

# TEST REPORT

OF

FCC Part 15 Subpart C §15.209  
FCC ID : CQOED00420

Equipment Under Test : Smart Key ECU  
Model Name : ED00420  
Applicant : DENSO KOREA ELECTRONICS CORPORATION  
Manufacturer : DENSO KOREA ELECTRONICS CORPORATION  
Date of Test(s) : 2015.05.20 ~ 2015.06.02  
Date of Issue : 2015.06.04

In the configuration tested, the EUT complied with the standards specified above.

Tested By:

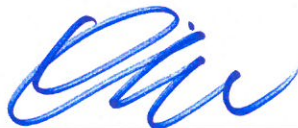


Date:

2015.06.04

\_\_\_\_\_  
Wonjun Sim

Approved By:



Date:

2015.06.04

\_\_\_\_\_  
Hyunchoe You

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## 1. General Information

### 1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

-Wireless Div. 2FL, 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 435-837

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>.

Telephone : + 82 31 688 0901

FAX : + 82 31 688 0921

### 1.2. Details of Applicant

Applicant : DENSO KOREA ELECTRONICS CORPORATION

Address : 3, Chemdansaneop-ro, Masanhappo-gu, Chang-won-si, Gyeongsangnam-do, Korea

Contact Person : Kang, Sung-Won

Phone No. : +82 55 600 9346, +82 10 2047 1558

### 1.3. Description of EUT

|                      |  |
|----------------------|--|
| Kind of Product      | Smart Key ECU  |
| Model Name           | ED00420  |
| Power Supply         | DC 12 V (Used by Vehicle battery)                          |
| Frequency Range      | Tx: 134.20 kHz (LF Antenna)<br>Rx: 433.92 MHz (RF Antenna) |
| Modulation Technique | ASK  |
| Number of Channels   | 1  |
| Operating Conditions | -30 °C ~ 80 °C   |
| Antenna Type         | Internal Type (Coil Antenna)                               |

### 1.4. Declarations by the manufacturer

- RF antenna is only Receiver antenna
- The EUT of antennas cannot operate at the same time.

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### 1.5. Test Equipment List

| Equipment        | Manufacturer   | Model                                | S/N            | Cal. Date     | Cal. Interval | Cal. Due.     |
|------------------|----------------|--------------------------------------|----------------|---------------|---------------|---------------|
| Loop Antenna     | SCHWARZBECK    | FMZB 1519                            | 1519-039       | Jul. 09, 2013 | Biennial      | Jul. 09, 2015 |
| Bilog Antenna    | SCHWARZBECK    | VULB9163                             | 396            | Jun. 07, 2013 | Biennial      | Jun. 07, 2015 |
| DC power Supply  | Agilent        | U8002A                               | MY50060028     | Mar. 28, 2015 | Annual        | Mar. 28, 2016 |
| Test Receiver    | R&S            | ESU26                                | 100109         | Mar. 03, 2015 | Annual        | Mar. 03, 2016 |
| Preamplifier     | H.P.           | 8447F                                | 2944A03908     | Aug. 27, 2014 | Annual        | Aug. 27, 2015 |
| Low Pass Filter  | Mini-Circuits  | NLP-1200+                            | V 8979400903-1 | Jun. 10, 2014 | Annual        | Jun. 10, 2015 |
| Antenna Master   | MA 2000        | INN-CO                               | N/A            | N.C.R.        | N.C.R.        | N.C.R.        |
| Turn Device      | DE-3600-RH     | INN-CO                               | N/A            | N.C.R.        | N.C.R.        | N.C.R.        |
| Anechoic Chamber | SY Corporation | L x W x H<br>(9.6 m x 6.4 m x 6.6 m) | N/A            | N.C.R.        | N.C.R.        | N.C.R.        |

### 1.6. Test Report Revision

| Revision | Report number        | Date of Issue | Description |
|----------|----------------------|---------------|-------------|
| 0        | F690501/RF-RTL008794 | 2015.06.04    | Initial     |

### 1.7. Summary of Test Results

The EUT has been tested according to the following specifications:

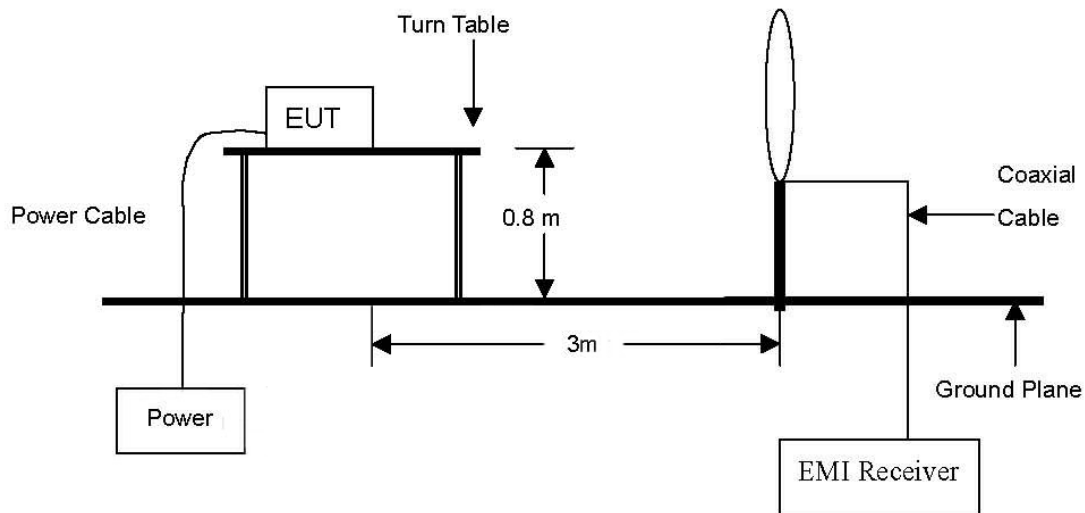
| APPLIED STANDARD: FCC Part 15 Subpart C §15.209 |  |          |
|---|--|----------|
| Section in FCC 15 Subpart C                     | Test Item  | Result   |
| 15.209<br>15.209(a)                             | Radiated emission,<br>Spurious Emission and<br>Field Strength of Fundamental | Complied |

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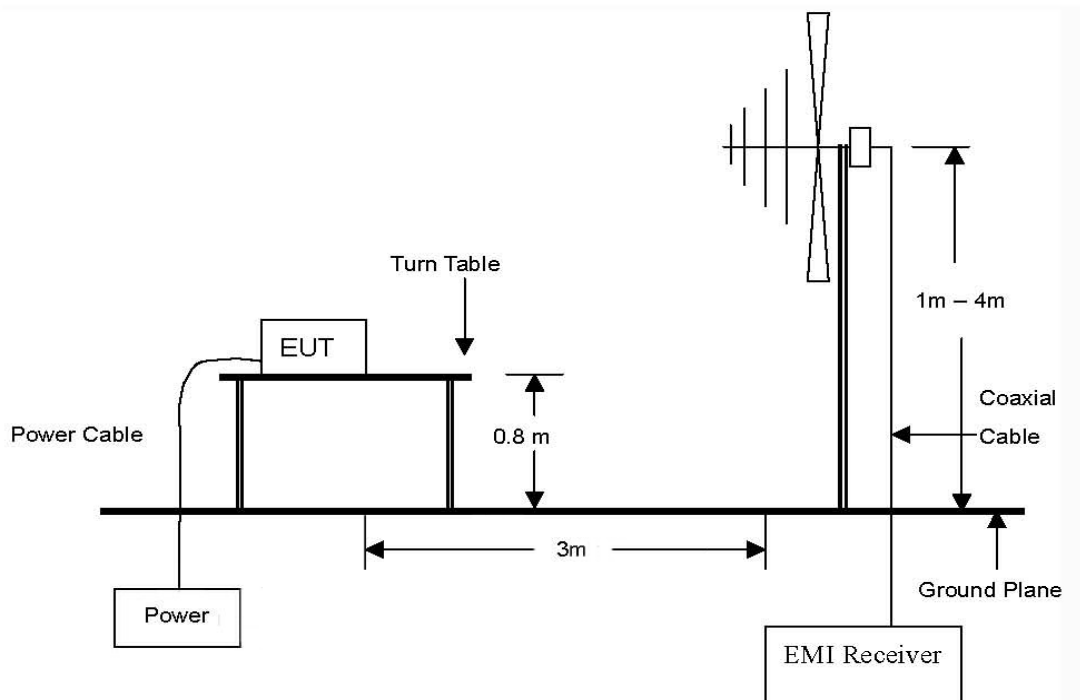
## 2. Field Strength of Fundamental

### 2.1. Test Setup

The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz Emissions.



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## 2.2. Limit

### 2.2.1. Radiated emission limits, general requirements

Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

| Frequency (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meter) |
|-----------------|-----------------------------------|------------------------------|
| 0.009 – 0.490   | 2400/F(kHz)                       | 300                          |
| 0.490 – 1.705   | 24000/F(kHz)                      | 30                           |
| 1.705 – 30.0    | 30                                | 30                           |
| 30 -88          | 100**                             | 3                            |
| 88 -216         | 150**                             | 3                            |
| 216 - 960       | 200**                             | 3                            |
| Above 960       | 500                               | 3                            |

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241

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## 2.3. Test Procedures

Radiated emissions from the EUT were measured according to the dictates of ANSI C63.4:2009

### 2.3.1. Test Procedures for emission from 9 kHz to 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
- c. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- d. The test-receiver system was set to average Detect Function and Specified Bandwidth with Maximum Hold Mode.

### 2.3.2. Test Procedures for emission from 30 MHz to 1 000 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3 meter away from the interference-receiving antenna.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

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## 2.4. Test Result

Ambient temperature : (23 ± 1) °C

Relative humidity : 47 % R.H.

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

### - AST ANT

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |                                | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|--------------------------------|----------------------|-------------|
| Frequency (kHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual (dB $\mu$ V/m) at 300 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 134.2              | 42.70                | Average     | H    | 20.03              | 0.07       | 62.80                        | -17.20                         | 25.05                | 42.25       |

### - BUM ANT

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |                                | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|--------------------------------|----------------------|-------------|
| Frequency (kHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual (dB $\mu$ V/m) at 300 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 134.2              | 55.70                | Average     | H    | 20.03              | 0.07       | 75.80                        | -4.20                          | 25.05                | 29.25       |

### - DRV ANT

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |                                | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|--------------------------------|----------------------|-------------|
| Frequency (kHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual (dB $\mu$ V/m) at 300 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 134.2              | 31.90                | Average     | H    | 20.03              | 0.07       | 52.00                        | -28.00                         | 25.05                | 53.05       |

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**- TNK ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |                                | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|--------------------------------|----------------------|-------------|
| Frequency (kHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual (dB $\mu$ V/m) at 300 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 134.2              | 55.60                | Average     | H    | 20.03              | 0.07       | 75.70                        | -4.30                          | 25.05                | 29.35       |

**- INT ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |                                | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|--------------------------------|----------------------|-------------|
| Frequency (kHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual (dB $\mu$ V/m) at 300 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 134.2              | 44.60                | Average     | H    | 20.03              | 0.07       | 64.70                        | -15.30                         | 25.05                | 40.35       |

**- INT3 ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |                                | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|--------------------------------|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual (dB $\mu$ V/m) at 300 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 0.135              | 45.20                | Average     | H    | 20.03              | 0.07       | 65.30                        | -14.70                         | 25.05                | 39.75       |

**- SSB ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |                                | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|--------------------------------|----------------------|-------------|
| Frequency (kHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual (dB $\mu$ V/m) at 300 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 134.2              | 63.30                | Average     | H    | 20.03              | 0.07       | 83.40                        | 3.40                           | 25.05                | 21.65       |

**Note:**

1. 300 m Result(dB $\mu$ V/m) = 3 m Result(dB $\mu$ V/m) – 40log(300/3) (dB $\mu$ V/m)

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### 3. Spurious Emission

#### 3.1. Test Setup

Same as section 2.1 of this report

#### 3.2. Limit

Same as section 2.2 of this report

#### 3.3. Test Procedures

Radiated emissions from the EUT were measured according to the dictates of ANSI C63.4:2009

##### 3.3.1. Test Procedures for emission from 9 kHz to 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
- c. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- d. The test-receiver system was set to quasi-peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

##### 3.3.2. Test Procedures for emission from 30 MHz to 1 000 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3 meter away from the interference-receiving antenna.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

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### 3.4. Test Result

Ambient temperature : (24 ± 1) °C  
 Relative humidity : 47 % R.H.

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

#### 3.4.1. Spurious emission from 9 kHz to 30 MHz

##### - AST ANT

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |   | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|---|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual <sup>1</sup> (dB $\mu$ V/m) at 300 m or 30 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 2.475              | 22.70                | Quasi-Peak  | H    | 20.12              | 0.19       | 43.01                        | 3.01  | 29.54                | 26.53       |
| 13.590             | 2.80                 | Quasi-Peak  | H    | 20.13              | 0.49       | 23.42                        | -16.58  | 29.54                | 46.12       |

##### - BUM ANT

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |   | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|---|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual <sup>1</sup> (dB $\mu$ V/m) at 300 m or 30 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 2.475              | 22.40                | Quasi-Peak  | H    | 20.12              | 0.19       | 42.71                        | 2.71  | 29.54                | 26.83       |
| 15.833             | 2.70                 | Quasi-Peak  | H    | 20.16              | 0.54       | 23.40                        | -16.60  | 29.54                | 46.14       |

##### - DRV ANT

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |   | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|---|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual <sup>1</sup> (dB $\mu$ V/m) at 300 m or 30 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 2.459              | 22.50                | Quasi-Peak  | H    | 20.13              | 0.19       | 42.82                        | 2.82  | 29.54                | 26.72       |
| 13.558             | 6.40                 | Quasi-Peak  | H    | 20.13              | 0.49       | 27.02                        | -12.98  | 29.54                | 42.52       |

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**- TNK ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |   | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|---|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual <sup>1</sup> (dB $\mu$ V/m) at 300 m or 30 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 2.427              | 24.90                | Quasi-Peak  | H    | 20.13              | 0.19       | 45.22                        | 5.22  | 29.54                | 24.32       |
| 14.391             | 2.80                 | Quasi-Peak  | H    | 20.14              | 0.51       | 23.45                        | -16.55  | 29.54                | 46.09       |

**- INT ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |   | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|---|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual <sup>1</sup> (dB $\mu$ V/m) at 300 m or 30 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 2.411              | 21.40                | Quasi-Peak  | H    | 20.13              | 0.19       | 41.72                        | 1.72  | 29.54                | 27.82       |
| 11.538             | 3.00                 | Quasi-Peak  | H    | 20.13              | 0.44       | 23.57                        | -16.43  | 29.54                | 45.97       |

**- INT3 ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |   | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|---|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual <sup>1</sup> (dB $\mu$ V/m) at 300 m or 30 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 2.475              | 22.30                | Quasi-Peak  | H    | 20.12              | 0.19       | 42.61                        | 2.61  | 29.54                | 26.93       |
| 12.372             | 2.90                 | Quasi-Peak  | H    | 20.13              | 0.46       | 23.49                        | -16.51  | 29.54                | 46.05       |

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**- SSB ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |            | Total                        |   | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|------------|------------------------------|---|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | Ant. (dB/m)        | Cable (dB) | Actual (dB $\mu$ V/m) at 3 m | Actual <sup>1</sup> (dB $\mu$ V/m) at 300 m or 30 m | Limit (dB $\mu$ V/m) | Margin (dB) |
| 2.459              | 21.50                | Quasi-Peak  | H    | 20.13              | 0.19       | 41.82                        | 1.82  | 29.54                | 27.72       |
| 18.462             | 3.20                 | Quasi-Peak  | H    | 20.24              | 0.60       | 24.04                        | -15.96  | 29.54                | 45.50       |

**Note:**

- 300 m Result(dB $\mu$ V/m) = 3 m Result(dB $\mu$ V/m) – 40log(300/3) (dB $\mu$ V/m)  
 or 30 m Result(dB $\mu$ V/m) = 3 m Result(dB $\mu$ V/m) – 40log(30/3) (dB $\mu$ V/m)

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### 3.4.2. Spurious emission from 30 MHz to 1 000 MHz

The frequency spectrum from 30 MHz to 1 000 MHz was investigated. All reading values are peak values.

#### - AST ANT

| Radiated Emissions |                      |             | Ant  | Correction Factors |               | Total                 | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|---------------|-----------------------|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | AF (dB/m)          | AMP + CL (dB) | Actual (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
| 36.14              | 32.84                | Peak        | H    | 15.32              | -27.16        | 21.00                 | 40.00                | 19.00       |
| 57.20              | 32.22                | Peak        | H    | 15.03              | -26.85        | 20.40                 | 40.00                | 19.60       |
| 105.34             | 32.26                | Peak        | H    | 13.89              | -26.35        | 19.80                 | 43.50                | 23.70       |
| 252.05             | 32.94                | Peak        | V    | 13.92              | -24.96        | 21.90                 | 46.00                | 24.10       |
| 358.39             | 32.49                | Peak        | V    | 16.49              | -24.78        | 24.20                 | 46.00                | 21.80       |
| 857.69             | 32.35                | Peak        | V    | 23.26              | -23.41        | 32.20                 | 46.00                | 13.80       |
| Above 900.00       | Not detected         | -           | -    | -                  | -             | -                     | -                    | -           |

#### - BUM ANT

| Radiated Emissions |                      |             | Ant  | Correction Factors |               | Total                 | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|---------------|-----------------------|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | AF (dB/m)          | AMP + CL (dB) | Actual (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
| 46.29              | 31.70                | Peak        | H    | 16.04              | -27.04        | 20.70                 | 40.00                | 19.30       |
| 57.97              | 32.79                | Peak        | H    | 14.95              | -26.84        | 20.90                 | 40.00                | 19.10       |
| 97.94              | 32.20                | Peak        | H    | 14.28              | -26.38        | 20.10                 | 43.50                | 23.40       |
| 239.00             | 33.79                | Peak        | V    | 13.39              | -25.08        | 22.10                 | 46.00                | 23.90       |
| 378.27             | 32.57                | Peak        | V    | 16.63              | -24.80        | 24.40                 | 46.00                | 21.60       |
| 829.73             | 32.16                | Peak        | V    | 22.89              | -23.55        | 31.50                 | 46.00                | 14.50       |
| Above 900.00       | Not detected         | -           | -    | -                  | -             | -                     | -                    | -           |

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**- DRV ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |               | Total                 | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|---------------|-----------------------|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | AF (dB/m)          | AMP + CL (dB) | Actual (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
| 42.53              | 32.38                | Peak        | H    | 16.01              | -27.09        | 21.30                 | 40.00                | 18.70       |
| 57.20              | 32.32                | Peak        | H    | 15.03              | -26.85        | 20.50                 | 40.00                | 19.50       |
| 99.19              | 31.79                | Peak        | H    | 14.48              | -26.37        | 19.90                 | 43.50                | 23.60       |
| 239.28             | 32.98                | Peak        | V    | 13.40              | -25.08        | 21.30                 | 46.00                | 24.70       |
| 339.47             | 32.76                | Peak        | V    | 16.17              | -24.73        | 24.20                 | 46.00                | 21.80       |
| 719.71             | 32.45                | Peak        | V    | 21.92              | -24.27        | 30.10                 | 46.00                | 15.90       |
| Above 800.00       | Not detected         | -           | -    | -                  | -             | -                     | -                    | -           |

**- TNK ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |               | Total                 | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|---------------|-----------------------|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | AF (dB/m)          | AMP + CL (dB) | Actual (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
| 38.85              | 31.13                | Peak        | H    | 15.72              | -27.15        | 19.70                 | 40.00                | 20.30       |
| 54.94              | 31.79                | Peak        | H    | 15.27              | -26.86        | 20.20                 | 40.00                | 19.80       |
| 101.46             | 31.96                | Peak        | H    | 14.41              | -26.37        | 20.00                 | 43.50                | 23.50       |
| 280.10             | 33.23                | Peak        | V    | 14.66              | -24.79        | 23.10                 | 46.00                | 22.90       |
| 397.95             | 32.71                | Peak        | V    | 16.77              | -24.88        | 24.60                 | 46.00                | 21.40       |
| 729.73             | 33.26                | Peak        | V    | 22.10              | -24.26        | 31.10                 | 46.00                | 14.90       |
| Above 800.00       | Not detected         | -           | -    | -                  | -             | -                     | -                    | -           |

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**- INT ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |               | Total                 | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|---------------|-----------------------|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | AF (dB/m)          | AMP + CL (dB) | Actual (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
| 41.80              | 31.63                | Peak        | H    | 15.98              | -27.11        | 20.50                 | 40.00                | 19.50       |
| 57.40              | 32.14                | Peak        | H    | 15.01              | -26.85        | 20.30                 | 40.00                | 19.70       |
| 103.72             | 32.15                | Peak        | H    | 14.11              | -26.36        | 19.90                 | 43.50                | 23.60       |
| 231.36             | 33.30                | Peak        | V    | 13.06              | -25.16        | 21.20                 | 46.00                | 24.80       |
| 388.78             | 32.54                | Peak        | V    | 16.70              | -24.84        | 24.40                 | 46.00                | 21.60       |
| 836.43             | 33.13                | Peak        | V    | 23.00              | -23.53        | 32.60                 | 46.00                | 13.40       |
| Above 900.00       | Not detected         | -           | -    | -                  | -             | -                     | -                    | -           |

**- INT3 ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |               | Total                 | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|---------------|-----------------------|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | AF (dB/m)          | AMP + CL (dB) | Actual (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
| 39.94              | 32.36                | Peak        | H    | 15.88              | -27.14        | 21.10                 | 40.00                | 18.90       |
| 53.68              | 33.29                | Peak        | H    | 15.40              | -26.89        | 21.80                 | 40.00                | 18.20       |
| 102.39             | 31.67                | Peak        | H    | 14.29              | -26.36        | 19.60                 | 43.50                | 23.90       |
| 268.86             | 33.30                | Peak        | V    | 14.36              | -24.86        | 22.80                 | 46.00                | 23.20       |
| 317.81             | 33.31                | Peak        | V    | 15.63              | -24.64        | 24.30                 | 46.00                | 21.70       |
| 510.92             | 32.53                | Peak        | V    | 18.70              | -25.03        | 26.20                 | 46.00                | 19.80       |
| Above 600.00       | Not detected         | -           | -    | -                  | -             | -                     | -                    | -           |

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**- SSB ANT**

| Radiated Emissions |                      |             | Ant  | Correction Factors |               | Total                 | FCC Limit            |             |
|--------------------|----------------------|-------------|------|--------------------|---------------|-----------------------|----------------------|-------------|
| Frequency (MHz)    | Reading (dB $\mu$ V) | Detect Mode | Pol. | AF (dB/m)          | AMP + CL (dB) | Actual (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
| 39.94              | 32.36                | Peak        | H    | 15.88              | -27.14        | 21.10                 | 40.00                | 18.90       |
| 53.68              | 33.29                | Peak        | H    | 15.40              | -26.89        | 21.80                 | 40.00                | 18.20       |
| 102.39             | 31.67                | Peak        | H    | 14.29              | -26.36        | 19.60                 | 43.50                | 23.90       |
| 268.86             | 33.30                | Peak        | V    | 14.36              | -24.86        | 22.80                 | 46.00                | 23.20       |
| 317.81             | 33.31                | Peak        | V    | 15.63              | -24.64        | 24.30                 | 46.00                | 21.70       |
| 761.74             | 32.01                | Peak        | V    | 22.44              | -24.05        | 30.40                 | 46.00                | 15.60       |
| Above 800.00       | Not detected         | -           | -    | -                  | -             | -                     | -                    | -           |

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