TEST REPORT



DT&C Co., Ltd.

42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042 Tel: 031-321-2664, Fax: 031-321-1664

1. Report No.: DREFCC2007-0180

2. Client / Applicant

· Name : Bluebird Inc.

· Address : 3F, 115, Irwon-ro, Gangnam-gu, Seoul, Republic of Korea

3. Use of Report: Grant of Certification

4. Product Name / Model Name : Enterprise-Value Full Touch Handheld Computer / VF550

(FCC ID / IC ID : SS4VF550X / 22515-VF550)

5. Test Standard: ANSI C63.4: 2014

FCC Part 15 Subpart B

(Other Class B digital devices & peripherals)

ICES-003: 2016 CAN/CSA CISPR 22-10

6. Date of Test: Jun. 19. 2020 ~ Jun. 23. 2020

8. Testing Environment: Temperature (22 ~ 23) °C, Humidity (46 ~ 55) % R.H.

9. Test Result: Refer to the attached Test Result

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

Affirmation

Tested by

Name:

ChanGeun Lee

Reviewed by

Name:

KyoungHwan Bae

Jun. 23, 2020

DT&C Co., Ltd.

Not abided by KS Q ISO / IEC 17025 and KOLAS accreditation.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net



IC ID : 22515-VF550 FCC ID : SS4VF550X

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1. General Remarks

This report contains the result of tests performed by:

DT&C Co., Ltd.

42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042 http://www.dtnc.net

Tel: +82-31-321-2664 Fax: +82-31-321-1664

2. Test Laboratory

DT&C Co., Ltd. has been accredited / filed / authorized by the agencies listed in the following table;

| abic, | | | | |
|---------------|--------------|-----------------------|--|-------------------------|
| Certificate | Nation | Agency | Code | Remark |
| | Korea | KOLAS | 393 | ISO/IEC 17025 |
| Accreditation | South Africa | SABS | 0006 | ISO/IEC 17025 |
| | Ghana | NCA | NCA agreement 23rd,Oct,2018 | - |
| | USA | FCC | KR0034 101842 678747, 596748, 804488, 165783 | Accredited 2.948 Listed |
| | Canada | IC 5740A-3 5740A-4 | | Registered |
| Site Filing | Japan | VCCI | C-1427, R-3385, R-14076, R-4180, R-4496, T-1442, G-10338, G-10754, G-10815, G-20051 | Registered |
| | Korea | KC | KR0034 | Designation |
| Certification | Germany | TUV | CARAT 089112 0006 Rev.00 | ISO/IEC 17025 |
| | Russia | RMRS | 17.10189.296 | ISO/IEC 17025 |

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competent of calibration and testing laboratory".



3. General Information of EUT

| Applicant | Bluebird Inc. 3F, 115, Irwon-ro, Gangnam-gu, Seoul, Republic of Korea | | | | | |
|-------------------------------|---|--|--|--|--|--|
| Manufacturer | Bluebird Inc. 3F, 115, Irwon-ro, Gangnam-gu, Seoul, Republic of Korea | | | | | |
| Factory 1 | Bluebird Inc. (SSang-young IT Twin tower-B 7~8F), 531, Dunchon-daero, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea | | | | | |
| Factory 2 | TOP INTERCUBE ELECTRONICS VINA CO., LTD (TEV) Lot C1, Ba thien II Industrial park, Thien Ke Ward, Binh Xuyen District, Vinh Phuc Province, Vietnam | | | | | |
| Product Name | Enterprise-Value Full Touch Handheld Computer | | | | | |
| Model Name | VF550 | | | | | |
| Add Model Name | None | | | | | |
| Add Model Difference | None | | | | | |
| Maximum Internal Frequency | 1,800 MHz | | | | | |
| Rated Power | DC 3.85 V | | | | | |
| FCC ID | SS4VF550X | | | | | |
| IC ID | 22515-VF550 | | | | | |
| Remarks | Wireless Frequency - WCDMA 2: 1852.4 ~ 1907.6 MHz - WCDMA 4: 826.4 ~ 846.6 MHz - WCDMA 5: 1712.4 ~ 1752.6 MHz - LTE Band 2: 1850.7 ~ 1909.3 MHz - LTE Band 4: 1710.7 ~ 1799.3 MHz - LTE Band 5: 824.7 ~ 848.3 MHz - LTE Band 12: 779.5 ~ 784.5 MHz - LTE Band 13: 699.7 ~ 715.3 MHz - LTE Band 66: 1710.7 ~ 1799.3 MHz - LTE Band 71: 665.5 ~ 695.5 MHz - WIFI 2.4 G: 2412 ~ 2462 MHz - WIFI 5 G: 5150 ~ 5850 MHz | | | | | |

Related Submittal(s) / Grant(s)
Original submittal only

IC ID : 22515-VF550

Report No.: DREFCC2007-0180 FCC ID : SS4VF550X

4. EUT Operations and Test Configurations

4.1 Principle of Configuration Selection

Emission:

The equipment under test (EUT) was configured to measure its highest possible radiation level.

The test modes were adapted accordingly in reference to the instructions for use.

For each testing mode different configurations were used,

Refer to the individual tests.

4.2 EUT Operation Mode

| No. | Mode | Description |
|-----|-----------------|--|
| 1 | MP4 | EUT is in the state of playing MP4 files continuously. |
| 2 | Rear Camera | The EUT activates the mounted camera to record images continuously. |
| 3 | Barcode | The EUT uses an internal application and uses barcodes continuously. |
| 4 | Charging | EUT receives DC 5 V from Adapter(EUT) and observes the state of charge and proceeds the test |
| 5 | Cradle Charging | EUT receives DC 4.36 V from Cradle and observes the state of charge and proceeds the test |
| 6 | PC Link | EUT monitors the state of data transmission by connecting with a laptop and proceeds with the test |

4.3 Test Configuration Mode

| No. | Mode | Description |
|-----|-----------------|---|
| 1 | MP4 | EUT connects to Earphones EUT connects to Micro SD Card |
| 2 | Rear Camera | EUT connects to Earphones EUT connects to Micro SD Card |
| 3 | Barcode | EUT connects to Earphones EUT connects to Micro SD Card |
| 4 | Charging | EUT connects to Earphones EUT connects to Micro SD Card EUT connects to Adapter(EUT) Adapter(EUT) connects to AC Main |
| 5 | Cradle Charging | EUT connects to Micro SD Card EUT connects to Cradle Cradle connects to Cradle Adapter Cradle Adapter connects to AC Main Note: Cradle Charging test is conducted after removing the AUX port of the EUT toward the charging side, so it is impossible to connect earphones. |
| 6 | PC Link | EUT connects to Earphones EUT connects to Micro SD Card EUT connects to Laptop Laptop connects to Laptop Adapter Laptop Adapter connects to AC Main |



4.4 Supported Equipment

| Used* | Product Type | Manufacturer | Model | Remarks |
|-------|----------------|---|-----------------|----------------------------------|
| EUT | AC/DC ADAPTER | Kuantech (Cambodia) Corporation Limited | KSA29B0500200D5 | None |
| AE | Laptop | Dell | P60F | 21366174134 |
| AE | Laptop Adapter | Lite-on Technology Co.,Ltd | LA65NM130 | CN-0G4X7T-LOC00-92M-15B3 -A05 |
| AE | Micro SD Card | RIDATA | 2GB | Y02GA53M8D3129028TW |
| AE | Earphones | N/A | N/A | SONY |
| AE | Cradle | Bluebird Inc. | SHARECRD-1S01 | N/A |
| AE | Cradle Adapter | Shenzhen kuanten Limited | KT36W090300B3 | N/A |

^{*}Abbreviations:

AE - Auxiliary/Associated Equipment, or

SIM - Simulator

4.5 EUT In/Output Port

(MODE 1,2,3)

| Name | Type* | Cable Max. >3 m | Cable Shielded | Cable Back shell | Remarks |
|--------------------|-------|--------------------|-------------------|---------------------|---------|
| Micro SD Card Slot | I/O | - | - | - | None |
| AUX | I/O | 1.9 | Non shield | Plastic | None |

*Abbreviations:

AC = AC Power Port

DC = DC Power Port

N/E = Non-Electrical

I/O = Signal Input or Output PortTP = Telecommunication Ports

(MODE 4)

| Name | Type* | Cable Max. >3 m | Cable Shielded | Cable Back shell | Remarks |
|--------------------|-------|--------------------|-------------------|---------------------|--------------|
| Micro SD Card Slot | I/O | - | - | - | None |
| AUX | I/O | 1.9 | Non shield | Plastic | None |
| USB C | DC | 1.5 | Shield | Plastic | None |
| USB A | AC | - | - | - | Adapter(EUT) |

*Abbreviations:

AC = AC Power Port

DC = DC Power Port

N/E = Non-Electrical

I/O = Signal Input or Output Port
TP = Telecommunication Ports



(MODE 5)

| Name | Type* | Cable Max. >3 m | Cable Shielded | Cable Back shell | Remarks |
|--------------------|-------|--------------------|-------------------|---------------------|---------|
| Micro SD Card Slot | I/O | - | - | - | None |
| PIN | DC | - | - | - | None |

*Abbreviations:

AC = AC Power Port DC = DC Power Port N/E = Non-Electrical

I/O = Signal Input or Output Port TP = Telecommunication Ports

(MODE 6)

| Name | Type* | Cable Max. >3 m | Cable Shielded | Cable Back shell | Remarks |
|--------------------|-------|--------------------|-------------------|---------------------|---------|
| Micro SD Card Slot | I/O | - | - | - | None |
| AUX | I/O | 1.9 | Non shield | Plastic | None |
| USB C | DC | 1.5 | Shield | Plastic | None |

*Abbreviations:

AC = AC Power Port DC = DC Power Port N/E = Non-Electrical

I/O = Signal Input or Output PortTP = Telecommunication Ports

4.6 Test Voltage and Frequency

| Case | Voltage (V) | Frequency (Hz) | Phases | Remarks |
|------|----------------|-------------------|--------|---------|
| 1 | AC 120 | 60 | Single | None |
| 2 | DC 3.85 | - | - | Battery |



5. Test Summary

| Test Items | Applied Standards | Results |
|-------------------------|--|---------|
| Conducted Disturbance | CAN/CSA CISPR 22-10 ANSI C63.4:2014 | С |
| Radiated Disturbance | CAN/CSA CISPR 22-10 ANSI C63.4:2014 | С |
| C=Comply N/C=Not Comply | y N/T=Not Tested N/A=Not Applicable | |
| Note) | | |

The data in this test report are traceable to the national or international standards.

- Conducted Disturbance

| Frequency [MHz] | Pol. | Result [dBµV/m] | Detector | Limit [dBµV/m] | Margin [dB] |
|--------------------|------|--------------------|-----------------|-------------------|----------------|
| 0.51059 | L1 | 34.77 | Cispr - Average | 46.00 | 11.23 |

-Radiated Disturbance

| Frequency [MHz] | Pol. | Result [dBµV/m] | Detector | Limit [dBµV/m] | Margin [dB] |
|--------------------|------|--------------------|-----------------|-------------------|----------------|
| 39989.200 | Н | 46.61 | Cispr - Average | 54.00 | 7.39 |

6. Test Environment

| Test Items | Test date (YYYY-MM-DD) | Temp. (°C) | Humidity (% R.H.) | Pressure (kPa) |
|-----------------------|---------------------------|---------------|----------------------|-------------------|
| Conducted Disturbance | 2020-06-19 | 23 | 55 | 100.3 |
| Radiated Disturbance | 2020-06-22 2020-06-23 | 22 22 | 52 46 | - |



7. Test Results: Emission

7.1 Conducted Disturbance

| ANSI C63.4, CAN/CSA-CISPR 22 | je | Result | | | | | |
|--|-------------|--------------------------------------|---------|-------------------|---|--|--|
| Method: The AMN placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0,8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN. The measuring port of the LISN for EUT was connected to spectrum analyzer. Using conducted emission test software, the emissions were scanned with peak detector mode. After scanning over the frequency range, suspected emissions were selected to perform final measurement. When performing final measurement, the receiver was used which has Quasi-Peak detector and CISPR Average detector. For (0.15 ~ 30) MHz frequency range, Quasi-Peak detector with 10 kHz RBW and 30 kHz VBW was used. By varying the configuration of the test sample and the cable routing it was attempted to maximize the emission. | | | | | | | |
| Fully configured samp | | Frequency range on each side of line | | Measurement Point | | | |
| er the following freq | uency range | 150 kHz to 30 MHz | | Mains | | | |
| EUT mod | le | Test configuration mo | 4, 5, 6 | | | | |
| (Refer to claus | ses 4) | EUT Operation mode 4, 5, | | | 6 | | |
| | | Limits – Class A | | | | | |
| Frequency (MHz) | | Limit | dΒμV | | | | |
| Frequency (WH2) | | Quasi-Peak | | Average | | | |
| 0.15 to 0.50 | | 79 | | 66 | | | |
| 0.50 to 30 | | 73 | | 60 | | | |
| · | | Limits – Class B | | | | | |
| Francisco (MIII-) | | Limit | dΒμV | | | | |
| Frequency (MHz) | | | | | | | |
| 0.15 to 0.50 | | 66 to 56 | | 56 to 46 | | | |
| 0.50 to 5 | | 56 | | 46 | | | |
| 5 to 30 | | 60 | | 50 | | | |

| | Measurement Instrument | | | | | | | | | |
|--|-------------------------|---------------|--------|------------|------------|--|--|--|--|--|
| Description Model Manufacturer Identifier Cal. Date Cal. Due | | | | | | | | | | |
| MEASUREMENT SOFTWARE | EMI-C VER. 2.00.0171 | TSJ | N/A | N/A | N/A | | | | | |
| EMI TEST RECEIVER | ESCI | ROHDE&SCHWARZ | 100364 | 2020.02.25 | 2021.02.25 | | | | | |
| TWO-LINE V-NETWORK | ENV216 | ROHDE&SCHWARZ | 101979 | 2019.12.06 | 2020.12.06 | | | | | |
| TRANSIENT LIMITER | TL-B0930A | EMCIS | 11002 | 2019.08.30 | 2020.08.30 | | | | | |



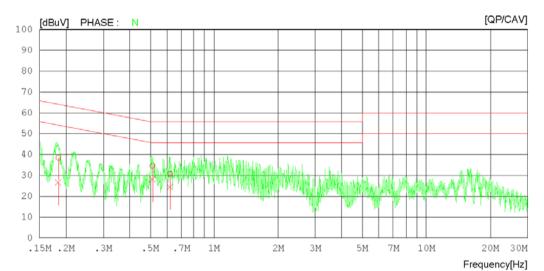
| Mains terminal | disturbance | voltage _Measurement data | |
|-------------------------|-------------|---------------------------|----|
| Test configuration mode | 4 | EUT Operation mode | 4 |
| Test voltage (V) | 120 | Test Frequency (Hz) | 60 |

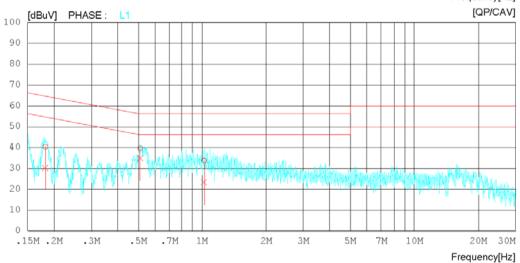
Results of Conducted Emission

DT&C Date 2020-06-19

Order No. Power Supply Temp/Humi/Atm Test Condition DTNC2004-03684,DTNC2006-04883 120 VAC 60 Hz 23 'C 55 % R.H. 100.3 kPa Charging Mode

Memo







Results of Conducted Emission

DT&C Date 2020-06-19

Order No. Power Supply Temp/Humi/Atm Test Condition

DTNC2004-03684,DTNC2006-04883 120 VAC 60 Hz

120 VAC 60 Hz 23 'C 55 % R.H. 100.3 kPa Charging Mode

Memo

| NO | FREQ [MHz] | READING QP CAV [dBuV][dBuV | C.FACTOR] [dB] | RESULT QP CAV [dBuV][dBuV] | LIMIT QP CAV [dBuV][dBuV] | MARGIN QP CAV [dBuV][dBuV] | PHASE |
|----|---------------|----------------------------------|--------------------|----------------------------------|---------------------------------|----------------------------------|-------|
| 1 | 0.18433 | 18.44 6.44 | 20.10 | 38.54 26.54 | 64.29 54.29 | 25.75 27.75 | N |
| 2 | 0.51145 | 14.42 7.78 | 20.24 | 34.66 28.02 | 56.00 46.00 | 21.34 17.98 | N |
| 3 | 0.62050 | 10.58 4.13 | 20.22 | 30.80 24.35 | 56.00 46.00 | 25.20 21.65 | N |
| 4 | 0.18227 | 20.11 10.06 | 20.12 | 40.23 30.18 | 64.38 54.38 | 24.15 24.20 | L1 |
| 5 | 0.51059 | 19.23 14.53 | 20.24 | 39.47 34.77 | 56.00 46.00 | 16.53 11.23 | L1 |
| 6 | 1.02040 | 13.51 2.90 | 20.13 | 33.64 23.03 | 56.00 46.00 | 22.36 22.97 | L1 |



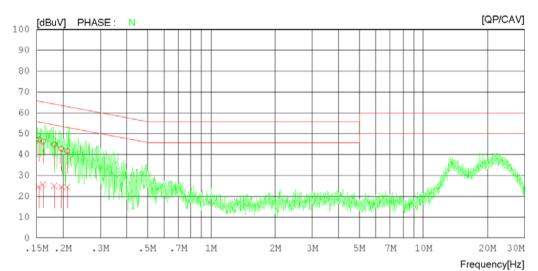
| Mains terminal | Mains terminal disturbance voltage _Measurement data | | | | | | | | |
|-------------------------|--|---------------------|----|--|--|--|--|--|--|
| Test configuration mode | 5 | EUT Operation mode | 5 | | | | | | |
| Test voltage (V) | 120 | Test Frequency (Hz) | 60 | | | | | | |

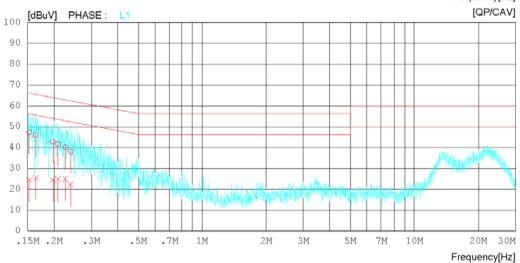
Results of Conducted Emission

DT&C Date 2020-06-19

Order No. Power Supply Temp/Humi/Atm Test Condition DTNC2004-03684,DTNC2006-04883 120 VAC 60 Hz 23 'C 55 % R.H. 100.3 kPa Cradle Charging Mode

Memo







Results of Conducted Emission

DT&C Date 2020-06-19

Order No. Power Supply Temp/Humi/Atm Test Condition

DTNC2004-03684,DTNC2006-04883 120 VAC 60 Hz 23 'C 55 % R.H. 100.3 kPa Cradle Charging Mode

Memo

| NO | FREQ [MHz] | READ QP [dBuV] | CAV | C.FACTOR | RESI QP [dBuV] | CAV | LIM QP [dBuV] | IIT CAV [dBuV] | QP | GIN CAV [dBuV] | PHASE |
|----|---------------|----------------------|------|----------|----------------------|-------|---------------------|----------------------|-------|----------------------|-------|
| 1 | 0.15419 | 27.28 | 4.63 | 19.97 | 47.25 | 24.60 | 65.77 | 55.77 | 18.52 | 31.17 | N |
| 2 | 0.16150 | 26.28 | 5.26 | 20.08 | 46.36 | 25.34 | 65.39 | 55.39 | 19.03 | 30.05 | N |
| 3 | 0.18198 | 24.72 | 4.90 | 20.12 | 44.84 | 25.02 | 64.40 | 54.40 | 19.56 | 29.38 | N |
| 4 | 0.19645 | 22.80 | 4.75 | 20.02 | 42.82 | 24.77 | 63.76 | 53.76 | 20.94 | 28.99 | N |
| 5 | 0.20968 | 21.81 | 4.61 | 19.96 | 41.77 | 24.57 | 63.22 | 53.22 | 21.45 | 28.65 | N |
| 6 | 0.15292 | 27.24 | 4.50 | 19.95 | 47.19 | 24.45 | 65.84 | 55.84 | 18.65 | 31.39 | L1 |
| 7 | 0.16412 | 25.76 | 5.25 | 20.12 | 45.88 | 25.37 | 65.25 | 55.25 | 19.37 | 29.88 | L1 |
| 8 | 0.19720 | 22.69 | 4.36 | 20.02 | 42.71 | 24.38 | 63.73 | 53.73 | 21.02 | 29.35 | L1 |
| 9 | 0.20850 | 21.54 | 4.63 | 19.97 | 41.51 | 24.60 | 63.26 | 53.26 | 21.75 | 28.66 | L1 |
| 10 | 0.22613 | 20.16 | 4.90 | 19.90 | 40.06 | 24.80 | 62.59 | 52.59 | 22.53 | 27.79 | L1 |
| 11 | 0.23948 | 18.13 | 2.33 | 19.85 | 37.98 | 22.18 | 62.11 | 52.11 | 24.13 | 29.93 | L1 |



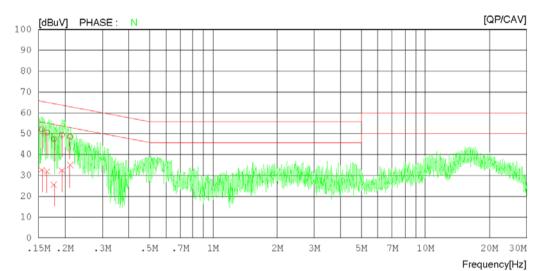
| Mains terminal | Mains terminal disturbance voltage _Measurement data | | | | | | | | |
|-------------------------|--|---------------------|----|--|--|--|--|--|--|
| Test configuration mode | 6 | EUT Operation mode | 6 | | | | | | |
| Test voltage (V) | 120 | Test Frequency (Hz) | 60 | | | | | | |

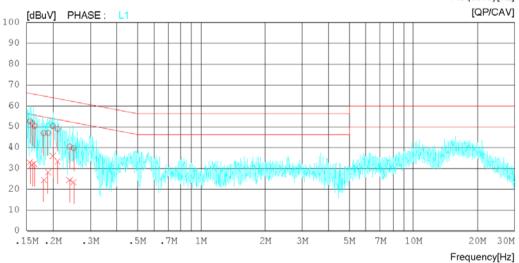
Results of Conducted Emission

DT&C Date 2020-06-19

Order No. Power Supply Temp/Humi/Atm Test Condition DTNC2004-03684,DTNC2006-04883 120 VAC 60 Hz 23 'C 55 % R.H. 100.3 kPa PC Link Mode

Memo







IC ID: 22515-VF550 Report No.: DREFCC2007-0180 FCC ID: SS4VF550X

Results of Conducted Emission

DT&C Date 2020-06-19

Order No. Power Supply Temp/Humi/Átm Test Condition

DTNC2004-03684,DTNC2006-04883 120 VAC 60 Hz 23 'C 55 % R.H. 100.3 kPa PC Link Mode

Memo

LIMIT : CISPR32_B QP CISPR32_B AV

| NO | FREQ | READING QP CAV [dBuV][dBuV] | C.FACTOR | RESULT QP CAV [dBuV] [dBuV] | LIM QP [dBuV] | IIT CAV [dBuV] | MARGIN QP CAV [dBuV][dBuV] | PHASE |
|----|---------|-----------------------------------|----------|-----------------------------------|---------------------|----------------------|----------------------------------|-------|
| 1 | | 32.20 12.70 | 19.99 | 52.19 32.69 | 65.70 | 55.70 | 13.51 23.01 | N |
| 2 | 0.16468 | 30.43 12.01 | 20.13 | 50.56 32.14 | 65.22 | 55.22 | 14.67 23.08 | N |
| 3 | 0.17784 | 27.37 5.59 | 20.15 | 47.52 25.74 | 64.59 | 54.59 | 17.07 28.85 | N |
| 4 | 0.19377 | 29.51 12.42 | 20.04 | 49.55 32.46 | 63.87 | 53.87 | 14.32 21.41 | N |
| 5 | 0.21168 | 28.61 15.11 | 19.95 | 48.5635.06 | 63.14 | 53.14 | 14.58 18.08 | N |
| 6 | 0.15590 | 32.41 12.93 | 20.00 | 52.41 32.93 | 65.68 | 55.68 | 13.27 22.75 | L1 |
| 7 | 0.15973 | 31.52 11.75 | 20.06 | 51.58 31.81 | 65.48 | 55.48 | 13.90 23.67 | L1 |
| 8 | 0.16385 | 30.07 12.03 | 20.12 | 50.19 32.15 | 65.27 | 55.27 | 15.08 23.12 | L1 |
| 9 | 0.18057 | 26.59 4.16 | 20.13 | 46.72 24.29 | 64.46 | 54.46 | 17.74 30.17 | L1 |
| 10 | 0.18994 | 26.71 8.12 | 20.07 | 46.78 28.19 | 64.04 | 54.04 | 17.26 25.85 | L1 |
| 11 | 0.19956 | 30.15 15.61 | 20.00 | 50.15 35.61 | 63.63 | 53.63 | 13.48 18.02 | L1 |
| 12 | 0.21053 | 28.80 13.17 | 19.96 | 48.7633.13 | 63.18 | 53.18 | 14.42 20.05 | L1 |
| 13 | 0.23996 | 20.48 4.22 | 19.85 | 40.33 24.07 | 62.10 | 52.10 | 21.77 28.03 | L1 |
| 14 | 0.25044 | 19.72 3.41 | 19.81 | 39.53 23.22 | 61.74 | 51.74 | 22.21 28.52 | L1 |

Calculation

N: Neutral phase, L1: Live phase

C.FACTOR(dB): Pulse Limiter(dB) + Cable loss(dB) + Insertion loss of LISN(dB)

Result(dBμV) : Reading Value(dBμV) + C.FACTOR(dB)

Margin(dB) : Limit(dBμV) - Result(dBμV)



7.2 Radiated Disturbance

| ANSI C63.4, CAN/CSA-CISPR 22 | | Radiated di | sturbance | 30 MHz | z –30 GHz** | | Result | |
|--|--|--|--|--|---|--|-----------|--|
| the receive antenr measurements we height from 1 to 4 where applicable. (RBW = 120 kHz B | GHz and 3 as located a located a located are then per m. All freque For final mean and width) V = 1 MHz | meter above 1GHz. It various heights in heights in heights in heights in heights were investigeasurement below 1 | The EUT was crizontal and e EUT 360° ated in both GHz frequencesuremer | as rotated d vertical and adju horizontancy range nt above 1 | d 360° about its azimu polarities. Final sting the receive ante al and vertical antenna e, Quasi-Peak detecto I GHz frequency rang | nth with nna a polarity, r with | Comply | |
| EUT mode | | Test configu | ration mod | le | 1, 2, 3 | , 4, 5, 6 | | |
| (Refer to clauses | 4) | EUT Opera | ation mode | | 1, 2, 3 | , 4, 5, 6 | | |
| | | Radiated Disturb | ance belov | v 1 000 N | 1Hz | | | |
| F | | | Qu | asi-peak | limit dBμV/m | | | |
| Frequency rang | е | Clas | ss A | | Cla | ss B | | |
| (MHz) | | 3 m distance | 10 m dis | stance | 3 m di | istance | | |
| 30 to 88 | | 49.1 | 39. | 1 | 4 | 40 | | |
| 88 to 216 | | 53.5 | 43. | 5 | 4: | 43.5 | | |
| 216 to 960 | | 56.4 | 46. | 4 | 4 | 46 | | |
| 960 to 1 000 | | 59.5 | 49. | 5 | 5 | | | |
| According to 15.109(g), as comply with the standards (CISPR), Pub. 22 shown. | | | | | | | | |
| Frequency rang | е | | Qu | asi-peak | limit dBµV/m | | | |
| (MHz) | | Class A (10 | m distance |) | Class B (10 | m distan | ce) | |
| 30 to 230 | | 4 | 0 | | 3 | 30 | | |
| 230 to 1 000 | | 4 | 7 | | 3 | 37 | | |
| Radiate | ed Disturb | ance for above 1 00 | 00 MHz at a | measur | ement distance of 3 | m | | |
| Frequency rang | е | Peak limi | t dBµV/m | | Average lii | mit dBµV | m | |
| (GHz) | | Class A | Class | s B | Class A | Cla | ass B | |
| 1 to 40 | | 80 | 74 | | 60 | | 54 | |
| | | | | e measur | ements are listed be | low. | | |
| | | d or used in the de rates or tunes (MHz | | Upp | er frequency of mea (MHz) | suremen | t range | |
| | Below 1 | | | | 1 000 | | | |
| | 108 – 5 | 00 | | | 2 000 | | | |
| | 500 – 1 (| 000 | | | 5 000 | | | |
| | Above 1 | 000 | | 5 th harn | nonic of the highest fo whichever is | | or 40 GHz | |



| IC ID : 22515-VF550 | Report No.: DREFCC2007-0180 | FCC ID : SS4VF550X

| Measurement Instrument | | | | | | | | | | |
|------------------------------|----------------------|-----------------|------------|------------|------------|--|--|--|--|--|
| Description | Model | Manufacturer | Identifier | Cal. Date | Cal. Due | | | | | |
| MEASUREMENT SOFTWARE | EMI-R VER. 2.00.0177 | TSJ | N/A | N/A | N/A | | | | | |
| EMI TEST RECEIVER | ESU40 | ROHDE&SCHWARZ | 100525 | 2019.12.20 | 2020.12.20 | | | | | |
| TRILOG BROAD BAND ANTENNA | VULB9160 | SCHWARZBECK | 9160-3339 | 2018.10.22 | 2020.10.22 | | | | | |
| 6DB ATTENUATOR | 8491B | HP | 18403 | 2018.10.22 | 2020.10.22 | | | | | |
| LOW NOISE PRE AMPLIFIER | MLA-100K01-B01-26 | TSJ | 1252741 | 2020.02.13 | 2021.02.13 | | | | | |
| HORN ANTENNA | 3117 | ETS-LINDGREN | 00152093 | 2020.03.26 | 2021.03.26 | | | | | |
| PRE AMPLIFIER | 8449B | H.P | 3008A00887 | 2019.08.26 | 2020.08.26 | | | | | |
| HORN ANTENNA WITH | EM-6969 | ELECTRO-METRICS | 156 | 2019.02.13 | 2021.02.13 | | | | | |
| PREAMPLIFIER | MLA-0618-B03-34 | TSJ | 1785642 | 2019.12.31 | 2020.12.31 | | | | | |
| HORN ANTENNA WITH | 3116C | ETS-LINDGREN | 00213177 | 2019.12.12 | 2020.12.12 | | | | | |
| PREAMPLIFIER | JS44-18004000-35-8P | L3 NARDA-MITEQ | 2046884 | 2019.11.04 | 2020.11.04 | | | | | |

(NOTE : THE MEASUREMENT ANTENNAS WERE CALIBRATED IN ACCORDANCE TO THE REQUIREMENTS OF C63.5-2017.)



| Radiated disturbance at (30 ~ 1000) MHz _Measurement data | | | | | | | | |
|---|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode | 1 | EUT Operation mode | 1 | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-22

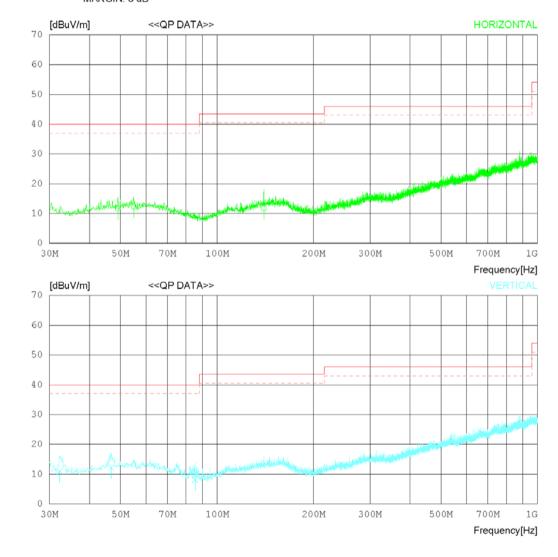
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883 Battery

Battery 22 'C 52 %.R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) MARGIN: 3 dB





IC ID: 22515-VF550 Report No.: DREFCC2007-0180 FCC ID: SS4VF550X

RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 %.R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) MARGIN: 3 dB

| No | . FREQ | READING | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|-------------|-----------------------------|-------------------------|-------------------------|----------------------|-------------------------|----------|-------------------------|-------------------------|-------------------|------------------|
| | [MHz] | QP [dBuV] | FACTOR [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 1 2 3 | 49.036 54.978 139.972 | 19.40 19.10 18.60 | 18.20 18.99 18.70 | 0.72 0.79 1.24 | 26.62 26.64 26.78 | 12.24 | 40.00 40.00 43.50 | 28.30 27.76 31.74 | 400 202 196 | 44 351 285 |
| | Vertical | | | | | | | | | |
| 4 5 6 | 32.304 46.854 85.532 | 21.40 20.20 20.10 | 15.43 17.90 13.55 | 0.64 0.70 1.27 | 26.53 26.60 26.78 | 12.20 | 40.00 40.00 40.00 | 29.06 27.80 31.86 | 100 101 105 | 166 352 86 |



| Radiated disturbance at (1 ~ 6) GHz _ Peak Measurement data | | | | | | | | |
|---|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode 1 EUT Operation mode 1 | | | | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-22

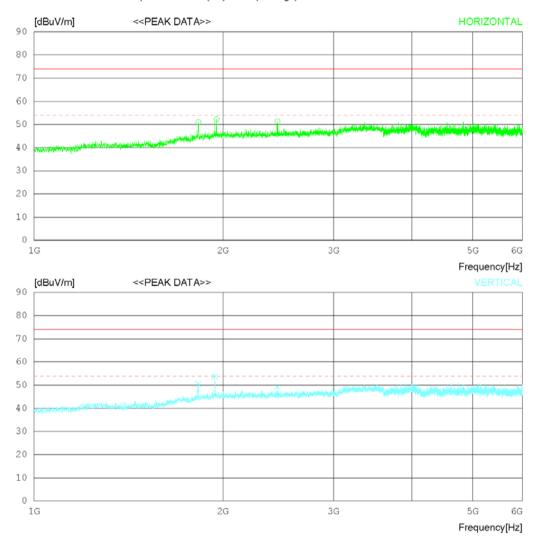
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak) FCC Part15 Subpart B Class B (3m) - GHz(Average)

| No | . FREQ | READING PEAK | ANT FACTOR | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|----------------------------------|-----------------|---------------|------|-------|-------------------------|----------------------|-------------------------|-------------------|-------------------|
| | [MHz] | [dBuV] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 2 | 1828.125 1953.750 2441.875 | 48.30 | 31.70 | 6.76 | 34.41 | 50.98 52.35 51.33 | 74.0 74.0 74.0 | 23.02 21.65 22.67 | 111 209 207 | 358 122 358 |
| | Vertical | L | | | | | | | | |
| 5 | 1827.500 1941.250 2441.875 | 49.80 | 31.65 | 6.79 | | 50.47 53.82 49.13 | 74.0 74.0 74.0 | 23.53 20.18 24.87 | 102 101 106 | 140 1 |



| Radiated disturbance at (1 ~ 6) GHz _ Average Measurement data | | | | | | | | |
|--|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode | 1 | EUT Operation mode | 1 | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-22

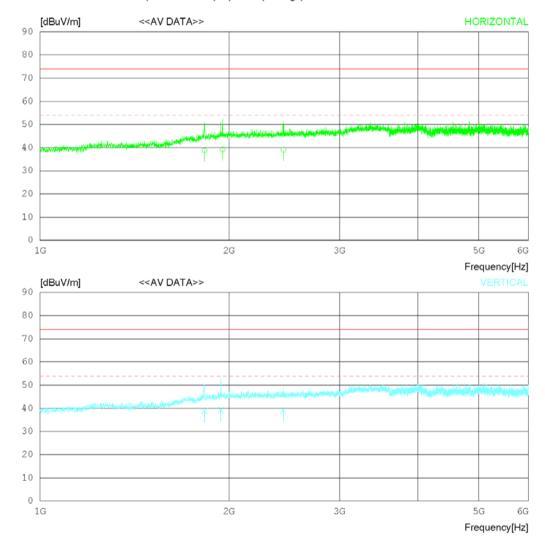
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883 Battery

Battery 22 'C 52 %.R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak) FCC Part15 Subpart B Class B (3m) - GHz(Average)

| No | . FREQ | READING CAV | ANT FACTOR | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|----------------------------------|----------------|-------------------------|----------------------|----------------|----------|-------------------------|-------------------------|-------------------|-------------------|
| | [MHz] | [dBuV] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 2 | 1828.275 1953.630 2441.895 | 35.20 | 02 | | 34.41 | | 54.00 54.00 54.00 | 15.22 14.75 14.97 | 109 211 208 | 355 136 351 |
| | Vertical | | | | | | | | | |
| 5 | 1827.432 1941.177 2441.835 | 35.20 | 30.64 31.65 32.20 | 7.01 6.79 7.13 | 34.58 34.42 | | 54.00 54.00 | 15.23 14.78 14.97 | 100 101 105 | 156 0 0 |



| Radiated disturbance at (6 ~ 18) GHz _ Peak Measurement data | | | | | | | | |
|--|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode 1 EUT Operation mode 1 | | | | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-22

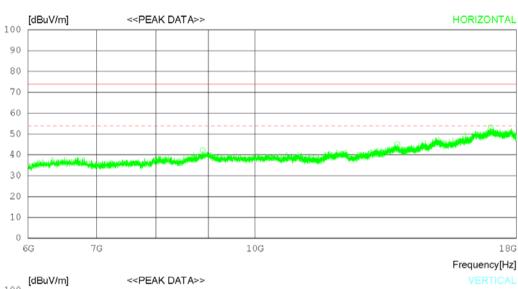
Order No. Power Supply Temp/Humi Test Condition

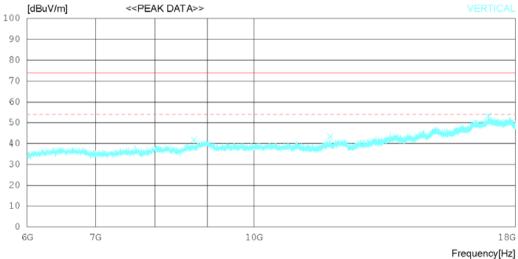
DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 % R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)







RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 % R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak) FCC Part15 Subpart B Class B (3m) - GHz(Average)

| No | . FREQ F | READING | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|------------------------------------|----------------|-------|-------|-------------------------|-------------------------|----------------------|-------------------------|-------------------|-----------------|
| | [MHz] | PEAK [dBuV] | FACTO | (dB) | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizonta | al | | | | | | | | |
| 2 | 8886.000 13768.500 16985.250 | | 33.83 | 19.23 | 37.43 37.45 36.39 | 42.21 45.21 53.13 | 74.0 74.0 74.0 | 31.79 28.79 20.87 | 109 102 206 | 358 1 1 |
| | Vertical | | | | | | | | | |
| 5 | 8734.500 11868.000 16940.250 | | 33.32 | | 37.34 37.88 36.36 | 41.83 43.44 53.32 | 74.0 74.0 74.0 | 32.17 30.56 20.68 | 105 102 106 | 234 168 1 |



| Radiated disturbance at (6 ~ 18) GHz _ Average Measurement data | | | | | | | | |
|---|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode | 1 | EUT Operation mode | 1 | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-22

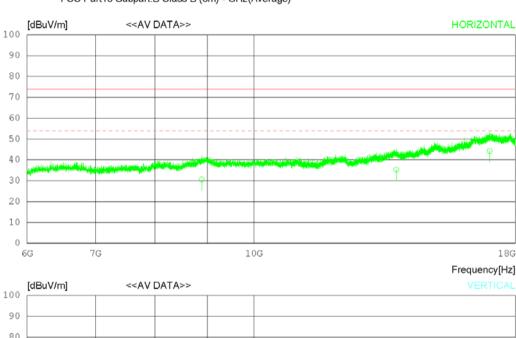
Order No. Power Supply Temp/Humi Test Condition

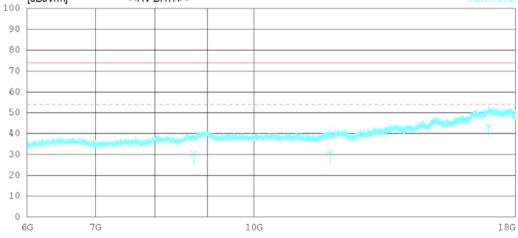
DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 % R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)







RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 % R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak) FCC Part15 Subpart B Class B (3m) - GHz(Average)

| No | . FREQ | READING CAV | ANT FACTOR | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|------------------------------------|----------------|---------------|-------------------------|-------------------------|----------|-------------------------|-------------------------|-------------------|-----------------|
| | [MHz] | [dBuV] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 2 | 8886.186 13768.440 16985.130 | 19.70 | 33.83 | 15.13 19.23 23.69 | 37.43 37.45 36.39 | 35.31 | 54.00 54.00 54.00 | 23.39 18.69 9.77 | 109 101 205 | 352 0 0 |
| | Vertical | | | | | | | | | |
| 5 | 8734.460 11868.050 16940.240 | | 33.32 | 14.88 15.80 23.30 | 37.34 37.88 36.36 | 30.94 | 54.00 54.00 54.00 | 23.77 23.06 10.38 | 104 101 105 | 146 171 0 |



| Radiated disturbance at (18 ~ 40) GHz _ Peak Measurement data | | | | | | | | |
|---|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode | 1 | EUT Operation mode | 1 | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-23

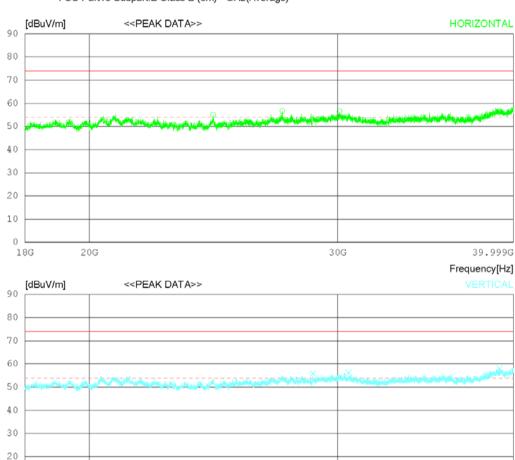
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 46 % R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)



39.999G

10

18G

20G

30G



RADIATED EMISSION

Date 2020-06-23

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 46 % R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak) FCC Part15 Subpart B Class B (3m) - GHz(Average)

| No | . FREQ F | READING | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|-------------------------------------|----------------|--------|-------------------------|-------------------------|-------------------------|----------------------|-------------------------|-------------------|-----------------|
| | [MHz] | PEAK [dBuV] | FACTOR | (dB) | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizonta | al | | | | | | | | |
| 2 | 24479.000 27413.250 30102.750 | 42.50 | 46.00 | 20.62 21.19 21.93 | 53.96 53.04 52.21 | 55.06 56.65 56.42 | 74.0 74.0 74.0 | 18.94 17.35 17.58 | 208 203 202 | 169 1 358 |
| | Vertical | | | | | | | | | |
| 5 | 28829.500 30556.500 39092.500 | 38.90 | 47.40 | 21.74 22.20 25.64 | 52.58 52.23 52.25 | 55.89 56.27 58.08 | 74.0 74.0 74.0 | 18.11 17.73 15.92 | 106 102 103 | 55 9 358 |



| Radiated disturbance at (18 ~ 40) GHz _ Average Measurement data | | | | | | | | |
|--|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode | 1 | EUT Operation mode | 1 | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-23

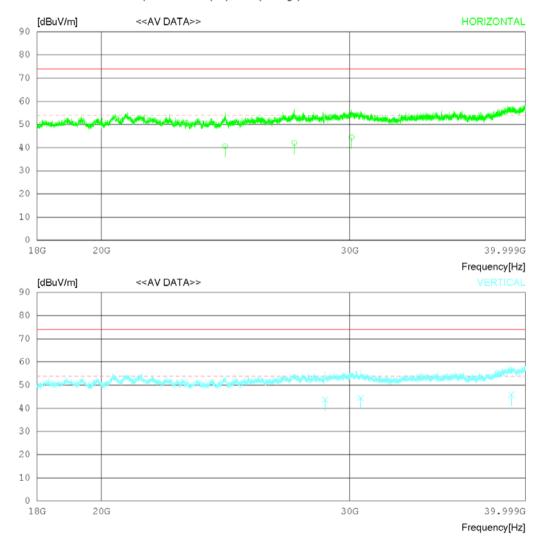
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 46 % R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-06-23

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 46 % R.H. MP4 Mode

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak) FCC Part15 Subpart B Class B (3m) - GHz(Average)

| No | . FREQ | READING CAV | ANT FACTOR | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|-------------------------------------|----------------|---------------|-------------------------|-------------------------|----------|-------------------------|------------------------|-------------------|-----------------|
| | [MHz] | [dBuV] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 2 | 24479.180 27413.390 30102.710 | 27.90 | 46.00 | 20.62 21.19 21.93 | 53.96 53.04 52.21 | 42.05 | 54.00 54.00 54.00 | 13.34 11.95 9.58 | 206 201 204 | 177 0 351 |
| | Vertical | | | | | | | | | |
| 5 | 28829.690 30556.430 39092.380 | 27.10 | | 21.74 22.20 25.65 | 52.58 52.23 52.25 | 44.47 | 54.00 54.00 54.00 | 10.31 9.53 8.11 | 105 101 102 | 66 0 351 |



| Radiated disturbance at (30 ~ 1000) MHz _Measurement data | | | | | | | | |
|---|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode | 2 | EUT Operation mode | 2 | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-22

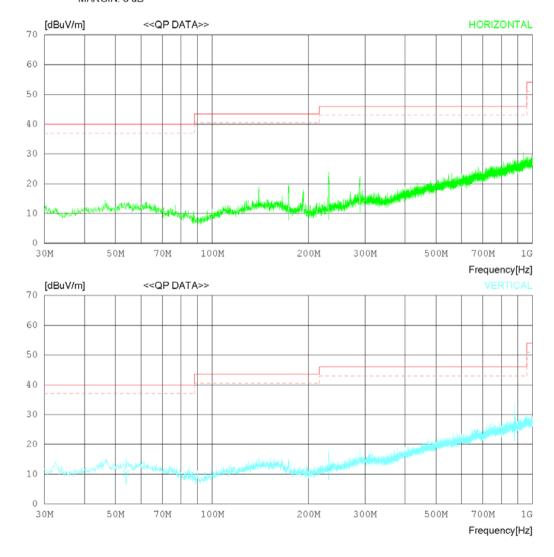
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883 Battery

Battery 22 'C 52 %.R.H. Rear Camera Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) MARGIN: 3 dB





IC ID: 22515-VF550 Report No.: DREFCC2007-0180 FCC ID: SS4VF550X

RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 %.R.H. Rear Camera Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) MARGIN: 3 dB

| No | FREQ | READING | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|-------------------------------|-------------------------|-------------------------|----------------------|-------------------------|----------|-------------------------|-------------------------|-------------------|-----------------|
| | [MHz] | QP [dBuV] | FACTOR [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 2 | 173.557 231.634 289.347 | | 17.71 17.51 19.48 | 1.25 1.70 2.38 | 26.70 26.61 26.57 | 11.70 | 43.50 46.00 46.00 | 32.04 34.30 32.01 | 400 394 396 | 0 102 11 |
| | Vertical | L | | | | | | | | |
| | 53.886 231.513 879.424 | 17.60 19.20 18.60 | 18.59 17.51 29.11 | 0.78 1.70 3.61 | 26.64 26.61 26.44 | 11.80 | 40.00 46.00 46.00 | 29.67 34.20 21.12 | 109 101 102 | 278 286 0 |



| Radiated disturbance at (1 ~ 6) GHz _ Peak Measurement data | | | | | | | | |
|---|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode | 2 | EUT Operation mode | 2 | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-22

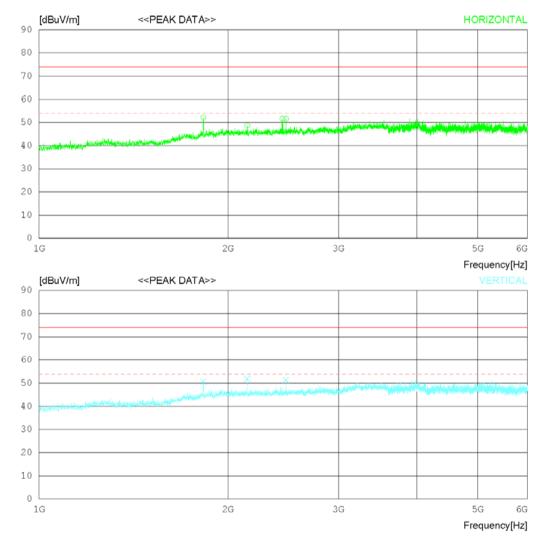
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. Rear Camera Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. Rear Camera Mode

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak) FCC Part15 Subpart B Class B (3m) - GHz(Average)

| No | FREQ | READING PEAK | ANT FACTOR | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|------------------|--|-----------------|----------------|------------------------------|----------------------------------|-------------------------|------------------------------|---------------------------------|--------------------------|-------------------------|
| | [MHz] | [dBuV] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | - Horizont | al | | | | | | | | |
| 1 2 3 4 | 1827.500 2146.875 2441.875 2475.625 | 44.60 46.90 | 31.71 32.20 | 7.01 6.82 7.13 7.19 | 34.58 34.43 34.60 34.62 | 48.70 | 74.0 74.0 74.0 74.0 | 21.83 25.3 22.37 22.43 | 202 104 206 204 | 238 358 102 84 |
| | Vertical | L | | | | | | | | |
| 5 6 7 | 1828.125 2147.500 2475.625 | 47.80 | 31.71 | 7.01 6.82 7.19 | 34.58 34.43 34.62 | 50.68 51.90 51.27 | 74.0 74.0 74.0 | 23.32 22.1 22.73 | 108 103 104 | 1 90 127 |



| Radiated disturbance at (1 ~ 6) GHz _ Average Measurement data | | | | | | | | |
|--|---------|---------------------|---|--|--|--|--|--|
| Test configuration mode | 2 | EUT Operation mode | 2 | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | |

RADIATED EMISSION

Date 2020-06-22

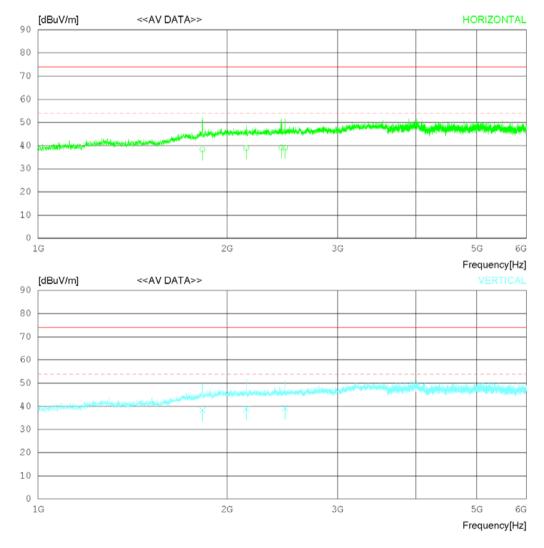
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883 Battery

Battery 22 'C 52 %.R.H. Rear Camera Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. Rear Camera Mode

Memo

| No | . FREQ | READING CAV | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|------------------|--|----------------|----------------------------------|------------------------------|----------------------------------|----------------|----------------------------------|----------------------------------|--------------------------|-------------------------|
| | [MHz] | [dBuV] | FACTOR [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 1 2 3 4 | 1827.462 2146.895 2441.815 2475.535 | 34.80 34.50 | 30.64 31.71 32.20 32.20 | 7.01 6.82 7.13 7.19 | 34.58 34.43 34.60 34.62 | 38.90 39.23 | 54.00 54.00 54.00 54.00 | 15.63 15.10 14.77 14.93 | 201 103 204 205 | 241 352 115 91 |
| | Vertical | | | | | | | | | |
| 5 6 7 | 1828.114 2147.580 2475.635 | 34.70 | 30.65 31.70 | 7.01 6.82 | 34.58 34.43 | 38.79 | 54.00 54.00 | 15.62 15.21 | 107 101 105 | 0 90 127 |



| Radiated disturbance at (6 ~ 18) GHz _ Peak Measurement data | | | | | | | | | |
|--|---------|---------------------|---|--|--|--|--|--|--|
| Test configuration mode | 2 | EUT Operation mode | 2 | | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | | |

RADIATED EMISSION

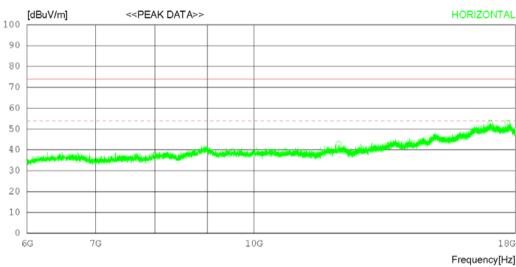
Date 2020-06-22

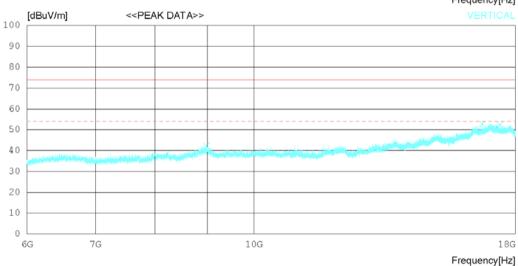
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 % R.H. Rear Camera Mode

Memo







RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 % R.H. Rear Camera Mode

Memo

| No | . FREQ F | READING | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|-------------------------------------|----------------|---------------|-------|-------------------------|-------------------------|----------------------|-------------------------|-------------------|-------------------|
| | [MHz] | PEAK [dBuV] | FACTO [dB] | (dB) | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizonta | al | | | | | | | | |
| 2 | 12094.500 17015.250 17670.000 | 28.20 3 | 37.56 | 23.69 | 37.83 36.42 37.27 | 42.86 53.03 52.99 | 74.0 74.0 74.0 | 31.14 20.97 21.01 | 206 109 106 | 1 125 60 |
| | Vertical | | | | | | | | | |
| 5 | 8982.750 16711.500 17385.000 | | 37.22 | 21.95 | 37.49 36.23 36.86 | 42.28 52.84 52.42 | 74.0 74.0 74.0 | 31.72 21.16 21.58 | 108 100 106 | 357 101 139 |



| Radiated disturbance at (6 ~ 18) GHz _ Average Measurement data | | | | | | | | | |
|---|---------|---------------------|---|--|--|--|--|--|--|
| Test configuration mode | 2 | EUT Operation mode | 2 | | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | | |

RADIATED EMISSION

Date 2020-06-22

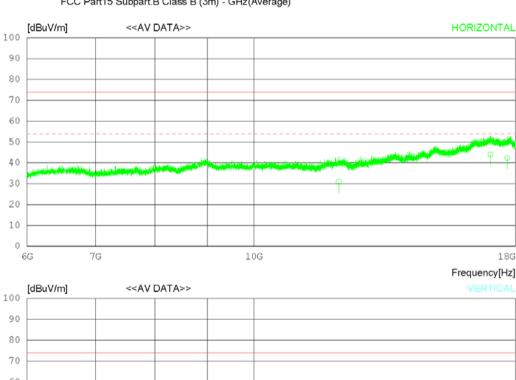
Order No. Power Supply Temp/Humi Test Condition

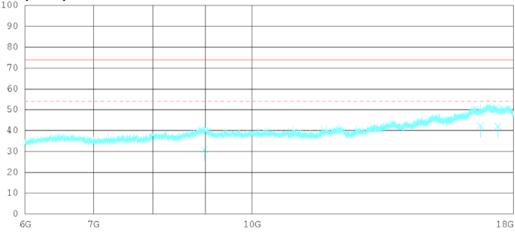
DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 % R.H. Rear Camera Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)





Frequency[Hz]



RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 % R.H. Rear Camera Mode

Memo

| No | . FREQ | READING CAV | ANT FACTOR | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|-------------------------------------|----------------|---------------|-------------------------|-------------------------|----------|-------------------------|-------------------------|-------------------|-------------------|
| | [MHz] | [dBuV] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 2 | 12094.160 17015.860 17670.170 | 19.20 | 37.56 | 15.22 23.68 22.59 | 37.83 36.42 37.27 | 44.02 | 54.00 54.00 54.00 | 23.04 9.98 11.71 | 205 111 105 | 0 136 75 |
| | Vertical | | | | | | | | | |
| 5 | 8982.254 16711.440 17385.120 | | 37.22 | 15.48 21.95 22.03 | 37.49 36.23 36.86 | 42.34 | 54.00 54.00 54.00 | 23.02 11.66 11.88 | 107 101 105 | 351 108 145 |



| Radiated disturbance at (18 ~ 40) GHz _ Peak Measurement data | | | | | | | | | |
|---|---------|---------------------|---|--|--|--|--|--|--|
| Test configuration mode 2 EUT Operation mode 2 | | | | | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | | |

RADIATED EMISSION

Date 2020-06-23

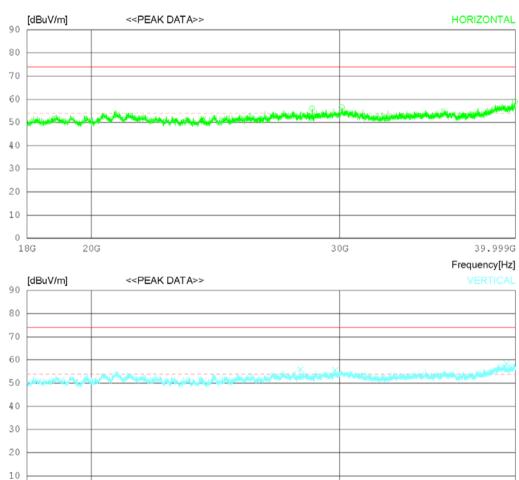
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 46 % R.H. Rear Camera Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)



39.999G

18G

20G

30G



RADIATED EMISSION

Date 2020-06-23

Order No. Power Supply Temp/Humi Test Condition DTNC2004-03684, DTNC2006-04883

Battery 22 'C 46 % R.H. Rear Camera Mode

Memo

| No | . FREQ F | READING | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|-------------------------------------|----------------|-------|-------|-------------------------|-------------------------|----------------------|-------------------------|-------------------|-------------------|
| | [MHz] | PEAK [dBuV] | FACTO | (dB) | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizonta | al | | | | | | | | |
| 2 | 28689.250 30113.750 39964.250 | 39.30 | 47.50 | 21.94 | 52.63 52.21 52.20 | 56.04 56.53 58.99 | 74.0 74.0 74.0 | 17.96 17.47 15.01 | 202 206 108 | 52 1 159 |
| | Vertical | | | | | | | | | |
| 5 | 28142.000 29800.250 39428.000 | 38.40 | 47.60 | 21.87 | 52.80 52.26 52.23 | 55.90 55.61 58.48 | 74.0 74.0 74.0 | 18.1 18.39 15.52 | 113 108 103 | 358 358 217 |



| Radiated disturbance at (18 ~ 40) GHz _ Average Measurement data | | | | | | | | | |
|--|---------|---------------------|---|--|--|--|--|--|--|
| Test configuration mode 2 EUT Operation mode 2 | | | | | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | | |

RADIATED EMISSION

Date 2020-06-23

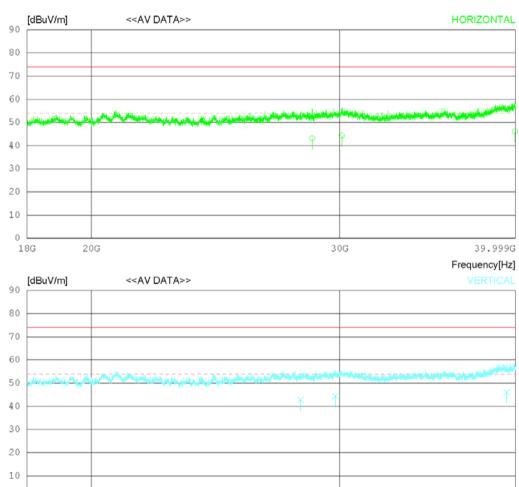
Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 46 % R.H. Rear Camera Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak) FCC Part15 Subpart.B Class B (3m) - GHz(Average)



39.999G

18G

20G

30G



RADIATED EMISSION

Date 2020-06-23

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 46 % R.H. Rear Camera Mode

Memo

| No | . FREQ | READING CAV | ANT FACTOR | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|----|-------------------------------------|----------------|---------------|-------------------------|-------------------------|----------|-------------------------|-----------------------|-------------------|-------------------|
| | [MHz] | [dBuV] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 2 | 28689.470 30113.680 39964.360 | 27.10 | 47.50 | 21.67 21.94 24.36 | 52.63 52.21 52.20 | 44.33 | 54.00 54.00 54.00 | 10.86 9.67 7.91 | 201 205 107 | 69 0 166 |
| | Vertical | | | | | | | | | |
| 5 | 28142.430 29800.170 39428.590 | 27.20 | 47.60 | 21.36 21.87 25.15 | 52.80 52.26 52.23 | 44.41 | 54.00 54.00 54.00 | 11.20 9.59 8.02 | 112 107 102 | 354 351 225 |



| Radiated disturbance at (30 ~ 1000) MHz _Measurement data | | | | | | | | | |
|---|--------------------|---------------------|---|--|--|--|--|--|--|
| Test configuration mode | EUT Operation mode | 3 | | | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | | |

RADIATED EMISSION

Date 2020-06-22

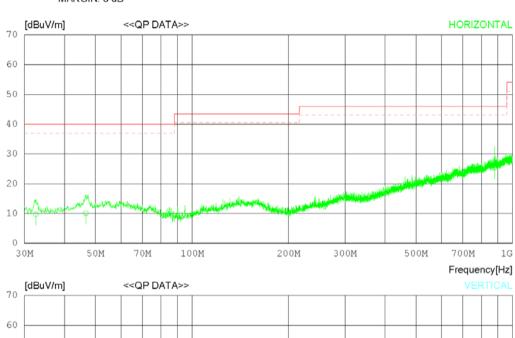
Order No. Power Supply Temp/Humi Test Condition

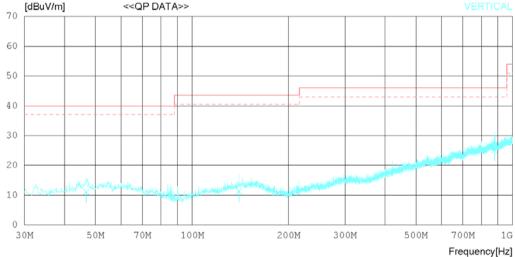
DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 %.R.H. Barcode Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) MARGIN: 3 dB







IC ID: 22515-VF550 Report No.: DREFCC2007-0180 FCC ID: SS4VF550X

RADIATED EMISSION

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Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684, DTNC2006-04883

Battery 22 'C 52 %.R.H. Barcode Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) MARGIN: 3 dB

| No. | FREQ | READING | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|-------------|------------------------------|-------------------------|-------------------------|----------------------|----------------|----------|-------------------------|-------------------------|-------------------|-------------------|
| | [MHz] | QP [dBuV] | FACTOR [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| | Horizont | al | | | | | | | | |
| 1 2 3 | 32.546 46.611 879.545 | 20.20 18.10 19.10 | 17.90 | 0.63 0.71 3.61 | 26.60 | | 40.00 40.00 46.00 | 30.25 29.89 20.63 | 108 102 211 | 351 356 355 |
| | Vertical | | | | | | | | | |
| | 46.733 139.972 879.545 | | 17.90 18.70 29.10 | 0.71 1.24 3.61 | 26.60 26.78 | | 40.00 43.50 46.00 | 28.89 32.14 20.83 | 100 104 102 | 0 84 205 |



| Radiated disturbance at (1 ~ 6) GHz _ Peak Measurement data | | | | | | | | | |
|---|---------|---------------------|---|--|--|--|--|--|--|
| Test configuration mode | 3 | EUT Operation mode | 3 | | | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | | | |

RADIATED EMISSION

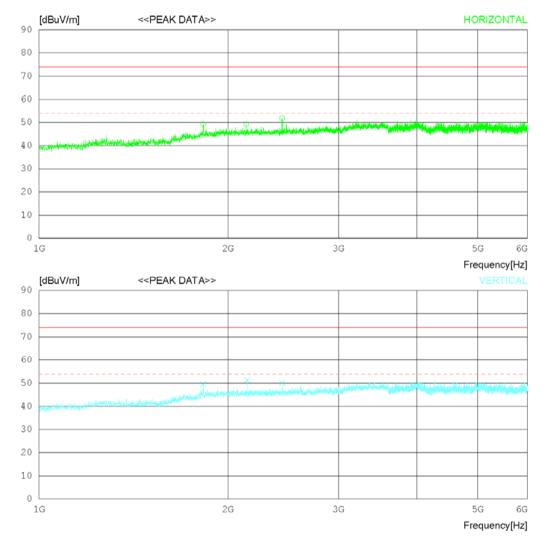
Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. Barcode Mode

Memo





RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. Barcode Mode

Memo

| No | . FREQ | READING | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|------------|----------------------------------|----------------|----------------|------|-------|-------------------------|----------------------|-------------------------|-------------------|-------------------|
| | [MHz] | PEAK [dBuV] | FACTOR [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| Horizontal | | | | | | | | | | |
| 2 | 1827.500 2138.125 2438.750 | 45.10 | 31.72 | 6.82 | 34.42 | 49.27 49.22 51.82 | 74.0 74.0 74.0 | 24.73 24.78 22.18 | 204 206 199 | 358 250 358 |
| | Vertical | | | | | | | | | |
| 5 | 1825.000 2147.500 2438.750 | 47.20 | 31.71 | 6.82 | 34.43 | 49.43 51.30 50.22 | 74.0 74.0 74.0 | 24.57 22.7 23.78 | 104 103 106 | 299 119 1 |



| Radiated disturbance at (1 ~ 6) GHz _ Average Measurement data | | | | | | | |
|--|---------|---------------------|---|--|--|--|--|
| Test configuration mode | 3 | EUT Operation mode | 3 | | | | |
| Test voltage (V) | Battery | Test Frequency (Hz) | - | | | | |

RADIATED EMISSION

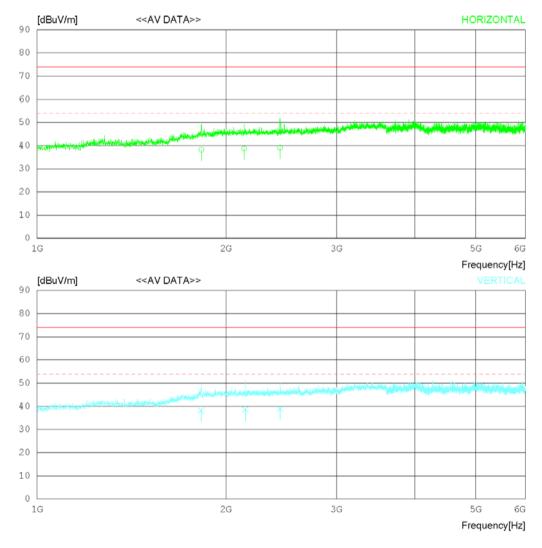
Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition

DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. Barcode Mode

Memo





RADIATED EMISSION

Date 2020-06-22

Order No. Power Supply Temp/Humi Test Condition DTNC2004-03684,DTNC2006-04883

Battery 22 'C 52 %.R.H. Barcode Mode

Memo

| No | . FREQ | READING | ANT | LOSS | GAIN | RESULT | LIMIT | MARGIN | ANTENNA | TABLE |
|------------|----------------------------------|---------|----------------|------|----------------|-------------------------|-------------------------|-------------------------|-------------------|-------------------|
| | [MHz] | | FACTOR [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | [cm] | [DEG] |
| Horizontal | | | | | | | | | | |
| 2 | 1827.490 2138.295 2438.730 | 34.60 | 31.72 | 6.82 | | 38.17 38.72 39.12 | 54.00 54.00 54.00 | 15.83 15.28 14.88 | 205 204 196 | 356 244 352 |
| | Vertical | | | | | | | | | |
| 5 | 1825.110 2147.496 2438.655 | 34.50 | 31.71 | 6.82 | 34.59 34.43 | | 54.00 54.00 | 15.77 15.40 14.98 | 102 101 105 | 306 201 |