TEST REPORT

Test Report No. : UL-RPT-RP86493JD04A

Manufacturer : Remote Diagnostic Technologies Ltd

Model No. : Tempus Pro

Test Standard(s) : FCC Parts 15.209(a), 15.247(d), 22.917 & Part 24.238; Industry Canada RSS-Gen 4.9, RSS-210 A8.5, RSS-132 5.5 & RSS-133 6.5

1. This test report shall not be reproduced in full or partial, without the written approval of RFI Global Services Ltd trading as UL.
2. The results in this report apply only to the sample(s) tested.
3. This sample tested is in compliance with the above standard(s).
4. The test results in this report are traceable to the national or international standards.
5. Version 1.0

Date of Issue: 22 February 2013

Checked by:

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Senior Engineer, Radio Laboratory

Issued by :

pp

John Newell
Group Quality Manager, WiSE
Basingstoke,
UL Verification Services

ilac-MRA UKAS TESTING 0644

This laboratory is accredited by UKAS. The tests reported herein have been performed in accordance with its' terms of accreditation.

RFI Global Services Ltd trading as UL

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1. Customer Information

Company Name:	Remote Diagnostic Technologies Ltd
Address:	The Old Coach House The Avenue Farleigh Wallop Hampshire RG25 2HT United Kingdom

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.247
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2012: Part 15 Subpart C (Intentional Radiators) - Section 15.247
Specification Reference:	47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2012: Part 15 Subpart C (Intentional Radiators) - Section 15.209
Specification Reference:	47CFR22
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2012: Part 22 Subpart H (Public Mobile Services)
Specification Reference:	47CFR24
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2012: Part 24 Subpart E (Personal Communication Services)
Specification Reference:	RSS-Gen Issue 3 December 2010
Specification Title:	General Requirements and Information for the Certification of Radio Apparatus
Specification Reference:	RSS-210 Issue 8 December 2010
Specification Title:	Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment.
Specification Reference:	RSS-132 Issue 3, January 2013
Specification Title:	Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz
Specification Reference:	RSS-133 Issue 6, January 2013
Specification Title:	2 GHz Personal Communications Services
Site Registration:	209735; Industry Canada: 3245B-2
Location of Testing:	RFI Global Services Ltd trading as UL, Wade Road, Basingstoke, Hampshire, RG24 8AH
Test Dates:	15 January 2013 to 29 January 2013

2.2. Summary of Test Results

FCC Reference (47CFR)	IC Reference	Measurement	Result
Transmit Mode; Bluetooth & WLAN			
15.209(a)/15.247(d)	RSS-Gen 4.9 RSS-210 A8.5, A9.2(1)	Transmitter Out of Band Radiated Emissions	
Transmit Mode; Bluetooth & Cellular (GSM850) Band			
15.209(a)/15.247(d)/ 2.1053/22.917	RSS-Gen 4.9, RSS-210 A8.5, RSS-132 5.5	Transmitter Out of Band Radiated Emissions	
Transmit Mode; Bluetooth & Cellular (GSM1900) Band			
15.209(a)/15.247(d)/ 2.1053/24.238	RSS-Gen 4.9, RSS-210 A8.5, RSS-133 6.5	Transmitter Out of Band Radiated Emissions	
Transmit Mode; Bluetooth & Cellular (FDDII) Band			
15.209(a)/15.247(d)/ 2.1053/24.238	RSS-Gen 4.9, RSS-210 A8.5, RSS-133 6.5	Transmitter Out of Band Radiated Emissions	
Transmit Mode; Bluetooth & Cellular (FDDV) Band			
15.209(a)/15.247(d)/ 2.1053/22.917	RSS-Gen 4.9, RSS-210 A8.5, RSS-132 5.5	Transmitter Out of Band Radiated Emissions	
Key to Results = Complied = Did not comply			

2.3. Methods and Procedures

Reference:	ANSI C63.4 (2009)
Title:	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
Reference:	ANSI C63.10 (2009)
Title:	American National Standard for Testing Unlicensed Wireless Devices
Reference:	ANSI/TIA-603-C-2004
Title:	Land Mobile Communications Equipment, Measurements and performance Standards

2.4. Deviations from the Test Specification

None

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Brand Name:	Tempus Pro
Model Name or Number:	00-1004
Serial Number:	49
IMEI:	354154040019652
Hardware Version Number:	AIS 23-2551 iss 1D and AIS 23-2554 iss 1C
Software Version Number:	V03

3.2. Description of EUT

The Equipment Under Test was a medical vital signs monitor containing GSM/UMTS, *Bluetooth* and WLAN radio modules. WLAN and *Bluetooth* are on the same preapproved module. The unit can transmit simultaneously on only two different technologies at the same time, one of which has to be *Bluetooth.*

Contains GSM/UMTS pre-approved module FCC ID: NCMOMO6012, Industry Canada Certification Number 2734A-MO6012.

Contains *Bluetooth* and WLAN pre-approved module FCC ID: U9R-W2CBW003, Industry Canada Certification Number 7089A-W2CBW003.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Technology Tested:	GSM 850		
Maximum Output Power (ERP):	Circuit switched	29.2 dBm	
Transmit Frequency Range:	824 to 849 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Middle	190	836.6
Technology Tested:	PCS 1900		
Maximum Output Power (EIRP):	Circuit switched	24.1 dBm	
Transmit Frequency Range:	1850 to 1910 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Middle	660	1879.8
Technology Tested:	UMTS FDDV		
Maximum Output Power (EIRP):	Voice (12.2 kbps)	28.7 dBm	
Transmit Frequency Range:	824 to 849 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Middle	4183	836.6
Technology Tested:	UMTS FDDII		
Maximum Output Power (EIRP):	Voice (12.2 kbps)	25.4 dBm	
Transmit Frequency Range:	1850 to 1910 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Middle	9400	1880.0

Additional Information Related to Testing (continued)

Technology Tested:	*Bluetooth*		
Mode:	Basic Rate (DH5)		
Maximum Output Power (EIRP):	-2.2 dBm		
Transmit Frequency Range:	2400 to 2483.5 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	0	2402
	Middle	39	2441
Technology Tested:	WLAN		
Mode:	802.11b		
Data Rates:	11 Mbps		
Maximum Output Power (EIRP):	21.7 dBm		
Transmit Frequency Range:	2412 to 2462 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Top	11	2462

3.5. Support Equipment

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

Description:	Laptop
Brand Name:	Dell
Model Name or Number:	Latitude D610
Serial Number:	Not marked or stated

Description:	USB Keyboard
Brand Name:	Not marked or stated
Model Name or Number:	Not marked or stated
Serial Number:	Not marked or stated

Description:	USB Mouse
Brand Name:	Not marked or stated
Model Name or Number:	Not marked or stated
Serial Number:	Not marked or stated

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

The EUT was tested in the following operating mode(s):

- UMTS, GSM, *Bluetooth* and WLAN transmitters were configured to simultaneously transmit two technologies at maximum power.

4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- WLAN 802.11b 11 Mbps and *Bluetooth* DH5 co-location tests. The EUT was configured to simultaneously transmit two signals transmitting at maximum output power. One 802.11b 11 Mbps carrier on top channel 11 / 2462 MHz and one DH5 carrier bottom channel 0 / 2402 MHz).
- GSM 850 and *Bluetooth* DH5 co-location tests. The EUT was configured to simultaneously transmit two signals transmitting at maximum output power. One GSM850 circuit switched carrier on the middle channel 190 / 836.6 MHz and one DH5 carrier middle channel 39 / 2441 MHz.
- GSM 1900 and *Bluetooth* DH5 co-location tests. The EUT was configured to simultaneously transmit two signals transmitting at maximum output power. One GSM 1900 circuit switched carrier on the middle channel 660 / 1879.8 MHz and one DH5 carrier middle channel 39 / 2441 MHz).
- UMTS 850 and *Bluetooth* DH5 co-location tests. The EUT was configured to simultaneously transmit two signals transmitting at maximum output power. One UMTS Band V 850 circuit switched carrier on the middle channel 4183/836.6 MHz and one DH5 carrier middle channel 39 / 2441 MHz.
- UMTS 1900 and *Bluetooth* DH5 co-location tests. The EUT was configured to simultaneously transmit two signals transmitting at maximum output power. One UMTS Band II 1900 circuit switched carrier on the middle channel 9400/1880.0 MHz and one DH5 carrier middle channel 39 / 2441 MHz.
- A GSM / UMTS radio link was established to a Rohde & Schwarz CMU 200 System Simulator and the EUT mode, power and frequency were controlled by the System Simulator.
- A WLAN Radio link was configured using a test application on the EUT.
- *Bluetooth* was configured using a test application on a laptop PC supplied by the Customer.
- All unused ports were terminated with typical end-user hardware during testing.

5. Measurements, Examinations and Derived Results

5.1. General Comments

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 6* for details.

In accordance with UKAS requirements all the measurement equipment is on a calibration schedule. All equipment was within the calibration period on the date of testing.

5.2. Test Results

5.2.1. Transmitter Radiated Emissions Bluetooth & WLAN

Test Summary:

Test Engineers:	Sandeep Bharat & David Doyle	**Test Dates:**	15 January 2013, 17 January 2013, 19 January 2013 & 29 January 2013
Test Sample IMEI:	354154040019652		

FCC Part:	15.209, 15.247 & 22.917
Industry Canada Reference:	RSS-Gen 4.9, RSS-210 A8.5, A9.2(1)
Test Method Used:	ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4
Frequency Range:	30 MHz to 25 GHz
Configuration:	802.11b 11 Mbps / *Bluetooth* DH5

Environmental Conditions:

Temperature (°C):	24 to 29
Relative Humidity (%):	28 to 33

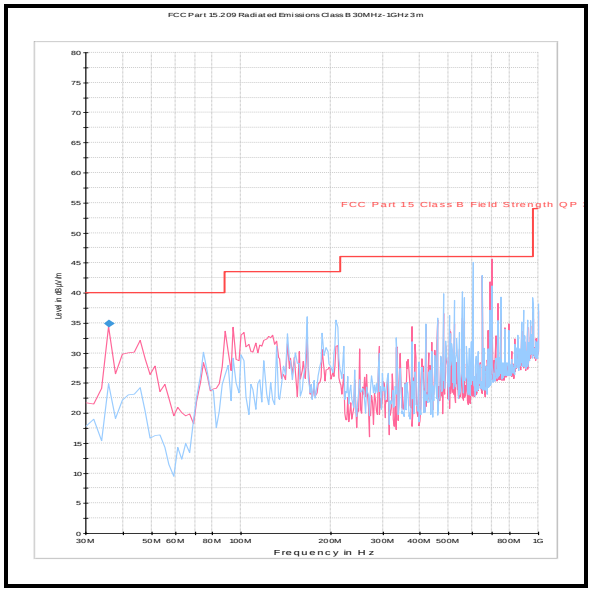
Note(s):

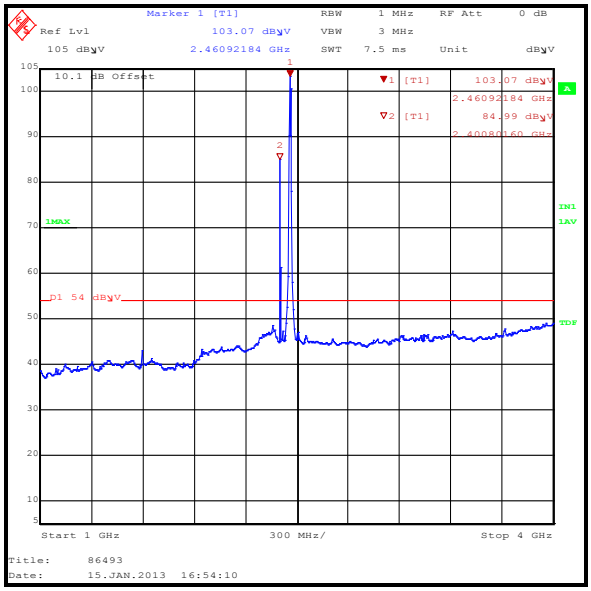
1. The 802.11b and *Bluetooth* carriers are shown on the 1 GHz to 4 GHz plot.
2. Pre-scans were made against the FCC Part 15 general limits for radiated emissions. Further investigation was made on each emission noted during the pre-scans and the appropriate limit applied during the final measurements.
3. The emission at approximately 4805.611 MHz is the second harmonic of the *Bluetooth* carrier and was therefore not reported.
4. Final measurements were made using appropriate RF attenuators and filters where required.
5. All intermodulation products were below the measurement system noise floor level or greater than 20 dB below the specification limit.

Results: 802.11b 11 Mbps Top Channel / Bluetooth DH5 Bottom Channel

Emission Frequency (MHz)	Emission Level	Applicable Limit	Margin (dB)	Result
See note 5				

Transmitter Out of Band Radiated Emissions (continued)





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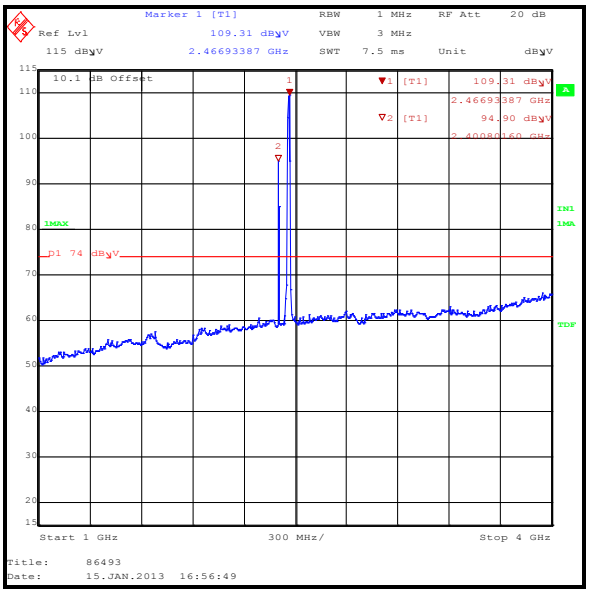
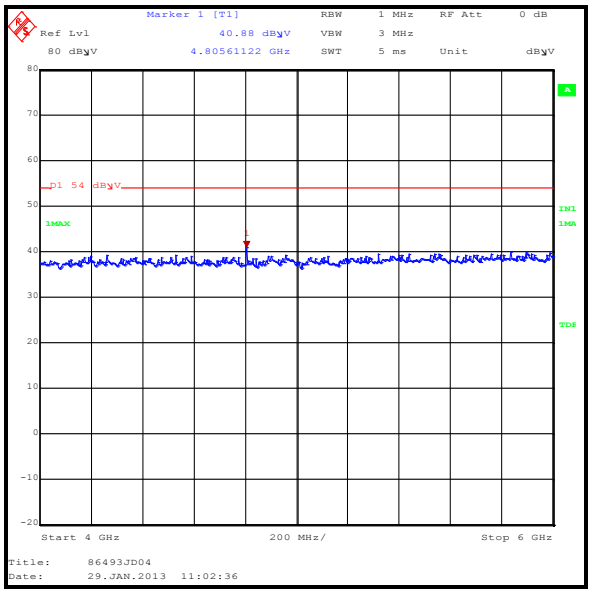
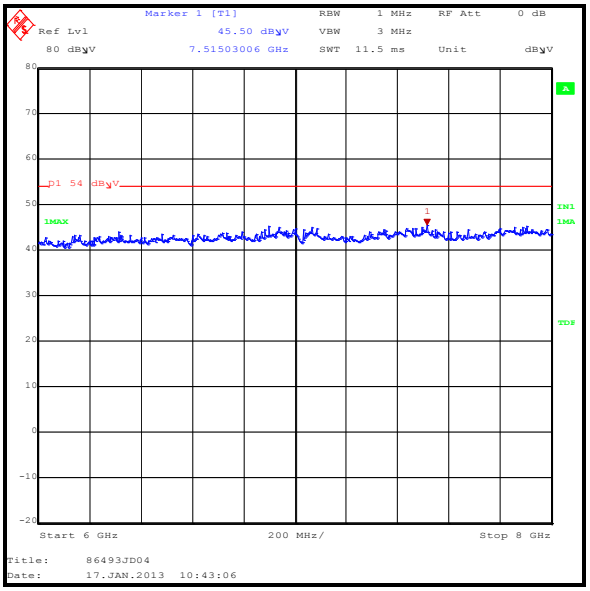
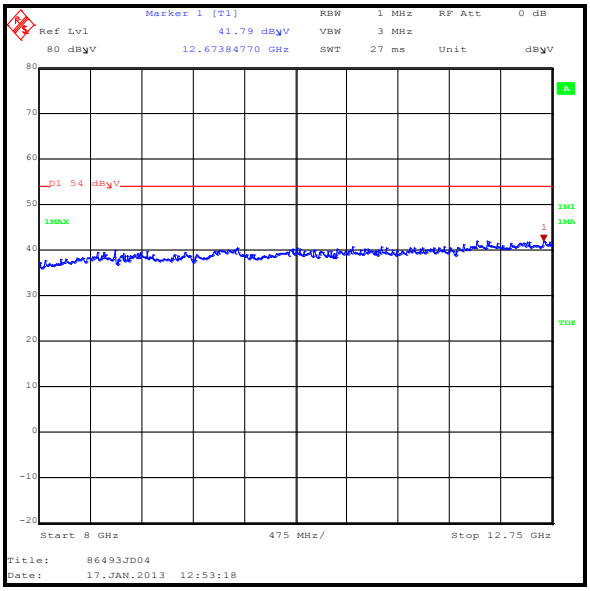


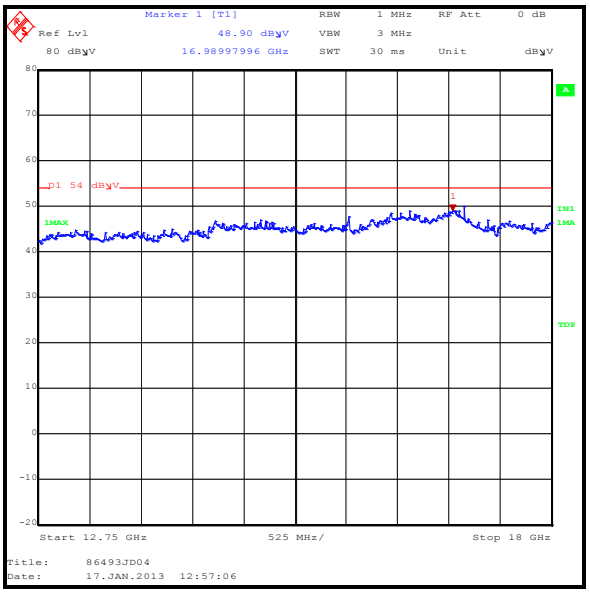
Peak Detector

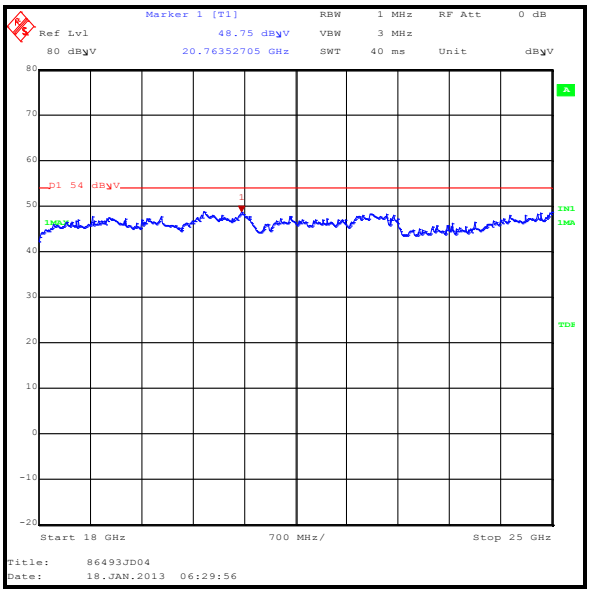


Transmitter Out of Band Radiated Emissions (continued)









Transmitter Out of Band Radiated Emissions (continued)

Test Equipment Used:

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
A1834	Attenuator	Hewlett Packard	8491B	10444	29 Jan 2013	12
A553	Antenna	Chase	CBL6111A	1593	15 Feb 2013	12
G0543	Amplifier	Sonoma	310N	230801	03 April 2013	3
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	24 Oct 2013	12
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	08 Feb 2013	12
K0002	3m RSE Chamber	Rainford	N/A	N/A	04 Nov 2013	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	04 Nov 2013	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	14 Aug 2013	12
A253	Antenna	Flann Microwave	12240-20	128	04 Nov 2013	12
A1818	Antenna	EMCO	3115	00075692	04 Nov 2013	12
A254	Antenna	Flann Microwave	14240-20	139	04 Nov 2013	12
A255	Antenna	Flann Microwave	16240-20	519	04 Nov 2013	12
A256	Antenna	Flann Microwave	18240-20	400	04 Nov 2013	12
A436	Antenna	Flann Microwave	20240-20	330	04 Nov 2013	12

5.2.2. Transmitter Radiated Emissions Bluetooth & GSM 850

Test Summary:

Test Engineers:	Sandeep Bharat & Nick Steele	**Test Dates:**	15 January 2013 & 16 January 2013
Test Sample IMEI:	354154040019652		

FCC Part:	15.209, 15.247 & 22.917,
Industry Canada Reference:	RSS-Gen 4.9, RSS-210 A8.5 & RSS-132 5.5
Test Method Used:	ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4 and TIA 603-C Section 2.2.12
Frequency Range:	30 MHz to 25 GHz
Configuration:	GSM circuit switched / *Bluetooth* DH5

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	30

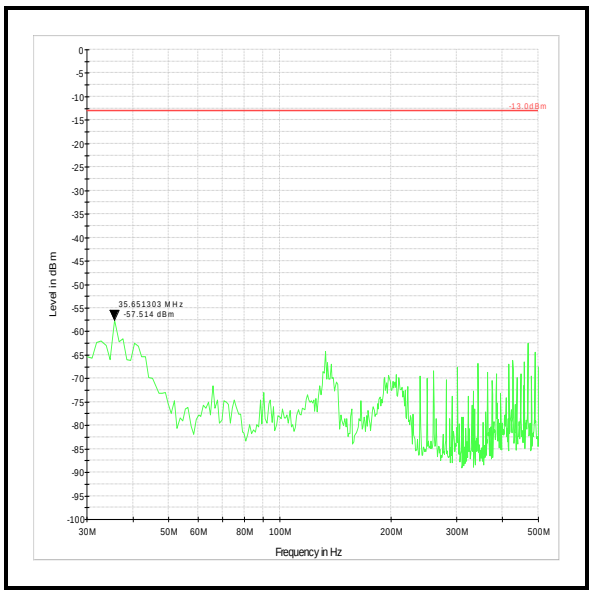
Note(s):

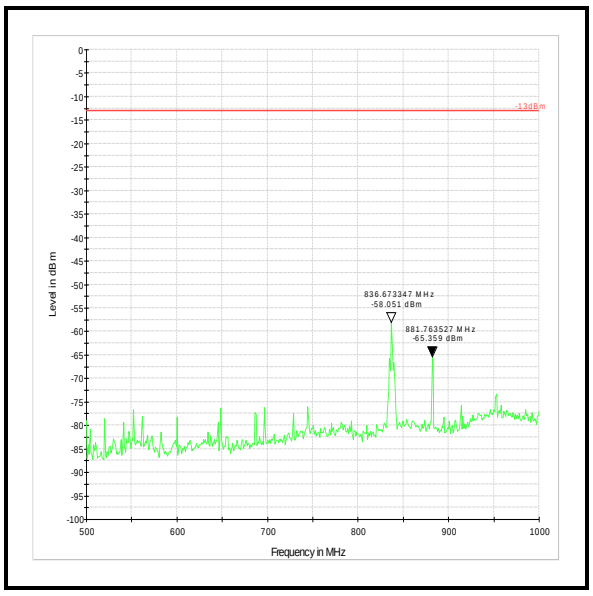
1. The uplink and downlink GSM 850 traffic channels are shown on the 30 MHz to 1 GHz plot.
2. The *Bluetooth* carrier is shown on the 1 GHz to 4 GHz plot.
3. Pre-scans were made against the FCC Part 22 general limits for radiated emissions. A notch filter was used with a stop frequency corresponding to the GSM carrier frequency. Further investigation was made on each emission noted during the pre-scans and the appropriate limit applied during the final measurements.
4. The emission at 4180.361 MHz is the fifth harmonic of the GSM carrier and was therefore not reported.
5. Final measurements were made using appropriate RF attenuators and filters where required.
6. All intermodulation products were below the measurement system noise floor level or greater than 20 dB below the specification limit.

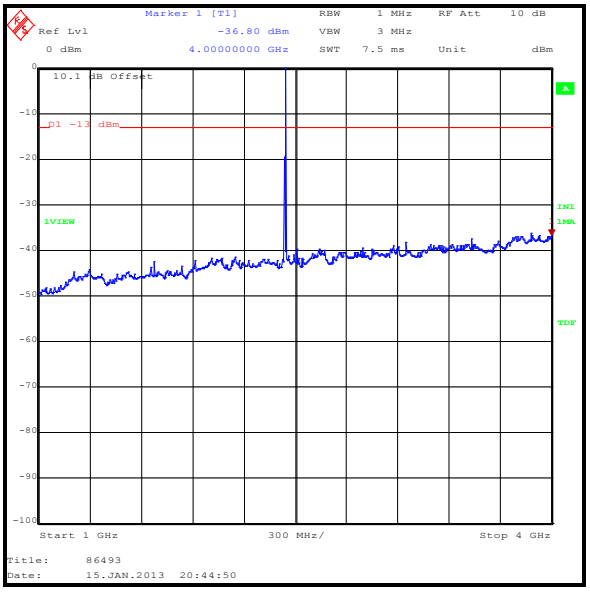
Results: GSM 850 Middle Channel / Bluetooth DH5 Middle Channel

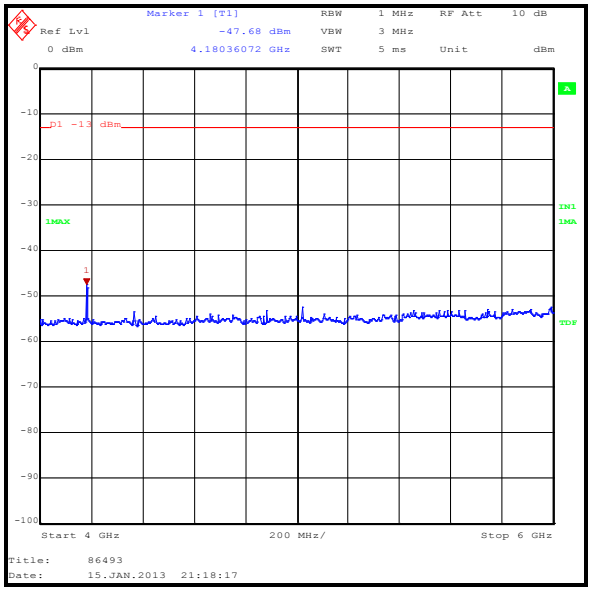
Emission Frequency (MHz)	Emission Level	Applicable Limit	Margin (dB)	Result
See note 6				

Transmitter Out of Band Radiated Emissions (continued)

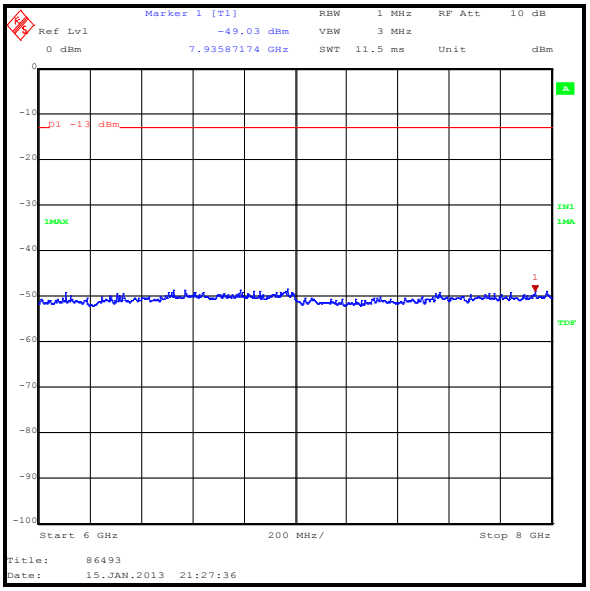


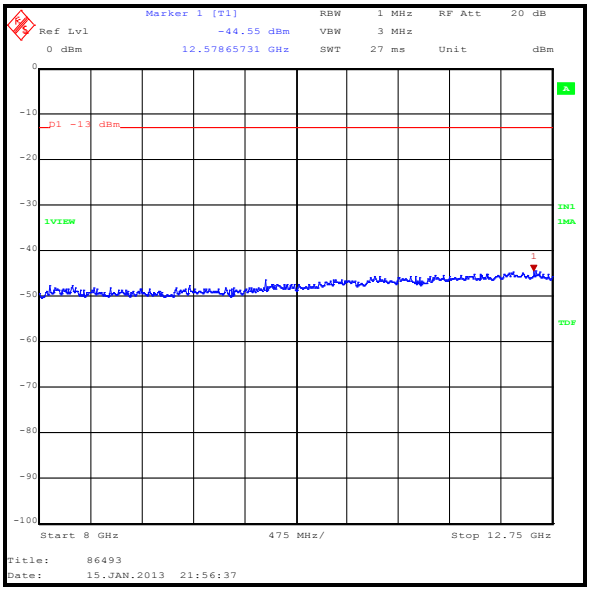


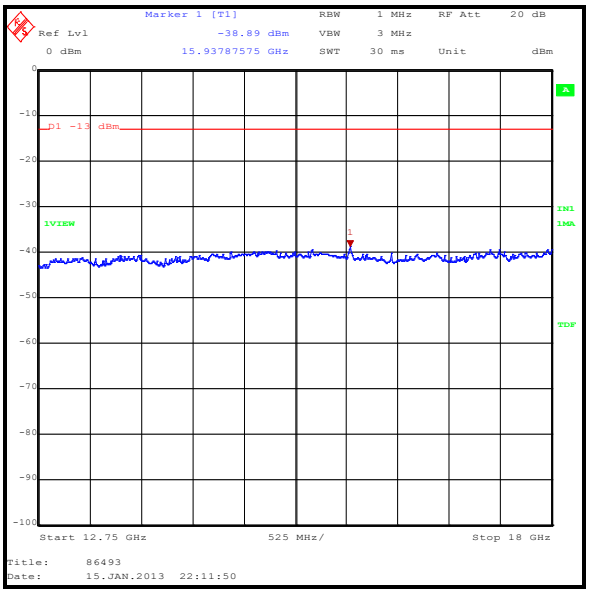


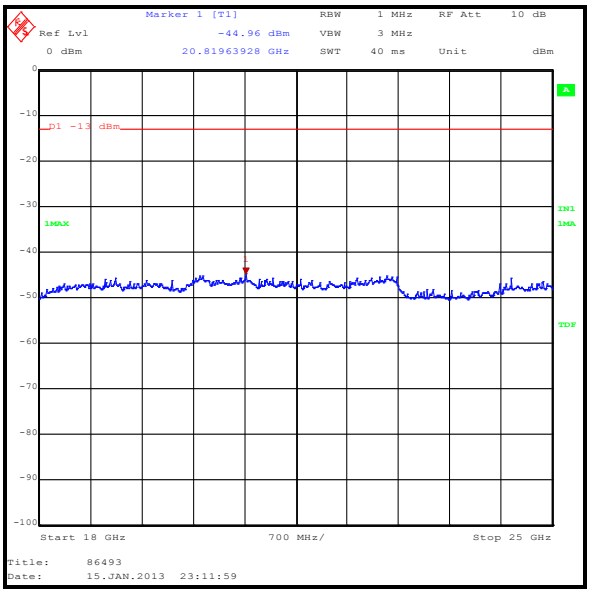


Transmitter Out of Band Radiated Emissions (continued)









Transmitter Out of Band Radiated Emissions (continued)

Test Equipment Used:

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
A1834	Attenuator	Hewlett Packard	8491B	10444	29 Jan 2013	12
A553	Antenna	Chase	CBL6111A	1593	15 Feb 2013	12
G0543	Amplifier	Sonoma	310N	230801	03 Apr 2013	3
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	24 Oct 2013	12
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	08 Feb 2013	12
K0002	3m RSE Chamber	Rainford	N/A	N/A	04 Nov 2013	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	04 Nov 2013	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	14 Aug 2013	12
A253	Antenna	Flann Microwave	12240-20	128	04 Nov 2013	12
A1818	Antenna	EMCO	3115	00075692	04 Nov 2013	12
A254	Antenna	Flann Microwave	14240-20	139	04 Nov 2013	12
A255	Antenna	Flann Microwave	16240-20	519	04 Nov 2013	12
A256	Antenna	Flann Microwave	18240-20	400	04 Nov 2013	12
A436	Antenna	Flann Microwave	20240-20	330	04 Nov 2013	12
A1550	Ultra Stable Notch Filter	Wainright Instruments GMBH	WRCT836.6-0.3/40-8EE	2	29 Jan 2013	12

5.2.3. Transmitter Radiated Emissions Bluetooth & GSM 1900

Test Summary:

Test Engineers:	Nick Steele & Sandeep Bharat	**Test Dates:**	15 January 2013 & 16 January 2013
Test Sample IMEI:	354154040019652		

FCC Part:	15.209, 15.247 & 24.238
Industry Canada Reference:	RSS-Gen 4.9, RSS-210 A8.5 & RSS-133 6.5
Test Method Used:	ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4 and TIA 603-C Section 2.2.12
Frequency Range:	30 MHz to 25 GHz
Configuration:	GSM circuit switched / *Bluetooth* DH5

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	30

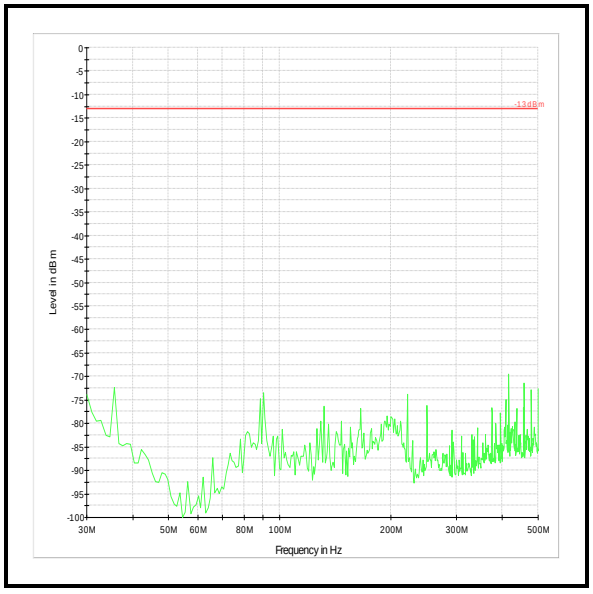
Note(s):

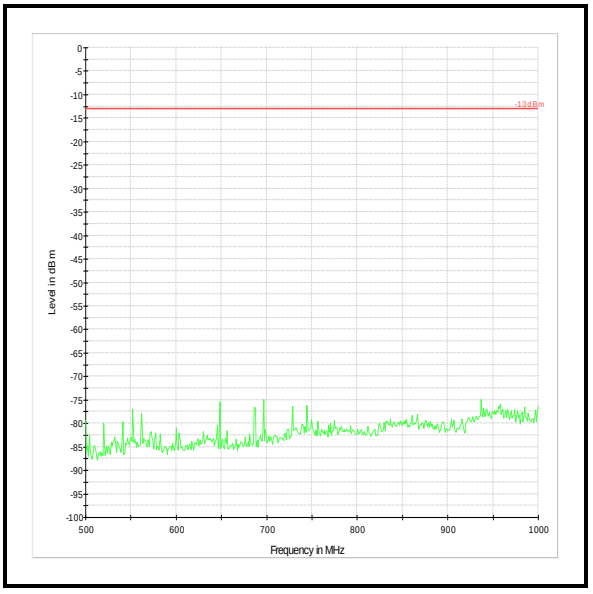
1. The GSM 1900 carrier and *Bluetooth* carriers are shown on the 1 GHz to 3 GHz plot.
2. The emission at 3761.523 MHz is the second harmonic of the GSM signal and was therefore not reported.
3. The emission at 5639.79 MHz is the third harmonic of the GSM signal and was therefore not reported.
4. Pre-scans were made against the FCC Part 24 general limits for radiated emissions.
5. Final measurements were made using appropriate RF attenuators and filters where required.
6. All intermodulation products were below the measurement system noise floor level or greater than 20 dB below the specification limit.

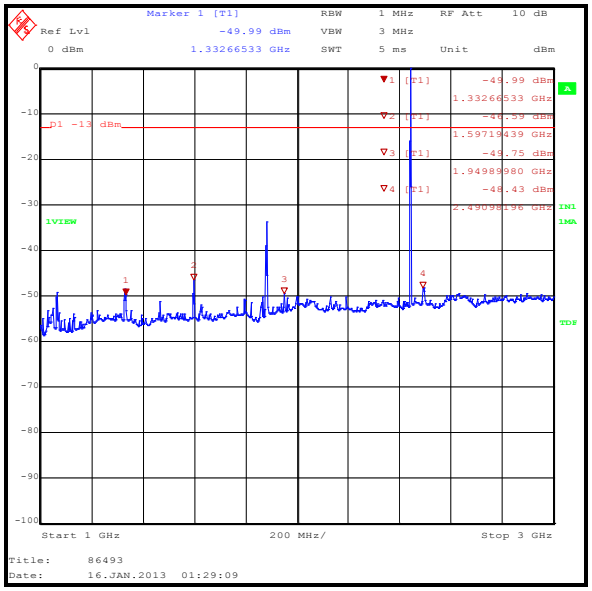
Results: PCS 1900 Middle Channel / Bluetooth DH5 Middle Channel

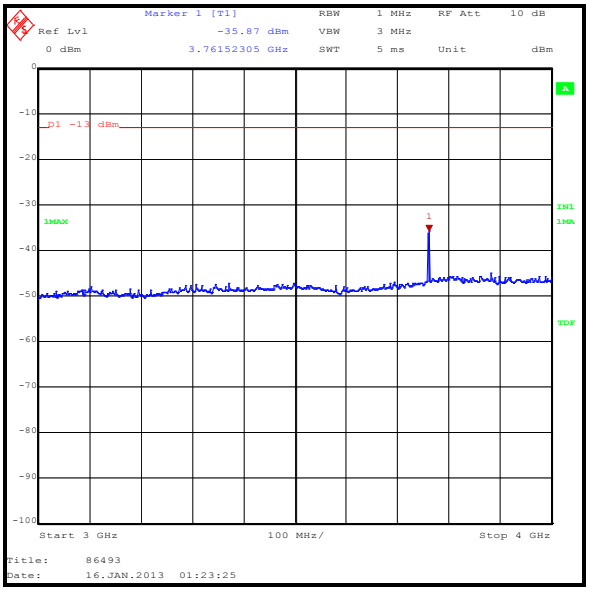
Emission Frequency (MHz)	Emission Level	Applicable Limit	Margin (dB)	Result
See note 6				

Transmitter Out of Band Radiated Emissions (continued)

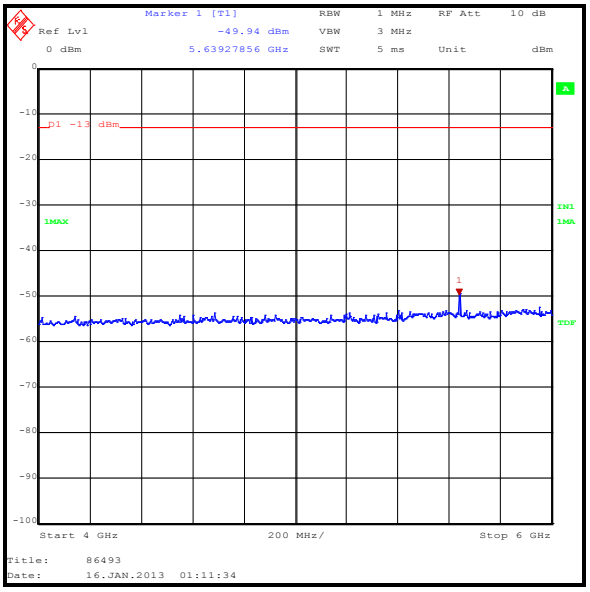


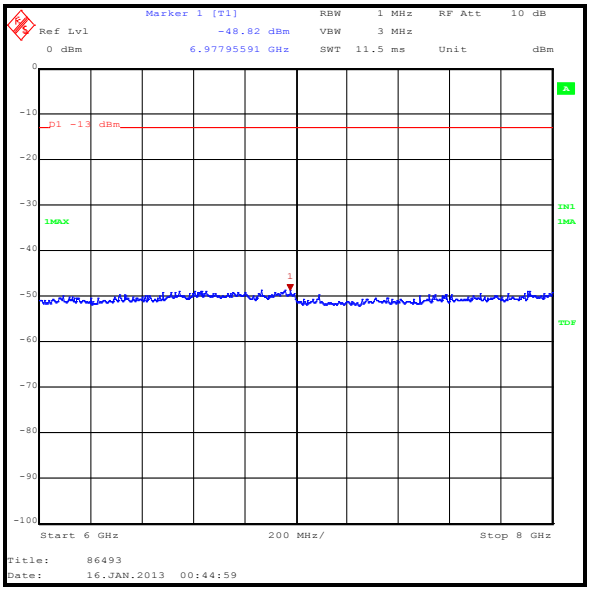


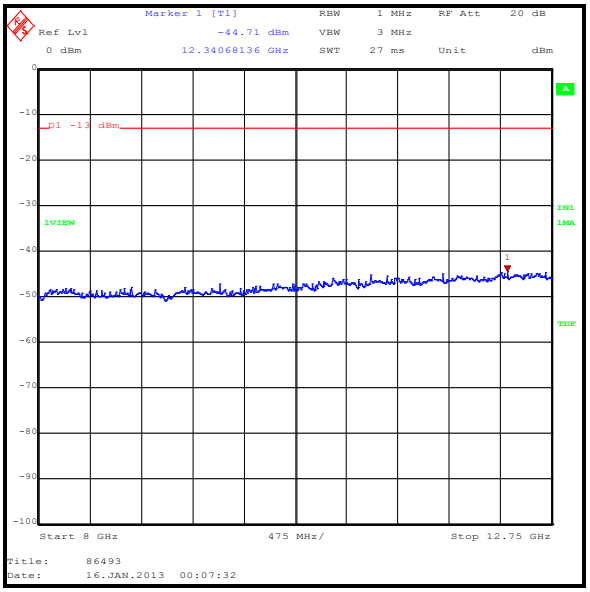


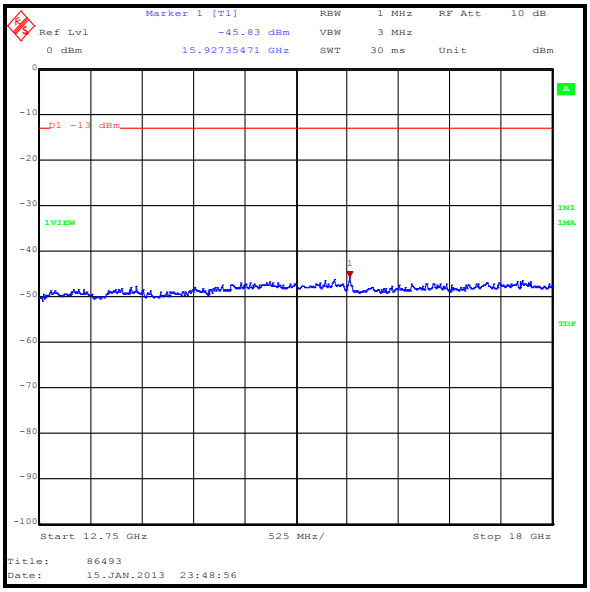


Transmitter Out of Band Radiated Emissions (continued)

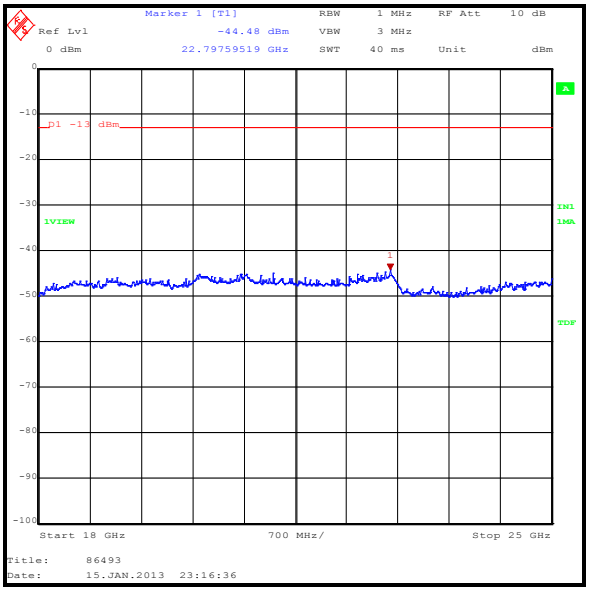








Transmitter Out of Band Radiated Emissions (continued)



Test Equipment Used:

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
A1834	Attenuator	Hewlett Packard	8491B	10444	29 Jan 2013	12
A553	Antenna	Chase	CBL6111A	1593	15 Feb 2013	12
G0543	Amplifier	Sonoma	310N	230801	03 Apr 2013	3
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	24 Oct 2013	12
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	08 Feb 2013	12
K0002	3m RSE Chamber	Rainford	N/A	N/A	04 Nov 2013	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	04 Nov 2013	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	14 Aug 2013	12
A253	Antenna	Flann Microwave	12240-20	128	04 Nov 2013	12
A1818	Antenna	EMCO	3115	00075692	04 Nov 2013	12
A254	Antenna	Flann Microwave	14240-20	139	04 Nov 2013	12
A255	Antenna	Flann Microwave	16240-20	519	04 Nov 2013	12
A256	Antenna	Flann Microwave	18240-20	400	04 Nov 2013	12
A436	Antenna	Flann Microwave	20240-20	330	04 Nov 2013	12
A1552	Ultra Stable Notch Filter	Wainright Instruments GMBH	WRCD187 9.8-0.3/40-5EE	3	29 Jan 2013	12

5.2.4. Transmitter Radiated Emissions Bluetooth & UMTS 850

Test Summary:

Test Engineers:	Sandeep Bharat & Nick Steele	**Test Date:**	16 January 2013
Test Sample IMEI:	354154040019652		

FCC Part:	15.209, 15.247 & 22.917
Industry Canada Reference:	RSS-Gen 4.9, RSS-210 A8.5, RSS-132 5.5
Test Method Used:	ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4 and TIA 603-C Section 2.2.12
Frequency Range:	30 MHz to 25 GHz
Configuration:	UMTS circuit switched / *Bluetooth* DH5

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	30

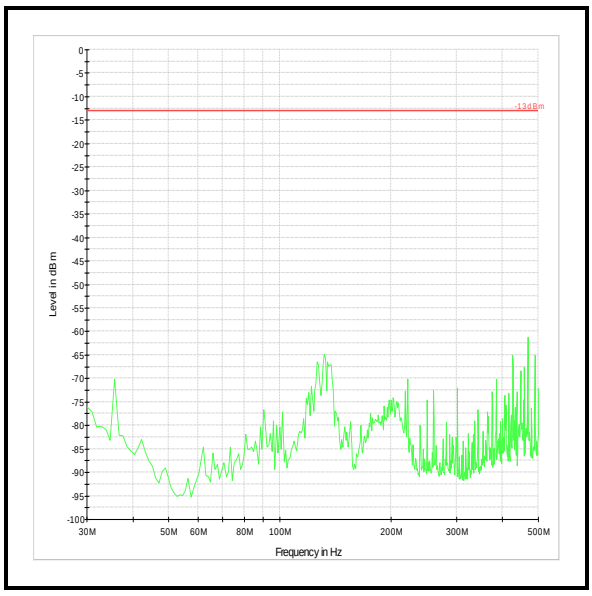
Note(s):

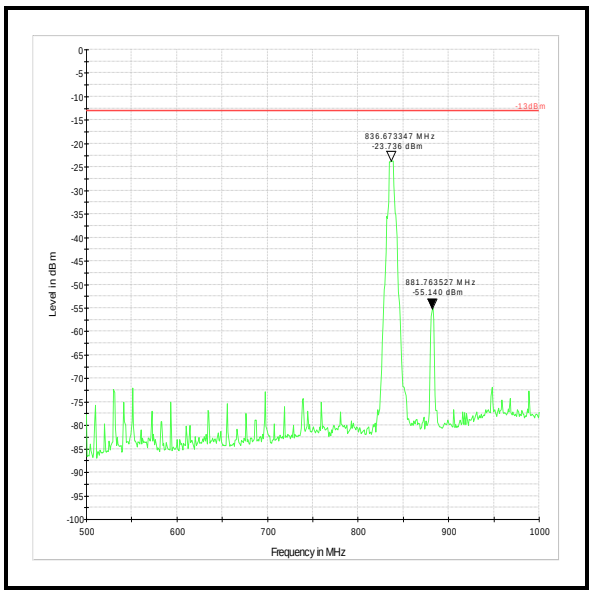
1. The uplink and downlink UMTS 850 traffic channels are shown on the 30 MHz to 1 GHz plot.
2. The *Bluetooth* carrier is shown on the 1 GHz to 4 GHz plot.
3. Pre-scans were made against the FCC Part 22 general limits for radiated emissions.
4. Final measurements were made using appropriate RF attenuators and filters where required.
5. All intermodulation products were below the measurement system noise floor level or greater than 20dB below the specification limit.

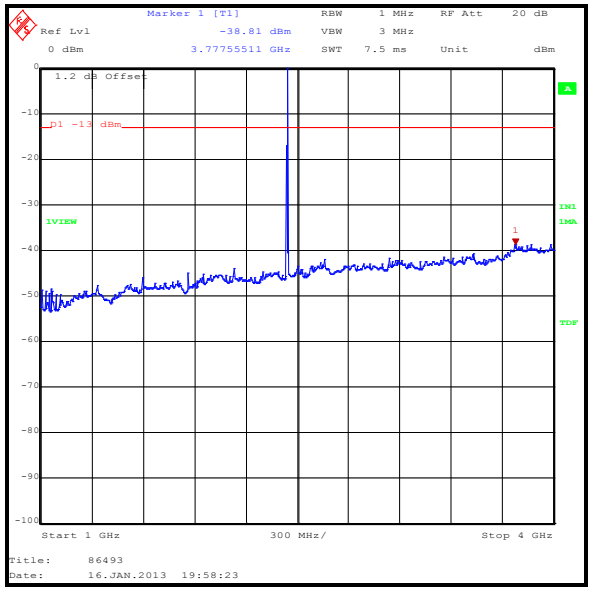
Results: UMTS 850 Middle Channel / Bluetooth DH5 Middle Channel

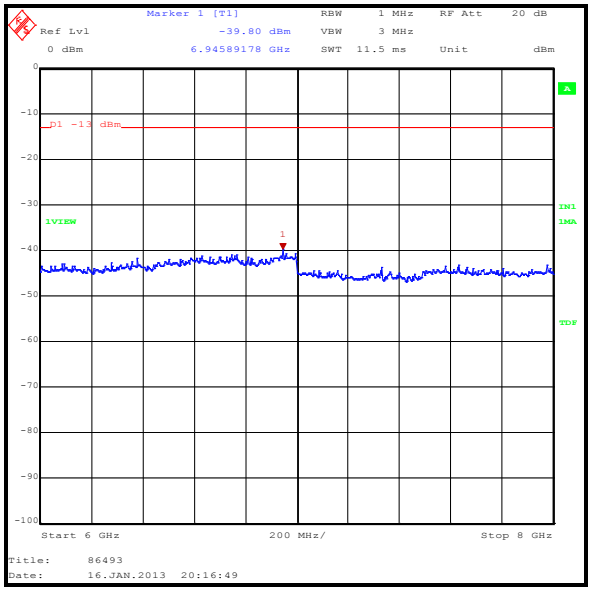
Emission Frequency (MHz)	Emission Level	Applicable Limit	Margin (dB)	Result
See note 5				

Transmitter Out of Band Radiated Emissions (continued)

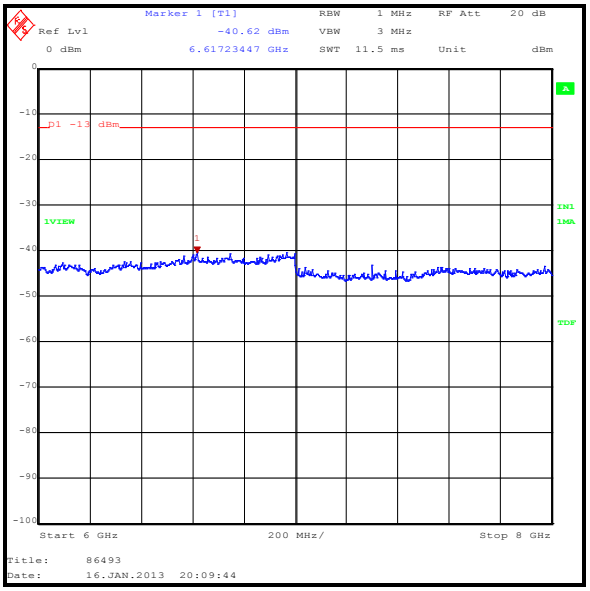


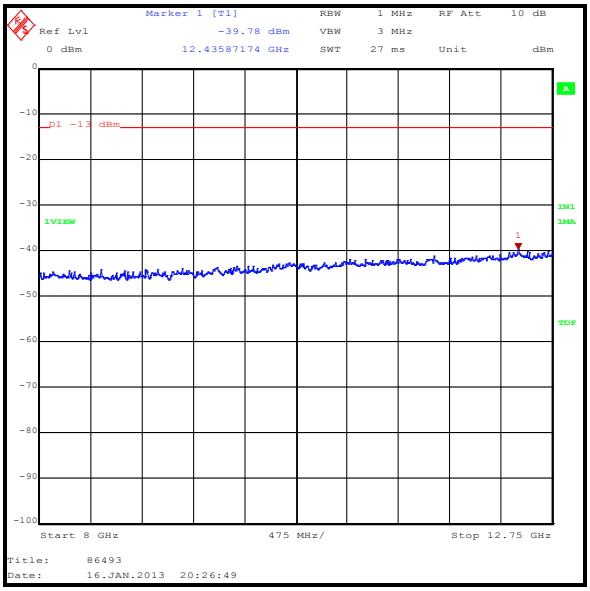


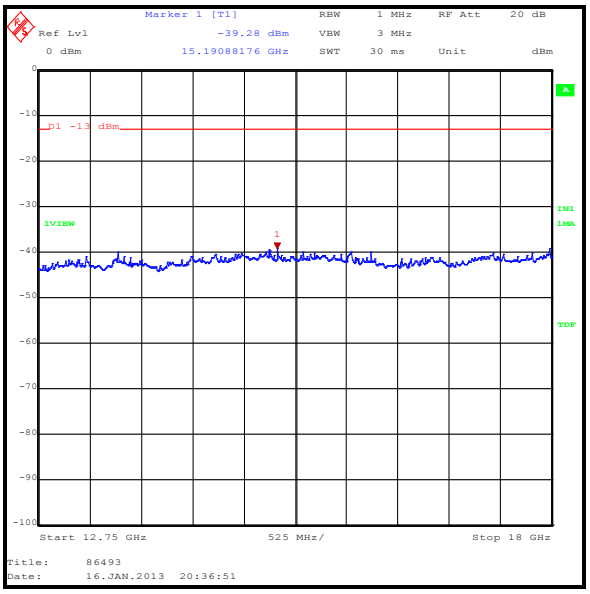


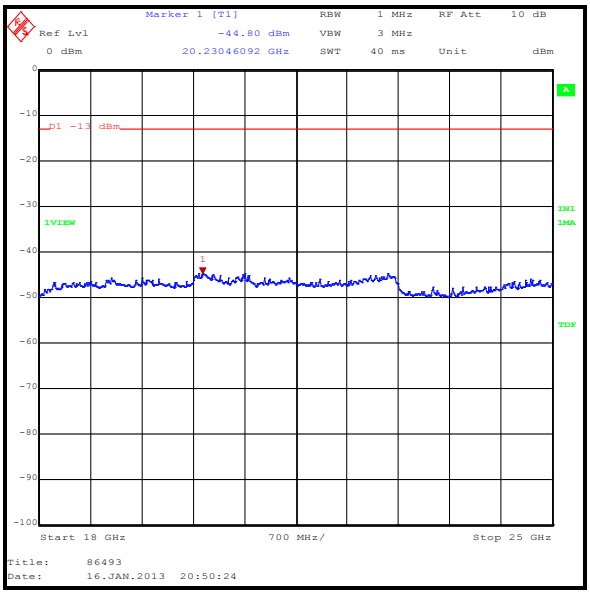


Transmitter Out of Band Radiated Emissions (continued)









Transmitter Out of Band Radiated Emissions (continued)

Test Equipment Used:

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
A1834	Attenuator	Hewlett Packard	8491B	10444	29 Jan 2013	12
A553	Antenna	Chase	CBL6111A	1593	15 Feb 2013	12
G0543	Amplifier	Sonoma	310N	230801	04 Apr 2013	3
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	24 Oct 2013	12
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	08 Feb 2013	12
K0002	3m RSE Chamber	Rainford	N/A	N/A	04 Nov 2013	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	04 Nov 2013	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	14 Aug 2013	12
A253	Antenna	Flann Microwave	12240-20	128	04 Nov 2013	12
A1818	Antenna	EMCO	3115	00075692	04 Nov 2013	12
A254	Antenna	Flann Microwave	14240-20	139	04 Nov 2013	12
A255	Antenna	Flann Microwave	16240-20	519	04 Nov 2013	12
A256	Antenna	Flann Microwave	18240-20	400	04 Nov 2013	12
A436	Antenna	Flann Microwave	20240-20	330	04 Nov 2013	12

5.2.5. Transmitter Radiated Emissions Bluetooth & UMTS 1900

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	22 January 2013
Test Sample IMEI:	354154040019652		

FCC Part:	15.209, 15.247 & 24.238
Industry Canada Reference:	RSS-Gen 4.9, RSS-210 A8.5 & RSS-133 6.5
Test Method Used:	ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4 and TIA 603-C Section 2.2.12
Frequency Range:	30 MHz to 25 GHz
Configuration:	UMTS circuit switched / *Bluetooth* DH5

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	30

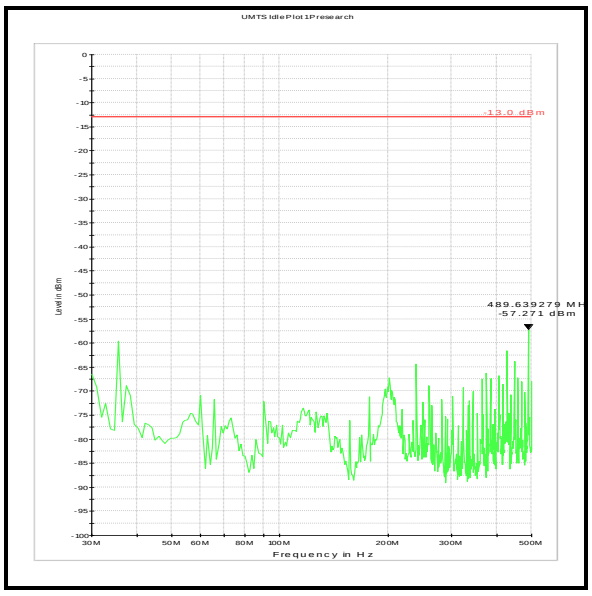
Note(s):

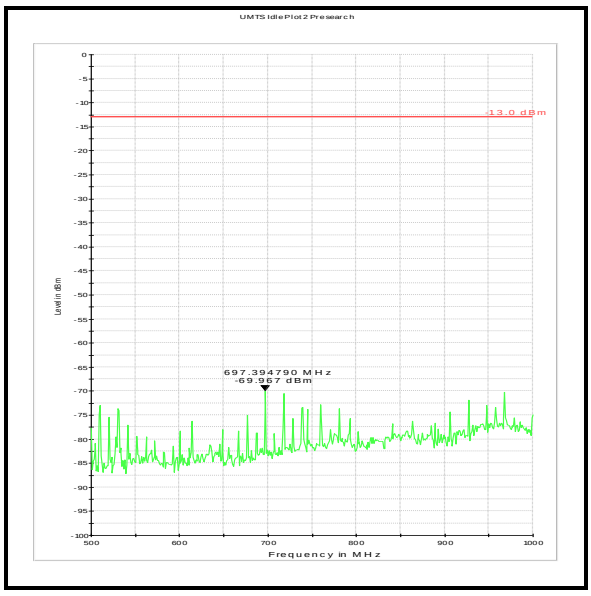
1. The uplink and downlink UMTS 1900 traffic channels are shown on the 1 GHz to 4 GHz plot.
2. The *Bluetooth* carrier is shown on the 1 GHz to 4 GHz plot.
3. The emission shown at approximately 3765.531 MHz was investigated and found to be the second harmonic of UMTS 1900 and therefore not reported.
4. Pre-scans were made against the FCC Part 24 general limits for radiated emissions. Further investigation was made on each emission noted during the pre-scans and the appropriate limit applied during the final measurements.
5. Final measurements were made using appropriate RF attenuators and filters where required.
6. All intermodulation products were below the measurement system noise floor level or greater than 20 dB below the specification limit.

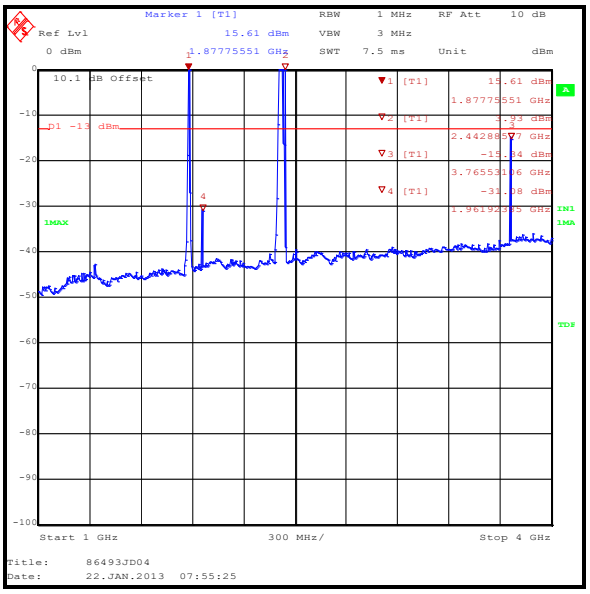
Results: UMTS 1900 Middle Channel / Bluetooth DH5 Middle Channel

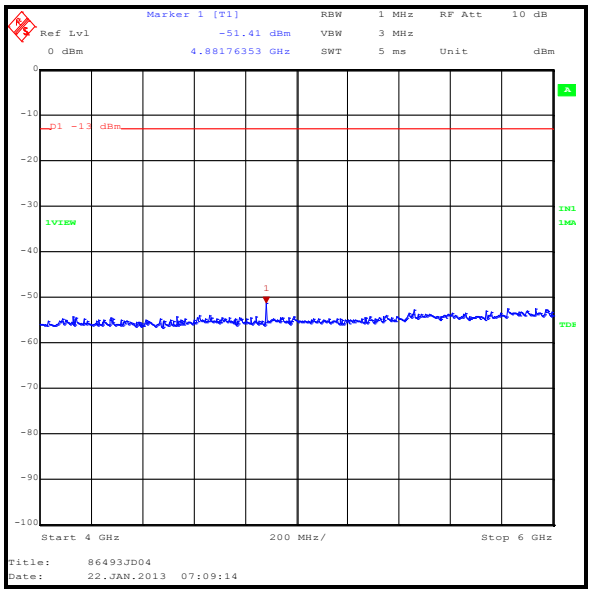
Emission Frequency (MHz)	Emission Level	Applicable Limit	Margin (dB)	Result
See note 6				

Transmitter Out of Band Radiated Emissions (continued)

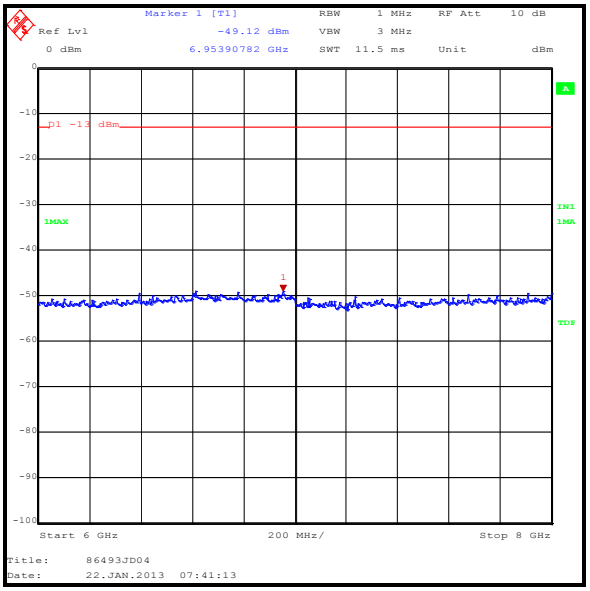


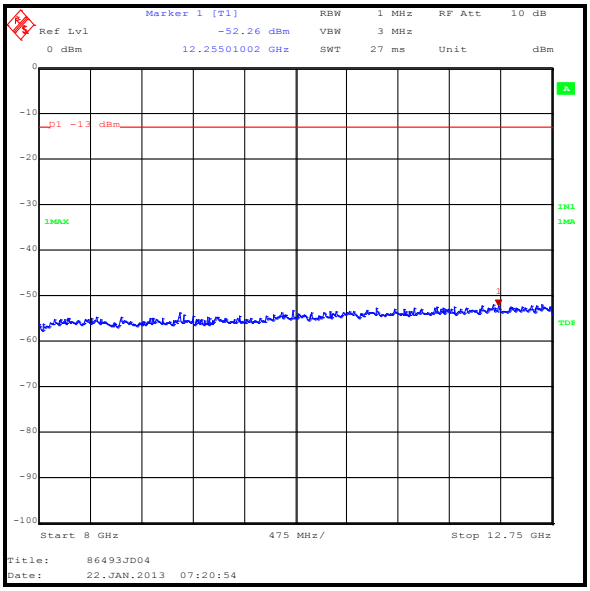


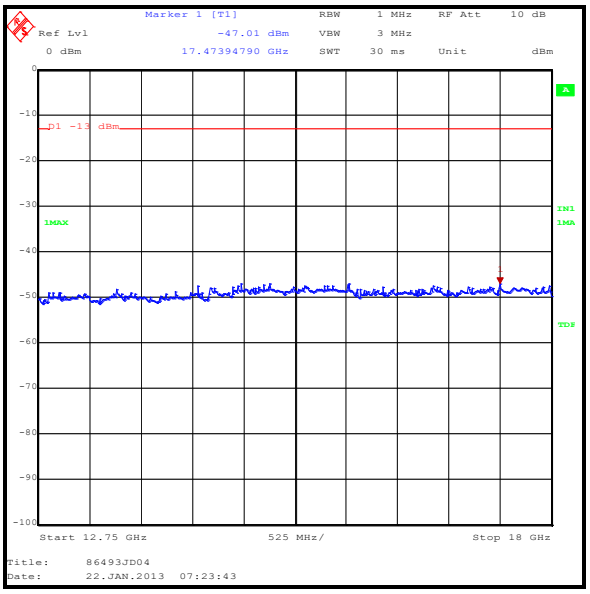


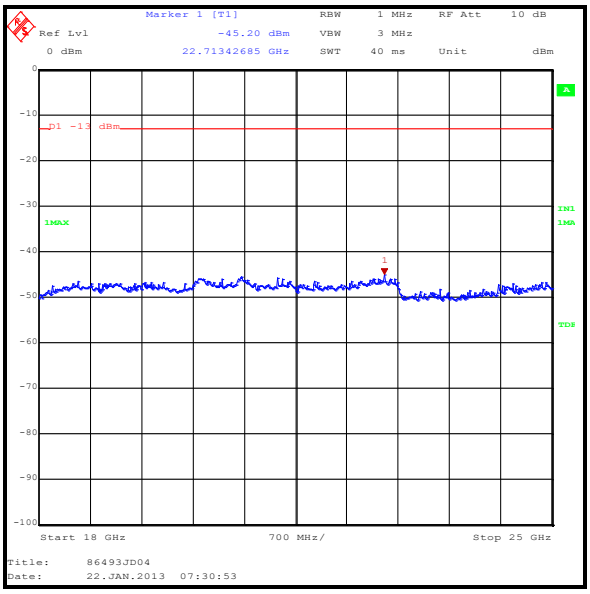


Transmitter Out of Band Radiated Emissions (continued)









Transmitter Out of Band Radiated Emissions (continued)

Test Equipment Used:

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
A1834	Attenuator	Hewlett Packard	8491B	10444	29 Jan 2013	12
A553	Antenna	Chase	CBL6111A	1593	15 Feb 2013	12
G0543	Amplifier	Sonoma	310N	230801	03 Apr 2013	3
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	24 Oct 2013	12
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	08 Feb 2013	12
K0002	3m RSE Chamber	Rainford	N/A	N/A	04 Nov 2013	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	04 Nov 2013	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	14 Aug 2013	12
A253	Antenna	Flann Microwave	12240-20	128	04 Nov 2013	12
A1818	Antenna	EMCO	3115	00075692	04 Nov 2013	12
A254	Antenna	Flann Microwave	14240-20	139	04 Nov 2013	12
A255	Antenna	Flann Microwave	16240-20	519	04 Nov 2013	12
A256	Antenna	Flann Microwave	18240-20	400	04 Nov 2013	12
A436	Antenna	Flann Microwave	20240-20	330	04 Nov 2013	12

6. Measurement Uncertainty

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.

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

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

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
Radiated Spurious Emissions	30 MHz to 25 GHz	95%	±2.94 dB

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.

7. Report Revision History

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	-	-	Initial Version