





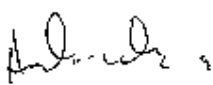
TEST REPORT FROM RADIO FREQUENCY INVESTIGATION LTD.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001
(Intentional Radiators)
Clause 15.225

Test Report Serial No:
RFI/EMCB2/RP43508JD02A

Supersedes Test Report Serial No:
RFI/EMCB1/RP43508JD02A

This Test Report Is Issued Under The Authority Of Richard Jacklin, Operations Director: 	Checked By: 
Tested By: 	Release Version No: PDF01
Issue Date: 22 April 2003	Test Dates: 08 October 2002 to 21 October 2002

This report is issued in Adobe Acrobat portable document format (PDF). It is only a valid copy of the report if it is being viewed in PDF format with the following security options not allowed: Changing the document, Selecting text and graphics, Adding or changing notes and form fields. Furthermore, the date of creation must match the issue date stated above.

This report may be copied in full.

The results in this report apply only to the sample(s) tested.

Radio Frequency Investigation Ltd, Ewhurst Park, Ramsdell,
Basingstoke, Hampshire, RG26 5RQ, ENGLAND.
Tel: +44 (0) 1256 851193 Fax: +44 (0) 1256 851192

Registered in England, No. 211 7901.
Registered Office: Ewhurst Park, Ramsdell,
Basingstoke, Hampshire RG26 5RQ



RADIO FREQUENCY INVESTIGATION LTD.

Operations Department

**Test Of: SIRIT Technologies Inc.
 SIRIT OEM 410**

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

TEST REPORT

S.No: RFI/EMCB2/RP43508JD02A

Page 2 of 32

Issue Date: 22 April 2003

This page has been left intentionally blank.

Test Of: SIRIT Technologies Inc.

SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

Table of Contents

1. Client Information.....	4
2. Equipment Under Test (EUT)	5
3. Test Specification, Methods And Procedures	7
4. Deviations From The Test Specification	8
5. Operation Of The EUT During Testing	9
6. Summary Of Test Results.....	10
7. Measurements, Examinations And Derived Results.....	11
8. Measurement Uncertainty	16
Appendix 1. Test Equipment Used	17
Appendix 2. Measurement Methods	19
Appendix 3. Test Configuration Drawings.....	23
Appendix 4. Graphical Test Results	27
Appendix 5. Photographs of EUT	31

Test Report Serial No: RFI/EMCB2/RP43508JD02A supersedes Test Report Serial No: RFI/EMCB1/RP43508JD02A.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

1. Client Information

Company Name:	SIRIT Technologies Inc
Address:	i2R Division Unit 10 Loughborough Technology Centre Epinal Way Loughborough Leicestershire LE11 3GE
Contact Name:	Mr G Bishop

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

2. Equipment Under Test (EUT)

The following information (with the exception of the Date of Receipt) has been supplied by the client:

2.1. Identification Of Equipment Under Test (EUT)

Brand Name:	SIRIT UK (formally i2R Limited)
Model Name or Number:	OEM 410
Unique Type Identification:	None stated by client
Serial Number:	X16000249
Country of Manufacture:	UK
FCC ID Number:	P5ROEM410V12
Date of Receipt:	08 October 2002

2.2. Description Of EUT

Radio Frequency Identification (RFID) module designed for incorporation into OEM printer products. Its specific application is for the identification of special printer papers.

2.3. Modifications Incorporated In EUT

The unit was tested with additional software to provide constant RF ON or continuous RFID read, this was for test purposes. The OEM unit to which the unit is fitted would normally provide these functions externally.

2.4. Additional Information Related To Testing

Power Supply Requirement:	Nominal 115 V 60 Hz AC mains supply
Intended Operating Environment:	Light Industrial
Weight:	Approx. 31g
Dimensions:	Approx. 108 x 68 x 13 mm
Interface Ports:	AC Power Port

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

2.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	Power Supply
Brand Name:	NEDAP
Model Name or Number:	9884254
Serial Number:	A328354
FCC ID Number:	Not applicable
Cable Length And Type:	Not Applicable
Connected to Port:	AC Power Port

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

3. Test Specification, Methods And Procedures

3.1. Test Specification

Reference:	FCC Part 15 Subpart C: 2001 (Intentional Radiators). Section 15.225. (Operation within the band 13.553 to 13.567 MHz).
Title:	Code of Federal Regulations, Part 15 (47CFR15) Radio Frequency Devices: Digital Devices.
Comments:	A description of the test facility used for this test is on file with, and has been accepted by, the Federal Communications Commission as required by Section 2.948 of Federal Rules.
Purpose of Test:	To determine whether the equipment complied with the applicable requirements of the specification for the purposes of certification.

3.2. Methods And Procedures

The methods and procedures used were as detailed in:

ANSI C63.2 (1996)

Title: American National Standard for Instrumentation - Electromagnetic noise and field strength.

ANSI C63.4 (2001)

Title: American National Standard Methods of Measurement of Electromagnetic Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

ANSI C63.5 (1998)

Title: American National Standard for the Calibration of antennas used for Radiated Emission measurements in Electromagnetic Interference (EMI) control.

ANSI C63.7 (1988)

Title: American National Standard Guide for Construction of Open Area Test Sites for performing Radiated Emission Measurements.

CISPR 16-1 (1999)

Title: Specification for radio disturbance and immunity measuring apparatus and methods. Part 1. Radio disturbance and immunity measuring apparatus.

3.3. Definition Of Measurement Equipment

The measurement equipment used complied with the requirements of the standards referenced in the Methods & Procedures section above. Appendix 1 contains a list of the test equipment used.

RADIO FREQUENCY INVESTIGATION LTD.

Operations Department

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

TEST REPORT

S.No: RFI/EMCB2/RP43508JD02A

Page 8 of 32

Issue Date: 22 April 2003

4. Deviations From The Test Specification

None.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

5. Operation Of The EUT During Testing

5.1. Operating Conditions

During testing, the EUT was powered by a Nominal 115 V 60 Hz AC mains supply.

5.2. Operating Modes

The EUT was tested in the following operating modes.

The EUT was tested in the continuous transmit mode.

The reason for choosing this mode was that the client defined it as being likely to be the worst case with regards EMC/RFI.

5.3. Configuration And Peripherals

The EUT was tested in the following configuration:

For the purpose of these tests the unit is mounted on a wooden block connected to a typical power supply together with sample tags positioned to read continuously, which verify the correct operation of the module.

The reason for choosing this configuration was that it was defined by the client as being likely to be the worst case with regards EMC/RFI.

NB Section 2 of this report contains a full list of support equipment used and Appendix 3 contains a schematic diagram of the test configuration.

**Test Of: SIRIT Technologies Inc.
SIRIT OEM 410****To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225**

6. Summary Of Test Results

6.1. Summary Of Test Results

Range Of Measurements	Specification Reference	Mode Type	Port of Operation	Compliance Status
AC Conducted Emissions	C.F.R. 47 FCC Part 15.207: 2001	Transmit	AC Mains	Complied
Radiated Field Strength of Fundamental Emission	C.F.R. 47 FCC Part 15.225(a): 2001	Transmit	Antenna	Complied
Radiated Field Strength of Spurious Emissions	C.F.R. 47 FCC Part 15.225(b): 2001	Transmit	Antenna	Complied
Frequency Tolerance	C.F.R. 47 FCC Part 15.225(c): 2001	Transmit	Antenna	Complied

6.2. Location Of Tests

All the measurements described in this report were performed at the premises of Radio Frequency Investigation Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ, England.

Test Of: **SIRIT Technologies Inc.**
 SIRIT OEM 410

To: **FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225**

7. Measurements, Examinations And Derived Results

7.1. General Comments

7.1.1. This section contains test results only. Details of the test methods and procedures can be found in Appendix 2 of this report.

7.1.2. Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to Section 8 for details of measurement uncertainties.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

7.2. Conducted Emissions

7.2.1. Quasi-Peak Detector Measurements On Live And Neutral Lines

7.2.1.1. Plots of the initial scans can be found in Appendix 4.

7.2.1.2. Measurements were performed to the limits specified in FCC Part 15.207.

7.2.1.3. The following table lists frequencies at which emissions were measured using a Quasi-Peak detector:

Frequency (MHz)	Line	Q-P Level (dB μ V)	Q-P Limit (dB μ V)	Margin (dB)	Result
0.345450	Live & Neutral	47.95	59.07	11.12	Complied
2.432830	Live & Neutral	38.68	56.00	17.32	Complied
3.131670	Live & Neutral	40.84	56.00	15.16	Complied
4.876610	Live & Neutral	39.21	56.00	16.79	Complied
16.848100	Live & Neutral	42.87	60.00	17.13	Complied
19.024030	Live & Neutral	47.87	60.00	12.13	Complied

7.2.2. Average Detector Measurements On Live And Neutral Lines

7.2.2.1. Plots of the initial scans can be found in Appendix 4.

7.2.2.2. Measurements were performed to the limits specified in FCC Part 15.207.

7.2.2.3. The following table lists frequencies at which emissions were measured using an Average detector:

Frequency (MHz)	Line	Av. Level (dB μ V)	Av. Limit (dB μ V)	Margin (dB)	Result
0.345450	Live & Neutral	42.41	49.07	6.66	Complied
2.432830	Live & Neutral	23.75	46.00	22.25	Complied
3.131670	Live & Neutral	23.24	46.00	22.76	Complied
4.876610	Live & Neutral	20.78	46.00	25.22	Complied
16.848100	Live & Neutral	22.98	50.00	27.02	Complied
19.024030	Live & Neutral	28.29	50.00	21.71	Complied

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

7.3. Radiated Emissions

7.3.1. Radiated Field Strength Measurement of Fundamental Frequency

7.3.1.1. A plot of the initial scan can be found in Appendix 4.

7.3.1.2. Measurements were performed to the limits specified in FCC Part 15.225(a), for fundamental frequencies between 13.553 and 13.567 MHz, any emissions appearing in this frequency band must not exceed 10,000 $\mu\text{V/m}$ at 30 meters (80dB $\mu\text{V/m}$ at 30 meters).

Frequency (MHz)	Q-P Level (dB $\mu\text{V/m}$)	Q-P Limit (dB $\mu\text{V/m}$)	Margin (dB)	Result
13.56	3.73	80.00	76.27	Complied

Note. The fundamental emission was at a level that did not exceed the measuring receivers noise floor. For this reason this test distance was reduced to 3 meters to improve signal to noise. The emission was still below the system noise floor. The system noise floor was thus recorded for completeness and compared against the 30 meter limit.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

7.3.2. Radiated Field Strength Measurements: 9 kHz to 1000 MHz.

7.3.2.1. The client has stated that the highest clock frequency for the EUT was 13.56MHz. Therefore tests were performed up to 1000 MHz.

7.3.2.2. Plots of the initial scans can be found in Appendix 4.

7.3.2.3. Measurements were performed to the limits specified in FCC Part 15.209.

7.3.2.4. The following table lists frequencies at which emissions were measured using a Quasi-Peak detector at a test distance of 3m (results incorporate antenna factors and cable losses):

Frequency (MHz)	Ant. Pol.	Q-P Level (dB μ V/m)	Q-P Limit (dB μ V/m)	Margin (dB)	Result
45.174	Vert.	34.5	40.0	5.5	Complied
95.116	Vert.	42.3	43.5	1.3	Complied
114.689	Vert.	39.6	43.5	3.9	Complied

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

7.4. Frequency Stability Measurements

7.4.1. Measurements were performed to determine the frequency stability of the fundamental emission from the EUT, when subjected to variation of ambient temperature and variation of supply voltage.

7.4.1. The ambient temperature was varied from -20°C to +50°C in 10°C steps.

7.4.2. The primary supply voltage was varied from 85% to 115% of the stated supply voltage of 110 Volts.

7.4.3. During the test the fundamental frequency of the EUT shall be maintained within $\pm 0.01\%$ of the operating frequency.

7.4.4. The client has stated that the operating frequency of the EUT is 13.56 MHz. The following frequency band shall not be exceeded throughout the test.

Lower Limit (-0.01%)	13.558644 MHz
Upper Limit (+0.01%)	13.561356 MHz

Results:

Temperature (°C)	Input Voltage (V)	Measured Frequency (MHz)	Frequency Error (Hz)	Frequency Error (%)	Limit (±%)	Margin (%)	Result
-20	93.5	13.560501	501	0.0037	0.01	0.0063	Complied
	121.0	13.560501	501	0.0037	0.01	0.0063	Complied
-10	93.5	13.560469	469	0.0035	0.01	0.0065	Complied
	121.0	13.560469	469	0.0035	0.01	0.0065	Complied
0	93.5	13.560504	504	0.0037	0.01	0.0063	Complied
	121.0	13.560504	504	0.0037	0.01	0.0063	Complied
+10	93.5	13.560423	423	0.0031	0.01	0.0069	Complied
	121.0	13.560423	423	0.0031	0.01	0.0069	Complied
+20	93.5	13.560375	375	0.0028	0.01	0.0072	Complied
	121.0	13.560375	375	0.0028	0.01	0.0072	Complied
+30	93.5	13.560344	344	0.0025	0.01	0.0075	Complied
	121.0	13.560344	344	0.0025	0.01	0.0075	Complied
+40	93.5	13.560344	344	0.0025	0.01	0.0075	Complied
	121.0	13.560344	344	0.0025	0.01	0.0075	Complied
+50	93.5	13.560297	297	0.0022	0.01	0.0078	Complied
	121.0	13.560297	297	0.0022	0.01	0.0078	Complied

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

8. Measurement Uncertainty

8.1. No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

8.2. The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

8.3. The uncertainty of the result may need to be taken into account when interpreting the measurement results.

8.4. The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level	Calculated Uncertainty
AC Mains Conducted Emissions	0.15 MHz to 30 MHz	95%	± 3.66 dB
Radiated Emissions	9 KHz to 30 MHz	95%	± 3.53 dB
Radiated Emissions	30 MHz to 1000 MHz	95%	± 5.26 dB
Frequency Tolerance	13.56 MHz	95%	± 11.72 Hz

8.5. The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Model No.	Serial No.
A007	HFH2-Z2 Loop Antenna	Rohde & Schwarz	HFH2-Z2	880 458/020
A067	LISN	Rohde & Schwarz	ESH3-Z5	890603/002
A259	Bilog Antenna	Chase	CBL6111	1513
A276	OATS Positioning Controller	Rohde & Schwarz	HCC	
A287	ESH3-Z2 Pulse Limiter	Rohde & Schwarz	ESH3-Z2	None
A392	3 dB attenuator (9)	Suhner	6803.17.B	None
C222	Cable	Rosenberger	UFA210A-1-1181-70x70	None
C340	Cable	Andrews	None	None
C346	Coaxial Cable	Rosenberger	UFA210A-1-1181-70x70	1932
C362	Cable	Rosenberger	UFA210A-1-1181-70x70	1925
C363	BNC Cable	Rosenberger	RG142	None
C364	BNC Cable	Rosenberger	RG142	None
C468	N-Type Coaxial Cable	Rosenberger	UFA210A-1-3937-504504	98L0440
E013	PCN Environmental Chamber	Sanyo	ATMOS chamber	None
M003	Spectrum Monitor	Rohde & Schwarz	EZM	883 580/008
M023	ESVP Receiver	Rohde & Schwarz	ESVP	872 991/027
M127	Spectrum Analyser	Rohde & Schwarz	FSEB 30	842 659/016
M133	Temperature/Humidity/ Pressure Meter	RS Components	None	None
M173	Turntable Controller	R.H.Electrical Services	RH351	3510020

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

Test Equipment Used (continued)

RFI No.	Instrument	Manufacturer	Model No.	Serial No.
M198	Thermal Power Sensor	Rohde & Schwarz	NRV-Z52	827 191/003
M199	Power Meter	Rohde & Schwarz	NRVS	827023/075
M210	Thermo/hygro meter	RS Components Ltd	RS212-124	M210-RS212-124
M243	Thermometer/Barometer/Hygrometer	Oregon Scientific	BA 116	None
M505	Analyser Display Unit	Rohde & Schwarz	ESAI-D	825316/010
M506	RF unit	Rohde & Schwarz	ESBI-RF	827060/004
S201	Site 1	RFI	1	
S207	Site 7	RFI	7	1932
S209	Site 9	RFI	9	

NB In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

Appendix 2. Measurement Methods

A2.1. AC Mains Conducted Emissions: FCC Part 15

A2.1.1. AC mains conducted emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

A2.1.2. The test was performed in a shielded enclosure with the equipment arranged as detailed in the standard on a wooden bench using the floor of the screened enclosure as the ground reference plane and with the EUT powered via a 60 Hz AC mains supply.

A2.1.3. Initial measurements in the form of swept scans covering the entire measurement band were performed in order to identify frequencies on which the EUT was generating interference. In order to minimise the time taken for these swept measurements, a Peak detector was used in conjunction with the appropriate detector IF measuring bandwidths (see table below). Repetitive scans were performed to allow for emissions with low repetition rates, and the duty cycle of the EUT. The test configuration was the same for the initial scans as for the final measurements.

A2.1.4. Following the initial scans, a graph was produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. A tolerance line was set 6 dB below the specification limit and levels above the tolerance line were re-tested (at individual frequencies) using the appropriate detector function.

A2.1.5. The test equipment settings for conducted emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements
Detector Type:	Peak	Quasi-Peak (CISPR)*
Mode:	Max Hold	Not applicable
Bandwidth:	10 kHz	9 kHz
Amplitude Range:	60 dB	20 dB
Measurement Time:	Not applicable	> 1 s
Observation Time:	Not applicable	> 15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

* In some instances an Average detector function may also have been used.

Test Of: **SIRIT Technologies Inc.
SIRIT OEM 410**

To: **FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225**

A2.2. Radiated Emissions: FCC Part 15

A2.2.1. Radiated emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

A2.2.2. Initial measurements covering the entire measurement band in the form of swept scans in a shielded enclosure were performed in order to identify frequencies on which the EUT was generating interference. This determined the frequencies on which the EUT should be re-measured in full on the open area test site. In order to minimise the time taken for the swept measurements, a Peak detector was used in conjunction with the appropriate detector IF measuring bandwidth (see table below). Repetitive scans were performed to allow for emissions with low repetition rates, and for the duty cycle of the EUT. The test configuration was the same for the initial scans as for the final measurements.

A2.2.3. The initial scans were performed using an antenna height of 1.5 m and a measurement distance of 3 m. Following the initial scans, graphs were produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. A tolerance line was set 6 dB below the specification limit and levels above the tolerance line were re-tested on the open area test site, at the appropriate distance, using a measuring receivers with a Quasi-Peak detector and an average detector (below 1000 MHz), where applicable, for measurements above 1000 MHz average and peak detectors were used.

A2.2.4. For the main (final) measurements the EUT was arranged on a non-conducting table on an open area test site, as detailed in the specification.

A2.2.5. All measurements on the open area test site were performed using broadband antennas.

A2.1.6. For final measurements on the open area test site, for frequencies between 9 kHz and 30 MHz where a signal was found, the levels were maximised by initially rotating the turntable through 360° and then varying the antenna angle through 360°. With the antenna set to a fixed height of 1.5 m. At this point, any signals found to be between the limit and a level 6 dB below it were further maximised by changing the configuration of the EUT, e.g. re-routing cables to peripherals and moving peripherals with respect to the EUT.

A2.1.7: For final measurements on the open area test site, for frequencies between 30 MHz and 1000 MHz where a signal was found, the levels were maximised by initially rotating the turntable through 360° and then varying the antenna height between 1 m and 4 m. At this point, any signals found to be between the limit and a level 6 dB below it were further maximised by changing the configuration of the EUT, e.g. re-routing cables to peripherals and moving peripherals with respect to the EUT.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

A2.2.8. The test equipment settings for radiated emissions measurements were as follows:

Receiver Function	Initial Scan Below 30 MHz	Final Measurements Below 30 MHz
Detector Type:	Peak	Quasi-Peak/Average
Mode:	Max Hold	Not applicable
Bandwidth:	200 Hz: (9 kHz to 150 kHz) 10 kHz: (150 kHz to 30 MHz)	200 Hz: (9 kHz to 150 kHz) 9 kHz: (150 kHz to 30 MHz)
Amplitude Range:	60 dB	20 dB (typical)
Measurement Time:	Not applicable	> 1 s
Observation Time:	Not applicable	> 15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

Receiver Function	Initial Scan 30 to 1000 MHz	Final Measurements 30 to 1000 MHz
Detector Type:	Peak	Quasi-Peak (CISPR)
Mode:	Max Hold	Not applicable
Bandwidth:	100 kHz	120 kHz
Amplitude Range:	60 dB	20 dB
Measurement Time:	Not applicable	> 1 s
Observation Time:	Not applicable	> 15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

A2.3. Frequency Stability

A.2.3.1. Tests were performed to determine the frequency stability of the EUT under varied ambient temperatures, and varied supply voltages.

A.2.3.2. For extreme temperature testing the EUT was placed in an environmental test chamber in close proximity to a test antenna. The test antenna was connected to a measurement analyser where the frequency tolerance could be measured.

A.2.3.3. The test chamber was set to acclimatise at the lowest temperature out of the range -20°C to 50°C.

A.2.3.4 The EUT was then switched on and the fundamental frequency was measured for the voltage range, 85% to 115% of the rated supply voltage.

A.2.3.5. The test chamber was then set to the next temperature setting in the temperature range and the above procedure repeated.

Appendix 3. Test Configuration Drawings

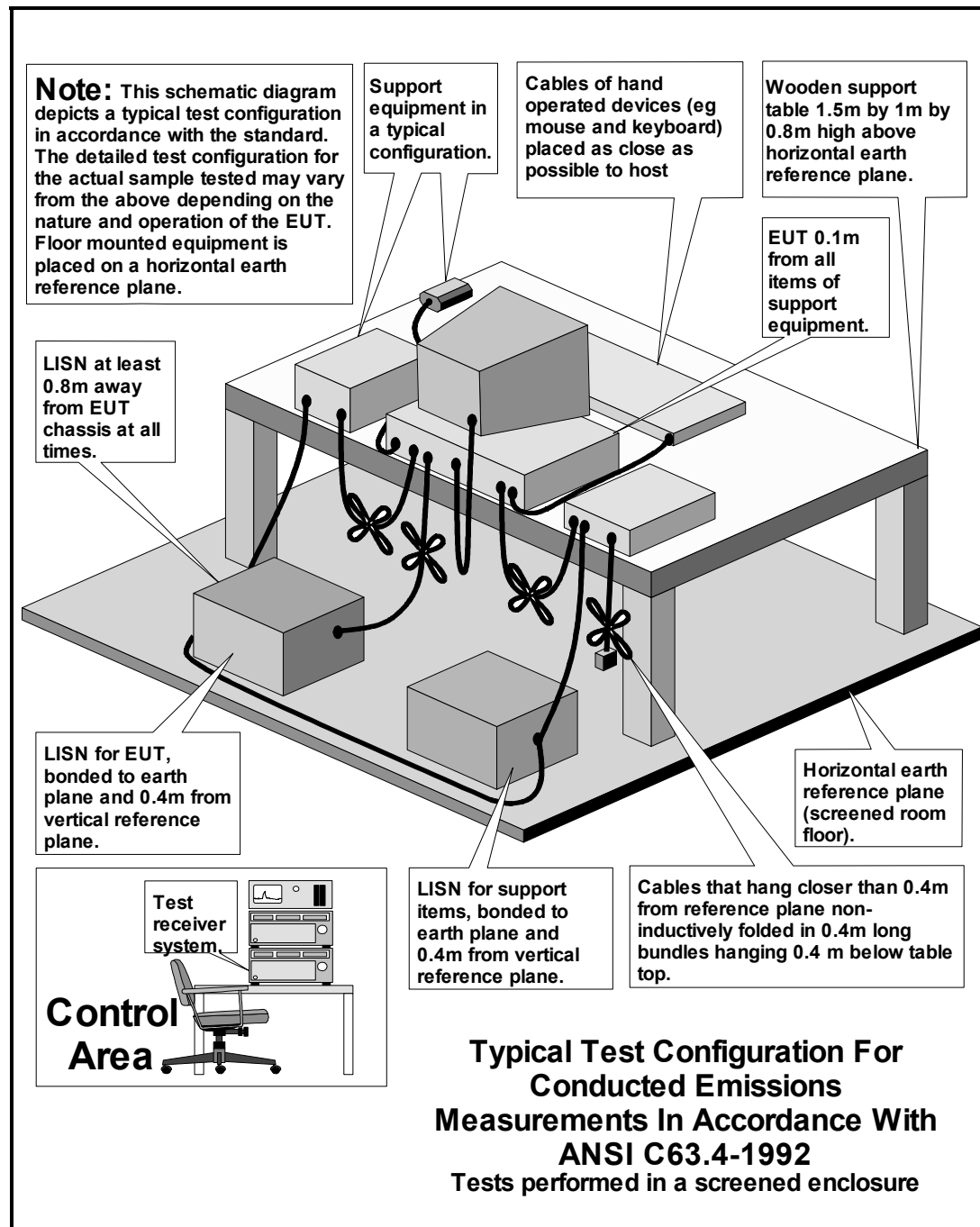
This appendix contains the following drawings:

Drawing Reference Number	Title
DRG\43508JD02\EMICON	Test configuration for measurement of conducted emissions
DRG\43508JD02\EMIRAD	Test configuration for measurement of radiated emissions
DRG\43508JD02\001	Schematic diagram of the EUT, support equipment and interconnecting cables used for the test

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

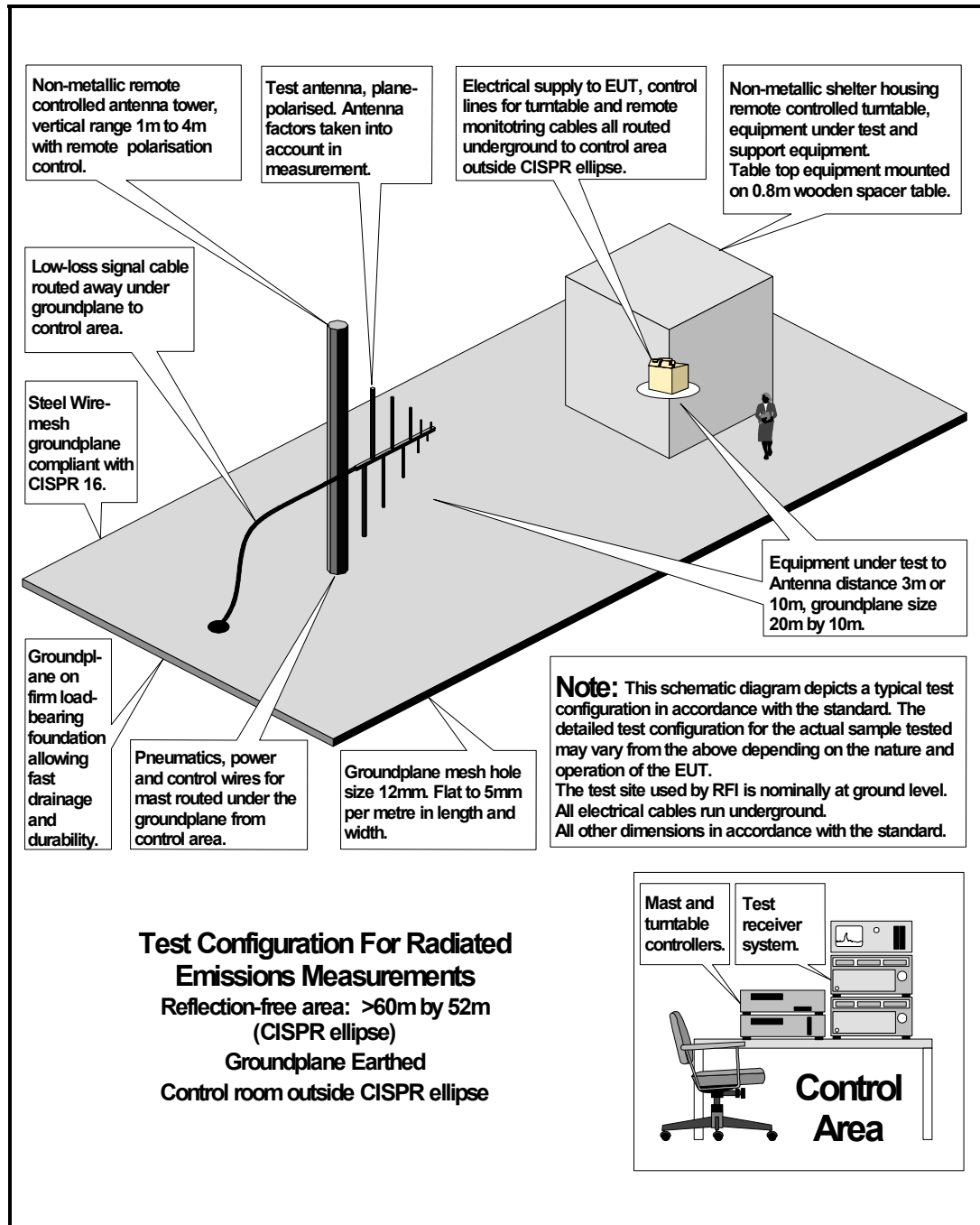
DRG\43508JD02\EMICON



Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

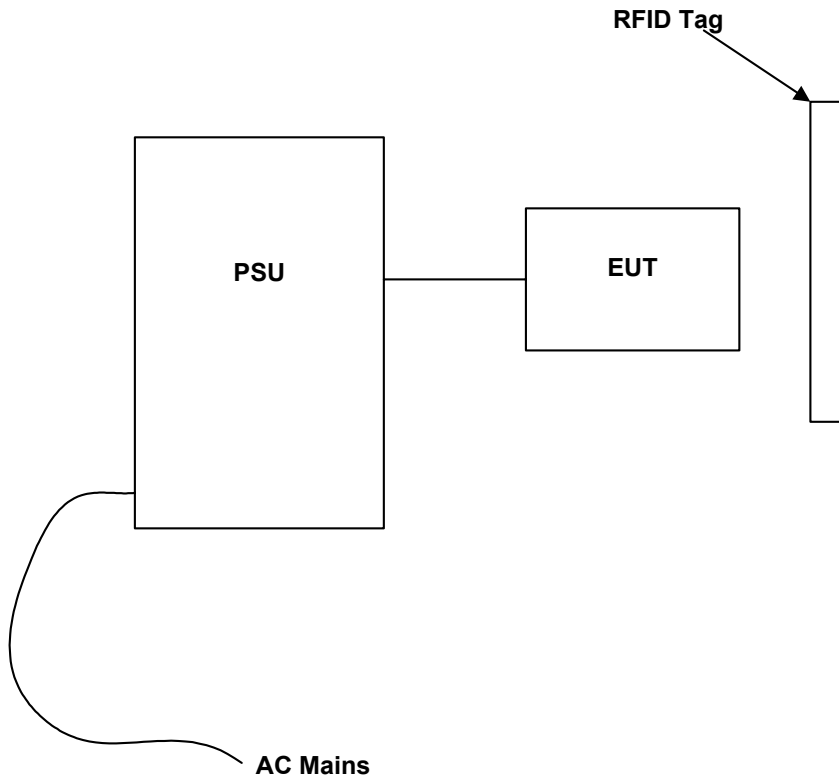
To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

DRG\43508JD02\EMIRAD



DRG\43508JD02\001

Configuration of EUT and Local Support Equipment



Appendix 4. Graphical Test Results

This appendix contains the following graphs:

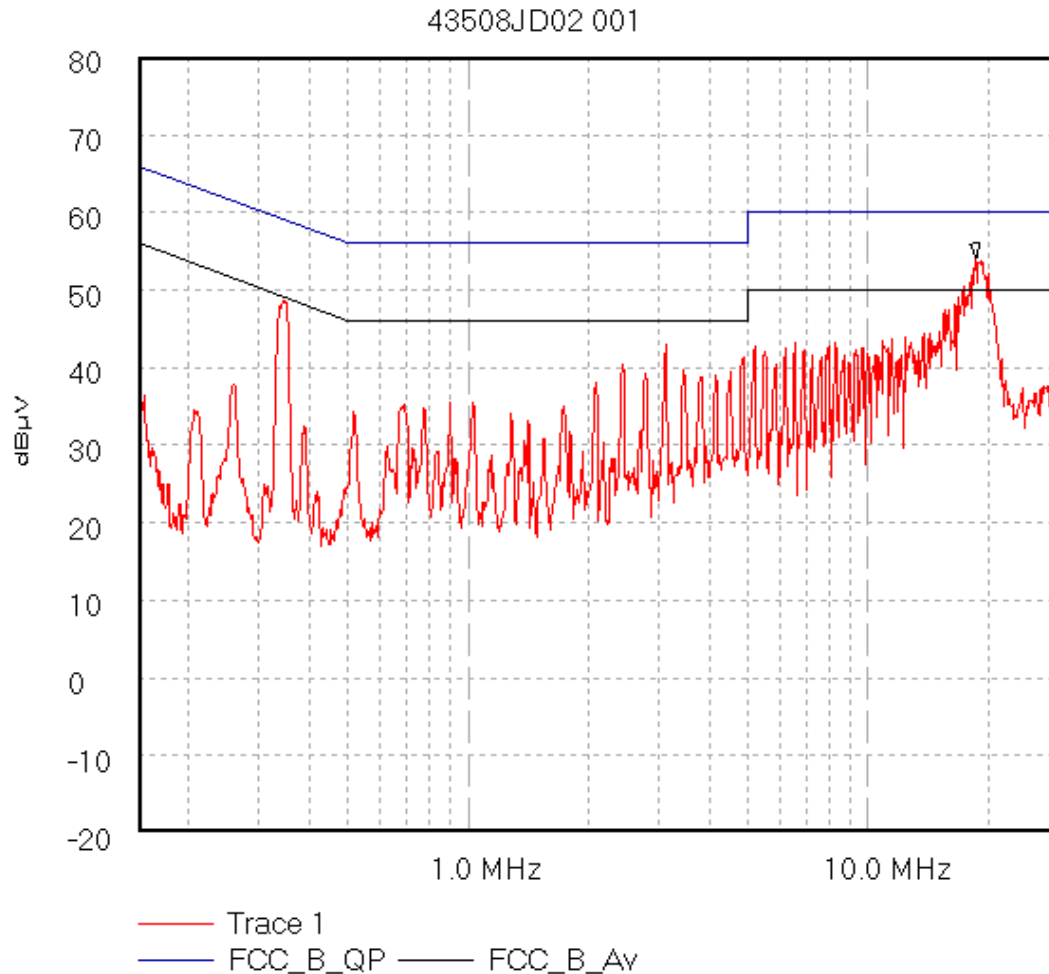
Graph Reference Number	Title
GPH\43508JD02\001	AC Mains Conducted Emissions.
GPH\43508JD02\002	Radiated Emissions 9kHz to 30MHz.
GPH\43508JD02\003	Radiated Emissions 30MHz to 1000MHz.

Test Of: SIRIT Technologies Inc.

SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

GPH\43508JD02\001
Conducted Emissions 150.0 kHz to 30.0 MHz



Start 150.0 kHz; Stop 30.0 MHz - Log Scale

Ref 80 dBµV; Ref Offset 0.0 dB; 10 dB/div

RBW 9.0 kHz; VBW 10.0 kHz; Att 10 dB; Swp 1.94 S

Peak 18.732 MHz, 54.1 dBµV

Limit/Mask: FCC_B_QP; FCC_B_Av; ; Limit Test Failed

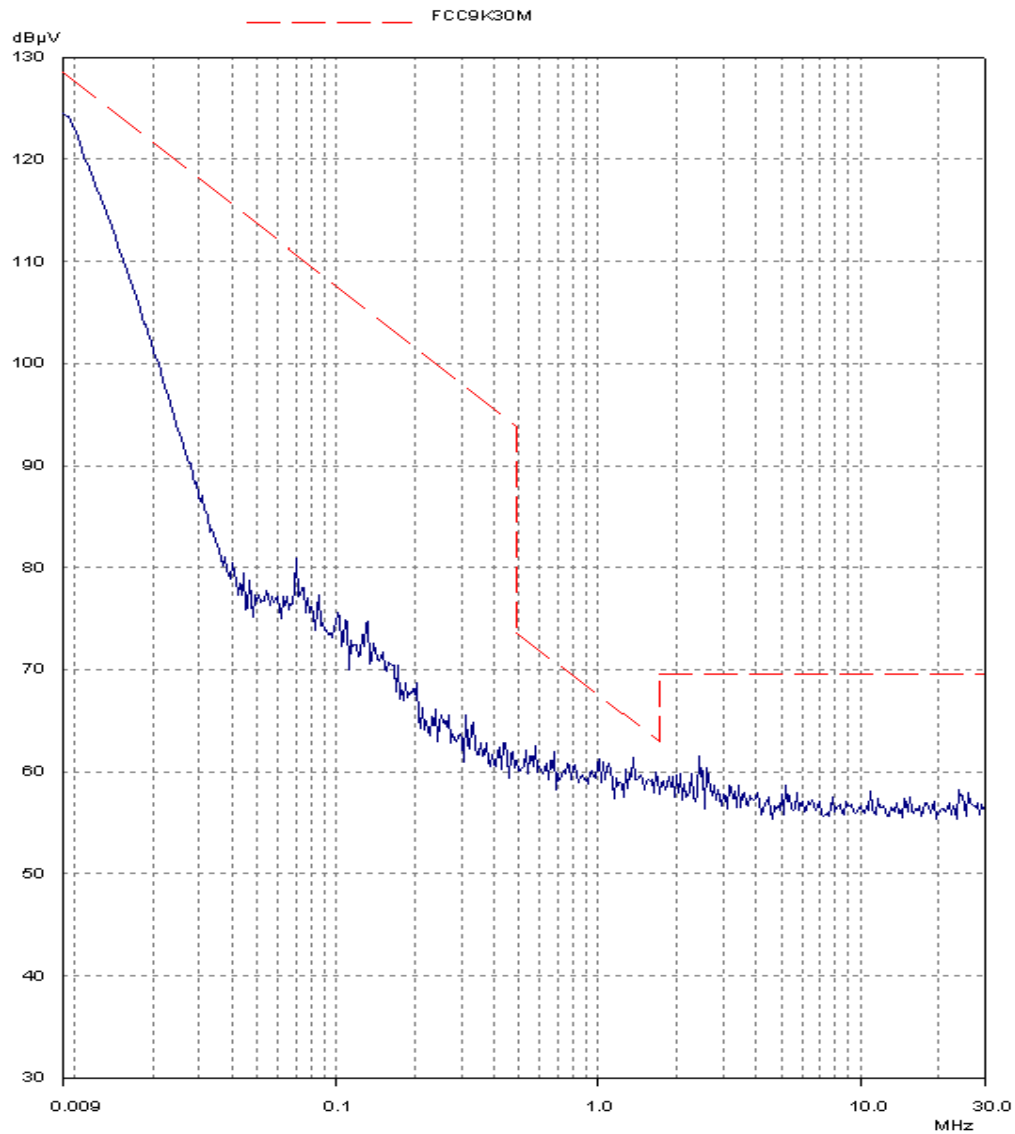
21/10/2002 10:56:32

Note: The limit test failed does not imply a system failure but is used to identify potential emissions that require further investigation.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

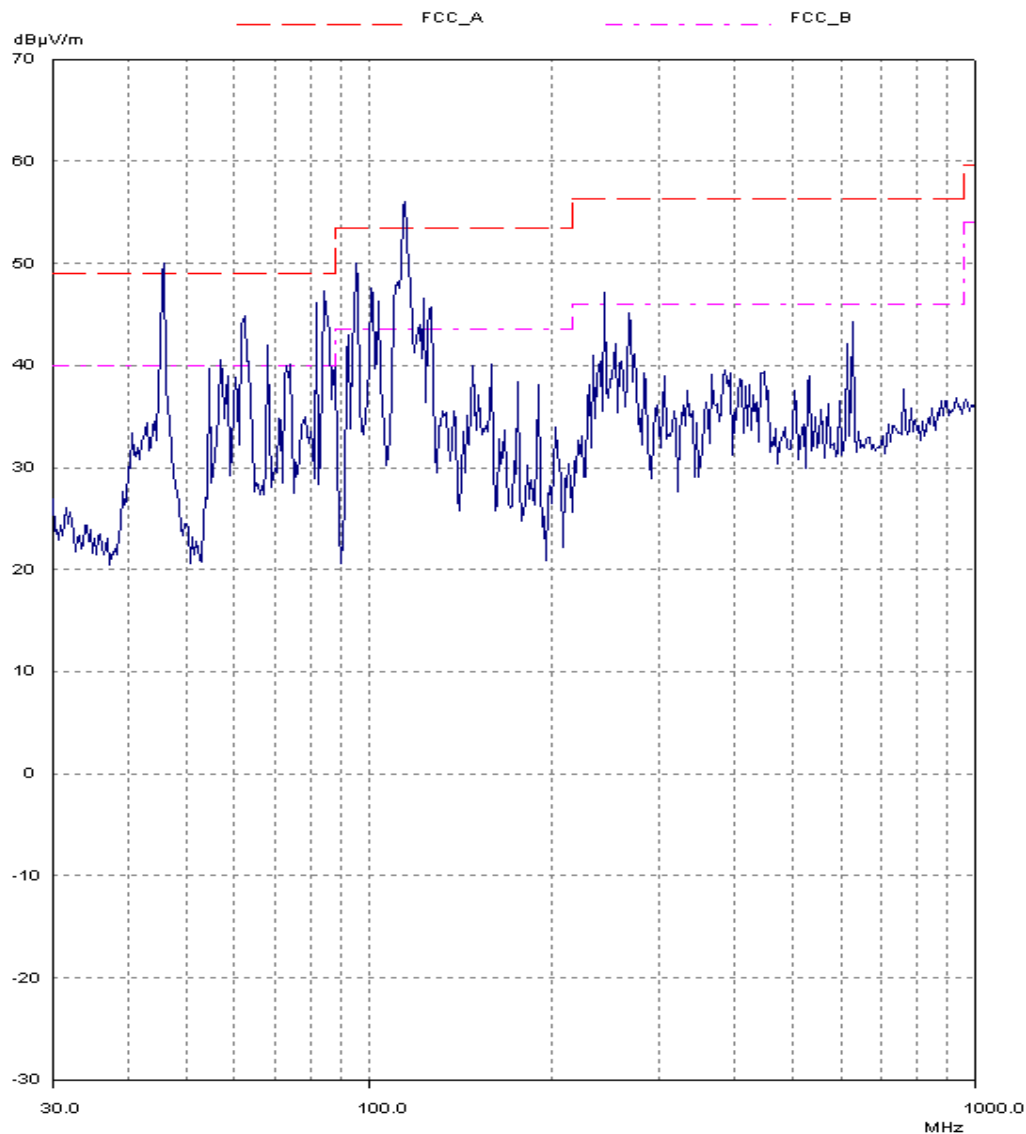
GPH43508JD02\002
Radiated Emissions 9kHz to 30MHz.



Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

GPH\43508JD02\003
Radiated Emissions 30MHz to 1000MHz.



**Test Of: SIRIT Technologies Inc.
SIRIT OEM 410****To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225**

Appendix 5. Photographs of EUT

This appendix contains the following photographs:

Photo Reference Number	Title
PHT/43508JD02/001	Front View of Conducted Emissions Set-up
PHT/43508JD02/002	Rear View of Conducted Emissions Set-up
PHT/43508JD02/003	Front View of Radiated Emissions Set-up
PHT/43508JD02/004	Rear View of Radiated Emissions Set-up

These pages are not included in the total number of pages for this report.

RADIO FREQUENCY INVESTIGATION LTD.

Operations Department

**Test Of: SIRIT Technologies Inc.
 SIRIT OEM 410**

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

TEST REPORT

S.No: RFI/EMCB2/RP43508JD02A

Page 32 of 32

Issue Date: 22 April 2003

This page has been left intentionally blank.

Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

PHT/43508JD02/001 Front View of Conducted Emissions Set-up



Test Of: SIRIT Technologies Inc.

SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

PHT/43508JD02/002 Rear View of Conducted Emissions Set-up



Test Of: SIRIT Technologies Inc.
SIRIT OEM 410
To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

PHT/43508JD02/003 Front View of Radiated Emissions Set-up



Test Of: SIRIT Technologies Inc.
SIRIT OEM 410

To: FCC Part 15 Subpart C: 2001 (Intentional Radiators) Clause 15.225

PHT/43508JD02/004 Rear View of Radiated Emissions Set-up

