



TEST REPORT

Report No. SST2503E0173

Applicant: Shenzhen Colorful Yugong Applied Technology Innovation Co., Ltd.
1103, 11th Floor, Building 4, Shenzhen New Generation Industrial Park, No. 136, Zhongkang Road, Meilin Street, Futian District, Shenzhen, China.

Address of Applicant:

Product Name: NOTEBOOK COMPUTER

Trade Mark: COLORFUL

Standard(s): FCC CFR Title 47 Part 15 Subpart E Section 15.247

FCC ID: 2BN3V-S1

Test Report Form No: SST-RD-7.5-02-E01(A/0)

Date of sample receipt: 2024/12/25

Date of Test: 2024/12/25 - 2025/3/6

Date of report issued: 2025/3/7

*The equipment complies with the requirements according to the standard(s) or Specification above, it is applicable only to the tested sample identified in the report.

Prepared by:

Bo Li

Reviewed by:

Tiger Li

Approved by:

Seven Phan



*The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

| Version | Description | Date of Issue |
|---------|-------------|---------------|
| V1.0 | Original | 2025/3/7 |
| | | |
| | | |



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3 Test Summary

| Test items | Basics standards | Result |
|----------------------------------|----------------------------|--------|
| Antenna requirement | FCC part 15.203/15.247 (c) | Pass |
| AC Power Line Conducted Emission | FCC part 15.207 | Pass |
| Conducted Peak Output Power | FCC part 15.247 (b)(3) | Pass |
| Channel Bandwidth & 99% OCB | FCC part 15.247 (a)(2) | Pass |
| Power Spectral Density | FCC part 15.247 (e) | Pass |
| Band Edge | FCC part 15.247(d) | Pass |
| Spurious Emission | FCC part 15.205/15.209 | Pass |

Notes:

1: NA =Not Applicable

2: Determining compliance based on the results of the compliance measurement, not taking into account measurement uncertainty. If necessary, the applicant shall inform test lab in advance

3: Additions, Deviations and Exclusions from Standards: None.

4 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

| Item | Uncertainty (\pm) (k=2, 95%) | |
|-----------------------------------|----------------------------------|------|
| Output Power, Conducted | 0.54 | |
| Power Spectral Density, Conducted | 1.28 | |
| Spurious Emissions, Conducted | 1.28 | |
| Radiated Emissions(<1GHz) | 9kHz~30MHz | 2.6 |
| | 30MHz~1GHz | 5.08 |
| Radiated Emissions(>1GHz) | 1GHz~6GHz | 4.02 |
| | 6GHz~18GHz | 4.62 |
| | 18GHz~40GHz | 4.7 |
| Occupied Bandwidth | 1.14 | |
| Conducted Emissions—AC mains | 9kHz~150KHz | 1.76 |
| | 150kHz~30MHz | 2.52 |
| Conducted Emissions—Telecom | 2.64 | |

5 General Information

5.1 Client Information

Applicant: Shenzhen Colorful Yugong Applied Technology Innovation Co., Ltd.

Address of applicant: 1103, 11th Floor, Building 4, Shenzhen New Generation Industrial Park, No. 136, Zhongkang Road, Meilin Street, Futian District, Shenzhen, China.

Manufacturer: Same as applicant

Address of Manufacturer: Same as applicant

Factory: Shenzhen Gentude Technology Co., Ltd

Address of Factory: 601, Building 1, Emdoor Building, No. 8 Guang Ke 1st Road, Laokeng Community, Long Tian Street, PingShan District, Shenzhen, China

5.2 General Description of EUT

| | |
|-------------------------|---|
| Product Name: | NOTEBOOK COMPUTER |
| Model No.: | COLORFUL S1*****, COLORFUL Rimbook S1*****, S1*****, Rimbook S1***** ("*" represents for 0-9, a-z, A-Z, "-" or spaces to indicate different sales channels or different colors) |
| Test Model: | S1 |
| Test sample(s) ID: | 2412230502 |
| Sample(s) Status: | Continuously transmitter |
| S/N: | / |
| Hardware version: | / |
| Software version: | / |
| Operation Frequency: | 2412MHz~2462MHz |
| Technic and Modulation: | 802.11b: DSSS 802.11g/802.11n: OFDM 802.11ax: OFDMA |
| Supported bandwidth: | 20MHz, 40MHz |
| Antenna gain: | Refer to section 5.7 for details |
| Power supply: | AC/DC ADAPTER Model: AY65FA-AF1903422-US Input: AC 100~240V, 50/60Hz, 1.8A Output: DC 19V, 3.42A Or DC 11.55V 5200mAh/60.06Wh Rechargeable li-ion battery |

5.3 Test mode(s)

| | |
|---------|---|
| Mode 1: | continuously transmitting, with its lowest data rate which emit the max power level |
| Mode 2: | |
| Mode 3: | |
| | |
| | |
| | |

| Channel list for 802.11 | | | | | | | |
|-------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 1 | 2412MHz | 4 | 2427MHz | 7 | 2442MHz | 10 | 2457MHz |
| 2 | 2417MHz | 5 | 2432MHz | 8 | 2447MHz | 11 | 2462MHz |
| 3 | 2422MHz | 6 | 2437MHz | 9 | 2452MHz | | |

5.4 Test Facility

| | |
|---|--|
| The test facility is recognized, certified, or accredited by these organizations: | FCC Accredited Lab Test Firm Registration Number: 638130 Designation Number: CN1359 |
| | IC Registration Lab CAB Identifier No. CN0154 |
| | A2LA Accreditation Lab Certificate No.:7057.01 |

| | |
|--------------------|---|
| Test Performed at: | Name GuangDong Set Sail Testing Co., Ltd. |
| | Address 101, No.19, Tianxin Hudie 1st Road, Huangjiang Town, Dongguan, Guangdong, China |

5.5 Description of Support Units

| Device Type | Brand | Model | Series No. | Note |
|-------------|-------|-------|------------|------|
| --- | --- | --- | --- | --- |

5.6 Additional Instructions

| | |
|-------------------|---------------|
| Test Software | DRTU |
| Version: | 05439.23.20.0 |
| Power level setup | Default |

5.7 Antenna Information

| Ant | Manufacturer | Model | Antenna Type | Antenna Gain (dBi) | Note |
|-----|------------------------------------|------------------|--------------|--------------------|------|
| 2 | GUANGDONG SLEING COMM-TECH CO.,LTD | SLEingB250210225 | FPCB | 2.24 | WIFI |

All above information provided by the applicant which is fully responsible for those information.

5.8 Others

| |
|---|
| <p>The laboratory responsible for all the information provided in the report, except those information provided by the applicant.</p> <p>The applicant shall fully responsible for the information they provided.</p> <p>The report would be invalid without a stamp of test laboratory and the signatures of compiler and approver.</p> <p>The laboratory has not been responsible for the sampling stage; the test report merely corresponds to the test sample received.</p> <p>Any objection to the test report shall submitted to the test laboratory within 15 days from the date of receipt of the report.</p> <p>It is not permitted to copy extracts of these test result without the written permission of the test laboratory.</p> |
|---|



6 Technical Requirement and Measurement Data

6.1 Generally requirement

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

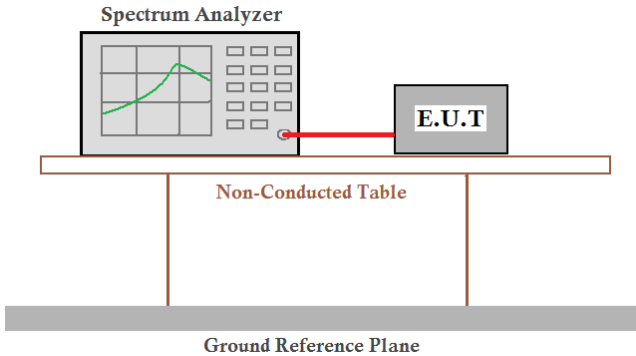
15.247(c) (1)(i) requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

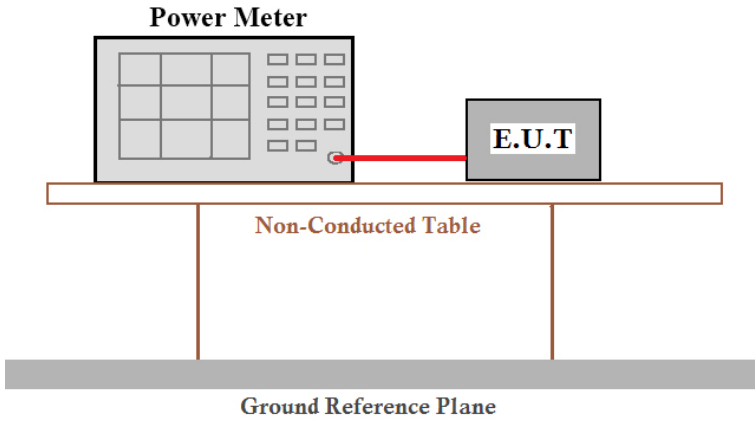
Reference to the appendix II for details

6.2 Duty Cycle

| |
|--|
| Limit |
| Report for use |
| Block diagram of Test Setup |
|  <p style="text-align: center;">Spectrum Analyzer</p> <p style="text-align: center;">E.U.T</p> <p style="text-align: center;">Non-Conducted Table</p> <p style="text-align: center;">Ground Reference Plane</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| <p>The transmitter output connected to the Spectrum Analyzer. Test according to Procedure 6.0)b in KDB 558074 v05r02.</p> <ol style="list-style-type: none"> 1.RBW=8 MHz(the largest available value) 2.VBW=8 MHz(>RBW) 3.SPAN = 0 Hz 4.Detector = Peak 5.Number of points in sweep: 30001 6.Trace mode: Clear write 7.Measure T_{total} and T_{on} 8.Calculate Duty Cycle = T_{on}/T_{total} and Duty Cycle Factor = $10\log(1/\text{Duty Cycle})$ |
| Verdict |
| Pass |

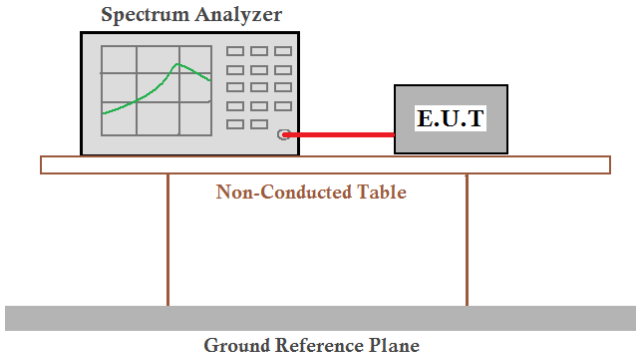
Measurement Data: The detailed test data see Appendix

6.3 Conducted Peak Output Power

| |
|---|
| Limit |
| 1W(30dBm) |
| Block diagram of Test Setup |
|  <p>The diagram illustrates the test setup for conducted peak output power. A Power Meter, represented by a rectangular box with a grid of buttons, is connected to an E.U.T. (Equipment Under Test), represented by a smaller rectangular box. A red cable connects the two. Both the Power Meter and the E.U.T. are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane. The table is shown as a simple rectangular structure with four legs. The ground reference plane is a thick, dark gray horizontal bar at the bottom of the diagram.</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to KDB558074 D01 15.247 Meas Guidance v05r02 |
| Verdict |
| Pass |

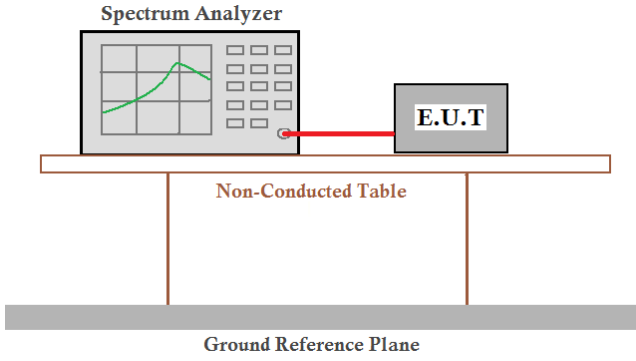
Measurement Data: The detailed test data see Appendix

6.4 Channel Bandwidth

| |
|--|
| Limit |
| >500KHz |
| Block diagram of Test Setup |
|  <p>The diagram shows a Spectrum Analyzer and an E.U.T. (Equipment Under Test) connected by a red cable. They are positioned on a table labeled 'Non-Conducted Table'. Below this table is a 'Ground Reference Plane'.</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to KDB558074 D01 15.247 Meas Guidance v05r02 |
| Verdict |
| Pass |

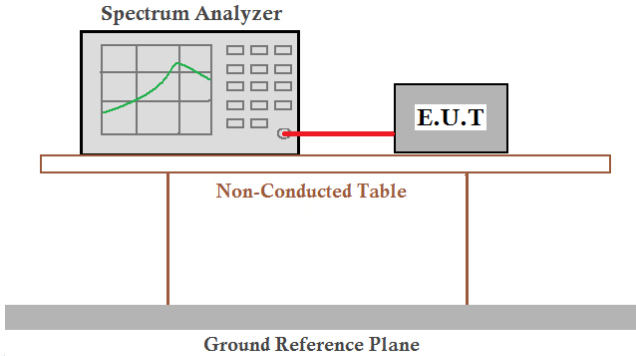
Measurement Data: The detailed test data see Appendix

6.5 Power Spectral Density

| |
|--|
| Limit |
| 8dBm/3kHz |
| Block diagram of Test Setup |
|  <p>The diagram shows a Spectrum Analyzer and an E.U.T. (Equipment Under Test) connected by a red cable. They are positioned on a table labeled 'Non-Conducted Table'. Below this table is a 'Ground Reference Plane'.</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to KDB558074 D01 15.247 Meas Guidance v05r02 |
| Verdict |
| Pass |

Measurement Data: The detailed test data see Appendix

6.6 Conducted Emission

| |
|---|
| Limit |
| In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. |
| Block diagram of Test Setup |
|  <p>The diagram shows a Spectrum Analyzer and an E.U.T. connected by a red cable. They are positioned on a table labeled 'Non-Conducted Table'. Below this table is a thick grey bar labeled 'Ground Reference Plane'.</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to KDB558074 D01 15.247 Meas Guidance v05r02 |
| Verdict |
| Pass |

Measurement Data: The detailed test data see Appendix

6.7 Radiated Spurious Emission

Limit

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

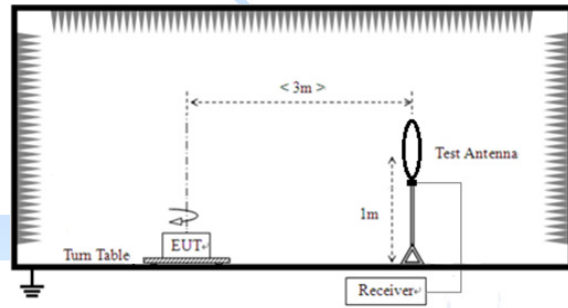
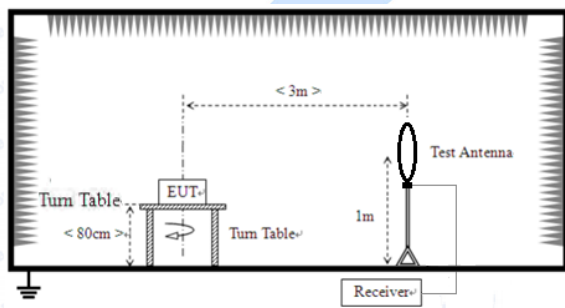
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this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

Block diagram of Test Setup

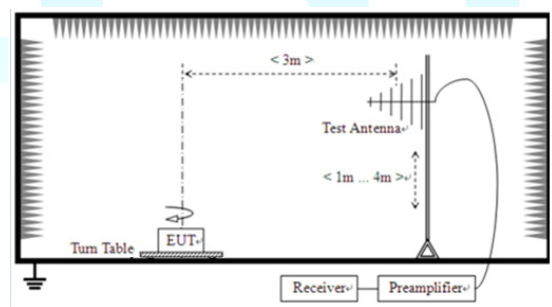
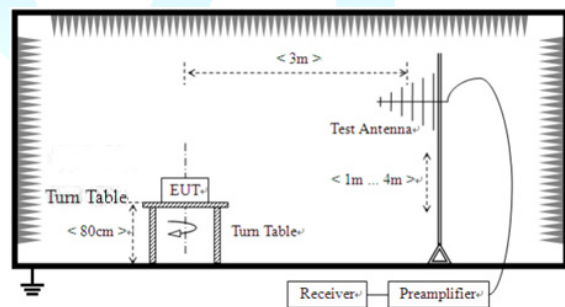
☒ For table-top equipment

☐ For floor standing equipment

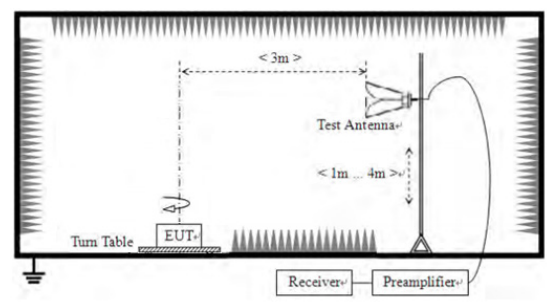
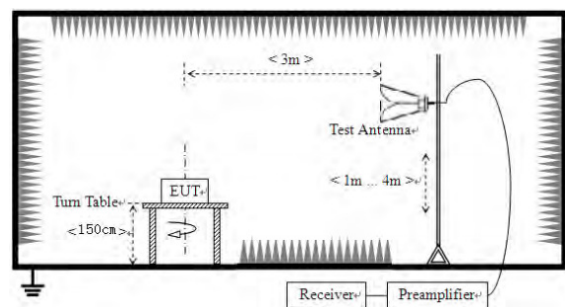
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



Test Instrument

GuangDong Set Sail Testing Co., Ltd.
101, No.19, Tianxin Hudie 1st Road, Huangjiang Town, Dongguan, Guangdong, China

Tel: (86)-0769-26622875

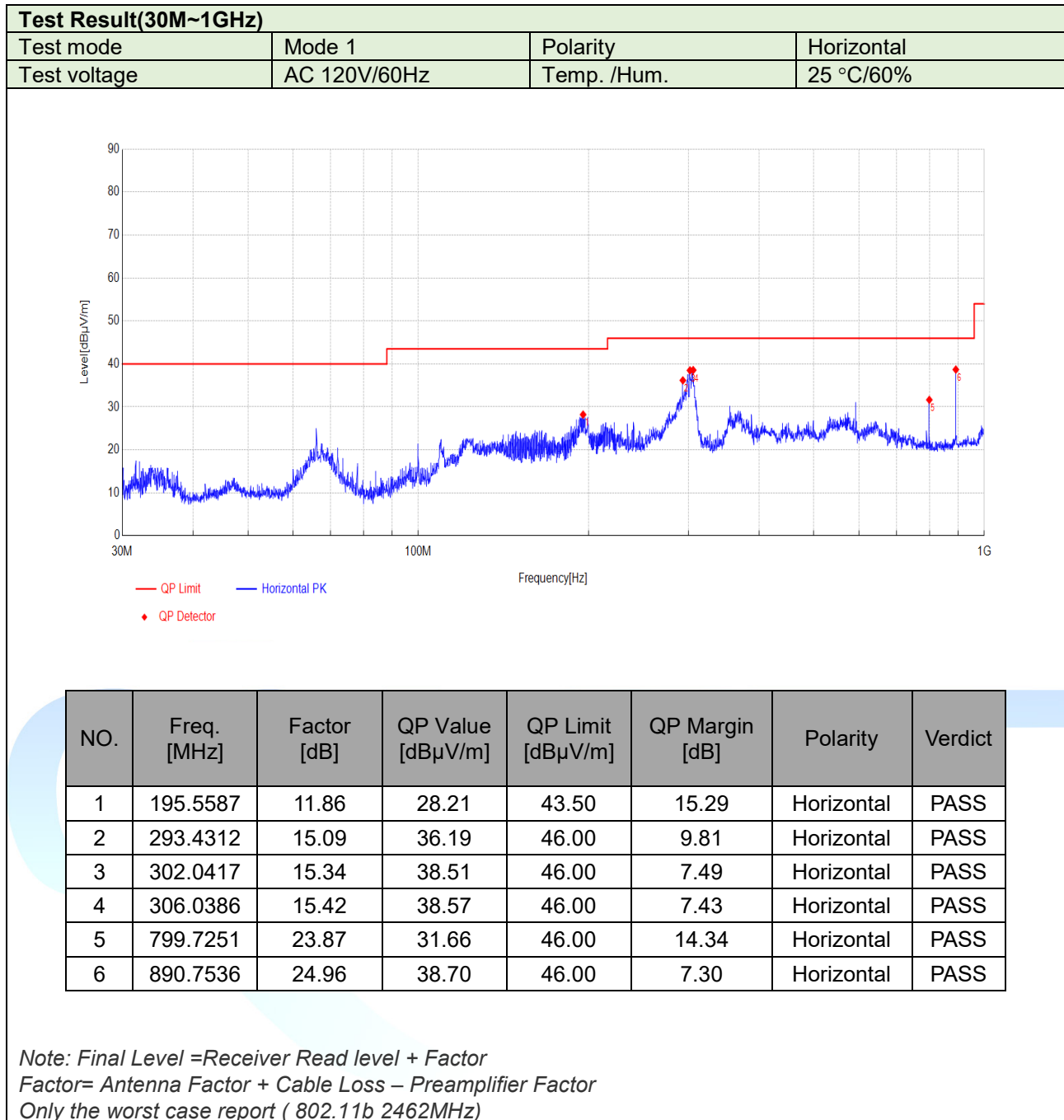
Email: sst@sstesting.cn

| |
|--|
| Refer to Annex A for details |
| Test Procedures |
| Test applies to KDB558074 D01 15.247 Meas Guidance v05r02 & C63.10 |
| Verdict |
| Pass |

Note: The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

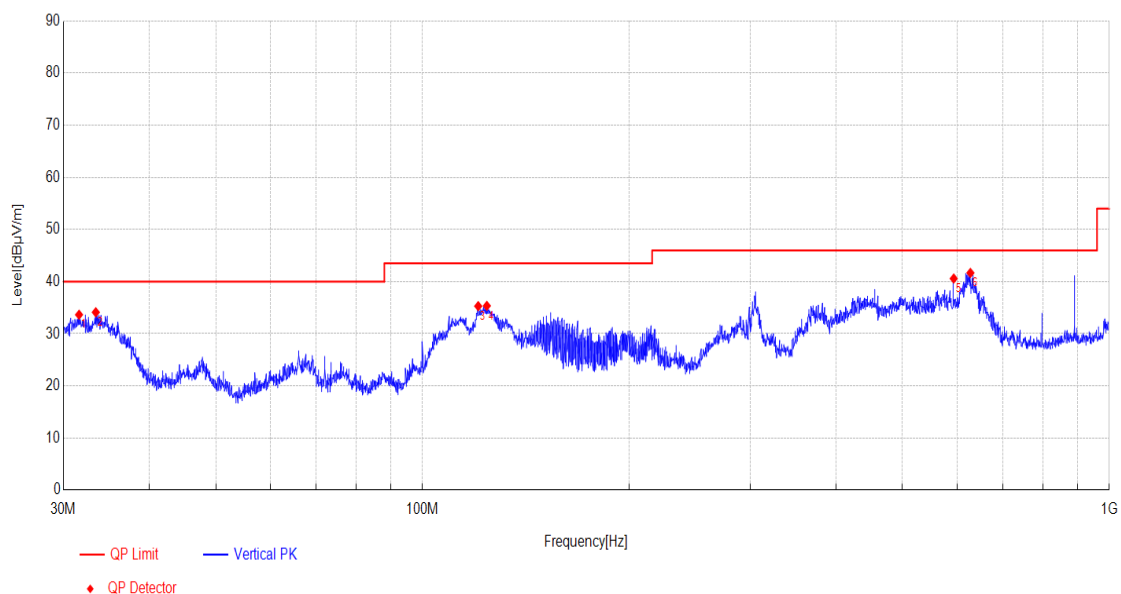
Note2: For those undesirable emission (in the Restricted Bands and out-of-band spurious) above 1GHz, According to KDB 558074 and ANSI C63.10 subclause 11, as an alternative, antenna-port conducted measurements in conjunction with cabinet emissions tests will be permitted to demonstrate compliance.





Test Result(30M~1GHz)

| | | | |
|--------------|--------------|-------------|-----------|
| Test mode | Mode 1 | Polarity | Vertical |
| Test voltage | AC 120V/60Hz | Temp. /Hum. | 25 °C/60% |



| NO. | Freq. [MHz] | Factor [dB] | QP Value [dBμV/m] | QP Limit [dBμV/m] | QP Margin [dB] | Polarity | Verdict |
|-----|-------------|-------------|-------------------|-------------------|----------------|----------|---------|
| 1 | 31.6198 | 11.11 | 33.66 | 40.00 | 6.34 | Vertical | PASS |
| 2 | 33.444 | 11.51 | 34.13 | 40.00 | 5.87 | Vertical | PASS |
| 3 | 120.5514 | 10.87 | 35.30 | 43.50 | 8.20 | Vertical | PASS |
| 4 | 124.0889 | 10.25 | 35.36 | 43.50 | 8.14 | Vertical | PASS |
| 5 | 593.6472 | 20.76 | 40.59 | 46.00 | 5.41 | Vertical | PASS |
| 6 | 627.897 | 21.19 | 41.67 | 46.00 | 4.33 | Vertical | PASS |

Note: Final Level = Receiver Read level + Factor
Factor = Antenna Factor + Cable Loss – Preamplifier Factor
Only the worst case repor (802.11b 2462MHz)

6.8 Conducted Emissions

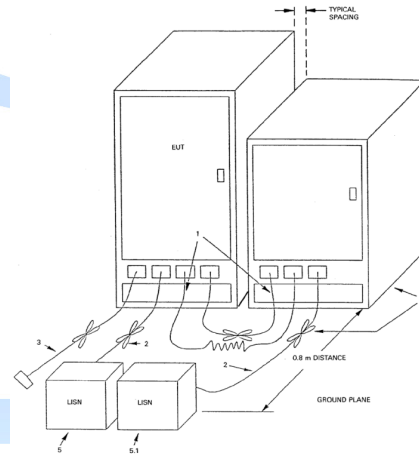
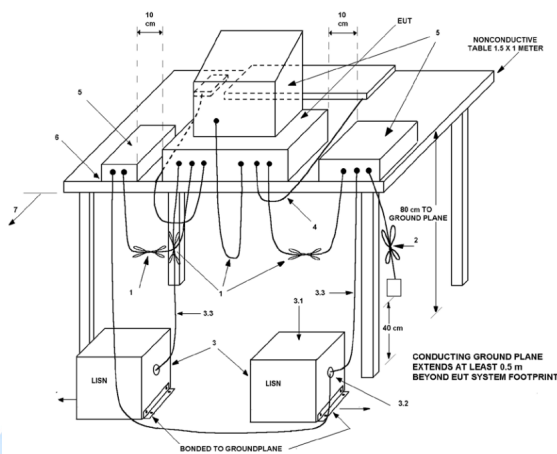
Limit

| Frequency (MHz) | Quasi-peak | Average |
|-----------------|------------|-----------|
| 0.15~0.50 | 66 to 56* | 56 to 46* |
| 0.50~5.0 | 56 | 46 |
| 5.0~30 | 60 | 50 |

*Decreases with the logarithm of the frequency.

If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out

Block diagram of Test Setup

☒ For table-top equipment☐ For floor standing equipment

Test Instrument

Refer to Annex A for details

Test Procedures

The measurement was performed in a shield room.

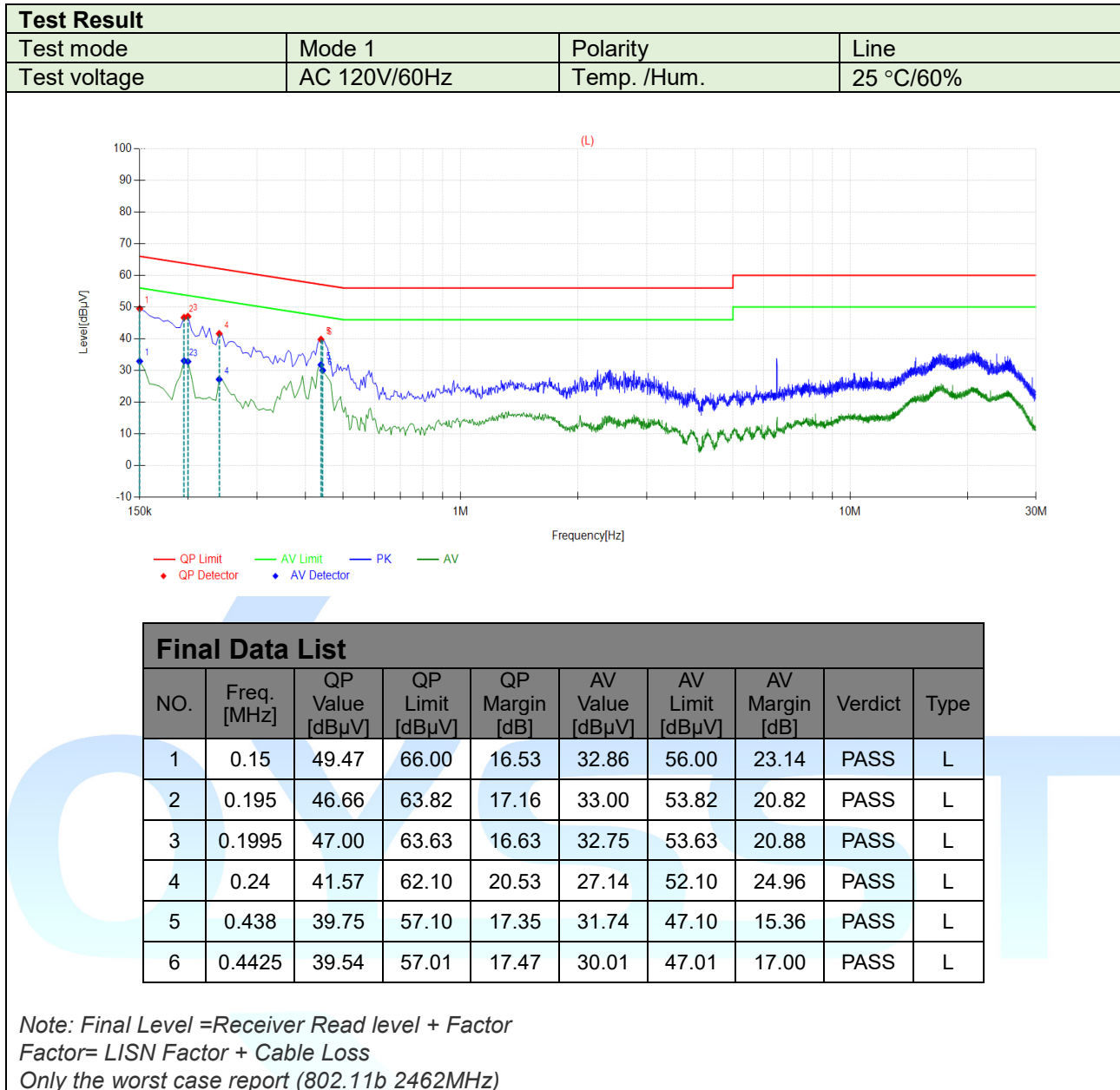
Measured levels of ac power-line conducted emission shall be the radio-noise voltage from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), as terminated into a 50 Ω EMI receiver or spectrum analyzer. All radio-noise voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord or calibrated extension cord by the use of mating plugs and receptacles on the EUT and LISN, if used. The manufacturer shall test equipment with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended. For measurements using a LISN, the 50 Ω measuring port is terminated into a 50 Ω EMI receiver or spectrum analyzer. All other ports are terminated into 50 Ω loads.

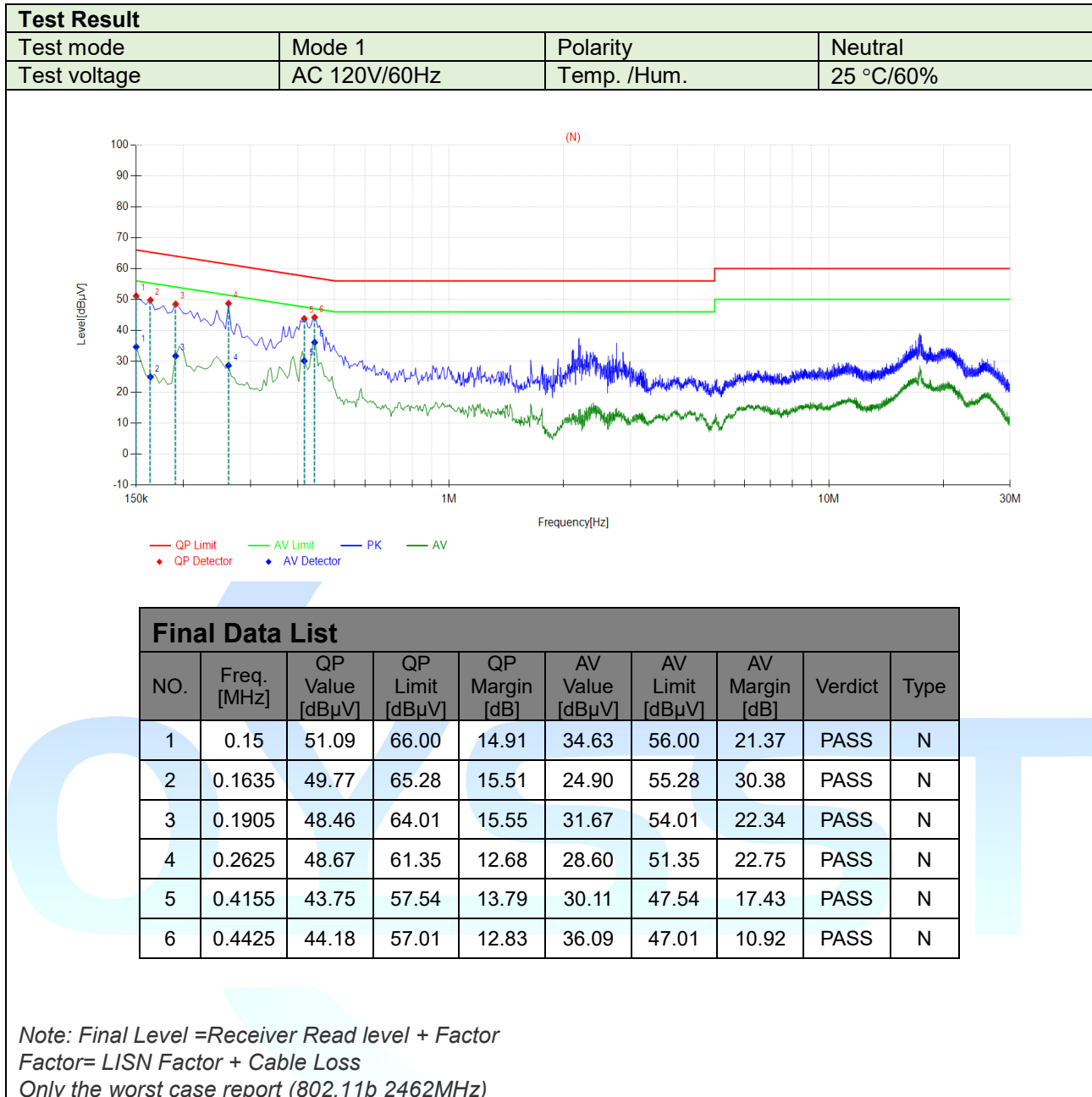
Table top devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

The bandwidth of the test receiver is set at 9 kHz.

Verdict

Pass





7 Test Setup Photo

Reference to the **appendix I** for details.

8 EUT Constructional Details

Reference to the **appendix II** for details.



Annex A --Test Instruments list

| Radiated Emission: | | | | | | |
|--------------------|------------------------------|--------------|-----------------|--------------|----------------------|------------|
| Equipment No. | Test Equipment | Manufacturer | Model No. | Serial No. | Cal. cycle | Cal.Date |
| SST-E-SAC001 | 3m Semi- Anechoic Chamber | BOST | 966 | / | 3 years | 2023.01.07 |
| SST-E-SCC001 | Control Room | BOST | 333 | / | 3 years | 2023.01.07 |
| SST-E-SAC002 | Breiband TRILOG Messantenne | Schwarzbeck | VULB 9162 | 00556 | 1 year | 2024.04.20 |
| SST-E-SAC004 | Broad-band Horn Antenna | Schwarzbeck | BBHA 9120 D | 02783 | 1 year | 2024.04.16 |
| SST-E-SCC003 | EMI Test Receiver | R&S | ESU 8 | 100372 | 1 year | 2024.04.16 |
| SST-E-SCC004 | Amplifier | Schwarzbeck | BBV 9744 | 00327 | 1 year | 2024.04.16 |
| SST-E-SCC015 | Amplifie (1-18GHz) | TSTPASS | LNA10180G45 | TSAM2303003 | 1 year | 2024.04.16 |
| SST-E-SCC016 | Amplifier (40G) | RFsystem | TRLA-180400G45B | 23060801 | 1 year | 2024.04.16 |
| SST-E-SAC006 | Broadband Horn Antenna (40G) | Schwarzbeck | BBHA9170 | 01306 | 1 year | 2024.04.17 |
| SST-E-RSC010 | Spectrum analyzer | R&S | FSV40-N | / | 1 year | 2024.04.16 |
| SST-E-SAC007 | Loop Antenna | Schwarzbeck | FMZB 1513-60B | 1513-60B 044 | 1 year | 2024.04.17 |
| SST-E-SAC005 | 5W 6dB attenuator | / | DC-6GHz | / | Internal calibration | / |
| SST-E-EMC006 | Thermohyrometer | KTJ | TA218A | 879030 | 1 year | 2024.04.18 |
| / | EMI Test Software | Tonscend | TS+ | / | / | / |

| Conducted Emission | | | | | | |
|--------------------|----------------------------|--------------|-----------|------------|----------------------|------------|
| Equipment No. | Test Equipment | Manufacturer | Model No. | Serial No. | Cal. cycle | Cal.Date |
| SST-E-CSC001 | Shielding Room | BOST | 854 | / | 3 year | 2023.01.07 |
| SST-E-CSC002 | EMI Test Receiver | R&S | ESR3 | 103057 | 1 year | 2024.04.16 |
| SST-E-CSC003 | LISN | R&S | ENV 216 | 102832 | 1 year | 2024.04.16 |
| SST-E-CSC004 | ISN | R&S | NTFM 8158 | 00347 | 1 year | 2024.04.16 |
| SST-E-CSC007 | Antenna port test assembly | / | DC-3GHz | / | Internal calibration | / |
| SST-E-EMC011 | Thermohyrometer | KTJ | TA218A | 879036 | 1 year | 2024.04.18 |
| / | EMI Test Software | Tonscend | TS+ | V4.0 | / | / |

| RF conducted | | | | | | |
|----------------|----------------------------------|------------------|------------|------------|------------|------------|
| Equipment No. | Test Equipment | Manufacturer | Model No. | Serial No. | Cal. cycle | Cal.Date |
| SST-E-RSC001 | Shielding Room | BOST | 543 | / | 3 year | 2023.01.07 |
| SST-E-RSC007 | Spectrum analyzer | keysight | N9020A | MY51280659 | 1 year | 2024.04.16 |
| SST-E-RSC008 | Analog signal source | Agilent | N5181A | MY48180054 | 1 year | 2024.04.16 |
| SST-E-RSC009 | Vector signal source | keysight | N5172B | MY57281610 | 1 year | 2024.04.16 |
| SST-E-EMC007 | Thermohygrometer | KTJ | TA218A | 879032 | 1 year | 2024.04.18 |
| SST-E-RSC010 | Spectrum analyzer | R&S | FSV40-N | / | 1 year | 2024.04.16 |
| SST-E-RSC015-1 | Power meter 1 | TST | TST V2 | / | 1 year | 2024.04.16 |
| / | Test Software | TST PASS | TST PASS | V2.0 | / | / |
| SST-S-CTH002 | Temperature and humidity chamber | Guangdong fenghe | FH-TH-1000 | FH24032017 | 1 year | 2024.04.26 |

▶▶▶ END OF REPORT ◀◀◀

