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## TEST REPORT

### FCC PART 15

for

**FCC ID: AZ489FT7092**

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Applicant</b>            | <b>MOTOROLA SOLUTIONS, INC.</b>                                        |
| <b>Address</b>              | <b>8000 WEST SUNRISE BLVD<br/>FT. LAUDERDALE FL 33322-9947 USA</b>     |
| <b>Model Number</b>         | CLP1060 w/BT60                                                         |
| <b>Product Description</b>  | 450-470 MHz RADIO W/BT                                                 |
| <b>Date Sample Received</b> | 5/10/2016                                                              |
| <b>Date Tested</b>          | 5/11/2016                                                              |
| <b>Tested By</b>            | Tim Royer                                                              |
| <b>Approved By</b>          | Cory Leverett                                                          |
| <b>Test Results</b>         | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |

| Report Number      | Version Number | Description   | Issue Date |
|--------------------|----------------|---------------|------------|
| 791BUT16TestReport | Rev1           | Initial Issue | 06/02/2016 |

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL  
WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.**

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## GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

The test results only relate to the item tested.

## SUMMARY OF TESTING RESULTS

The device under test does:

- ☒ Fulfill the general approval requirements as identified in this test report and was selected by the customer.
- ☐ Not fulfill the general approval requirements as identified in this test report

## ATTESTATIONS

This equipment was received without any visible damage and in good working order and has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025: 2005 requirements.

I attest that the necessary measurements were made at:

**Timco Engineering Inc.**  
**849 NW State Road 45**  
**Newberry, FL 32669**



**Tested by:** \_\_\_\_\_

Name and Title: Tim Royer Project Manager

**Date: 5/ 18/ 2016**



**Reviewed and approved by:** \_\_\_\_\_

Name and Title: Engineering Project Manager

**Date: 06/ 02/ 2016**

Applicant: MOTOROLA SOLUTIONS, INC.  
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## GENERAL INFORMATION

|                                                   |                                                                                    |
|---------------------------------------------------|------------------------------------------------------------------------------------|
| The test results relate only to the items tested. |                                                                                    |
| <b>EUT Description</b>                            | <b>450-470 MHz RADIO W/ BT</b>                                                     |
| <b>FCC ID</b>                                     | <b>AZ489FT7092</b>                                                                 |
| <b>Model Number</b>                               | <b>CLP1060 w/ BT60</b>                                                             |
| <b>Receiver Range</b>                             | 450-470 MHz                                                                        |
| <b>Lowest Internal Frequency</b>                  | 131kHz                                                                             |
| <b>Highest Tuned Frequency</b>                    | 16.8MHz                                                                            |
| <b>I / O Port Type</b>                            | Audio phono Jack<br>USB Mini                                                       |
| <b>Battery</b>                                    | BT60                                                                               |
| <b>EUT Power Source</b>                           | <input type="checkbox"/> 110–120Vac/50– 60Hz                                       |
|                                                   | <input type="checkbox"/> 12.6 VDC Nominal                                          |
|                                                   | <input checked="" type="checkbox"/> Battery Operated Exclusively                   |
| <b>Test Item</b>                                  | <input type="checkbox"/> Prototype                                                 |
|                                                   | <input type="checkbox"/> Pre-Production                                            |
|                                                   | <input checked="" type="checkbox"/> Production                                     |
| <b>Environmental Condition in the laboratory</b>  | Temperature: 24-26°C<br>Relative humidity: 50-65%<br>Barometric Pressure: 30.03 in |

## EUT CABLES USED FOR TESTING

| <b>Description</b>                                | <b>Type</b> | <b>Connector</b>            | <b>Length</b> |
|---------------------------------------------------|-------------|-----------------------------|---------------|
| Headphone                                         | Unshielded  | Phono                       | 1m            |
| Motorola<br>HKKN4027A USB<br>Programming<br>Cable | Shielded    | Mini USB-A to Mini<br>USB-B | 1m            |

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## TEST INFORMATION

|                                               |                                                                                                                                                                                   |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Regulatory Standard</b>                    | CFR Title 47 FCC Rule part 15B § 15.109, 15.107                                                                                                                                   |
| <b>Test Procedures</b>                        | FCC Part 15.31, 15.33, 15.35<br>ANSI C63.4 – 2014                                                                                                                                 |
| <b>Operational Modes</b>                      | Receive                                                                                                                                                                           |
| <b>Setup</b>                                  | The EUT was configured with the headpiece plugged in and in a receive mode. A Laptop was connected and transferring data through a Motorola P/N: HKKN4027A USB Programming cable. |
| <b>Modifications required for Testing</b>     | None                                                                                                                                                                              |
| <b>Deviation from the standard/ procedure</b> | No deviation                                                                                                                                                                      |
| <b>Host PC Model</b>                          | Microsoft Surface                                                                                                                                                                 |

## RESULTS SUMMARY

| Requirement                   |                      |                                 |                              | RESULTS           |
|-------------------------------|----------------------|---------------------------------|------------------------------|-------------------|
| 15.109 Radiated Emissions     | <b>Frequency MHz</b> | <b>Level (dBuV/ m)</b>          |                              | <b>Pass/ Fail</b> |
|                               | 30 – 88              | 40.0                            |                              | Pass              |
|                               | 80 – 216             | 43.0                            |                              | Pass              |
|                               | 216 – 960            | 46.0                            |                              | Pass              |
|                               | Above 960            | 54.0                            |                              | Pass              |
| 15.107 AC Powerline Conducted | <b>Frequency MHz</b> | <b>Quasi Peak Limits (dBµV)</b> | <b>Average Limits (dBµV)</b> |                   |
|                               | 0.15 – 0.5           | 66 – 56                         | 56 – 46 *                    | Pass              |
|                               | 0.5 – 5.0            | 56                              | 46                           | Pass              |
|                               | 5.0 – 30             | 60                              | 50                           | Pass              |

Decrease with logarithm of frequency

## RADIATED SPURIOUS EMISSIONS

**Rule Part No.:** FCC Part 15 Subpart B

**Requirements:** FCC Part 15.109(a) Radiated Emission Limit

| Class B Field Strength Limits @ 3 Meters |                    |
|------------------------------------------|--------------------|
| Frequency<br>(MHz)                       | Level<br>(dBuV/ m) |
| 30 – 88                                  | 40.0               |
| 80 – 216                                 | 43.5               |
| 216 – 960                                | 46.0               |
| Above 960                                | 54.0               |

**Procedure:** FCC Part 15.33(b)(1) Frequency range of radiated measurements

FCC Part 15.35(a) Measurement detector functions and bandwidths

ANSI C63.4 Methods of Measurement of Radio-Noise Emissions from  
Low-Voltage Electrical and Electronic Equipment 9 kHz to 40 GHz

§ 11.2 Operating conditions

§ 11.3 Peripherals / Accessories

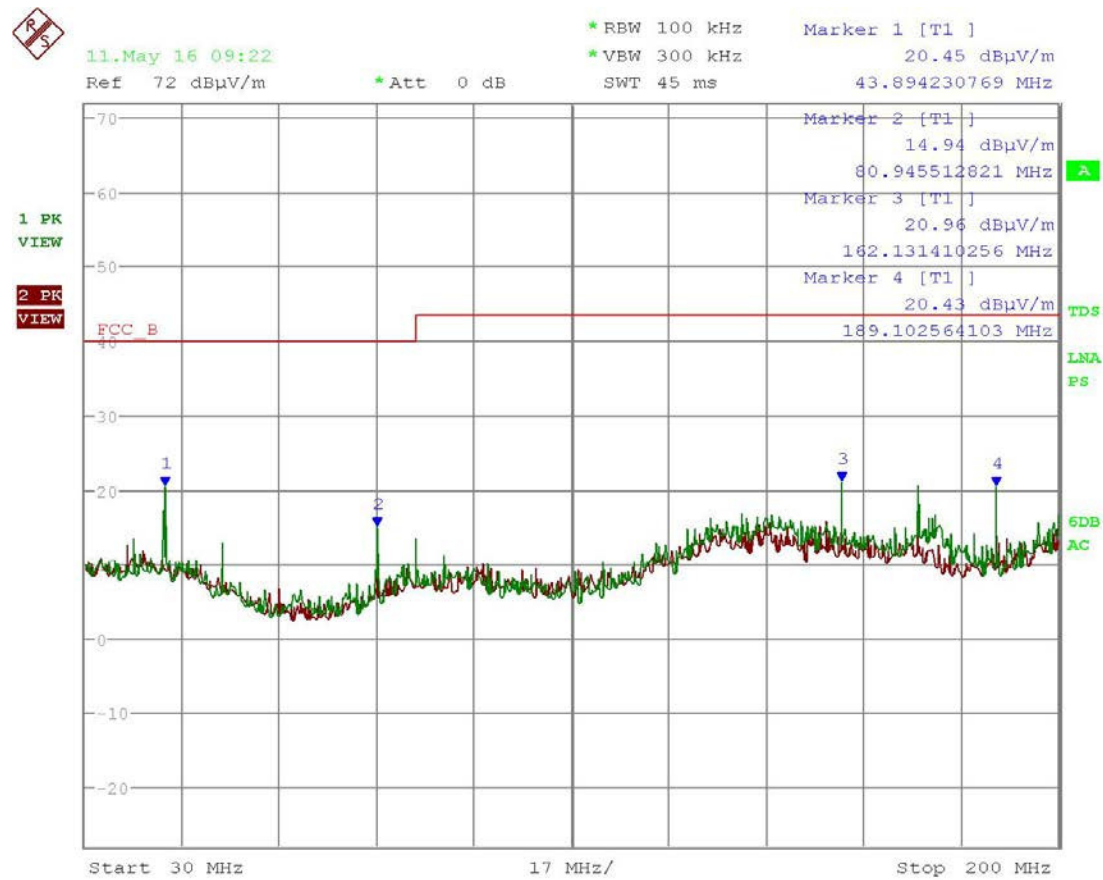
§ 11.5 Tabletop equipment arrangement

§ 11.9 Radiated emission measurements

**Configuration:** The EUT is configured as a computer peripheral through a USB cable connected to a partially configured host PC. A firmware update to the EUT was used to transfer data between the EUT and the host PC.

## RADIATED SPURIOUS EMISSIONS

### 30-200 MHz PEAK PLOT



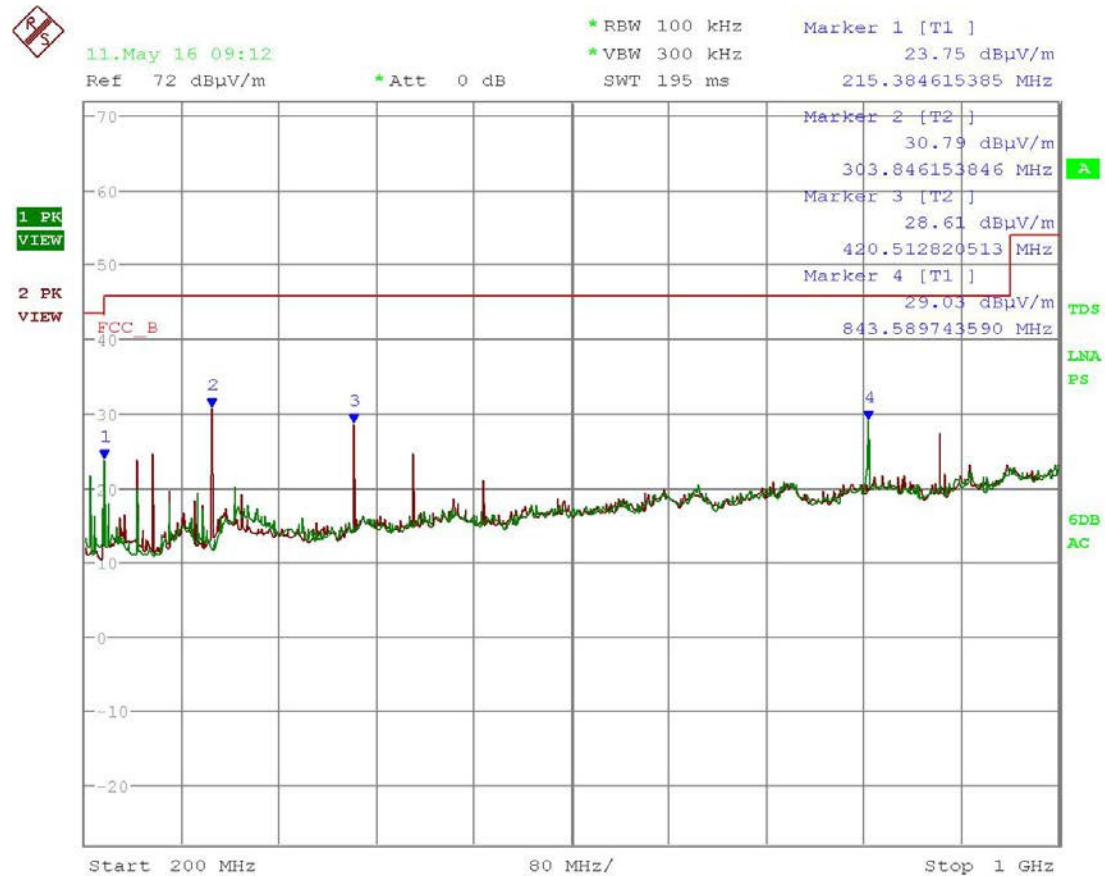
Date: 11.MAY.2016 09:22:32

### Results - Meets Requirements

Ant Polarity: T1 (Green) = Vertical, T2 (Red) = Horizontal

## RADIATED SPURIOUS EMISSIONS

### 200-1000 MHZ PEAK PLOT



Date: 11.MAY.2016 09:12:48

### Results - Meets Requirements

Ant Polarity: T1 (Green) = Vertical, T2 (Red) = Horizontal

## POWER LINE CONDUCTED INTERFERENCE

**Rules Part No.:** FCC Subpart B

**Requirements:** FCC 15.107 (a) Conducted Limits

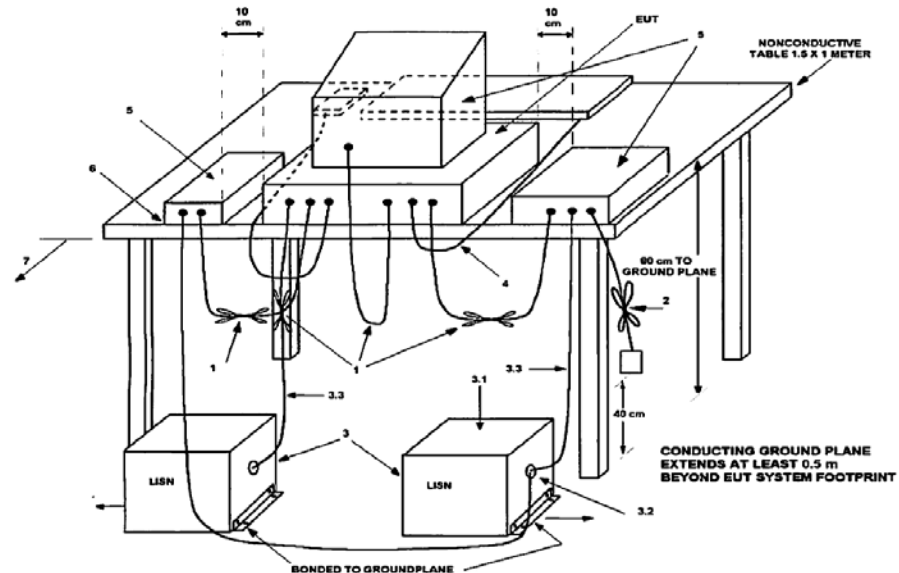
| Frequency (MHz)                        | Quasi Peak Limits (dBμV) | Average Limits (dBμV) |
|----------------------------------------|--------------------------|-----------------------|
| 0.15 – 0.5                             | 66 – 56 *                | 56 – 46 *             |
| 0.5 – 5.0                              | 56                       | 46                    |
| 5.0 – 30                               | 60                       | 50                    |
| * Decrease with logarithm of frequency |                          |                       |

**Procedure:** ANSI C63.4 Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment 9 kHz to 40 GHz

- § 11.2 Operating conditions
- § 11.3 Peripherals / Accessories
- § 11.5 Tabletop equipment arrangement
- § 11.8 AC power-line conducted emission measurements

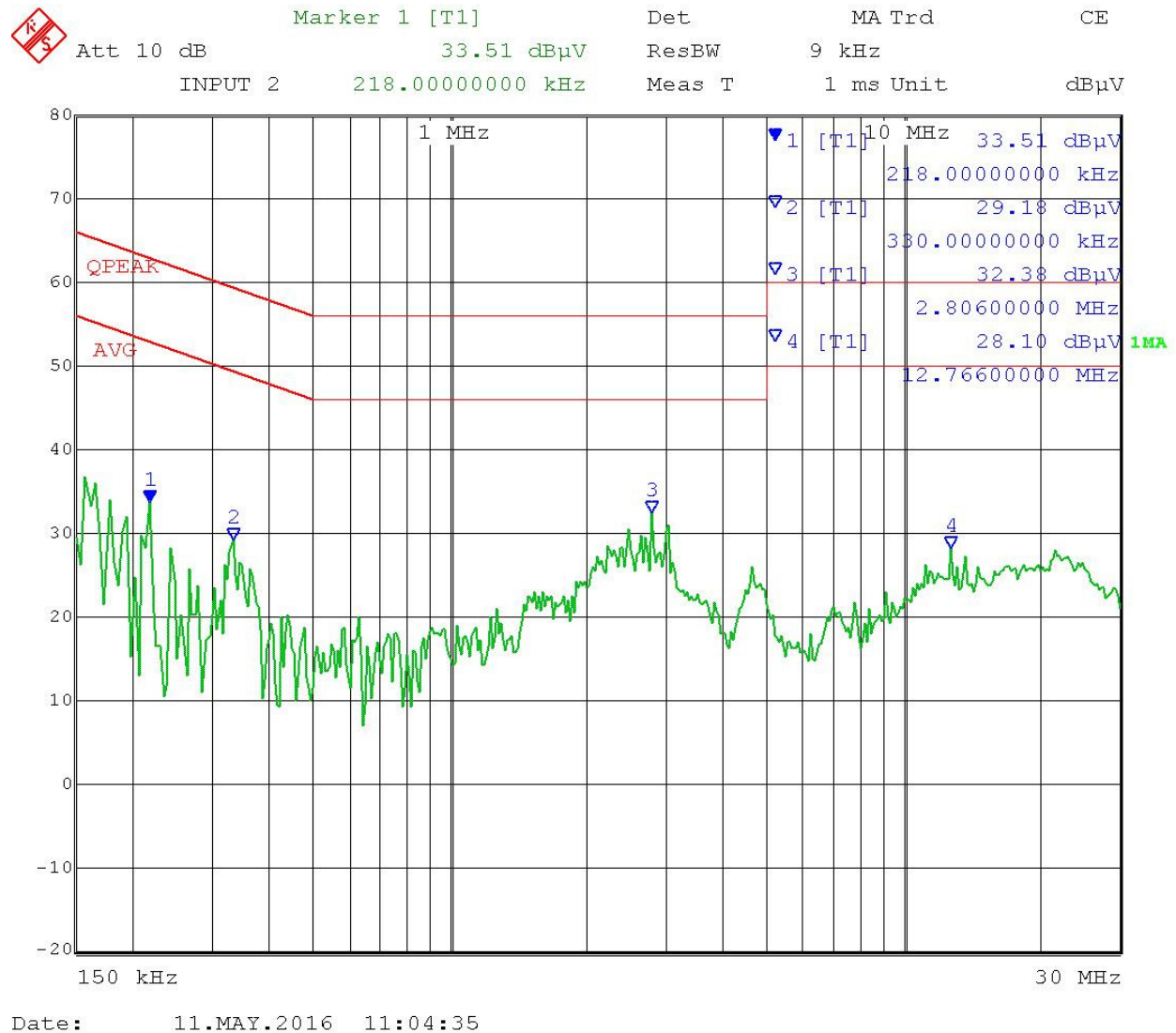
**Configuration:** The EUT is configured as a computer peripheral through a USB cable connected to a partially configured host PC. A firmware update to the EUT was used to transfer data between the EUT and the host PC

### Setup:



## POWER LINE CONDUCTED INTERFERENCE

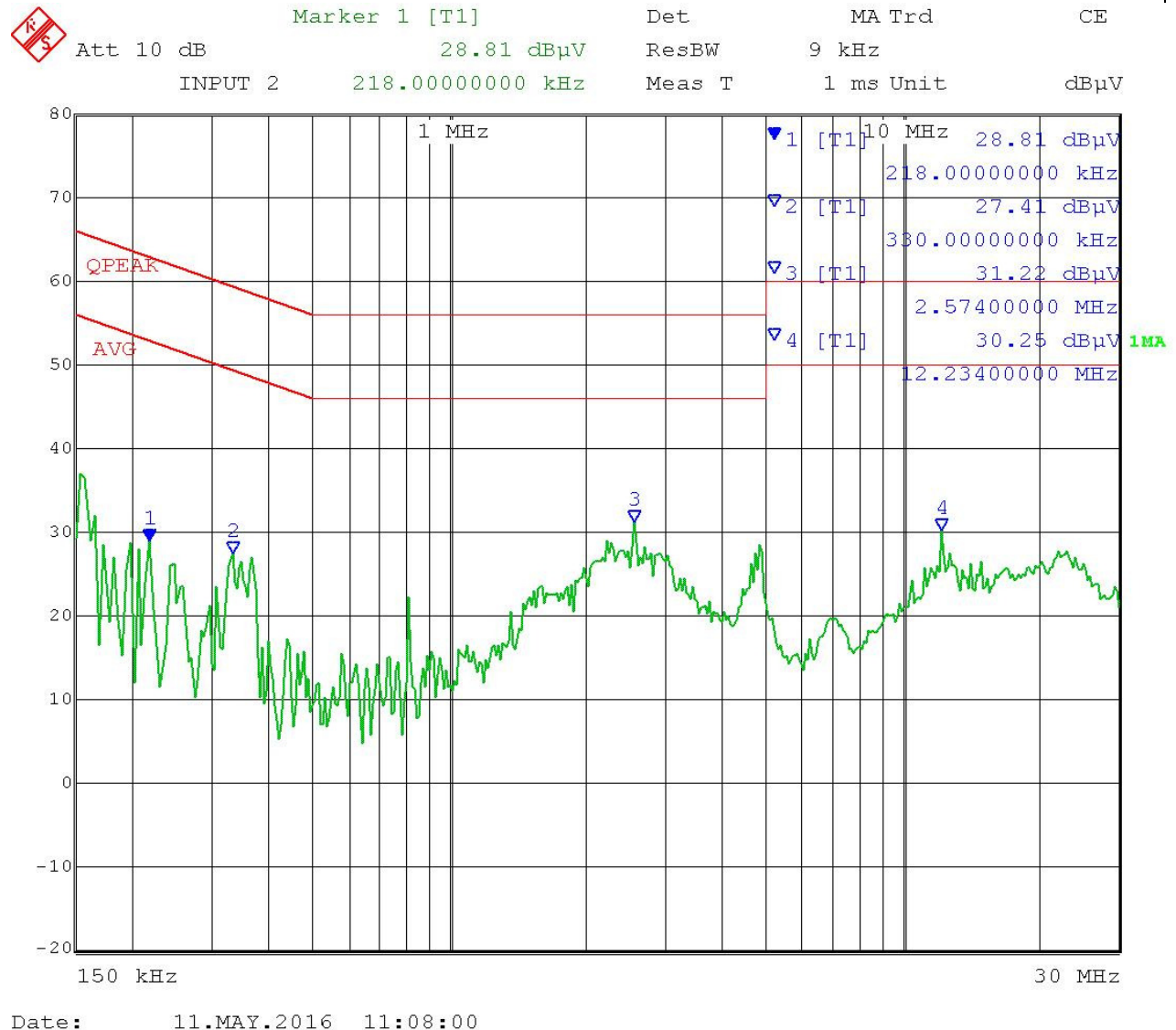
### POWERLINE 1 PEAK PLOT



**Results - Meets Requirements**

# POWER LINE CONDUCTED INTERFERENCE

## POWERLINE 2 PEAK PLOT



**Results - Meets Requirements**

## UNCERTAINTY TABLE

### State of the measurement uncertainty

The data and results referenced in this document are true and accurate. The measurement uncertainty was calculated for all measurements listed in this test report according To CISPR 16 – 4 or ENTR 100-028 Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: “Uncertainty in EMC Measurements” and is documented in the Timco Engineering, Inc. quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Timco Engineering, Inc. is reported:

| Test Items                     | Measurement Uncertainty | Notes |
|--------------------------------|-------------------------|-------|
| Radiated Emissions to 6.0GHz   | $\pm 4.4\text{dB}$      | (1)   |
| Power line conducted emissions | $\pm 3.9\text{dB}$      | (1)   |
|                                |                         |       |

- (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=1.96$ .

## TEST EQUIPMENT LIST

| Device                                        | Manufacturer         | Model   | Serial Number                  | Cal/ Char Date | Due Date |
|-----------------------------------------------|----------------------|---------|--------------------------------|----------------|----------|
| Antenna: Biconnical 1096                      | Eaton                | 94455-1 | 1096                           | 07/14/15       | 07/14/17 |
| Antenna: Log-Periodic 1122                    | Electro-Metrics      | LPA-25  | 1122                           | 07/14/15       | 07/14/17 |
| LISN (Primary)                                | Electro-Metrics      | EM-7820 | 2682                           | 05/08/15       | 05/08/17 |
| CHAMBER                                       | Panashield           | 3M      | N/A                            | 01/05/16       | 12/31/17 |
| Antenna: Double-Ridged Horn/ETS Horn 2        | ETS-Lindgren Chamber | 3117    | 00041534                       | 02/25/15       | 02/25/17 |
| EMI Test Receiver R & S ESIB 40 Screen Room   | Rohde & Schwarz      | ESIB 40 | 100274                         | 08/12/14       | 08/12/16 |
| Software: Field Strength Program              | Timco                | N/A     | Version 4.0                    | N/A            | N/A      |
| EMI Test Receiver R & S ESU 40 Chamber        | Rohde & Schwarz      | ESU 40  | 100320                         | 04/01/16       | 04/01/18 |
| Coaxial Cable for LISN                        | TIMCO LISN           | 17      |                                | 01/05/16       | 01/04/17 |
| Coaxial Cable - Chamber 3 cable set (Primary) | Micro-Coax           |         | Chamber 3 cable set (Primary). | 12/05/15       | 12/05/17 |

### \* EMI RECEIVER SOFTWARE VERSION

The receiver firmware used was version 4.43 Service Pack 3

END OF TEST REPORT