



166 South Carter, Genoa City, WI 53128

Company:	Wilson Sporting Goods Co.
Model Evaluated:	MSC1417_ASSY Rev B
Evaluation Exhibit:	RF Exposure
Project Number:	12719
Report Number:	28750 rev2.1

RF EXPOSURE STATEMENT OF COMPLIANCE

FCC Title 47 CFR Part 1.1307(b)(3)(i)(B)
FCC Title 47 CFR Part 2.1093(c)(1)

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

for

SAR Exemption Thresholds – Portable Device – General Population

FCC ID: 2AHBQ-QBIDP1

(Body-worn use with antenna distance to user < 0.5 cm)

Formal Name:	QBID Player Tag
Kind of Equipment:	Portable / Sensor Beacon with: Bluetooth Low Energy (BLE) Transceiver, and 125 kHz Low Power Transceiver
Frequency Range(s):	125 kHz, and 2402 – 2480 MHz
Evaluation Method:	SAR Exemption based on transmission output power lower than SAR test exemption levels
Model Number:	MSC1417_ASSY Rev B
Date of Evaluation:	April 1 and May 16, 2025
Conducted For:	Wilson Sporting Goods Co. 9509 Foster Avenue Schiller Park, Illinois, 60176, USA

NOTICE: This report contains test data, and/or other information regarding only the sample provided by the client for testing and evaluation. This test report shall not be used to claim product approval or endorsement by any governmental, regulatory, or accrediting agency. Please see the "Description of Device" page listed inside of this report.

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SIGNATURE PAGE

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CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

DLS Electronic Systems, Inc.

**1250 Peterson Drive
Wheeling, IL 60090**

(and satellite locations as shown on the scope)

Fulfills the requirements of

ISO/IEC 17025:2017

and

**U.S. Federal Communication Commission (FCC) EMC and Telecommunications (EC&T)
Testing Designation Program**

and

**Recognition of Telecommunications Testing - Innovation, Science, and Economic Development
(ISED) Canada**

and

**FDA Accreditation Scheme for Conformity Assessment (ASCA) Pilot Program -Basic Safety
and Essential Performance of Medical Electrical Equipment, Medical Electrical Systems, and
Laboratory Medical Equipment**

In the field of

TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.

The current scope of accreditation can be verified at www.anab.org

Jason Stine, Vice President
Expiry Date: 23 April 2026
Certificate Number: AT-1859



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

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1.0 BLE Transmitter Information

Maximum RF Conducted Power (measured)	0.71 dBm
Antenna Type:	PCB Trace antenna
Antenna Gain:	-5.96 dBi (-8.11 dBd)
Maximum Effective Radiated Power ERP (calculated 0.71 dBm - 8.11 dBd):	-7.4 dBm ERP
Rated Output Power per firmware setting:	0 dBm
RF power accuracy according to the transmitter specification datasheet:	+/- 4 dB
Maximum Rated RF Output Power including acceptable tolerances due to component and production variations and tune up procedures:	4 dBm
Frequency Range:	2.402 – 2.480 GHz

1.1 Rule Part - BLE

Title 47 CFR Part 1.1307(b)(3)(i)(B)
Title 47 CFR Part 2.1093(c)(1)
FCC KDB 447498 D04 Interim General RF Exposure Guidance

1.2 Evaluation Procedure – BLE

FCC KDB 447498 D04 Interim General RF Exposure Guidance v01

2.1.3	SAR-Based Exemption
B.4	SAR-Based Exemption
Annex C	Simultaneous Transmissions

SAR test exemption based on output power lower than SAR test exemption levels.

ANSI C63.10-2020

Section 11.9.1.1	Maximum peak conducted output power (RBW $\geq$ 6 dB Emission Bandwidth)
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1.3 SAR Test Exemption Threshold – BLE

Per FCC Title 47 CFR Part 1.1307(b)(3)(i)(B), the device is exempt from SAR testing if the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula (for separation distances less than 20 cm).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} (d/20 \text{ cm})^x$$

Where

$$x = -\log_{10} (60/ERP_{20 \text{ cm}} \sqrt{f}) \text{ and } f \text{ is in GHz}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = 3060 \text{ when } f \text{ is between 1.5 GHz and 6 GHz}$$

d = the separation distance (cm)

1.4 Threshold Calculation – BLE

With a minimum separation distance of 0.5 cm from the radiating element:

$$P_{th} \text{ (mW)} = 3060 [(0.5/20 \text{ cm}) ^{-\log_{10} (60/(3060\sqrt{2.480}))}]$$

$$P_{th} \text{ (mW)} = 3060 [(0.5/20 \text{ cm}) ^{-\log_{10} (60/4818.89)}]$$

$$P_{th} \text{ (mW)} = 3060 [(0.5/20 \text{ cm}) ^{-\log_{10} (0.01245)}]$$

$$P_{th} \text{ (mW)} = 3060 [(0.5/20 \text{ cm}) ^{1.905}]$$

$$P_{th} \text{ (mW)} = 3060 [0.000887311]$$

$$P_{th} \text{ (mW)} = \underline{\underline{2.71 \text{ mW}}}$$



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1.5 Output Power – BLE

Measured RF Conducted Output Power: 0.71 dBm = 1.18 mW.

Calculated Effective Radiated Power (ERP):

0.71 dBm conducted + (-8.11) dBd antenna gain = -7.40 dBm = 0.18 mW.

Maximum Rated ERP:

The maximum rated RF Conducted output power (including tolerances) = 4 dBm.
4 dBm + (-8.11) dBd antenna gain = -4.11 dBm = 0.39 mW

Maximum Rated RF Conducted Output Power:

The maximum rated RF Conducted output power (including tolerances) = 4 dBm.
4 dBm = 2.51 mW

1.6 Evaluation Result – BLE

The Maximum Output Power including acceptable tolerances due to component and production variations and tune up procedures is 2.51 mW. This is less than the SAR test exemption level of 2.71 mW.

SAR measurement is not necessary.

2.0 125 kHz Low Power Transmitter Information

Maximum RF Conducted Output Power	Unknown
Antenna Type:	Air Core Inductor Circular coil Diameter = 4.25 cm Number of Turns = 20 Maximum coil current = 335 mA _(RMS)
Antenna Gain:	Unknown
Transmit Frequency:	125 kHz



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2.1 Rule Part – 125 kHz

Per FCC Title 47 CFR Part 1.1310
Title 47 CFR Part 2.1093(c)(1)
FCC KDB 447498 D04 Interim General RF Exposure Guidance v01
Section 1.4.2, Table 1, $100 \text{ kHz} < f \leq 300 \text{ kHz}$
FCC KDB 680106 D01 Wireless Power Transfer v04

2.2 Evaluation Procedure – 125 kHz

FCC KDB 680106 D01 Wireless Power Transfer v04
FCC KDB 447498 D04 Interim General RF Exposure Guidance v01
Annex C – Simultaneous Transmissions

SAR test exemption based on output power lower than MPE limits in FCC Part 1.1310 at 300 kHz.

Use E-field and H-field measurements from the EUT, along with a 95% confidence curve-fitting analysis to estimate exposure levels at touch position (0 cm). Compare these levels with the SAR test exemption levels (MPE limits) in FCC Part 1.1310 at 300 kHz.

Per FCC KDB 680106 D01, E- and H-field estimated values, spaced no more than 2 cm from each other, are compared with measurement data. The validation is considered sufficient if a 30% agreement between the model (curve-fitting analysis) and the probe measurements is demonstrated.

2.2.a Description of Test Setup – 125 kHz

The EUT and measurement probe were set up on a non-conductive foam table 1.4 meters above the ground and away from any metallic objects. A plastic measurement ruler was taped to the top of the table. The EUT was put into continuous transmit mode (100% duty cycle). The measurement probe was placed with its measuring element (0.8 cm behind the plastic enclosure) at the 0 cm position on the ruler. The EUT was placed with the nearest point of its enclosure at several measurement distances along the length of the ruler. All measurements were performed with the probe element perpendicular to the measurement plane of the EUT.



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2.2.b Description of Scanning Procedure – Prescan – 125 kHz

A prescan was initially performed to find the worst-case side of the EUT for both H-field and E-field measurements. The prescan was performed at a distance of 0.8 cm (EUT placed directly against the plastic enclosure of the measurement probe). The measurement probe is a cube with 3 surfaces containing an H-field measurement loop 0.8 cm from the outer surface, and 3 surfaces containing an E-field capacitive plate 0.8 cm from the outer surface.

With the EUT remaining stationary and the measurement set to max-hold, the probe was moved around so that the EUT was touching every area of the probe's H-field X, Y, and Z surfaces. The probe automatically integrates the field strengths of X, Y, and Z, and reports the total combined field strength in A/m. This value was recorded. This procedure was then repeated for each of the 6 sides of the EUT.

Then, with the EUT remaining stationary and the measurement set to max-hold, the probe was moved around so that the EUT was touching every area of the probe's E-field X, Y, and Z surfaces. The probe automatically integrates the field strengths of X, Y, and Z, and reports the total combined field strength in V/m. This value was recorded. This procedure was then repeated for each of the 6 sides of the EUT.

The results of this prescan showed that the worst-case H-field was measured from the bottom of the EUT, while the worst-case E-field was measured from the top of the EUT.

2.2.c Description of Scanning Procedure – Final – 125 kHz

Final measurements were taken from the sides of the EUT that were found to be worst-case during the prescan investigation.

The RBW was set to 10 kHz (a range of 1% to 10% of the carrier frequency).

The frequency scan was broken into two ranges, one from 20 kHz to 300 kHz and the other from 300 kHz to 10 MHz. The total integrated field strength levels of these two ranges were added together for each measurement distance, and this total value was used in the assessment.

Because the location of each of the measuring elements within the probe are separated by a relatively large distance when compared to the test distances of 0.8 cm, 1 cm, 2 cm, etc., measurements of the X, Y, and Z planes were measured separately, and the vector magnitude of the fields were calculated using the Pythagorean theorem where the magnitude is the square root of the sum of the squares of the X, Y, and Z field strengths.



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2.2.d Method Used to Estimate Fields at 0 cm distance – 125 kHz

This assessment uses numerical calculations (polynomial regression) to estimate the E- and H-fields at a 0 cm distance with a confidence level of 95%. Polynomial regression was performed using Microsoft Excel data analysis with the Real Statistics add-in.

2.3 SAR Test Exemption Limit – 125 kHz

Per FCC KDB 680106 D01 Wireless Power Transfer v04:

For Part 2.1093-Portable devices below 4 MHz and down to 100 kHz, the MPE limits in Part 1.1310 (with the 300 kHz limit applicable all the way down to 100 kHz) can be used for the purpose of equipment authorization in lieu of SAR evaluations.

Per FCC Title 47 CFR Part 1.1310(e)(1)(ii) Table 1, the Electric and Magnetic field strength limits for Maximum Permissible Exposure (MPE) at 300 kHz are **614 V/m** and **1.63 A/m** (averaging time < 30 min) for General Population/Uncontrolled Exposure environments.



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2.4 Measurement Results – 125 kHz

E-Field - Comparison of the data from 5 regression models

Models					
Parameter	5th Order Regression Model	6th Order Regression Model	7th Order Regression Model	8th Order Regression Model	9th Order Regression Model
Multiple R	0.993015	0.997574	0.999014	0.999362	0.999426
R ²	0.986078	0.995154	0.998028	0.998724	0.998853
Adjusted R ²	0.980277	0.992511	0.996648	0.997590	0.997562
Standard Error (S)*	1.786	1.100	0.736	0.624	0.628
Number of data points used	18	18	18	18	18
Estimated magnetic field strength at 0 cm distance (V/m)	56.163	61.682	66.141	69.283	71.362
* The units of the standard error are the units of the measured variable V/m.					

As shown in the table above, the 8th order regression model produced the lowest standard error. From the model, the estimated electric field strength at 0 cm distance is 69.283 V/m. The regression analysis utilized a confidence level of 95%.

The 8th order regression curve is represented by the following equation:

$$y = 5.327E-8x^8 - 6.752E-6x^7 + 3.594E-4x^6 - 1.045E-2x^5 + 0.1807x^4 - 1.905x^3 + 12.030x^2 - 42.659x + 69.283$$



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2.4 Measurement Results – 125 kHz – continued

H-Field - Comparison of the data from 5 regression models

Parameter	Models				
	6th Order Regression Model	9th Order Regression Model	10th Order Regression Model	11th Order Regression Model	12th Order Regression Model
Multiple R	0.999890	0.999958	0.999980	0.999990	0.999994
R ²	0.999780	0.999916	0.999959	0.999979	0.999987
Adjusted R ²	0.999660	0.999821	0.999901	0.999942	0.999957
Standard Error (S)*	0.070	0.051	0.038	0.029	0.025
Number of data points used	18	18	18	18	18
Estimated magnetic field strength at 0 cm distance (A/m)	16.370	15.957	15.388	14.810	14.261
* The units of the standard error are the units of the measured variable A/m.					

As shown in the table above, the 12th order regression model produced the lowest standard error. From the model, the estimated electric field strength at 0 cm distance is 14.261 A/m. The regression analysis utilized a confidence level of 95%.

The 12th order regression curve is represented by the following equation:

$$y = -1.420E-12x^{12} + 2.482E-10x^{11} - 1.922E-8x^{10} + 8.692E-7x^9 - 2.544E-5x^8 + 5.050E-4x^7 - 6.919E-3x^6 + 6.512E-2x^5 - 0.4104x^4 + 1.598x^3 - 2.989x^2 - 1.546x + 14.261$$



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2.5 Evaluation Result – 125 kHz

Electric field, 30-minute average:

Estimate at 0 cm:

As shown in Section 2.4, the 8th order regression produced the lowest standard error. It estimates the magnetic field strength at 0 cm distance to be 69.283 V/m.

The maximum source-based duty cycle of the transmission is 8.3%.
 $69.283 \text{ V/m} \times 0.083 = \mathbf{5.75 \text{ V/m}}$ averaged.

Using the E-field 8th order regression curve equation from section 2.4:

Estimate at 2 cm:

$$y = 5.327\text{E-}8(2\text{cm})^8 - 6.752\text{E-}6(2\text{cm})^7 + 3.594\text{E-}4(2\text{cm})^6 - 1.045\text{E-}2(2\text{cm})^5 + 0.1807(2\text{cm})^4 - 1.905(2\text{cm})^3 + 12.030(2\text{cm})^2 - 42.659(2\text{cm}) + 69.283 = \mathbf{19.424 \text{ V/m}}$$

Measured E-field at 2 cm: 19.89 V/m **Variance = 2.34%** from measured value.

Estimate at 4 cm:

$$y = 5.327\text{E-}8(4\text{cm})^8 - 6.752\text{E-}6(4\text{cm})^7 + 3.594\text{E-}4(4\text{cm})^6 - 1.045\text{E-}2(4\text{cm})^5 + 0.1807(4\text{cm})^4 - 1.905(4\text{cm})^3 + 12.030(4\text{cm})^2 - 42.659(4\text{cm}) + 69.283 = \mathbf{6.130 \text{ V/m}}$$

Measured E-field at 4 cm: 6.40 V/m **Variance = 4.22%** from measured value.

Estimate at 6 cm:

$$y = 5.327\text{E-}8(6\text{cm})^8 - 6.752\text{E-}6(6\text{cm})^7 + 3.594\text{E-}4(6\text{cm})^6 - 1.045\text{E-}2(6\text{cm})^5 + 0.1807(6\text{cm})^4 - 1.905(6\text{cm})^3 + 12.030(6\text{cm})^2 - 42.659(6\text{cm}) + 69.283 = \mathbf{2.825 \text{ V/m}}$$

Measured E-field at 6 cm: 2.79 V/m **Variance = 1.25%** from measured value.

The estimated average (< 30 minutes) E-field at 0 cm separation distance is 5.75 V/m.

This is less than the SAR test exemption (MPE limit) of 614 V/m.

SAR testing is not necessary.

Estimated E-field values are within 30% agreement with actual measured values.

The 8th order regression curve-fitting analysis used in this assessment is sufficient for validation of the 0 cm distance estimate.



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2.5 Evaluation Result – 125 kHz – continued

Magnetic field, 30-minute average:

Estimate at 0 cm:

As shown in Section 2.4, the 12th order regression produced the lowest standard error. It estimates the magnetic field strength at 0 cm distance to be 14.261 A/m.

The maximum source-based duty cycle of the transmission is 8.3%.

14.261 A/m x 0.083 = **1.18 A/m** averaged.

Using the H-field 12th order regression curve equation from section 2.4:

Estimate at 2 cm:

$$y = -1.420E-12(2\text{cm})^{12} + 2.482E-10(2\text{cm})^{11} - 1.922E-8(2\text{cm})^{10} + 8.692E-7(2\text{cm})^9 - 2.544E-5(2\text{cm})^8 + 5.050E-4(2\text{cm})^7 - 6.919E-3(2\text{cm})^6 + 6.512E-2(2\text{cm})^5 - 0.4104(2\text{cm})^4 + 1.598(2\text{cm})^3 - 2.989(2\text{cm})^2 - 1.546(2\text{cm}) + 14.261 = \underline{7.130 \text{ A/m}}$$

Measured E-field at 2 cm: 7.11 A/m

Variance = 0.28% from measured value.

Estimate at 3 cm:

$$y = -1.420E-12(3\text{cm})^{12} + 2.482E-10(3\text{cm})^{11} - 1.922E-8(3\text{cm})^{10} + 8.692E-7(3\text{cm})^9 - 2.544E-5(3\text{cm})^8 + 5.050E-4(3\text{cm})^7 - 6.919E-3(3\text{cm})^6 + 6.512E-2(3\text{cm})^5 - 0.4104(3\text{cm})^4 + 1.598(3\text{cm})^3 - 2.989(3\text{cm})^2 - 1.546(3\text{cm}) + 14.261 = \underline{4.359 \text{ A/m}}$$

Measured E-field at 3 cm: 4.40 A/m

Variance = 0.93% from measured value.

Estimate at 4 cm:

$$y = -1.420E-12(4\text{cm})^{12} + 2.482E-10(4\text{cm})^{11} - 1.922E-8(4\text{cm})^{10} + 8.692E-7(4\text{cm})^9 - 2.544E-5(4\text{cm})^8 + 5.050E-4(4\text{cm})^7 - 6.919E-3(4\text{cm})^6 + 6.512E-2(4\text{cm})^5 - 0.4104(4\text{cm})^4 + 1.598(4\text{cm})^3 - 2.989(4\text{cm})^2 - 1.546(4\text{cm}) + 14.261 = \underline{2.621 \text{ A/m}}$$

Measured E-field at 4 cm: 2.72 A/m

Variance = 3.64% from measured value.

The estimated average (< 30 minutes) H-field at 0 cm separation distance is 1.18 A/m.

This is less than the SAR test exemption (MPE limit) of 1.63 A/m.

SAR testing is not necessary.

Estimated H-field values are within 30% agreement with actual measured values.

The 12th order regression curve-fitting analysis used in this assessment is sufficient for validation of the 0 cm distance estimate.



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3.0 Simultaneous Transmission (Multiple Exemption Criteria)

From Part 1.1307(b)(3)(ii)(B), in the case of multiple mobile RF sources within a device operating in the same time-averaging period, the sum of the ratios of the maximum P-to-P_{th} (exemption threshold power) of all sources must be less than or equal to 1 to be exempted.

BLE:

Worst-case source-based operational duty cycle of BLE transmission per manufacturer's operational description:

25 ms interval

ON air time = 376 μ s * 6 (3 advertising packets + 3 scan response packets)

6 * 0.376 μ s = 2.256 ms every 25 ms

The maximum output power with tolerances, (highest of rated and measured) = 4 dBm.

Using source-based averaging: 4 dBm + 10 log (2.256 ms / 25 ms) = -6.446 dBm

-6.446 dBm = 0.227 mW

$P_{(Max-BLE)} = 0.227 \text{ mW}$

$P_{(th,BLE)} = 2.71 \text{ mW}$ (from Section 1.4 of this report)

125 kHz: $E_{(Max-125 \text{ kHz})} = 5.75 \text{ V/m}$

$E_{(Lim-125 \text{ kHz})} = 614 \text{ V/m}$

$H_{(Max-125 \text{ kHz})} = 1.18 \text{ A/m}$

$H_{(Lim-125 \text{ kHz})} = 1.63 \text{ A/m}$

Sum of the ratios:

$$\frac{P_{(Max-BLE)}}{P_{(th,BLE)}} + \frac{E_{(Max-125 \text{ kHz})}}{E_{(Lim-125 \text{ kHz})}} + \frac{H_{(Max-125 \text{ kHz})}}{H_{(Lim-125 \text{ kHz})}} \leq 1$$

$$\frac{0.227 \text{ mW}}{2.71 \text{ mW}} + \frac{5.75 \text{ V/m}}{614 \text{ V/m}} + \frac{1.18 \text{ A/m}}{1.63 \text{ A/m}} \leq 1$$

$$0.0838 + 0.0094 + 0.7239 \leq 1$$

$$\underline{\underline{0.82}} \leq 1$$



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4.0 Conclusion

With a minimum separation distance of 0.5 cm or less, this is a *portable* device as defined by FCC KDB 447498 D04 Interim General RF Exposure Guidance v01. The QBID Player Tag, model MSC1417_ASSY Rev B, as provided by Wilson Sporting Goods Co., **meets** the BLE SAR routine evaluation exemption based on the worst-case maximum output power. The peak output power of the transmitter is lower than the SAR test exemption threshold for handheld devices operating within a 20 cm distance to persons in a general population environment.

At touch position (0 cm separation distance), a measurement-based assessment of the 125 kHz low power transmitter portion of this device was performed using FCC KDB 680106 D01 Wireless Power Transfer v04, Section 3.3, according to the MPE limits in FCC Part 1.1310. The QBID Player Tag, model MSC1417_ASSY Rev B, as provided by Wilson Sporting Goods Co., **meets** the MPE limits for the 125 kHz transmitter based on the worst-case maximum H-field strength as determined by a combination of measurements and analytic modeling to estimate, with a 95% confidence level, the MPE value at the 0 cm touch position of the device. The maximum MPE estimated level at touch position is lower than the MPE limits for devices operating in a general population (uncontrolled) environment.

The sum of the ERP-to-threshold ratios for the combined BLE and 1.25 kHz transmitters, as Simultaneous RF Source emitters, is less than 1.

This device complies with the RF exposure requirements of FCC Title 47 CFR Part 1.1307(b)(3)(i)(B) and Part 2.1093(c)(1).



166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
Model Evaluated: MSC1417_ASSY Rev B
Evaluation Exhibit: RF Exposure
Project Number: 12719
Report Number: 28750 rev2.1

Section A – Test Equipment

D.L.S. Wisconsin – RF Conducted – Site 2 – Test Equipment:

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESW-44	103075	2 Hz-44 GHz	3-29-23	3-29-25
Cable	Micro-Coax	UFC142A	CBL-093	30 MHz-40 GHz	7-12-24	7-12-25
20 dB Attenuator	Aeroflex/ Weinschel	75A-20-12	1071	30 MHz-40 GHz	7-12-24	7-12-25

D.L.S. Wisconsin – Radiated – Site W1 – Test Equipment:

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz-26 GHz	3-27-25	3-27-27
Cable	Micro-Coax	UFB311A	CBL-100	1 GHz-18 GHz	5-16-24	5-16-25
Horn Antenna	EMCO	3115	1071	30 MHz-40 GHz	7-12-24	7-12-25
Test Software	Rohde & Schwarz	ESK1	V1.7.1	N/A	N/A	N/A
Signal Generator	Rohde & Schwarz	SMR40	100092	1 GHz-40 GHz	3-6-25	3-26-27
Cable	Mini-Circuits	APC-15FT-NMNM	0805A	1 GHz-18 GHz	5-16-24	5-16-25
Horn Antenna	Com-Power	AH-118	071127	1 GHz-18 GHz	9-7-23	9-7-25

D.L.S. Wisconsin – E-field and H-field – Test Equipment:

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
E & H Field Probe Analyzer	Narda	EHP 200A	180ZX00616 FW: Rel 1.36	9 kHz-30 MHz	1-17-25	1-17-26
Software	Narda	EPH200-TS	SW: REL 1.9.6	3 kHz-30 MHz	N/A	N/A
Software	Microsoft	Excel	Data Analysis & Real Statistics add-ins	N/A	N/A	N/A



166 South Carter, Genoa City, WI 53128

Company:

Wilson Sporting Goods Co.

Model Evaluated:

MSC1417_ASSY Rev B

Evaluation Exhibit:

RF Exposure

Project Number:

12719

Report Number:

28750 rev2.1

Section B – Measurement Data

B.1 – RF Conducted Measurements – BLE

Test Date: 08-28-2024

Company: Wilson Sporting Goods Co.

EUT: QBID Player Tag

Test: Peak Output Power – RF Conducted

Operator: cbrandt

Comment: Low Channel: 2402 MHz

Peak Output Power = 0.71 dBm = **1.78 mW**



01:04:12 PM 08/28/2024



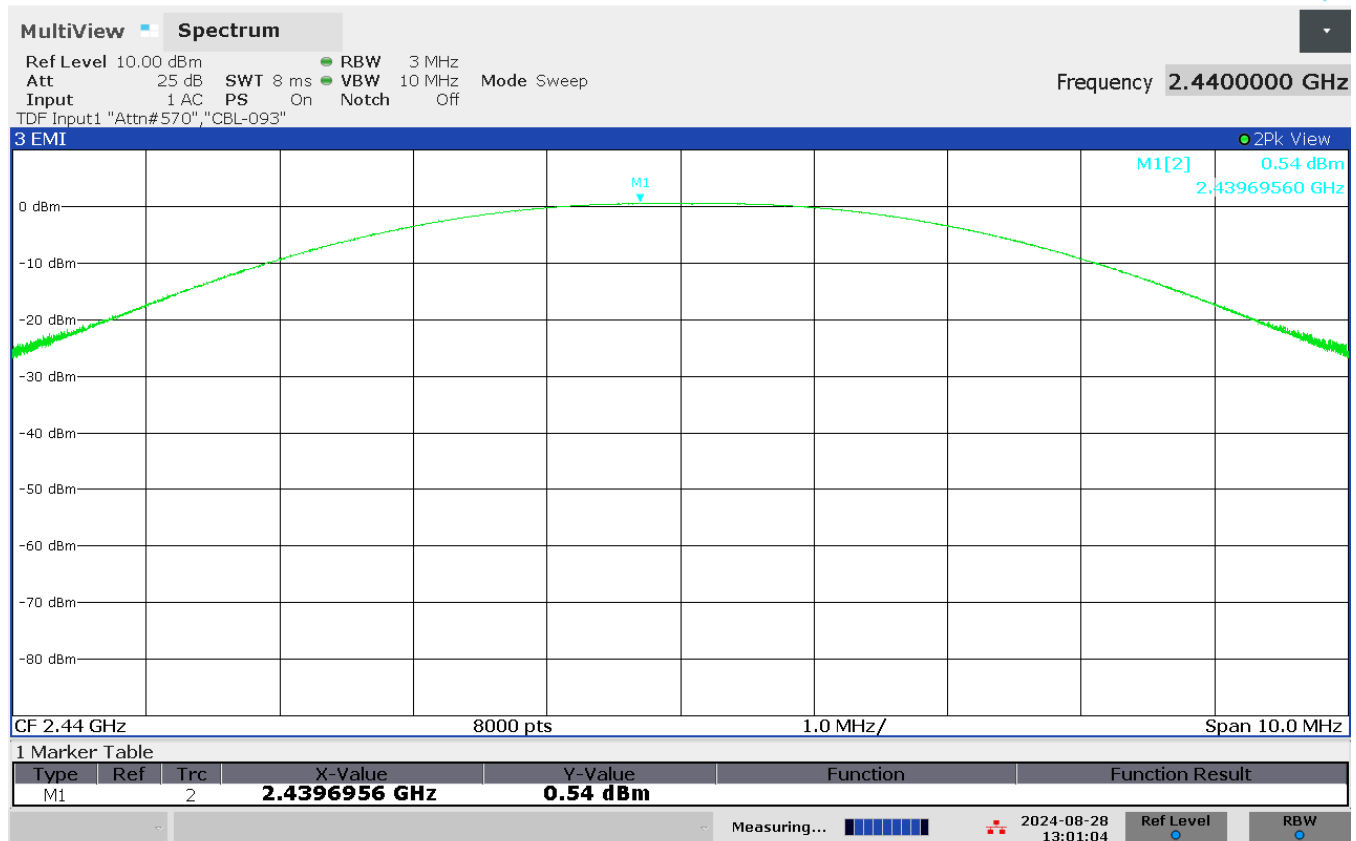
166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
Model Evaluated: MSC1417_ASSY Rev B
Evaluation Exhibit: RF Exposure
Project Number: 12719
Report Number: 28750 rev2.1

Test Date: 08-28-2024
Company: Wilson Sporting Goods Co.
EUT: QBID Player Tag
Test: Peak Output Power – RF Conducted
Operator: cbrandt

Comment: Mid Channel: 2440 MHz

Peak Output Power = 0.54 dBm = **1.13 mW**



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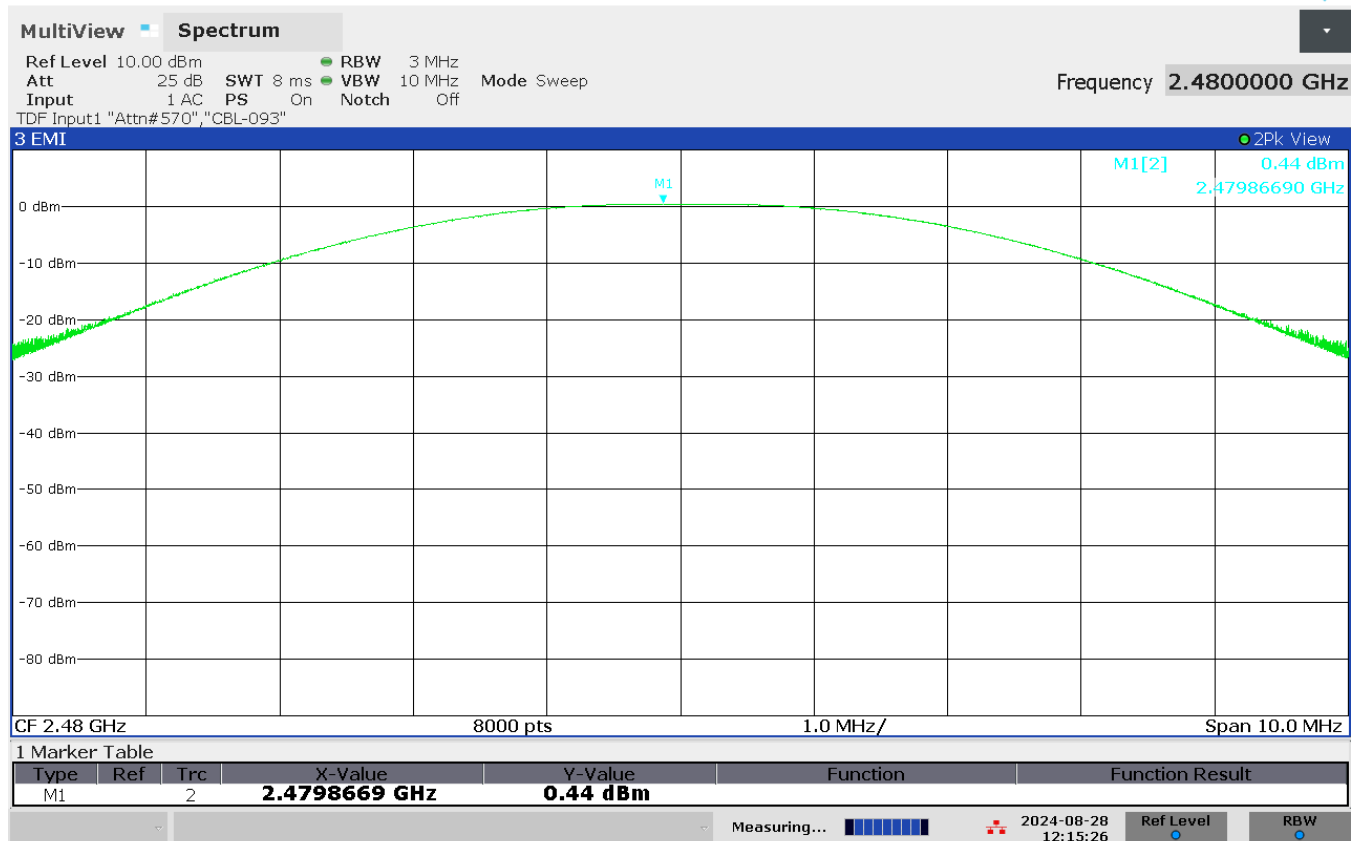
166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
Model Evaluated: MSC1417_ASSY Rev B
Evaluation Exhibit: RF Exposure
Project Number: 12719
Report Number: 28750 rev2.1

Test Date: 08-28-2024
Company: Wilson Sporting Goods Co.
EUT: QBID Player Tag
Test: Peak Output Power – RF Conducted
Operator: cbrandt

Comment: High Channel: 2480 MHz

Peak Output Power = 0.44 dBm = **1.11 mW**



12:15:27 PM 08/28/2024



166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
 Model Evaluated: MSC1417_ASSY Rev B
 Evaluation Exhibit: RF Exposure
 Project Number: 12719
 Report Number: 28750 rev2.1

B.2 – E-Field Measurement Data – 125 kHz

Prescan Data at 125 kHz, 0.8 cm distance:		
Side of EUT	Max H-Field (A/m)	Max E-Field (V/m)
Top	3.1281	37.565
Bottom	10.598	31.062
Front	2.1775	7.225
Right	1.8219	11.046
Back	2.1565	6.7502
Left	2.35	8.2813

FINAL Data E-field							
EUT Side:	TOP						
Calculated Total E-Field (x,y,z)		Measured E-Field X-axis		Measured E-Field Y-axis		Measured E-Field Z-axis	
Distance (cm)	E-field (V/m)	Distance (cm)	E-field (V/m)	Distance (cm)	E-field (V/m)	Distance (cm)	E-field (V/m)
0.8	42.99	0.8	40.87	0.8	11.00	0.8	7.52
1.0	35.54	1.0	33.76	1.0	9.14	1.0	6.31
2.0	19.89	2.0	19.24	2.0	4.21	2.0	2.84
3.0	10.24	3.0	9.88	3.0	2.29	3.0	1.37
4.0	6.40	4.0	6.23	4.0	1.28	4.0	0.77
5.0	4.04	5.0	3.93	5.0	0.83	5.0	0.48
6.0	2.79	6.0	2.69	6.0	0.63	6.0	0.38
8.0	1.42	8.0	1.31	8.0	0.42	8.0	0.33
10.0	0.80	10.0	0.72	10.0	0.13	10.0	0.33
12.0	0.63	12.0	0.42	12.0	0.34	12.0	0.33
14.0	0.65	14.0	0.46	14.0	0.34	14.0	0.33
16.0	0.63	16.0	0.42	16.0	0.33	16.0	0.33
18.0	0.61	18.0	0.40	18.0	0.33	18.0	0.33
20.0	0.60	20.0	0.38	20.0	0.33	20.0	0.33
22.0	0.60	22.0	0.38	22.0	0.33	22.0	0.33
24.0	0.60	24.0	0.38	24.0	0.33	24.0	0.33
26.0	0.60	26.0	0.38	26.0	0.33	26.0	0.33
28.0	0.60	28.0	0.38	28.0	0.33	28.0	0.33

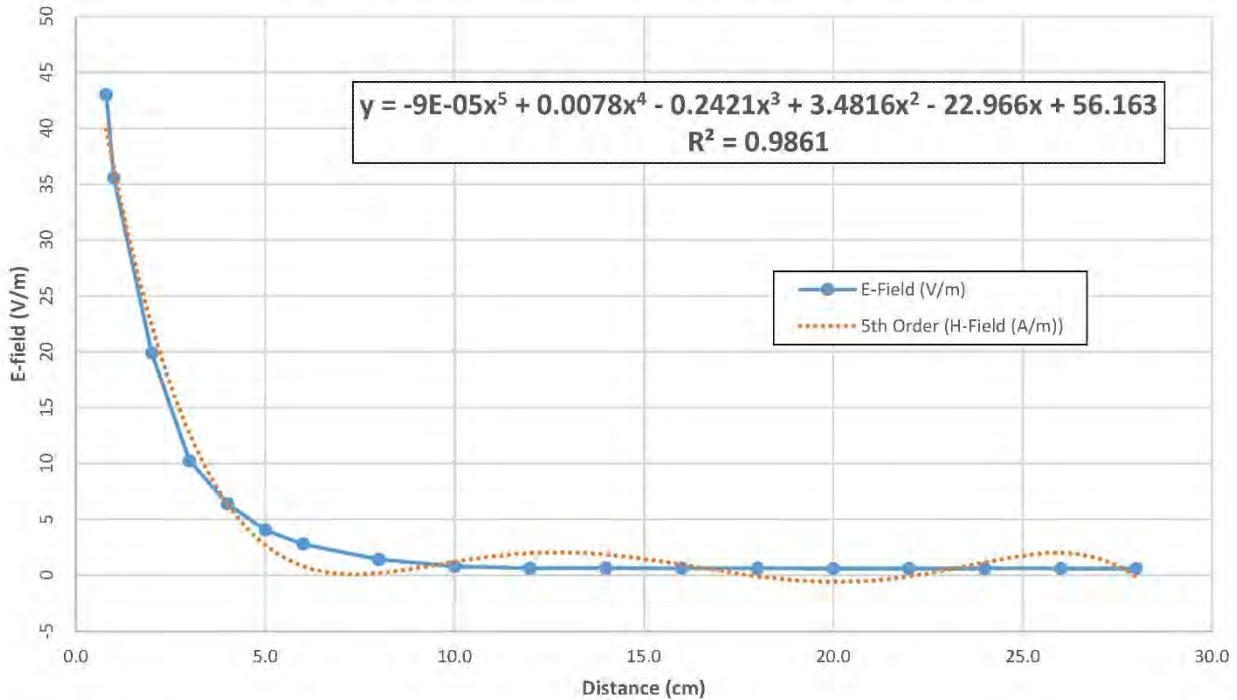


166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
 Model Evaluated: MSC1417_ASSY Rev B
 Evaluation Exhibit: RF Exposure
 Project Number: 12719
 Report Number: 28750 rev2.1

Section B.2 – E-Field Measurement Data – 125 kHz – continued

E-Field: Model 1 - 5th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.993015	AIC	25.57773
R Square	0.986078	AICc	36.77773
Adjusted R Square	0.980277	SBC	30.91996
Standard Error	1.785845		
Observations	18		

degree	R-square	p-value
1	0.40318	
2	0.69511	0.00178
3	0.877721	0.000435
4	0.958715	0.000222
5	0.986078	0.000394

ANOVA

	df	SS	MS	F	p-value	sig
Regression	5	2710.69	542.139	169.99	1E-10	yes
Residual	12	38.27092	3.189243			
Total	17	2748.965				

opt deg

	coeff	std err	t stat	p-value	lower	upper
Intercept	56.1633	2.21423	25.3647	8.6E-12	51.3389	60.9877
Degree 1	-22.9657	1.716718	-13.3777	1.4E-08	-26.7062	-19.2253
Degree 2	3.481645	0.389409	8.94085	1.2E-06	2.6332	4.33009
Degree 3	-0.24208	0.035457	-6.82737	1.8E-05	-0.31933	-0.16482
Degree 4	0.007807	0.001388	5.6259	0.00011	0.00478	0.01083
Degree 5	-9.5E-05	1.95E-05	-4.85646	0.00039	-0.00014	-5.2E-05

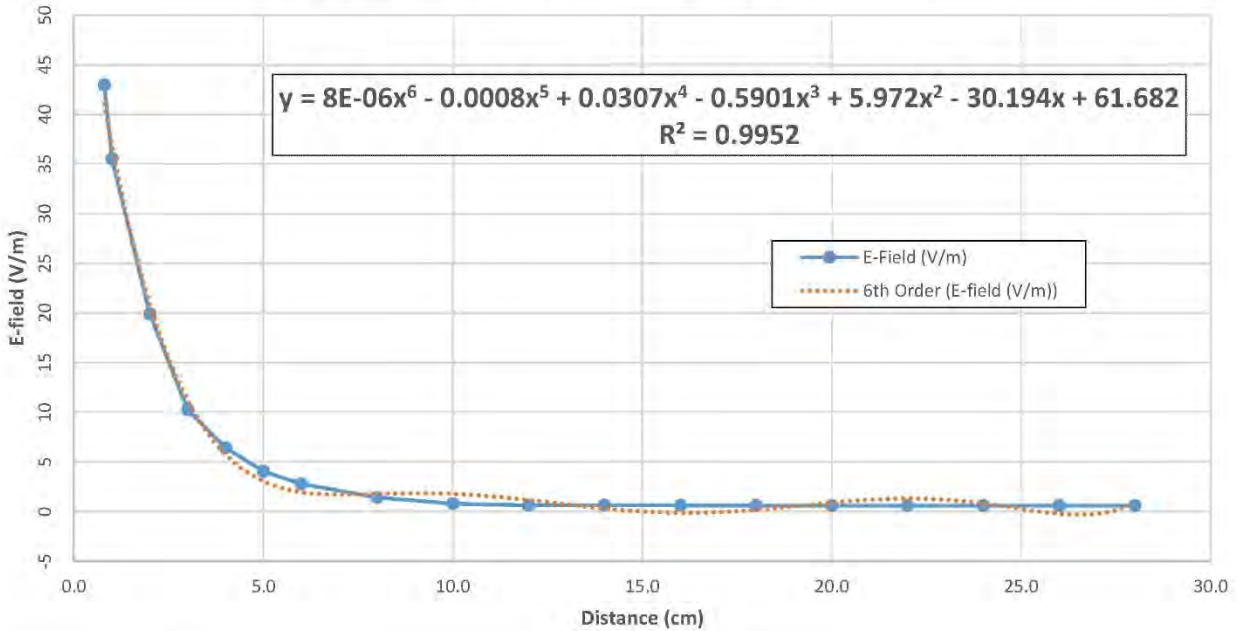


166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
 Model Evaluated: MSC1417_ASSY Rev B
 Evaluation Exhibit: RF Exposure
 Project Number: 12719
 Report Number: 28750 rev2.1

Section B.2 – E-Field Measurement Data – 125 kHz – continued

E-Field: Model 2 - 6th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.997574
R Square	0.995154
Adjusted R Square	0.992511
Standard Error	1.100479
Observations	18

AIC	8.582271
AICc	24.58227
SBC	14.81487

degree	R-square	p-value
1	0.40318	
2	0.69511	0.00178
3	0.877721	0.000435
4	0.958715	0.000222
5	0.986078	0.000394
6	0.995154	0.000845

ANOVA

	df	SS	MS	F	p-value	sig
Regression	6	2735.64	455.941	376.482	4.5E-12	yes
Residual	11	13.3216	1.211055			
Total	17	2748.965				

Alpha 0.05

opt deg

	coeff	std err	t stat	p-value	lower	upper
Intercept	61.6825	1.82766	33.7494	1.8E-12	57.6598	65.70513
Degree 1	-30.1938	1.911827	-15.7932	6.6E-09	-34.4017	-25.9859
Degree 2	5.971958	0.598844	9.97248	7.6E-07	4.65391	7.290005
Degree 3	-0.59006	0.07972	-7.40164	1.4E-05	-0.76553	-0.4146
Degree 4	0.030659	0.005107	6.00357	8.9E-05	0.01942	0.041899
Degree 5	-0.0008	0.000156	-5.13286	0.00033	-0.00114	-0.00046
Degree 6	8.22E-06	1.81E-06	4.53887	0.00085	4.2E-06	1.22E-05



166 South Carter, Genoa City, WI 53128

Company:

Model Evaluated:

Evaluation Exhibit:

Project Number:

Report Number:

Wilson Sporting Goods Co.

MSC1417_ASSY Rev B

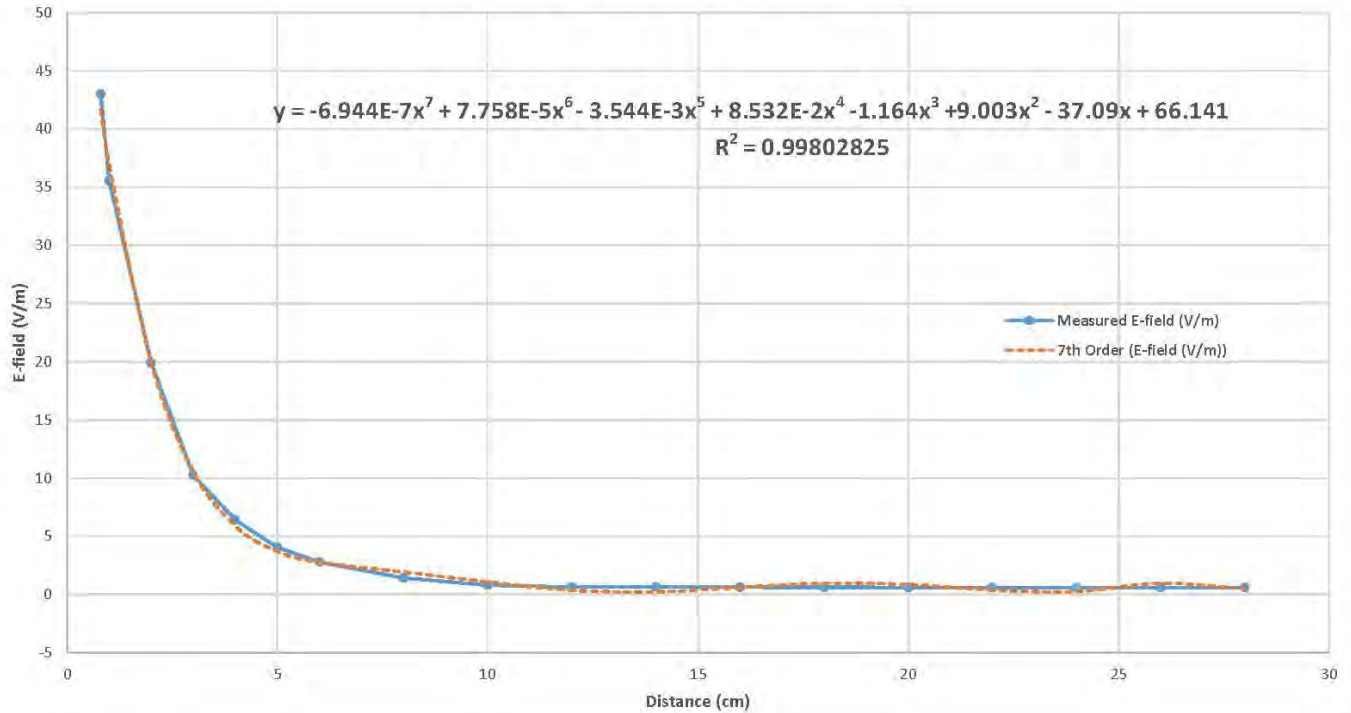
RF Exposure

12719

28750 rev2.1

Section B.2 – E-Field Measurement Data – 125 kHz – continued

E-Field: Model 3 - 7th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.999013641
R Square	0.998028254
Adjusted R Square	0.996648032
Standard Error	0.736224209
Observations	18

AIC	-5.60410065
AICc	16.89589935
SBC	1.518873416

degree	R-square	p-value
1	0.403179	
2	0.69511	0.00178
3	0.877721	0.000435
4	0.958715	0.000222
5	0.986078	0.000394
6	0.995154	0.000845
7	0.998028	0.003384

ANOVA

	df	SS	MS	F	p-value	sig
Regression	7	2743.545178	391.9350254	723.0925508	1.04E-12	yes
Residual	10	5.420260864	0.542026086			
Total	17	2748.965439				

opt deg

	coeff	std err	t stat	p-value	lower	upper
Intercept	66.14088159	1.690740876	39.11946682	2.84581E-12	62.37368	69.90808703
Degree 1	-37.08554772	2.212265726	-16.76360452	1.19622E-08	-42.0148	-32.1563125
Degree 2	9.002678396	0.889160148	10.1249234	1.41842E-06	7.021506	10.98385067
Degree 3	-1.163869906	0.159471229	-7.298306502	2.60644E-05	-1.51919	-0.80854587
Degree 4	0.085315675	0.014717477	5.796895352	0.000173691	0.052523	0.118108258
Degree 5	-0.003543967	0.000726446	-4.878503659	0.000643395	-0.00516	-0.00192535
Degree 6	7.75834E-05	1.82069E-05	4.261203195	0.001659878	3.7E-05	0.000118151
Degree 7	-6.94405E-07	1.81875E-07	-3.81803827	0.003384402	-1.1E-06	-2.8916E-07

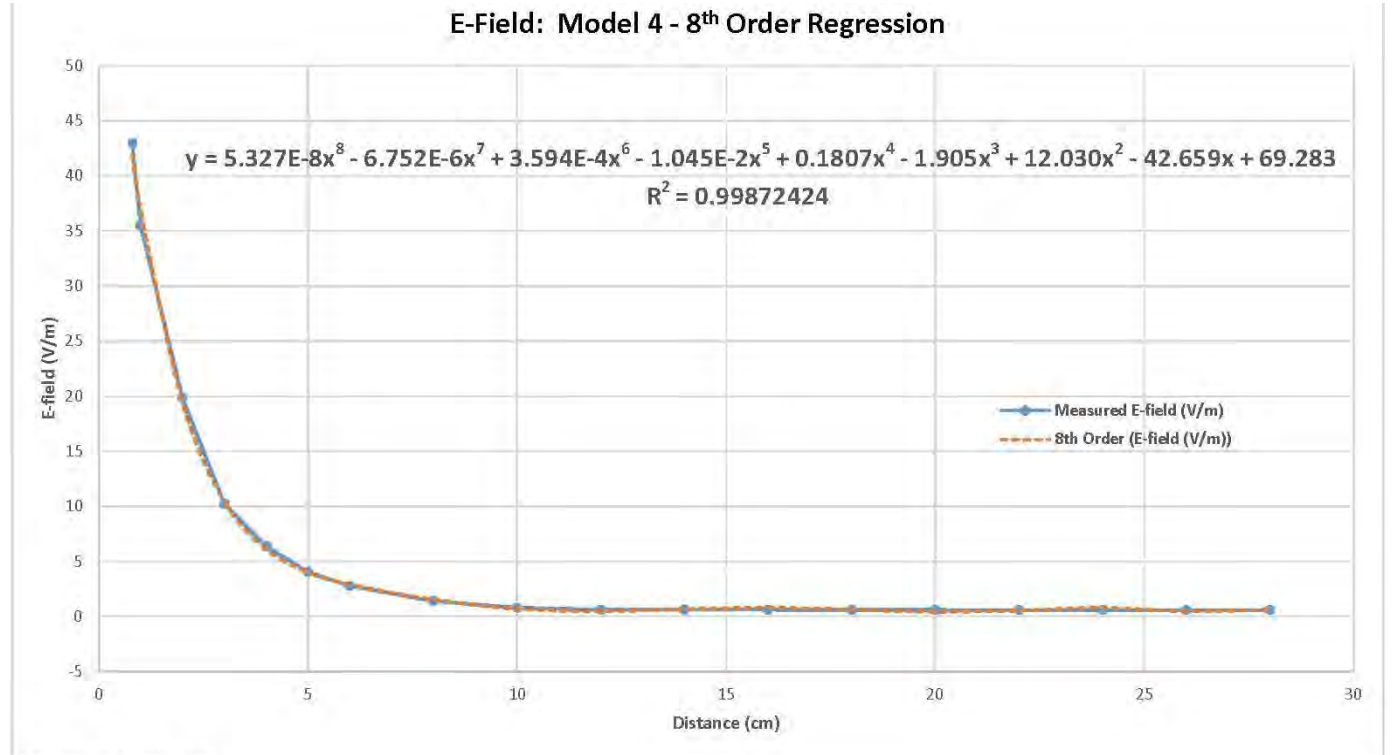


166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
 Model Evaluated: MSC1417_ASSY Rev B
 Evaluation Exhibit: RF Exposure
 Project Number: 12719
 Report Number: 28750 rev2.1

Section B.2 – E-Field Measurement Data – 125 kHz – continued

E-Field: Model 4 - 8th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.999361918
R Square	0.998724244
Adjusted R Square	0.997590238
Standard Error	0.62423375
Observations	18

AIC	-11.4409
AICc	19.98763
SBC	-3.4276

ANOVA

	df	SS	MS	F	p-value	sig
Regression	8	2745.458429	343.1823036	880.7049	4.21483E-12	yes
Residual	9	3.507009969	0.389667774			
Total	17	2748.965439				

	coeff	std err	t stat	p-value	lower	upper
Intercept	69.28264884	2.016289508	34.3614588	7.39E-11	64.72148509	73.84381259
Degree 1	-42.65905944	3.137702309	-13.5956363	2.64E-07	-49.7570352	-35.56108369
Degree 2	12.02996133	1.560409133	7.709491746	2.97E-05	8.500070636	15.55985203
Degree 3	-1.904953816	0.360746643	-5.2805864	0.000507	-2.72101942	-1.088888214
Degree 4	0.180740145	0.04483619	4.031121897	0.002968	0.079313638	0.282166653
Degree 5	-0.010446011	0.003175179	-3.28989715	0.00938	-0.01762876	-0.003263258
Degree 6	0.000359366	0.000128101	2.805335614	0.020533	6.95817E-05	0.00064915
Degree 7	-6.75181E-06	2.73803E-06	-2.46593962	0.035808	-1.2946E-05	-5.57962E-07
Degree 8	5.3269E-08	2.40401E-08	2.215841633	0.053929	-1.1134E-09	1.07652E-07

degree	R-square	p-value
1	0.403179	
2	0.69511	0.00178
3	0.877721	0.000435
4	0.958715	0.000222
5	0.986078	0.000394
6	0.995154	0.000845
7	0.998028	0.003384
8	0.998724	0.053929

opt deg



166 South Carter, Genoa City, WI 53128

Company:

Wilson Sporting Goods Co.

Model Evaluated:

MSC1417_ASSY Rev B

Evaluation Exhibit:

RF Exposure

Project Number:

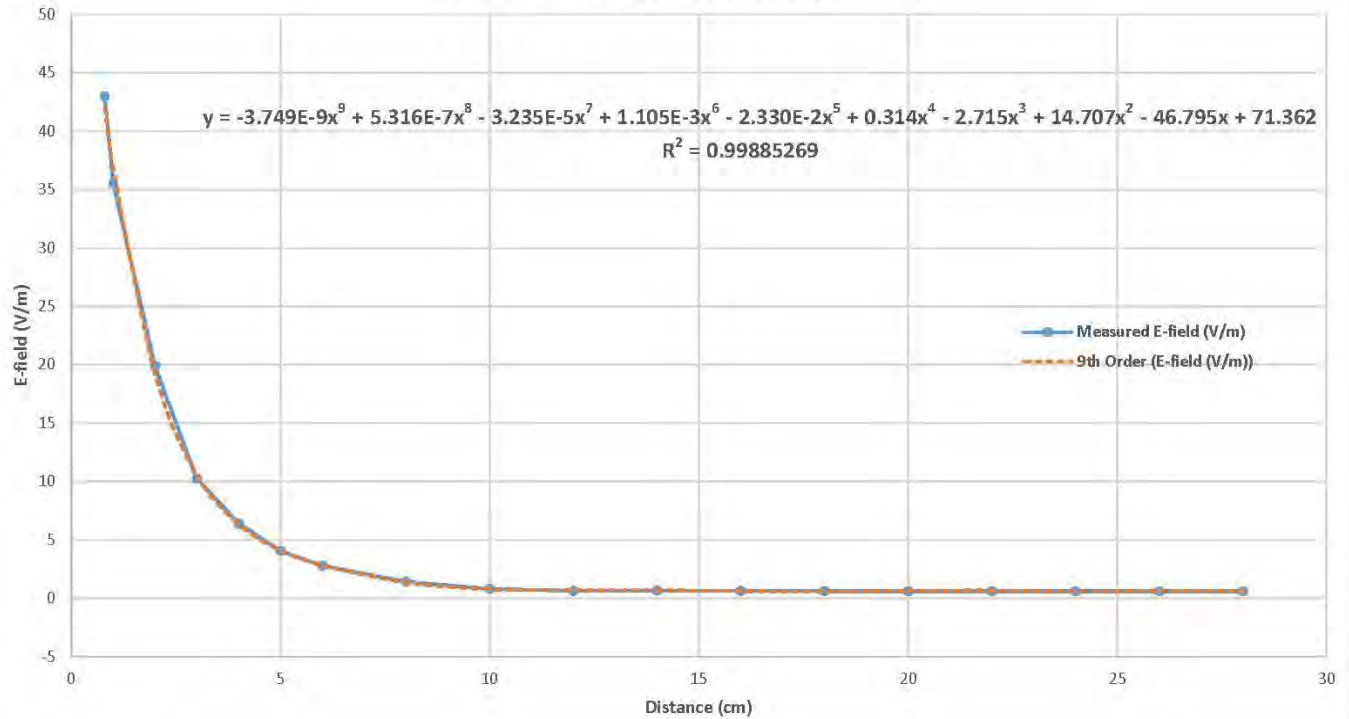
12719

Report Number:

28750 rev2.1

Section B.2 – E-Field Measurement Data – 125 kHz – continued

E-Field: Model 5 - 9th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.999426178
R Square	0.998852685
Adjusted R Square	0.997561956
Standard Error	0.627886193
Observations	18

AIC	-11.351
AICc	32.64899
SBC	-2.44729

degree	R-square	p-value
1	0.403179	
2	0.69511	0.00178
3	0.877721	0.000435
4	0.958715	0.000222
5	0.986078	0.000394
6	0.995154	0.000845
7	0.998028	0.003384
8	0.998724	0.053929
9	0.998853	0.371668

ANOVA

	df	SS	MS	F	p-value	sig
Regression	9	2745.81151	305.0901678	773.867	8.68307E-11	yes
Residual	8	3.153928571	0.394241071			
Total	17	2748.965439				

opt deg

	coeff	std err	t stat	p-value	lower	upper
Intercept	71.36182342	2.98999018	23.86690896	1.01E-08	64.4668937	78.25675314
Degree 1	-46.7946809	5.390535517	-8.6808965	2.41E-05	-59.2252781	-34.3640837
Degree 2	14.70671371	3.23476437	4.546455948	0.001883	7.247333699	22.16609373
Degree 3	-2.714608867	0.929314276	-2.92108809	0.019259	-4.85761143	-0.571606303
Degree 4	0.313988878	0.147847479	2.12373509	0.066438	-0.02694802	0.654925775
Degree 5	-0.023295754	0.013948619	-1.67011183	0.133445	-0.05546133	0.00886982
Degree 6	0.001105036	0.0007984	1.384062466	0.203724	-0.00073608	0.00294615
Degree 7	-3.23477E-05	2.71865E-05	-1.18984305	0.268219	-9.504E-05	3.03446E-05
Degree 8	5.31634E-07	5.06057E-07	1.050542169	0.324165	-6.3534E-07	1.6986E-06
Degree 9	-3.74907E-09	3.96157E-09	-0.94636026	0.371668	-1.2884E-08	5.38632E-09



166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
 Model Evaluated: MSC1417_ASSY Rev B
 Evaluation Exhibit: RF Exposure
 Project Number: 12719
 Report Number: 28750 rev2.1

B.3 – H-Field Measurement Data – 125 kHz

Prescan Data at 125 kHz, 0.8 cm distance:		
Side of EUT	Max H-Field (A/m)	Max E-Field (V/m)
Top	3.1281	37.565
Bottom	10.598	31.062
Front	2.1775	7.225
Right	1.8219	11.046
Back	2.1565	6.7502
Left	2.35	8.2813

FINAL Data H-field							
EUT Side:	BOTTOM						
Calculated Total H-Field (x,y,z)		Measured H-Field X-axis		Measured H-Field Y-axis		Measured H-Field Z-axis	
Distance (cm)	H-field (A/m)	Distance (cm)	H-field (A/m)	Distance (cm)	H-field (A/m)	Distance (cm)	H-field (A/m)
0.8	11.76	0.8	11.32	0.8	2.18	0.8	2.32
1.0	11.01	1.0	10.60	1.0	2.00	1.0	2.18
2.0	7.11	2.0	6.91	2.0	1.11	2.0	1.27
3.0	4.40	3.0	4.26	3.0	0.76	3.0	0.80
4.0	2.72	4.0	2.63	4.0	0.45	4.0	0.50
5.0	1.73	5.0	1.68	5.0	0.30	5.0	0.32
6.0	1.15	6.0	1.11	6.0	0.20	6.0	0.21
8.0	0.57	8.0	0.55	8.0	0.10	8.0	0.10
10.0	0.30	10.0	0.29	10.0	0.06	10.0	0.06
12.0	0.19	12.0	0.18	12.0	0.04	12.0	0.04
14.0	0.12	14.0	0.12	14.0	0.03	14.0	0.03
16.0	0.08	16.0	0.08	16.0	0.03	16.0	0.02
18.0	0.07	18.0	0.06	18.0	0.02	18.0	0.02
20.0	0.06	20.0	0.05	20.0	0.02	20.0	0.02
22.0	0.05	22.0	0.04	22.0	0.02	22.0	0.02
24.0	0.05	24.0	0.03	24.0	0.02	24.0	0.02
26.0	0.04	26.0	0.03	26.0	0.02	26.0	0.02
28.0	0.04	28.0	0.03	28.0	0.02	28.0	0.01

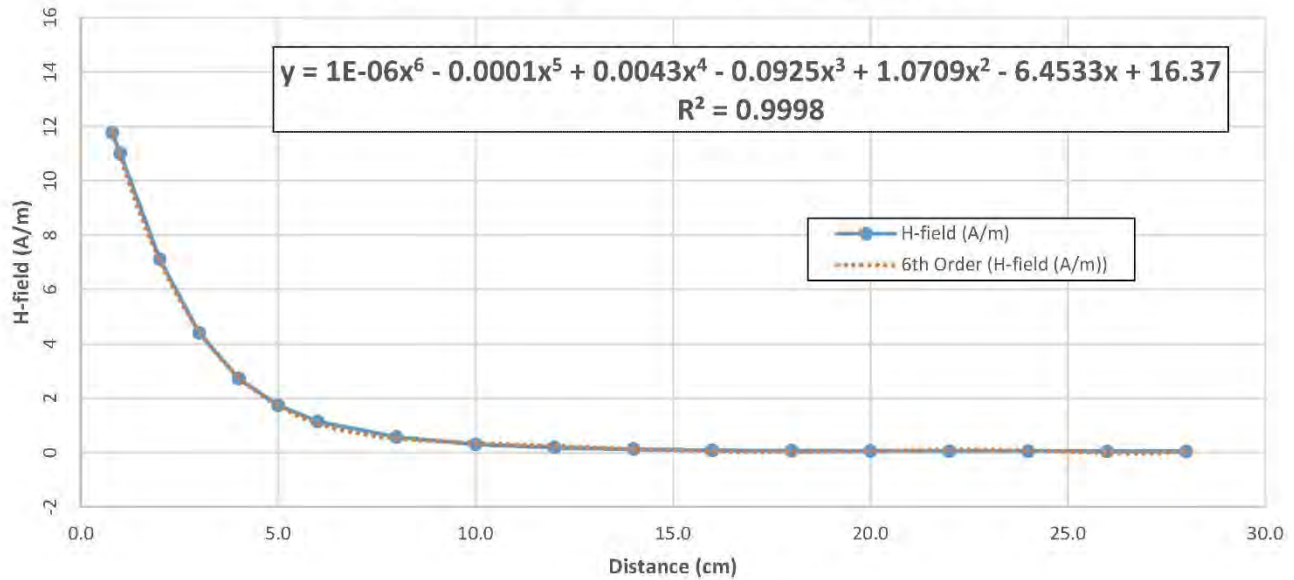


166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
 Model Evaluated: MSC1417_ASSY Rev B
 Evaluation Exhibit: RF Exposure
 Project Number: 12719
 Report Number: 28750 rev2.1

Section B.3 – H-Field Measurement Data – 125 kHz – continued

H-Field: Model 1 - 6th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.99989
R Square	0.99978
Adjusted R Square	0.99966
Standard Error	0.070145
Observations	18

AIC	-90.5234
AICc	-74.5234
SBC	-84.2908

degree	R-square	p-value
1	0.4889	
2	0.787087	0.000359
3	0.936709	5E-05
4	0.987206	7.33E-06
5	0.998254	1.55E-06
6	0.99978	2.8E-06

ANOVA

	df	SS	MS	F	p-value	sig
Regression	6	246.085	41.0142	8335.68	1.9E-19	yes
Residual	11	0.054124	0.00492			
Total	17	246.1396				

opt deg

	coeff	std err	t stat	p-value	lower	upper
Intercept	16.3696	0.1165	140.516	3E-19	16.1132	16.62601
Degree 1	-6.45326	0.121861	-52.956	1.3E-14	-6.72147	-6.18504
Degree 2	1.070933	0.038171	28.0565	1.4E-11	0.98692	1.154946
Degree 3	-0.09254	0.005081	-18.2112	1.5E-09	-0.10372	-0.08135
Degree 4	0.004339	0.000326	13.3306	3.9E-08	0.00362	0.005056
Degree 5	-0.0001	9.92E-06	-10.5242	4.4E-07	-0.00013	-8.3E-05
Degree 6	1.01E-06	1.15E-07	8.73809	2.8E-06	7.5E-07	1.26E-06

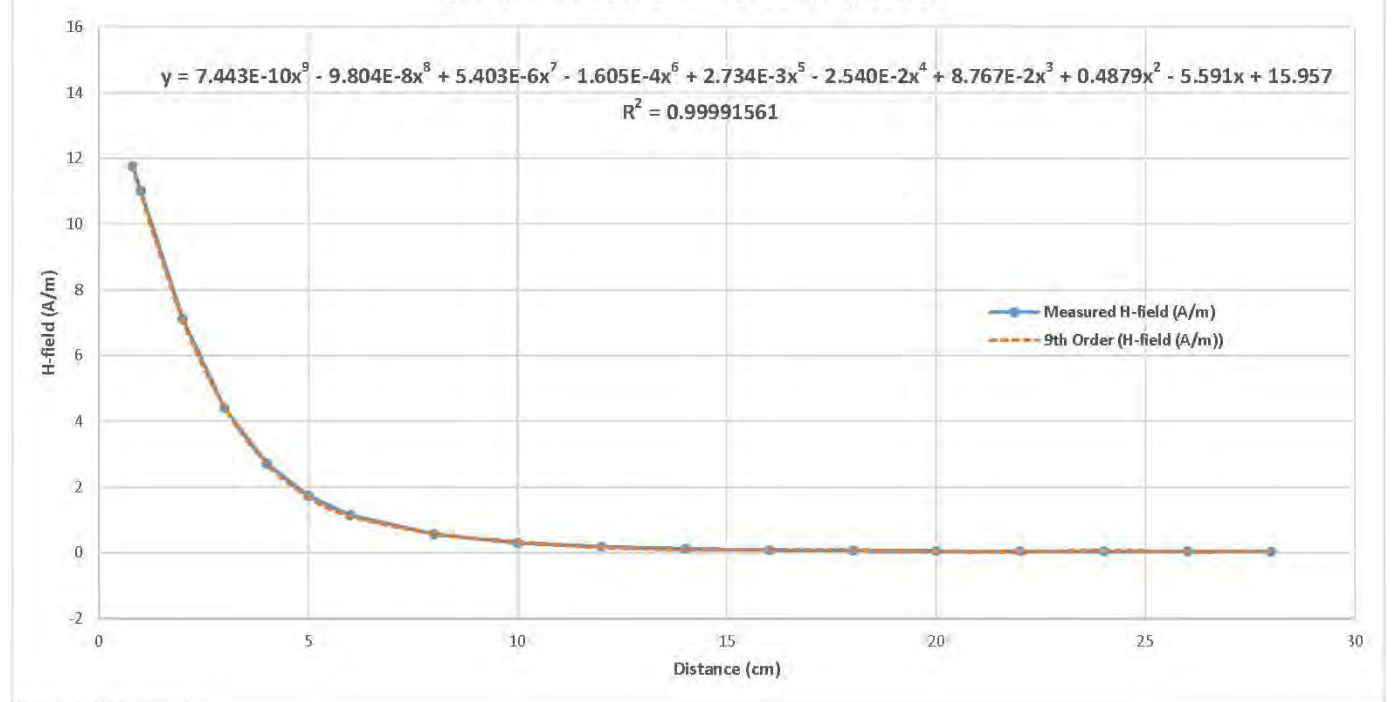


166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
Model Evaluated: MSC1417_ASSY Rev B
Evaluation Exhibit: RF Exposure
Project Number: 12719
Report Number: 28750 rev2.1

Section B.3 – H-Field Measurement Data – 125 kHz – continued

H-Field: Model 2 - 9th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.999957806	AIC	-101.762
R Square	0.999915613	AICc	-57.7623
Adjusted R Square	0.999820678	SBC	-92.8586
Standard Error	0.050954561		
Observations	18		

ANOVA

	df	SS	MS	F	p-value	sig
Regression	9	246.1188393	27.3465377	10532.62	2.54879E-15	yes
Residual	8	0.020770938	0.002596367			
Total	17	246.1396102				

	coeff	std err	t stat	p-value	lower	upper
Intercept	15.95664964	0.242645274	65.76122169	3.18E-12	15.39710863	16.51619064
Degree 1	-5.590536044	0.437455672	-12.779663	1.33E-06	-6.59931063	-4.581761456
Degree 2	0.487917367	0.262509358	1.858666563	0.100135	-0.1174303	1.093265033
Degree 3	0.087666475	0.075416218	1.162435315	0.27856	-0.08624364	0.261576585
Degree 4	-0.0254024	0.011998199	-2.11718442	0.067119	-0.0530703	0.002265497
Degree 5	0.002733532	0.001131966	2.414853644	0.042187	0.000123214	0.00534385
Degree 6	-0.000160476	6.47922E-05	-2.47677618	0.038304	-0.00030989	-1.10647E-05
Degree 7	5.40293E-06	2.20626E-06	2.448911395	0.040005	3.1529E-07	1.04906E-05
Degree 8	-9.80422E-08	4.10678E-08	-2.38732392	0.044039	-1.9274E-07	-3.33963E-09
Degree 9	7.44272E-10	3.21491E-10	2.315062124	0.049298	2.91206E-12	1.48563E-09

degree	R-square	p-value
1	0.488897	
2	0.787087	0.000359
3	0.936709	5E-05
4	0.987206	7.33E-06
5	0.998254	1.55E-06
6	0.99978	2.8E-06
7	0.999833	0.104899
8	0.999859	0.230312
9	0.999916	0.049298

opt deg



166 South Carter, Genoa City, WI 53128

Company:

Wilson Sporting Goods Co.

Model Evaluated:

MSC1417_ASSY Rev B

Evaluation Exhibit:

RF Exposure

Project Number:

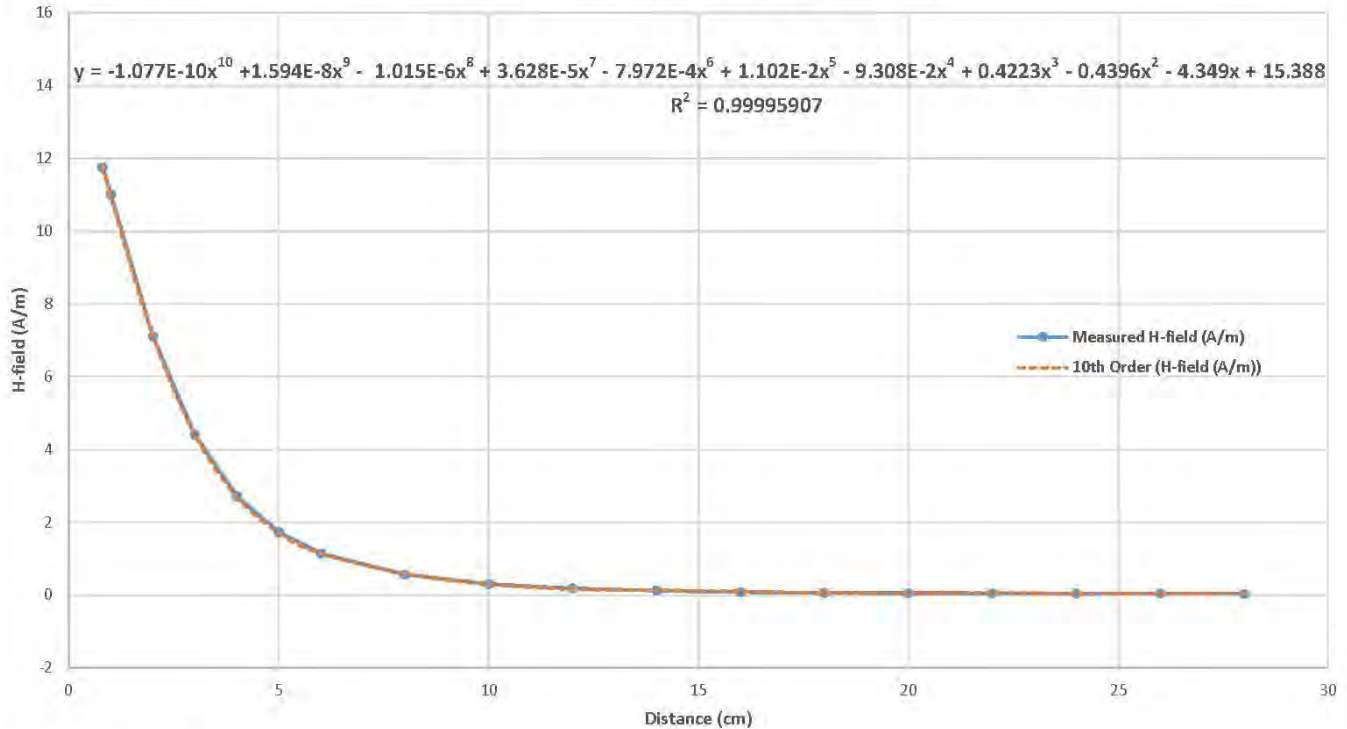
12719

Report Number:

28750 rev2.1

Section B.3 – H-Field Measurement Data – 125 kHz – continued

H-Field: Model 3 - 10th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.999979536
R Square	0.999959072
Adjusted R Square	0.999900603
Standard Error	0.037936044
Observations	18

AIC	-112.787
AICc	-50.387
SBC	-102.993

degree	R-square	p-value
1	0.488897	
2	0.787087	0.000359
3	0.936709	5E-05
4	0.987206	7.33E-06
5	0.998254	1.55E-06
6	0.99978	2.8E-06
7	0.999833	0.104899
8	0.999859	0.230312
9	0.999916	0.049298
10	0.999959	0.029495

ANOVA

	df	SS	MS	F	p-value	sig
Regression	10	246.1295362	24.61295362	17102.5	2.20473E-14	yes
Residual	7	0.010074004	0.001439143			
Total	17	246.1396102				

	coeff	std err	t stat	p-value	lower	upper
Intercept	15.38798279	0.275939091	55.76586754	1.56E-10	14.73549053	16.04047506
Degree 1	-4.3487949	0.559928814	-7.76669247	0.00011	-5.67281615	-3.024773647
Degree 2	-0.439634136	0.392360621	-1.12048486	0.299472	-1.36741958	0.488151303
Degree 3	0.422340044	0.134987799	3.128727537	0.016639	0.103144621	0.741535468
Degree 4	-0.093084149	0.026383483	-3.52812206	0.009622	-0.15547117	-0.030697125
Degree 5	0.011018491	0.003153569	3.493974439	0.010075	0.003561484	0.018475498
Degree 6	-0.0007972	0.000238476	-3.34288799	0.012371	-0.00136111	-0.000233293
Degree 7	3.62813E-05	1.14445E-05	3.170196113	0.015704	9.21936E-06	6.33432E-05
Degree 8	-1.0146E-06	3.37576E-07	-3.00554899	0.019786	-1.8128E-06	-2.16361E-07
Degree 9	1.59383E-08	5.5782E-09	2.857238529	0.024434	2.7479E-09	2.91286E-08
Degree 10	-1.07699E-10	3.95032E-11	-2.72632442	0.029495	-2.0111E-10	-1.42883E-11

opt deg 10

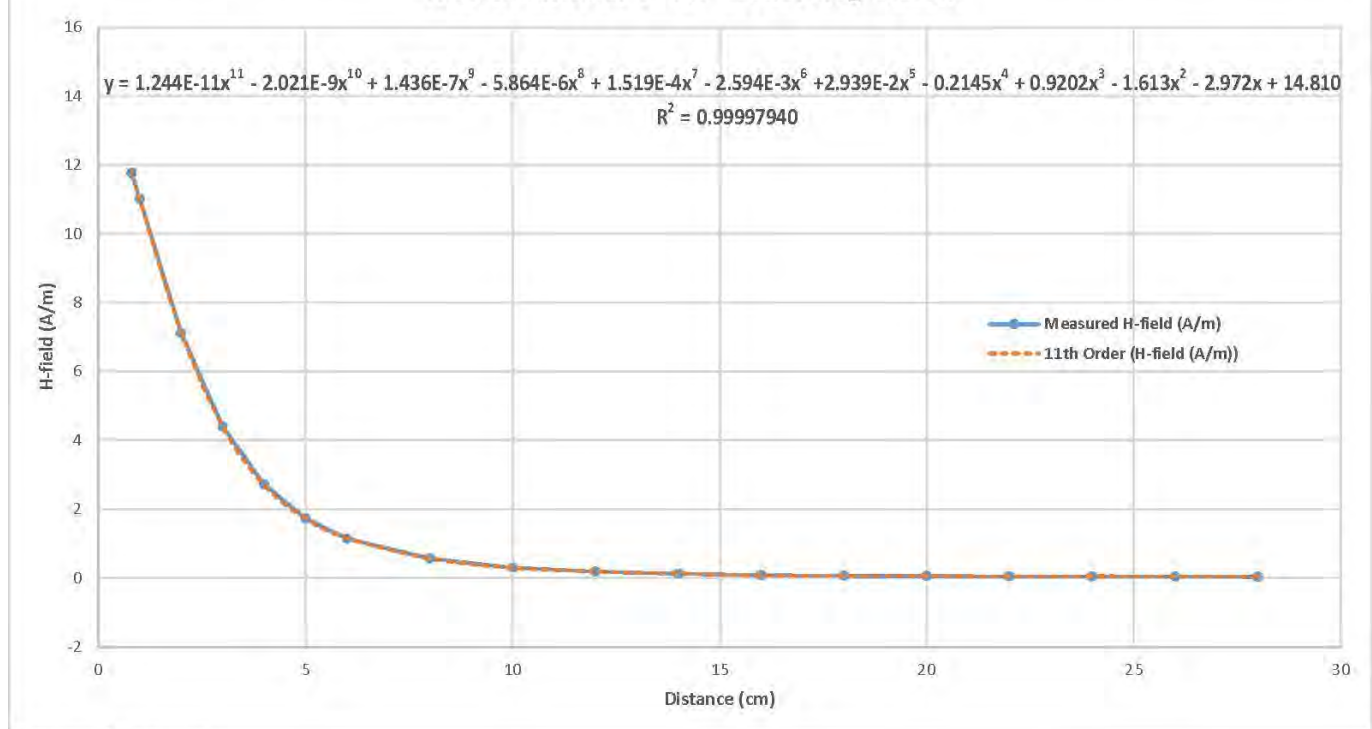


166 South Carter, Genoa City, WI 53128

Company: Wilson Sporting Goods Co.
Model Evaluated: MSC1417_ASSY Rev B
Evaluation Exhibit: RF Exposure
Project Number: 12719
Report Number: 28750 rev2.1

Section B.3 – H-Field Measurement Data – 125 kHz – continued

H-Field: Model 4 - 11th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.999989702
R Square	0.999979404
Adjusted R Square	0.999941646
Standard Error	0.029067182
Observations	18

AIC	-123.14826
AICc	-32.14826
SBC	-112.463799

degree	R-square	p-value
1	0.488897	
2	0.787087	0.000359
3	0.936709	5E-05
4	0.987206	7.33E-06
5	0.998254	1.55E-06
6	0.99978	2.8E-06
7	0.999833	0.104899
8	0.999859	0.230312
9	0.999916	0.049298
10	0.999959	0.029495
11	0.999979	0.050901

ANOVA

	df	SS	MS	F	p-value	sig
Regression	11	246.1345408	22.37587	26483.41779	3.90376E-13	yes
Residual	6	0.005069406	0.000845			
Total	17	246.1396102				

	coeff	std err	t stat	p-value	lower	upper
Intercept	14.80992774	0.317998295	46.57235	6.56728E-09	14.03181395	15.58804154
Degree 1	-2.971565815	0.710131611	-4.18453	0.005784304	-4.709195269	-1.23393636
Degree 2	-1.613041691	0.568185485	-2.83894	0.02960831	-3.003341488	-0.222741895
Degree 3	0.920152278	0.229206813	4.014507	0.00700242	0.359303411	1.481001146
Degree 4	-0.214467982	0.053815953	-3.98521	0.007240032	-0.346150876	-0.082785089
Degree 5	0.029385456	0.007924099	3.708366	0.009988906	0.009995884	0.048775027
Degree 6	-0.002594484	0.000760747	-3.41044	0.014310847	-0.004455966	-0.000733003
Degree 7	0.000151874	4.8298E-05	3.14452	0.019953034	3.36931E-05	0.000270055
Degree 8	-5.86401E-06	2.00927E-06	-2.91848	0.026683949	-1.07805E-05	-9.47512E-07
Degree 9	1.43594E-07	5.26257E-08	2.728594	0.03424986	1.48237E-08	2.72364E-07
Degree 10	-2.02066E-09	7.8659E-10	-2.56889	0.042398364	-3.94538E-09	-9.59456E-11
Degree 11	1.24434E-11	5.11281E-12	2.433773	0.050900672	-6.71774E-14	2.4954E-11

opt deg



166 South Carter, Genoa City, WI 53128

Company:

Model Evaluated:

Evaluation Exhibit:

Project Number:

Report Number:

Wilson Sporting Goods Co.

MSC1417_ASSY Rev B

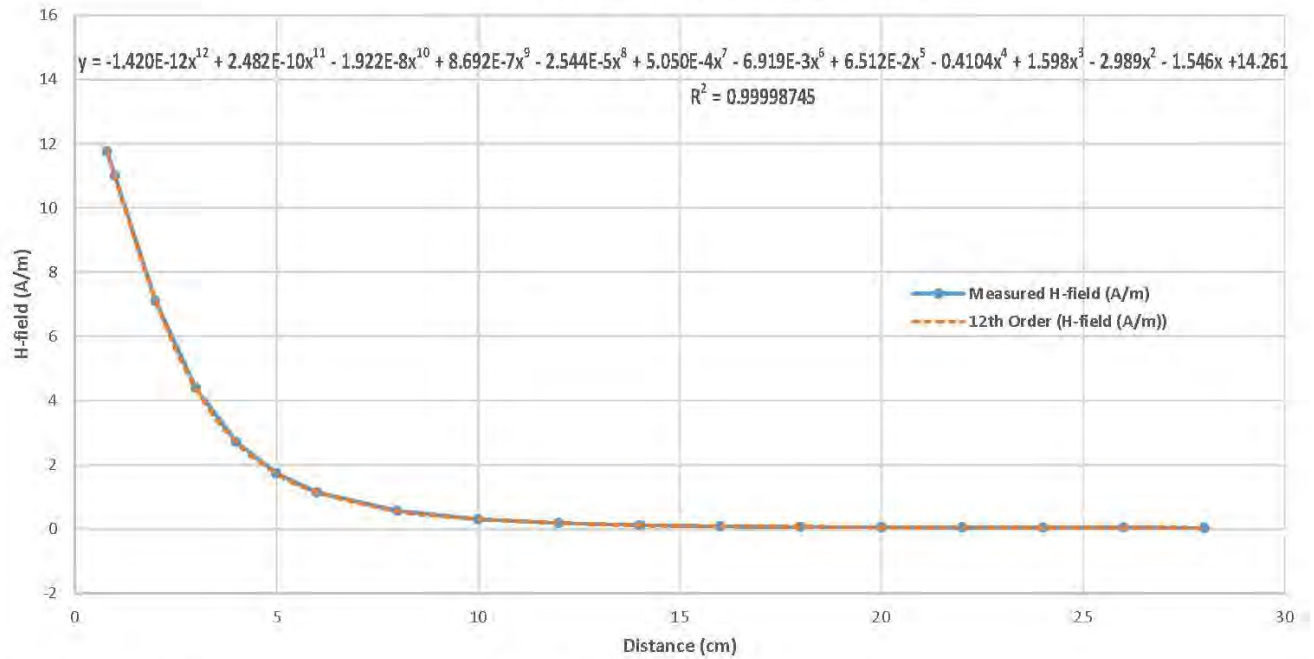
RF Exposure

12719

28750 rev2.1

Section B.3 – H-Field Measurement Data – 125 kHz – continued

H-Field: Model 5 - 12th Order Regression



Polynomial Regression

OVERALL FIT

Multiple R	0.999993723
R Square	0.999987447
Adjusted R Square	0.999957319
Standard Error	0.024859074
Observations	18

AIC	-130.0599767
AICc	9.940023324
SBC	-118.4851438

degree	R-square	p-value
1	0.488897	
2	0.787087	0.000359
3	0.936709	5E-05
4	0.987206	7.33E-06
5	0.998254	1.55E-06
6	0.99978	2.8E-06
7	0.999833	0.104899
8	0.999859	0.230312
9	0.999916	0.049298
10	0.999959	0.029495
11	0.999979	0.050901
12	0.999987	0.133505

ANOVA

	df	SS	MS	F	p-value	sig
Regression	12	246.1365	20.5113767	33191.3491	1.96478E-11	yes
Residual	5	0.00309	0.000617974			
Total	17	246.1396				

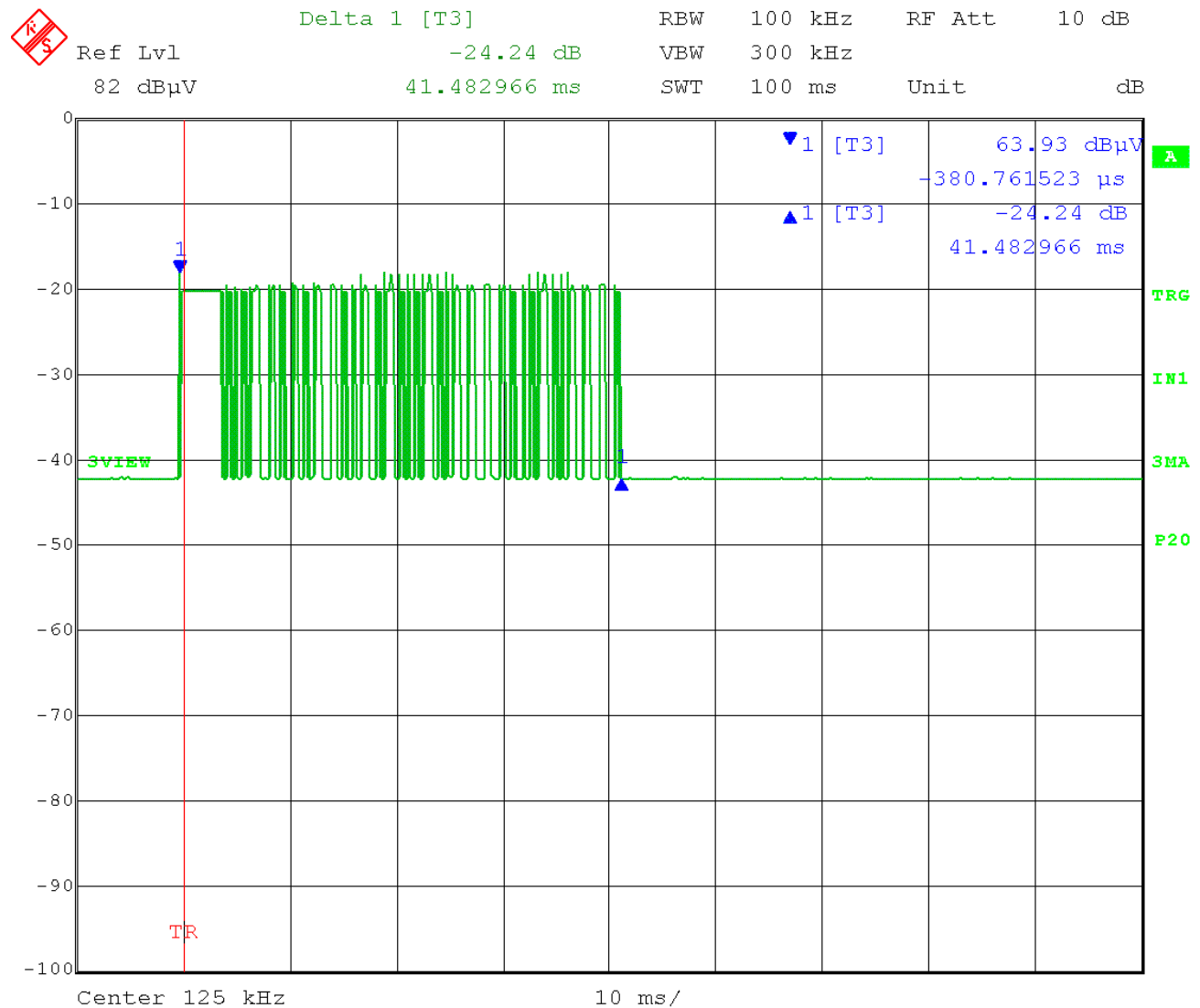
	coeff	std err	t stat	p-value	lower	upper
Intercept	14.26129029	0.409577	34.81951931	3.67587E-07	13.20843791	15.31414
Degree 1	-1.54618448	1.001551	-1.54379057	0.18329045	-4.120752436	1.028383
Degree 2	-2.98870628	0.909348	-3.28664902	0.021793946	-5.326258609	-0.65115
Degree 3	1.598189569	0.426551	3.746774342	0.013338001	0.501705847	2.694673
Degree 4	-0.41038935	0.118749	-3.45593084	0.018121506	-0.715644127	-0.10513
Degree 5	0.065191023	0.021122	3.08635195	0.027272146	0.01089428	0.119488
Degree 6	-0.00691914	0.002502	-2.76502614	0.039597999	-0.013351703	-0.00049
Degree 7	0.000504968	0.000202	2.505269339	0.054140116	-1.31645E-05	0.001023
Degree 8	-2.5439E-05	1.11E-05	-2.29773843	0.069969756	-5.38987E-05	3.02E-06
Degree 9	8.69176E-07	4.08E-07	2.130877643	0.086308168	-1.79353E-07	1.92E-06
Degree 10	-1.9224E-08	9.64E-09	-1.99511009	0.10257813	-4.39933E-08	5.55E-09
Degree 11	2.48216E-10	1.32E-10	1.883191589	0.11839045	-9.06023E-11	5.87E-10
Degree 12	-1.42E-12	7.93E-13	-1.78976978	0.133504575	-3.45958E-12	6.2E-13

opt deg

Test Date: 05-05-2025
Company: Wilson Sporting Goods Co.
EUT: QBID Player Tag
Test: Duty Cycle – (worst case under normal operation)
Operator: cbrandt

Comment: Transmit at 125 kHz
Duration of one cycle = 41.483 ms
Cycle repeats every 500.200 ms
Duty cycle $x = (41.483 \text{ ms} / 500.200 \text{ ms}) = 0.083$
Duty cycle = 8.3%

Duration of one cycle: 41.483 ms

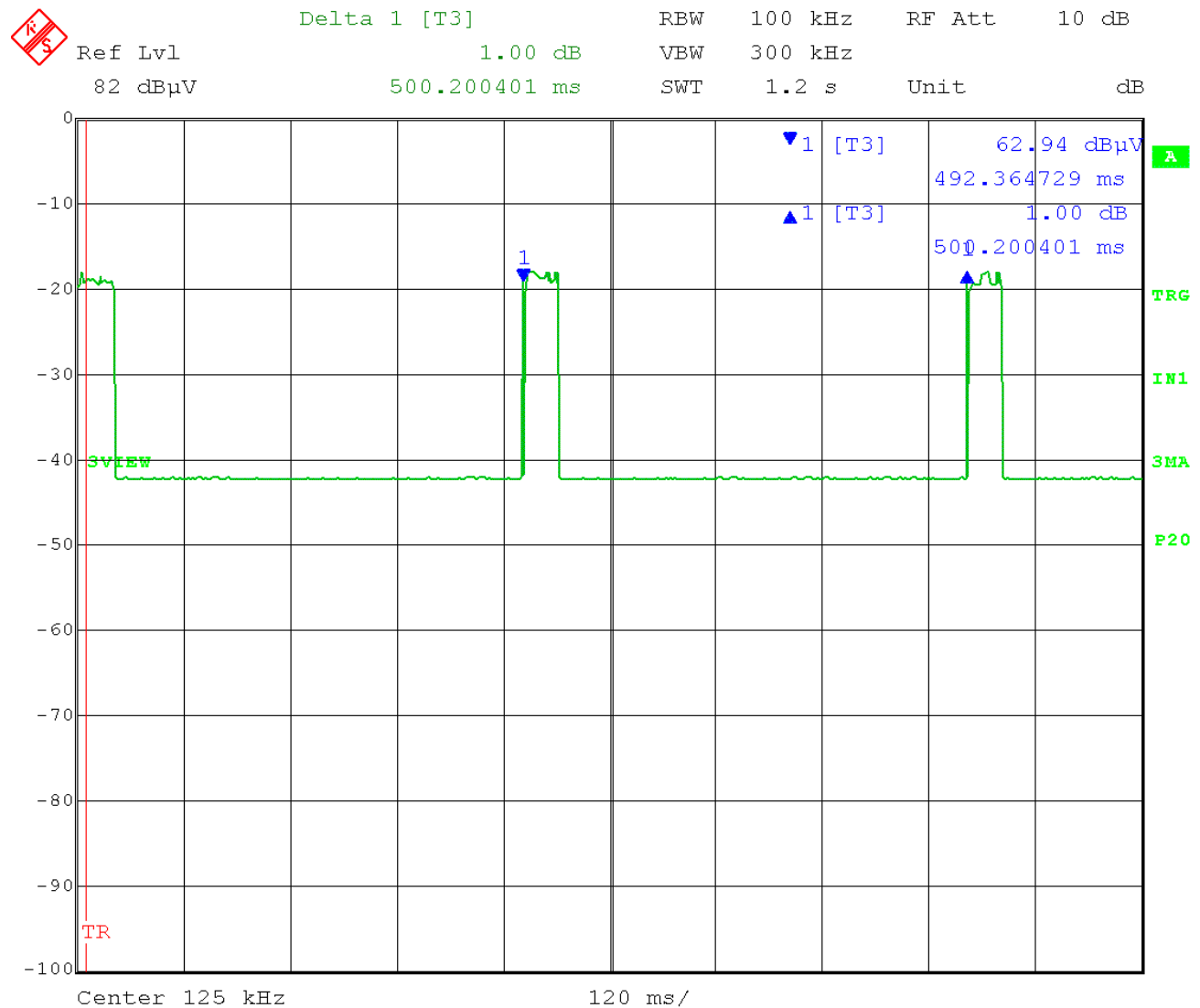


Date: 5.MAY.2025 16:39:49

Test Date: 05-05-2025
Company: Wilson Sporting Goods Co.
EUT: QBID Player Tag
Test: Duty Cycle – (worst case under normal operation)
Operator: cbrandt

Comment: Transmit at 125 kHz
Duration of one cycle = 41.483 ms
Cycle repeats every 500.200 ms
Duty cycle $x = (41.483 \text{ ms} / 500.200 \text{ ms}) = 0.083$
Duty cycle = 8.3%

Cycle repeats every 500.200 ms



Date: 5.MAY.2025 16:36:56



166 South Carter, Genoa City, WI 53128

Company:	Wilson Sporting Goods Co.
Model Evaluated:	MSC1417_ASSY Rev B
Evaluation Exhibit:	RF Exposure
Project Number:	12719
Report Number:	28750 rev2.1

Section C – E- & H-Field Measurement Probe Information – 125 kHz

The Narda EHP-200A E&H Field Analyzer probe has a 76 mm loop diameter positioned 8 mm from the probe's plastic enclosure. The capacitive plates for the E-field measurements are also 8 mm from the probe's plastic enclosure.

1.5 EHP-200A Main specifications

The following conditions apply to all specifications:

- Operating ambient temperature must be between -10°C and 50° C.

Table 1-1 Technical specifications of the EHP-200A Electric and Magnetic Field Analyzer				
	Electric Field	Magnetic Field Mode A	Magnetic Field Mode B	AUX Input
Frequency range	9 kHz ÷ 30 MHz	9 kHz ÷ 3 MHz	300 kHz ÷ 30 MHz	9 kHz ÷ 30 MHz
Measurement range				
@10kHz RBW	0.1 ÷ 1000 V/m	30 mA/m ÷ 300 A/m	3 mA/m ÷ 30 A/m	-80 ÷ 0 dBm
with preamplifier ON	0.02 ÷ 200 V/m	6 mA/m ÷ 60 A/m	0.6 mA/m ÷ 6 A/m	-94 ÷ -14 dBm
Dynamic range	> 80 dB			
Measurement range	> 94 dB			
Resolution	0.01 V/m	1 mA/m	0.1 mA/m	0.01 dB
Sensitivity @10kHz RBW (*)	0.1 V/m	30 mA/m	3 mA/m	-80 dBm
with preamplifier ON	0.02 V/m	6 mA/m	0.6 mA/m	-94 dBm
Flatness	0.5 dB 9 kHz ÷ 30 MHz @ 20 V/m	0.8 dB 100 kHz ÷ 3 MHz @ 166 mA/m	0.8 dB 300 kHz ÷ 30 MHz @ 53 mA/m	0.4 dB 9 kHz ÷ 30 MHz @ -20dBm
Anisotropy @1MHz	0.8 dB			---
Reference frequency	< 25 ppm			
Linearity @1MHz	0.5 dB from FS to -60 dBFS			
SPAN	0 to FULL SPAN			
RBW	1 kHz – 3 kHz – 10 kHz – 30 kHz – 100 kHz – 300 kHz			
Rejection to E fields	---	> 20 dB		---
Rejection to H fields	> 20 dB	---		---
Calibration	internal E ² PROM			
Temperature error	0.02 dB/°C			
Dimensions	92 x 92 x 109 mm			
Weight	550 g			
Environmental protection	IP42			
Preamplifier	selectable ON/OFF, 14dB			
Units	V/m, A/m, uT, mW/cm ² , W/m ²			
Internal battery	3.7 V – 5.55 Ah Li-Ion, rechargeable			
Operation	> 12 hours			
Recharging time	< 8 hours			
External supply	10 ÷ 15 VDC, I = approx. 560 mA			
Optical fiber connection	up to 10 m (USB-OC) up to 80 m (8053-OC)			
Firmware updating	through the optical link			
Self test	automatic at power on			
Operating temperature	-10 ÷ +50°C			
Storage temperature	-20 ÷ +70°C			

Specifications are subject to change without notice

Specifications valid for probes produced or recalibrated since 10/2021

(*) The maximum sensitivity is achieved with the filter to 10 kHz

1.6 EHP-200A Panel

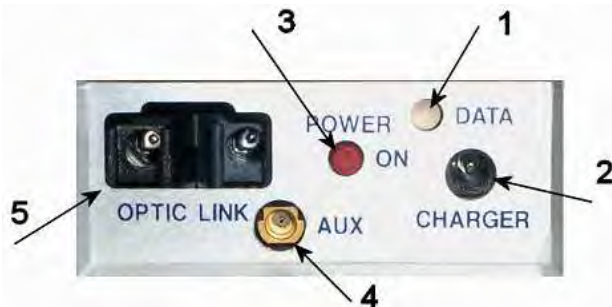


Fig. 1-1 EHP-200A Panel

Key:

1. Led
2. Battery charger connector
3. ON/OFF button
4. AUX input connector MMCX male type
5. Fiber optic connector

A good evaluation of the anisotropy of a field probe should be carried out in a place where all of the following conditions are satisfied:

- Far Field
- Plane wave
- Uniform field

Since the calibration systems are not infinite, these conditions can be approximated but never reached, and so the evaluation of anisotropy for our probes shows results worse than the reality. So, the real typical anisotropy response is better than what specified.

EHP-200A/AC is housed in a small cubic case and the bottom panel includes an optical fiber connector, threaded insert, battery charger connector, ON/OFF button and Status LED.

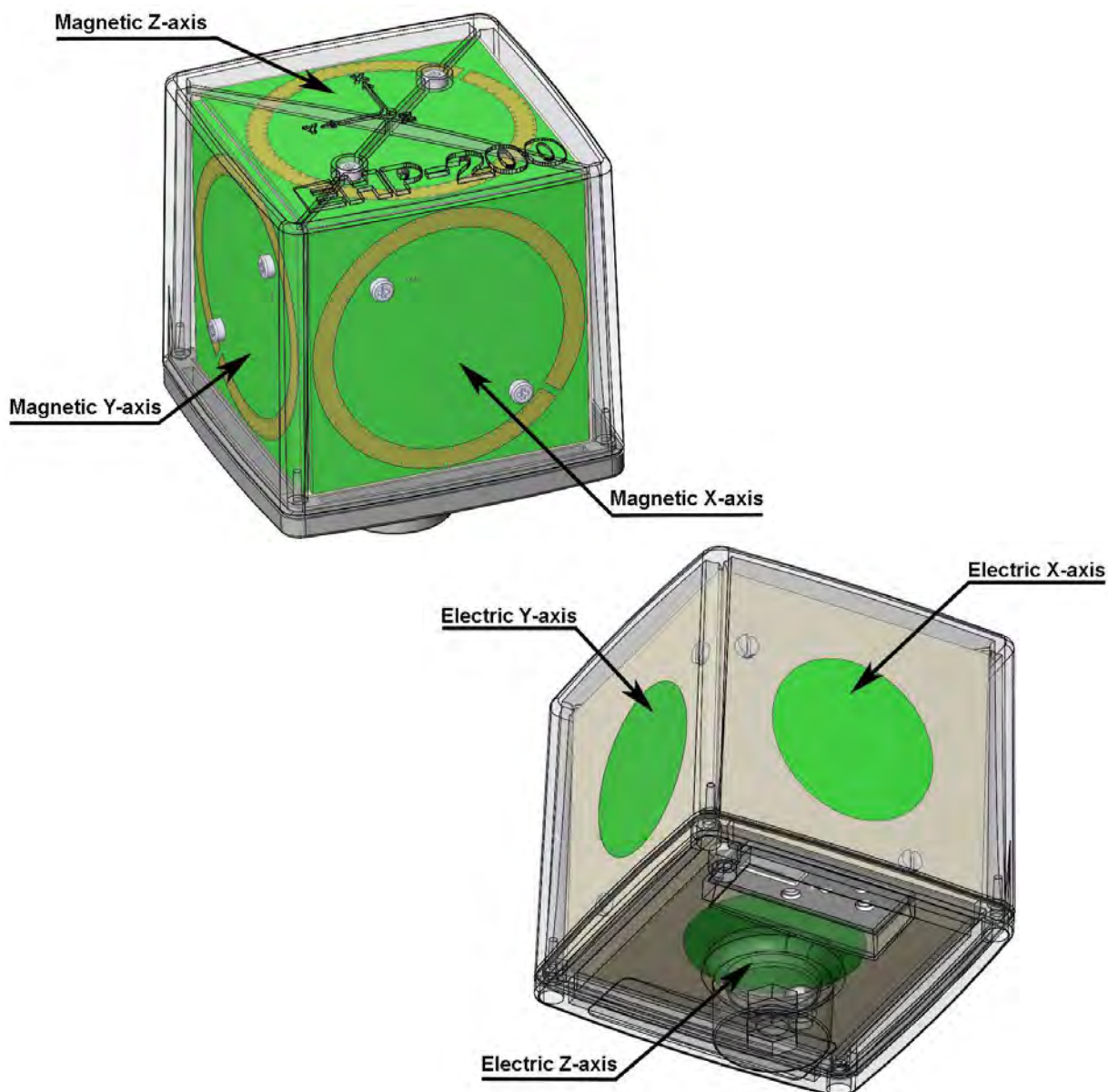


Fig. 1-4 EHP-200A/EHP-200AC axes

The sensitive elements are located approximately 8 mm below the external surface



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Company:	Wilson Sporting Goods Co.
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Section D – Measurement Uncertainty

E-Field and H-Field Emissions 3 kHz to 30 MHz Uncertainty

Parameter	Expanded Uncertainty (K=2)
E & H Field Probe Measurements	+/- 1.80 dB

Radiated & RF Conducted Emission 30 MHz to 25 GHz Uncertainty

Parameter	Expanded Uncertainty (K=2)
Occupied Channel Bandwidth	+/- 1.14%
RF Output Power, Conducted	+/- 1.80 dB
Unwanted Emissions, Conducted	+/- 2.62 dB
All Emissions, Radiated	+/- 4.95 dB
Duty Cycle	+/- 0.05%



166 South Carter, Genoa City, WI 53128

Company:	Wilson Sporting Goods Co.
Model Evaluated:	MSC1417_ASSY Rev B
Evaluation Exhibit:	RF Exposure
Project Number:	12719
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END OF REPORT

Revision #	Date	Comments	By
1.0	05-19-2025	Initial Release	CB
2.0	06-11-2025	Removed references to RSS-102.NS.MEAS. Removed the antenna gain measurement charts from Section B. These will now be included in a separate Antenna Under Test (AUT) report.	CB
2.1	06-18-2025	Corrected BLE worst-case duty cycle	CB