

RF TEST REPORT

Certificate No. : TB180719448
Applicant :
Equipment Under Test (EUT)
EUT Name : Wireless charger Bluetooth speaker
Model No. : SL240
Serial Model No. : SL249, P328.031, P328.032, P328.033, SL249, 7198-64
Brand Name : N/A
Receipt Date : 2018-07-04
Test Date : 2018-07-05 to 2018-07-19
Issue Date : 2018-07-20
Standards : ETSI EN 303 417 V1.1.1: 2017
Conclusions : **PASS**

In the configuration tested, the EUT complied with the standards specified above. The EUT technically complies with the Council Directive 2014/53/EU relating to radio equipment.

Test/Witness Engineer : Jason Xu
Engineer Supervisor : Ivan Su
Engineer Manager : Ray Lai



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

TB-RF-075-1.0

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Revision History

| Report No. | Version | Description | Issued Date |
|-------------|---------|-------------------------|-------------|
| TB-RF161075 | Rev.01 | Initial issue of report | 2018-07-20 |
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1 General Information

1.1 Client Information

| | | |
|---------------------|---|--|
| Applicant | : | |
| Address | : | |
| Manufacturer | : | |
| Address | : | |

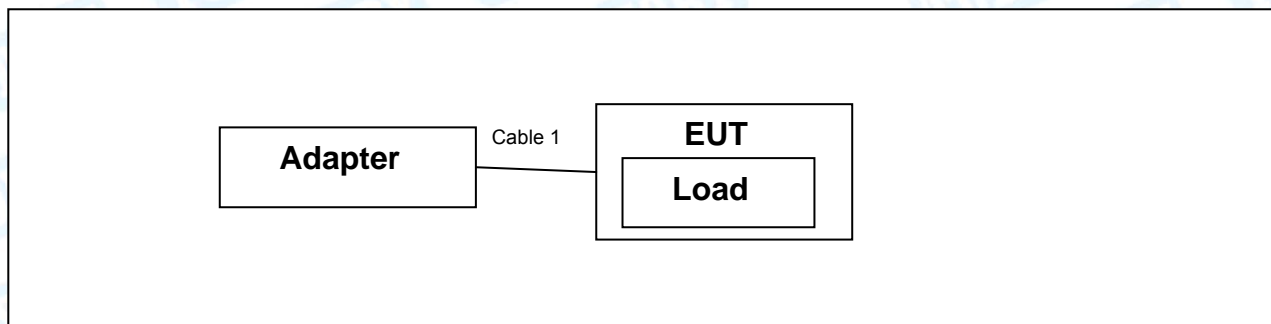
1.2 General Description of EUT (Equipment Under Test)

| | | | |
|-------------------------------|---|--|---|
| EUT Name | : | Wireless charger Bluetooth speaker | |
| Model No. | : | SL240, SL249, P328.031, P328.032, P328.033, SL249, 7198-64 | |
| Model Difference | : | All these models are identical in the same PCB layout and electrical circuit, the only difference is appearance. | |
| Product Description | : | | 110 kHz to 205 kHz |
| | | Operational Mode | <input type="checkbox"/> Mode 1: base station in stand-by, idle mode. <input type="checkbox"/> Mode 2: Communication before charging, adjustment charging mode/position. <input checked="" type="checkbox"/> Mode 3: Communication. <input checked="" type="checkbox"/> Mode 4: energy transmission. |
| | | | |
| | : | Antenna information | Coil Antenna: 0 dBi |
| | | | |
| Power Rating | : | DC 3.7V 400mAh by Li-ion Battery. Input: DC 5V by USB Cable. Wireless Output: DC 5V/0.8A | |
| Software Version | : | 1.0 | |
| Hardware Version | : | 1.0 | |
| Connecting I/O Port(S) | : | Please refer to the User's Manual | |

Note:

- (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

1.3 Block Diagram Showing the Configuration of System Tested



1.4 Description of Support Units

| Equipment Information | | | | |
|-----------------------|---------------|--------------|--------------|----------|
| Name | Model | S/N | Manufacturer | Used “√” |
| Load | 5V/9V | ---- | CHIPSVISION | √ |
| Adapter | EP-TA200 | ---- | SAMSUNG | √ |
| Cable Information | | | | |
| Number | Shielded Type | Ferrite Core | Length | Note |
| 1 | NO | NO | 0.8m | |

1.5 Description of Operating Mode

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

| Test Items | Mode |
|--|---------|
| Permitted range of operating frequencies | TX Mode |
| Operating frequency ranges | TX Mode |
| H-field requirements | TX Mode |
| Transmitter spurious emissions | TX Mode |
| Transmitter out of band (OOB) emissions | TX Mode |
| WPT system unwanted conducted emissions | N/A |
| Receiver blocking | RX Mode |

Note:

- (1) The EUT is considered a portable unit, and it was pre-tested on the positioned of each 3 axis: X axis, Y axis and Z axis. The worst case was found positioned on X-plane. There for only the test data of this X-plane were used for radiated emission measurement test.

1.6 Description of Testing Condition

| | Normal Test Conditions | Extreme Test Conditions |
|----------------|------------------------|-------------------------|
| Temperature | 15°C~35°C | -10°C~55°C |
| Humidity | 20%~75% | N/A |
| Supply Voltage | DC 5V | DC 4.75V~DC 5.25V |

Note :

- (1) For tests at extreme temperatures, measurements shall be made in accordance with the procedures specified in clause 5.6.1.1(EN 300 330), at the upper and lower temperatures of the range as follows:

| | |
|----------------------------------|----------------|
| Category I (General) | -20°C to +55°C |
| Category II (Portable) | -10°C to +55°C |
| Category III (Normal indoor use) | 0°C to +35°C |

(2) **Mains voltage:**

The extreme test voltage for equipment to be connected to an AC mains source shall be the nominal mains voltage $\pm 10\%$.

Regulated lead-acid or gel-cell type batteries:

When the radio equipment is intended for operation from the usual type of regulated lead-acid battery power sources, the extreme test voltages shall be 1,3 and 0,9 multiplied by the nominal voltage of the battery (6 V, 12 V, etc.).

For float charge applications using "gel-cell" type batteries, the extreme test voltages shall be 1,15 and 0,85 multiplied by the nominal voltage of the declared battery voltage.

Power sources using other types of batteries:

The lower extreme test voltages for equipment with power sources using the following types of battery shall be:

- For the Leclanché or lithium type battery: 0,85 times the nominal voltage of the battery;
- For the nickel-cadmium type of battery: 0,9 times the nominal voltage of the battery. In both cases, the upper extreme test voltage shall be 1,15 times the nominal voltage of the battery.
- For other types of batteries, the lower extreme test voltage for the discharged condition shall be declared by the equipment provider.

The nominal voltage is considered to be the upper extreme test voltage in this case.

1.7 Measurement Uncertainty

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

| Test Item | Expanded Uncertainty (U_{Lab}) |
|--|------------------------------------|
| Conducted Emission | ± 3.42 dB |
| Radiated Emission (9kHz to 30 MHz) | ± 4.60 dB |
| RF Power-Conducted | ± 0.18 dB |
| RF level uncertainty for a given BER | ± 1.5 dB |
| Radiated Emission (30MHz to 1000 MHz) | ± 4.40 dB |
| Radiated Emission (Above 1000MHz) | ± 4.20 dB |
| Temperature | $\pm 0.6^{\circ}\text{C}$ |
| Humidity | $\pm 4\%$ |

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

2 Test Results Summary

| Harmonised Standard ETSI EN 303 417 | | | | | |
|---|--|-------------------------|----------------------------|---|--------|
| Requirement | | | Requirement Conditionality | | Result |
| No | Description | Reference: Clause No | U/C | Condition | - |
| 1 | Permitted range of operating frequencies | 4.3.2 | U | - | PASS |
| 2 | Operating frequency ranges | 4.3.3 | U | - | PASS |
| 3 | H-field requirements | 4.3.4 | U | - | PASS |
| 4 | Transmitter spurious emissions | 4.3.5 | U | - | PASS |
| 5 | Transmitter out of band (OOB) emissions | 4.3.6 | U | - | PASS |
| 6 | WPT system unwanted conducted emissions | 4.3.7 | C | Only for equipment which has a cable between the off board power supply and the primary coil which is longer than 3 m | N/A |
| 7 | Receiver blocking | 4.4.2 | C | Only for Mode 1, Mode 2 and Mode 3 | PASS |
| Note: (1) "N/A" indicates test is not applicable in this Test Report. (2) "U/C": Indicates whether the requirement is unconditionally applicable (U) or is conditional upon the manufacturer's claimed functionality of the equipment (C). | | | | | |

3 Test Equipment

| Used Equipment List | | | | | |
|-------------------------------------|--------------------|--------------------|---------------|---------------|---------------|
| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Due Date |
| Wideband Radio Communication Tester | Rohde & Schwarz | CMW500 | 144382 | Oct. 26, 2017 | Oct. 25, 2018 |
| MXA Signal Analyzer | Agilent | N9020A | MY49100060 | Oct. 26, 2017 | Oct. 25, 2018 |
| Vector Signal Generator | Agilent | N5182A | MY50141294 | Oct. 26, 2017 | Oct. 25, 2018 |
| Analog Signal Generator | Agilent | N5181A | MY50141953 | Oct. 26, 2017 | Oct. 25, 2018 |
| RF Power Sensor | DARE!! Instruments | RadiPowerRP R3006W | 17I00015SNO26 | Oct. 26, 2017 | Oct. 25, 2018 |
| | DARE!! Instruments | RadiPowerRP R3006W | 17I00015SNO29 | Oct. 26, 2017 | Oct. 25, 2018 |
| | DARE!! Instruments | RadiPowerRP R3006W | 17I00015SNO31 | Oct. 26, 2017 | Oct. 25, 2018 |
| | DARE!! Instruments | RadiPowerRP R3006W | 17I00015SNO33 | Oct. 26, 2017 | Oct. 25, 2018 |
| Spectrum Analyzer | Agilent | E4407B | MY45106456 | Jul. 18, 2018 | Jul. 17, 2019 |
| EMI Test Receiver | Rohde & Schwarz | ESPI | 100010/007 | Jul. 18, 2018 | Jul. 17, 2019 |
| Bilog Antenna | ETS-LINDGREN | 3142E | 00117537 | Mar.16, 2018 | Mar. 15, 2019 |
| Bilog Antenna | ETS-LINDGREN | 3142E | 00117542 | Mar.16, 2018 | Mar. 15, 2019 |
| Horn Antenna | ETS-LINDGREN | 3117 | 00143207 | Mar.16, 2018 | Mar. 15, 2019 |
| Horn Antenna | ETS-LINDGREN | 3117 | 00143209 | Mar.16, 2018 | Mar. 15, 2019 |
| Loop Antenna | SCHWARZBECK | FMZB 1519 B | 1519B-059 | Jul. 14, 2018 | Jul. 13, 2019 |
| Pre-amplifier | Sonoma | 310N | 185903 | Mar.17, 2018 | Mar. 16, 2019 |
| Pre-amplifier | HP | 8447B | 3008A00849 | Mar.17, 2018 | Mar. 16, 2019 |
| Cable | HUBER+SUHNER | 100 | SUCOFLEX | Mar.17, 2018 | Mar. 16, 2019 |
| Signal Generator | Rohde & Schwarz | SML03 | IKW682-054 | Mar.17, 2018 | Mar. 16, 2019 |
| Positioning Controller | ETS-LINDGREN | 2090 | N/A | N/A | N/A |
| Temp. & Humidity Chamber | ZHONG ZHI | CZ-A-225D | HW08053 | Jul. 18, 2018 | Jul. 17, 2019 |
| DC Power Supply | MATRIX | MPS-3005L-3 | D806050W | Jul. 18, 2018 | Jul. 17, 2019 |
| AC Power Supply | HengJie | HPC-1110 | 2010007 | Jul. 18, 2018 | Jul. 17, 2019 |

4 Operating Frequency Rang(s)(OFR)

4.1 Test Standard and Limit

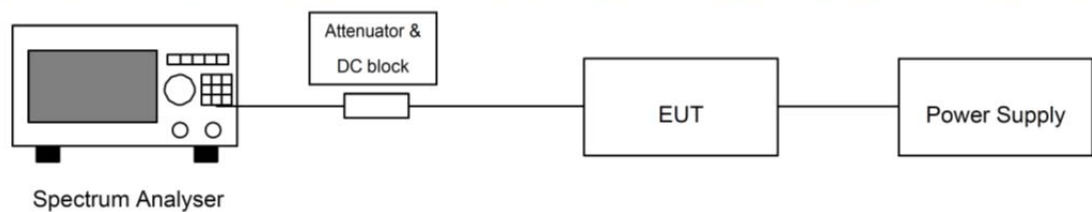
4.1.1 Test Standard

ETSI EN 303 417 V1.1.1:2017 clause 4.3.3

4.1.2 Test Limit

The permitted range of operating frequency range(s) for intentional emissions shall be within 19 - 21 kHz, 59 - 61 kHz, 79 - 90 kHz, 100 - 300 kHz, 6 765 - 6 795 kHz.

4.2 Test Setup



4.3 Test Procedure

The method of measurement in clause 6.2.1 of ETSI EN 303 417 V1.1.1.

4.4 EUT Operation During Test

The measurements shall be performed during normal.

4.5 Test Data

Please refer to the Attachment A.

5 H-field Requirements

5.1 Test Standard and Limit

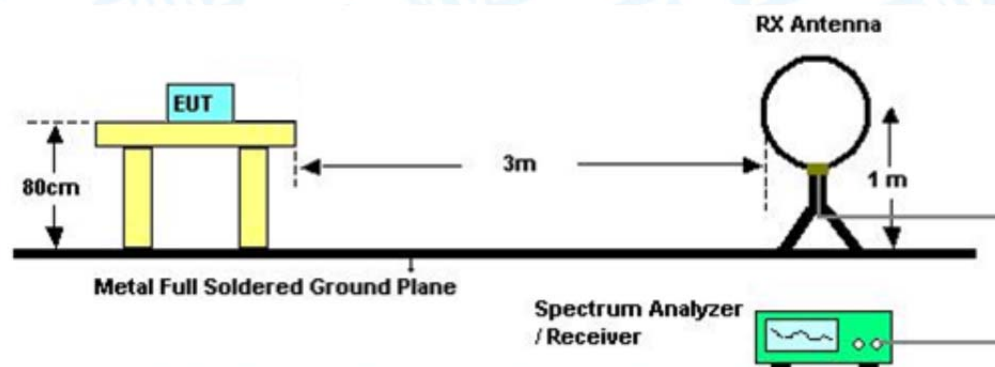
5.1.1 Test Standard

ETSI EN 303 417 V1.1.1:2017 clause 4.3.4

5.1.2 Limits

| H-field Limits | | |
|---|---|------------|
| Frequency range [MHz] | H-field strength limit [dB μ A/m at 10 m] | Comments |
| $0,019 \leq f < 0,021$ | 72 | |
| $0,059 \leq f < 0,061$ | 69,1 descending 10 dB/dec above 0,059 MHz | See note 1 |
| $0,079 \leq f < 0,090$ | 67,8 descending 10 dB/dec above 0,079 MHz | See note 2 |
| $0,100 \leq f < 0,119$ | 42 | |
| $0,119 \leq f < 0,135$ | 66 descending 10 dB/dec above 0,119 MHz | See note 1 |
| $0,135 \leq f < 0,140$ | 42 | |
| $0,140 \leq f < 0,1485$ | 37,7 | |
| $0,1485 \leq f < 0,30$ | -5 | |
| $6,765 \leq f < 6,795$ | 42 | |
| NOTE 1: Limit is 42 dB μ A/m for the following spot frequencies: 60 kHz \pm 250 Hz and 129,1 kHz \pm 500 Hz. | | |
| NOTE 2: At the time of preparation of the present document the feasibility of increased limits for high power wireless power transmission systems to charge vehicles [i.4] was prepared. New specific requirements for such systems (e.g. higher H-field emission limits in the 79 - 90 kHz band) will be reflected within a future revision of the present document. | | |
| Distance extrapolation factor = $40 \log$ (specific distance / test distance) (dB). | | |
| Limit line = specific limits (dB μ V) + distance extrapolation factor. | | |

5.2 Test Setup



5.3 Test Procedure

The method of measurement in clause 6.2.1 of ETSI EN 303 417 V1.1.1

5.4 EUT Operation During Test

The measurements shall be performed during continuously transmitting.

5.5 Test Data

Please refer to the Attachment B.

6 Transmitter Spurious Emissions

6.1 Test Standard and Limit

6.1.1 Test Standard

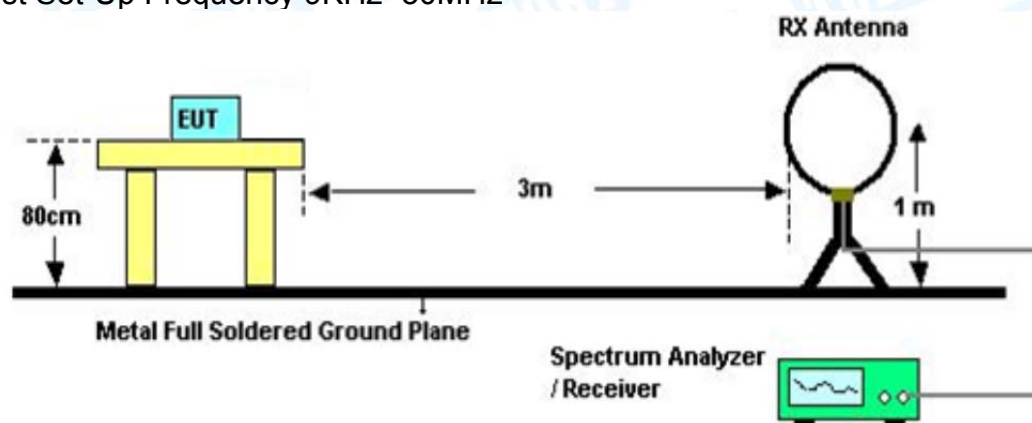
ETSI EN 303 417 V1.1.1:2017 clause 4.3.5

6.1.2 Limits

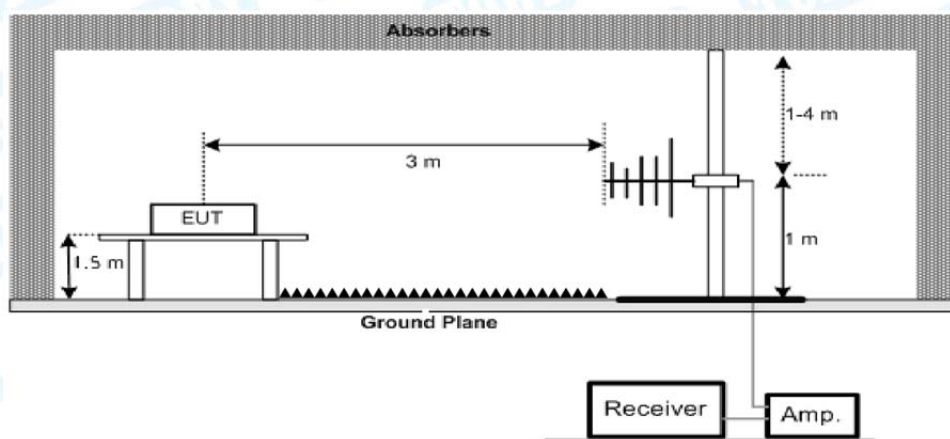
| 9KHz~30MHz | | |
|--|---|--|
| State (see note) | Frequency $9\text{ kHz} \leq f < 10\text{ MHz}$ | Frequency $10\text{ MHz} \leq f < 30\text{ MHz}$ |
| Operating | 27 dB μ A/m at 9 kHz descending 10 dB/dec | -3,5 dB μ A/m |
| Standby | 5,5 dB μ A/m at 9 kHz descending 10 dB/dec | -25 dB μ A/m |
| NOTE: "Operating" means mode 2, 3 and 4 according to Table 2; "standby" means mode 1 according to Table 2. | | |
| Below 1G | | |
| State (see note) | 47 MHz to 74 MHz 87,5 MHz to 118 MHz 174 MHz to 230 MHz 470 MHz to 790 MHz | Other frequencies between 30 MHz to 1 000 MHz |
| Operating | 4 nW | 250 nW |
| Standby | 2 nW | 2 nW |
| NOTE: "Operating" means mode 2, 3 and 4 according to Table 2; "standby" means mode 1 according to Table 2. | | |

6.2 Test Setup

(1) Test Set-Up Frequency 9KHz~30MHz



(2) Test Set-Up Frequency Below 1GHz



6.3 Test Procedure

The method of measurement in clause 6.2.1 of ETSI EN 303 417 V1.1.1.

6.4 EUT Operation During Test

The measurements shall be performed during continuously transmitting.

6.5 Test Data

Please refer to the Attachment C.

7 Transmitter out of Band (OOB) Emissions

7.1 Test Standard and Limit

7.1.1 Test Standard

ETSI EN 303 417 V1.1.1:2017 clause 4.3.6.

7.1.2 Limits

Transmitter out of band (OOB) emissions

They are descending from the intentional limits from Table 3 of section 5.1 in the test report at f_H/f_L with 10 dB/decade.

The transmitter spurious emissions for a single frequency system are to be considered in frequency ranges defined in Figure 4 ($f < f_{SL}$ and $f > f_{SH}$).

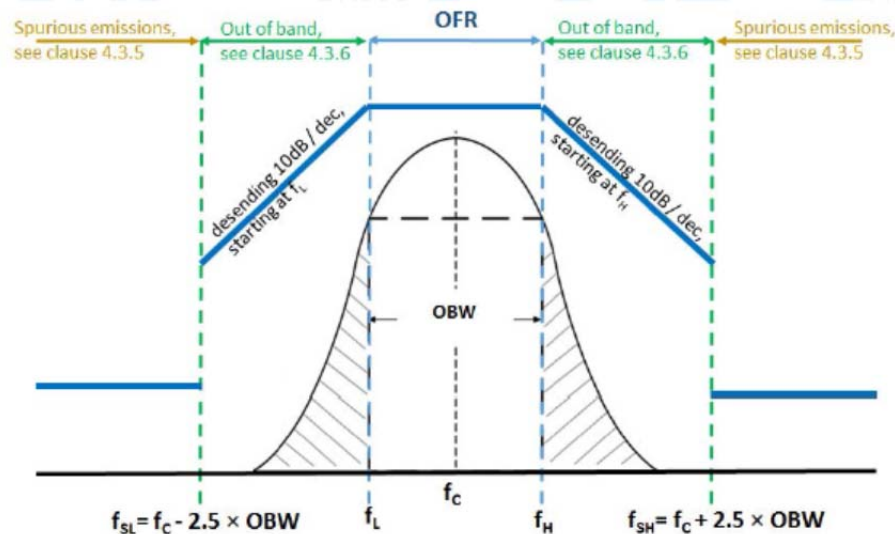


Figure 4: Out of band and spurious domain of a single frequency WPT system

The transmitter spurious emissions for a multi frequency system (within one WPT frequency range from Table 2) are to be considered in frequency ranges defined in Figure 5 ($f < f_{SL}$ and $f > f_{SH}$).

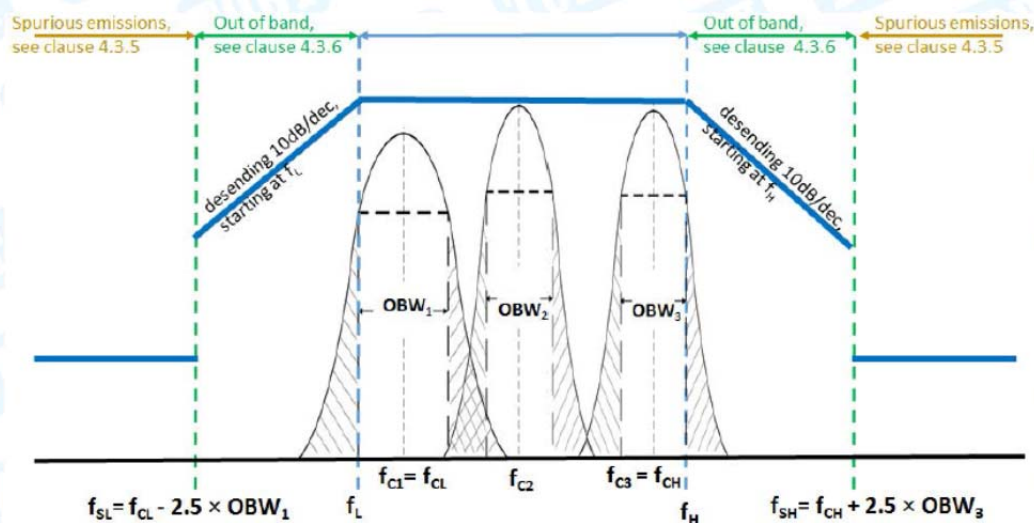
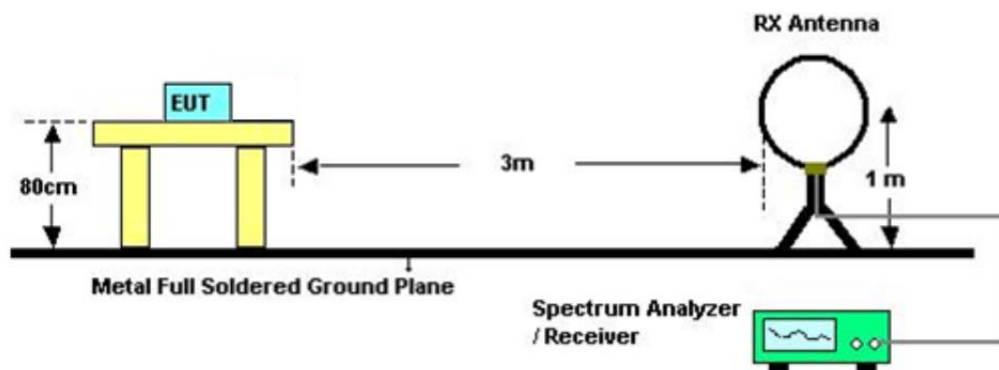


Figure 5: Out of band and spurious domain of a multi - frequency system (during one WPT system cycle time)

7.2 Test Setup



7.3 Test Procedure

The method of measurement in clause 6.2.1 of ETSI EN 303 417 V1.1.1

7.4 EUT Operation During Test

The measurements shall be performed during continuously transmitting.

7.5 Test Data

Please refer to the Attachment D.

8 WPT System Unwanted Conducted Emissions

8.1 Test Standard and Limit

8.1.1 Test Standard

ETSI EN 303 417 V1.1.1:2017 clause 4.3.7

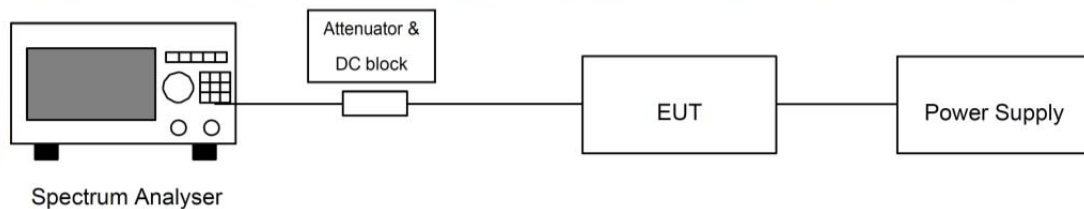
8.1.2 Limit

WPT system unwanted conducted emission

The common mode current (I_{CM}) between 1 MHz and 30 MHz shall not exceed the following limit: $I_{CM} = 47 - 8 \times \log(f)$ dB μ A

Note: f is frequency in MHz.

8.2 Test Setup



8.3 Test Procedure

The method of measurement in clause 6.2.4 of ETSI EN 303 417 V1.1.1

8.4 EUT Operating Condition

The EUT was programmed to be in transmitting mode.

8.5 Test Data

This requirement is not applicable.

The cable to the primary coil is less than 3 m.

9 Receiver Blocking

9.1 Test Standard and Limit

9.1.1 Test Standard

ETSI EN 303 417 V1.1.1:2017 clause 4.4.2

9.1.2 Limits

Suprious emissions and cabinet radiation_receiver

Table 6: Receiver blocking limits

| | In-band signal | OOB signal | Remote-band signal |
|--|---|----------------------------|--------------------------------------|
| Frequency | Centre frequency (f_c) of the WPT system (see clause 4.3.3) | $f = f_c \pm F$ (see note) | $f = f_c \pm 10 \times F$ (see note) |
| Signal level field strength at the EUT | 72 dB μ A/m | 72 dB μ A/m | 82 dB μ A/m |

NOTE: $F = \text{OFR}$ see clause 4.3.3.

9.2 Test Setup

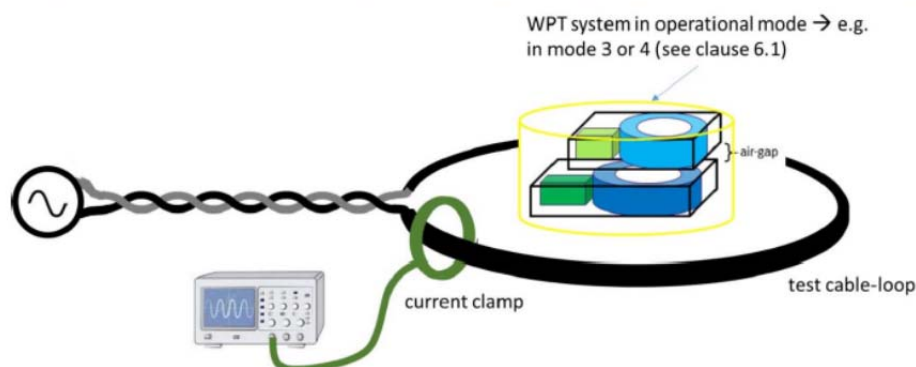


Figure 11: Schematic test set-up for the RX-blocking test

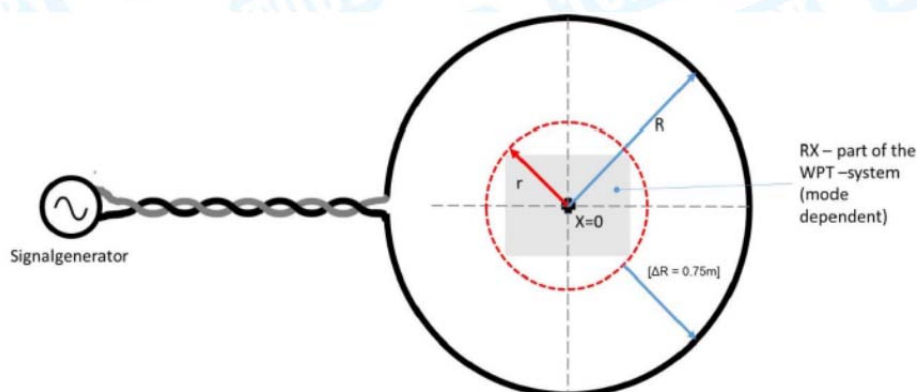


Figure 12: Schematic test set-up for the RX-blocking test

9.3 Test Procedure

The method of measurement in clause 6.3.2 of ETSI EN 303 417 V1.1.1.

9.4 EUT Operating Condition

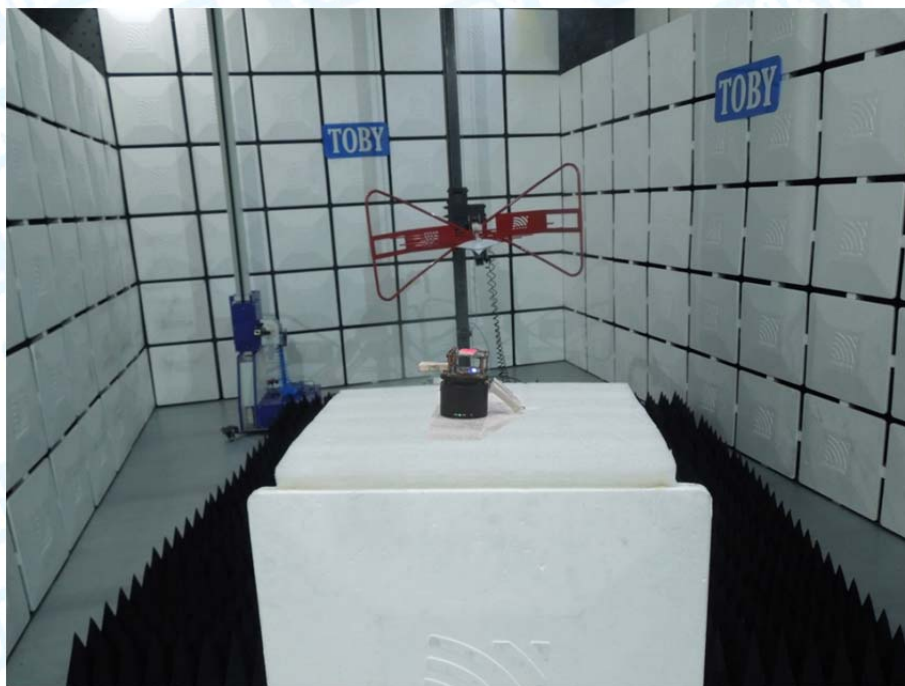
The measurements shall be performed during continuously receiving.

9.5 Test Data

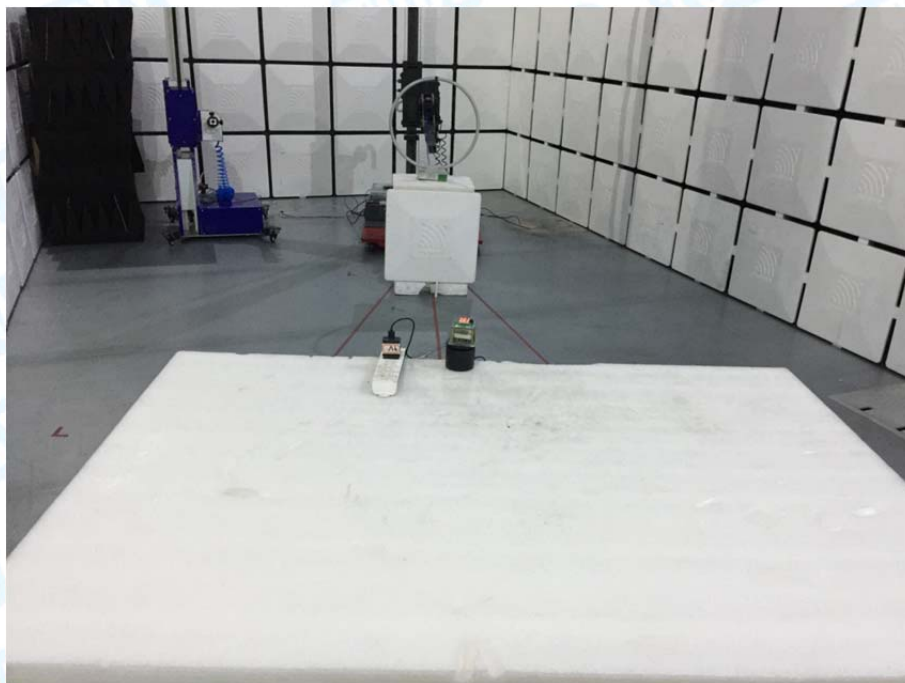
Please refer to the Attachment E.

10Photographs – Test Setup

Radiated Spurious Emission (30MHz~1GHz)



Radiated Spurious Emission (9KHz~30MHz)

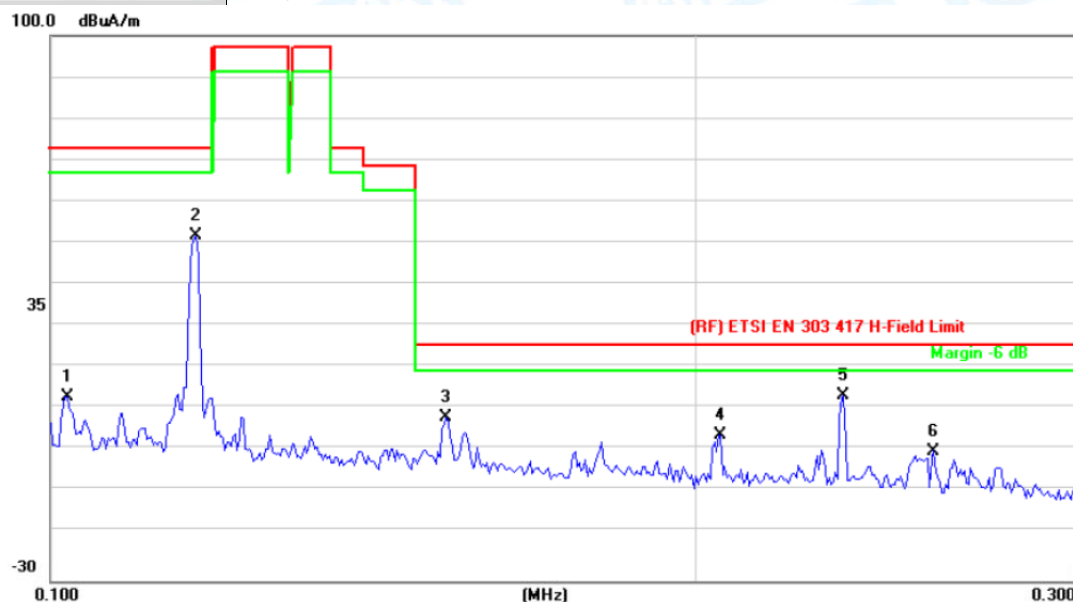


Attachment A--Operating Frequency Ranges

| Test Mode : | TX Mode | |
|------------------------------|-------------------------|--------------|
| Test Conditions | Frequency range (KHz) | |
| | 100 kHz~300 kHz | |
| Tnom, Vnom | 112.4250 | 205.1580 |
| Tmin, Vmin | 112.4160 | 205.1520 |
| Tmin, Vmax | 112.4310 | 205.1540 |
| Tmax, Vmin | 112.4620 | 205.1530 |
| Tmax, Vmax | 112.4520 | 205.1570 |
| Min. fL / Max. fH Band Edges | 112.3580 | 205.7680 |
| Limits | fL >100 KHz | fH < 300 KHz |
| Result | PASS | |

Attachment B--H-field Requirements

| | | | |
|---------------|---------------------------------------|--------------------|-----|
| Temperature: | 25 °C | Relative Humidity: | 55% |
| Test Voltage: | AC 230V/50Hz | | |
| Ant. Pol. | Ant 0° | | |
| Test Mode: | TX Mode | | |
| Remark: | Only showed the worst mode test data. | | |

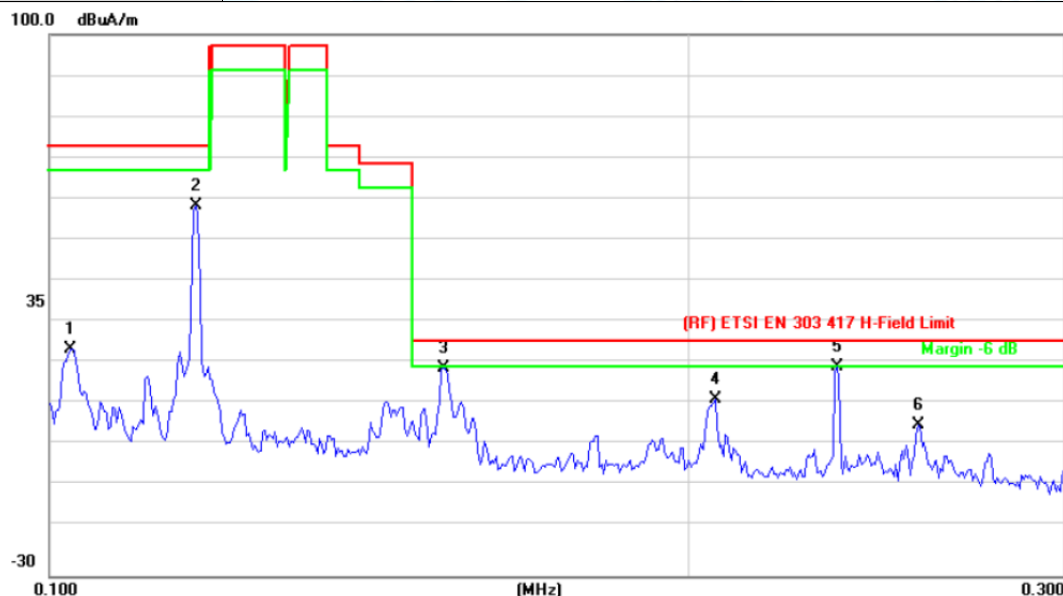


| No. | Mk. | Freq. MHz | Reading Level dBuA/m | Correct Factor dB | Measure- ment dBuA/m | Limit dBuA/m | Over dB | Detector |
|-----|-----|--------------|----------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | | 0.1018 | 18.02 | -4.00 | 14.02 | 73.30 | -59.28 | peak |
| 2 | | 0.1169 | 56.85 | -4.57 | 52.28 | 73.30 | -21.02 | peak |
| 3 | | 0.1528 | 15.23 | -5.91 | 9.32 | 26.30 | -16.98 | peak |
| 4 | | 0.2051 | 12.51 | -7.67 | 4.84 | 26.30 | -21.46 | peak |
| 5 | * | 0.2340 | 22.25 | -7.89 | 14.36 | 26.30 | -11.94 | peak |
| 6 | | 0.2578 | 9.26 | -8.06 | 1.20 | 26.30 | -25.10 | peak |

Emission Level= Read Level+ Correct Factor

Note: $H_{3m}=H_{10m}+C_3$ refer to ETSI EN300 330 Annex H.2

| | | | |
|---------------|---------------------------------------|--------------------|-----|
| Temperature: | 25 °C | Relative Humidity: | 55% |
| Test Voltage: | AC 230V/50Hz | | |
| Ant. Pol. | Ant 90° | | |
| Test Mode: | TX Mode | | |
| Remark: | Only showed the worst mode test data. | | |



| No. | Mk. | Freq. MHz | Reading Level dBuA/m | Correct Factor dB | Measure- ment dBuA/m | Limit dBuA/m | Over dB | Detector |
|-----|-----|--------------|----------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | | 0.1022 | 28.60 | -4.01 | 24.59 | 73.30 | -48.71 | peak |
| 2 | | 0.1171 | 63.38 | -4.57 | 58.81 | 73.30 | -14.49 | peak |
| 3 | | 0.1532 | 25.83 | -5.92 | 19.91 | 26.30 | -6.39 | peak |
| 4 | | 0.2056 | 20.01 | -7.68 | 12.33 | 26.30 | -13.97 | peak |
| 5 | * | 0.2346 | 28.14 | -7.90 | 20.24 | 26.30 | -6.06 | peak |
| 6 | | 0.2561 | 14.15 | -8.05 | 6.10 | 26.30 | -20.20 | peak |

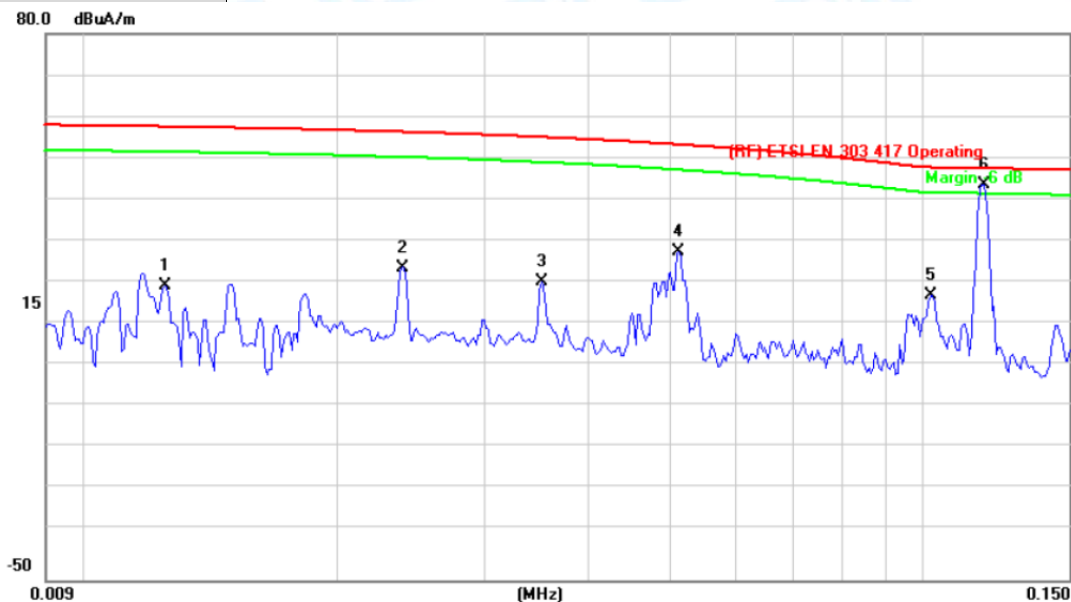
Emission Level= Read Level+ Correct Factor

Note: $H_{3m}=H_{10m}+C_3$ refer to ETSI EN300 330 Annex H.2

Attachment C-- Transmitter Spurious Emissions

(1) 9KHz~30MHz

| | | | |
|---------------|---------------------------------------|--------------------|-----|
| Temperature: | 25 °C | Relative Humidity: | 55% |
| Test Voltage: | AC 230V/50Hz | | |
| Ant. Pol. | Ant 0°(9k-150kHz) | | |
| Test Mode: | TX Mode | | |
| Remark: | Only showed the worst mode test data. | | |

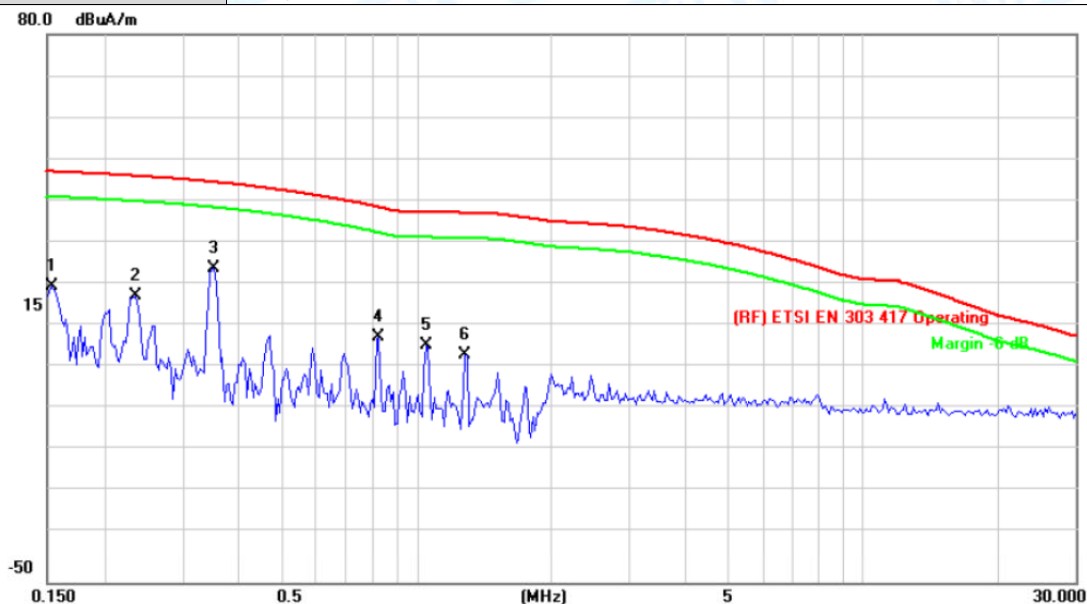


| No. | Mk. | Freq. MHz | Reading Level dBuA/m | Correct Factor dB | Measure- ment dBuA/m | Limit dBuA/m | Over dB | Detector |
|-----|-----|--------------|----------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | | 0.0125 | 30.33 | -10.32 | 20.01 | 56.84 | -36.83 | peak |
| 2 | | 0.0240 | 34.22 | -10.09 | 24.13 | 54.12 | -29.99 | peak |
| 3 | | 0.0350 | 31.03 | -9.97 | 21.06 | 52.55 | -31.49 | peak |
| 4 | | 0.0512 | 38.28 | -10.06 | 28.22 | 50.97 | -22.75 | peak |
| 5 | | 0.1023 | 21.72 | -4.01 | 17.71 | 48.14 | -30.43 | peak |
| 6 | * | 0.1184 | 48.66 | -4.63 | 44.03 | 47.88 | -3.85 | peak |

Emission Level= Read Level+ Correct Factor

Note: $H_{3m}=H_{10m}+C_3$ refer to ETSI EN300 330 Annex H.2

| | | | |
|---------------|---------------------------------------|--------------------|-----|
| Temperature: | 25 °C | Relative Humidity: | 55% |
| Test Voltage: | AC 230V/50Hz | | |
| Ant. Pol. | Ant 0°(150kHz-30MHz) | | |
| Test Mode: | TX Mode | | |
| Remark: | Only showed the worst mode test data. | | |

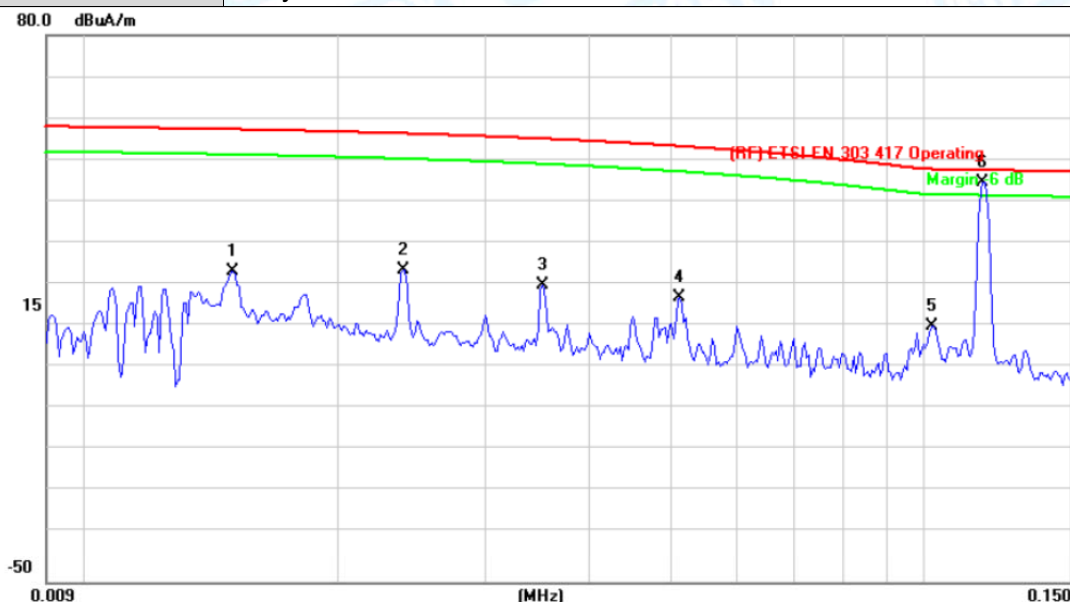


| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------|
| | | MHz | dBuA/m | dB | dBuA/m | dBuA/m | dB | Detector |
| 1 | | 0.1532 | 26.15 | -5.92 | 20.23 | 47.42 | -27.19 | peak |
| 2 | | 0.2366 | 25.88 | -7.91 | 17.97 | 46.43 | -28.46 | peak |
| 3 | * | 0.3539 | 33.34 | -8.72 | 24.62 | 45.00 | -20.38 | peak |
| 4 | | 0.8261 | 18.40 | -10.15 | 8.25 | 39.07 | -30.82 | peak |
| 5 | | 1.0541 | 16.72 | -10.27 | 6.45 | 37.92 | -31.47 | peak |
| 6 | | 1.2892 | 14.47 | -10.29 | 4.18 | 37.70 | -33.52 | peak |

Emission Level= Read Level+ Correct Factor

Note: $H_{3m}=H_{10m}+C_3$ refer to ETSI EN300 330 Annex H.2

| | | | |
|---------------|---------------------------------------|--------------------|-----|
| Temperature: | 25 °C | Relative Humidity: | 55% |
| Test Voltage: | AC 230V/50Hz | | |
| Ant. Pol. | Ant 90°(9k-150kHz) | | |
| Test Mode: | TX Mode | | |
| Remark: | Only showed the worst mode test data. | | |

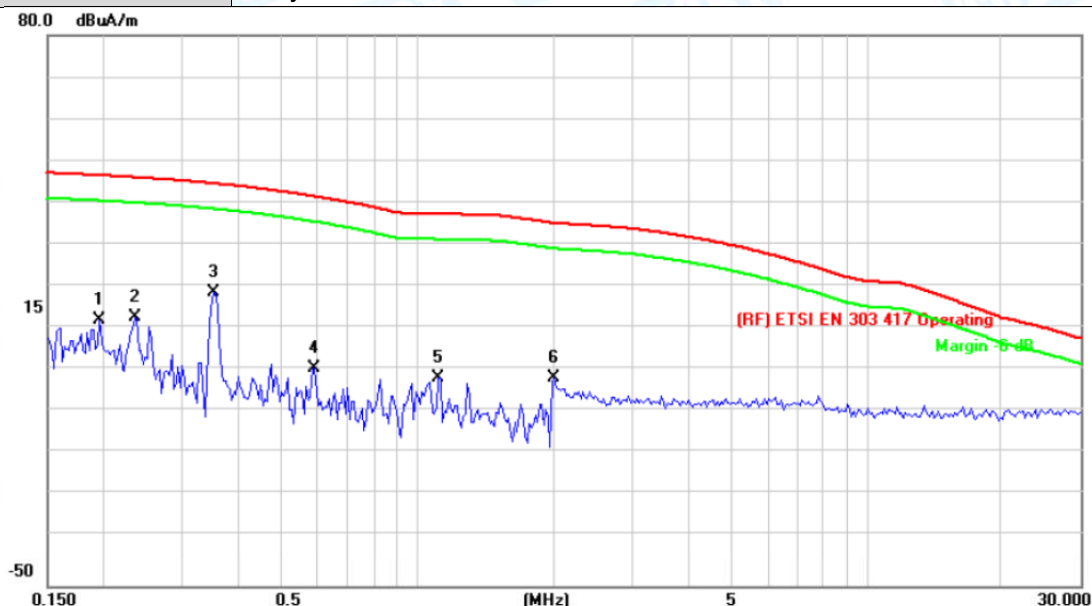


| No. | Mk. | Freq. MHz | Reading Level dBuA/m | Correct Factor dB | Measure- ment dBuA/m | Limit dBuA/m | Over dB | Detector |
|-----|-----|--------------|----------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | | 0.0150 | 34.45 | -10.38 | 24.07 | 56.12 | -32.05 | peak |
| 2 | | 0.0240 | 34.50 | -10.09 | 24.41 | 54.15 | -29.74 | peak |
| 3 | | 0.0351 | 30.54 | -9.98 | 20.56 | 52.56 | -32.00 | peak |
| 4 | | 0.0512 | 27.69 | -10.06 | 17.63 | 50.98 | -33.35 | peak |
| 5 | | 0.1023 | 14.92 | -4.01 | 10.91 | 48.14 | -37.23 | peak |
| 6 | * | 0.1178 | 49.80 | -4.61 | 45.19 | 47.89 | -2.70 | peak |

Emission Level= Read Level+ Correct Factor

Note: $H_{3m}=H_{10m}+C_3$ refer to ETSI EN300 330 Annex H.2

| | | | |
|---------------|---------------------------------------|--------------------|-----|
| Temperature: | 25 °C | Relative Humidity: | 55% |
| Test Voltage: | AC 230V/50Hz | | |
| Ant. Pol. | Ant 90°(150kHz-30MHz) | | |
| Test Mode: | TX Mode | | |
| Remark: | Only showed the worst mode test data. | | |



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------|
| | | MHz | dBuA/m | dB | dBuA/m | dBuA/m | dB | Detector |
| 1 | | 0.1955 | 20.41 | -7.48 | 12.93 | 46.98 | -34.05 | peak |
| 2 | | 0.2341 | 21.32 | -7.89 | 13.43 | 46.46 | -33.03 | peak |
| 3 | * | 0.3502 | 28.08 | -8.70 | 19.38 | 45.04 | -25.66 | peak |
| 4 | | 0.5885 | 11.46 | -9.83 | 1.63 | 42.03 | -40.40 | peak |
| 5 | | 1.1114 | 9.59 | -10.27 | -0.68 | 37.87 | -38.55 | peak |
| 6 | | 2.0119 | 9.55 | -10.41 | -0.86 | 35.70 | -36.56 | peak |

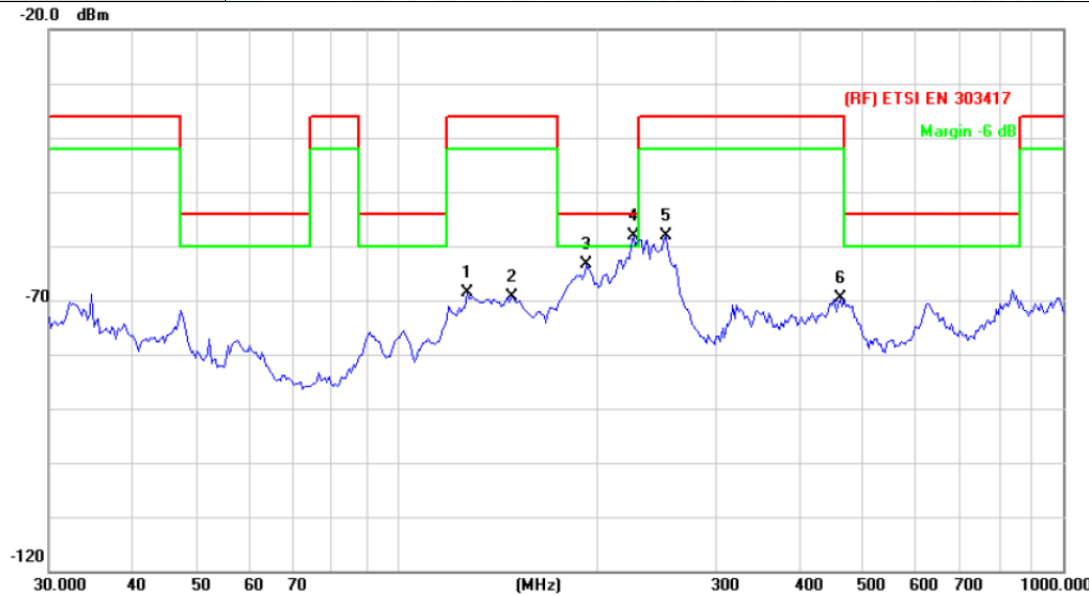
Emission Level= Read Level+ Correct Factor

Note: $H_{3m}=H_{10m}+C_3$ refer to ETSI EN300 330 Annex H.2

(2) Below 1G

| | | | |
|---------------|---------------------------------------|--------------------|-----|
| Temperature: | 25 °C | Relative Humidity: | 55% |
| Test Voltage: | AC 230V/50Hz | | |
| Ant. Pol. | Horizontal | | |
| Test Mode: | TX Mode | | |
| Remark: | Only showed the worst mode test data. | | |

-20.0 dBm



(RF) ETSI EN 303417
Margin -6 dB

-70

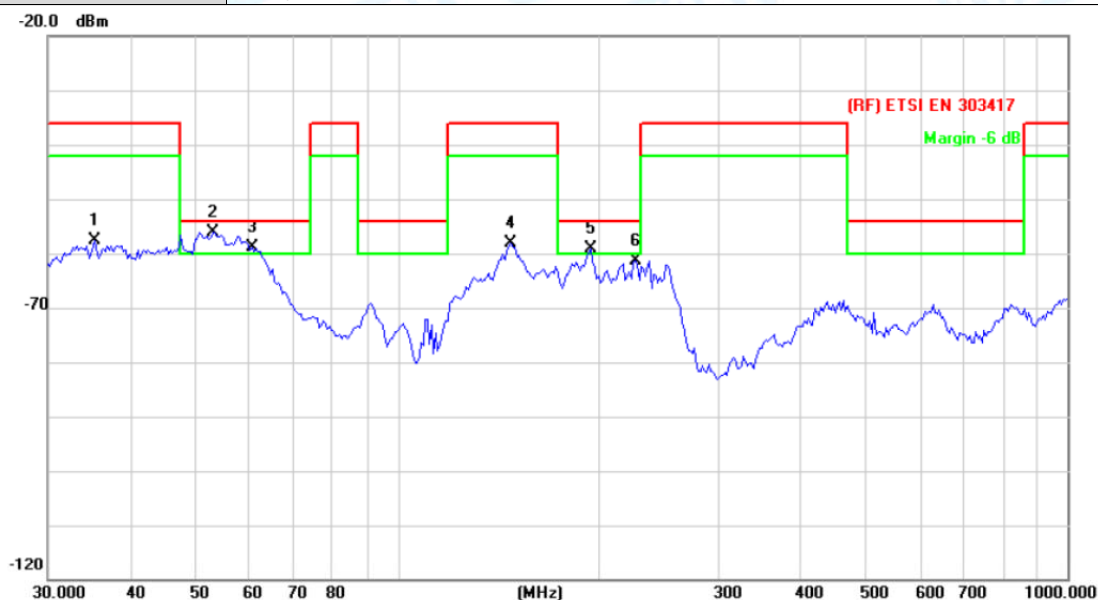
-120

30.000 40 50 60 70 (MHz) 300 400 500 600 700 1000.000

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector |
| 1 | | 127.2176 | -57.39 | -11.28 | -68.67 | -36.00 | -32.67 | peak |
| 2 | | 148.4410 | -59.74 | -9.59 | -69.33 | -36.00 | -33.33 | peak |
| 3 | | 192.4186 | -56.06 | -7.36 | -63.42 | -54.00 | -9.42 | peak |
| 4 | * | 226.0994 | -57.31 | -0.85 | -58.16 | -54.00 | -4.16 | peak |
| 5 | | 252.9482 | -62.22 | 4.05 | -58.17 | -36.00 | -22.17 | peak |
| 6 | | 462.3455 | -71.08 | 1.36 | -69.72 | -36.00 | -33.72 | peak |

Emission Level= Read Level+ Correct Factor

| | | | |
|---------------|---------------------------------------|--------------------|-----|
| Temperature: | 25 °C | Relative Humidity: | 55% |
| Test Voltage: | AC 230V/50Hz | | |
| Ant. Pol. | Vertical | | |
| Test Mode: | TX Mode | | |
| Remark: | Only showed the worst mode test data. | | |



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Over dB | Detector |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|------------|----------|
| 1 | | 35.2511 | -47.71 | -9.99 | -57.70 | -36.00 | -21.70 | peak |
| 2 | * | 52.9453 | -40.13 | -16.00 | -56.13 | -54.00 | -2.13 | peak |
| 3 | ! | 60.4919 | -44.68 | -14.26 | -58.94 | -54.00 | -4.94 | peak |
| 4 | | 147.4036 | -50.82 | -7.27 | -58.09 | -36.00 | -22.09 | peak |
| 5 | ! | 193.7728 | -51.72 | -7.30 | -59.02 | -54.00 | -5.02 | peak |
| 6 | | 226.0994 | -53.53 | -7.90 | -61.43 | -54.00 | -7.43 | peak |

Emission Level= Read Level+ Correct Factor

Attachment D-- Transmitter out of band (OOB) Emissions

| No. | Frequency (MHz) | Result@3m (dBuA/m) | C ₃ (dB) | Result@10 (dBuA/m) | Limit@10 (dBuA/m) | Margin (dB) | Remark |
|-----|---|-----------------------|------------------------|-----------------------|----------------------|----------------|--------|
| 1 | F _{CL} -2.5 x OBW ₁ | -24.78 | 31.2 | -55.98 | 41.76 | -97.74 | peak |
| 2 | F _L | -20.65 | 31.2 | -51.85 | 42.00 | -93.85 | peak |
| 3 | F _H | -20.74 | 31.2 | -51.94 | -5.00 | -46.94 | peak |
| 4 | F _{CH} +2.5 x OBW ₃ | -26.37 | 31.2 | -57.57 | -5.23 | -52.34 | peak |

Attachment E-- Blocking

| Temperature : | 26°C | Relative Humidity : | 60% |
|----------------|-------------------------|------------------------------------|--------------|
| Pressure : | 1010 hPa | Test Voltage : | AC 230V/50Hz |
| Test Mode : | Receive Mode | | |
| Test Frequency | Blocking Signal(dBuA/m) | Performance Criterion | Result |
| fc -10 ×OFR | 82 | without degradation of performance | PASS |
| Fc | 72 | without degradation of performance | PASS |
| Fc+OFR | 72 | without degradation of performance | PASS |
| fc +10 ×OFR | 82 | without degradation of performance | PASS |

-----END OF REPORT-----