

TEST REPORT

FCC 24 GHz Radar Test for SC300i
Certification

APPLICANT
VC Inc.

REPORT NO.
HCT-RF-2010-FC004

DATE OF ISSUE
October 14, 2020

Tested by
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|---|--|
| TEST REPORT FCC 24 GHz Radar Test for SC300i | REPORT NO. HCT-RF-2010-FC004 |
| | DATE OF ISSUE October 14, 2020 |
| | Additional Model - |

Applicant

VC Inc.

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| | |
|-----------------------------|---|
| Eut Type | Swing Caddie |
| Model Name | SC300i |
| FCC ID | 2ABTKSC300I |
| Max. RF Output Power | 95.42 dBuV/m @1 m |
| Modulation type | FSK |
| FCC Classification | Low Power communication Device Transmitter(DXX) |
| FCC Rule Part(s) | Part 15.245 |

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

This test results were applied only to the test methods required by the standard.



REVISION HISTORY

The revision history for this test report is shown in table.

| Revision No. | Date of Issue | Description |
|--------------|------------------|-----------------|
| 0 | October 14, 2020 | Initial Release |

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

* The report shall not be reproduced except in full(only partly) without approval of the laboratory.

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EUT DESCRIPTION

| | | |
|----------------------------------|---|-------------------|
| Model | SC300i | |
| EUT Type | Swing Caddie | |
| Power Supply | DC 3.70 V | |
| Frequency Range | 24 075 MHz -24 175 MHz | |
| Operating Frequency | 24 165 MHz | |
| Fundamental Field Strength Level | Peak | 95.42 dBuV/m @1 m |
| | Average | 95.00 dBuV/m @1 m |
| Modulation Type | FSK | |
| Antenna Specification | Antenna type: Patch antenna Peak Gain : 8.6 dBi Maximum Dimension : 4.55 cm | |
| Date(s) of Tests | September 14, 2020 ~ October 14, 2020 | |
| EUT serial numbers | SC300B2002955 | |



2. TEST METHODOLOGY

The measurement procedure described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) Operating Under § 15.245” were used in the measurement.

2.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.245 under the FCC Rules Part 15 Subpart C.

2.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1GHz. Above 1GHz with 1.5m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set far-field distance away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 8 of ANSI C63.10. (Version: 2013)

2.4 DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

3. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

4. FACILITIES AND ACCREDITATIONS

4.1 FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA.

The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22.

Detailed description of test facility was submitted to the Commission and accepted dated April 02, 2018 (Registration Number: KR0032).

4.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5. ANTENNA REQUIREMENTS

According to FCC 47 CFR § 15.203:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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.”

- (1) The antennas of this E.U.T are permanently attached.
- (2) The E.U.T Complies with the requirement of § 15.203

6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicate a 95 % level of confidence.

The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Parameter | Expanded Uncertainty (\pm dB) |
|--|----------------------------------|
| Conducted Disturbance (150 kHz ~ 30 MHz) | 1.82 |
| Radiated Disturbance (9 kHz ~ 30 MHz) | 3.40 |
| Radiated Disturbance (30 MHz ~ 1 GHz) | 4.80 |
| Radiated Disturbance (1 GHz ~ 18 GHz) | 5.70 |
| Radiated Disturbance (18 GHz ~ 40 GHz) | 5.05 |

7. SUMMARY TEST OF RESULTS

| Test Description | FCC Part Section(s) | Test Limit | Test Condition | Test Result |
|--|-----------------------------------|--|----------------|-------------|
| Occupied Bandwidth | § 2.1049 | N/A | RADIATED | PASS |
| Fundamental Field Strength Level | § 15.245(b) | < 2500 mV/m | | PASS |
| Harmonic Field Strength Level | § 15.245(b) | < 25.0 mV/m | | PASS |
| General Field Strength Limits (Restricted Bands and Radiated Emission Limits) | § 15.205, 15.209, 15.245(b)(3) | < 15.209 limits or 50dB below the level of the fundamental | | PASS |
| AC Power line Conducted Emissions | § 15.207 | cf. Section 8.3 | CONDUCTED | PASS |

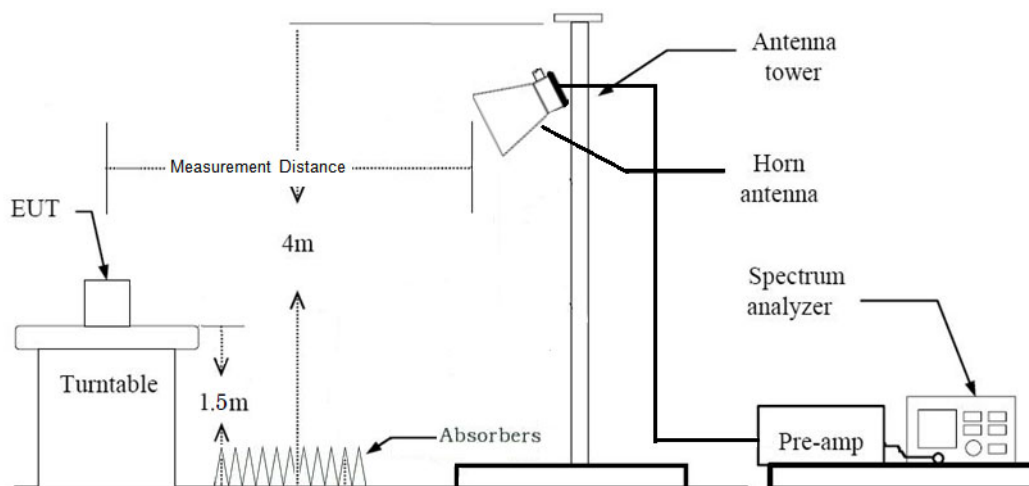
8. TEST RESULT

8.1 OCCUPIED BANDWIDTH MEASUREMENT

Test Requirements and limit, § 2.1049

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer.

RBW = 1% to 3% of the 99% bandwidth.

VBW \geq 3 x RBW

Detector = Peak

Trace mode = max hold

Sweep = auto couple

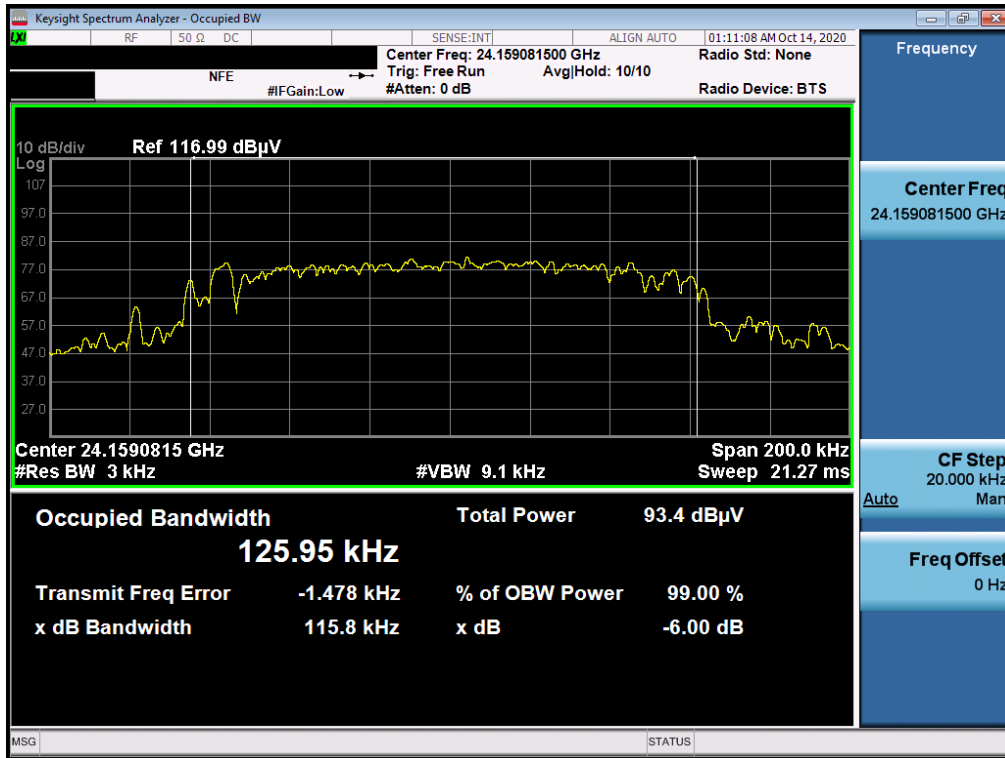
Allow the trace to stabilize

Note : 1. We tested Occupied Bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer.

2. Measured distance : 1 m

RESULT PLOTS

Occupied Bandwidth plot



8.2 RADIATED MEASUREMENT.

Test Requirements and limit, § 15.245(b)

(a) Operation within the bands 902–928 MHz, 2435–2465 MHz, 5785–5815 MHz, 10500–10550 MHz, and 24075–24175 GHz.

(b) The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

| Fundamental frequency | Field strength of fundamental (millivolts/meter) | Field strength of harmonics (millivolts/meter) |
|-----------------------|---|---|
| 902-928 MHz | 500 | 1.6 |
| 2435-2465 MHz | 500 | 1.6 |
| 5785-5815 MHz | 500 | 1.6 |
| 10500-10550 MHz | 2500 | 25.0 |
| 24075-24175 MHz | 2500 | 25.0 |

(1) Regardless of the limits shown in the above table, harmonic emissions in the restricted bands below 17.7 GHz, as specified in § 15.205, shall not exceed the field strength limits shown in § 15.209. Harmonic emissions in the restricted bands at and above 17.7 GHz shall not exceed the following field strength limits:

(i) For the second and third harmonics of field disturbance sensors operating in the 24075-24175 MHz band and for other field disturbance sensors designed for use only within a building or to open building doors, 25.0 mV/m.

(ii) For all other field disturbance sensors, 7.5 mV/m.

(iii) Field disturbance sensors designed to be used in motor vehicles or aircraft must include features to prevent continuous operation unless their emissions in the restricted bands, other than the second and third harmonics from devices operating in the 24075-24175 MHz band, fully comply with the limits given in § 15.209. Continuous operation of field disturbance sensors designed to be used in farm equipment, vehicles such as fork lifts that are intended primarily for use indoors or for very specialized operations, or railroad locomotives, railroad cars and other equipment which travels on fixed tracks is permitted. A field disturbance sensor will be considered not to be operating in a

continuous mode if its operation is limited to specific activities of limited duration (e.g., putting a vehicle into reverse gear, activating a turn signal, etc.).

(2) Field strength limits are specified at a distance of 3 meters.

(3) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

(4) The emission limits shown above are based on measurement instrumentation employing an average detector. The provisions in § 15.35 for limiting peak emissions apply.

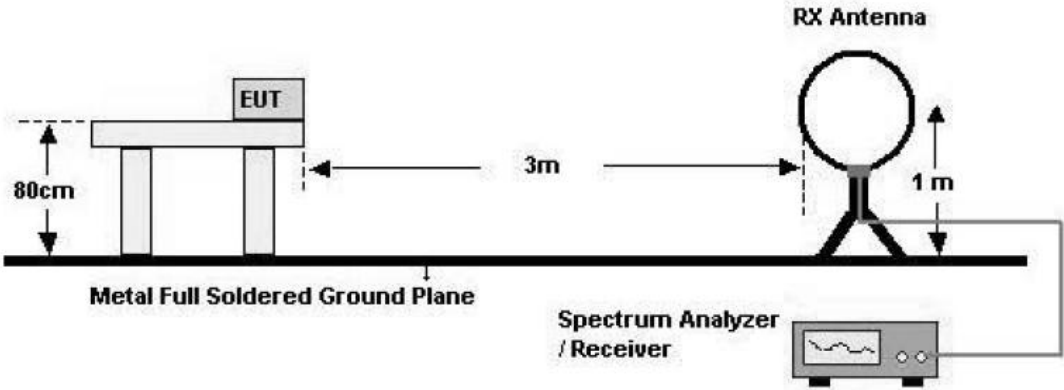
Test Procedure

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. In case from 9 kHz to 18 GHz, EUT is set 3 m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
In case from 18 GHz to 60 GHz, EUT is set 1 m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
In case above 60 GHz, EUT is set 1.5 m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. Measured Distance

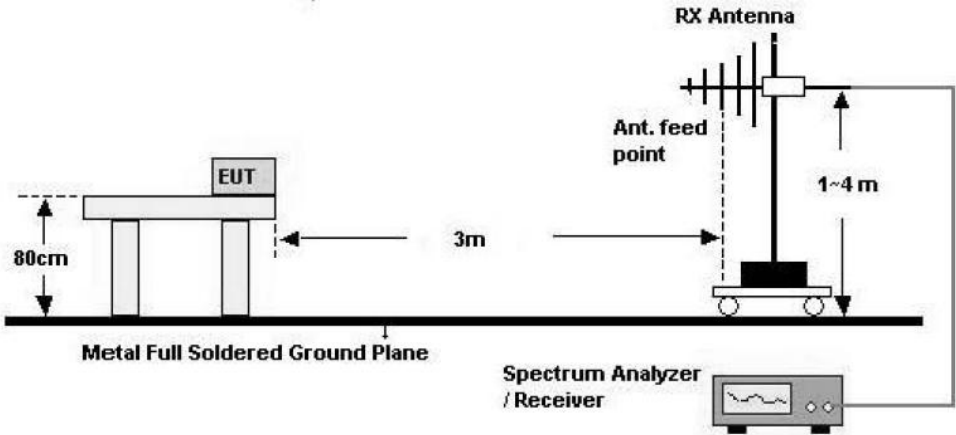
| Frequency Range(GHz) | Frequency (MHz) | Antenna Size(m) | Far Field Distance(m) | Measured Distance(m) |
|----------------------|-----------------|-----------------|-----------------------|----------------------|
| 24.075 ~ 24.175 | 24125 | 0.045486262 | 0.332764167 | 1 |
| 18 ~ 40 | 40000 | | 0.551733333 | 1 |
| 40 ~ 60 | 60000 | | 0.8276 | 1 |
| 60 ~ 90 | 90000 | | 1.2414 | 1.5 |
| 90 ~ 100 | 100000 | | 1.379333333 | 1.5 |

Test Configuration

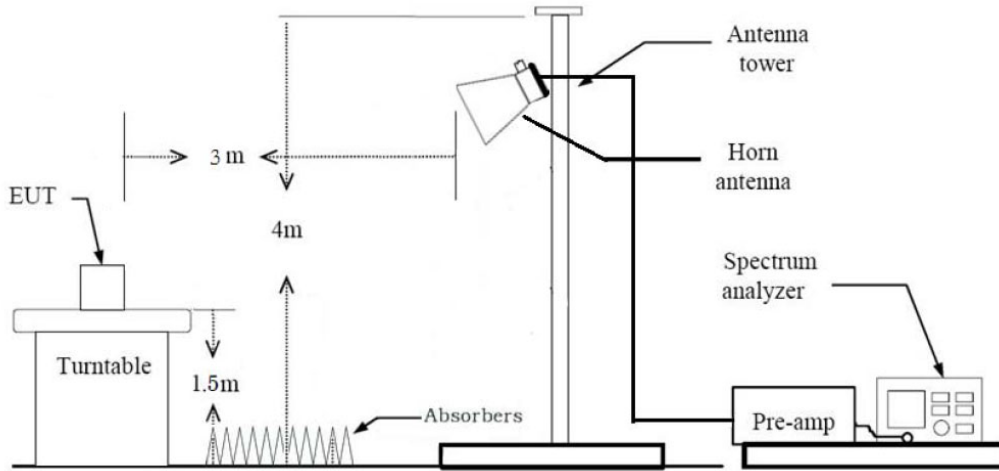
Below 30 MHz



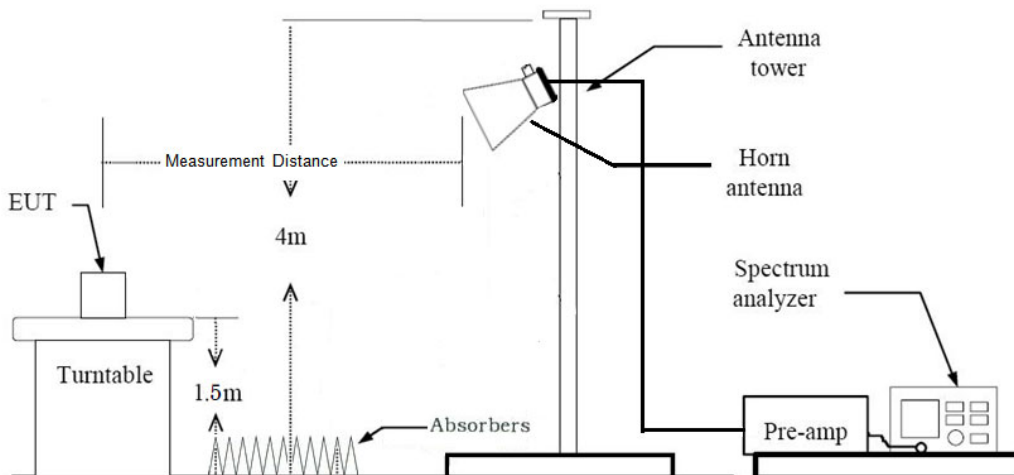
30 MHz - 1 GHz



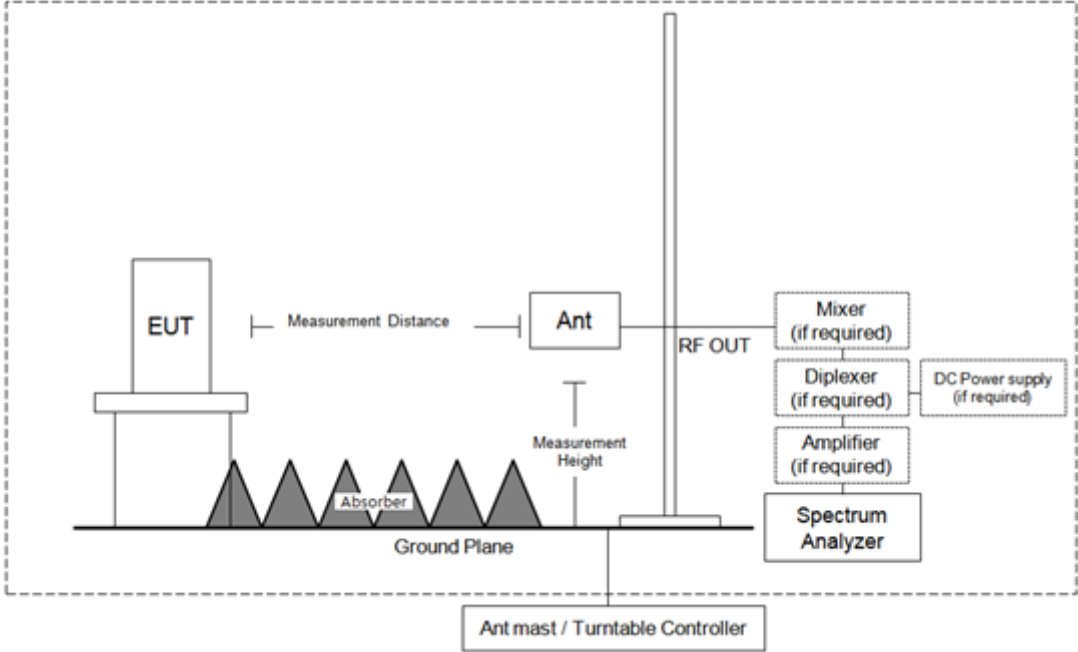
1 GHz - 18 GHz



18 GHz - 40 GHz



40 GHz – 100 GHz



▣ FIELD STRENGTH OF FUNDAMENTAL TEST RESULTS

| Frequency | Reading | A.F.+C.L. | Ant. Pol. | D.E.F | Total | Limit | Margin | Measurement |
|-----------|----------|-----------|-----------|-------|----------|----------|--------|-------------|
| [GHz] | [dBuV/m] | [dB] | [H/V] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | Type |
| 24.165 | 59.28 | 45.68 | H | -9.54 | 95.42 | 147.96 | 52.54 | PK |
| 24.165 | 58.87 | 45.68 | H | -9.54 | 95.00 | 127.96 | 32.96 | AV |

※ A·F: ANTENNA FACTOR

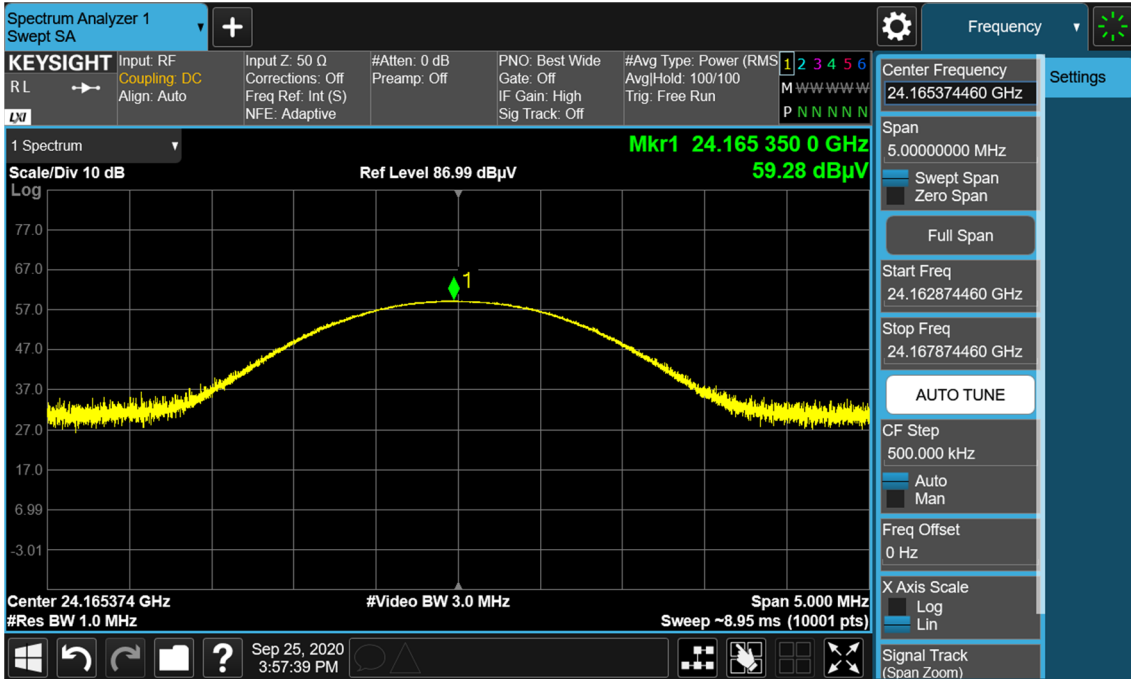
C·L: CABLE LOSS

Note :

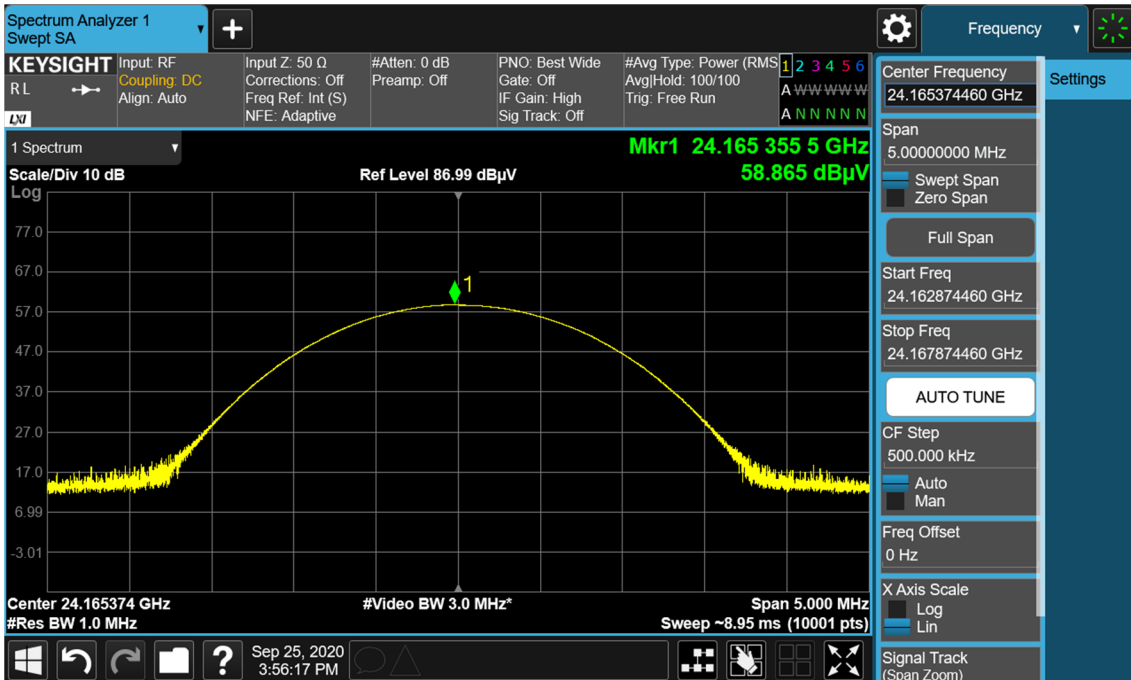
1. Total = Reading Value + Antenna Factor + Cable Loss + Distance Factor
2. Distance extrapolation factor = $20 \log (\text{test distance} / \text{specific distance})$ (dB)
3. Measured Distance : 1 m
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

RESULT PLOTS

Fundamental Field Strength plot (Peak - Horizontal)



Fundamental Field Strength plot (Average - Horizontal)



▣ FIELD STRENGTH OF HARMONICS and RADIATED SPURIOUS EMISSIONS TEST RESULTS

9 kHz – 30MHz

Operation Mode: Continuous TX Mode

| Frequency | Reading | Ant. factor | Cable loss | Ant. POL | Total | Limit | Margin |
|-------------------------|---------|-------------|------------|----------|--------|--------|--------|
| MHz | dBuV/m | dBm/m | dBm | (H/V) | dBuV/m | dBuV/m | dB |
| No Critical peaks found | | | | | | | |

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. The test results for below 30 MHz is correlated to an open site.

The result on OATS is about 2 dB higher than semi-anechoic chamber(10 m chamber)



TEST RESULTS

Below 1 GHz

Operation Mode: Continuous TX Mode

| Frequency | Reading | Ant. factor | Cable loss | Ant. POL | Total | Limit | Margin |
|-------------------------|---------|-------------|------------|----------|--------|--------|--------|
| MHz | dBuV/m | dBm/m | dBm | (H/V) | dBuV/m | dBuV/m | dB |
| No Critical peaks found | | | | | | | |

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

1 GHz – 18 GHz

Operation Frequency: Continuous TX Mode

| Frequency [MHz] | Reading [dBuV/m] | A.F.+C.L.-AMP G +D.F. [dBm] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-------------------------|---------------------|-----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| No Critical peaks found | | | | | | | |

- ※ A·F: ANTENNA FACTOR
- C·L: CABLE LOSS
- AMP G: AMPLIFIER GAIN

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss – Amplifier Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Measurement distance : 3.0 m

18 GHz – 40 GHz

Operation Frequency: Continuous TX Mode

| Frequency [GHz] | Reading [dBuV/m] | A.F.+C.L. [dB] | Ant. Pol. [H/V] | D.E.F [dB] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|--------------------|---------------------|-------------------|--------------------|---------------|-------------------|-------------------|----------------|---------------------|
| #23.867 | 35.25 | 45.68 | H | -9.54 | 71.39 | 78.40 | 7.01 | PK |
| #23.822 | 2.24 | 45.68 | H | -9.54 | 38.37 | 58.40 | 20.03 | AV |
| #24.328 | 34.79 | 45.68 | H | -9.54 | 70.93 | 78.40 | 7.47 | PK |
| #24.427 | 1.14 | 45.68 | H | -9.54 | 37.28 | 58.40 | 21.12 | AV |

※ A·F: ANTENNA FACTOR

C·L: CABLE LOSS

Note :

1. Total = Reading Value + Antenna Factor + Cable Loss + Distance Factor
2. Distance extrapolation factor = $20 \log (\text{test distance} / \text{specific distance})$ (dB)
3. Measured Distance : 1 m
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
Worst case is y plane and vertical polarization.
5. ‘#’ is band edge frequency.

40 GHz – 100 GHz

Operation Frequency: Continuous TX Mode

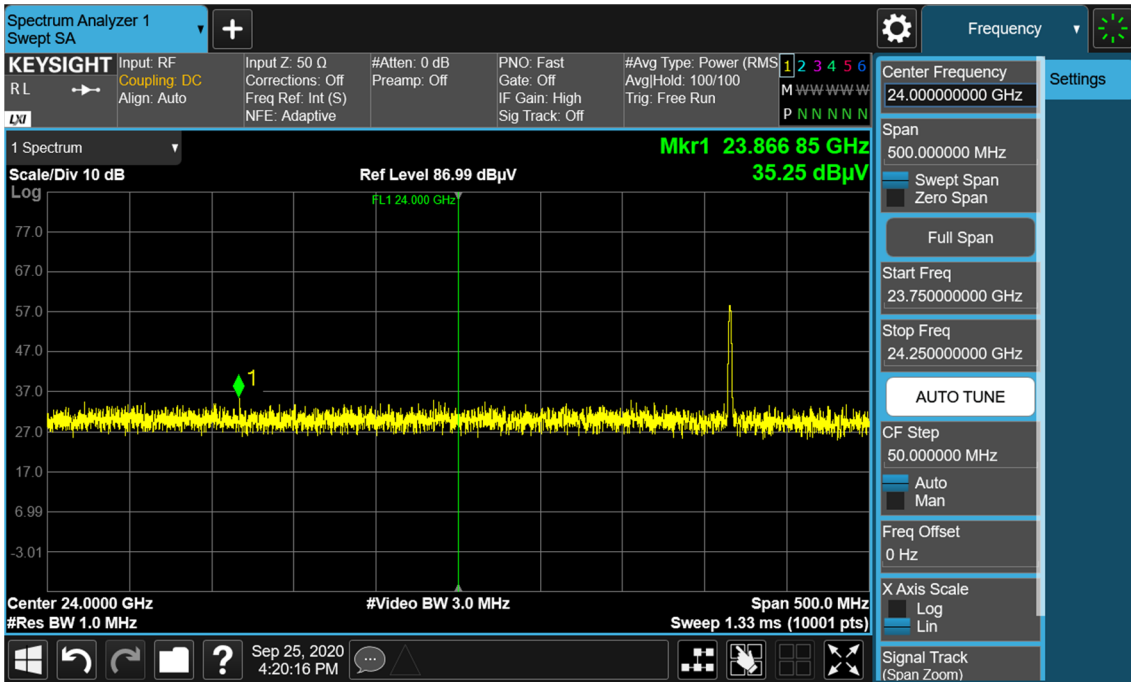
| Frequency [MHz] | Reading [dBuV/m] | A.F.+C.L.-AMP G +D.F. [dBm] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Measurement Type |
|-------------------------|---------------------|-----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| No Critical peaks found | | | | | | | |

Note :

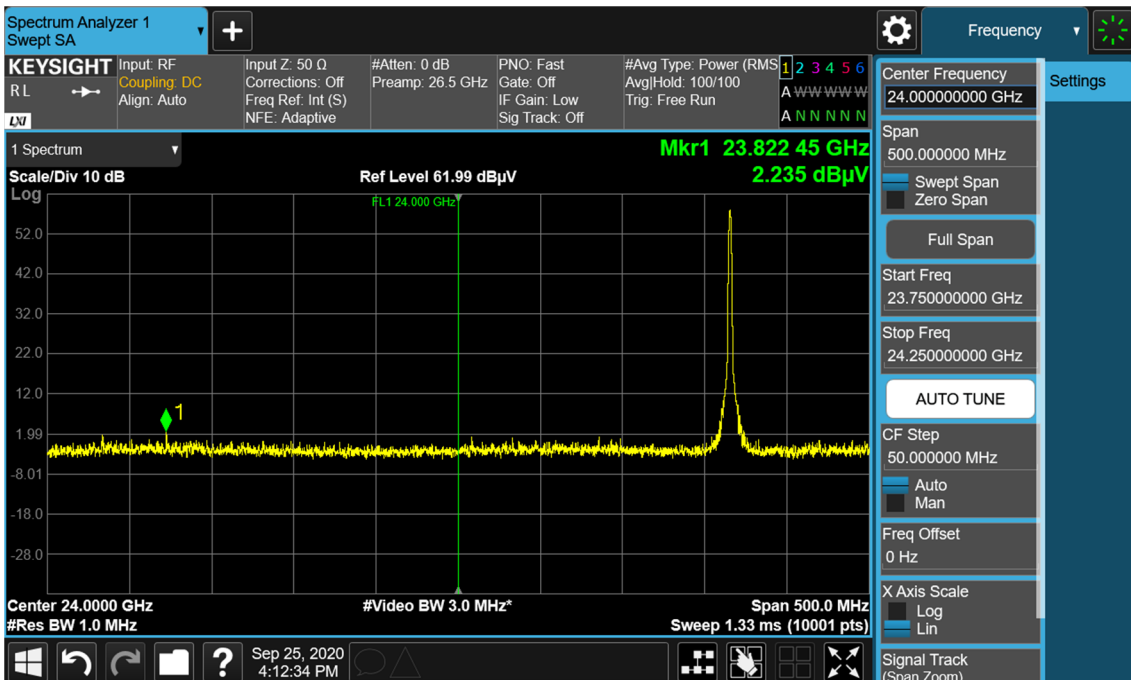
- Total(dBuV/m) = Reading Value(dBm) + AFCL(dB) + Conversion Factor(dB)
(cf. ANSI C63.10_2013 section 9.5)
- Distance extrapolation factor = $20 \log(\text{test distance} / \text{specific distance})$ (dB)
- Measured Distance : 1 m(40 GHz – 60 GHz), 1.5 m(60 GHz – 100 GHz)
- We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
Worst case is y plane and horizontal polarization.
- In this test, AFCL factor consists of antenna factor, cable loss, mixer loss, amplifier gain
- Conversion Factor = $20 \log(D) - 104.77 = 95.2$ dB(where, distance is 3 m.)
- Because of no critical emissions are detected in the test, only peak value is recorded in this report.

RESULT PLOTS

Band Edge Plot(peak, Horizontal)



Band Edge Plot(average, Horizontal)



Note : Only the worst case plots for Radiated Spurious Emissions.

8.3 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, § 15.207

Limit

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

| Frequency Range (MHz) | Limits (dB μ V) | |
|-----------------------|-------------------------|-------------------------|
| | Quasi-peak | Average |
| 0.15 to 0.50 | 66 to 56 ^(a) | 56 to 46 ^(a) |
| 0.50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |

^(a)Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

Test Procedure

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Reading Value + Correction Factor



RESULT PLOTS

Conducted Emissions (Line 1)

L1

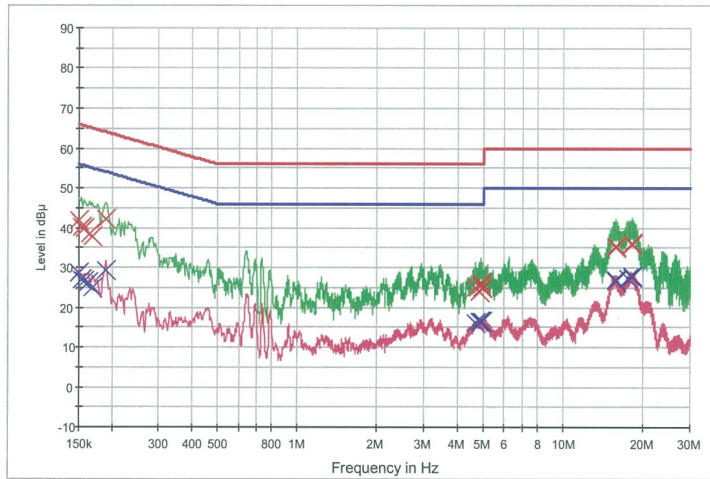
1 / 2

HCT TEST Report

Common Information

EUT: SC300i
 Manufacturer: VC Inc.
 Test Site: SHIELD ROOM
 Operating Conditions: L1

FCC CLASS B_Exten Cable



— FCC CLASS B_QP — FCC CLASS B_AV — Preview Result 1-PK+
x Preview Result 2-AVG x Final Result 1-QPK x Final Result 2-CAV

Final Result 1

| Frequency (MHz) | QuasiPeak (dBuV) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBuV) |
|-----------------|------------------|-----------------|--------|------|------------|-------------|--------------|
| 0.150000 | 41.7 | 9.000 | Off | L1 | 9.8 | 24.3 | 66.0 |
| 0.154000 | 40.2 | 9.000 | Off | L1 | 9.8 | 25.6 | 65.8 |
| 0.158000 | 39.9 | 9.000 | Off | L1 | 9.8 | 25.6 | 65.6 |
| 0.164000 | 38.5 | 9.000 | Off | L1 | 9.8 | 26.7 | 65.3 |
| 0.168000 | 37.9 | 9.000 | Off | L1 | 9.8 | 27.1 | 65.1 |
| 0.190000 | 42.1 | 9.000 | Off | L1 | 9.8 | 22.0 | 64.0 |
| 4.656000 | 24.8 | 9.000 | Off | L1 | 10.0 | 31.2 | 56.0 |
| 4.812000 | 24.0 | 9.000 | Off | L1 | 10.0 | 32.0 | 56.0 |
| 4.886000 | 26.3 | 9.000 | Off | L1 | 10.0 | 29.7 | 56.0 |
| 4.906000 | 25.7 | 9.000 | Off | L1 | 10.0 | 30.3 | 56.0 |
| 4.918000 | 25.5 | 9.000 | Off | L1 | 10.0 | 30.5 | 56.0 |
| 4.932000 | 25.0 | 9.000 | Off | L1 | 10.0 | 31.0 | 56.0 |
| 15.684000 | 35.4 | 9.000 | Off | L1 | 10.4 | 24.6 | 60.0 |
| 15.856000 | 35.2 | 9.000 | Off | L1 | 10.4 | 24.8 | 60.0 |
| 18.076000 | 35.9 | 9.000 | Off | L1 | 10.5 | 24.1 | 60.0 |
| 18.122000 | 36.3 | 9.000 | Off | L1 | 10.5 | 23.7 | 60.0 |
| 18.160000 | 36.2 | 9.000 | Off | L1 | 10.5 | 23.8 | 60.0 |
| 18.180000 | 36.1 | 9.000 | Off | L1 | 10.5 | 23.9 | 60.0 |

2020-10-08

오전 9:15:37

L1

2 / 2

Final Result 2

| Frequency (MHz) | CAverage (dBuV) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBuV) |
|-----------------|-----------------|-----------------|--------|------|------------|-------------|--------------|
| 0.150000 | 28.5 | 9.000 | Off | L1 | 9.8 | 27.5 | 56.0 |
| 0.154000 | 26.9 | 9.000 | Off | L1 | 9.8 | 28.9 | 55.8 |
| 0.158000 | 26.5 | 9.000 | Off | L1 | 9.8 | 29.1 | 55.6 |
| 0.162000 | 26.1 | 9.000 | Off | L1 | 9.8 | 29.2 | 55.4 |
| 0.168000 | 25.1 | 9.000 | Off | L1 | 9.8 | 30.0 | 55.1 |
| 0.190000 | 29.2 | 9.000 | Off | L1 | 9.8 | 24.9 | 54.0 |
| 4.656000 | 16.1 | 9.000 | Off | L1 | 10.0 | 29.9 | 46.0 |
| 4.840000 | 16.3 | 9.000 | Off | L1 | 10.0 | 29.7 | 46.0 |
| 4.868000 | 16.3 | 9.000 | Off | L1 | 10.0 | 29.7 | 46.0 |
| 4.886000 | 16.4 | 9.000 | Off | L1 | 10.0 | 29.6 | 46.0 |
| 4.906000 | 16.5 | 9.000 | Off | L1 | 10.0 | 29.5 | 46.0 |
| 4.938000 | 16.3 | 9.000 | Off | L1 | 10.0 | 29.7 | 46.0 |
| 15.684000 | 26.9 | 9.000 | Off | L1 | 10.4 | 23.1 | 50.0 |
| 15.856000 | 26.5 | 9.000 | Off | L1 | 10.4 | 23.5 | 50.0 |
| 17.540000 | 27.3 | 9.000 | Off | L1 | 10.4 | 22.7 | 50.0 |
| 18.076000 | 27.8 | 9.000 | Off | L1 | 10.5 | 22.2 | 50.0 |
| 18.122000 | 27.8 | 9.000 | Off | L1 | 10.5 | 22.2 | 50.0 |
| 18.174000 | 27.6 | 9.000 | Off | L1 | 10.5 | 22.4 | 50.0 |

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Conducted Emissions (Line 2)

N

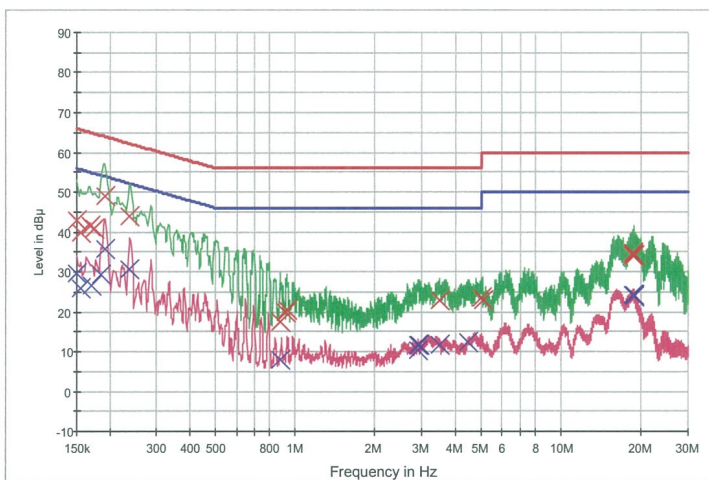
1 / 2

HCT TEST Report

Common Information

EUT: SC300i
 Manufacturer: VC Inc.
 Test Site: SHIELD ROOM
 Operating Conditions: N

FCC CLASS B_Exten Cable



— FCC CLASS B_QP — FCC CLASS B_AV — Preview Result 1-PK+
 — Preview Result 2-AVG × Final Result 1-QPK × Final Result 2-CAV

Final Result 1

| Frequency (MHz) | QuasiPeak (dBuV) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBuV) |
|-----------------|------------------|-----------------|--------|------|------------|-------------|--------------|
| 0.150000 | 42.9 | 9.000 | Off | N | 9.8 | 23.1 | 66.0 |
| 0.156000 | 39.8 | 9.000 | Off | N | 9.8 | 25.8 | 65.7 |
| 0.168000 | 41.7 | 9.000 | Off | N | 9.8 | 23.4 | 65.1 |
| 0.174000 | 40.9 | 9.000 | Off | N | 9.8 | 23.8 | 64.8 |
| 0.192000 | 48.9 | 9.000 | Off | N | 9.8 | 15.0 | 63.9 |
| 0.238000 | 43.8 | 9.000 | Off | N | 9.8 | 18.4 | 62.2 |
| 0.880000 | 17.6 | 9.000 | Off | N | 9.8 | 38.4 | 56.0 |
| 0.924000 | 19.9 | 9.000 | Off | N | 9.8 | 36.1 | 56.0 |
| 0.928000 | 20.4 | 9.000 | Off | N | 9.8 | 35.6 | 56.0 |
| 3.482000 | 23.0 | 9.000 | Off | N | 9.9 | 33.0 | 56.0 |
| 5.012000 | 23.7 | 9.000 | Off | N | 10.0 | 36.3 | 60.0 |
| 5.042000 | 23.0 | 9.000 | Off | N | 10.0 | 37.0 | 60.0 |
| 18.482000 | 34.4 | 9.000 | Off | N | 10.6 | 25.6 | 60.0 |
| 18.530000 | 34.6 | 9.000 | Off | N | 10.6 | 25.4 | 60.0 |
| 18.676000 | 34.1 | 9.000 | Off | N | 10.6 | 25.9 | 60.0 |
| 18.730000 | 34.1 | 9.000 | Off | N | 10.6 | 25.9 | 60.0 |
| 18.752000 | 34.1 | 9.000 | Off | N | 10.6 | 25.9 | 60.0 |
| 18.760000 | 33.9 | 9.000 | Off | N | 10.6 | 26.1 | 60.0 |

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N

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Final Result 2

| Frequency (MHz) | CAverage (dBuV) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBuV) |
|-----------------|-----------------|-----------------|--------|------|------------|-------------|--------------|
| 0.150000 | 29.7 | 9.000 | Off | N | 9.8 | 26.3 | 56.0 |
| 0.156000 | 26.0 | 9.000 | Off | N | 9.8 | 29.7 | 55.7 |
| 0.170000 | 26.6 | 9.000 | Off | N | 9.8 | 28.4 | 55.0 |
| 0.186000 | 29.3 | 9.000 | Off | N | 9.8 | 24.9 | 54.2 |
| 0.192000 | 35.8 | 9.000 | Off | N | 9.8 | 18.1 | 53.9 |
| 0.238000 | 30.7 | 9.000 | Off | N | 9.8 | 21.5 | 52.2 |
| 0.880000 | 8.0 | 9.000 | Off | N | 9.8 | 38.0 | 46.0 |
| 2.900000 | 11.6 | 9.000 | Off | N | 9.9 | 34.4 | 46.0 |
| 2.908000 | 10.3 | 9.000 | Off | N | 9.9 | 35.7 | 46.0 |
| 2.940000 | 11.8 | 9.000 | Off | N | 9.9 | 34.2 | 46.0 |
| 3.494000 | 11.7 | 9.000 | Off | N | 9.9 | 34.3 | 46.0 |
| 4.452000 | 12.4 | 9.000 | Off | N | 10.0 | 33.6 | 46.0 |
| 18.676000 | 24.4 | 9.000 | Off | N | 10.6 | 25.6 | 50.0 |
| 18.680000 | 24.4 | 9.000 | Off | N | 10.6 | 25.6 | 50.0 |
| 18.730000 | 24.4 | 9.000 | Off | N | 10.6 | 25.6 | 50.0 |
| 18.734000 | 24.2 | 9.000 | Off | N | 10.6 | 25.8 | 50.0 |
| 18.752000 | 24.2 | 9.000 | Off | N | 10.6 | 25.8 | 50.0 |
| 18.814000 | 24.0 | 9.000 | Off | N | 10.6 | 26.0 | 50.0 |

2020-10-08

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9. LIST OF TEST EQUIPMENT

| Manufacturer | Model / Equipment | Calibration Date | Calibration Interval | Serial No. |
|-----------------|---|------------------|----------------------|----------------|
| Agilent | N9030B / PXA Signal Analyzer | 06/04/2020 | Annual | MY55480167 |
| Schwarzbeck | BBHA 9170 / Horn Antenna | 11/29/2019 | Biennial | BBHA9170541 |
| Innco system | CO3000 / Controller(Antenna mast) | N/A | N/A | CO3000-4p |
| Innco system | MA4640/800-XP-EP / Antenna Position Tower | N/A | N/A | N/A |
| Rohde&Schwarz | FSW / Spectrum Analyzer | 09/09/2020 | Annual | 101256 |
| Rohde&Schwarz | FSP / Spectrum Analyzer | 09/14/2020 | Annual | 836650/016 |
| Emco | 2090 / Controller | N/A | N/A | 060520 |
| Ets | Turn Table | N/A | N/A | N/A |
| Rohde & Schwarz | Loop Antenna | 05/18/2020 | Biennial | 1513-175 |
| Schwarzbeck | VULB 9168 / Hybrid Antenna | 03/22/2019 | Biennial | 760 |
| Schwarzbeck | BBHA 9120D / Horn Antenna | 06/28/2019 | Biennial | 9120D-1300 |
| OML INC. | WR-19 Horn Antenna / Horn Antenna | 04/23/2020 | Biennial | M19RH-160419-2 |
| OML INC. | WR-19 Horn Antenna / Horn Antenna | 04/23/2020 | Biennial | M19RH-160419-1 |
| OML INC. | WR-12 Horn Antenna / Horn Antenna | 04/23/2020 | Biennial | M12RH-160419-1 |
| OML INC. | WR-12 Horn Antenna / Horn Antenna | 04/23/2020 | Biennial | M12RH-160419-2 |
| OML INC. | WR-08 Horn Antenna / Horn Antenna | 04/23/2020 | Biennial | M08RH-160419-2 |
| OML INC. | WR-08 Horn Antenna / Horn Antenna | 04/23/2020 | Biennial | M08RH-160419-1 |
| OML INC. | WR-05 Horn Antenna / Horn Antenna | 04/23/2020 | Biennial | M05RH-160419-1 |
| OML INC. | WR-05 Horn Antenna / Horn Antenna | 04/23/2020 | Biennial | M05RH-160419-2 |
| OML INC. | OML WR19 / Harmonic Mixer | 09/09/2020 | Annual | M19HWD |
| OML INC. | OML WR12 / Harmonic Mixer | 09/09/2020 | Annual | M12HWD |
| OML INC. | OML WR08 / Harmonic Mixer | 09/09/2020 | Annual | M08HWD |
| OML INC. | OML WR05 / Harmonic Mixer | 09/09/2020 | Annual | M05HWD |
| OML INC. | OML WR19 / Harmonic Mixer | 09/09/2020 | Annual | M19HWD |
| OML INC. | OML WR12 / Harmonic Mixer | 09/09/2020 | Annual | M12HWD |

| | | | | |
|-----------------|-------------------------------|------------|--------|-----------------|
| OML INC. | OML WR08 / Harmonic Mixer | 09/09/2020 | Annual | M08HWD |
| OML INC. | OML WR05 / Harmonic Mixer | 09/09/2020 | Annual | M05HWD |
| OML INC. | Diplexer L.O / Diplexer | 07/14/2020 | Annual | DPL518-160419-1 |
| CERNEX | CBL18265035 / POWER AMP | 12/26/2019 | Annual | 21873 |
| CERNEX | CBL18265035 / POWER AMP | 12/26/2019 | Annual | 22966 |
| CERNEX | CBL26405040 / Power Amplifier | 03/23/2020 | Annual | 25956 |
| TESTEK | TK-PA1840H / AMPLIFIER | 11/13/2019 | Annual | 170011-L |
| Rohde & Schwarz | ENV216 / LISN | 09/04/2020 | Annual | 102245 |
| Rohde & Schwarz | ESCI / Test Receiver | 06/05/2020 | Annual | 100033 |
| Rohde & Schwarz | EMC32 / Software | N/A | N/A | N/A |

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

10. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

| No. | Description |
|-----|---------------------|
| 1 | HCT-RF-2010-FC004-P |