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

for

SENSOR

MODEL: ACS810

Prepared for

TARGUS
1211 N. MILLER ST.
ANAHEIM, CALIFORNIA 92806

Prepared by:_____

KYLE FUJIMOTO

Approved by:_____

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DATE: SEPTEMBER 6, 2019

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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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:	Sensor Model: ACS810 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Customer:	Targus 1211 N. Miller St. Anaheim, CA 92806
Test Dates:	August 26-30, 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 Issue 2 (2017), and RSS-Gen Issue 5 (2019)

Test Procedure: ANSI C63.4 and ANSI C63.10

NVLAP® TESTING
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SUMMARY OF TEST RESULTS

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; 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; and 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 and 15.209; and 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); and 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); and 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); and 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); and RSS-247
8	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (d); and 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); and RSS-247

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Sensor, Model: ACS810. 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 **Class B** specification limits defined by **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.

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

Super Tan	Field Application Engineer

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
Harvey Samaco	Test Technician
James Ross	Test Engineer

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 not been returned to Targus as of the date of this test report.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
N/A	Not Applicable
BLE	Bluetooth Low Energy

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-247 Issue 2: 2017	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
RSS Gen Issue 5 + Amendment 1: 2019	General Requirements for Compliance of Radio Apparatus

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

AC Mode: The Sensor, Model: ACS810 (EUT) was connected to and powered via a 5V USB AC adapter via its micro-USB connector. The EUT was investigated in all three orthogonal axes. The EUT was continuously transmitting at both 13.56 MHz and in BLE.

Battery Mode: The Sensor, Model: ACS810 (EUT) was tested as a stand-alone unit and powered by two AA batteries. The EUT was investigated in all three orthogonal axes. The EUT was continuously transmitting at both 13.56 MHz and in BLE.

When being programmed, the EUT was also connected to a laptop. The laptop was also connected to an AC Adapter. The programming allowed the EUT to operate in BLE. The laptop was removed prior to the testing.

The firmware is stored in one of the network drives in the company's server.

The amplitude of the fundamental for both the BLE and 13.56 MHz transmitter did not change when both radios were simultaneously transmitting. Also, there were no additional emissions detected.

The final radiated data was taken for the EUT in both configurations described above. The final conducted data was taken in the AC Mode described above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Cable 1

(**AC Power Mode Only)**
This is a 1.5-meter braid-shielded cable powering and connecting the EUT to the AC adapter. It has a micro USB connector at the Sensor end and has a USB type 'A' connection to the AC adapter end. The cable was bundled to a length of 1-meter. The shield of the cable was grounded to the chassis via the connectors.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
SENSOR (EUT)	TARGUS	ACS810	N/A	OXM000103
SWITCHING ADAPTER (100-240V 50/60 Hz)	SHENZHEN HONOR ELECTRONIC CO., LTD	ADS-12BA-06B	05075G	N/A
LAPTOP*	LENOVO	T430	101-2037	N/A
AC ADAPTER (LAPTOP)*	LENOVO	ADLX65YCC2A	N/A	N/A
UENERGYTESTAPP**	CSR	2.4.3	N/A	N/A

*Used to program the EUT only, then was removed from the test setup
**Used to program the EUT to transmit BLE

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
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	71957	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

Emissions Test Equipment (continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
VARIATION OF THE INPUT POWER TEST EQUIPMENT					
Variable Autotransformer	Superior Electric Company	Type: 11560	Spec: BP142056	N/A	N/A
Digital Multimeter	Fluke	115	Asset #: 4168	September 20, 2018	1 Year
EMI Receiver	Keysight Technolgies	N9038A	MY55330012	February 5, 2019	1 Year

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

$$u_c(y) = \sqrt{\sum_i c_i^2 \; u^2(x_i)}$$

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

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Channel Description and Frequencies

The EUT operates on a total of forty channels. The low channel is 2402 MHz, the middle channel is 2440 MHz and the high channel is 2480 MHz.

7.2 Antenna Gain

The antenna is a 37mm wire antenna and has a gain of 2.0 dBi.

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 3.

Test Results:

The EUT complies with the limits of **CFR** Title 47, Part 15, section 15.207; the **Class B** limits of CFR Title 47, Part 15, Subpart B; and RSS-GEN for conducted emissions.

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.

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

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 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 and 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, Sections 15.209 and 15.247 (d); and RSS-GEN and RSS-247 for radiated emissions. Please see Appendix E for the data sheets.

8.1.3 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
Sensor, Model: ACS810
AC Mode

Frequency MHz	Corrected Reading* dBuV/m	Specification Limit dBuV/m	Delta (Cor. Reading – Spec. Limit) dB
352.60 (H) (X-axis)	45.19 (QP)	43.50	-0.81
379.70 (H) (X-axis)	42.79 (QP)	46.00	-3.21
4960.00 (V) (X-axis)	50.58 (Avg)	53.97	-3.40
4960.00 (V) (Y-axis)	50.08 (Avg)	53.97	-3.89
4804.00 (V) (X-axis)	49.75 (Avg)	53.97	-4.22
4960.00 (H) (Z-axis)	49.49 (Avg)	53.97	-4.48

Table 2.0 RADIATED EMISSION RESULTS
Sensor, Model: ACS810
Battery Mode

Frequency MHz	Corrected Reading* dBuV/m	Specification Limit dBuV/m	Delta (Cor. Reading – Spec. Limit) dB
4804.00 (H) (X-axis)	53.74 (Avg)	53.97	-0.23
4960.00 (V) (X-axis)	53.61 (Avg)	53.97	-0.36
4960.00 (H) (X-axis)	53.02 (Avg)	53.97	-0.95
4960.00 (H) (Z-axis)	52.47 (Avg)	53.97	-1.50
4804.00 (V) (Y-axis)	52.33 (Avg)	53.97	-1.64
4804.00 (H) (Z-axis)	52.31 (Avg)	53.97	-1.66

RF Emissions Test Results (Continued)

Table 3.0 CONDUCTED EMISSION RESULTS
Sensor, Model: ACS810
AC Mode

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.190 (BL)	33.15 (Avg)	53.40	-20.25
0.178 (BL)	33.57 (Avg)	53.88	-20.32
0.222 (BL)	31.87 (Avg)	52.25	-20.38
0.206 (BL)	32.15 (Avg)	52.80	-20.65
0.174 (WL)	26.65 (Avg)	54.61	-27.97
0.158 (WL)	26.55 (Avg)	54.61	-28.07

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.

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 EMI Receiver. The Maximum Peak Conducted Output Power was measured using the procedure described in section 11.9.1.1 of ANSI C63.10. The Maximum Peak Conducted Output Power was then taken. The following steps were performed for measuring the Maximum Peak Conducted Output Power.

1. Set the RBW ≥ DTS bandwidth
2. Set VBW ≥ [3 x RBW]
3. Set span ≥ [3 x RBW]
4. Sweep time = auto couple
5. Detector = peak
6. Trace mode = max hold
7. Allow trace to fully stabilize
8. Use peak marker function to determine the peak amplitude level

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.

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 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. The number of measurement points were greater than the span/RBW. 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.

8.5 RF Band Edges

The RF band edges were taken at 2402 MHz when the EUT was on the low channel and 2480 MHz when the EUT was on the high channel using the EMI Receiver. The RF band edges were tested when the EUT was configured for AC mode and battery mode. 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.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (d); and RSS-247. The RF power at the restricted bands closest to the band edges at 2402 MHz and 2480 MHz also meet the limits of section 15.209. Please see the data sheets located in Appendix E.

8.6 Spectral Density Test

The spectrum density output was measured using the EMI Receiver. The spectral density output was measured using a direct connecting 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 ≤ RBW ≤ 100 kHz
4. Set the VBW ≥ 3 X RBW
5. Detector = Peak
6. Ensure that the number of measurement points in the sweep >= 2 x span/RBW
7. Sweep time = auto couple
8. Use the peak marker function to determine the maximum amplitude level
9. If measured value exceeds limit, reduce RBW (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:

There was no change in frequency nor amplitude when the input voltage was varied between 85% and 115% of the nominal rated supply voltage.

9. CONCLUSIONS

The Sensor, Model: ACS810 (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; and RSS-247 and RSS-GEN.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

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/quality/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."

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B, 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.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Sensor
Model: ACS810
S/N: N/A

There are no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER

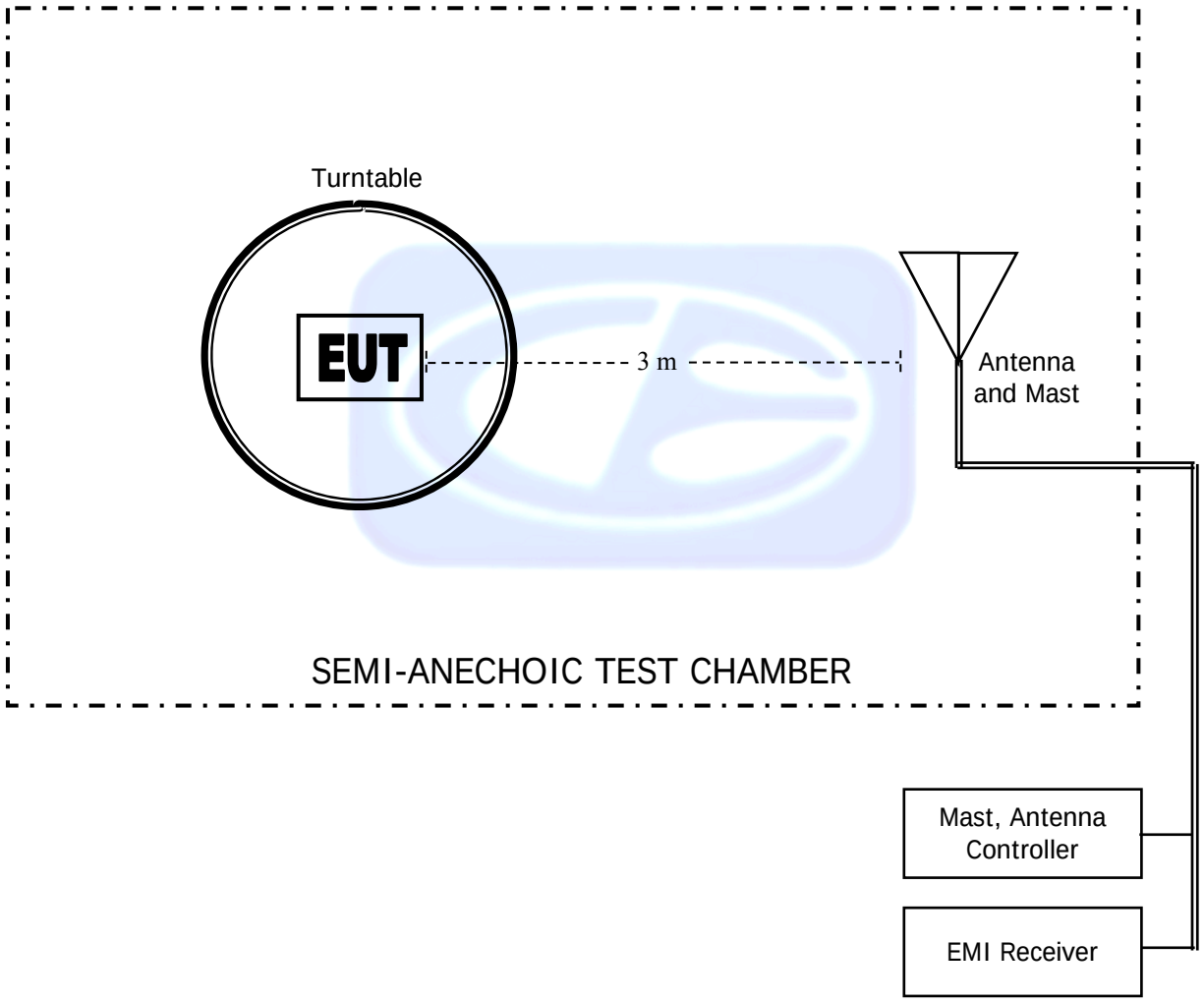
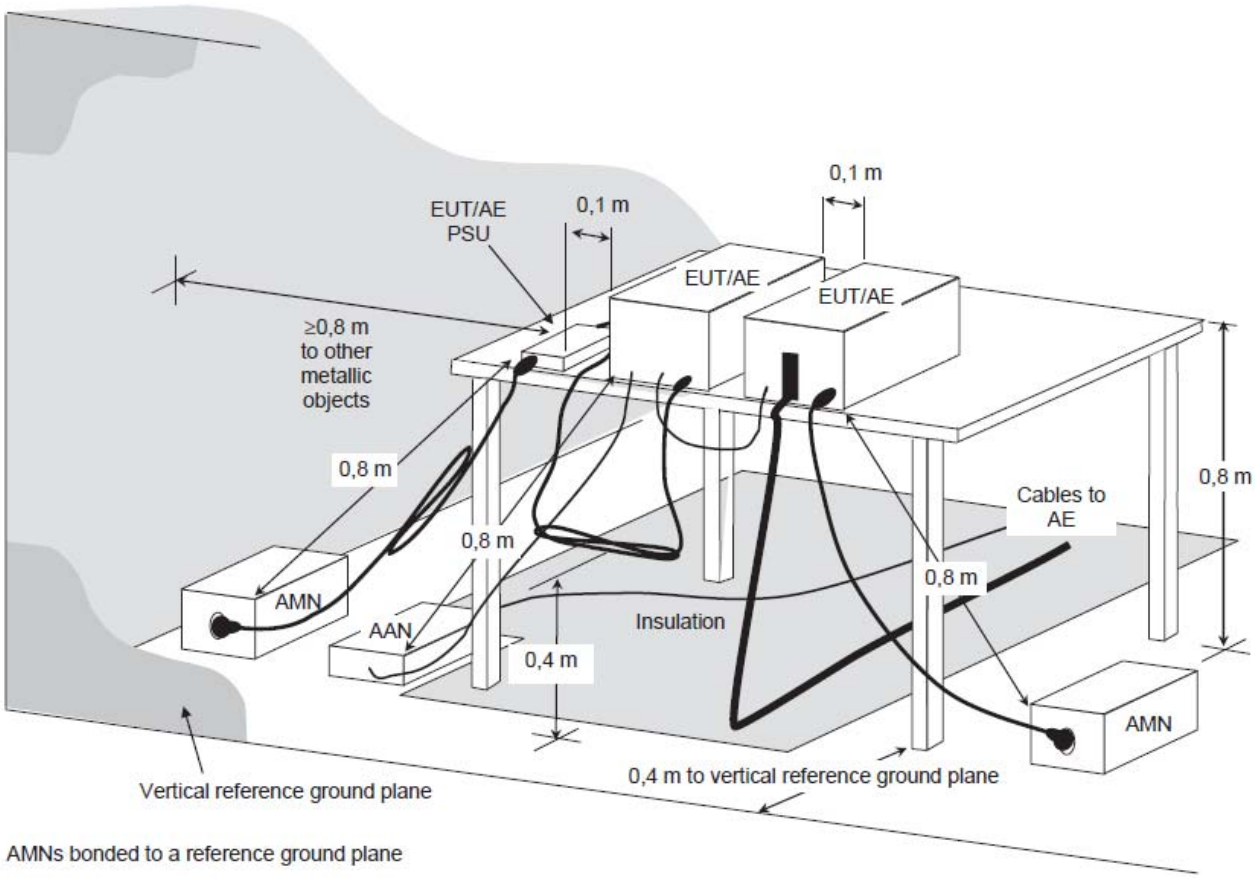


FIGURE 3: CONDUCTED EMISSIONS TEST SETUP



COM-POWER AL-130R

LOOP ANTENNA

S/N: 121090

CALIBRATION DATE: FEBRUARY 5, 2019

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (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

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

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		

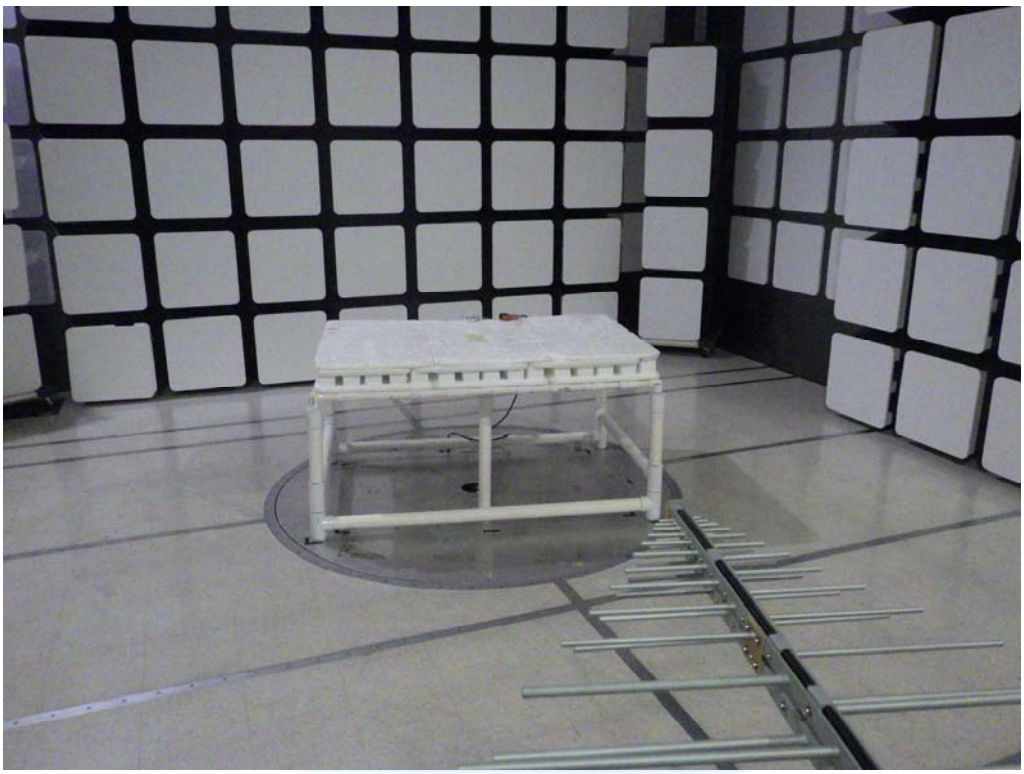
COM-POWER PA-118

PREAMPLIFIER

S/N: 181653

CALIBRATION DATE: JANUARY 25, 2019

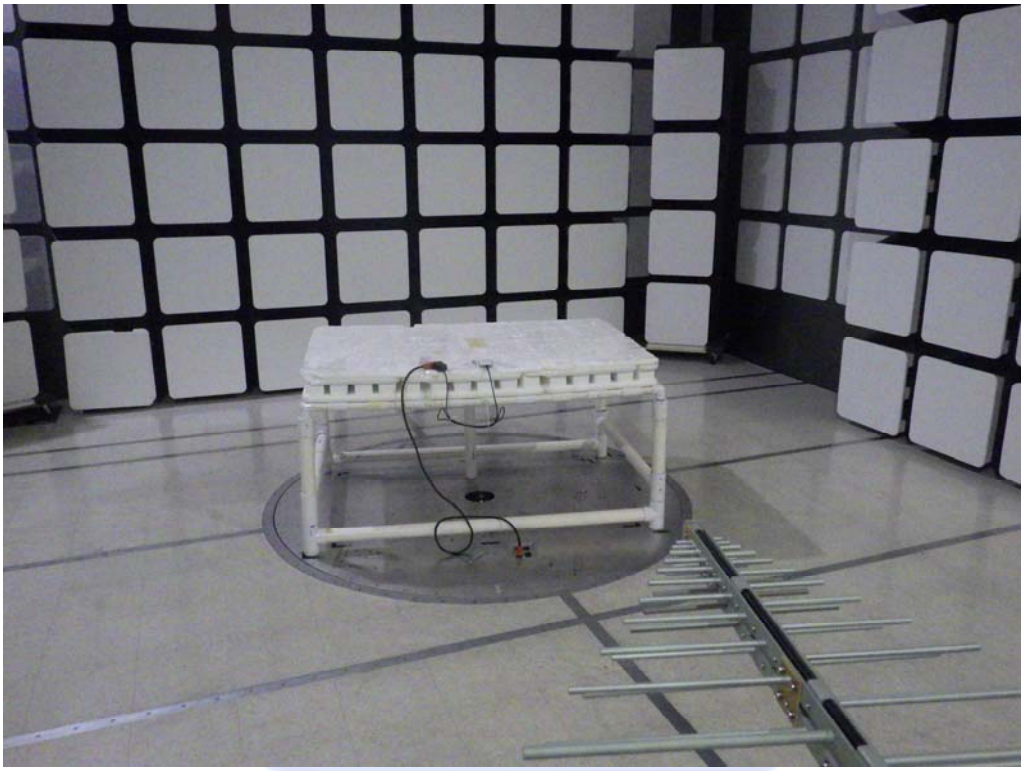
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	40.10	6.0	40.60
1.1	40.10	6.5	39.50
1.2	40.00	7.0	39.40
1.3	39.70	7.5	39.30
1.4	39.60	8.0	39.20
1.5	39.90	8.5	40.50
1.6	40.00	9.0	39.60
1.7	39.70	9.5	39.50
1.8	39.50	10.0	38.80
1.9	39.60	11.0	38.70
2.0	39.90	12.0	42.20
2.5	40.10	13.0	40.00
3.0	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		



FRONT VIEW

TARGUS
SENSOR
MODEL: ACS810
AC MODE
FCC SUBPART B AND C; RSS-247 AND RSS-GEN – RADIATED EMISSIONS – ABOVE 30 MHz

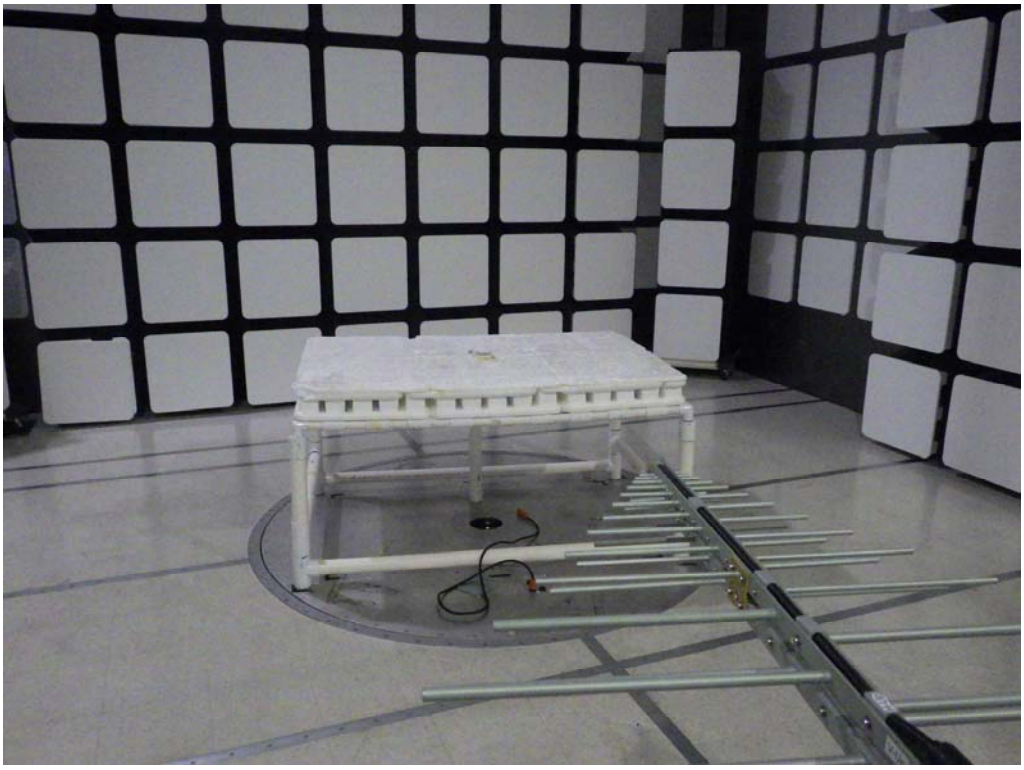
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

TARGUS
SENSOR
MODEL: ACS810
AC MODE
FCC SUBPART B AND C; RSS-247 AND RSS-GEN – RADIATED EMISSIONS – ABOVE 30 MHz

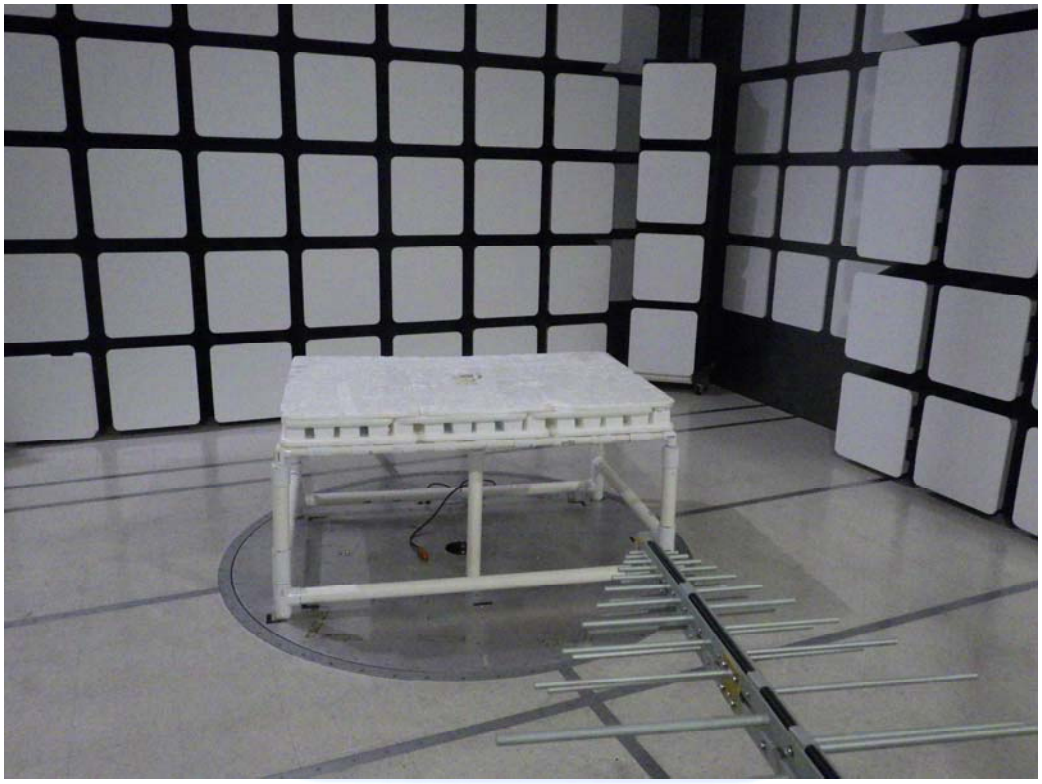
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

TARGUS
SENSOR
MODEL: ACS810
BATTERY MODE
FCC SUBPART B AND C; RSS-247 AND RSS-GEN – RADIATED EMISSIONS – ABOVE 30 MHz

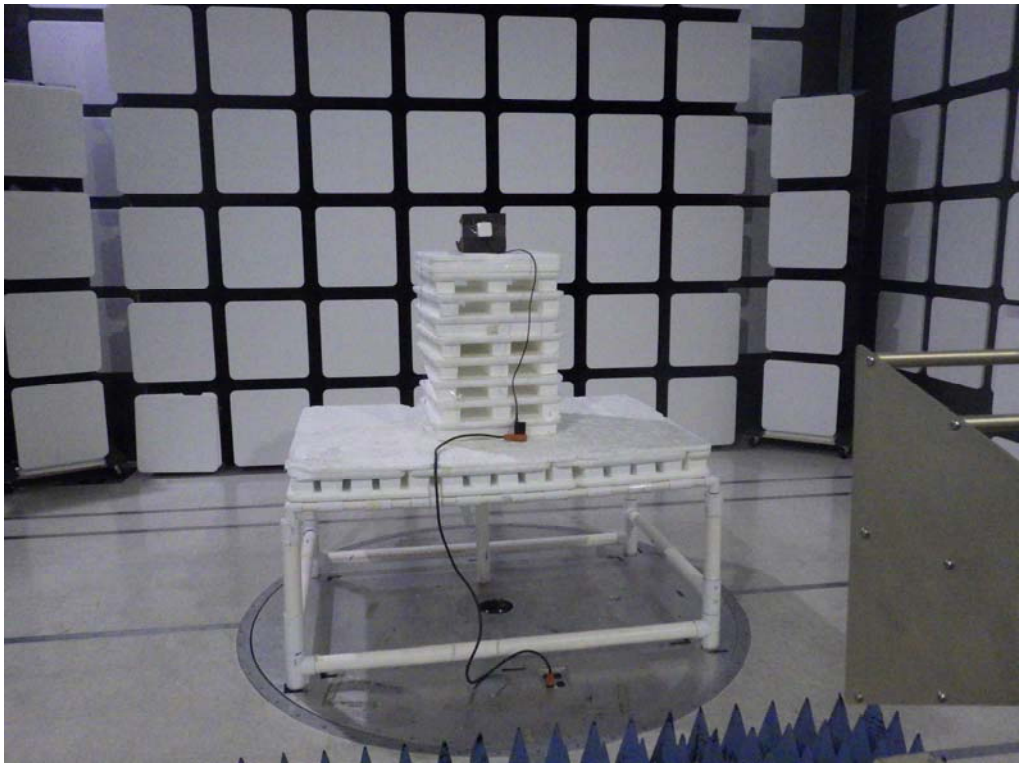
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

TARGUS
SENSOR
MODEL: ACS810
BATTERY MODE
FCC SUBPART B AND C; RSS-247 AND RSS-GEN – RADIATED EMISSIONS – ABOVE 30 MHz

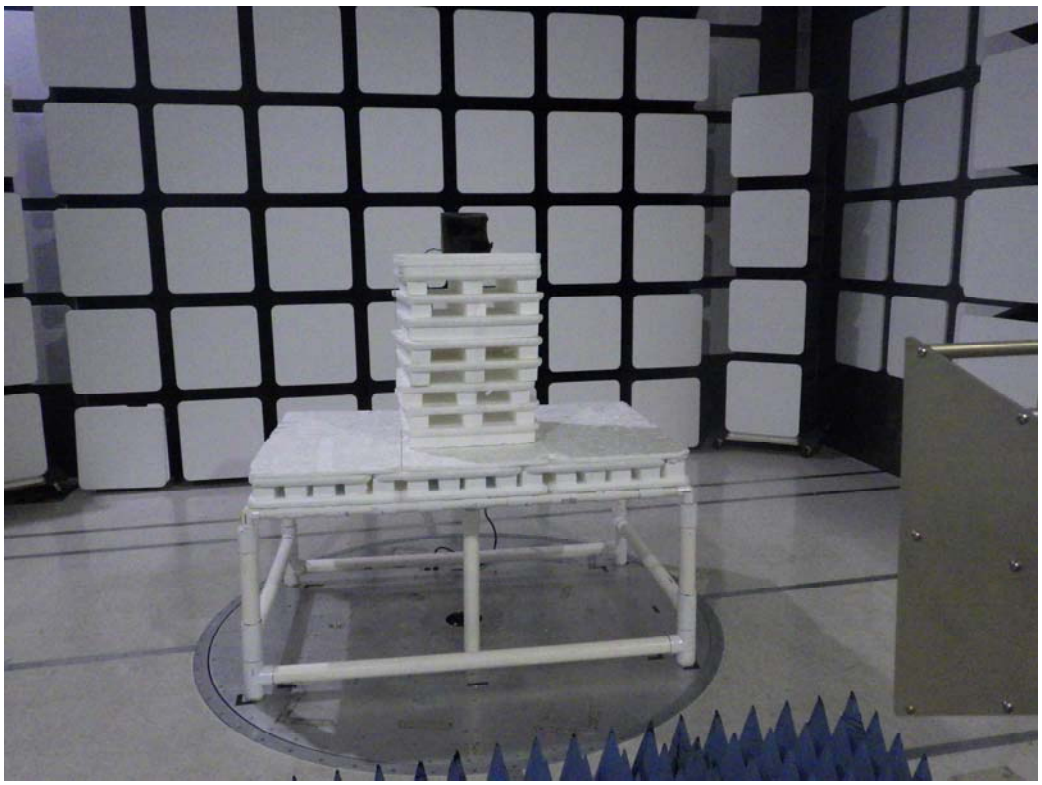
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

TARGUS
SENSOR
MODEL: ACS810
AC MODE
FCC SUBPART B AND C; RSS-247 AND RSS-GEN – RADIATED EMISSIONS – ABOVE 1 GHz

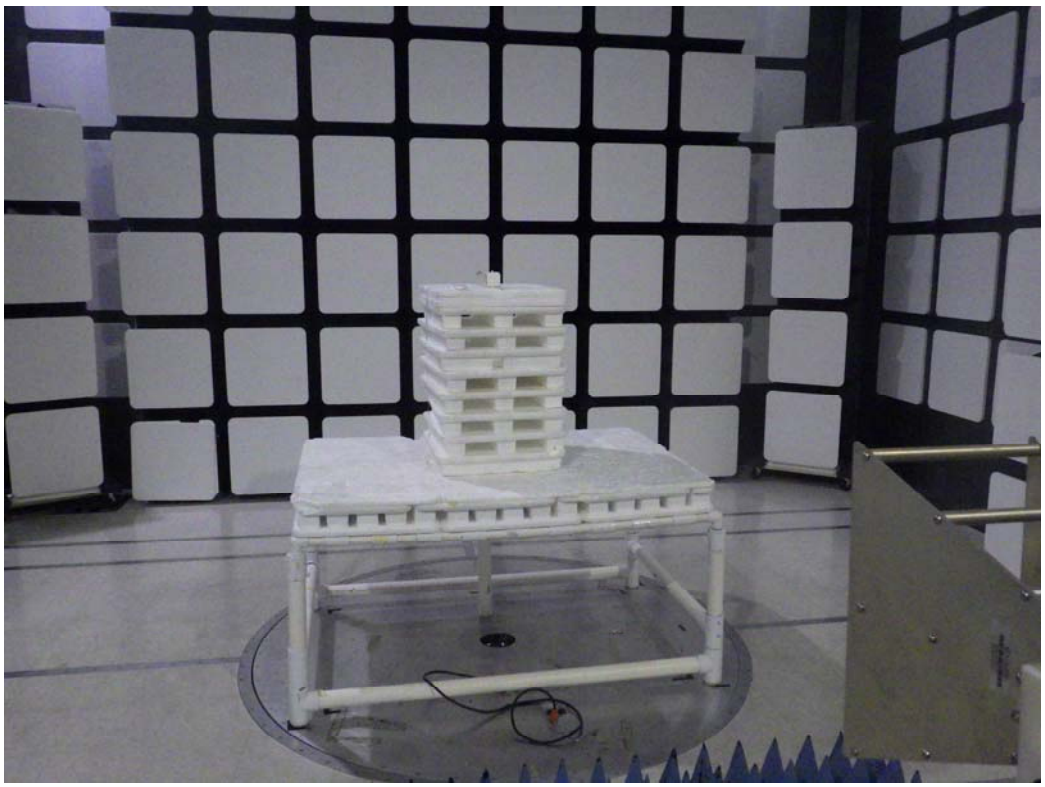
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

TARGUS
SENSOR
MODEL: ACS810
AC MODE
FCC SUBPART B AND C; RSS-247 AND RSS-GEN – RADIATED EMISSIONS – ABOVE 1 GHz

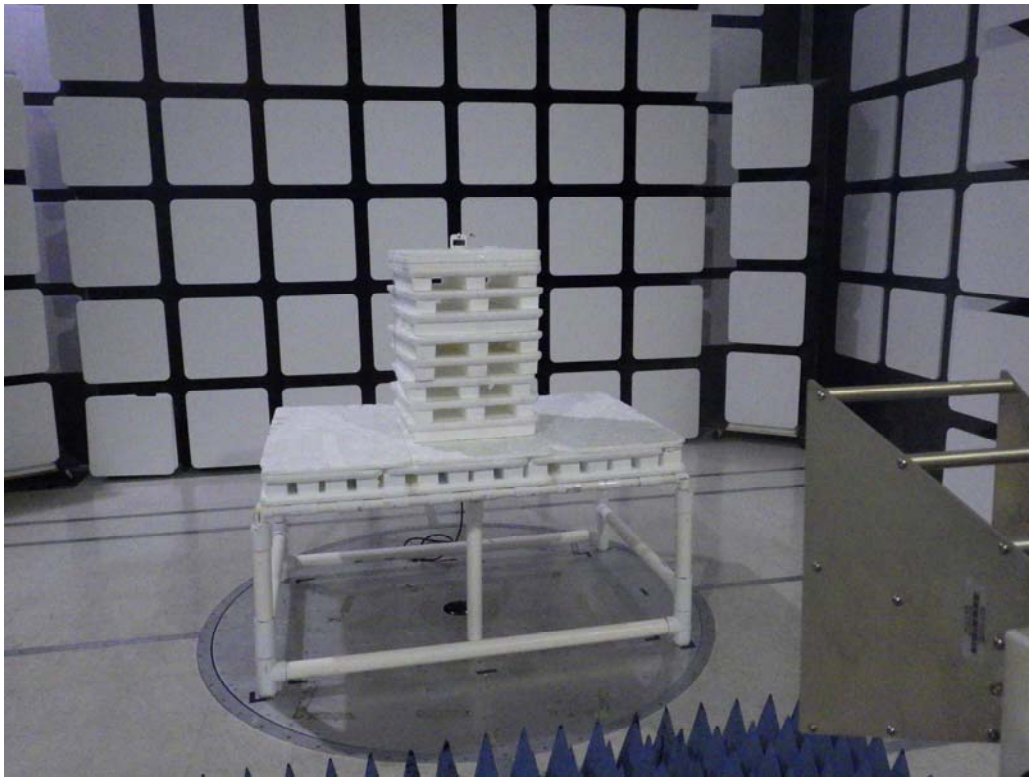
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

TARGUS
SENSOR
MODEL: ACS810
BATTERY MODE
FCC SUBPART B AND C; RSS-247 AND RSS-GEN – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

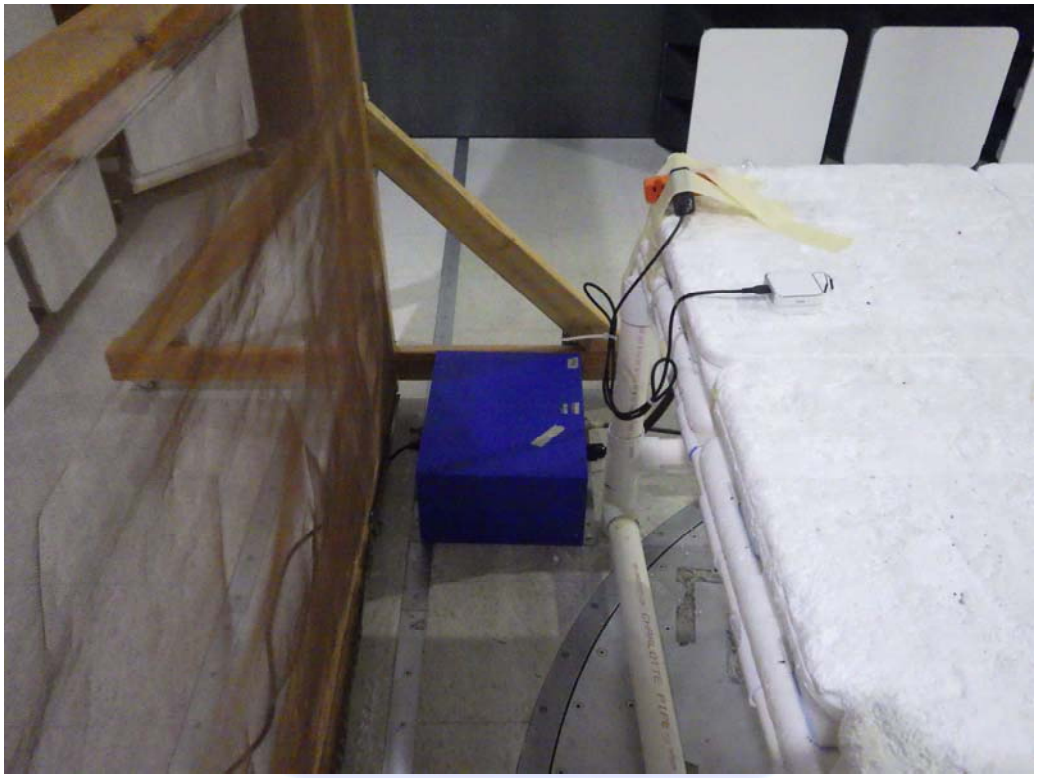
TARGUS
SENSOR
MODEL: ACS810
BATTERY MODE
FCC SUBPART B AND C; RSS-247 AND RSS-GEN – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

TARGUS
SENSOR
MODEL: ACS810
AC MODE
FCC SUBPART B AND C; RSS-GEN – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

TARGUS
SENSOR
MODEL: ACS810
AC MODE
FCC SUBPART B AND C; AND RSS-GEN – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Low Channel
Transmit Mode - X-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	51.45	V	73.97	-22.52	Peak	310.50	135.32	
4804.00	49.75	V	53.97	-4.22	Avg	310.50	135.32	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Low Channel
Transmit Mode - Y-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	51.32	V	73.97	-22.65	Peak	295.25	100.00	
4804.00	46.11	V	53.97	-7.86	Avg	295.25	100.00	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Low Channel
Transmit Mode - Z-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	48.11	V	73.97	-25.86	Peak	285.25	100.00	
4804.00	43.38	V	53.97	-10.59	Avg	285.25	100.00	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Low Channel
Transmit Mode - X-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	52.09	H	73.97	-21.88	Peak	220.50	116.76	
4804.00	47.24	H	53.97	-6.73	Avg	220.50	116.76	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Low Channel
Transmit Mode - Y-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	50.23	H	73.97	-23.74	Peak	296.75	100.00	
4804.00	44.92	H	53.97	-9.05	Avg	296.75	100.00	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Low Channel
Transmit Mode - Z-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	48.79	H	73.97	-25.18	Peak	141.50	100.00	
4804.00	43.55	H	53.97	-10.42	Avg	141.50	100.00	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Middle Channel
Transmit Mode - X-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	53.05	V	73.97	-20.92	Peak	131.75	100.00	
4880.00	48.60	V	53.97	-5.37	Avg	131.75	100.00	
7320.00	47.77	V	73.97	-26.21	Peak	124.00	100.00	
7320.00	38.44	V	53.97	-15.53	Avg	124.00	100.00	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Middle Channel
Transmit Mode - Y-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	53.14	V	73.97	-20.84	Peak	327.75	100.00	
4880.00	48.92	V	53.97	-5.05	Avg	327.75	100.00	
7320.00	46.84	V	73.97	-27.13	Peak	0.00	171.14	
7320.00	37.28	V	53.97	-16.69	Avg	0.00	171.14	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Middle Channel
Transmit Mode - Z-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	51.33	V	73.97	-22.64	Peak	69.50	100.00	
4880.00	46.79	V	53.97	-7.18	Avg	69.50	100.00	
7320.00	46.60	V	73.97	-27.37	Peak	124.00	100.40	
7320.00	35.51	V	53.97	-18.46	Avg	124.00	100.40	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Middle Channel
Transmit Mode - X-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	52.59	H	73.97	-21.38	Peak	163.75	119.80	
4880.00	48.19	H	53.97	-5.78	Avg	163.75	119.80	
7320.00	45.61	H	73.97	-28.37	Peak	299.00	218.85	
7320.00	35.27	H	53.97	-18.70	Avg	299.00	218.85	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Middle Channel
Transmit Mode - Y-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	52.91	H	73.97	-21.06	Peak	290.00	100.00	
4880.00	48.49	H	53.97	-5.48	Avg	290.00	100.00	
7320.00	48.03	H	73.97	-25.94	Peak	119.00	222.67	
7320.00	38.69	H	53.97	-15.28	Avg	119.00	222.67	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - Middle Channel
Transmit Mode - Z-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	50.24	H	73.97	-23.73	Peak	311.00	100.00	
4880.00	45.47	H	53.97	-8.50	Avg	311.00	100.00	
7320.00	46.97	H	73.97	-27.00	Peak	87.00	100.00	
7320.00	36.34	H	53.97	-17.63	Avg	87.00	100.00	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - High Channel
Transmit Mode - X-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	54.64	V	73.97	-19.34	Peak	223.00	137.35	
4960.00	50.58	V	53.97	-3.40	Avg	223.00	137.35	
7440.00	48.07	V	73.97	-25.91	Peak	84.00	100.00	
7440.00	38.06	V	53.97	-15.91	Avg	84.00	100.00	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - High Channel
Transmit Mode - Y-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	54.63	V	73.97	-19.34	Peak	341.75	100.00	
4960.00	50.08	V	53.97	-3.89	Avg	341.75	100.00	
7440.00	47.00	V	73.97	-26.97	Peak	352.75	179.86	
7440.00	36.63	V	53.97	-17.34	Avg	352.75	179.86	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - High Channel
Transmit Mode - Z-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	53.67	V	73.97	-20.30	Peak	203.00	100.00	
4960.00	49.37	V	53.97	-4.60	Avg	203.00	100.00	
7440.00	46.52	V	73.97	-27.45	Peak	130.75	100.00	
7440.00	36.38	V	53.97	-17.59	Avg	130.75	100.00	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - High Channel
Transmit Mode - X-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	54.04	H	73.97	-19.93	Peak	313.25	100.00	
4960.00	49.44	H	53.97	-4.53	Avg	313.25	100.00	
7440.00	46.55	H	73.97	-27.42	Peak	180.50	121.35	
7440.00	35.55	H	53.97	-18.42	Avg	180.50	121.35	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - High Channel
Transmit Mode - Y-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	53.16	H	73.97	-20.81	Peak	231.50	182.25	
4960.00	48.86	H	53.97	-5.11	Avg	231.50	182.25	
7440.00	47.60	H	73.97	-26.37	Peak	90.00	174.07	
7440.00	37.78	H	53.97	-16.19	Avg	90.00	174.07	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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

Harmonics - High Channel
Transmit Mode - Z-Axis
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	53.86	H	73.97	-20.11	Peak	313.25	100.00	
4960.00	49.49	H	53.97	-4.48	Avg	313.25	100.00	
7440.00	46.90	H	73.97	-27.07	Peak	92.25	148.40	
7440.00	36.74	H	53.97	-17.23	Avg	92.25	148.40	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

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
AC Mode

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
								No Emissions Detected
								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

FCC 15.247
Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Low Channel
Transmit Mode - X-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	55.01	V	73.97	-18.96	Peak	119.50	123.80	
4804.00	51.03	V	53.97	-2.94	Avg	119.50	123.80	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Low Channel
Transmit Mode - Y-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	56.27	V	73.97	-17.70	Peak	131.75	100.00	
4804.00	52.33	V	53.97	-1.64	Avg	131.75	100.00	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Low Channel
Transmit Mode - Z-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	53.42	V	73.97	-20.55	Peak	198.25	152.46	
4804.00	49.43	V	53.97	-4.54	Avg	198.25	152.46	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

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Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Low Channel
Transmit Mode - X-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	57.80	H	73.97	-16.17	Peak	97.50	153.05	
4804.00	53.74	H	53.97	-0.23	Avg	97.50	153.05	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

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Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Low Channel
Transmit Mode - Y-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	53.61	H	73.97	-20.36	Peak	19.00	153.00	
4804.00	49.41	H	53.97	-4.57	Avg	19.00	153.00	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

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Harmonics - Low Channel
Transmit Mode - Z-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	56.02	H	73.97	-17.95	Peak	268.25	174.25	
4804.00	52.31	H	53.97	-1.66	Avg	268.25	174.25	
7206.00								**N/A - Not in Restricted Band**
7206.00								**Done Via Conducted**
9608.00								**N/A - Not in Restricted Band**
9608.00								**Done Via Conducted**
12010.00								**No Emission**
12010.00								**Detected**
14412.00								**No Emission**
14412.00								**Detected**
16814.00								**No Emission**
16814.00								**Detected**
19216.00								**No Emission**
19216.00								**Detected**
21618.00								**No Emission**
21618.00								**Detected**
24020.00								**No Emission**
24020.00								**Detected**

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Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Middle Channel
Transmit Mode - X-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	55.31	V	73.97	-18.66	Peak	223.00	152.10	
4880.00	51.38	V	53.97	-2.59	Avg	223.00	152.10	
7320.00	49.14	V	73.97	-24.83	Peak	127.50	100.00	
7320.00	40.90	V	53.97	-13.07	Avg	127.50	100.00	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

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Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Middle Channel
Transmit Mode - Y-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	55.84	V	73.97	-18.13	Peak	130.50	138.73	
4880.00	51.78	V	53.97	-2.20	Avg	130.50	138.73	
7320.00	53.41	V	73.97	-20.57	Peak	139.00	179.32	
7320.00	46.66	V	53.97	-7.31	Avg	139.00	179.32	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

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Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Middle Channel
Transmit Mode - Z-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	50.24	V	73.97	-23.74	Peak	132.50	118.61	
4880.00	45.55	V	53.97	-8.43	Avg	132.50	118.61	
7320.00	47.05	V	73.97	-26.92	Peak	115.50	100.00	
7320.00	37.56	V	53.97	-16.41	Avg	115.50	100.00	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

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Harmonics - Middle Channel
Transmit Mode - X-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	54.12	H	73.97	-19.85	Peak	327.50	100.00	
4880.00	50.09	H	53.97	-3.88	Avg	327.50	100.00	
7320.00	50.51	H	73.97	-23.46	Peak	121.50	100.00	
7320.00	43.25	H	53.97	-10.72	Avg	121.50	100.00	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247
Targus
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Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Middle Channel
Transmit Mode - Y-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	53.33	H	73.97	-20.64	Peak	227.50	119.02	
4880.00	48.20	H	53.97	-5.77	Avg	227.50	119.02	
7320.00	50.65	H	73.97	-23.33	Peak	23.75	190.49	
7320.00	43.18	H	53.97	-10.79	Avg	23.75	190.49	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

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Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - Middle Channel
Transmit Mode - Z-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	53.49	H	73.97	-20.48	Peak	194.50	129.35	
4880.00	49.19	H	53.97	-4.78	Avg	194.50	129.35	
7320.00	50.97	H	73.97	-23.00	Peak	268.50	129.41	
7320.00	43.84	H	53.97	-10.13	Avg	268.50	129.41	
9760.00								**N/A - Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00								**No Emission**
12200.00								**Detected**
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - High Channel
Transmit Mode - X-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	57.56	V	73.97	-16.41	Peak	321.50	173.29	
4960.00	53.61	V	53.97	-0.36	Avg	321.50	173.29	
7440.00	48.79	V	73.97	-25.18	Peak	113.00	100.00	
7440.00	40.55	V	53.97	-13.42	Avg	113.00	100.00	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - High Channel
Transmit Mode - Y-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	52.93	V	73.97	-21.04	Peak	137.50	120.88	
4960.00	47.59	V	53.97	-6.38	Avg	137.50	120.88	
7440.00	51.49	V	73.97	-22.48	Peak	129.75	171.44	
7440.00	44.35	V	53.97	-9.62	Avg	129.75	171.44	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - High Channel
Transmit Mode - Z-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	48.53	V	73.97	-25.44	Peak	217.75	100.00	
4960.00	41.98	V	53.97	-12.00	Avg	217.75	100.00	
7440.00	48.30	V	73.97	-25.67	Peak	152.25	100.00	
7440.00	37.82	V	53.97	-16.15	Avg	152.25	100.00	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - High Channel
Transmit Mode - X-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	56.98	H	73.97	-16.99	Peak	319.25	124.34	
4960.00	53.02	H	53.97	-0.95	Avg	319.25	124.34	
7440.00	49.67	H	73.97	-24.30	Peak	105.25	185.47	
7440.00	40.80	H	53.97	-13.17	Avg	105.25	185.47	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - High Channel
Transmit Mode - Y-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	54.25	H	73.97	-19.72	Peak	197.25	100.00	
4960.00	49.72	H	53.97	-4.26	Avg	197.25	100.00	
7440.00	47.98	H	73.97	-25.99	Peak	72.25	200.94	
7440.00	37.77	H	53.97	-16.20	Avg	72.25	200.94	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247
Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Harmonics - High Channel
Transmit Mode - Z-Axis
Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	56.40	H	73.97	-17.57	Peak	42.25	200.76	
4960.00	52.47	H	53.97	-1.50	Avg	42.25	200.76	
7440.00	49.37	H	73.97	-24.61	Peak	241.50	125.00	
7440.00	39.86	H	53.97	-14.11	Avg	241.50	125.00	
9920.00								**N/A - Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00								**No Emission**
12400.00								**Detected**
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247

Targus
Sensor
Model: ACS810

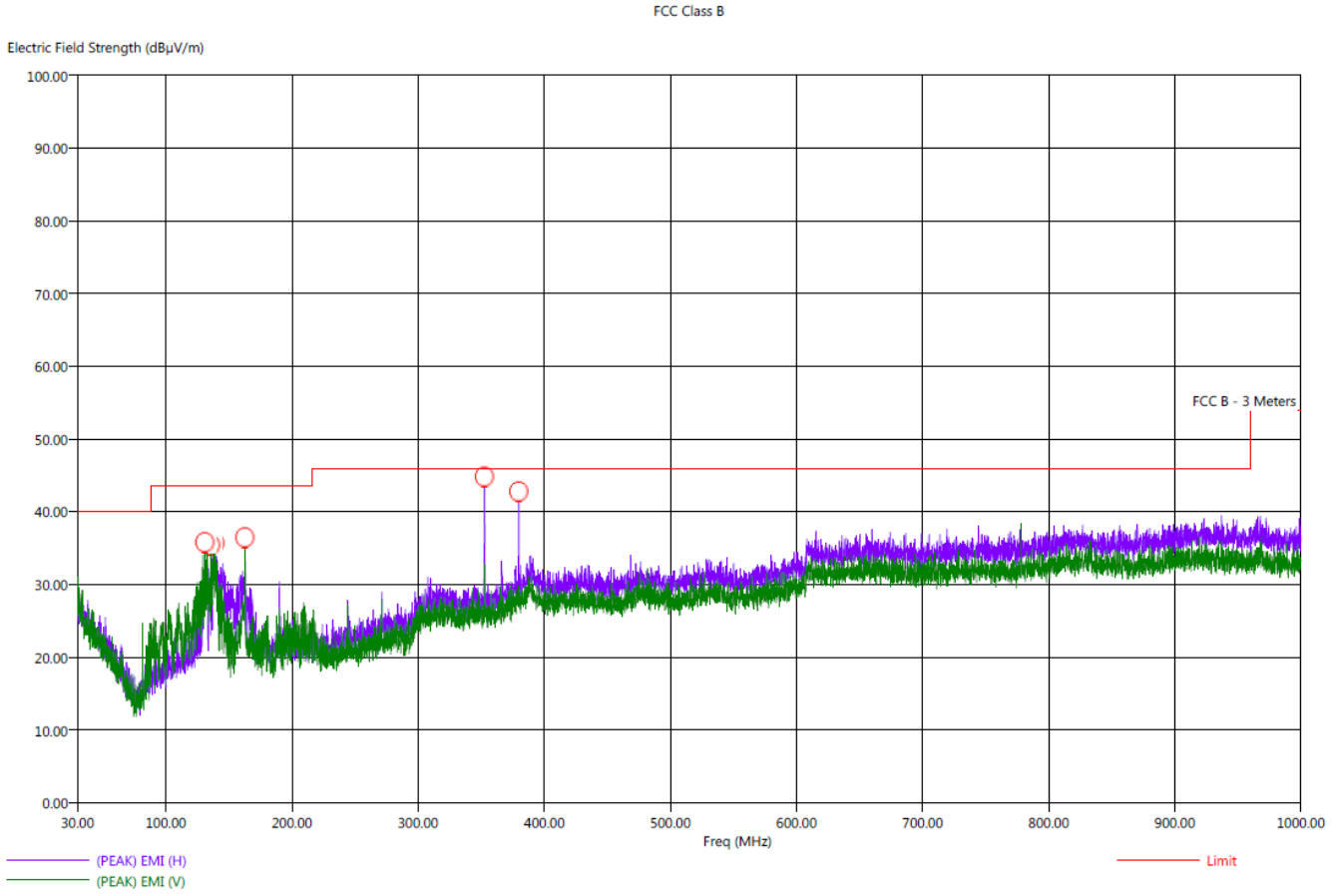
Date: 08/26/2019
Lab: D
Tested By: Harvey Samaco

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
Battery Power

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
								No Emissions Detected
								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

Title: Pre-Scan - FCC Class B
File: 3 - Agilent - Pre-Scan - Low Ch - AC mode - FCC Class B - 30 MHz to 1000 MHz - Edge of table - New cable.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A
AC mode

8/28/2019 10:47:07 AM
Sequence: Preliminary Scan



Title: Radiated Final - FCC Class B
File: 3 - Agilent - Final-Scan - Low Ch - AC mode - FCC Class B - 30 MHz to 1000 MHz - Edge of table - New cable.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A
AC mode

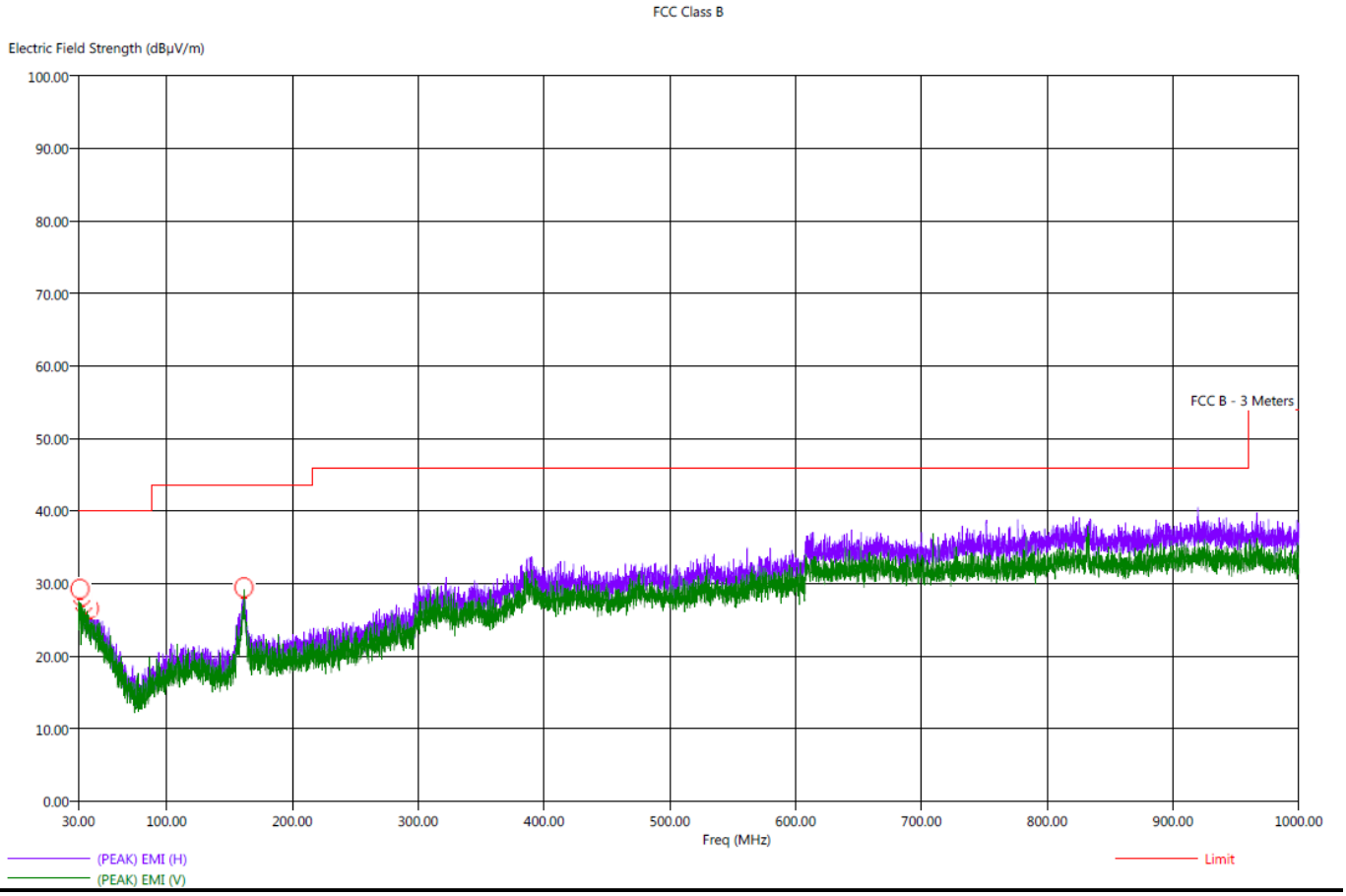
8/28/2019 10:55:50 AM
Sequence: Final Measurements

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)
130.80	V	37.53	32.72	-5.97	-10.78	43.50	15.60	1.23	280.50	111.38
135.60	H	37.25	34.46	-6.25	-9.04	43.50	15.14	1.24	348.75	270.43
138.80	H	36.55	32.77	-6.95	-10.73	43.50	14.90	1.26	0.00	174.91
162.70	V	39.87	38.55	-3.63	-4.95	43.50	20.00	1.30	24.25	111.20
352.60	H	45.93	45.19	-0.07	-0.81	46.00	19.50	1.91	359.00	111.38
379.70	H	43.98	42.79	-2.02	-3.21	46.00	21.77	2.02	2.50	111.26

Title: Pre-Scan - FCC Class B
File: 2 - Agilent - Pre-Scan - Low Ch - Battery - FCC Class B - 30 MHz to 1000 MHz - Center of table.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A
Battery

8/28/2019 11:24:32 AM
Sequence: Preliminary Scan



Title: Radiated Final - FCC Class B
File: 2 - Agilent - Final-Scan - Low Ch - Battery - FCC Class B - 30 MHz to 1000 MHz - Center of table.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A
Battery

8/28/2019 11:33:37 AM
Sequence: Final Measurements

FCC Class B

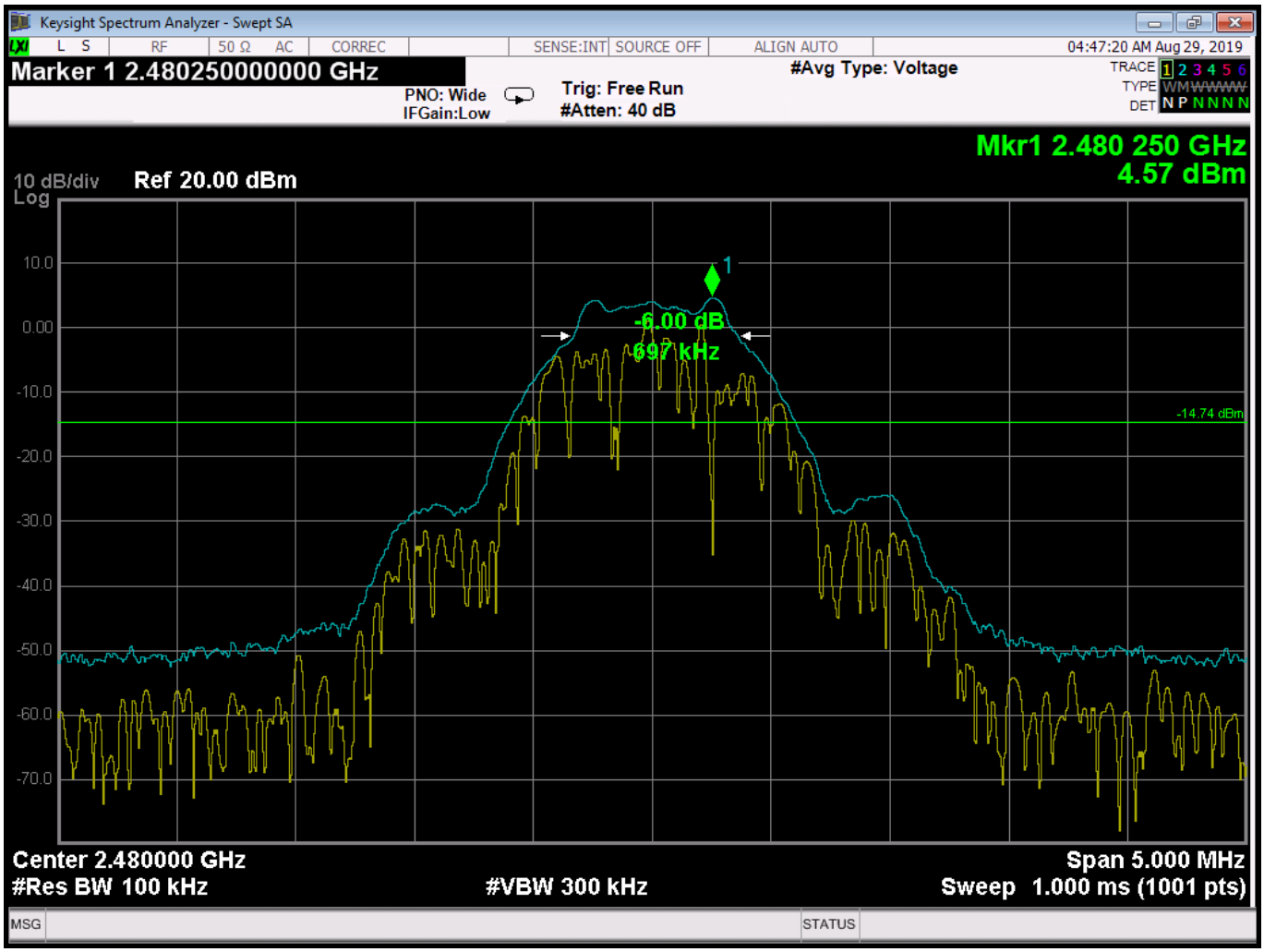
Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
31.30	H	30.27	24.40	-9.73	-15.60	40.00	21.66	0.82	198.75	365.89
32.60	H	29.58	24.19	-10.42	-15.81	40.00	21.52	0.83	63.75	350.31
34.10	H	29.34	24.06	-10.66	-15.94	40.00	21.14	0.84	105.00	111.20
35.20	H	28.61	23.32	-11.39	-16.68	40.00	20.77	0.86	241.25	222.85
38.70	H	28.26	22.66	-11.74	-17.34	40.00	20.17	0.89	68.25	286.19
161.60	H	31.23	25.87	-12.27	-17.63	43.50	22.07	1.30	201.25	222.79

-6 dB BANDWIDTH

DATA SHEETS

-6 dB Bandwidth – Low Channel

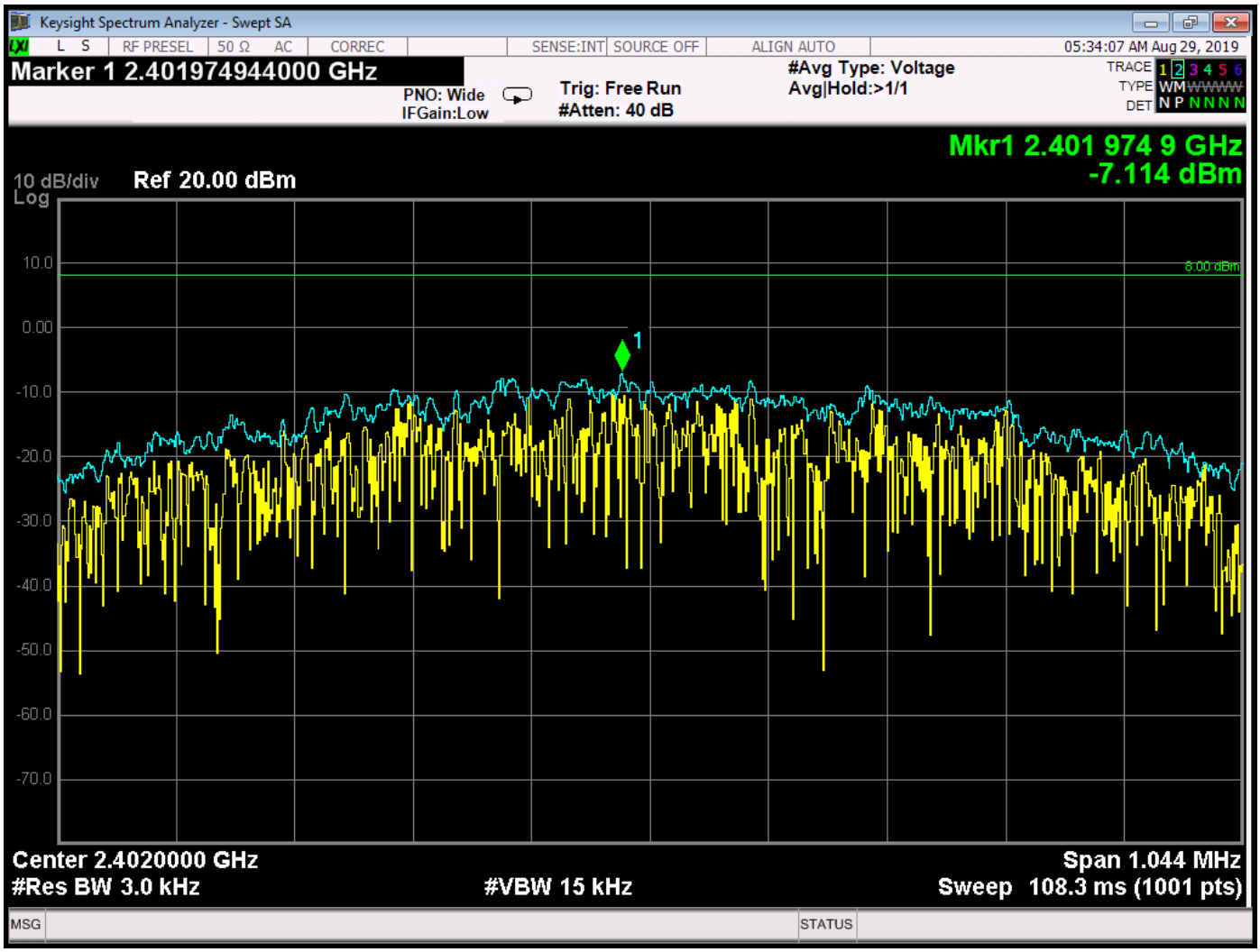
-6 dB Bandwidth – Middle Channel



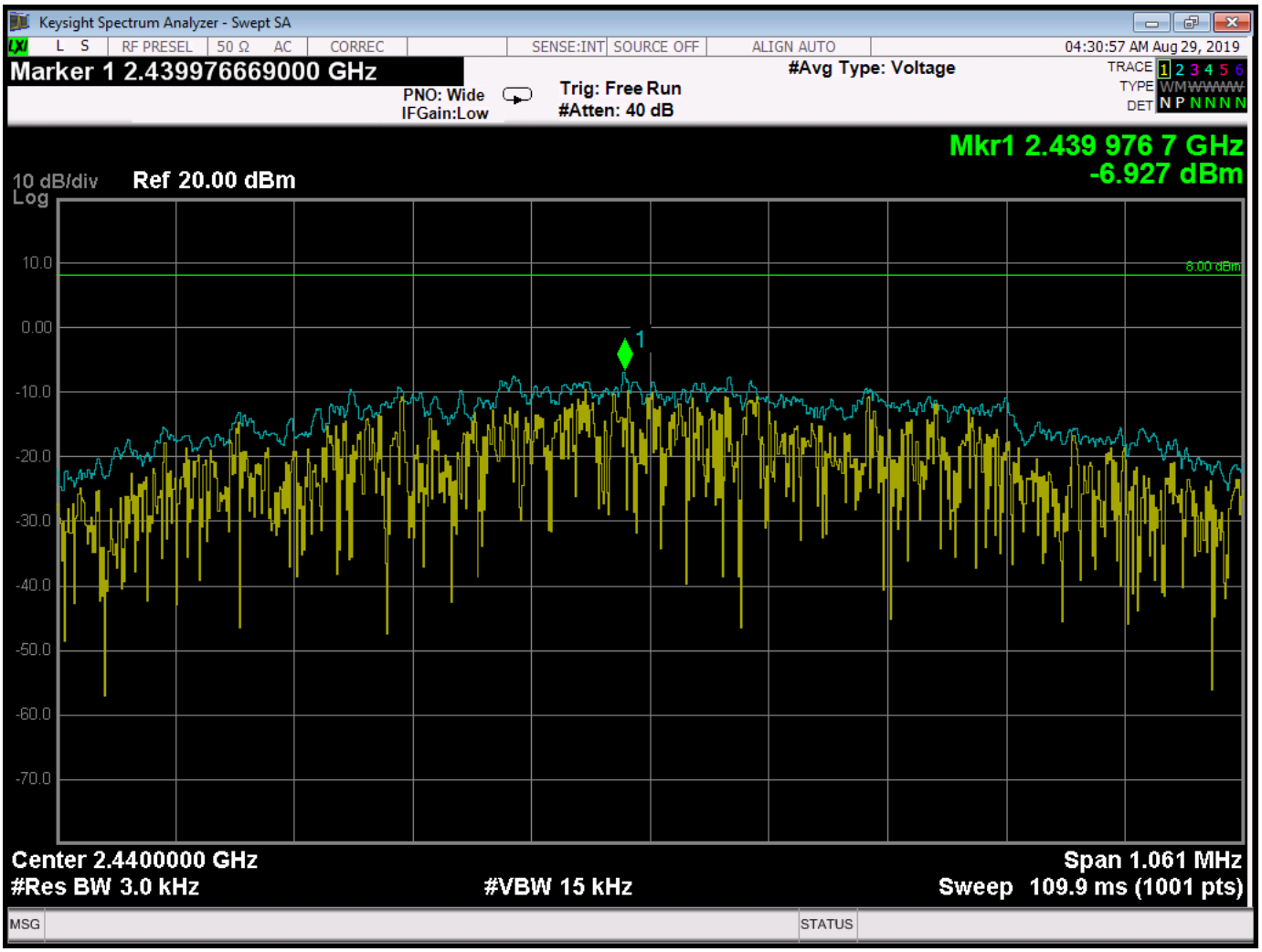
-6 dB Bandwidth – High Channel

SPECTRAL DENSITY OUTPUT

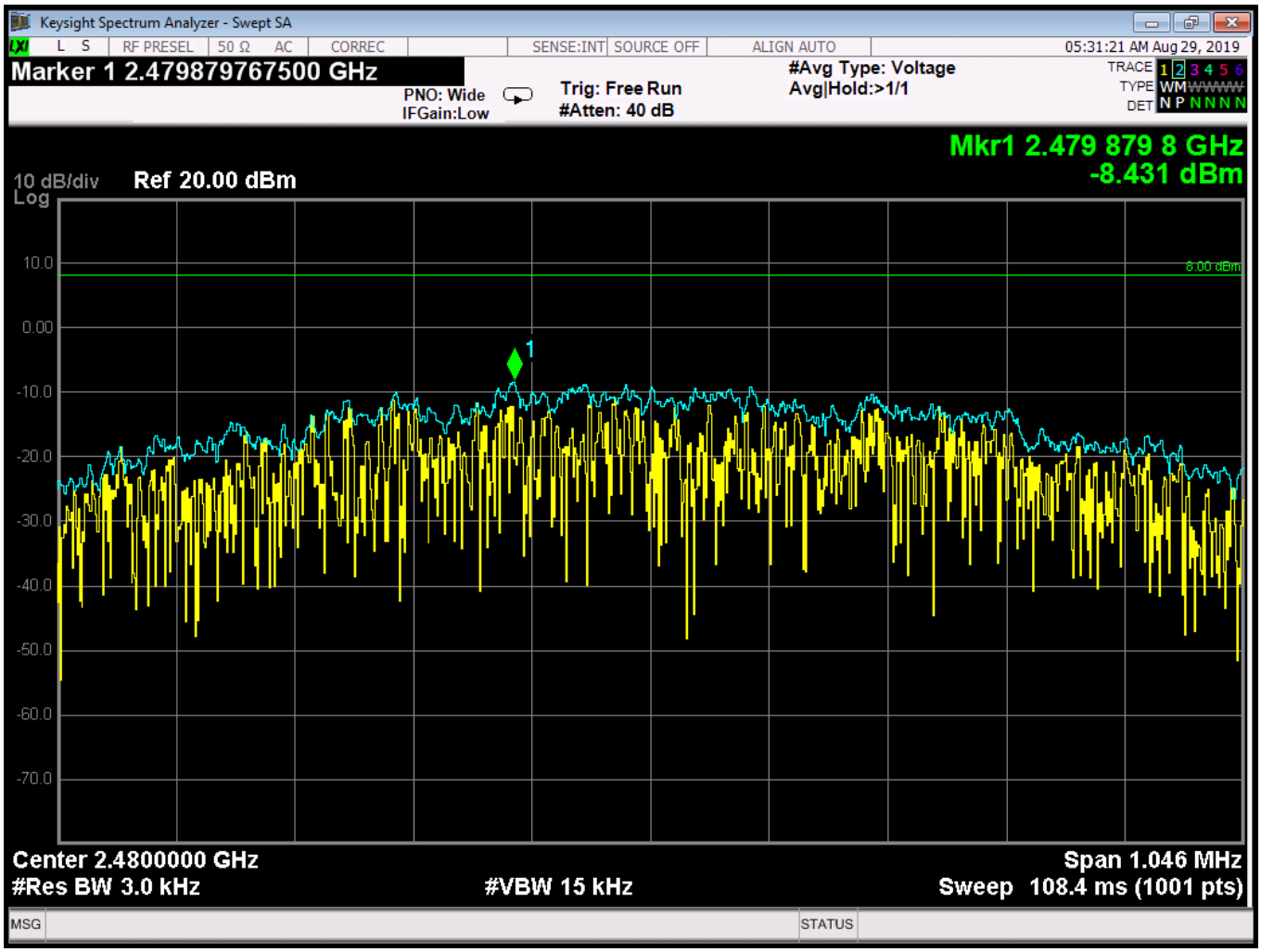
DATA SHEETS



Spectral Density – Low Channel



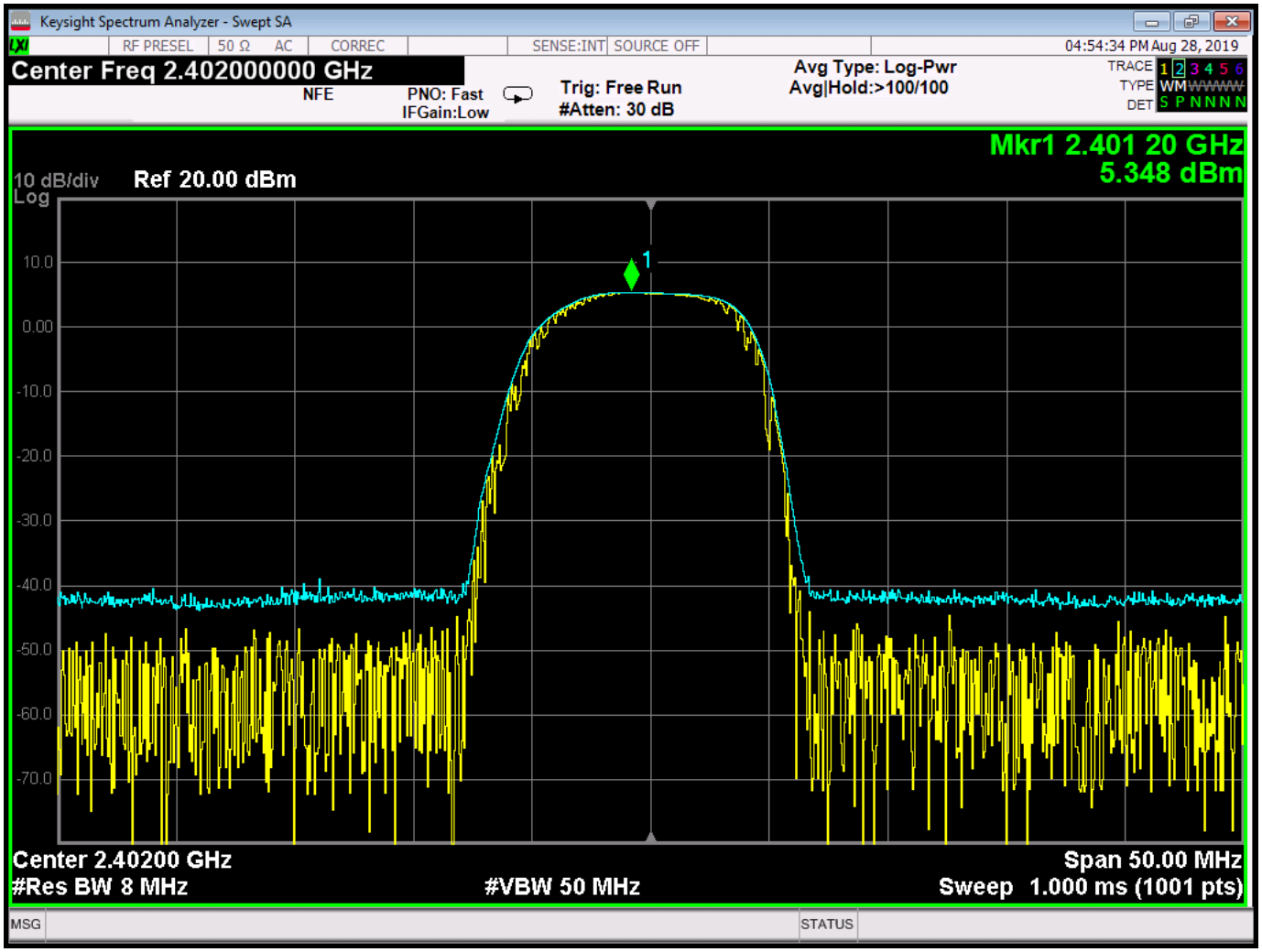
Spectral Density – Middle Channel



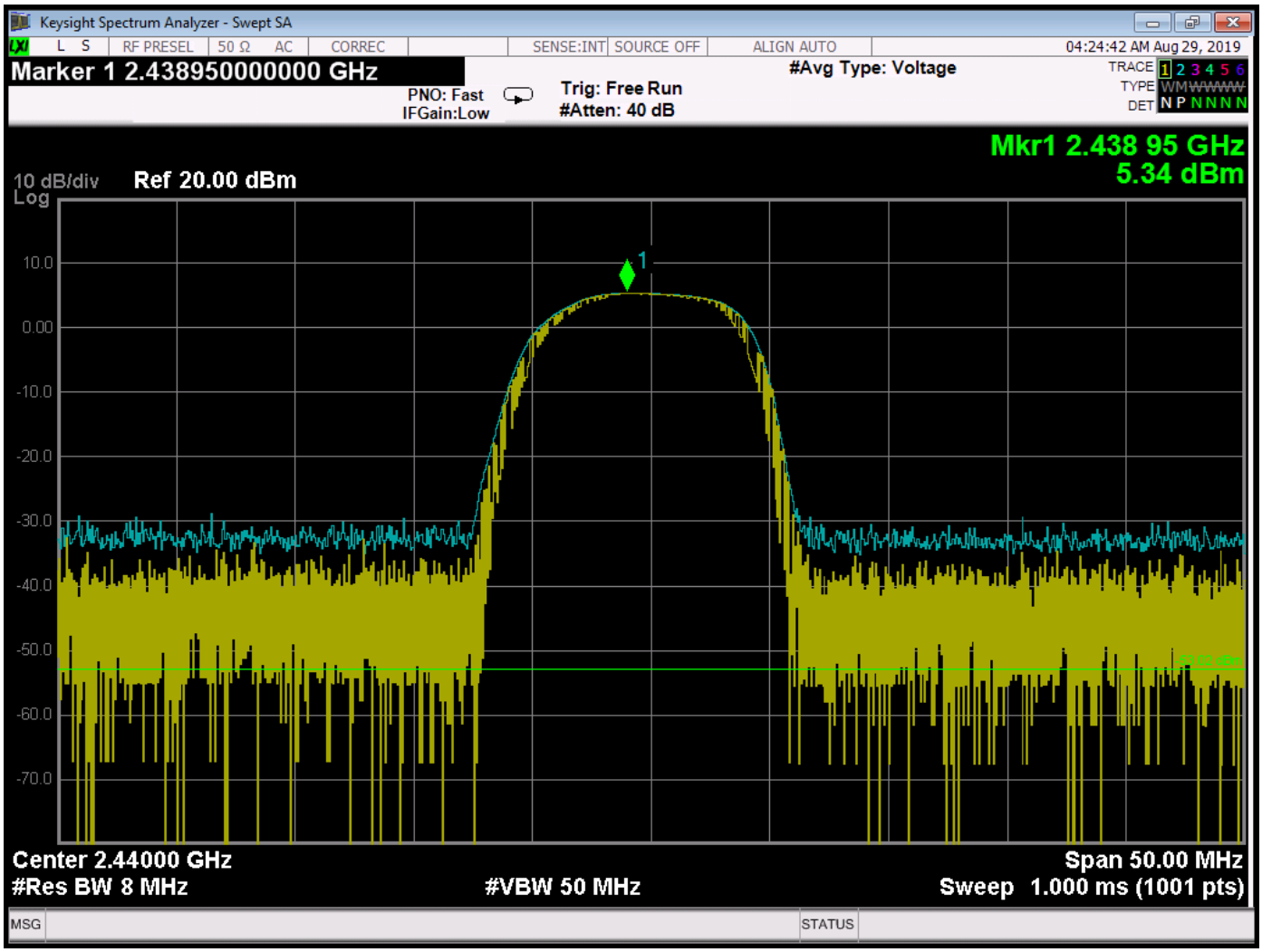
Spectral Density – High Channel

PEAK OUTPUT POWER

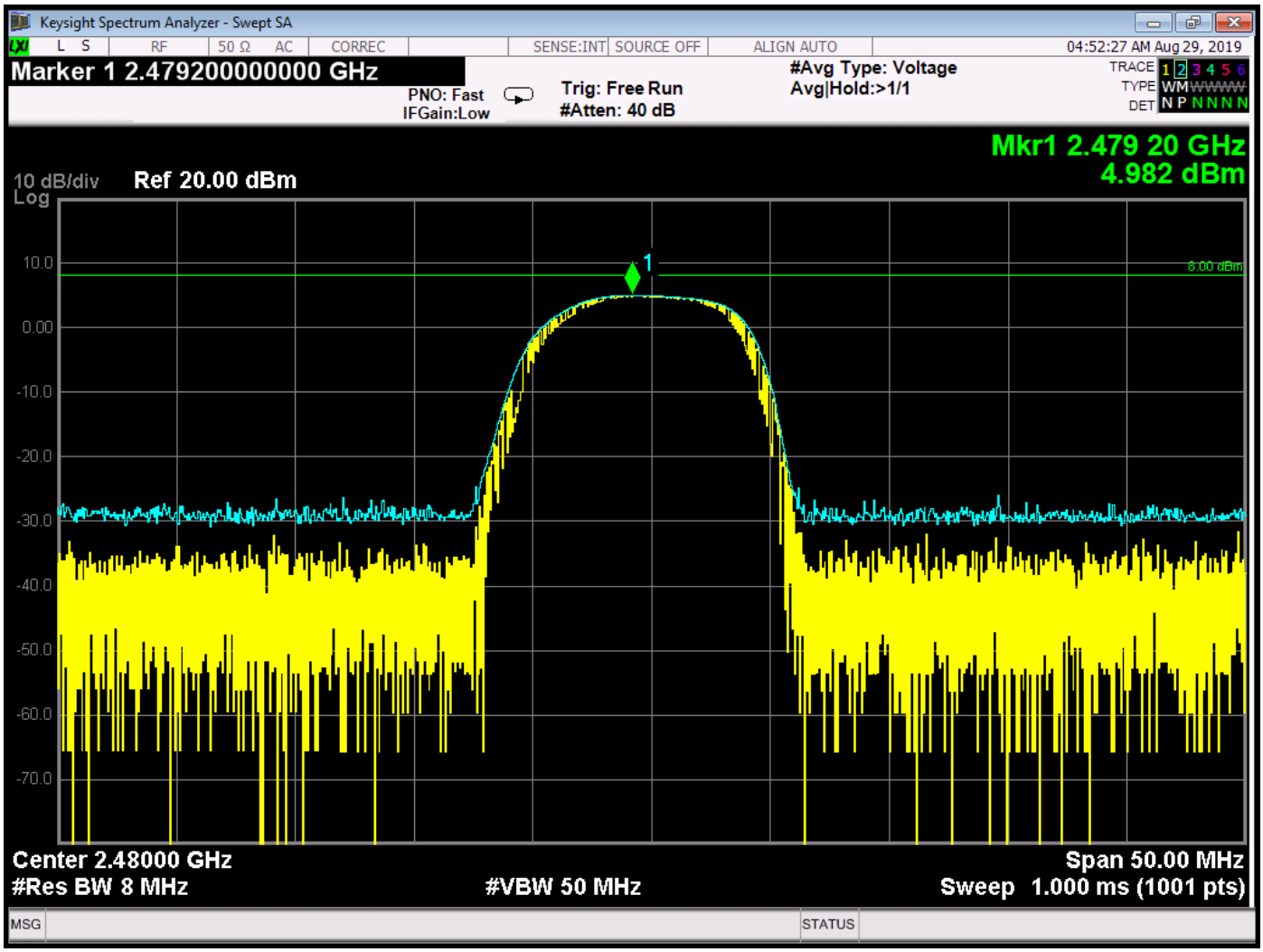
DATA SHEETS



Peak Output Power – Low Channel



Peak Output Power – Middle Channel



Peak Output Power – High Channel

BAND EDGES

DATA SHEETS

FCC 15.247

Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Kyle Fujimoto

Band Edges - BLE Mode
Lower Band Edge - AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2402.00	94.77	H	--	--	Peak	146.50	102.25	**Fundamental**
2402.00	94.06	H	--	--	Avg	146.50	102.25	**Z-Axis worst Case**
2390.00	44.23	H	73.97	-29.74	Peak	146.50	102.25	**Band Edge**
2390.00	26.96	H	53.97	-27.01	Avg	146.50	102.25	**Z-Axis worst Case**
2402.00	95.78	V	--	--	Peak	150.75	155.86	**Fundamental**
2402.00	95.06	V	--	--	Avg	150.75	155.86	**Y-Axis Worst Case**
2390.00	43.43	V	73.97	-30.54	Peak	150.75	155.86	**Band Edge**
2390.00	26.55	V	53.97	-27.42	Avg	150.75	155.86	**Y-Axis Worst Case**

FCC 15.247

Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Kyle Fujimoto

Band Edges - BLE Mode
Upper Band Edge - AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480.00	94.97	H	--	--	Peak	203.00	155.54	**Fundamental**
2480.00	94.24	H	--	--	Avg	203.00	155.54	**X-Axis Worst Case**
2483.50	43.73	H	73.97	-30.24	Peak	203.00	155.54	**Band Edge**
2483.50	20.51	H	53.97	-33.46	Avg	203.00	155.54	**X-Axis Worst Case**
2480.00	89.58	V	--	--	Peak	125.30	153.54	**Fundamental**
2480.00	88.86	V	--	--	Avg	125.30	153.54	**Y-Axis Worst Case**
2483.50	39.10	V	73.97	-34.87	Peak	125.30	153.54	**Band Edge**
2483.50	17.76	V	53.97	-36.21	Avg	125.30	153.54	**Y-Axis Worst Case**

FCC 15.247

Targus
Sensor
Model: ACS810

Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Band Edges - BLE Mode
Lower Band Edge - Battery

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2402.00	88.86	H	--	--	Peak	136.75	177.17	**Fundamental**
2402.00	88.13	H	--	--	Avg	136.75	177.17	**X-Axis Worst Case**
2390.00	40.29	H	73.97	-33.68	Peak	136.75	177.17	**Band Edge**
2390.00	18.53	H	53.97	-35.44	Avg	136.75	177.17	**X-Axis Worst Case**
2402.00	87.13	V	--	--	Peak	140.75	201.29	**Fundamental**
2402.00	86.39	V	--	--	Avg	140.75	201.29	**Y-Axis Worst Case**
2390.00	40.64	V	73.97	-33.33	Peak	140.75	201.29	**Band Edge**
2390.00	18.08	V	53.97	-35.89	Avg	140.75	201.29	**Y-Axis Worst Case**

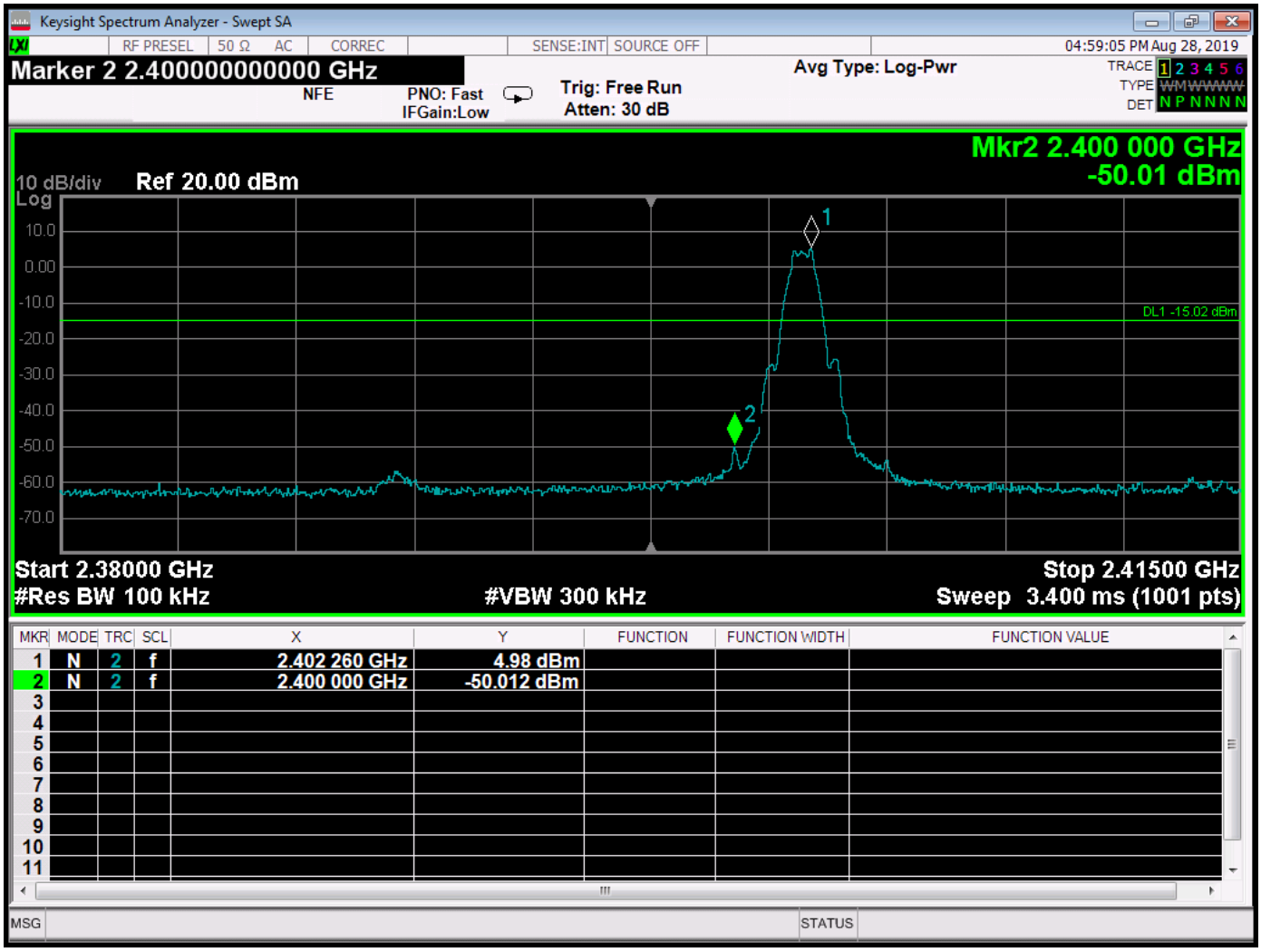
FCC 15.247

Targus
Sensor
Model: ACS810

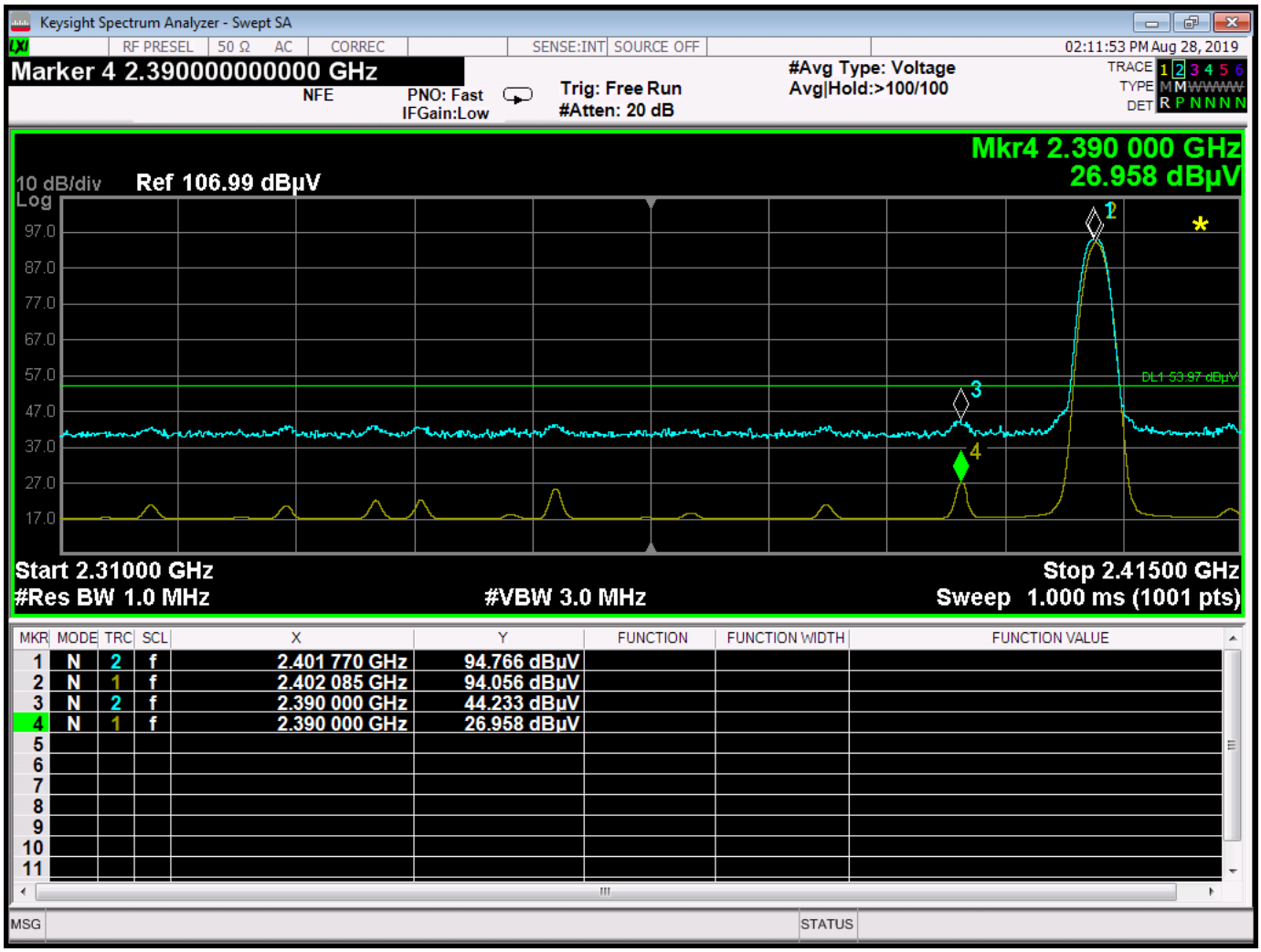
Date: 08/27/2019
Lab: D
Tested By: Harvey Samaco

Band Edges - BLE Mode
Upper Band Edge - Battery

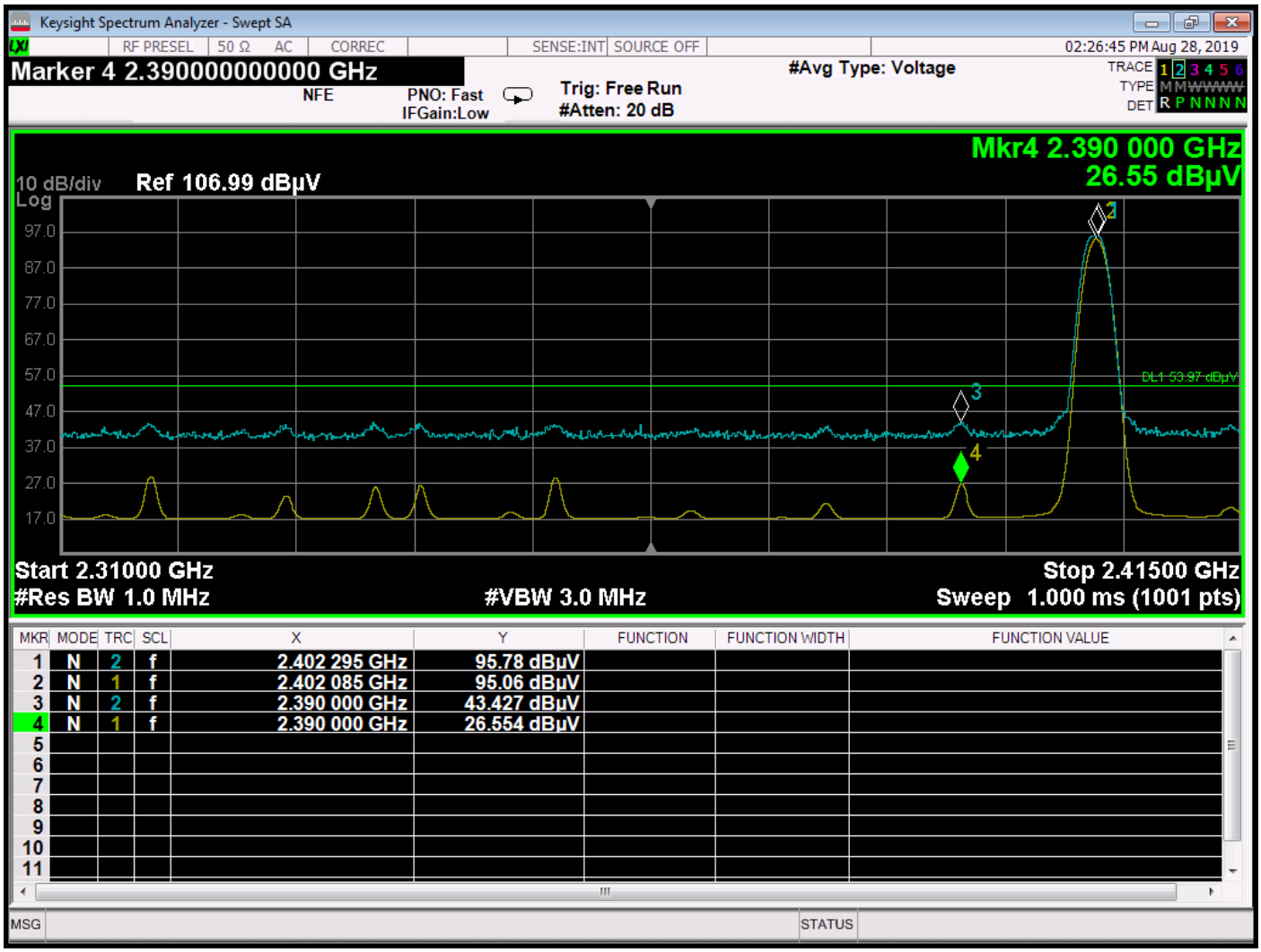
Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480.00	86.83	H	--	--	Peak	282.50	145.47	**Fundamental**
2480.00	86.08	H	--	--	Avg	282.50	145.47	**Z-Axis Worst Case**
2483.50	39.98	H	73.97	-33.99	Peak	282.50	145.47	**Band Edge**
2483.50	17.19	H	53.97	-36.78	Avg	282.50	145.47	**Z-Axis Worst Case**
2480.00	88.10	V	--	--	Peak	136.75	153.59	**Fundamental**
2480.00	87.37	V	--	--	Avg	136.75	153.59	**Y-Axis Worst Case**
2483.50	40.73	V	73.97	-33.24	Peak	136.75	153.59	**Band Edge**
2483.50	17.41	V	53.97	-36.57	Avg	136.75	153.59	**Y-Axis Worst Case**



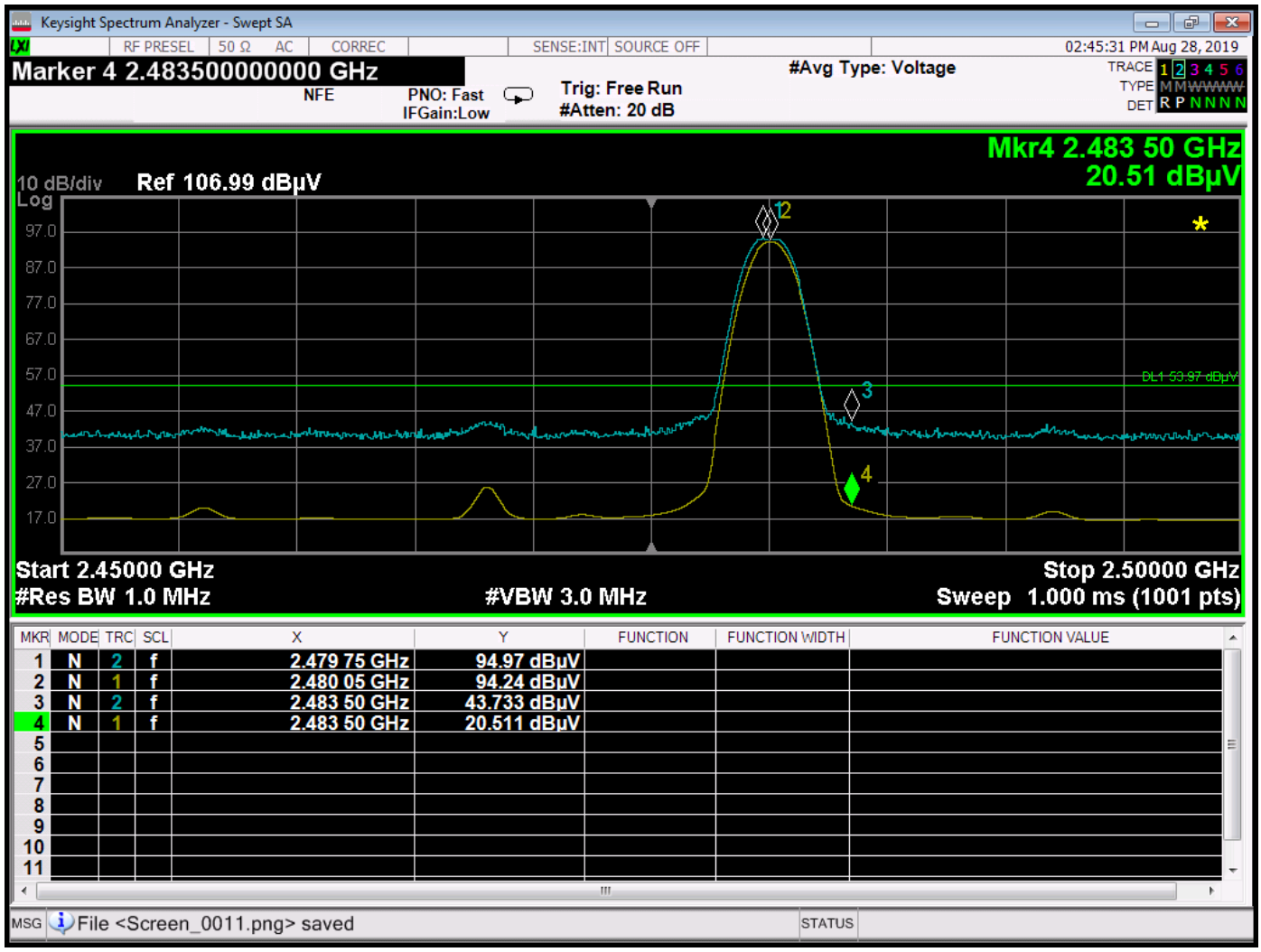
Band Edges – Low channel – 2400 MHz – Conducted



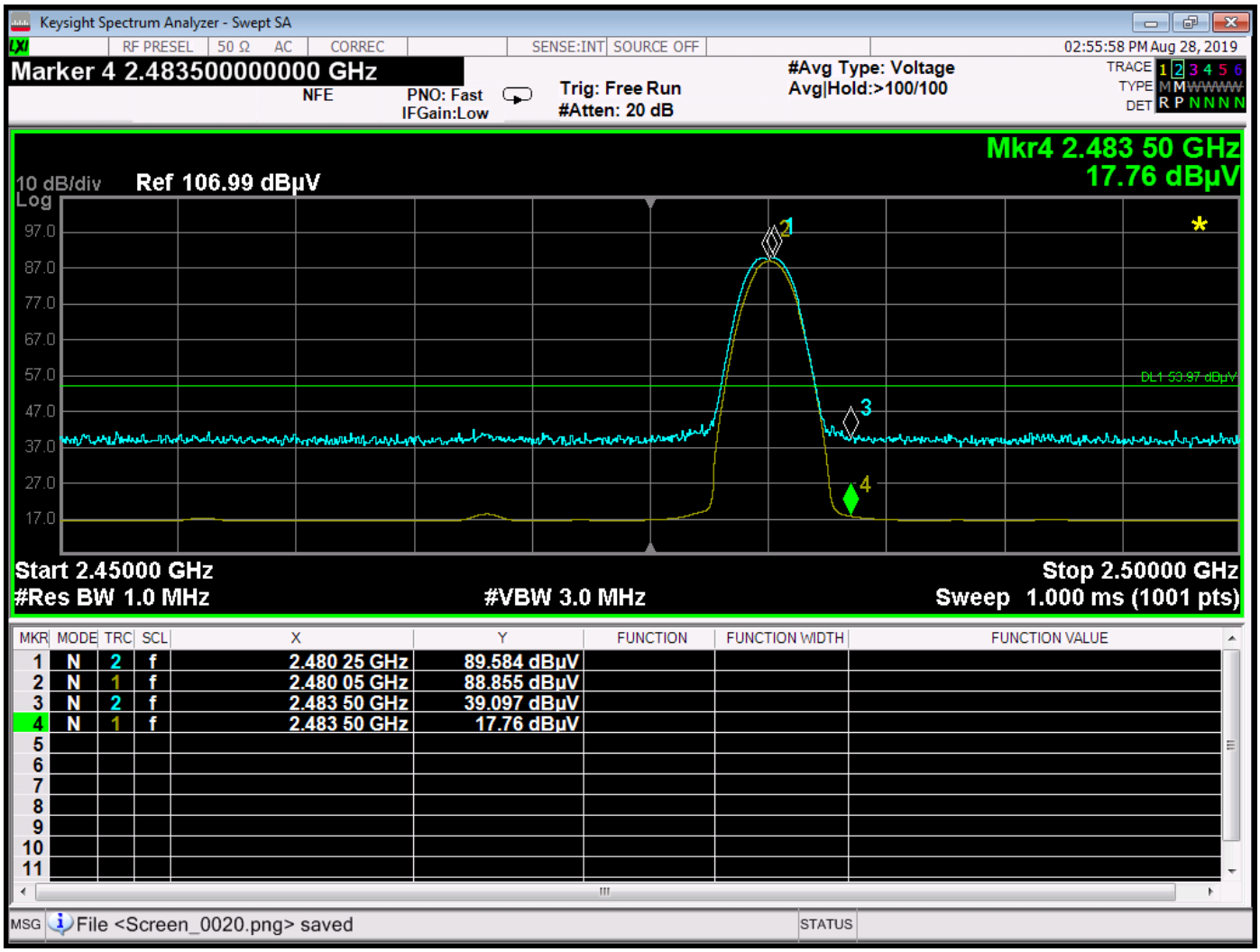
Band Edges – Low channel – Horizontal – Z-axis – AC mode



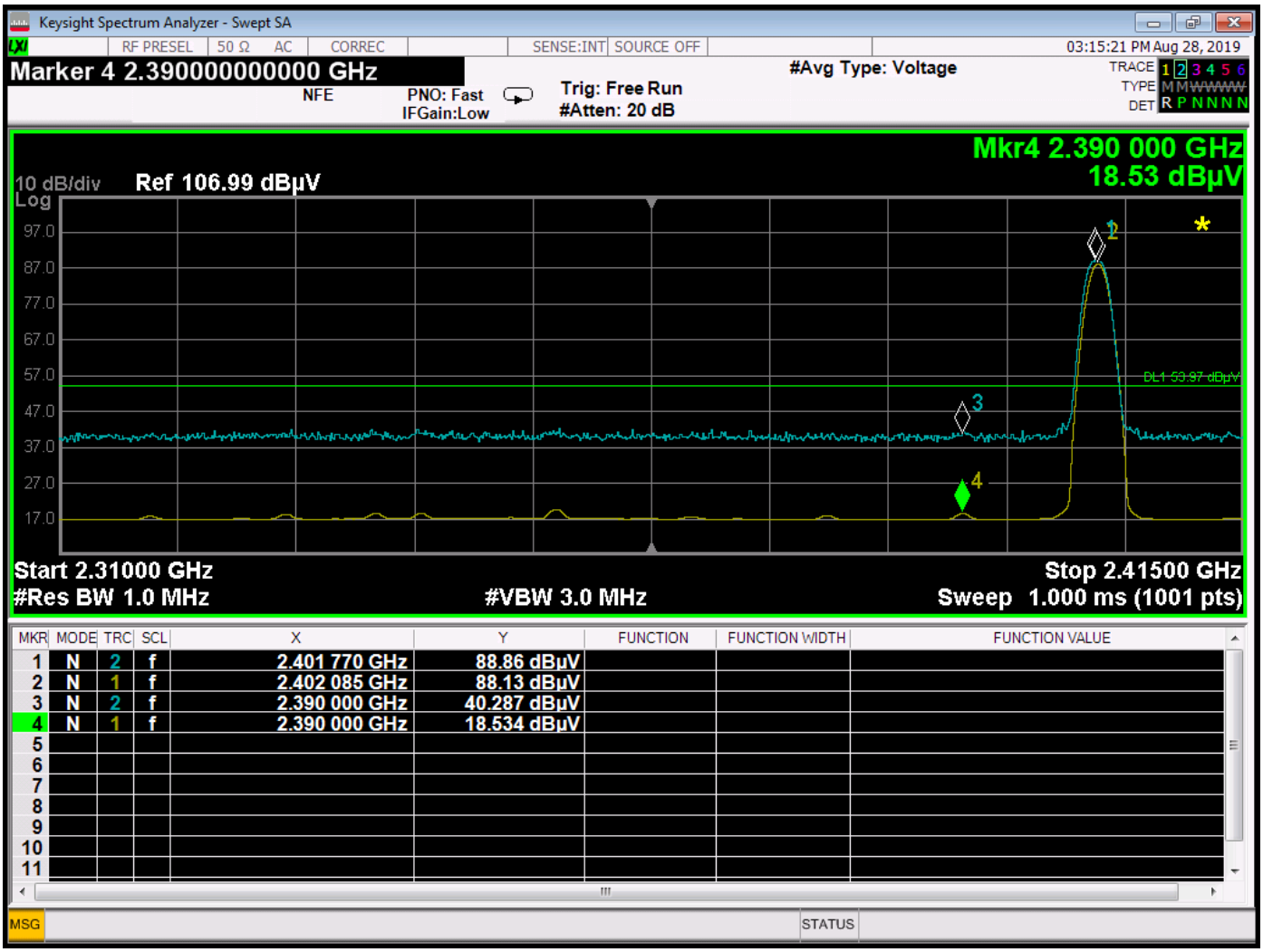
Band Edges – Low channel – Vertical – Y-axis – AC mode



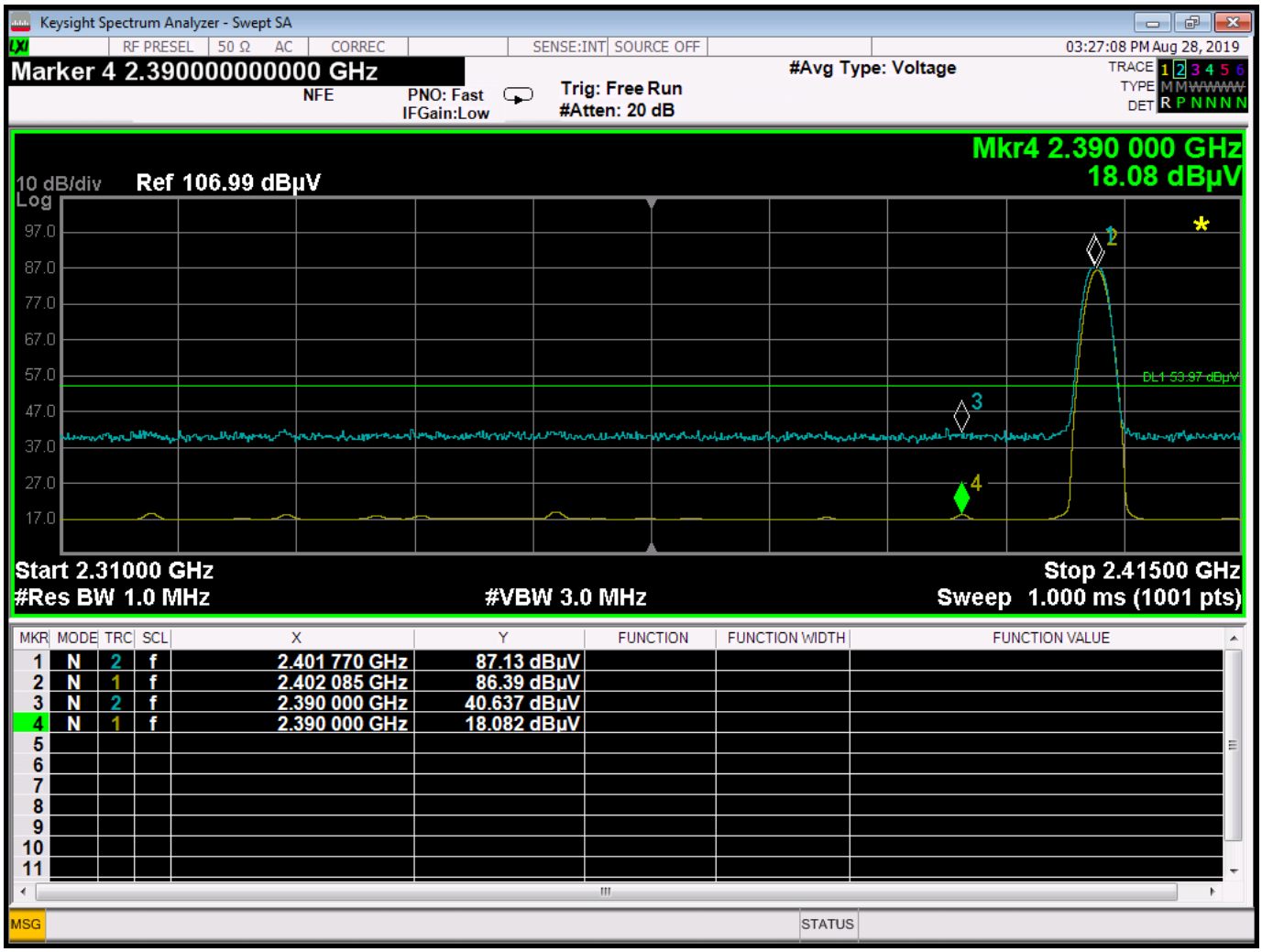
Band Edges – High channel – Horizontal – X-axis – AC mode



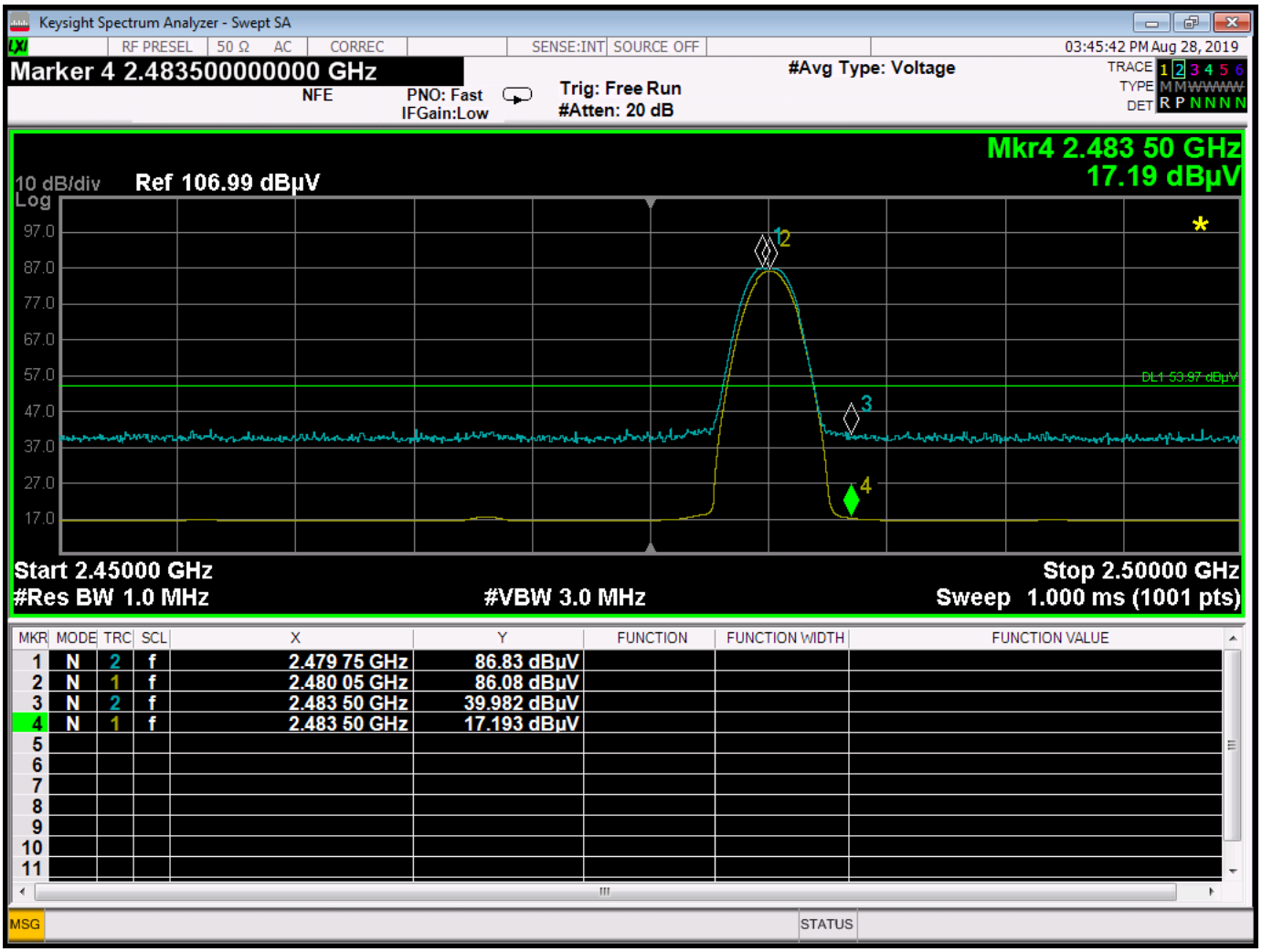
Band Edges – High channel – Vertical – Y-axis – AC mode



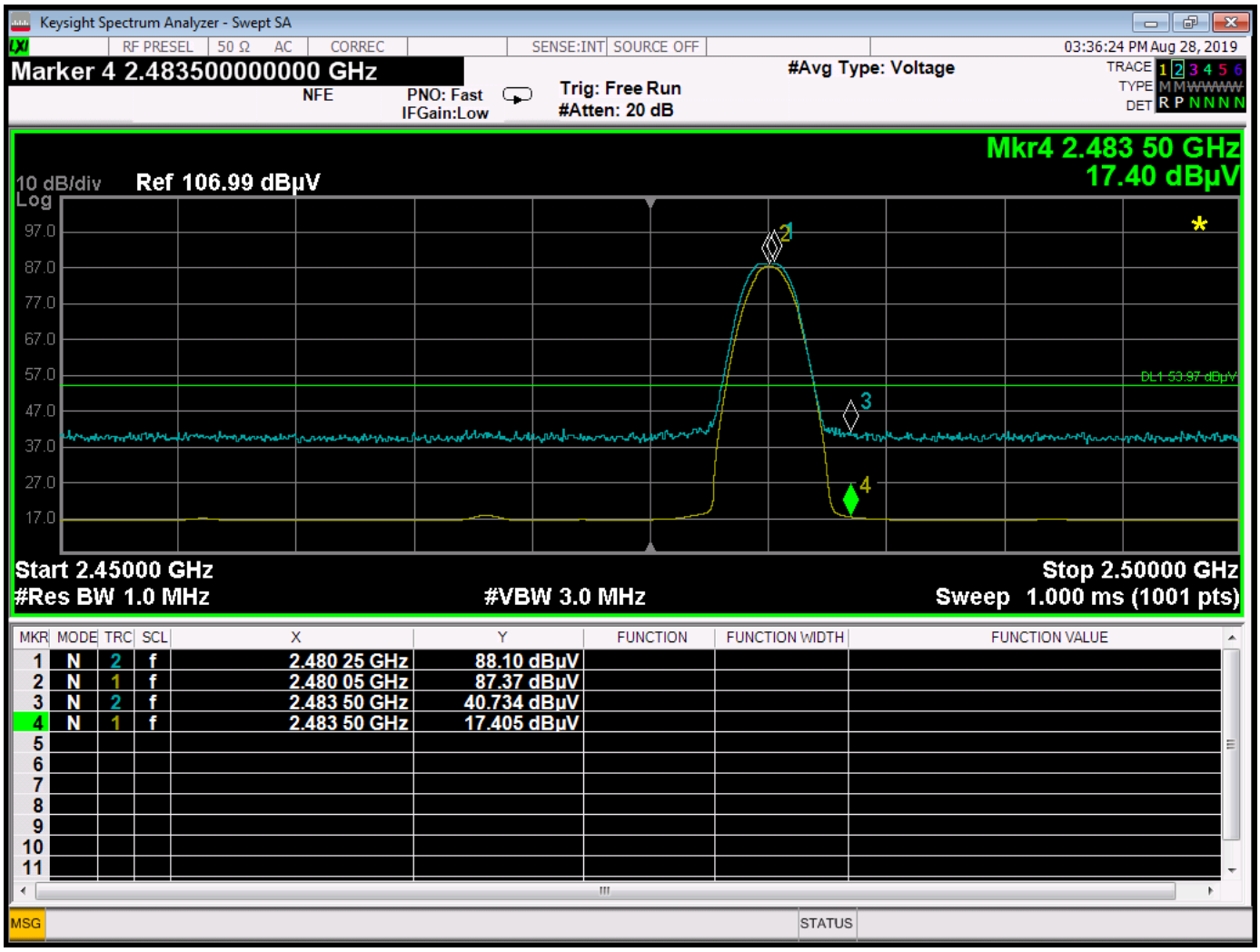
Band Edges – Low channel – Horizontal – X-axis – Battery mode



Band Edges – Low channel – Vertical – Y-axis – Battery mode



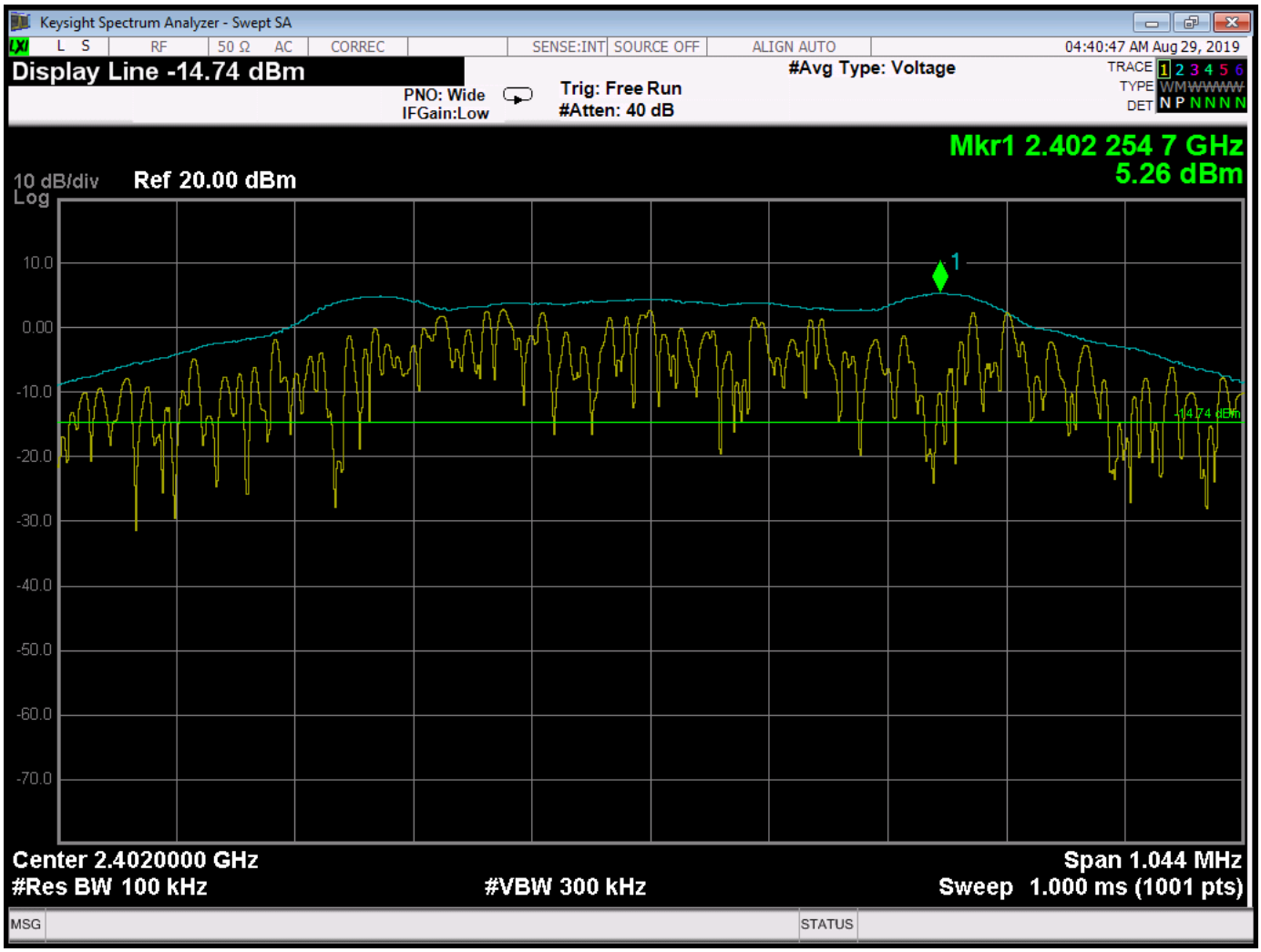
Band Edges – High channel – Horizontal – Z-axis – Battery mode



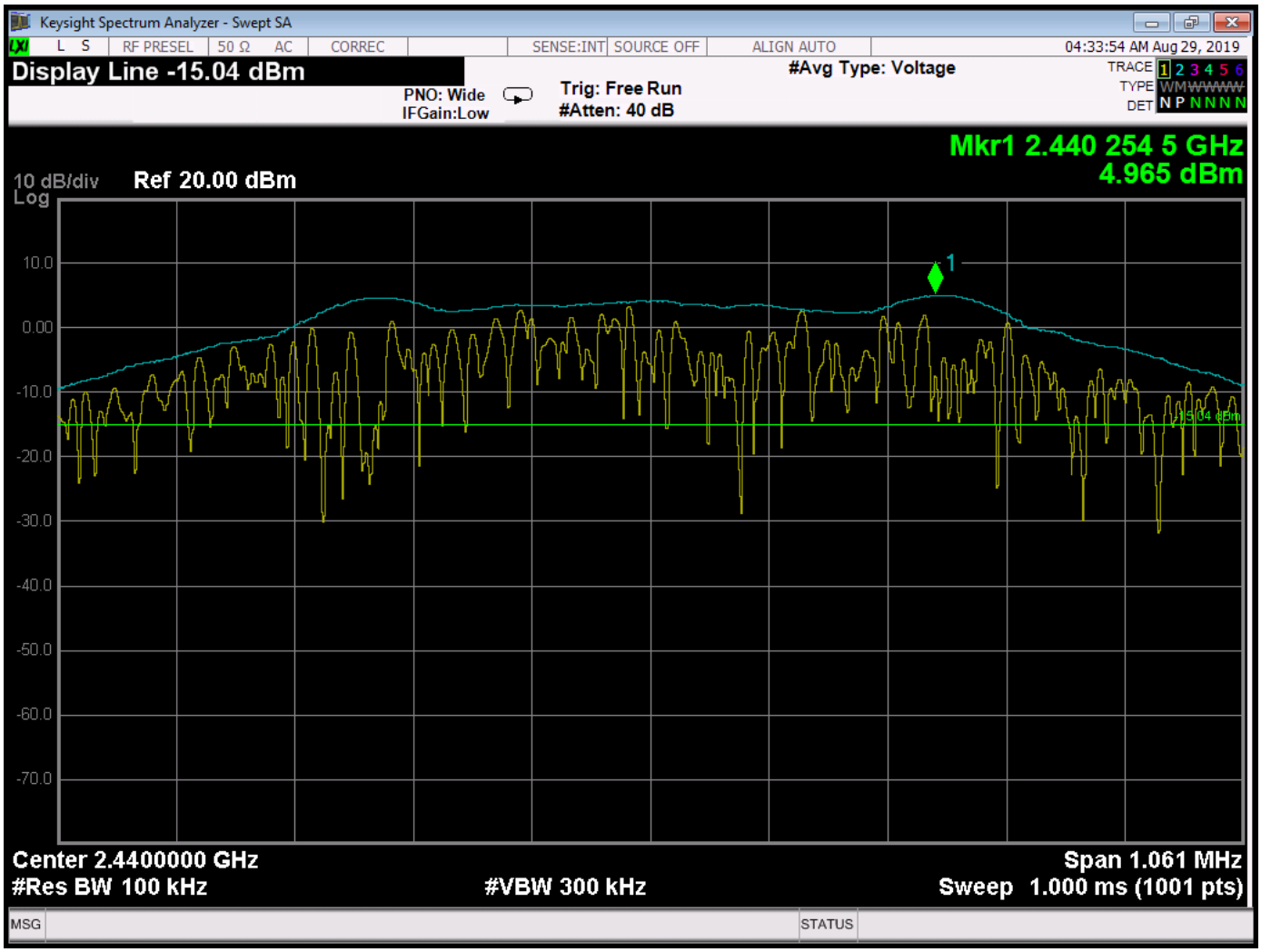
Band Edges – High channel – Vertical – Y-axis – Battery mode

EMISSIONS IN NON-RESRTICTED BANDS

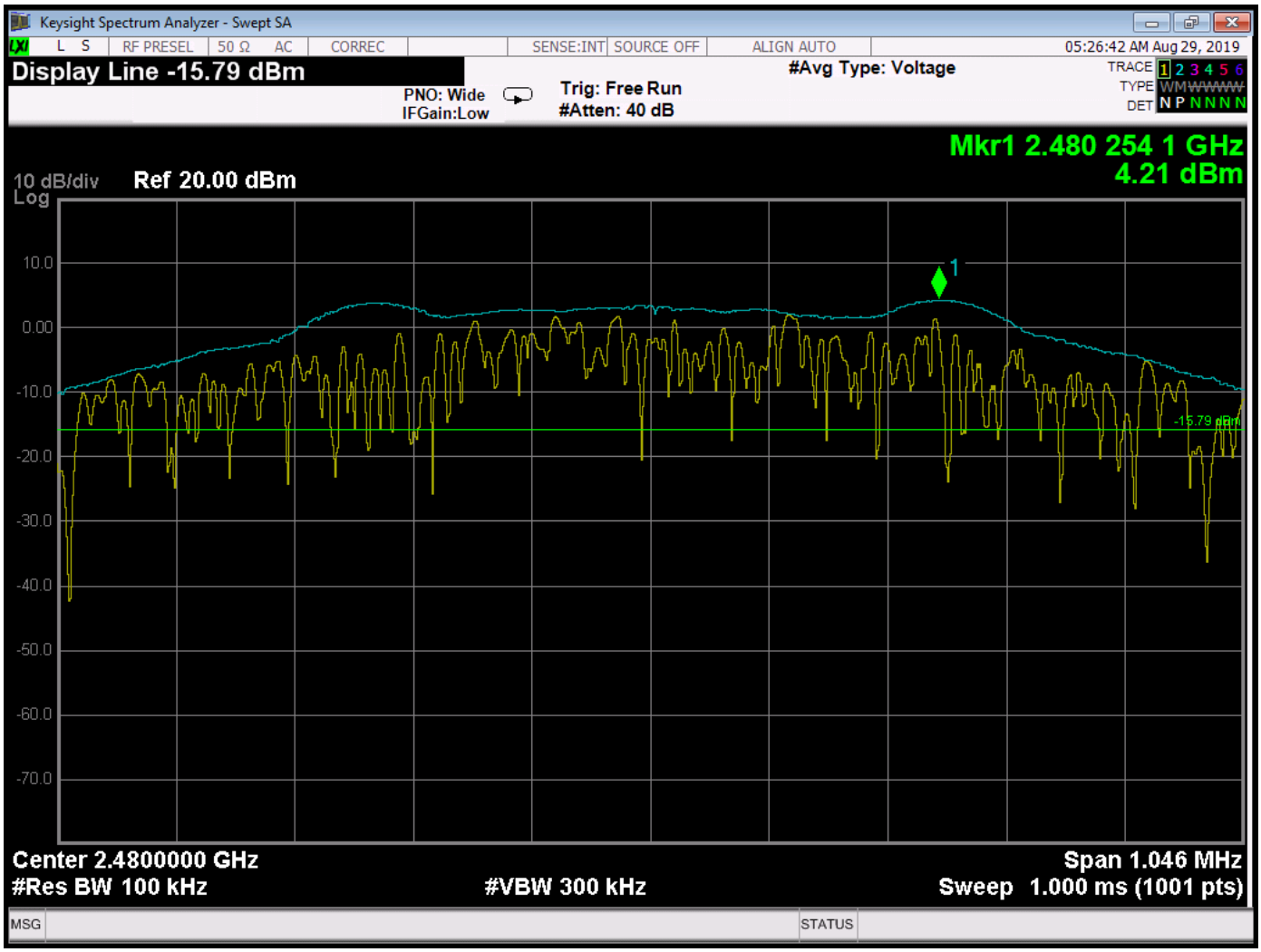
DATA SHEETS



RF Antenna Conducted – Reference Level – Low Channel



RF Antenna Conducted – Reference Level – Middle Channel



RF Antenna Conducted – Reference Level – High Channel

TARGUS

SENSOR

MODEL: ACS810

EMISSIONS IN NON-RESTRICTED BANDS

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
6520.00	-47.13	-14.74	-32.39
6730.00	-47.61	-14.74	-32.87
7097.50	-47.52	-14.74	-32.78

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

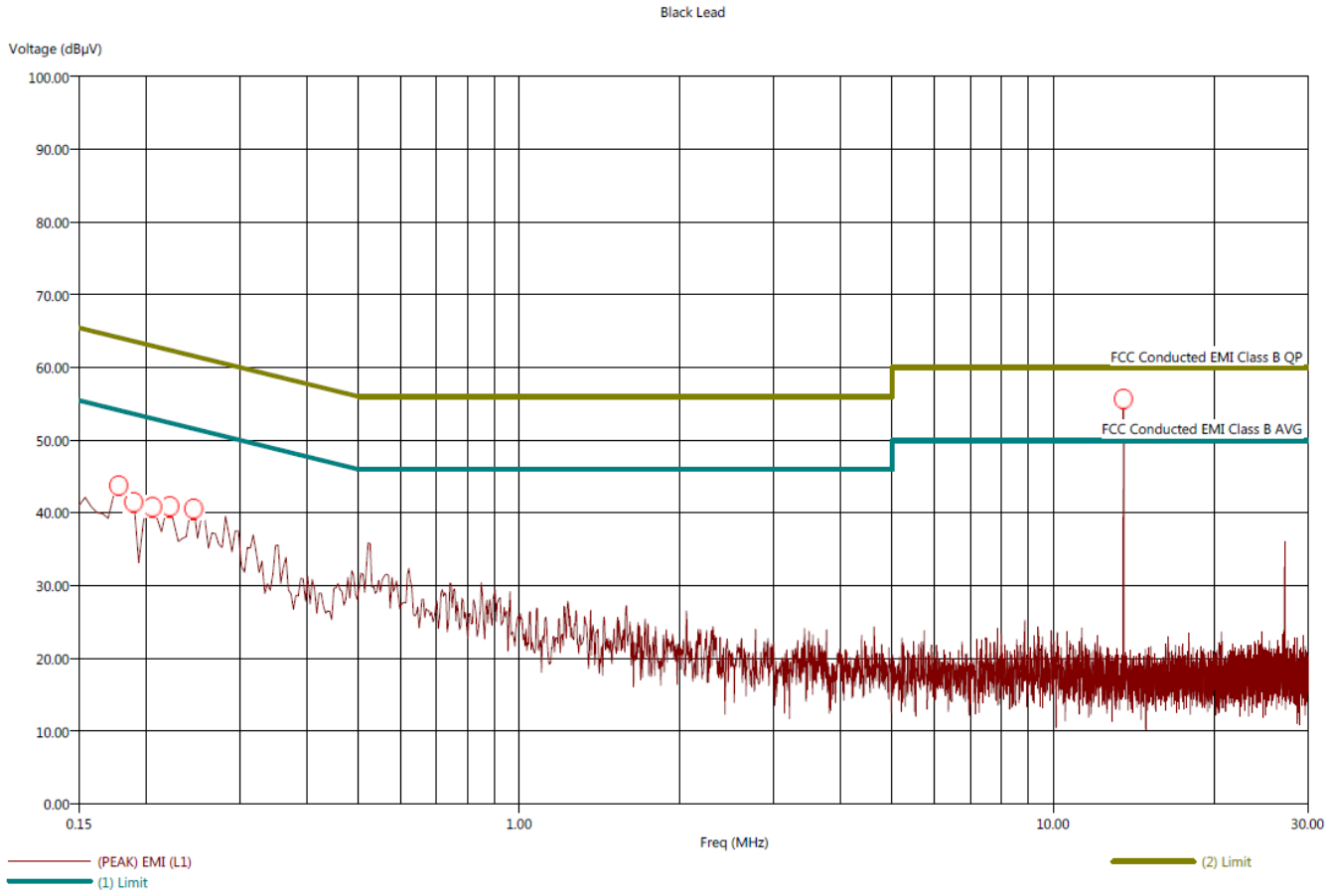
*The Limit is based on 20 dB below the highest reference level obtained on the previous pages.

CONDUCTED EMISSIONS

DATA SHEETS

Title: FCC Class B - Black Lead
File: Keysight - Pre-Scan - Black Lead - FCC Class B.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A

8/30/2019 8:59:29 AM
Sequence: Preliminary Scan



Title: FCC Class B - Black Lead
File: Keysight - Final Scan - Black Lead - FCC Class B.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A

8/30/2019 9:00:30 AM
Sequence: Final Measurements

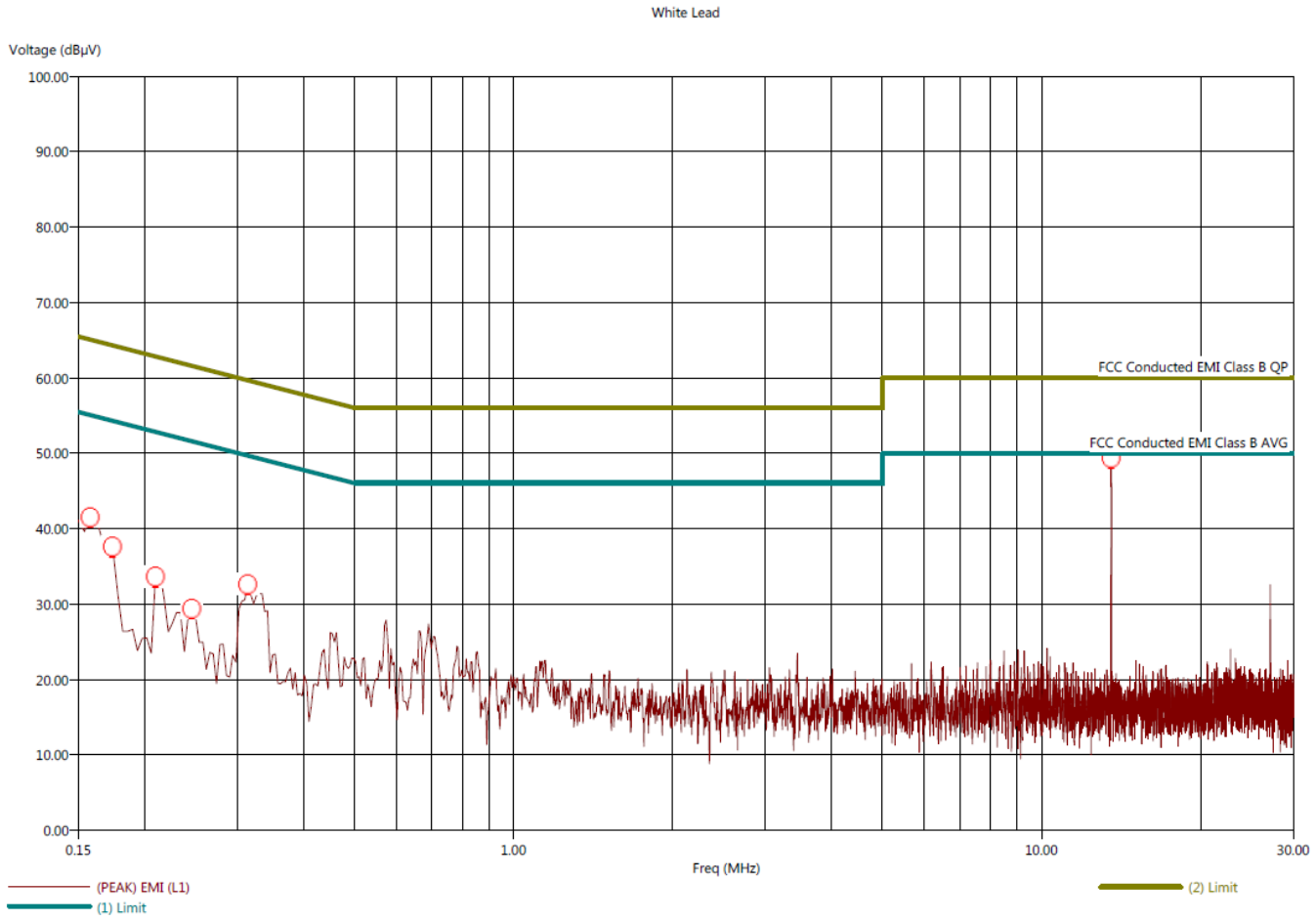
Black Lead

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)
0.178	46.44	33.57	-7.45	-20.32	53.88	0.00	0.41	9.80
0.190	44.75	33.15	-8.65	-20.25	53.40	0.00	0.38	9.80
0.206	43.45	32.15	-9.35	-20.65	52.80	0.00	0.35	9.79
0.222	43.48	31.87	-8.77	-20.38	52.25	0.00	0.31	9.79
0.246	34.38	19.79	-16.69	-31.28	51.07	0.00	0.25	9.77
13.558	55.72	52.25	5.72	2.25	50.00	0.14	0.51	9.79

Note: The emission at 13.558 MHz was re-measured with a dummy load in place of the antenna and was fully compliant.

Title: FCC Class B - White Lead
File: Keysight - Pre-Scan - White Lead - FCC Class B.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A

8/30/2019 8:56:47 AM
Sequence: Preliminary Scan



Title: FCC Class B - White Lead
File: Keysight - Final Scan - White Lead - FCC Class B.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A

8/30/2019 8:57:51 AM
Sequence: Final Measurements

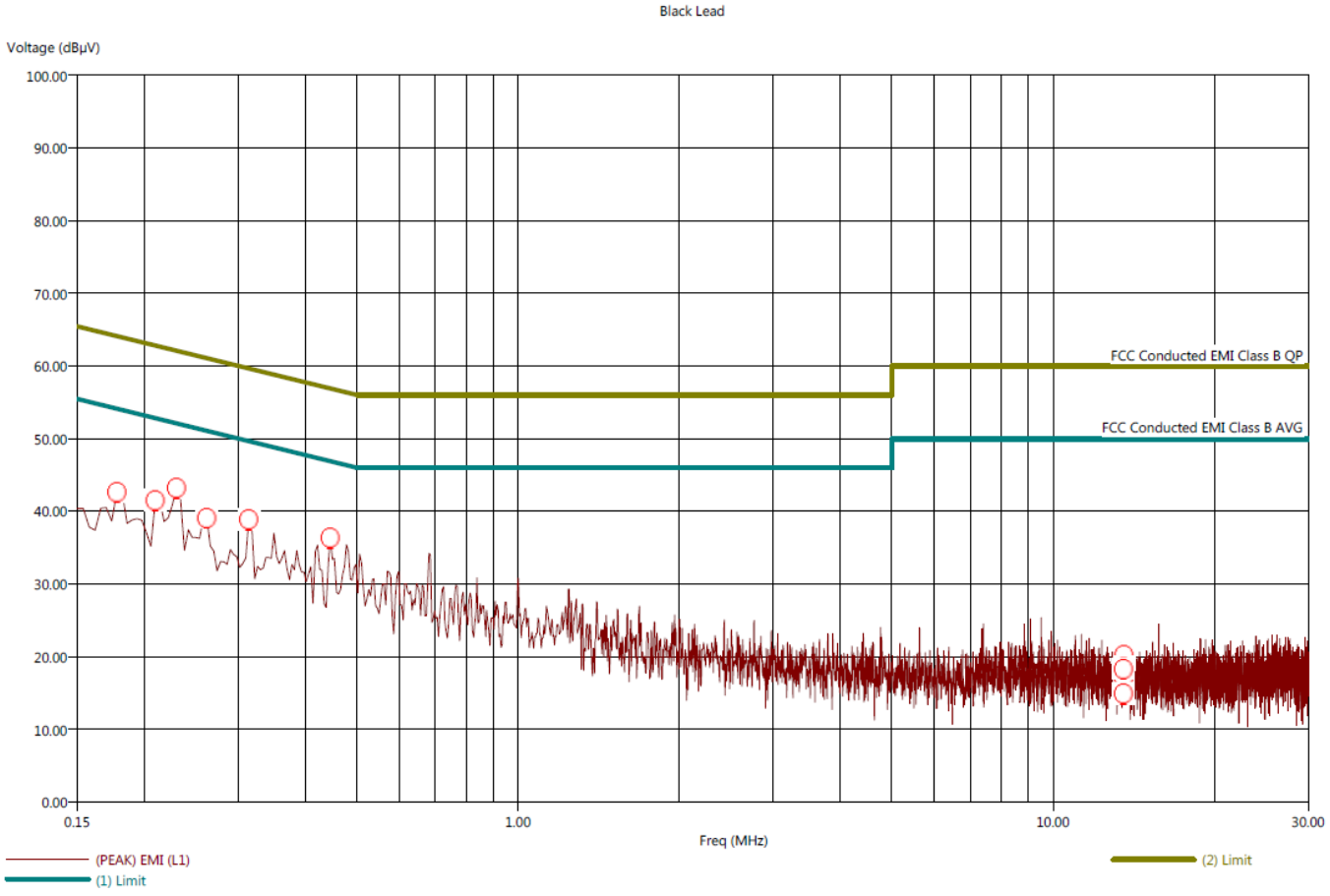
White Lead

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)
0.158	40.77	26.55	-13.85	-28.07	54.61	0.00	0.45	9.80
0.174	40.06	26.65	-14.56	-27.97	54.61	0.00	0.45	9.80
0.210	37.16	23.28	-15.86	-29.74	53.02	0.00	0.36	9.80
0.246	34.67	19.88	-16.84	-31.63	51.51	0.00	0.27	9.78
0.314	32.89	18.34	-16.96	-31.51	49.85	0.00	0.18	9.75
13.558	54.44	49.69	4.44	-0.31	50.00	0.14	0.51	9.79

Note: The emission at 13.558 MHz was re-measured with a dummy load in place of the antenna and was fully compliant.

Title: FCC Class B - Black Lead
File: Keysight - Pre-Scan - Black Lead - Antenna terminated - FCC Class B.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A
Note: The antenna for the 13.56 MHz transmitter was terminated with a dummy load.

8/30/2019 8:28:34 AM
Sequence: Preliminary Scan



Title: FCC Class B - Black Lead
File: Keysight - Final Scan - Black Lead - Antenna terminated - FCC Class B.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A
Note: The antenna for the 13.56 MHz transmitter was terminated with a dummy load

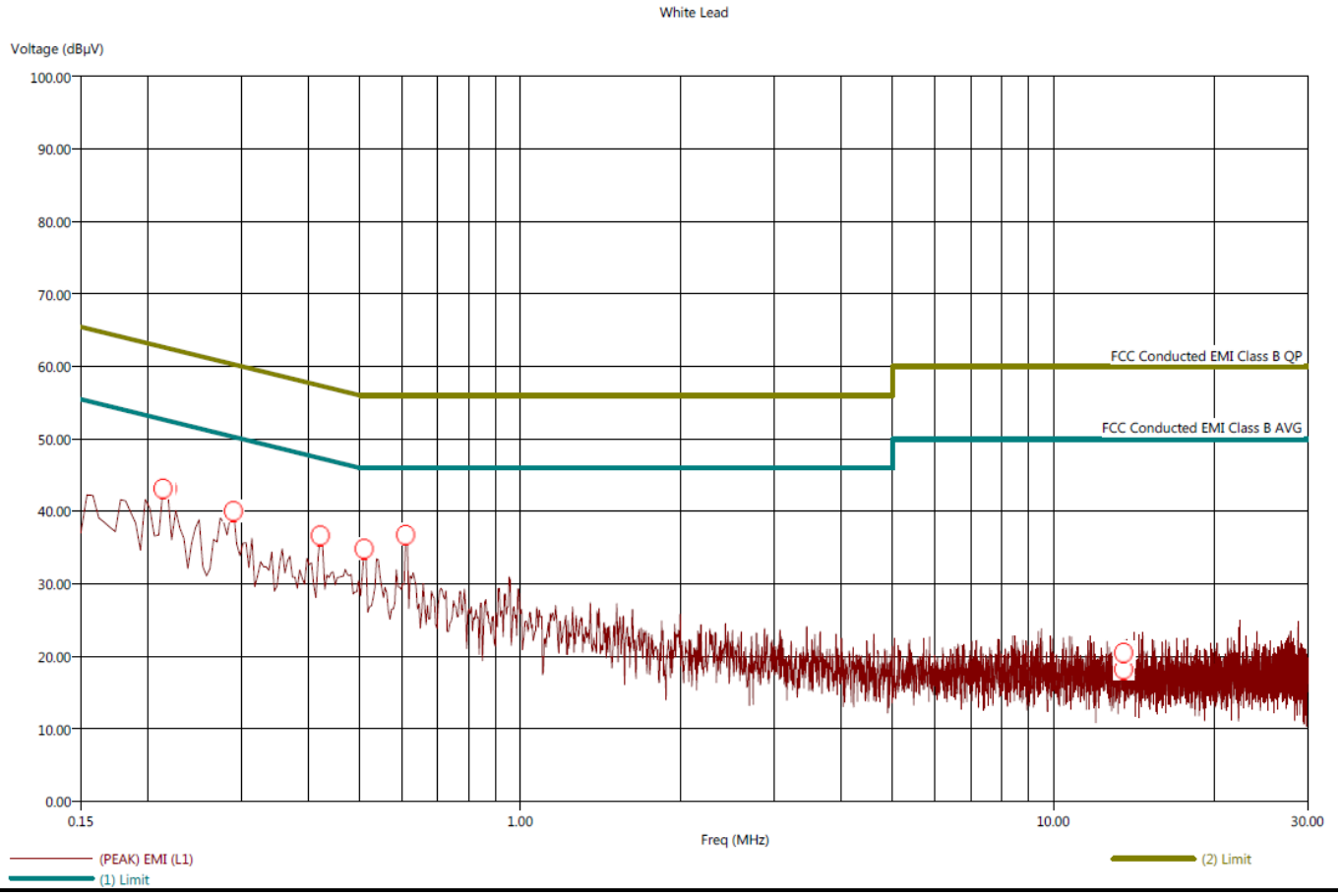
8/30/2019 8:30:06 AM
Sequence: Final Measurements

Black Lead

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)
0.178	45.87	32.90	-8.10	-21.07	53.98	0.00	0.41	9.80
0.210	44.61	31.57	-8.00	-21.04	52.61	0.00	0.33	9.79
0.230	44.60	31.37	-7.63	-20.86	52.23	0.00	0.31	9.79
0.262	28.10	15.17	-22.75	-35.68	50.85	0.00	0.24	9.77
0.314	24.48	13.07	-24.95	-36.36	49.44	0.00	0.16	9.75
0.446	26.52	12.75	-20.30	-34.07	46.82	0.00	0.12	9.71
13.546	16.98	1.38	-33.02	-48.62	50.00	0.14	0.51	9.79
13.550	16.99	1.41	-33.01	-48.59	50.00	0.14	0.51	9.79
13.558	21.25	1.32	-28.75	-48.68	50.00	0.14	0.51	9.79
13.562	16.80	1.29	-33.20	-48.71	50.00	0.14	0.51	9.79
13.566	23.02	1.85	-26.98	-48.15	50.00	0.14	0.51	9.79
13.570	17.16	1.25	-32.84	-48.75	50.00	0.14	0.51	9.79

Title: FCC Class B - White Lead
File: Keysight - Pre-Scan - White Lead - Antenna terminated - FCC Class B.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A
Note: The antenna for the 13.56 MHz transmitter was terminated with a dummy load

8/30/2019 8:26:05 AM
Sequence: Preliminary Scan



Title: FCC Class B - White Lead
File: Keysight - Final Scan - White Lead - Antenna terminated - FCC Class B.set
Operator: Harvey Samaco
EUT Type: Sensor
EUT Condition: The EUT was set to continuously transmit BLE and at 13.56 MHz
Company: Targus
Model: ACS810
S/N: N/A
Note: The antenna for the 13.56 MHz transmitter was terminated with a dummy load

8/30/2019 8:34:26 AM
Sequence: Final Measurements

White Lead

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	31.11	15.58	-22.75	-38.28	53.86	0.00	0.41	9.80
0.186	30.82	15.89	-23.60	-38.53	54.41	0.00	0.44	9.80
0.218	29.19	14.48	-23.19	-37.90	52.38	0.00	0.32	9.79
0.238	29.13	14.64	-23.00	-37.49	52.13	0.00	0.31	9.79
0.250	28.69	13.85	-22.95	-37.79	51.64	0.00	0.28	9.78
0.254	28.28	13.98	-23.26	-37.56	51.54	0.00	0.27	9.78
13.550	17.26	1.27	-32.74	-48.73	50.00	0.14	0.51	9.79
13.554	16.68	1.19	-33.32	-48.81	50.00	0.14	0.51	9.79
13.562	17.46	1.10	-32.54	-48.90	50.00	0.14	0.51	9.79
13.566	16.62	1.13	-33.38	-48.87	50.00	0.14	0.51	9.79
13.570	17.44	1.31	-32.56	-48.69	50.00	0.14	0.51	9.79