

RF EXPOSURE Test Report

Product: Anker Zolo Power Bank
(10K,30W,Magnetic)

Trade Mark: ANKER

Model Number: A1684

FCC ID: 2AOKB-A1684

Prepared for

Anker Innovations Limited

Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong

Prepared by

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TEST RESULT CERTIFICATION

Applicant's Name..... : Anker Innovations Limited
Address : Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road,
Hong Kong
Manufacturer's Name : Anker Innovations Limited
Address : Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road,
Hong Kong

Product description

Product name : Anker Zolo Power Bank (10K,30W,Magnetic)
Model Number : A1684

Standards : FCC CFR 47 PART 1 , 1.1310

Test procedure..... : KDB 680106 D01 Wireless Power Transfer v04

This device described above has been tested by Shenzhen HongBiao Certification& Testing Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the EMC requirements. And it is applicable only to the tested sample identified in the report.

Date of Test..... :

Date (s) of performance of tests..... : Jan. 27, 2026~Jan. 31, 2026

Test Result..... : **Pass**

Testing Engineer :

Zoe su
(Z o e S u)

Technical Manager :

Gary Lu
(G a r y L u)

Authorized Signatory :

Leo
(L e o S)



[illegible]

1 General Description

1.1 Description of EUT

Product name:	Anker Zolo Power Bank (10K,30W,Magnetic)
Model name:	A1684
Series Model:	N/A
Different of series model:	N/A
Operation frequency:	111-205kHz
Operational mode:	Wireless charging
Modulation type:	FSK
Antenna type:	Coil Antenna
Battery:	5000mAh 7.5V DC/37.5Wh (Two Cells in Series)
Power supply:	Total Cell Capacity: 10000mAh Battery Capacity: 5000mAh 7.5VDC/37.5Wh (Two Cells in Series) USB-C Input: DC 5V/3A, 9V/2.22A, 12V/1.66A (20W Max) USB-C Output: DC 5V/3A, 9V/3A, 10V/2.25A, 12V/2.5A, 15V/2A, 20V/1.5A (30W Max) Wireless Output: 5W, 7.5W Total Output: 5V/3A (15W Max)
Adapter information:	N/A

1.2 Test Mode

Pretest Test Mode	Description of Mode
1	EUT + Mobile Phone (Battery Status: <1%)
2	EUT + Mobile Phone (Battery Status: <50%)
3	EUT + Mobile Phone (Battery Status: <99%)
4	Stand-by mode
5	Direct exposure during device removal

1.3 Test Setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.4 Ancillary Equipment

Equipment	Model	S/N	Manufacturer
Phone	LE2120	98d9b780	Shenzhen Oneplus Technology Co., Ltd

2 Test Facilities and Accreditations

2.1 Test Laboratory

Test Site	Shenzhen HongBiao Certification& Testing Co., Ltd
Test Site Location	Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China
Telephone:	(86-755) 2998 9321
Fax:	(86-755) 2998 5110
FCC Registration No.:	CN1341
A2LA Certificate No.:	6765.01

2.2 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C~35°C
Relative Humidity:	20%~75%
Air Pressure:	98kPa~101kPa

2.3 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

The data and results quoted in this document are true and accurate values, and uncertainties are not involved in the calculations.

In addition, components and mass production processes that are similar to testing equipment may introduce additional deviations, and the manufacturer is solely responsible for the continued compliance of the equipment.

Measurement Frequency Range	U, (dB)	Note
RF frequency	2×10^{-5}	
E-field	± 2.5 dB	
H-field	± 4.2 dB	
Temperature	± 1 degree	
Humidity	± 5 %	

2.4 Test Software

Software name	Manufacturer	Model	Version
MAGPy V2.6	Schmid & Partner Engineering AG	MAGPy V2.6	V2.6

3 List of Test Equipment

Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E077	Magnetic Amplitude and Gradient Probe System	Schmid & Partner Engineering AG	MAGPy -8H3D+E3D	3107	2024-03-15	2026-03-14
2	HB-E078	Magnetic Amplitude and Gradient Probe System	Schmid & Partner Engineering AG	MAGPy-DAS	3097	2024-03-15	2026-03-14

Note: the calibration interval of the above test instruments is 24 months and the calibrations are traceable to international system unit (SI).

4 RF Exposure

4.1 Maximum Permissible Exposure

4.1.1. Limit

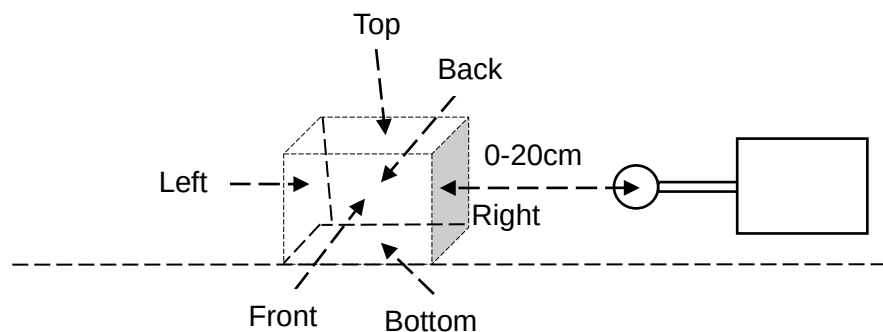
Frequency range(MHz)	Electric field strength(V/m)	Magnetic field strength(A/m)	Power density(mW/cm ²)	Averaging time(minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0 6	6
300-1500	/	/	f/300	6
1500-100000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100000	/	/	1	30

f = frequency in MHz * = Plane-wave equivalent power density

4.1.2. Test Procedures

- The RF exposure test was performed in anechoic chamber.
- Perform H-field measurements for each edge/top surface of the host/client pair at every 2 cm, starting from as close as possible out to 20 cm.
- The highest emission level was recorded and compared with limit.

4.1.3. Test Setup



4.1.4. H-field Test Result

For portable exposure condition:

Operating modes with client device (1 %, 50%, 99 battery status of client device) have been test, only show the data of worst case of 1% battery status of client device.

H-field measurements taken every 2 cm (starting as close to 20 cm as possible) on each edge/top surface of the host/client pair were also evaluated for portable use conditions. The report reflects data for the worst 0 cm test distance mode only.

Test condition 1: Mode 1 operating mode with client device (1 % battery status of client device).

When using the testing instrument MAGPy for testing, when selecting compliance location as probe tip in the settings, the measured value is extrapolated to 0mm

Measurement results directly tested using MAGPy.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	0	0.83
<1%	Left	0	0.13
<1%	Right	0	0.4
<1%	Front	0	0.4
<1%	Back	0	0.22
<1%	Bottom	0	0.12
Limit			1.63
Margin Limit (%)			50.92%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	0	1.44
<1%	Left	0	0.26
<1%	Right	0	1.2
<1%	Front	0	1.47
<1%	Back	0	0.75
<1%	Bottom	0	0.63
Limit			1.63
Margin Limit (%)			90.18%

Measurement results directly tested using MAGPy.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	2	0.74
<1%	Left	2	0.12
<1%	Right	2	0.38
<1%	Front	2	0.36
<1%	Back	2	0.18

<1%	Bottom	2	0.11
Limit			1.63
Margin Limit (%)			45.40%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	2	1.42
<1%	Left	2	0.18
<1%	Right	2	1.11
<1%	Front	2	1.32
<1%	Back	2	0.65
<1%	Bottom	2	0.58
Limit			1.63
Margin Limit (%)			87.12%

Measurement results directly tested using MAGPy.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	4	0.65
<1%	Left	4	0.09
<1%	Right	4	0.35
<1%	Front	4	0.34
<1%	Back	4	0.11
<1%	Bottom	4	0.08
Limit			1.63
Margin Limit (%)			39.88%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	4	1.38
<1%	Left	4	0.14
<1%	Right	4	1.02
<1%	Front	4	1.26
<1%	Back	4	0.54
<1%	Bottom	4	0.51
Limit			1.63
Margin Limit (%)			84.66%

Measurement results directly tested using MAGPy.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	6	0.59
<1%	Left	6	0.09
<1%	Right	6	0.32
<1%	Front	6	0.33
<1%	Back	6	0.08
<1%	Bottom	6	0.06
Limit			1.63
Margin Limit (%)			36.20%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	6	1.35
<1%	Left	6	0.11
<1%	Right	6	0.97
<1%	Front	6	1.15
<1%	Back	6	0.49
<1%	Bottom	6	0.48
Limit			1.63
Margin Limit (%)			82.82%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	8	1.29
<1%	Left	8	0.08
<1%	Right	8	0.85
<1%	Front	8	1.08
<1%	Back	8	0.39
<1%	Bottom	8	0.42
Limit			1.63
Margin Limit (%)			79.14%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	10	1.21
<1%	Left	10	0.05
<1%	Right	10	0.79
<1%	Front	10	1.02
<1%	Back	10	0.35
<1%	Bottom	10	0.38
Limit			1.63
Margin Limit (%)			74.23%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	12	1.18
<1%	Left	12	0.04
<1%	Right	12	0.75
<1%	Front	12	0.98
<1%	Back	12	0.31
<1%	Bottom	12	0.35
Limit			1.63
Margin Limit (%)			72.39%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	14	1.11
<1%	Left	14	0.05
<1%	Right	14	0.71
<1%	Front	14	0.88
<1%	Back	14	0.26
<1%	Bottom	14	0.32
Limit			1.63
Margin Limit (%)			68.10%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	16	1.08
<1%	Left	16	0.04
<1%	Right	16	0.68
<1%	Front	16	0.75
<1%	Back	16	0.21
<1%	Bottom	16	0.29
Limit			1.63
Margin Limit (%)			66.26%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	18	0.87
<1%	Left	18	0.05
<1%	Right	18	0.62
<1%	Front	18	0.66
<1%	Back	18	0.15
<1%	Bottom	18	0.14
Limit			1.63
Margin Limit (%)			53.37%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Battery levels	Test sides	Test distance(cm)	H-field(A/m)
<1%	Top	20	0.54
<1%	Left	20	0.04
<1%	Right	20	0.51
<1%	Front	20	0.49
<1%	Back	20	0.08
<1%	Bottom	20	0.05
Limit			1.63
Margin Limit (%)			33.13%

4.1.5. E-field Test Procedures

Curve-fitting Analysis

1. Locating the MFS

EUT will be a coil with the following parameters:

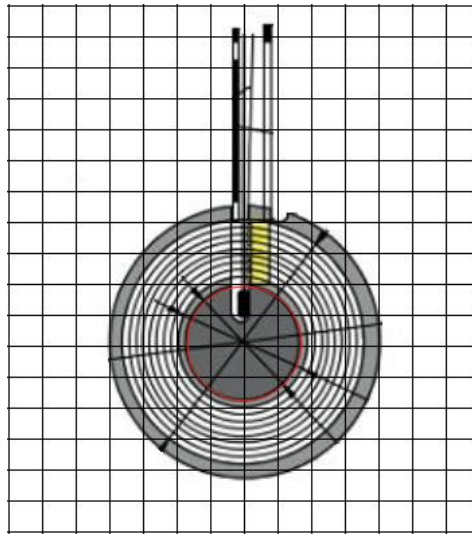
Outer radius: 19.5 mm

Inner radius: 9 mm

Number of turns: 10

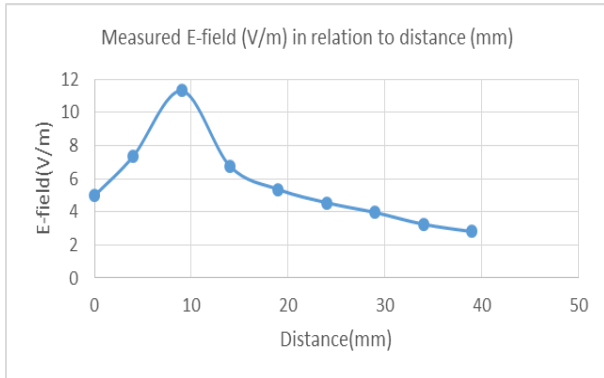
Current: 1 Arms

Frequency: 111-205 kHz

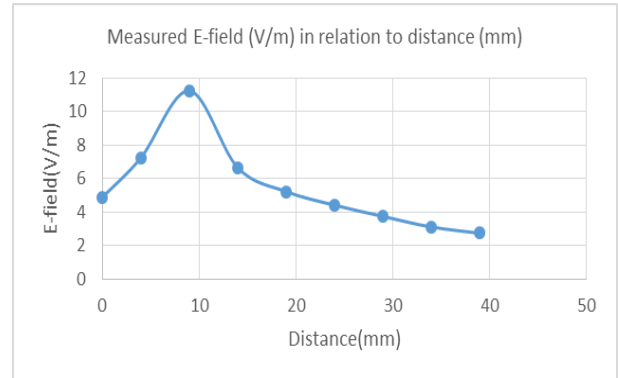


1. A grid of 5mm by 5mm is used due to the size of the EUT and the probe.
2. A probe MAGPy Version 2.6 Handheld System: MAGPy-8H3D+E3D is used to measure the E-field stemming from the EUT.
3. These initial measurements are made at $Z = 55$ mm from the surface of the XY plane.
4. MFS is located, I have collected the 11 measurement points that will be used to build the predictive model. $1.7D_p = 85$ mm. The E-field data is gathered at $Z \geq 55$ mm from the surface of the XY plane and 9mm from the center of the coil.
5. An Red circle is shown to represent the location of the MFS which is 9 mm from the centre of the coil.
6. Tested the top using 1%, 50%, and 99% of the customer's battery power. Then use the worst battery power configuration to test other locations and perform curve fitting evaluation using the worst battery power configuration (the worst configuration is the configuration when the customer's battery power is 1%)

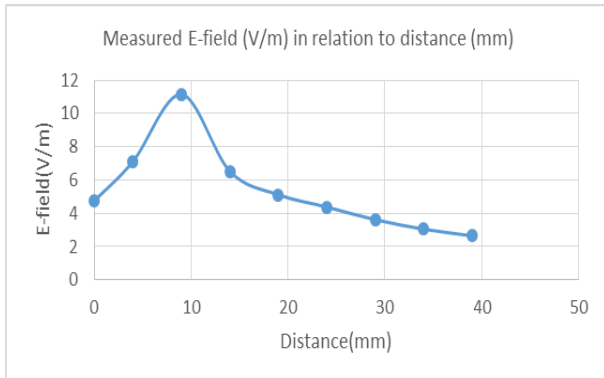
Transmitter 1, Top side, client battery level is 1%



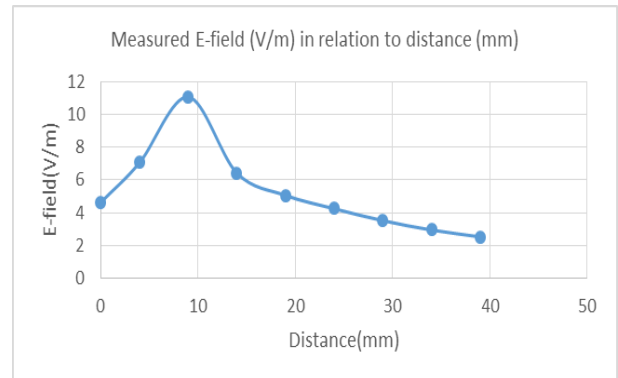
Transmitter 1, Top side, client battery level is 50%



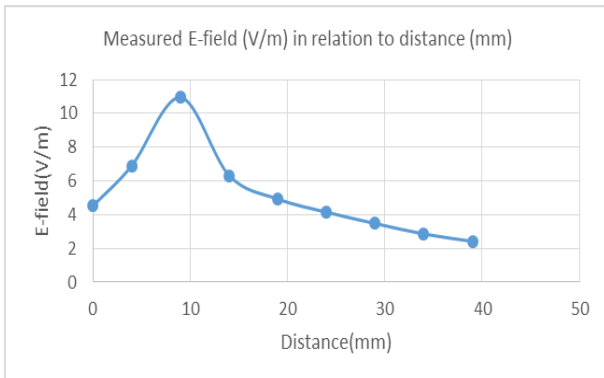
Transmitter 1, Top side, client battery level is 99%



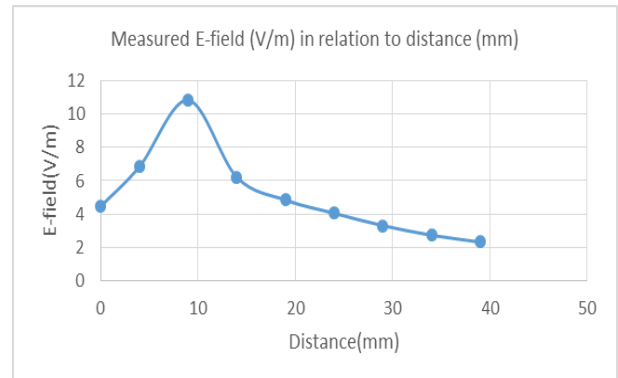
Transmitter 1, Bottom side, client battery level is 1%



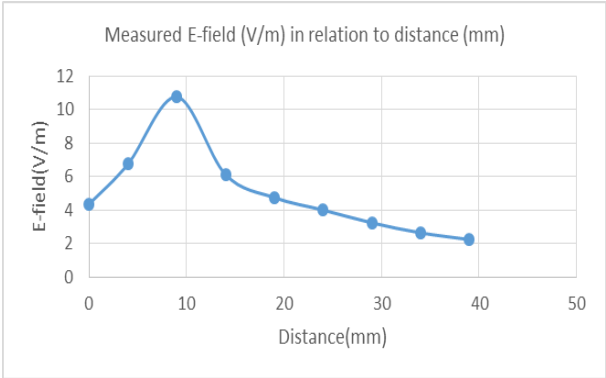
Transmitter 1, Front, client battery level is 1%



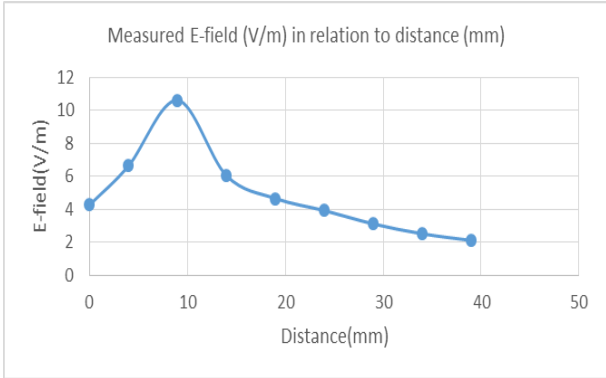
Transmitter 1, Back side, client battery level is 1%



Transmitter 1, Left side, client battery level is 1%



Transmitter 1, Right side, client battery level is 1%



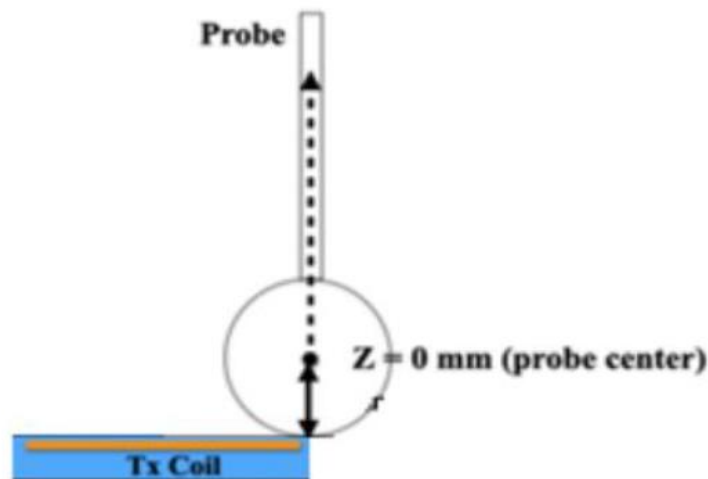
2.Methodology

Start gathering the data;

Measurements are made perpendicular to the XY plane;

Locate the MFS in the XY plane;

3.Probe located in the MFS location



4.Data Collecting Process

Distance (mm)	E-Field (V/m)		
	EUT + Phone mode (Battery Status: <1%)	Stand-by mode	Direct exposure during device removal mode
55	10.3	10.12	10.21
65	9.35	9.21	9.22
75	8.42	8.24	8.35
85	7.65	7.46	7.55
95	6.95	6.72	6.81
105	6.21	6.04	6.12
115	5.41	5.21	5.32
125	4.68	4.45	4.58
135	3.86	3.62	3.75
145	3.11	2.91	3.05
155	2.24	2.05	2.14

Modes 1-3 use the same test method, only the power of the test load is changed. The data only reflects the worst mode EUT+Phone (Battery Status: <1%), so we use regression techniques to verify the model error of three modes: EUT+Phone (Battery Status: <1%), standby mode, and direct exposure mode when the device is removed.

Test plots as below:



Note: All data has been tested and only the maximum E-field test chart is reflected in the report.

5.Performing Curve-fitting

we use five (5) regression techniques to validate their model errors.

Model 1: Linear Regression

Model 2: Quadratic Regression

Model 3: Cubic Regression

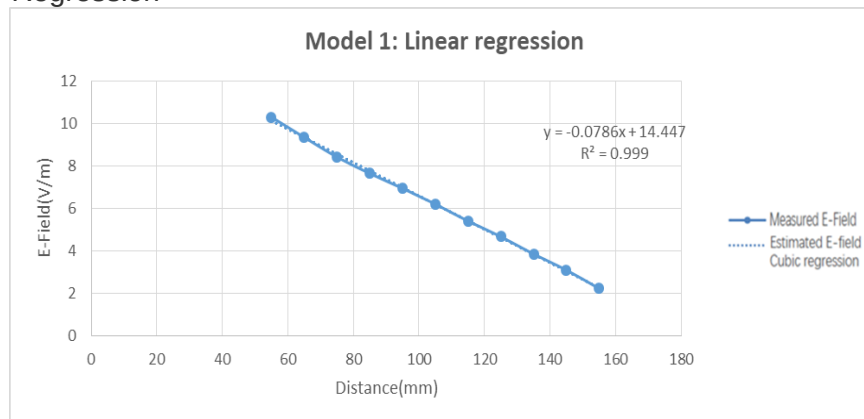
Model 4: 4th Order Regression

Model 5: 5th Order Regression

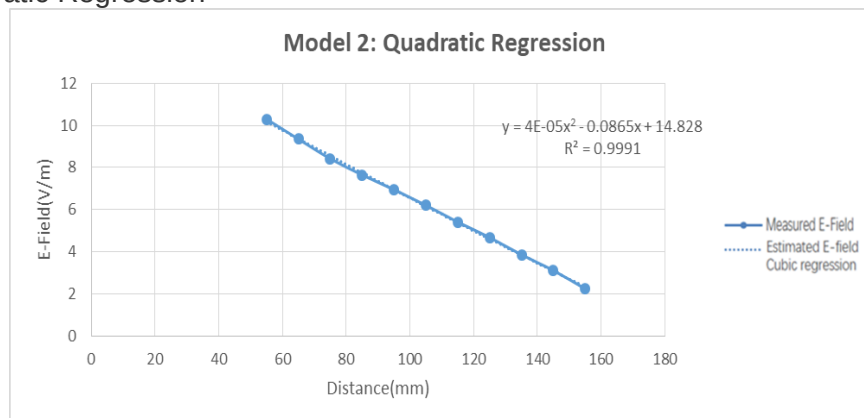
Each regression model will use the 11 data points from chapter 4.1.5 In this example, the Data Analysis package included in MS Excel was used to perform the regression analyses.

EUT + Phone (Battery Status: <1%):

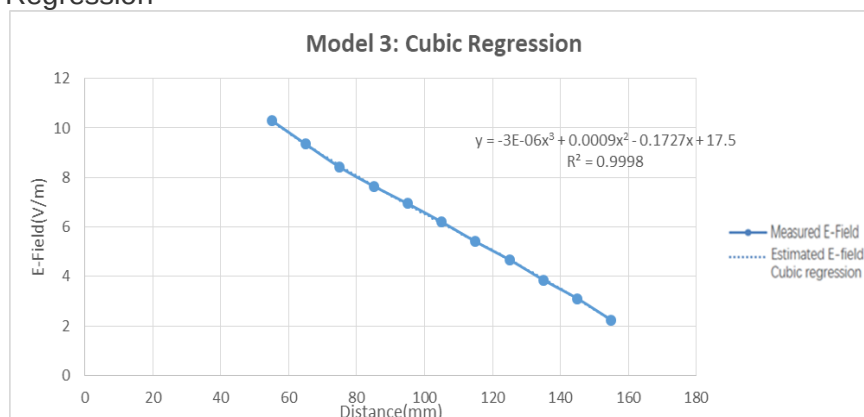
Model 1: Linear Regression



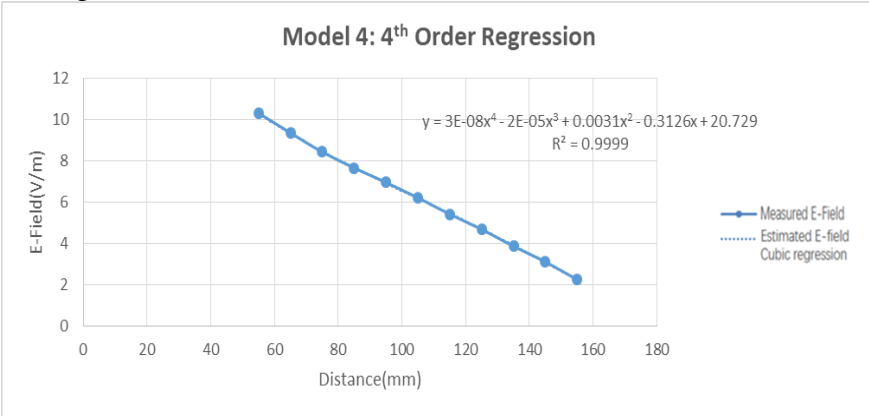
Model 2: Quadratic Regression



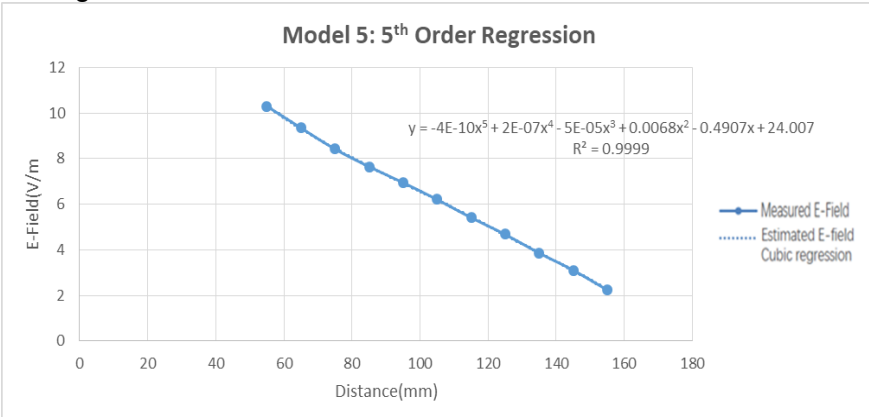
Model 3: Cubic Regression



Model 4: 4th Order Regression

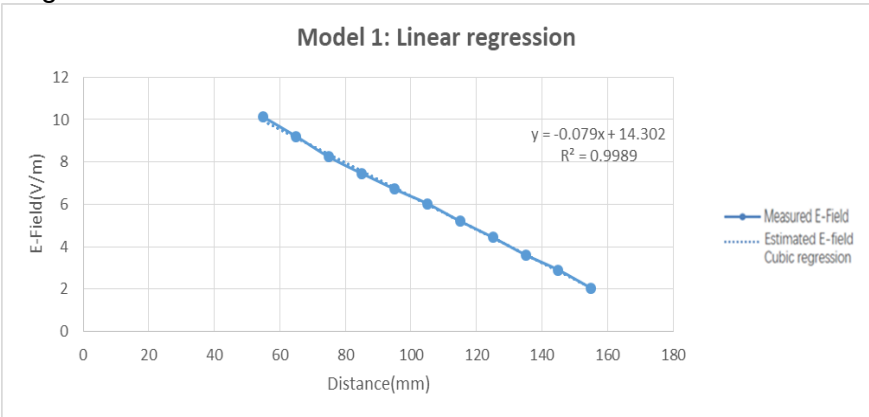


Model 5: 5th Order Regression

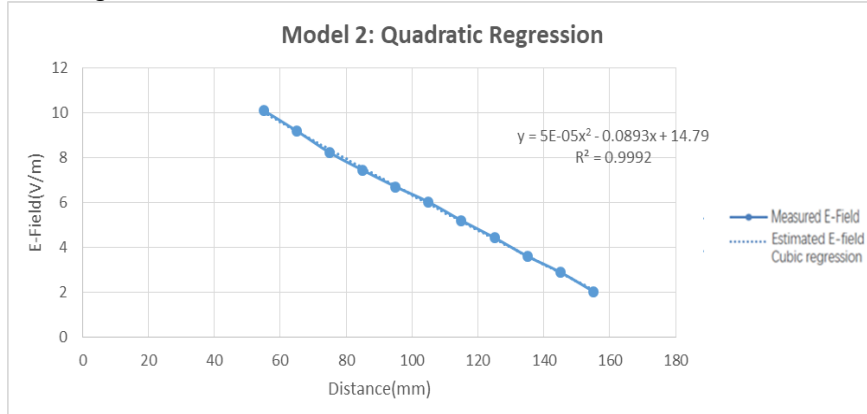


Stand-by mode:

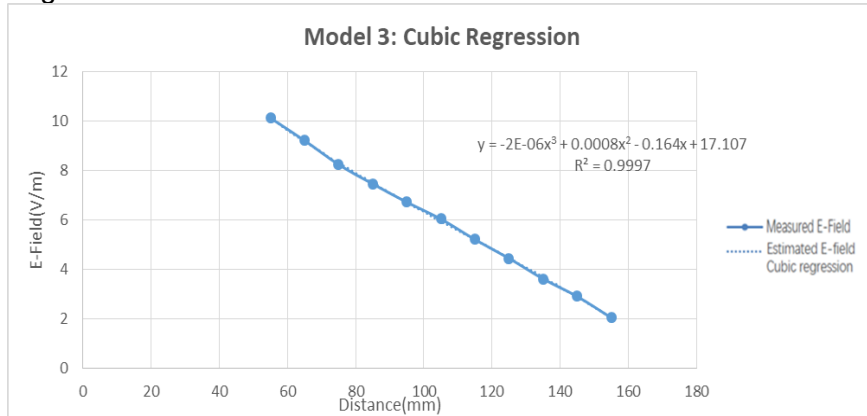
Model 1: Linear Regression



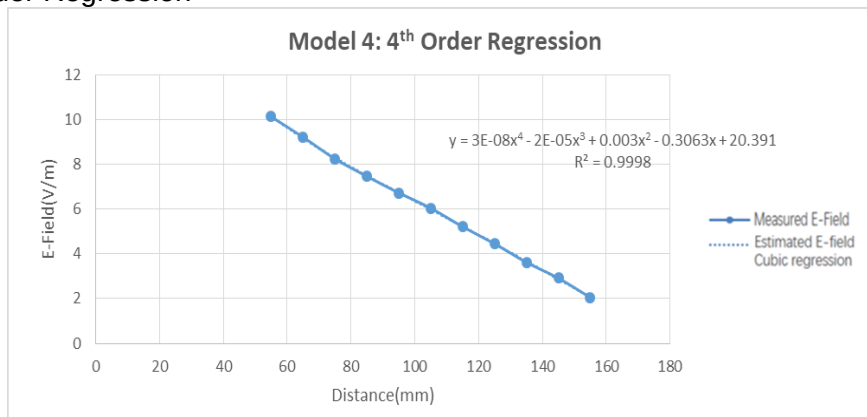
Model 2: Quadratic Regression



Model 3: Cubic Regression



Model 4: 4th Order Regression

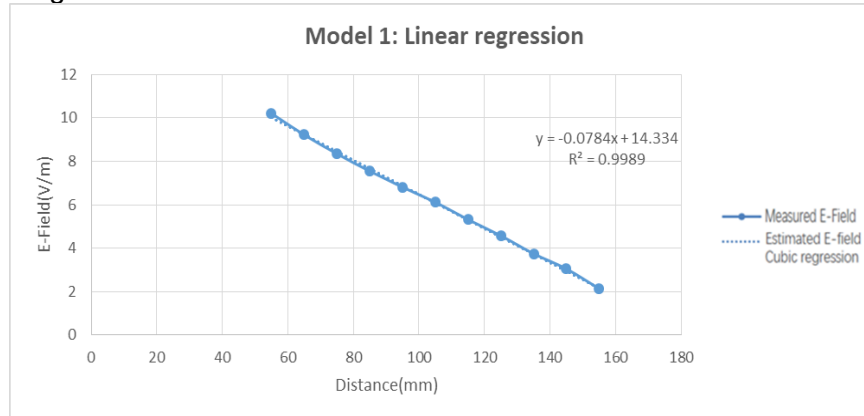


Model 5: 5th Order Regression

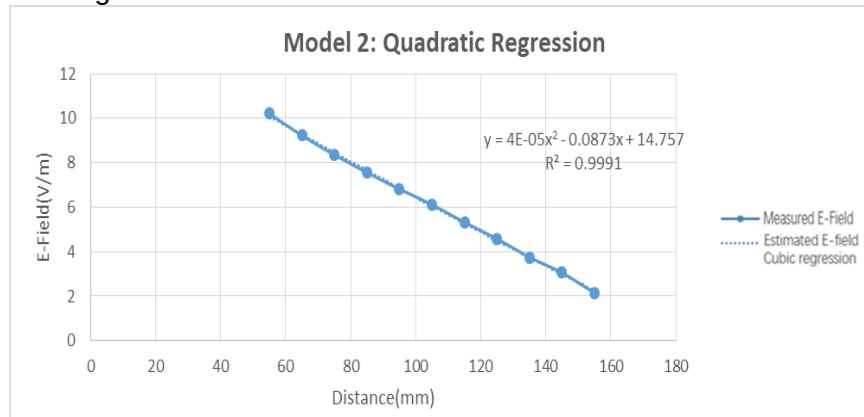


Direct exposure during device removal mode:

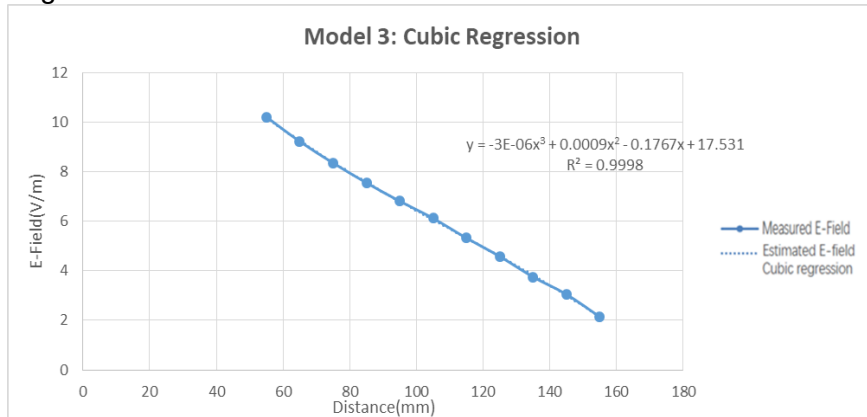
Model 1: Linear Regression



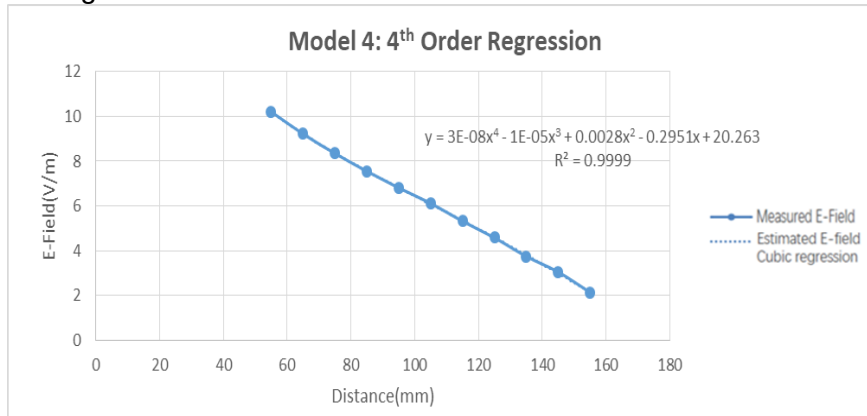
Model 2: Quadratic Regression



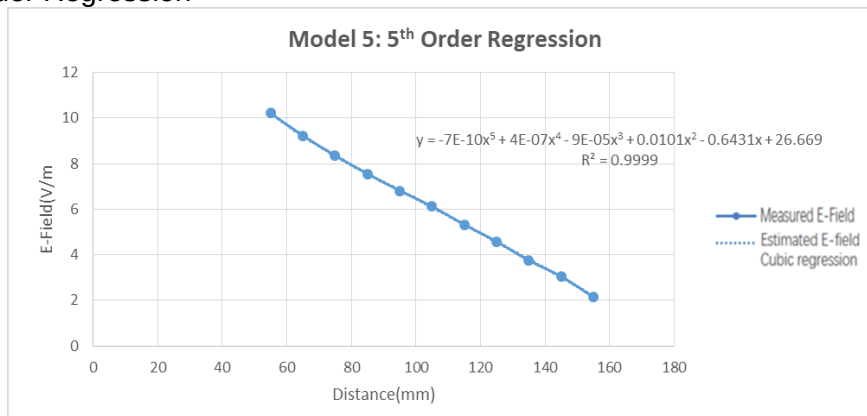
Model 3: Cubic Regression



Model 4: 4th Order Regression



Model 5: 5th Order Regression



6. Analyzing Results

EUT + Phone mode (Battery Status: <1%):

Parameter	Linear Regression	Quadratic Regression	Cubic Regression	4 th Order Regression	5 th Order Regression
Multiple R	0.999	1.000	1.000	1.000	1.000
R Square	0.999	0.999	1.000	1.000	1.000
Adjusted R Square	0.999	0.999	1.000	1.000	1.000
Standard Error (S)	0.089	0.086	0.041	0.034	0.037
Number of data points used	11	11	11	11	11
Estimated electric field strength at touch position (V/m)	14.447	14.828	17.500	20.729	24.007

Stand-by mode:

Parameter	Linear Regression	Quadratic Regression	Cubic Regression	4 th Order Regression	5 th Order Regression
Multiple R	0.999	1.000	1.000	1.000	1.000
R Square	0.999	0.999	1.000	1.000	1.000
Adjusted R Square	0.999	0.999	1.000	1.000	1.000
Standard Error (S)	0.091	0.083	0.053	0.049	0.054
Number of data points used	11	11	11	11	11
Estimated electric field strength at touch position (V/m)	14.302	14.790	17.107	20.391	18.454

Direct exposure during device removal mode:

Parameter	Linear Regression	Quadratic Regression	Cubic Regression	4 th Order Regression	5 th Order Regression
Multiple R	0.999	1.000	1.000	1.000	1.000
R Square	0.999	0.999	1.000	1.000	1.000
Adjusted R Square	0.999	0.999	1.000	1.000	1.000
Standard Error (S)	0.093	0.088	0.042	0.038	0.039
Number of data points used	11	11	11	11	11
Estimated electric field strength at touch position (V/m)	14.334	14.757	17.531	20.263	26.669

Note: The 5th Order Regression model was selected as evidence of overfitting, as indicated by the increase in S.

4.1.6. E-field Test Result

As shown in Section 4.1.6, the standard error of the fourth model is the smallest among all the models, which is lower than the minimum standard error threshold of 15% specified. The confidence level used in the regression analysis is 95%, which is the minimum value that the applicant should use. By using curve fitting technology for modeling and calculation, it can be inferred that the electric field at a distance of 0 mm is 20.729 V/m, which is less than the limit of 614 V/m. The judgment result is passed.

******* END OF REPORT *******