

Annex 1: Diagrams
to TEST REPORT
No.: 2-20795542b/11

According to:
FCC Regulations
FCC Part 22H/24E
FCC Part 15.207C
FCC Part 15.209C
&
IC Regulations
RSS-132, Issue 2
RSS-133, Issue 5
RSS-Gen, Issue 2

for

Cinterion Wireless Modules GmbH

Quad-Band GSM/GPRS Module BGS2-W
FCC-ID: QIPBGS2
IC: 7830A-BGS2

Laboratory Accreditation and Listings			
 D-PL-12047-01-01	 MRA US-EU 0003	 Reg. No.: 3462D-1 3462D-2	 Reg. No.: R-2665, R-2666 C-2914, T-1967 G-301
 LAB CODE 20011130-00		 AUTHORIZED RF LABORATORY	
accredited according to DIN EN ISO/IEC 17025			
CETECOM GmbH Laboratory Radio Communications & Electromagnetic Compatibility Im Teelbruch 116 • 45219 Essen • Germany Registered in Essen, Germany, Reg. No.: HRB Essen 8984 Tel.: + 49 (0) 20 54 / 95 19-954 • Fax: + 49 (0) 20 54 / 95 19-964 E-mail: info@cetecom.com • Internet: www.cetecom.com			

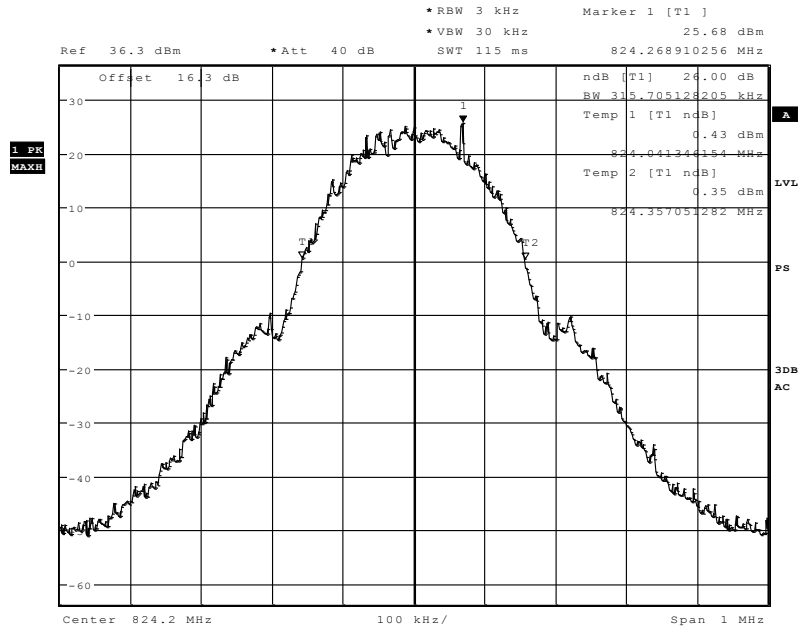
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1. Diagrams

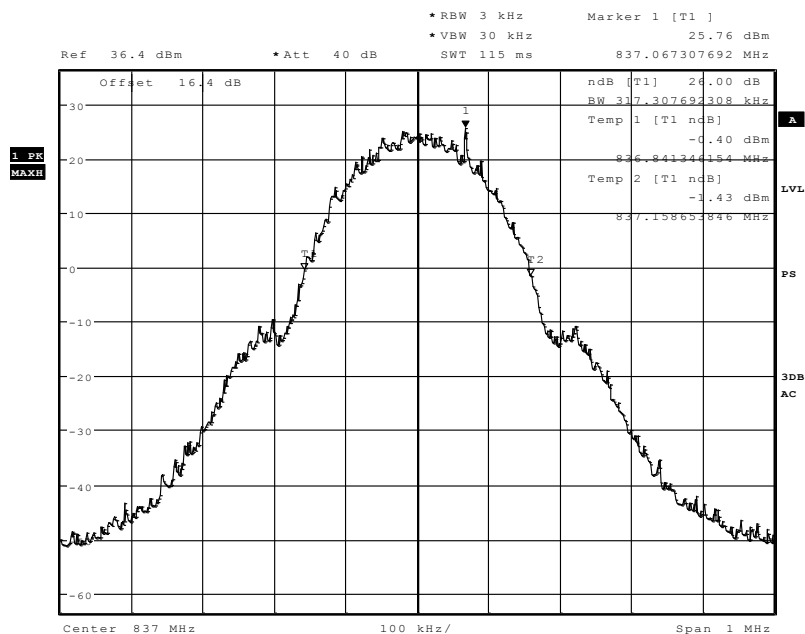
1.1. 26dBc Emission bandwidth

GSM 850



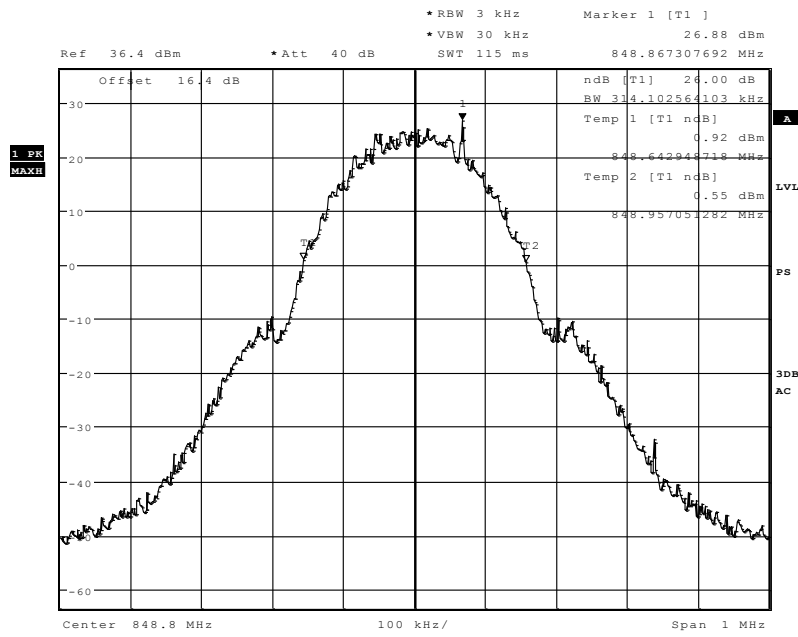
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Channel 128



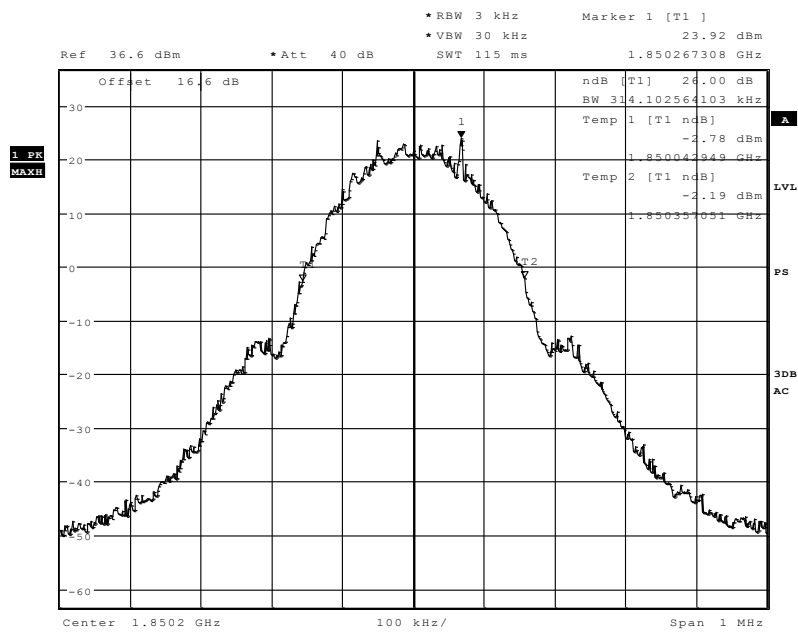
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Channel 192

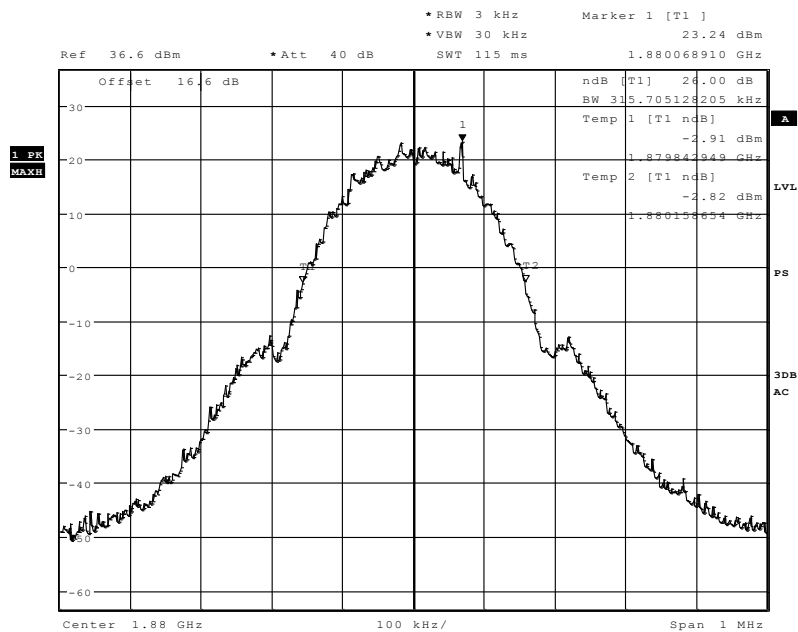


Date: 9.FEB.2011 10:50:32

Channel 251

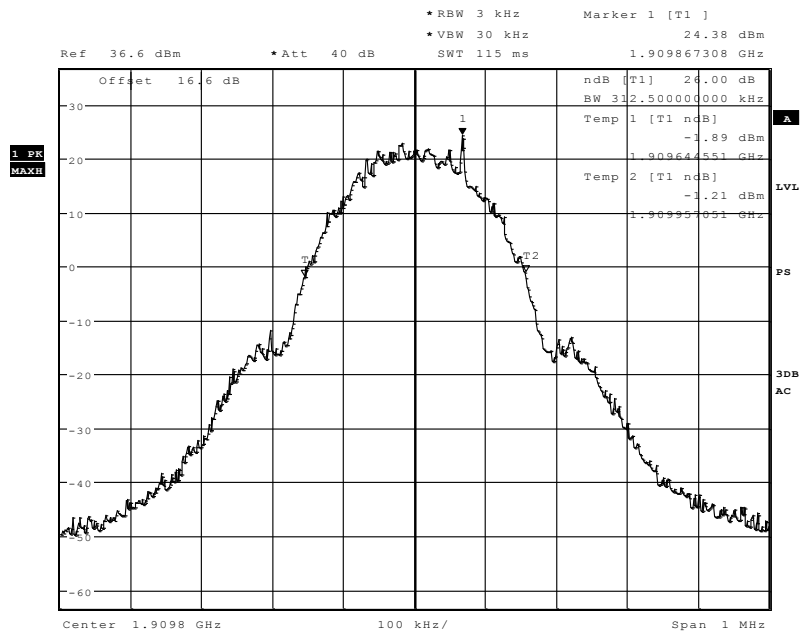
GSM 1900

Date: 9.FEB.2011 11:40:39

Channel 512

Date: 9.FEB.2011 11:36:54

Channel 661

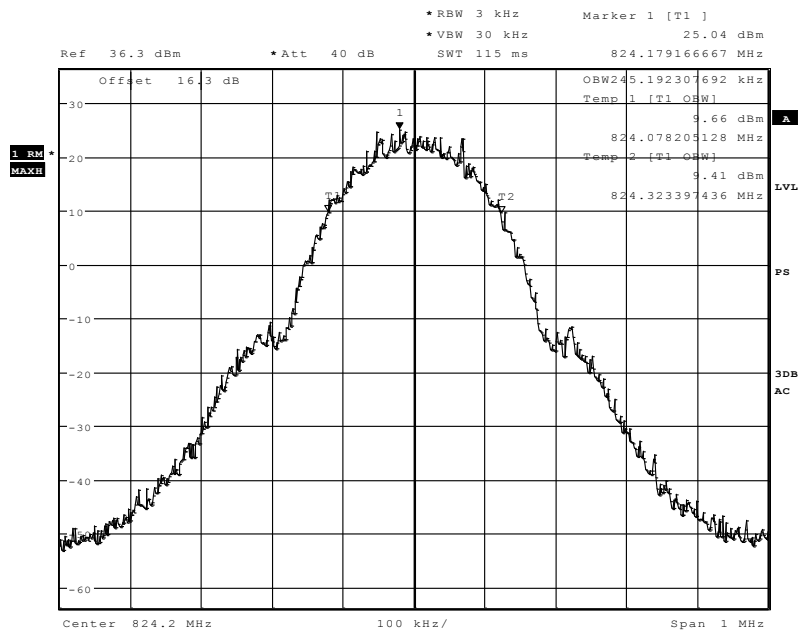


Date: 9.FEB.2011 11:33:01

Channel 810

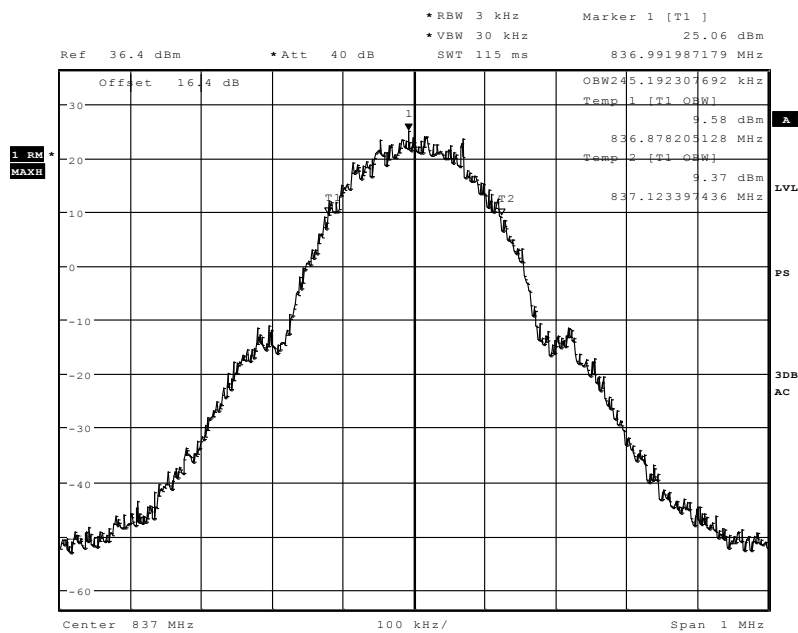
1.2. 99% Occupied bandwidth

GSM 850



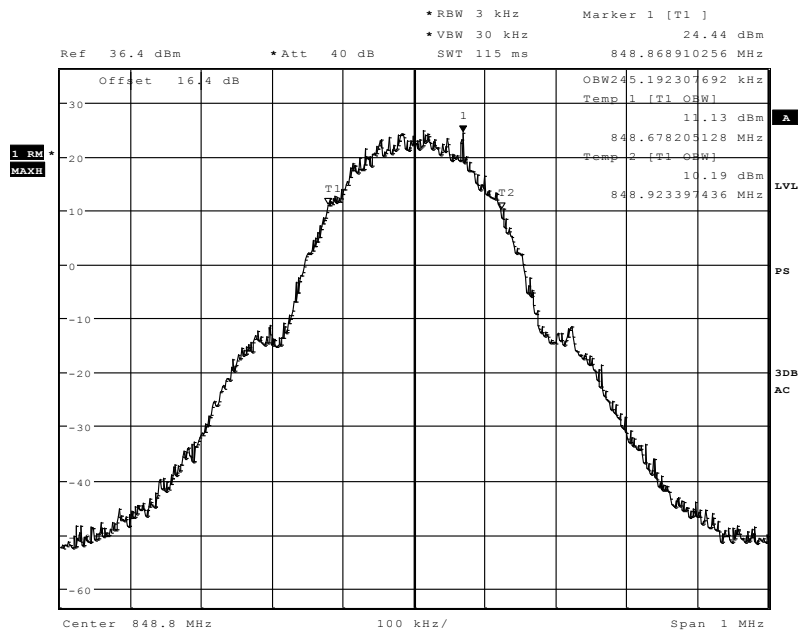
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Channel 128

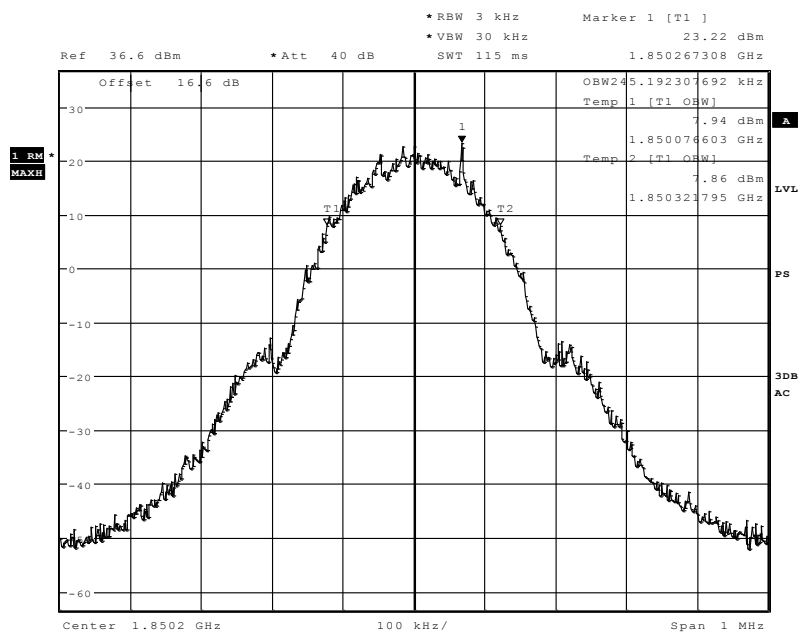


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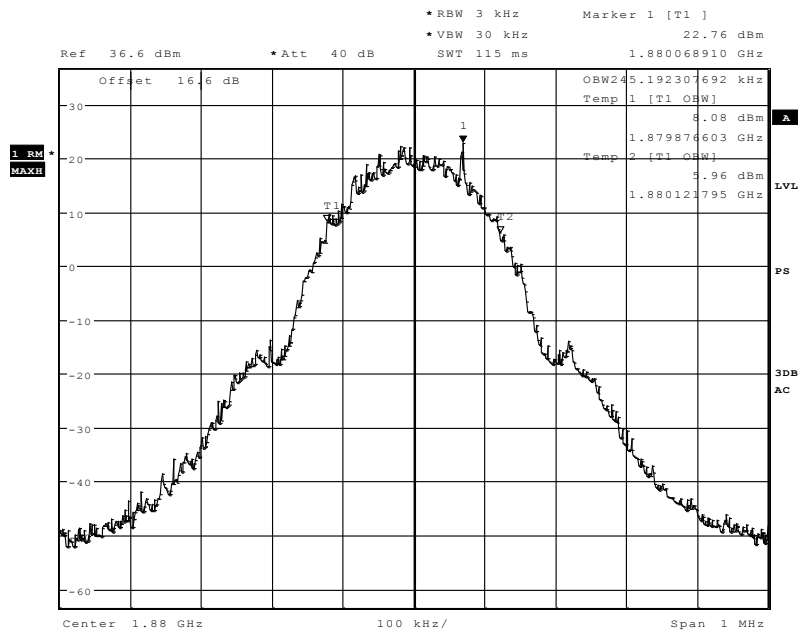


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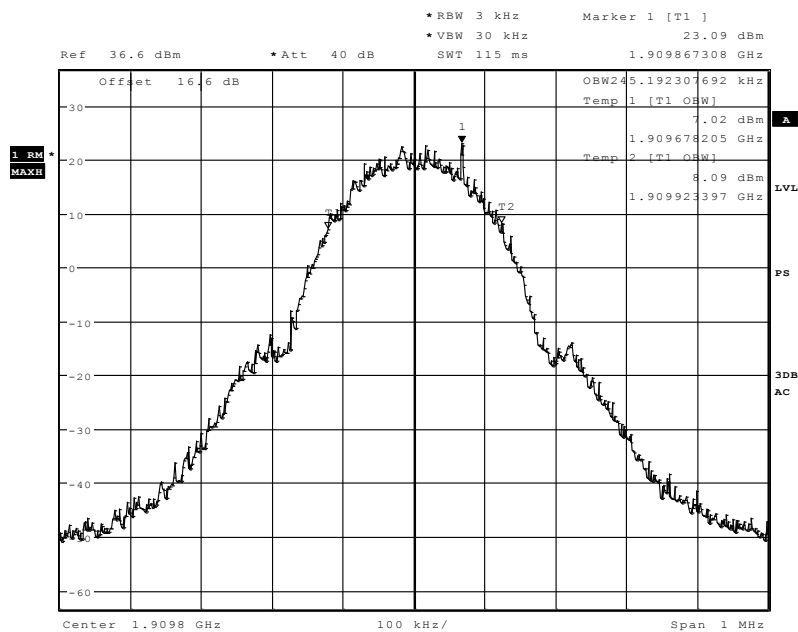
Channel 251**GSM 1900**

Date: 9.FEB.2011 11:20:55

Channel 512



Date: 9.FEB.2011 11:24:29

Channel 661

Date: 9.FEB.2011 11:27:44

Channel 810

1.3. Spurious emissions conducted – GSM850 Mode (TX-mode)

Diagram No. 14.01 (Channel 128)

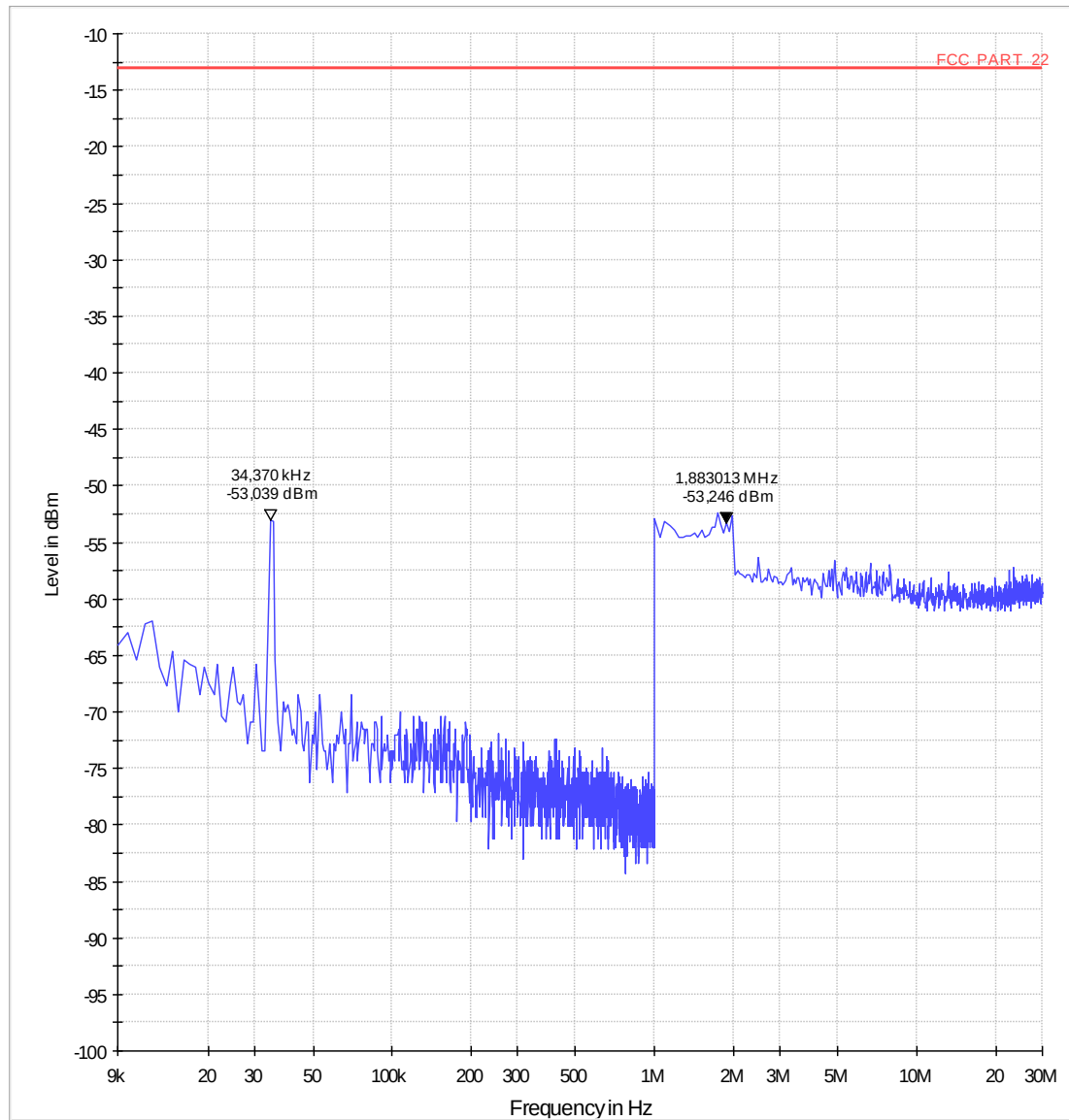


Diagram No. 14.02 (Channel 192)

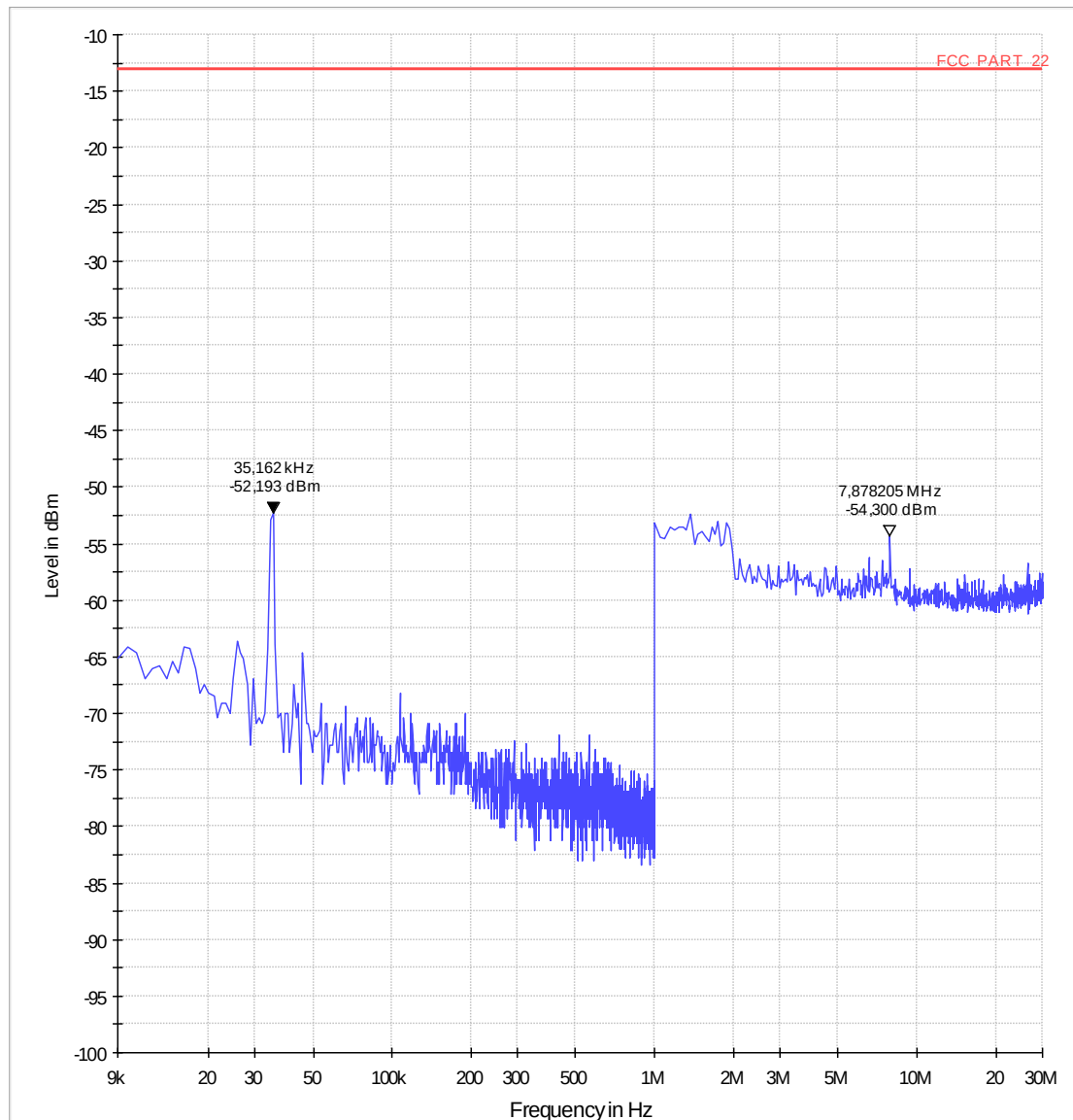


Diagram No. 14.03 (Channel 251)

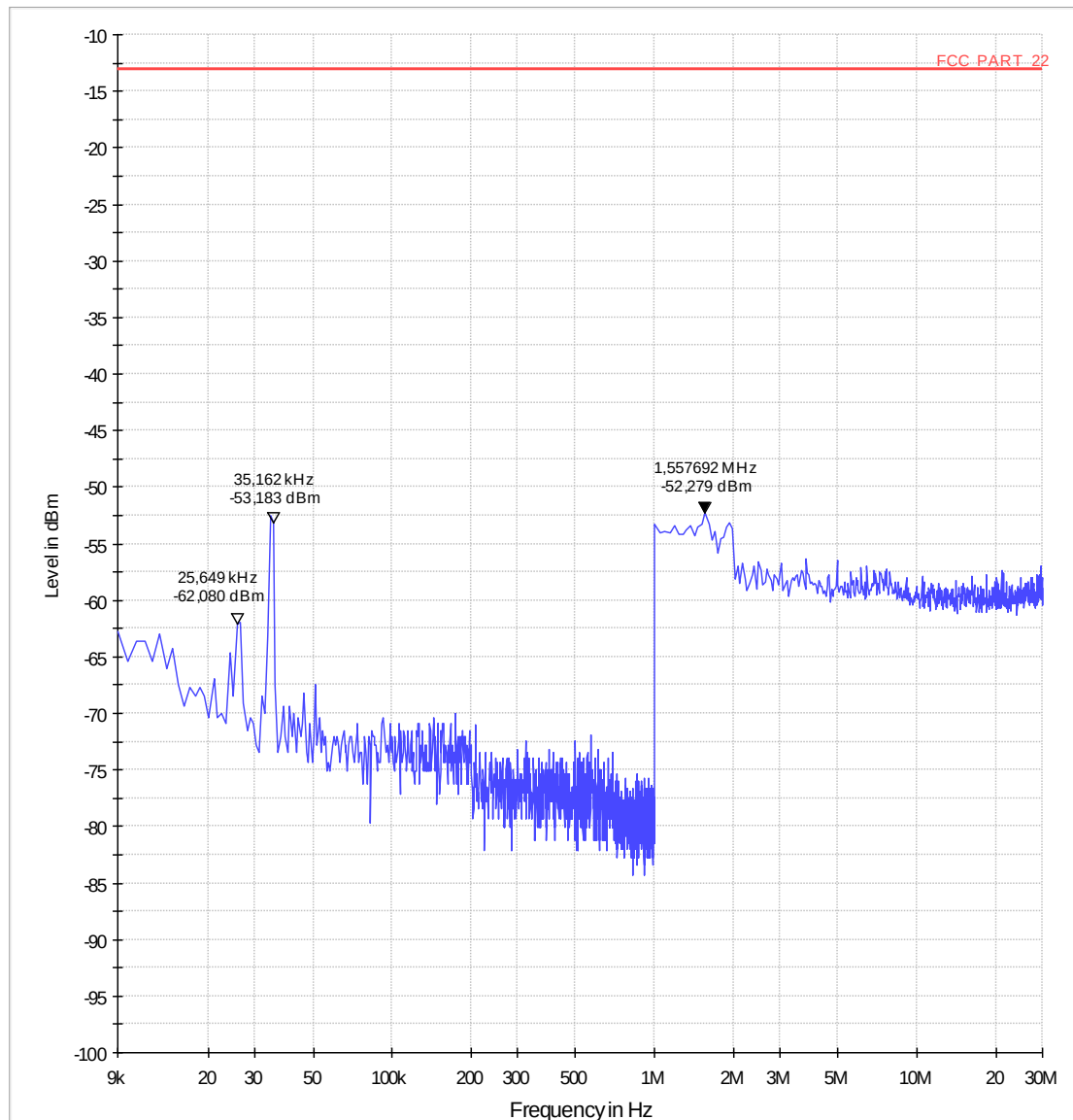


Diagram No. 14.04 (Channel 128)

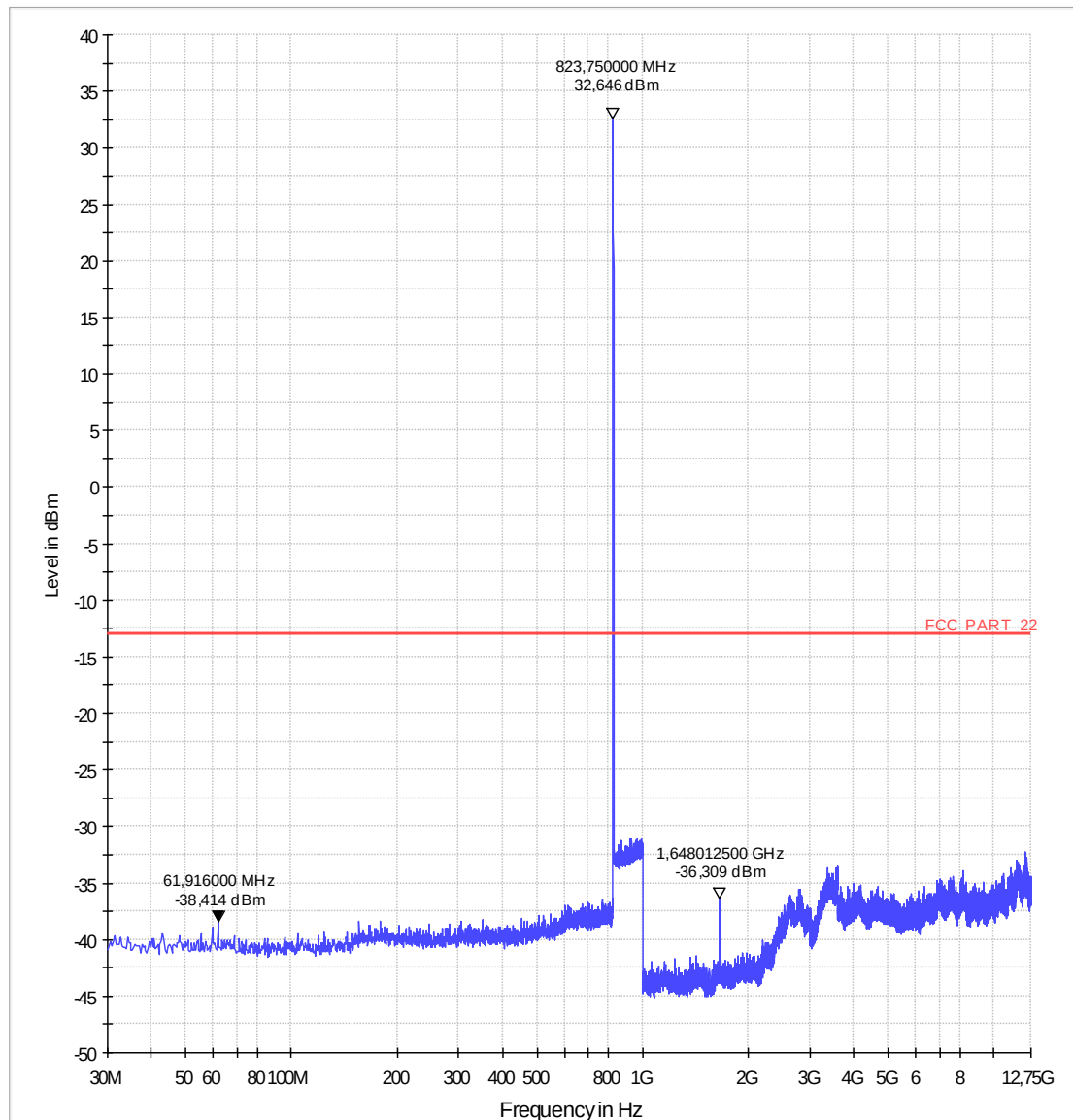


Diagram No. 14.05 (Channel 192)

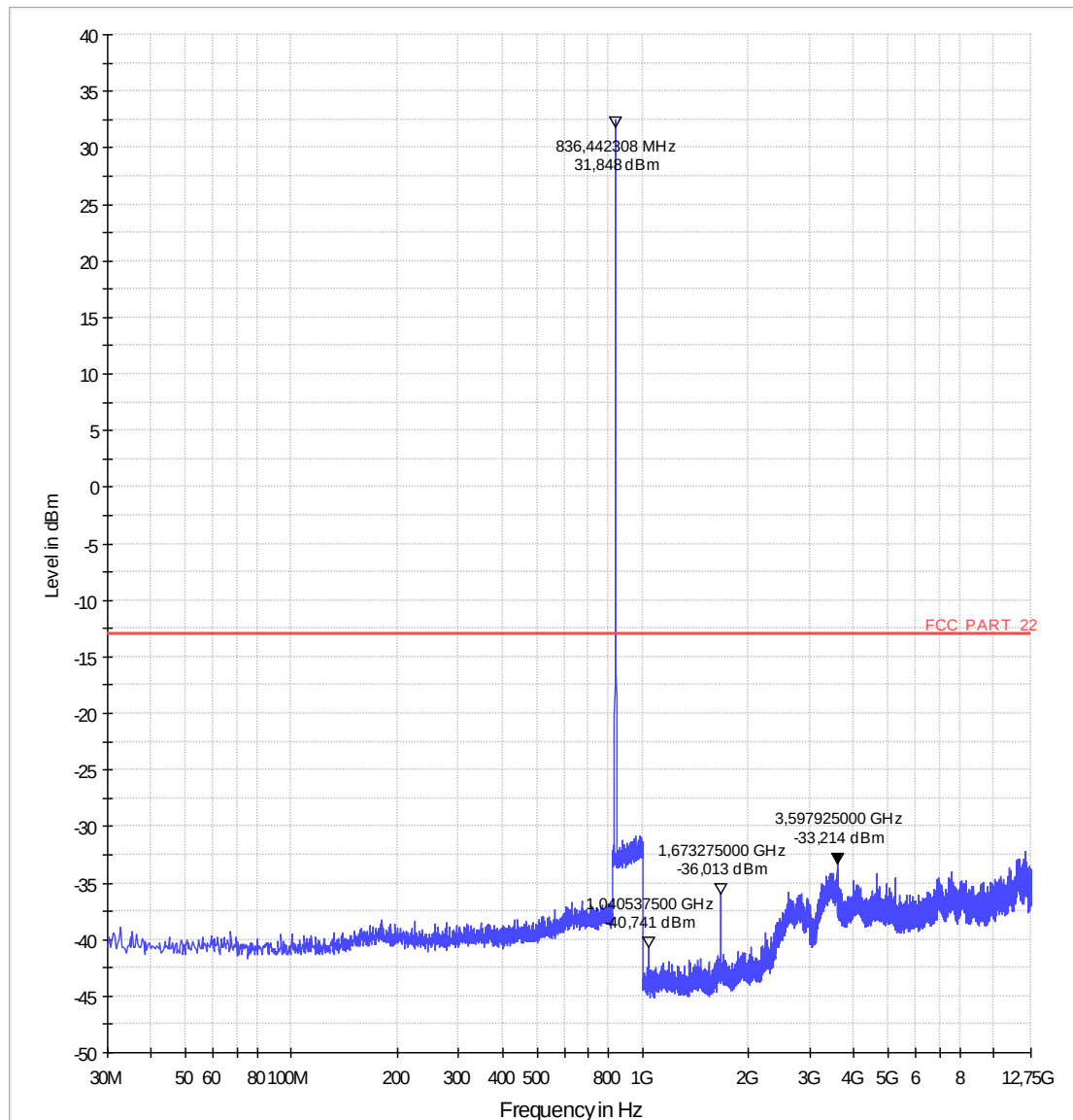


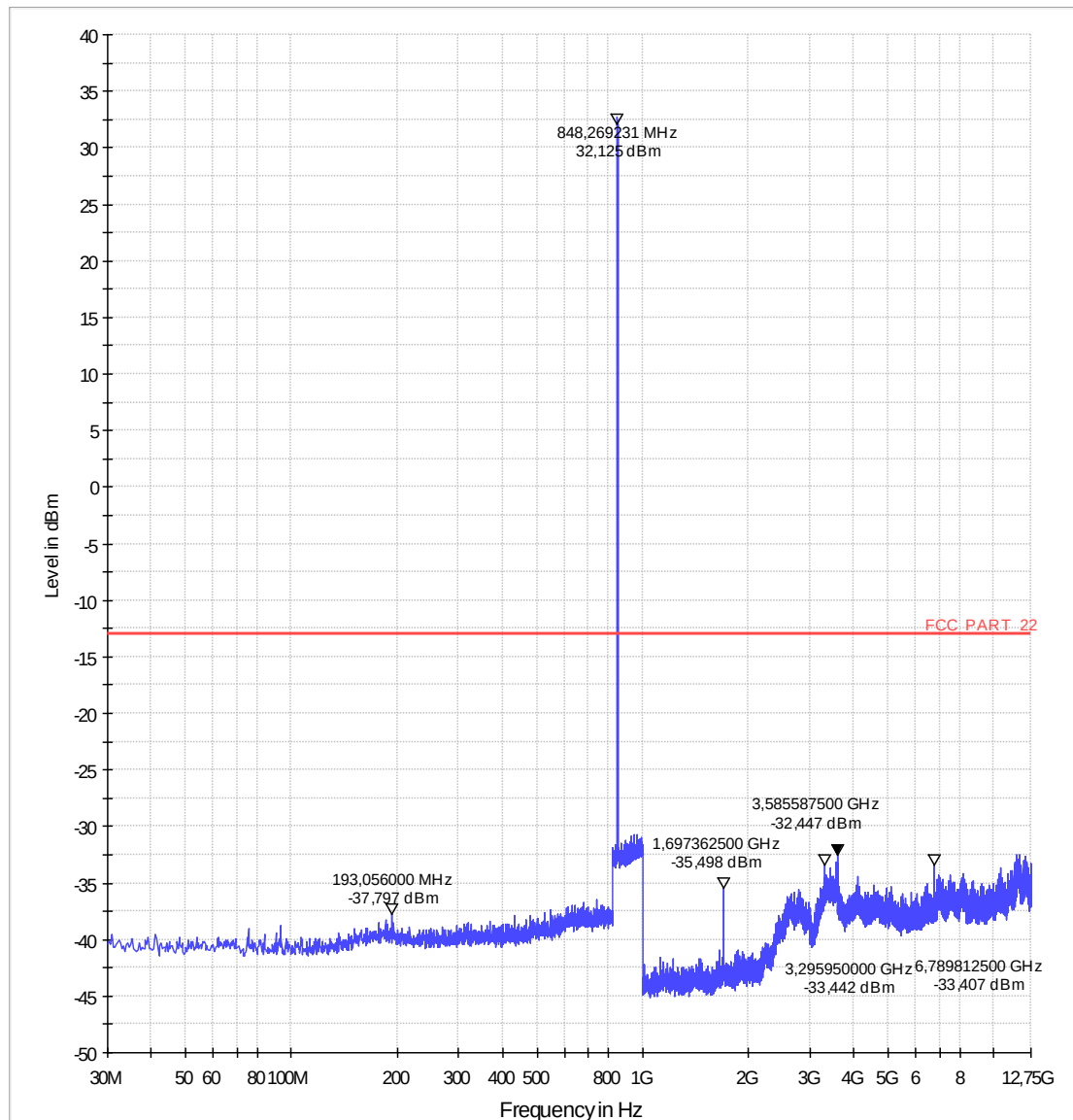
Diagram No. 14.06 (Channel 251)

Diagram No. 14.07b (Channel 128)

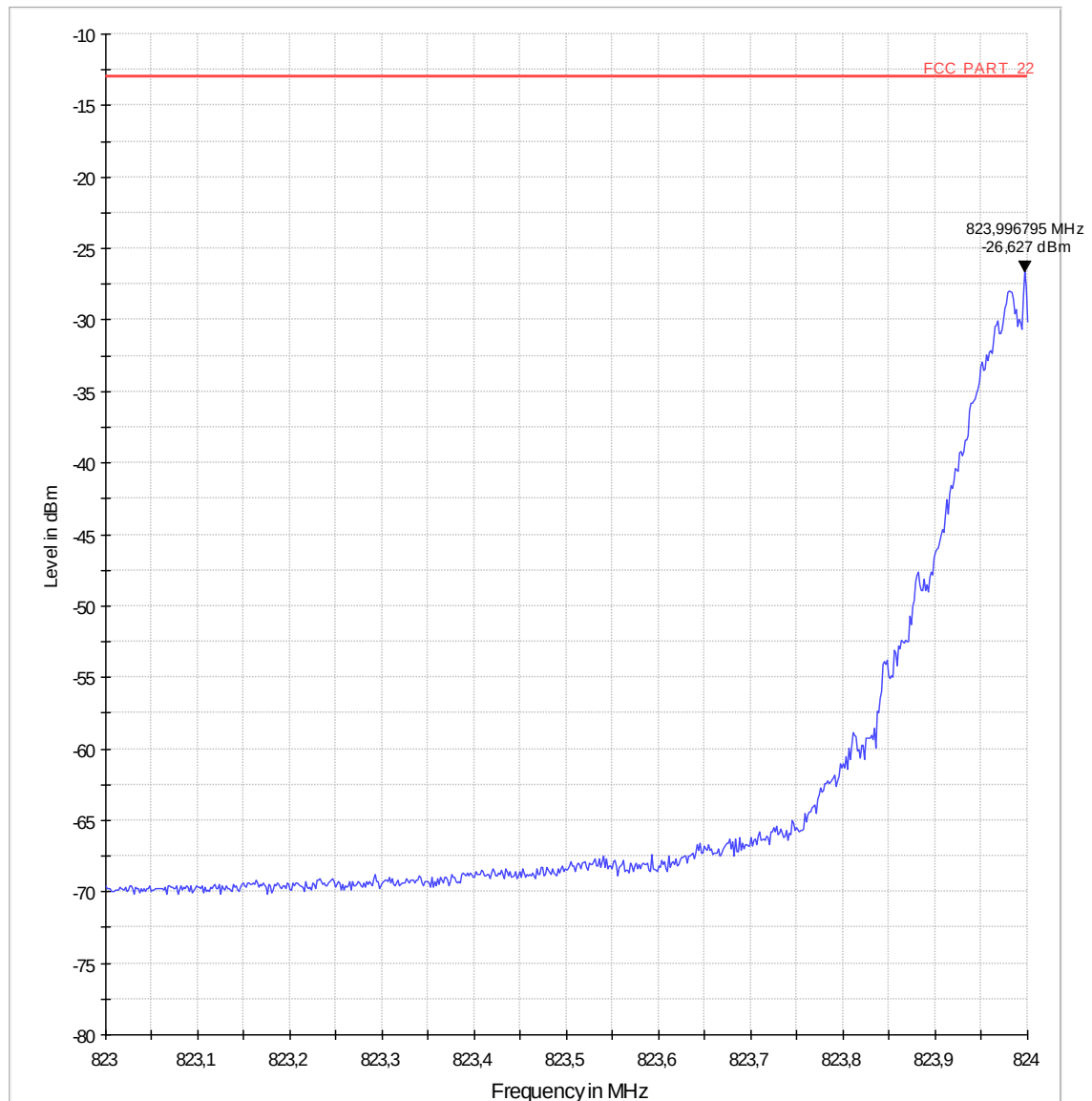
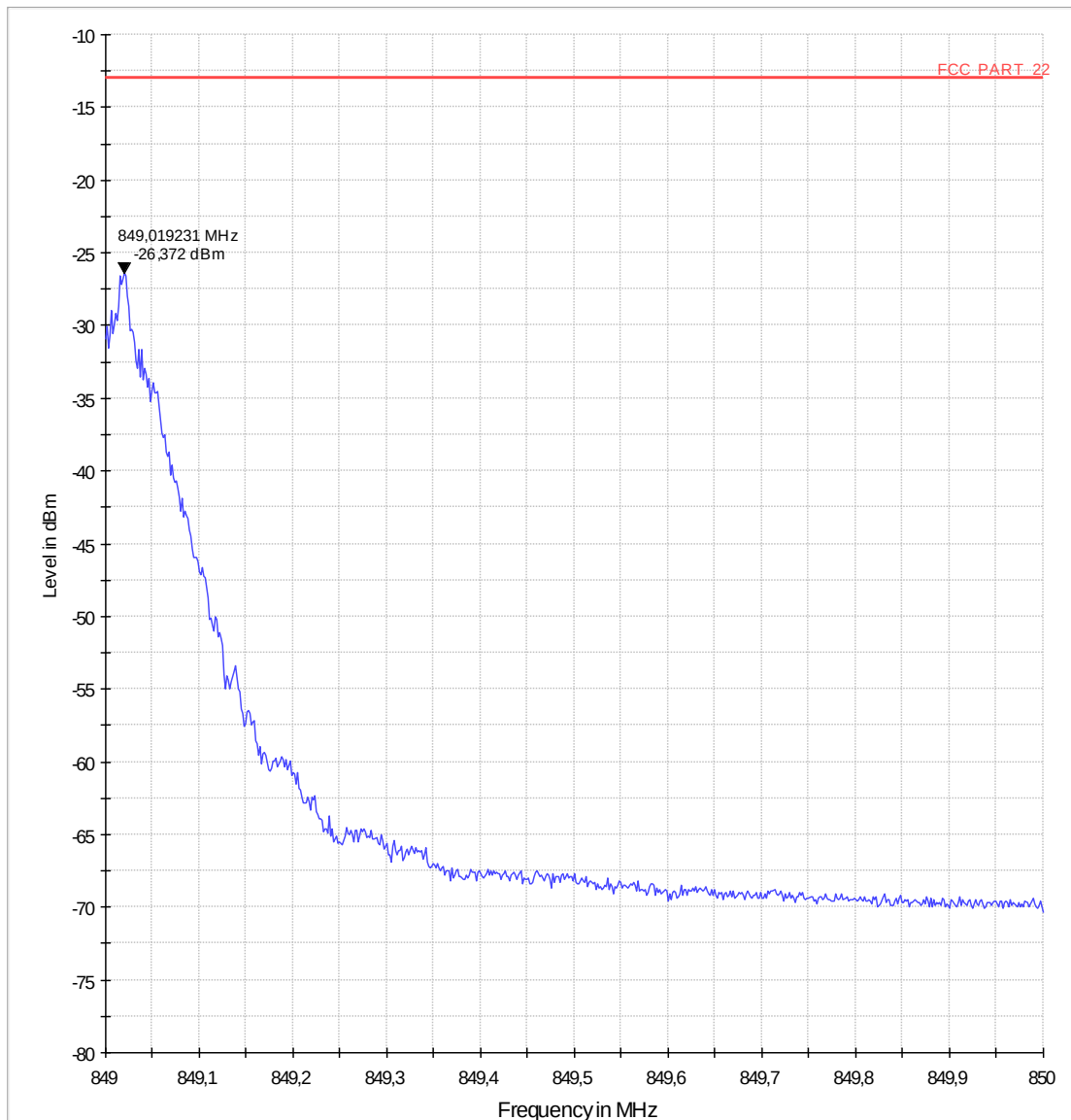


Diagram No. 14.08b (Channel 251)



1.4. Spurious emissions conducted – GSM1900 Mode (TX-mode)

Diagram no. 14.09 (Channel 512)

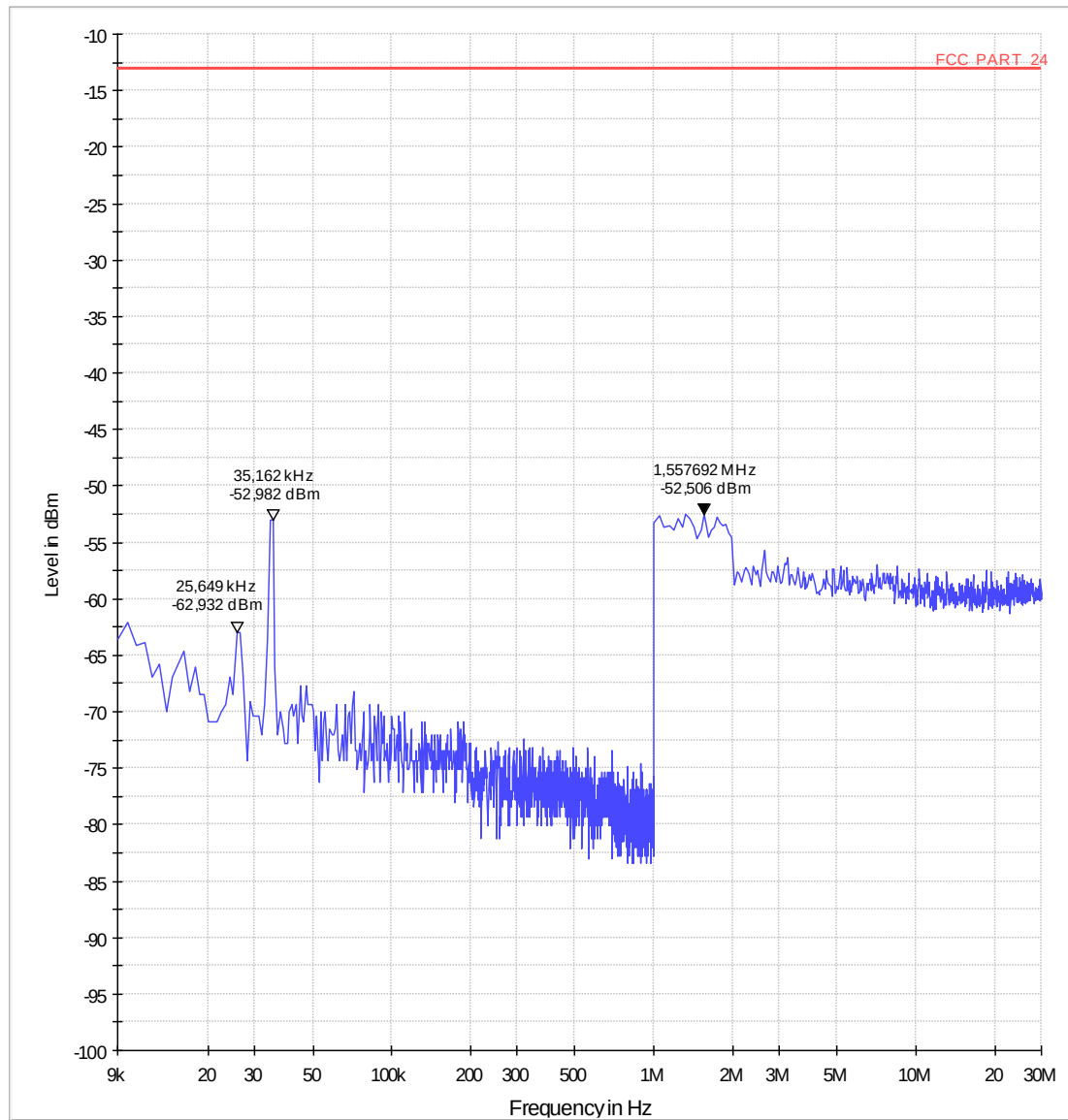


Diagram no. 14.10 (Channel 661)

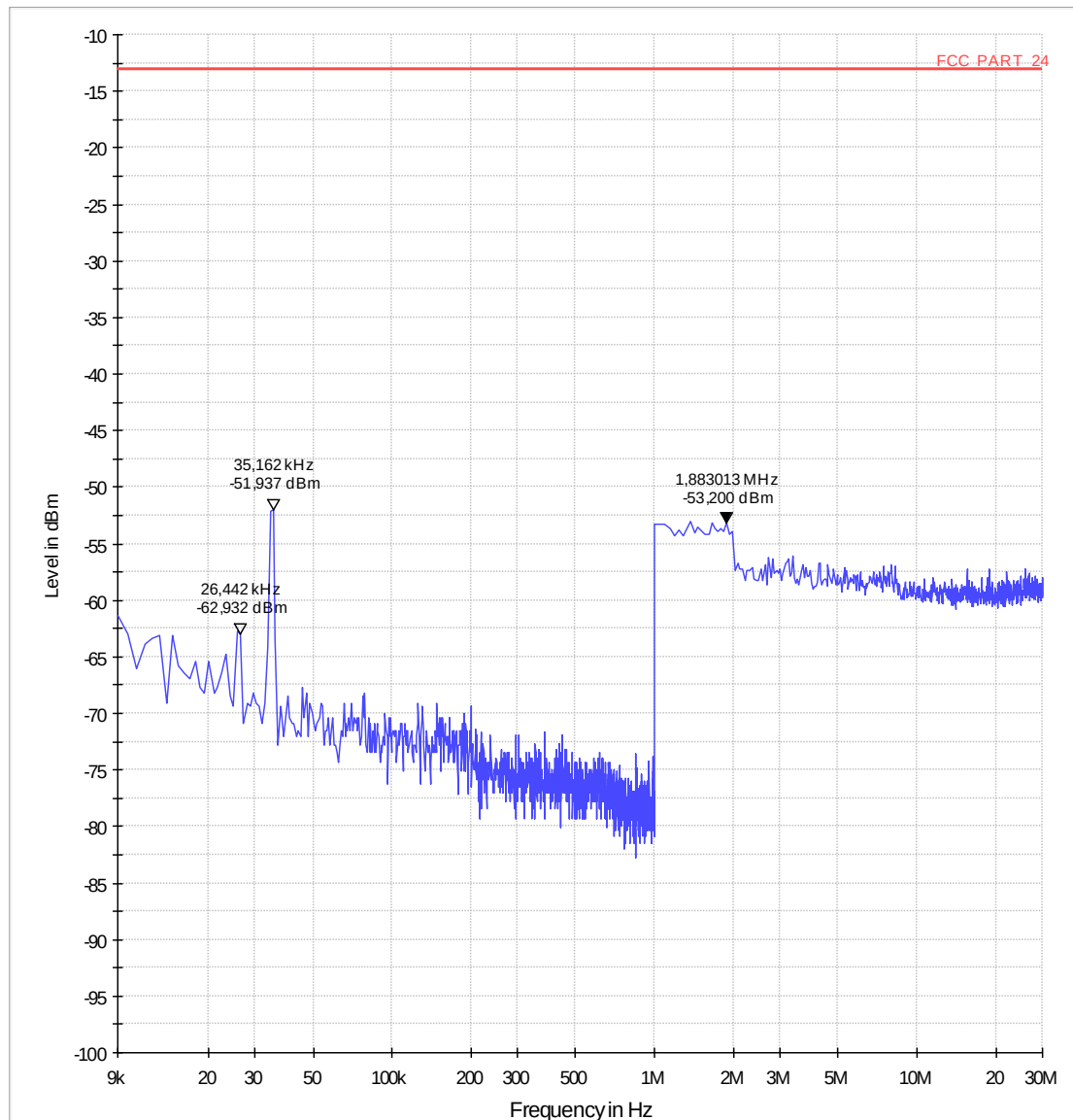


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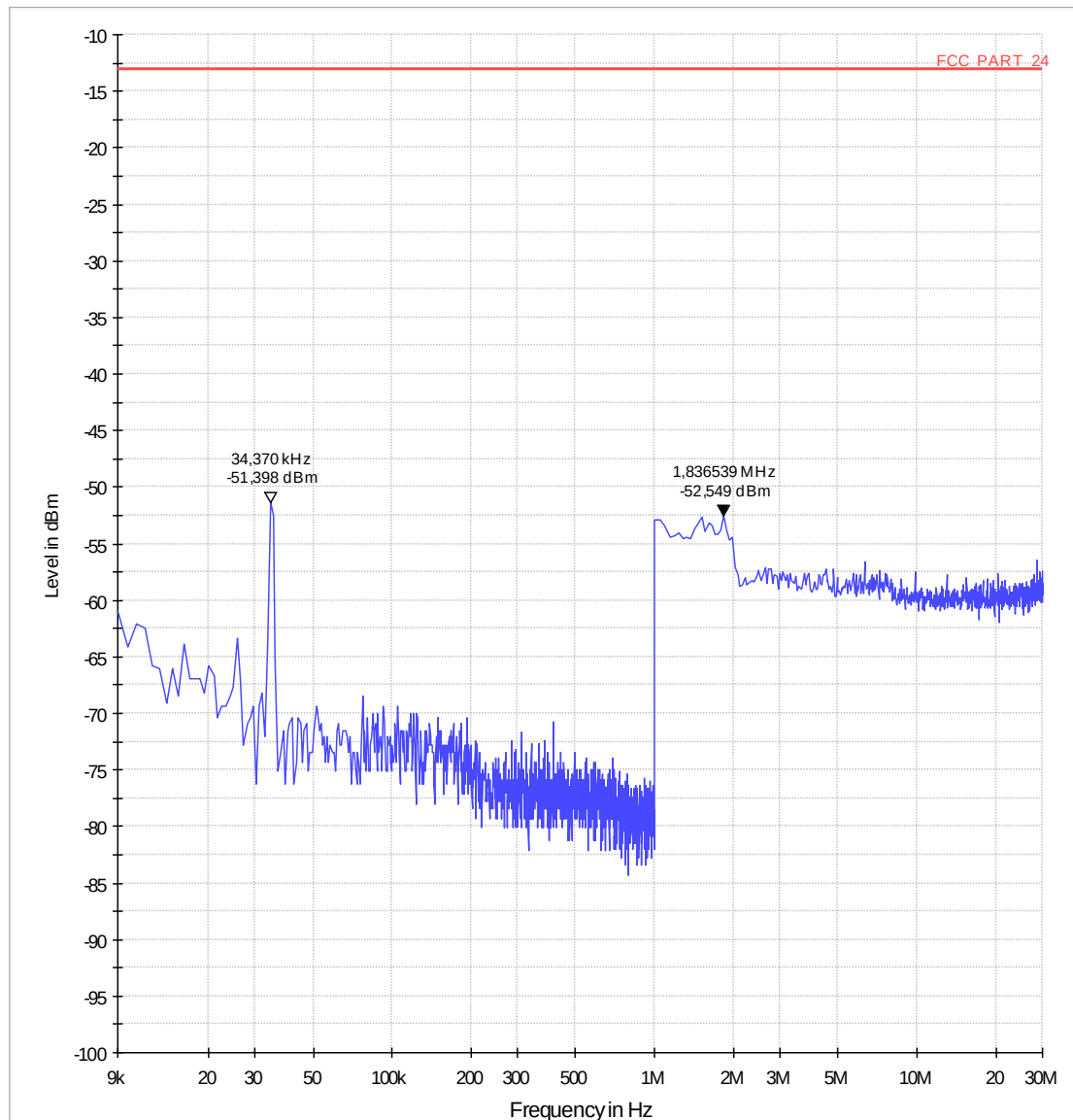


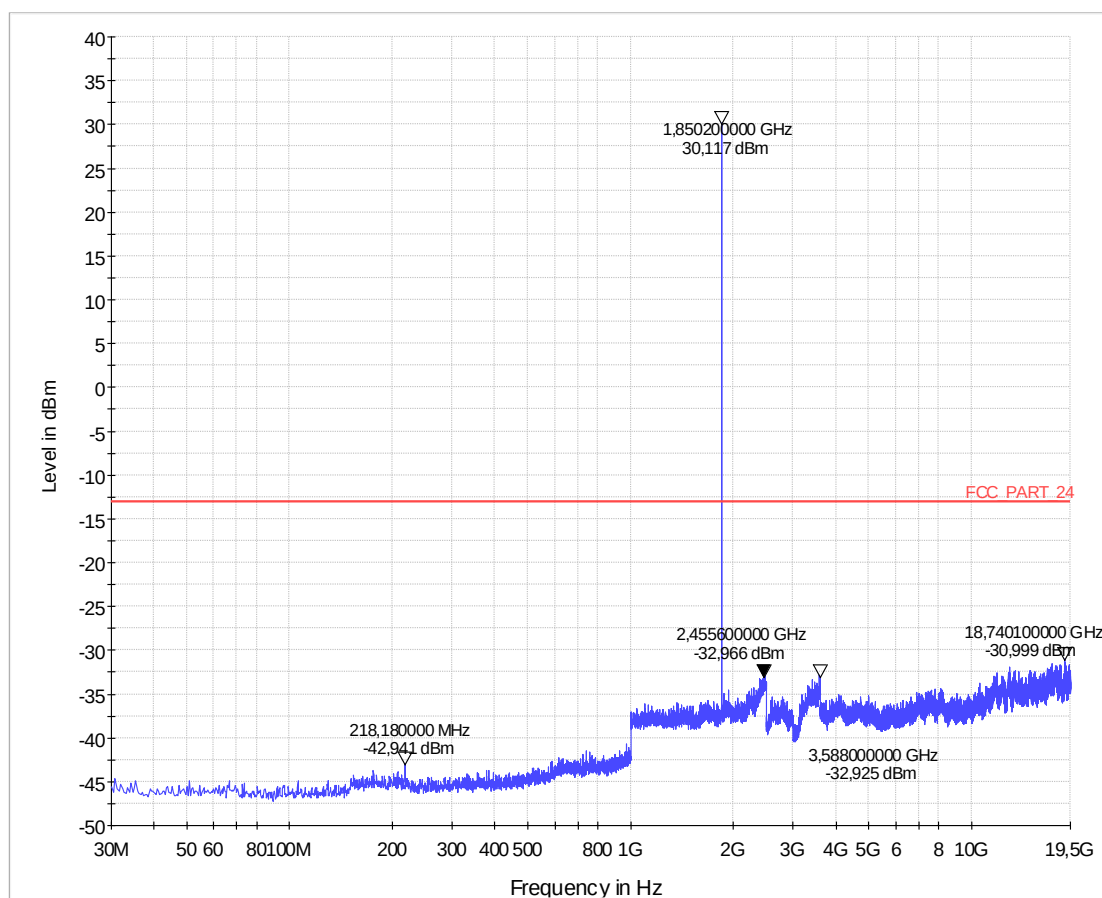
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Diagram no. 14.13 (Channel 661)

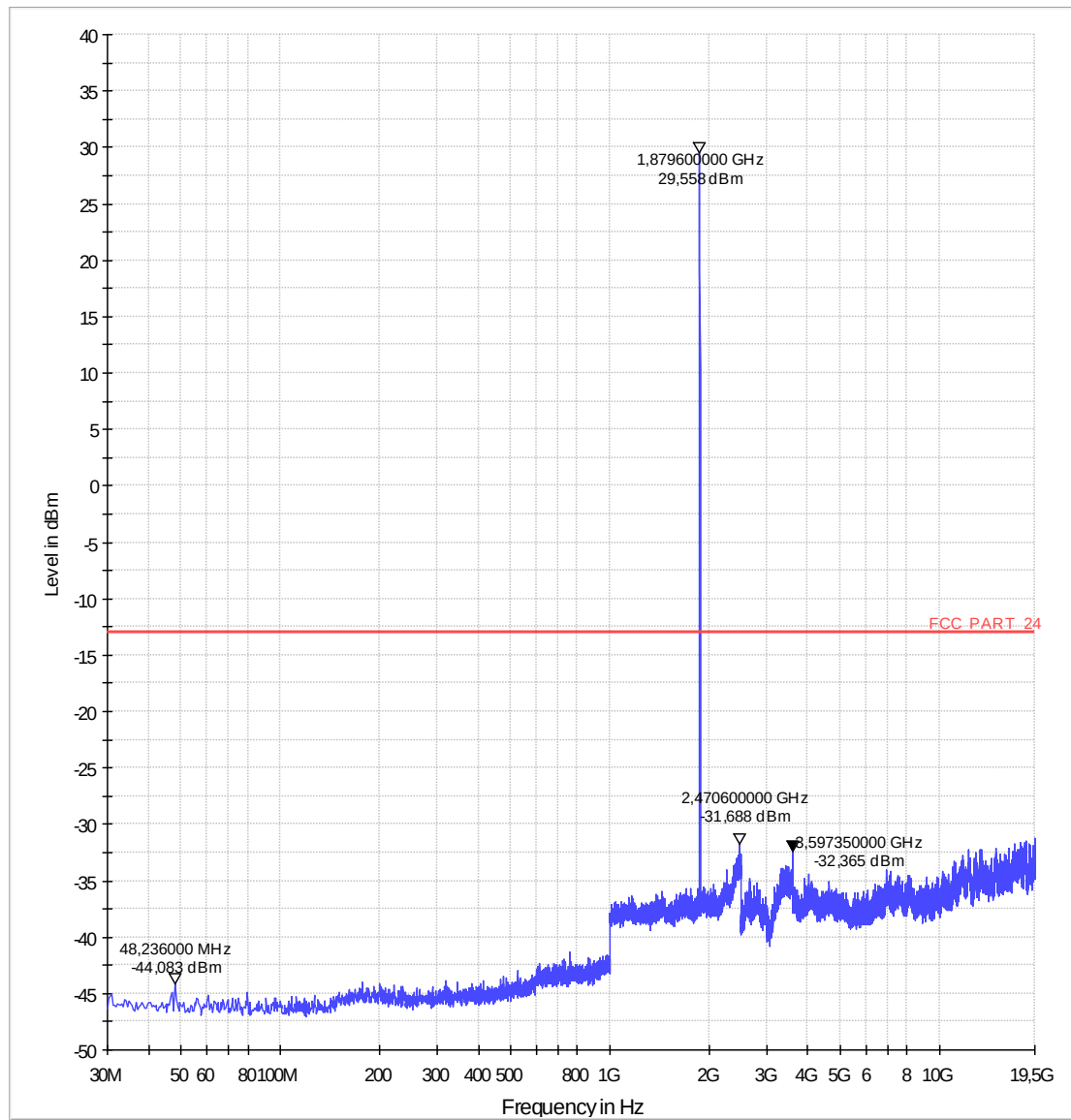


Diagram no. 14.14 (Channel 810)

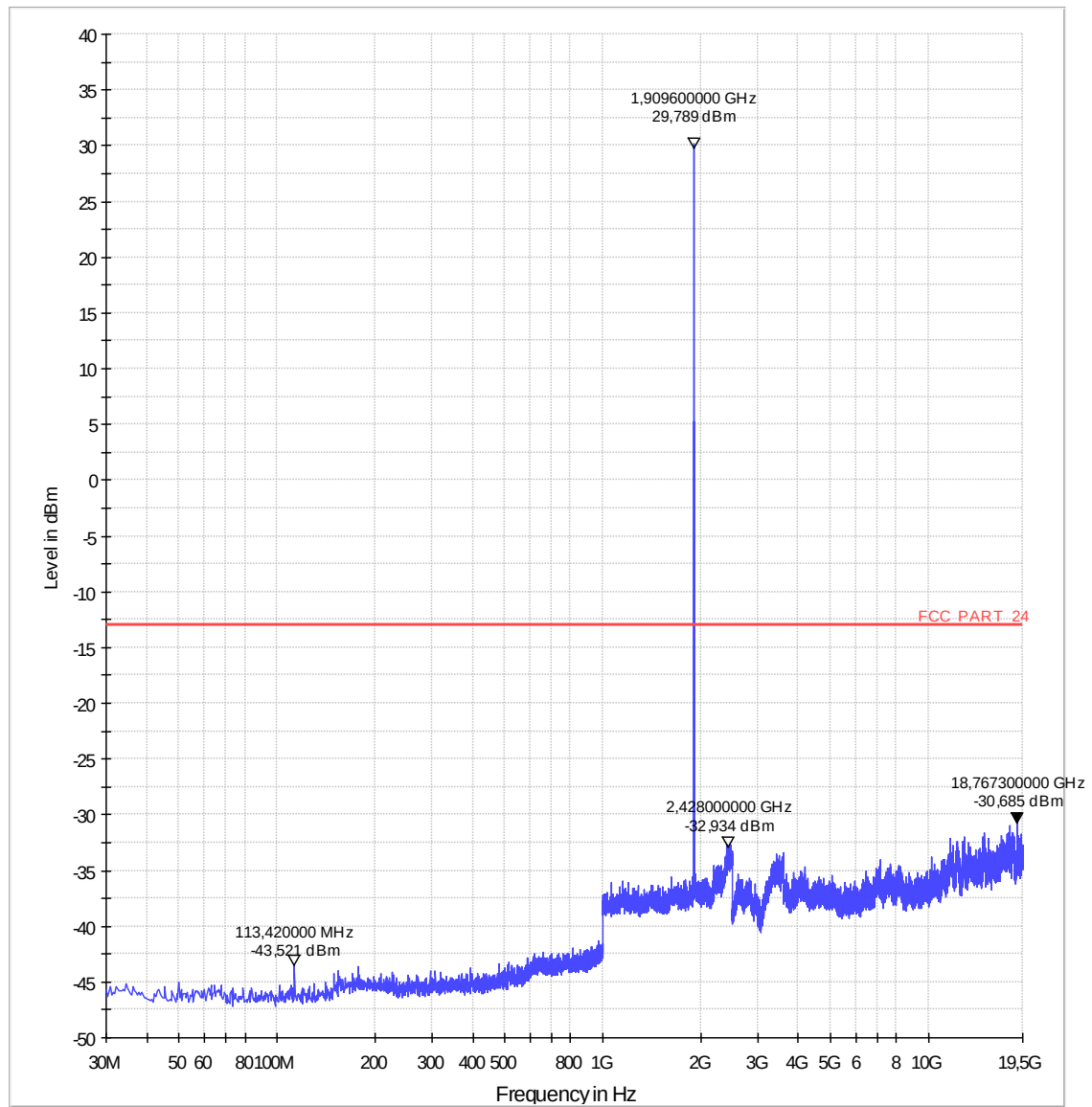


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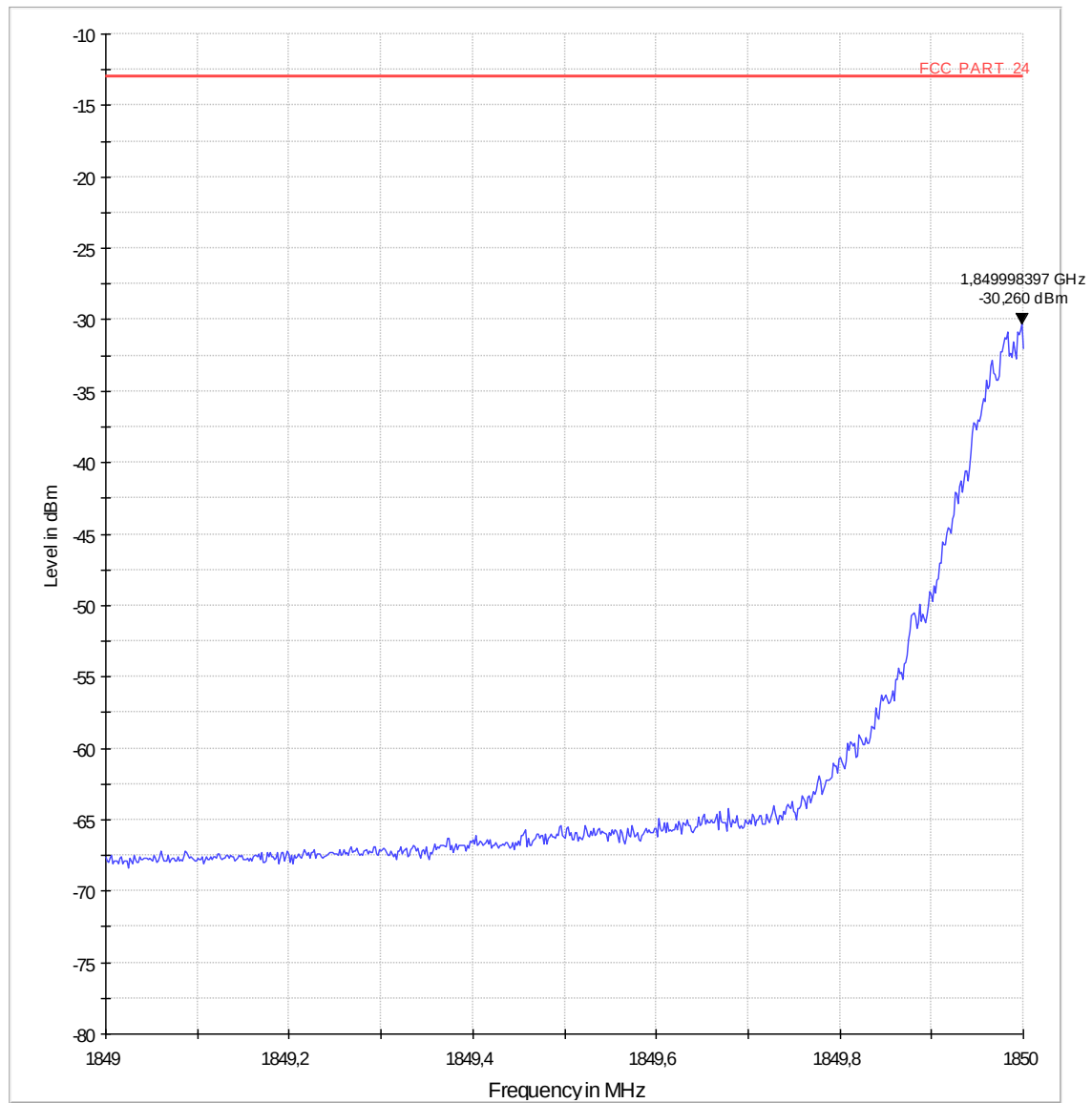
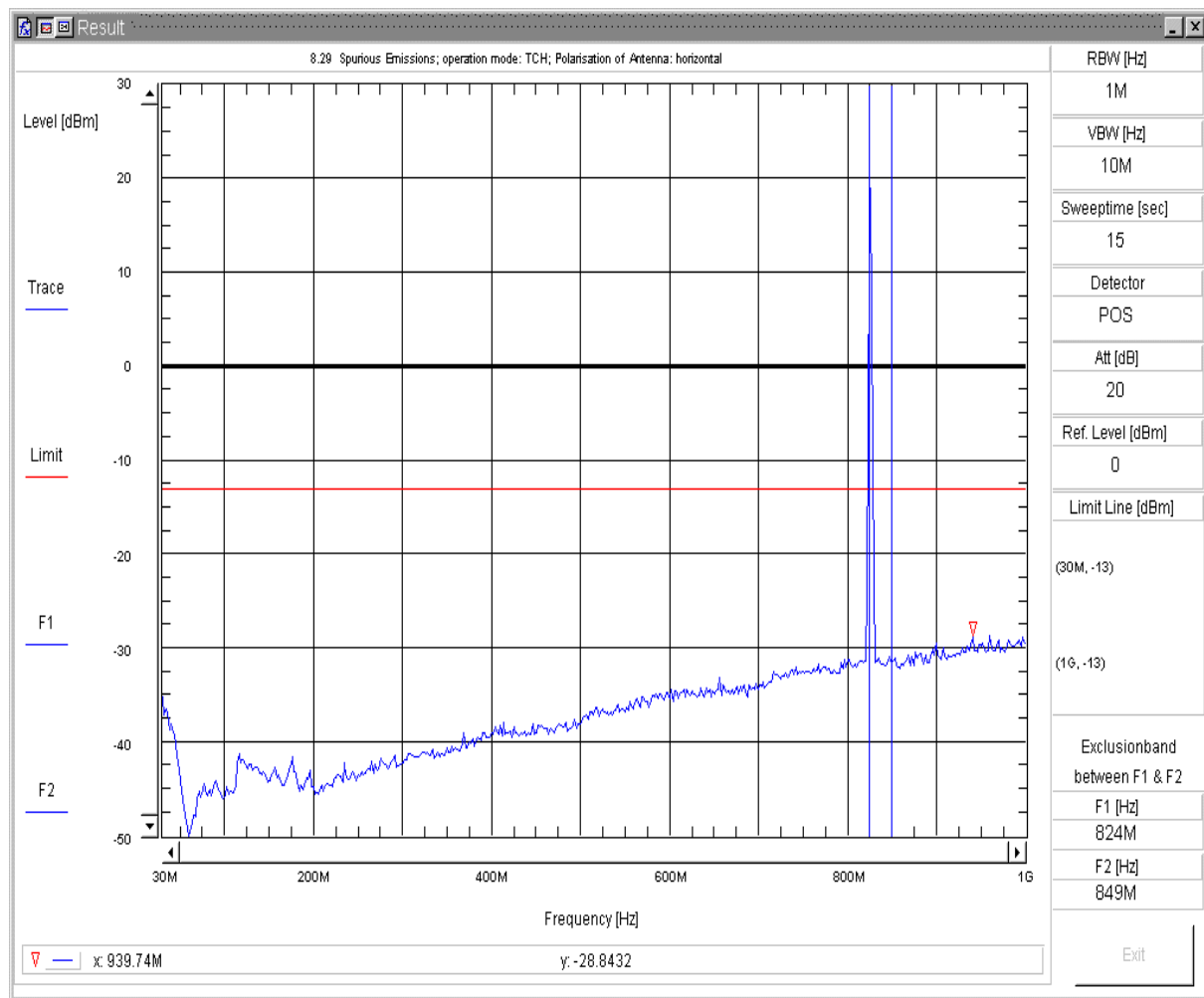


Diagram no. 14.16b (Channel 810)



1.5. Spurious emissions radiated – GSM850 Mode

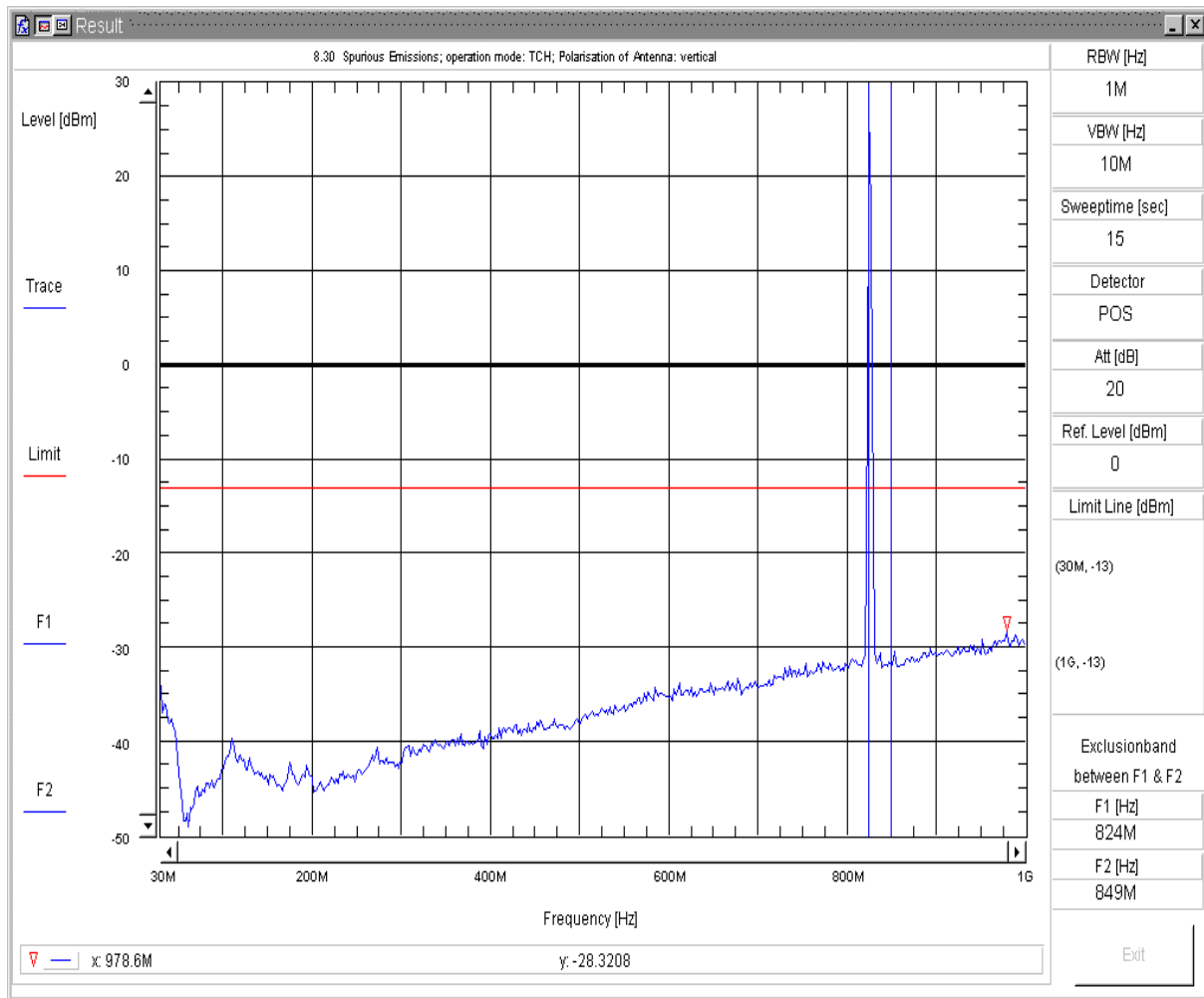


8.29 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep1
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 128
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 15:21:47pff

Spurious Emissions V7.2.5

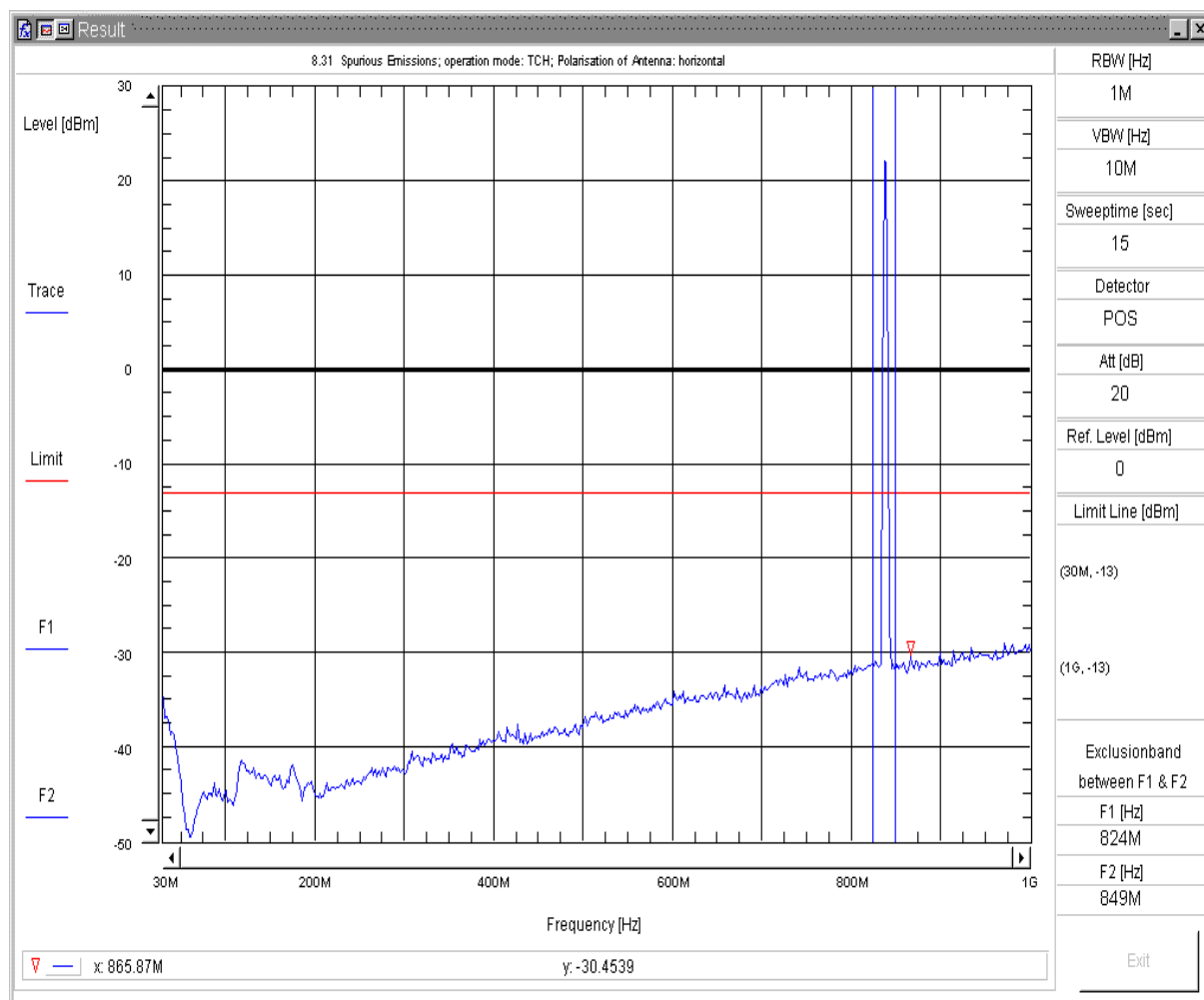


8.30 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V
 Sweepnr: Sweep1
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 128
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 15:27:09ppf

Spurious Emissions V7.2.5

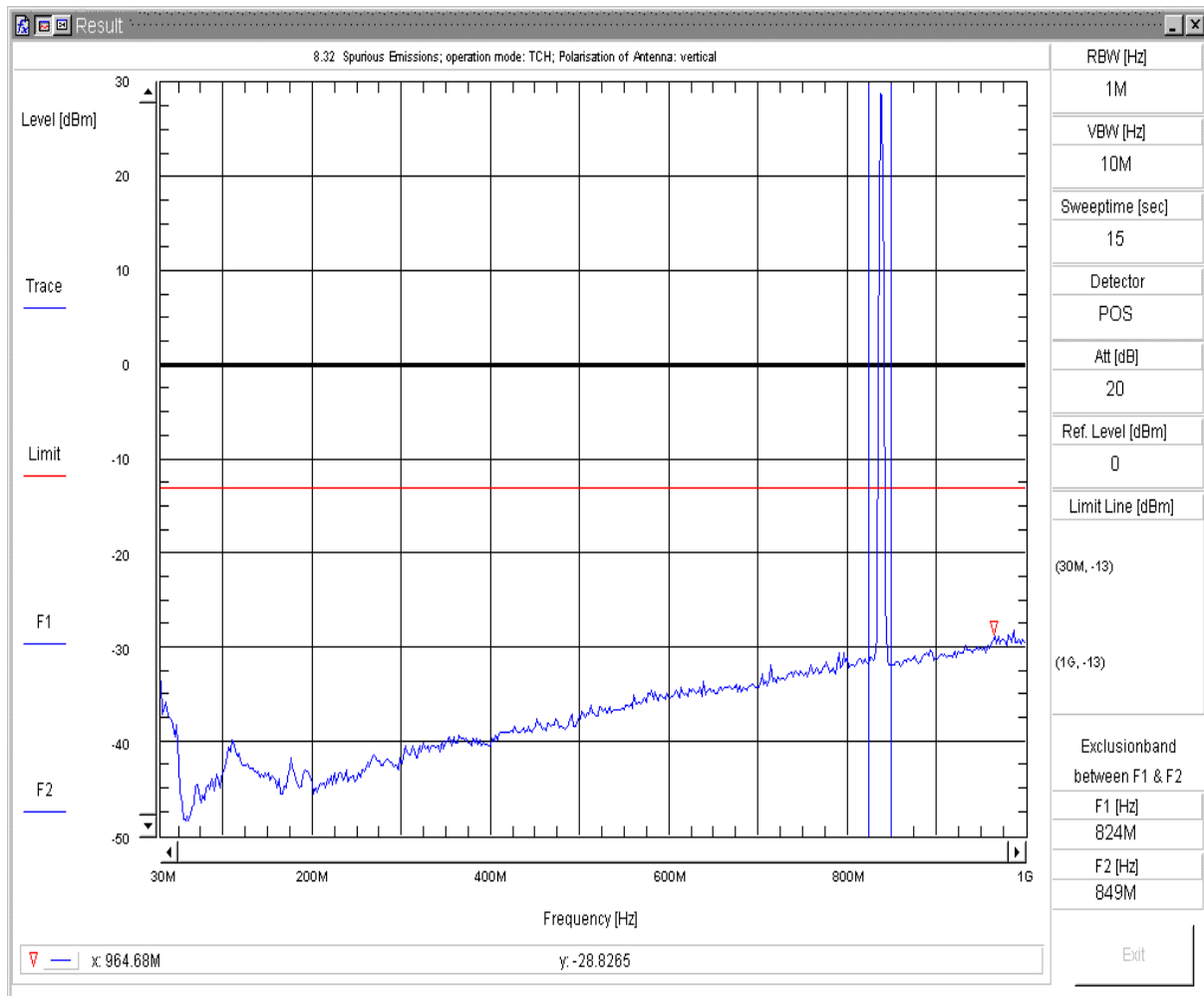


8.31 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep1
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 192
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 16:50:41pff

Spurious Emissions V7.2.5

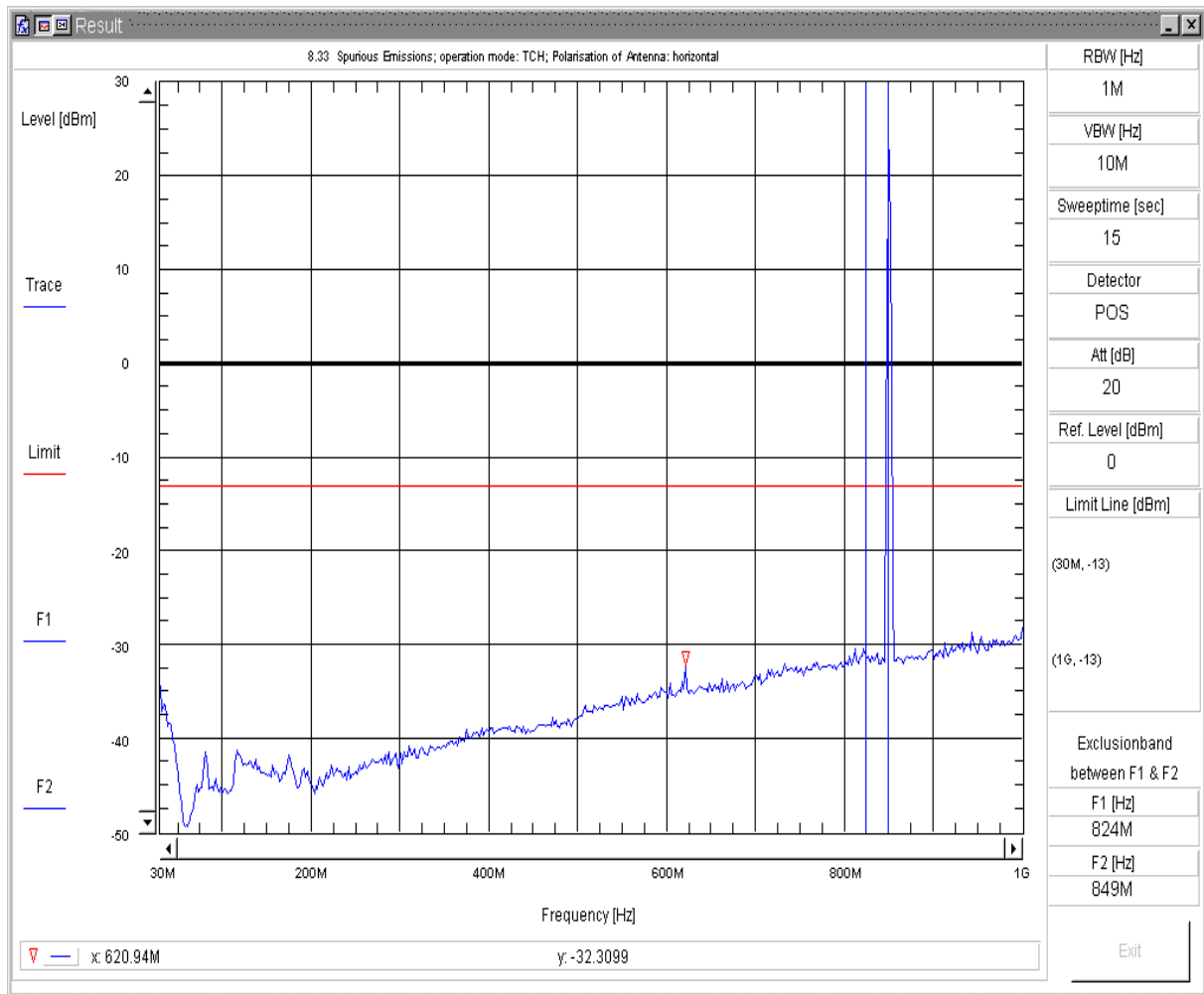


8.32 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V
 Sweepnr: Sweep1
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 192
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 16:57:37ppf

Spurious Emissions V7.2.5

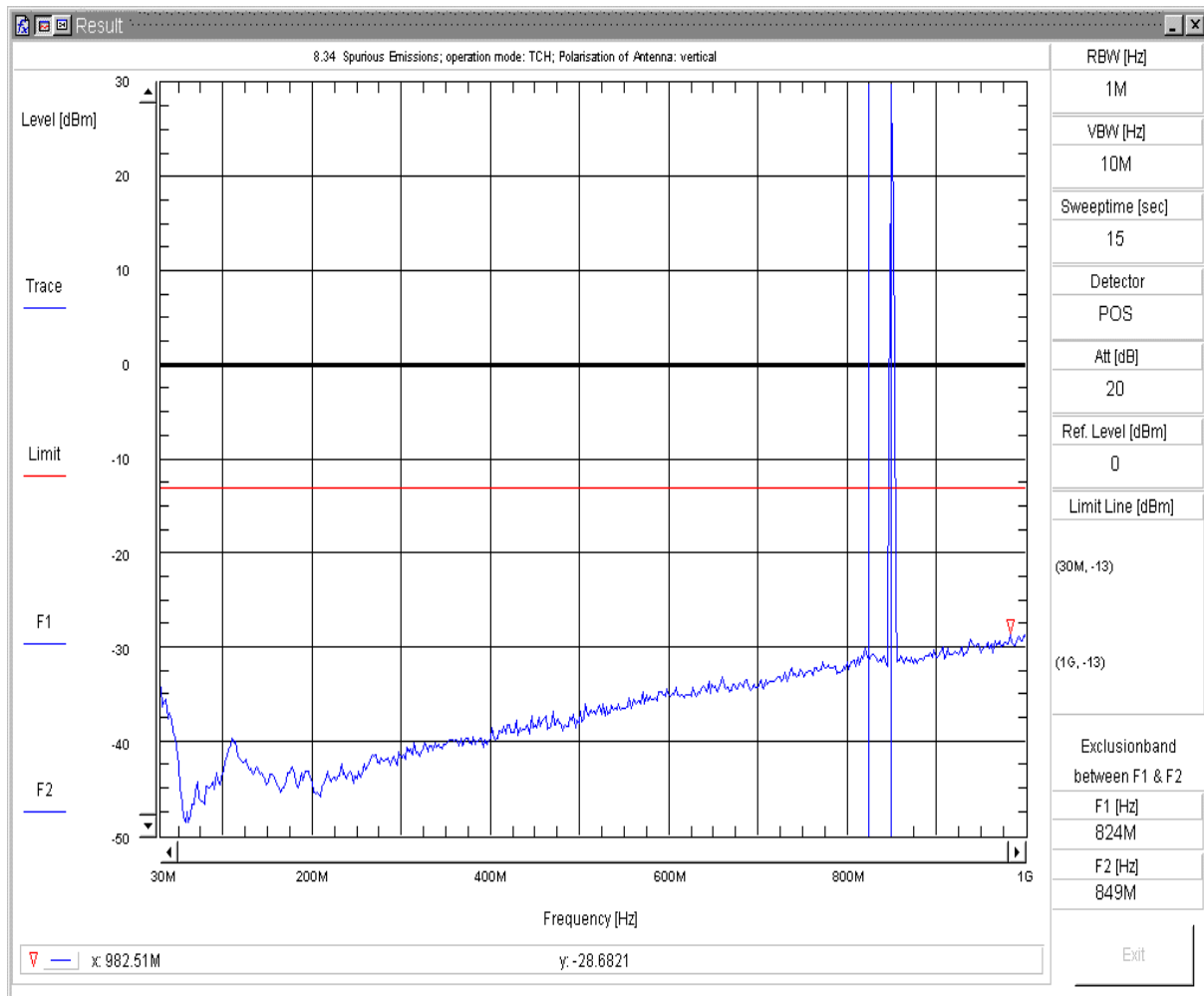


8.33 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep1
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 251
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 17:07:36pff

Spurious Emissions V7.2.5

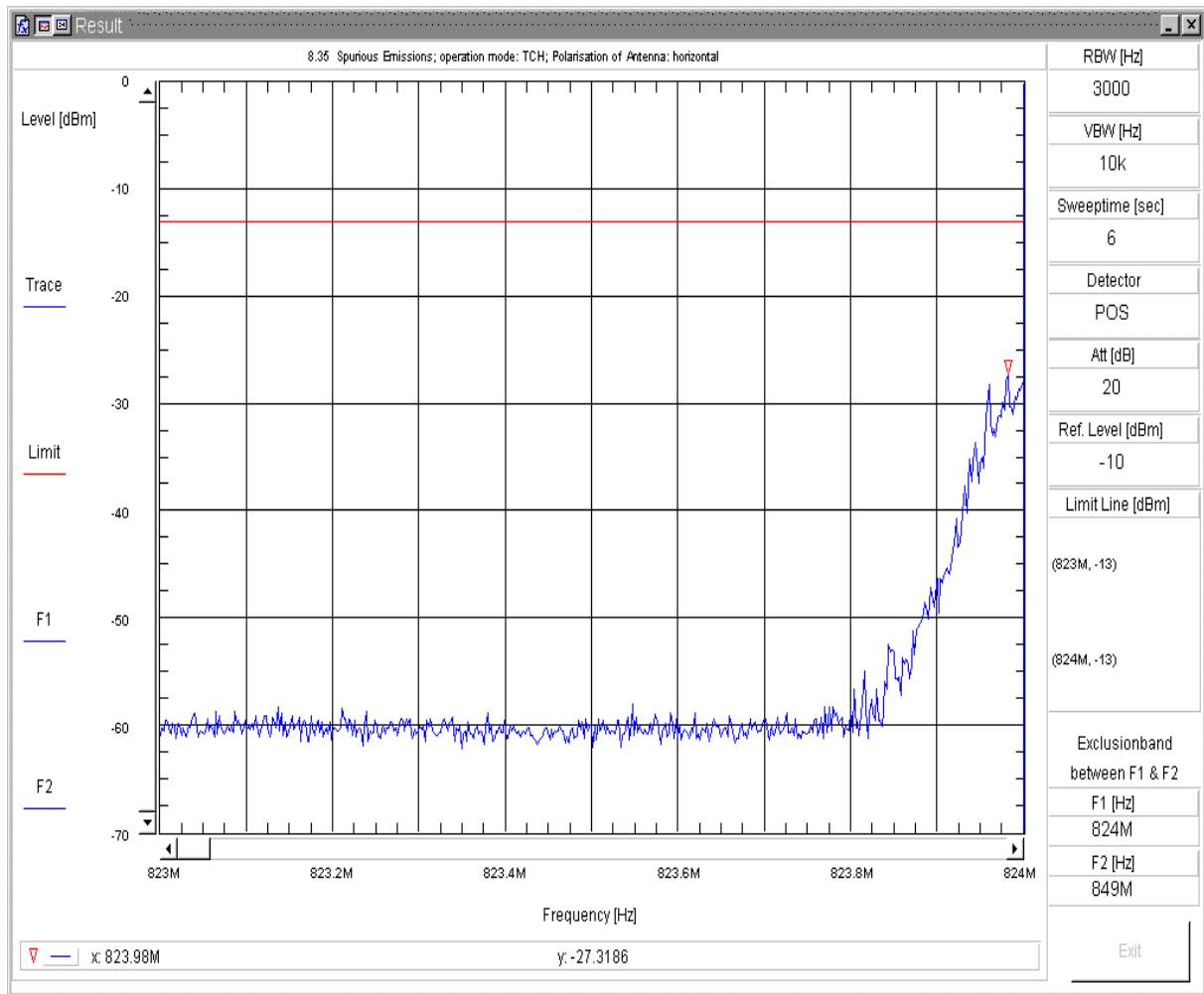


8.34 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V
 Sweepnr: Sweep1
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 251
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 17:03:23ppf

Spurious Emissions V7.2.5

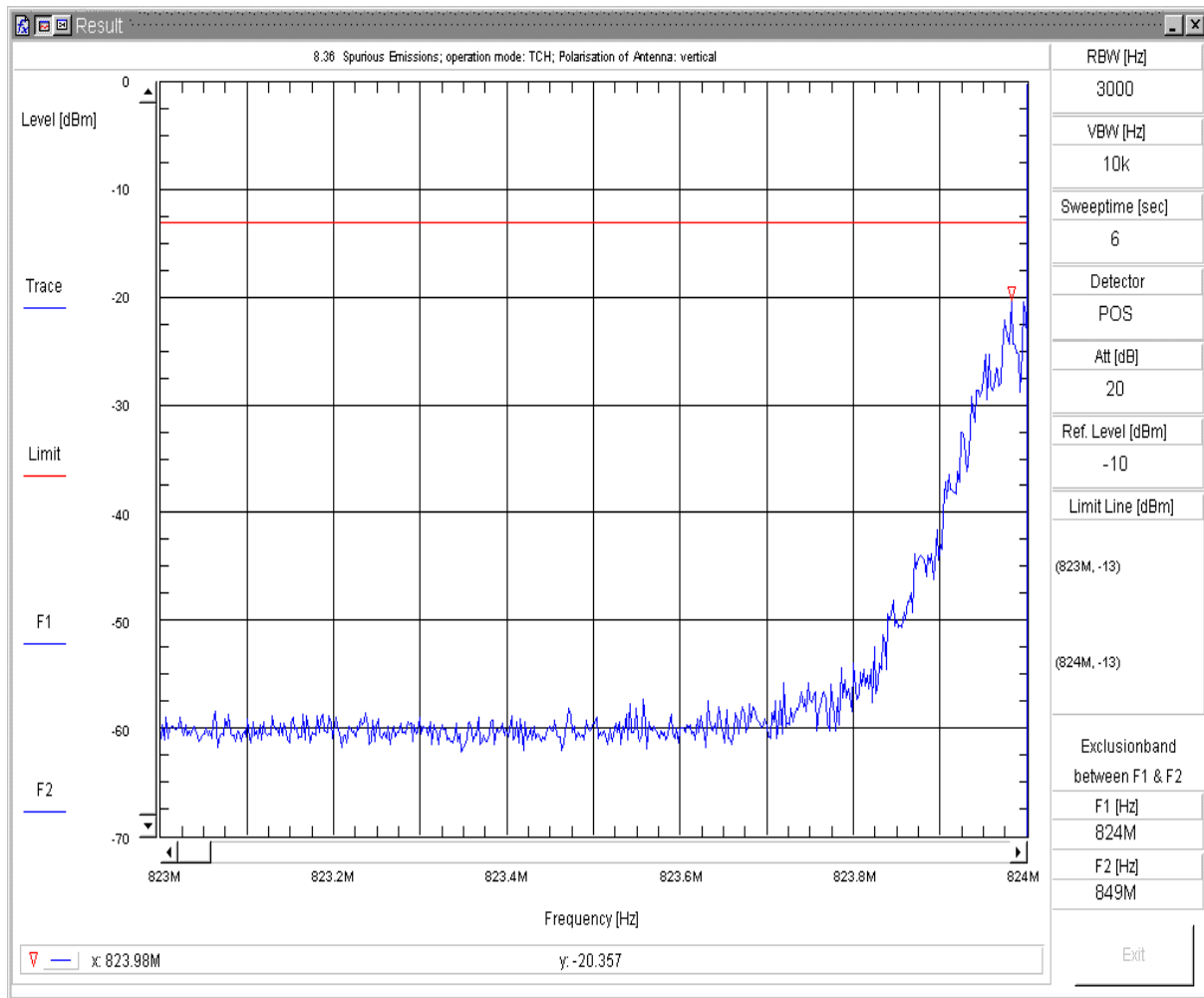


8.35 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep2
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 128
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 15:36:05pff

Spurious Emissions V7.2.5

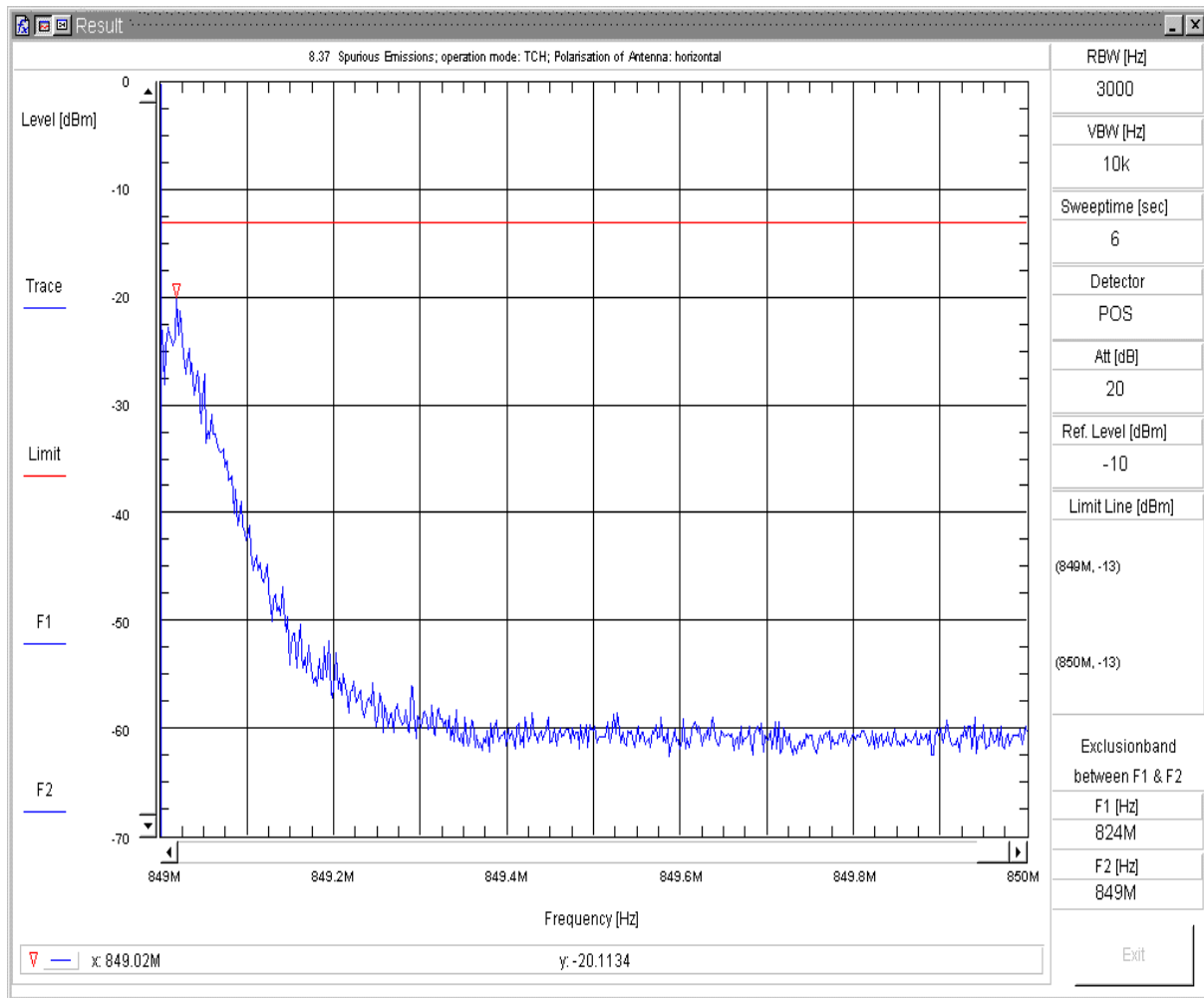


8.36 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V
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 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 128
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 15:32:23ppf

Spurious Emissions V7.2.5

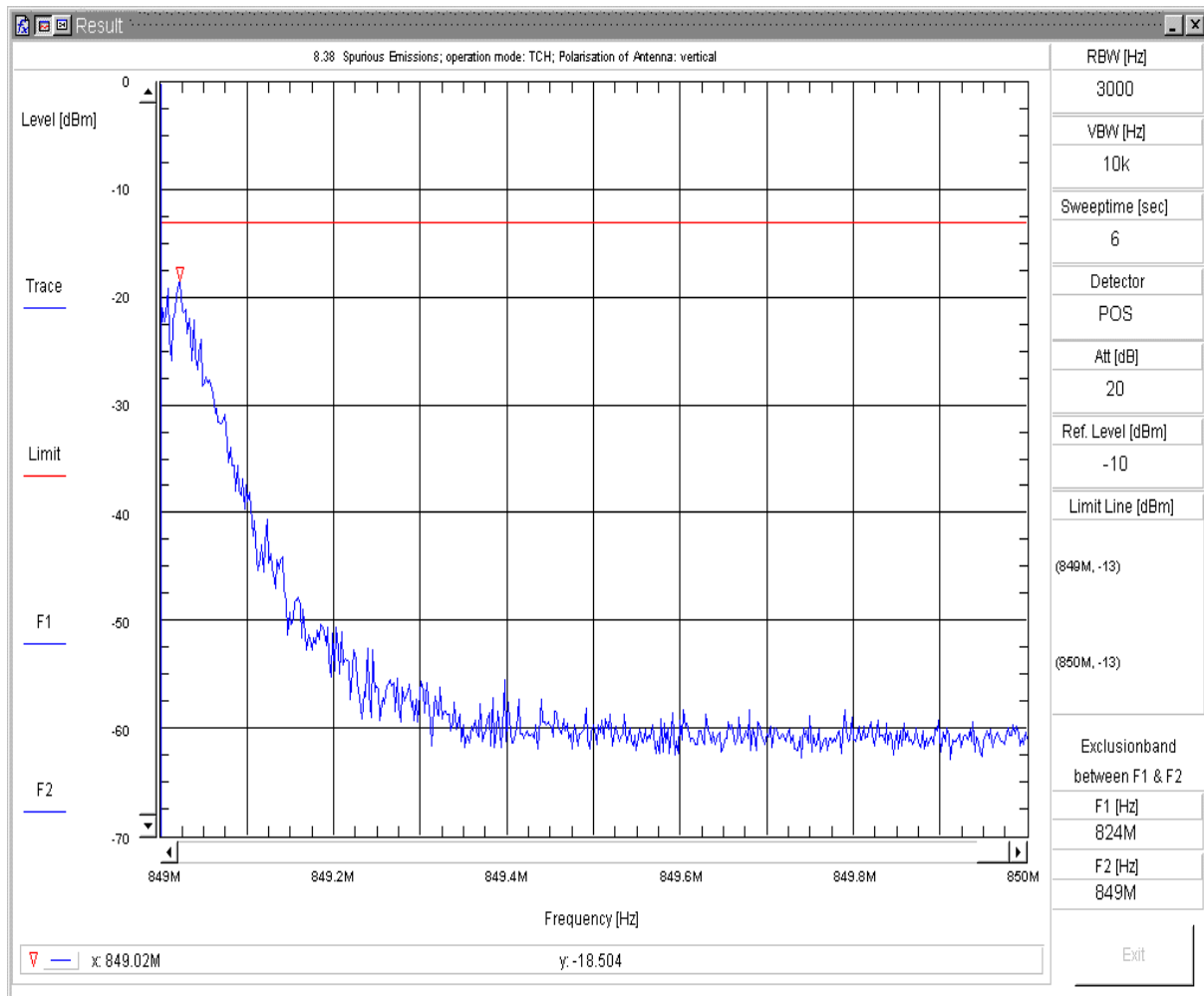


8.37 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep3
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 251
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 17:11:56pff

Spurious Emissions V7.2.5



8.38 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V

Sweepnr: Sweep3

Pol. of Antenna: vertikal

EUT Position: EUT_vertical+horizontal

EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH

EUT Description: BGS2-W GSM Module

EUT add. Info:

EUT Hardware: B2

EUT Software:

EUT Config:

EUT S/N: 00440108048446800

Battery: Power Supply (external); Maximum Voltage; 4.5 VDC

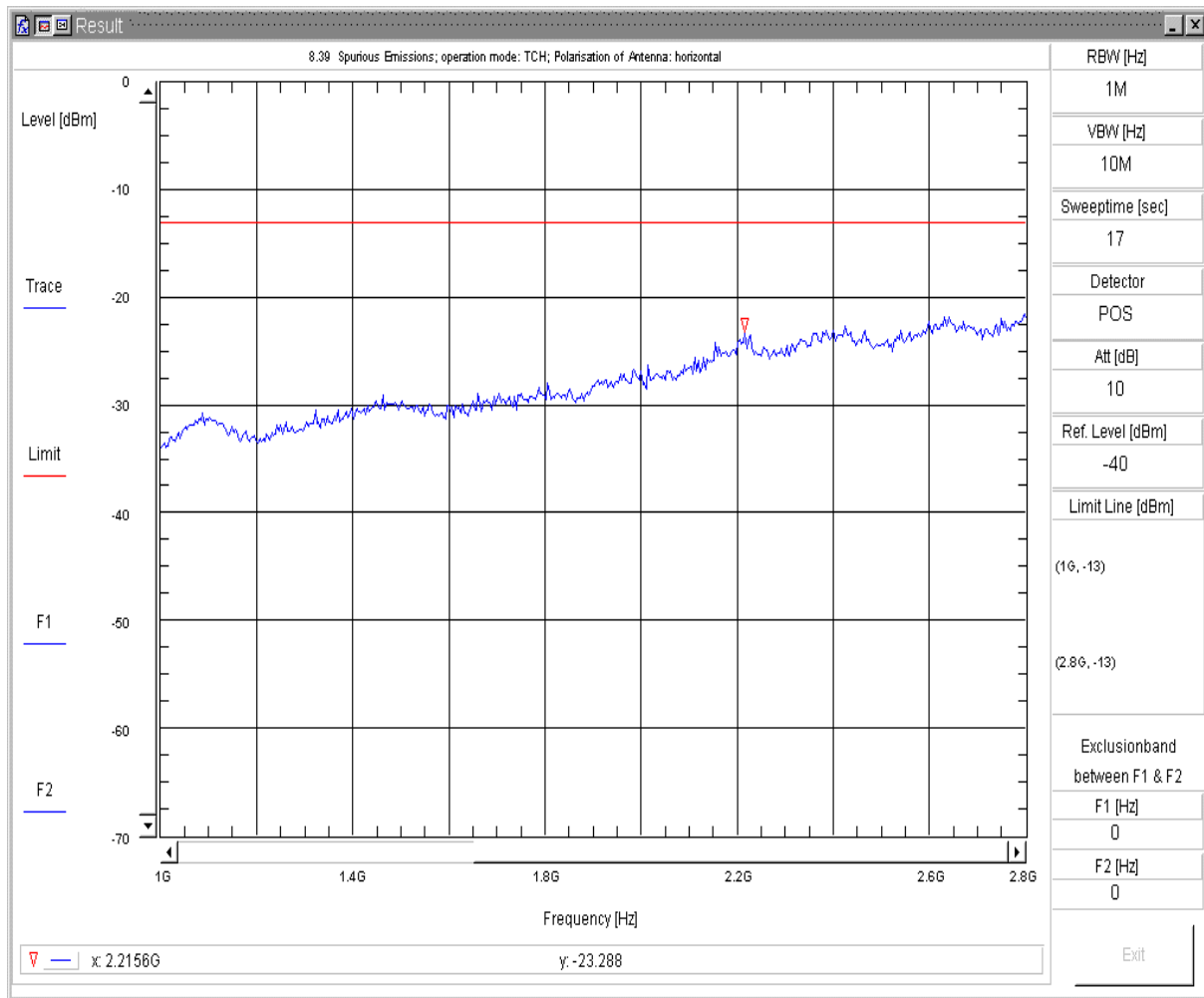
Remark: ARFCN 251

Operator: Tas

Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 17:15:06ppf

Spurious Emissions V7.2.5

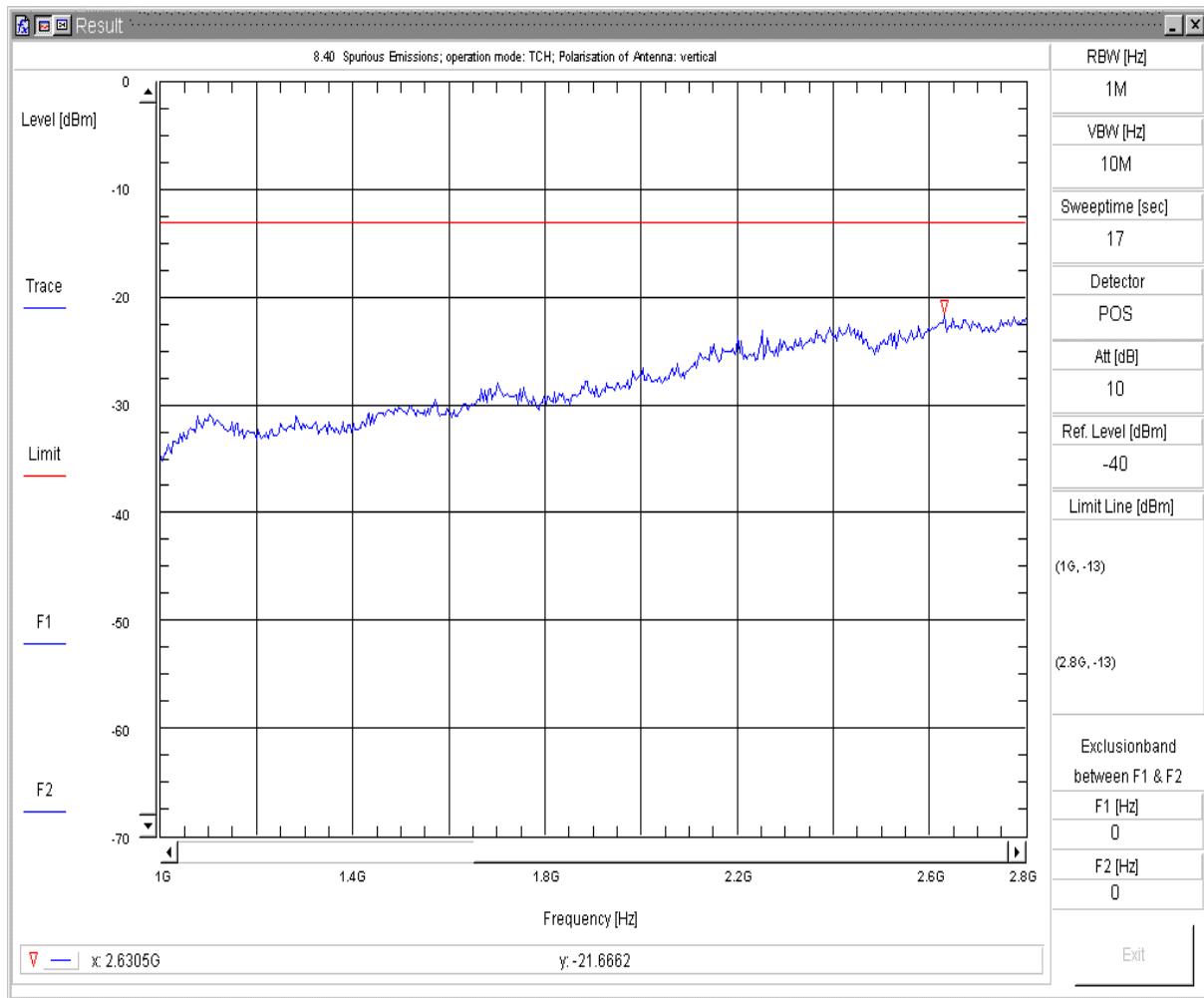


8.39 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep4
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 128
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 15:40:23fp

Spurious Emissions V7.2.5

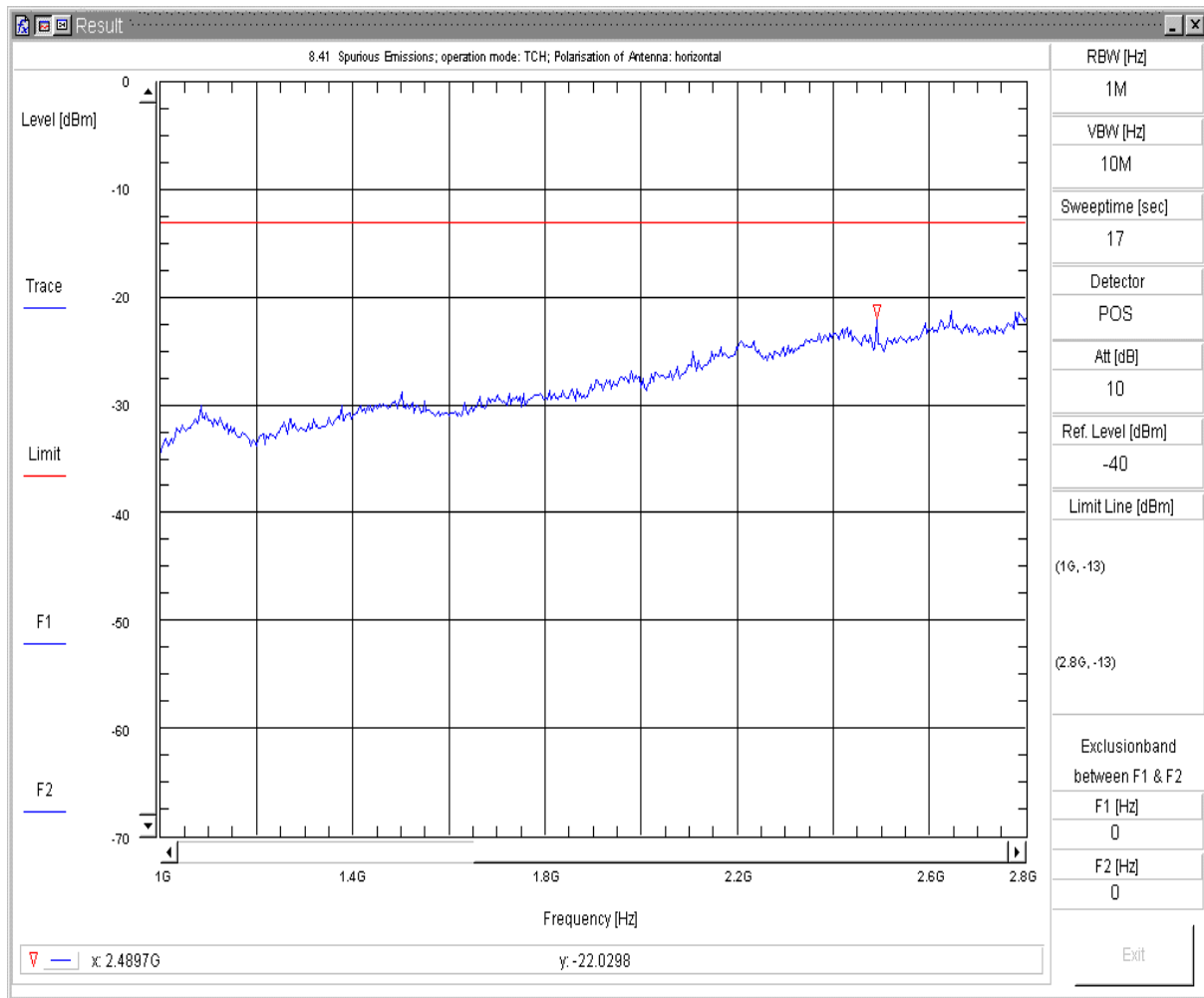


8.40 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V
 Sweepnr: Sweep4
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 128
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 15:48:00pp

Spurious Emissions V7.2.5

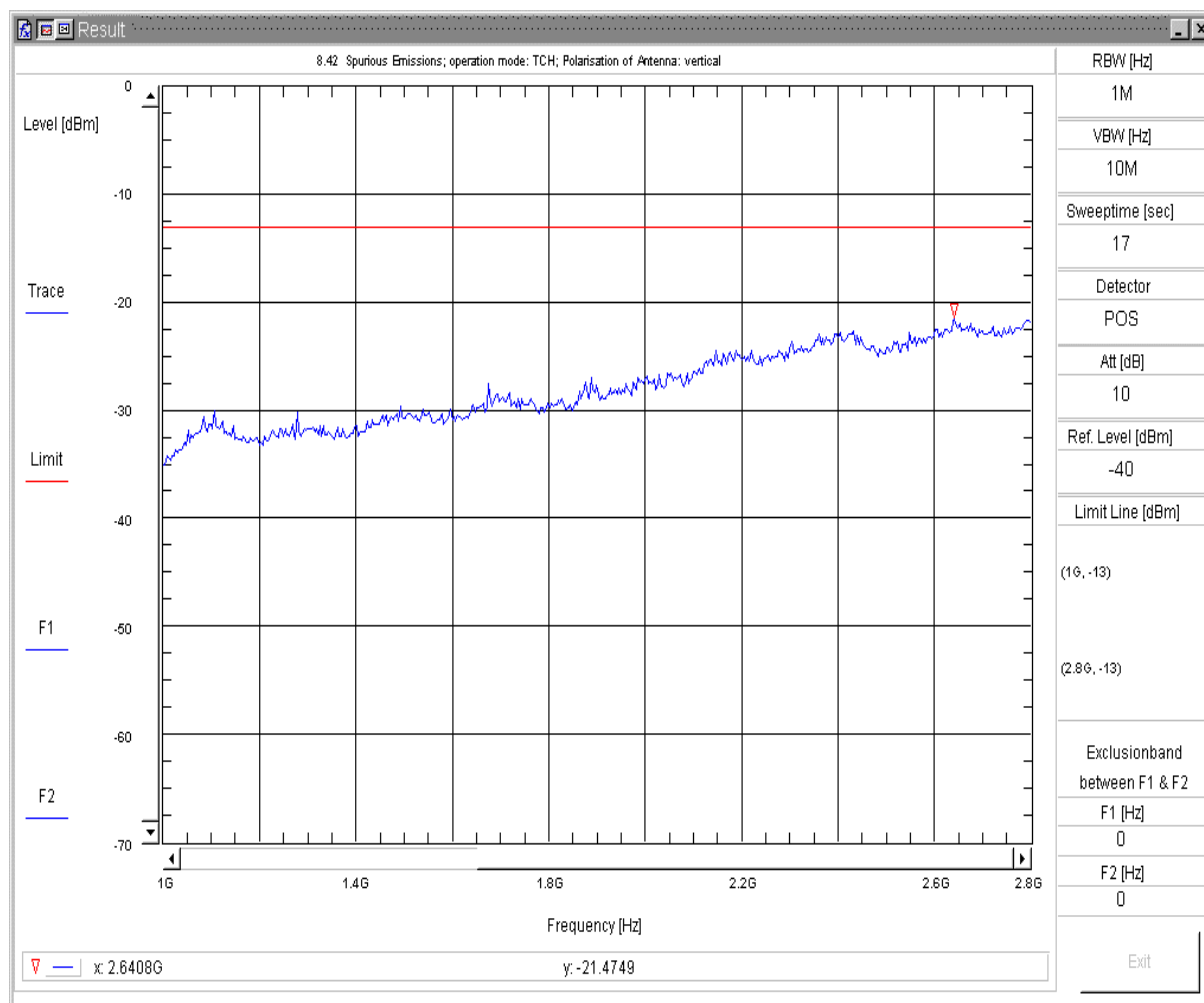


8.41 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep4
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 192
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 16:42:52fp

Spurious Emissions V7.2.5

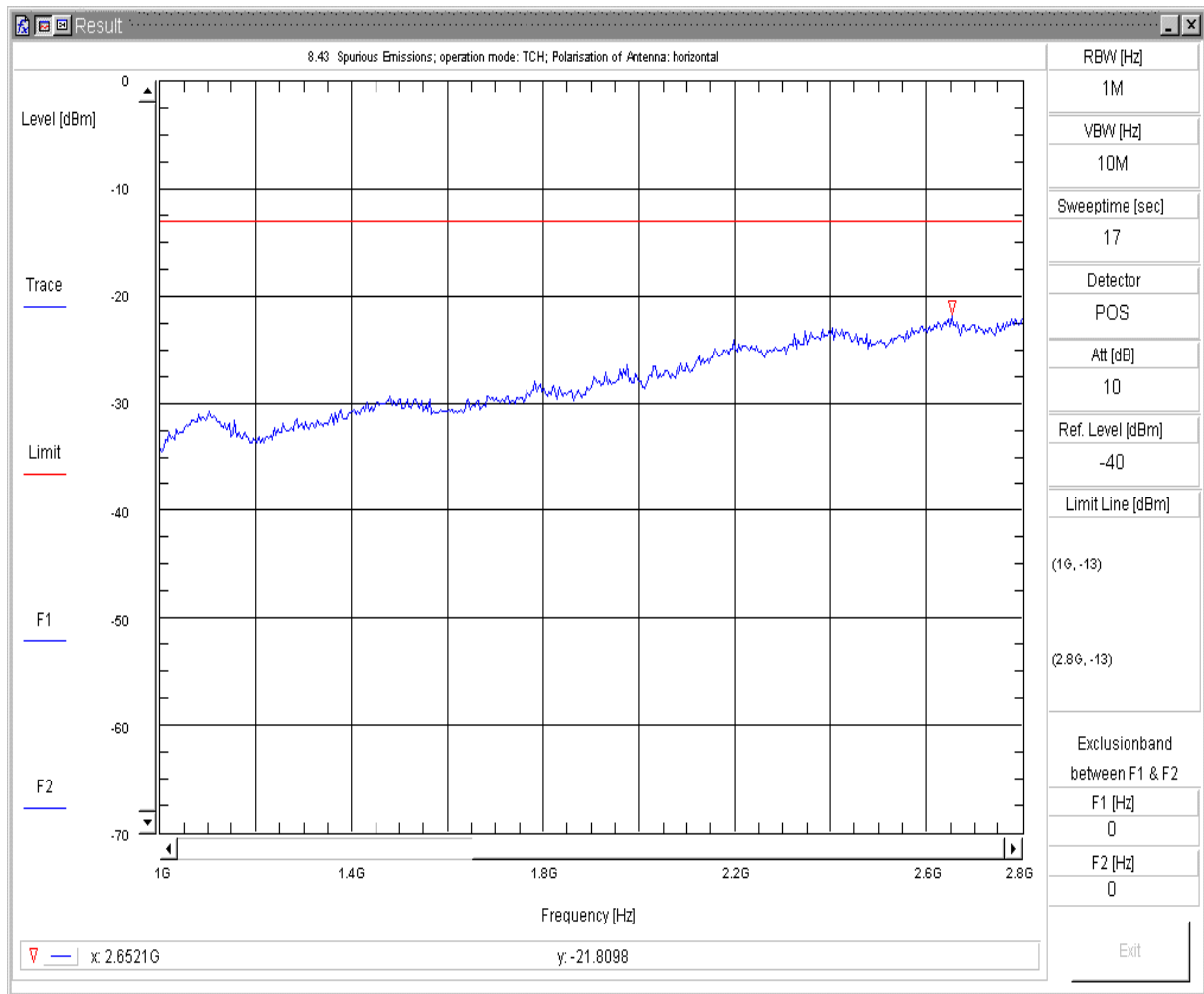


8.42 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V
 Sweepnr: Sweep4
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 192
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 16:35:46pp

Spurious Emissions V7.2.5

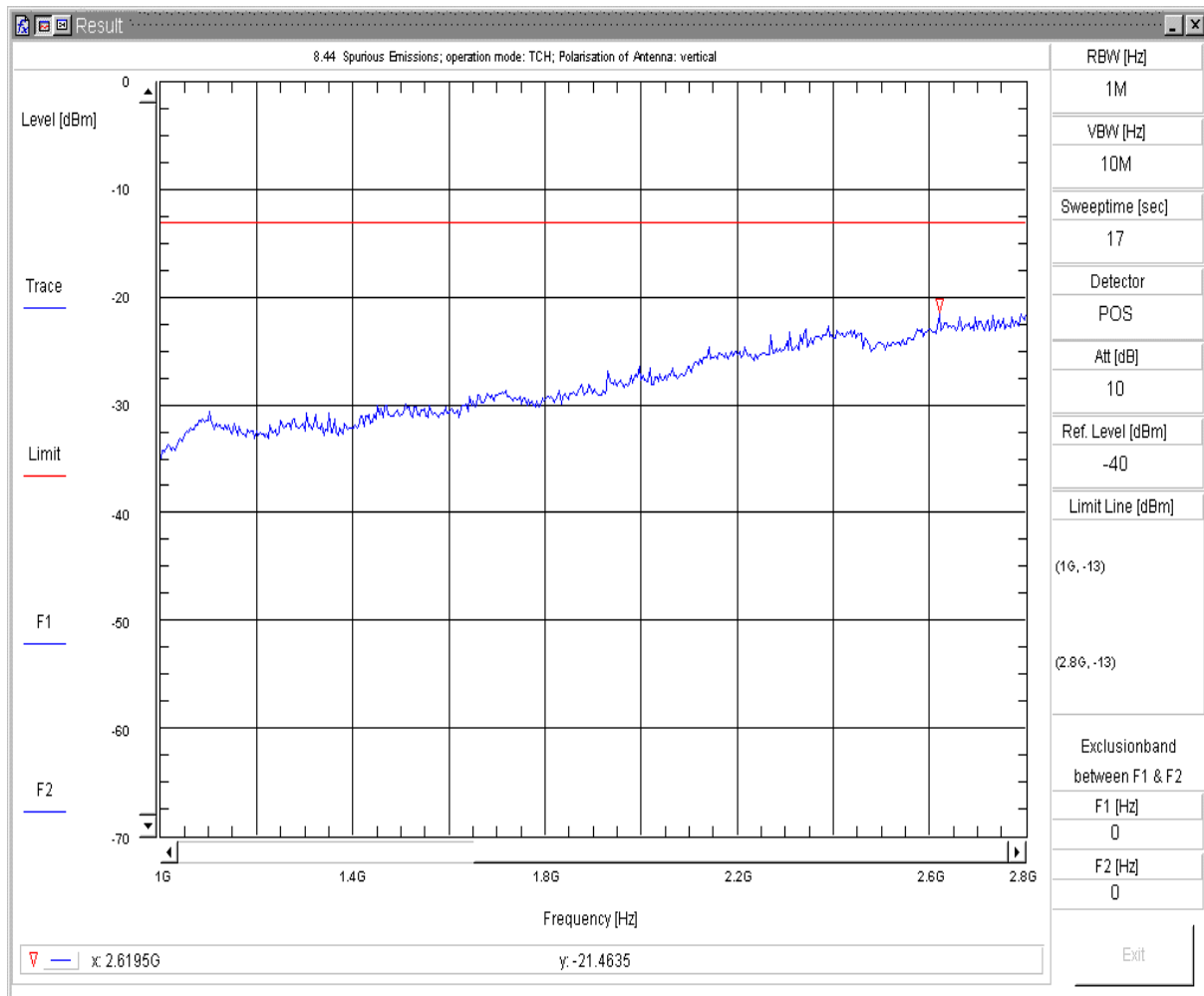


8.43 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep4
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 251
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 17:25:13fp

Spurious Emissions V7.2.5

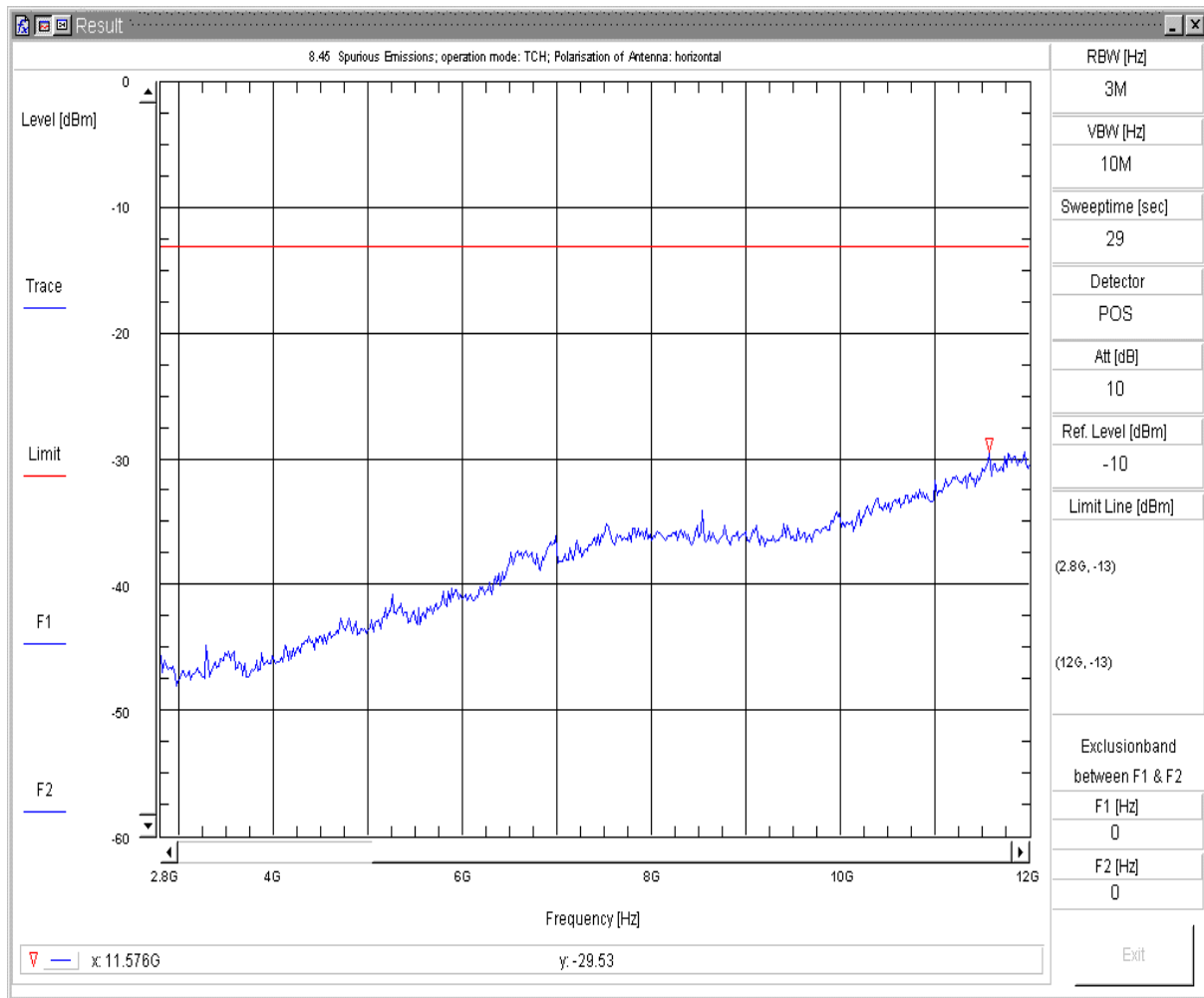


8.44 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V
 Sweepnr: Sweep4
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 251
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 17:18:24pp

Spurious Emissions V7.2.5

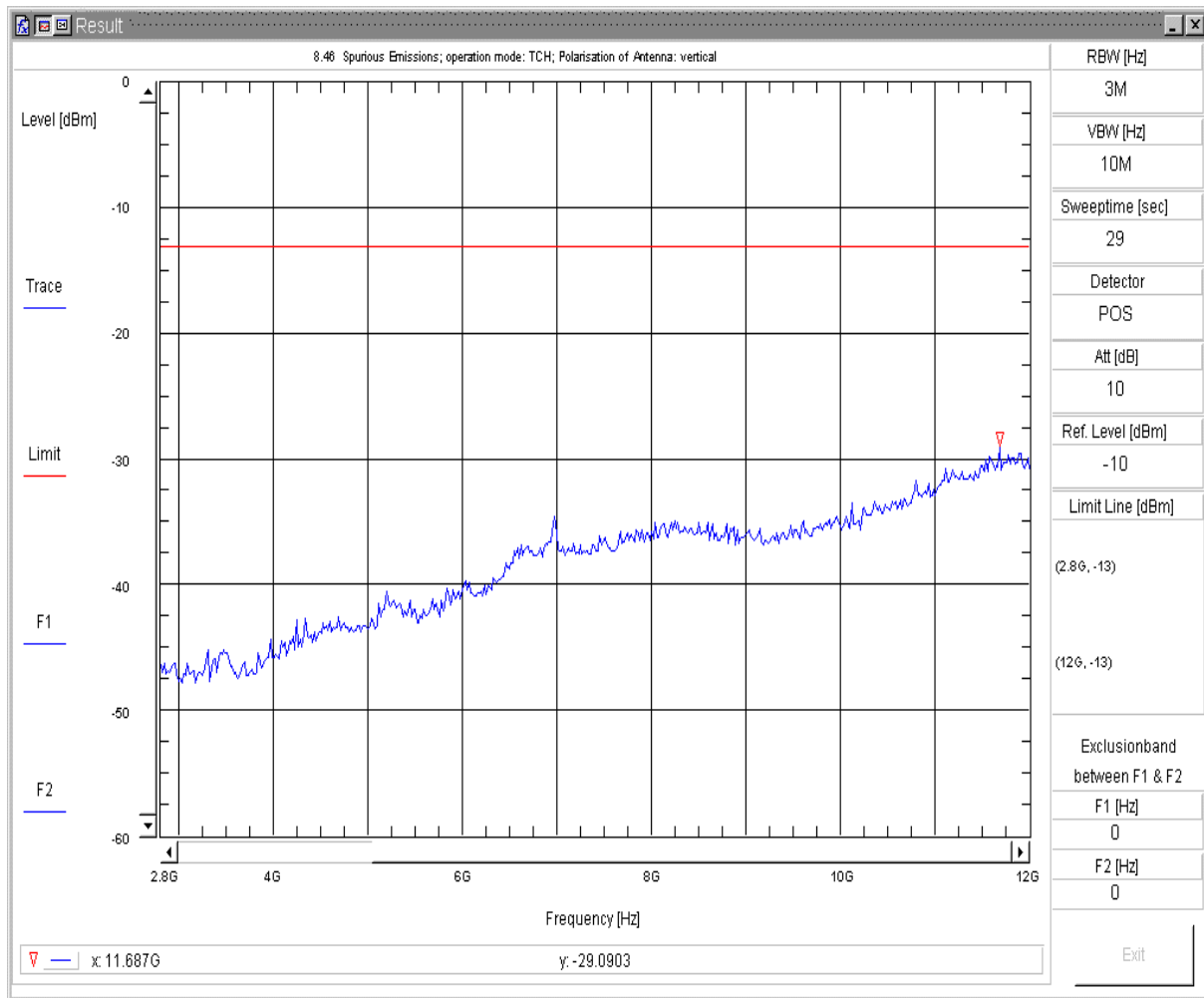


8.45 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep5
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 128
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 16:05:15pf

Spurious Emissions V7.2.5

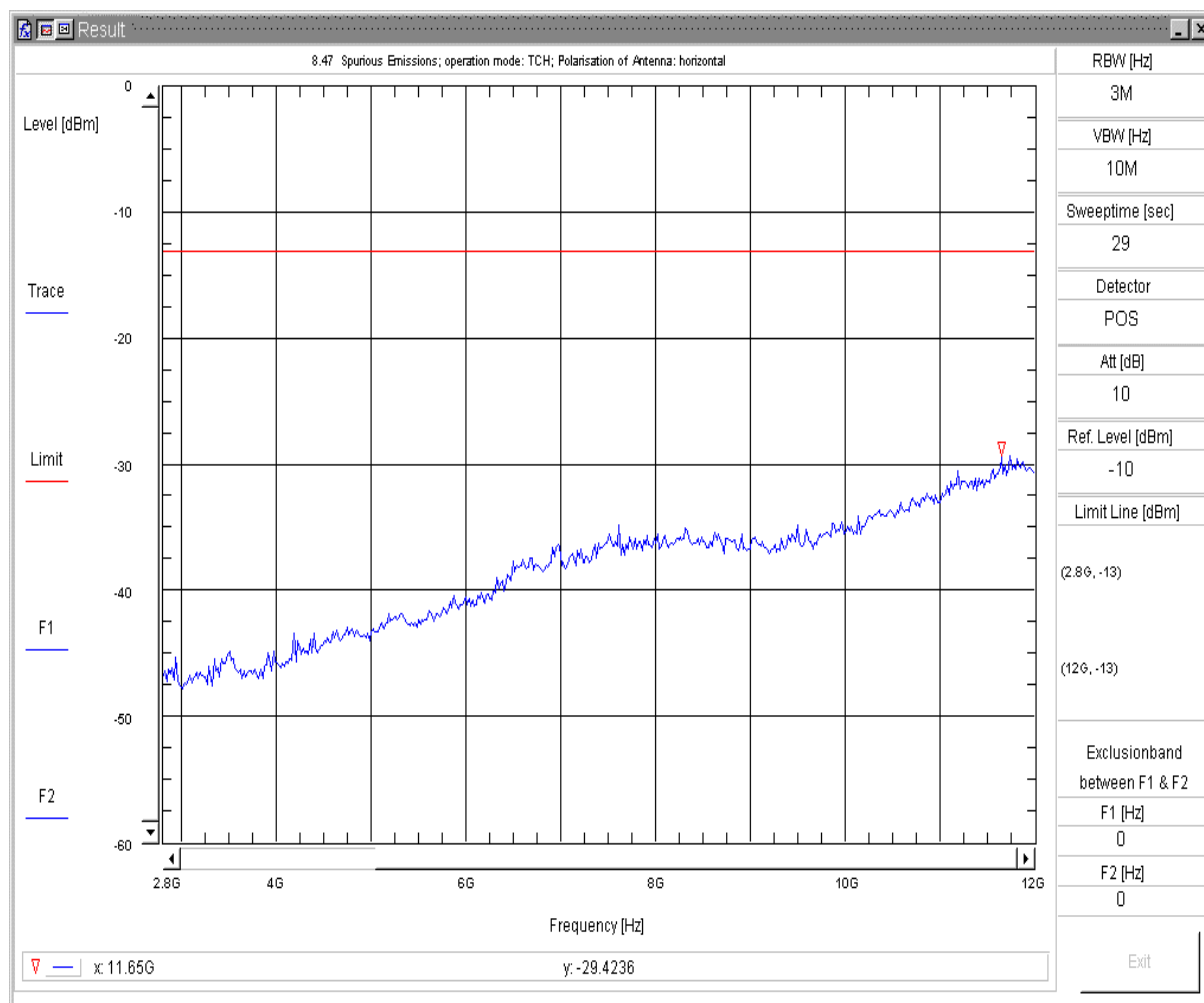


8.46 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V
 Sweepnr: Sweep5
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 128
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 15:55:25fp

Spurious Emissions V7.2.5

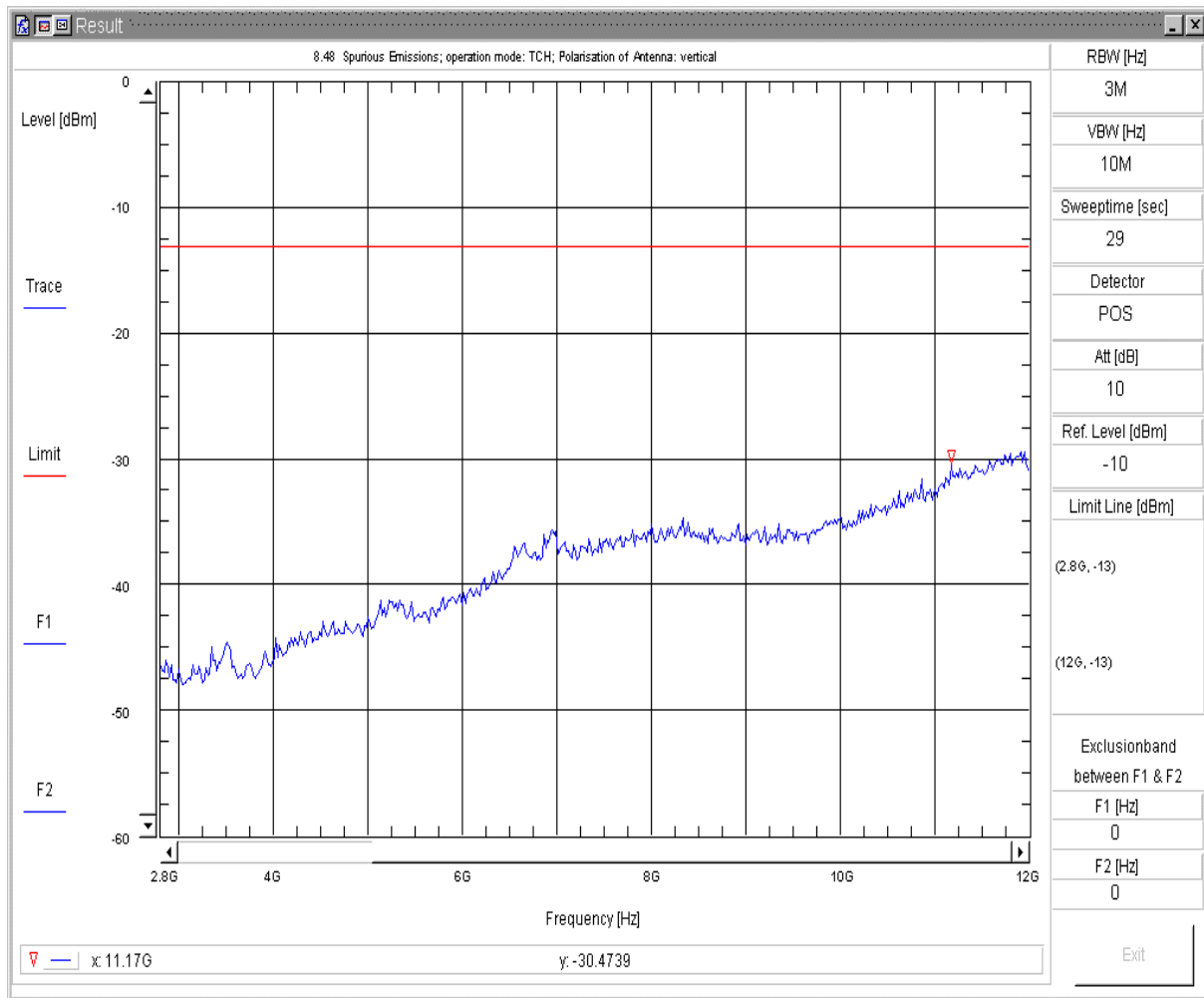


8.47 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep5
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 192
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 16:15:56pp

Spurious Emissions V7.2.5

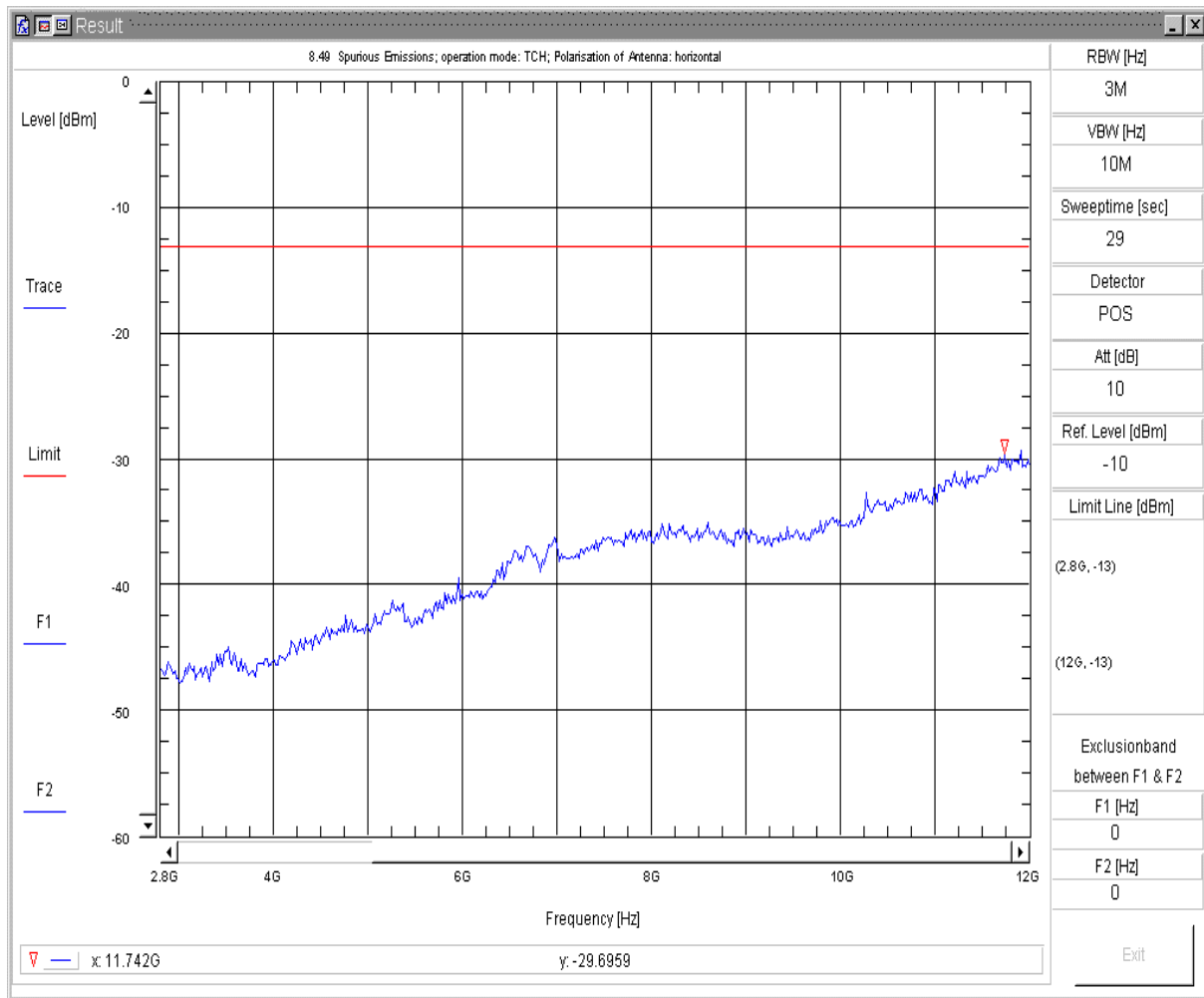


8.48 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V
 Sweepnr: Sweep5
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 192
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 16:25:32ff

Spurious Emissions V7.2.5

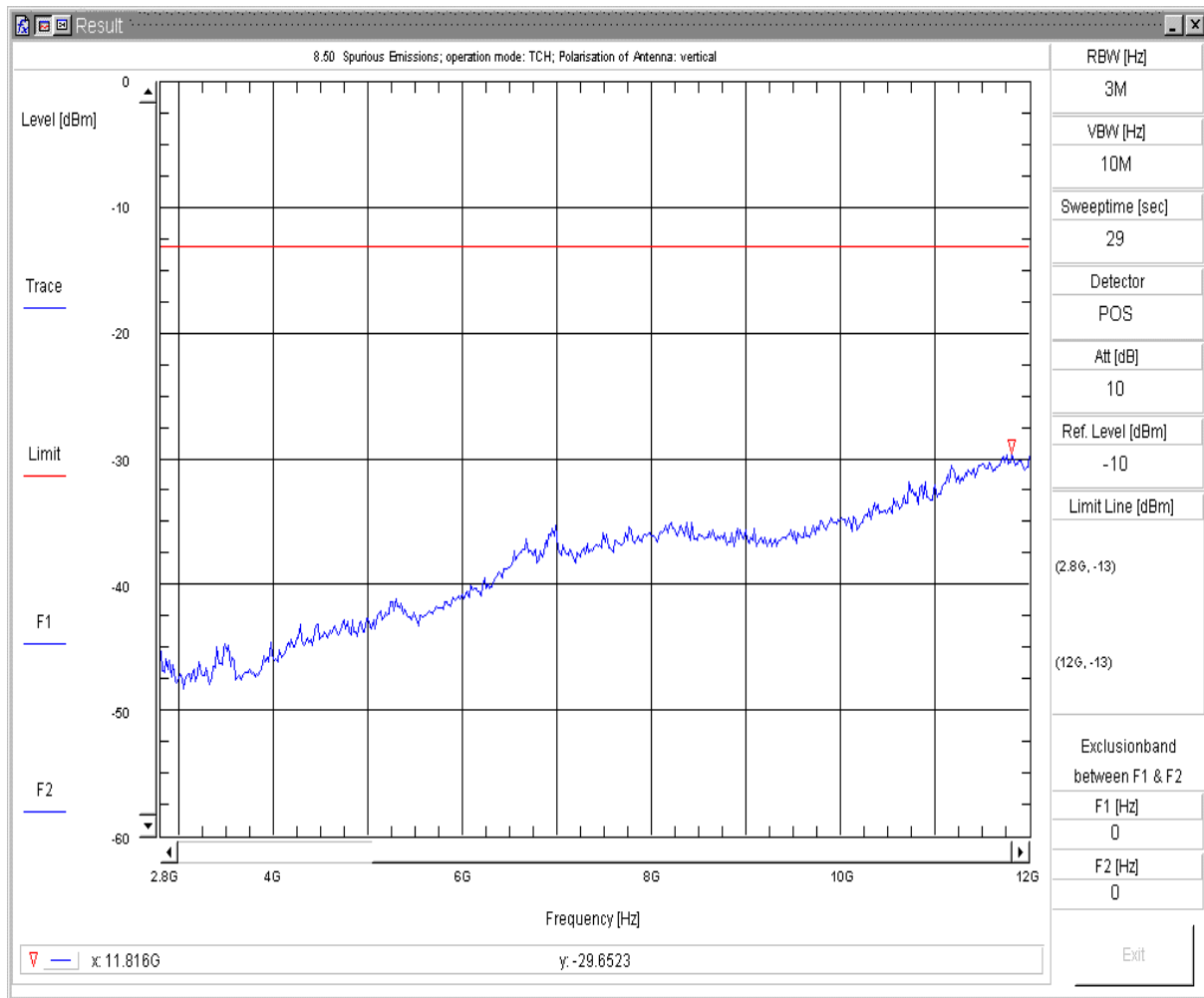


8.49 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_H
 Sweepnr: Sweep5
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 251
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 17:32:48pf

Spurious Emissions V7.2.5



8.50 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_22.917_(GSM_850)\TD_TX_V

Sweepnr: Sweep5

Pol. of Antenna: vertikal

EUT Position: EUT_vertical+horizontal

EUT OP Mode: FCC_Part_22.917_(GSM_850) TCH

EUT Description: BGS2-W GSM Module

EUT add. Info:

EUT Hardware: B2

EUT Software:

EUT Config:

EUT S/N: 00440108048446800

Battery: Power Supply (external); Maximum Voltage; 4.5 VDC

Remark: ARFCN 251

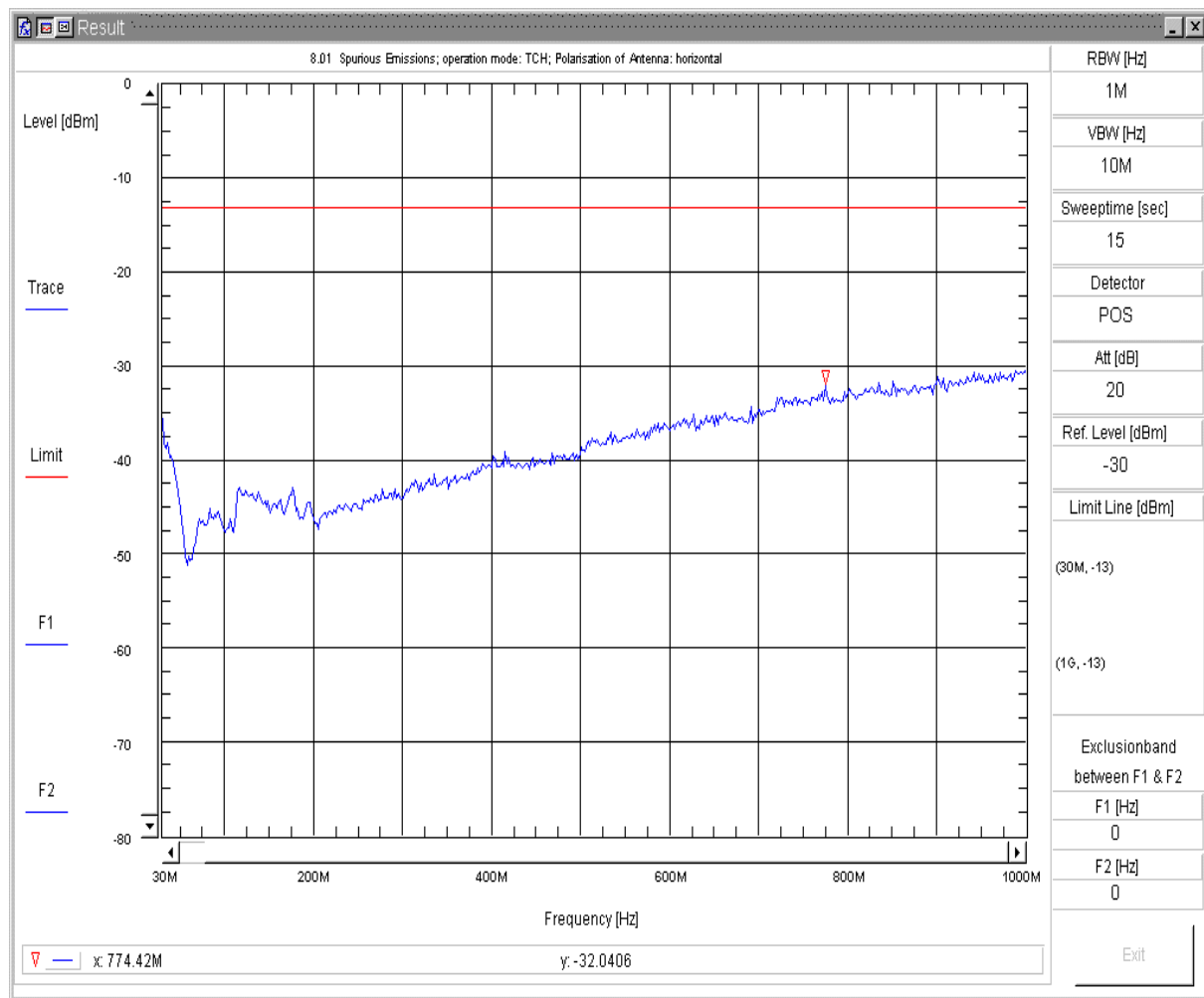
Operator: Tas

Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 17:42:37ff

Spurious Emissions V7.2.5

1.6. Spurious emissions radiated – GSM1900 Mode

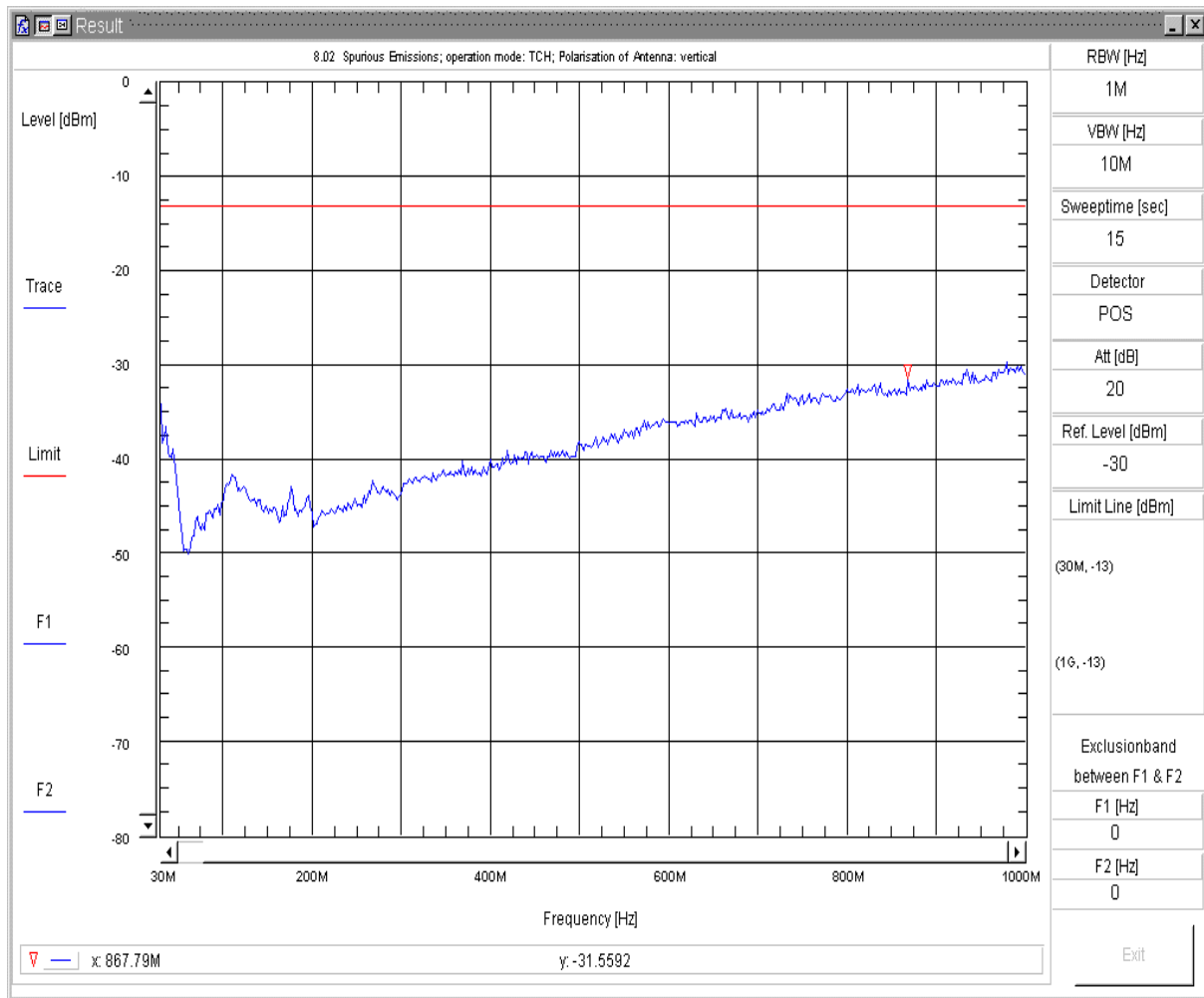


8.01 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep1
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 09:24:14pff

Spurious Emissions V7.2.5

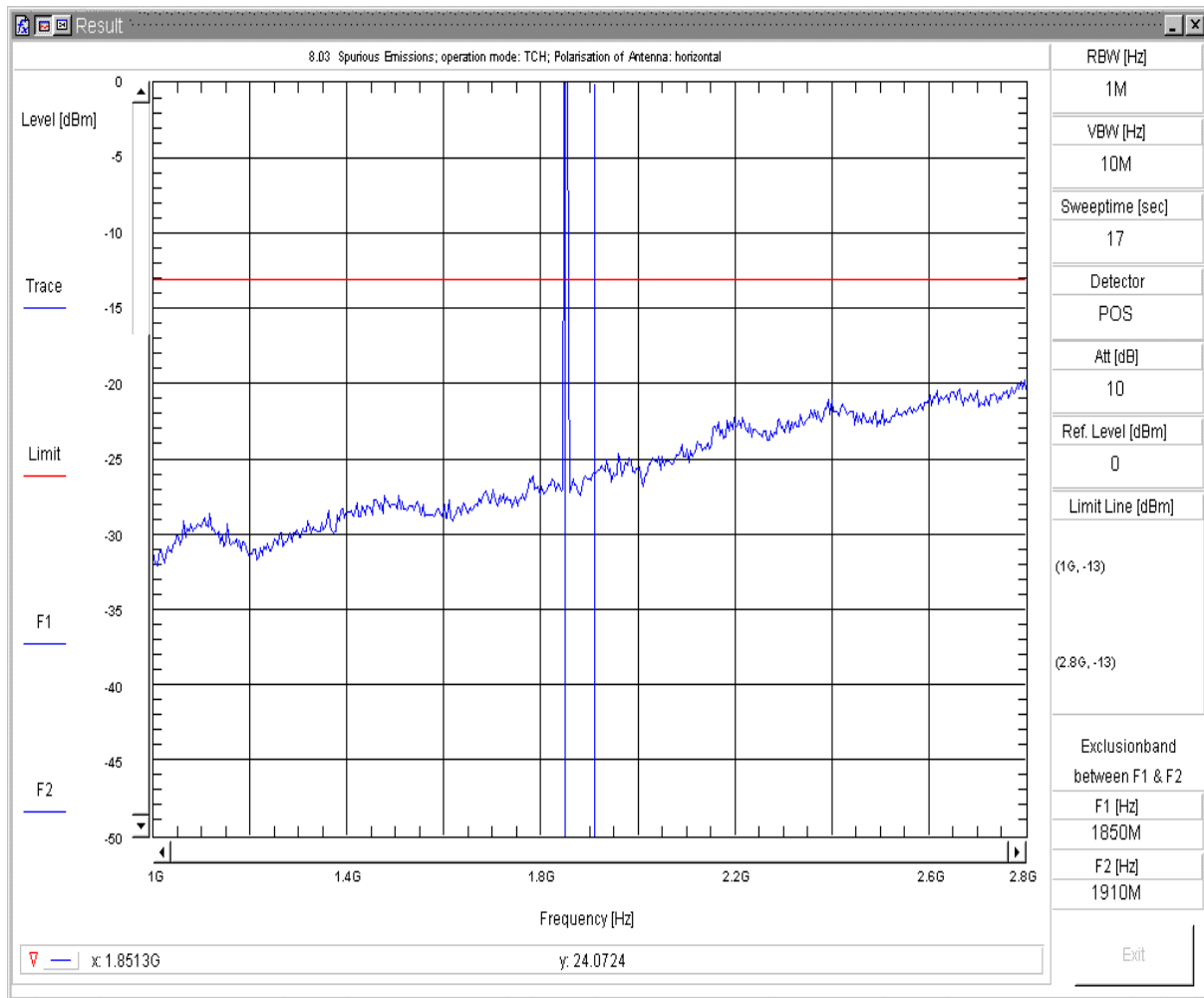


8.02 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep1
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 09:28:39ppf

Spurious Emissions V7.2.5

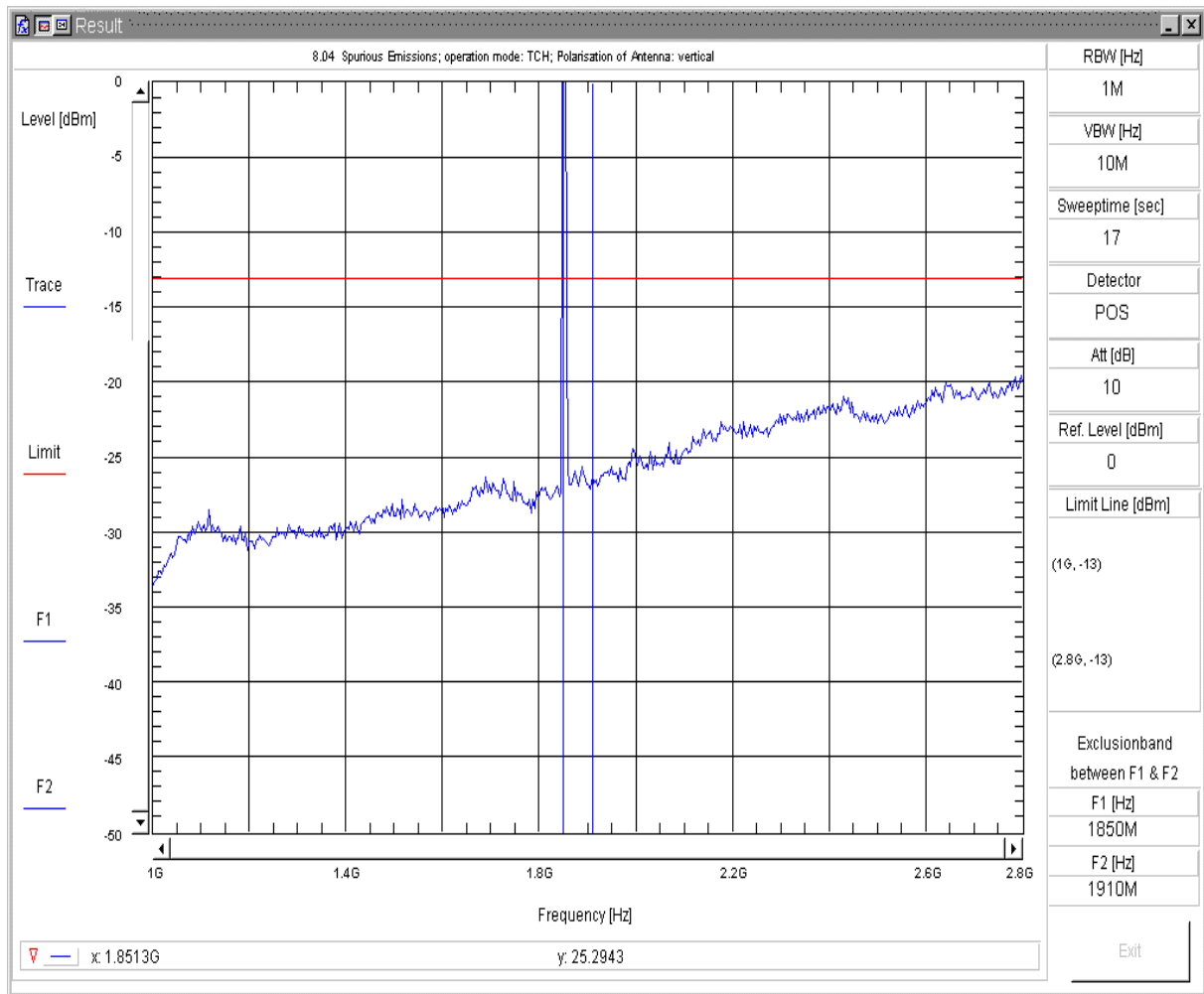


8.03 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep2
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 09:32:46fp

Spurious Emissions V7.2.5

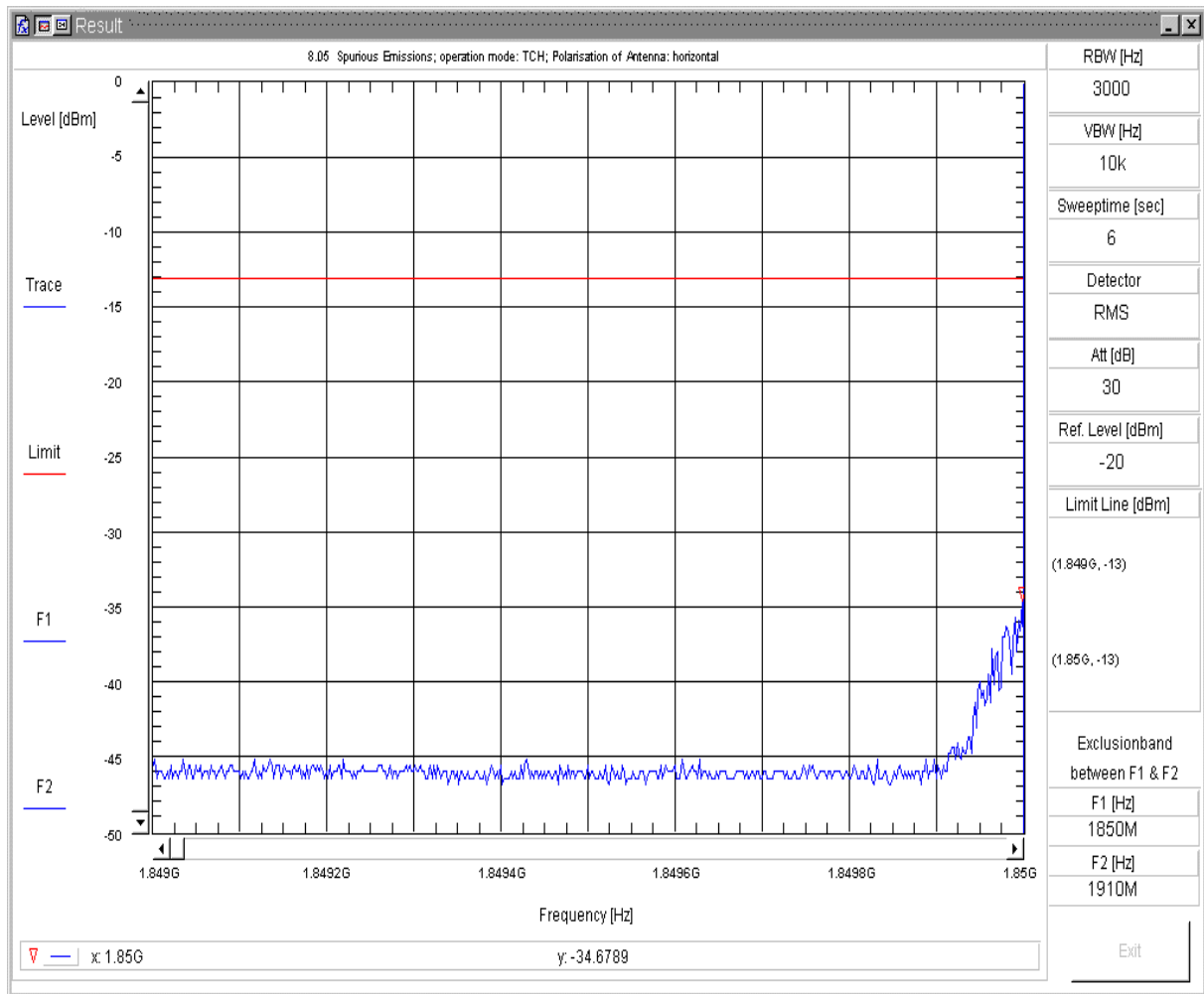


8.04 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep2
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 09:40:43pf

Spurious Emissions V7.2.5

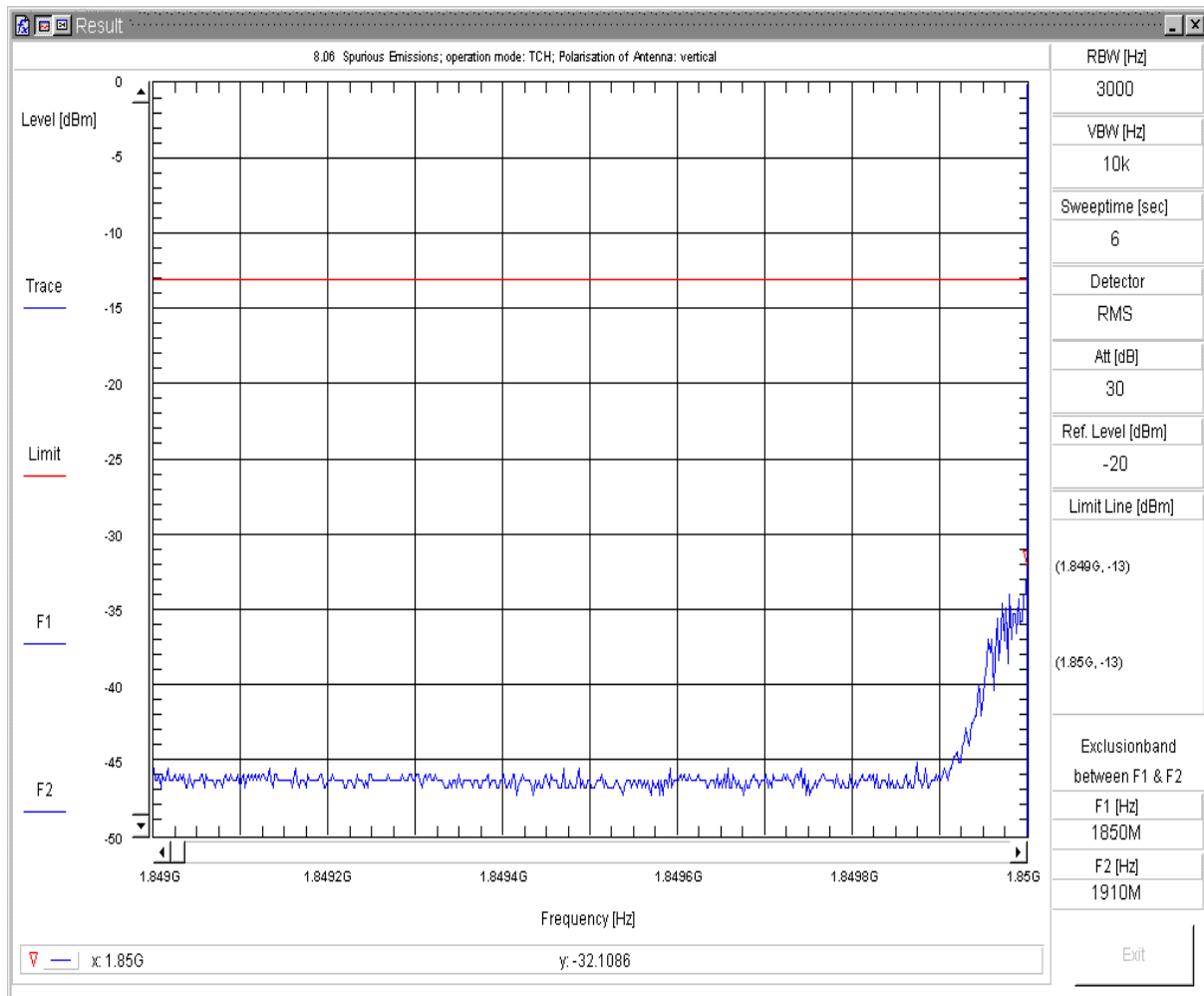


8.05 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep3
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 09:47:50fp

Spurious Emissions V7.2.5

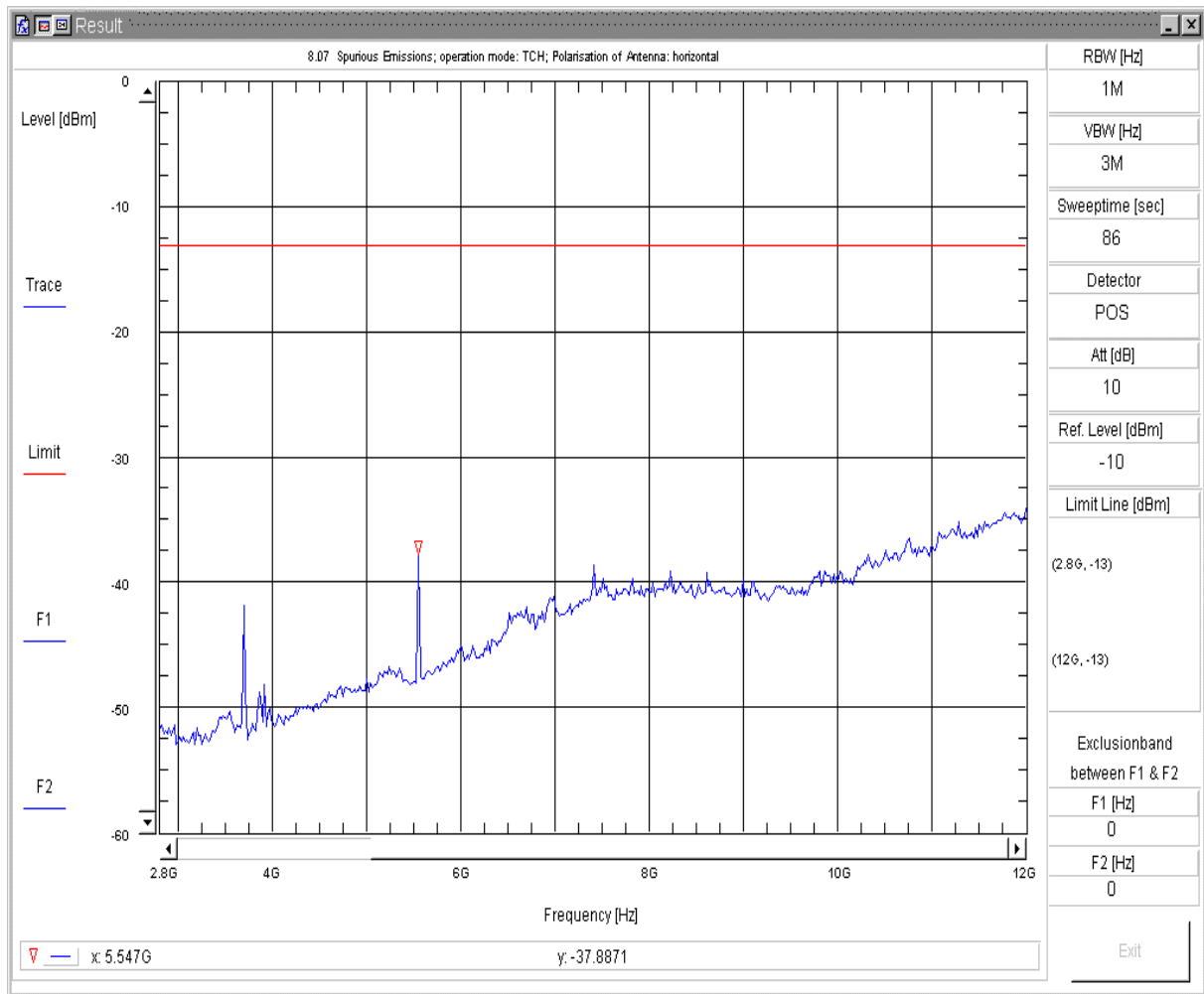


8.06 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep3
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 09:51:58pf

Spurious Emissions V7.2.5

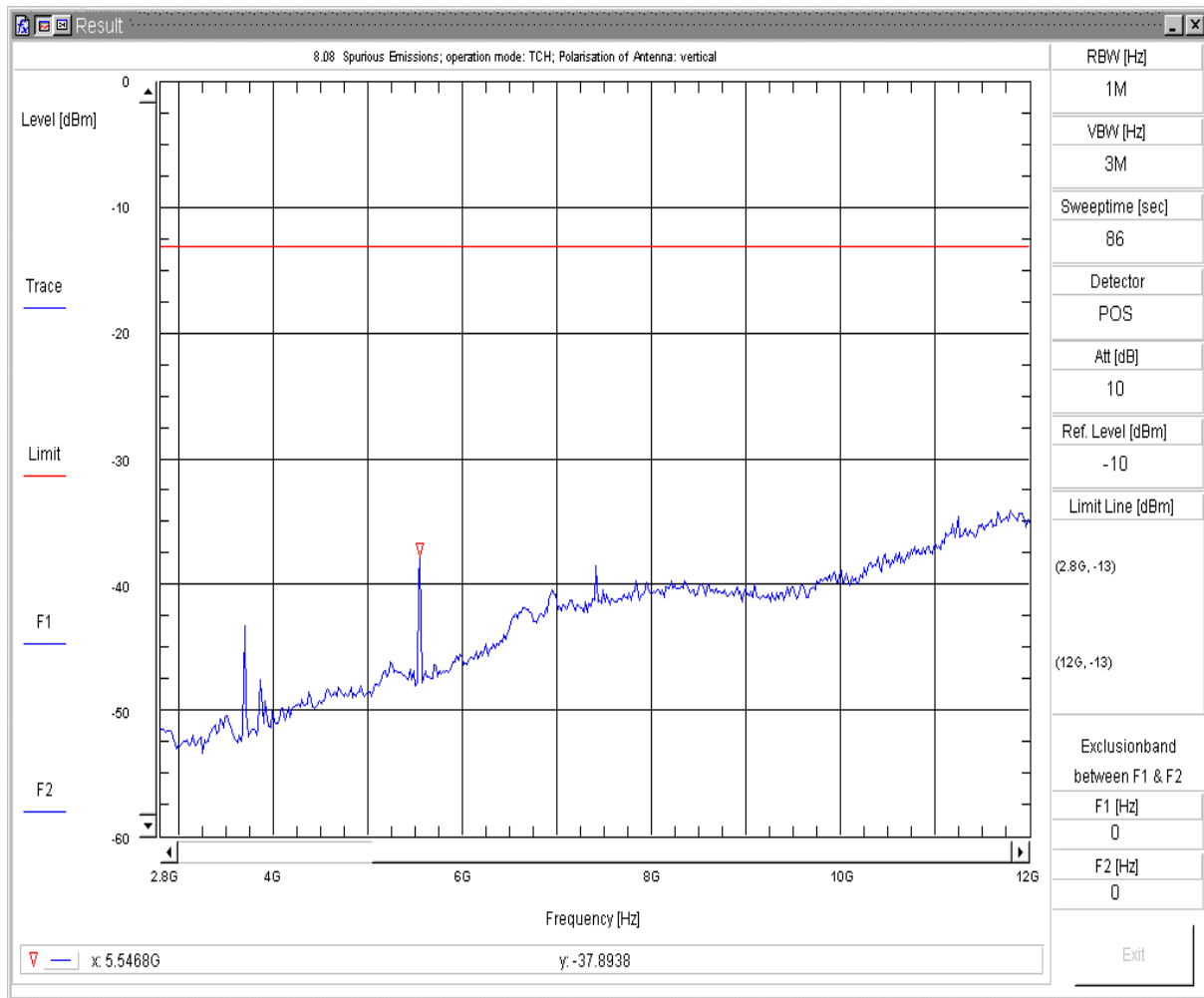


8.07 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep5
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 09:56:24pp

Spurious Emissions V7.2.5

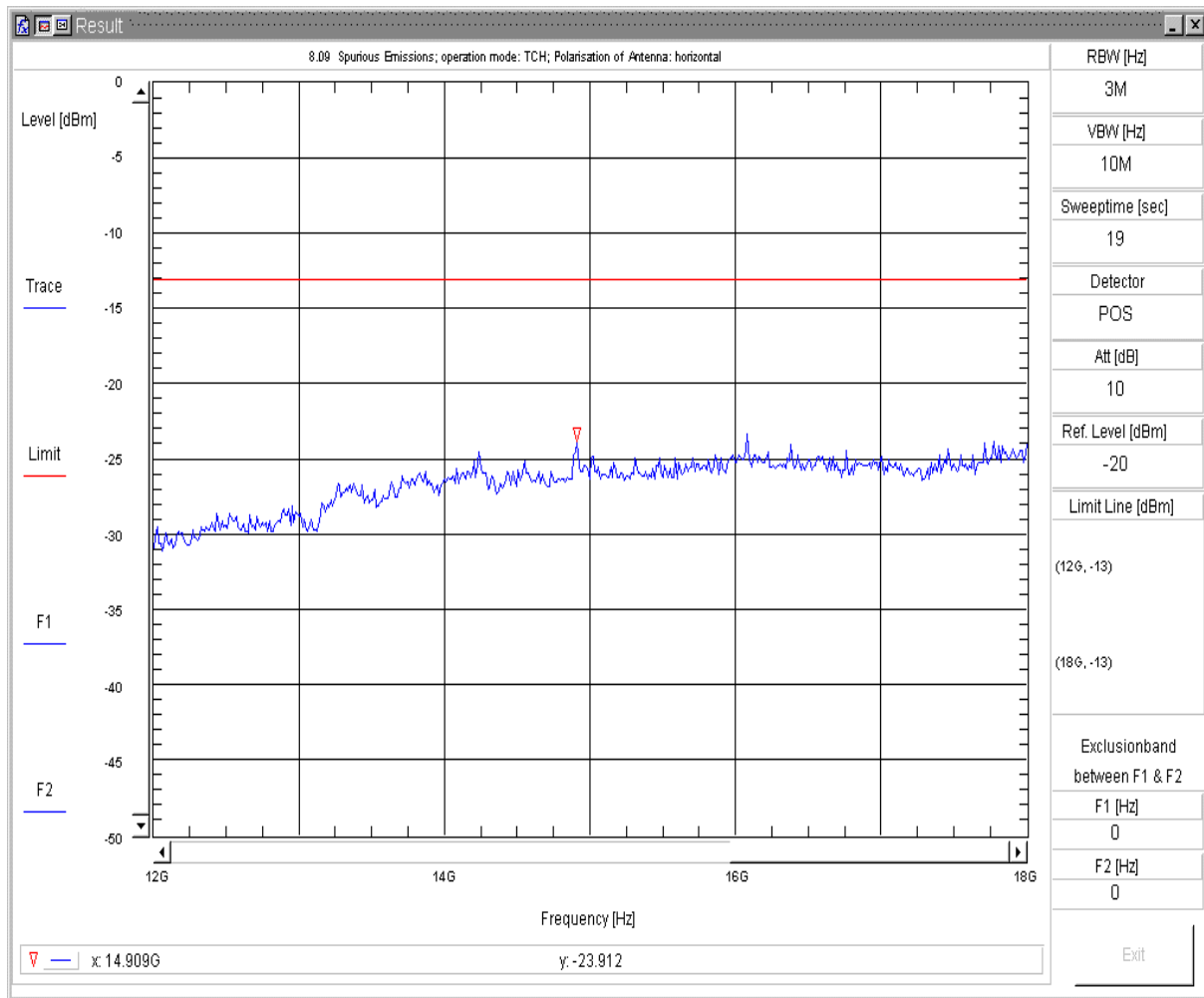


8.08 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep5
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 10:19:15pp

Spurious Emissions V7.2.5

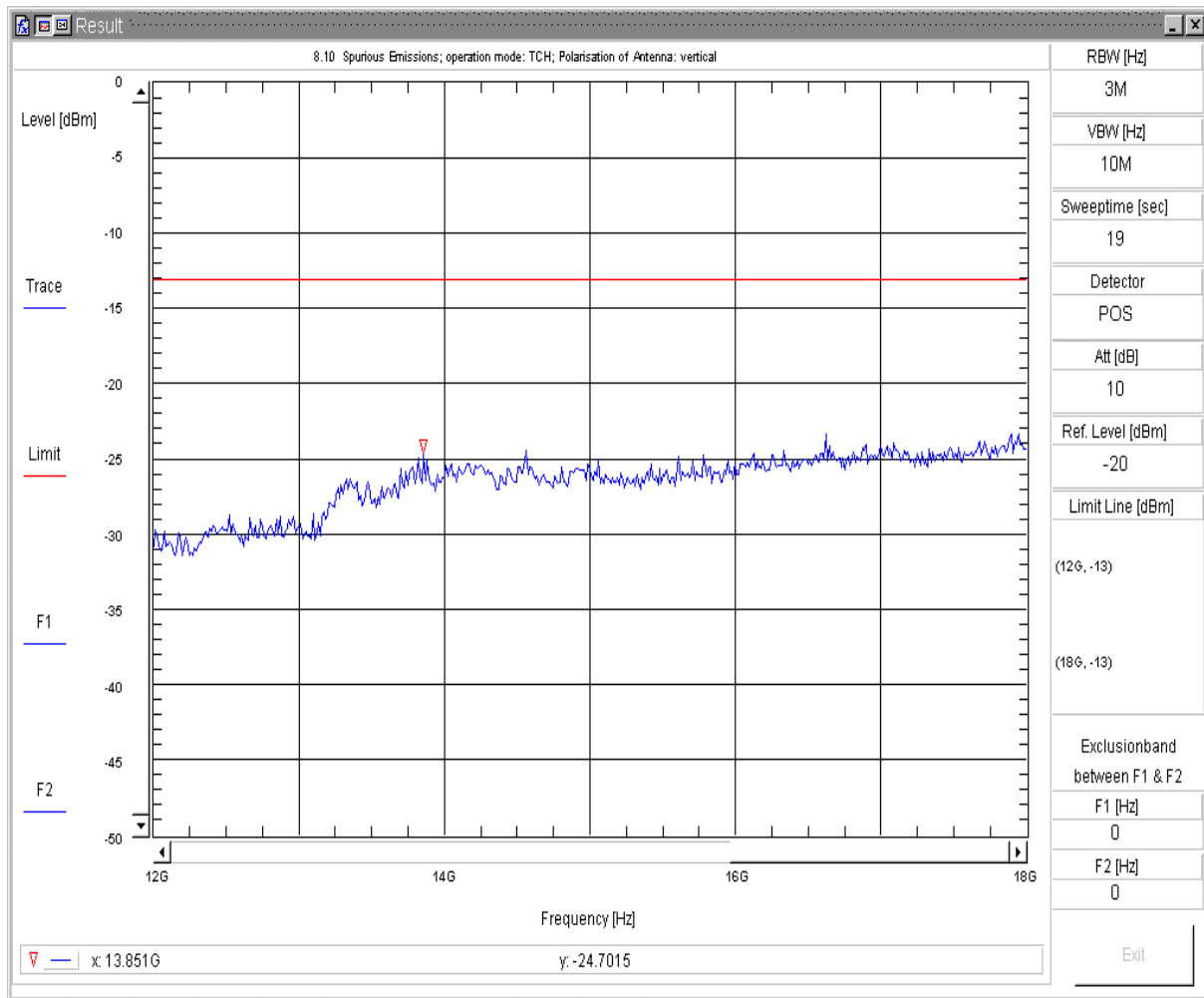


8.09 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep6
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 10:42:15pp

Spurious Emissions V7.2.5

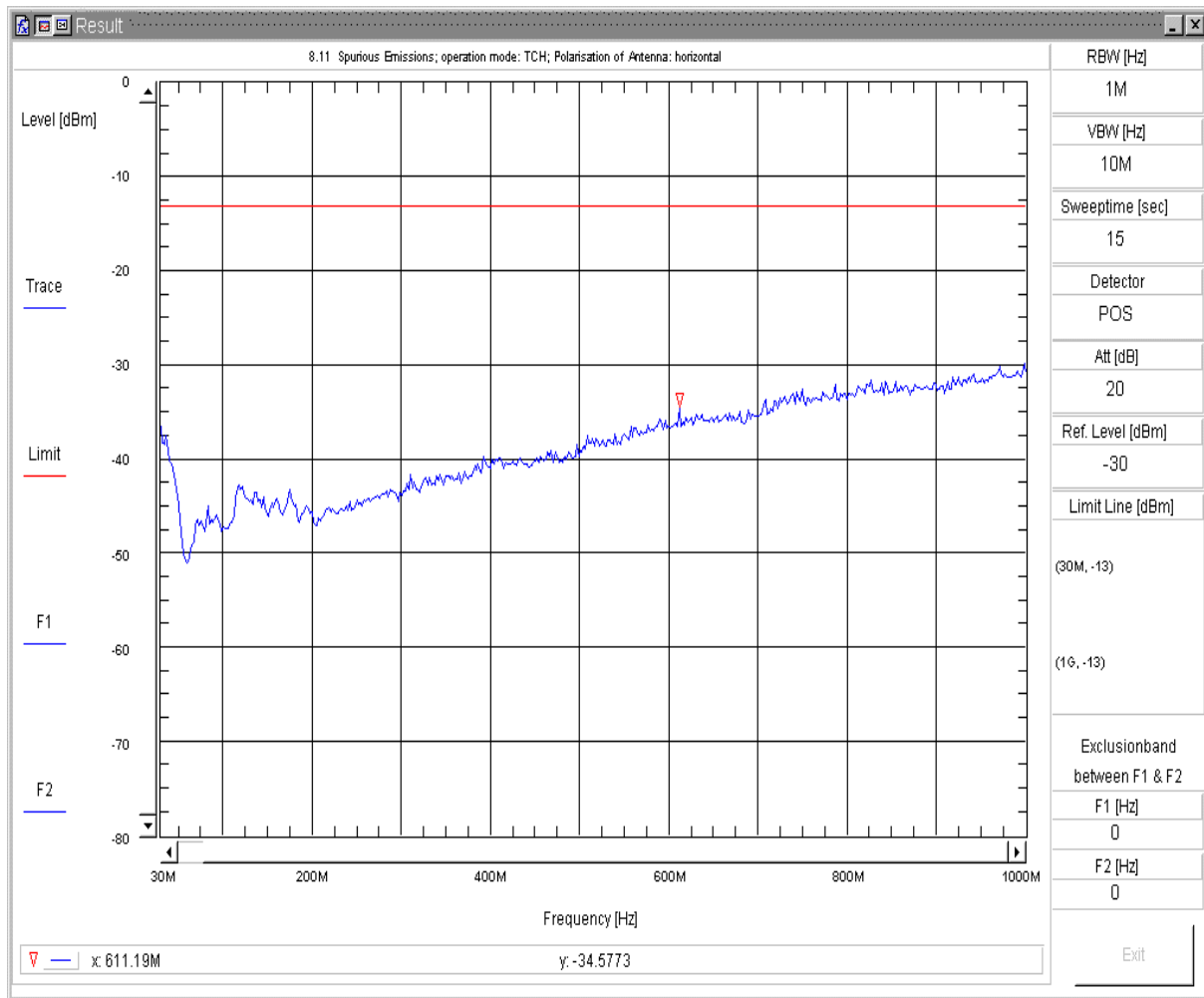


8.10 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep6
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 512
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 10:49:55pp

Spurious Emissions V7.2.5

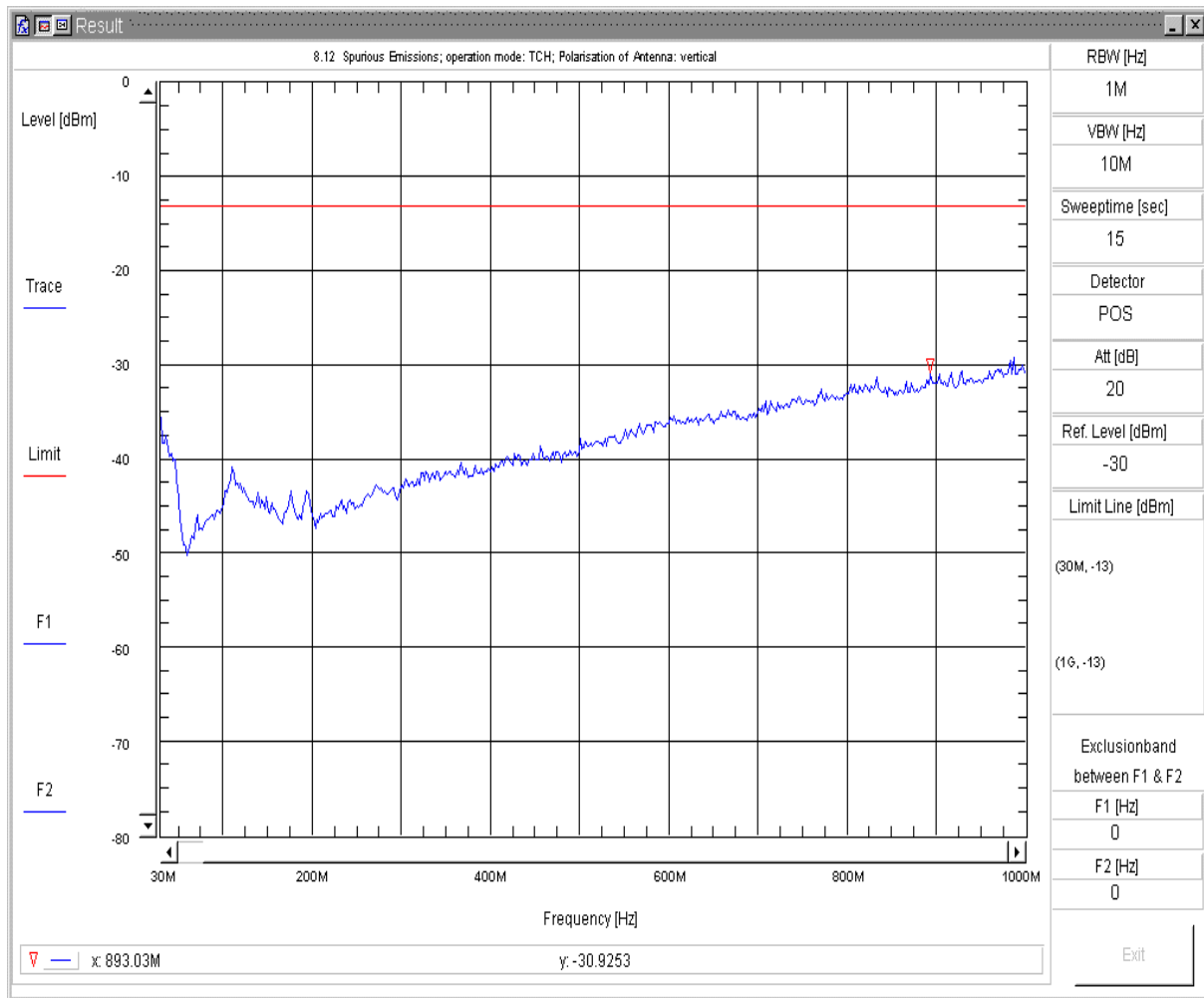


8.11 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep1
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 661
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 10:57:32pfp

Spurious Emissions V7.2.5

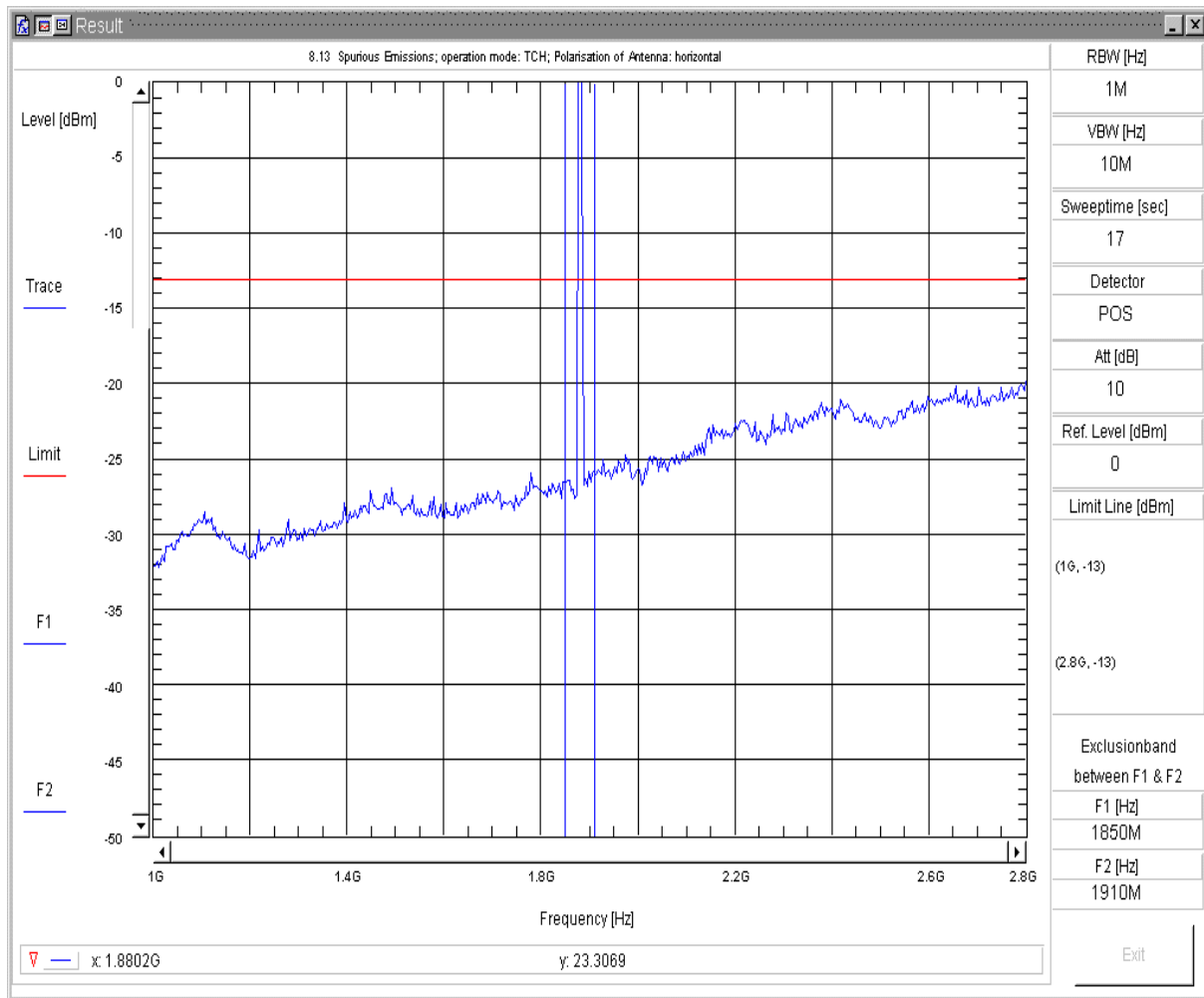


8.12 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep1
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 661
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 11:02:39ppf

Spurious Emissions V7.2.5

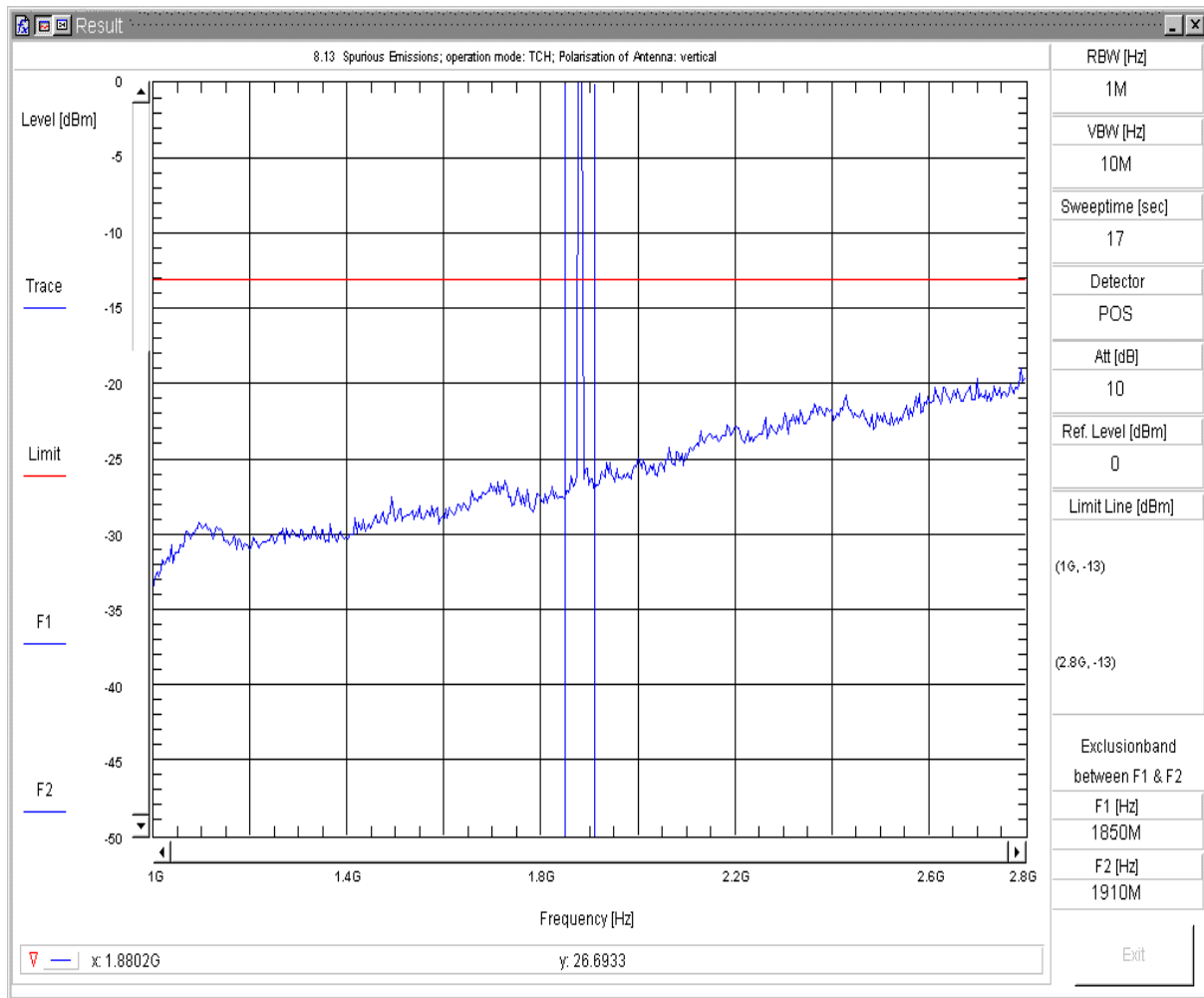


8.13 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep2
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 661
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 11:16:01fp

Spurious Emissions V7.2.5

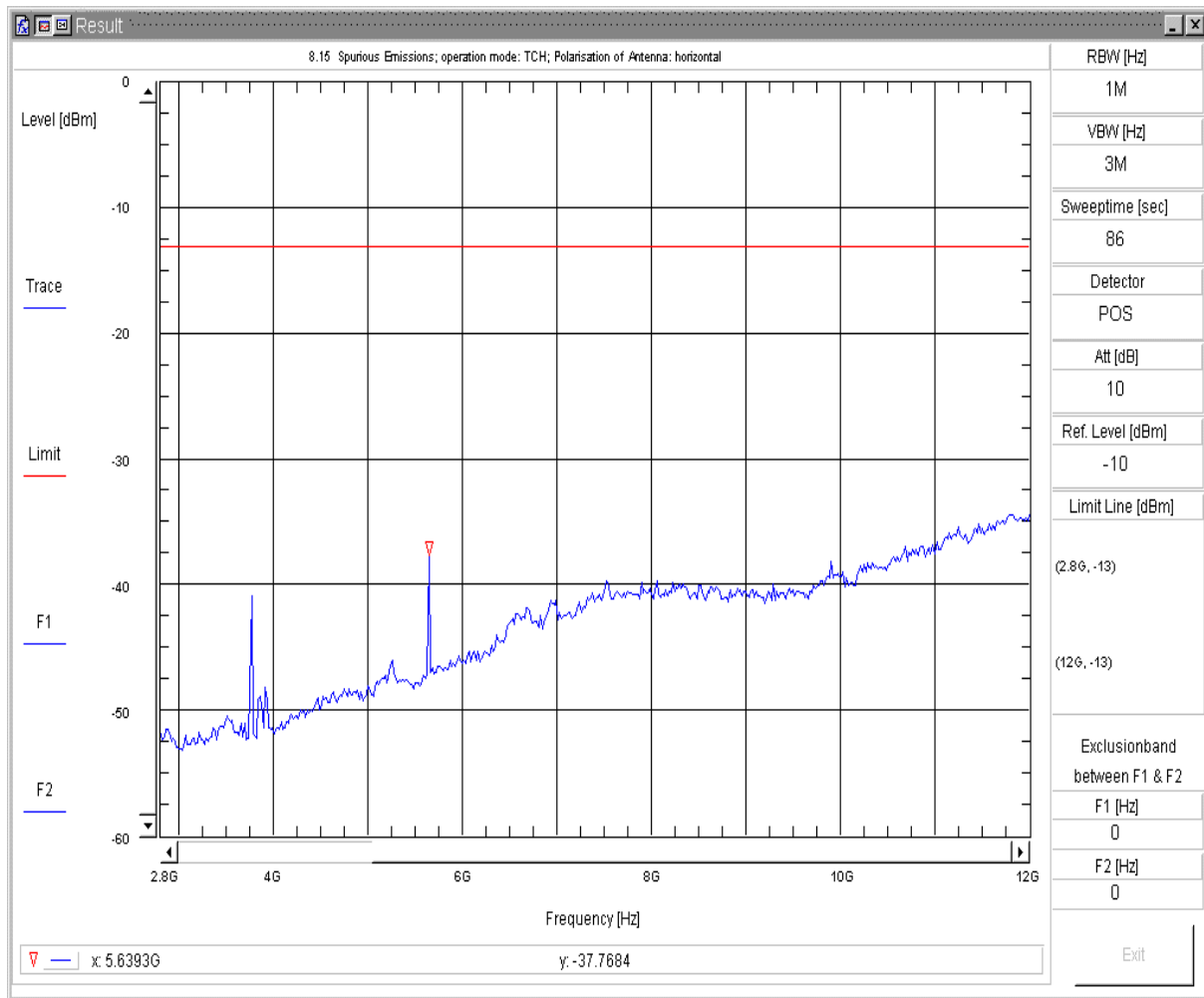


8.14 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep2
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 661
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 11:07:40pf

Spurious Emissions V7.2.5

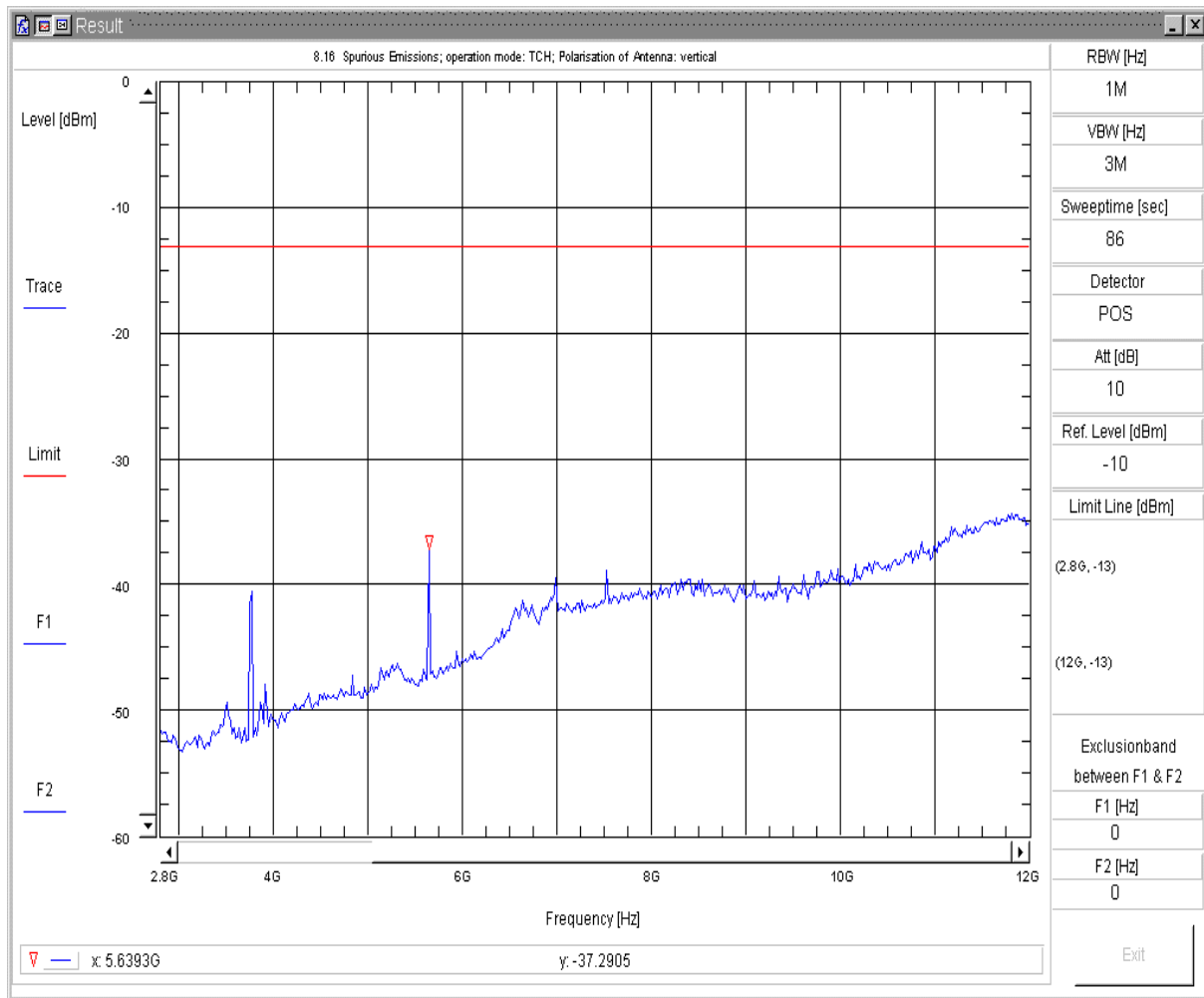


8.15 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep5
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 661
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 11:23:20pp

Spurious Emissions V7.2.5

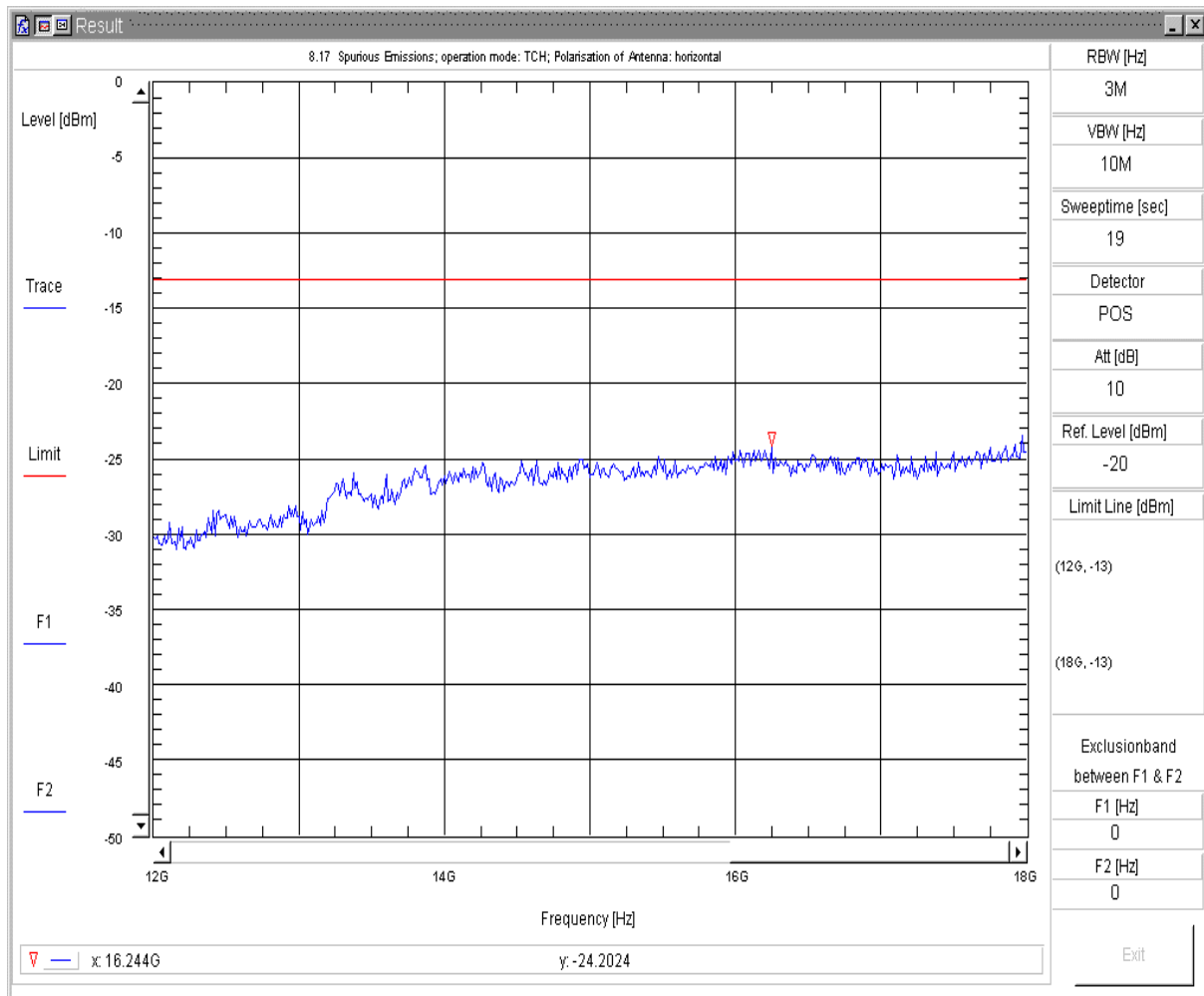


8.16 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep5
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 661
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 11:46:14pp

Spurious Emissions V7.2.5

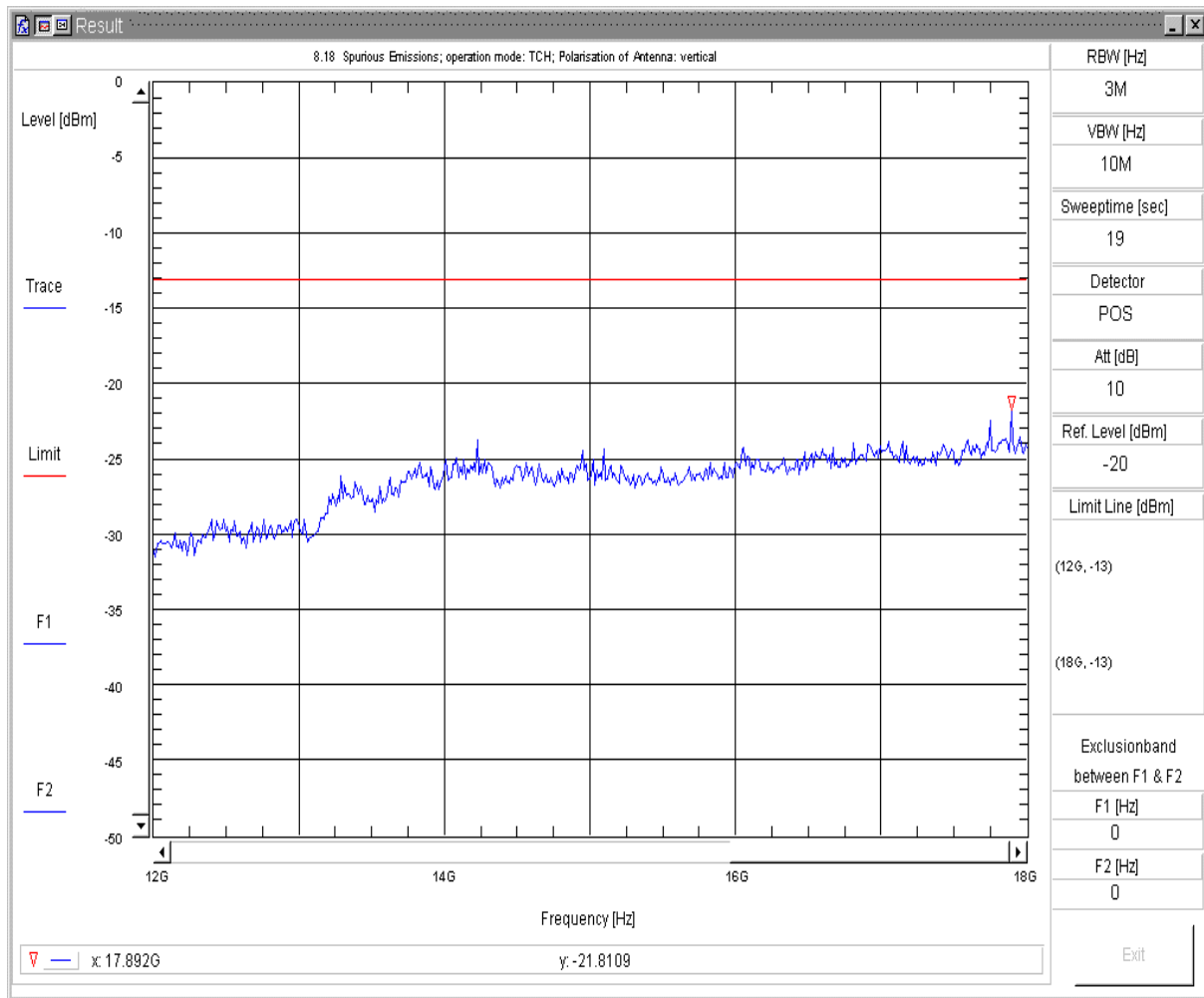


8.17 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep6
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 661
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 12:09:04pp

Spurious Emissions V7.2.5

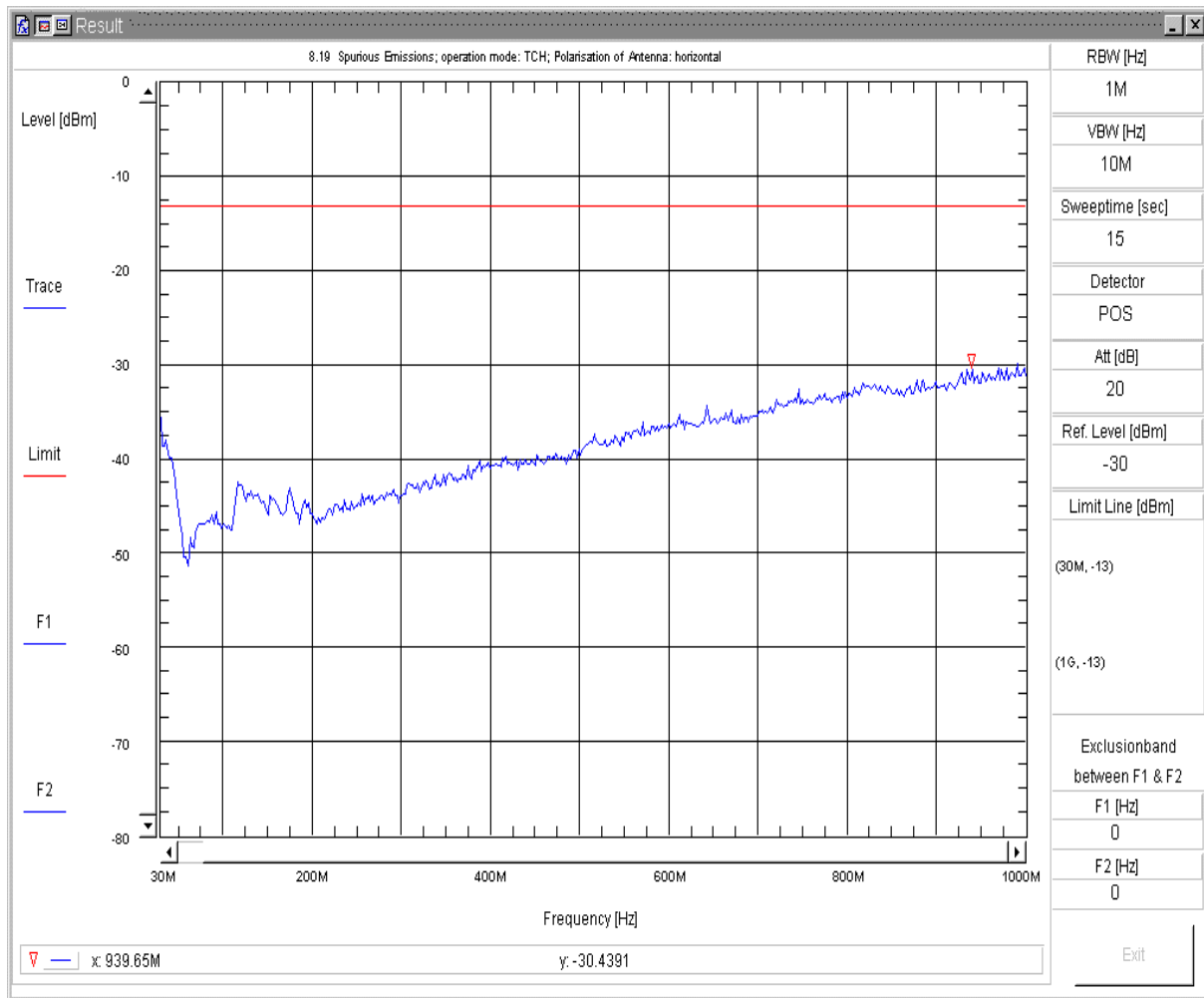


8.18 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep6
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 661
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 12:16:21pp

Spurious Emissions V7.2.5

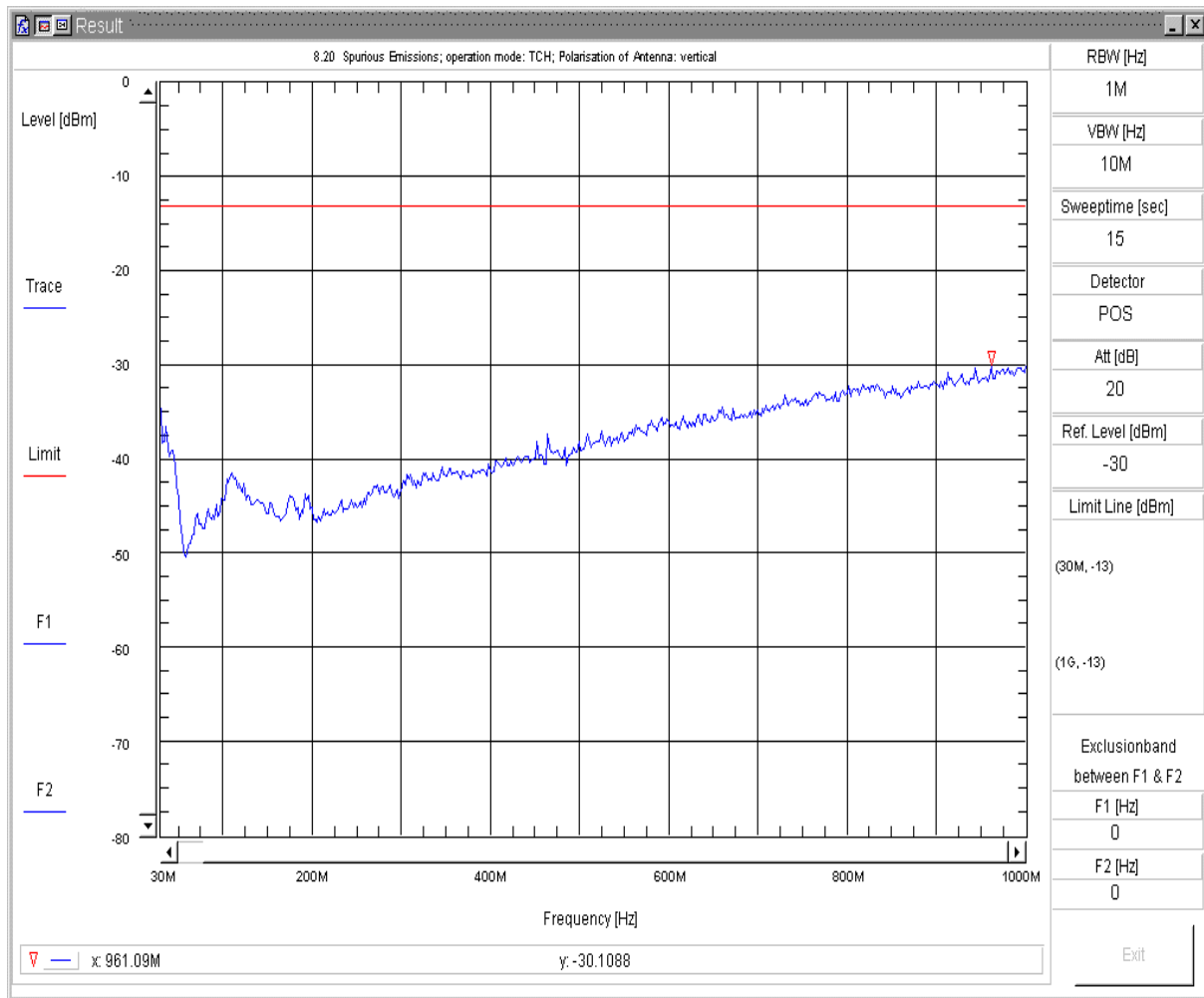


8.19 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep1
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 810
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 12:23:55pfp

Spurious Emissions V7.2.5

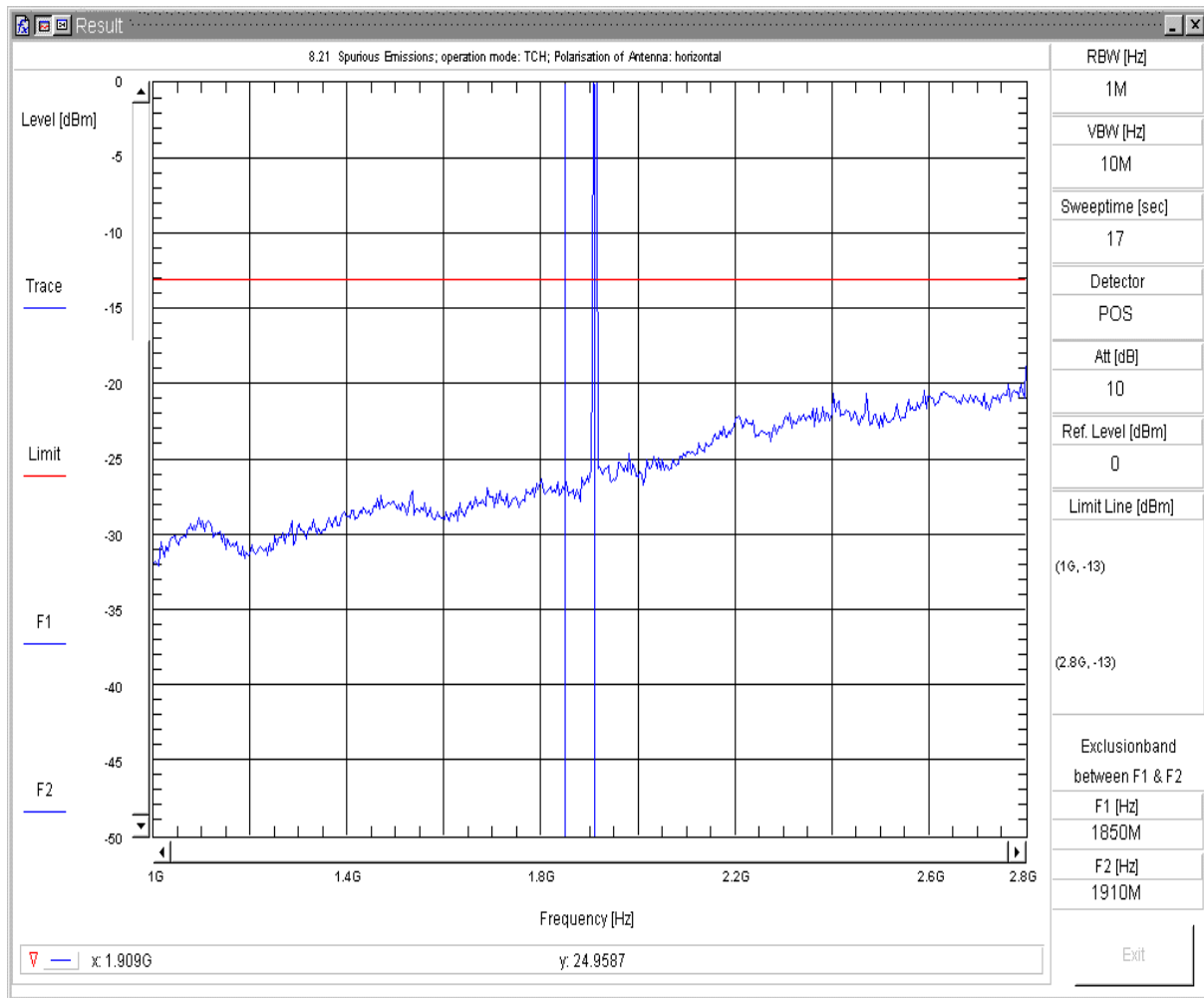


8.20 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep1
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 810
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 12:30:31ppf

Spurious Emissions V7.2.5

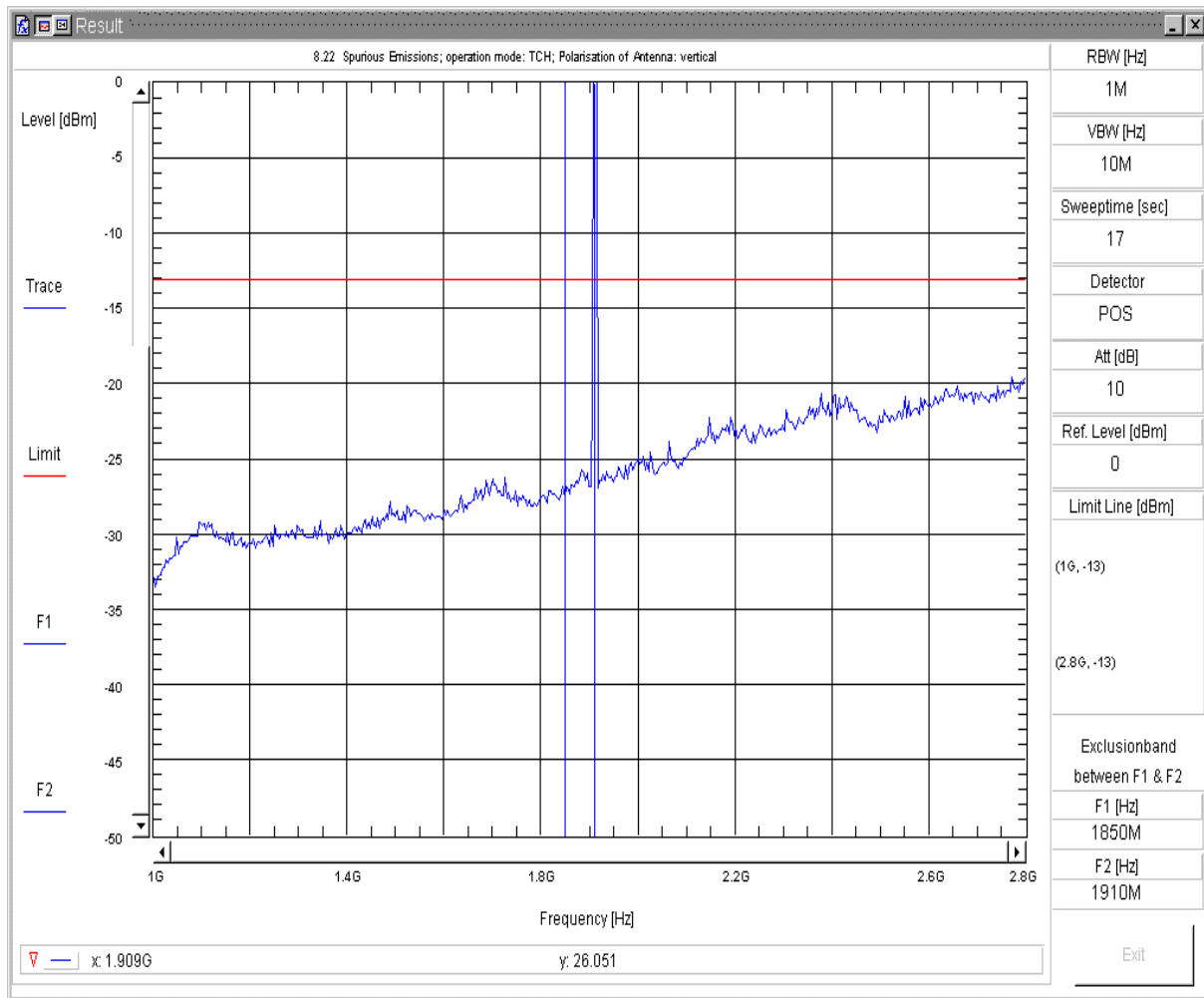


8.21 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep2
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 810
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 12:34:45fp

Spurious Emissions V7.2.5

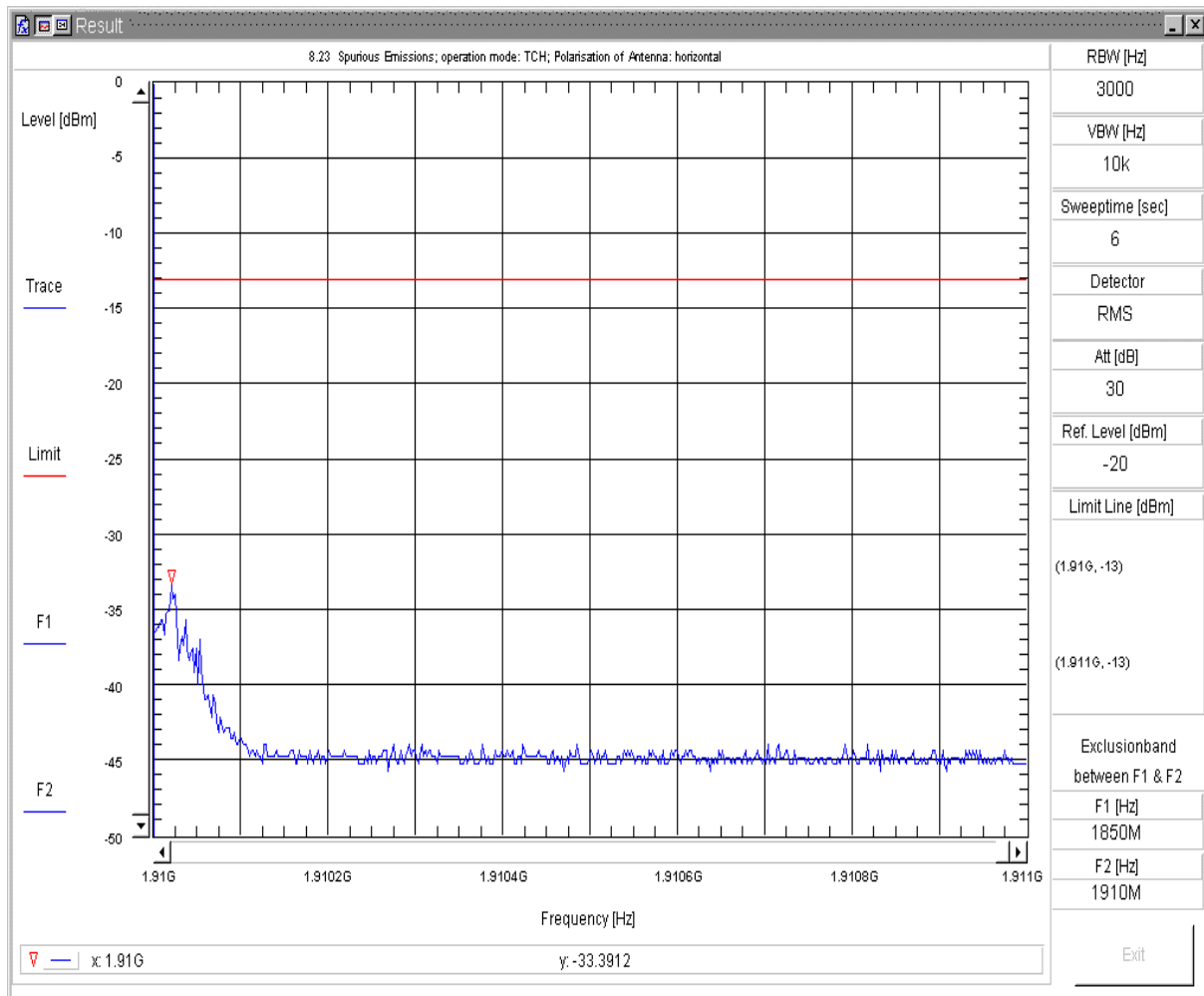


8.22 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep2
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 810
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 12:41:40pf

Spurious Emissions V7.2.5

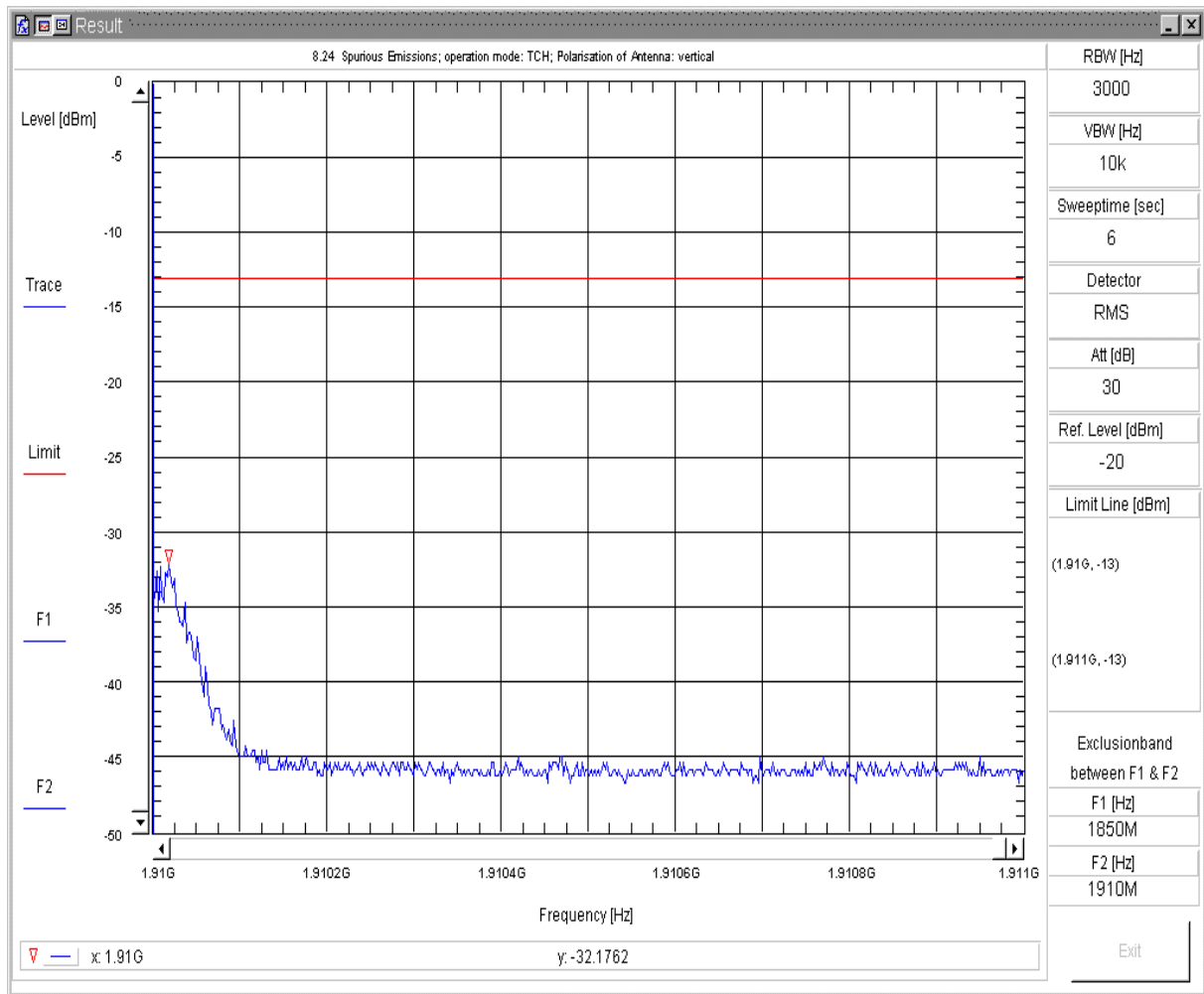


8.23 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep4
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 810
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 12:48:36fp

Spurious Emissions V7.2.5

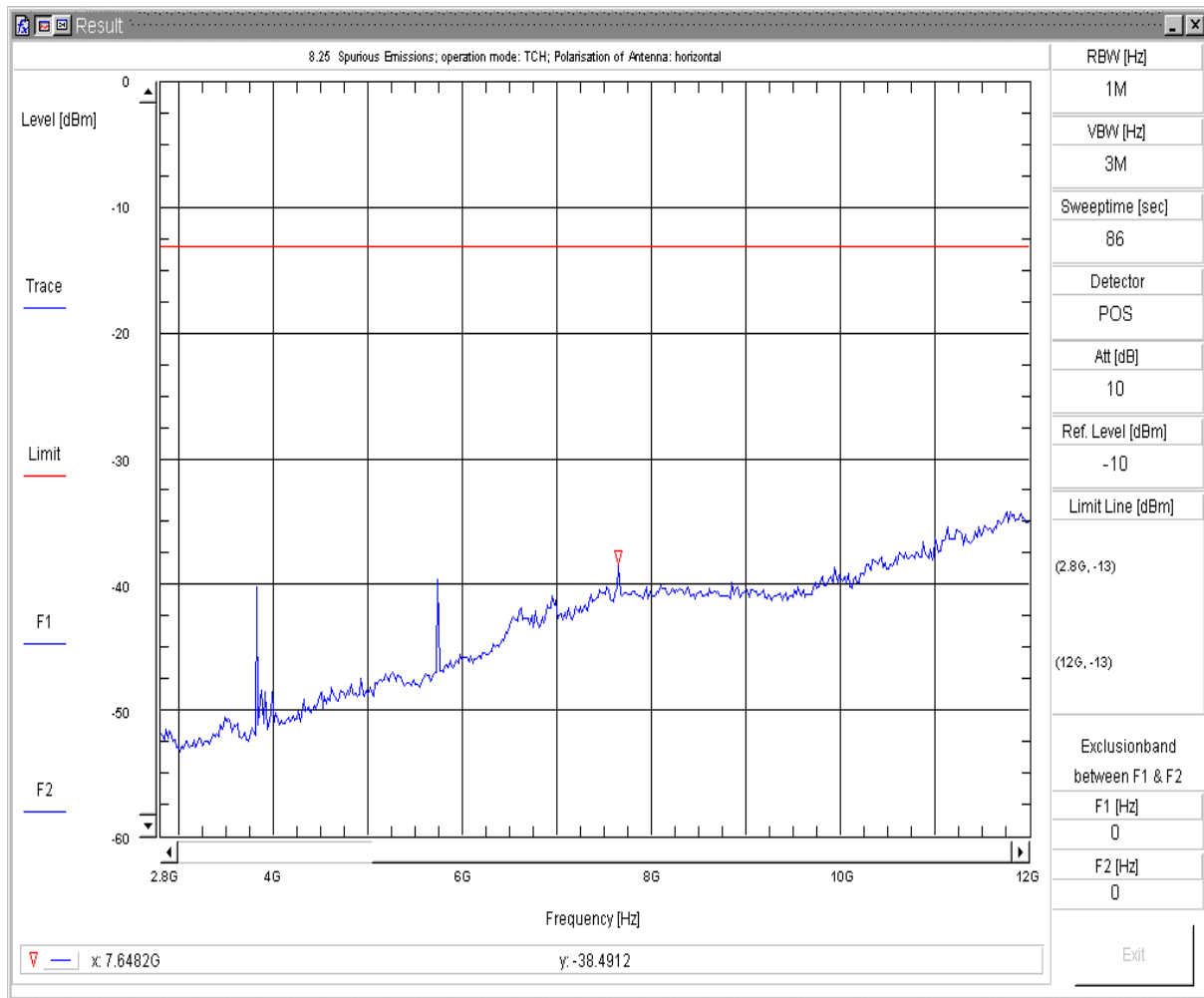


8.24 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep4
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info: DSB45+Adapter Board + Handset Votronic+RS232+USB-cable
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: channel 810
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 12:52:52pf

Spurious Emissions V7.2.5

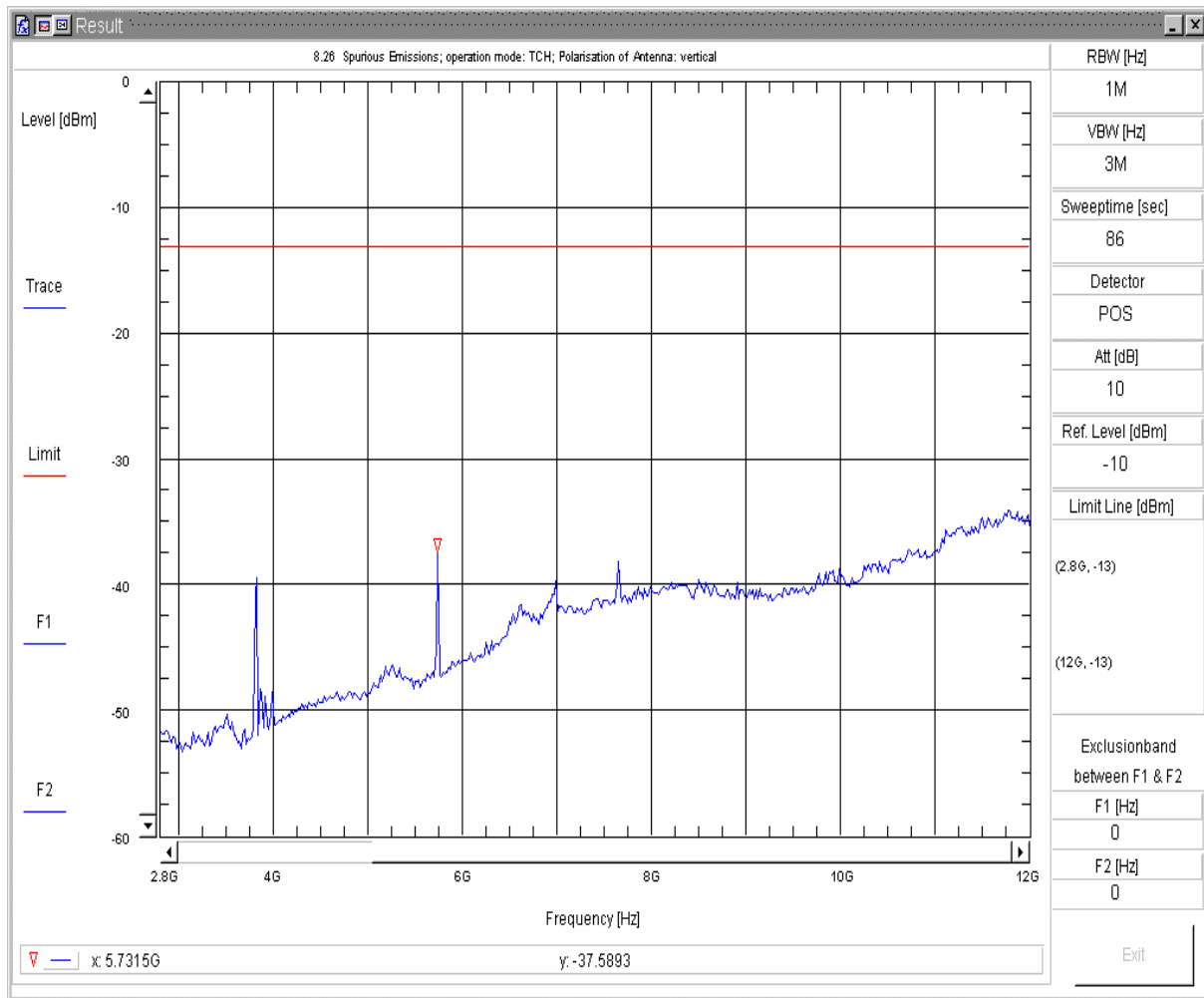


8.25 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep5
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: -ARFCN 810
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 12:57:09fp

Spurious Emissions V7.2.5

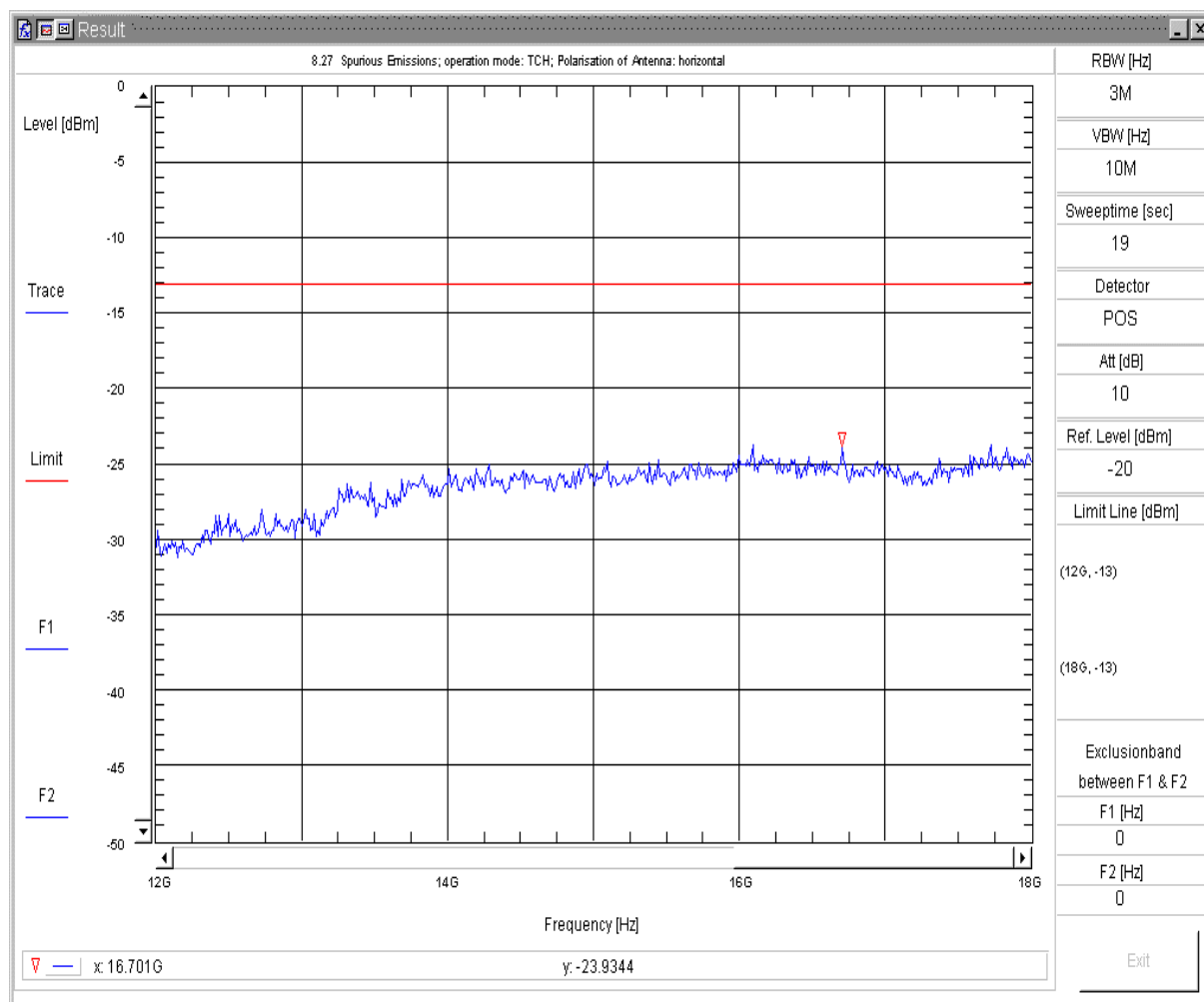


8.26 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep5
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 810
 Operator: Lor
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 13:20:40pp

Spurious Emissions V7.2.5

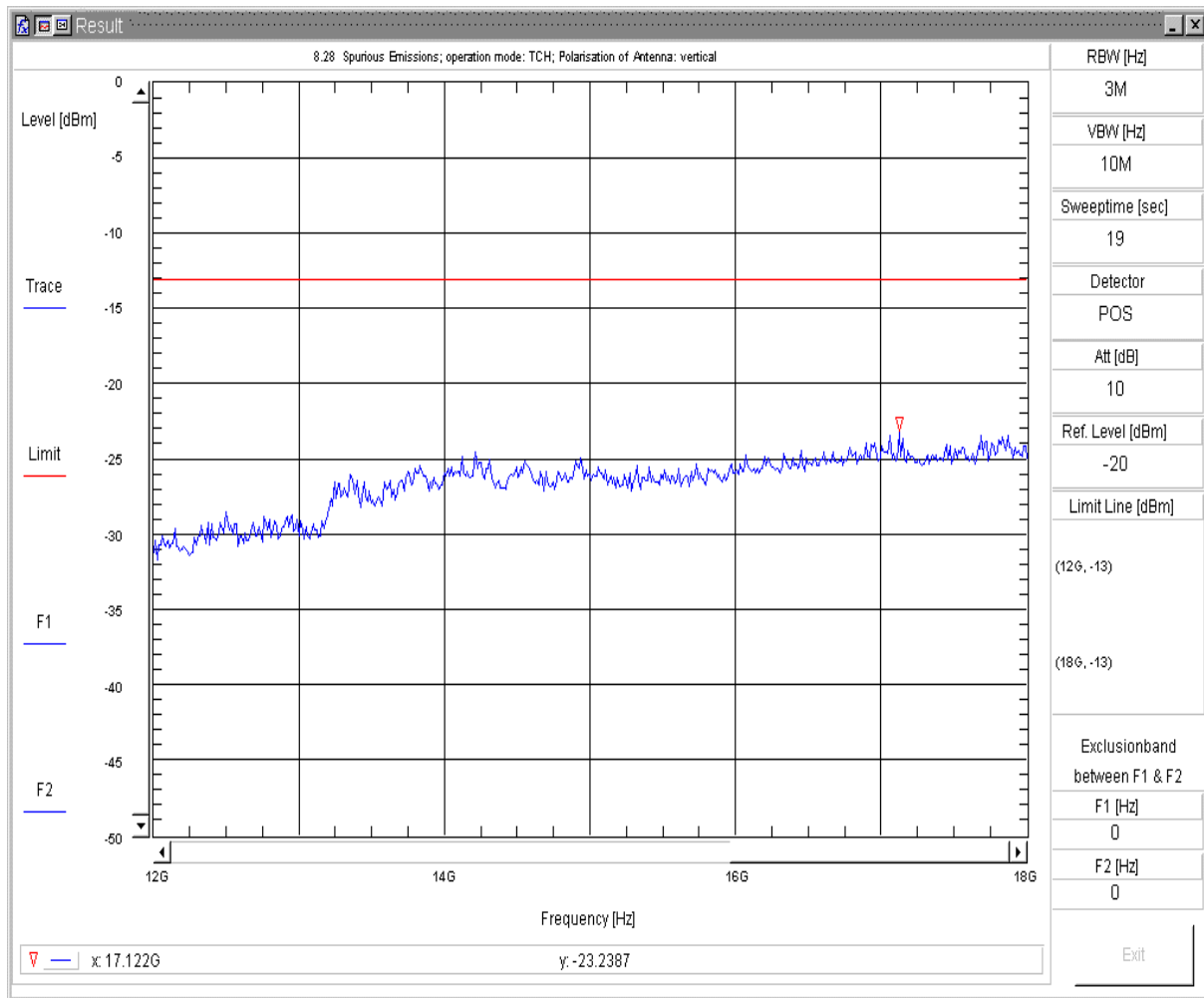


8.27 Radiated Spurious Emission

Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_H
 Sweepnr: Sweep6
 Pol. of Antenna: horizontal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 810
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 13:54:52pp

Spurious Emissions V7.2.5



8.28 Radiated Spurious Emission

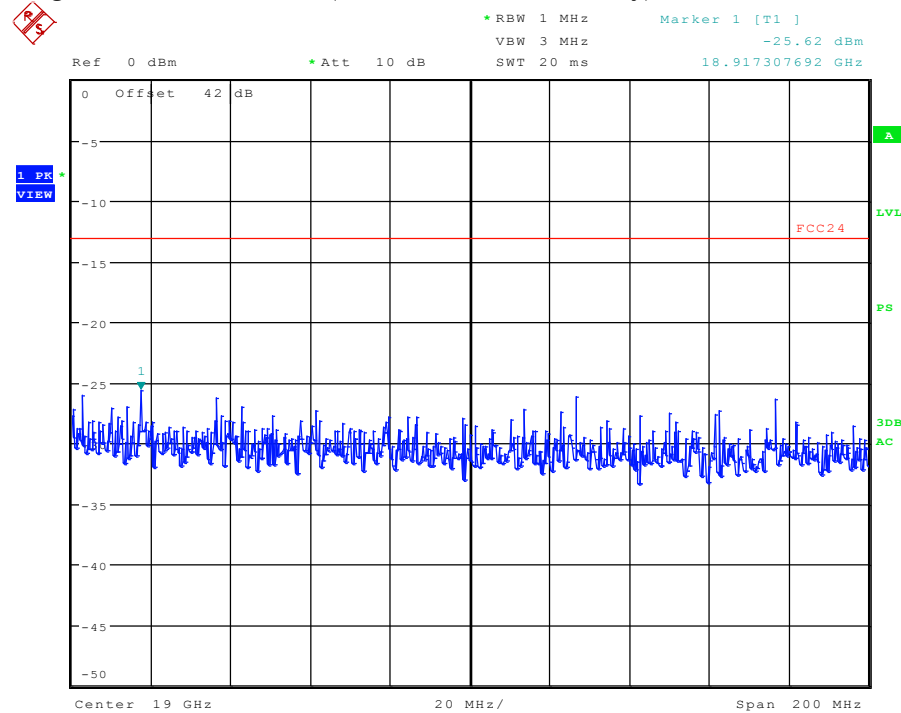
Transducer: c:\vee_user\spuri_V7\FCC_Part_24.238_(GSM_1900)\TD_TX_V
 Sweepnr: Sweep6
 Pol. of Antenna: vertikal
 EUT Position: EUT_vertical+horizontal
 EUT OP Mode: FCC_Part_24.238_(GSM_1900) TCH
 EUT Description: BGS2-W GSM Module
 EUT add. Info:
 EUT Hardware: B2
 EUT Software:
 EUT Config:
 EUT S/N: 00440108048446800
 Battery: Power Supply (external); Maximum Voltage; 4.5 VDC
 Remark: ARFCN 810
 Operator: Tas
 Testing Site: Fully Anechoic Room (FAR); CETECOM Essen

Fri 04/Feb/2011 13:47:27pp

Spurious Emissions V7.2.5

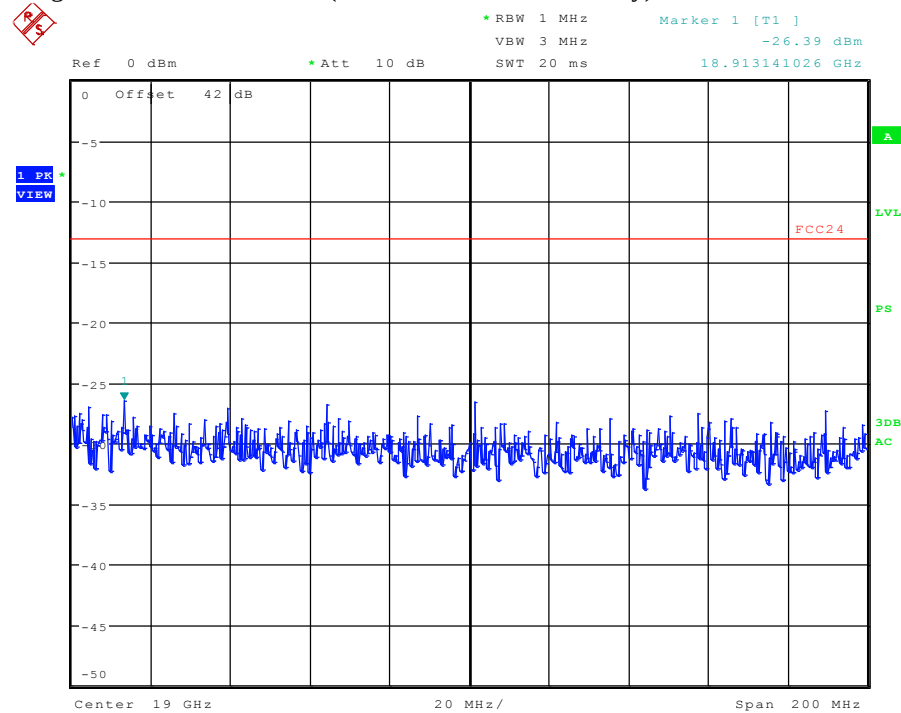
1.7. Radiated emissions in the frequency range above 18GHz – GSM1900 Mode

Diagram 8.51 – Channel 512 (Overview measurement only)



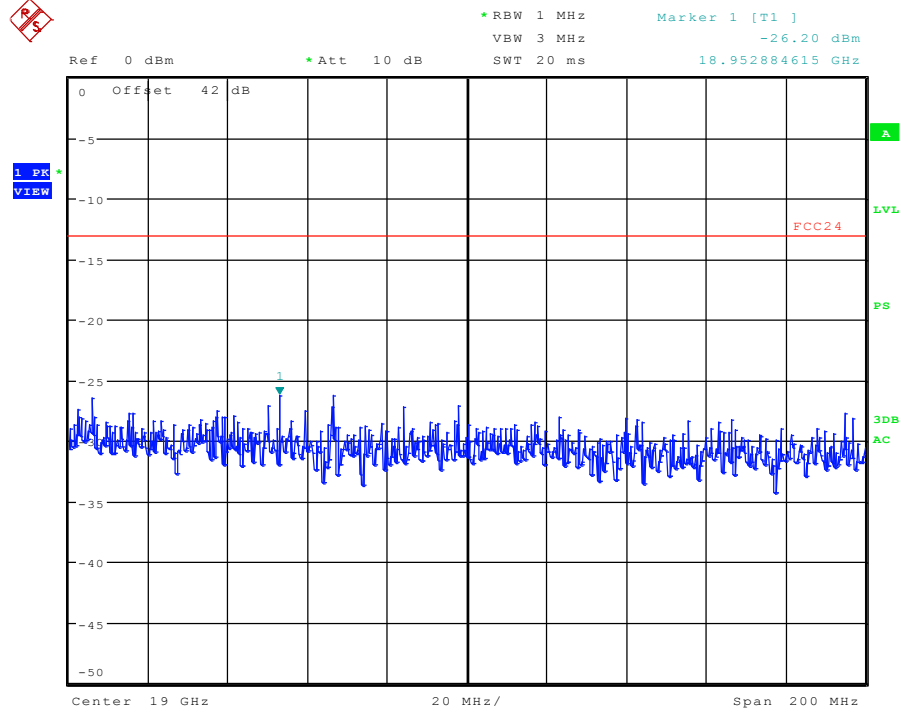
Date: 24.FEB.2011 12:53:02

Diagram 8.52 – Channel 661 (Overview measurement only)



Date: 24.FEB.2011 12:52:01

Diagram 8.53 – Channel 810 (Overview measurement only)



Date: 24.FEB.2011 12:53:50

1.8. Radiated magnetic field strength measurements ($f < 30\text{MHz}$)

Diagram No. 03.01

Common Information

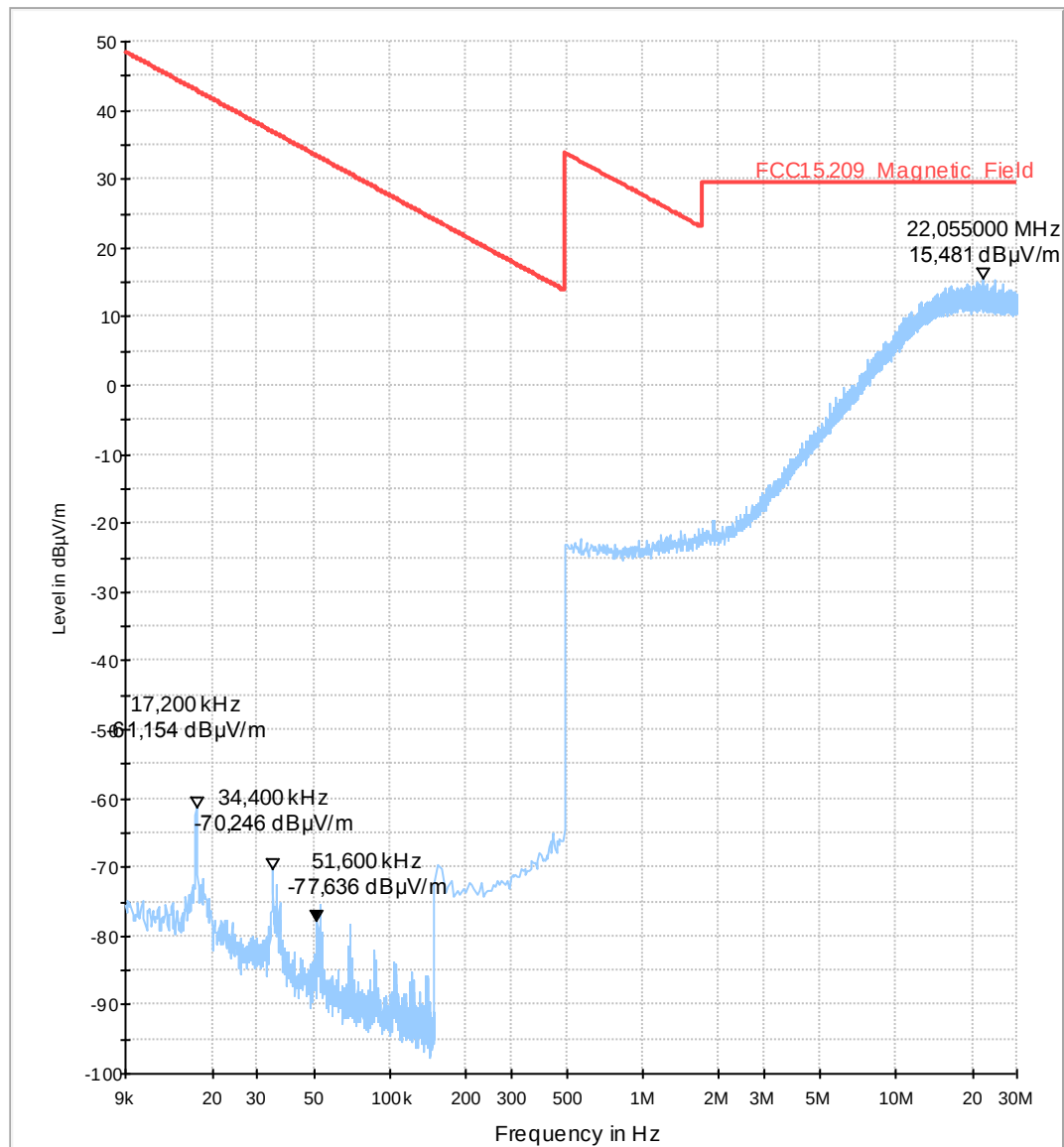
Test description:	Magnetic Fieldstrength Measurement related to 3 m distance
Test site and distance:	Semi Anechoic Room (SAR) with 3 m measurement distance
Measured sides of EUT:	front, right, rear, left
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Turntable step:	90° during pre-scan
Used filter:	bypass
Test specification.:	FCC 15.205 § 15.209

Operator:	Lor
Comment 1:	Channel low=512

EUT Information

EUT type	BGS2-W+DSB45+Handset Votronic+Ext.Antenna Minimag+RS232+USB cable
Manufacturer	Cinterion
Operating mode	Audio mode TX 1900
S/N	004401-08-048449-2

FCC15.209_magn hor+vert



EMI Auto Test Template: FCC15.209_magn hor+vert

Hardware Setup: HW25_FCC15109_ESCS_MgFeld_ohne_SAR_MATRIX
 Measurement Type: Open-Area-Test-Site
 Frequency Range: 9 kHz - 30 MHz
 Graphics Level Range: -100 dBμV/m - 50 dBμV/m

Preview Measurements:
 Antenna height: 1000 - 1000 cm , Step Size = 0 cm , Positioning Speed = 1
 Polarization: H + V
 Turntable position: 35 - 305 deg , Step Size = 90 deg , Positioning Speed = 8
 Scan Test Template: 01_FCC_MG_FELD_PK_FAST_H&V_EUT

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0,01 s	0 dB
150 kHz - 30 MHz	5 kHz	PK+	10 kHz	0,01 s	0 dB

Receiver: [ESS]

Data Reduction:
 Limit Line #1: FCC15.209_Magnetic_Field
 Peak Search: 20 dB , Maximum Results: 10
 Subrange Maxima: 10 Subranges , Maxima per Subrange: 1
 Acceptance Offset: -10 dB
 Maximum Number of Results: 10
 After Data Reduction: Interactive data reduction

Adjustment:
 Antenna height: Adjustment with full Range , Measuring Speed = 1
 Turntable position: Adjustment with full Range , Measuring Speed = 3
 Template for Single Meas.: 01_FCC_MG_FELD_PK_FAST_H&V_EUT

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0,01 s	0 dB
150 kHz - 30 MHz	5 kHz	PK+	10 kHz	0,01 s	0 dB

Receiver: [ESS]

Final Measurements:
 Template for Single Meas.: 02_FCC_MG_FELD_QP_final_H&V_EUT

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	QPK	200 Hz	1 s	0 dB
150 kHz - 30 MHz	5 kHz	QPK	10 kHz	1 s	0 dB

Receiver: [ESS]

Report Settings:
 Report Template: FCC15_209_magn_vert_hor
 Create Electronic Report: PDF
 Document Name: EMI Report

Actions:
 Data Reduction: Before
 Notify: Sound (WAV file) 'tada.wav'
 Final Measurements: After
 Notify: Sound (WAV file) 'tada.wav'

Diagram No. 03.02

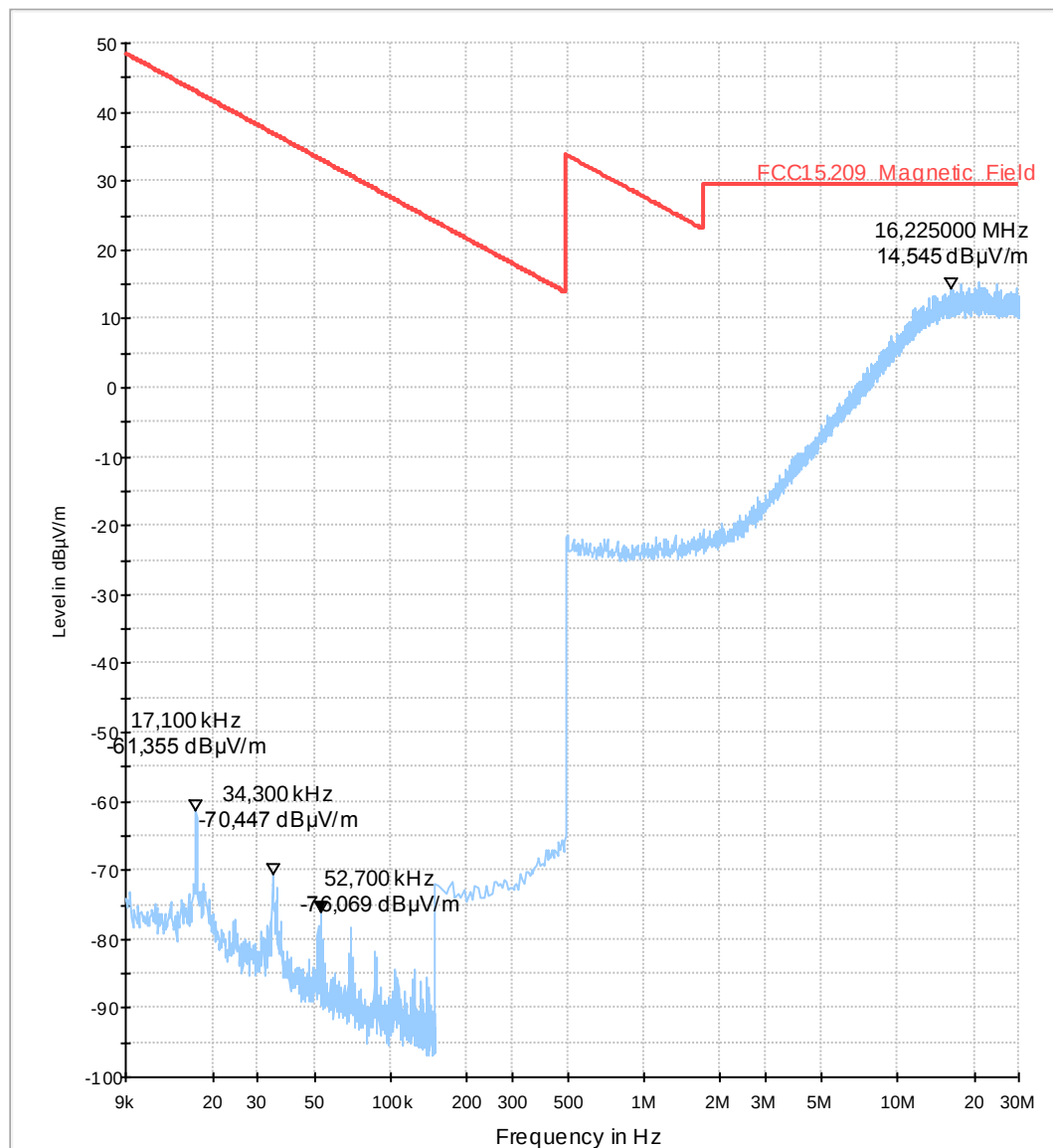
Common Information

Test description:	Magnetic Fieldstrength Measurement related to 3 m distance
Test site and distance:	Semi Anechoic Room (SAR) with 3 m measurement distance
Measured sides of EUT:	front, right, rear, left
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Turntable step:	90° during pre-scan
Used filter:	bypass
Test specification.:	FCC 15.205 § 15.209
Operator:	Lor
Comment 1:	Channel middle=661

EUT Information

EUT type	BGS2-W+DSB45+Handset Votronic+Ext.Antenna Minimag+RS232+USB cable
Manufacturer	Cinterion
Operating mode	Audio mode TX 1900
S/N	004401-08-048449-2

FCC15.209_magn hor+vert



EMI Auto Test Template: FCC15.209_magn hor+vert

Hardware Setup: HW25_FCC15109_ESCS_MgFeld_ohne_SAR_MATRIX
 Measurement Type: Open-Area-Test-Site
 Frequency Range: 9 kHz - 30 MHz
 Graphics Level Range: -100 dBμV/m - 50 dBμV/m

Preview Measurements:
 Antenna height: 1000 - 1000 cm , Step Size = 0 cm , Positioning Speed = 1
 Polarization: H + V
 Turntable position: 35 - 305 deg , Step Size = 90 deg , Positioning Speed = 8
 Scan Test Template: 01_FCC_MG_FELD_PK_FAST_H&V_EUT

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0,01 s	0 dB
150 kHz - 30 MHz	5 kHz	PK+	10 kHz	0,01 s	0 dB

Receiver: [ESS]

Data Reduction:
 Limit Line #1: FCC15.209_Magnetic_Field
 Peak Search: 20 dB , Maximum Results: 10
 Subrange Maxima: 10 Subranges , Maxima per Subrange: 1
 Acceptance Offset: -10 dB
 Maximum Number of Results: 10
 After Data Reduction: Interactive data reduction

Adjustment:
 Antenna height: Adjustment with full Range , Measuring Speed = 1
 Turntable position: Adjustment with full Range , Measuring Speed = 3
 Template for Single Meas.: 01_FCC_MG_FELD_PK_FAST_H&V_EUT

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0,01 s	0 dB
150 kHz - 30 MHz	5 kHz	PK+	10 kHz	0,01 s	0 dB

Receiver: [ESS]

Final Measurements:
 Template for Single Meas.: 02_FCC_MG_FELD_QP_final_H&V_EUT

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	QPK	200 Hz	1 s	0 dB
150 kHz - 30 MHz	5 kHz	QPK	10 kHz	1 s	0 dB

Receiver: [ESS]

Report Settings:
 Report Template: FCC15_209_magn_vert_hor
 Create Electronic Report: PDF
 Document Name: EMI Report

Actions:
 Data Reduction: Before
 Notify: Sound (WAV file) 'tada.wav'
 Final Measurements: After
 Notify: Sound (WAV file) 'tada.wav'

Diagram No. 03.03

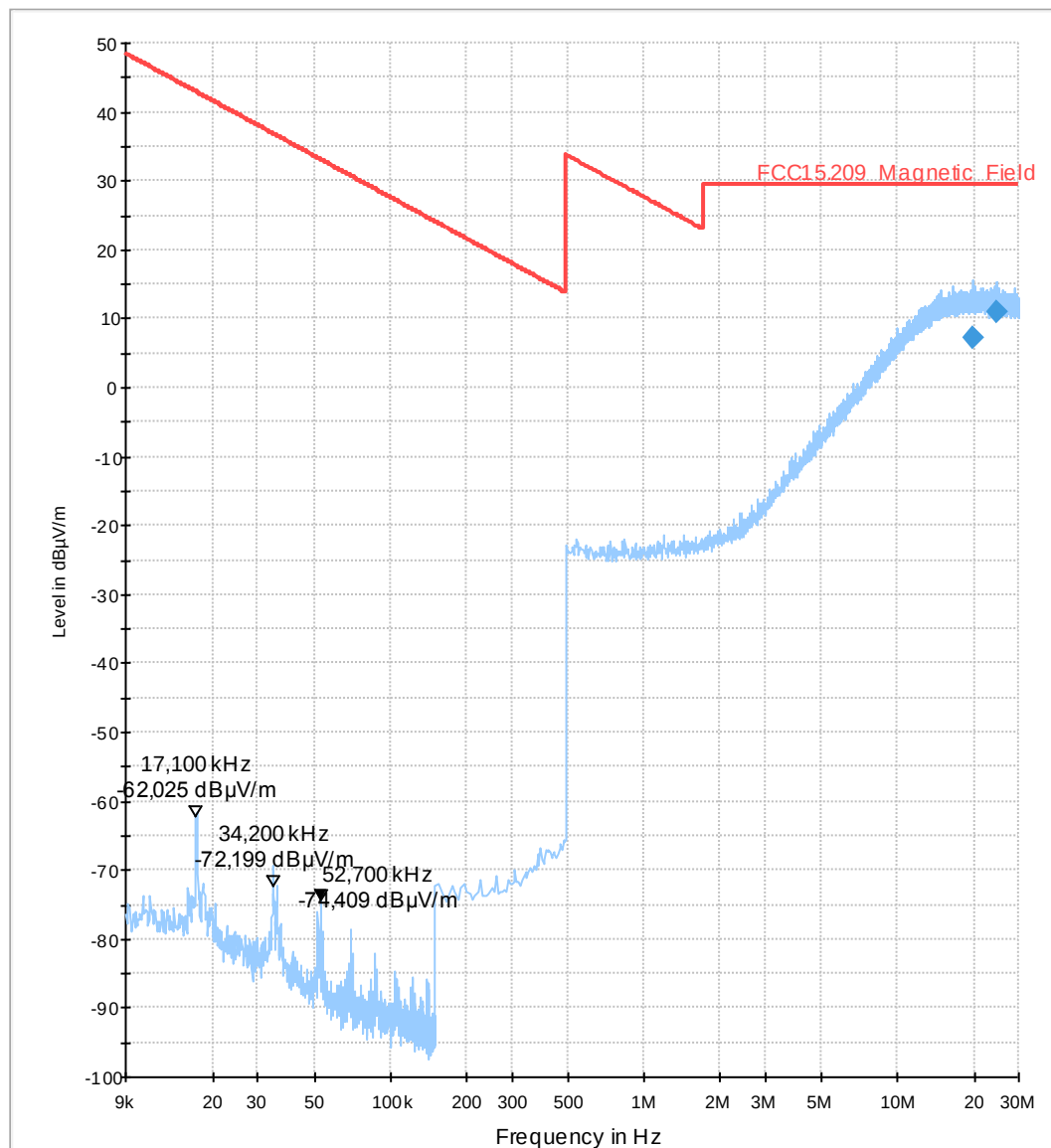
Common Information

Test description:	Magnetic Field strength Measurement related to 3 m distance
Test site and distance:	Semi Anechoic Room (SAR) with 3 m measurement distance
Measured sides of EUT:	front, right, rear, left
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Turntable step:	90° during pre-scan
Used filter:	bypass
Test specification.:	FCC 15.205 § 15.209
Operator:	Lor
Comment 1:	Channel high=810

EUT Information

EUT type	BGS2-W+DSB45+Handset Votronic+Ext.Antenna Minimag+RS232+USB cable
Manufacturer	Cinterion
Operating mode	Audio mode TX 1900
S/N	004401-08-048449-2

FCC15.209_magn hor+vert



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
19.690000	7.2	1000.0	10.000	V	151.0	2.8	22.34	29.54	
24.575000	11.1	1000.0	10.000	H	124.0	2.8	18.44	29.54	

EMI Auto Test Template: FCC15.209_magn hor+vert

Hardware Setup: HW25_FCC15109_ESCS_MgFeld_ohne_SAR_MATRIX
 Measurement Type: Open-Area-Test-Site
 Frequency Range: 9 kHz - 30 MHz
 Graphics Level Range: -100 dBµV/m - 50 dBµV/m

Preview Measurements:
 Antenna height: 1000 - 1000 cm , Step Size = 0 cm , Positioning Speed = 1
 Polarization: H + V
 Turntable position: 35 - 305 deg , Step Size = 90 deg , Positioning Speed = 8
 Scan Test Template: 01_FCC_MG_FELD_PK_FAST_H&V_EUT

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0,01 s	0 dB
150 kHz - 30 MHz	5 kHz	PK+	10 kHz	0,01 s	0 dB

Receiver: [ESS]

Data Reduction:
 Limit Line #1: FCC15.209_Magnetic_Field
 Peak Search: 20 dB , Maximum Results: 10
 Subrange Maxima: 10 Subranges , Maxima per Subrange: 1
 Acceptance Offset: -10 dB
 Maximum Number of Results: 10
 After Data Reduction: Interactive data reduction

Adjustment:
 Antenna height: Adjustment with full Range , Measuring Speed = 1
 Turntable position: Adjustment with full Range , Measuring Speed = 3
 Template for Single Meas.: 01_FCC_MG_FELD_PK_FAST_H&V_EUT

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	PK+	200 Hz	0,01 s	0 dB
150 kHz - 30 MHz	5 kHz	PK+	10 kHz	0,01 s	0 dB

Receiver: [ESS]

Final Measurements:
 Template for Single Meas.: 02_FCC_MG_FELD_QP_final_H&V_EUT

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	100 Hz	QPK	200 Hz	1 s	0 dB
150 kHz - 30 MHz	5 kHz	QPK	10 kHz	1 s	0 dB

Receiver: [ESS]

Report Settings:
 Report Template: FCC15_209_magn_vert_hor
 Create Electronic Report: PDF
 Document Name: EMI Report

Actions:
 Data Reduction: Before
 Notify: Sound (WAV file) 'tada.wav'
 Final Measurements: After
 Notify: Sound (WAV file) 'tada.wav'

1.9 Conducted emissions on AC-Power lines

Diagram No. 1.2

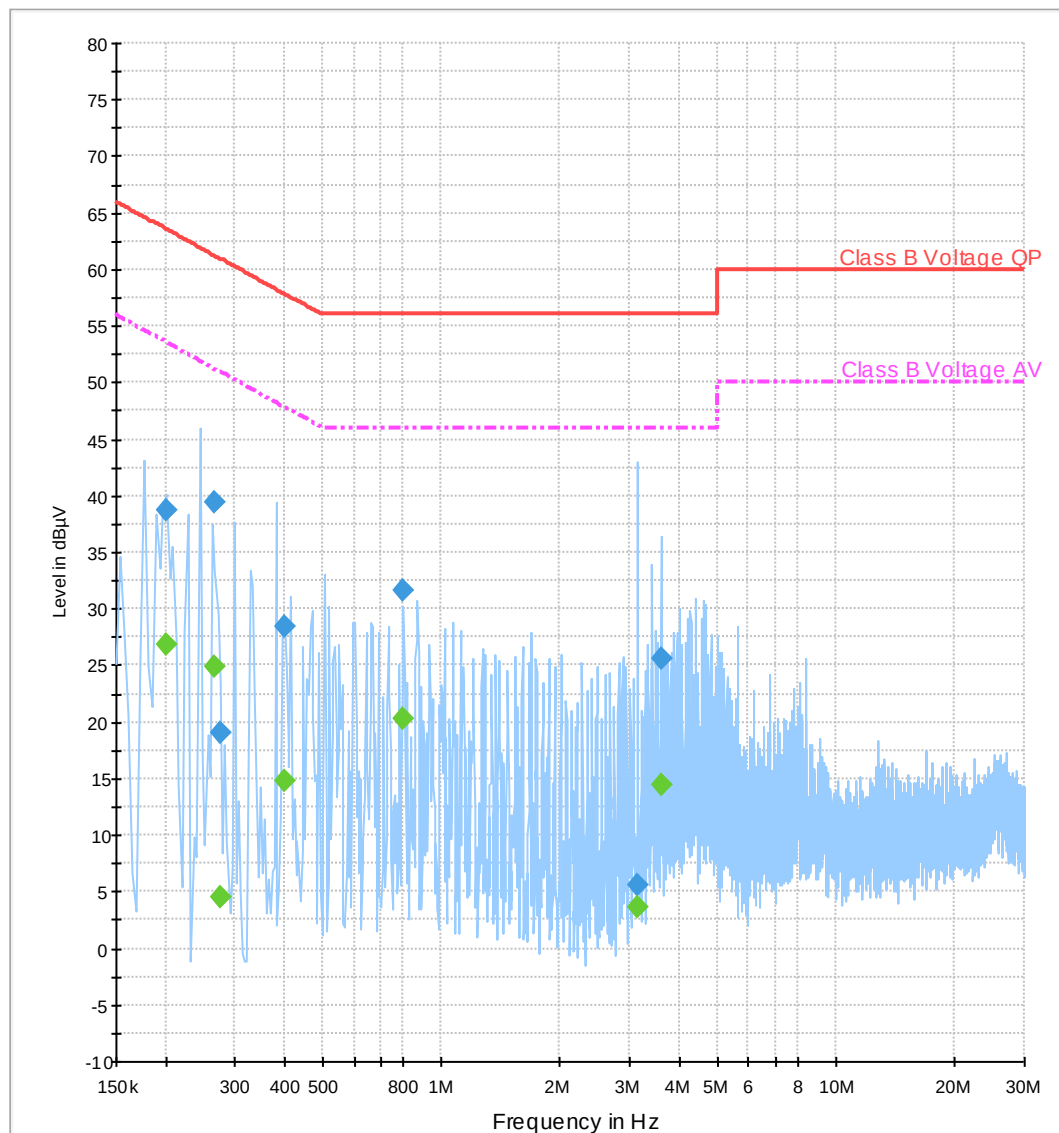
Common Information

Test Description:	Conducted Voltage Measurement Class B
Test specification:	FCC 15.207
Technical Data:	Please see next page for detailed information
Diagram:	Shows the peak values as a sum of measured ports (N+L1) in maxhold mode
Operator name:	MEL
Report.- Nr.	2-20795542a/11
Operating mode:	GSM 1900 TX-mode (Ch. 661)
Measured on line:	Mains AC L1 and N
Power during test:	110 V AC 60 Hz
Comment 1:	

EUT Information

EUT Name:	BGS2-W+AC/DC Adapter+DSB45+Handset Votronic+RS232+USB+(Notebook)
Manufacturer:	Cinterion
Serial Number:	IMEI #8449

01_Class B_Voltage_PK_QPAV_N_L1



Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.199844	38.6	15000.0	9.000	GND	L1	0.0	25.0	63.6
0.266250	39.4	15000.0	9.000	GND	L1	0.1	21.8	61.2
0.275938	19.0	15000.0	9.000	GND	L1	0.0	41.9	60.9
0.402969	28.4	15000.0	9.000	GND	L1	0.0	29.4	57.8
0.799844	31.6	15000.0	9.000	GND	N	0.0	24.4	56.0
3.123594	5.7	15000.0	9.000	GND	L1	0.1	50.4	56.0
3.608906	25.6	15000.0	9.000	GND	L1	0.0	30.4	56.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.199844	26.9	15000.0	9.000	GND	L1	0.0	26.7	53.6
0.266250	24.9	15000.0	9.000	GND	L1	0.1	26.3	51.2
0.275938	4.6	15000.0	9.000	GND	L1	0.0	46.3	50.9
0.402969	14.8	15000.0	9.000	GND	L1	0.0	33.0	47.8
0.799844	20.3	15000.0	9.000	GND	N	0.0	25.7	46.0
3.123594	3.7	15000.0	9.000	GND	L1	0.1	42.3	46.0
3.608906	14.5	15000.0	9.000	GND	L1	0.0	31.5	46.0

Technical Data of Measurements with R&S EMC32 V8.40.0**Hardware Setup: EMI conducted\ESH2-Z5 - [EMI conducted]**

Subrange 1
Frequency Range: 150 kHz - 30 MHz
Receiver: Receiver [ESCS 30]
@ GPIB0 (ADR 19), SN Ref.-Nr. 377, FW 2.30 02.01 02.36
Signal Path: ESH2-Z5 Kabeldämpfung
Correction Table: Conducted Voltage ESH2-Z5 cable loss
LISN: ESH2-Z5
Correction Table (Line 0): 4-Line-LISN ESH2-Z5 Line N
Correction Table (Line 1): 4-Line-LISN ESH2-Z5 Line L1
Correction Table (Line 2): 4-Line-LISN ESH2-Z5 Line L2
Correction Table (Line 3): 4-Line-LISN ESH2-Z5 Line L3

EMI Auto Test Template: 01_Class B Voltage_PK_QPAV_N_L1

Hardware Setup: ESH2-Z5
Measurement Type: 4 Line LISN
Frequency Range: 150 kHz - 30 MHz
Graphics Level Range: -10 dBμV - 80 dBμV

Preview Measurements:
Scan Test Template: 02_Class B_pre_PK_fast

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
150 kHz - 30 MHz	3.906 kHz	PK+	9 kHz	0,00005 s	0 dB

Receiver: [ESCS 30]

Data Reduction:
Limit Line #1: Class B Voltage QP
Limit Line #2: Class B Voltage AV
Peak Search: 6 dB , Maximum Results: 10
Subrange Maxima: 50 Subranges , Maxima per Subrange: 2
Acceptance Offset: -13 dB
Maximum Number of Results: 30
After Data Reduction: Interactive data reduction

Frequency Zoom:
Zoom Scan Template: 08_Class B_maxZoom_PK100mS

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
150 kHz - 30 MHz	5 kHz	PK+	9 kHz	0,1 s	0 dB

Receiver: [ESCS 30]

Final Measurements:
Template for Single Meas.: 07_Class B_fin_AV_QP

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
150 kHz - 30 MHz	4.5 kHz	QPK; CAV	9 kHz	15 s	0 dB

Receiver: [ESCS 30]

Diagram No. 1.4

Common Information

Test specification:

Technical Data:

Diagram:

Operator name:

Operating mode:

Measured on line:

Power during test:

Comment 1:

Conducted Voltage Measurement

FCC 15.207

Please see next page for detailed information

Shows the peak values as a sum of measured ports (N+L1) in maxhold mode

Lor

GSM850, Channel 192

Mains AC L1 and N

110 V AC 60 Hz

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EUT Information

EUT Name:

Manufacturer:

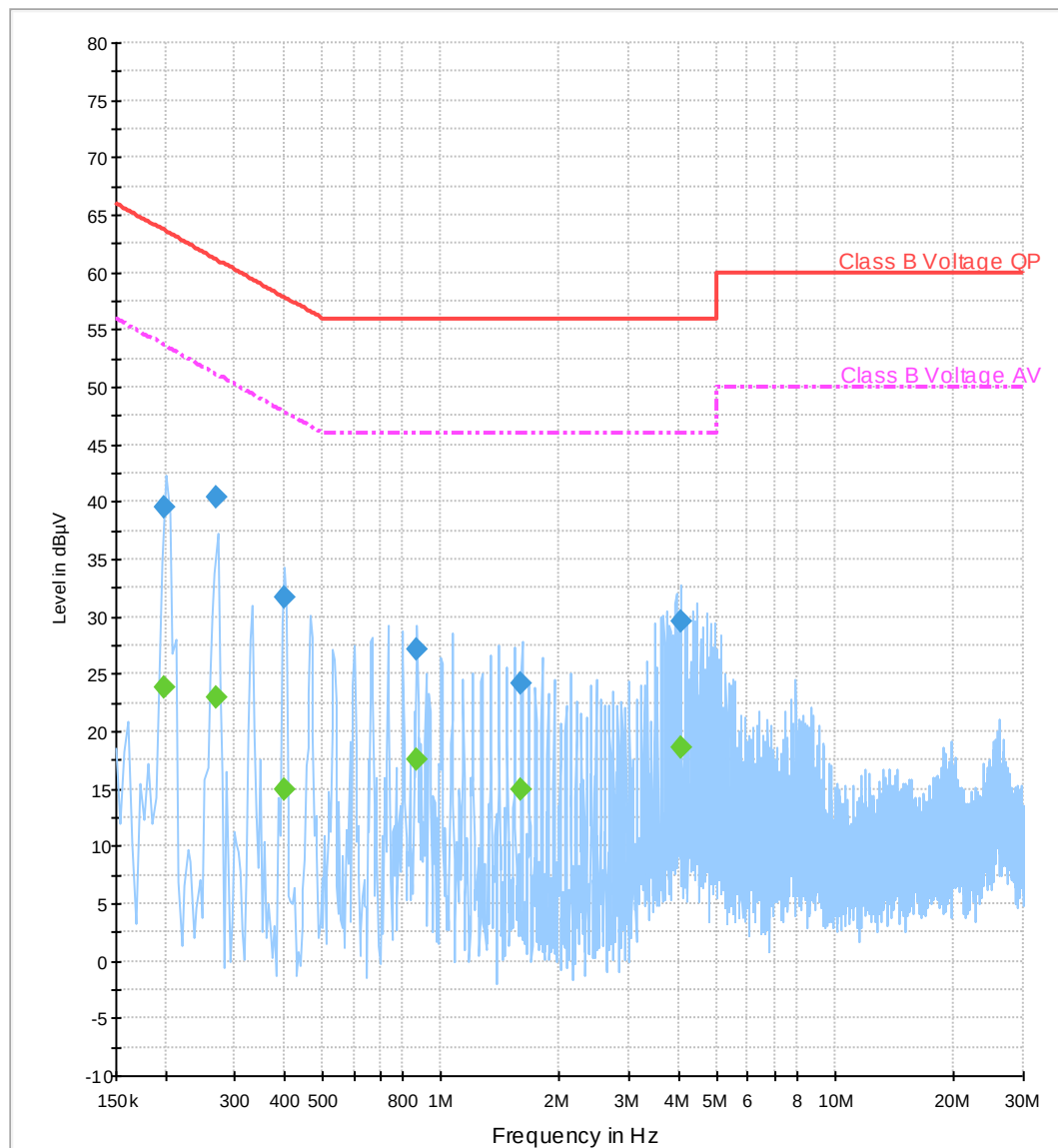
Serial Number:

BGS2-W+AC/DC Adapter+DSB45+Handset Votronic+RS232+USB+(Notebook)

Cinterion

IMEI #8449

01_Class B_Voltage_PK_QPAV_N_L1



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.198281	39.5	15000.0	9.000	GND	N	0.0	24.2	63.7
0.268594	40.4	15000.0	9.000	GND	L1	0.1	20.8	61.2
0.402500	31.7	15000.0	9.000	GND	L1	0.0	26.1	57.8
0.866250	27.2	15000.0	9.000	GND	N	0.1	28.8	56.0
1.600625	24.3	15000.0	9.000	GND	N	0.1	31.7	56.0
4.073281	29.5	15000.0	9.000	GND	N	0.1	26.5	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.198281	23.8	15000.0	9.000	GND	N	0.0	29.9	53.7
0.268594	23.0	15000.0	9.000	GND	L1	0.1	28.2	51.2
0.402500	14.9	15000.0	9.000	GND	L1	0.0	32.9	47.8
0.866250	17.6	15000.0	9.000	GND	N	0.1	28.4	46.0
1.600625	15.0	15000.0	9.000	GND	N	0.1	31.0	46.0
4.073281	18.6	15000.0	9.000	GND	N	0.1	27.4	46.0

Technical Data of Measurements with R&S EMC32 V8.40.0**Hardware Setup: EMI conducted\ESH2-Z5 - [EMI conducted]**

Subrange 1

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Receiver: [ESCS 30]