



EMC TEST REPORT

Product : TRAVEL ADAPTER PLUG
Trade mark : RRTRAVEL
Model/Type reference : HHT528
Serial Number : N/A
Ratings : AC 100-240V, 50/60Hz, 6A, 600W-1440W
Report Number : EED32L00184701
Date of issue : Sept. 16, 2019
Regulations : See below

| Test Standards | Results |
|--|---------|
| <input checked="" type="checkbox"/> EN 55032: 2015 | PASS |
| <input checked="" type="checkbox"/> EN 61000-3-2: 2014 | PASS |
| <input checked="" type="checkbox"/> EN 61000-3-3: 2013 | PASS |
| <input checked="" type="checkbox"/> EN 55035: 2017 | PASS |

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Date of issue:

Sept. 16, 2019

Check No.:3177462516



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(Note: N/A means not applicable)

1. GENERAL INFORMATION

| | |
|------------------------------|--|
| Applicant: | Shenzhen Ye Niu Electronic Co.,Ltd 3 Floor,F building , Zhongxi industrial park, Shajing street, Shenzhen city, Guangdong China 518104 |
| Manufacturer: | Shenzhen Ye Niu Electronic Co.,Ltd 3 Floor,F building , Zhongxi industrial park, Shajing street, Shenzhen city, Guangdong China 518104 |
| EMC Directive: | 2014/30/EU |
| Product: | TRAVEL ADAPTER PLUG |
| Trade mark: | RRTRAVEL |
| Model/Type reference: | HHT528 |
| Serial Number: | N/A |
| Report Number: | EED32L00184701 |
| State of Sample(s): | Normal |
| Sample Received Date: | Jul. 15, 2019 |
| Sample tested Date: | Jul. 15, 2019 to Sept. 04, 2019 |

The tested sample(s) and the sample information are provided by the client.

2. TEST SUMMARY

The Product has been tested according to the following specifications:

| EMISSION | | |
|--------------|--------------------------------|------------------|
| Standard | Test Item | Test |
| EN 55032 | Conducted disturbance | Yes |
| EN 55032 | Radiated disturbance | Yes |
| EN 61000-3-2 | Harmonic current emission | N/A ² |
| EN 61000-3-3 | Voltage fluctuations & flicker | Yes |

| IMMUNITY (EN 55035) | | |
|---------------------|--|------------------|
| Standard | Test Item | Test |
| IEC 61000-4-2 | Electrostatic discharge (ESD) | Yes |
| IEC 61000-4-3 | Radio-frequency electromagnetic field Immunity | Yes |
| IEC 61000-4-4 | Electrical fast transients (EFT) | Yes |
| IEC 61000-4-5 | Surges | Yes |
| IEC 61000-4-6 | Radio-frequency continuous conducted Immunity | Yes |
| IEC 61000-4-8 | Power-frequency magnetic fields Immunity | N/A ¹ |
| IEC 61000-4-11 | Voltage dips and interruptions | Yes |

1. The Product doesn't contain any device susceptible to magnetic fields.

2. The Product belongs to Class A, and its power is less than 75W, so it deems to fulfil this standard without testing.

3. TEST UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

| Test item | Value (dB) |
|--------------------------------------|------------|
| Conducted disturbance | 3.1 |
| Radiated disturbance (30MHz to 1GHz) | 4.9 |

4. PRODUCT INFORMATION AND TEST SETUP

4.1 PRODUCT INFORMATION

Ratings: AC 100-240V, 50/60Hz, 6A, 600W-1440W

The highest frequency of the internal sources of the EUT is: less than 108 MHz, the measurement shall only be made up to 1 GHz.

between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz.

between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz.

above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

4.2 TEST SETUP CONFIGURATION

See test photographs attached in Appendix 1 for the actual connections between Product and support equipment.

4.3 SUPPORT EQUIPMENT

| No. | Device Type | Brand | Model | Series No. | Data Cable | Power Cord |
|-----|-------------|-------|-------|------------|------------|------------|
| 1. | Multimeter | FLUKE | 15B | --- | --- | --- |

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

5. FACILITIES AND ACCREDITATIONS

5.1 TEST FACILITY

All test facilities used to collect the test data are located at Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4, CISPR 16-1-1 and other equivalent standards.

5.2 TEST EQUIPMENT LIST

Instrumentation: The following list contains equipments used at CTI for testing.

The calibrations of the measuring instruments, including any accessories that may effect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.

Equipment used during the tests:

| Shielding Room No. 3 - Conducted disturbance Test | | | | |
|---|--------------|--------|------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| Receiver | R&S | ESCI | 100435 | 05/18/2020 |
| LISN | R&S | ENV216 | 100098 | 05/06/2020 |

| 3M Semi-anechoic Chamber (1)- Radiated disturbance Test | | | | |
|---|--------------|-----------|------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| 3M Chamber & Accessory Equipment | ETS-LINDGREN | FACT-3 | 3510 | 05/29/2022 |
| Spectrum Analyzer | Agilent | E4443A | MY45300910 | 10/31/2019 |
| Receiver | R&S | ESCI | 100009 | 05/18/2020 |
| TRILOG Broadband Antenna | schwarzbeck | VULB 9163 | 484 | 05/22/2020 |
| Multi device Controller | ETS-LINGREN | 2090 | 00057230 | --- |

| Shielding Room No. 2 - Harmonic/Flicker Test (EN 61000-3-3) | | | | |
|---|------------------------|----------------|------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| 5KVA AC POWER SOURCE | California instruments | 5001iX-400-413 | 56258 | 07/24/2020 |
| Flicker & Harmonic Tester | California instruments | PACS-1 | 72492 | 07/24/2020 |

| Shielding Room No. 3 - ESD Test (IEC 61000-4-2) | | | | |
|---|--------------|--------|------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| ESD Simulator | TESEQ | NSG437 | 1182 | 07/14/2020 |

| 3M Full-anechoic Chamber - Radio-frequency electromagnetic field Immunity Test (IEC 61000-4-3) | | | | |
|--|--------------|-------|------------|----------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |

| | | | | |
|----------------------------------|--------------|---------------------|------------|------------|
| 3M Chamber & Accessory Equipment | ETS-LINDGREN | FACT-3 | 3510 | 05/29/2022 |
| ESG Vector signal generators | Agilent | E4438C | MY42082153 | 01/17/2020 |
| Power Amplifier | AR | 150W1000 | 0322288 | 01/17/2020 |
| Power Amplifier | RFLIGHT | NTWPA-106050 | 18019001 | 01/17/2020 |
| Stacked double Log.-Per. Antenna | schwarzbeck | STLP 9128 E special | 9128ES-110 | --- |
| Horn Antenna | AR | ATH800M5GA | 0342530 | --- |

| Shielding Room No. 3 - EFT/Surges Test (IEC 61000-4-4) (IEC 61000-4-5) | | | | |
|---|--------------|-------------|-------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| Compact Generator | EM-Test | UCS500M/6B | V0603101093 | 05/06/2020 |
| Capacitive Clamp | EM-Test | C Clamp HFK | 0306-43 | 03/08/2020 |

| Shielding Room No. 2 - Radio-frequency continuous conducted Immunity Test (IEC 61000-4-6) | | | | |
|--|--------------|-------------|------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| Signal Generator | IFR | 2023B | 202307/883 | 01/17/2020 |
| Power Amplifier | AR | 75A 250A | 320297 | 01/17/2020 |
| Attenuator | BIRD | 75-A-MFN-06 | 0543 | 08/05/2021 |
| CDN | EM-Test | CDN M2/M3 | 0204-01 | 11/25/2019 |

| Shielding Room No. 2 -Voltage dips and interruptions Test (IEC 61000-4-11) | | | | |
|---|------------------------|---------------------------------|------------|------------|
| Equipment | Manufacturer | Model | Serial No. | Due Date |
| Power source | California instruments | 15003iX-CTS-40 0-413-EOS3-LF | 1726A00002 | 07/24/2020 |
| Electronic output switch | California instruments | EOS3-230 | 1726A00001 | 06/26/2020 |

5.3 LABORATORY ACCREDITATIONS AND LISTINGS

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

6. CONDUCTED DISTURBANCE

6.1 LIMITS

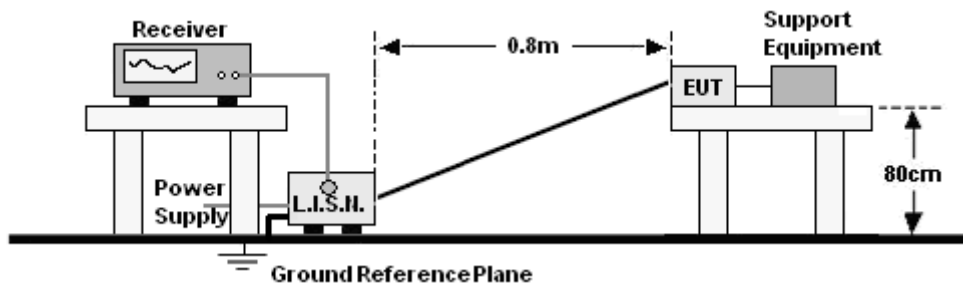
Requirements for conducted emissions from the AC mains power ports of Class B equipment

| Frequency range (MHz) | Limits dB(μV) | |
|-----------------------|---------------|----------|
| | Quasi-peak | Average |
| 0,15 to 0,50 | 66 to 56 | 56 to 46 |
| 0,50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

6.2 BLOCK DIAGRAM OF TEST SETUP

For AC mains power port:



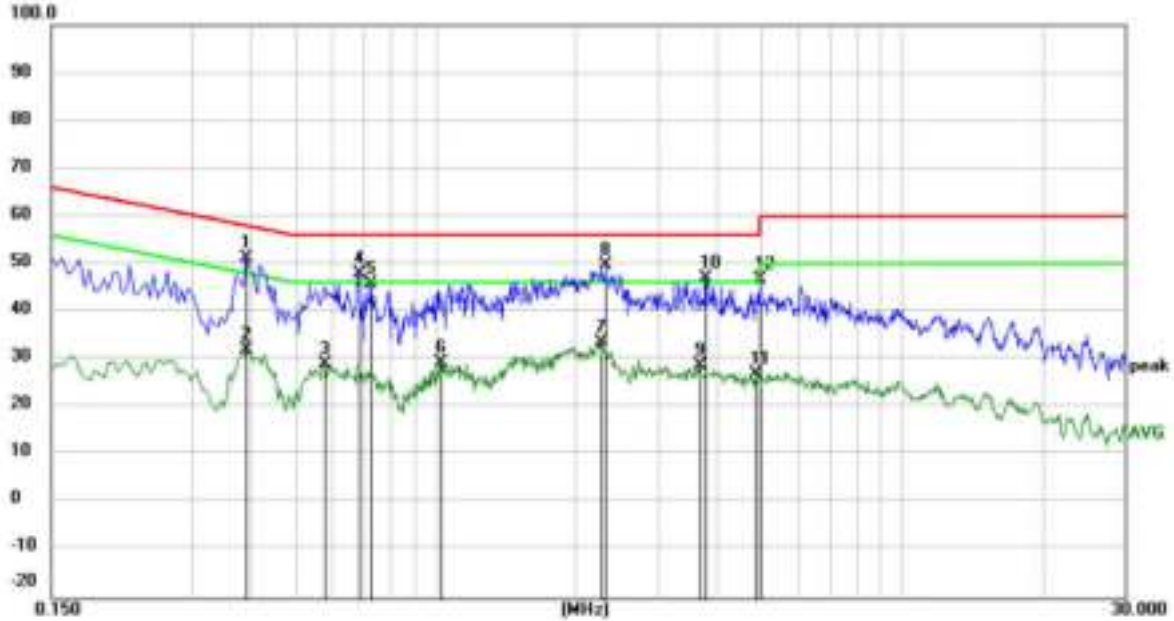
6.3 TEST PROCEDURE

For AC mains power port:

- a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

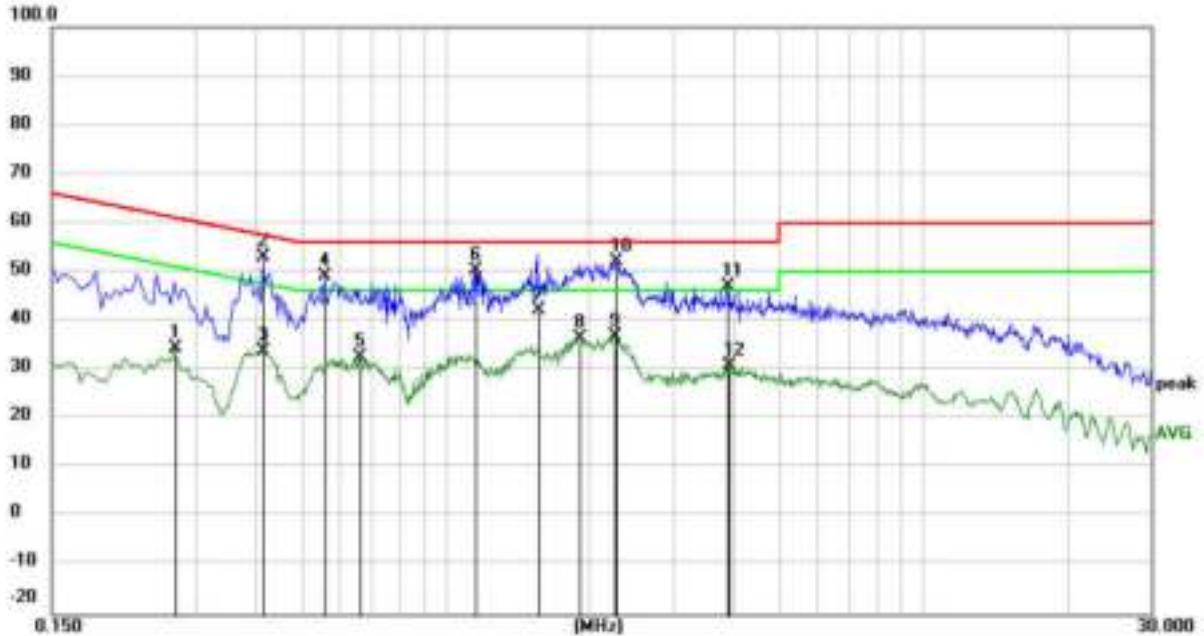
6.4 GRAPHS AND DATA

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 120V/60Hz **Temperature/Humidity** : 21°C/51%
Mode : ON **Phase** : L



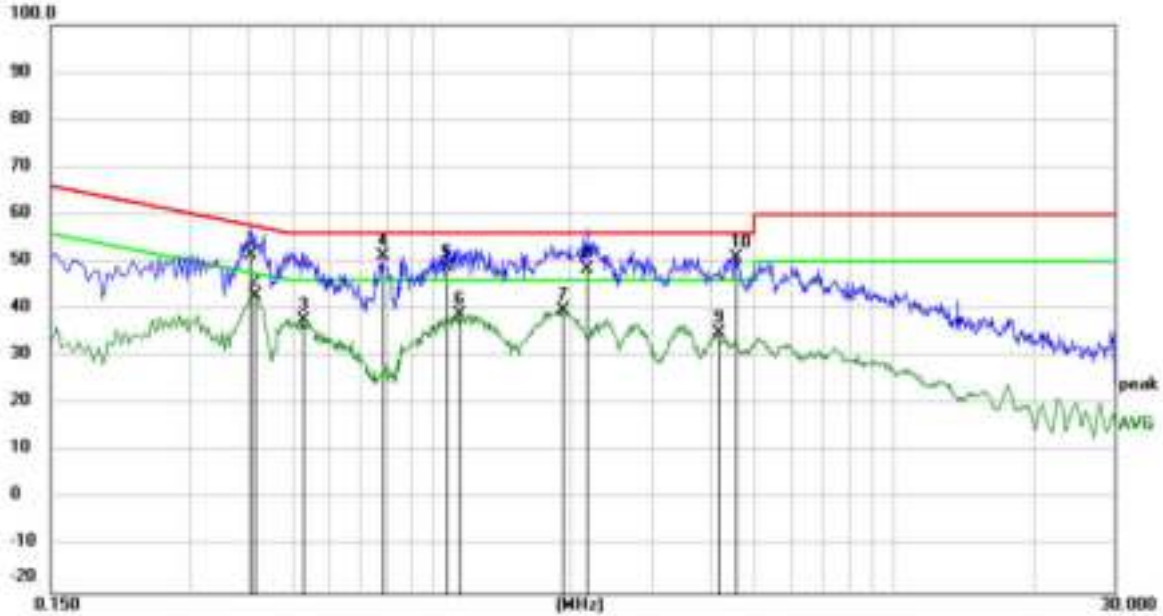
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1 | | 0.3930 | 41.34 | 10.01 | 51.35 | 58.00 | -6.65 | peak | |
| 2 | | 0.3930 | 22.02 | 10.01 | 32.03 | 48.00 | -15.97 | AVG | |
| 3 | | 0.5775 | 18.88 | 10.09 | 28.97 | 46.00 | -17.03 | AVG | |
| 4 | | 0.6855 | 38.23 | 9.71 | 47.94 | 56.00 | -8.06 | peak | |
| 5 | | 0.7260 | 36.26 | 9.71 | 45.97 | 56.00 | -10.03 | peak | |
| 6 | | 1.0230 | 19.59 | 9.91 | 29.50 | 46.00 | -16.50 | AVG | |
| 7 | | 2.2550 | 23.64 | 9.83 | 33.47 | 46.00 | -12.53 | AVG | |
| 8 | * | 2.3190 | 39.97 | 9.83 | 49.80 | 56.00 | -6.20 | peak | |
| 9 | | 3.6690 | 18.97 | 9.83 | 28.80 | 46.00 | -17.20 | AVG | |
| 10 | | 3.7950 | 37.16 | 9.83 | 46.99 | 56.00 | -9.01 | peak | |
| 11 | | 4.8650 | 17.00 | 9.83 | 26.83 | 46.00 | -19.17 | AVG | |
| 12 | | 4.9560 | 36.93 | 9.83 | 46.76 | 56.00 | -9.24 | peak | |

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 120V/60Hz **Temperature/Humidity** : 21°C/51%
Mode : ON **Phase** : N



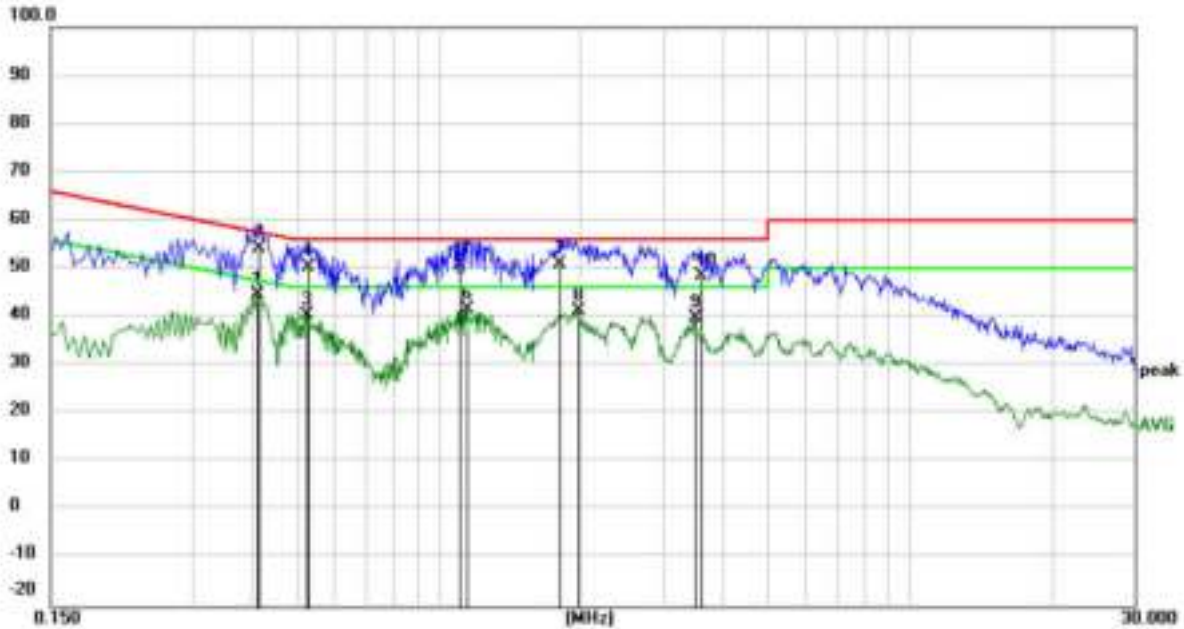
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1 | | 0.2714 | 24.37 | 10.08 | 34.45 | 51.07 | -16.62 | AVG | |
| 2 | | 0.4155 | 43.03 | 10.00 | 53.03 | 57.54 | -4.51 | peak | |
| 3 | | 0.4155 | 23.75 | 10.00 | 33.75 | 47.54 | -13.79 | AVG | |
| 4 | | 0.5595 | 39.18 | 10.07 | 49.25 | 56.00 | -6.75 | peak | |
| 5 | | 0.6585 | 22.68 | 9.84 | 32.52 | 46.00 | -13.48 | AVG | |
| 6 | | 1.1580 | 40.34 | 9.90 | 50.24 | 56.00 | -5.76 | peak | |
| 7 | | 1.5630 | 32.39 | 9.86 | 42.25 | 56.00 | -13.75 | QP | |
| 8 | | 1.9005 | 26.71 | 9.84 | 36.55 | 46.00 | -9.45 | AVG | |
| 9 | | 2.2695 | 27.06 | 9.83 | 36.89 | 46.00 | -9.11 | AVG | |
| 10 | * | 2.2785 | 42.43 | 9.83 | 52.26 | 56.00 | -3.74 | peak | |
| 11 | | 3.8850 | 37.19 | 9.83 | 47.02 | 56.00 | -8.98 | peak | |
| 12 | | 3.9120 | 21.12 | 9.83 | 30.95 | 46.00 | -15.05 | AVG | |

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 230V/50Hz **Temperature/Humidity** : 21°C/51%
Mode : ON **Phase** : L



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1 | | 0.4065 | 41.61 | 10.00 | 51.61 | 57.72 | -6.11 | QP | |
| 2 | * | 0.4155 | 32.98 | 10.00 | 42.98 | 47.54 | -4.56 | AVG | |
| 3 | | 0.5280 | 27.82 | 10.03 | 37.85 | 46.00 | -8.15 | AVG | |
| 4 | | 0.7845 | 41.36 | 9.87 | 51.23 | 56.00 | -4.77 | peak | |
| 5 | | 1.0615 | 39.07 | 9.90 | 48.97 | 56.00 | -7.03 | QP | |
| 6 | | 1.1490 | 29.15 | 9.90 | 39.05 | 46.00 | -6.95 | AVG | |
| 7 | | 1.9230 | 30.06 | 9.84 | 39.90 | 46.00 | -6.10 | AVG | |
| 8 | | 2.1705 | 38.82 | 9.83 | 48.65 | 56.00 | -7.35 | QP | |
| 9 | | 4.1685 | 25.06 | 9.83 | 34.91 | 46.00 | -11.09 | AVG | |
| 10 | | 4.5285 | 41.02 | 9.83 | 50.85 | 56.00 | -5.15 | peak | |

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 230V/50Hz **Temperature/Humidity** : 21°C/51%
Mode : ON **Phase** : N



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1 | * | 0.4110 | 34.81 | 10.00 | 44.81 | 47.83 | -3.02 | AVG | |
| 2 | | 0.4155 | 44.31 | 10.00 | 54.31 | 57.54 | -3.23 | QP | |
| 3 | | 0.5237 | 30.31 | 10.03 | 40.34 | 46.00 | -5.66 | AVG | |
| 4 | | 0.5280 | 40.37 | 10.03 | 50.40 | 56.00 | -5.60 | QP | |
| 5 | | 1.1085 | 40.90 | 9.90 | 50.80 | 56.00 | -5.20 | QP | |
| 6 | | 1.1445 | 31.75 | 9.90 | 41.65 | 46.00 | -4.35 | AVG | |
| 7 | | 1.8060 | 41.05 | 9.85 | 50.90 | 56.00 | -5.10 | QP | |
| 8 | | 1.9770 | 31.44 | 9.83 | 41.27 | 46.00 | -4.73 | AVG | |
| 9 | | 3.4935 | 29.98 | 9.83 | 39.81 | 46.00 | -6.19 | AVG | |
| 10 | | 3.6015 | 38.77 | 9.83 | 48.60 | 56.00 | -7.40 | QP | |

Note:

1. Margin(dB)=Measurement(dBuV)-Limit(dBuV)
2. Measurement(dBuV)=Reading_Level(dBuV)+Correct Factor(dB)
3. Correct Factor(dB)=Cable Factor(dB)+Lisn Factor(dB)

7. RADIATED DISTURBANCE (RE)

7.1 LIMITS

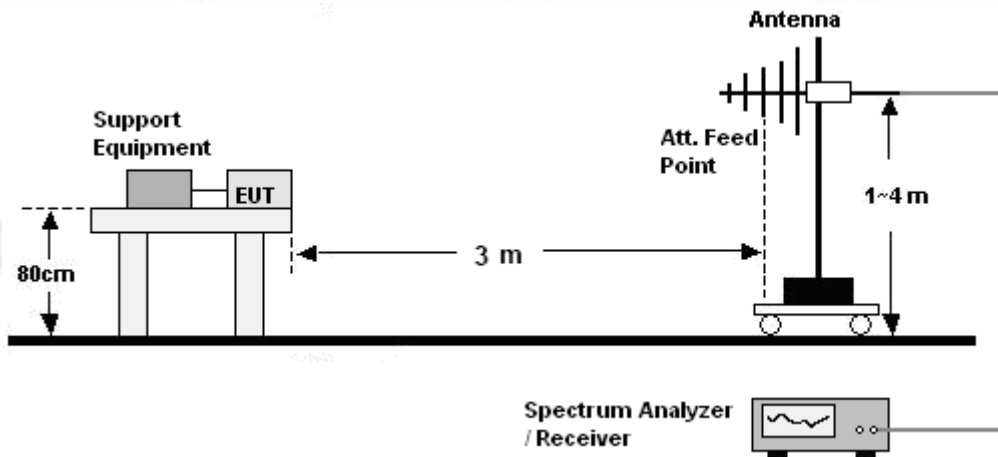
Requirements for radiated emissions at frequencies up to 1 GHz
for Class B equipment

| Frequency (MHz) | Quasi-peak limits at 3m dB(μ V/m) |
|-----------------|---|
| 30-230 | 40 |
| 230-1000 | 47 |

NOTE: The lower limit shall apply at the transition frequencies.

7.2 BLOCK DIAGRAM OF TEST SETUP

30MHz ~ 1GHz:



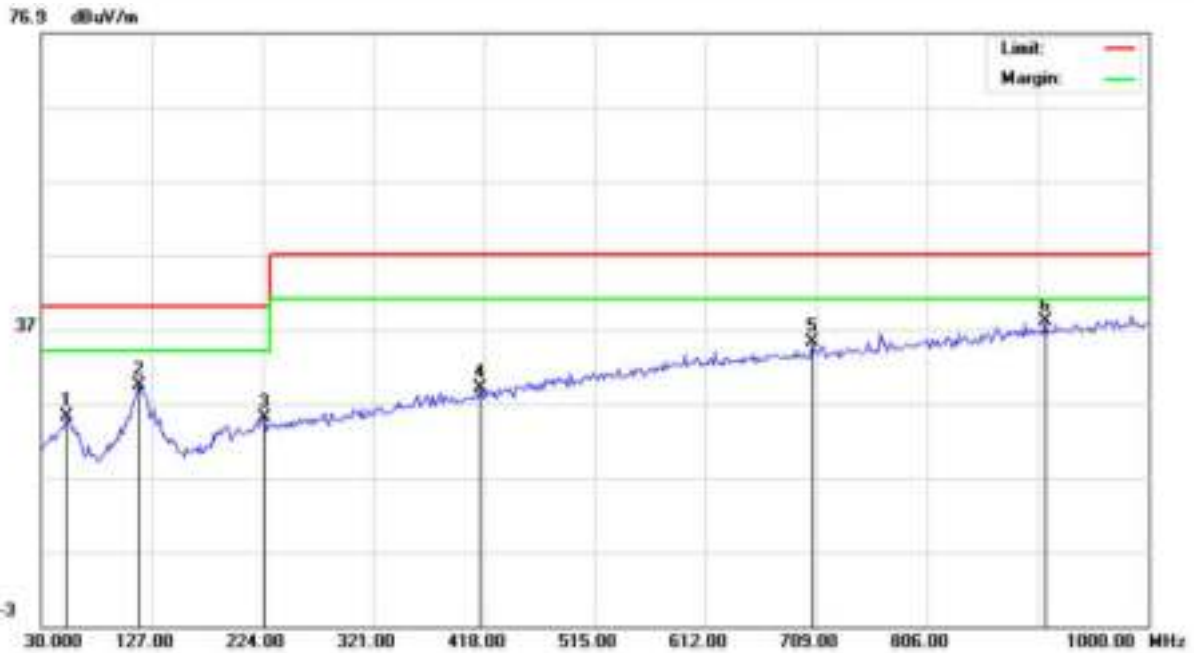
7.3 TEST PROCEDURE

30MHz ~ 1GHz:

- The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.
- Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

7.4 GRAPHS AND DATA

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 120V/60Hz **Temperature** : 22°C
Mode : ON **Humidity** : 50%
Polarization : Horizontal



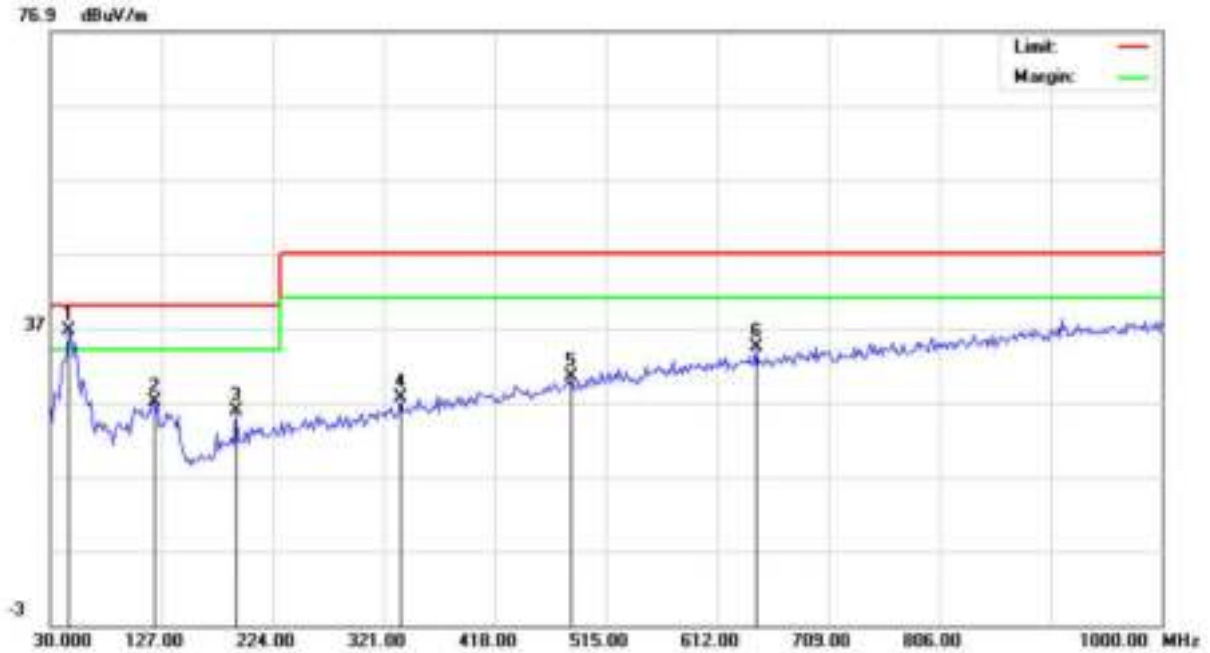
| No. | Freq. MHz | Reading_Level (dBuV) | | | Correct Factor dB | Measurement (dBuV/m) | | | Limit (dBuV/m) | | Margin (dB) | | P/F | Comment | |
|-----|--------------|-------------------------|----|-----|-------------------------|-------------------------|----|-----|-------------------|-----|----------------|--------|-----|---------|--|
| | | Peak | QP | AVG | | peak | QP | AVG | QP | AVG | QP | AVG | | | |
| 1 | 52.6333 | 10.68 | | | 14.43 | 25.11 | | | 40.00 | | | -14.89 | | P | |
| 2 | 115.6833 | 17.34 | | | 12.03 | 29.37 | | | 40.00 | | | -10.63 | | P | |
| 3 | 225.6167 | 10.52 | | | 14.42 | 24.94 | | | 40.00 | | | -15.06 | | P | |
| 4 | 414.7667 | 9.93 | | | 19.05 | 28.98 | | | 47.00 | | | -18.02 | | P | |
| 5 | 705.7667 | 10.92 | | | 24.27 | 35.19 | | | 47.00 | | | -11.81 | | P | |
| 6 | 909.4667 | 10.74 | | | 27.28 | 38.02 | | | 47.00 | | | -8.98 | | P | |

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 120V/60Hz **Temperature** : 22°C
Mode : ON **Humidity** : 50%
Polarization : Vertical



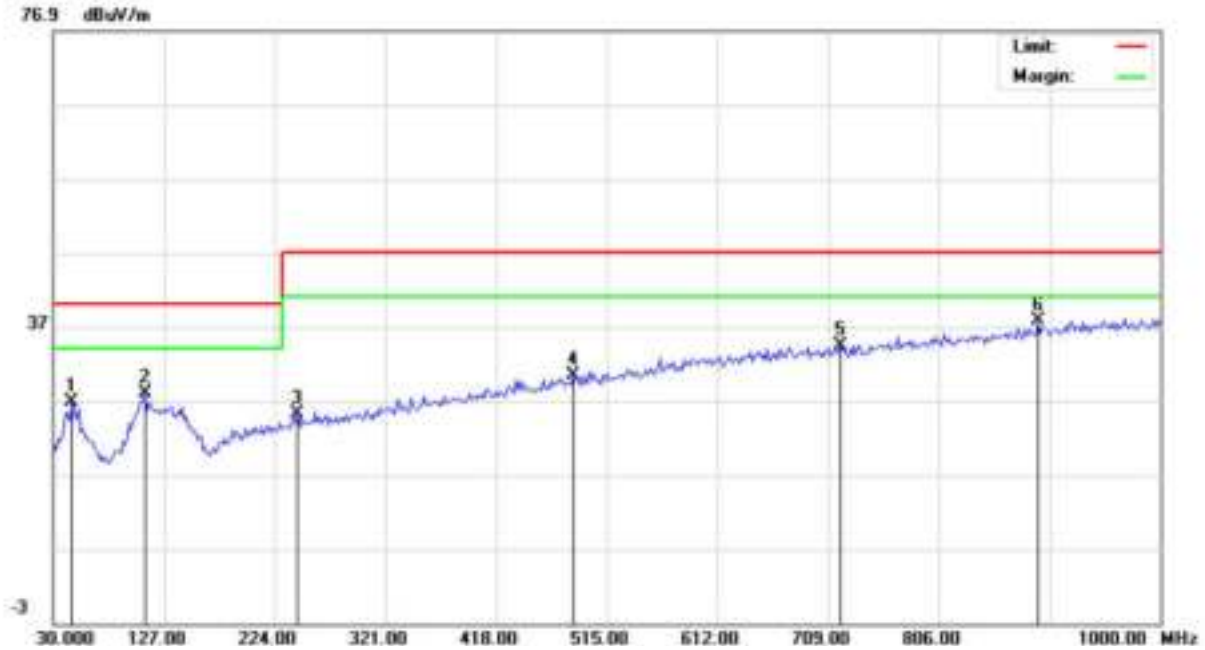
| No. | Freq. MHz | Reading_Level (dBuV) | | | Correct Factor dB | Measurement (dBuV/m) | | | Limit (dBuV/m) | | Margin (dB) | | PrF | Comment |
|-----|--------------|-------------------------|----|-----|-------------------------|-------------------------|----|-----|-------------------|-----|----------------|-----|-----|---------|
| | | Peak | QP | AVG | | peak | QP | AVG | QP | AVG | QP | AVG | | |
| 1 | 52.8333 | 21.32 | | | 14.43 | 35.75 | | | 40.00 | | -4.25 | | P | |
| 2 | 115.6833 | 18.77 | | | 12.03 | 30.80 | | | 40.00 | | -9.20 | | P | |
| 3 | 202.9832 | 9.10 | | | 13.70 | 22.80 | | | 40.00 | | -17.20 | | P | |
| 4 | 453.5867 | 9.72 | | | 19.96 | 29.68 | | | 47.00 | | -17.32 | | P | |
| 5 | 654.0333 | 10.42 | | | 23.65 | 34.07 | | | 47.00 | | -12.93 | | P | |
| 6 | 797.9167 | 9.61 | | | 25.68 | 35.27 | | | 47.00 | | -11.73 | | P | |

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 230V/50Hz **Temperature** : 22°C
Mode : ON **Humidity** : 50%
Polarization : Horizontal



| No. | Freq. MHz | Reading_Level (dBuV) | | | Correct Factor dB | Measurement (dBuV/m) | | | Limit (dBuV/m) | | Margin (dB) | | P/F | Comment |
|-----|--------------|-------------------------|----|-----|-------------------------|-------------------------|----|-----|-------------------|-----|----------------|--------|-----|---------|
| | | Peak | QP | AVG | | peak | QP | AVG | QP | AVG | QP | AVG | | |
| 1 | 46.1667 | 22.26 | | | 14.42 | 36.68 | | | 40.00 | | | -3.32 | | P |
| 2 | 120.5333 | 15.35 | | | 11.73 | 27.08 | | | 40.00 | | | -12.92 | | P |
| 3 | 191.6667 | 12.73 | | | 12.98 | 25.71 | | | 40.00 | | | -14.29 | | P |
| 4 | 335.5500 | 10.38 | | | 17.24 | 27.62 | | | 47.00 | | | -19.38 | | P |
| 5 | 494.2833 | 9.92 | | | 20.52 | 30.44 | | | 47.00 | | | -16.56 | | P |
| 6 | 645.9500 | 10.86 | | | 23.57 | 34.43 | | | 47.00 | | | -12.57 | | P |

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 230V/50Hz **Temperature** : 22°C
Mode : ON **Humidity** : 50%
Polarization : Vertical



| No. | Freq. MHz | Reading_Level (dBuV) | | | Correct Factor dB | Measurement (dBuV/m) | | | Limit (dBuV/m) | | Margin (dB) | | P/F | Comment |
|-----|--------------|-------------------------|----|-----|-------------------------|-------------------------|----|-----|-------------------|-----|----------------|--------|-----|---------|
| | | Peak | QP | AVG | | peak | QP | AVG | QP | AVG | QP | AVG | | |
| 1 | 46.1667 | 12.43 | | | 14.42 | 26.85 | | | 40.00 | | | -13.15 | | P |
| 2 | 110.8333 | 15.69 | | | 12.33 | 28.02 | | | 40.00 | | | -11.98 | | P |
| 3 | 243.4000 | 10.15 | | | 14.99 | 25.14 | | | 47.00 | | | -21.86 | | P |
| 4 | 495.9000 | 9.88 | | | 20.55 | 30.43 | | | 47.00 | | | -16.57 | | P |
| 5 | 720.3167 | 9.96 | | | 24.44 | 34.40 | | | 47.00 | | | -12.60 | | P |
| 6 | 893.3000 | 10.66 | | | 27.07 | 37.73 | | | 47.00 | | | -9.27 | | P |

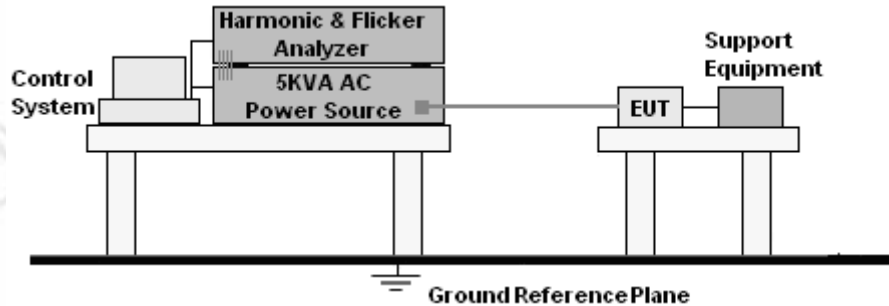
Note: 1. Margin(dB)=Measurement(dBuV/m)-Limit(dBuV)..
 2. Measurement(dBuV/m)=Reading_Level(dBuV)+Correct Factor(dB).
 3. Correct Factor(dB)=Ant Factor(dB)+Cable loss(dB).

8. VOLTAGE FLUCTUATIONS & FLICKER (FLICKER)

8.1 LIMITS

Please refer to EN 61000-3-3: 2013 Clause 5.

8.2 BLOCK DIAGRAM OF TEST SETUP



8.3 TEST PROCEDURE

- The Product was placed on the top of a non-conductive table above the ground and operated to produce the most unfavorable sequence of voltage changes under ON operating conditions.
- During the flick test, the measure time shall include that part of whole operation cycle in which the Product produce the most unfavorable sequence of voltage changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.

8.4 TEST RESULTS

| | | | |
|-----------------------------|-----------------------|--------------------|--------|
| Product | : TRAVEL ADAPTER PLUG | Temperature | : 23°C |
| Model/Type reference | : HHT528 | Humidity | : 51% |
| Power | : AC 230V/50Hz | | |
| Mode | : ON | | |

Pass.

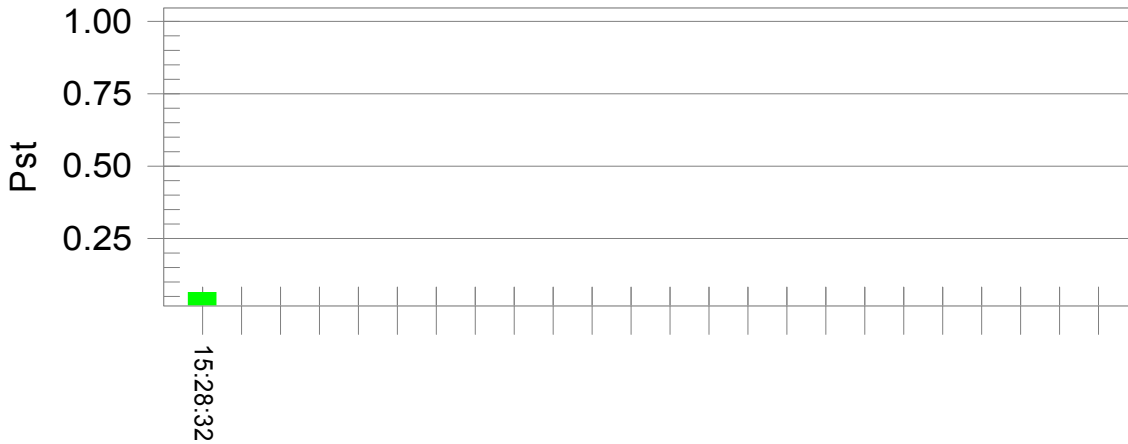
Flicker Test Summary per

Test Result: Pass

Status: Test Completed

Pst_i and limit line

European Limits



Parameter values recorded during the test:

| | | | |
|---------------------------------|--------|------------------|------------|
| Vrms at the end of test (Volt): | 229.68 | | |
| T-max (mS): | 0 | Test limit (mS): | 500.0 Pass |
| Highest dc (%): | 0.00 | Test limit (%): | 3.30 Pass |
| Highest dmax (%): | 0.00 | Test limit (%): | 4.00 Pass |
| Highest Pst (10 min. period): | 0.064 | Test limit: | 1.000 Pass |

9. IMMUNITY TEST

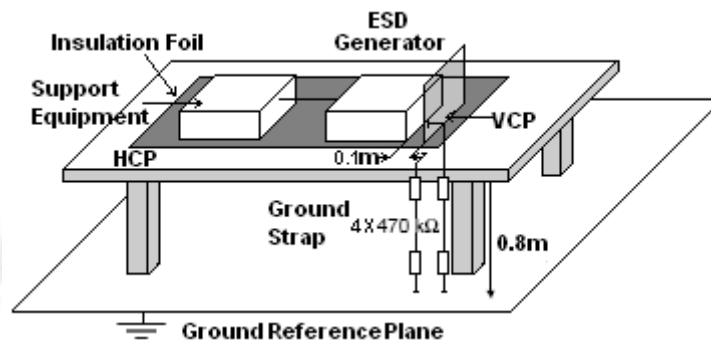
| General Performance Criteria | |
|------------------------------|--|
| Product Standard | EN 55035: 2017 clause 8 |
| CRITERION A | <p>The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.</p> |
| CRITERION B | <p>During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.</p> <p>After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.</p> <p>If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.</p> |
| CRITERION C | <p>Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed.</p> <p>Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.</p> |

9.1 ELECTROSTATIC DISCHARGE (ESD)

9.1.1 TEST SPECIFICATION

| | |
|----------------------------|-------------------------------------|
| Basic Standard | : EN 55035 & IEC 61000-4-2 |
| Test Port | : Enclosure port |
| Discharge Impedance | : 330 ohm / 150 pF |
| Discharge Mode | : Single Discharge |
| Discharge Period | : one second between each discharge |

9.1.2 BLOCK DIAGRAM OF TEST SETUP



9.1.3 TEST PROCEDURE

- Electrostatic discharges were applied only to those points and surfaces of the Product that are accessible to users during ON operation.
- The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.
- The time interval between two successive single discharges was at least 1 second.
- The ESD generator was held perpendicularly to the surface to which the discharge was applied and the return cable was at least 0.2 meters from the Product.
- Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.
- Air discharges were applied with the round discharge tip of the discharge electrode approaching the Product as fast as possible (without causing mechanical damage) to touch the Product. After each discharge, the ESD generator was removed from the Product and re-triggered for a new single discharge. The test was repeated until all discharges were complete.
- At least ten single discharges (in the most sensitive polarity) were applied to the Horizontal Coupling Plane at points on each side of the Product. The ESD generator was positioned vertically at a distance of 0.1 meters from the Product with the discharge electrode touching the HCP.
- At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the Vertical Coupling Plane in sufficiently different positions that the four faces of the Product were completely illuminated. The VCP (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the Product.

9.1.4 RESULTS & PERFORMANCE

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 110V/60Hz, AC 230V/50Hz
Mode : ON
Press : 101kPa
Temperature : 24°C
Humidity : 50%

| Discharge Method | Discharge Position | Voltage (±kV) | Min. No. of Discharge per polarity (Each Point) | Required Level | Performance Criterion |
|-------------------|---|---------------|---|----------------|-----------------------|
| Contact Discharge | Conductive Surfaces | 4 | 10 | B | A |
| | Indirect Discharge HCP | 4 | 10 | B | A |
| | Indirect Discharge VCP | 4 | 10 | B | A |
| Air Discharge | Slots, Apertures, and Insulating Surfaces | 8 | 10 | B | A |

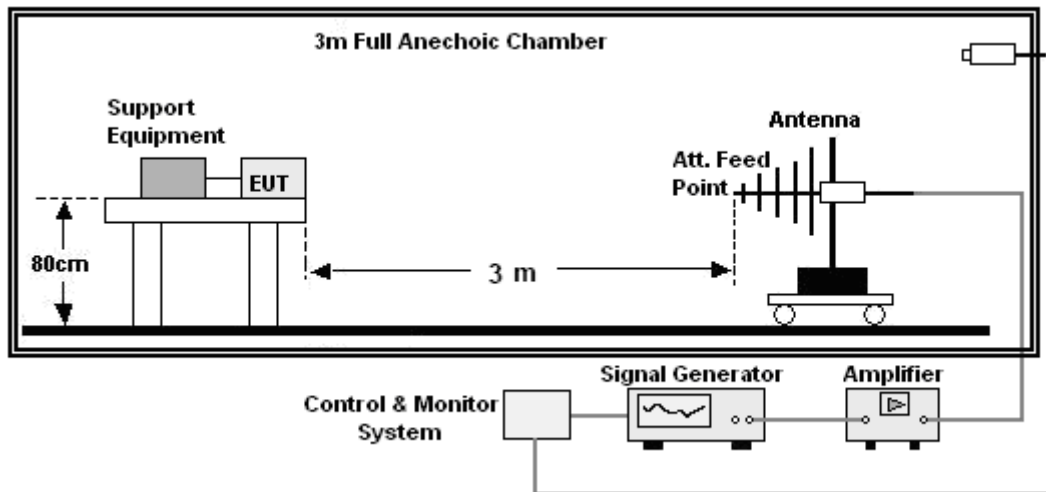
9.2 RADIO-FREQUENCY ELECTROMAGNETIC FIELD IMMUNITY

9.2.1 TEST SPECIFICATION

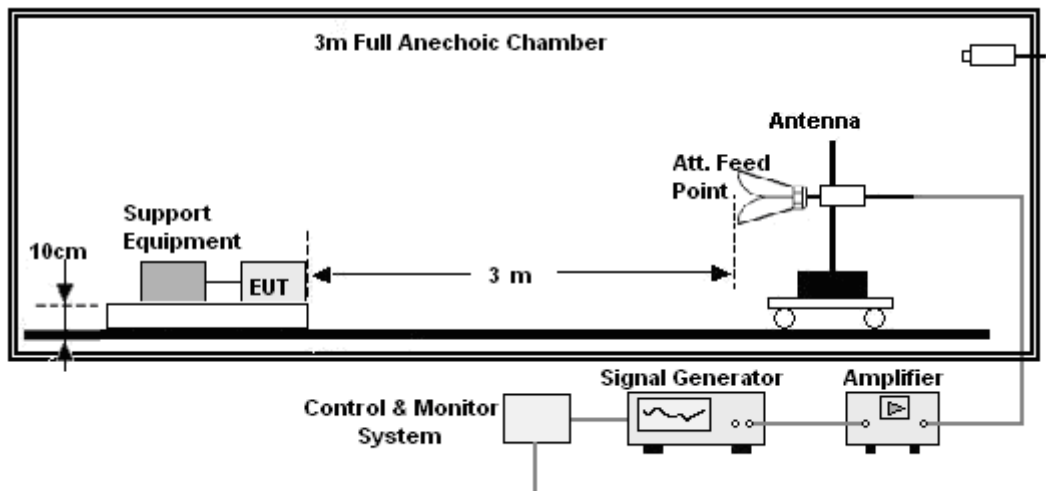
| | |
|-----------------------|----------------------------|
| Basic Standard | : EN 55035 & IEC 61000-4-3 |
| Test Port | : Enclosure port |
| Step Size | : 1% |
| Modulation | : 1kHz, 80% AM |
| Dwell Time | : 1 second |
| Polarization | : Horizontal & Vertical |

9.2.2 BLOCK DIAGRAM OF TEST SETUP

Below 1GHz:



Above 1GHz:



9.2.3 TEST PROCEDURE

a. The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3 meters from the Product.

b. The frequency range is swept from 80MHz to 1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz with the signal 80% amplitude modulated with a 1 kHz sine wave. The rate of sweep did not exceed 1.5×10^{-3} decade/s. Where the frequency range is swept incrementally, the step size was 1%.

c. The test was performed with the Product exposed to both vertically and horizontally polarized fields on each of the four sides.

9.2.4 RESULTS & PERFORMANCE

| | | | |
|-----------------------------|---------------------------------|--------------------|--------|
| Product | : TRAVEL ADAPTER PLUG | Temperature | : 24°C |
| Model/Type reference | : HHT528 | Humidity | : 50% |
| Power | : AC 110V/60Hz, AC 230V/50Hz | | |
| Mode | : ON | | |
| Press | : 101kPa | | |

| Frequency (MHz) | Position | Field Strength (V/m) | Required Level | Performance Criterion |
|-----------------|-----------------------------|----------------------|----------------|-----------------------|
| 80 - 1000 | Front, Right, Back, Left | 3 | A | A |
| 1800 | Front, Right, Back, Left | 3 | A | A |
| 2600 | Front, Right, Back, Left | 3 | A | A |
| 3500 | Front, Right, Back, Left | 3 | A | A |
| 5000 | Front, Right, Back, Left | 3 | A | A |

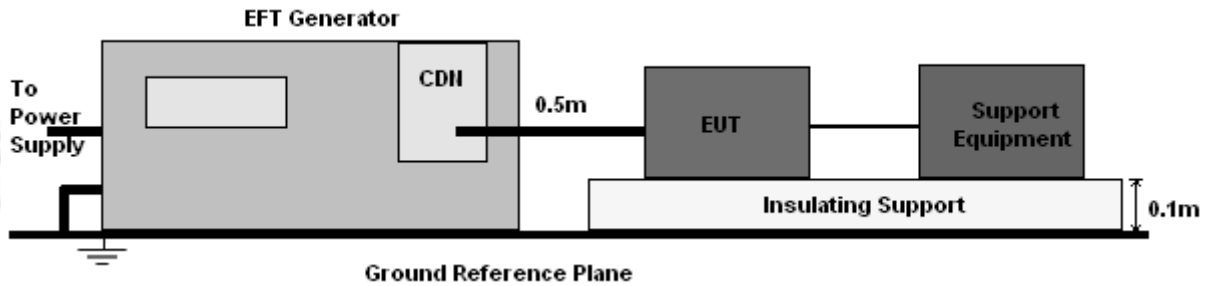
9.3 ELECTRICAL FAST TRANSIENTS (EFT)

9.3.1 TEST SPECIFICATION

| | |
|---------------------------|-----------------------------|
| Basic Standard | : EN 55035 & IEC 61000-4-4 |
| Test Port | : Input AC mains power port |
| Impulse Frequency | : 5 kHz |
| Impulse Wave-shape | : 5/50 ns |
| Burst Duration | : 15 ms |
| Burst Period | : 300 ms |
| Test Duration | : 2 minute per polarity |

9.3.2 BLOCK DIAGRAM OF TEST SETUP

For input AC mains power port



9.3.3 TEST PROCEDURE

- The Product and support units were located on a non-conductive table above ground reference plane.
- A 0.5m-long power cord was attached to Product during the test.

9.3.4 RESULTS & PERFORMANCE

| | | | |
|-----------------------------|---------------------------------|--------------------|--------|
| Product | : TRAVEL ADAPTER PLUG | Temperature | : 24°C |
| Model/Type reference | : HHT528 | Humidity | : 50% |
| Power | : AC 110V/60Hz, AC 230V/50Hz | | |
| Mode | : ON | | |
| Press | : 101kPa | | |

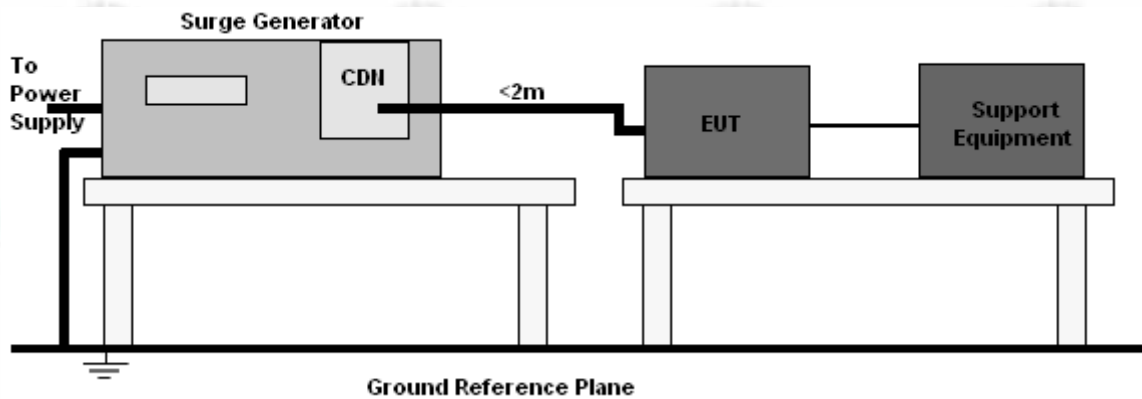
| Coupling | Voltage (kV) | Polarity | Required Level | Performance Criterion |
|-----------|--------------|----------|----------------|-----------------------|
| L - N -PE | 1 | ± | B | A |

9.4 SURGES

9.4.1 TEST SPECIFICATION

| | |
|------------------------------|---|
| Basic Standard | : EN 55035 & IEC 61000-4-5 |
| Test Port | : input AC mains power port |
| Wave-Shape | : Open Circuit Voltage - 1.2 / 50 us Short Circuit Current - 8 / 20 us |
| Phase Angle | : 90°/270° |
| Pulse Repetition Rate | : 1 pulse / min. |
| Test Events | : 5 pulses (positive & negative) for each polarity |

9.4.2 BLOCK DIAGRAM OF TEST SETUP



9.4.3 TEST PROCEDURE

- The surge is to be applied to the Product power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave.
- The power cord between the Product and the coupling/decoupling networks shall be 2 meters in length (or shorter). Interconnection line between the Product and the coupling/decoupling networks shall be 2 meters in length (or shorter).

9.4.4 RESULTS & PERFORMANCE

| | | | |
|-----------------------------|---------------------------------|--------------------|--------|
| Product | : TRAVEL ADAPTER PLUG | Temperature | : 24°C |
| Model/Type reference | : HHT528 | Humidity | : 50% |
| Power | : AC 110V/60Hz, AC 230V/50Hz | | |
| Mode | : ON | | |
| Press | : 101kPa | | |

| Coupling Line | Voltage (kV) | Polarity | Phase Angle | Required Level | Performance Criterion |
|---------------|--------------|----------|-------------|----------------|-----------------------|
| L - N | 1 | + | 90° | B | A |
| L - N | 1 | - | 270° | B | A |

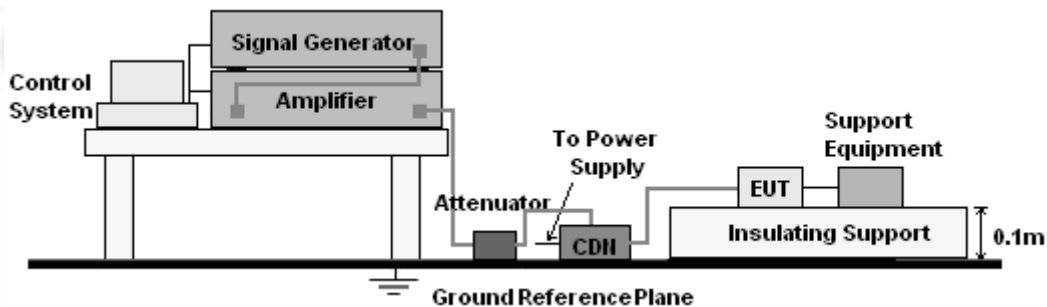
9.5 RADIO-FREQUENCY CONTINUOUS CONDUCTED IMMUNITY

9.5.1 TEST SPECIFICATION

| | |
|-----------------------|-----------------------------|
| Basic Standard | : EN 55035 & IEC 61000-4-6 |
| Test Port | : input AC mains power port |
| Step Size | : 1% |
| Modulation | : 1kHz, 80% AM |
| Dwell Time | : 1 second |

9.5.2 BLOCK DIAGRAM OF TEST SETUP

For input AC mains power port :



9.5.3 TEST PROCEDURE

- The Product and support units were located at a ground reference plane with the interposition of a 0.1 m thickness insulating support and the CDN was located on GRP directly.
- The frequency range is swept from 150 kHz to 80MHz, with the signal 80% amplitude modulated with a 1 kHz sine wave. The rate of sweep did not exceed 1.5×10^{-3} decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
- The dwell time at each frequency shall be not less than the time necessary for the Product to be able to respond.

9.5.4 RESULTS & PERFORMANCE

| | | | |
|-----------------------------|---------------------------------|--------------------|--------|
| Product | : TRAVEL ADAPTER PLUG | Temperature | : 24°C |
| Model/Type reference | : HHT528 | Humidity | : 50% |
| Power | : AC 110V/60Hz, AC 230V/50Hz | | |
| Mode | : ON | | |
| Press | : 101kPa | | |

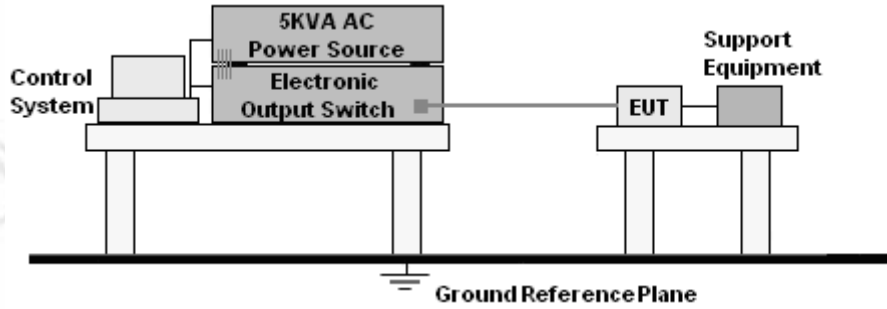
| Inject Line | Frequency (MHz) | Voltage Level (V r.m.s.) | Required Level | Performance Criterion |
|---------------------|-----------------|--------------------------|----------------|-----------------------|
| AC mains power port | 0.15 to 10 | 3 | A | A |
| AC mains power port | 10 to 30 | 3 to 1 | A | A |
| AC mains power port | 30 to 80 | 1 | A | A |

9.6 VOLTAGE DIPS AND INTERRUPTIONS

9.6.1 TEST SPECIFICATION

Basic Standard : EN 55035 & IEC 61000-4-11
Test Ports : Input a.c. power ports
Phase Angle : 0°, 180°

9.6.2 BLOCK DIAGRAM OF TEST SETUP



9.6.3 TEST PROCEDURE

- a. The Product and support units were located on a non-conductive table above ground floor.
- b. Set the parameter of tests and then perform the test software of test simulator.
- c. Conditions changes to occur at 0 degree crossover point of the voltage waveform.

9.6.4 RESULTS & PERFORMANCE

Product : TRAVEL ADAPTER PLUG
Model/Type reference : HHT528
Power : AC 110V/60Hz, **Temperature** : 22°C
 AC 230V/50Hz
Mode : ON **Humidity** : 50%
Press : 101kPa

Voltage Dips:

| Test Level % UT | Reduction (%) | Number of cycles | | Required Level | Performance criteria |
|--------------------|------------------|---------------------|------|-------------------|-------------------------|
| | | 50Hz | 60Hz | | |
| <5 | >95 | 0.5 | | B | A |
| <5 | >95 | 1 | | B | A |
| 70 | 30 | 25 | 30 | C | A |

Voltage Interruptions:

| Test Level % UT | Reduction (%) | Number of cycles | | Required Level | Performance criteria |
|--------------------|------------------|---------------------|------|-------------------|-------------------------|
| | | 50Hz | 60Hz | | |
| <5 | >95 | 250 | 300 | C | C* |

Remark*: The Product stop work during test and it can recover by itself after test.

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP



CONDUCTED DISTURBANCE TEST SETUP



RADIATED DISTURBANCE TEST SETUP



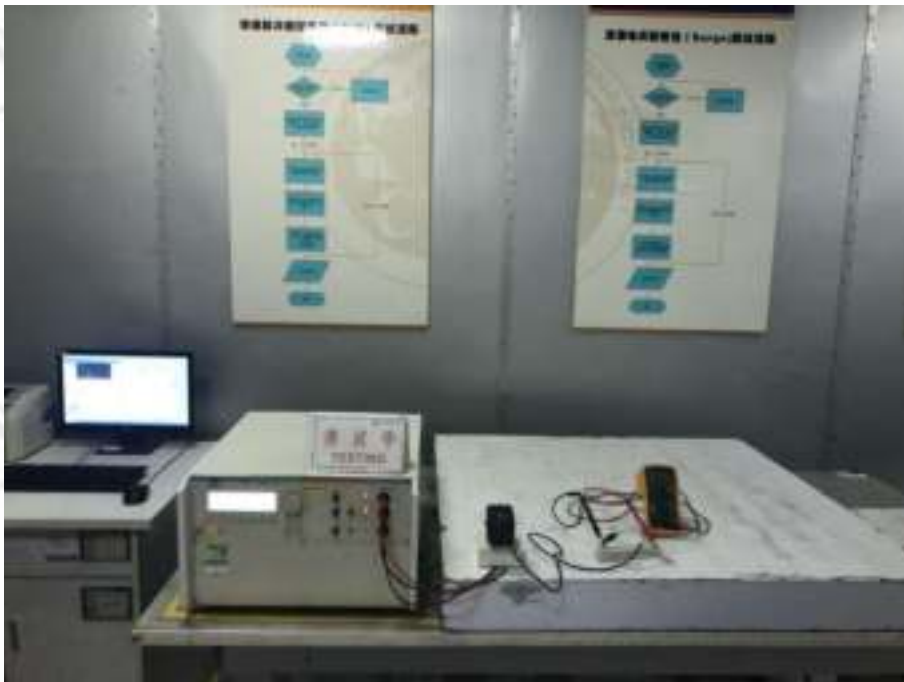
FLICKER TEST SETUP



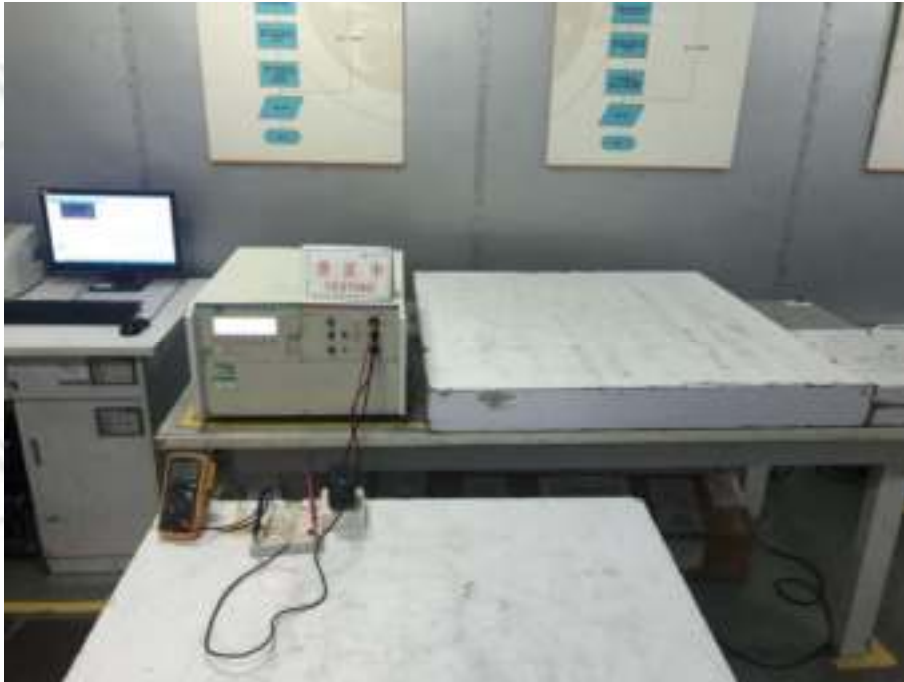
ESD TEST SETUP



RADIO-FREQUENCY ELECTROMAGNETIC FIELD TEST SETUP



EFT TEST SETUP



SURGE TEST SETUP



RADIO-FREQUENCY CONTINUOUS CONDUCTED IMMUNITY TEST SETUP



VOLTAGE DIPS AND INTERRUPTIONS TEST SETUP

APPENDIX 2 PHOTOGRAPHS OF PRODUCT



View of Product-1



View of Product-2



View of Product-3



View of Product-4



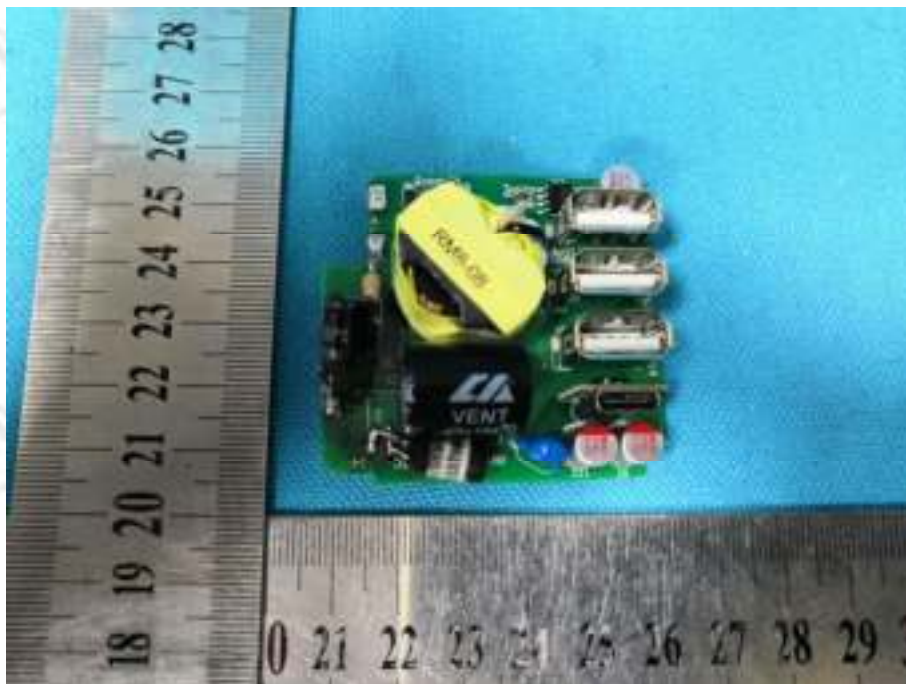
View of Product-5



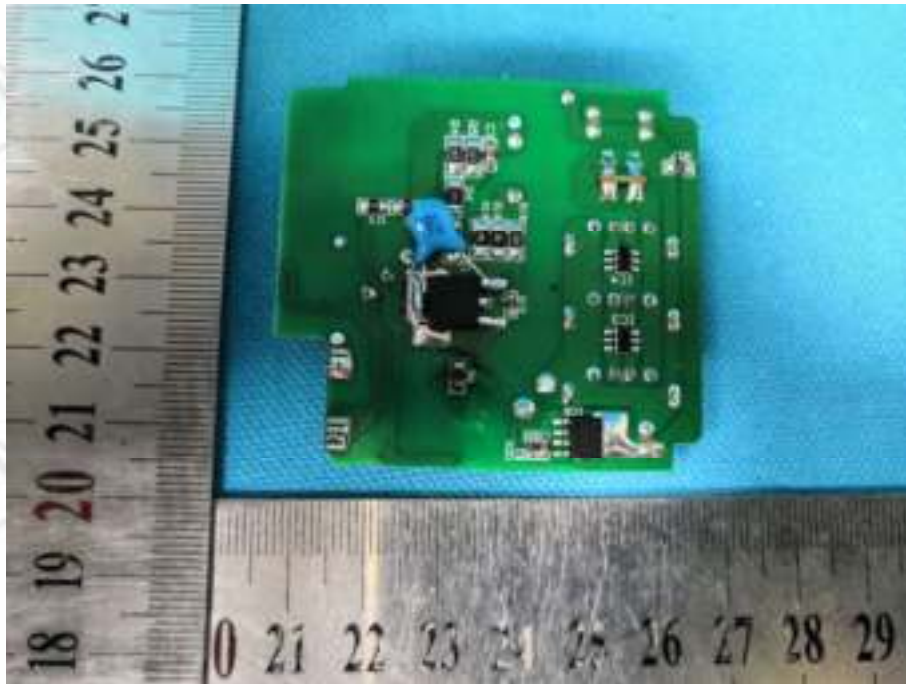
View of Product-6



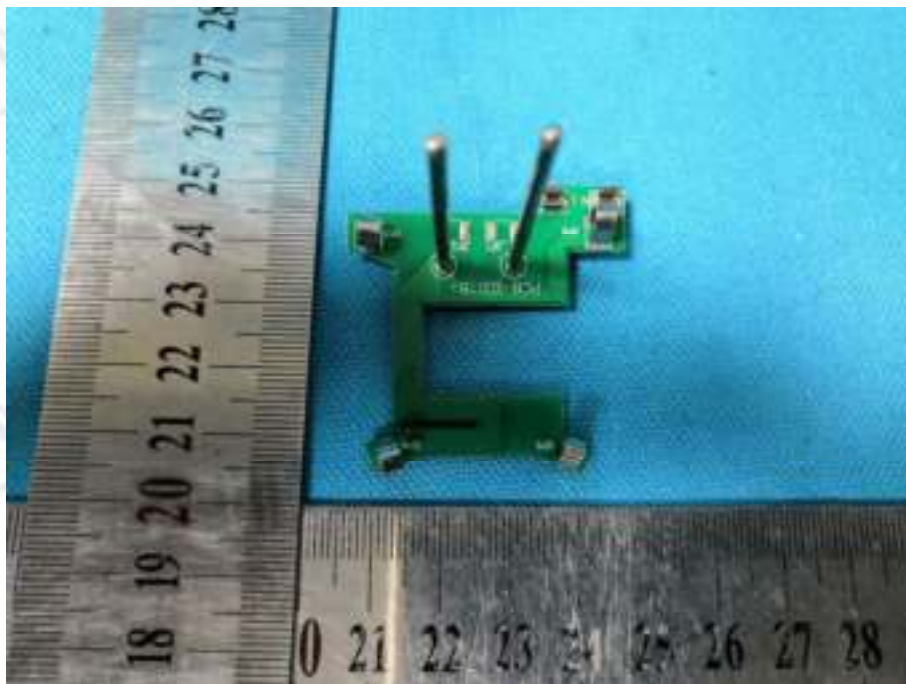
View of Product-7



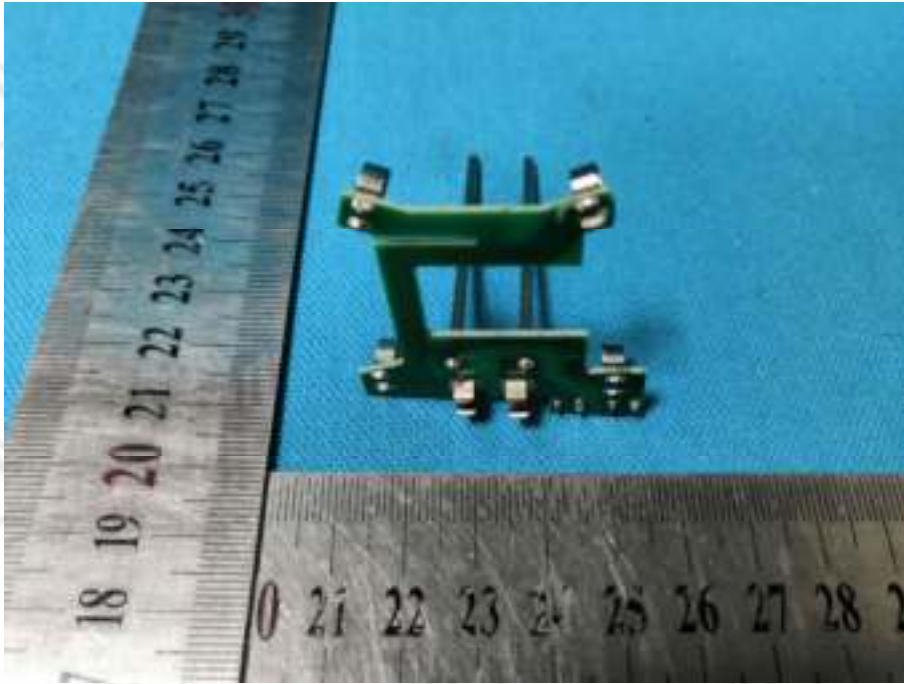
View of Product-8



View of Product-9



View of Product-10



View of Product-11

*** End of Report ***

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