



*Testing Tomorrow's Technology*

April 13, 2012

Ms. Iris Cai  
Meitek, Inc.  
9550 Flair Dr., Suite #216  
El Monte, CA 91731

Dear Ms. Cai:

Enclosed please find the Meitek, Inc. file copy of the FCC Declaration of Conformity (DoC) report for the Vehicle Tracker T1, manufactured by Shenzhen Meiligao Electronics Co. Ltd.

Please keep a copy of this test report in your files as proof that the product has been tested. Please carefully review Section 2 of the test report, as this contains important information regarding DoC authorizations that you are expected to be responsible for. Also, to ensure your records contain all the proper documentation, please be sure to add a copy of your User's Manual and Schematic and/or Block Diagrams to this report.

If you have any questions, please don't hesitate to call. Thank you for your business.

Sincerely,

A handwritten signature in black ink that reads 'Alan Ghasiani'. The signature is written in a cursive style and is positioned above a light gray rectangular box.

Alan Ghasiani  
Consulting Engineer, President

**3505 Francis Circle Alpharetta, GA 30004**  
**PH: 770-740-0717 Fax: 770-740-1508**  
**[www.ustech-lab.com](http://www.ustech-lab.com)**



*Testing Tomorrow's Technology*

**FCC Declaration of Conformity (DoC) Report  
for the  
Meitek, Inc.**

**Vehicle Tracker T1**

**Manufactured by:  
Shenzhen Meiligao Electronics Co., Ltd.  
6/F, West Tower, Cafu plaza (Sheraton),  
No. 5 Guihua Rd., Futian Bonded Zone,  
Shenzhen China 518033**

**Test Date(s): April 4<sup>th</sup> & 5<sup>th</sup>, 2012  
Issue Date: April 13, 2012**

**UST Project No: 12-0200**

Total Number of Pages Contained Within this Report: 26

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Testing Tomorrow's Technology

I certify that I am authorized to sign for the test facility and that all of the statements in this report and in the Exhibits attached hereto are true and correct to the best of my knowledge and belief:

US Tech (Agent Responsible For Test):

By: 

Name: Alan Ghasiani

Title: Consulting Engineer, President

Date: April 13, 2012



NVLAP LAB CODE 200162-0

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## Table of Contents

<b>1. General Information .....</b>	<b>5</b>
1.1 Product Description .....	5
1.2 Related Submittal(s)/Grant(s) .....	5
1.3 Tested System Details.....	6
1.4 Test Methodology .....	8
1.5 Test Facility.....	8
1.6 Test Equipment.....	9
<b>2. Product Labeling.....</b>	<b>11</b>
2.1 Responsibilities(47CFR 2.1073) .....	11
2.2 Retention of Records (47CFR 2.1075).....	12
2.3 Compliance Information (47CFR 2.1077).....	12
2.4 Manual (47CFR 15.105).....	13
2.5 Information to User (47CFR 15.21) .....	13
2.6 Special Accessories (47CFR 15.27(c.)) .....	13
2.7 General Labeling Requirements for DoC (47CFR 15.19(b)) .....	14
<b>3. System Test Configuration .....</b>	<b>15</b>
3.1 Characterization of Sample Tested.....	15
3.2 Justification.....	15
3.2.1 Rationale for test selection.....	15
3.3 EUT Exercise Software.....	15
3.4 Special Accessories.....	16
3.5 Equipment Modifications.....	16
3.6 Test Results.....	16
3.7. Measurement Uncertainty .....	16
3.8 Configuration of Tested System.....	17
<b>4. Test Configuration Photos .....</b>	<b>18</b>
4.1 Radiated Emissions Configuration Photos.....	18
<b>5. Power Line Conducted Emissions Data (47 CFR 15.107) .....</b>	<b>20</b>
<b>5.1 Test Description.....</b>	<b>20</b>
<b>6. Radiated Emissions Data (47 CFR 15.109a).....</b>	<b>21</b>
6.1 Test Description.....	21
6.2 Field Strength Calculation.....	23
<b>7. Photos of the Tested EUT .....</b>	<b>24</b>
7.1 EUT Photo (Top View).....	24
7.2 EUT Photo (main component view) .....	24
7.3 EUT Photo (Front View).....	25
7.4 EUT Photo (Rear View) .....	25
7.5 EUT Photo (PCB, Top View) .....	26
7.6 EUT Photo (PCV Bottom View) .....	26

**Table of Figures**

Figure 1 NVLAP Certificate ..... 10  
Figure 2 Configuration of Tested System ..... 17  
Figure 3 Radiated Emissions (Front View) ..... 18  
Figure 4 Radiated Emissions (Rear View)..... 18  
Figure 5 Radiated Emissions (Rear View)..... 19

**Table of Tables**

Table 1 EUT and Peripherals ..... 6  
Table 2 Detail of I/O Cables Attached to EUT ..... 7  
Table 3 Test Equipment ..... 9  
Table 4 Conducted Emissions 150 KHz to 30 MHz..... 20  
Table 5 Measurements from 30 MHz to 1 GHz ..... 21  
Table 6 Measurements above 1 GHz..... 22

**Appendices**

- 1. Block Diagram and/or Schematics**
- 2. Users Manual**

US Tech Test Report:  
Report Number:  
Issue Date:  
Customer:  
Manufacturer:  
Model:

Part 15 Declaration of Conformity (DoC)  
12-0200  
April 13, 2012  
Meitek, Inc.  
Shenzhen Meiligao Electronics Co., Ltd.  
Vehicle Tracker T1

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## **1. General Information**

### **1.1 Product Description**

The Equipment Under Test (EUT) is the Meitek Inc. Vehicle Tracker T1, manufactured by Shenzhen Meiligao Electronics Co. Ltd. The EUT is a GPS Tracking Device.

### **1.2 Related Submittal(s)/Grant(s)**

The EUT is subject to the following authorizations:

- a) Certification or DoC, as a receiver.

The EUT contains an FCC Certified Transmitter Module bearing FCC ID: UDV-0912142009007.

The information contained in this report is presented for the DoC authorization for the EUT.

US Tech Test Report:  
Report Number:  
Issue Date:  
Customer:  
Manufacturer:  
Model:

Part 15 Declaration of Conformity (DoC)  
12-0200  
April 13, 2012  
Meitek, Inc.  
Shenzhen Meiligao Electronics Co., Ltd.  
Vehicle Tracker T1

### 1.3 Tested System Details

**Table 1 EUT and Peripherals**

PERIPHERAL MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID	CABLES P/D
Shenzhen Meiligao Electronics Co., Ltd. (EUT)	Vehicle Tracker T1	--	UDV- 0912142009007	2m U power cable 1.5m U USB cable
GPS Antenna	N/A	--	N/A	2m U antenna cable
GSM Device	N/A	--	N/A	2m U antenna cable
DC power Supply TekPower	HY1803D	--	N/A	1.5m U power cord

S = Shielded  
U = Unshielded

### 1.3 Tested System Details (cont'd)

**Table 2 Detail of I/O Cables Attached to EUT**

DESCRIPTION OF CABLE	DETAILS OF CABLE			CABLE LENGTH
EUT Power Cable	Manufacturer and Part Number			2m
	CND			
	Shield Type	Shield Termination	Type of Backshell	
	CND	CND	CND	
GPS Antenna Cable	Manufacturer and Part Number			2m
	CND			
	Shield Type	Shield Termination	Type of Backshell	
	CND	CND	CND	
GSM Antenna Cable	Manufacturer and Part Number			2m
	CND			
	Shield Type	Shield Termination	Type of Backshell	
	CND	CND	CND	
USB Cable	Manufacturer and Part Number			1.5m
	CND			
	Shield Type	Shield Termination	Type of Backshell	
	CND	CND	CND	

**Shield Type**  
 N/A = None  
 F = Foil  
 B = Braided  
 2B = DoubleBraided  
 CND = Could Not Determine

**Shield Termination**  
 N/A = None  
 360 = 360°  
 P = Pigtail/Drain Wire  
 CND = Could Not Determine

**Type of Backshell**  
 N/A = Not Applicable  
 PS = Plastic Shielded  
 PU = Plastic Unshielded  
 MS = Metal Shielded  
 MU = Metal Unshielded



US Tech Test Report:  
Report Number:  
Issue Date:  
Customer:  
Manufacturer:  
Model:

Part 15 Declaration of Conformity (DoC)  
12-0200  
April 13, 2012  
Meitek, Inc.  
Shenzhen Meiligao Electronics Co., Ltd.  
Vehicle Tracker T1

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## 1.4 Test Methodology

The EUT was configured as shown in the following block diagram and photographs. The Test Sample was tested per ANSI C63.4, *Methods of Measurement of Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (2003)* paragraph 7 for conducted emissions and paragraph 8 for radiated emissions. Conducted and radiated emissions data were taken with the test receiver or spectrum analyzer's resolution bandwidth adjusted to 9 kHz and 120 kHz, respectively. All measurements are peak unless stated otherwise. The video filter on the spectrum analyzer was OFF throughout the evaluation process. Interconnecting cables were manipulated as necessary to maximize emissions. The EUT and Peripherals Table describe other instruments and accessories used to evaluate this product.

## 1.5 Test Facility

For equipment authorized under a Declaration of Conformity (DoC) the party performing the measurements shall be accredited for performing such measurements by an authorized accreditation body. US Tech is approved by an authorized accreditation body and has been issued a Certificate of Accreditation. A copy of this certificate is shown on the following page.

The open area test site and conducted measurement facility used to collect the radiated data is located at US Technologies measurement facility at 3505 Francis Circle, Alpharetta, GA. This site has been fully described and registered with the FCC under designation Number US5117. Additionally this site has also been fully described and submitted to Industry Canada (IC), and has been approved under file number 2982A-1.

## 1.6 Test Equipment

**Table 3 Test Equipment**

TEST INSTRUMENT	MODEL NUMBER	MANUFACTURER	SERIAL NUMBER	DATE OF LAST CALIBRATION
SPECTRUM ANALYZER	8566B	HEWLETT-PACKARD	2410A00109	11/4/2011
SPECTRUM ANALYZER	8593E	HEWLETT-PACKARD	3205A00124	10/26/2011
RF PREAMP	8447D	HEWLETT-PACKARD	2944A07436	10/6/2011
BICONICAL ANTENNA	3110B	EMCO	9306-1708	4/29/2011
LOG PERIODIC	3146	EMCO	9305-3600	11/22/2011 2yrs
HORN ANTENNA	3115	EMCO	9107-3723	8/10/2011 2 Year
PREAMP	8449B	HEWLETT-PACKARD	3008A00480	11/15/2011
CALCULATION PROGRAM	N/A	N/A	Ver. 6.0	N/A

Note: The calibration interval of the above test instruments is 12 months unless stated otherwise and all calibrations are traceable to NIST/USA.

US Tech Test Report:  
Report Number:  
Issue Date:  
Customer:  
Manufacturer:  
Model:

Part 15 Declaration of Conformity (DoC)  
12-0200  
April 13, 2012  
Meitek, Inc.  
Shenzhen Meiligao Electronics Co., Ltd.  
Vehicle Tracker T1

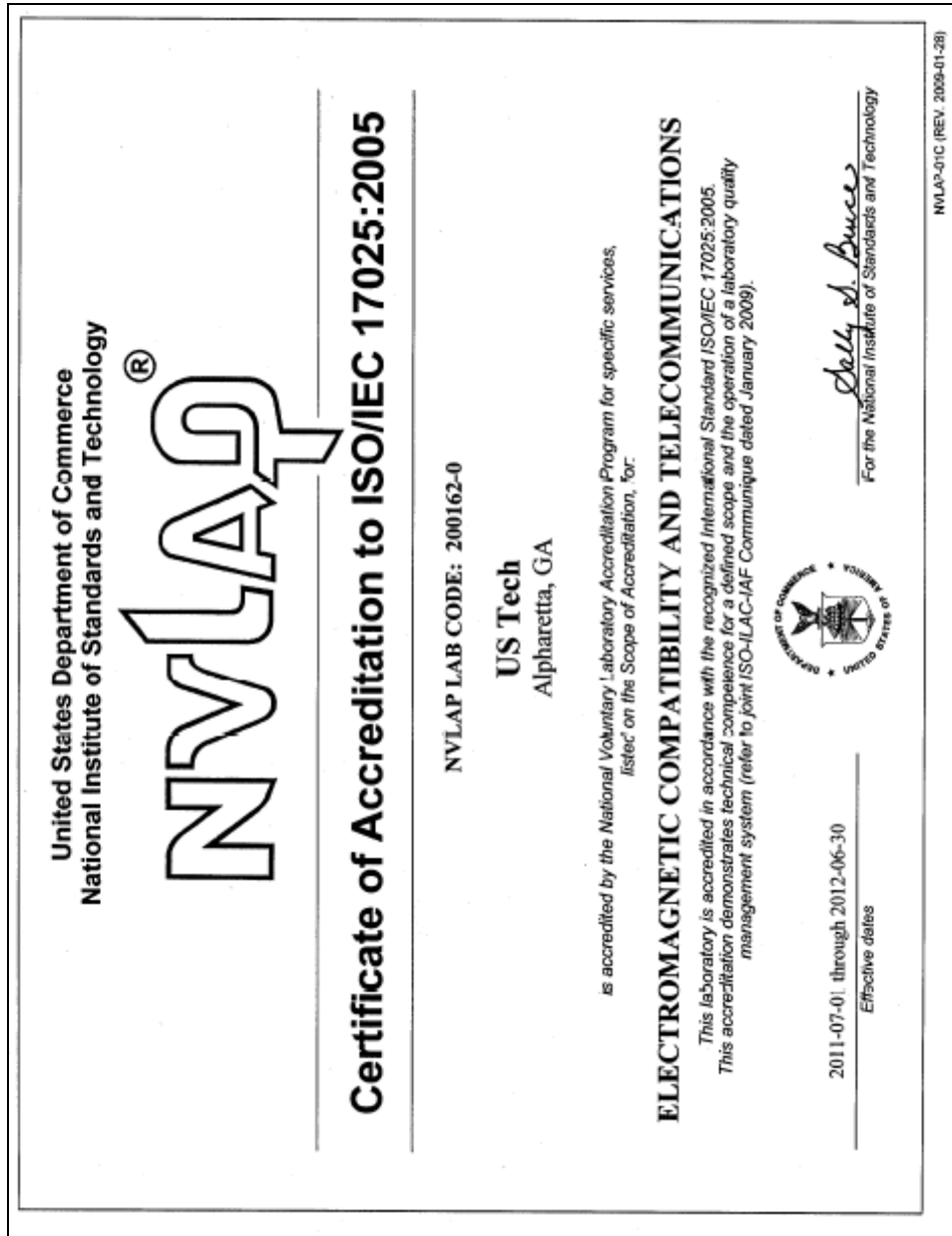


Figure 1 NVLAP Certificate

## 2. Product Labeling

### FCC DECLARATION OF CONFORMITY (DoC) LABELING INFORMATION

The following information is applicable to products or systems which have been tested for compliance and the responsible party is showing approval by a Declaration of Conformance (DoC). This labeling information is not appropriate for equipment that is assembled from modular component parts that have been independently approved.

#### 2.1 Responsibilities(47CFR 2.1073)

(a) The responsible party, as defined in §2.909, must warrant that each unit of equipment marketed under a Declaration of Conformity is identical to the unit tested and found acceptable with the standards and that the records maintained by the responsible party continue to reflect the equipment being produced under the Declaration of Conformity within the variation that can be expected due to quantity production and testing on a statistical basis.

(b) The responsible party, if different from the manufacturer, may upon receiving a written statement from the manufacturer that the equipment complies with the appropriate technical standards rely on the manufacturer or independent testing agency to determine compliance. However, the test records required by §2.1075 shall be in the English language and shall be made available to the Commission upon a reasonable request in accordance with the provisions of §2.1076.

(c) In the case of transfer of control of the equipment, as in the case of sale or merger of the responsible party, the new responsible party shall bear the responsibility of continued compliance of the equipment.

(d) Equipment shall be retested to demonstrate continued compliance with the applicable technical standards if any modifications or changes that could adversely affect the emanation characteristics of the equipment are made by the responsible party. The responsible party bears responsibility for the continued compliance of subsequently produced equipment.

(e) If any modifications or changes are made by anyone other than the responsible party for the Declaration of Conformity, the party making the modifications or changes, if located within the U.S., becomes the new responsible party. The new responsible party must comply with all provisions for the Declaration of Conformity, including having test data on file demonstrating that the product continues to comply with all of the applicable technical standards.

US Tech Test Report:  
Report Number:  
Issue Date:  
Customer:  
Manufacturer:  
Model:

Part 15 Declaration of Conformity (DoC)  
12-0200  
April 13, 2012  
Meitek, Inc.  
Shenzhen Meiligao Electronics Co., Ltd.  
Vehicle Tracker T1

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## **FCC DECLARATION OF CONFORMITY (DoC) LABELING INFORMATION (CONT.)**

### **2.2 Retention of Records (47CFR 2.1075)**

For each product subject to a Declaration of Conformity, the responsible party shall maintain the records listed below

- (1) A record of the original design drawings and specifications and all changes that have been made that may affect compliance with the requirements of §2.1073.
- (2) A record of the procedures used for production inspection and testing (if tests were performed) to insure the conformance required by §2.1073. (Statistical production line emission testing is not required.)
- (3) A test report which satisfies the requirements of 2.1075.

### **2.3 Compliance Information (47CFR 2.1077)**

If a product is tested and authorized under a Declaration of Conformity, a compliance information statement shall be supplied with the product at the time of marketing or importation, containing the following information:

- (1) Identification of the product, e.g., name and model number;
- (2) A statement, similar to that contained in §15.19(a)(3) of this chapter, that the product complies with part 15 of this chapters; and
- (3) The identification, by name, address and telephone number, of the responsible party, as defined in §2.909. The responsible party for a Declaration of Conformity must be located within the United States.

The compliance information statement shall be included in the user's manual or as a separate sheet.

## **FCC Declaration of Conformity (DoC) Labeling Information (CONT.)**

### **2.4 Manual (47CFR 15.105)**

For a Class B digital device or peripheral, the user's instructions must include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### **2.5 Information to User (47CFR 15.21)**

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### **2.6 Special Accessories (47CFR 15.27(c.))**

Accessory items that can be readily obtained from multiple retail outlets are not considered to be special accessories and are not required to be marketed with the equipment. The manual included with the equipment must specify what additional components or accessories are required to be used in order to ensure compliance with this part, and it is the responsibility of the user to provide and use those components and accessories

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## FCC Declaration of Conformity (DoC) Labeling Information (CONT.)

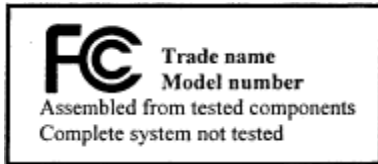
### 2.7 General Labeling Requirements for DoC (47CFR 15.19(b))

(1) The label shall be located in a conspicuous location on the device and shall contain the unique identification described in §2.1074 of this chapter and the following logo:

(i) If the product is authorized based on testing of the product or system; or



(ii) If a personal computer is authorized based on assembly using separately authorized components, in accordance with §15.101(c)(2) or (c)(3), and the resulting product is not separately tested:



(2) Label text and information should be in a size of type large enough to be readily legible, consistent with the dimensions of the equipment and the label. However, the type size for the text is not required to be larger than eight point.

(3) When the device is so small or for such use that it is not practicable to place the statement specified under paragraph (b)(1) of this section on it, such as for a CPU board or a plug-in circuit board peripheral device, the text associated with the logo may be placed in a prominent location in the instruction manual or pamphlet supplied to the user. However, the unique identification (trade name and model number) and the logo must be displayed on the device.

(4) The label shall not be a stick-on, paper label. The label on these products shall be permanently affixed to the product and shall be readily visible to the purchaser at the time of purchase, as described in §2.925(d) of this chapter. "Permanently affixed" means that the label is etched, engraved, stamped, silkscreened, indelibly printed, or otherwise permanently marked on a permanently attached part of the equipment or on a nameplate of metal, plastic, or other material fastened to the equipment by welding, riveting, or a permanent adhesive. The label must be designed to last the expected lifetime of the equipment in the environment in which the equipment may be operated and must not be readily detachable.

### **3. System Test Configuration**

#### **3.1 Characterization of Sample Tested**

The sample used for test was received on March 26, 2012 in good condition.

#### **3.2 Justification**

The system was configured for testing in a typical fashion; the same as a customer would normally use it.

##### **3.2.1 Rationale for test selection**

The one EUT, cable and wiring arrangement, and mode of operation that produced the emissions with the highest levels relative to the applicable limits was selected for final measurements.

The interconnect cable(s) and/or power cord(s) were moved into various positions of the most likely configurations to maximize the emissions. In this case the placement of the cables had negligible effects. The test configuration photographs represent the final configuration used for testing.

#### **3.3 EUT Exercise Software**

The EUT was designed to exercise the various system components in a manner similar to typical use. The software, pre-contained on the EUT, automatically loaded itself once the EUT input power was connected to the power supply. The EUT was exercising all functions as it would in its normal operating conditions.



### 3.4 Special Accessories

All interface cables used for compliance testing are shown in Table 2.

### 3.5 Equipment Modifications

No modification was made by US Tech to bring the EUT into compliance with FCC Part 15, Class B requirements.

### 3.6 Test Results

The worst case radiated emission from 30 MHz to 1000 MHz was 15.6 dB below the Class B limit at 48.9410 MHz. All other radiated emissions were at least 17.7 dB below the Class B limit.

### 3.7. Measurement Uncertainty

#### Radiated Emissions:

Measurement Distance of 3 m:

The measurement uncertainty (with a 95% confidence level) for this test using a Biconnical Antenna is  $\pm 5.3$  dB.

The measurement uncertainty (with a 95% confidence level) for this test using a Log Periodic Antenna is  $\pm 5.1$  dB.

The measurement uncertainty (with a 95% confidence level) for this test using a double ridge horn antenna is  $\pm 2.5$  dB.

- The data listed in this test report may exceed the test limit because it does not have enough margin to meet the measurement uncertainty interval.
- The data listed in this test report has enough margin to meet the measurement uncertainty interval.

#### Conducted Emissions:

Measurement Uncertainty (within a 95% confidence level) for this test is  $\pm 2.8$  dB.

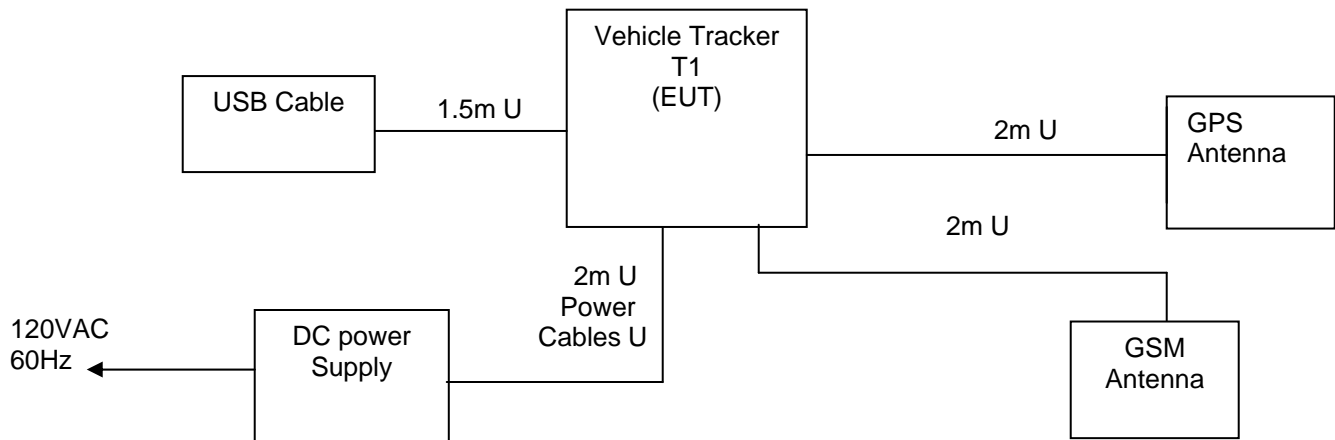
- The data listed in this test report may exceed the test limit because it does not have enough margin (more than 2.8 dB) to meet the measurement uncertainty interval.

- The data listed in this test report has enough margin to meet the measurement uncertainty interval.

The EUT is DC powered and does not connect to the AC mains; therefore this test was not applicable.

### 3.8 Configuration of Tested System

The EUT was set up as follows:



S = Shielded; U = Unshielded

**Figure 2 Configuration of Tested System**

## 4. Test Configuration Photos

### 4.1 Radiated Emissions Configuration Photos



**Figure 3 Radiated Emissions (Front View)**



**Figure 4 Radiated Emissions (Rear View)  
Test Setup from below 1 MHz**

#### 4.1 Test Photo of Radiated Emissions (cont'd)



**Figure 5 Radiated Emissions (Rear View)  
Test Setup from above 1 GHz**

US Tech Test Report:  
 Report Number:  
 Issue Date:  
 Customer:  
 Manufacturer:  
 Model:

Part 15 Declaration of Conformity (DoC)  
 12-0200  
 April 13, 2012  
 Meitek, Inc.  
 Shenzhen Meiligao Electronics Co., Ltd.  
 Vehicle Tracker T1

## 5. Power Line Conducted Emissions Data (47 CFR 15.107)


### 5.1 Test Description

EUT is DC powered. This test is not required per FCC Part 15.107 Paragraph (d).

**Table 4 Conducted Emissions 150 KHz to 30 MHz**

Conducted Emissions						
Test By: J.W.	Test: Part 15B Verification			Client: Meitek, Inc.		
	Project: 12-0200		Class: B	EUT: Vehicle tracker T1		
Frequency (MHz)	Test Data (dBuV)	AF+CA-AMP (dB)	Peak Results (dBuV)	Average Limits (dBuV)	Margin (dB)	Detector Used
EUT is DC powered This test is not required per FCC Part 15.107 Paragraph (d)						

**Test Date: April 4<sup>th</sup> & 5<sup>th</sup>, 2012**

**Tested by**  
**Signature:** 

**Name: John Wynn**

US Tech Test Report:  
 Report Number:  
 Issue Date:  
 Customer:  
 Manufacturer:  
 Model:

Part 15 Declaration of Conformity (DoC)  
 12-0200  
 April 13, 2012  
 Meitek, Inc.  
 Shenzhen Meiligao Electronics Co., Ltd.  
 Vehicle Tracker T1

## 6. Radiated Emissions Data (47 CFR 15.109a)

### 6.1 Test Description

Radiated emissions were evaluated from 30 MHz to 12.5 GHz. Measurements were made with the analyzer's bandwidth set to 120 kHz for measurements made less than 1 GHz and 1 MHz for measurements made greater than or equal to 1 GHz. The following data lists the significant emission frequencies, measured levels, correction factor (includes cable and antenna corrections), the corrected reading, plus the limit.

**Table 5 Measurements from 30 MHz to 1 GHz**

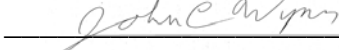
Radiated Emissions							
Test By: J.W.	Test: Part 15B Verification	Client: Meitek, Inc.					
	Project: 12-0200	Class: B		EUT: Vehicle Tracker T1			
Frequency (MHz)	Test Data (dBuV)	AF+CA-AMP (dB/m)	Results (dBuV/m)	Average Limits (dBuV/m)	Application Test Distance/ Polarization	Margin (dB)	Detector Used
Measurements were made over the frequency range of 30 MHz – 1GHz							
57.2000	15.40	9.00	24.40	40.0	3m./VERT	15.6	PK
53.8000	12.30	10.00	22.30	40.0	3m./HORZ	17.7	PK
232.0000	7.20	11.40	18.60	46.0	3m./HORZ	27.4	PK
500.9000	6.60	18.00	24.60	46.0	3m./VERT	21.4	PK

Note: All other emission are greater than 20 dB from the limit.

**Sample Calculations: at 57.2000 MHz (15.40 dBuV + 9.0 dB/m) = 24.40 dBuV/m**

**Test Date: April 4<sup>th</sup> & 5<sup>th</sup>, 2012**

Tested by

Signature: 

Name: John Wynn

US Tech Test Report:  
 Report Number:  
 Issue Date:  
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Part 15 Declaration of Conformity (DoC)  
 12-0200  
 April 13, 2012  
 Meitek, Inc.  
 Shenzhen Meiligao Electronics Co., Ltd.  
 Vehicle Tracker T1

**6. Radiated Emissions Data (47 CFR 15.109a) (cont'd)**


**Table 6 Measurements above 1 GHz**

Radiated Emissions							
Test By: J.W.	Test: Part 15B Verification	Client: Meitek, Inc.					
	Project: 12- 0020	Class: B			EUT: Vehicle Tracker T1		
Frequency (MHz)	Test Data (dBuV)	AF+CA- AMP (dB/m)	Results (dBuV/m)	Average Limits (dBuV/m)	Application Test Distance/ Polarization	Margin (dB)	Detector Used
2214.8000	44.33	-4.34	39.99	54.0	3m./VERT	14.0	PK
2322.7400	47.93	-4.18	43.75	54.0	3m./VERT	10.2	PK
2342.3000	46.54	-4.34	42.20	54.0	3m./HORZ	11.8	PK

Note: All other emission are greater than 20 dB from the limit.

**Sample Calculations: at 2214.8000 MHz (44.33 dBuV + -4.34 dB/m) = 39.99 dBuV/m**

**Test Date: April 4<sup>th</sup> & 5<sup>th</sup>, 2012**

**Tested by  
Signature:** 

**Name: John Wynn**

## 6.2 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + CF - AG$$

where FS = Field Strength

RA = Receiver Amplitude

CF = Correction Factor  
= Antenna Factor + Cable Loss

AG = Amplifier Gain

Assuming a receiver reading of  $-88.0$  dBm and a correction factor of  $11.8$  dB the following calculation would apply:

$$FS \text{ (uV/m)} = \text{Antilog} [(-88.0 + 11.8 + 107) / 20] = 34.7$$



## 7. Photos of the Tested EUT

### 7.1 EUT Photo (Top View)



### 7.2 EUT Photo (main component view)



### 7.3 EUT Photo (Front View)



### 7.4 EUT Photo (Rear View)



### 7.5 EUT Photo (PCB, Top View)



### 7.6 EUT Photo (PCB Bottom View)

