	Avg Ty	pe: Voltage	TR	ACE 1 2 3 4 5 TYPE WMWWW DET R P N N N
dB/div	Ref	⊺ 116.99 dBµV					Mkr4 2.459 83.	9 60 GH: 13 dBµ\
								*
U/		1						
7.0		monorma 4 hours and	Carton de Margare					
7.0	A second							
7.0	<u> </u>		•	winne .		2		
7.0				White the state of the second		2		
7.0					a second second	2 Million J		53.97 dBu
7 0							Work and Work and	
7.0								. We have
/.0								
7.0								
tart 2.45	000	GHz					Stop 2.	50000 GH:
Res BW	(CIS	PR) 1.0 MHz	#VBW 3	3.0 MHz		Sw	eep 65.77 s	(1001 pts
	RC SCL	Х	Y	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
1 <u>N</u> 2	f	2.459 60 G	Hz 92.583 dBu	V				
2 N 2 3 N 1	r f	2.483 50 G 2 483 50 G	HZ 63.133 dBµ Hz 47.02 dBu	V				
4 N 1	f	2.459 60 G	Hz 83.13 dBµ	V				
5 6	_							
7								
8	_							
0								

STATUS

Band Edges - 2462 MHz - Horizontal Polarization - 802.11 g Mode - X-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

MSG

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Band Edges - 2462 MHz - Vertical Polarization - 802.11 g Mode - Z-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Band Edges - 2412 MHz - at 2400 MHz - 802.11 g Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400



FCC 15.247

Targus **Dock Controller** Model: Copernicus

Date: 10/26/2019 Lab: D Tested By: Harvey Samaco

Band Edges - 802.11 n Mode Lower Band Edge

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2412.00	91.37	Н			Peak	144.50	100.00	Fundamental
2412.00	83.15	Н			Avg	144.50	100.00	X-Axis Worst Case
2390.00	65.82	Н	73.97	-8.15	Peak	144.50	100.00	Band Edge
2390.00	51.09	Н	53.97	-2.88	Avg	144.50	100.00	X-Axis Worst Case
2412.00	85.06	V		-	Peak	312.00	100.00	Fundamental
2412.00	76.41	V	-	-	Avg	312.00	100.00	Z-Axis Worst Case
2390.00	62.60	V	73.97	-11.37	Peak	312.00	100.00	Band Edge
2390.00	44.88	V	53.97	-9.09	Avg	312.00	100.00	Z-Axis Worst Case

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Page E71

FCC 15.247

Targus **Dock Controller** Model: Copernicus Date: 10/26/2019 Lab: D Tested By: Harvey Samaco

Band Edges - 802.11 n Mode **Upper Band Edge**

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2462.00	90.96	Н			Peak	301.50	100.00	Fundamental
2462.00	82.11	Н			Avg	301.50	100.00	X-Axis Worst Case
2483.50	61.98	Н	73.97	-11.99	Peak	301.50	100.00	Band Edge
2483.50	48.29	Н	53.97	-5.68	Avg	301.50	100.00	X-Axis Worst Case
						1		
2462.00	85.04	V	6		Peak	328.00	100.00	Fundamental
2462.00	77.34	V	/		Avg	328.00	100.00	Z-Axis Worst Case
						400		
2483.50	59.55	V	73.97	-14.42	Peak	328.00	100.00	Band Edge
2483.50	43.17	V	53.97	-10.80	Avg	328.00	100.00	Z-Axis Worst Case

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



μ.	weight	Spect		naluzor Swort CA									
	sysight	Spect		FI 50.0 AC	CORREC		SENSEITN		E OFF	ALIGN ALITO		01:55:4	7 AM Oct 26, 2019
Ma	ker	4 2	2.41	72500000	00 GHz		SENSERIN	00010		Avg Ty	pe: Voltage	TI	RACE 1 2 3 4 5 6
inter	NO	- T 2		12000000		PNO: Fast) Trig:	: Free R	lun	•			
						IFGain:Low	#Att	en: 20 c	IB				DETKPNNNT
												Mkr4 2.41	7 25 GHz
10 6	Ridis	,	Ref	116 00 dB	ιW							83	.15 dBuV
Log		<i>.</i>	Rei	110.33 UD	ha								
10							<u> </u>						*
07 (∆1	
97.0	'											4	
87.0	י ⊢ ר												
77.0										_		\square	
67.0										$\left \left\langle \right\rangle_{0}^{2} \right _{0} = 0$	end .	No.	
67.0	'									N NAME		\ *W	personal states of the
-57.0											 	<u> </u>	53.97 diguv
47.0								_	rilih***	Man. X			
	when	humu	D	and the states	manulation and	human	marchelar	whall	DM.				
37.0							· ·						
27.0													
Sta	rt 2.	310	00 0	GHz								Stop 2.	44000 GHz
#Re	es Bl	W ((CISF	PR) 1.0 MH	Z	#VB	W 3.0	MHz			Sw	eep 171.0 s	s (1001 pts)
MKR	MODE	TRC	SCL		x	× ×		ELINC					
1	N	2	f		^ 2 417 25 GH	z 91.37	dBuV	TONC	non	1 ONCHON WIDTH		UNCTION VALUE	_
2	Ň	2	f		2.390 00 GH	z 65.815	dBµV						
3	N	1	f		2.390 00 GH	z 51.09	dBµV						
4	N	1	f		2.417 25 GH	z 83.15	dBµV						_
6													=
7													
8													
10													
11													
•													•
MSG										STATUS			
		_	_										

Band Edges - 2412 MHz - Horizontal Polarization - 802.11 n Mode - X-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400



Keysight Spectrum Analyzer - Swept SA			- @ <mark>-</mark>
Marker 3 2.3900000000000 GHz	PNO: Fast Trig: IFGain:Low #Atter	SOURCE OFF ALIGN AUTO Avg Typ Free Run n: 20 dB	02:10:49 AM Oct 26, 2019 e: Voltage TRACE 1 2 3 4 5 6 TYPE WMWWW DET R P N N N
10 dB/div Ref 116.99 dBµV			Mkr3 2.390 00 GHz 44.88 dBµV
107 97.0			*
87.0			A manus they
67.0		2 Martinet	- Wing Annally appr
47.0 37.0	ารในโนเสาะสูงเสราสราชสายไปรูนมีโรร ^ใ ห้ประสมัย	with the range of the stand	
27.0			
Start 2.31000 GHz #Res BW (CISPR) 1.0 MHz	#VBW 3.0 N	ЛНz	Stop 2.44000 GHz Sweep 171.0 s (1001 pts)
MKR MODE TRC SCL X 1 N 2 f 2.415 17 2 N 2 f 2.390 00 3 N 1 f 2.390 00 4 N 1 f 2.415 17 5 - - - 6 - - - 7 - - - 8 - - - 9 - - - 10 - - - 11 - - - -	Y GHz 85.06 dBµV GHz 62.603 dBµV GHz 44.88 dBµV GHz 76.41 dBµV	FUNCTION FUNCTION WIDTH	FUNCTION VALUE
MSG	"	STATUS	4

Band Edges - 2412 MHz - Vertical Polarization - 802.11 n Mode - Z-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500 Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Band Edges - 2462 MHz - Horizontal Polarization - 802.11 n Mode - X-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Marker 4 2.45600000000 GHz SENSE:INT SOURCE OFF ALIGN AUTO 02:39:14 AM Oct 2 Marker 4 2.45600000000 GHz PNO: Fast IFGain:Low Trig: Free Run #Atten: 20 dB Avg Type: Voltage TRACE 12 TYPE WM DET R P 10 dB/div Ref 116.99 dBµV Trig: Free Run IGG Trig: Free Run #Atten: 20 dB Trig: Free Run #Atten: 20 dB Trig: Free Run #Atten: 20 dB	2019 3 4 5 6 900000 3 HZ 3μV
Marker 4 2.4560000000 GHz Avg Type: Voltage TRACE TYPE WM TYPE WM DET R P PNO: Fast IFGain:Low Trig: Free Run #Atten: 20 dB Trig: Avg Type: Voltage TYPE WM DET R P Mkr4 2.456 00 (77.34 d) Mkr4 2.456 00 (77.34 d) Trig: Free Run #Atten: 20 dB Trig: Free Run #Atten: 20 dB	3456 γ γ γ γ γ γ γ γ γ γ γ γ γ
Mkr4 2.456 00 0 10 dB/div Ref 116.99 dBμV 10 g 107 97.0	GHz 3μV *
	*
97.0	
87.0 A mine on a second and a second a	
57.0 57.0 50.0 50.0 50.0 50.0 50.0 50.0	17 dDµ∖
47.0 37.0	h4,haul
Start 2.45000 GHz Stop 2.50000 #Res BW (CISPR) 1.0 MHz #VBW 3.0 MHz Sweep 65.77 s (1001)	GHz pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE	^
1 N 2 f 2.456 00 GHz 85.044 dBµV 2 N 2 f 2.483 50 GHz 59.554 dBµV	
3 N 1 f 2.483 50 GHz 43.17 dBµV	
4 N 1 2.450 00 GHZ 77.54 dBuv 5	=
	+
MSG STATUS	

Band Edges - 2462 MHz - Vertical Polarization - 802.11 n Mode - Z-Axis

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





Band Edges - 2412 MHz - at 2400 MHz - 802.11 n Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



EMISSIONS IN NON-RESRTICTED BANDS DATA SHEETS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





RF Antenna Conducted - Reference Level - 2412 MHz - 802.11 g Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400





RF Antenna Conducted - Reference Level - 2437 MHz - 802.11 g Mode

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400





RF Antenna Conducted - Reference Level - 2462 MHz - 802.11 g Mode

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044





RF Antenna Conducted - Reference Level - 2412 MHz - 802.11 n Mode

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400





RF Antenna Conducted - Reference Level - 2437 MHz - 802.11 n Mode

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400





RF Antenna Conducted - Reference Level - 2462 MHz - 802.11 n Mode

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400



TARGUS

DOCK CONTROLLER

MODEL: COPERNICUS

EMISSIONS IN NON-RESTRICTED BANDS

802.11 g Mode

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
9648	-51.37	-42.77	-8.60
9748	-50.28	-42.77	-7.51
9848	-51.31	-42.77	-8.54

Note: The three highest non-restricted emissions are reported.

*The Limit is based on 20 dB below the highest reference level obtained on the previous pages per section 11.11.2 of ANSI C63.10.

The channel found to have the maximum level can be used to determine the reference level

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



TARGUS

DOCK CONTROLLER

MODEL: COPERNICUS

EMISSIONS IN NON-RESTRICTED BANDS

802.11 n Mode

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
9648	-53.27	-43.522	-9.748
9748	-51.82	-43.522	-8.298
9848	-52.35	-43.522	-8.828

Note: The three highest non-restricted emissions are reported.

*The Limit is based on 20 dB below the highest reference level obtained on the previous pages per section 11.11.2 of ANSI C63.10.

The channel found to have the maximum level can be used to determine the reference level

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Page E86

CONDUCTED EMISSIONS DATA SHEETS

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Title: FCC Class B - Black Lead File: Keysight - Pre-Scan - 802.11g - Black Lead - FCC Class B.set Operator: Harvey Samaco Sequence: Preliminary Scan EUT Type: Dock Controller EUT Condition: The EUT was set to continuously transmit BLE and at 2412 MHz in 802.11g Company: Targus Model: Copernicus S/N: N/A Power Level - 3 Black Lead Voltage (dBµV) 100.00 90.00 80.00 70.00 FCC Conducted EMI Class B QP 60.00 FCC Conducted EMI Class B AVG 50.00 OD! 40.00 30.00 20.00 10.00 0.00 1.00 10.00 30.00 0.15 Freq (MHz) (PEAK) EMI (L1) (2) Limit (1) Limit

> **Brea Division 114 Olinda Drive** Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400

11/14/2019 1:15:42 PM



Page E88

Title: FCC Class B - Black Lead File: Keysight - Final Scan - 802.11g - Black Lead - FCC Class B.set Operator: Harvey Samaco EUT Type: Dock Controller EUT Condition: The EUT was set to continuously transmit BLE and at 2412 MHz in 802.11g Company: Targus Model: Copernicus S/N: N/A Power Level - 3

Black Lead

Freq	(PEAK) EMI	(AVG) EMI	(PEAK) Margin (AVG)	(AVG) Margin (AVG)	(AVG) Limit	Cable	Transducer	Filter
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	(dBµV)	(dB)	(dB)	(dB)
0.190	50.52	37.20	-2.93	-16.25	53.44	0.00	0.38	10.00
0.242	52.65	39.18	0.95	-12.52	51.71	0.00	0.28	10.02
0.246	54.67	39.53	2.88	-12.26	51.79	0.00	0.29	10.02
0.258	50.97	35.62	0.00	-15.35	50.97	0.00	0.24	10.03
0.262	51.23	29.73	0.39	-21.11	50.84	0.00	0.23	10.03
0.266	54.10	34.75	3.08	-16.27	51.01	0.00	0.24	10.03



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400

11/14/2019 1:20:31 PM Sequence: Final Measurements



Page E89

11/14/2019 1:22:26 PM Sequence: Preliminary Scan

Title: FCC Class B - White Lead File: Keysight - Pre-Scan - 802.11g - White Lead - FCC Class B.set Operator: Harvey Samaco EUT Type: Dock Controller EUT Condition: The EUT was set to continuously transmit BLE and at 2412 MHz in 802.11g Company: Targus Model: Copernicus S/N: N/A Power Level - 3



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Title: FCC Class B - White Lead File: Keysight - Final Scan - 802.11g - White Lead - FCC Class B.set Operator: Harvey Samaco EUT Type: Dock Controller EUT Condition: The EUT was set to continuously transmit BLE and at 2412 MHz in 802.11g Company: Targus Model: Copernicus S/N: N/A Power Level - 3

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (AVG) (dB)	(AVG) Margin (AVG) (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.182	48.10	33.22	-5.27	-20.15	53.38	0.00	0.38	10.00
0.194	48.43	32.60	-4.90	-20.73	53.32	0.00	0.38	10.00
0.202	46.98	30.93	-6.34	-22.39	53.32	0.00	0.38	10.00
0.230	49.23	31.63	-2.76	-20.36	51.99	0.00	0.30	10.02
0.266	50.21	35.53	-0.98	-15.66	51.19	0.00	0.25	10.03
0.286	49.43	37.96	-0.87	-12.34	50.30	0.00	0.20	10.04
0.290	51.78	35.55	1.49	-14.74	50.29	0.00	0.20	10.04
0.302	52.27	37.32	1.89	-13.06	50.38	0.00	0.21	10.04
0.306	52.81	34.89	2.85	-15.07	49.96	0.00	0.19	10.04

White Lead



Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400

11/14/2019 1:24:05 PM Sequence: Final Measurements





Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044



Title: FCC Class B - Black Lead File: Keysight - Final Scan - 802 11n - Black Lead - FCC Class B set Operator: Harvey Samaco EUT Type: Dock Controller EUT Condition: The EUT was set to continuously transmit BLE and at 2412 MHz in 802.11n Company: Targus Model: Copernicus S/N: N/A

Power Level - 3

Free	(DEAK) EN4L		(DEAK) Maraia (AVC)		(A)(C) Limit	Cabla	Transduran	filter
Freq	(PEAK) EMI	(AVG) EMI	(PEAK) Margin (AVG)	(AVG) Margin (AVG)	(AVG) Limit	Cable	Transducer	Filter
(MHz)	(dBµV)	(dBµV)	(dB)	(dB)	(dBµV)	(dB)	(dB)	(dB)
0.194	51.13	36.47	-2.18	-16.84	53.31	0.00	0.37	10.00
0.198	50.65	36.96	-2.80	-16.49	53.45	0.00	0.38	10.00
0.238	55.03	37.41	3.43	-14.19	51.60	0.00	0.28	10.02
0.242	53.55	40.01	1.77	-11.77	51.78	0.00	0.29	10.02
0.254	55.88	36.28	4.32	-15.28	51.56	0.00	0.28	10.02
0.258	55.22	38.60	3.61	-13.01	51.61	0.00	0.28	10.02
0.282	53.84	32.97	3.18	-17.69	50.66	0.00	0.22	10.04
0.286	53.72	39.20	3.25	-11.27	50.48	0.00	0.21	10.04
0.290	55.39	39.46	5.01	-10.92	50.38	0.00	0.21	10.04
0.386	53.56	29.07	5.58	-18.91	47.99	0.00	0.12	10.07
0.390	53.21	29.80	5.11	-18.30	48.10	0.00	0.12	10.07
0.394	53.74	28.61	5.69	-19.44	48.05	0.00	0.12	10.07
0.458	54.20	28.60	7.41	-18.19	46.79	0.00	0.12	10.09
0.462	54.30	32.85	7.69	-13.76	46.62	0.00	0.12	10.09

Black Lead



Sequence: Final Measurements

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400

Page E92

11/14/2019 1:35:55 PM



Title: FCC Class B - White Lead File: Keysight - Pre-Scan - 802.11n - White Lead - FCC Class B.set Operator: Harvey Samaco Sequence: Preliminary Scan EUT Type: Dock Controller EUT Condition: The EUT was set to continuously transmit BLE and at 2412 MHz in 802.11n Company: Targus Model: Copernicus S/N: N/A Power Level - 3 White Lead Voltage (dBµV) 100.00 90.00 80.00 70.00 FCC Conducted EMI Class B QP 60.00 FCC Conducted EMI Class B AVG 0 50.00 0 0 0 0 40.00 30.00 20.00 10.00 0.00 0.15 1.00 10.00 30.00 Freq (MHz) (PFAK) FMI (I 1) (2) Limit

> **Brea Division 114 Olinda Drive** Brea, CA 92823 (714) 579-0500

(1) Limit

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044

Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400

11/14/2019 1:38:51 PM



Title: FCC Class B - White Lead File: Keysight - Final Scan - 802.11n - White Lead - FCC Class B.set Operator: Harvey Samaco EUT Type: Dock Controller EUT Condition: The EUT was set to continuously transmit BLE and at 2412 MHz in 802.11n Company: Targus Model: Copernicus S/N: N/A Power Level - 3

(AVG) Limit (dBµV) Freq (MHz) Transducer (dB) (PEAK) EMI (AVG) EMI (PEAK) Margin (AVG) (AVG) Margin (AVG) Cable Filter (dBµV) (dB) (dBµV) (dB) (dB) (dB) 48.42 53.55 0.190 32.20 -5.13 -21.35 0.00 0.39 10.01 0.202 46.59 27.30 -6.36 -25.65 -27.09 52.95 0.00 0.35 10.00 0.206 47.25 25.59 -5.43 52.68 0.00 0.34 10.01 37.90 37.33 -0.61 0.234 51.16 -13.87 51.77 0.00 0.29 10.02 51.80 51.63 0.00 0.28 10.02 0.238 -14.29 0.262 48.53 51.65 34.61 38.65 50.92 50.48 0.24 -2.39 -16.31 0.00 10.03 1.17 0.31 0.00 10.04 -11.83 0.286 50.60 33.56 -16.73 50.29 0.00 0.20 10.04 3.72 5.14 0.466 50.52 26.37 -20.43 46.80 0.00 0.12 10.09 0.470 51.54 26.09 -20.31 46.41 0.00 0.12 10.09 0.982 41.12 20.67 4.88 -25.33 46.00 0.00 0.13 10.10

White Lead



11/14/2019 1:40:13 PM Sequence: Final Measurements

Brea Division 114 Olinda Drive Brea, CA 92823 (714) 579-0500

Newbury Park Division 1050 Lawrence Drive Newbury Park, CA 91320 (805) 480-4044 Lake Forest Division 20621 Pascal Way Lake Forest, CA 92630 (949) 587-0400