



Variant FCC RF Test Report

APPLICANT : Lenovo (Shanghai) Electronics Technology Co., Ltd.
EQUIPMENT : Portable Tablet Computer
BRAND NAME : lenovo
MODEL NAME : 501LV, 502LV
MARKETING NAME : Lenovo TAB2
FCC ID : O57TAB2A8
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter (PCB)

This is a variant report which is only valid together with the original report. The product was received on Aug. 20, 2015 and testing was completed on Sep. 24, 2015. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-C-2004 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL (KUNSHAN) INC.
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SUMMARY OF TEST RESULT

| Report Section | FCC Rule | Description | Limit | Result | Remark |
|----------------|-------------------------------------|--------------------------------------|--|--------|--|
| 3.1 | §2.1046 | Conducted Output Power | N/A | PASS | - |
| 3.2 | §22.913(a)(2) | Effective Radiated Power | < 7 Watts | PASS | - |
| | §24.232(c) | Equivalent Isotropic Radiated Power | < 2 Watts | PASS | - |
| 3.3 | §2.1053 §22.917(a) §24.238(a) | Field Strength of Spurious Radiation | $< 43 + 10 \log_{10}(P[\text{Watts}])$ | PASS | Under limit 16.43 dB at 5643.000 MHz |



1 General Description

1.1 Applicant

Lenovo (Shanghai) Electronics Technology Co., Ltd.

No. 68 Building, 199 Fenju Road, Wai Gao Qiao FTZ, Shanghai, China

1.2 Manufacturer

Lenovo PC HK Limited

23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong

1.3 Product Feature of Equipment Under Test

| Product Feature | |
|---------------------------------|--|
| Equipment | Portable Tablet Computer |
| Brand Name | lenovo |
| Model Name | 501LV, 502LV |
| Marketing Name | Lenovo TAB2 |
| FCC ID | O57TAB2A8 |
| EUT supports Radios application | GPRS/EGPRS/LTE WLAN 2.4GHz 802.11b/g/n HT20 Bluetooth v3.0 + EDR/Bluetooth v4.0 LE |
| HW Version | LenovoPad A8-50F |
| SW Version | A8-50F_150520 |
| EUT Stage | Identical Prototype |

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.



1.4 Product Specification subjective to this standard

| Product Specification subjective to this standard | |
|---|---|
| Tx Frequency | GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz |
| Rx Frequency | GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz |
| Maximum Output Power to Antenna | GSM850 : 31.84 dBm GSM1900 : 28.76 dBm |
| Antenna Type | PIFA Antenna |
| Type of Modulation | GPRS: GMSK EDGE: GMSK / 8PSK |

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

| FCC Rule | System | Type of Modulation | Maximum ERP/EIRP (W) |
|----------|----------------------|--------------------|----------------------|
| Part 22 | GSM850 GPRS class 8 | GMSK | 0.2878 |
| Part 24 | GSM1900 GPRS class 8 | GMSK | 0.6761 |



1.7 Testing Location

| | | | |
|---------------------------|--|-----------|-----------------------------|
| Test Site | SPORTON INTERNATIONAL (KUNSHAN) INC. | | |
| Test Site Location | No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958 | | |
| Test Site No. | Sporton Site No. | | FCC Registration No. |
| | TH01-KS | 03CH02-KS | 418269 |

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR Part 2, 22(H), 24(E)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 10th harmonic for GSM850.
2. 30 MHz to 10th harmonic for GSM1900.

All modes and data rates and positions were investigated.

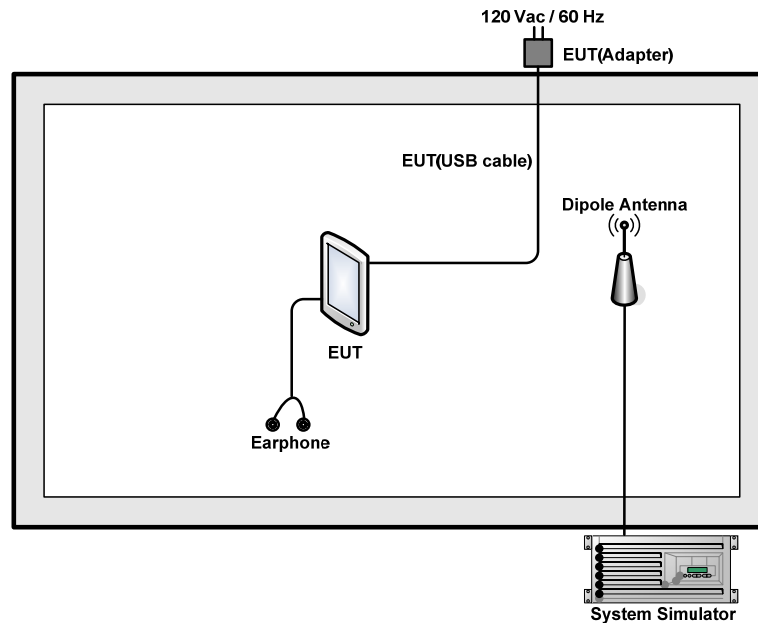
Test modes are chosen to be reported as the worst case configuration below:

| Test Modes | | |
|------------|---------------------|---------------------|
| Band | Radiated TCs | Conducted TCs |
| GSM 850 | ■ GPRS class 8 Link | ■ GPRS class 8 Link |
| GSM 1900 | ■ GPRS class 8 Link | ■ GPRS class 8 Link |

Conducted Power Measurement Results:

| Conducted Power (*Unit: dBm) | | | | | | |
|------------------------------|--------|-------|-------|---------|--------|--------|
| Band | GSM850 | | | GSM1900 | | |
| Channel | 128 | 189 | 251 | 512 | 661 | 810 |
| Frequency | 824.2 | 836.4 | 848.8 | 1850.2 | 1880.0 | 1909.8 |
| GPRS class 8 | 31.80 | 31.84 | 31.83 | 28.76 | 28.75 | 28.72 |
| GPRS class 10 | 31.38 | 31.45 | 31.43 | 28.16 | 28.11 | 28.15 |
| GPRS class 11 | 29.90 | 29.95 | 29.93 | 26.43 | 26.41 | 26.36 |
| GPRS class 12 | 28.87 | 28.89 | 28.88 | 25.39 | 25.38 | 25.34 |
| EGPRS class 8 | 26.98 | 26.78 | 26.87 | 25.44 | 25.49 | 25.40 |
| EGPRS class 10 | 25.66 | 25.58 | 25.76 | 24.45 | 24.43 | 24.39 |
| EGPRS class 11 | 23.82 | 23.93 | 23.94 | 22.32 | 22.35 | 22.37 |
| EGPRS class 12 | 22.62 | 22.68 | 22.72 | 21.23 | 21.25 | 21.36 |

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

| Item | Equipment | Trade Name | Model No. | FCC ID | Data Cable | Power Cord |
|------|------------------|------------|-----------|--------|------------|-------------------|
| 1. | System Simulator | R&S | CMU 200 | N/A | N/A | Unshielded, 1.8 m |
| 2. | DC Power Supply | GW INSTEK | GPD-2303S | N/A | N/A | Unshielded, 1.8 m |

3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

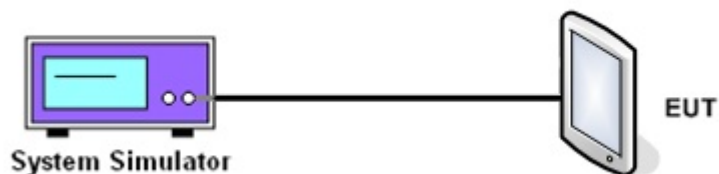
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

3.1.4 Test Setup





3.1.5 Test Result of Conducted Output Power

| Cellular Band | | | | | | |
|-----------------------|-----------------------|--------------|---------------|-----------------------|--------------|---------------|
| Modes | GSM850 (GPRS class 8) | | | GSM850 (EDGE class 8) | | |
| Channel | 128 (Low) | 189 (Mid) | 251 (High) | 128 (Low) | 189 (Mid) | 251 (High) |
| Frequency (MHz) | 824.2 | 836.4 | 848.8 | 824.2 | 836.4 | 848.8 |
| Conducted Power (dBm) | 31.80 | 31.84 | 31.83 | 26.98 | 26.78 | 26.87 |

| PCS Band | | | | | | |
|-----------------------|------------------------|--------------|---------------|------------------------|--------------|---------------|
| Modes | GSM1900 (GPRS class 8) | | | GSM1900 (EDGE class 8) | | |
| Channel | 512 (Low) | 661 (Mid) | 810 (High) | 512 (Low) | 661 (Mid) | 810 (High) |
| Frequency (MHz) | 1850.2 | 1880 | 1909.8 | 1850.2 | 1880 | 1909.8 |
| Conducted Power (dBm) | 28.76 | 28.75 | 28.72 | 25.44 | 25.49 | 25.40 |

Note: maximum burst average power for GSM.



3.2 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

3.2.1 Description of the ERP/EIRP Measurement

The substitution method, in ANSI / TIA / EIA-603-C-2004, was used for ERP/EIRP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. The ERP of mobile transmitters must not exceed 7 Watts and the EIRP of mobile transmitters are limited to 2 Watts.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-C-2004 Section 2.2.17.
2. The EUT was placed on a non-conductive rotating platform 0.8 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RMS detector per section 5. of KDB 971168 D01.
3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
4. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, $EIRP = LVL + \text{Correction factor}$ and $ERP = EIRP - 2.15$. Take the record of the output power at substitution antenna.



| | GSM/GPRS/EDGE | WCDMA/HSPA |
|--------------|---------------|------------|
| SPAN | 500kHz | 10MHz |
| RBW | 10kHz | 100kHz |
| VBW | 30kHz | 300kHz |
| Detector | RMS | RMS |
| Trace | Average | Average |
| Average Type | Power | Power |
| Sweep Count | 100 | 100 |



3.2.4 Test Result of ERP

| GSM850 (GPRS class 8) Radiated Power ERP | | | | | |
|--|-----------------|------------|--------|----------|--------|
| Channel | Frequency (MHz) | Horizontal | | Vertical | |
| | | ERP(dBm) | ERP(W) | ERP(dBm) | ERP(W) |
| Lowest | 824.2 | 22.29 | 0.1696 | 20.59 | 0.1145 |
| Middle | 836.4 | 23.46 | 0.2217 | 21.70 | 0.1479 |
| Highest | 848.8 | 24.59 | 0.2878 | 22.91 | 0.1954 |
| Limit | ERP < 7W | Result | | PASS | |

3.2.5 Test Result of EIRP

| GSM1900 (GPRS class 8) Radiated Power EIRP | | | | | |
|--|-----------------|------------|---------|-----------|---------|
| Channel | Frequency (MHz) | Horizontal | | Vertical | |
| | | EIRP(dBm) | EIRP(W) | EIRP(dBm) | EIRP(W) |
| Lowest | 1850.2 | 27.01 | 0.5023 | 28.17 | 0.6561 |
| Middle | 1880.0 | 26.95 | 0.4955 | 28.30 | 0.6761 |
| Highest | 1909.8 | 26.44 | 0.4406 | 28.12 | 0.6486 |
| Limit | EIRP < 2W | Result | | PASS | |



3.3 Field Strength of Spurious Radiation Measurement

3.3.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.3.2 Measuring Instruments

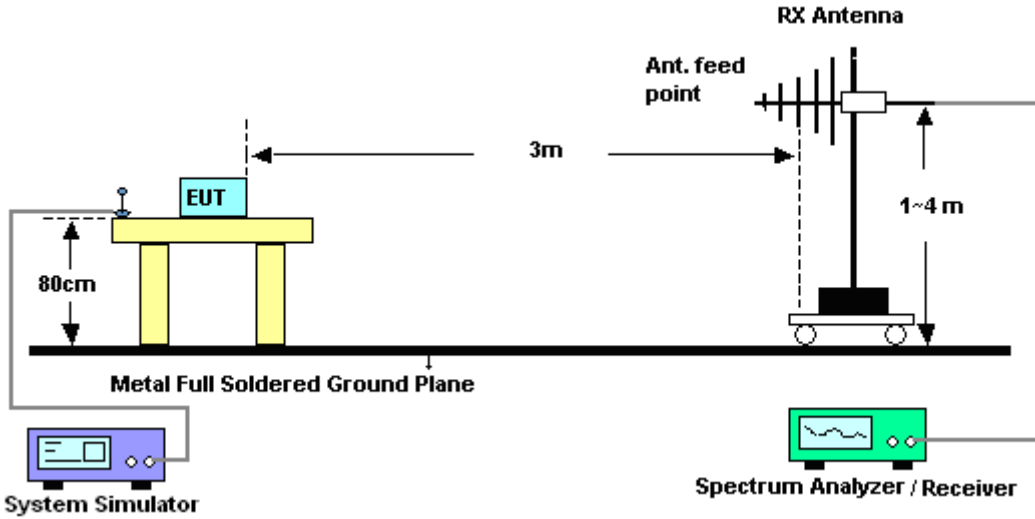
The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

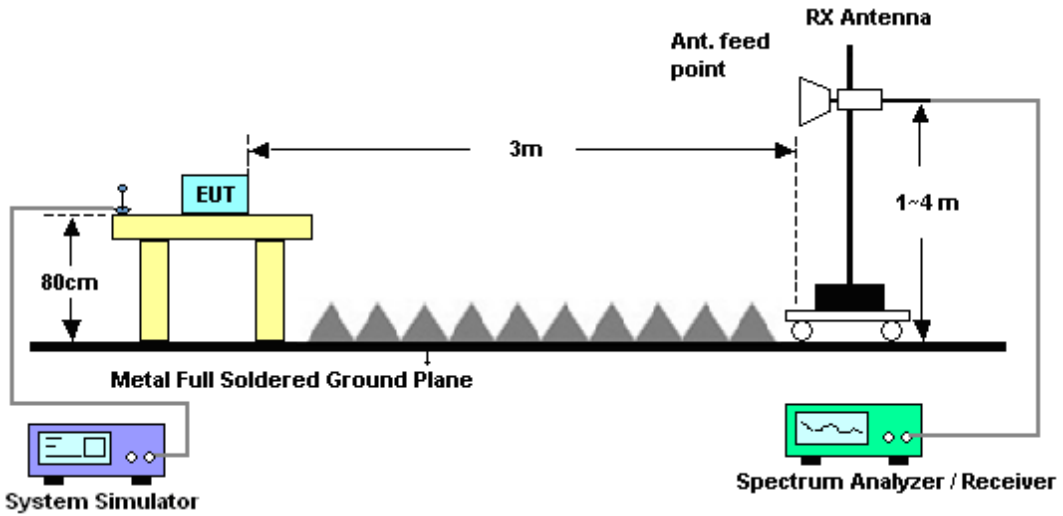
1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-C-2004 Section 2.2.12.
2. The EUT was placed on a rotatable wooden table 0.8 meters above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. $EIRP (dBm) = S.G. Power - Tx Cable Loss + Tx Antenna Gain$
12. $ERP (dBm) = EIRP - 2.15$
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
= $P(W) - [43 + 10\log(P)] (dB)$
= $[30 + 10\log(P)] (dBm) - [43 + 10\log(P)] (dB)$
= -13dBm.

3.3.4 Test Setup

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.3.5 Test Result of Field Strength of Spurious Radiated

| Band : | GSM850 | | Temperature : | 22~23°C | | | | | |
|------------------------|--|------------------|----------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| Test Mode : | GPRS class 8 Link (GMSK) | | Relative Humidity : | 42~43% | | | | | |
| Test Engineer : | Simon Lu | | Polarization : | Horizontal | | | | | |
| Remark : | Spurious emissions within 30-1000MHz were found more than 20dB below limit line. | | | | | | | | |
| Frequency (MHz) | ERP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
| 1672 | -54.13 | -13 | -41.13 | -56.31 | -56.02 | 1.86 | 5.90 | H | Pass |
| 2510 | -37.91 | -13 | -24.91 | -52.03 | -40.25 | 2.31 | 6.80 | H | Pass |
| 3345 | -52.21 | -13 | -39.21 | -64.84 | -54.61 | 2.85 | 7.40 | H | Pass |

| Band : | GSM850 | | Temperature : | 22~23°C | | | | | |
|------------------------|--|------------------|----------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| Test Mode : | GPRS class 8 Link (GMSK) | | Relative Humidity : | 42~43% | | | | | |
| Test Engineer : | Simon Lu | | Polarization : | Vertical | | | | | |
| Remark : | Spurious emissions within 30-1000MHz were found more than 20dB below limit line. | | | | | | | | |
| Frequency (MHz) | ERP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
| 1672 | -57.57 | -13 | -44.57 | -56.43 | -59.46 | 1.86 | 5.90 | V | Pass |
| 2510 | -31.52 | -13 | -18.52 | -48.17 | -33.86 | 2.31 | 6.80 | V | Pass |
| 3345 | -51.16 | -13 | -38.16 | -65.14 | -53.56 | 2.85 | 7.40 | V | Pass |



| Band : | GSM1900 | | Temperature : | 22~23°C | | | | | |
|------------------------|--|------------------|----------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| Test Mode : | GPRS class 8 Link (GMSK) | | Relative Humidity : | 42~43% | | | | | |
| Test Engineer : | Simon Lu | | Polarization : | Horizontal | | | | | |
| Remark : | Spurious emissions within 30-1000MHz were found more than 20dB below limit line. | | | | | | | | |
| Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
| 3759 | -51.61 | -13 | -38.61 | -65.81 | -56.21 | 3 | 7.60 | H | Pass |
| 5643 | -29.43 | -13 | -16.43 | -48.39 | -35.69 | 3.84 | 10.10 | H | Pass |
| 7521 | -42.31 | -13 | -29.31 | -62.09 | -49.81 | 4.43 | 11.93 | H | Pass |

| Band : | GSM1900 | | Temperature : | 22~23°C | | | | | |
|------------------------|--|------------------|----------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| Test Mode : | GPRS class 8 Link (GMSK) | | Relative Humidity : | 42~43% | | | | | |
| Test Engineer : | Simon Lu | | Polarization : | Vertical | | | | | |
| Remark : | Spurious emissions within 30-1000MHz were found more than 20dB below limit line. | | | | | | | | |
| Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
| 3760 | -53.04 | -13 | -40.04 | -65.53 | -57.64 | 3 | 7.60 | V | Pass |
| 5643 | -29.98 | -13 | -16.98 | -48.96 | -36.24 | 3.84 | 10.10 | V | Pass |
| 7521 | -43.15 | -13 | -30.15 | -60.94 | -50.65 | 4.43 | 11.93 | V | Pass |



4 List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---------------------------|--------------|-----------|--------------|-------------------------|------------------|---------------------------------|---------------|-----------------------|
| Spectrum Analyzer | R&S | FSP40 | 100319 | 9kHz~40GHz | Oct. 28, 2014 | Sep. 07, 2015 | Oct. 27, 2015 | Conducted (TH01-KS) |
| Spectrum Analyzer | R&S | FSV30 | 101338 | 9kHz~30GHz | May 04, 2015 | Sep. 07, 2015 | May 03, 2016 | Conducted (TH01-KS) |
| Thermal Chamber | Ten Billion | TTC-B3S | TBN-960502 | -40~+150°C | Oct. 25, 2014 | Sep. 07, 2015 | Oct. 24, 2015 | Conducted (TH01-KS) |
| EMI Test Receiver | R&S | ESR7 | 101403 | 9kHz~7GHz;Max 30dBm | Sep. 10, 2015 | Sep. 16, 2015~ Sep. 24, 2015 | Sep. 09, 2016 | Radiation (03CH02-KS) |
| Spectrum Analyzer | R&S | FSV40 | 101040 | 10kHz~40GHz;Max x 30dBm | Sep. 10, 2015 | Sep. 16, 2015~ Sep. 24, 2015 | Sep. 09, 2016 | Radiation (03CH02-KS) |
| Bilog Antenna | TeseQ | CBL6112D | 37879 | 30MHz-2GHz | Sep. 12, 2015 | Sep. 16, 2015~ Sep. 24, 2015 | Sep. 11, 2016 | Radiation (03CH02-KS) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117 | 75957 | 1GHz~18GHz | Nov. 08, 2014 | Sep. 16, 2015~ Sep. 24, 2015 | Nov. 07, 2015 | Radiation (03CH02-KS) |
| Active Horn Antenna | com-power | AHA-118 | 701030 | 1GHz~18GHz | Nov. 08, 2014 | Sep. 16, 2015~ Sep. 24, 2015 | Nov. 07, 2015 | Radiation (03CH02-KS) |
| SHF-EHF Horn | Schwarzbeck | BBHA 9170 | BBHA170249 | 15GHz ~40GHz | Mar. 03, 2015 | Sep. 16, 2015~ Sep. 24, 2015 | Mar. 02, 2016 | Radiation (03CH02-KS) |
| Amplifier | com-power | PA-103A | 161069 | 1kHz ~1000MHz / 32 dB | May 04, 2015 | Sep. 16, 2015~ Sep. 24, 2015 | May 03, 2016 | Radiation (03CH02-KS) |
| Amplifier | Agilent | 8449B | 3008A02384 | 1-26.5GHz Gain 30dB | Oct. 28, 2014 | Sep. 16, 2015~ Sep. 24, 2015 | Oct. 27, 2015 | Radiation (03CH02-KS) |
| AC Power Source | Chroma | 61601 | 616010002473 | N/A | NCR | Sep. 16, 2015~ Sep. 24, 2015 | NCR | Radiation (03CH02-KS) |
| Turn Table | MF | MF7802 | N/A | 0~360 degree | NCR | Sep. 16, 2015~ Sep. 24, 2015 | NCR | Radiation (03CH02-KS) |
| Antenna Mast | MF | MF7802 | N/A | 1 m~4 m | NCR | Sep. 16, 2015~ Sep. 24, 2015 | NCR | Radiation (03CH02-KS) |



5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

| | |
|---|-------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 5.1dB |
|---|-------|



Appendix B. Product Equality Declaration

Date: September 28, 2015

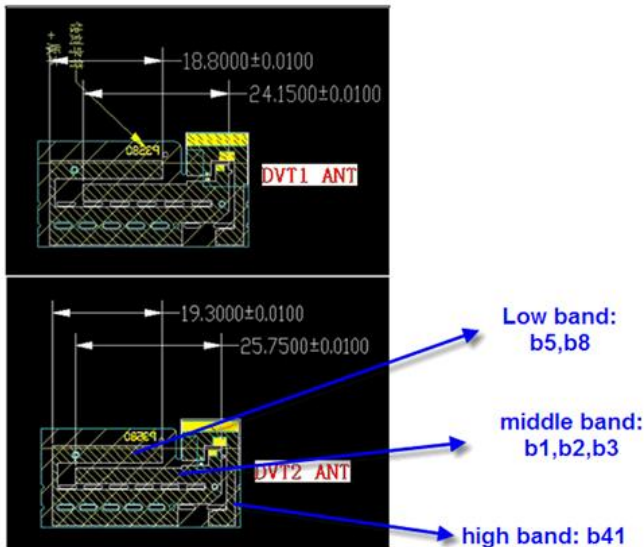
Product Equality Declaration

We, Lenovo (Shanghai) Electronics Technology Co., Ltd. declare on our sole responsibility for the product of **501LV,502LV** as below:

The differences between 501LV,502LV and previous as below:

- ◆ Enable Tablet receiver by software
- ◆ Adapter change from Soft Bank ZTDAC 1(1A), ZTDAD1(1.8A) to C-P62(1.5A)
- ◆ WWAN Antenna changed as below:
 - (1). DVT2 Antenna Pattern is longer than DVT1, but the max Gain value keep same
 - (2). Antenna area is bigger

Diff in Ant Pattern



Diff in Ant performance

| Cena DVT1 LTE band1/3/8 | | TRP | TIS | |
|-------------------------|------------|--------------------------|--------------|-------|
| 4G | LTE Band 1 | 18050/50 18300/300 | 20.0 19.1 | |
| | (10MHZ) | 18550/550 | 18.2 | -94.4 |
| | LTE Band 3 | 19250/1250 19575/1575 | 18.8 19.0 | |
| | (10MHZ) | 19900/1900 | 18.9 | -94.5 |
| | LTE Band 8 | 21500/3500 21625/3625 | 18.3 18.4 | |
| | (10MHZ) | 21750/3750 | 17.8 | -90.1 |

| Cena DVT2 LTE band1/3/8 | | TRP | TIS | |
|-------------------------|------------|--------------------------|--------------|-------|
| 4G | LTE Band 1 | 18050/50 18300/300 | 20.0 19.1 | |
| | (10MHZ) | 18550/550 | 18.7 | -95.2 |
| | LTE Band 3 | 19250/1250 19575/1575 | 18.1 18.5 | |
| | (10MHZ) | 19900/1900 | 18.7 | -96.4 |
| | LTE Band 8 | 21500/3500 21625/3625 | 18.6 18.5 | |
| | (10MHZ) | 21750/3750 | 18.3 | -91.6 |

Except listings above, the others are all the same.

Should you have any questions or comments regarding this matter, please have my best attention.

Sincerely yours,

Judy Chou

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