



Flom Test Lab
EMI, EMC, RF Testing Experts Since 1963

toll-free: (866) 311-3268
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Date: March 13, 2009

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

Attention of: Mark Pope, Certification and Compliance Manager
+44 1252 611135; FAX: -611302
Mobile: +44 7774 8158594
mark.pope@vertu.com

Equipment: RM-266V, Type 466V
FCC ID: P7QRM-266V
FCC Rules:

Gentlemen:

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,

Lab Manager

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. (FCC 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: March 13, 2009

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Vertu
Equipment: RM-266V, Type 466V
FCC ID: P7QRM-266V
FCC Rules:

Dear Gentleman:

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, kindly contact the writer who is authorized to act as agent.

Best regards,

Lab Manager



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Class 2 Permissive Change

Test Report

for

Model: RM-266V, Type 466V

to

Federal Communications Commission

Rule Part(s) 22, 24

Date of report: March 13, 2009

On the Behalf of the Applicant: Vertu

At the Request of: Vertu
Beacon Hill Road
Church Crookham, Hampshire GU52 8DY UK

Attention of: Mark Pope, Certification and Compliance Manager
+44 1252 611135; FAX: -611302
Mobile: +44 7774 8158594
mark.pope@vertu.com

Reviewed by:

Lab Manager

Test Report Revision History

Revision	Date	Revised By	Reason for revision
1.0	March 13, 2009	M. Wyman	Original Document
2.0	March 24, 2009	M. Wyman	Put proper test equip cal dates in

List of Exhibits

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

Applicant: Vertu

FCC ID: P7QRM-266V

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 F.T.L.:

- A. Testimonial & Statement of Certification

The Applicant has been cautioned as to the following:

15.21 Information to the User.

The users 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.

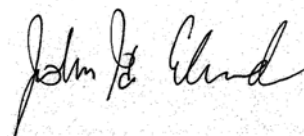
Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories 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 are true and correct.

Certifying Engineer:



Lab Manager

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Required information per ISO 17025-2005, paragraph 5.10.2:

a) **Test Report**

b) Laboratory: Flom Test Lab, Inc.
 (FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107
 (Canada: IC 2044A-1) Chandler, AZ 85225

c) Report Number: d0930013

d) Client: Vertu

e) Identification: RM-266V, Type 466V

EUT Description: Cell Phone

f) EUT Condition: Not required unless specified in individual tests.

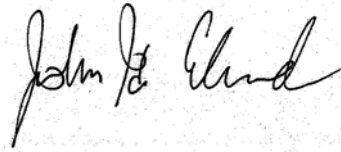
g) Report Date: March 13, 2009
 EUT Received:

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Measurement Uncertainty: In accordance with FTL internal quality manual.

m) Supervised by:



Lab Manager

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.	FCC ID
Battery				BL-5CV, N/S	
AC Charger				AC-7UV	
DC Charger				DC-7V	
Data Cable				CA-101V	

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: 90.

Standard Test Conditions and Engineering Practices

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

In accordance with ANSI/TIA-603-C-2004, 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 Flom Test Labs, 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



FCC OATS Reg. #933597

IC Reg. # 2044A-1

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
Test Equipment Utilized: I00049, i00271

Engineer: M.Wyman
Test Date: March 9, 2009

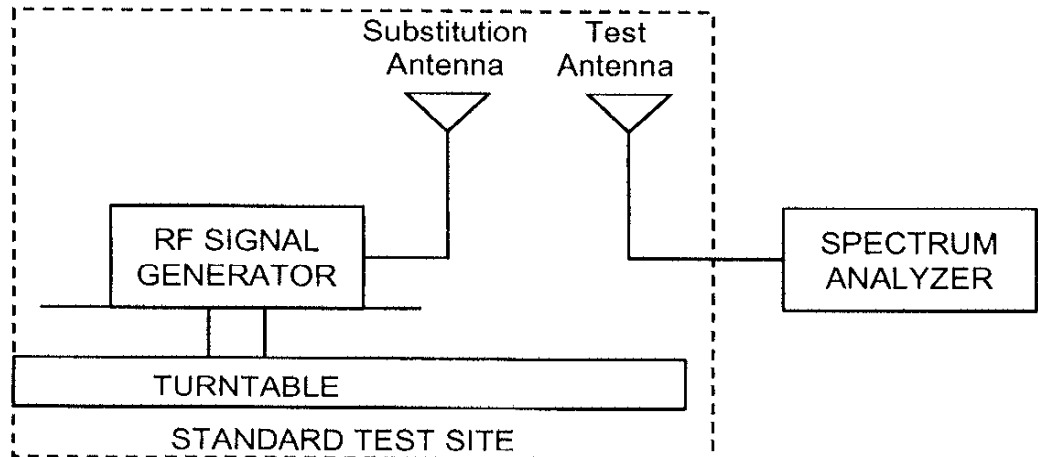
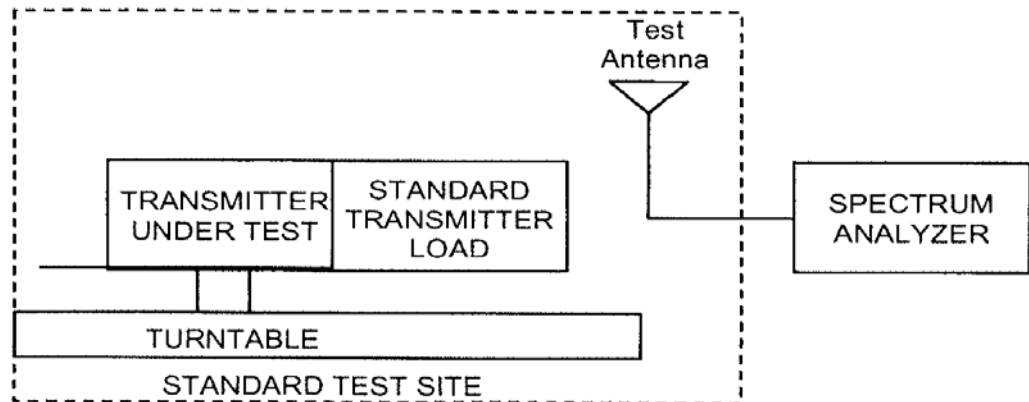
Test Procedure

- A) Connect the equipment as illustrated
- B) Adjust the spectrum analyzer for the following settings:
 - 1) Resolution Bandwidth 100 kHz (<1 GHz), 1 MHz (> 1GHz).
 - 2) Video Bandwidth ≥ 3 times Resolution Bandwidth, or 30 kHz
 - 3) Sweep Speed ≤ 2000 Hz/second
 - 4) Detector Mode = Mean or Average Power
- C) Place the transmitter to be tested on the turntable in the standard test site. The transmitter is transmitting into a non-radiating load that is placed on the turntable. The RF cable to this load should be of minimum length.
- D) For each spurious measurement the test antenna should be adjusted to the correct length for the frequency involved. This length may be determined from a calibration ruler supplied with the equipment. Measurements shall be made from the lowest radio frequency generated in the equipment to the tenth harmonic of the carrier, except for the region close to the carrier equal to \pm the test bandwidth (see section 1.3.4.4).
- E) For each spurious frequency, raise and lower the test antenna from 1 m to 4 m to obtain a maximum reading on the spectrum analyzer with the test antenna at horizontal polarity. Repeat this procedure to obtain the highest possible reading. Record this maximum reading.
- F) Repeat step E) for each spurious frequency with the test antenna polarized vertically.
- G) Reconnect the equipment as illustrated.
- H) Keep the spectrum analyzer adjusted as in step B).
- I) Remove the transmitter and replace it with a substitution antenna (the antenna should be half-wavelength for each frequency involved). The center of the substitution antenna should be approximately at the same location as the center of the transmitter. At lower frequencies, where the substitution antenna is very long, this will be impossible to achieve when the antenna is polarized vertically. In such case the lower end of the antenna should be 0.3 m above the ground.
- J) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.
- K) Repeat step J) with both antennas vertically polarized for each spurious frequency.
- L) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps J) and K) by the power loss in the cable between the generator and the antenna and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna.
- M) The levels recorded in step L) are absolute levels of radiated spurious emissions in dBm. The radiated spurious emissions in dB can be calculated by the following:

Radiated spurious emissions dB = $10\log_{10}(\text{TX power in watts}/0.001)$ – the levels in step I)

NOTE: It is permissible that other antennas provided can be referenced to a dipole.

Test Setup



Measurement Results Part 22

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation

$P_{lim} = 43 + 10\log(P) = 55.73\text{dBc}$

Fundamental ERP value = 18.76dbm

Test Results

GSM Data

Tuned Frequency (MHz)	Emission Frequency (MHz)	Measured Power dBm EIRP	Spurious dBc
824.200000	1648.400000	-65.31	-84.07
824.200000	2472.600000	-59.28	-78.04
824.200000	3296.800000	-57.60	-76.36
824.200000	4121.000000	-55.80	-74.56
824.200000	4945.200000	-55.07	-73.83

No other emissions were detected. Emissions were checked to the 10th harmonic. All emissions were greater than –25 dBm.

Measurement Results Part 22

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation $P_{lim} = 43 + 10\log(P) = 56.10\text{dbc}$ **Fundamental ERP value = 20.58dBm****GSM data**

Tuned Frequency (MHz)	Emission Frequency (MHz)	Measured Power dBm EIRP	Spurious dBc
836.600000	1673.200000	-64.58	-85.16
836.600000	2509.800000	-60.70	-81.28
836.600000	3346.400000	-57.16	-77.74
836.600000	4183.000000	-55.43	-76.01
836.600000	5019.600000	-54.83	-75.41

No other emissions were detected. Emissions were checked to the 10th harmonic. All emissions were greater than –25 dBm.

Measurement Results Part 22

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation

$P_{lim} = 43 + 10\log(P) = 56.3\text{dBc}$

Fundamental ERP value = 21.29dBm

GSM Data

Tuned Frequency (MHz)	Emission Frequency (MHz)	Measured Power dBm EIRP	Spurious dBc
848.800000	1697.600000	-54.15	-75.44
848.800000	2546.400000	-49.54	-70.83
848.800000	3395.200000	-47.66	-66.21
848.800000	4244.000000	-46.53	-67.82
848.800000	5092.800000	-44.92	-66.21

No other emissions were detected. Emissions were checked to the 10th harmonic. All emissions were greater than –25 dBm.

Measurement Results Part 22

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation

$P_{lim} = 43 + 10\log(P) = 55.06\text{dBc}$

Fundamental ERP value = 16.09dBm

Test Results

EGPRS Data

Tuned Frequency (MHz)	Emission Frequency (MHz)	Measured Power dBm EIRP	Spurious dBc
824.200000	1648.400000	-65.35	-81.44
824.200000	2472.600000	-59.98	-76.07
824.200000	3296.800000	-58.82	-74.91
824.200000	4121.000000	-56.24	-72.33
824.200000	4945.200000	-55.68	-71.77

No other emissions were detected. Emissions were checked to the 10th harmonic. All emissions were greater than –25 dBm.

Measurement Results Part 22

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation $P_{lim} = 43 + 10\log(P) = 55.44\text{dBc}$ **Fundamental ERP value = 17.55dBm****EGPRS data**

Tuned Frequency (MHz)	Emission Frequency (MHz)	Measured Power dBm EIRP	Spurious dBc
836.600000	1673.200000	-66.65	-84.20
836.600000	2509.800000	-61.66	-79.21
836.600000	3346.400000	-57.56	-75.11
836.600000	4183.000000	-57.50	-75.05
836.600000	5019.600000	-55.72	-73.27

No other emissions were detected. Emissions were checked to the 10th harmonic. All emissions were greater than –25 dBm.

Measurement Results Part 22

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation $P_{lim} = 43 + 10\log(P) = 55.64\text{dBc}$ **Fundamental ERP value = 18.39dBm****EGPRS Data**

Tuned Frequency (MHz)	Emission Frequency (MHz)	Measured Power dBm EIRP	Spurious dBc
848.800000	1697.600000	-54.31	-72.70
848.800000	2546.400000	-50.98	-69.37
848.800000	3395.200000	-48.26	-66.65
848.800000	4244.000000	-47.27	-65.65
848.800000	5092.800000	-46.81	-65.20

No other emissions were detected. Emissions were checked to the 10th harmonic. All emissions were greater than –25 dBm.

Measurement Results Part 24

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation

$$P_{lim} = 43 + 10 \log (P) = 47.92 \text{ dBc}$$

Fundamental ERP value = 13.11 dBm

Summary Results Table

GSM Data

Tuned Frequency (MHz)	Emission Frequency (MHz)	Calculated Power dBm	Spurious dBc
1850.200000	3700.400000	-58.35	-61.46
1850.200000	5550.600000	-54.35	-57.46
1850.200000	7400.800000	-47.13	-50.24
1850.200000	9251.000000	-46.67	-49.78
1850.200000	11101.200000	-44.96	-48.07

Data was observed to the 10th harmonic. There were no observable emissions past the 6th harmonic.

Measurement Results Part 24

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation

$P_{lim} = 43 + 10 \log (P) = 50.75\text{dBc}$

Fundamental ERP value = 15.95dBm

GSM data

Tuned Frequency (MHz)	Emission Frequency (MHz)	Calculated Power dBm	Spurious dBc
1880.000000	3760.000000	-57.49	-63.44
1880.000000	5640.000000	-54.56	-60.51
1880.000000	7520.000000	-47.07	-53.02
1880.000000	9400.000000	-46.20	-52.15
1880.000000	11280.000000	-45.97	-51.92

Data was observed to the 10th harmonic. There were no observable emissions past the 6th harmonic.

Measurement Results Part 24

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation

$$P_{lim} = 43 + 10 \log (P) = 55.15 \text{ dBc}$$

Fundamental ERP value = 16.42 dBm

GSM data

Tuned Frequency (MHz)	Emission Frequency (MHz)	Calculated Power dBm	Spurious dBc
1909.800000	3819.600000	-57.47	-73.89
1909.800000	5729.400000	-55.89	-72.31
1909.800000	7639.200000	-47.13	-63.55
1909.800000	9549.000000	-45.15	-61.57
1909.800000	11458.800000	-43.58	-60.00

Data was observed to the 10th harmonic. There were no observable emissions past the 6th harmonic.

Measurement Results Part 24

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation

$$P_{lim} = 43 + 10 \log (P) = 54.39 \text{ dBc}$$

Fundamental ERP value = 13.78 dBm

EGPRS Data

Tuned Frequency (MHz)	Emission Frequency (MHz)	Calculated Power dBm	Spurious dBc
1850.200000	3700.400000	-55.36	-69.14
1850.200000	5550.600000	-54.81	-68.59
1850.200000	7400.800000	-46.65	-60.43
1850.200000	9251.000000	-45.65	-59.43
1850.200000	11101.200000	-45.31	-59.09

Data was observed to the 10th harmonic. There were no observable emissions past the 6th harmonic.

Measurement Results Part 24

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation

$P_{lim} = 43 + 10 \log (P) = 55.07 \text{ dBc}$

Fundamental ERP value = 16.12 dBm

EGPRS data

Tuned Frequency (MHz)	Emission Frequency (MHz)	Calculated Power dBm	Spurious dBc
1880.000000	3760.000000	-57.17	-73.29
1880.000000	5640.000000	-54.11	-70.23
1880.000000	7520.000000	-46.03	-62.15
1880.000000	9400.000000	-47.63	-63.75
1880.000000	11280.000000	-44.22	-60.34

Data was observed to the 10th harmonic. There were no observable emissions past the 6th harmonic.

Measurement Results Part 24

Sample calculation

Spurious Power – Radiated ERP = Spurious dBc

Limit calculation

$$P_{lim} = 43 + 10 \log (P) = 54.98 \text{ dBc}$$

Fundamental ERP value = 15.78 dBm

EGPRS Data

Tuned Frequency (MHz)	Emission Frequency (MHz)	Calculated Power dBm	Spurious dBc
1909.800000	3819.600000	-56.17	-71.95
1909.800000	5729.400000	-54.82	-70.60
1909.800000	7639.200000	-46.26	-62.04
1909.800000	9549.000000	-45.24	-61.02
1909.800000	11458.800000	-44.03	-59.81

Data was observed to the 10th harmonic. There were no observable emissions past the 6th harmonic.

Test Equipment Utilized

Description	MFG	Model Number	FTL Asset Number	Last Cal Date	Cal Due Date
Power Supply	HP	6286A	i00005	NCR	NCR
Temperature Chamber	Tenney	Tenney Jr.	i00027	12/8/08	12/08/09
Monopole Antenna Set	Ailtech	DM-105A-T1, T2, T3	i00037, 39, 42, 48	Verified	Verified
Spectrum Analyzer	HP	8566B	i00049	8/22/08	8/22/09
Bi Con Antenna	EMCO	3109B	i00088	10/15/07	10/15/09
Log Periodic Antenna	Apriel	2001	i00089	10/22/07	10/22/09
Horn Antenna	Apriel	118T	i00271	10/15//07	10/07/09
Tunable Notch Filter	Eagle	TNF-1	i00124	NCR	NCR
Crystal Detector	HP	8472B	i00159	NCR	NCR
Power Meter	HP	E4418B	i00228	10/1/08	10/1/09
Signal Generator	R&S	SMT-03	i00266	NCR	NCR
Power sensor	HP	8482A	i00341	9/30/08	9/30/09
Digitizing Oscilloscope	HP	50402	i00318	Verified	Verified
Modulation Analyzer	HP	8901A	i00321	10/27/08	10/27/09
Audio Analyzer	HP	8903A	i00020	2/05/09	2//05/10
Spectrum Analyzer	Agilent	E4407B	i00331	11/3/08	11/3/09

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