ELECTROMAGNETIC COMPATIBILITY

EMC TEST REPORT

FCC 47 CFR PART 22 SUBPART H

AND

INDUSTRY CANADA RSS-132 ISSUE 2

(CELLULAR GSM 850 BAND)

FOR

MEDICAL INTELLIGENCE TECHNOLOGIES INC.

MODEL: COLUMBA

WRIST-WORN PERSONAL LOCATION DEVICE

WITH INTERNAL

DUAL-BAND PCS/CELLULAR GSM/GPRS MODEM

FCC ID: TV9-MICLM-C001

IC: 6387A-CLMBRA01

Test Report Serial No.

060906TV9-T755-E22G

Test Report Revision No.

Revision 1.0 (Initial Release)
Revision 1.1 (Recalculated ERP for 300 kHz RBW)

Test Lab and Location

Celltech Compliance Testing & Engineering Lab
(Celltech Labs Inc.)
1955 Moss Court
Kelowna, BC
Canada
V1Y 9L3

DECLARATION OF COMPLIANCE

Test Location
CELLTECH LABS INC.
Testing and Engineering Services
1955 Moss Court
Kelowna, BC V1Y 9L3
Canada
Phone: 250-448-7047
Fax: 250-448-7048
e-mail: info@celltechlabs.com
web site: www.celltechlabs.com

Company
MEDICAL INTELLIGENCE TECHNOLOGIES INC.
1170 Grande-Allée Ouest
Québec (Quebec) G1S 1E5
Canada

Lab Registration No.(s):	FCC:	714830			IC:	3874	
Rule Part(s) Tested:	FCC:	§2	§22H	Cellular Band	IC:	RSS-132 Issue 2	Cellular Band
Device Classification:	FCC	PCS Licensed Transmitter worn on body (PCT)					
	IC:	800 MHz Cellular Telephones Employing New Technologies (RSS-132 Issue 2)					
Device Identification:	FCC:	TV9-MICLM-C001		IC:	6387A-CLMBRA01		
DUT Description:							
Model:	Columba						
Device Description:	Wrist-Worn Personal Location Device						
Internal Transmitter:	Telit GE863 PCS/Cellular GSM/GPRS Modem						
Data Transmit Type:	GPRS Class B, Multislot Class 10						
Transmit Frequency Range(s):	Cellular Band	824.2 - 848.8 MHz	Tested by Celltech Labs Inc.				
	PCS Band	1850.2 - 1909.8 MHz	Tested by Nemko Canada Inc.				
Max. ERP Measured:	22.57 dBm	180.79 mW	Channel 190	836.6 MHz	Cellular Band		
Emission Designator:	285KGXW						
Frequency Stability:	+/- 2.5 ppm						
Modulation Type(s):	GMSK (GPRS)						
Antenna Type:	Internal PCB						
Power Source Tested:	External Power Supply (4.1 VDC)						

This wireless device has demonstrated compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in FCC 47 CFR Parts 2, 22H; Industry Canada RSS-132 Issue 2,; and ANSI TIA/EIA-603-C-2004.

I attest to the accuracy of the data. All measurements reported herein were performed by me or were under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Test Report Approved By:
Spencer Watson
EMC Lab Manager
Celltech Labs Inc.

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FIGURES

PHOTOGRAPHS

TEST SUMMARY

Appendix	Test Description	Procedure Reference	Limit Reference	Test Start Date	Test End Date	Result
Referenced Standard: FCC CFR Title 47 Part 2, 22H						
A	Conducted RF Output Power	§2.1046	§2.1046	June 28	June 28	Pass
B	Occupied Bandwidth	§2.1049	§2.202	June 29	June 29	Pass
C	Conducted TX Spurious Emissions	§22.917(b)	§22.917(a)	June 29	June 29	Pass
E	Effective Radiated Power	ANSI/TIA/EIA-603-C	§22.913	April 03	April 03	Pass
F	Radiated TX Spurious Emissions	ANSI/TIA/EIA-603-C	§22.917(e)	June 23	June 27	Pass
G	Frequency Stability	§2.1055	§22.355	June 28	June 28	Pass
Referenced Standard: IC RSS-132 Issue 2						
A	Conducted RF Output Power	RSS-GEN 4.6	RSS-132 §4.4	June 28	June 28	Pass
B	Occupied Bandwidth	RSS-GEN §4.4.1	RSS-132 §4.5.1	June 29	June 29	Pass
C	Conducted TX Spurious Emissions	RSS-GEN §4.7	RSS-132 §4.5	June 29	June 29	Pass
D	Conducted RX Spurious Emissions	RSS-GEN §4.8	RSS-132 §4.6	June 29	June 29	Pass
E	Effective Radiated Power	ANSI/TIA/EIA-603-C	RSS-132 §4.4	April 03	April 03	Pass
F	Radiated TX Spurious Emissions	RSS-GEN §4.7	RSS-132 §4.5	June 23	June 27	Pass
G	Frequency Stability	RSS-GEN §4.5	RSS-132 §4.3	June 28	June 28	Pass

REVISION LOG

Revision No.	Description	Implemented By	Implementation Date
1.0	Initial Release	Jonathan Hughes	July 13, 2006
1.1	Second Release Recalculated ERP based on 300 kHz RBW	Jonathan Hughes	December 13, 2006

SIGNATORIES

Prepared By:		July 03-07, 2006 December 13, 2006
Name/Title	Spencer Watson / EMC Lab Manager	Date
Reviewed By:		July 12-13, 2006 December 13, 2006
Name/Title	Jonathan Hughes / General Manager	Date

1.0 SCOPE

This report outlines the measurements made and results collected during electromagnetic emissions testing of the Medical Intelligence Technologies Inc. Model: COLUMBA Wrist-Worn Personal Location Device with internal Telit GE863 PCS/Cellular GSM/GPRS Modem. The measurement results were applied against the applicable EMC requirements and limits outlined in the technical rules and regulations set forth in the Federal Communications Commission Code of Federal Regulations Title 47 Parts 2, 22 Subpart H and Industry Canada's Radio Standards Specification RSS-132 Issue 2.

2.0 REFERENCES

2.1 Normative References

ANSI/ISO 17025:1999	General Requirements for competence of testing and calibration laboratories
IEEE/ANSI C63.4:2003	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
IEEE/ANSI Std C95.1:1999	American National Standard Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields
ANSI/TIA/EIA-603-C:2004	Land Mobile FM or PM Communication Equipment Measurement and Performance Standards
CFR Title 47 Part 2:2005	Code of Federal Regulations Title 47: Telecommunication Part 2: Frequency Allocations and Radio Treaty Matters; General Rules and Regulations Part 22: Public Mobile Services Part 24: Personal Communication Services
IC Spectrum Management & Telecommunications Policy	Radio Standards Specification RSS-102 Issue 2 - Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields RSS-132 Issue 2 - 800 MHz Cellular Telephones Employing New Technologies RSS-Gen Issue 1 - General Requirements and Information for the Certification of Radiocommunication Equipment SRSP-503 Issue 6 - Technical Requirements for Cellular Radiotelephone Systems Operating in the Bands 824 - 849 MHz and 869 - 894 MHz

3.0 TERMS AND DEFINITIONS

AV	Average
CDMA	Code Division Multiple Access
CFR	Code of Federal Regulations
dB	decibel
dBm	dB referenced to 1 mW
dBuV	dB referenced to 1 uV
DUT	Device under Test
dBc	dB down from carrier
EBW	Emission Bandwidth
EIRP	Effective Isotropic Radiated Power
EDGE	Enhanced Data Rates for GSM Evolution
EMC	Electromagnetic Compatibility
ERP	Effective Radiated Power
FCC	Federal Communications Commission
FHSS	Frequency Hopping Spread Spectrum
GSM	Global System for Mobile
GPRS	General Packet Radio Service
HP	Hewlett Packard
HPF	High Pass Filter
Hpol	Horizontal Polarization
Hz	Hertz
IC	Industry Canada
kHz	kilohertz
LNA	Low Noise Amplifier
m	meter
MHz	Megahertz
Mbps	megabits per second
na	not applicable
n/a	not available
PK	Peak
PPSD	Peak Power Spectral Density
QP	Quasi-peak
RBW	Resolution Bandwidth
R&S	Rohde & Schwarz
RSS	Radio Standards Specification
RX	Receiver
SA	Spectrum Analyzer
TX	Transmitter
VBW	Video Bandwidth
Vpol	Vertical Polarization
WLAN	Wireless Local Area Network

4.0 FACILITIES AND ACCREDITATIONS

The facilities used in collecting the test results outlined in this report are located at 1955 Moss Court, Kelowna, British Columbia, Canada, V1Y 9L3. The radiated and conducted emissions sites conform with the requirements set forth in ANSI C63.4 and are filed and listed with the FCC under Registration Number 714830 and Industry Canada under File Number IC 3874.

5.0 GENERAL INFORMATION

5.1 Applicant Information

Company Name:	**Medical Intelligence Technologies Inc.**
Address:	1170 Grande-Allée Ouest
	Québec (Quebec) G1S 1E5
	Canada

5.2 DUT Description

Device:	Wrist-Worn Personal Location Device			
Model:	COLUMBA			
Test Sample Serial No.:	None			
Internal Transmitter:	Telit GE863 PCS/Cellular GSM/GPRS Modem (Only Cellular Band evaluated in this test report)			
Device Identifier(s):	FCC ID:	TV9-MICLM-C001	IC ID:	6387A-CLMBRA01
Rule Part(s) Tested:	FCC:	§22.913; §22.917		
	IC:	RSS-132 Issue 2		
Classification(s):	FCC:	PCS Licensed Transmitter (PCB)		
	IC:	800 MHz Cellular Telephones employing New Technologies (RSS-132)		
Power Source Tested:	External Power Supply 4.1 VDC			

5.3 Co-Located Equipment

Description	none

5.4 Support Equipment

The following equipment was used in support of the DUT.

Support Equipment List		
Manufacturer	**Model**	**Description**
Anritsu	MT8820A	Radio Communication Analyzer

5.5 Mode(s) of Operation Tested

5.5.1 GSM Modem

An Anritsu MT8820A Radio Communication Analyzer was used to establish a call with the Telit GE863 modem at the appropriate channel and power level for the specific measurement. Measurements were made with the modem set to the low, mid and high channel in each band or on a worst-case channel for the measurement, as determined by prescan evaluations. The following settings were used for each channel.

5.5.1.1 Cellular GSM

Transmit Frequency Range:	824.2 - 848.8 MHz Ch. 128 (824.2 MHz) (low), Ch. 190 (836.6 MHz) (mid) & Ch. 251 (848.8 MHz) (high) measured unless otherwise noted
Software Power Gain Settings:	The Anritsu MT8820A Radio Communication Analyzer set the device to its maximum power setting.
Modulation Type(s):	GMSK (GPRS)

5.5.1.2 PCS GSM (Not Tested)

6.0 PASS/FAIL CRITERIA

Unless otherwise noted in the Appendices, the pass/fail criteria is the limit set forth in the reference standards. A DUT is considered to have passed the requirements, if the data collected during the described measurement procedure is within the specified limits as defined. The pass/fail statements made in this report only apply to the unit tested.

APPENDICES

Appendix A - Cellular Band Conducted TX RF Output Power Measurement

A.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §2.1046
Procedure Reference	FCC CFR 47 §2.1046

A.2. LIMITS

FCC CFR 47 §2.1046 (a)	For transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedures to give the values of current and voltage on the circuit elements specified in §2.1033(c) (8).

*ERP limits are specified in Appendix E.

A.3. ENVIRONMENTAL CONDITIONS

Temperature	25 +/- 5 ºC
Humidity	40 +/- 10 %
Barometric Pressure	101 +/- 2 kPa

A.4. EQUIPMENT LIST

ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
00007	Gigatronics	8652A	Power Meter	03Feb06	03Feb07
00011	Gigatronics	80701A	Power Sensor	03Feb06	03Feb07
00064	Narda	3020A	Bi-Directional Coupler	na	na*
00102	Pasternack	PE7014-30	30dB attenuator	na	na*
00208	Anritsu	MT8820A	Radio Communication Analyzer	06Jun06	06Jun07

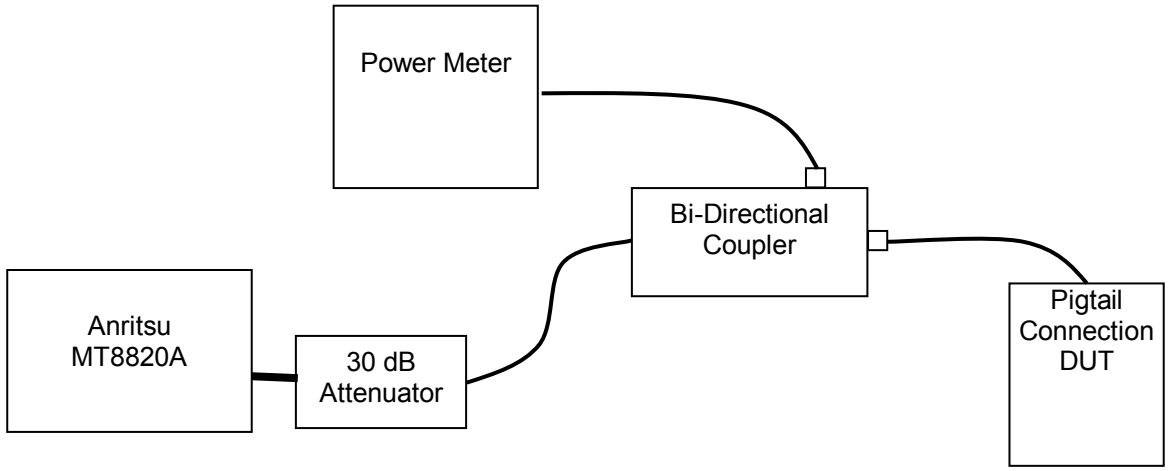
*Cable and attenuator verified with power meter prior to use

A.5. MEASUREMENT EQUIPMENT SETUP

Measurement Equipment Connections	The equipment was connected as shown in the setup drawing in A.6.
Measurement Equipment Settings	Power Meter Settings: Mode - BAP Frequency compensation set for carrier frequency Offset set appropriately to compensate for any attenuator or cable losses
Measurement Procedure	The RF conducted output power levels were measured at the DUT antenna connector port using a Gigatronics 8652A Universal Power Meter in burst average power (BAP) mode. An offset was entered into the power meter to correct for the losses of the attenuator and cable installed between the output port and the power sensor input. The DUT test software was used to set it to transmit in the maximum power control mode defined by the manufacturer.

A.6. SETUP DRAWING

Figure A.6-1 - Setup Drawing



A.7. DUT OPERATING DESCRIPTION

Power measurements were made for each of the three Cellular test channels (Channel 128, 190 & 251), with the Telit GE863 modem set appropriately as described in section 5.6.

A.8. TEST RESULTS

Mode	Channel	Frequency	Output Power	
Cellular GSM	128	824.2 MHz	+19.7 dBm	93.3 Watts
Cellular GSM	190	836.6 MHz	+19.5 dBm	89.1 Watts
Cellular GSM	251	848.8 MHz	+19.6 dBm	91.2 Watts

A.9. PASS/FAIL

There is no pass/fail criterion for this measurement. The ERP values applied to appropriate regulatory requirements are outlined in Appendix E.

A.10. SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Senior Compliance Technologist
Celltech Labs Inc.

June 29, 2006

Date

Appendix B - Cellular Band Occupied Bandwidth Measurement

B.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §2.202
Procedure Reference	FCC CFR 47 §2.1049

B.2. LIMITS

FCC CFR 47 §2.202	*Emission Designator: 285KGXW*

B.3. ENVIRONMENTAL CONDITIONS

Temperature	25 +/- 5 ºC
Humidity	40 +/- 10 %
Barometric Pressure	101 +/- 2 kPa

B.4. EQUIPMENT LIST

ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
00015	Agilent	E4408B	Spectrum Analyzer	02Feb06	02Feb07
00102	Pasternack	PE7015-3010	30dB attenuator	na	na*
00064	Narda	3020A	Bi-Directional Coupler 50-1000 MHz	na	na*
00208	Anritsu	MT8820A	Radio Communication Analyzer	06Jun06	06Jun07

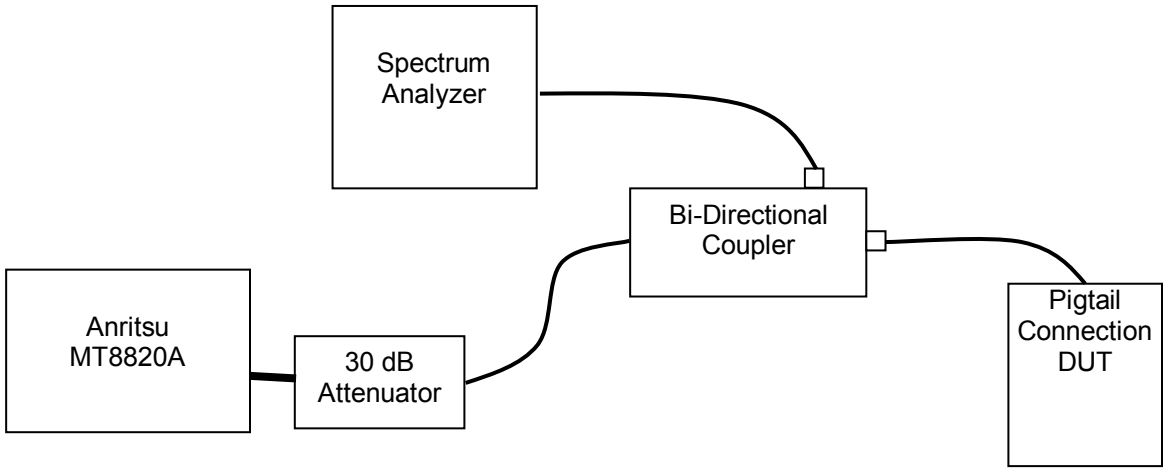
* Verified with VNA

B.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in B.6.			
MEASUREMENT EQUIPMENT SETTINGS	The spectrum analyzer was set to the following settings:			
	RBW	VBW	Detector	
	kHz	kHz		
	30	30	Sample	

B.6. SETUP DRAWING

Figure B.6-1 - Setup Drawing



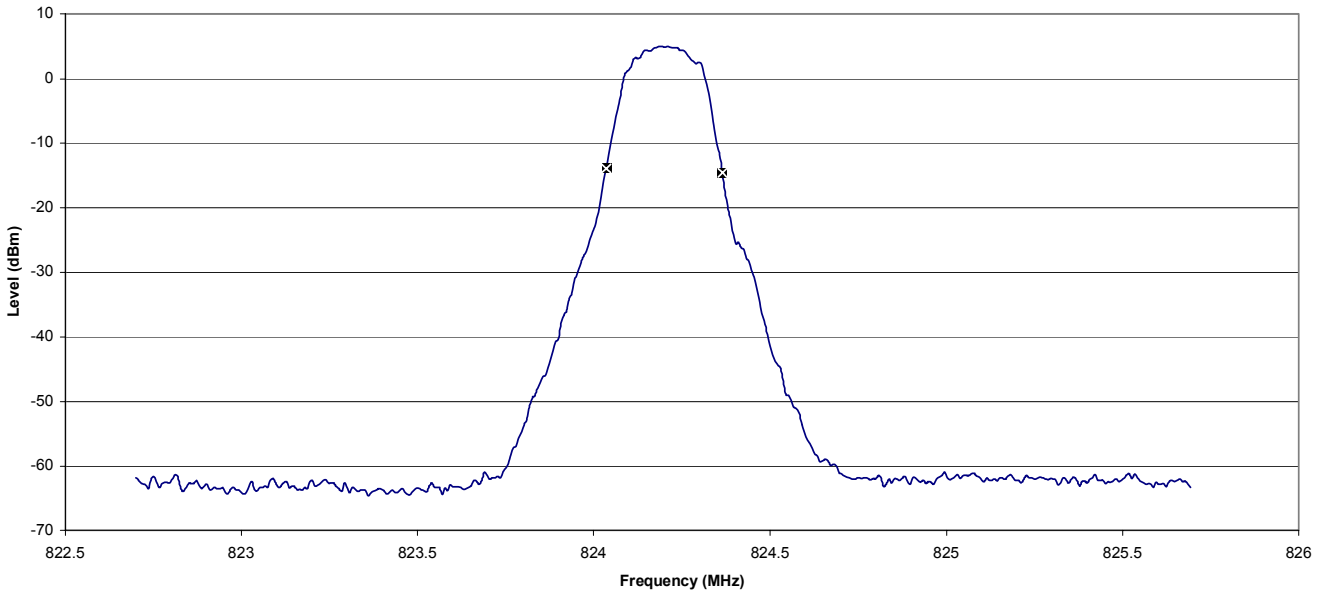
B.7. DUT OPERATING DESCRIPTION

Measurements were made with the DUT transmitting at maximum power in the cellular band, in a configuration as described in Section 5 of this report.

B.8. TEST RESULTS

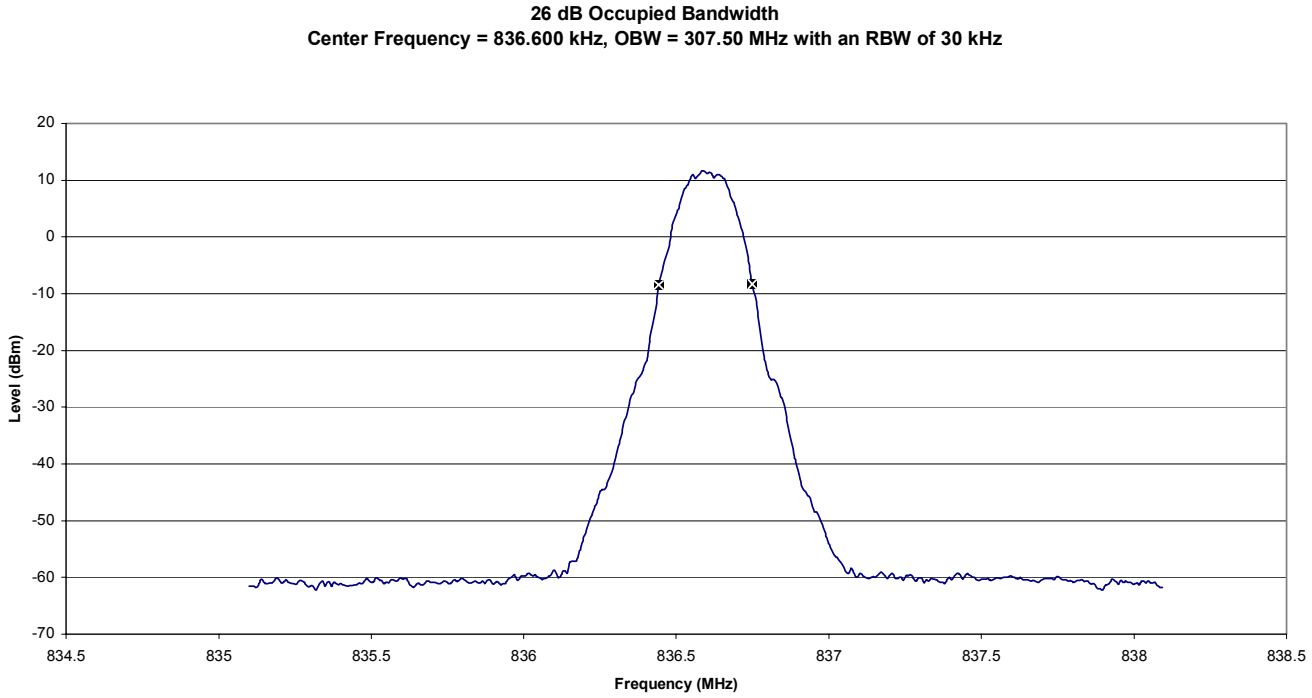
Channel 128 (824.2 MHz)

26 dB Occupied Bandwidth
Center Frequency = 824.200 MHz , OBW = 329.96 MHz with an RBW of 30 kHz



B.8.1. TEST RESULTS CONTINUED

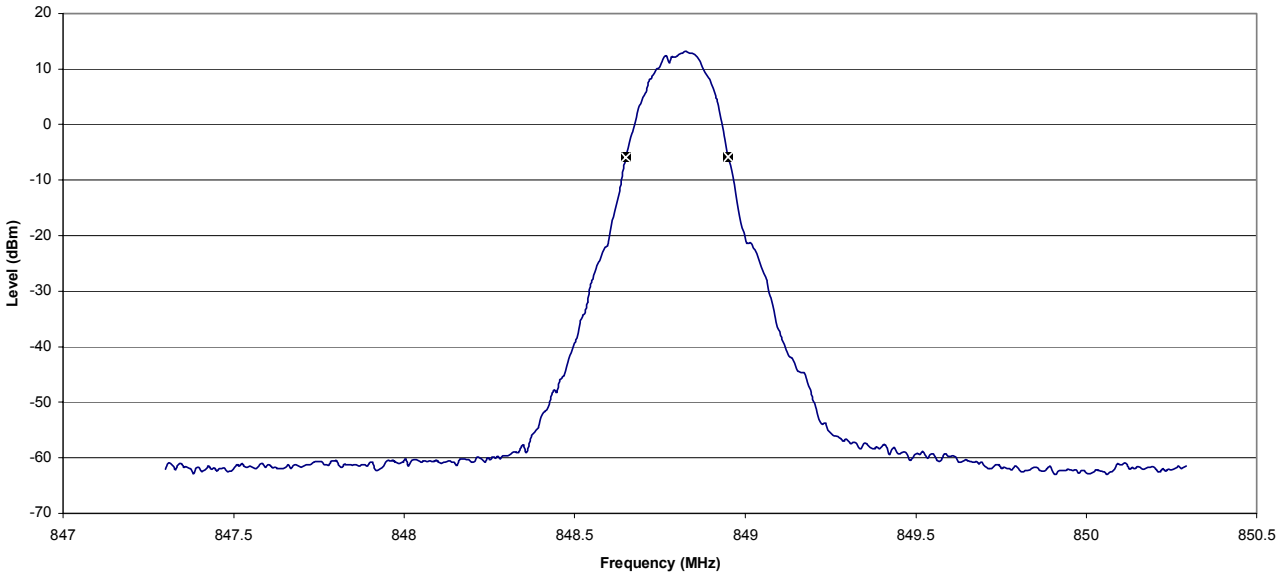
Channel 190 (836.6 MHz)



B.8.2. TEST RESULTS CONTINUED

Channel 251 (848.8 MHz)

26 dB Occupied Bandwidth
Center Frequency = 848.800 MHz, OBW = 300.05 kHz with an RBW of 30 kHz



Summary

Channel	Frequency MHz	-26dB Bandwidth kHz	99% Bandwidth kHz
128	824.2	329.96	285.03
190	836.6	307.50	284.98
251	848.8	300.05	285.04

B.9. PASS/FAIL

Complies

B.10. SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson
Senior Compliance Technologist
Celltech Labs Inc.

June 29, 2006
Date

Appendix C - Cellular Band Conducted TX Spurious Emissions Measurement

C.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §22.917(a)
Procedure Reference	FCC CFR 47 §22.917(b)

C.2. LIMITS

FCC CFR 47 §22.917	*(a) Out of Band Emissions. The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency twice or more than twice the fundamental frequency by: at least 43 + 10 log P dB*

C.3. ENVIRONMENTAL CONDITIONS

Temperature	25 +/- 5 ºC
Humidity	40 +/- 10 %
Barometric Pressure	101 +/- 2 kPa

C.4. EQUIPMENT LIST

RECEIVING EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00015	Agilent	E4408B	Spectrum Analyzer	02Feb06	02Feb07
2	00102	Pasternack	PE7015-3030	30dB attenuator	na	na*
3	00064	Narda	3020A	Bi-Directional Coupler 50-1000 MHz	na	na*
4	00096	Agilent	87301D	Bi-Directional Coupler 1-40 GHz	na	na*
5	00207	Anritsu	MT8820A	Radio Communication Analyzer	06Jun06	06Jun07

*Verified with VNA

C.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS

The measurement equipment was connected as shown in C.6.

MEASUREMENT EQUIPMENT SETTINGS

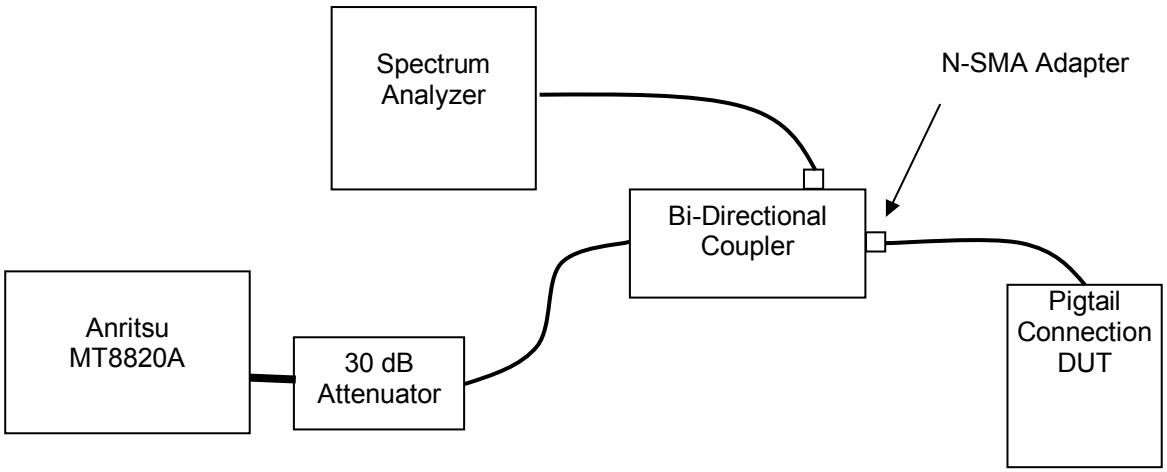
The spectrum analyzer was set to the following settings:

Frequency Range	RBW	VBW	Directional Coupler	Offset	Detector
MHz	kHz	kHz	dB	dB	
Between Block edge and 1 MHz from Block edges	10	10	Narda	-19.6	Peak
Beyond 1MHz from Block edges and below 1 GHz	100*	100*			
Above 1 GHz	1000	1000	Agilent	-16	

*Specified BW of 1% of EBW within Block and 1 MHz of each edge & ≥ 100 kHz beyond 1 MHz of the block edge.

C.6. SETUP DRAWING

Figure C.6-1 - Setup Drawing



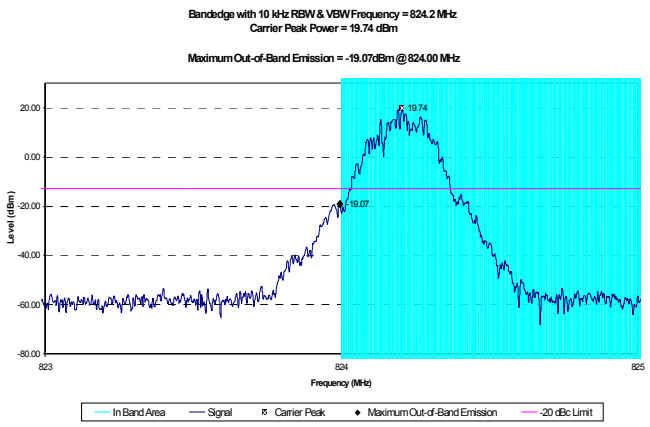
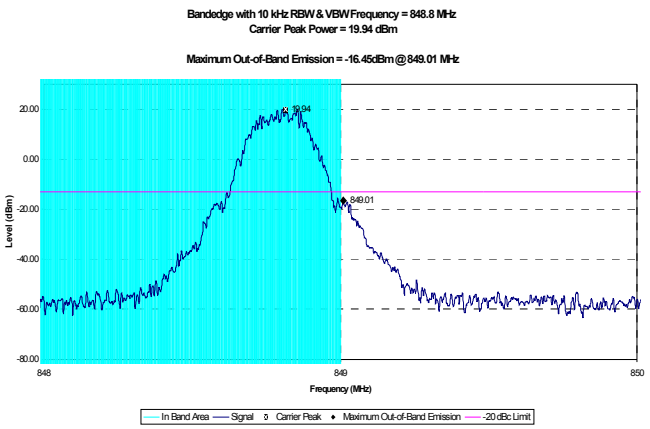
C.7. DUT OPERATING DESCRIPTION

Measurements were made with the DUT transmitting at maximum power in the cellular band, in a configuration as described in Section 5 of this report. The Block edge measurements were made with the DUT transmitting on the channel closest to the edge under investigation (CH128 & CH251). The remaining spurious measurements were made on each of the three channels, Low (CH128), mid (CH190) and High (CH251).

C.8. TEST RESULTS

The spurious measurements detailed in this section are referenced to the conducted carriers levels outlined in Appendix C of this report:

C.8.1. Spurious Emissions within 1MHz of Block Edge

Emission Bandwidth - CH128	Emission Bandwidth - CH251
* 1% EBW = 3.30 kHz	* 1% EBW = 3.00 kHz
Lower Block Edge - 824 MHz	Upper Block Edge - 849 MHz
	
Highest emission within 1MHz of the Lower Block Edge is at 824.000 MHz with a level of -19.07 dBm measured with an RBW of 10 kHz.	Highest emission within 1MHz of the Upper Block Edge is at 849.010 MHz with a level of -16.45 dBm measured with an RBW of 10 kHz.

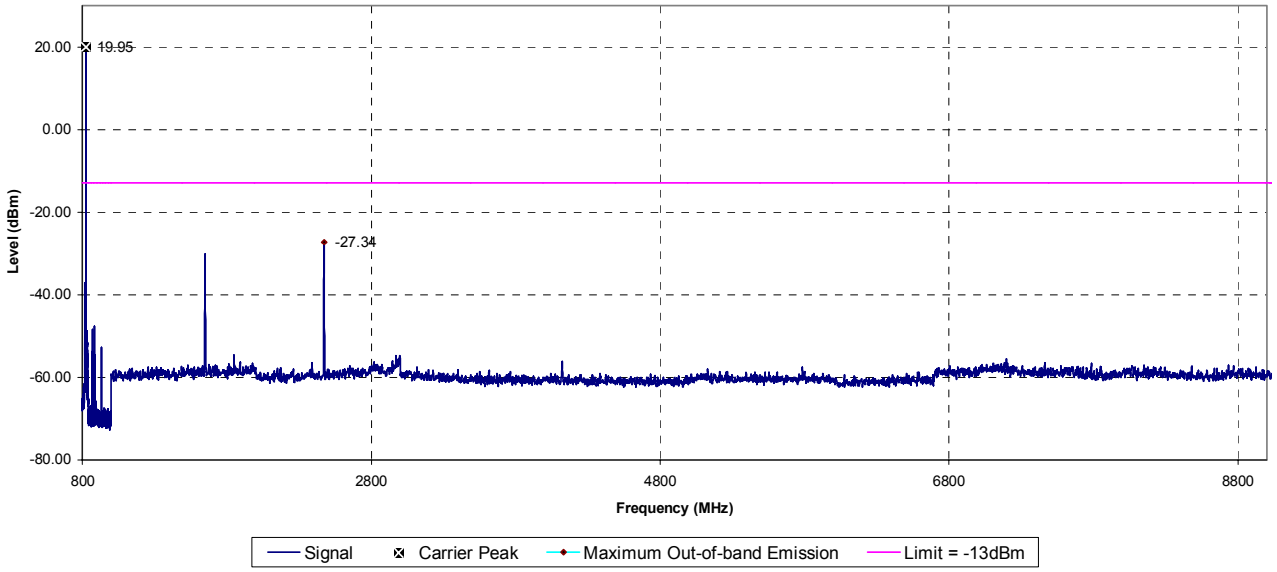
C.8.2. Spurious Emissions removed by more than 1MHz from Block Edge

Channel 128

Band 1	Band 2

Transmitting Conducted Spurs - 100 kHz RBW & VBW in the range 800-1000 MHz - 1 MHz RBW & VBW in the range 1-9 GHz Frequency = 824.2 MHz
Carrier Peak Power = 19.95 dBm

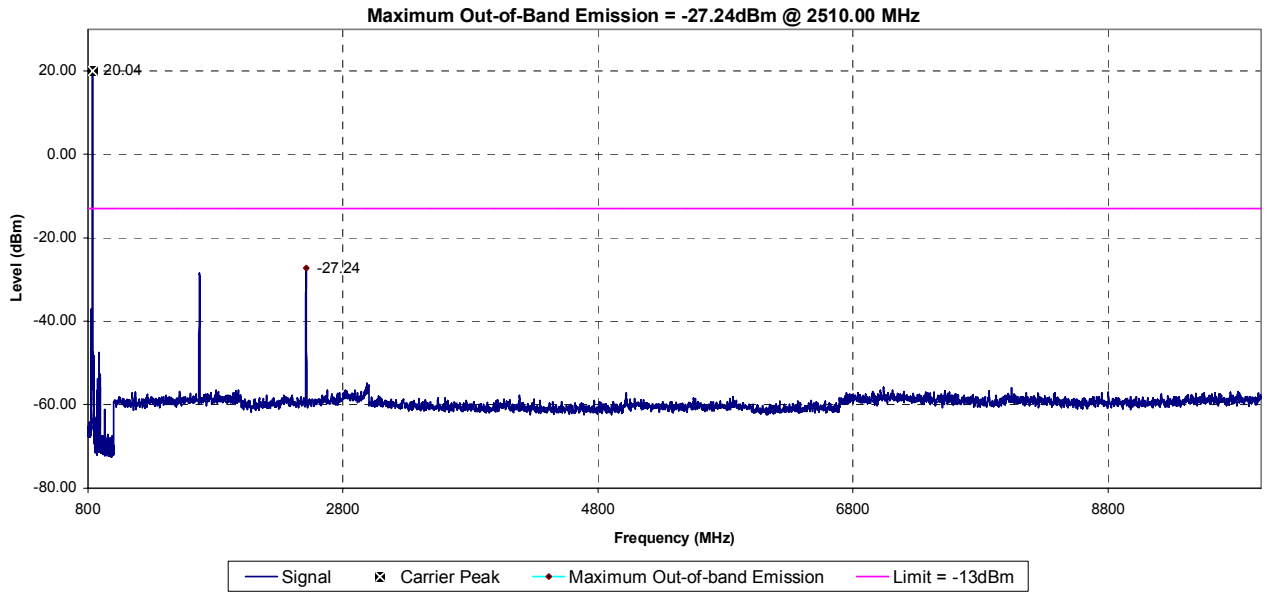
Maximum Out-of-Band Emission = -27.34dBm @ 2472.50 MHz



Highest emission removed by more than 1MHz from the Lower Block Edge with Channel 128 transmitting is at 2472.5 MHz with a peak level of –27.34 dBm measured with an RBW of 1 MHz.

Channel 190	
Band 1	Band 2

Transmitting Conducted Spurs - 100 kHz RBW & VBW in the range 800-1000 MHz - 1 MHz RBW & VBW in the range 1-9 GHz Frequency = 836.3 MHz
Carrier Peak Power = 20.04 dBm

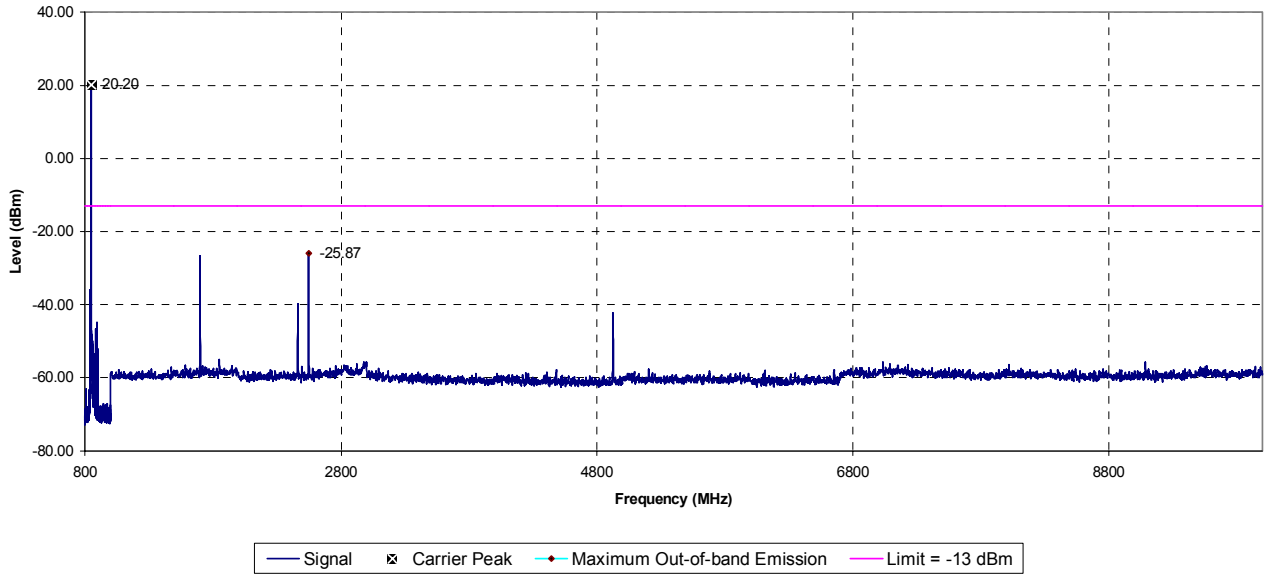


Highest emission removed by more than 1MHz from the Lower Block Edge with Channel 190 transmitting is at 2510 MHz with a peak level of –27.24 dBm measured with an RBW of 1 MHz.

Channel 251	
Band 1	Band 2

Transmitting Conducted Spurs - 100 kHz RBW & VBW in the range 800-1000 MHz - 1 MHz RBW & VBW in the range 1-9 GHz Frequency = 848.8 MHz
Carrier Peak Power = 20.20 dBm

Maximum Out-of-Band Emission = -25.87dBm @ 2547.50 MHz



Highest emission removed by more than 1MHz from the Lower Block Edge with Channel 251 transmitting is at 2547.5 MHz with a peak level of –25.87 dBm measured with an RBW of 1 MHz.

C.9. PASS/FAIL

In reference to the results outlined in C.9, the DUT passes the requirements as stated in the reference standards.

FCC CFR 4 §22.217 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

The results set forth in this section meet the requirement with a margin of at least 12.87 dB
(-25.87 dBm @ 2547.5 MHz vs a limit of -13 dBm)

C.10. SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson
Senior Compliance Technologist
Celltech Labs Inc.

June 29, 2006
Date

Appendix D - Cellular Band Conducted RX Spurious Emissions Measurement

D.1. REFERENCES

Normative Reference Standard	IC RSS-132 §4.6
Procedure Reference	IC RSS-GEN §4.8

D.2. LIMITS

IC RSS-GEN §4.8	*(b) If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per 4 kHz spurious frequency in the band 30 – 1000 MHz or 5 nanowattts above 1 GHz.*

D.3. ENVIRONMENTAL CONDITIONS

Temperature	25 +/- 5 ºC
Humidity	40 +/- 10 %
Barometric Pressure	101 +/- 2 kPa

D.4. EQUIPMENT LIST

RECEIVING EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00015	Agilent	E4408B	Spectrum Analyzer	02Feb06	02Feb07
2	na	Itronix	na	Cable & SMA adapter	na	na*

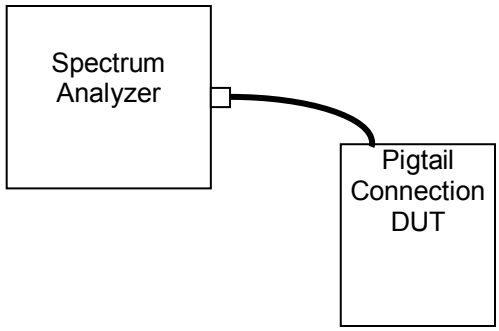
*Verified with VNA

D.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in D.6.			
MEASUREMENT EQUIPMENT SETTINGS	The spectrum analyzer was set to the following settings:			
	Frequency Range	RBW	VBW	Detector
	MHz	kHz	kHz	
	30 MHz – 1 GHz	10	10	Peak
	1 GHz – 9 GHz	100	100	Peak

D.6. SETUP DRAWING

Figure D.6-1 - Setup Drawing

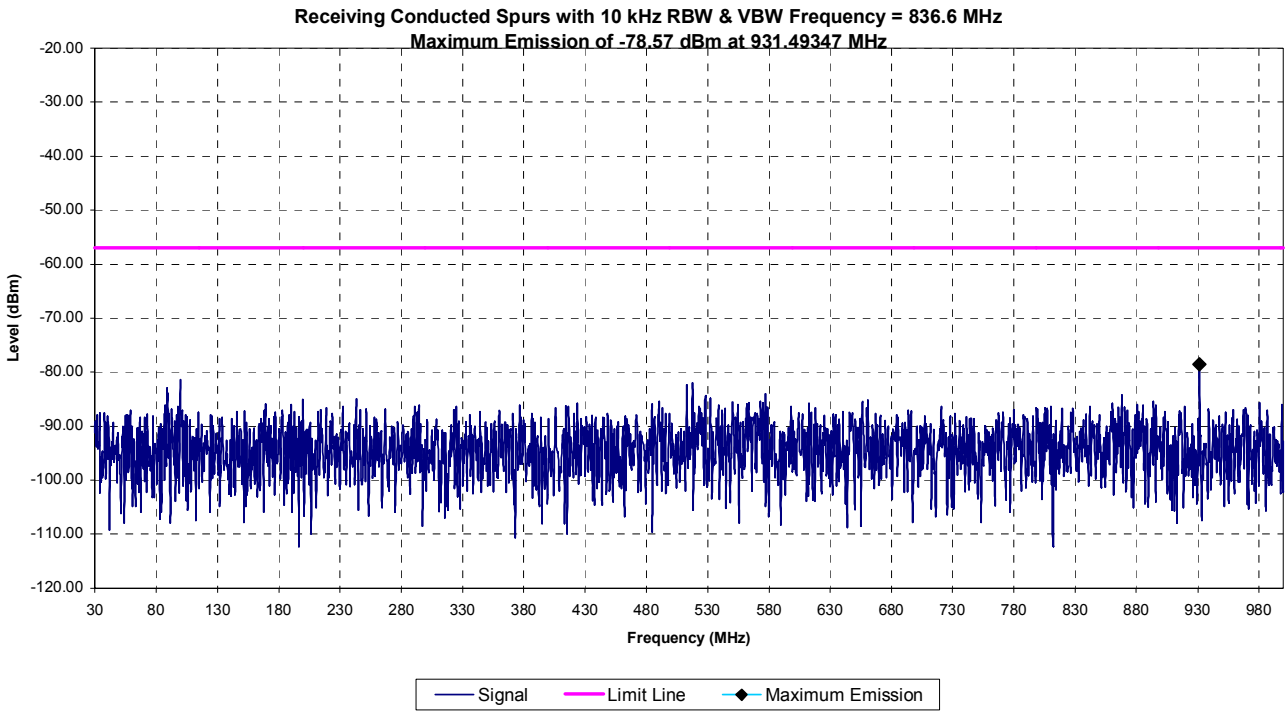


D.7. DUT OPERATING DESCRIPTION

Measurements were made with the DUT in receive mode for the cellular mid channel (CH190 836.6 MHz)
Measurements were made with a worst-case RBW of 10 kHz in the region from 30 MHz to 1 GHz and 100 kHz from 1 GHz to 9 GHz.

D.8. TEST RESULTS

D.8.1. Receiver Spurious Emissions

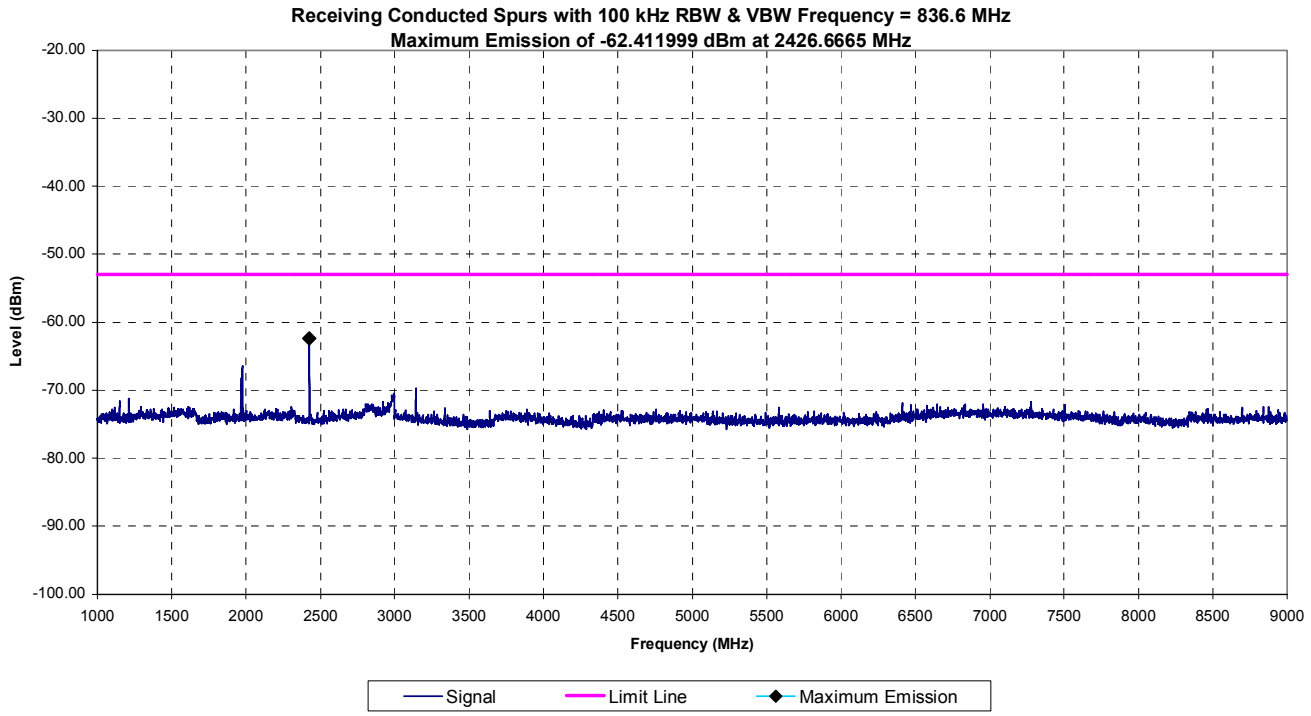


Calculations

Because the RBW of the measurement is greater than 4 kHz, no bandwidth correction is required.

Highest emission in the region from 30 MHz to 1 GHz:
-78.57 dBm or 13.90 pW

Margin (nW) = 2 nW – 0.0139 nW
= 1.986 nW



Calculations

Because the RBW of the measurement is greater than 4 kHz, no bandwidth correction is required.

Highest emission in the region from 1 GHz to 9 GHz:
-62.41 dBm or 0.5741 nW

Margin (nW) = 5 nW – 0.5741 nW
= 4.426 nW

D.9. PASS/FAIL

In reference to the results outlined in D.9, the DUT passes the requirements as stated in the reference standards.

IC RSS-GEN §4.8 (b) If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per 4kHz spurious frequency in the band 30 - 1000 MHz or 5 nanowattts above 1 GHz.

The results set forth in this section meet the requirement with a margin of at least 1.986 nW

D.10. SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson
Senior Compliance Technologist
Celltech Labs Inc.

June 29, 2006
Date

Appendix E - Cellular Band Effective Radiated Power Measurement

E.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §22.913 (a)
Procedure Reference	ANSI/TIA/EIA-603-C

E.2. LIMITS

FCC CFR 47 §22.913 (a)	*(a) Maximum ERP. ……. The ERP of mobile transmitters and auxiliary transmitters must not exceed 7 Watts.*

E.3. ENVIRONMENTAL CONDITIONS

Temperature	25 +/- 5 ºC
Humidity	40 +/- 10 %
Barometric Pressure	101 +/- 2 kPa

E.4. EQUIPMENT LIST

RECEIVING EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00072	EMCO	2075	Mini-mast	na	na
2	00073	EMCO	2080	Turn Table	na	na
3	00071	EMCO	2090	Multi-Device Controller	na	na
4	00050	Chase	CBL-6111A	Bilog Antenna	04Apr06	04Apr07
5	00051	HP	8566B	Spectrum Analyzer	04Apr06	04Apr07
6	00047	HP	85685A	Preselector	05Apr06	05Apr07
7	00120	Celltech	n/a	Microwave Cable (RX)	na	na
8	00121	Andrew	FSJ4-50B	Microwave Cable (RX)	na	na
9	00130	Andrew	FSJ1-50A	Microwave Cable (RX)	na	na
10	00208	Anritsu	MT8820A	Radio Communication Analyzer	06Jun06	06Jun07

ADDITIONAL SUBSTITUTION EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
11	00055	ETS	3121C	Roberts Dipole	04Apr06	04Apr08
12	00131	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na
13	00127	Andrew	FSJ4-50B	Microwave Cable (TX)	na	na
14	00133	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na
15	00006	R &S	SMR40	Signal Generator	06Apr06	06Apr07
16	00007	Gigatronics	8652A	Power Meter	03Feb06	03Feb07
17	00011	Gigatronics	80701A	Power Sensor	03Feb06	03Feb07
18	00013	Gigatronics	80701A	Power Sensor	03Feb06	03Feb07
19	00102	Pasternack	PE7015-3110	30 dB attenuator	na*	na*
20	00078	Pasternack	PE2214-20	Directional Coupler	na*	na*

*Attenuation offset in power meter setup

E.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in E.6.

The spectrum analyzer was set to the following settings:

MEASUREMENT EQUIPMENT SETTINGS	Frequency Range	RBW	VBW	Detector
	MHz	kHz	kHz	
	30 - 1000	100	100	Peak

E.6. SETUP DRAWING

Figure E.6-1 - Field Strength Setup Drawing

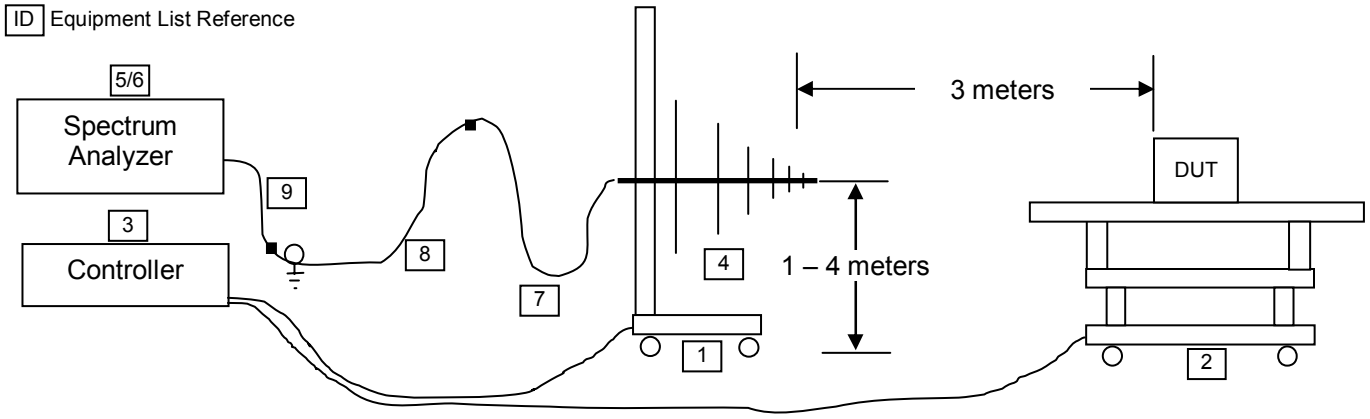
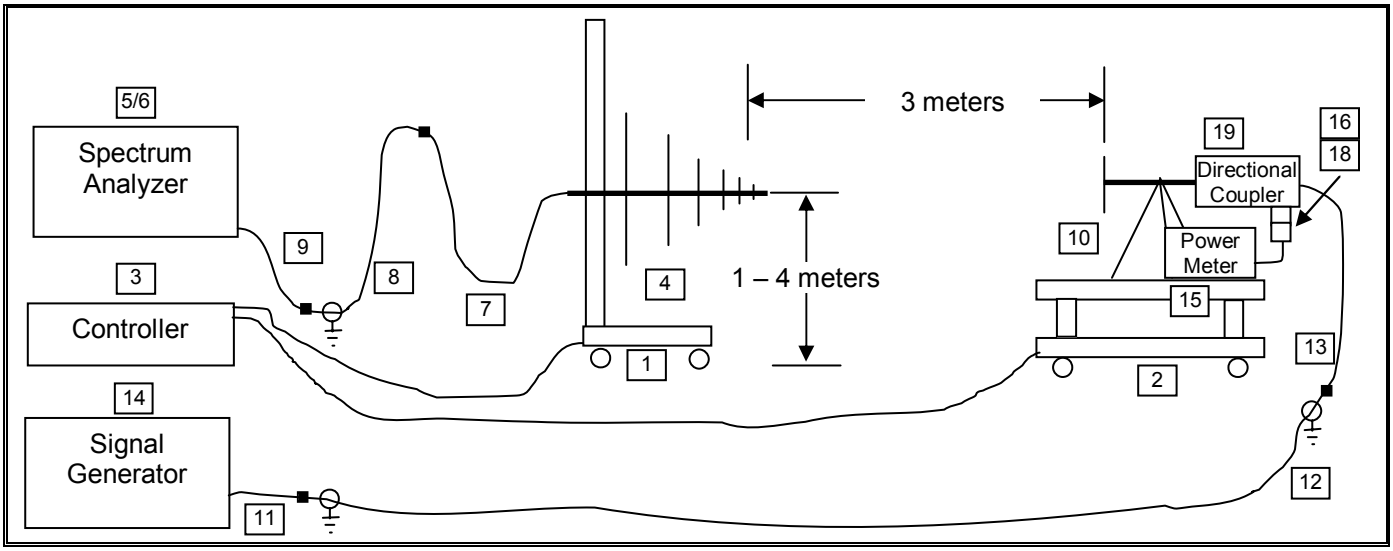


Figure E.6-2 - Signal Substitution Setup Drawing



E.7. DUT OPERATING DESCRIPTION

Measurements were made for the low, mid and high GSM channels transmitting in the cellular band at maximum power levels, and the DUT configured as described in Section 5 of this report.

E.8. ERP TEST SETUP PHOTOGRAPHS

Photograph E.8-1 - ERP Measurement Setup

Photograph E.8-2 - ERP Measurement Setup

E.9. TEST RESULTS

Project Number: 755
Company: Medical Intelligence
Product: Columba
Test Start Date: 3-Apr-06
Test End Date: 3-Apr-06

ERP Measurement Results - Cellular Band

Configuration				Polarity	Distance	Carrier Channel	Frequency	Corrected Field Strength	SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	RBW Correction Factor	Measured ERP Carrier Level	
DUT#	Orientation	Power Source	Accessory		m		MHz	dBuV/m	dBuV	dBm	dBd	dB	dBm	milliWatts
1	Short Edge Up	4.1 VDC P/S	none	H	3	128	824.2000	97.77	70.21	12.40	2.82	4.77	19.99	99.69
1	Short Edge Up	4.1 VDC P/S	none	V	3	128	824.2000	96.45	68.89	11.82	2.82	4.77	19.41	87.23
1	Short Edge Up	4.1 VDC P/S	none	H	3	190	836.6000	100.12	72.70	14.70	3.10	4.77	22.57	180.79
1	Short Edge Up	4.1 VDC P/S	none	V	3	190	836.6000	98.15	70.73	13.54	3.10	4.77	21.41	138.41
1	Short Edge Up	4.1 VDC P/S	none	H	3	251	848.8000	97.71	70.41	11.65	3.38	4.77	19.80	95.55
1	Short Edge Up	4.1 VDC P/S	none	V	3	251	848.8000	95.57	68.27	11.11	3.38	4.77	19.26	84.38

Measurement made at a 3 meter distance, with the EUT placed 1 meter above the ground plane
RBW Correction Factor = 10*LOG(300/100) = 4.77dB based on a correction from a 100kHz RBW used for the measurement to 300 kHz RBW to encompass the 99% EBW of 285 kHz

Note:
Dipole Antenna used for substitution

Formulae:
ERP Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)
Margin (dB) = Limit (dBm) - Level (dBm)

E.10. PASS/FAIL

In reference to the results outlined in E.9, the DUT passes the requirements as stated in the reference standards as follows:

FCC 22.913 (a) Maximum ERP. ……. The ERP of mobile transmitters and auxiliary transmitters must not exceed 7 Watts.

A maximum ERP of 22.57 dBm (0.180.79 Watts) was measured when Channel 190 was transmitting.

E.11. SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson
Senior Compliance Technologist
Celltech Labs Inc.

December 13, 2006
Date

Appendix F - Cellular Band Radiated TX Spurious Emissions Measurement

F.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §22.917(e)
Procedure Reference	ANSI/TIA/EIA-603-C

F.2. LIMITS

FCC CFR 47 §22.917	*(e) Out of Band Emissions. The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency twice or more than twice the fundamental frequency by: at least 43 + 10 log P dB*

F.3. ENVIRONMENTAL CONDITIONS

Temperature	25 +/- 5 ºC
Humidity	40 +/- 10 %
Barometric Pressure	101 +/- 2 kPa

F.4. EQUIPMENT LIST

RECEIVING EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00072	EMCO	2075	Mini-mast	na	na
2	00073	EMCO	2080	Turn Table	na	na
3	00071	EMCO	2090	Multi-Device Controller	na	na
4	00050	Chase	CBL-6111A	Bilog Antenna	04Apr06	04Apr07
5	00035	ETS	3115	Double Ridged Guide Antenna (Rx)	03Apr06	03Apr08
6	00015	Agilent	E4408B	Spectrum Analyzer	02Feb06	02Feb07
7	00051	HP	8566B	Spectrum Analyzer	04Apr06	04Apr07
8	00047	HP	85685A	Preselector	05Apr06	05Apr07
9	00120	Celltech	n/a	Microwave Cable (RX)	na	na
10	00121	Andrew	FSJ4-50B	Microwave Cable (RX)	na	na
11	00130	Andrew	FSJ1-50A	Microwave Cable (RX)	na	na
12	00115	Miteq	JS4-00102600-35-5A	Low Noise Amplifier	na	na
13	00093	Microtronics	HPM50111	High Pass Filter	na	na
14	00119	INMAT	18AH-10	10dB attenuator	na	na

ADDITIONAL SUBSTITUTION EQUIPMENT						
ID	**ASSET NUMBER**	**MANUFACTURER**	**MODEL**	**DESCRIPTION**	**LAST CAL**	**CAL DUE**
15	00055	ETS	3121C	Roberts Dipole	04Apr06	04Apr08
16	00034	ETS	3115	Double Ridged Guide Antenna (Tx)	11Aug05	11Aug07
17	00131	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na
18	00127	Andrew	FSJ4-50B	Microwave Cable (TX)	na	na
19	00133	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na
20	00006	R & S	SMR-20	Signal Generator	06Apr06	06Apr07
21	00007	Gigatronics	8652A	Power Meter	03Feb06	03Feb07
22	00011	Gigatronics	80701A	Power Sensor	03Feb06	03Feb07
23	00013	Gigatronics	80701A	Power Sensor	03Feb06	03Feb07
24	00102	Pasternack	PE7015-3110	30 dB attenuator	na*	na*
25	00078	Pasternack	PE2214-20	Directional Coupler	na*	na*
26	00142	HP	8491A	20 dB attenuator	na*	na*
27	00208	Anritsu	MT8820A	Radio Communication Analyzer	06Jun06	06Jun07

* Attenuation offset in power meter setup

F.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS

The measurement equipment was connected as shown in F.6. A number of measurement equipment configurations were used to cover the applicable frequency ranges. The configurations for each range are as follows:

Frequency Range	LNA Asset #	Filter/Attenuator Asset #	Rx Antenna Asset #	Tx Antenna Asset #
30 MHz – 1 GHz	none	none	00050	00059
1 GHz – 2 GHz	none	none	00035	00034
2 GHz – 3 GHz	00115	00119	00035	00034
3 GHz – 10 GHz	00115	00093	00035	00034

MEASUREMENT EQUIPMENT SETTINGS

The spectrum analyzer was set to the following settings:

Frequency Range	RBW	VBW	Detector
MHz	kHz	kHz	
800 MHz – 10 GHz	100*	100*	Peak

*Field strength measurements were made with a worse case RBW and VBW of 1 MHz for frequency bands above 1 GHz when adequate margins were attained.

F.6. SETUP DRAWING

Figure F.6-1 - Field Strength Setup Drawing

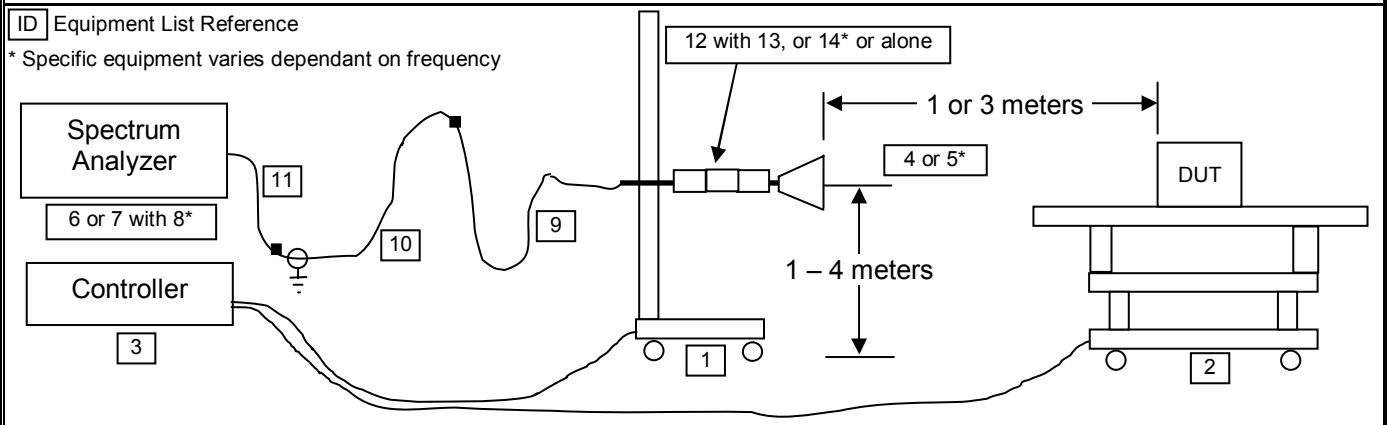
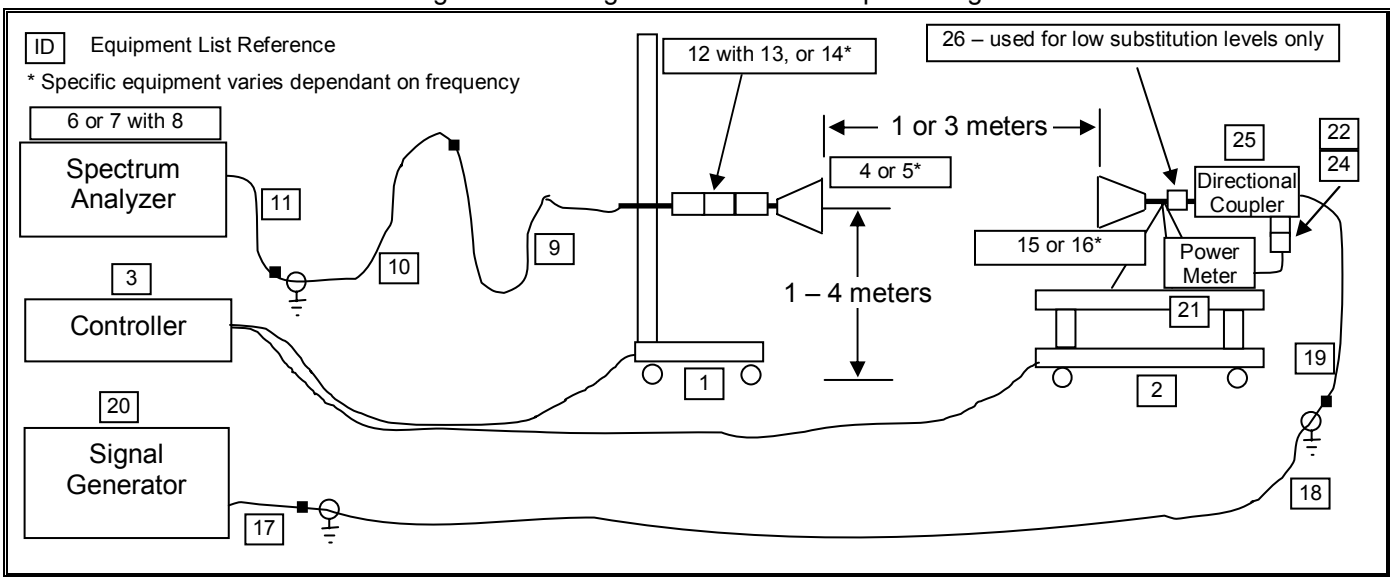


Figure F.6-2 - Signal Substitution Setup Drawing



F.7. SETUP PHOTOGRAPHS

Photograph F.7-1 - Horizontal 3115 Horn Cellular Radiated Emissions Setup

Photograph F.7-2 - Vertical 3115 Horn Cellular Radiated Emissions Setup

F.8. DUT OPERATING DESCRIPTION

Measurements were made for the low, mid and high GSM channels transmitting in the cellular band at maximum power levels as described in Section 5 of this report. The conducted emissions described in Appendix C supplement the results described in this appendix.

F.9. TEST RESULTS

The spurious measurements detailed in this section are referenced to the carrier levels set forth in Appendix E of this report:

F.9.1. Spurious Emissions

Channel 128

Project Number:	755	**Standard:**	FCC22.917
Company:	Medical Intelligence	**Test Start Date:**	27-Jun-06
Product:	Columba	**Test End Date:**	28-Jun-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
H	3	none	128	1648.40	52.11	PK*	N/A	N/A	N/A	N/A	84.4*	32.3*	PASS*
H	3	none	128	2468.73	54.06	PK*	N/A	N/A	N/A	N/A	84.4*	30.3*	PASS*
H	3	none	128	3296.68	44.80	PK*	N/A	N/A	N/A	N/A	84.4*	39.6*	PASS*
H	3	none	128	4120.73	40.42	PK*	N/A	N/A	N/A	N/A	84.4*	43.9*	PASS*
H	3	none	128	4945.20	43.89	PK*	N/A	N/A	N/A	N/A	84.4*	40.5*	PASS*
H	3	none	128	5772.10	51.62	PK*	N/A	N/A	N/A	N/A	84.4*	32.7*	PASS*
H	3	none	128	6593.44	52.30	PK*	N/A	N/A	N/A	N/A	84.4*	32.1*	PASS*
H	3	none	128	7417.80	53.08	PK*	N/A	N/A	N/A	N/A	84.4*	31.3*	PASS*
H	3	none	128	8242.00	54.85	PK*	N/A	N/A	N/A	N/A	84.4*	29.5*	PASS*
V	3	none	128	1648.40	51.61	PK*	N/A	N/A	N/A	N/A	84.4*	32.8*	PASS*
V	3	none	128	2472.60	55.07	PK*	N/A	N/A	N/A	N/A	84.4*	29.3*	PASS*
V	3	none	128	3296.67	43.70	PK*	N/A	N/A	N/A	N/A	84.4*	40.7*	PASS*
V	3	none	128	4121.00	39.42	PK*	N/A	N/A	N/A	N/A	84.4*	44.9*	PASS*
V	3	none	128	4945.00	43.09	PK*	N/A	N/A	N/A	N/A	84.4*	41.3*	PASS*
V	3	none	128	5768.35	55.85	PK*	N/A	N/A	N/A	N/A	84.4*	28.5*	PASS*
V	3	none	128	6593.60	51.70	PK*	N/A	N/A	N/A	N/A	84.4*	32.7*	PASS*
V	3	none	128	7417.80	53.28	PK*	N/A	N/A	N/A	N/A	84.4*	31.1*	PASS*
V	3	none	128	8242.00	55.05	PK*	N/A	N/A	N/A	N/A	84.4*	29.3*	PASS*

*Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

Note:
The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.

Formulae:
ERP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBd)
Margin (dB) = Limit (dBm) – ERP Emission Level (dBm) or Theoretical Limit (dBuV/m) – Corrected Field Strength (dBuV/m)
Theoretical Limit (V/m) = SQRT(30 * P / r^2) where P is the total transmitted power (W), r is measurement distance (m)

Channel 190

Project Number: 755 **Standard:** FCC22.917
Company: Medical Intelligence **Test Start Date:** 27-Jun-06
Product: Columba **Test End Date:** 28-Jun-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
H	3	none	190	1672.93	49.65	PK*	N/A	N/A	N/A	N/A	84.4*	34.7*	PASS*
H	3	none	190	2509.83	57.90	PK*	N/A	N/A	N/A	N/A	84.4*	26.5*	PASS*
H	3	none	190	3346.31	43.56	PK*	N/A	N/A	N/A	N/A	84.4*	40.8*	PASS*
H	3	none	190	4183.00	39.39	PK*	N/A	N/A	N/A	N/A	84.4*	45.0*	PASS*
H	3	none	190	5019.60	43.50	PK*	N/A	N/A	N/A	N/A	84.4*	40.9*	PASS*
H	3	none	190	5856.20	50.57	PK*	N/A	N/A	N/A	N/A	84.4*	33.8*	PASS*
H	3	none	190	6693.16	52.15	PK*	N/A	N/A	N/A	N/A	84.4*	32.2*	PASS*
H	3	none	190	7529.40	53.16	PK*	N/A	N/A	N/A	N/A	84.4*	31.2*	PASS*
H	3	none	190	8366.00	55.66	PK*	N/A	N/A	N/A	N/A	84.4*	28.7*	PASS*
V	3	none	190	1673.59	49.55	PK*	N/A	N/A	N/A	N/A	84.4*	34.8*	PASS*
V	3	none	190	2509.71	56.70	PK*	N/A	N/A	N/A	N/A	84.4*	27.7*	PASS*
V	3	none	190	3346.27	42.06	PK*	N/A	N/A	N/A	N/A	84.4*	42.3*	PASS*
V	3	none	190	4183.00	39.79	PK*	N/A	N/A	N/A	N/A	84.4*	44.6*	PASS*
V	3	none	190	5019.60	42.30	PK*	N/A	N/A	N/A	N/A	84.4*	42.1*	PASS*
V	3	none	190	5856.20	49.97	PK*	N/A	N/A	N/A	N/A	84.4*	34.4*	PASS*
V	3	none	190	6692.80	51.65	PK*	N/A	N/A	N/A	N/A	84.4*	32.7*	PASS*
V	3	none	190	7529.40	53.66	PK*	N/A	N/A	N/A	N/A	84.4*	30.7*	PASS*
V	3	none	190	8366.00	55.46	PK*	N/A	N/A	N/A	N/A	84.4*	28.9*	PASS*

*Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

Note:
The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.

Formulae:
ERP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBd)
Margin (dB) = Limit (dBm) – ERP Emission Level (dBm) or Theoretical Limit (dBuV/m) – Corrected Field Strength (dBuV/m)
Theoretical Limit (V/m) = SQRT(30 * P / r^2) where P is the total transmitted power (W), r is measurement distance (m)

Channel 251

Project Number: 755
Company: Medical Intelligence
Product: Columba
Standard: FCC22.917
Test Start Date: 27-Jun-06
Test End Date: 28-Jun-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
H	3	none	251	1697.60	48.52	PK*	N/A	N/A	N/A	N/A	84.4*	35.8*	PASS*
H	3	none	251	2546.39	59.01	PK*	N/A	N/A	N/A	N/A	84.4*	25.4*	PASS*
H	3	none	251	3395.12	42.92	PK*	N/A	N/A	N/A	N/A	84.4*	41.4*	PASS*
H	3	none	251	4244.00	39.90	PK*	N/A	N/A	N/A	N/A	84.4*	44.5*	PASS*
H	3	none	251	5092.80	43.21	PK*	N/A	N/A	N/A	N/A	84.4*	41.2*	PASS*
H	3	none	251	5941.60	50.59	PK*	N/A	N/A	N/A	N/A	84.4*	33.8*	PASS*
H	3	none	251	6790.67	51.81	PK*	N/A	N/A	N/A	N/A	84.4*	32.6*	PASS*
H	3	none	251	7639.20	54.38	PK*	N/A	N/A	N/A	N/A	84.4*	30.0*	PASS*
H	3	none	251	8488.00	55.85	PK*	N/A	N/A	N/A	N/A	84.4*	28.5*	PASS*
V	3	none	251	1697.59	49.32	PK*	N/A	N/A	N/A	N/A	84.4*	35.0*	PASS*
V	3	none	251	2546.28	59.21	PK*	N/A	N/A	N/A	N/A	84.4*	25.2*	PASS*
V	3	none	251	3395.25	40.92	PK*	N/A	N/A	N/A	N/A	84.4*	43.4*	PASS*
V	3	none	251	4244.00	40.10	PK*	N/A	N/A	N/A	N/A	84.4*	44.3*	PASS*
V	3	none	251	5092.80	42.81	PK*	N/A	N/A	N/A	N/A	84.4*	41.6*	PASS*
V	3	none	251	5941.60	50.29	PK*	N/A	N/A	N/A	N/A	84.4*	34.1*	PASS*
V	3	none	251	6790.40	51.80	PK*	N/A	N/A	N/A	N/A	84.4*	32.6*	PASS*
V	3	none	251	7639.20	54.58	PK*	N/A	N/A	N/A	N/A	84.4*	29.8*	PASS*
V	3	none	251	8488.00	55.55	PK*	N/A	N/A	N/A	N/A	84.4*	28.8*	PASS*

*Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

Note:
The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.

Formulae:
ERP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBi)
Margin (dB) = Limit (dBm) – ERP Emission Level (dBm) or Theoretical Limit (dBuV/m) – Corrected Field Strength (dBuV/m)
Theoretical Limit (V/m) = SQRT(30 * P / r^2) where P is the total transmitted power (W), r is measurement distance (m)

F.10. PASS/FAIL

In reference to the results outlined in F.9, the DUT passes the requirements as stated in the reference standards.

(e) Out of Band Emissions. The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency twice or more than twice the fundamental frequency by: at least 43 + 10 log P dB

The results set forth in this section meet the requirement with a margin of at least 25.4 dB

F.11. SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson
Senior Compliance Technologist
Celltech Labs Inc.

June 29, 2006
Date

Appendix G - Frequency Stability

G.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §22.355
Procedure Reference	FCC CFR 47 §2.1055(a)

G.2. LIMITS

FCC CFR 47 §22.355 Table C-1

Table C-1_Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile <3 Watts (ppm)	Mobile >3 Watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	**2.5**	2.5
928 to 929	5.0	N/a	N/a
929 to 960	1.5	N/a	N/a
2110 to 2220	10.0	N/a	N/a

G.3. ENVIRONMENTAL CONDITIONS

Temperature	25 +/- 5 ºC
Humidity	40 +/- 10 %
Barometric Pressure	101 +/- 2 kPa

G.4. EQUIPMENT LIST

RECEIVING EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00081	Espec	ECT-2	Environmental Chamber	N/a	N/a*
2	00208	Anritsu	MT8820A	Radio Communication Analyzer	06Jun06	06Jun07
3	00207	VWR	61161-378	Temperature Sensor	07Mar06	06Mar08
4	00201	Hewlett-Packard	E3611A	Variable Power Supply	N/a	N/a**
3	00174	Circuit-Test	DMR-1800	Digital Multi-Meter	06Apr06	06Apr08

*Temperature verified during measurements with the VWR Temperature Sensor.
**Voltage output of the Power Supply verified with the Circuit-Test Digital Multi-Meter.

G.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in G.6.

G.6. SETUP DRAWING

Figure G.6-1 - Setup Drawing Frequency Stability over Temperature

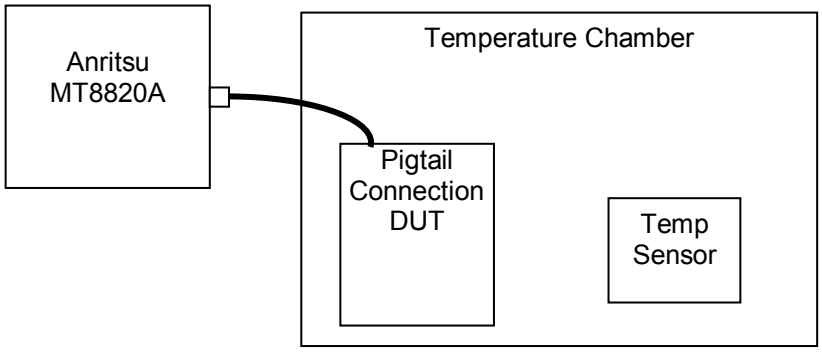
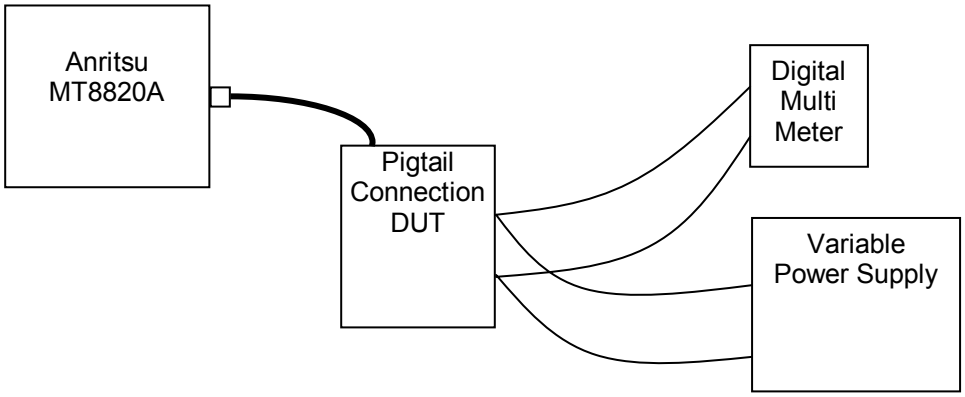


Figure G.6-2 - Setup Drawing Frequency Stability over Voltage



G.7. DUT OPERATING DESCRIPTION

Measurements were made with the DUT transmitting at the cellular mid channel (CH190 836.6 MHz)

G.8. TEST RESULTS

Frequency Stability over Temperature

Carrier Frequency (MHz): 836.6
Channel: 190
Mode: GPRS 850
Deviation Limit (PPM): 2.5

Temperature (°C)	Voltage (VDC)	Measured Frequency	Carrier Frequency Deviation (Hz)	Carrier Frequency Deviation (PPM)	Specification Lower Limit (PPM)	Specification Upper Limit (PPM)
+20 (Ref)	4.2	836.600006	25.00	0.030	2.500	-2.500
-30	3.9	836.600029	3.00	0.004	2.500	-2.500
-20	3.9	836.600029	3.00	0.004	2.500	-2.500
-10	3.9	836.600015	-11.00	-0.013	2.500	-2.500
0	3.9	836.600006	-20.00	-0.024	2.500	-2.500
+10	3.9	836.600001	-25.00	-0.030	2.500	-2.500
+20	3.9	836.600009	-17.00	-0.020	2.500	-2.500
+30	3.9	836.599995	-31.00	-0.037	2.500	-2.500
+40	3.9	836.600009	-17.00	-0.020	2.500	-2.500
+50	3.9	836.600025	-1.00	-0.001	2.500	-2.500
+20	3.6	836.600002	-24.00	-0.029	2.500	-2.500

Frequency Stability over Voltage

Cell Band Band 836.6 MHz

Ambient temperature: 20 C

Limit 2.5 ppm (plus/minus) 2091.5 Hz

Voltage	Measured Frequency	Deviation ppm
3.6	836.600021	0.03
3.9	836.600026	0.03
4.2	836.600006	0.01

G.9. PASS/FAIL

Complies

G.10. SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Senior Compliance Technologist
Celltech Labs Inc.

June 29, 2006
Date

END OF DOCUMENT