TEST REPORT

Report Number: 100077996MIN-002
Project Number: G100077996

Testing performed on the
Simon iXT ver. 4.3 TT PCS Radio

FCC ID: B4Z-801-IXT2
Industry Canada ID: 1175C- 801IXT2

to
47 CFR Part 24:2009
RSS-133 Issue 5, February 2009

For
GE Security Inc.

Test Performed by:	Test Authorized by:
Intertek Testing Services NA, Inc.	GE Security Inc.
7250 Hudson Blvd., Suite 100	1275 Red Fox Road
Oakdale, MN 55128	Arden Hills, MN 55112

Prepared by: _____ Date: March 26, 2010
Uri Spector

Reviewed by: _____ Date: March 26, 2010
Simon Khazon

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1.0 GENERAL DESCRIPTION

Model:	Simon iXT ver. 4.3 TT PCS Radio
Type of EUT:	Security Alarm
Part Number:	
FCC ID:	B4Z-801-IXT2
Industry Canada ID:	1175C- 801IXT2
Related Submittal(s) Grants:	N/A
Company:	GE Security Inc.
Customer:	Rene Christian
Address:	1275 Red Fox Road Arden Hills, MN 55112
Phone:	(877) 699-6787
Fax:	(651) 779-4884
e-mail:	Rene.Christian@ge.com
Test Standards:	☒ 47 CFR, Part 24:2009 ☒ RSS–133, Issue 5, 2009 ☐ 47 CFR, Part 15:2009, §15.107 and §15.109, Class B ☐ Other
Type of radio:	☐ Stand -alone ☒ Module ☐ Hybrid
Date Sample Submitted:	March 22, 2010
Test Work Started:	March 22, 2010
Test Work Completed:	March 26, 2010
Test Sample Conditions:	☐ Damaged ☐Poor (Usable) ☒ Good

1.1 Product Description; Test Facility

Product Description:	PCS 1900 Radio
Transmitter Type:	☐ FHSS ☒ Digital Modulation ☐ WiFi ☐ Blue Tooth
Operating Frequency Range(s):	From 1850.2 to 1909.8 MHz
Modulation:	GMSK
Emission Designator:	348KGXW
Antenna Gain:	-0.4dBi maximum
Antenna Installation:	☐ User ☐ Professional ☐ Factory
Transmitter power configuration:	☐ Internal battery ☒ External power source ☒ 120VAC ☐ 230VAC ☐ 400VAC ☐ VDC ☐ Other: Amp. ☐ 50Hz ☒ 60Hz
Test Facility Accreditation:	A2LA (Certificate No. 1427.01)
Test Methodology:	Measurements performed according to the procedures in ANSI C63.4-2003, ANSI/TIA/EIA-603-A

1.2 EUT Configuration

The equipment under test was operated during the measurement under the following conditions:

☐ - Standby
☒ - Continuous transmissions (modulated signal)
☐ - Continuous transmissions (un-modulated signal)
☐ - Continuous receiving
☐ - Test program (customer specific)
☐ -

Operating modes of the EUT:

No.	Description
1	Continuous communication with Radio Communication Tester. Test was performed at low channel (512), middle channel (661), and upper channel (810)

Cables:

No.	Type	Length	Designation	Note
1	Phone Cable	> 6ft	Not shielded, RJ11	
2	Line Cable	> 6ft	Not shielded, RJ45	
3	LAN Device Cable	> 6ft	Not shielded, RJ45	
4	HW1 I/O wire	6ft	Not shielded, terminal connector	
5	HW DC OUT wire	6ft	Not shielded, terminal connector	
6	HW2 IN wire	6ft	Not shielded, terminal connector	

Support equipment/Services:

No.	Item	Description
1	Will'Tek 4403	Mobile Phone Tester
2	Mini-Circuits ZFRCS-42-S+	Coupler

1.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

☒ **Normal**

Temperature:	+15 to +35 ° C
Humidity:	20-75 %
Atmospheric pressure:	86-106 kPa

☒ **Extreme**

☒ **Temperature:**	-30 to +50 ° C

1.4 Measurement uncertainty

The expanded uncertainty (k = 2) for radiated measurements has been determined to be:
±4 dB at 10m and ±5.4 dB at 3m
The expanded uncertainty (k = 2) for conducted measurements at antenna terminal has been determined to be:
±1.0 dB
The expanded uncertainty (k = 2) for line conducted measurements has been determined to be:
±2.6 dB

1.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured emissions reading on the EMI Receiver.
The basic equation with a sample calculation is as follows:
FS = RA + AF + CF - AG

Where: FS = Field Strength in dB(μV/m)
RA = Receiver Amplitude in dB(μV)
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB(m^{-1})
AG = Amplifier Gain in dB

Assume a receiver reading of 48.1 dB(μV) is obtained. The antenna factor of 7.4 dB(m^{-1}) and cable factor of 1.6 dB is added and amplifier gain of 16.0 dB is subtracted giving field strength of 41.1 dB(μV/m).

RA = 48.1 dB(μV)
AF = 7.4 dB(m^{-1})
CF = 1.6 dB
AG = 16.0 dB
FS = RA + AF + CF - AG
FS = 48.1 + 7.4 + 1.6 – 16.0
FS = 41.1 dB(μV/m)

General notes:

2.0 TEST SUMMARY

Referring to the performance criteria and the operating mode during the tests specified in this report, the equipment complies with the requirements according to the following standards.

TEST SPECIFICATION	TEST PARAMETERS	RESULT
24.232/RSS-133	RF output power EIRP	Pass
2.1047/RSS-133	Modulation Characteristics	Pass
24.235/RSS-133	Frequency Stability	Pass
2.1049/RSS-133	Occupied Bandwidth	Pass
24.238/RSS-133	Antenna conducted spurious emissions	Pass
24.238/RSS-133	Enclosure Radiated spurious emissions	Pass
24.238/RSS-133	Antenna conducted spurious emissions at Block Edges	Pass
1.1310, 2.1091(c)/ RSS- Gen 5.5	RF Exposure Compliance	Pass

3.0 TEST CONDITIONS AND RESULTS

3.1 RF Output Power EIRP

3.1.1 Conducted EIRP

Test location: ☐ OATS ☐ Anechoic Chamber ☐ Other

Test result: **Pass**

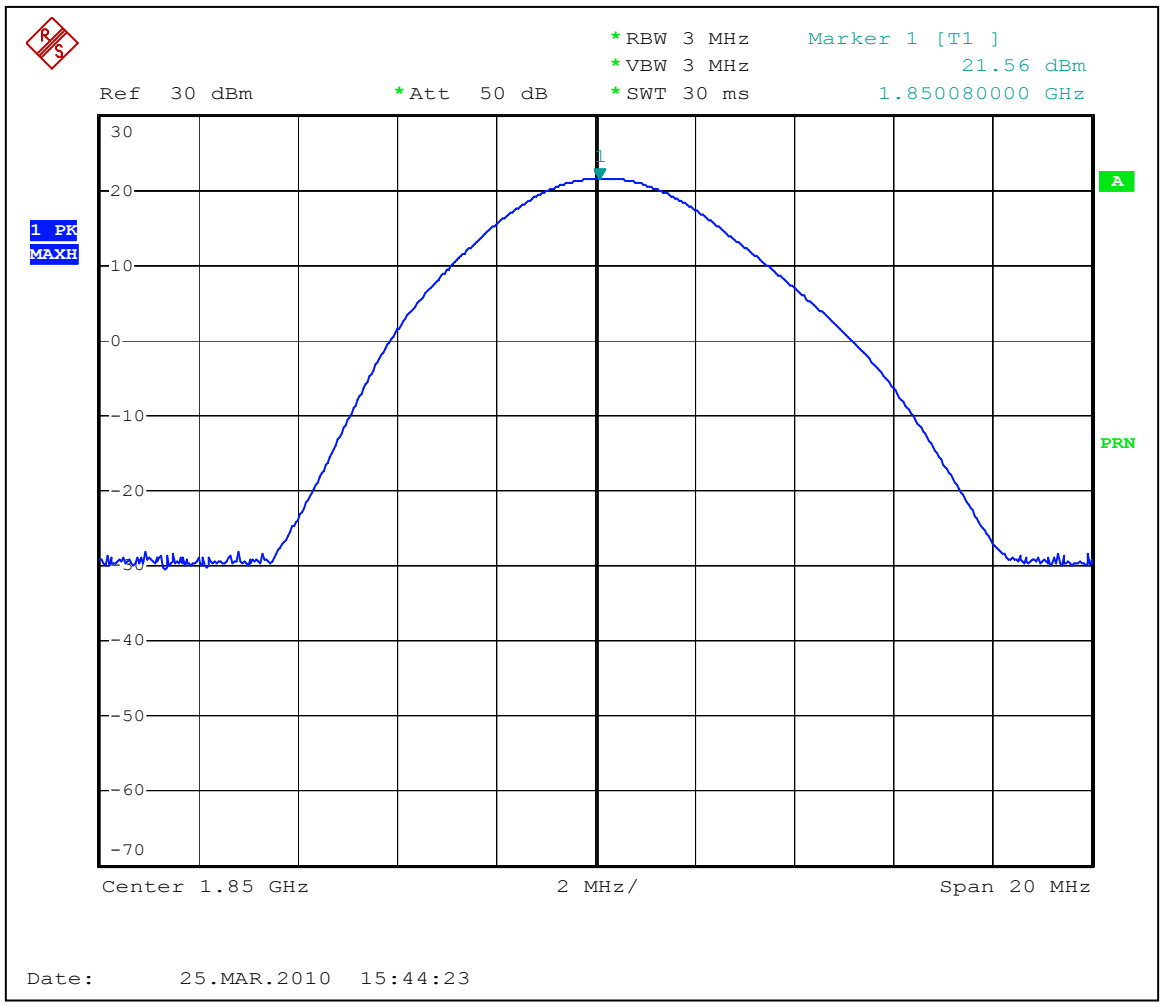
The maximum output EIRP is 29.01dBm or 0.79W

Max. Margin: 3.99 dB below the limits

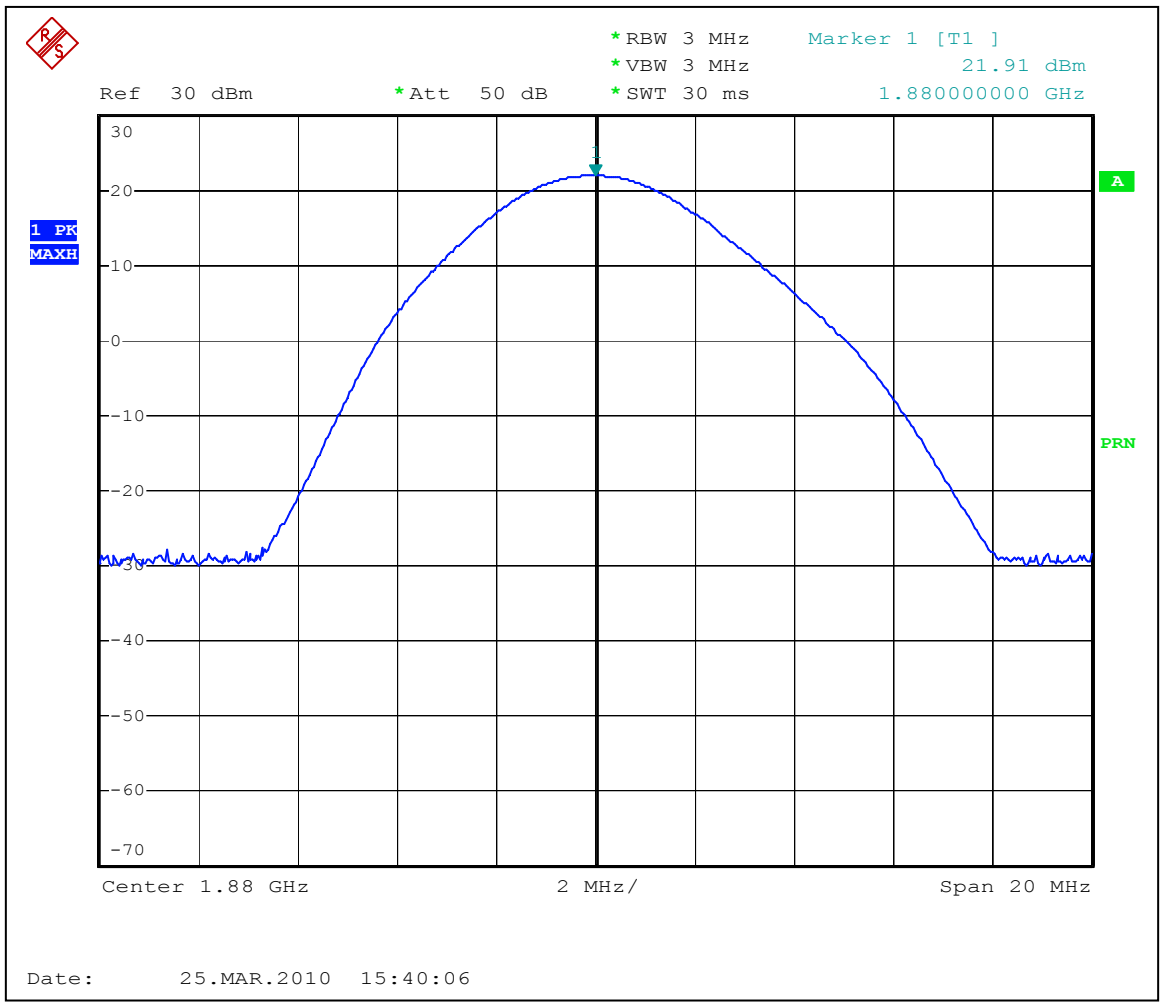
Power Output:	**Conducted**				
Frequency Range:	☒ 1850.2-1909.8MHz				
Low Frequency MHz	**Measured power dBm**	**Total CF dB**	**EIRP dBm**	**EIRP Limit dBm**	**Margin dB**
1850.2	21.56	7.1	28.86	33.0	-4.14
Middle Frequency MHz					
1880.2	21.91	7.1	29.01	33.0	-3.99
Upper Frequency MHz					
1909.8	21.34	7.1	28.44	33.0	-4.56
RBW:	☐ 1MHz	☒ 3MHz	☐ 10MHz		
VBW:	☐ 1MHz	☒ 3MHz	☐ 10MHz		
CF=Cable/Coupler Insertion Loss:	☒ 7.5dB				
Antenna Gain (dBi)	☒ -0.4dBi				
Total CF=CF+Antenna Gain	☒ 7.1dBi				

Notes:

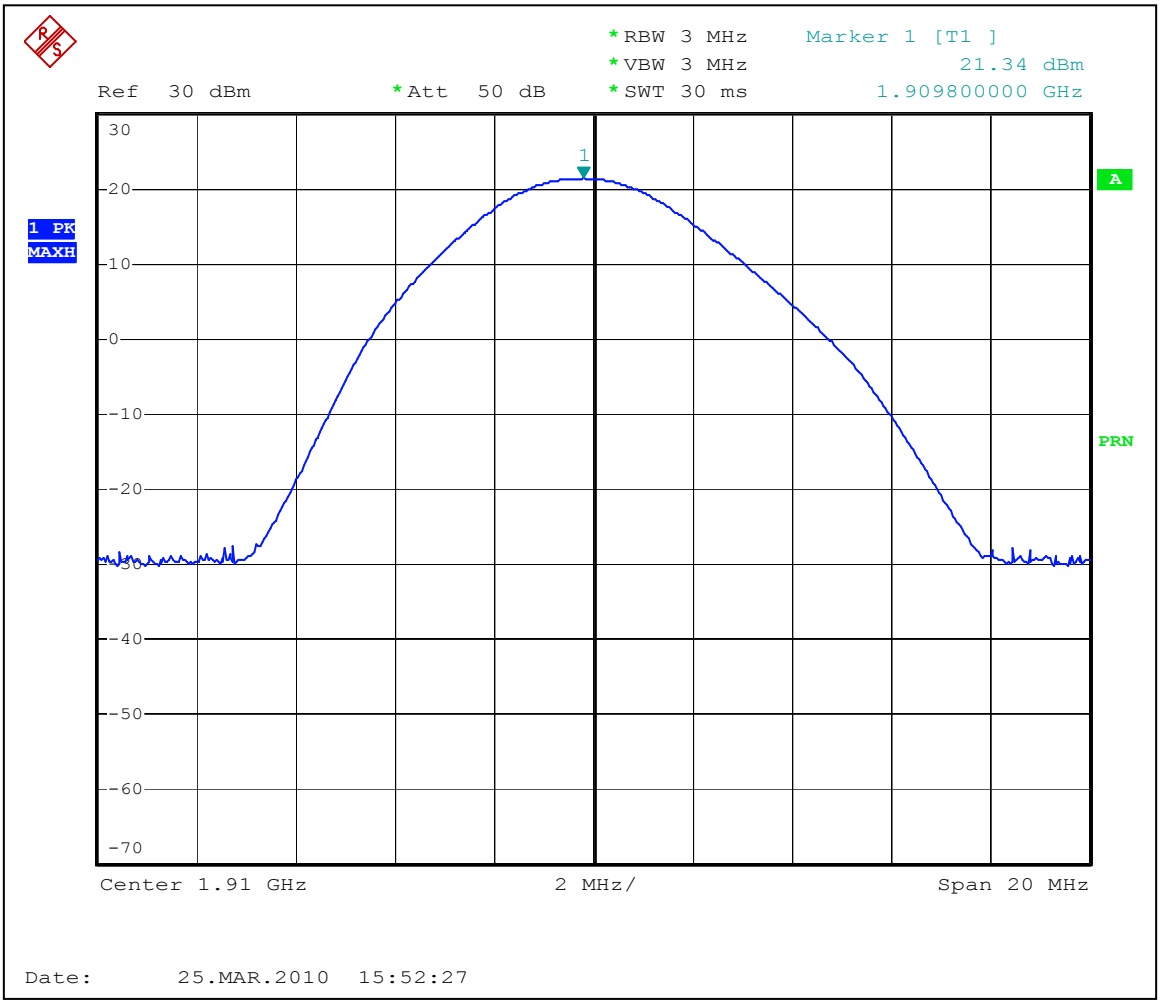
1. The Conducted RF output power measurements were made at the RF output terminal of the EUT using coupler and spectrum analyzer. The EUT was controlled via Will'Tek 4403station selecting maximum power of the EUT and GMSK modulated signal.
2. Max ERP is 2W or 33.0dBm


*RBW 3 MHz
*VBW 3 MHz
*SWT 30 ms
Marker 1 [T1]
21.56 dBm
1.850080000 GHz
Ref 30 dBm
*Att 50 dB
1 PK
MAXH
A
PRN
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.85 GHz
2 MHz/
Span 20 MHz
Date: 25.MAR.2010 15:44:23

Graph 3.1.1


*RBW 3 MHz
*VBW 3 MHz
*SWT 30 ms
Marker 1 [T1]
21.91 dBm
1.880000000 GHz
Ref 30 dBm
*Att 50 dB
1 PK
MAXH
A
PRN
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.88 GHz
2 MHz/
Span 20 MHz
Date: 25.MAR.2010 15:40:06

Graph 3.1.2


*RBW 3 MHz
*VBW 3 MHz
*SWT 30 ms
Marker 1 [T1]
21.34 dBm
1.909800000 GHz
Ref 30 dBm
*Att 50 dB
1 PK
MAXH
A
PRN
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.91 GHz
2 MHz/
Span 20 MHz
Date: 25.MAR.2010 15:52:27

3.1.2 Radiated EIRP

Test location: ☐ OATS ☒ Anechoic Chamber ☐ Other

Test result: **Pass**

Max. Margin: 1.4dB below the limits

Date:	March 26, 2010	**Result:**	**Pass**
Standard:	FCC Part 24.232		
Tested by:	Uri Spector		
Test Point:	EUT with Antenna		
Operation mode:	Transmitting Mode		
Note:			

Table 3.1.2

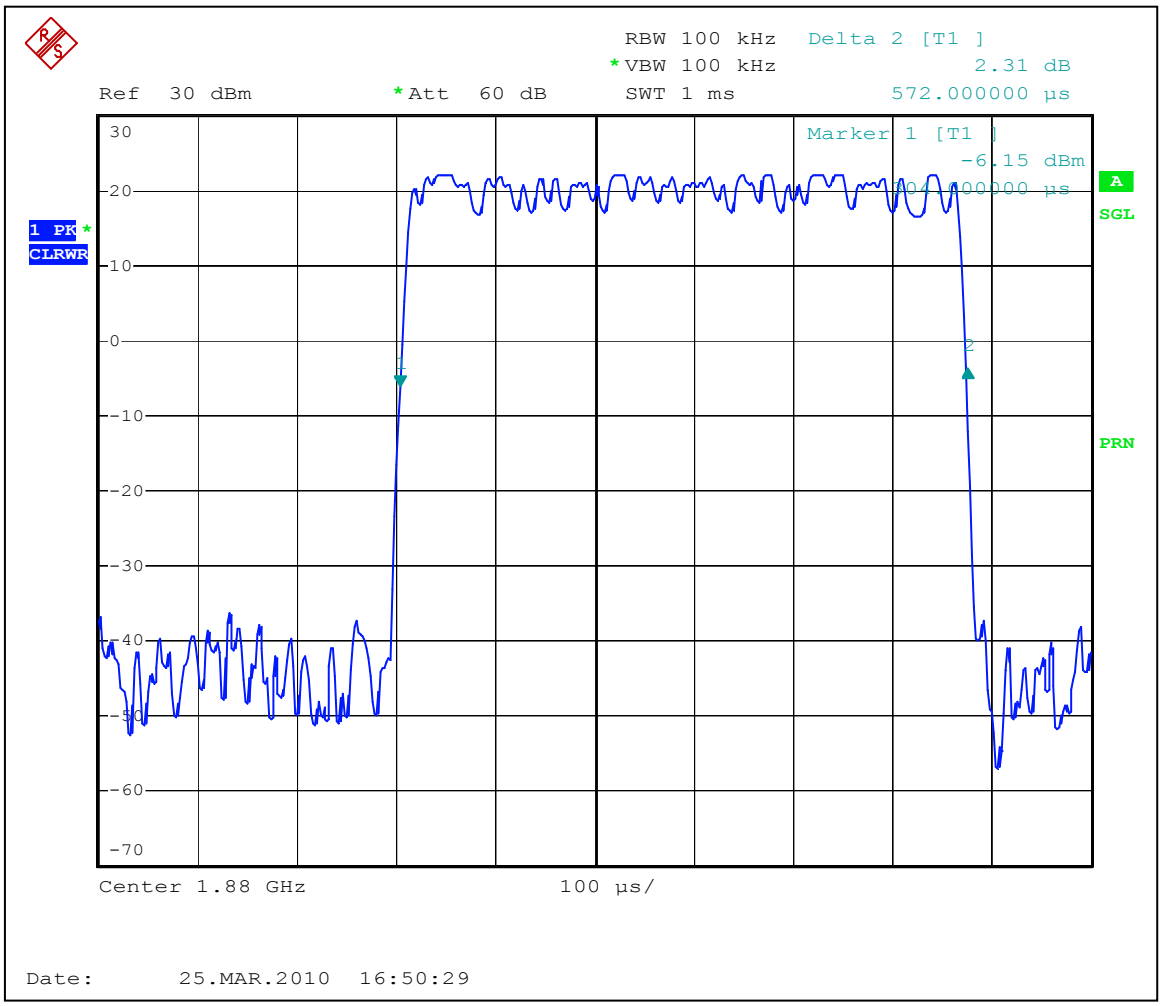
Frequency MHz	Antenna Polarity	Substitution Antenna Power dBm	Substitution Antenna Gain dBi	Cable Loss dB	EIRP Emissions dBm	Limit dBm	Margin dB
1850.28	V	22.7	9.3	0.5	31.5	33.0	-1.5
1880.00	V	21.8	9.4	0.5	30.7	33.0	-2.3
1909.72	V	22.7	9.4	0.5	31.6	33.0	-1.4
1850.28	H	21.6	9.3	0.5	30.4	33.0	-2.6
1880.00	H	19.4	9.4	0.5	28.3	33.0	-4.7
1909.72	H	19.8	9.4	0.5	28.7	33.0	-4.3

Special Config. Info: Sabstitution Method
Limits 2W, or 33dBm

3.2 Modulation Characteristics

The EUT uses GMSK modulation in which information is digitized and coded into a bit system.

The following graph and picture show the modulation scheme in the EUT.



Graph 3.2.1

3.3 Frequency Stability

Table 3.3.1

Temperature Degree C	Frequency Deviation Hz	Frequency Stability ppm	Frequency error limit ppm	Test Result
-30	320.0	0.170	±1.5	Pass
-20	260.0	0.138	±1.5	Pass
-10	90.0	0.048	±1.5	Pass
0	60.0	0.032	±1.5	Pass
10	40.0	0.021	±1.5	Pass
20	20.0	0.011	±1.5	Pass
25	0.0	0.000	±1.5	Pass
30	20.0	0.011	±1.5	Pass
40	130.0	0.069	±1.5	Pass
50	320.0	0.170	±1.5	Pass

Frequency stability over voltage variations measurements were made at room temperature at the ±15% of the nominal mains 120VAC.

Table 3.3.2

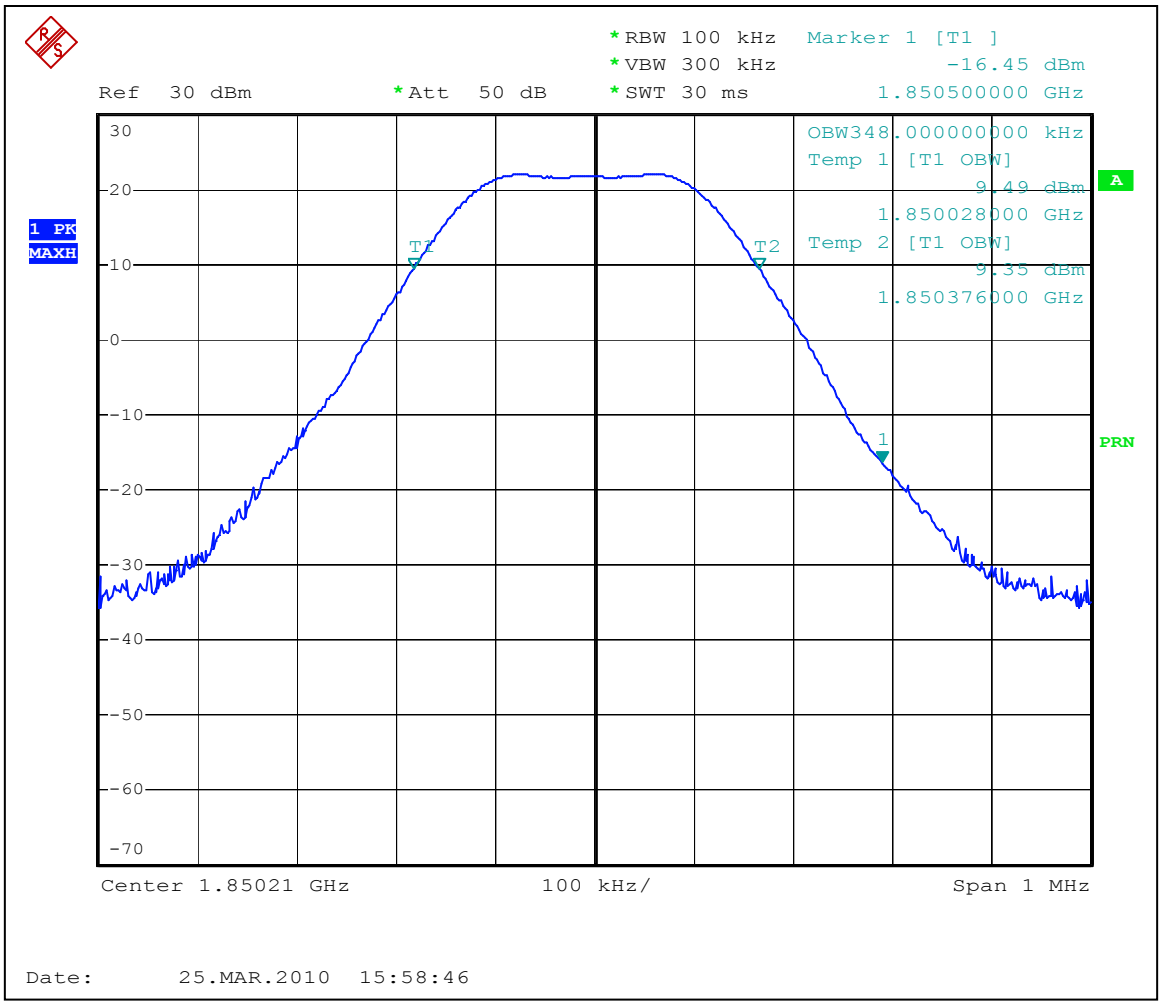
Input Voltage V	Frequency Deviation Hz	Frequency Stability ppm	Frequency error limit ppm	Test Result
138	60.0	0.032	±1.5	Pass
120	0.0	0.000	±1.5	Pass
102	70.0	0.037	±1.5	Pass

Notes: None

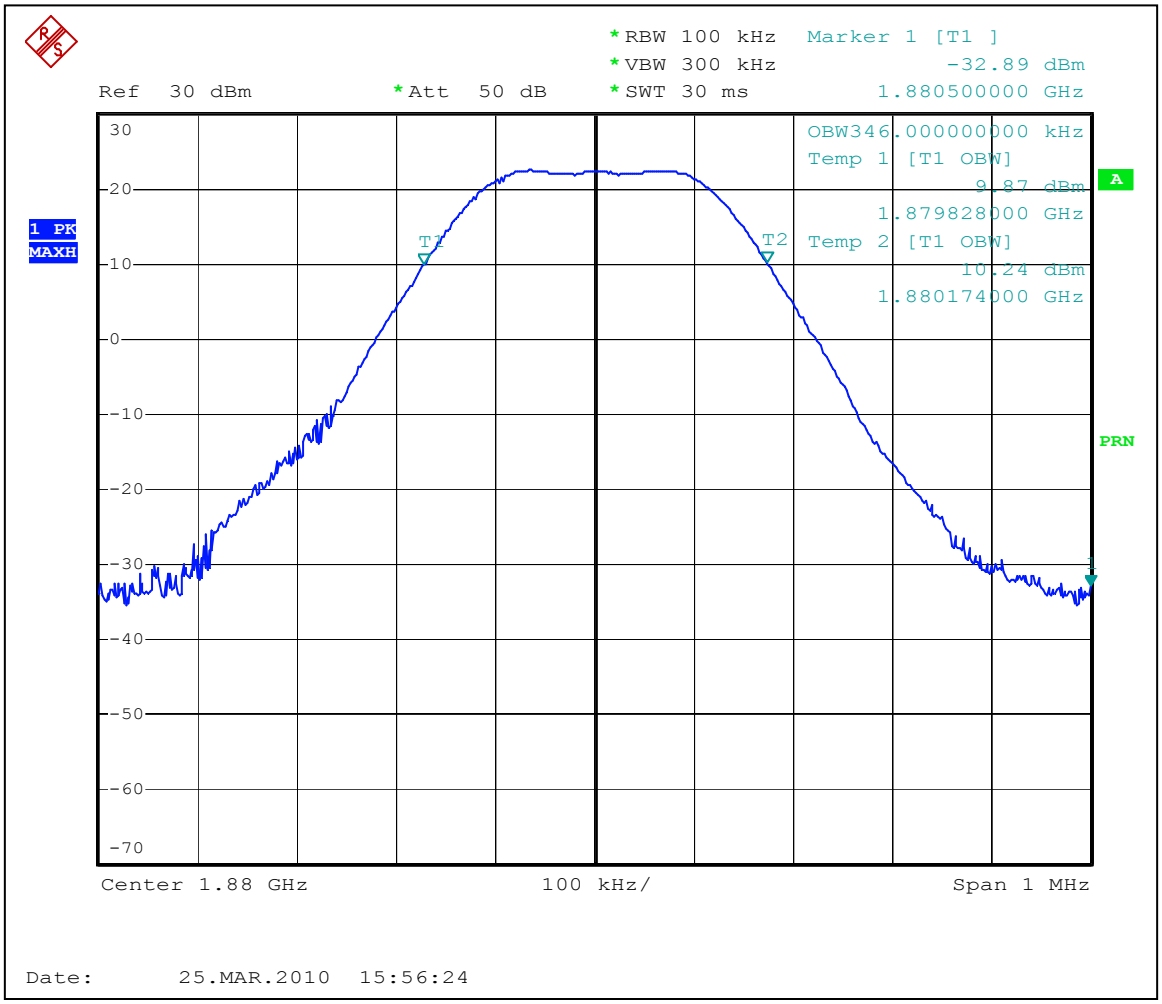
3.4 99% Occupied Bandwidth

Low Frequency Channel kHz	Middle Frequency Channel kHz	Upper Frequency Channel kHz
348	346	346
RBW: **VBW:**	☒ 100kHz ☐ other kHz ☐ 30kHz ☒ 300kHz ☐ other kHz	

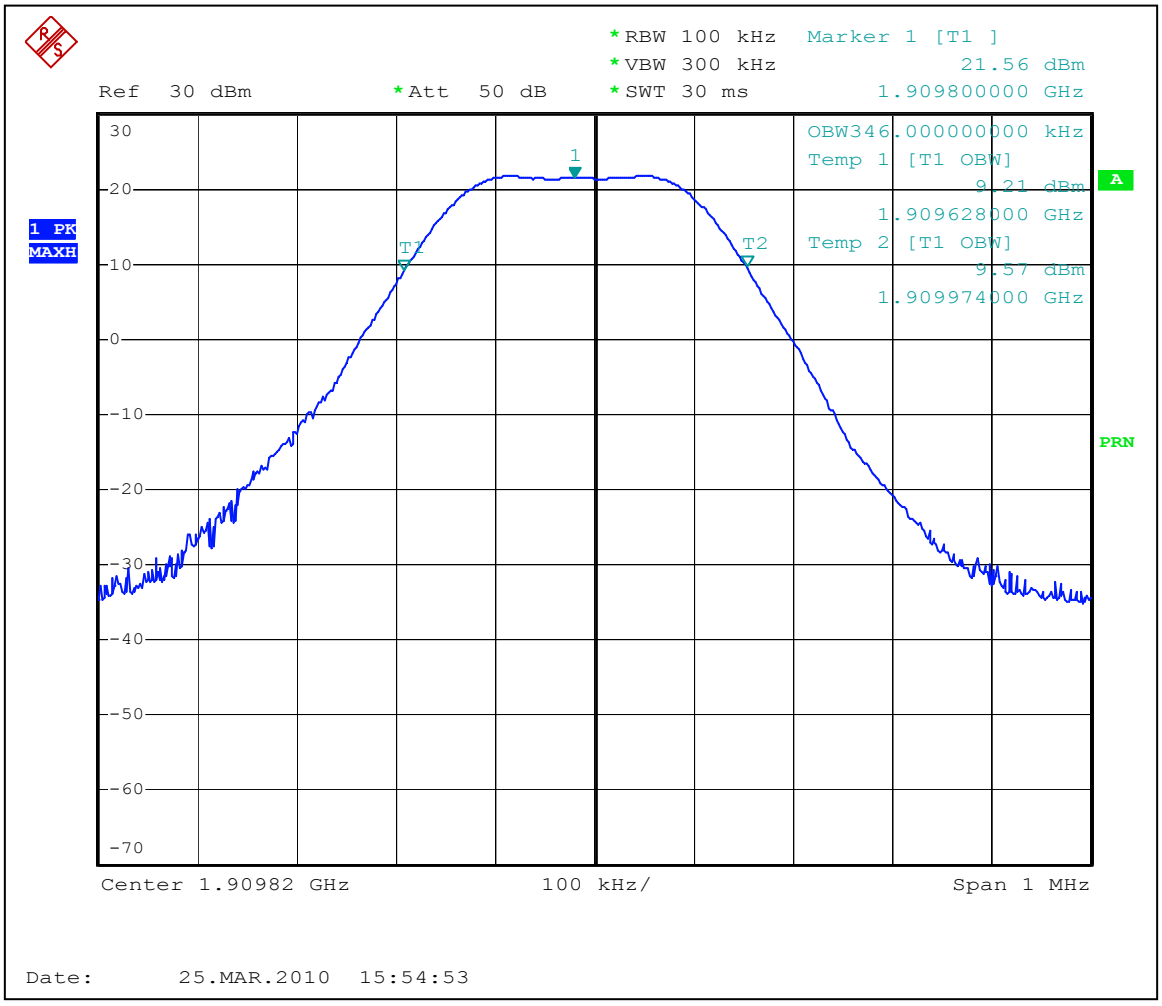
Notes: None


*RBW 100 kHz
*VBW 300 kHz
*SWT 30 ms
Marker 1 [T1]
-16.45 dBm
1.850500000 GHz
Ref 30 dBm
*Att 50 dB
OBW348.000000000 kHz
Temp 1 [T1 OBW]
9.49 dBm
1.850028000 GHz
Temp 2 [T1 OBW]
9.35 dBm
1.850376000 GHz
1 PK
MAXH
A
PRN
T1
T2
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.85021 GHz
100 kHz/
Span 1 MHz
Date: 25.MAR.2010 15:58:46

Graph 3.4.1


*RBW 100 kHz
*VBW 300 kHz
*SWT 30 ms
Marker 1 [T1]
-32.89 dBm
1.880500000 GHz
Ref 30 dBm
*Att 50 dB
OBW346.000000000 kHz
Temp 1 [T1 OBW]
9.87 dBm
1.879828000 GHz
Temp 2 [T1 OBW]
10.24 dBm
1.880174000 GHz
1 PK
MAXH
A
PRN
T1
T2
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.88 GHz
100 kHz/
Span 1 MHz
Date: 25.MAR.2010 15:56:24

Graph 3.4.2


*RBW 100 kHz
*VBW 300 kHz
*SWT 30 ms
Marker 1 [T1]
21.56 dBm
1.909800000 GHz
Ref 30 dBm
*Att 50 dB
OBW346.000000000 kHz
Temp 1 [T1 OBW]
9.21 dBm
1.909628000 GHz
Temp 2 [T1 OBW]
9.57 dBm
1.909974000 GHz
1 PK
MAXH
A
PRN
T1
T2
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.90982 GHz
100 kHz/
Span 1 MHz
Date: 25.MAR.2010 15:54:53

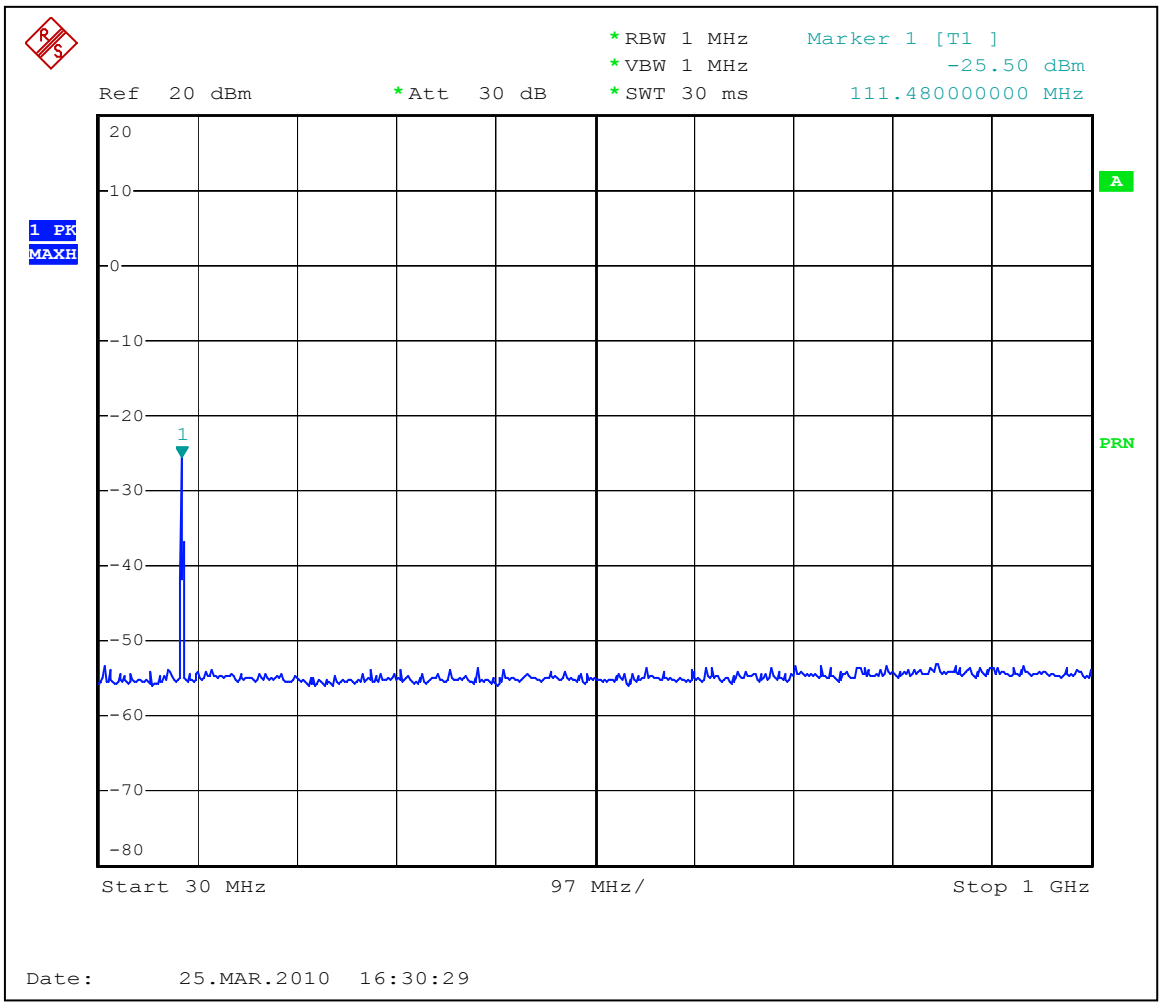
Graph 3.4.3

3.5 Antenna conducted spurious emissions

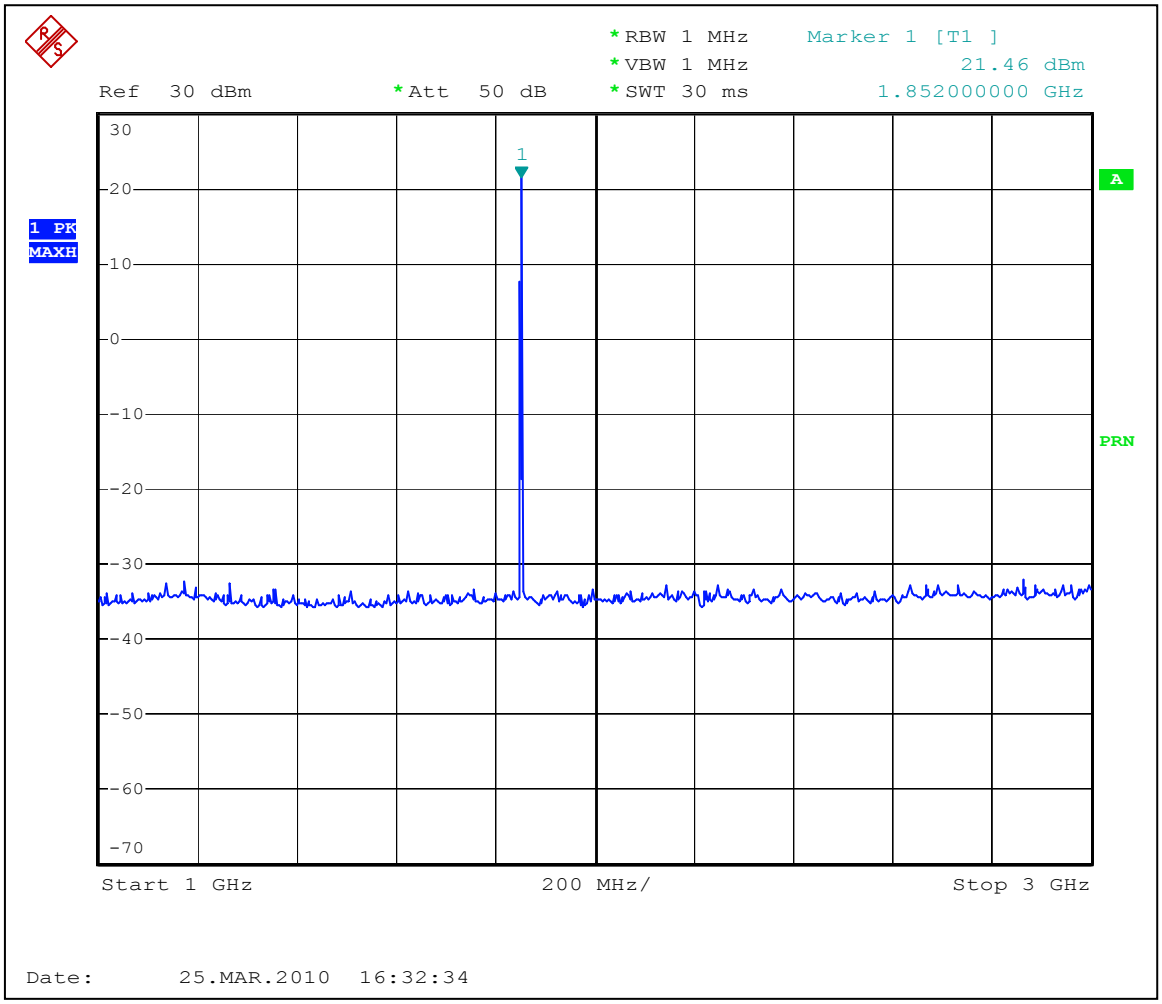
Test location: ☐ OATS ☐ Anechoic Chamber ☐ Other

Test result: **Pass**

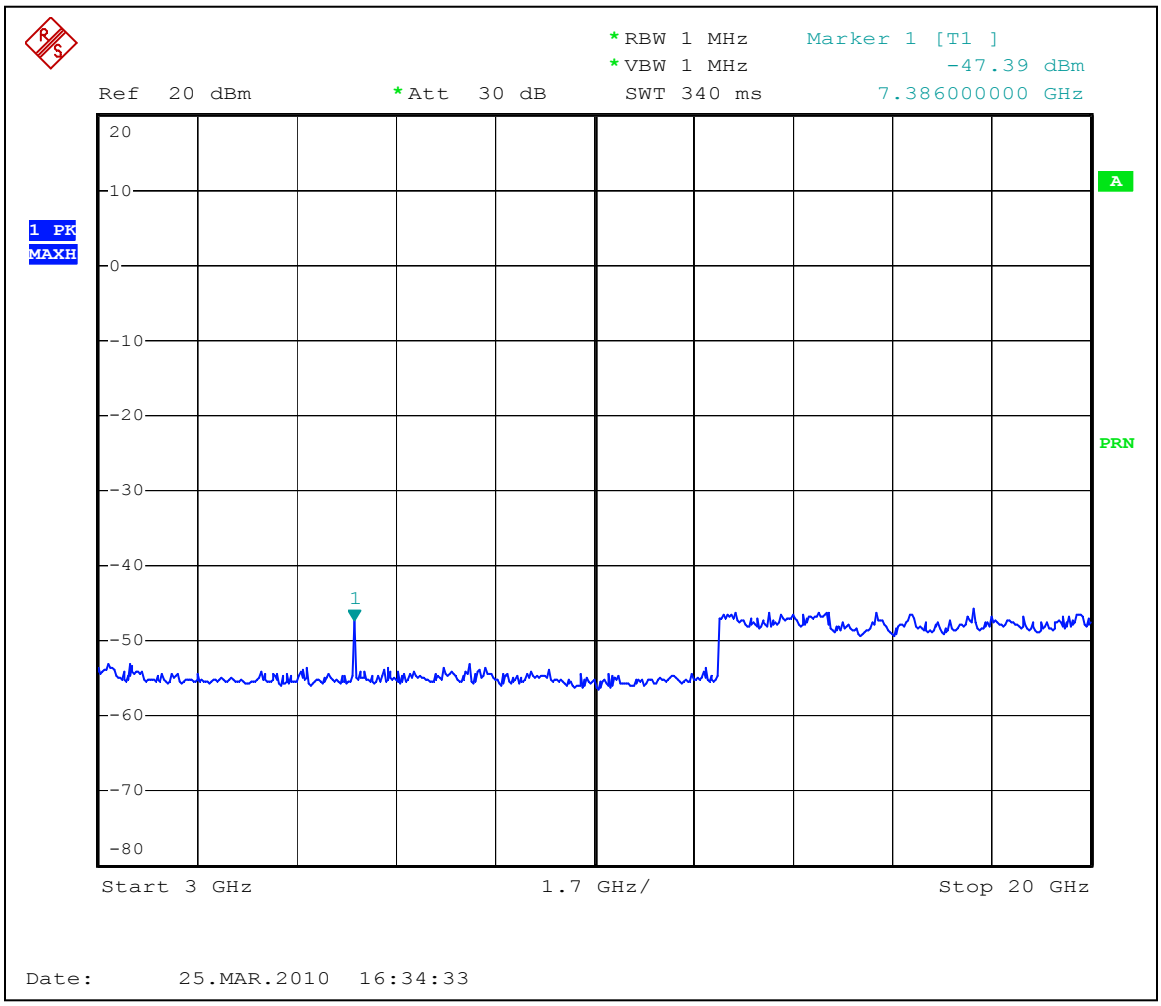
Notes: The power of spurious emissions should be attenuated at least 43+10log(P) dB, P in watts, so that the level in dBm is -13dBm.
The maximum detected spurious emission is -23.3dBm or -16.2dBm ERP. The margin of the maximum emissions is -16.2dB-(-13dB) = -3.2dB. For passing results see Graphs 3.5.1-3.5.9. Fundamental frequencies are excluded form the measurements.


*RBW 1 MHz
*VBW 1 MHz
*SWT 30 ms
Marker 1 [T1]
-25.50 dBm
111.480000000 MHz
Ref 20 dBm
*Att 30 dB
1 PK
MAXH
A
PRN
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Start 30 MHz
97 MHz/
Stop 1 GHz
Date: 25.MAR.2010 16:30:29

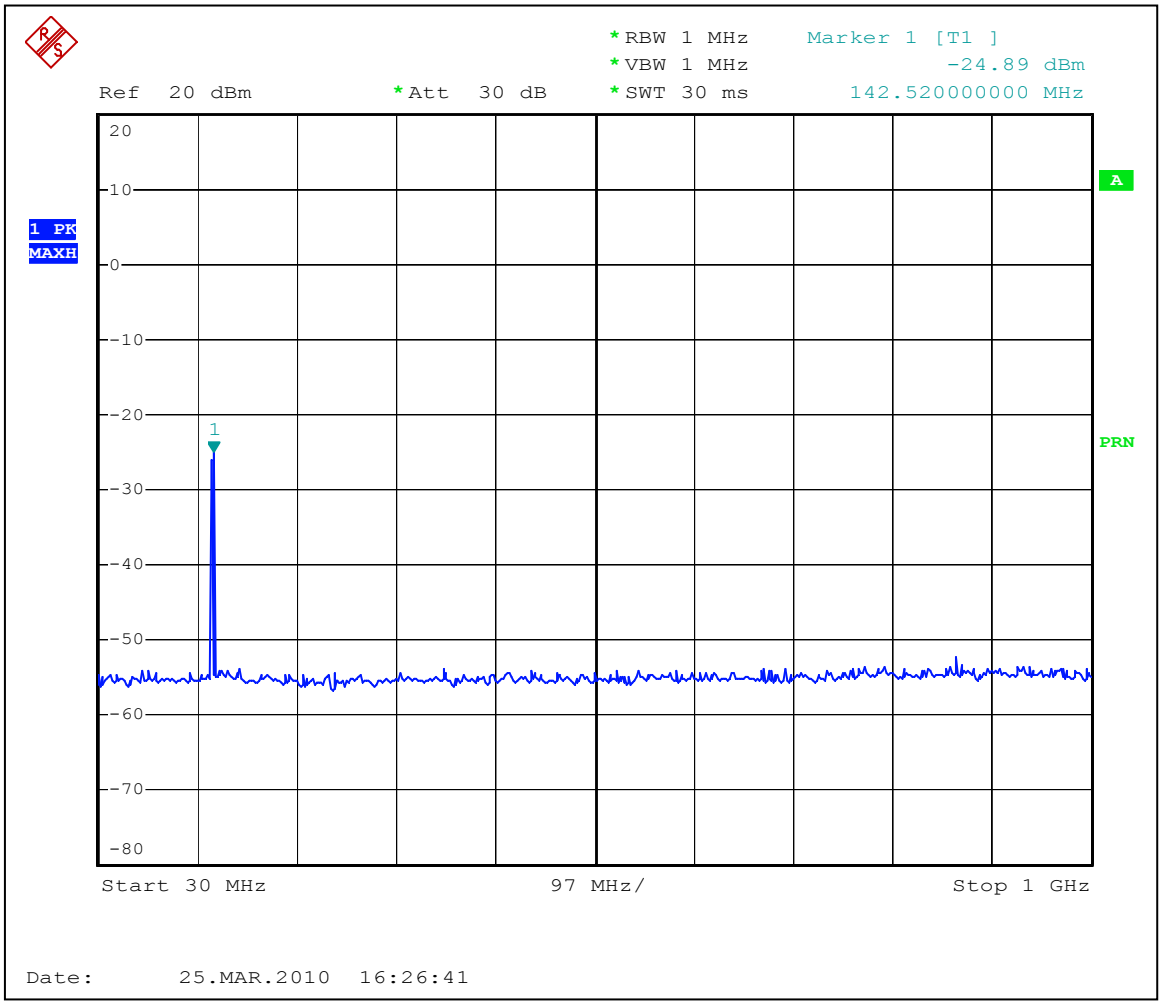
Graph 3.5.1


*RBW 1 MHz
*VBW 1 MHz
*SWT 30 ms
Marker 1 [T1]
21.46 dBm
1.852000000 GHz
Ref 30 dBm
*Att 50 dB
1 PK
MAXH
A
PRN
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
1
Start 1 GHz
200 MHz/
Stop 3 GHz
Date: 25.MAR.2010 16:32:34

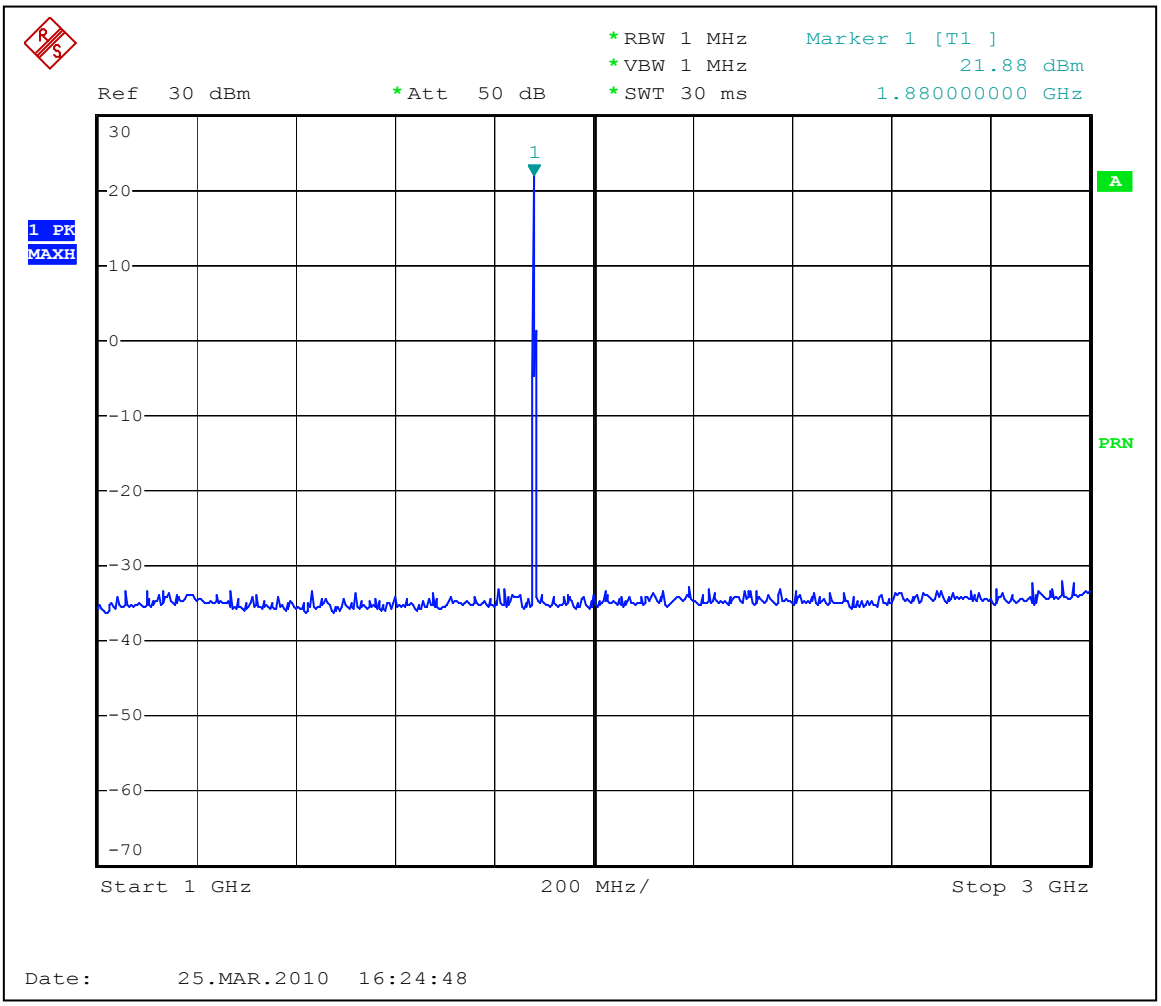
Graph 3.5.2


*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
-47.39 dBm
7.386000000 GHz
Ref 20 dBm
*Att 30 dB
SWT 340 ms
1 PK
MAXH
A
PRN
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 25.MAR.2010 16:34:33

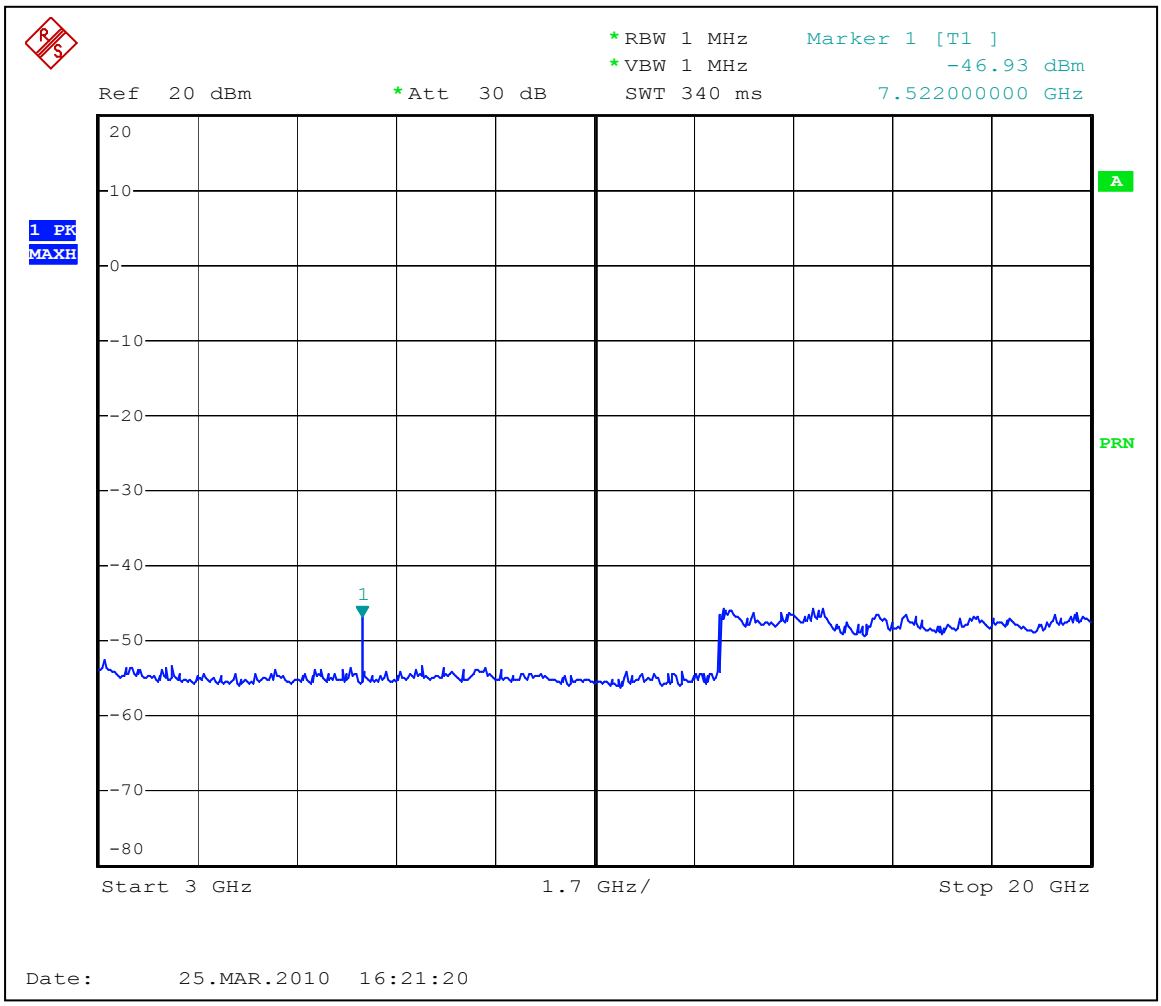
Graph 3.5.3


*RBW 1 MHz
*VBW 1 MHz
*SWT 30 ms
Marker 1 [T1]
-24.89 dBm
142.520000000 MHz
Ref 20 dBm
*Att 30 dB
1 PK
MAXH
A
PRN
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Start 30 MHz
97 MHz/
Stop 1 GHz
Date: 25.MAR.2010 16:26:41

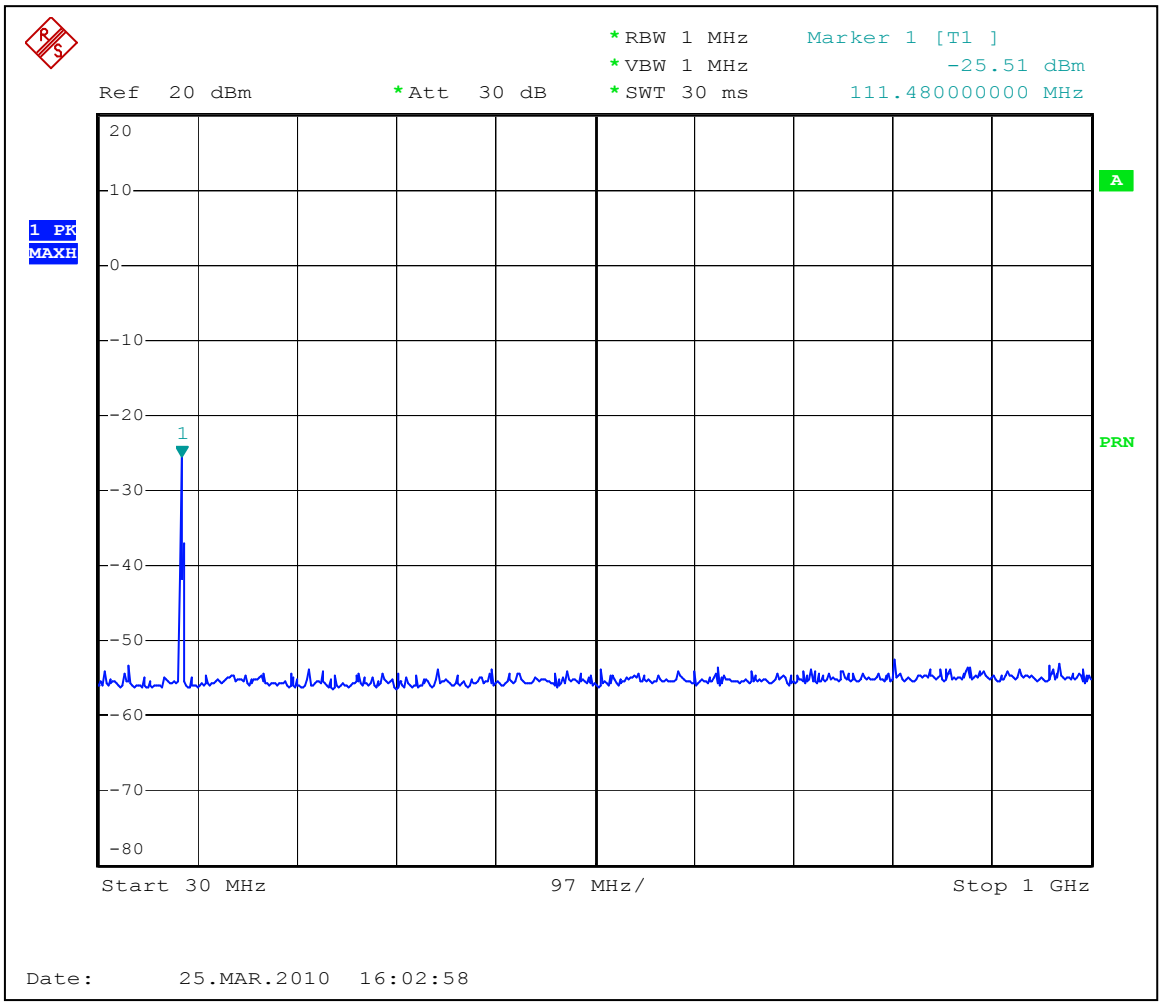
Graph 3.5.4


*RBW 1 MHz
*VBW 1 MHz
*SWT 30 ms
Marker 1 [T1]
21.88 dBm
1.880000000 GHz
Ref 30 dBm
*Att 50 dB
1 PK
MAXH
A
PRN
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Start 1 GHz
200 MHz/
Stop 3 GHz
Date: 25.MAR.2010 16:24:48

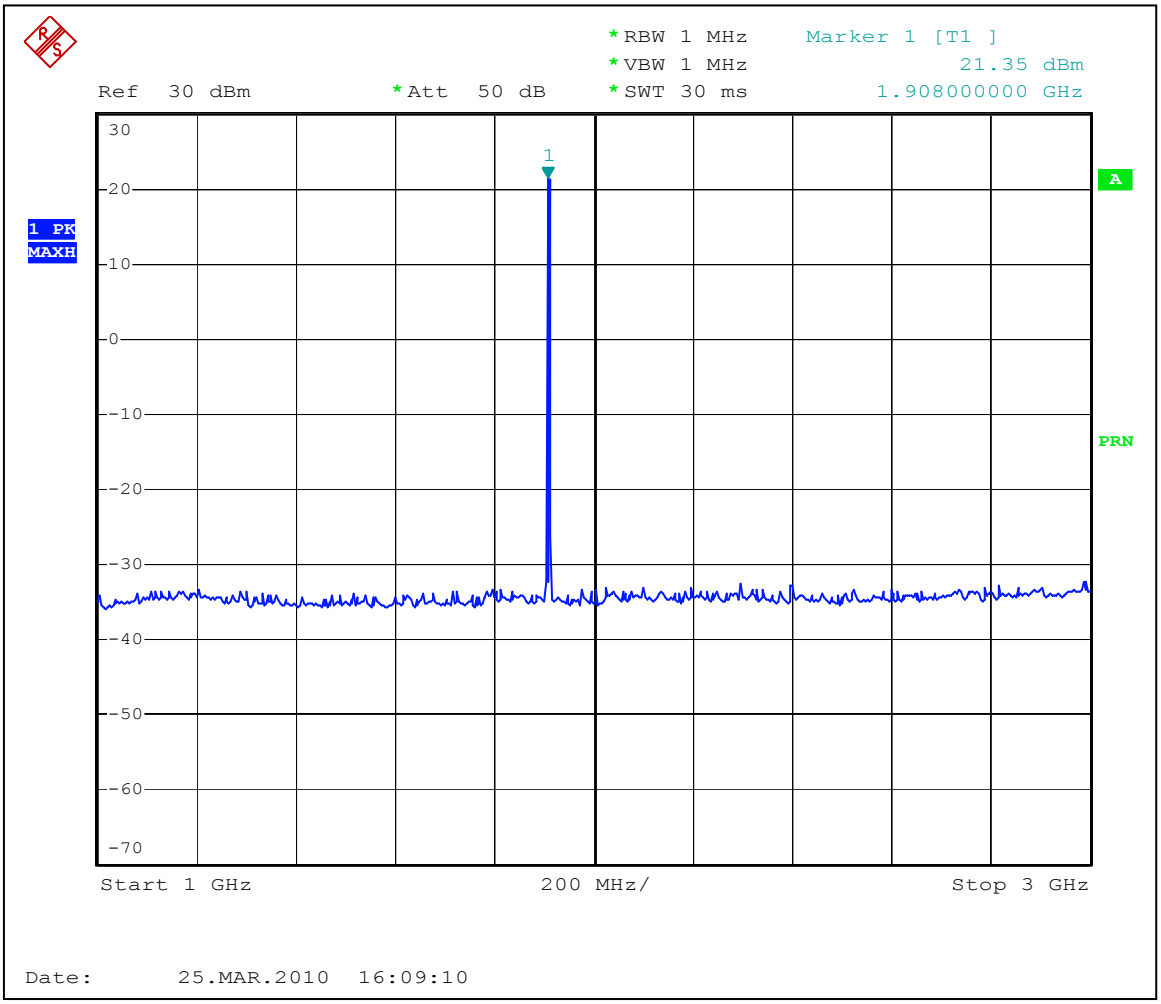
Graph 3.5.5


*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
-46.93 dBm
7.522000000 GHz
Ref 20 dBm
*Att 30 dB
SWT 340 ms
1 PK
MAXH
A
PRN
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 25.MAR.2010 16:21:20

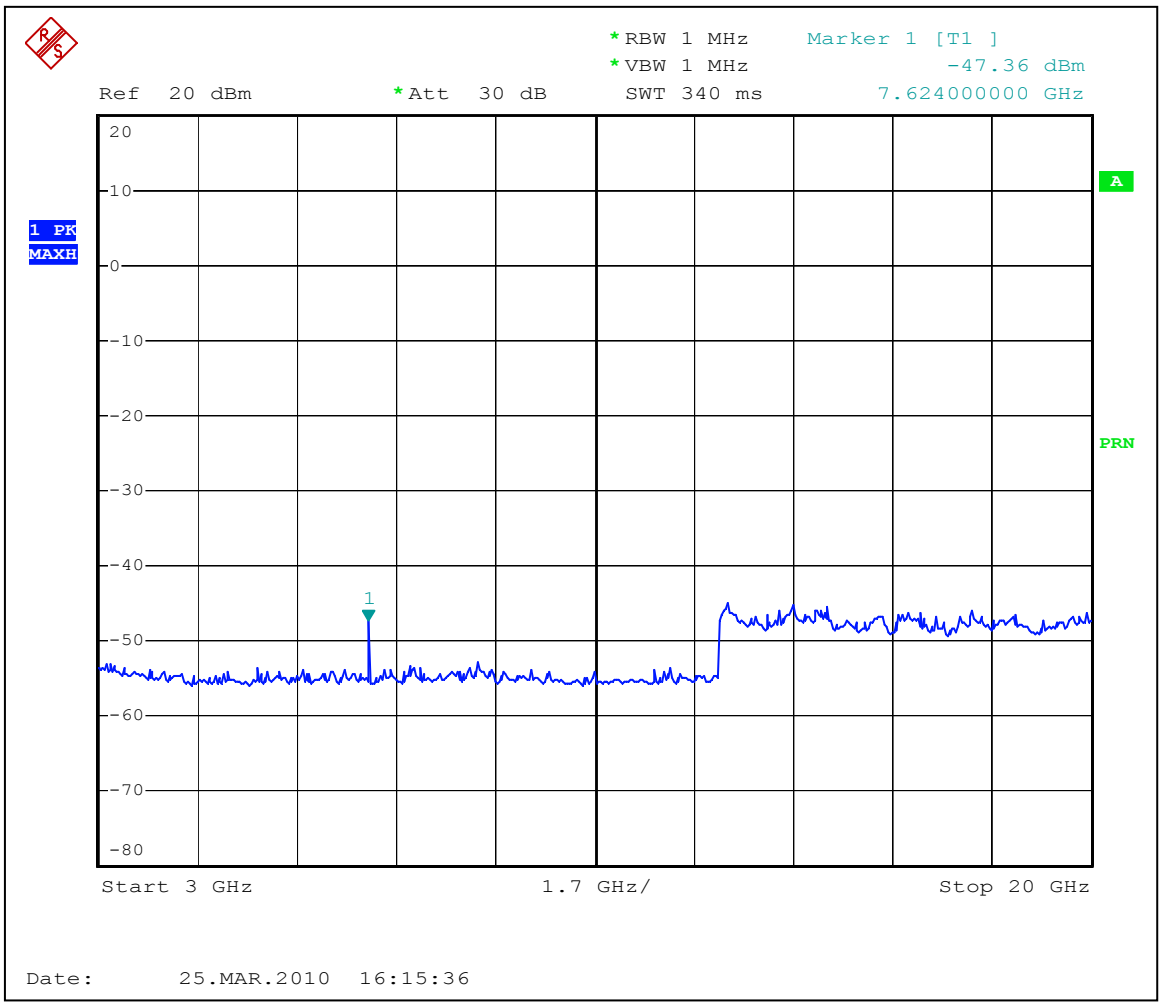
Graph 3.5.6


*RBW 1 MHz
*VBW 1 MHz
*SWT 30 ms
Marker 1 [T1]
-25.51 dBm
111.480000000 MHz
Ref 20 dBm
*Att 30 dB
1 PK
MAXH
A
PRN
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Start 30 MHz
97 MHz/
Stop 1 GHz
Date: 25.MAR.2010 16:02:58

Graph 3.5.7


*RBW 1 MHz
*VBW 1 MHz
*SWT 30 ms
Marker 1 [T1]
21.35 dBm
1.908000000 GHz
Ref 30 dBm
*Att 50 dB
1 PK
MAXH
A
PRN
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Start 1 GHz
200 MHz/
Stop 3 GHz
Date: 25.MAR.2010 16:09:10

Graph 3.5.8


*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
-47.36 dBm
7.624000000 GHz
Ref 20 dBm
*Att 30 dB
SWT 340 ms
1 PK
MAXH
A
PRN
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 25.MAR.2010 16:15:36

Graph 3.5.9

3.6 Enclosure Radiated spurious emissions

Test location: ☐ OATS ☒ Anechoic Chamber ☐ Other

Test result: **Pass**

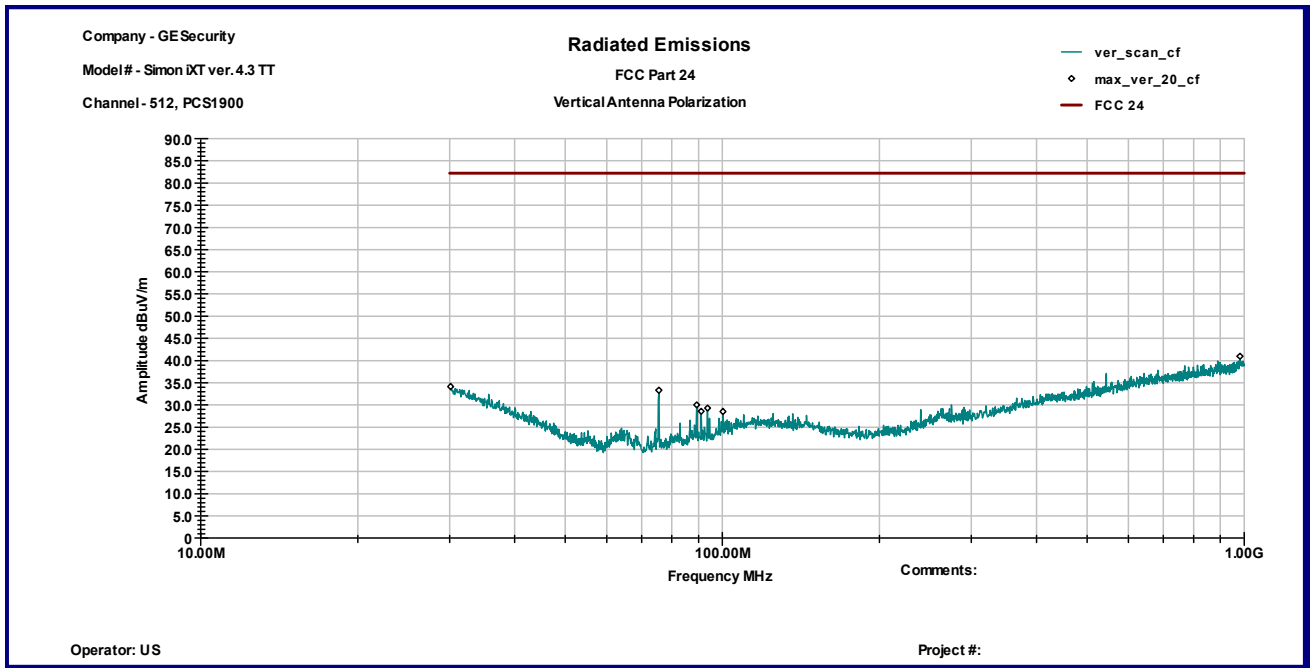
Tables 3.6.1-3.6.2 show detected Spurious Radiated Emissions from 30MHz to 1GHz and from 1GHz-20GHz respectively.
Graphs 3.6.1- to 3.6.12 show the EUT peak Radiated Emissions.
The Spurious Radiated Power limits of -13dBm was correlated with field strength reference level of 82.2dBµV/m during field strength measurements at 3m measurement distance.
No emissions were chosen for substitution measurements as the maximum emission is more than 20dB below the reference limit. The transmitting fundamental frequency was excluded form the measurements.

Table 3.6.1

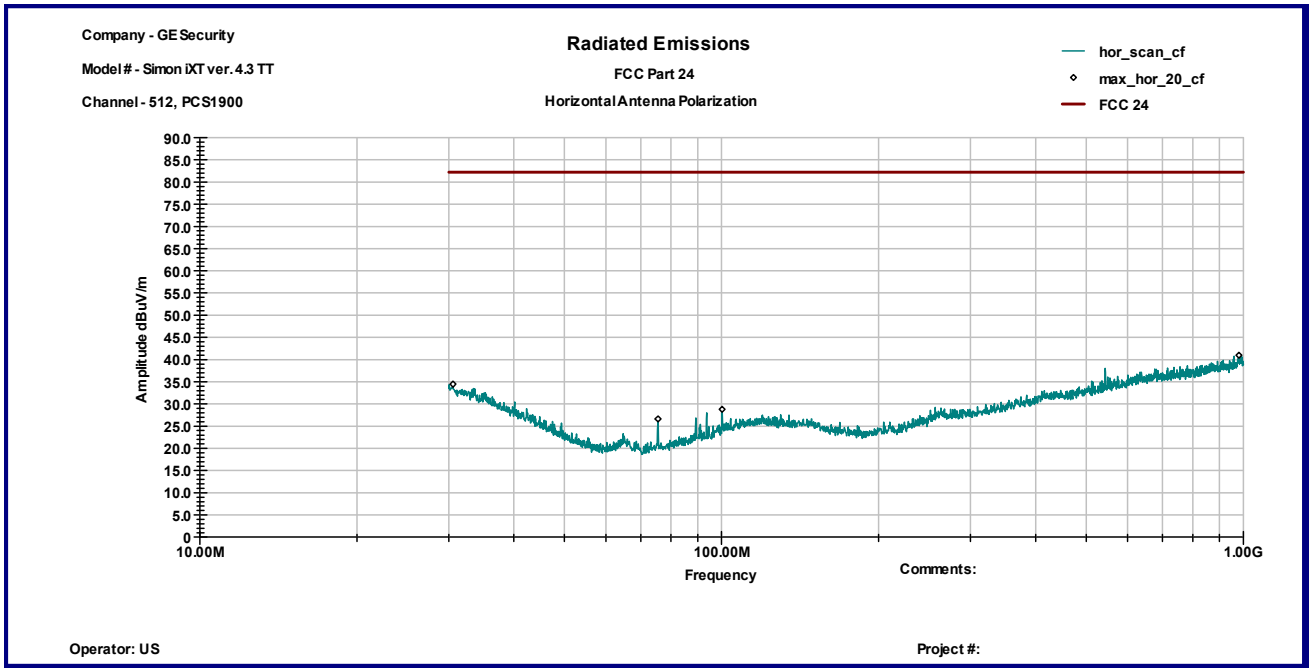
Frequency	Ant. Polarity	Peak Reading dBµV	Ant.Factor dB1/m	Total at 3m dBµV/m	QP Limit dBµV/m	Margin dB
		Channel 512				
30.139 MHz	V	13.5	20.7	34.1	82.2	-48.1
75.527 MHz	V	25.3	7.9	33.3	82.2	-48.9
89.256 MHz	V	20.0	10.0	30.0	82.2	-52.2
91.047 MHz	V	18.2	10.3	28.6	82.2	-53.6
93.733 MHz	V	18.5	10.8	29.3	82.2	-52.9
100.3 MHz	V	16.6	11.9	28.5	82.2	-53.7
30.554 MHz	H	14.0	20.5	34.4	82.2	-47.8
75.527 MHz	H	18.7	7.9	26.6	82.2	-55.6
100.3 MHz	H	16.8	11.9	28.8	82.2	-53.5
30.0 MHz	H	12.6	21.1	33.7	82.2	-48.5
134.62 MHz	H	15.5	13.8	29.3	82.2	-52.9
		Channel 661				
30.208 MHz	V	14.2	20.6	34.8	82.2	-47.4
75.527 MHz	V	23.5	7.9	31.5	82.2	-50.7
82.839 MHz	V	18.2	9.0	27.2	82.2	-55.0
89.256 MHz	V	18.4	10.0	28.5	82.2	-53.8
93.733 MHz	V	18.3	10.8	29.1	82.2	-53.1
100.3 MHz	V	16.7	11.9	28.6	82.2	-53.6
30.069 MHz	H	13.6	20.7	34.3	82.2	-47.9
75.527 MHz	H	18.6	7.9	26.6	82.2	-55.6
		Channel 810				
30.069 MHz	V	13.9	20.7	34.6	82.2	-47.6
75.527 MHz	V	23.0	7.9	30.9	82.2	-51.3
89.256 MHz	V	17.5	10.0	27.5	82.2	-54.7
91.047 MHz	V	17.3	10.3	27.6	82.2	-54.6
93.733 MHz	V	17.2	10.8	28.0	82.2	-54.2
119.25 MHz	V	13.5	14.1	27.6	82.2	-54.6
30.069 MHz	H	13.8	20.7	34.5	82.2	-47.7
59.784 MHz	H	18.5	7.3	25.8	82.2	-56.4

Table 3.6.2

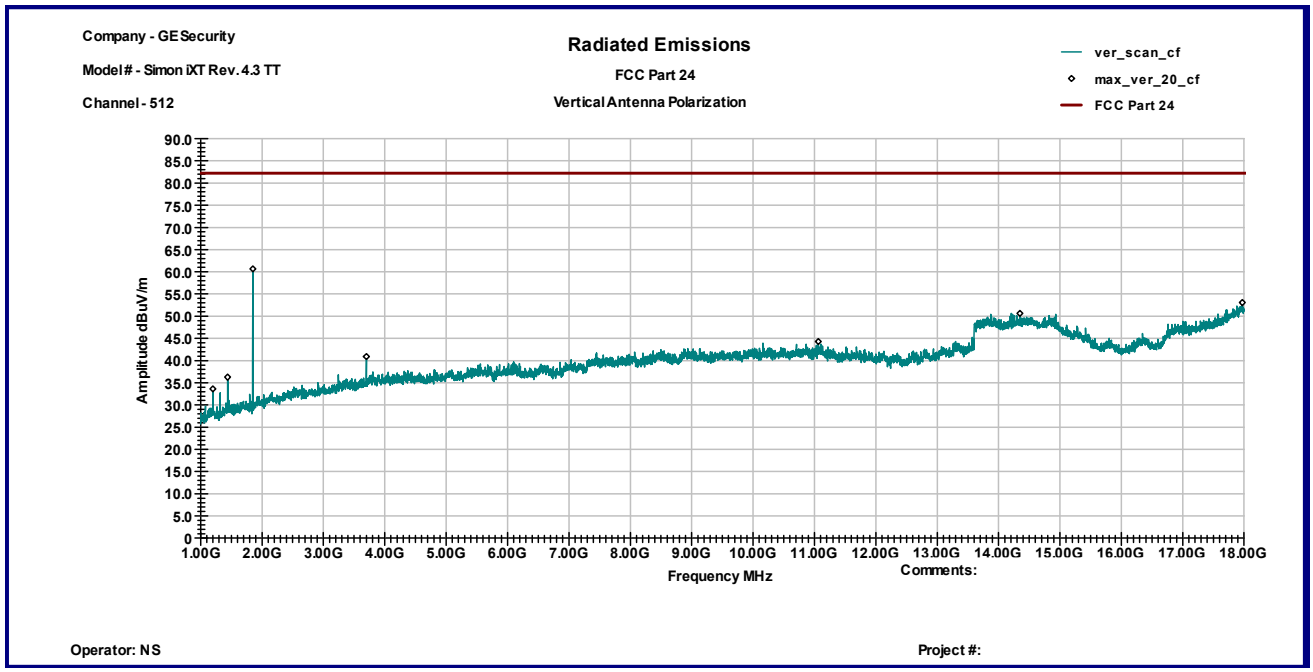
Frequency MHz	Antenna Polarity	Reading dBµV	Total C.F. dB1/m	Pre-Amp. Gain (dB)	Total at 3m dBµV/m	QP Limit dBµV/m	Margin dB
Channel 512							
1.1988 GHz	V	49.3	26.8	42.6	33.6	82.2	-48.6
1.4394 GHz	V	51.0	27.9	42.7	36.2	82.2	-46.0
1.8526 GHz	V	74.0	29.7	43.1	60.6	82.2	-21.6
3.6991 GHz	V	47.9	36.2	43.2	40.9	82.2	-41.3
11.064 GHz	V	38.1	47.3	41.1	44.3	82.2	-37.9
1.1988 GHz	H	50.4	26.8	42.6	34.7	82.2	-47.5
1.4394 GHz	H	49.1	27.9	42.7	34.3	82.2	-47.9
1.8526 GHz	H	63.5	29.7	43.1	50.1	82.2	-32.1
Channel 661							
1.1988 GHz	V	49.7	26.8	42.6	34.0	82.2	-48.2
1.3191 GHz	V	50.3	27.4	42.6	35.1	82.2	-47.1
1.4394 GHz	V	52.9	27.9	42.7	38.2	82.2	-44.0
1.8814 GHz	V	74.0	29.9	43.1	60.7	82.2	-21.5
3.7592 GHz	V	50.0	36.4	43.1	43.2	82.2	-39.0
1.4394 GHz	H	50.9	27.9	42.7	36.1	82.2	-46.1
1.5597 GHz	H	51.0	28.4	42.8	36.6	82.2	-45.6
1.8814 GHz	H	74.0	29.9	43.1	60.7	82.2	-21.5
5.6397 GHz	H	44.6	39.6	41.6	42.6	82.2	-39.6
Channel 810							
1.3191 GHz	V	50.5	27.4	42.6	35.3	82.2	-46.9
1.4394 GHz	V	53.0	27.9	42.7	38.2	82.2	-44.0
1.9102 GHz	V	74.0	30.0	43.2	60.8	82.2	-21.4
3.8194 GHz	V	49.6	36.6	43.0	43.1	82.2	-39.1
1.1988 GHz	H	49.0	26.8	42.6	33.3	82.2	-48.9
1.4394 GHz	H	50.9	27.9	42.7	36.1	82.2	-46.1
1.9102 GHz	H	74.0	30.0	43.2	60.8	82.2	-21.4



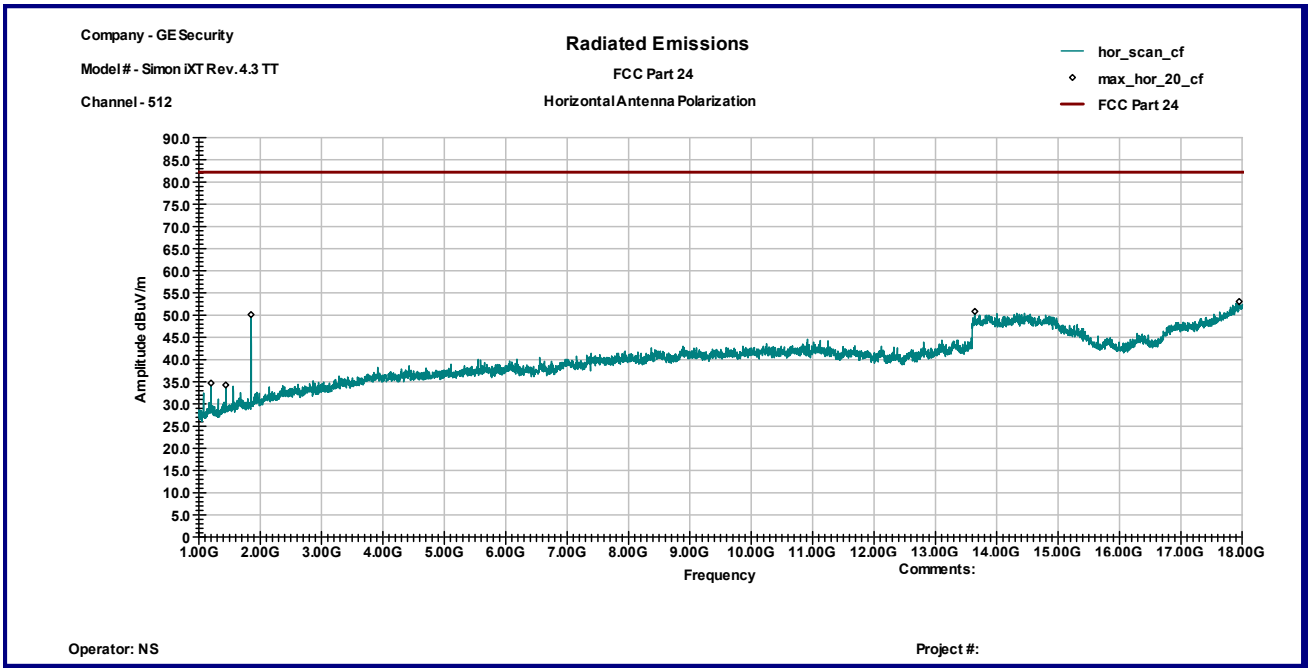
Graph 3.6.1



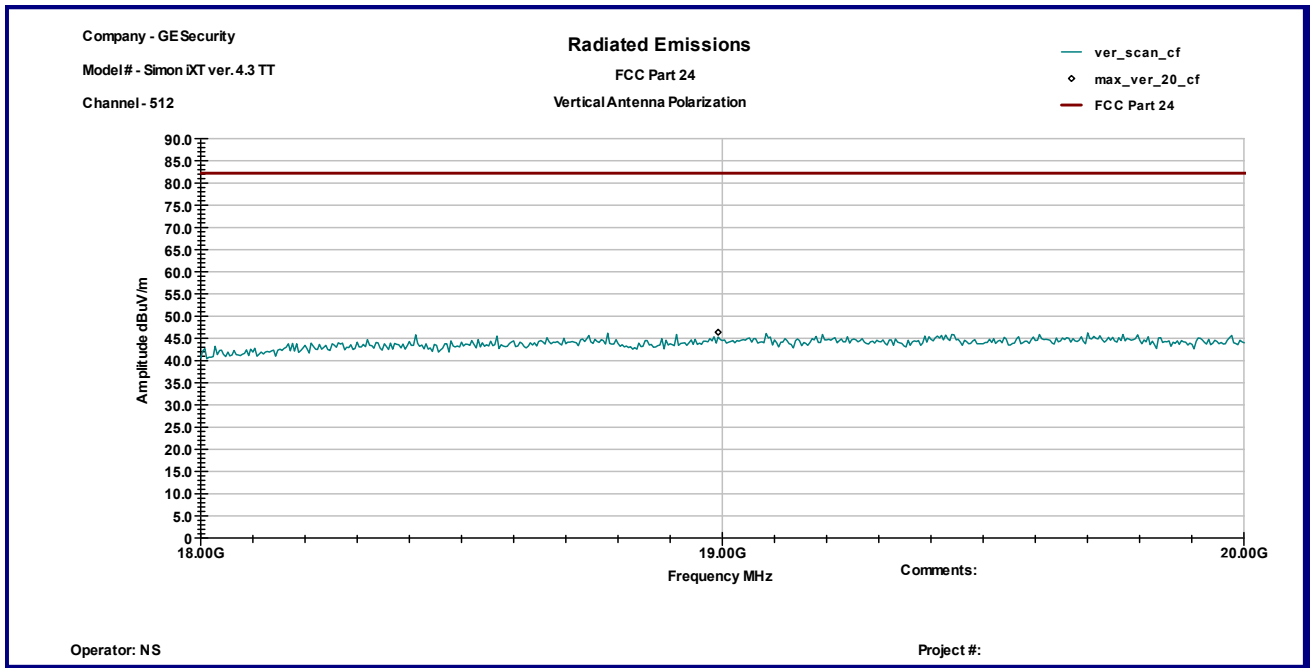
Graph 3.6.2



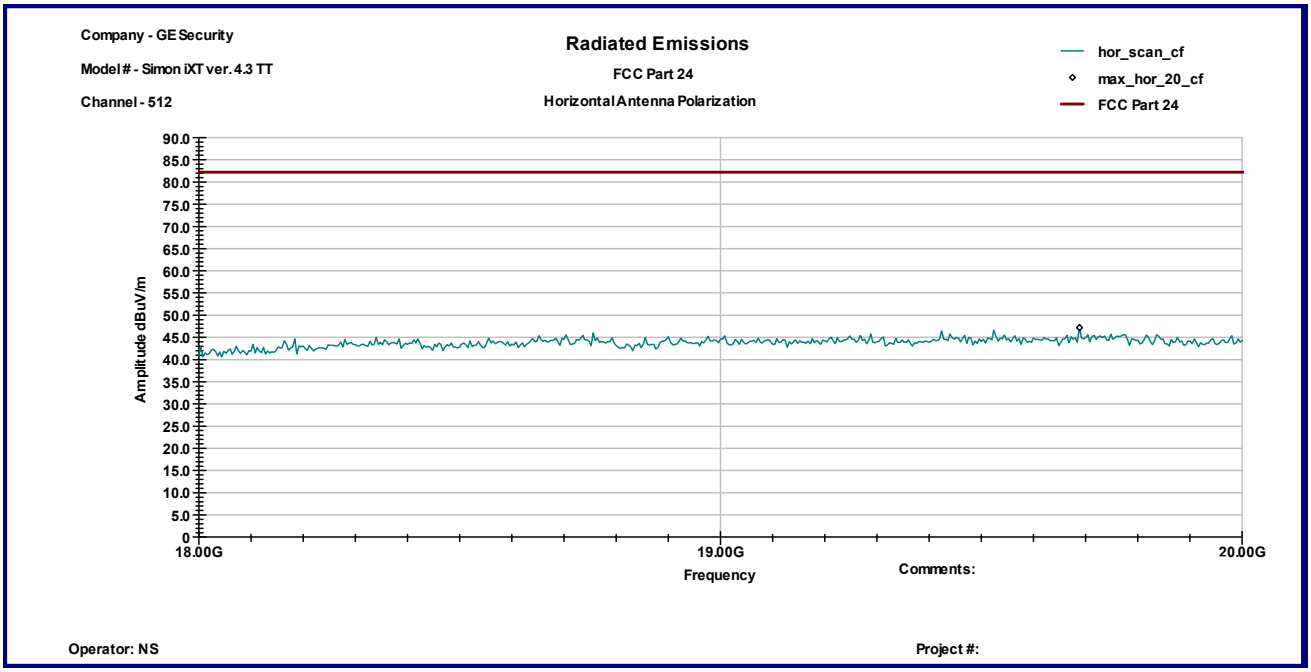
Graph 3.6.3



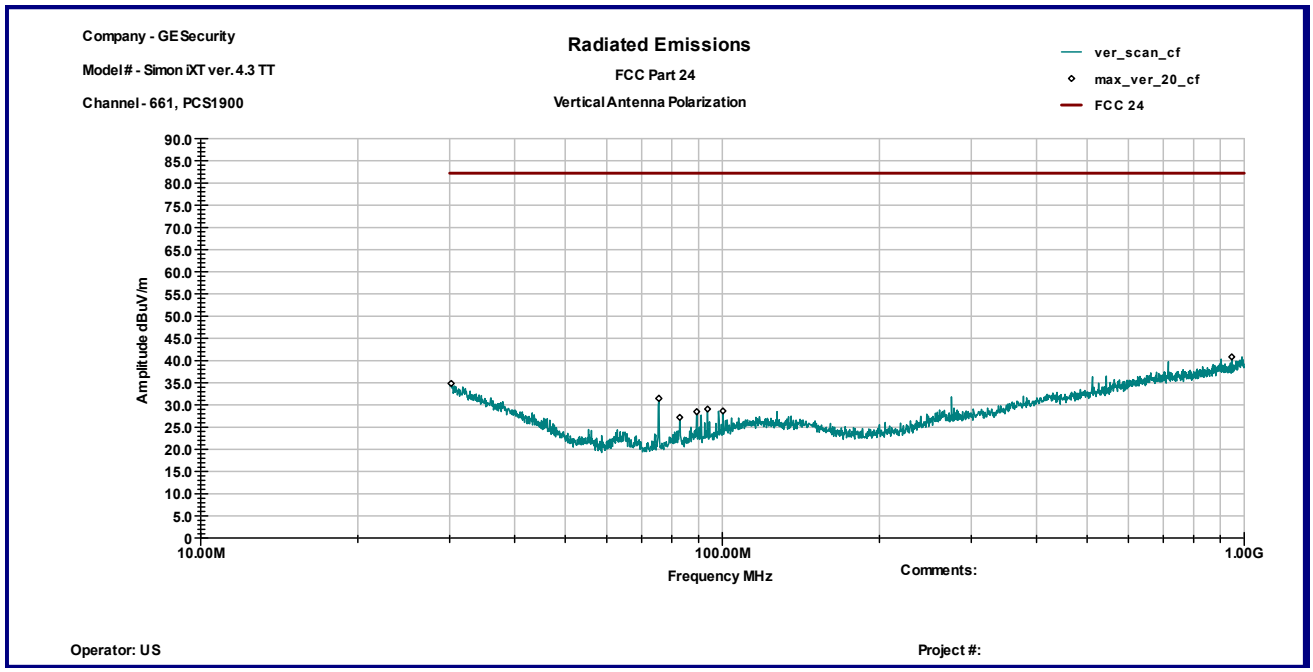
Graph 3.6.4



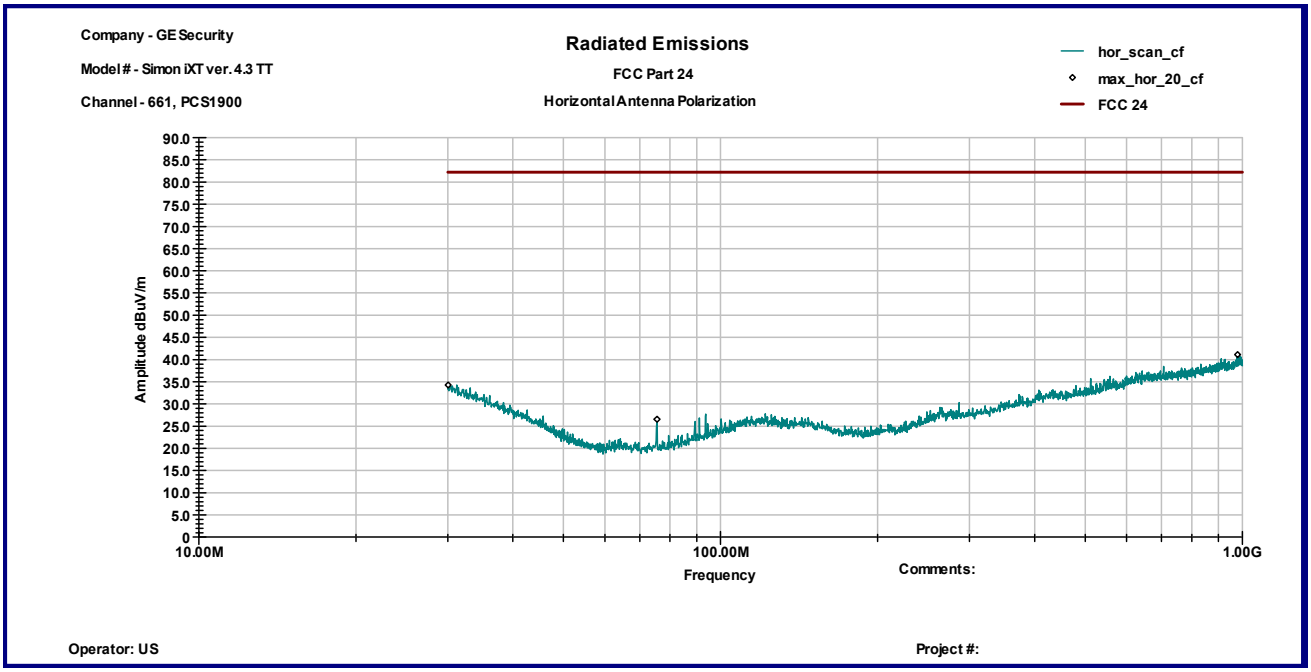
Graph 3.6.5



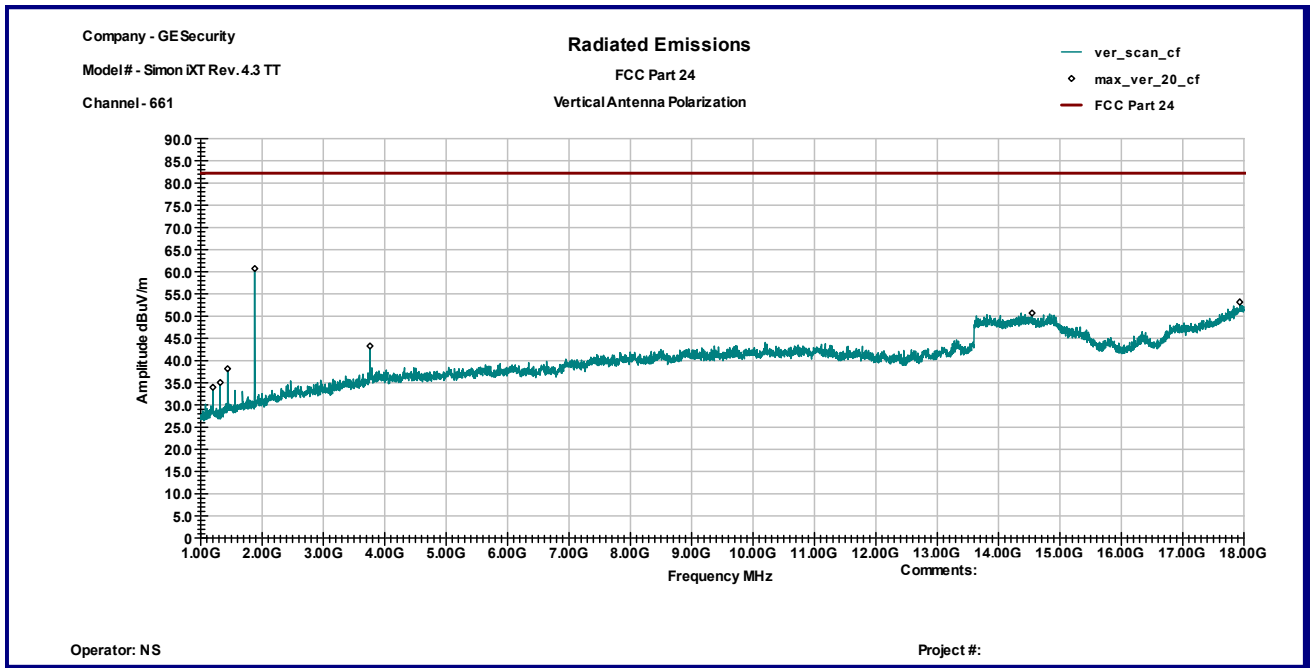
Graph 3.6.6



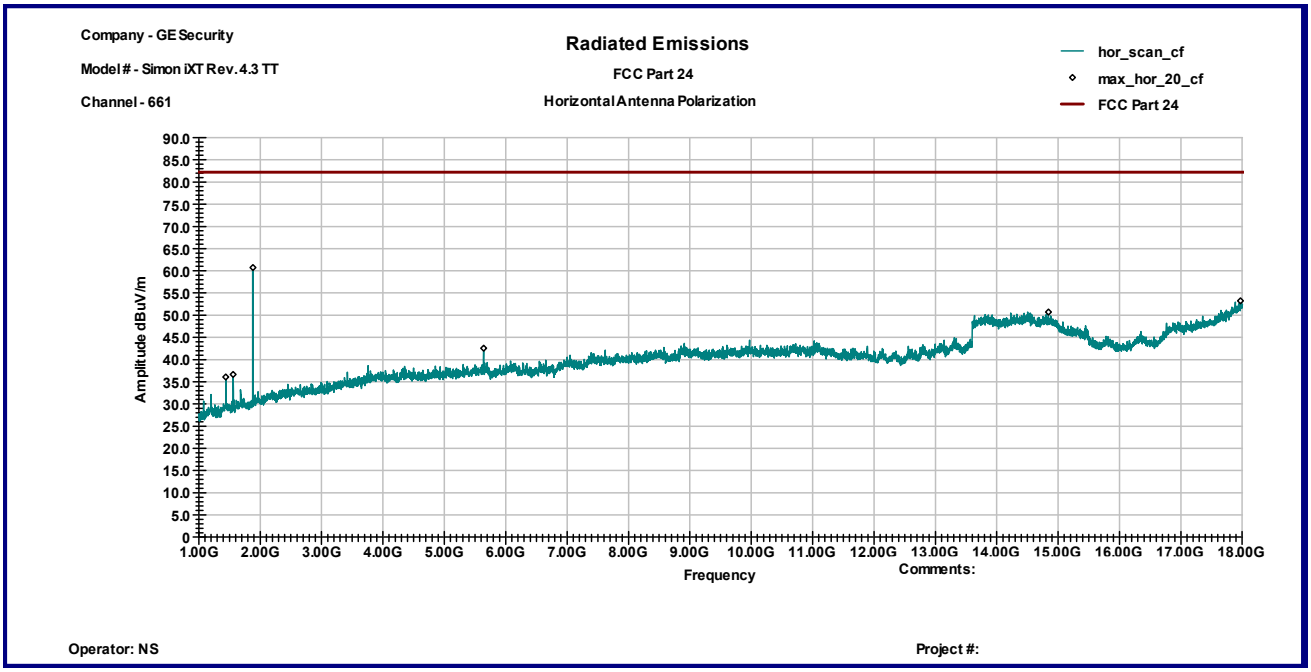
Graph 3.6.1



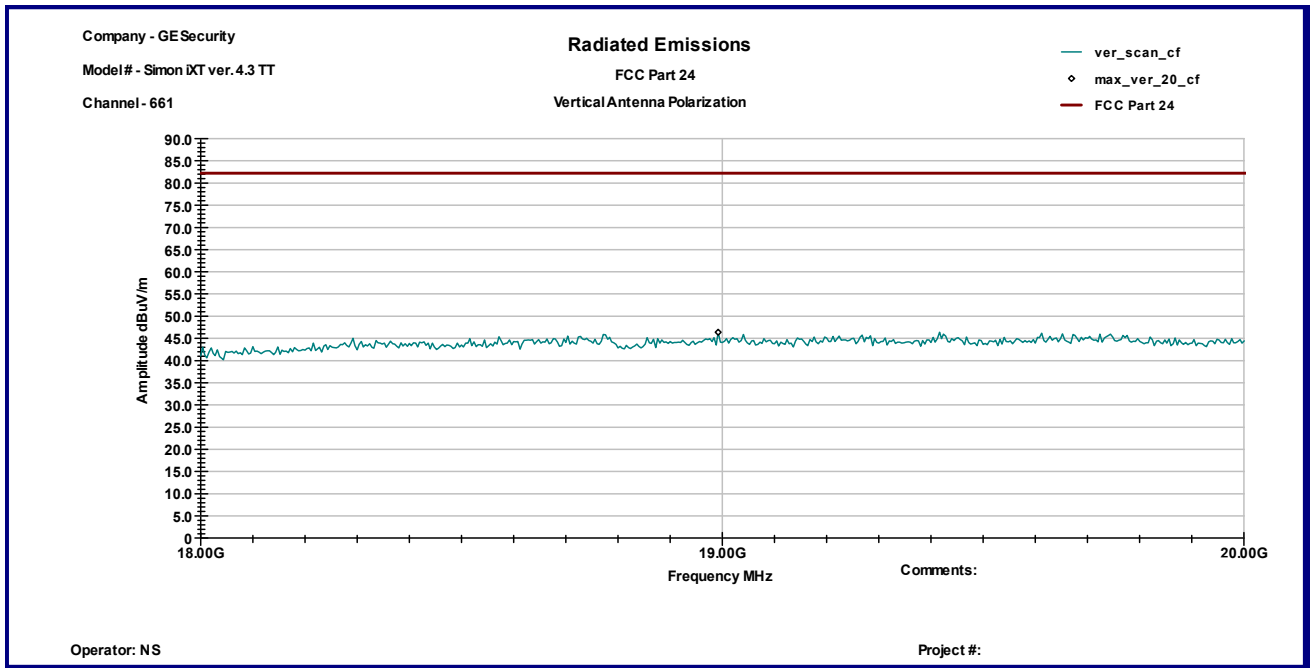
Graph 3.6.8



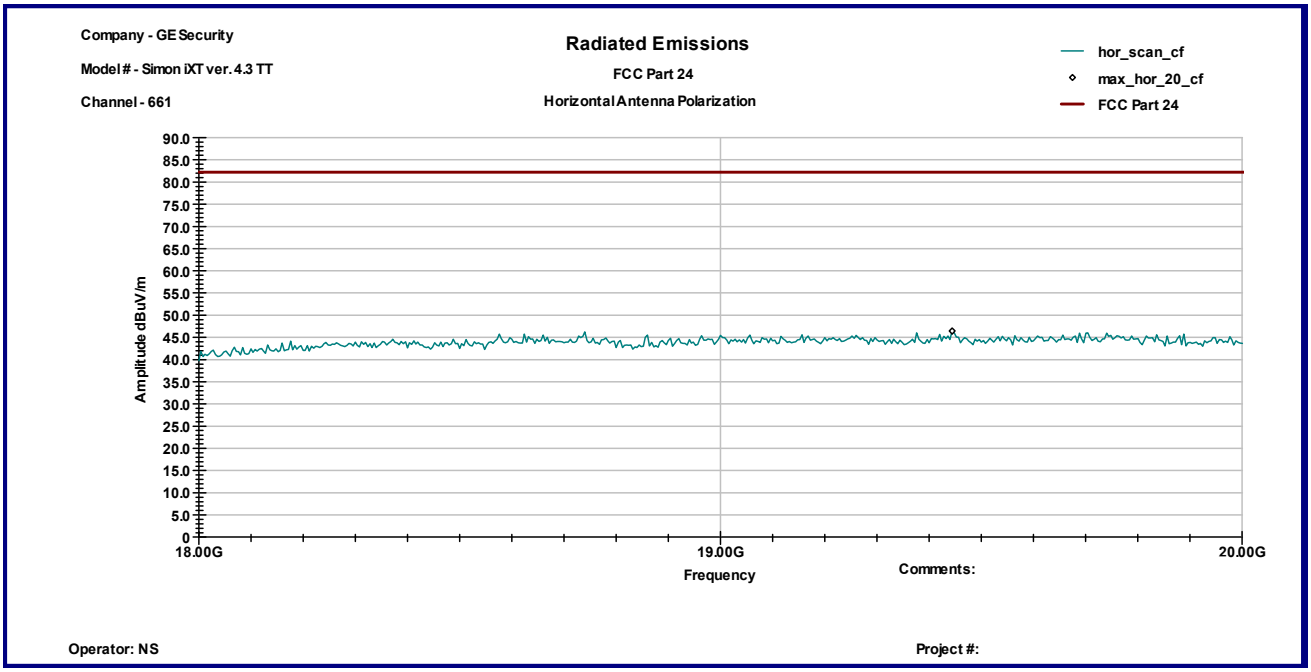
Graph 3.6.9



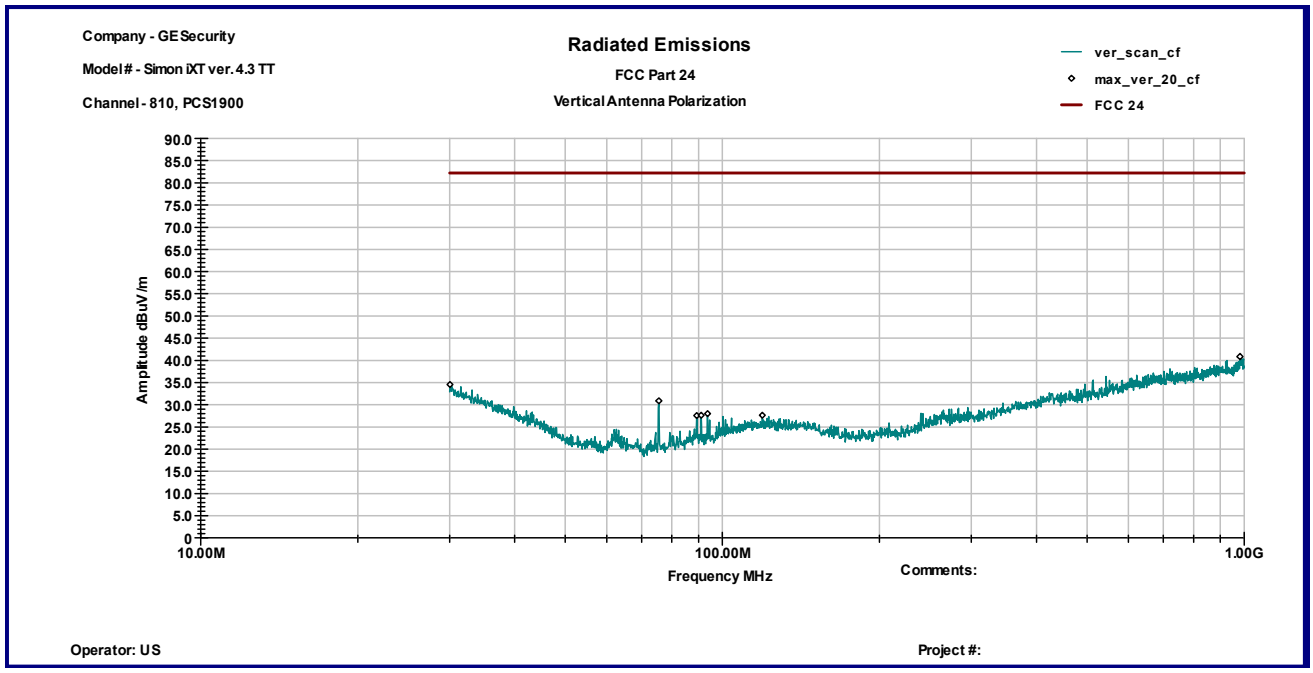
Graph 3.6.10



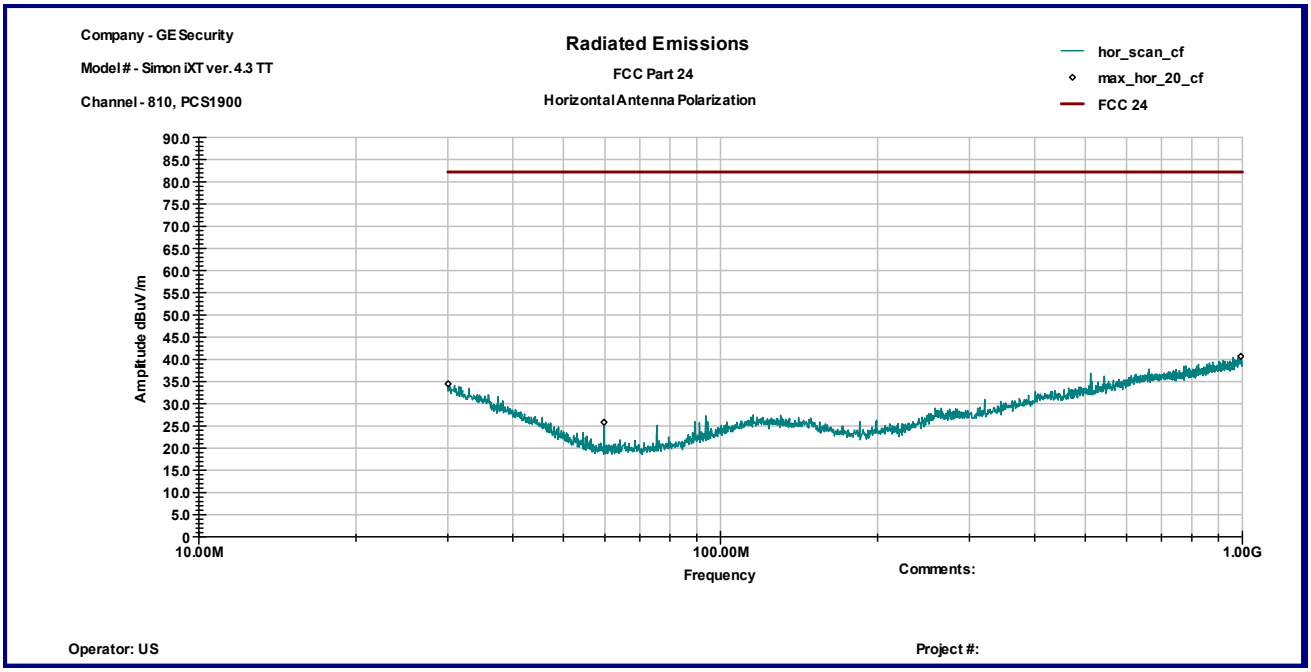
Graph 3.6.11



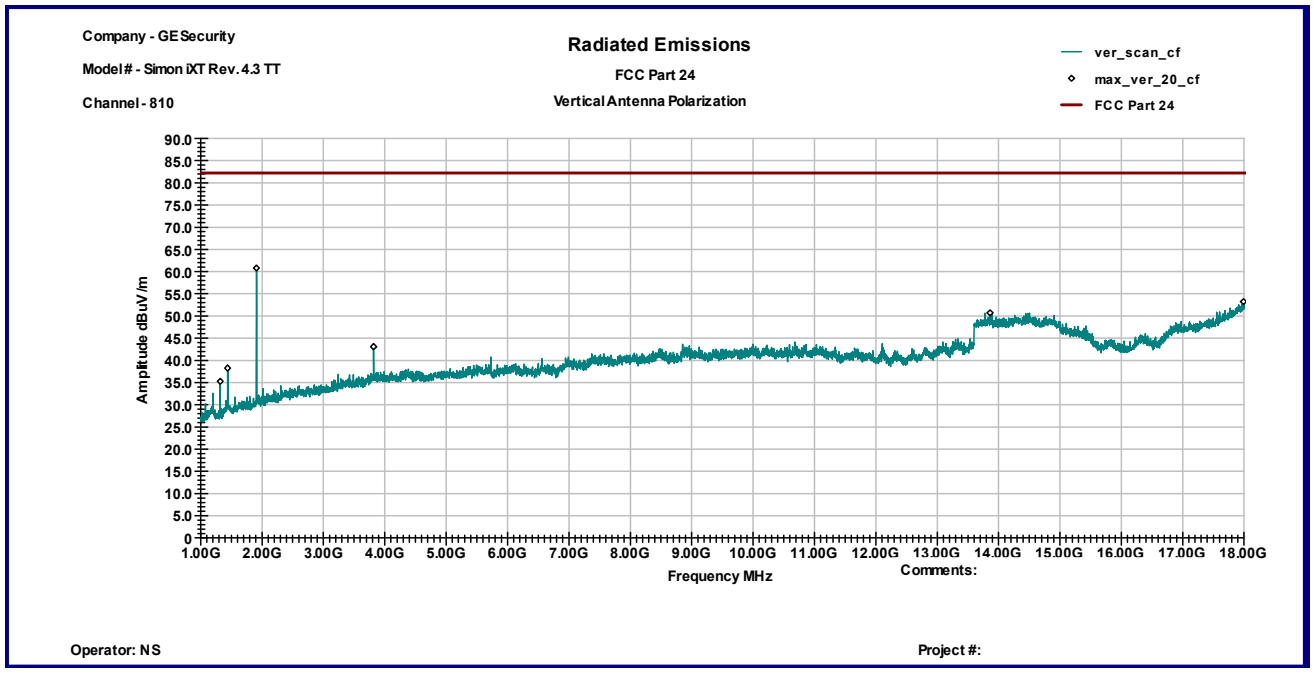
Graph 3.6.12



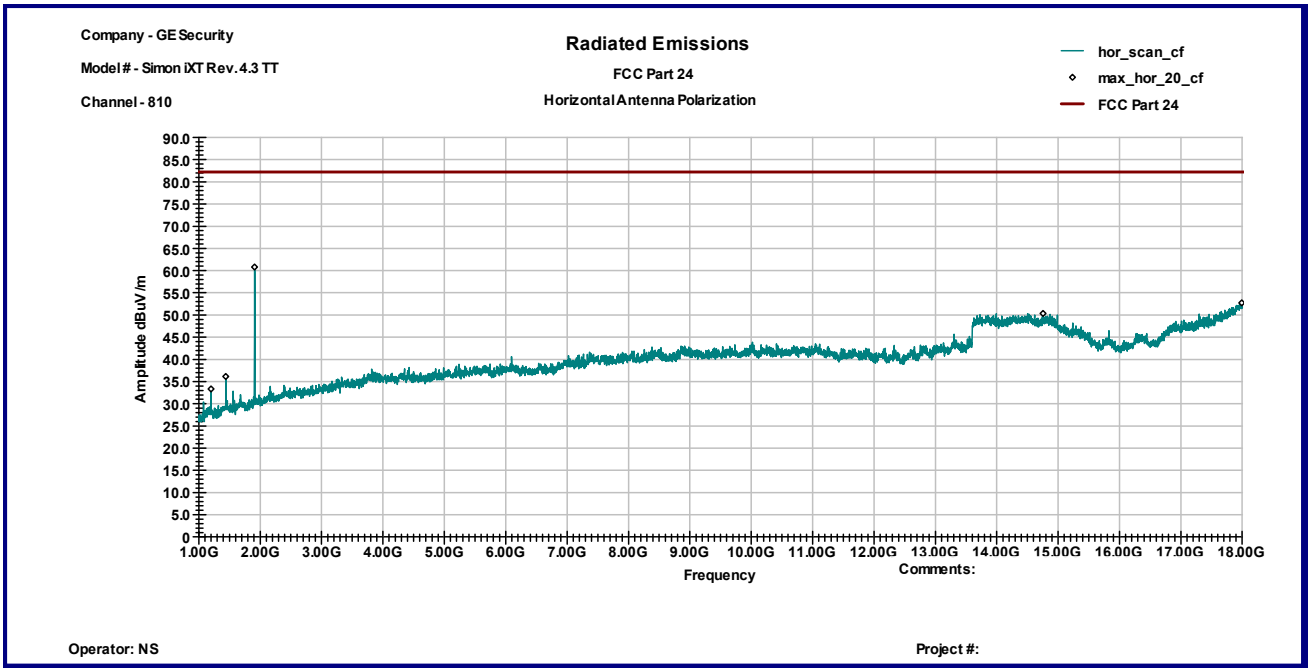
Graph 3.6.13



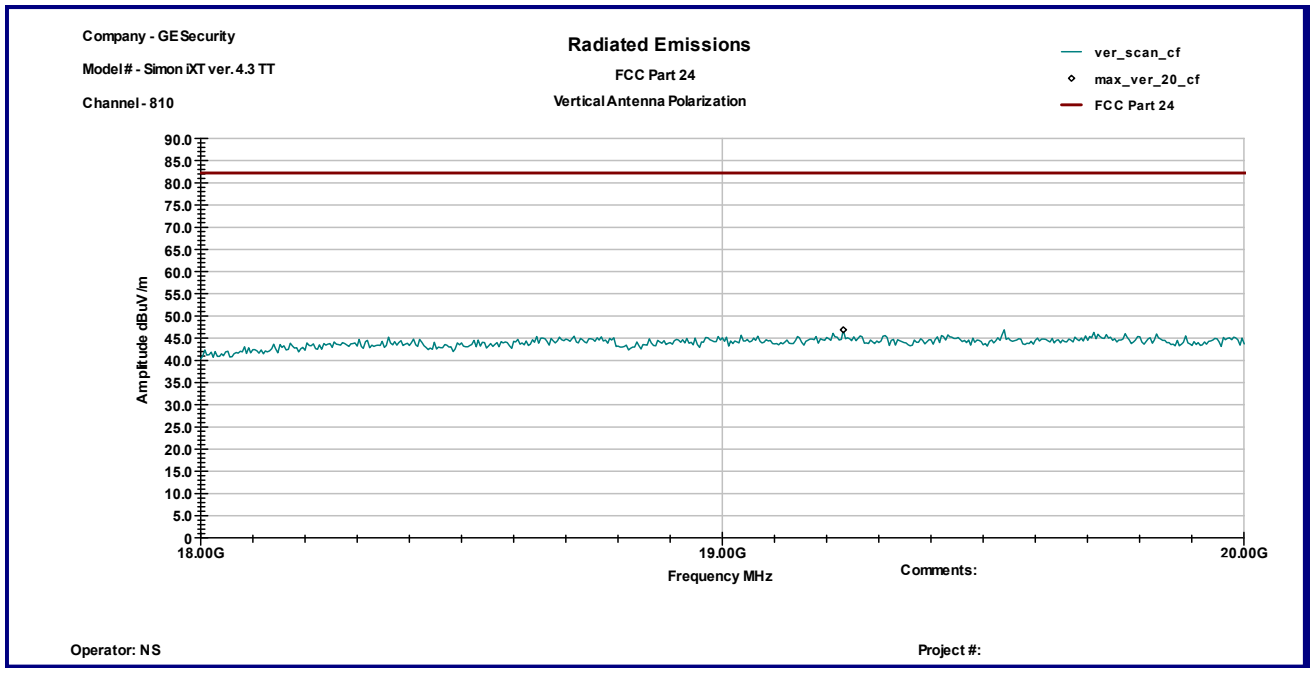
Graph 3.6.14



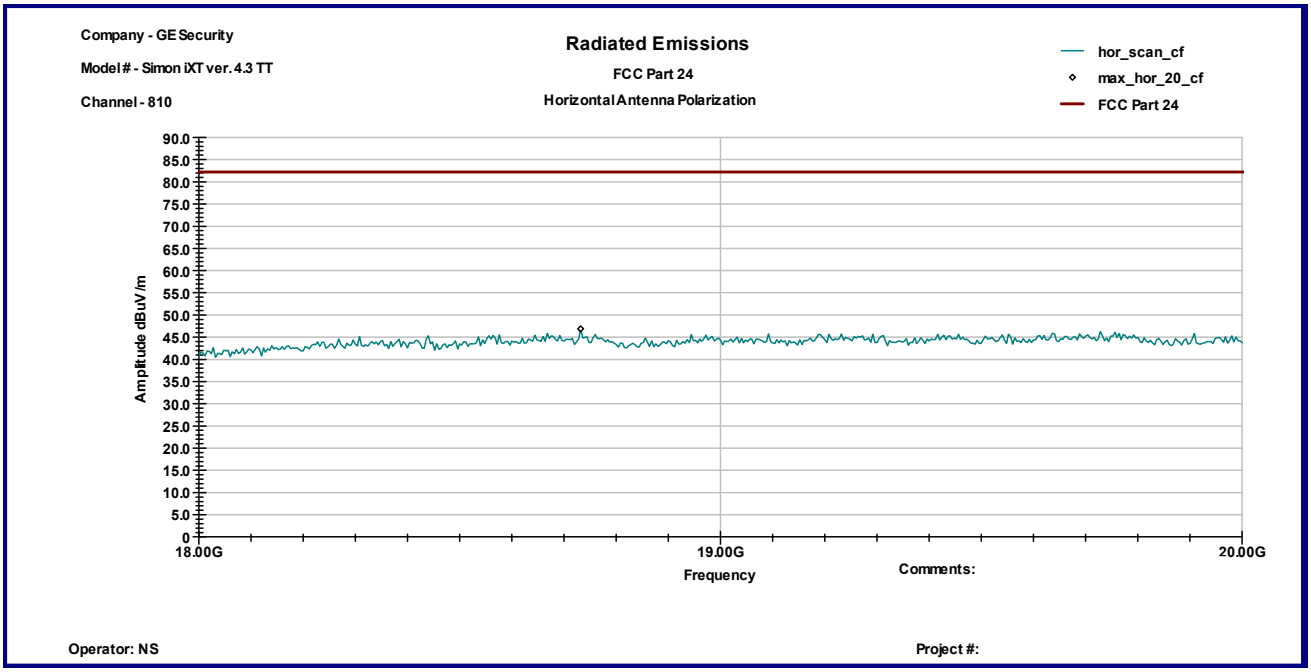
Graph 3.6.15



Graph 3.6.16



Graph 3.6.17



Graph 3.6.18

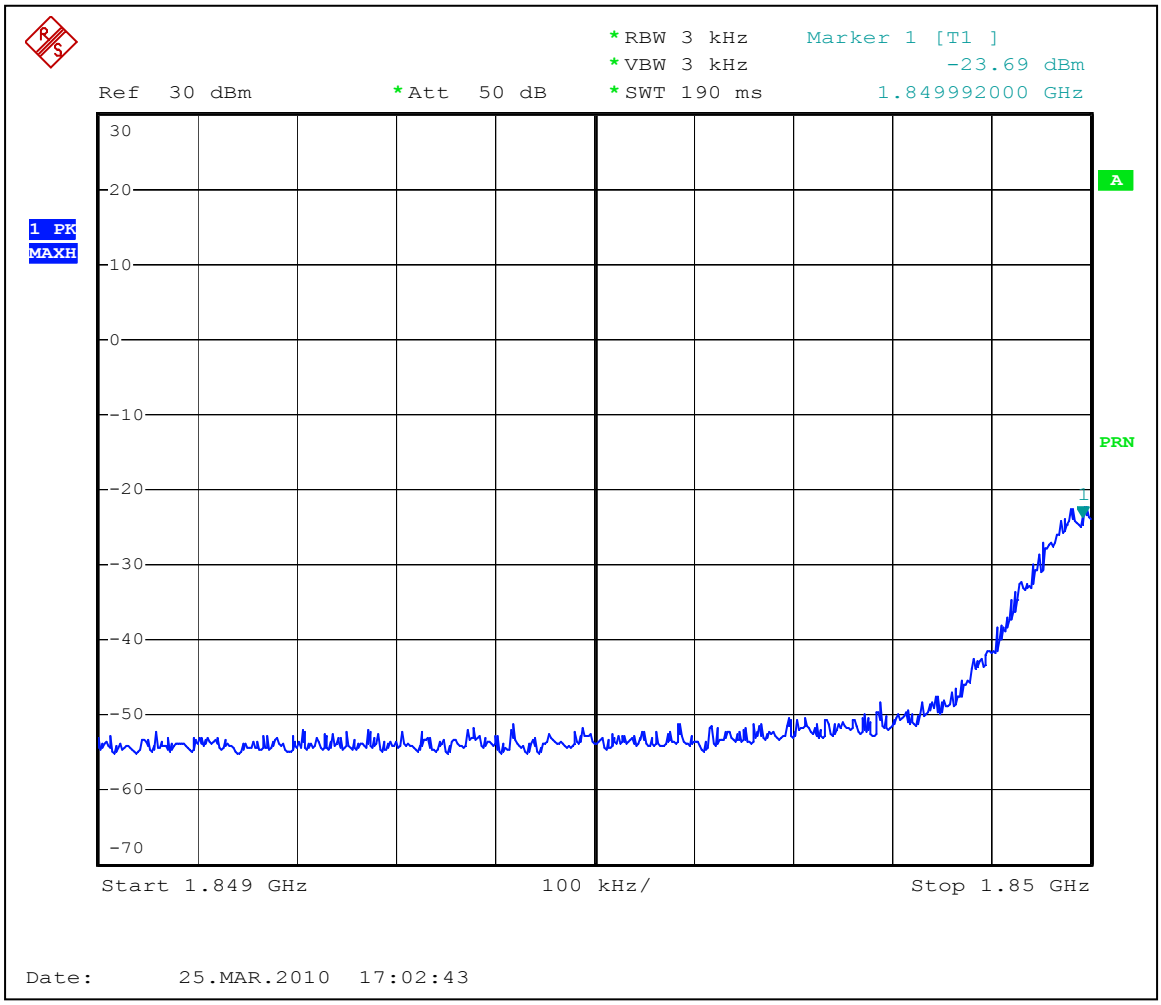
3.7 Spurious emissions at antenna terminal at Block Edges

Test location: ☐ OATS ☐ Anechoic Chamber ☐ Other

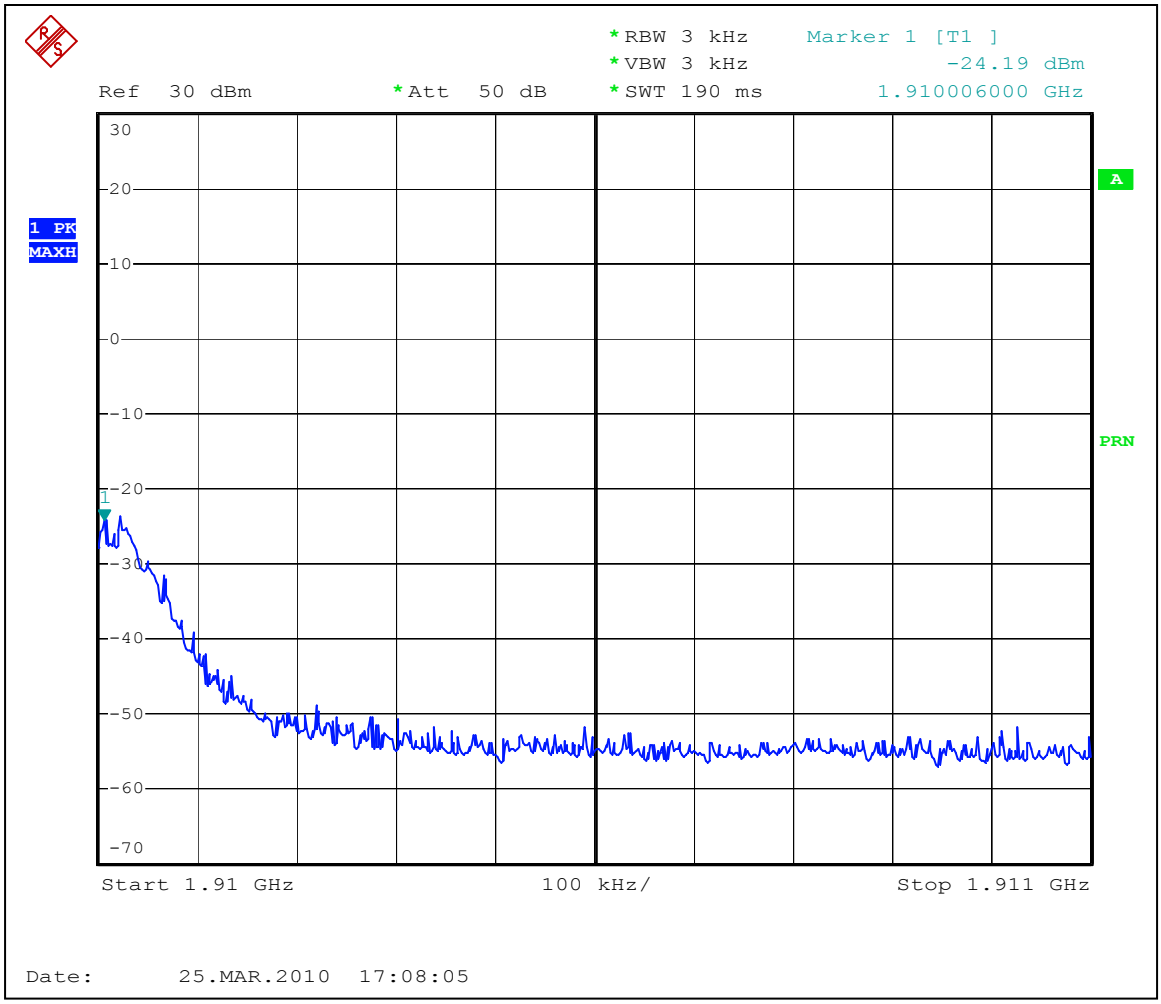
Test result: **Pass**

Low Channel	Measured power dBm	Total CF dB	Total dBm	Limit dBm	Margin dB
512	-23.69	7.1	-16.59	-13.0	-3.59
Highest Channel					
810	-24.19	7.1	-17.09	-13.0	-4.09
CF=Cable/Coupler Insertion Loss:	☒ 7.5dB				
Antenna Gain (dBi)	☒ -0.4dBi				

Notes: For passing results see Graphs 3.7.1-3.7.2. Fundamental frequencies are excluded form the measurements.


*RBW 3 kHz
*VBW 3 kHz
*SWT 190 ms
Marker 1 [T1]
-23.69 dBm
1.849992000 GHz
Ref 30 dBm
*Att 50 dB
1 PK
MAXH
A
PRN
30
-20
-10
0
-10
-20
-30
-40
-50
-60
-70
Start 1.849 GHz
100 kHz/
Stop 1.85 GHz
Date: 25.MAR.2010 17:02:43

Graph 3.7.1


*RBW 3 kHz
*VBW 3 kHz
*SWT 190 ms
Marker 1 [T1]
-24.19 dBm
1.910006000 GHz
Ref 30 dBm
*Att 50 dB
1 PK
MAXH
A
PRN
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Start 1.91 GHz
100 kHz/
Stop 1.911 GHz
Date: 25.MAR.2010 17:08:05

Graph 3.7.2

3.8 RF Exposure Compliance

MPE Requirement:

1.0 mW/cm^2

Calculation:

Antenna Gain= -0.4dB**i**
The maximum EIRP power = 0.79W
D = distance of 20cm

$S_{(mW)}$ = ERP$_{(mW)}$ / 4πD^2, or $S_{(mW)}$ = 250 / 4π400= 0.157 mW/cm^2, < 1.0 mW/cm^2

4.0 TEST EQUIPMENT

DESCRIPTION	MANUFACTURER	MODEL	SERIAL NO.	INTERTEK ID	CAL DUE	USED
Spectrum Analyzer	R & S	FSP 40	100024	12559	09/10/2010	☒
Spectrum Analyzer	R & S	ESCI	100358	12909	05/18/2010	☒
Bicono-Log Antenna	Schaffner-Chase	CBL 6112 B	2468	14459	09/22/2010	☒
Horn Antenna	EMCO	3115	9507-4513	9936	03/30/2010	☒
Horn Antenna	EMCO	3115	6579	15580	04/03/2010	☒
Signal Generator	R & S	SMR20	101469	25233	07/31/2010	☒
Roberts Antenna	CDI	A100	00599	9965	VBU	☒
Waveguide Horn Antenna	EMCO	3116	9904-2423	9705	08/06/2010	☒
Pre-Amplifier	MITEQ	AMF-5D-00501800-28-13P	1402232	172081	08/07/2010	☒
Pre-Amplifier	MITEQ	AMF-6F-16002600-25-10P	1222383	MIN-0065	08/07/2010	☒
System	TILE! Instrument Control		Ver. 3.4.K.29	15259	VBU	☒