**Compliance Testing, LLC**
**Previously Flom Test Lab**
*RF, EMC and Safety Testing Experts Since 1963*
toll-free: (866) 311-3268
fax: (480) 926-3598
http://www.ComplianceTesting.com
info@ComplianceTesting.com

| | |
|---|---|
| **Date:** | July 21, 2010 |
| **Applicant:** | Vertu<br>Beacon Hill Road<br>Church Crookham, Hampshire GU52 8DY UK |
| **Attention of:** | Mark Pope, Certification and Compliance Manager<br>+44 1252 611135; FAX: -611302<br>Mobile: +44 7774 8158594<br>mark.pope@vertu.com |
| **Equipment:** | CONSTELLATION QUEST Type: RM-582V |
| **FCC ID:** | P7QRM-582V |
| **FCC Rules:** | 22 / 24 |

Enclosed please find your copy of the Engineering Test Report for which you are subject to the restrictions as listed on the attached summary.

Once a Telecommunication Certification Body (TCB) issues a Grant the Federal Communication Commission (FCC) has 30 days to review the application and request added information. It is your decision whether or not to market the equipment subject to a possible recall before the end of the 30 days.

If your equipment is still retained by us, it will be returned to you 30 days after approval is achieved. Our invoice for services has been directed to your Accounts Payable Department.

For any additional information please contact us.

Thank you.

Sincerely yours,

Greg Corbin

Greg Corbin

# Summary of Restrictions

1. All submissions to the FCC are subject to **their** Examiner's interpretation.

2. Please allow from 60 to 90 days before hearing from the FCC with regard to any submission.

3. The FCC can set aside any action; modify or set aside any action, within 30 days. (Rule 1.108, 1.113)

4. Under Rule 2.803, if device is not type accepted/certificated then it must **not** be sold, leased, offered for sale, imported, shipped or distributed or advertised for sale.

5. FCC can revoke its certificates at any time if the equipment does not meet or **continue** to meet their Rules. (Rule Parts 2.927, 2.939)

6. FCC can request a sample at any time (2.936).

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**Date:** July 21, 2010

Federal Communications Commission
Via: Electronic Filing

**Attention:** Authorization & Evaluation Division

**Applicant:** Vertu
**Equipment:** CONSTELLATION QUEST Type: RM-582V
**FCC ID:** P7QRM-582V
**FCC Rules:** 22 / 24

On behalf of the Applicant, enclosed please find Application Form 731, Engineering Test Report and all pertinent documentation, the whole for approval of the referenced equipment as shown.

We trust the same is in order.
Should you need any further information, please feel free to contact our office.

Best regards,

Greg Corbin

Greg Corbin

Compliance Testing
3356 N. San Marcos Place, Suite 107
Chandler, Arizona 85225-7176
(866) 311-3268 phone, (480) 926-3598 fax

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# Test Report

for

**Model:** CONSTELLATION QUEST Type: RM-582V

to

**Federal Communications Commission**

Rule Part(s) 22 / 24

**Date of report**: July 21, 2010

| | |
|---|---|
| **On the Behalf of the Applicant**: | Vertu |
| **At the Request of**: | Vertu<br>Beacon Hill Road<br>Church Crookham, Hampshire GU52 8DY UK |
| **Attention of:** | Mark Pope, Certification and Compliance Manager<br>+44 1252 611135; FAX: -611302<br>Mobile: +44 7774 8158594<br>mark.pope@vertu.com |

Reviewed by: Greg Corbin

# Test Report Revision History

| Revision | Date | Revised By | Reason for revision |
|---|---|---|---|
| 1.0 | July 21, 2010 | G. Corbin | Original Document |
| 2.0 | October 14, 2010 | G. Corbin | Updated test procedure and test set-up for Field Strength of Spurious Radiation |

List of Exhibits

(FCC **Certification** (Transmitters) - Revised 9/28/98)

**Applicant:** Vertu

**FCC ID:** P7QRM-582V

**By Applicant**:

1. Letter of Authorization

2. Confidentiality Request: 0.457 And 0.459

3. Identification Drawings, 2.1033(c)(11)
   - Label
   - Location of Label
   - Compliance Statement
   - Location of Compliance Statement

4. Photographs, 2.1033(c)(12)

5. Documentation: 2.1033(c)
   - (3) User Manual
   - (9) Tune Up Info
   - (10) Schematic Diagram
   - (10) Circuit Description
   - Block Diagram
   - Parts List
   - Active Devices

6. MPE/SAR Report

**By Compliance Testing:**

A. Testimonial & Statement of Certification

## The Applicant has been cautioned as to the following:

15.21 **Information to the User**

The user's manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) **Special Accessories**

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

# Testimonial and Statement of Certification

**This is to Certify**:

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.

2. **That** the technical data supplied with the application was taken under my direction and supervision.

3. **That** the data was obtained on representative units, randomly selected.

4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data is true and correct.

Certifying Engineer: Greg Corbin

Compliance Testing
3356 N. San Marcos Place, Suite 107
Chandler, Arizona 85225-7176
(866) 311-3268 phone, (480) 926-3598 fax

# Table of Contents

*Required information per ISO 17025-2005, paragraph 5.10.2:*

a) **Test Report**

| | |
|---|---|
| b) Laboratory:<br>(FCC: 933597)<br>(Canada: 2044A-1) | Compliance Testing<br>3356 N. San Marcos Place, Suite 107<br>Chandler, AZ 85225 |
| c) Report Number: | d1070015 |
| d) Client: | Vertu<br>Beacon Hill Road<br>Church Crookham, Hampshire GU52 8DY UK |
| e) Identification: | CONSTELLATION QUEST Type: RM-582V<br>S/N:004401/10/859472/8<br>FCC ID: P7QRM-582V |
| EUT Description: | PCS Licensed Transmitter Held to the ear<br>GSM 850/900/1800/1900/WCDMA with BT and WLAN |
| f) EUT Condition: | Not required unless specified in individual tests. |
| g) Report Date: | July 21, 2010 |
| h, j, k): | As indicated in individual tests. |
| i) Sampling method: | No sampling procedure used. |
| l) Measurement Uncertainty: | In accordance with Compliance Testing internal quality manual. |
| m) Reviewed by: | Greg Corbin |
| n) Results: | The results presented in this report relate only to the item tested. |
| o) Reproduction: | This report must not be reproduced, except in full, without written permission from this laboratory. |

Accessories used during testing:

| Type | Quantity | Manufacturer | Model | Serial No. |
|---|---|---|---|---|
| Battery | 1 | Vertu | BP-4LV | N/A |
| Headset, mono | 1 | Vertu | WH-2V | N/A |
| Headset, stereo | 1 | Vertu | WH-1V | N/A |
| Video Cable | 1 | Vertu | CA=75UV | N/A |

Sub-part 2.1033(c)(14):

## Test and Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2, Sub-part J, Sections 2.947, 2.1033(c), 2.1041, 2.1046, 2.1047, 2.1079, 2.1051, 2.1053, 2.1055, 2.1057 and the following individual Parts: 22 / 24.

## Standard Test Conditions and Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI/C63.4-2009, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Measurement results, unless otherwise noted, are worst-case measurements.

## A2LA

"A2LA has accredited Compliance Testing in Chandler, AZ for technical competence in the field of Electrical testing. The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO 17025:2005 'General Requirements for the Competence of Testing and Calibration Laboratories' and any additional program requirements in the identified field of testing."

Please refer to www.a2la.org for current scope of accreditation.

Certificate number: 2152.01

ACCREDITED
TESTING CERT# 2152.01

**FCC OATS Reg. #933597**

**IC Reg. # 2044A-1**

# List of General Information Required for Certification

In Accordance with FCC Rules and Regulations,
Volume II, Part 2 and to Part 90

Sub-part 2.1033
(c)(1):

**Name and Address of Applicant**: Vertu
Beacon Hill Road
Church Crookham, Hampshire GU52 8DY UK

**Manufacturer**: Vertu
Beacon Hill Road
Church Crookham, Hampshire GU52 8DY UK

(c)(2):**FCC ID**: P7QRM-582V

**Model Number**: CONSTELLATION QUEST Type: RM-582V

(c)(3): **Instruction Manual(s):**

Please see attached exhibits

(c)(4): **Type of Emission**: 824.2 - 848.8 GSM 242KGXW
824.2 - 848.8 EGPRS 244KG7W
826.4 - 846.6 WCDMA 4M15F9W
1850.2 - 1909.8 GSM 244KGXW
1850.2 - 1909.8 EGPRS 244KG7W
1852.4 - 1907.6 WCDMA 4M15F9W

(c)(5): **Frequency Range, MHz**: 824.2 - 848.8 GSM
824.2 - 848.8 EGPRS
826.4 - 846.6 WCDMA
1850.2 - 1909.8 GSM
1850.2 - 1909.8 EGPRS
1852.4 - 1907.6 WCDMA

(c)(6): **Power Rating, Watts**: 824.2 – 849 MHz, 0.859 W
1850.2 – 1907.6 MHz, 0.873 W

____ Switchable ____ Variable __X__ N/A

(c)(7): **Maximum Allowable Power, Watts**: 824.2 – 849 MHz, 7 W
1850.2 – 1907.6 MHz, 2 W

**DUT Results**: Passes __X__ Fails _____

**Note: The Information in (c)(4) thru (c)(7) above was recorded from the test reports submitted by Nokia.**

Subpart 2.1033 (continued)

(c)(8): Voltages & currents in all elements in final RF stage, including final transistor or solid-state device:

| | | |
|---|---|---|
| Collector Current, A | = | 1 |
| Collector Voltage, Vdc | = | 3.7 |
| Supply Voltage, Vdc | = | 3.7 |

(c)(9): **Tune-Up Procedure**:

Please see attached exhibits

(c)(10): **Circuit Diagram/Circuit Description**:

Including description of circuitry & devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation and limiting power.

Please see attached exhibits

(c)(11): **Label Information**:

Please see attached exhibits

(c)(12): **Photographs**:

Please see attached exhibits

(c)(13): **Digital Modulation Description**:

___ Attached Exhibits
_x_ N/A

(c)(14): **Test and Measurement Data**:

Follows

**Test Results Summary**

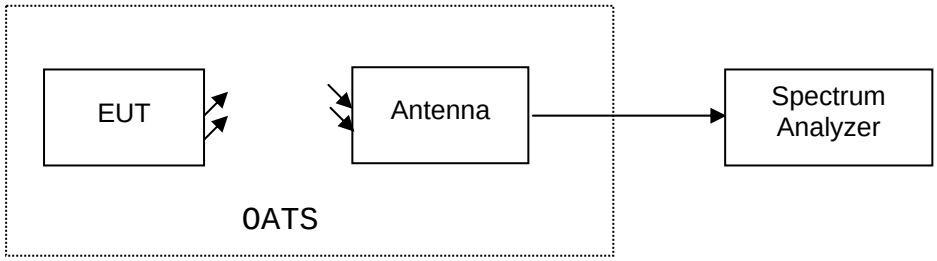
| Specification | Test Name | Pass, Fail, N/A | Comments |
|---|---|---|---|
| 2.1053 | Field Strength of Spurious Radiation | Pass | |

**Name of Test**: Field Strength of Spurious Radiation
**Specification**: 2.1053 **Engineer: G. Corbin**
**Test Equipment Utilized:** 00049, i00103, i00177, i00364 **Test Date: 7/21/2010**

## Test Procedure

The EUT was tested in an Open Area Test Site (OATS) set 3m from the receiving antenna. A spectrum analyzer was used to verify that the EUT met the requirements for Radiated Emissions. The EUT was tested by rotating it 360° with the antennas in both the vertical and horizontal orientation and raised from 1 to 4 meters to ensure the TX signal levels were maximized.

## Test Setup




Settings
RBW = 1 MHz
VBW = 3 MHz
Detector – Peak

Sample Calculations
Corrected Value = Measured Value + Correction factor
Correction factor = Antenna CF + Cable loss

**824.2 GSM Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 1648.4 | -64.1 | 29.8 | -34.3 | -13 | Pass |
| 2472.6 | -64.9 | 33.5 | -31.4 | -13 | Pass |
| 3296.8 | -66.9 | 36.1 | -30.8 | -13 | Pass |

**836.6 GSM Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 1673.2 | -63.2 | 29.9 | -33.3 | -13 | Pass |
| 2509.8 | -66.1 | 33.6 | -32.5 | -13 | Pass |
| 3346.4 | -67.4 | 36.2 | -31.2 | -13 | Pass |

**848.8 GSM Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 1697.6 | -64.1 | 30.1 | -34.0 | -13 | Pass |
| 2546.4 | -65.8 | 33.8 | -32.0 | -13 | Pass |
| 3395.2 | -67.4 | 36.3 | -31.1 | -13 | Pass |

**824.2 EGPRS Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 1648.4 | -66.1 | 29.8 | -36.3 | -13 | Pass |
| 2472.6 | -65.3 | 33.5 | -31.8 | -13 | Pass |
| 3296.8 | -67.8 | 36.1 | -31.7 | -13 | Pass |

**836.6 EGPRS Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 1673.2 | -64.6 | 29.9 | -34.7 | -13 | Pass |
| 2509.8 | -66.1 | 33.6 | -32.5 | -13 | Pass |
| 3346.4 | -65.4 | 36.2 | -29.2 | -13 | Pass |

**848.8 EGPRS Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 1697.6 | -61.7 | 30.1 | -31.6 | -13 | Pass |
| 2546.4 | -64.1 | 33.8 | -30.3 | -13 | Pass |
| 3395.2 | -63.2 | 36.3 | -26.9 | -13 | Pass |

**826.4 WCDMA Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 1648.4 | -62.4 | 29.8 | -32.6 | -13 | Pass |
| 2472.6 | -61.9 | 33.5 | -28.4 | -13 | Pass |
| 3296.8 | -62.4 | 36.1 | -26.3 | -13 | Pass |

**836.6 WCDMA Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 1673.2 | -65.1 | 29.9 | -35.2 | -13 | Pass |
| 2509.8 | -65.2 | 33.6 | -31.6 | -13 | Pass |
| 3346.4 | -65 | 36.2 | -28.8 | -13 | Pass |

**846.6 WCDMA Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 1697.6 | -66.6 | 30.0 | -36.8 | -13 | Pass |
| 2546.4 | -67.4 | 33.7 | -33.7 | -13 | Pass |
| 3395.2 | -68.4 | 36.3 | -32.1 | -13 | Pass |

**1850.2 GSM Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 3700.4 | -67.5 | 36.7 | -30.8 | -13 | Pass |
| 5550.6 | -67.1 | 40.4 | -26.7 | -13 | Pass |
| 7400.8 | -62 | 44.2 | -17.8 | -13 | Pass |

**1880 GSM Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 3760 | -67.7 | 36.8 | -30.9 | -13 | Pass |
| 5640 | -67.5 | 40.5 | -27.0 | -13 | Pass |
| 7520 | -61 | 44.5 | -16.5 | -13 | Pass |

**1909.8 GSM Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 3819.6 | -68.2 | 36.8 | -31.4 | -13 | Pass |
| 5729.4 | -67.5 | 40.6 | -26.9 | -13 | Pass |
| 7639.2 | -62.6 | 44.7 | -17.5 | -13 | Pass |

**1850.2 EGPRS Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 3700.4 | -67.7 | 36.7 | -31.0 | -13 | Pass |
| 5550.6 | -68 | 40.4 | -27.6 | -13 | Pass |
| 7400.8 | -61.8 | 44.2 | -17.6 | -13 | Pass |

**1880 EGPRS Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 3760 | -68.2 | 36.8 | -31.4 | -13 | Pass |
| 5640 | -65.5 | 40.5 | -25.0 | -13 | Pass |
| 7520 | -62 | 44.5 | -17.5 | -13 | Pass |

**1909.8 EGPRS Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 3819.6 | -66.2 | 36.8 | -29.4 | -13 | Pass |
| 5729.4 | -66 | 40.6 | -25.4 | -13 | Pass |
| 7639.2 | -62.5 | 44.7 | -17.8 | -13 | Pass |

**1852.4 WCDMA Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 3704.8 | -65 | 36.7 | -28.3 | -13 | Pass |
| 5557.2 | -64.6 | 40.5 | -24.1 | -13 | Pass |
| 7409.6 | -61.3 | 44.2 | -17.1 | -13 | Pass |

**1880 WCDMA Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 3760 | -65.5 | 36.8 | -28.7 | -13 | Pass |
| 5640 | -63.4 | 40.5 | -22.9 | -13 | Pass |
| 7520 | -61.4 | 44.5 | -16.9 | -13 | Pass |

**1907.6 WCDMA Test Results**

| Emission Frequency (MHz) | Measured Level (dBm) | Correction Factor (dB) | Corrected Value (dBm) | Limit ERP/EIRP (dBm) | Result |
|---|---|---|---|---|---|
| 3815.2 | -65.1 | 36.8 | -28.3 | -13 | Pass |
| 5722.8 | -66.2 | 40.5 | -25.7 | -13 | Pass |
| 7630.4 | -61.1 | 44.7 | -16.4 | -13 | Pass |

No other emissions were detected. All emissions were greater than –13 dBm.

**Test Equipment Utilized**

| Description | MFG | Model Number | CT Asset Number | Last Cal Date | Cal Due Date |
|---|---|---|---|---|---|
| Spectrum Analyzer | HP | 8566B | i00049 | 10/9/2009 | 10/9/2010 |
| Horn Antenna | EMCO | 3115 | i00103 | 11/25/2008 | 11/25/2010 |
| High-pass Filter | Trilithic | 4HX3400-3-KK | i00177 | NCR | NCR |
| Tunable Notch Filter | Eagle | TNF240MFMF | i00364 | NCR | NCR |

** A 30 day calibration extension is in place for this equipment.

In addition to the above listed equipment standard RF connectors and cables were utilized in the testing of the described equipment. Prior to testing these components were tested to verify proper operation.

END OF TEST REPORT