






# TEST REPORT FROM RADIO FREQUENCY INVESTIGATION LTD.

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B

To: FCC Part 24: 2002

**Test Report Serial No:**  
RFI/MPTB2/RP45184JD06A

**Supersedes Test Report Serial No:**  
RFI/MPTB1/RP45184JD06A

<b>This Test Report Is Issued Under The Authority Of Richard Jacklin, Operations Director:</b>  	<b>Checked By:</b>   pp
<b>Tested By:</b>  	<b>Release Version No: PDF01</b>
<b>Issue Date: 28 October 2003</b>	<b>Test Dates: 19 September 2003 to 26 September 2003</b>

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**RADIO FREQUENCY INVESTIGATION LTD.**

**Conformance Testing Department**

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**1. Client Information**

<b>Company Name:</b>	Ericsson AB
<b>Address:</b>	Bergfotsgatan 2 Mölnadal SE-431 84 Sweden
<b>Contact Name:</b>	Mr Pelle Hellberg

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## **2. Equipment Under Test (EUT)**

The following information has been supplied by the client:

### **2.1. Identification Of Equipment Under Test (EUT)**

**FCC ID:** B5KBRKRC16184-3

No.	Unit	Model Number	Serial Number	Revision Number
1.	RBS 2308 Cabinet	KRC 161 84/3	AE50288818	R5B

**Note** The above unit was tested for all conducted measurements at Mölndal.

No.	Unit	Model Number	Serial Number	Revision Number
1.	RBS 2308 Cabinet	KRC 161 84/3	AE50271100	R5B

**Note** The above unit was tested for radiated spurious emissions at RFI in Basingstoke.

### **RBS 2308 (115 V, 60 Hz AC) Hardware List (Conducted Measurements at Mölndal)**

Unit	Model Number	Serial Number	Revision Number
Mounting Base	SEB 112 1133/3	S952223482	R1A
IXU-21	BOE 602 15/2	AE50311237	R3B
RRU-M Edge	KRC 161 84/3	AE50288818	R5B
Radio Access Board 1	ROA 117 4765/1	AE50287671	R1C
Radio Access Board 2	ROA 117 4765/1	AE50269082	R1C
Digital Radio Board 1	ROA 117 4767/2	AE50248968	R2B
Digital Radio Board 2	ROA 117 4767/2	AE50248964	R2B
Duplex Filter 1	KRF 102 233/1	TF31002470	R1A
Duplex Filter 2	KRF 102 233/1	TF31002464	R1A
Heater	BPC 111 25/1	X031001211	R3C
PSU	BML 151 23/1	X701002269	R4D
Power Interface Board	ROA 117 4775/1	S952175100	R2A
Y Interface Board	ROA 117 4831/1	S952175338	R2A
Radio Interface Board	ROA 117 4799/3	S952181809	R1B

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**RBS 2308 (115 V, 60 Hz AC) Hardware List (Radiated Measurements at Basingstoke)**

<b>Unit</b>	<b>Model Number</b>	<b>Serial Number</b>	<b>Revision Number</b>
IXU-21	BOE 602 15/2	AE50311242	R3B
Mounting Base	SEB 112 1133/2	S952121720	R2A
RRU Edge 1900 Transceiver	KRC 161 84/3	AE50271100	R5B

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## **2.2. Description Of EUT**

The equipment under test is an RBS 2308 GMSK/8PSK base transceiver station operating in the GSM 1900 MHz band.

## **2.3. Modifications Incorporated In EUT**

The EUT has not been modified from what is described by the Model Number stated above.

## **2.4. Additional Information Related To Testing**

<b>Power Supply Requirement:</b>	Nominal 115 V 60 Hz AC Mains supply		
<b>Intended Operating Environment:</b>	Within GSM Network Coverage		
<b>Equipment Category:</b>	Fixed (Base Station)		
<b>Type of Unit:</b>	GSM 1900 MHz Base Transceiver Station		
<b>Interface Ports:</b>	Telecommunication Line – E1 or T1 PCM x 2 (G703) TIB – Synchronisation Interface Mains 115 V AC Input DVT – RBS Master Control RF x 2 RXBP x 2		
<b>Transmit Frequency Range</b>	1930 MHz to 1990 MHz		
<b>Transmit Channels Tested</b>	<b>Channel ID</b>	<b>Channel Number</b>	<b>Channel Frequency (MHz)</b>
	GMSK	512	1930.2
	GMSK	513	1930.4
	GMSK	661	1960.0
	GMSK	809	1989.6
	GMSK	810	1989.8
	8PSK	512	1930.2
	8PSK	513	1930.4
	8PSK	661	1960.0
	8PSK	809	1989.6
	8PSK	810	1989.8
<b>Receive Frequency Range</b>	1850 MHz to 1910 MHz		
<b>Maximum Power Output (EIRP)</b>	+33.5 dBm		

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## **2.5. Support Equipment – Mölndal**

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

<b>Description:</b>	BSC Simulator
<b>Brand Name:</b>	RBS Master 2
<b>Model Name or Number:</b>	LPY 107 1007/1 R1E
<b>Serial Number:</b>	00098
<b>FCC ID Number:</b>	Not applicable
<b>Cable Length And Type:</b>	3 m, 9 pin, D Type
<b>Connected to Port:</b>	G703-1 ABIS
<b>Cable Length And Type:</b>	3 m, 9 pin, D Type, Shielded
<b>Connected to Port:</b>	G.703-2 ABIS
<b>Cable Length And Type:</b>	3 m, 9 pin, D type
<b>Connected to Port:</b>	RBS DVT
<b>Cable Length And Type:</b>	2 m, BNC
<b>Connected to Port:</b>	Ext Ref In
<b>Cable Length And Type:</b>	2 m, BNC
<b>Connected to Port:</b>	TRIG Out
<b>Cable Length And Type:</b>	2 m, BNC
<b>Connected to Port:</b>	10 MHz Out
<b>Cable Length And Type:</b>	1.5 m, 9 Way, D Type
<b>Connected to Port:</b>	PC DVT
<b>Cable Length And Type:</b>	1.5 m, 9 Way, D Type
<b>Connected to Port:</b>	PC Ctrl
<b>Cable Length And Type:</b>	2 m, Mains Cable
<b>Connected to Port:</b>	AC Mains In
<b>Cable Length And Type:</b>	3 m, 34 Way Ribbon Cable
<b>Connected to Port:</b>	TIB In/Out



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**Support Equipment – Mölndal (continued)**

<b>Description:</b>	Computer
<b>Brand Name:</b>	Compaq
<b>Model Name or Number:</b>	Evo
<b>Serial Number:</b>	CZC3230BNY
<b>FCC ID Number:</b>	Not applicable
<b>Cable Length And Type:</b>	1.5 m, 9 Pin D Type
<b>Connected to Port:</b>	PC DVT
<b>Cable Length And Type:</b>	1.5 m, 9 Pin D Type
<b>Connected to Port:</b>	PC Ctrl
<b>Cable Length And Type:</b>	2 m, Mains Cable
<b>Connected to Port:</b>	AC Input
<b>Cable Length And Type:</b>	0.3 m, GPIB
<b>Connected to Port:</b>	IEEE Bus
<b>Cable Length And Type:</b>	4 m, 8 Core
<b>Connected to Port:</b>	Network
<b>Cable Length And Type:</b>	5 m, 7 Way
<b>Connected to Port:</b>	Mouse
<b>Cable Length And Type:</b>	5 m, 7 Way
<b>Connected to Port:</b>	Keyboard

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## **2.6.Support Equipment - Basingstoke**

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

<b>Description:</b>	Laptop PC
<b>Brand Name:</b>	Login
<b>Model Name or Number:</b>	Rocky II Plus
<b>Serial Number:</b>	1974449
<b>FCC ID Number:</b>	Not stated
<b>Cable Length And Type:</b>	9 Pin D-Connector, Serial Cable 2.5m Shielded
<b>Connected to Port:</b>	PC Control on RBS-Master

<b>Description:</b>	Controller RBS
<b>Brand Name:</b>	Ericsson
<b>Model Name or Number:</b>	RBS Master 2
<b>Serial Number:</b>	LPY 107 1007/1
<b>FCC ID Number:</b>	None stated
<b>Cable Length And Type:</b>	9 Pin D-Connector, Serial Cable 15m Shielded (x2)
<b>Connected to Port:</b>	G.703 Ports A&B (on RBS) to ports A&B (on base station)

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### **3. Test Specification, Methods And Procedures**

#### **3.1. Test Specification**

<b>Reference:</b>	FCC Part 24: 2002 Subpart E (Broadband PCS)
<b>Title:</b>	Code of Federal Regulations, Part 24 (47CFR) Personal Communication Services.
<b>Comments:</b>	None.
<b>Purpose of Test:</b>	To determine whether the equipment complied with the requirements of the specification for the purposes of certification.

<b>Reference:</b>	FCC Part 2: 2002
<b>Title:</b>	Code of Federal Regulations, Part 2 (47CFR) Frequency allocations and radio treaty matters; General Rules and Regulations
<b>Comments:</b>	None.
<b>Purpose of Test:</b>	To determine whether the equipment complied with the requirements of the specification for the purposes of certification.

### **3.2. Methods And Procedures**

The methods and procedures used were as detailed in:

47CFR: Part 24 (2002)

Title: Federal Communications Commission: Code of Federal Regulations 47:  
Public Mobile Services.

47CFR: Part 2 (2002)

Title: Federal Communications Commission: Code of Federal Regulations 47:  
Telecommunication

ANSI/TIA-603-B-2002

Land Mobile Communications Equipment, Measurements and performance Standards.

ANSI C63.2 (1996)

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

ANSI C63.4 (2001)

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

ANSI C63.5 (1998)

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

ANSI C63.7 (1988)

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

CISPR 16-1 (1999)

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

### **3.3. Definition Of Measurement Equipment**

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

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#### **4. Deviations From The Test Specification**

None

## **5. Operation Of The EUT During Testing**

### **5.1. Operating Conditions**

The EUT was tested in a normal laboratory environment.

### **5.2. Operating Modes**

The EUT operates in modulation modes 8PSK and GMSK and therefore all tests have been performed in both modes.

There were two transceivers tested, each transceiver has 2 transmitter outputs TX0-TX1 for the first transceiver and TX2-TX3 for the second. This gives a total of 4 transmitters. All transmitters are identical with regards to operating modes.

For Occupied Bandwidth, Band Edge testing and Frequency Stability, TX0 and TX2 were chosen to represent each transceiver.

Modulation Characteristics were performed on TX1 and TX3.

Carrier Output Power and Spurious Emissions were tested all on all 4 transceivers.

All transmitters TX0, TX1, TX2 and TX3 are identical in all respects. Testing was performed on the specified TXs to show that they were indeed identical.

Tests were performed on bottom (512), middle (661) and top (810) channels unless stated otherwise for each measurement.

The ARFCNs tested at Band Edges needed to have their power levels reduced by 4 dB in order to fulfil the requirements. The ARFCNs adjacent to these channels were also tested to show that the requirements were met for these ARFCNs at full output power.

### **5.3. Configuration and Peripherals**

The EUT was tested in the following configuration:

As a standalone RBS 2308 base transceiver station.

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## **6. Summary Of Test Results**

### **Transmit Mode**

<b>Range Of Measurements</b>	<b>Specification Reference</b>	<b>Mode of Operation</b>	<b>Port Type</b>	<b>Compliance Status</b>
Transmitter Carrier Output Power	Part 2 of CFR 47: 2002, Section 2.1046(a)	Transmit	Antenna Terminals	Complied
Transmitter Modulation Characteristics	Part 2 of CFR 47: 2002, Section 2.1047	Transmit	Antenna Terminals	Complied
Transmitter Frequency Stability (Temperature Variation)	Part 2 & 24 of CFR 47: 2002, Section 2.1055/24.235	Transmit	Antenna Terminals	Complied
Transmitter Frequency Stability (Voltage Variation)	Part 2 & 24 of CFR 47: 2002, Section 2.1055/24.235	Transmit	Antenna Terminals	Complied
Transmitter Occupied Bandwidth	Part 2 & 24 of CFR 47: 2002 Sections 2.1049/24.238	Transmit	Antenna Terminals	Complied
Transmitter Conducted Out of Band Emissions	Part 2 & 24 of CFR 47: 2002 Sections 2.1051/24.238	Transmit	Antenna Terminals	Complied
Transmitter Conducted Inband Intermodulation	Part 2 & 24 of CFR 47: 2002 Sections 2.1051/24.238	Transmit	Antenna Terminals	Complied
Transmitter Conducted Emissions at Band Edges	Part 2 & 24 of CFR 47: 2002 Section 2.1051/24.238	Transmit	Antenna Terminals	Complied
Electric Field Strength, Spurious Emissions (30 MHz to 20.0 GHz)	Part 2 & 24 of CFR 47: 2002 Section 2.1053/24.238	Transmit	Enclosure	Complied

### **6.1. Location Of Tests**

All the measurements described in this report were performed at the premises of Ericsson AB, Bergfotsgatan 2, Mölndal, SE-431 84, Sweden and Radio Frequency Investigation Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ, England.

## **7. Measurements, Examinations And Derived Results**

### **7.1. General Comments**

7.1.1. This section contains test results only. Details of the test methods and procedures can be found in section 9 of this report.

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



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**7.2. Transmitter Carrier Output Power: Section 2.1046 (a)**

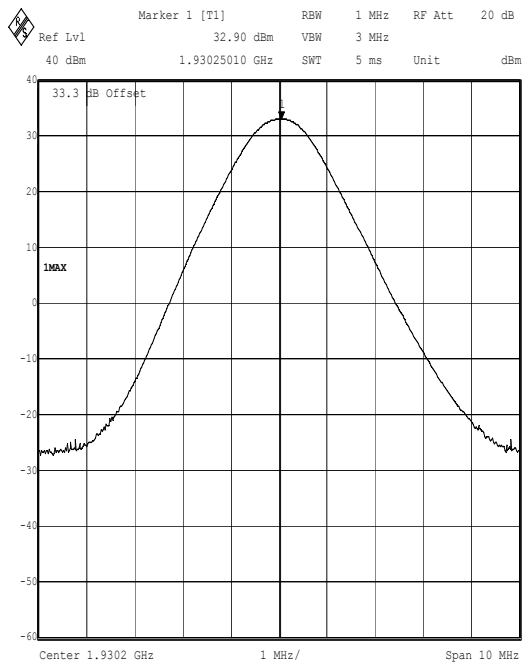
7.2.1. The EUT was configured as for Conducted Carrier Output Power Measurements testing as described in Section 9 of this report.

7.2.2. Tests were performed to identify the maximum transmit power in accordance with FCC Part 2.1046(a) for conducted power, with reference to TIA\_EIA\_603B.

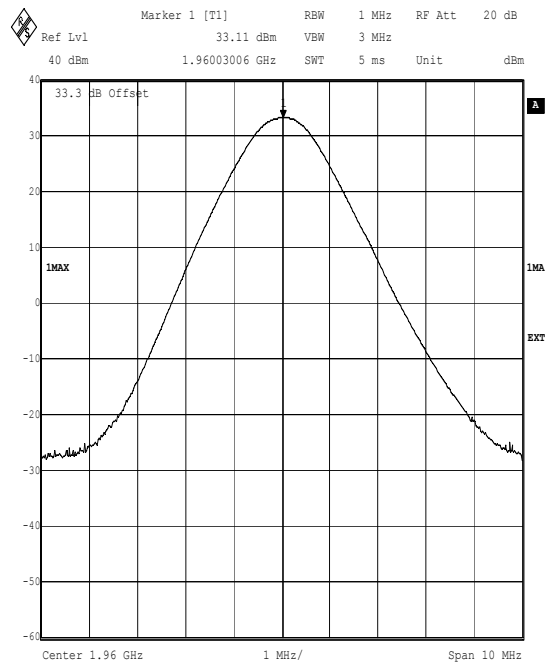
**Results: GMSK – TX0**

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Level (dBm)</b>
Bottom	1930.25010	32.9
Middle	1960.03006	33.1
Top	1989.83006	33.2

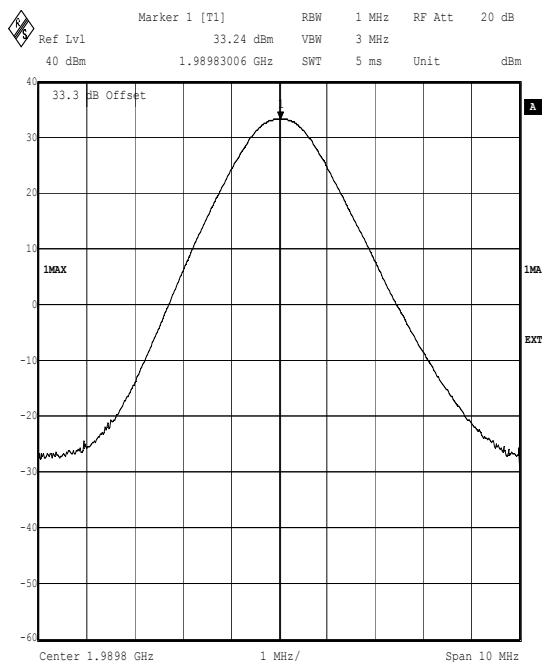
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**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)**

Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +33.5dBm. Output Power. GMSK TX0. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:24:58



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH661. +33.5dBm. Output Power. GMSK TX0. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:09:07



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +33.5dBm. Output Power. GMSK TX0. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:30:10

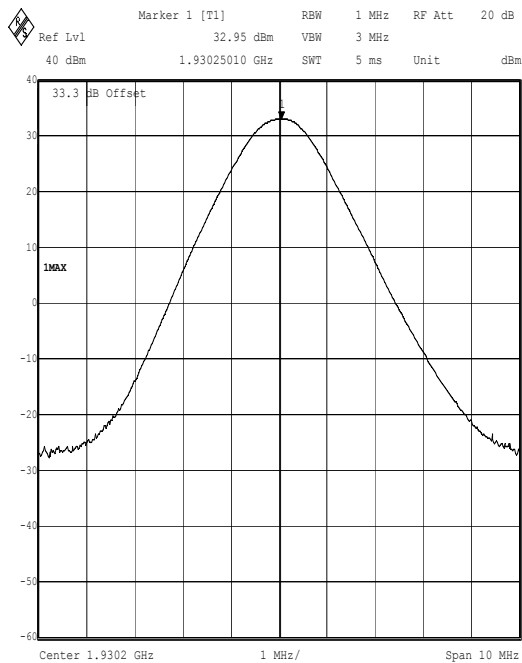
**Test Of: Ericsson AB.****RBS 2308 1900 MHz R5B****To: FCC Part 24: 2002**

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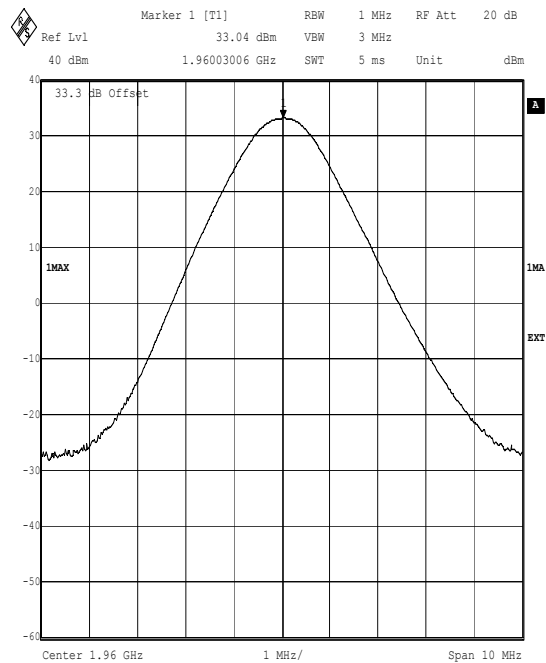
**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)****Results: GMSK – TX1**

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Level (dBm)</b>
Bottom	1930.25010	32.9
Middle	1960.03006	33.0
Top	1989.81002	33.0

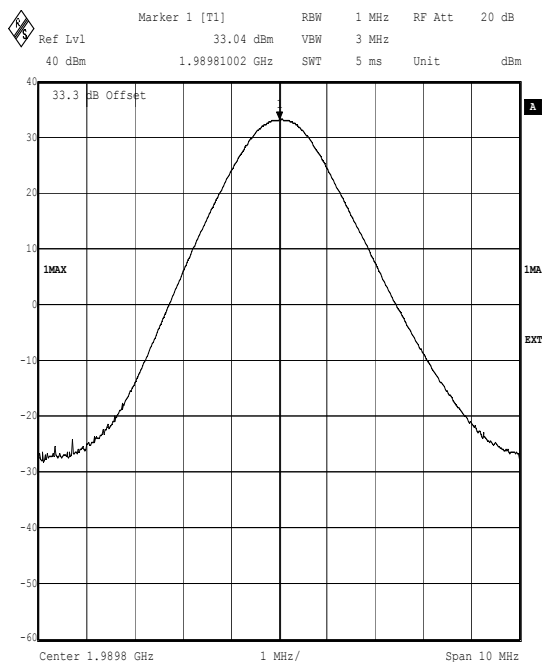
Test Of: Ericsson AB.  
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To: FCC Part 24: 2002

**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)**

Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +33.5dBm. Output Power. GMSK TX1. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:37:00



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH661. +33.5dBm. Output Power. GMSK TX1. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:39:14



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +33.5dBm. Output Power. GMSK TX1. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:01:14

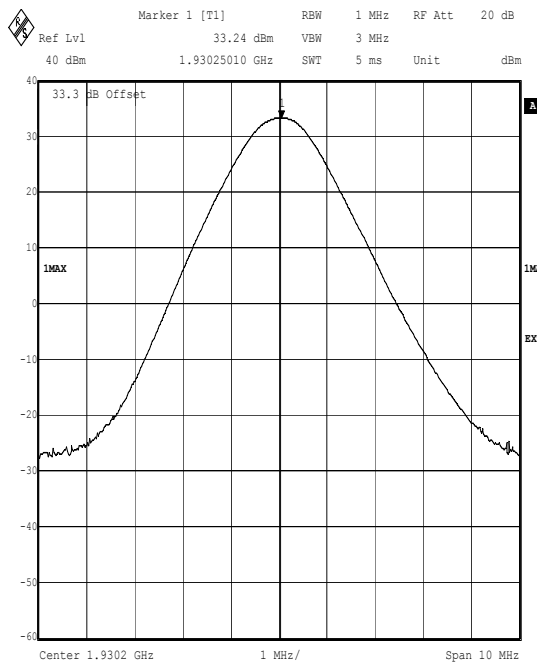
**Test Of: Ericsson AB.****RBS 2308 1900 MHz R5B****To: FCC Part 24: 2002**

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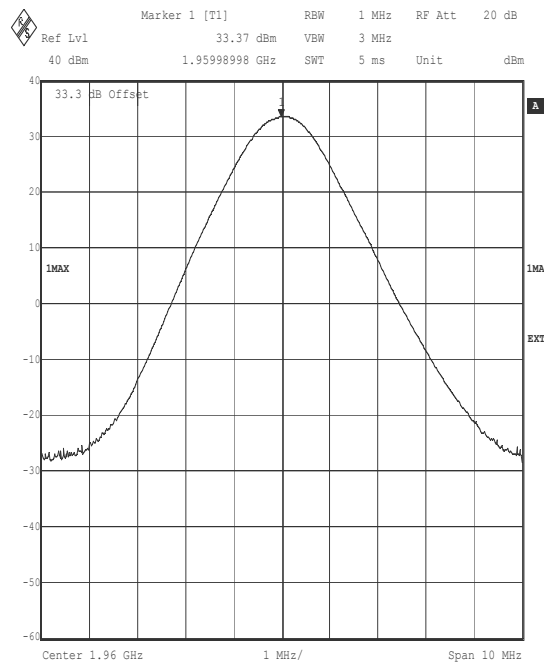
**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)****Mode: GMSK – TX2**

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Level (dBm)</b>
Bottom	1930.25010	33.2
Middle	1959.98998	33.4
Top	1989.81002	33.4

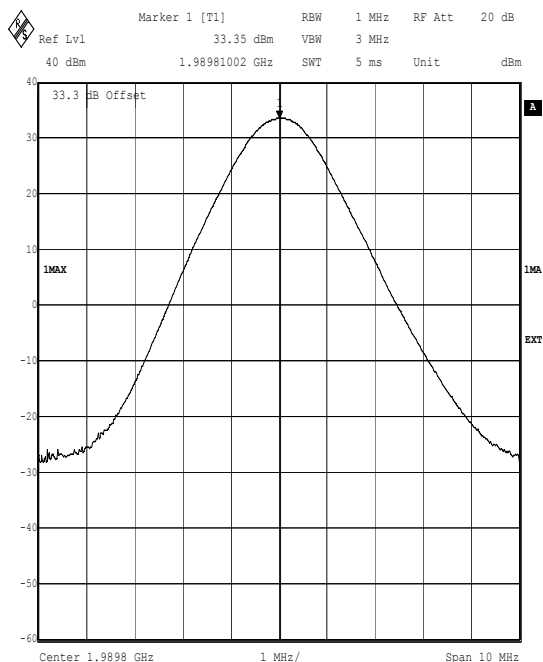
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**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)**

Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +33.5dBm. Output Power. GMSK TX2. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:48:27



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH661. +33.5dBm. Output Power. GMSK TX2. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:50:05



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +33.5dBm. Output Power. GMSK TX2. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:51:43

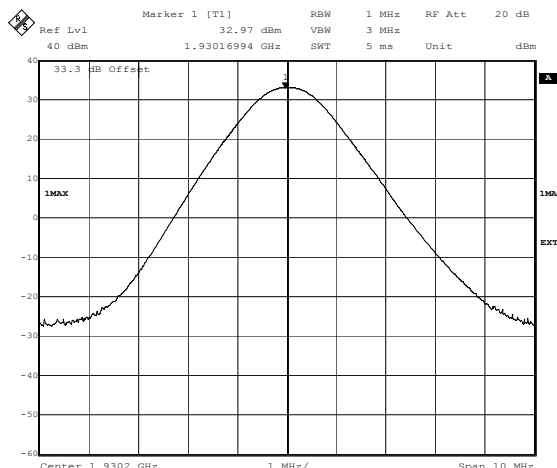
**Test Of: Ericsson AB.****RBS 2308 1900 MHz R5B****To: FCC Part 24: 2002**

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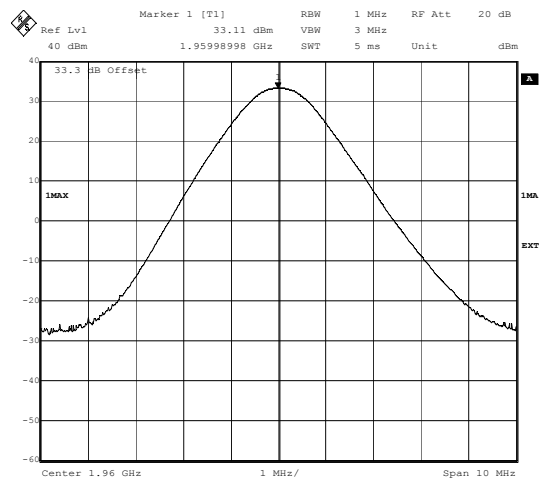
**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)****Mode GMSK – TX3**

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Level (dBm)</b>
Bottom	1930.16994	33.0
Middle	1959.98998	33.1
Top	1989.76994	33.1

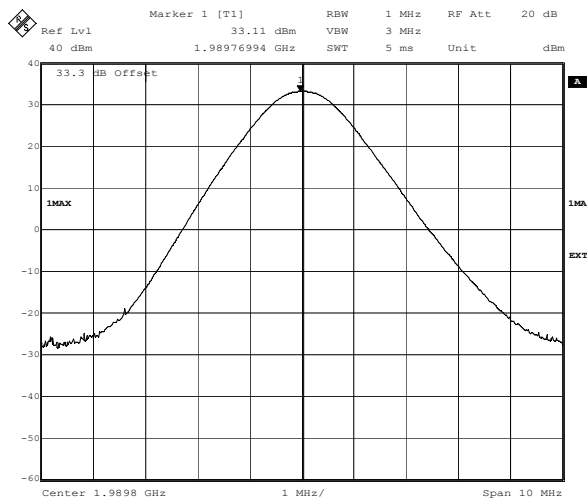
Test Of: Ericsson AB.  
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**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)**

Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +33.5dBm. Output Power. GMSK TX3. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:55:35



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH661. +33.5dBm. Output Power. GMSK TX3. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:57:12



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +33.5dBm. Output Power. GMSK TX3. FCC Part 2.1046(a)  
Date: 19.SEP.2003 15:58:47



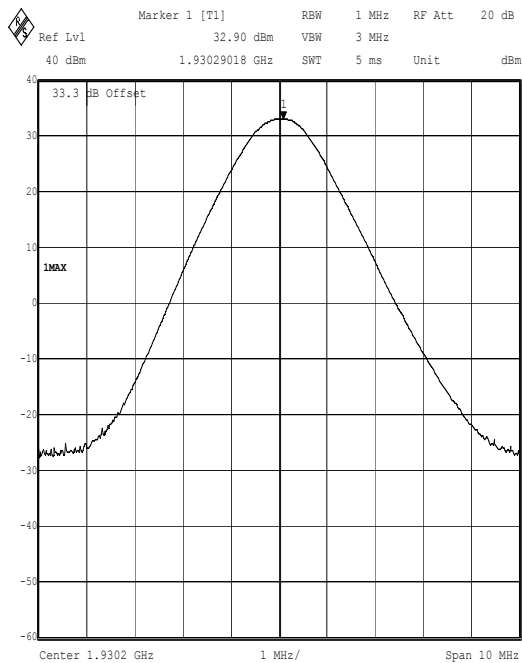
**Test Of: Ericsson AB.****RBS 2308 1900 MHz R5B****To: FCC Part 24: 2002**

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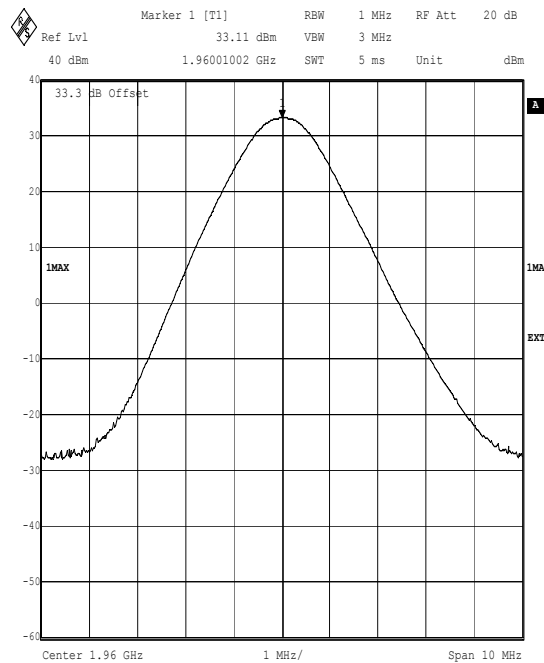
**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)****Mode 8PSK (EDGE) – TX0**

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Level (dBm)</b>
Bottom	1930.29018	32.9
Middle	1960.01002	33.1
Top	1989.85010	33.1

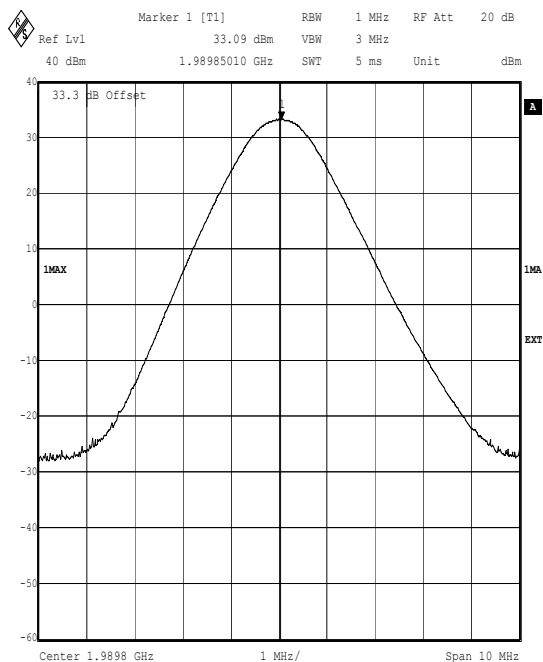
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)**

Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +30.2dBm. Output Power. 8PSK TX0. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:11:22



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH661. +30.2dBm. Output Power. 8PSK TX0. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:13:30



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +30.2dBm. Output Power. 8PSK TX0. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:15:00

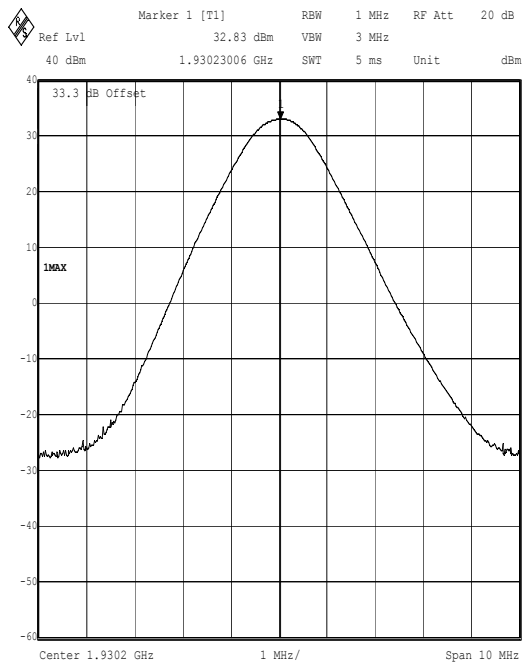
**Test Of: Ericsson AB.****RBS 2308 1900 MHz R5B****To: FCC Part 24: 2002**

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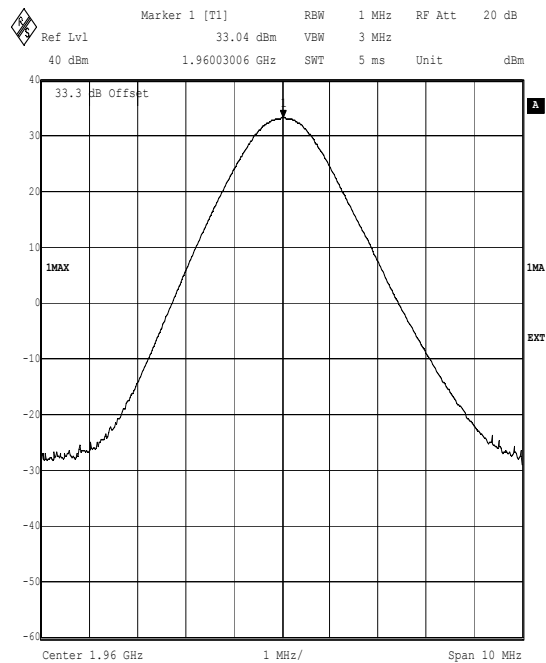
**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)****Mode 8PSK (EDGE) – TX1**

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Level (dBm)</b>
Bottom	1930.23006	32.8
Middle	1960.03006	33.0
Top	1989.81002	33.0

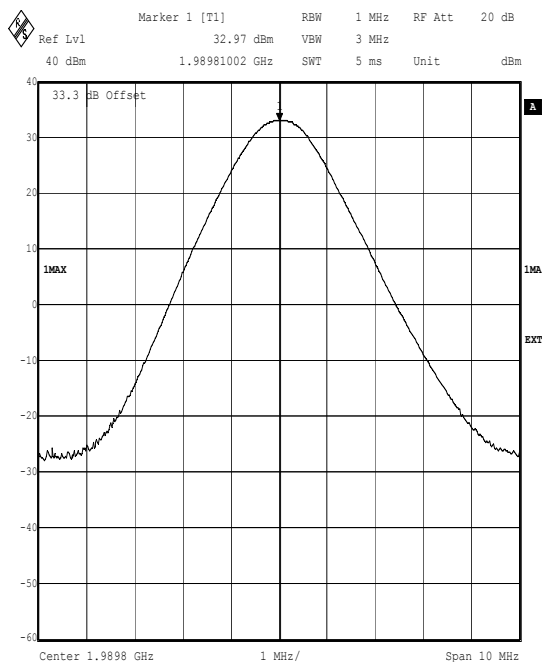
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)**

Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +30.2dBm. Output Power. 8PSK TX1. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:17:18



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH661. +30.2dBm. Output Power. 8PSK TX1. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:19:01



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +30.2dBm. Output Power. 8PSK TX1. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:21:08

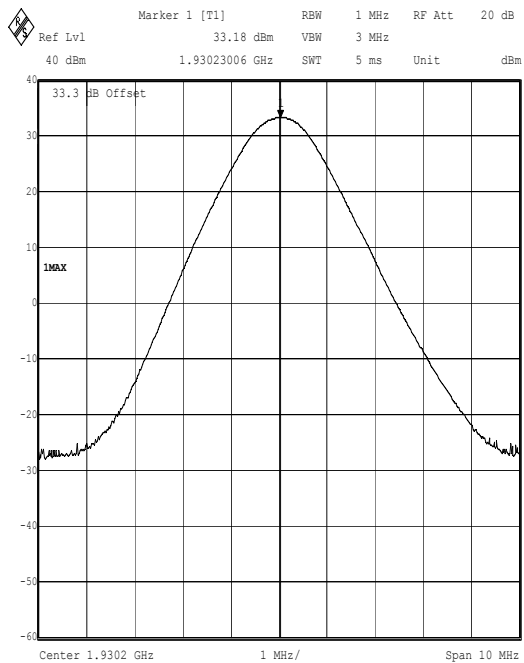
**Test Of: Ericsson AB.****RBS 2308 1900 MHz R5B****To: FCC Part 24: 2002**

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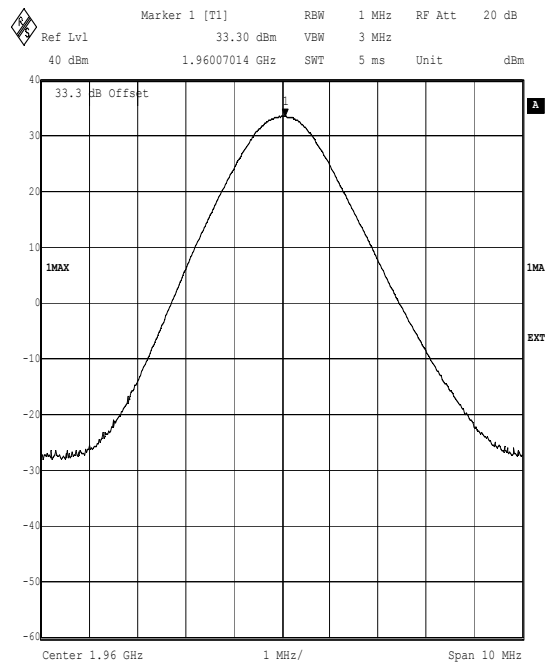
**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)****Mode 8PSK (EDGE) – TX2**

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Level (dBm)</b>
Bottom	1930.23006	33.2
Middle	1960.07014	33.3
Top	1989.76994	33.3

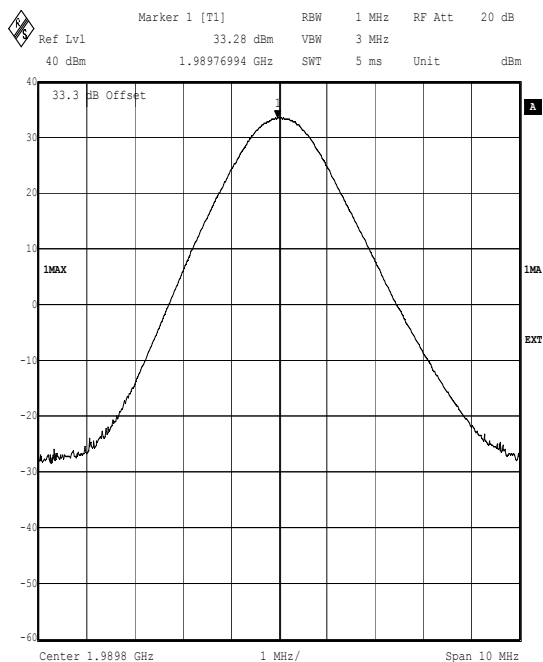
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)**

Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +30.2dBm. Output Power. 8PSK TX2. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:27:55



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH661. +30.2dBm. Output Power. 8PSK TX2. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:29:55



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +30.2dBm. Output Power. 8PSK TX2. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:31:33

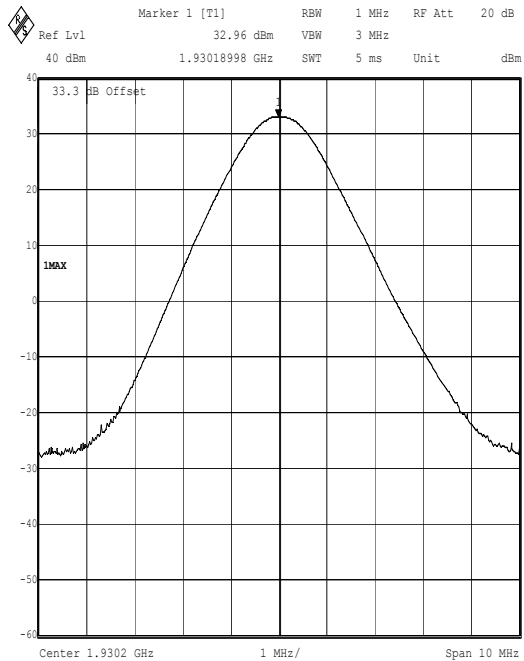
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**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)**

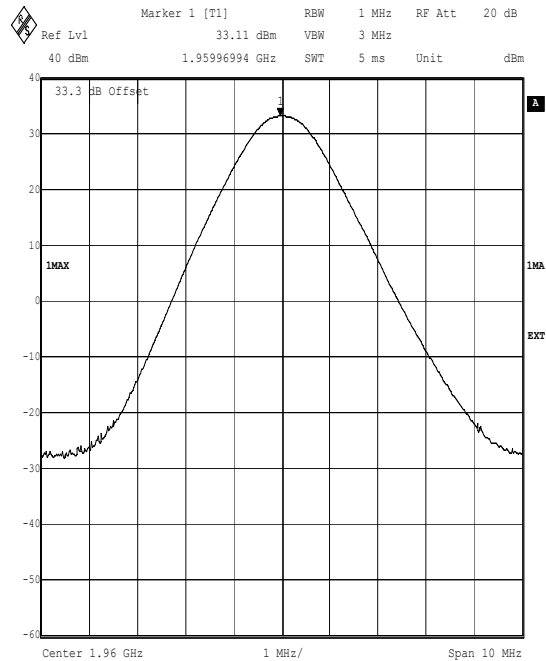
**Mode 8PSK (EDGE) – TX3**

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Level (dBm)</b>
Bottom	1930.18998	33.0
Middle	1959.96994	33.1
Top	1989.85010	33.0

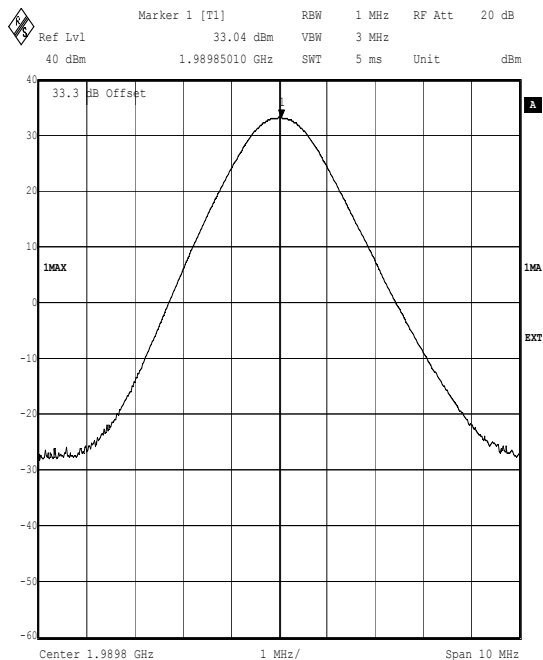
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Carrier Output Power: Section 2.1046 (a) (Continued)**

Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +30.2dBm. Output Power. 8PSK TX3. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:33:53



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH661. +30.2dBm. Output Power. 8PSK TX3. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:35:48



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +30.2dBm. Output Power. 8PSK TX3. FCC Part 2.1046(a)  
Date: 19.SEP.2003 16:37:15



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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### **7.3. Transmitter Modulation Characteristics: Section 2.1047**

7.3.1. The EUT was configured as for Modulation Characteristics testing as described in Section 9 of this report.

7.3.2. Tests were performed to identify the modulation characteristics in accordance with FCC Part 2.1047, with reference to TIA\_EIA\_603B.

#### **Results: Middle Channel**

GMSK	Phase Error (°)	
	TX1	TX3
Phase Error	3.91	3.94
Max	3.94	

8PSK	EVM (% RMS)	
	TX1	TX3
EVM	2.37	2.60
Max EVM	2.60	

8PSK	Origin Offset (dBc)	
	TX1	TX3
Origin Offset	-44.60	-43.49
Max OO	-43.49	

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

#### **7.4. Transmitter Frequency Stability (Temperature Variation): Section 24.235**

7.4.1. The EUT was configured as for frequency stability measurements as described in Section 9 of this report.

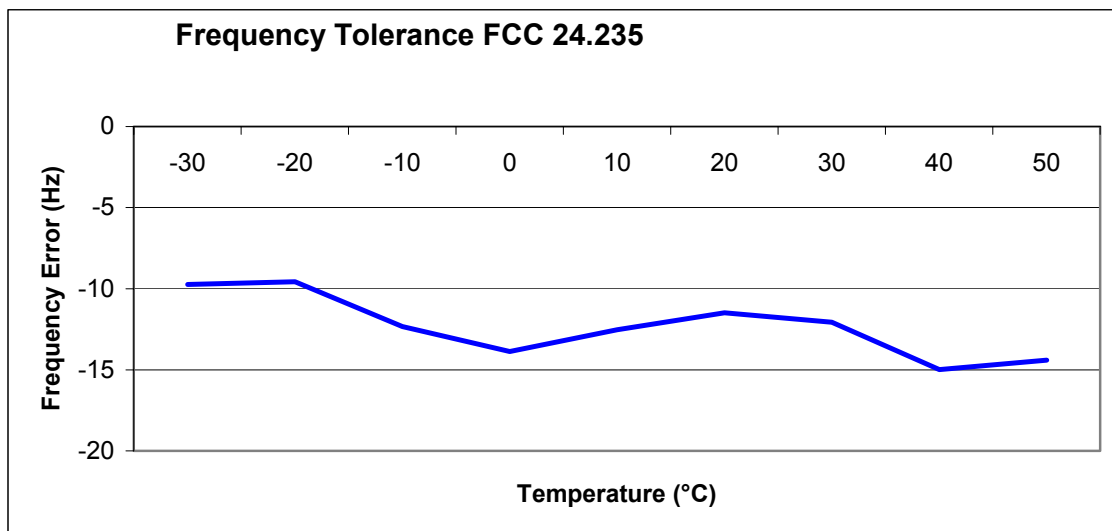
7.4.2. Tests were performed to identify the maximum frequency error of the EUT with variations in ambient temperature.

##### **Results: GMSK – TX0**

##### **Channel: 512 (1930.2 MHz)**

Temperature (°C)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Frequency Error (Hz)	Margin (MHz)	Result
-30	1930.19999025	1930.0	-9.75	0.19999025	Complied
-20	1930.19999044	1930.0	-9.56	0.19999044	Complied
-10	1930.19998767	1930.0	-12.33	0.19998767	Complied
0	1930.19998612	1930.0	-13.88	0.19998612	Complied
10	1930.19998747	1930.0	-12.53	0.19998747	Complied
20	1930.19998851	1930.0	-11.49	0.19998851	Complied
30	1930.19998793	1930.0	-12.07	0.19998793	Complied
40	1930.19998502	1930.0	-14.98	0.19998502	Complied
50	1930.19998560	1930.0	-14.40	0.19998560	Complied

##### **Frequency Variation From 1930.2 MHz**

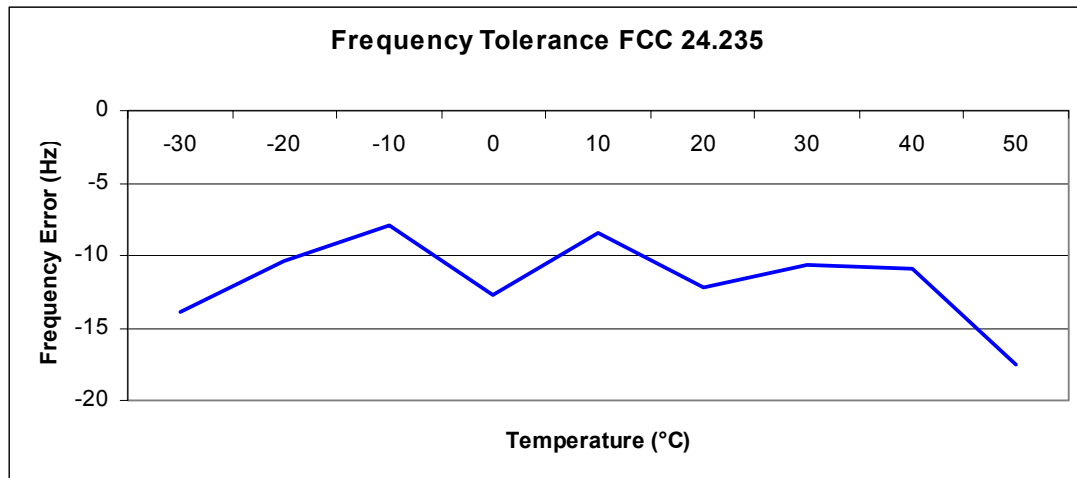


Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Frequency Stability (Temperature Variation): Section 24.235 (continued)****Results: GMSK – TX0****Channel: 810 (1989.8 MHz)**

Temperature (°C)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Frequency Error (Hz)	Margin (MHz)	Result
-30	1989.79998612	1990.0	-13.88	0.20001388	Complied
-20	1989.79998960	1990.0	-10.40	0.20001040	Complied
-10	1989.79999206	1990.0	-7.94	0.20000794	Complied
0	1989.79998721	1990.0	-12.79	0.20001279	Complied
10	1989.79999154	1990.0	-8.46	0.20000846	Complied
20	1989.79998773	1990.0	-12.27	0.20001227	Complied
30	1989.79998935	1990.0	-10.65	0.20001065	Complied
40	1989.79998915	1990.0	-10.85	0.20001085	Complied
50	1989.79998250	1990.0	-17.50	0.20001750	Complied

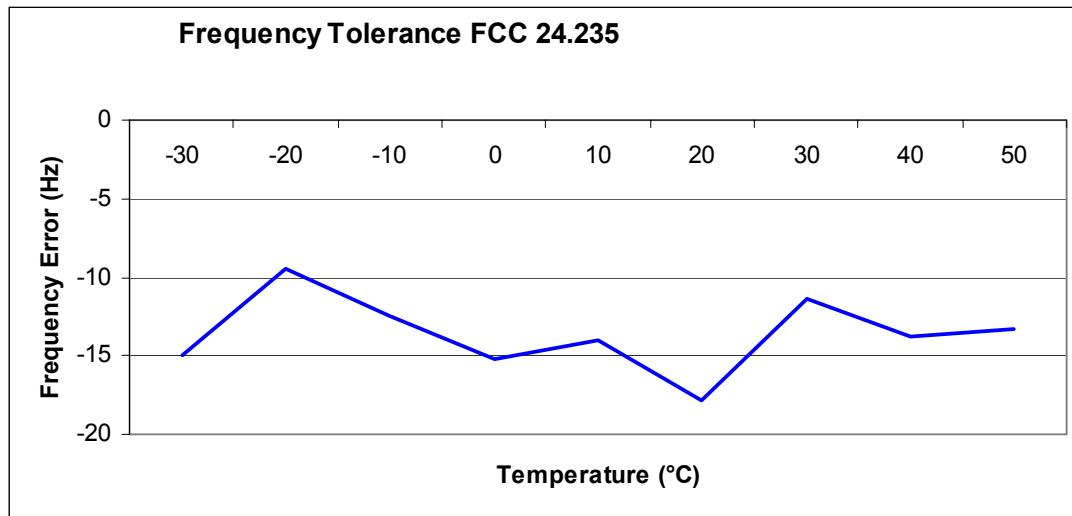
**Frequency Variation From 1989.8 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Frequency Stability (Temperature Variation): Section 24.235 (continued)****Results: 8PSK – TX0****Channel: 512 (1930.2 MHz)**

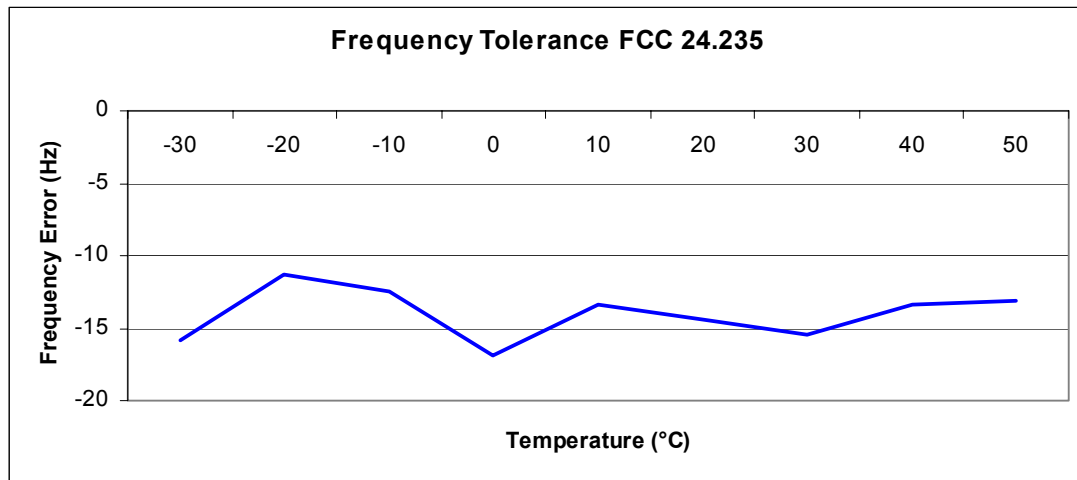
Temperature (°C)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Frequency Error (Hz)	Margin (MHz)	Result
-30	1930.19998508	1930.0	-14.92	0.19998508	Complied
-20	1930.19999057	1930.0	-9.43	0.19999057	Complied
-10	1930.19998760	1930.0	-12.40	0.19998760	Complied
0	1930.19998476	1930.0	-15.24	0.19998476	Complied
10	1930.19998599	1930.0	-14.01	0.19998599	Complied
20	1930.19998218	1930.0	-17.82	0.19998218	Complied
30	1930.19998864	1930.0	-11.36	0.19998864	Complied
40	1930.19998618	1930.0	-13.82	0.19998618	Complied
50	1930.19998670	1930.0	-13.30	0.19998670	Complied

**Frequency Variation From 1930.2 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Frequency Stability (Temperature Variation): Section 24.235 (continued)****Results: 8PSK – TX0****Channel: 810 (1989.8 MHz)**

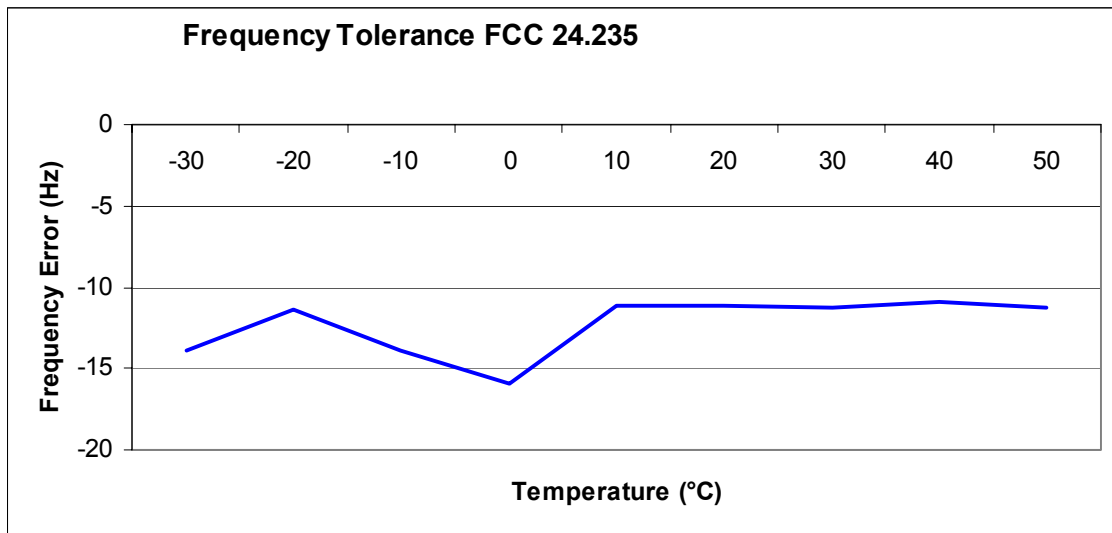
Temperature (°C)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Frequency Error (Hz)	Margin (MHz)	Result
-30	1989.79998412	1990.0	-15.88	0.20001588	Complied
-20	1989.79998864	1990.0	-11.36	0.20001136	Complied
-10	1989.79998747	1990.0	-12.53	0.20001253	Complied
0	1989.79998308	1990.0	-16.92	0.20001692	Complied
10	1989.79998663	1990.0	-13.37	0.20001337	Complied
20	1989.79998554	1990.0	-14.46	0.20001446	Complied
30	1989.79998457	1990.0	-15.43	0.20001543	Complied
40	1989.79998657	1990.0	-13.43	0.20001343	Complied
50	1989.79998689	1990.0	-13.11	0.20001311	Complied

**Frequency Variation From 1989.8 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Frequency Stability (Temperature Variation): Section 24.235 (continued)****Results: GMSK – TX2****Channel: 512 (1930.2 MHz)**

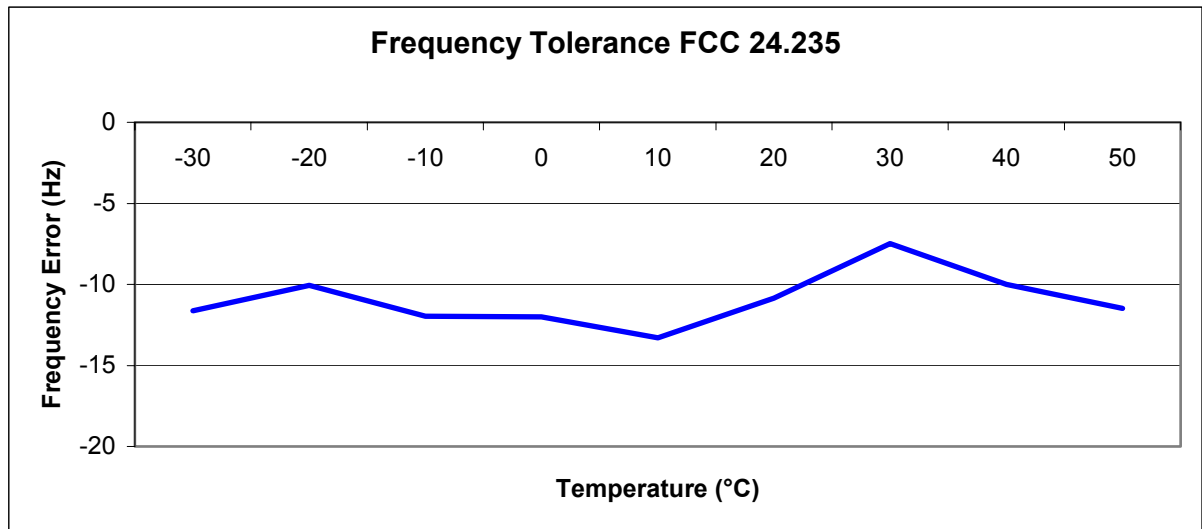
Temperature (°C)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Frequency Error (Hz)	Margin (MHz)	Result
-30	1930.19998612	1930.0	-13.88	0.19998612	Complied
-20	1930.19998857	1930.0	-11.43	0.19998857	Complied
-10	1930.19998612	1930.0	-13.88	0.19998612	Complied
0	1930.19998405	1930.0	-15.95	0.19998405	Complied
10	1930.19998889	1930.0	-11.11	0.19998889	Complied
20	1930.19998889	1930.0	-11.11	0.19998889	Complied
30	1930.19998870	1930.0	-11.30	0.19998870	Complied
40	1930.19998915	1930.0	-10.85	0.19998915	Complied
50	1930.19998872	1930.0	-11.28	0.19998872	Complied

**Frequency Variation From 1930.2 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Frequency Stability (Temperature Variation): Section 24.235 (continued)****Results: GMSK – TX2****Channel: 810 (1989.8 MHz)**

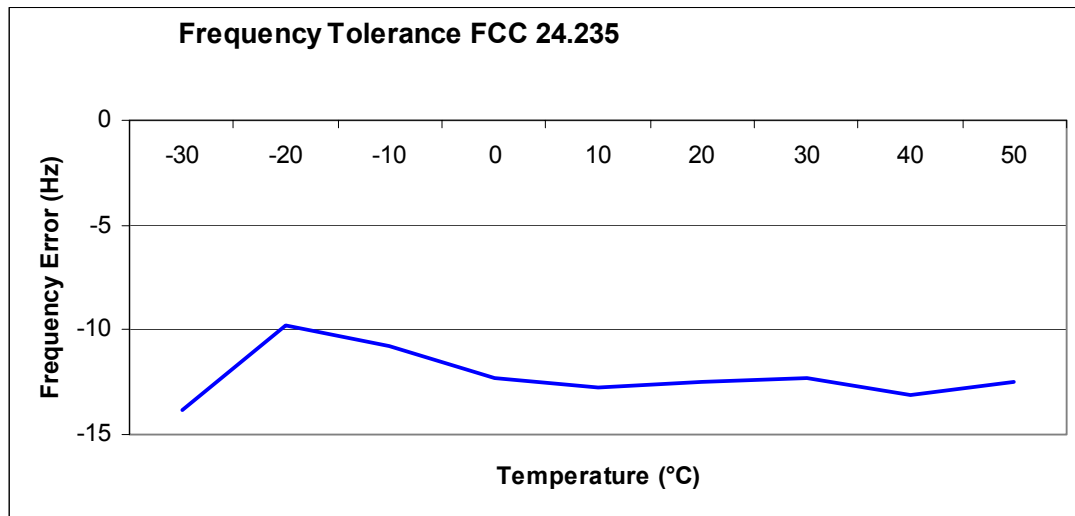
Temperature (°C)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Frequency Error (Hz)	Margin (MHz)	Result
-30	1989.79998838	1990.0	-11.62	0.20001162	Complied
-20	1989.79998993	1990.0	-10.07	0.20001007	Complied
-10	1989.79998805	1990.0	-11.95	0.20001195	Complied
0	1989.79998799	1990.0	-12.01	0.20001201	Complied
10	1989.79998670	1990.0	-13.30	0.20001330	Complied
20	1989.79998915	1990.0	-10.85	0.20001085	Complied
30	1989.79999251	1990.0	-7.49	0.20000749	Complied
40	1989.79998999	1990.0	-10.01	0.20001001	Complied
50	1989.79998851	1990.0	-11.49	0.20001149	Complied

**Frequency Variation From 1989.8 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Frequency Stability (Temperature Variation): Section 24.235 (continued)****Results: 8PSK – TX2****Channel: 512 (1930.2 MHz)**

Temperature (°C)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Frequency Error (Hz)	Margin (MHz)	Result
-30	1930.19998618	1930.0	-13.82	0.19998618	Complied
-20	1930.19999025	1930.0	-9.75	0.19999025	Complied
-10	1930.19998922	1930.0	-10.78	0.19998922	Complied
0	1930.19998773	1930.0	-12.27	0.19998773	Complied
10	1930.19998728	1930.0	-12.72	0.19998728	Complied
20	1930.19998754	1930.0	-12.46	0.19998754	Complied
30	1930.19998767	1930.0	-12.33	0.19998767	Complied
40	1930.19998689	1930.0	-13.11	0.19998689	Complied
50	1930.19998749	1930.0	-12.51	0.19998749	Complied

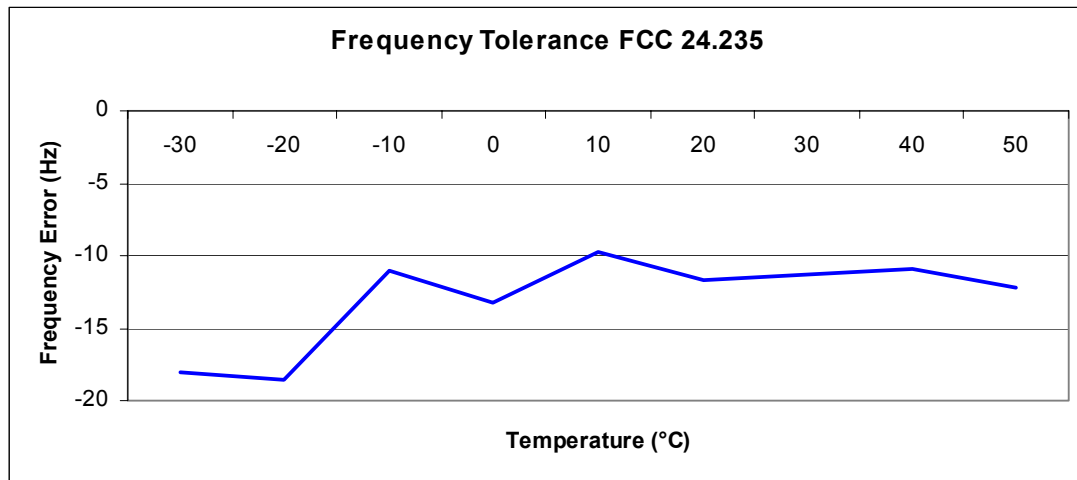
**Frequency Variation From 1930.2 MHz**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Frequency Stability (Temperature Variation): Section 24.235 (continued)****Results: 8PSK – TX2****Channel: 810 (1989.8 MHz)**

Temperature (°C)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Frequency Error (Hz)	Margin (MHz)	Result
-30	1989.79998192	1990.0	-18.08	0.20001808	Complied
-20	1989.79998140	1990.0	-18.60	0.20001860	Complied
-10	1989.79998902	1990.0	-10.98	0.20001098	Complied
0	1989.79998670	1990.0	-13.30	0.20001330	Complied
10	1989.79999025	1990.0	-9.75	0.20000975	Complied
20	1989.79998831	1990.0	-11.69	0.20001169	Complied
30	1989.79998864	1990.0	-11.36	0.20001136	Complied
40	1989.79998915	1990.0	-10.85	0.20001085	Complied
50	1989.79998777	1990.0	-12.23	0.20001223	Complied

**Frequency Variation From 1989.8 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

### **7.5. Transmitter Frequency Stability (Voltage Variation): Section 24.235**

7.5.1. The EUT was configured as for frequency stability measurements as described in section 9 of this report.

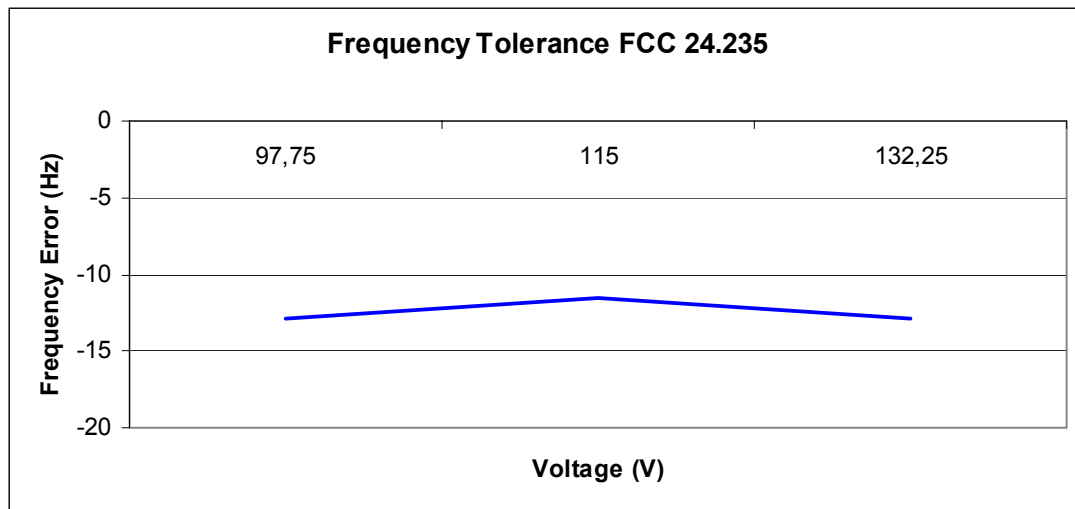
7.5.2. Tests were performed to identify the maximum frequency error of the EUT with variations in nominal operating voltage.

#### **Results: GMSK – TX0**

#### **Channel: 512 (1930.2 MHz)**

Supply Voltage (V)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Frequency Error (Hz)	Margin from Band Edge (MHz)	Result
97.75	1930.19998715	1930.0	-12.85	0.19998715	Complied
115.00	1930.19998851	1930.0	-11.49	0.19998851	Complied
132.25	1930.19998715	1930.0	-12.85	0.19998715	Complied

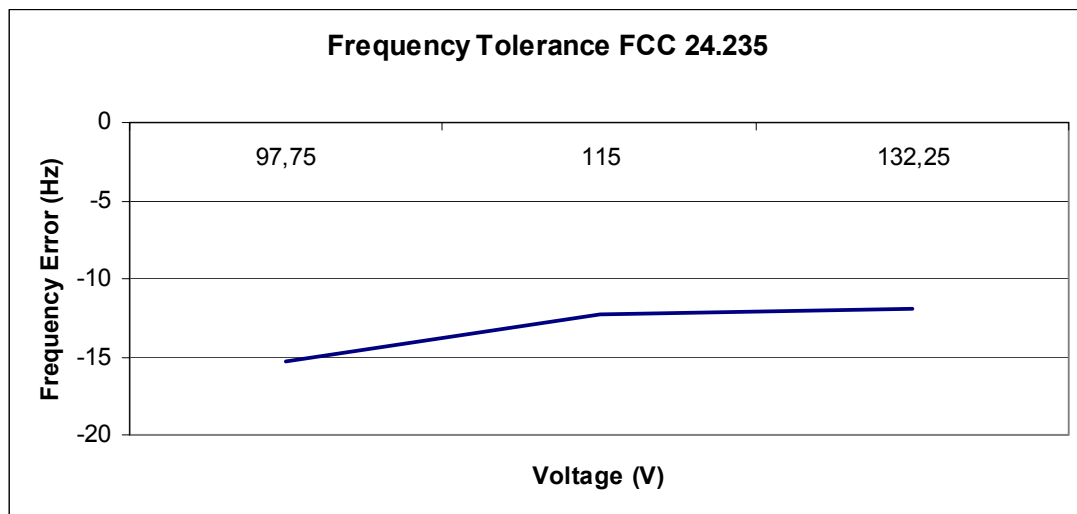
#### **Frequency Variation From 1930.2 MHz**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Frequency Stability (Voltage Variation): Section 24.235 (Continued)****Results: GMSK – TX0****Channel: 810 (1989.8 MHz)**

Supply Voltage (V)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Frequency Error (Hz)	Margin from Band Edge (MHz)	Result
97.75	1989.79998470	1990.0	-15.30	0.20001530	Complied
115.00	1989.79998773	1990.0	-12.27	0.20001227	Complied
132.25	1989.79998812	1990.0	-11.88	0.20001188	Complied

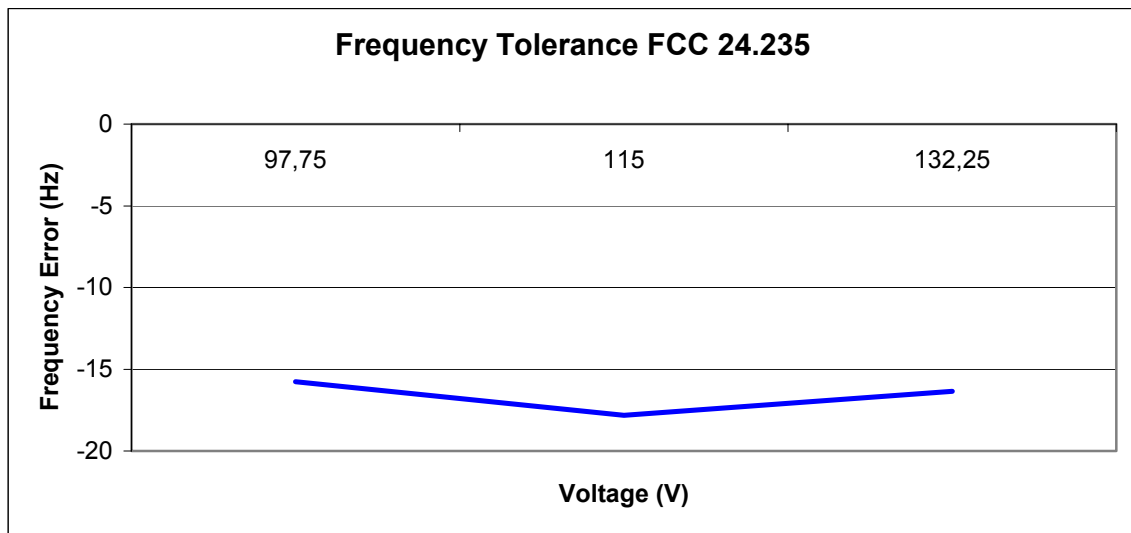
**Frequency Variation From 1989.8 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Frequency Stability (Voltage Variation): Section 24.235 (Continued)****Results: 8PSK – TX0****Channel: 512 (1930.2 MHz)**

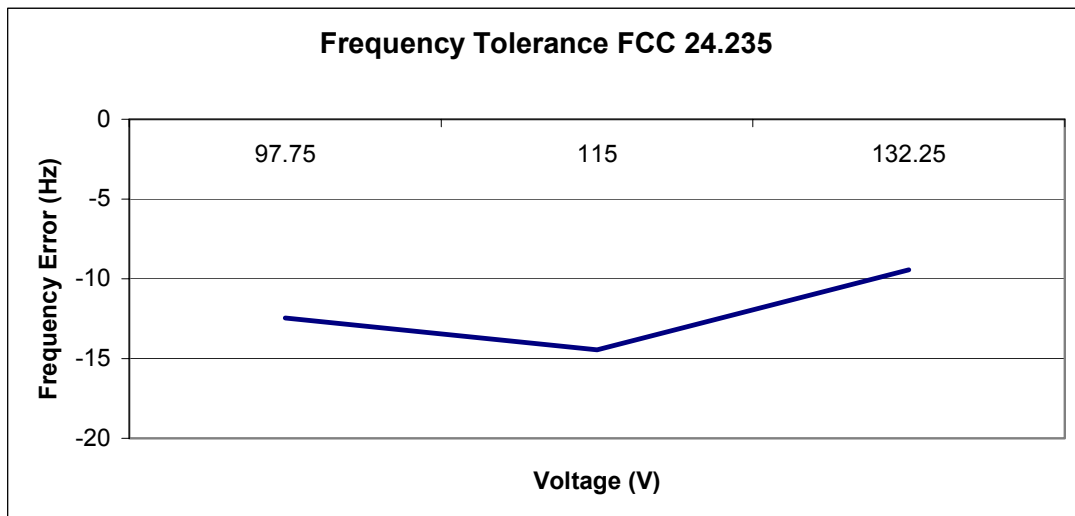
Supply Voltage (V)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Frequency Error (Hz)	Margin from Band Edge (MHz)	Result
97.75	1930.19998424	1930.0	-15.76	0.19998424	Complied
115.00	1930.19998218	1930.0	-17.82	0.19998218	Complied
132.25	1930.19998366	1930.0	-16.34	0.19998366	Complied

**Frequency Variation From 1930.2 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Frequency Stability (Voltage Variation): Section 24.235 (Continued)****Results: 8PSK – TX0****Channel: 810 (1989.8 MHz)**

Supply Voltage (V)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Frequency Error (Hz)	Margin from Band Edge (MHz)	Result
97.75	1989.79998754	1990.0	-12.46	0.20001246	Complied
115.00	1989.79998554	1990.0	-14.46	0.20001446	Complied
132.25	1989.79999057	1990.0	-9.43	0.20000943	Complied

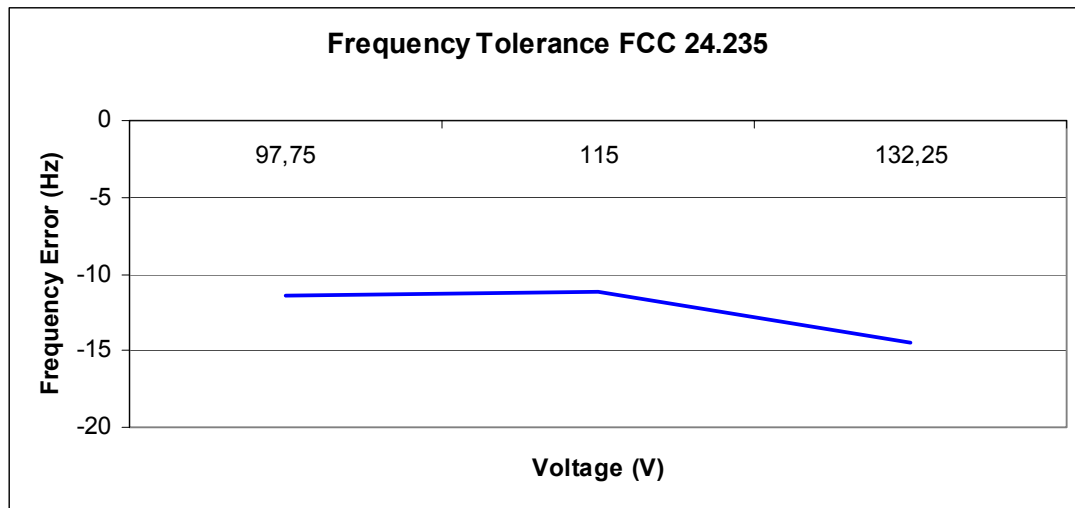
**Frequency Variation From 1989.8 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Frequency Stability (Voltage Variation): Section 24.235 (Continued)****Results: GMSK – TX2****Channel: 512 (1930.2 MHz)**

Supply Voltage (V)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Frequency Error (Hz)	Margin from Band Edge (MHz)	Result
97.75	1930.19998857	1930.0	-11.43	0.19998857	Complied
115.00	1930.19998889	1930.0	-11.11	0.19998889	Complied
132.25	1930.19998547	1930.0	-14.53	0.19998547	Complied

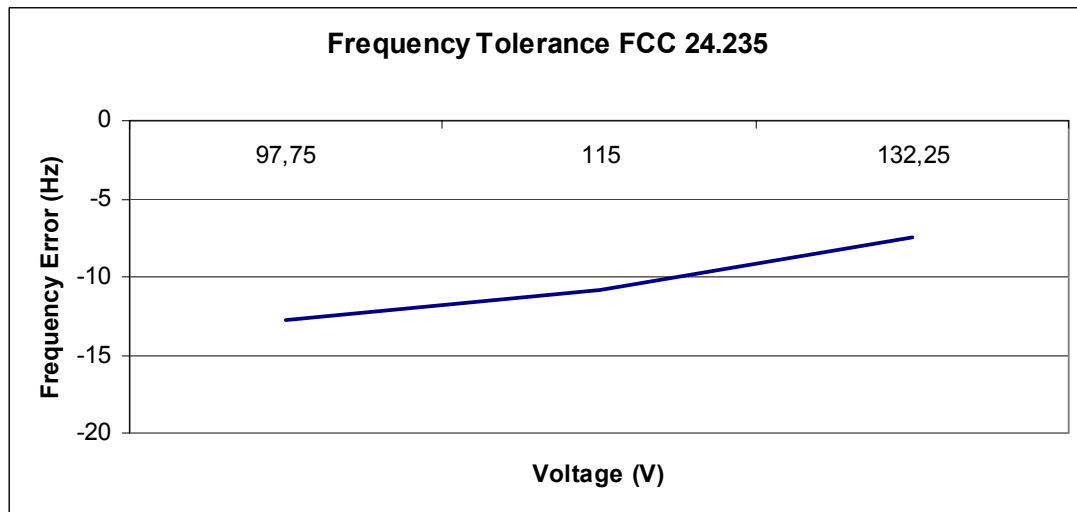
**Frequency Variation From 1930.2 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Frequency Stability (Voltage Variation): Section 24.235 (Continued)****Results: GMSK – TX2****Channel: 810 (1989.8 MHz)**

Supply Voltage (V)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Frequency Error (Hz)	Margin from Band Edge (MHz)	Result
97.75	1989.79998721	1990.0	-12.79	0.20001279	Complied
115.00	1989.79998915	1990.0	-10.85	0.20001085	Complied
132.25	1989.79999251	1990.0	-7.49	0.20000749	Complied

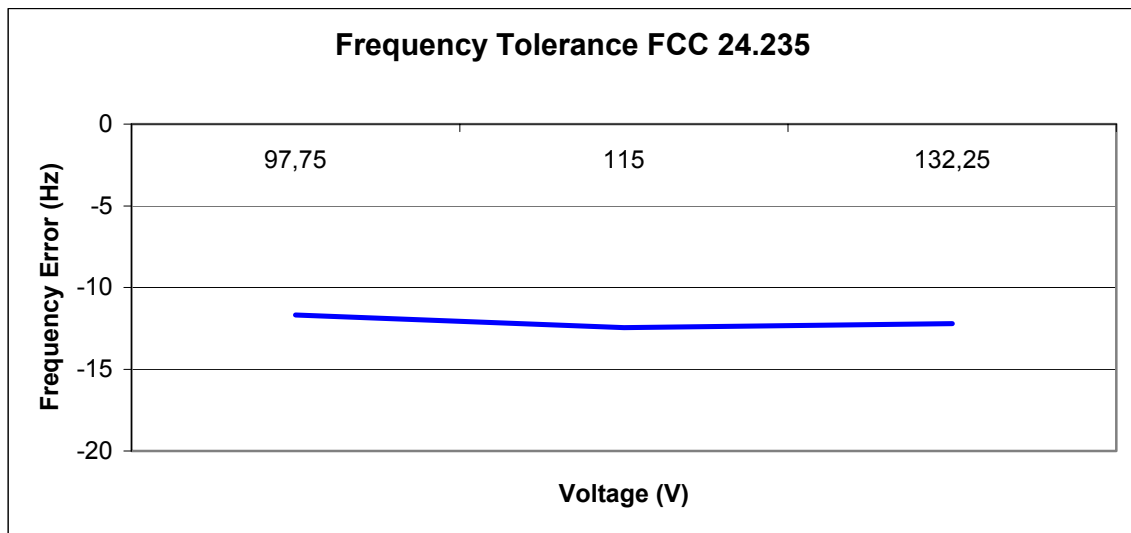
**Frequency Variation From 1989.8 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Frequency Stability (Voltage Variation): Section 24.235 (Continued)****Results: 8PSK – TX2****Channel: 512 (1930.2 MHz)**

Supply Voltage (V)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Frequency Error (Hz)	Margin from Band Edge (MHz)	Result
97.75	1930.19998831	1930.0	-11.69	0.19998831	Complied
115.00	1930.19998754	1930.0	-12.46	0.19998754	Complied
132.25	1930.19998780	1930.0	-12.20	0.19998780	Complied

**Frequency Variation From 1930.2 MHz**

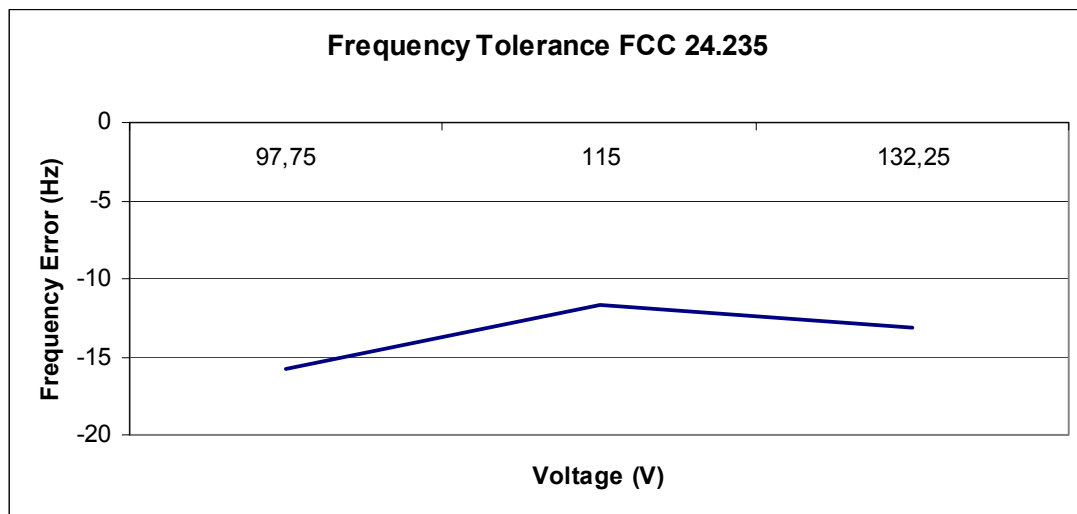


Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Frequency Stability (Voltage Variation): Section 24.235 (Continued)****Results: 8PSK – TX2****Channel: 810 (1989.8 MHz)**

Supply Voltage (V)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Frequency Error (Hz)	Margin from Band Edge (MHz)	Result
97.75	1989.79998418	1990.0	-15.82	0.20001582	Complied
115.00	1989.79998831	1990.0	-11.69	0.20001169	Complied
132.25	1989.79998686	1990.0	-13.14	0.20001314	Complied

**Frequency Variation From 1989.8 MHz**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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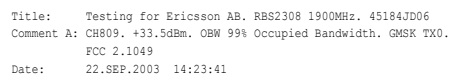
### **7.6. Transmitter Occupied Bandwidth: Section 2.1049(i)**

7.6.1. The EUT was configured as for Occupied Bandwidth measurements as described in Section 9 of this report.

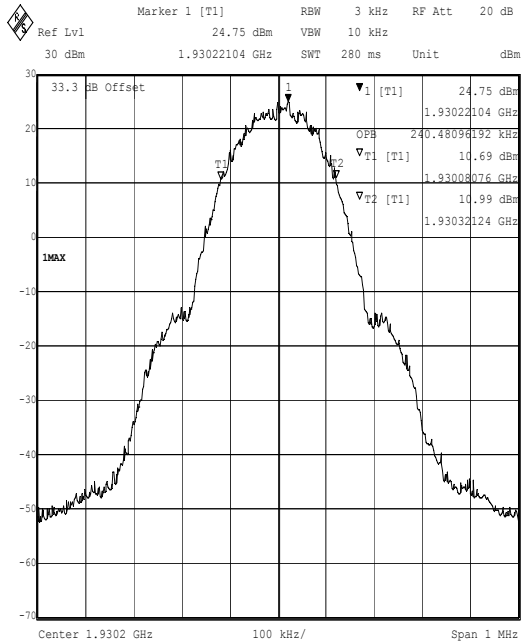
7.6.2. Tests were performed to identify the maximum bandwidth occupied by the fundamental frequency of the EUT

#### **Results: GMSK, TX0 and TX2**

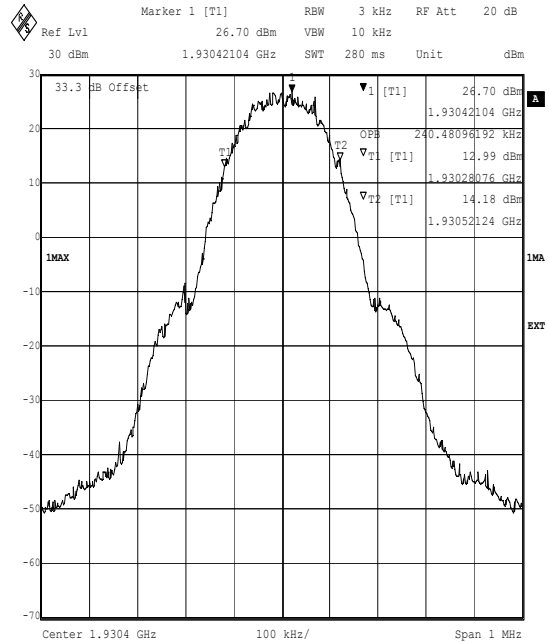
<b>TX</b>	<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Resolution Bandwidth (kHz)</b>	<b>Video Bandwidth (kHz)</b>	<b>Occupied Bandwidth (kHz)</b>
TX0	512	1930.21703	3	10	240.481
TX0	513	1930.40501	3	10	240.481
TX0	809	1989.58497	3	10	242.485
TX0	810	1989.80100	3	10	242.485
TX2	512	1930.22104	3	10	240.481
TX2	513	1930.42104	3	10	240.481
TX2	809	1989.58898	3	10	240.481
TX2	810	1989.81503	3	10	242.485



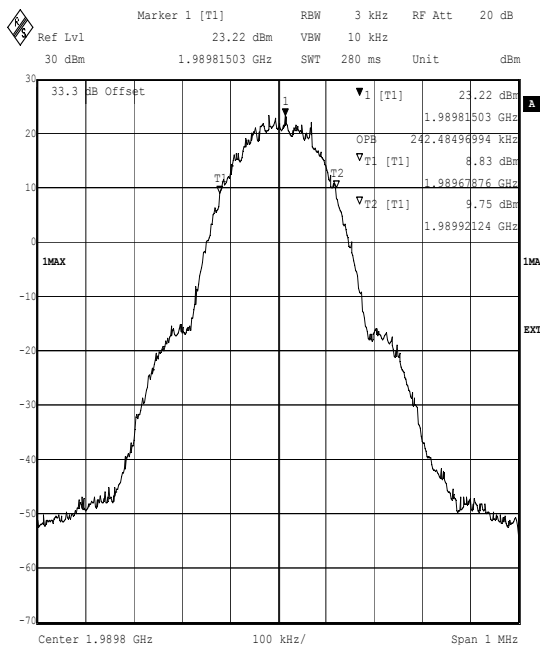
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Occupied Bandwidth: Section 2.1049(i) (Continued)**

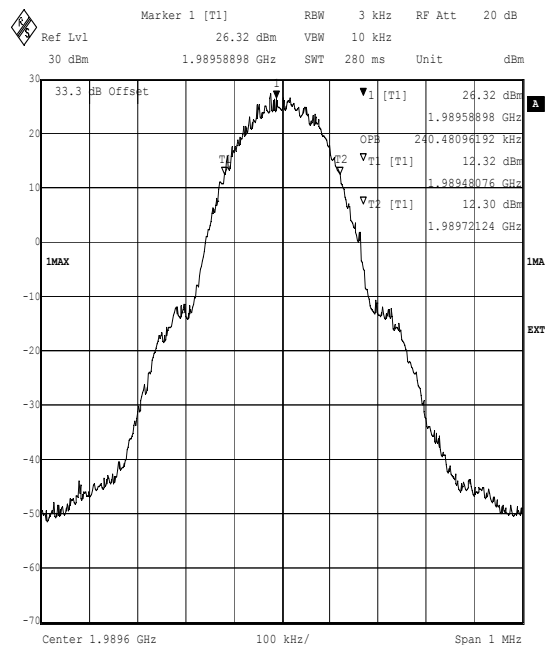
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +31.5dBm. OBW 99% Occupied Bandwidth. GMSK TX2.  
FCC 2.1049  
Date: 22.SEP.2003 14:37:51



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH513. +33.5dBm. OBW 99% Occupied Bandwidth. GMSK TX2.  
FCC 2.1049  
Date: 22.SEP.2003 14:45:13



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +29.5dBm. OBW 99% Occupied Bandwidth. GMSK TX2.  
FCC 2.1049  
Date: 22.SEP.2003 14:57:28



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH809. +33.5dBm. OBW 99% Occupied Bandwidth. GMSK TX2.  
FCC 2.1049  
Date: 22.SEP.2003 15:04:30

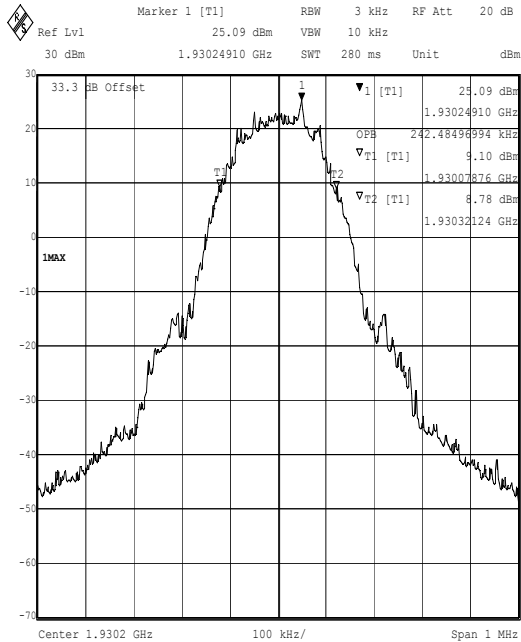
**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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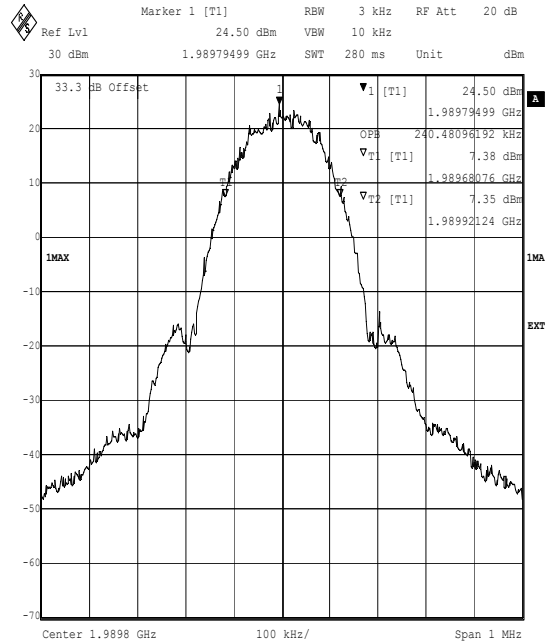
**Transmitter Occupied Bandwidth: Section 2.1049(i) (Continued)****Results: 8PSK, TX0 and TX2**

<b>TX</b>	<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Resolution Bandwidth (kHz)</b>	<b>Video Bandwidth (kHz)</b>	<b>Occupied Bandwidth (kHz)</b>
TX0	512	1930.24910	3	10	242.485
TX0	809	1989.64910	3	10	236.473
TX0	810	1989.79499	3	10	240.481
TX2	512	1930.23106	3	10	240.481
TX2	809	1989.65912	3	10	232.465
TX2	810	1989.79900	3	10	240.481

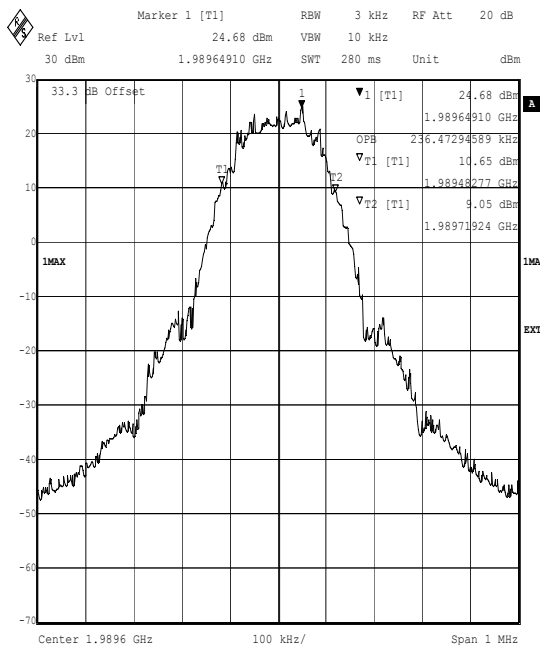
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Occupied Bandwidth: Section 2.1049(i) (Continued)**

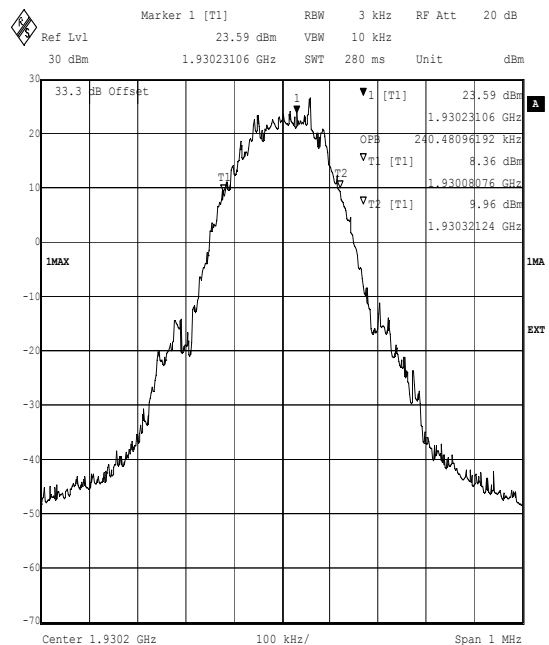
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +33.5dBm. OBW 99% Occupied Bandwidth. 8PSK TX0.  
FCC 2.1049  
Date: 22.SEP.2003 15:13:39



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +29.5dBm. OBW 99% Occupied Bandwidth. 8PSK TX0.  
FCC 2.1049  
Date: 22.SEP.2003 15:28:08



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH809. +33.5dBm. OBW 99% Occupied Bandwidth. 8PSK TX0.  
FCC 2.1049  
Date: 22.SEP.2003 15:36:03



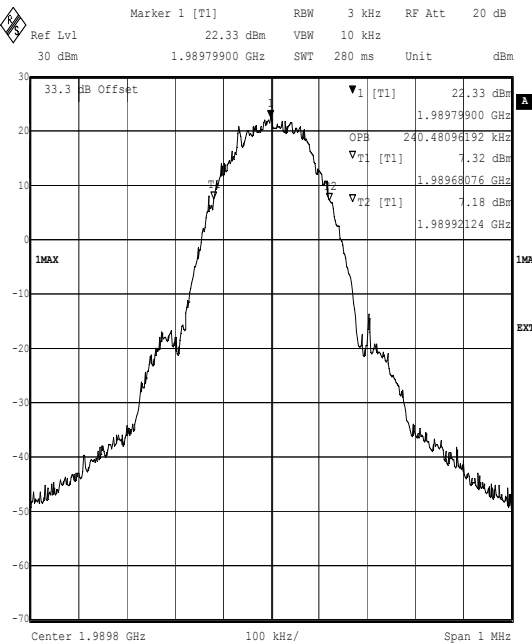
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +33.5dBm. OBW 99% Occupied Bandwidth. 8PSK TX2.  
FCC 2.1049  
Date: 22.SEP.2003 15:49:33

Test Of: Ericsson AB.

RBS 2308 1900 MHz R5B

To: FCC Part 24: 2002

**Transmitter Occupied Bandwidth: Section 2.1049(i) (Continued)**

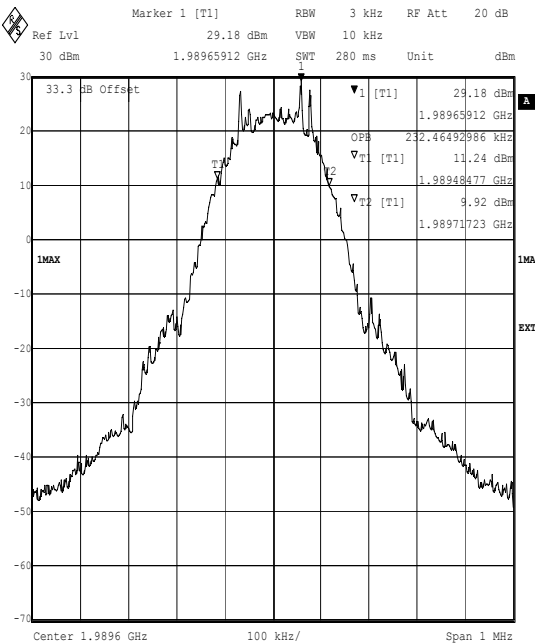


Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06

Comment A: CH810. +29.5dBm. OBW 99% Occupied Bandwidth. 8PSK TX2.

FCC 2.1049

Date: 22.SEP.2003 16:01:47



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06

Comment A: CH809. +33.5dBm. OBW 99% Occupied Bandwidth. 8PSK TX2.

FCC 2.1049

Date: 23.SEP.2003 09:17:18

**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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**7.7. Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a)**

7.7.1. The EUT was configured as for conducted emissions testing as described in Section 9 of this report.

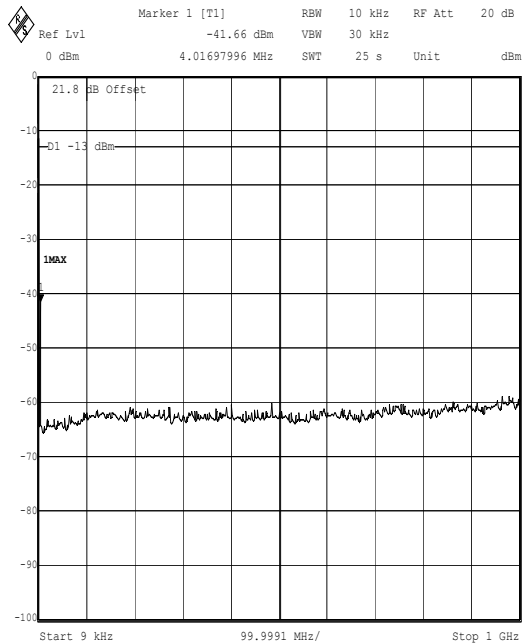
7.7.2. Tests were performed to identify the maximum transmitter conducted emission levels.

**Result: GMSK, TX0 CH513 and TX1 CH538**

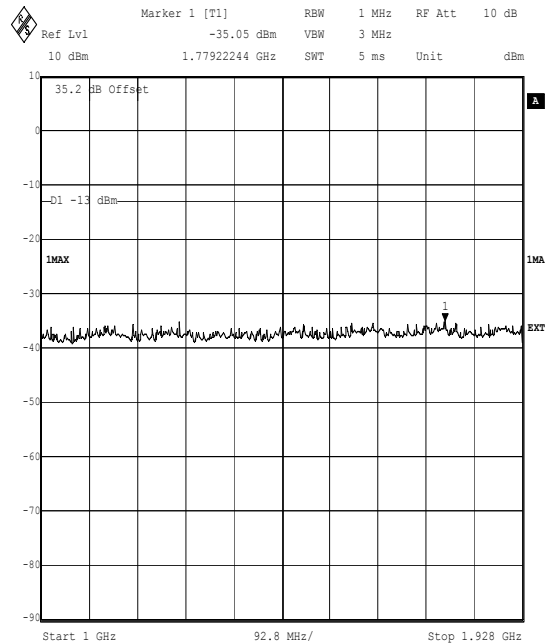
<b>Band</b>	<b>Peak Power (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Results</b>
0.09 MHz to 1.0 GHz	-41.7	-13.0	28.7	Complied
1.0 GHz to 1.928 GHz	-35.1	-13.0	22.1	Complied
1.99 GHz to 2.5 GHz	-43.0	-13.0	30.0	Complied
2.5 GHz to 10.0 GHz	-31.7	-13.0	18.7	Complied
10.0 GHz to 20.0 GHz	-22.9	-13.0	9.9	Complied



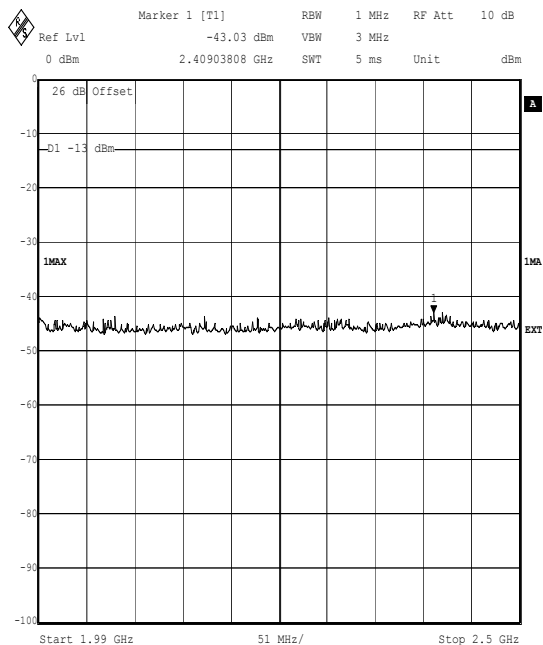
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

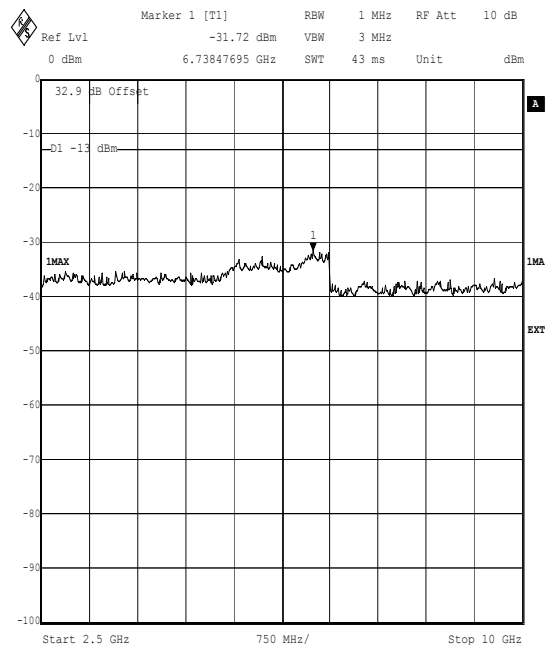
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 10:21:20



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 11:33:54



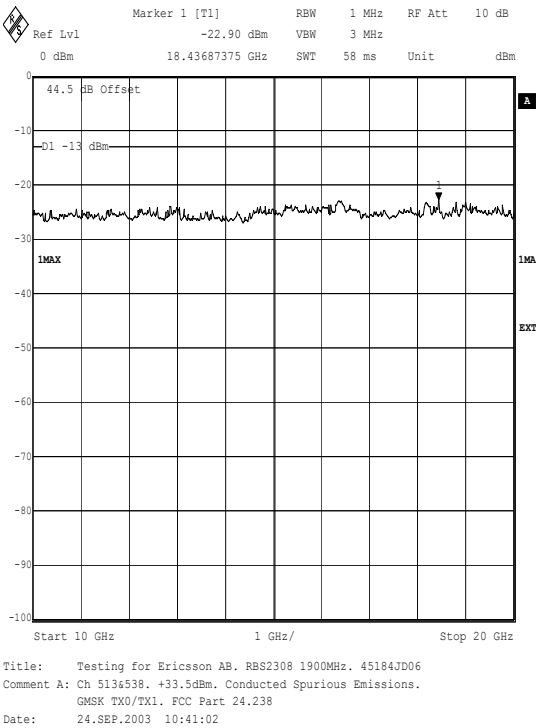
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 10:57:32



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 10:38:52

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: GMSK, TX0 CH513 and TX1 CH538 (Continued)**

1<sup>st</sup> 1 MHz block immediately outside adjacent frequency block.

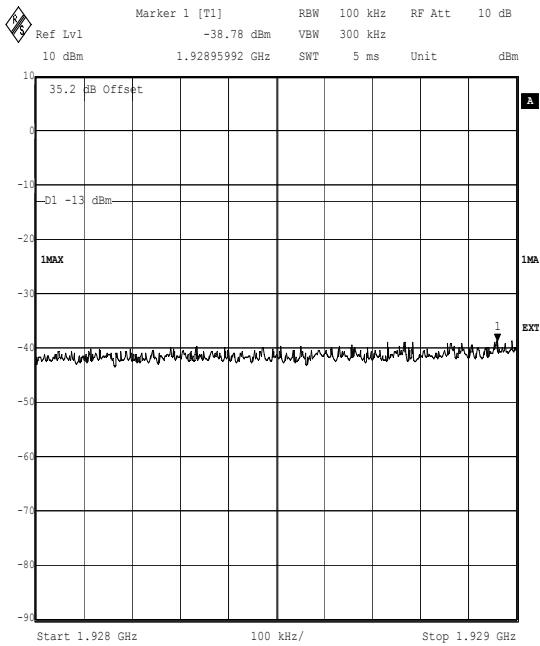
**First Band: 1928 to 1929 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	97.4	6	148.5
2	98.8	7	112.3
3	115.4	8	157.7
4	126.7	9	147.2
5	113.9	10	156.8
Total Peak Power:		1274.7 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1928 to 1929	-28.9	-13.0	15.9	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 13:19:00

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: GMSK, TX0 CH513 and TX1 CH538 (Continued)**

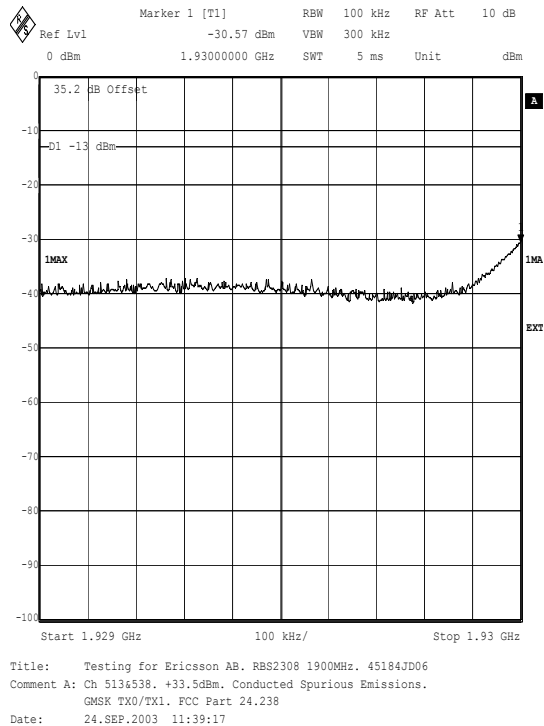
2<sup>nd</sup> 1 MHz block immediately outside adjacent frequency block.

**Second Band: 1929 to 1930 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	136.4	6	168.7
2	221.6	7	155.2
3	182.9	8	162.9
4	219.3	9	172.5
5	241.0	10	933.1
Total Peak Power:		2593.6 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1929 to 1930	-25.9	-13.0	12.9	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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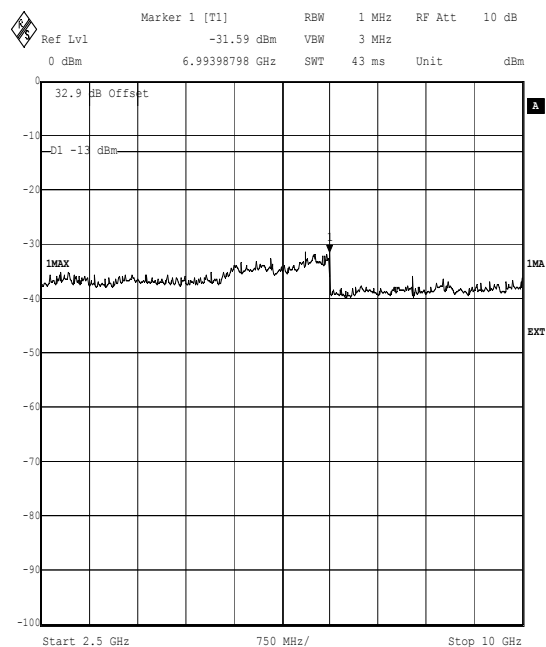
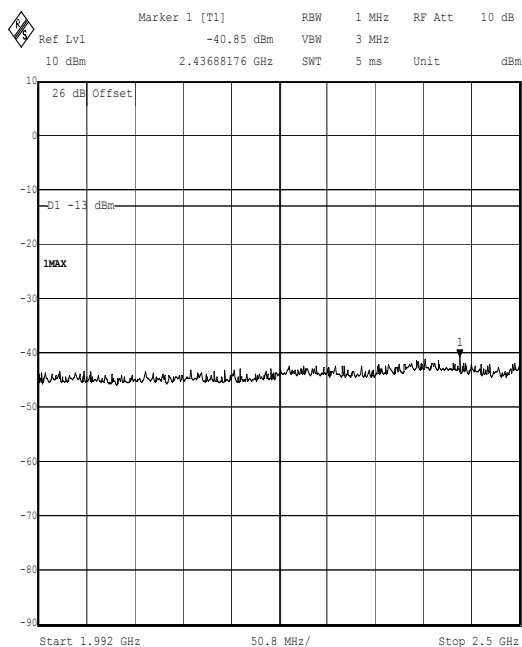
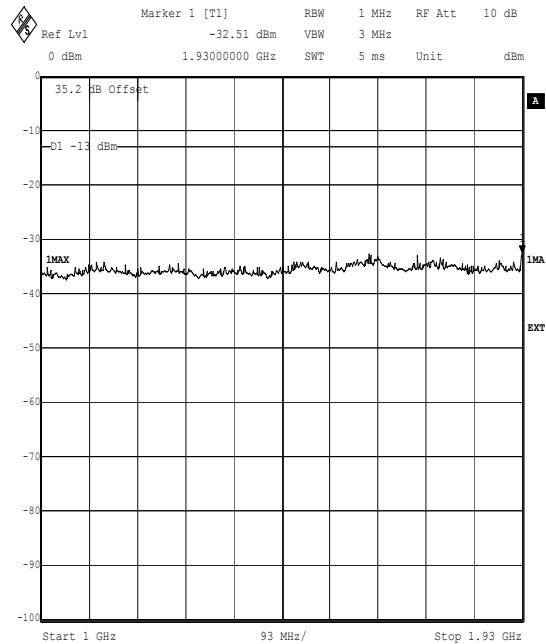
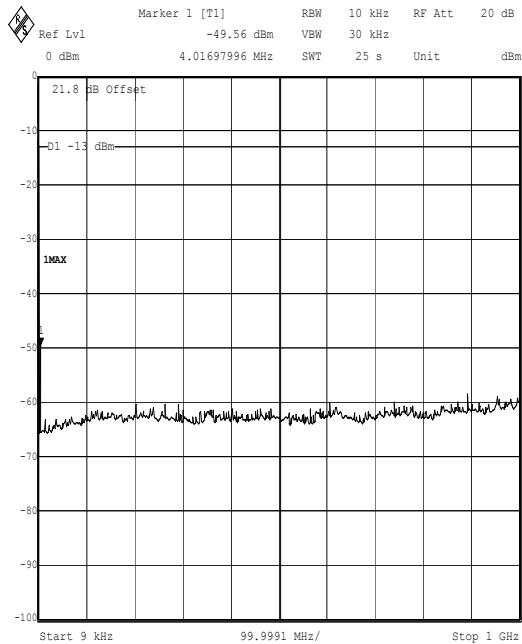
**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: GMSK, TX0 CH784 and TX1 CH809**

<b>Band</b>	<b>Peak Power (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Results</b>
0.09 MHz to 1.0 GHz	-49.6	-13.0	36.6	Complied
1.0 GHz to 1.93 GHz	-32.5	-13.0	19.5	Complied
1.992 GHz to 2.5 GHz	-40.9	-13.0	27.9	Complied
2.5 GHz to 10.0 GHz	-31.6	-13.0	18.6	Complied
10.0 GHz to 20.0 GHz	-22.4	-13.0	9.4	Complied

Test Of: Ericsson AB.

RBS 2308 1900 MHz R5B

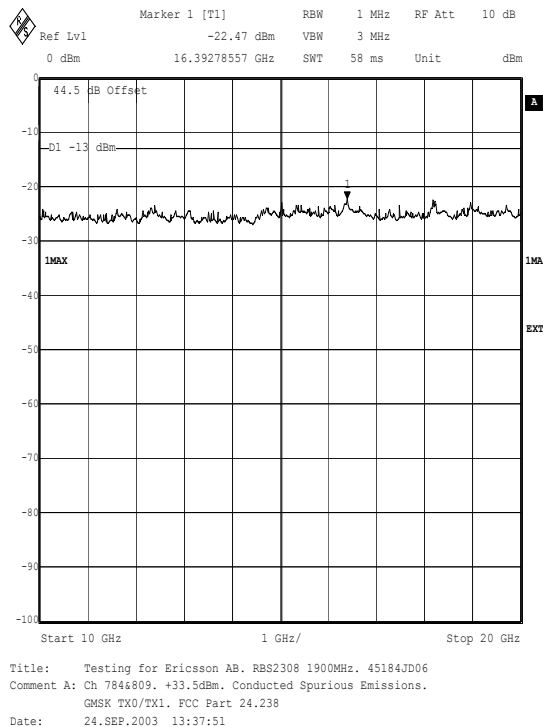
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: GMSK, TX0 CH784 and TX1 CH809 (Continued)**

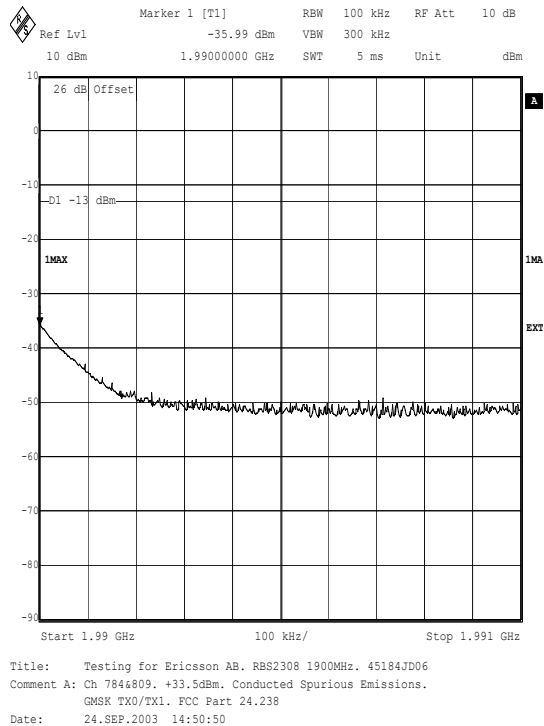
1<sup>st</sup> 1 MHz block immediately outside adjacent frequency block.

**First Band: 1990 to 1991 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	255.6	6	10.0
2	33.9	7	9.6
3	12.1	8	10.2
4	11.3	9	9.1
5	9.9	10	9.7
Total Peak Power:		371.4 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1990 to 1991	-34.3	-13.0	21.3	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: GMSK, TX0 CH784 and TX1 CH809 (Continued)**

2<sup>nd</sup> 1 MHz block immediately outside adjacent frequency block.

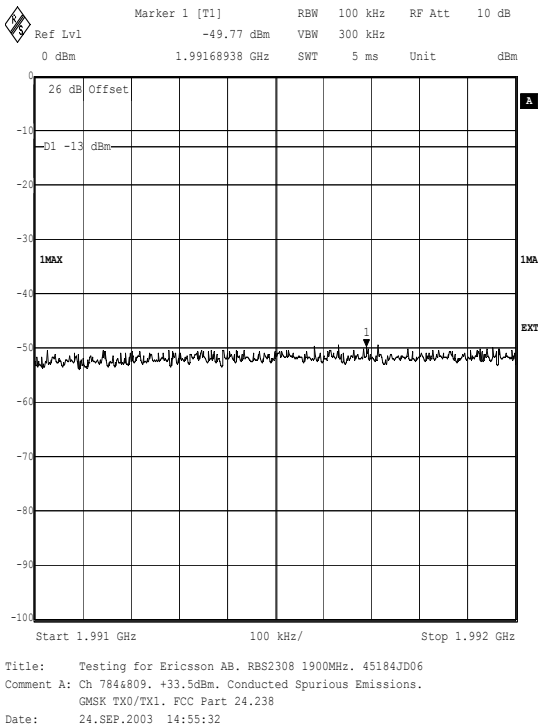
**Second Band: 1991 to 1992 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	7.7	6	12.7
2	8.8	7	11.6
3	9.4	8	11.5
4	13.3	9	12.2
5	12.0	10	11.7
Total Peak Power:		110.9 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1991 to 1992	-39.6	-13.0	26.6	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



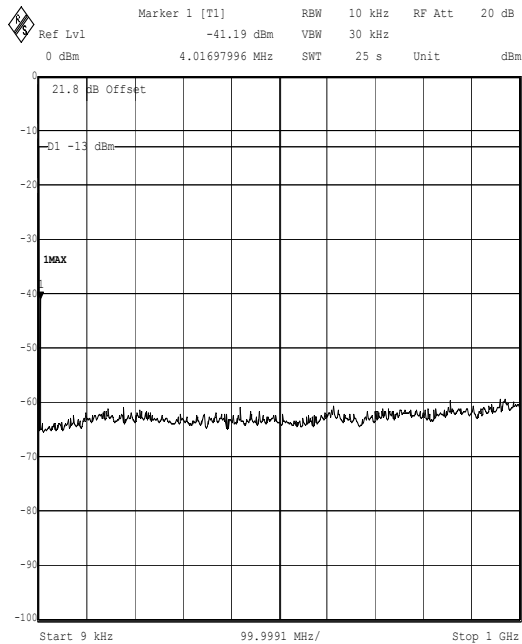
**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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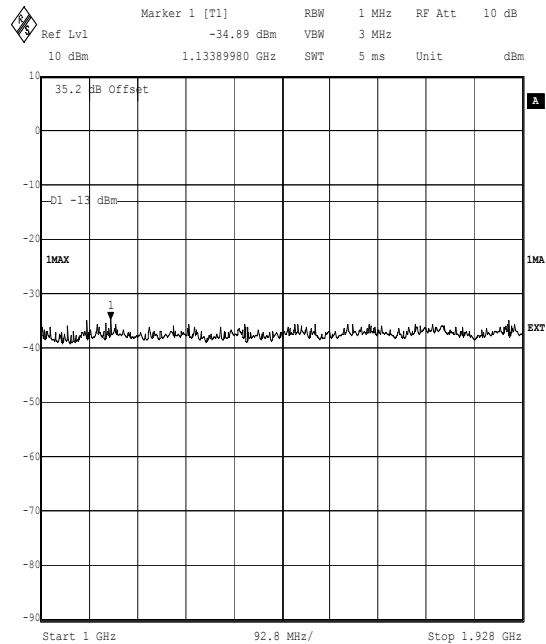
**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: GMSK, TX2 CH513 and TX3 CH538**

<b>Band</b>	<b>Peak Power (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Results</b>
0.09 MHz to 1.0 GHz	-41.2	-13.0	28.2	Complied
1.0 GHz to 1.928 GHz	-34.9	-13.0	21.9	Complied
1.99 GHz to 2.5 GHz	-42.9	-13.0	29.9	Complied
2.5 GHz to 10.0 GHz	-31.7	-13.0	18.7	Complied
10.0 GHz to 20.0 GHz	-22.7	-13.0	9.7	Complied

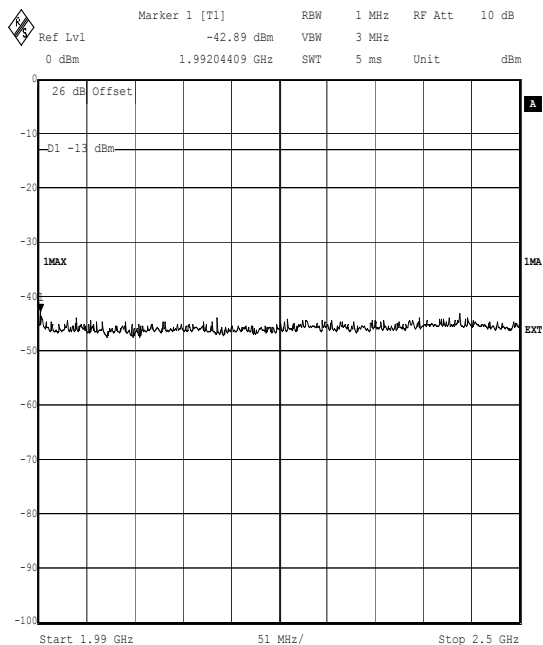
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

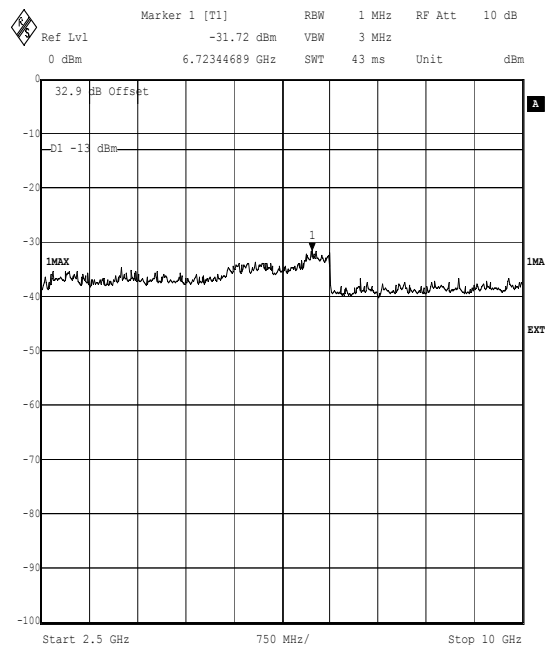
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:08:09



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:10:58



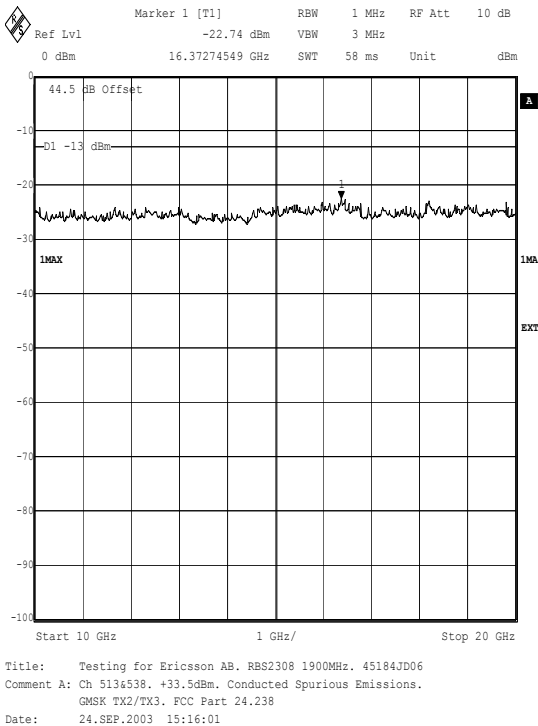
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:13:01



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:14:32

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**





Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: GMSK, TX2 CH513 and TX3 CH538 (Continued)**

1<sup>st</sup> 1 MHz block immediately outside adjacent frequency block.

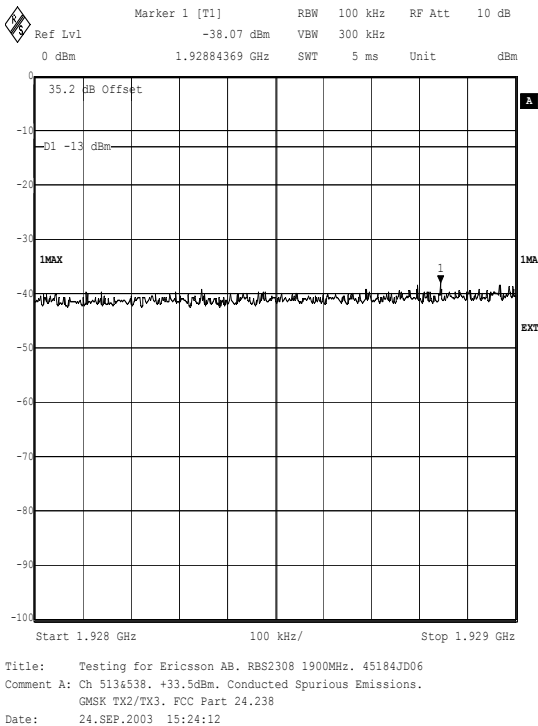
**First Band: 1928 to 1929 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	114.0	6	112.6
2	106.7	7	121.7
3	126.6	8	141.1
4	113.2	9	155.8
5	122.0	10	140.0
Total Peak Power:		1253.7 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1928 to 1929	-29.0	-13.0	16.0	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: GMSK, TX2 CH513 and TX3 CH538 (Continued)**

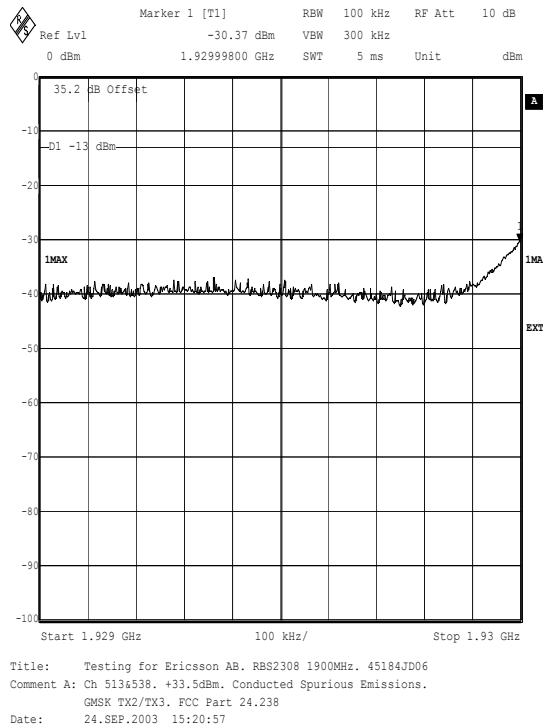
2<sup>nd</sup> 1 MHz block immediately outside adjacent frequency block.

**Second Band: 1929 to 1930 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	160.6	6	178.9
2	185.1	7	184.0
3	195.3	8	124.1
4	256.7	9	160.7
5	205.1	10	964.2
Total Peak Power:		2614.7 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1929 to 1930	-25.8	-13.0	12.8	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

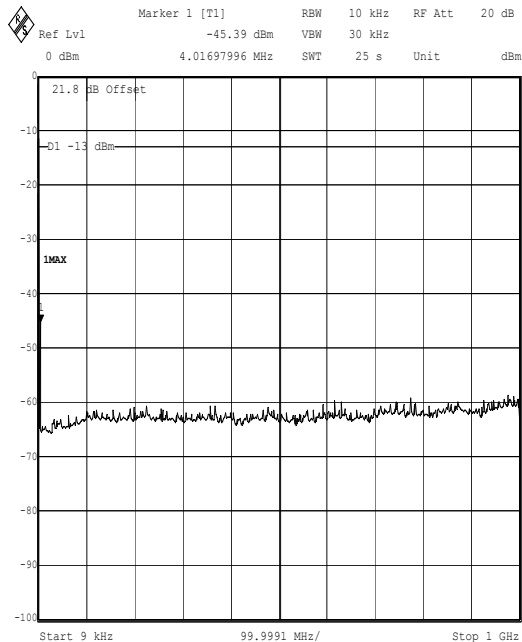
**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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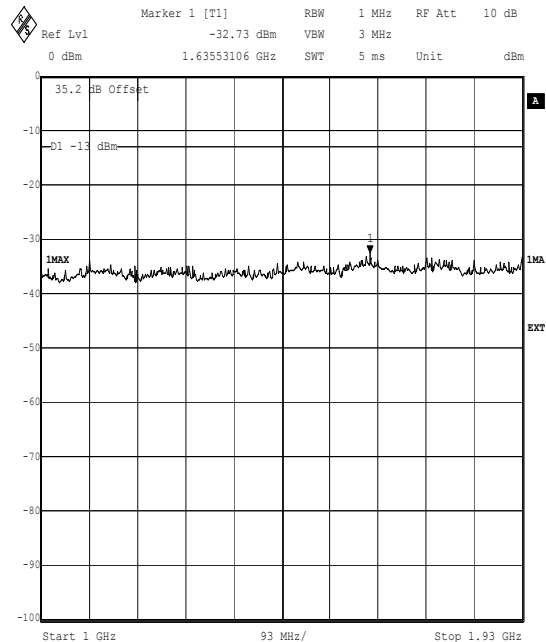
**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: GMSK, TX2 CH784 and TX3 CH809**

<b>Band</b>	<b>Peak Power (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Results</b>
0.09 MHz to 1.0 GHz	-45.4	-13.0	32.4	Complied
1.0 GHz to 1.93 GHz	-32.7	-13.0	19.7	Complied
1.992 GHz to 2.5 GHz	-40.8	-13.0	27.8	Complied
2.5 GHz to 10.0 GHz	-32.0	-13.0	19.0	Complied
10.0 GHz to 20.0 GHz	-22.8	-13.0	9.8	Complied

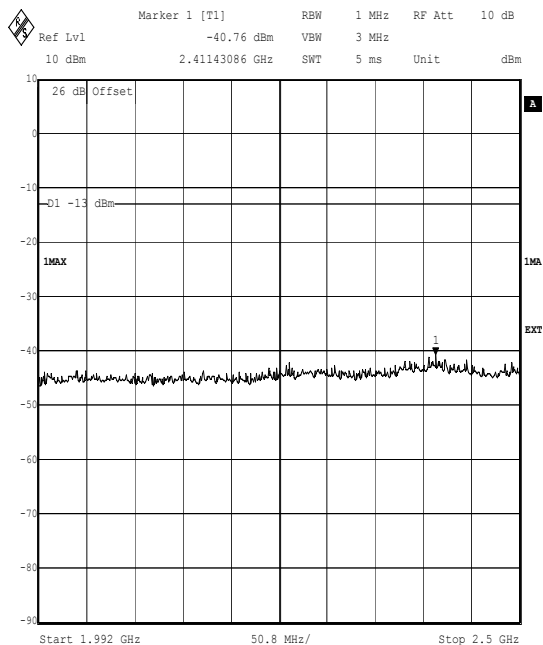
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

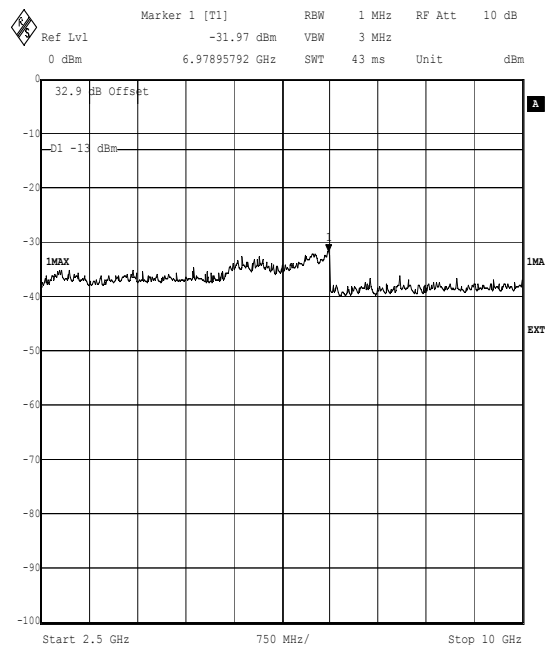
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:37:35



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:42:43

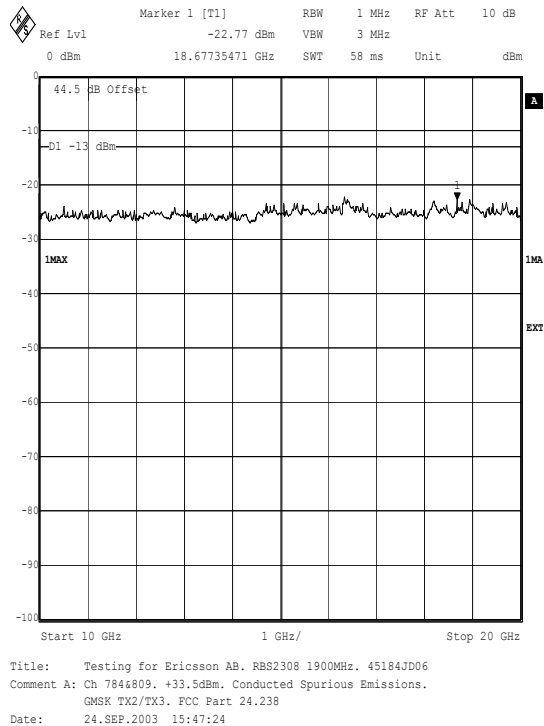


Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:45:02



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:46:17

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: GMSK, TX2 CH784 and TX1 CH809 (Continued)**

1<sup>st</sup> 1 MHz block immediately outside adjacent frequency block.

**First Band: 1990 to 1991 MHz**

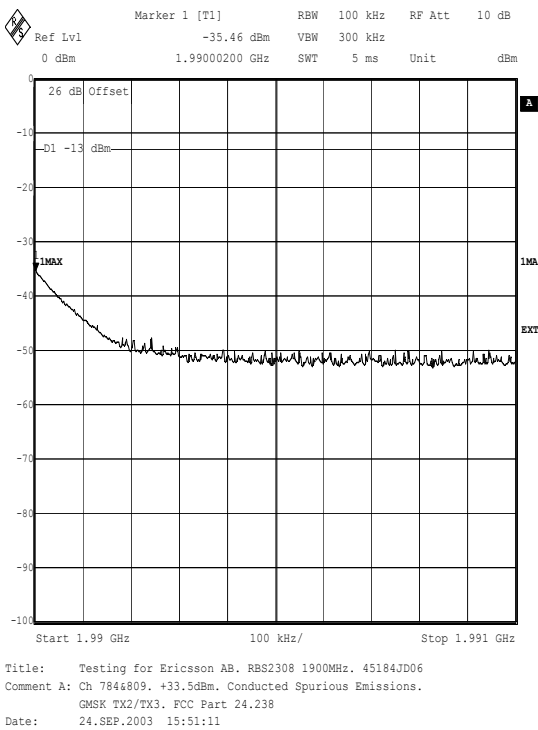
100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	290.8	6	9.2
2	39.6	7	9.6
3	16.3	8	10.3
4	11.4	9	10.2
5	10.8	10	11.8
Total Peak Power:		420.0 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1990 to 1991	-33.8	-13.0	20.8	Complied



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: GMSK, TX2 CH784 and TX1 CH809 (Continued)**

2<sup>nd</sup> 1 MHz block immediately outside adjacent frequency block.

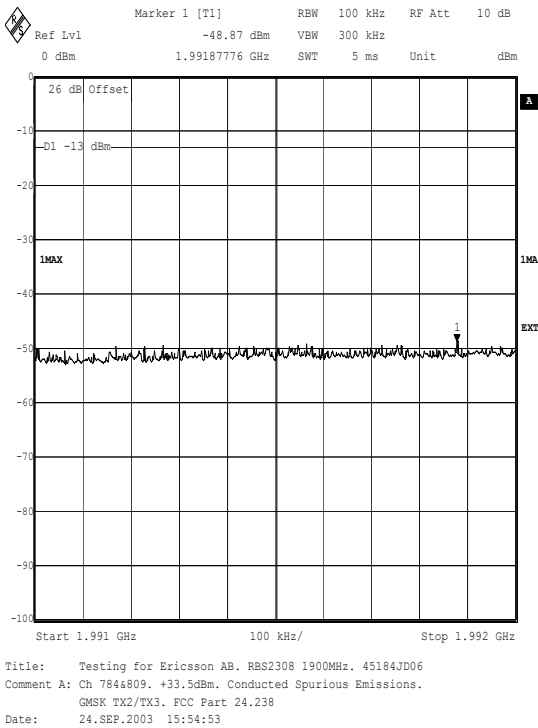
**Second Band: 1991 to 1992 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	10.7	6	11.6
2	12.0	7	12.5
3	11.5	8	12.5
4	11.6	9	13.1
5	11.8	10	13.1
Total Peak Power:		120.4 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1991 to 1992	-39.2	-13.0	26.2	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



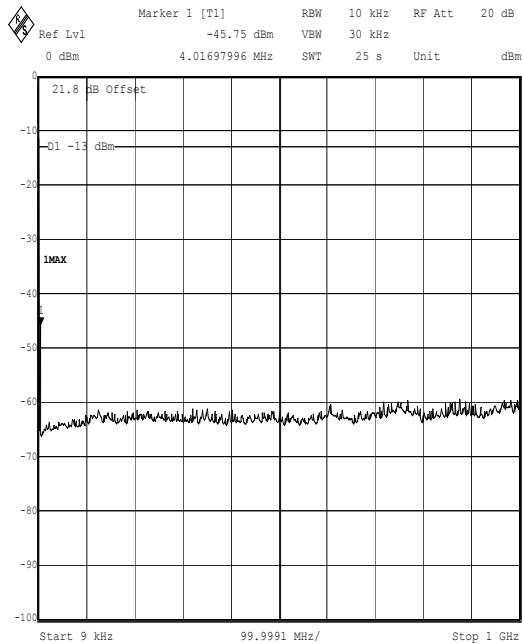
**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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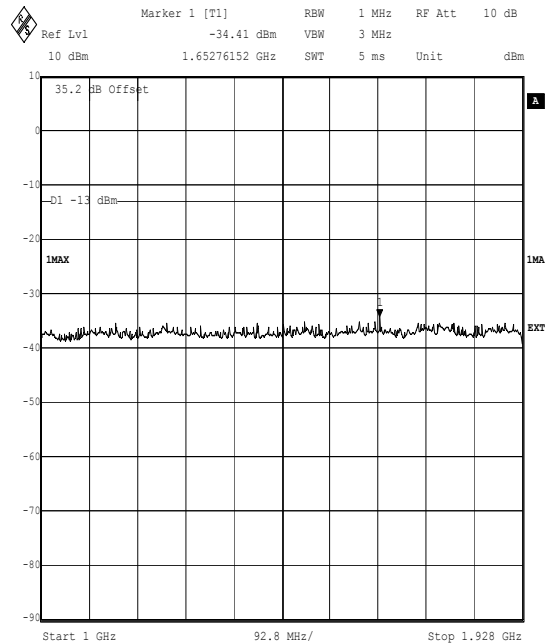
**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: 8PSK, TX0 CH513 and TX1 CH538**

<b>Band</b>	<b>Peak Power (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Results</b>
0.09 MHz to 1.0 GHz	-45.8	-13.0	32.8	Complied
1.0 GHz to 1.928 GHz	-34.4	-13.0	21.4	Complied
1.99 GHz to 2.5 GHz	-42.4	-13.0	29.4	Complied
2.5 GHz to 10.0 GHz	-31.0	-13.0	18.0	Complied
10.0 GHz to 20.0 GHz	-22.2	-13.0	9.2	Complied

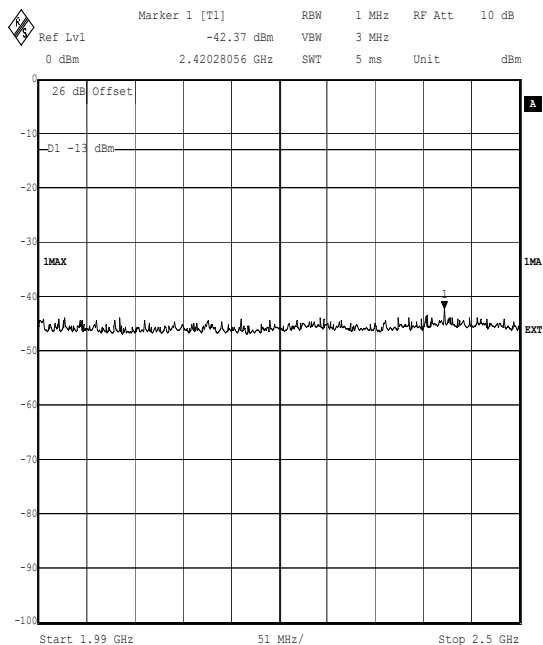
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

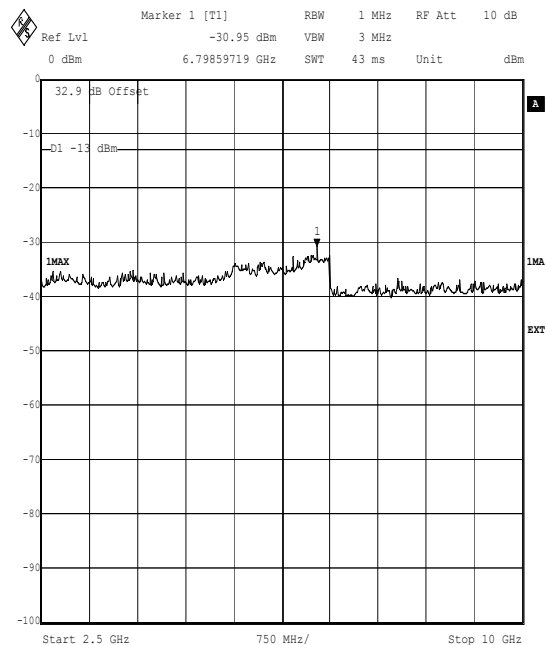
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 25.SEP.2003 09:25:04



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 16:15:40



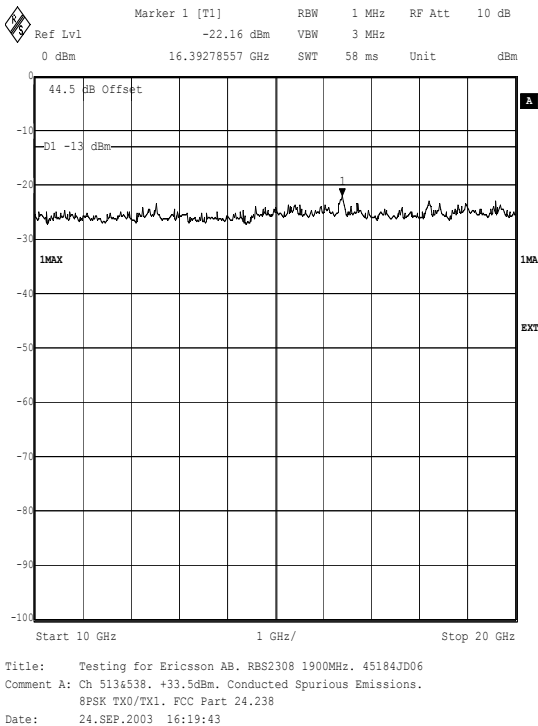
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 16:16:48



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 16:18:32

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: 8PSK, TX0 CH513 and TX1 CH538 (Continued)**

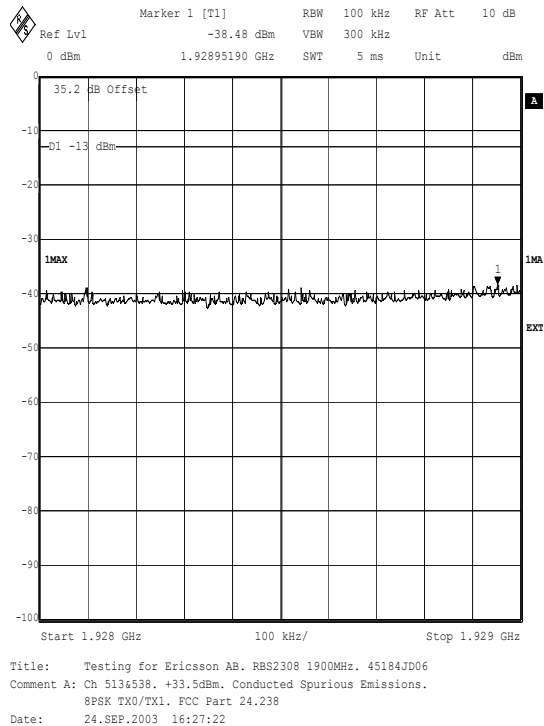
1<sup>st</sup> 1 MHz block immediately outside adjacent frequency block.

**First Band: 1928 to 1929 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	121.6	6	122.8
2	100.8	7	116.4
3	102.6	8	110.9
4	105.1	9	122.7
5	100.4	10	141.9
Total Peak Power:		1145.2 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1928 to 1929	-29.4	-13.0	16.4	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: 8PSK, TX0 CH513 and TX1 CH538 (Continued)****8PSK, TX0 CH513 and TX1 CH538**

2<sup>nd</sup> MHz block immediately outside adjacent frequency block.

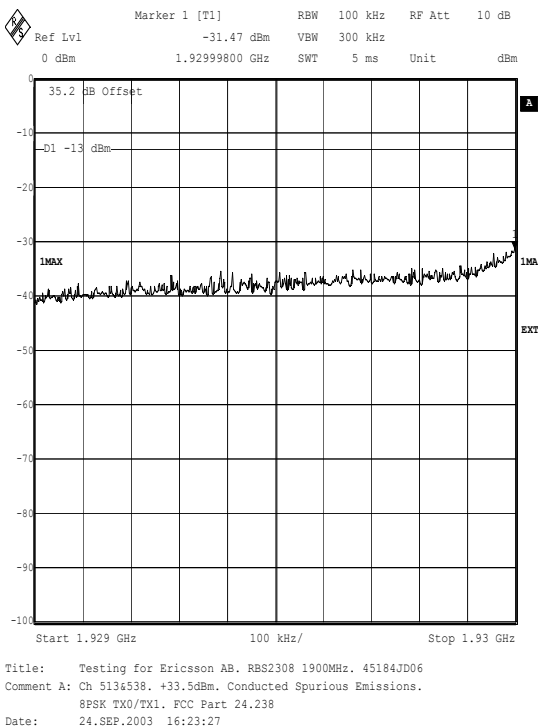
**Second Band: 1929 to 1930 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	165.3	6	371.4
2	206.0	7	346.6
3	236.7	8	400.3
4	302.0	9	361.3
5	278.5	10	822.3
Total Peak Power:		3490.4 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1929 to 1930	-24.6	-13.0	11.6	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



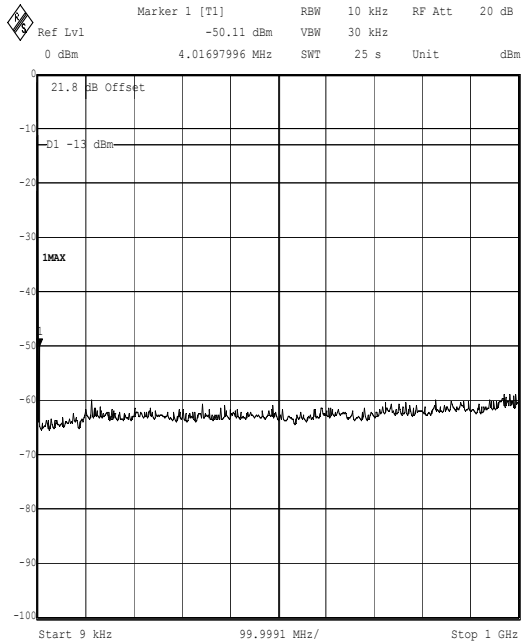
**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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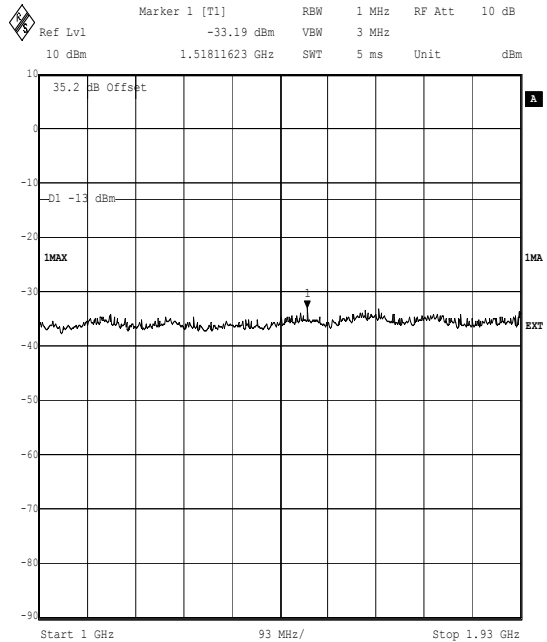
**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: 8PSK, TX0 CH784 and TX1 CH809**

<b>Band</b>	<b>Peak Power (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Results</b>
0.09 MHz to 1.0 GHz	-50.1	-13.0	37.1	Complied
1.0 GHz to 1.93 GHz	-33.2	-13.0	20.2	Complied
1.992 GHz to 2.5 GHz	-42.1	-13.0	29.1	Complied
2.5 GHz to 10.0 GHz	-31.9	-13.0	18.9	Complied
10.0 GHz to 20.0 GHz	-22.8	-13.0	9.8	Complied

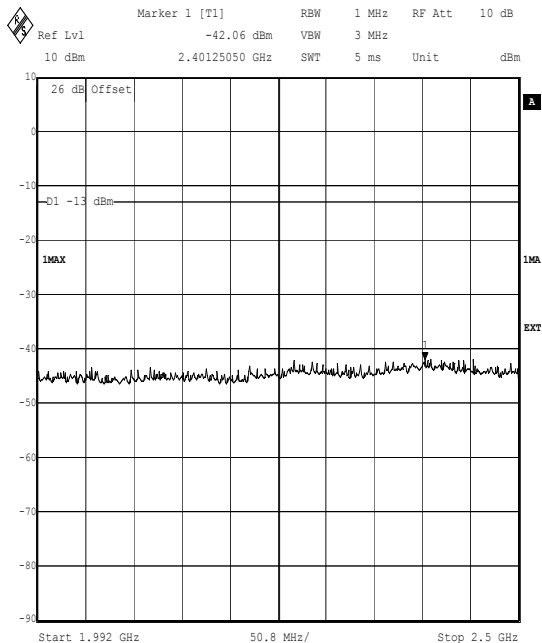
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

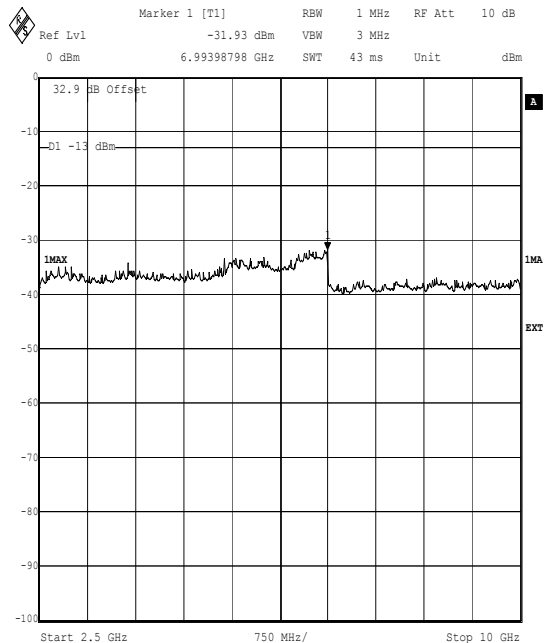
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 16:41:48



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 16:44:12



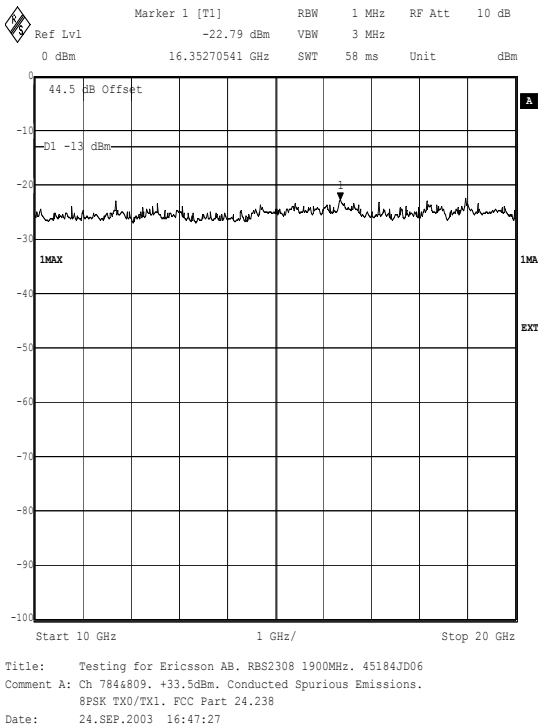
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 16:45:56



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 16:46:33

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: 8PSK, TX0 CH784 and TX1 CH809 (Continued)**

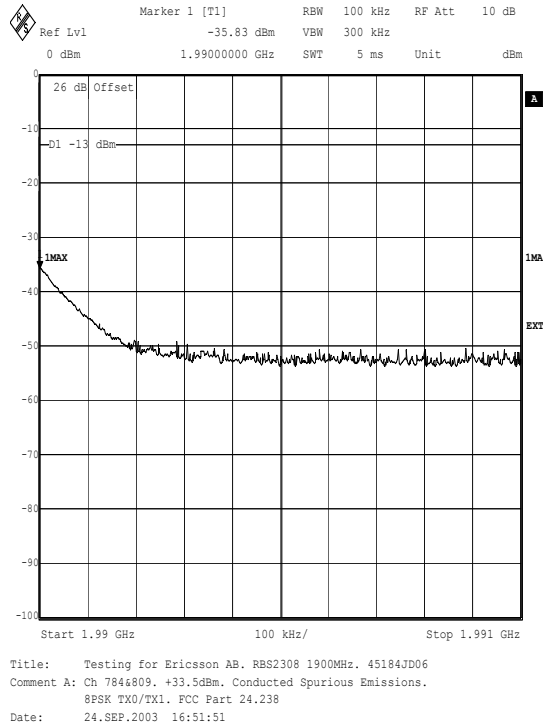
1<sup>st</sup> 1 MHz block immediately outside adjacent frequency block.

**First Band: 1990 to 1991 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	280.6	6	8.4
2	34.0	7	8.8
3	11.6	8	8.1
4	10.1	9	8.5
5	8.8	10	8.9
Total Peak Power:		387.8 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1990 to 1991	-34.1	-13.0	21.1	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: 8PSK, TX0 CH784 and TX1 CH809 (Continued)**

2<sup>nd</sup> 1 MHz block immediately outside adjacent frequency block.

**Second Band: 1991 to 1992 MHz**

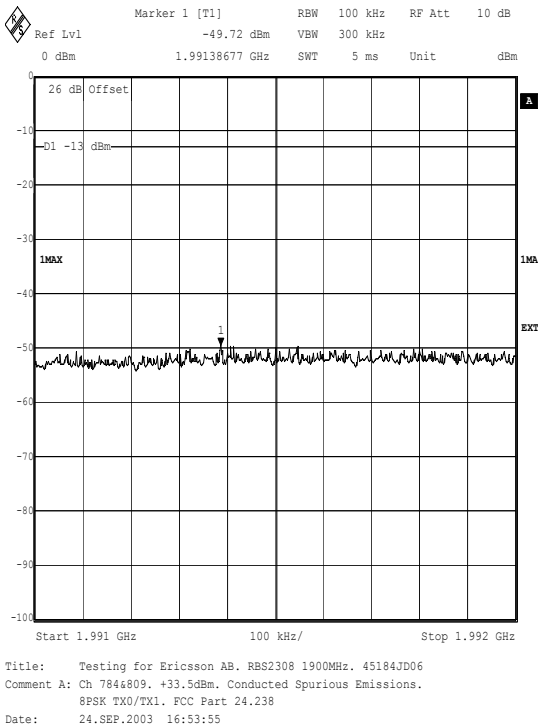
100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	8.2	6	10.1
2	8.0	7	11.3
3	9.6	8	11.8
4	10.7	9	12.5
5	10.7	10	12.1
Total Peak Power:		105.0 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1991 to 1992	-39.8	-13.0	26.8	Complied



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



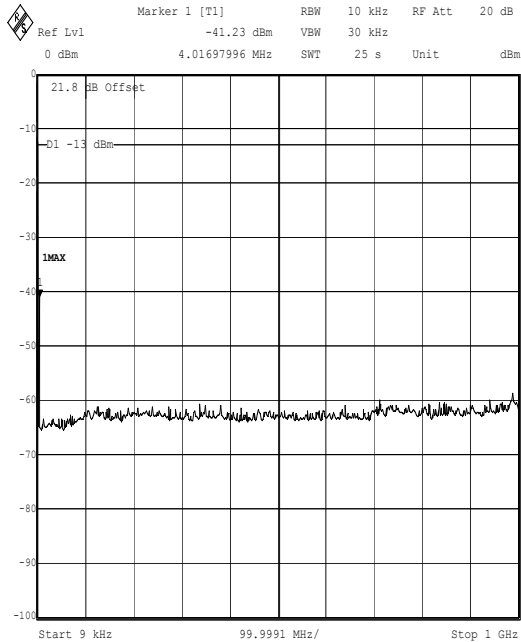
**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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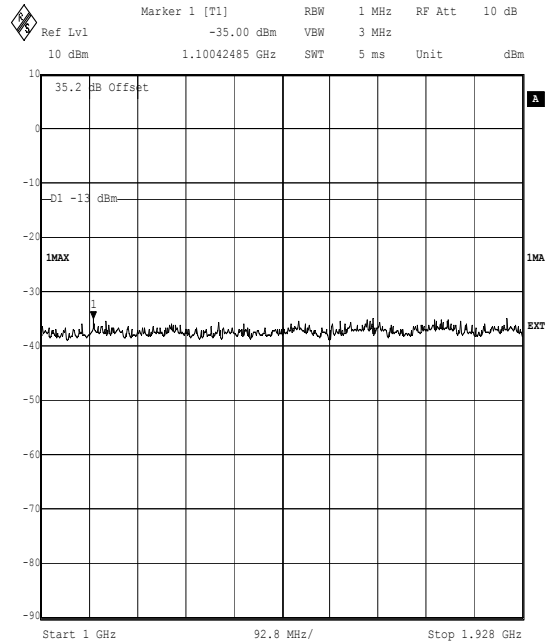
**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: 8PSK, TX2 CH513 and TX3 CH538**

<b>Band</b>	<b>Peak Power (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Results</b>
0.09 MHz to 1.0 GHz	-41.2	-13.0	28.2	Complied
1.0 GHz to 1.928 GHz	-35.0	-13.0	22.0	Complied
1.99 GHz to 2.5 GHz	-42.9	-13.0	29.9	Complied
2.5 GHz to 10.0 GHz	-31.6	-13.0	18.6	Complied
10.0 GHz to 20.0 GHz	-22.8	-13.0	9.8	Complied

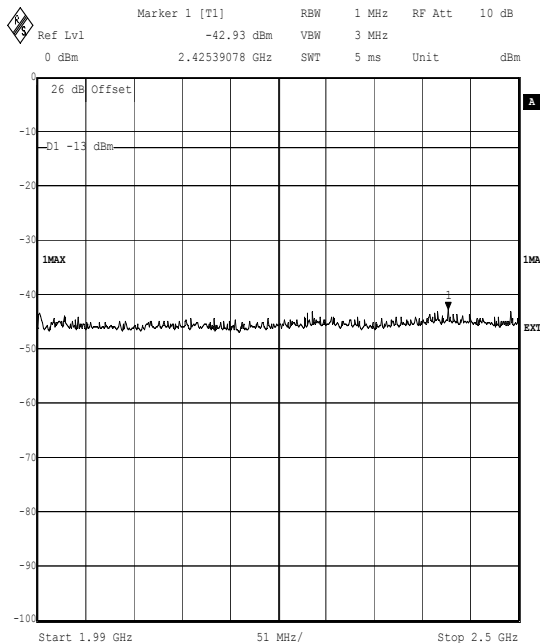
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

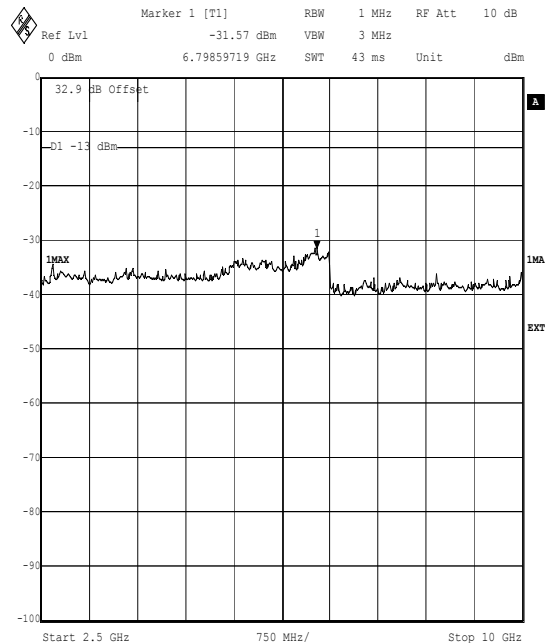
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:09:16



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:10:54

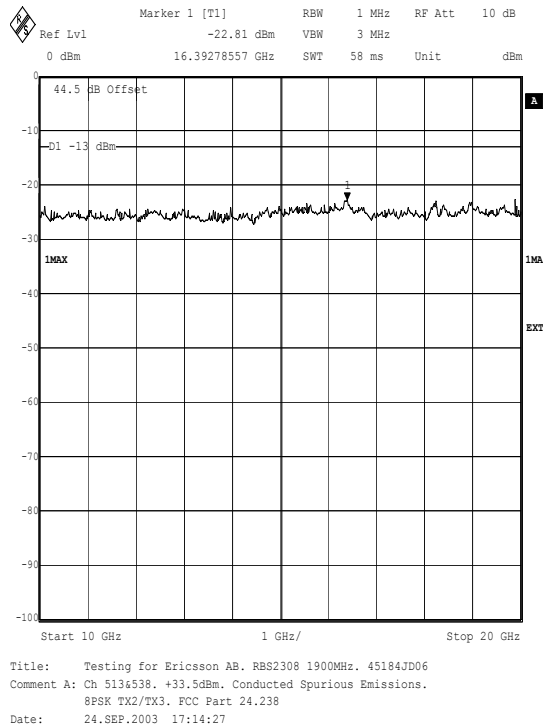


Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:12:10



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:13:26

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: 8PSK, TX2 CH513 and TX3 CH538 (Continued)**

1<sup>st</sup> 1 MHz block immediately outside adjacent frequency block.

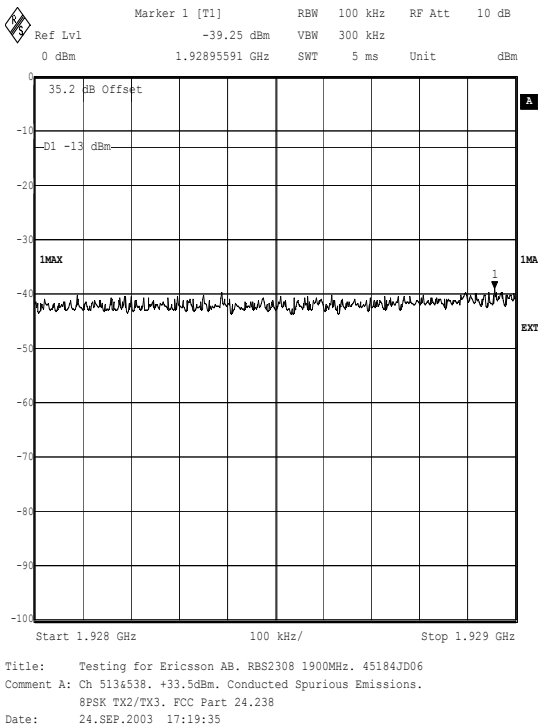
**First Band: 1928 to 1929 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	89.3	6	105.8
2	98.0	7	112.2
3	122.4	8	110.7
4	103.3	9	137.3
5	97.0	10	144.8
Total Peak Power:		1120.8 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1928 to 1929	-29.5	-13.0	16.5	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: 8PSK, TX2 CH513 and TX3 CH538 (Continued)**

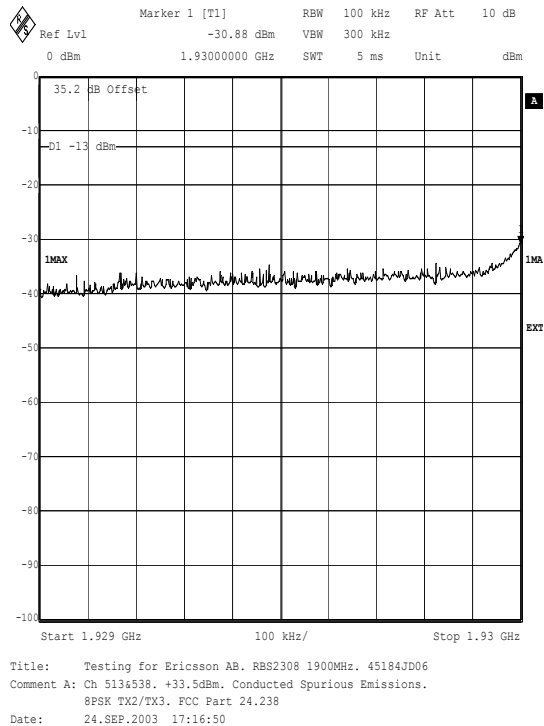
2<sup>nd</sup> 1 MHz block immediately outside adjacent frequency block.

**Second Band: 1929 to 1930 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	204.4	6	282.4
2	230.6	7	340.9
3	271.3	8	267.6
4	227.5	9	336.3
5	317.8	10	878.0
Total Peak Power:		3356.8 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1929 to 1930	-24.7	-13.0	11.7	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



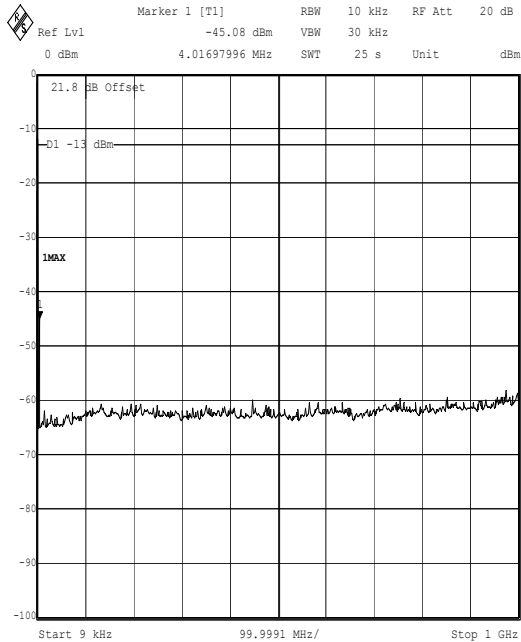
**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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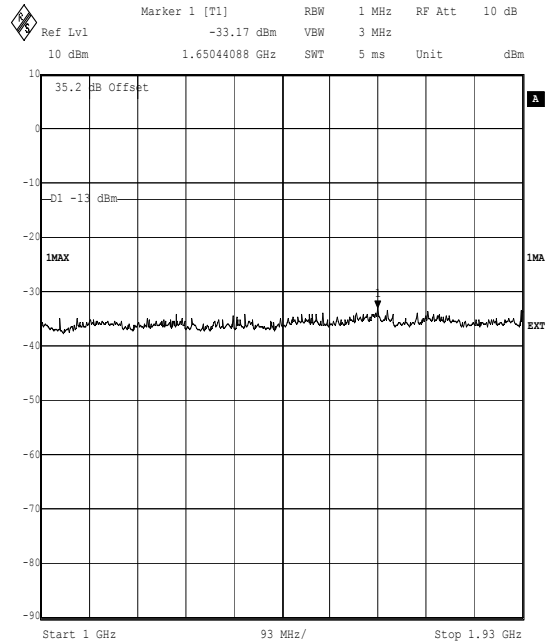
**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Result: 8PSK, TX2 CH784 and TX3 CH809**

<b>Band</b>	<b>Peak Power (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Results</b>
0.09 MHz to 1.0 GHz	-45.1	-13.0	32.1	Complied
1.0 GHz to 1.93 GHz	-33.2	-13.0	20.2	Complied
1.992 GHz to 2.5 GHz	-41.7	-13.0	28.7	Complied
2.5 GHz to 10.0 GHz	-31.7	-13.0	18.7	Complied
10.0 GHz to 20.0 GHz	-22.6	-13.0	9.6	Complied

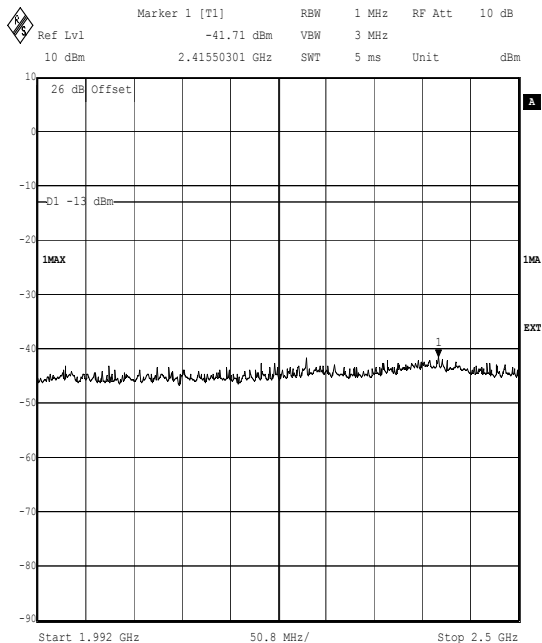
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

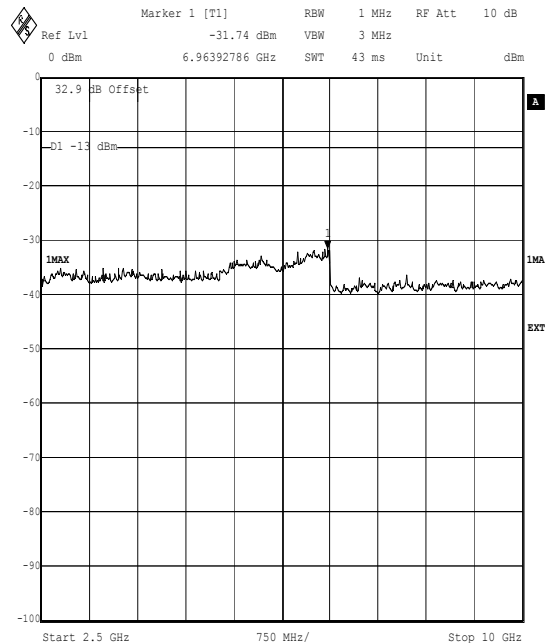
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:32:42



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:34:49

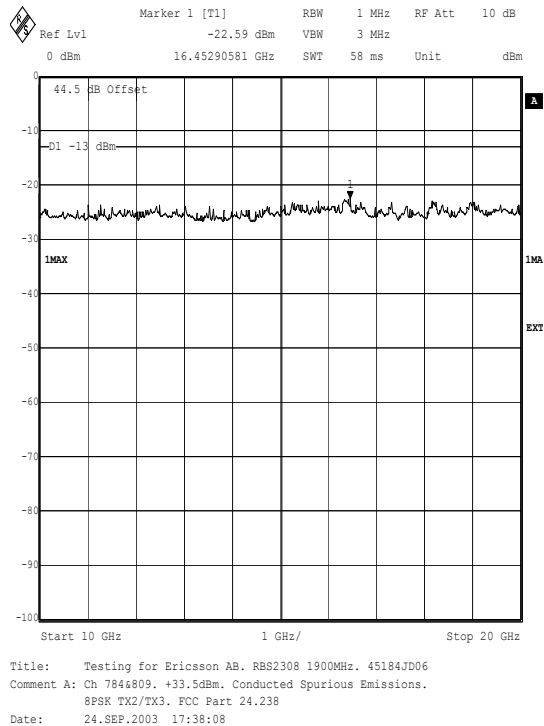


Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:35:51



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:37:07

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: 8PSK, TX2 CH784 and TX3 CH809 (Continued)**

1<sup>st</sup> 1 MHz block immediately outside adjacent frequency block.

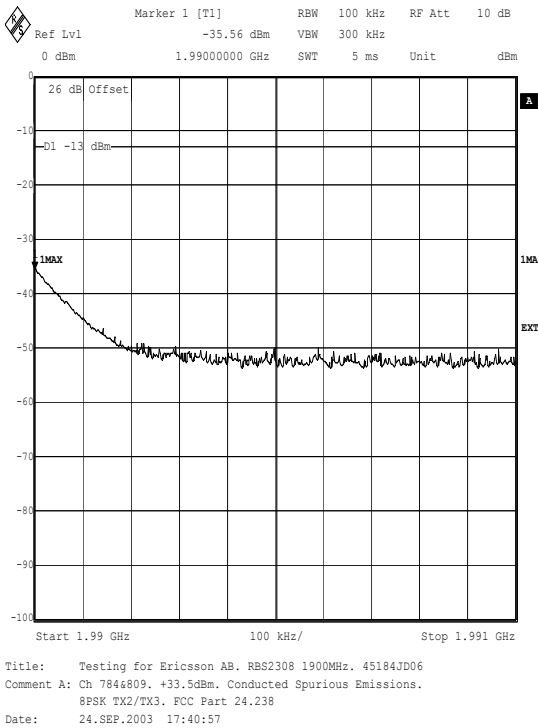
**First Band: 1990 to 1991 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	278.0	6	9.6
2	34.8	7	9.0
3	11.8	8	8.6
4	9.2	9	7.6
5	10.3	10	10.8
Total Peak Power:		389.7 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1990 to 1991	-34.1	-13.0	21.1	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)****Results: 8PSK, TX2 CH784 and TX3 CH809 (Continued)**

2<sup>nd</sup> 1 MHz block immediately outside adjacent frequency block.

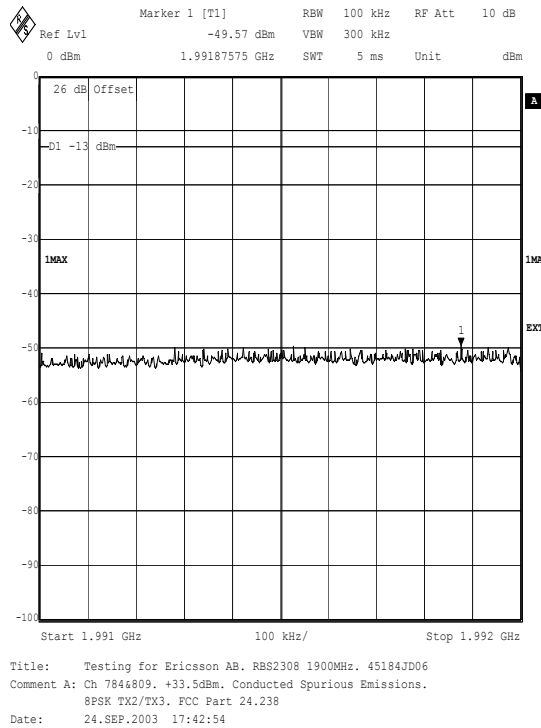
**Second Band: 1991 to 1992 MHz**

100 kHz Strip Number	Peak Power (nW/100kHz)	100 kHz Strip Number	Peak Power (nW/100kHz)
1	8.625	6	12.243
2	8.768	7	12.510
3	9.838	8	10.709
4	9.963	9	11.034
5	12.324	10	13.079
Total Peak Power:		109.093 nW/MHz	

Band (MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1991 to 1992	-39.6	-13.0	26.6	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Out of Band Emissions: Section 2.1051/24.238(a) (Continued)**



**Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002**

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**7.8. Transmitter Conducted Intermodulation Responses: Section 2.1051/24.238 (a)**

7.8.1. The EUT was configured as for conducted emissions testing as described in Section 9 of this report.

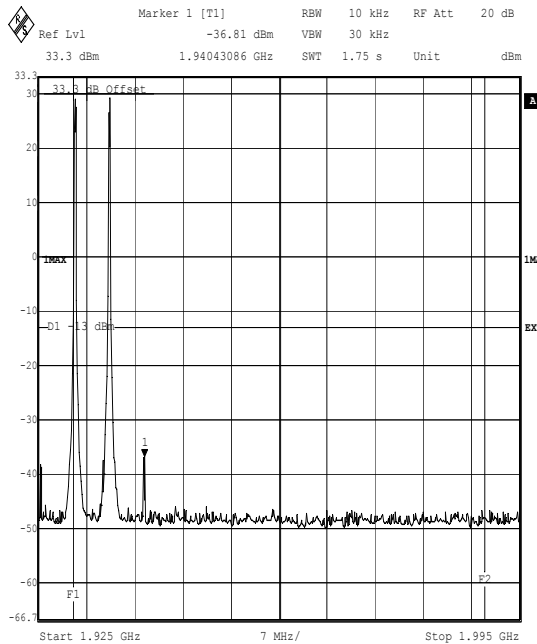
7.8.2. Tests were performed to identify the level of any Intermodulation responses present.

**Results: GMSK, TX0, TX1, TX2 and TX3**

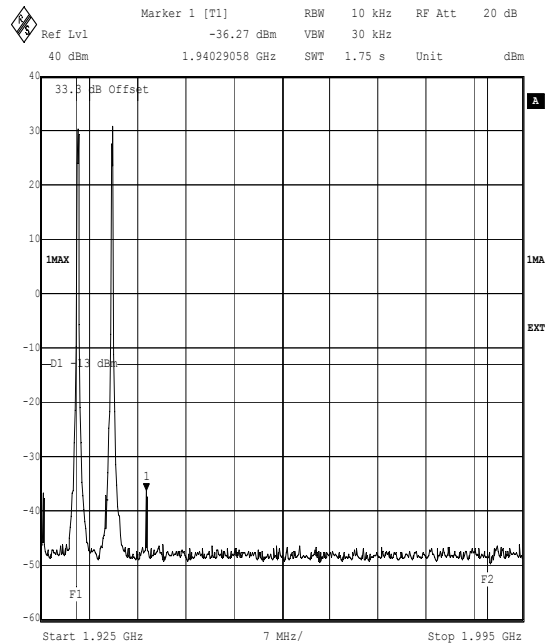
<b>TX</b>	<b>Channel pair</b>	<b>Peak Power Emission (dBm)</b>	<b>Frequency (MHz)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Result</b>
TX0/TX1	513/538	-36.8	1940.43086	-13.0	23.8	Complied
TX2/TX3	784/809	-36.3	1940.29058	-13.0	23.3	Complied
TX0/TX1	513/538	-37.6	1979.70942	-13.0	24.6	Complied
TX2/TX3	784/809	-36.8	1979.56914	-13.0	23.8	Complied



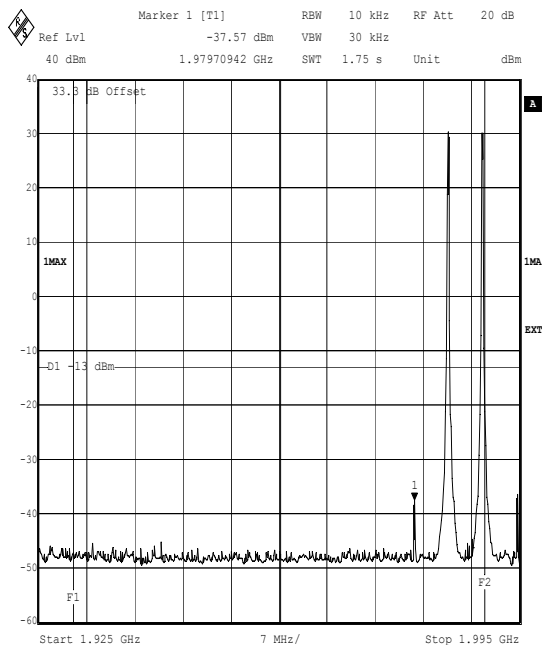
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Intermodulation Responses: Section 2.1051/24.238 (a) (Continued)**

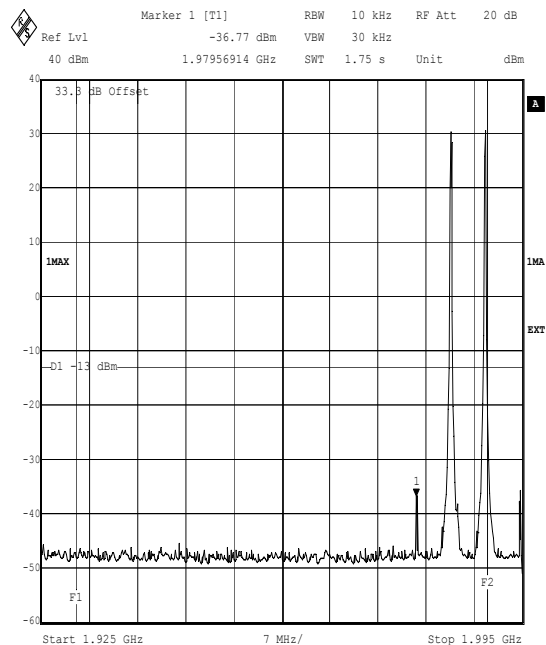
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 10:53:15



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:17:39



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 13:38:57



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
GMSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 15:48:46

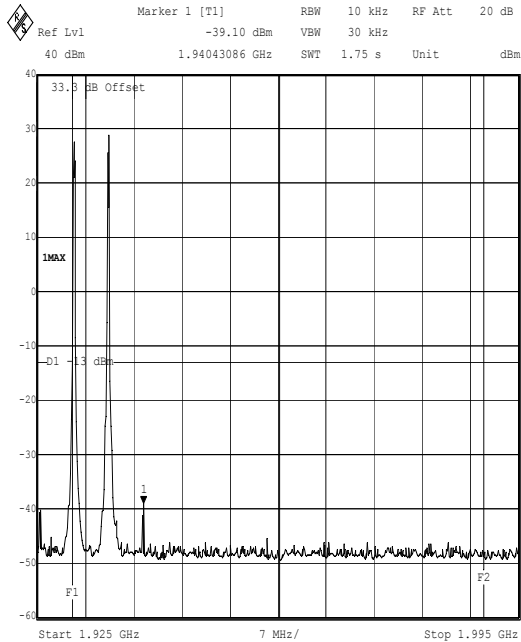
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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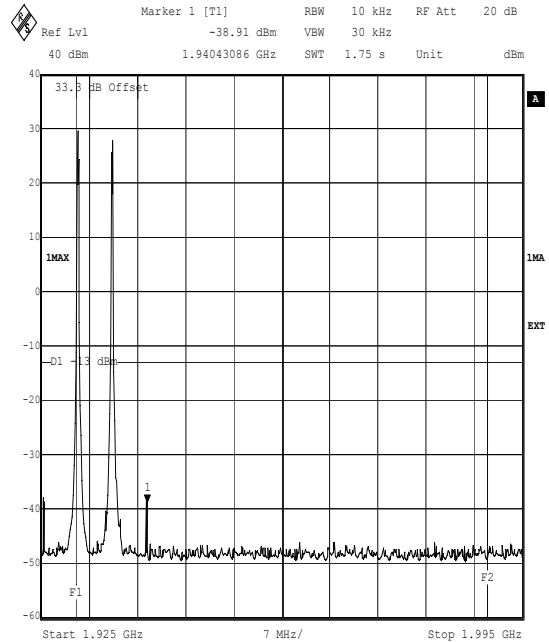
**Transmitter Conducted Intermodulation Responses: Section 2.1051/24.238 (a) (Continued)****Results: 8PSK, TX0, TX1, TX2 and TX3**

TX	Channel pair	Peak Power Emission (dBm)	Frequency (MHz)	Limit (dBm)	Margin (dB)	Result
TX0/TX1	513/538	-39.1	1940.43086	-13.0	26.1	Complied
TX2/TX3	784/809	-38.9	1940.43086	-13.0	25.9	Complied
TX0/TX1	513/538	-38.7	1979.70942	-13.0	25.7	Complied
TX2/TX3	784/809	-36.3	1979.70942	-13.0	23.3	Complied

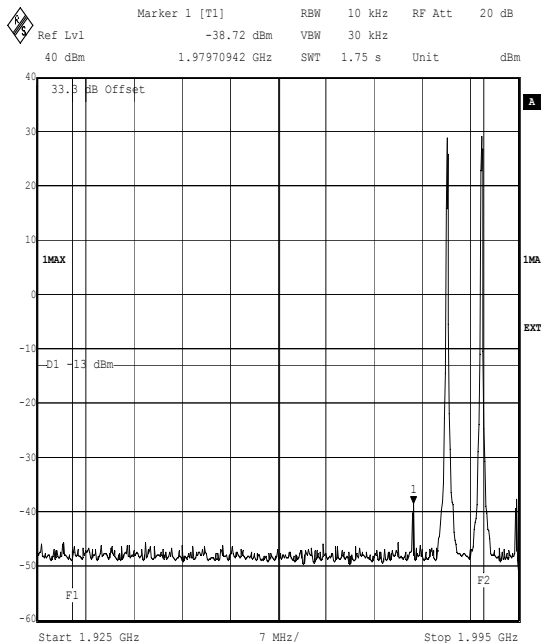
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Intermodulation Responses: Section 2.1051/24.238 (a) (Continued)**

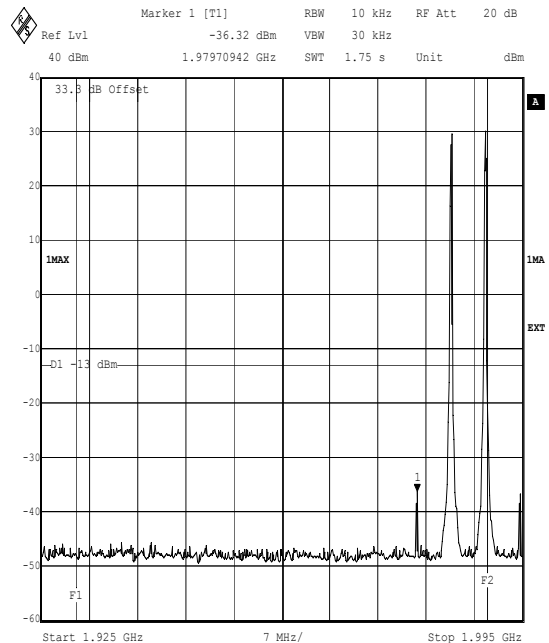
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 16:21:07



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 5136538. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:15:25



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX0/TX1. FCC Part 24.238  
Date: 24.SEP.2003 16:48:26



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: Ch 7846809. +33.5dBm. Conducted Spurious Emissions.  
8PSK TX2/TX3. FCC Part 24.238  
Date: 24.SEP.2003 17:39:19

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**7.9.Transmitter Conducted Emissions at Band Edges: Section 2.1051/24.238**

7.9.1. The EUT was configured as for conducted emissions at band edges testing as described in Section 9 of this report.

7.9.2. Tests were performed to identify the maximum conducted band edge emissions.

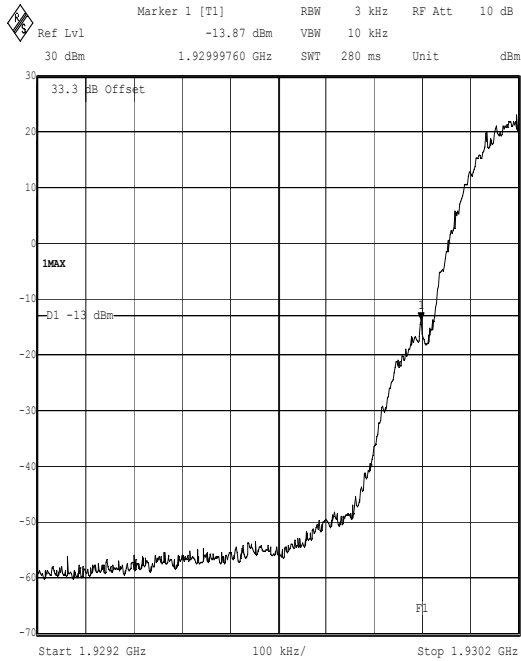
**Results: GMSK -TX0****Lower Band Edge**

Frequency (MHz)	Output Power (dBm)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
1929.99760	29.5	-13.9	-13.0	0.9	Complied
1929.98918	33.5	-45.1	-13.0	32.1	Complied

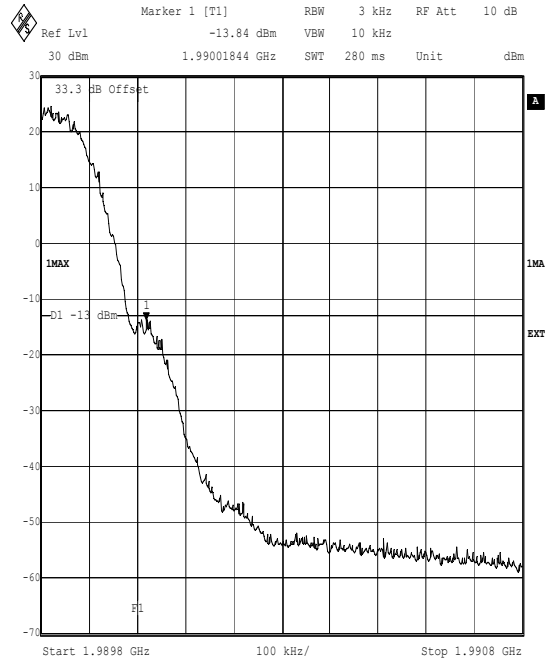
**Upper Band Edge**

Frequency (MHz)	Output Power (dBm)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
1990.01844	31.5	-13.8	-13.0	0.8	Complied
1990.00882	33.5	-44.8	-13.0	31.8	Complied

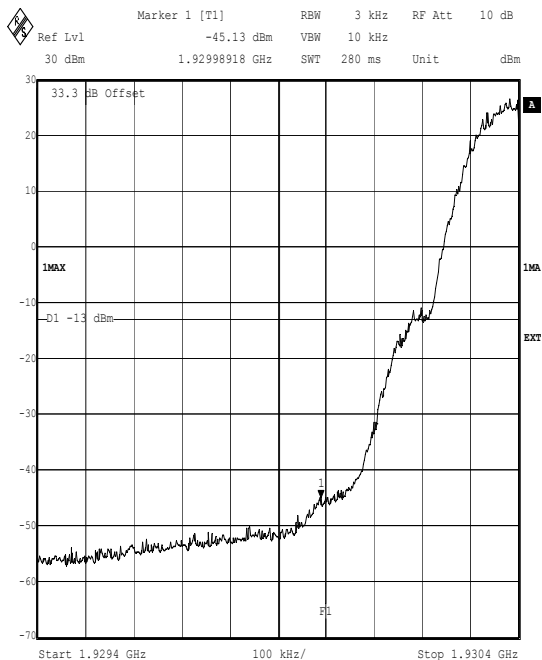
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Emissions at Band Edges: Section 2.1051/24.238 (Continued)**

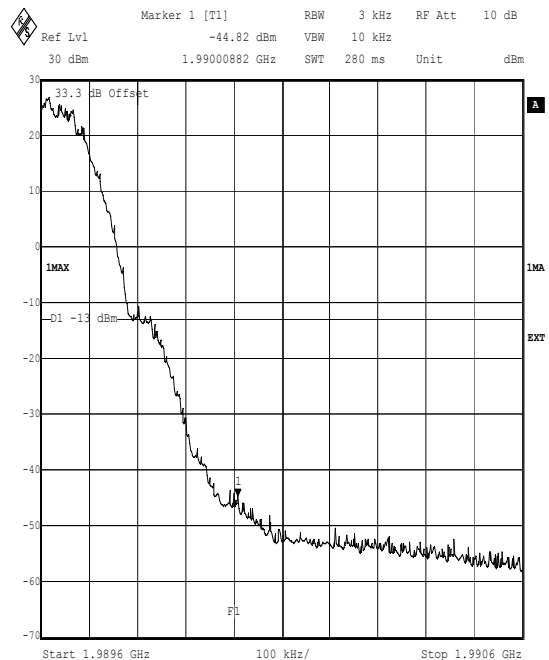
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +29.5dBm. OBW Band Edge. GMSK TX0. FCC Part 24.238  
Date: 22.SEP.2003 13:30:59



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +31.5dBm. OBW Band Edge. GMSK TX0. FCC Part 24.238  
Date: 22.SEP.2003 14:08:53



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH513. +33.5dBm. OBW Band Edge. GMSK TX0. FCC Part 24.238  
Date: 22.SEP.2003 13:56:08



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH809. +33.5dBm. OBW Band Edge. GMSK TX0. FCC Part 24.238  
Date: 22.SEP.2003 14:22:43

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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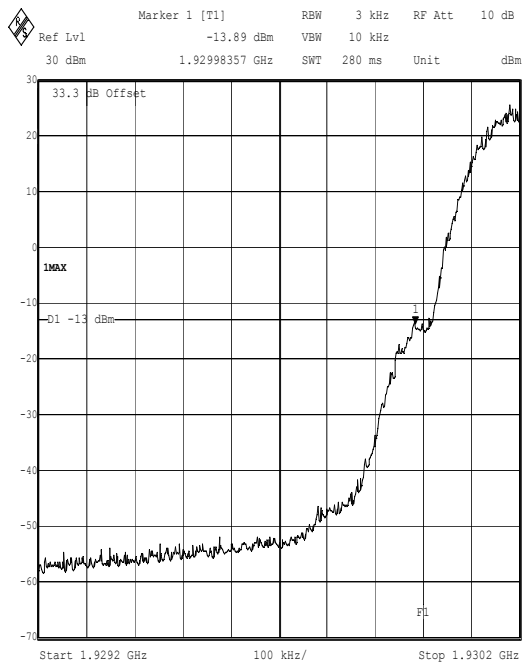
**Transmitter Conducted Emissions at Band Edges: Section 2.1051/24.238 (Continued)****Results: GMSK –TX2****Lower Band Edge**

Frequency (MHz)	Output Power (dBm)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
1929.98357	31.5	-13.9	-13.0	0.9	Complied
1929.99319	33.5	-45.5	-13.0	32.5	Complied

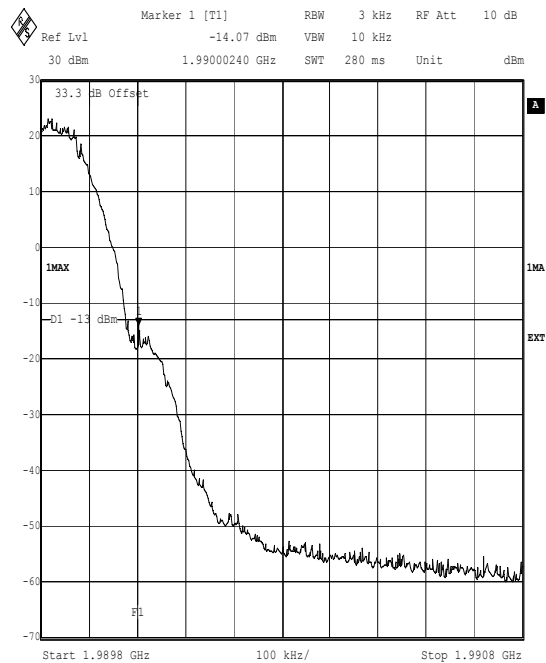
**Upper Band Edge**

Frequency (MHz)	Output Power (dBm)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
1990.00240	29.5	-14.1	-13.0	1.1	Complied
1990.00882	33.5	-45.0	-13.0	32.0	Complied

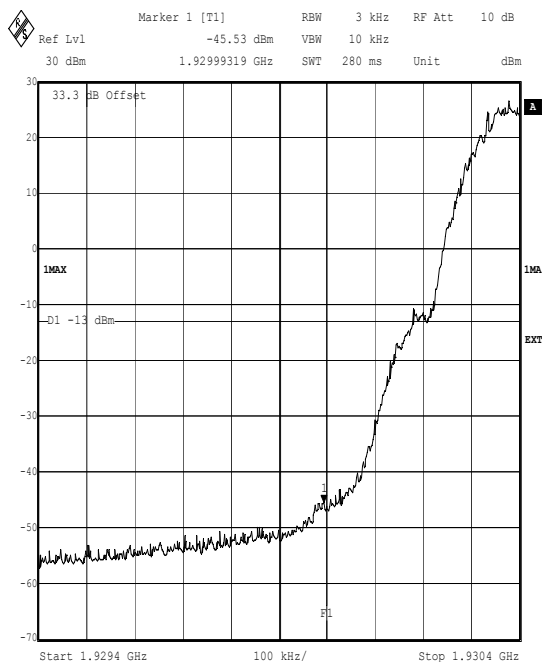
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Emissions at Band Edges: Section 2.1051/24.238 (Continued)**

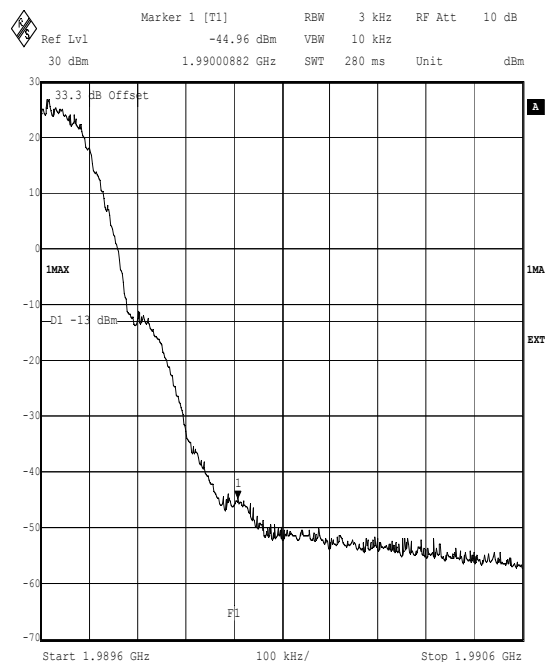
Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +31.5dBm. OBW Band Edge. GMSK TX2. FCC Part 24.238  
Date: 22.SEP.2003 14:36:41



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +29.5dBm. OBW Band Edge. GMSK TX2. FCC Part 24.238  
Date: 22.SEP.2003 14:56:06



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH513. +33.5dBm. OBW Band Edge. GMSK TX2. FCC Part 24.238  
Date: 22.SEP.2003 14:43:46



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH809. +33.5dBm. OBW Band Edge. GMSK TX2. FCC Part 24.238  
Date: 22.SEP.2003 15:03:30

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**Transmitter Conducted Emissions at Band Edges: Section 2.1051/24.238 (Continued)****Results: 8PSK –TX0****Lower Band Edge**

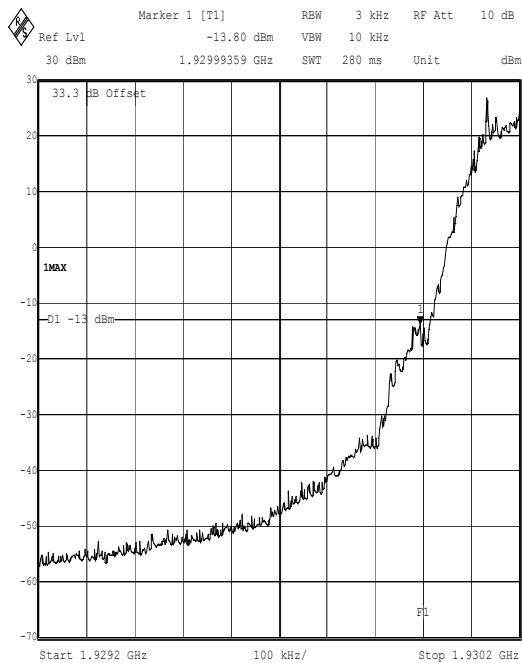
Frequency (MHz)	Output Power (dBm)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
1929.99359	33.5	-13.8	-13.0	0.8	Complied

**Upper Band Edge**

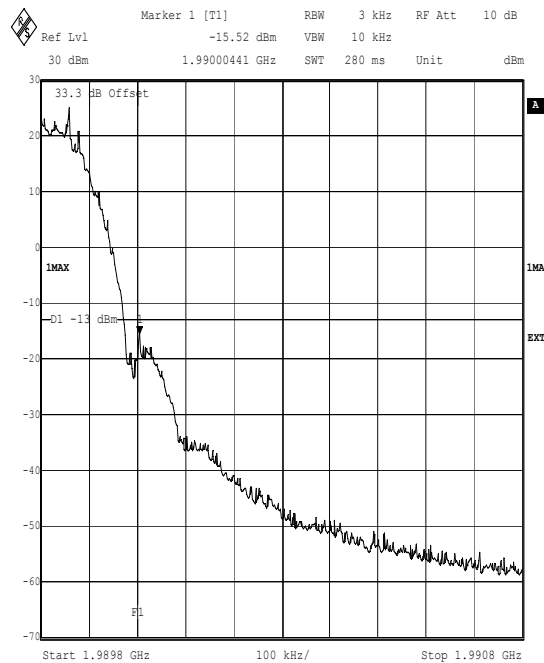
Frequency (MHz)	Output Power (dBm)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
1990.00441	29.5	-15.5	-13.0	2.5	Complied
1990.00281	33.5	-40.6	-13.0	27.6	Complied



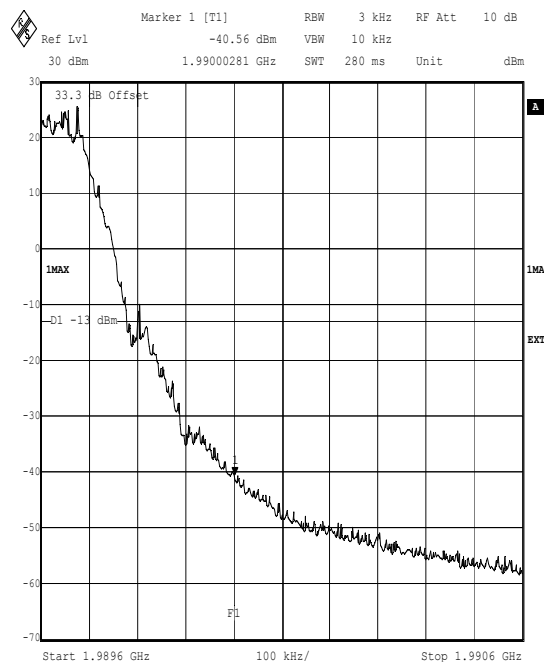
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

**Transmitter Conducted Emissions at Band Edges: Section 2.1051/24.238 (Continued)**

Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +33.5dBm. OBW Band Edge. 8PSK TX0. FCC Part 24.238  
Date: 22.SEP.2003 15:12:23



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +29.5dBm. OBW Band Edge. 8PSK TX0. FCC Part 24.238  
Date: 22.SEP.2003 15:26:31



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH809. +33.5dBm. OBW Band Edge. 8PSK TX0. FCC Part 24.238  
Date: 22.SEP.2003 15:35:03

**Test Of: Ericsson AB.**  
**RBS 2308 1900 MHz R5B**  
**To: FCC Part 24: 2002**

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**Transmitter Conducted Emissions at Band Edges: Section 2.1051/24.238 (Continued)****Results: 8PSK –TX2****Lower Band Edge**

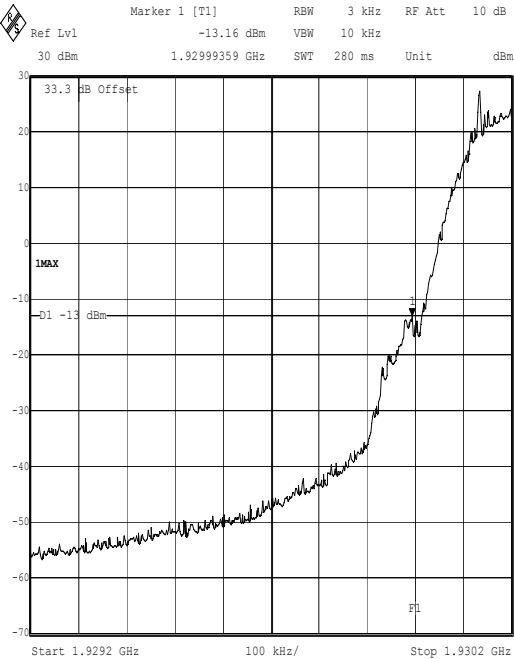
<b>Frequency (MHz)</b>	<b>Output Power (dBm)</b>	<b>Peak Emission Level (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Result</b>
1929.99359	33.5	-13.2	-13.0	0.2	Complied

**Upper Band Edge**

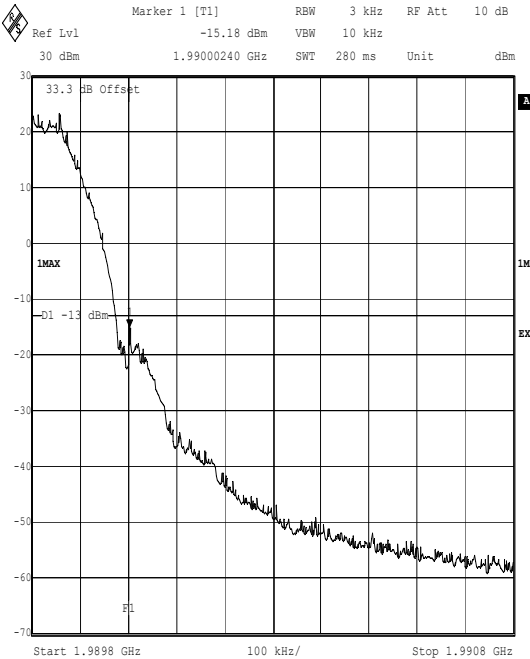
<b>Frequency (MHz)</b>	<b>Output Power (dBm)</b>	<b>Peak Emission Level (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Result</b>
1990.00240	29.5	-15.2	-13.0	2.2	Complied
1990.01683	33.5	-41.7	-13.0	28.7	Complied

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

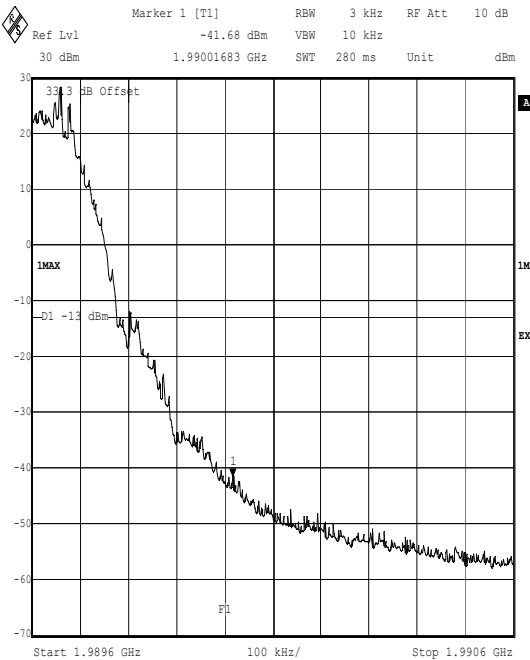
**Transmitter Conducted Emissions at Band Edges: Section 2.1051/24.238 (Continued)**



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH512. +33.5dBm. OBW Band Edge. 8PSK TX2. FCC Part 24.238  
Date: 22.SEP.2003 15:48:31



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH810. +29.5dBm. OBW Band Edge. 8PSK TX2. FCC Part 24.238  
Date: 22.SEP.2003 16:00:44



Title: Testing for Ericsson AB. RBS2308 1900MHz. 45184JD06  
Comment A: CH809. +33.5dBm. OBW Band Edge. 8PSK TX2. FCC Part 24.238  
Date: 23.SEP.2003 09:15:42

Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

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**7.10. Transmitter Radiated Emissions: Section 2.1053/24.238 (a)**

**Electric Field Strength Measurements of Spurious Emissions and Intermodulation Products: 30 MHz to 20 GHz**

7.10.1. The EUT was configured as for radiated emissions testing as described in Section 9 of this report.

7.10.2. Tests were performed to identify the field strength of spurious emissions.

7.10.3. Tests were also performed to identify the field strength of any Intermodulation responses present.

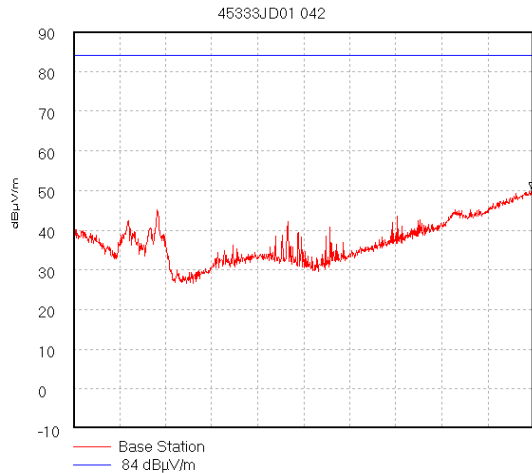
**Results:**

Excluding the fundamental emissions, all other indicated spurious and intermodulation responses were at least 20 dB below the relevant limit; therefore no final measurements were performed

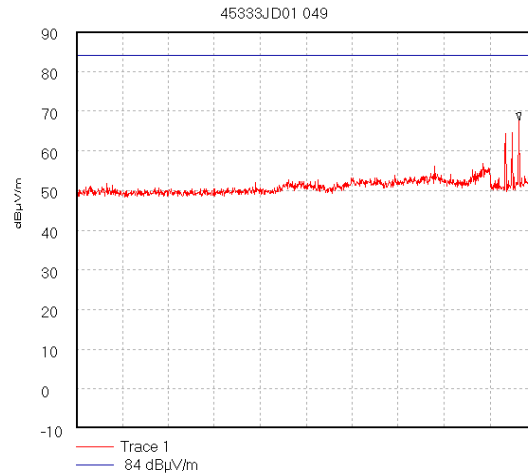
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

### Transmitter Radiated Emissions: Section 2.1053/24.238 (a) (Continued)

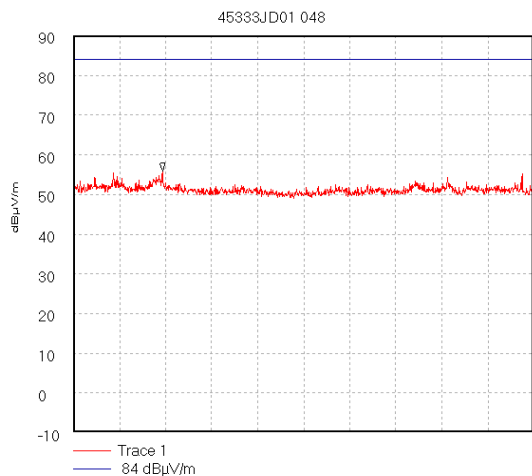
**GMSK DRTU Channels: trx0 ch 512, trx1 ch 661, trx2 ch 810, trx3 ch 585 Voltage: 110 V**



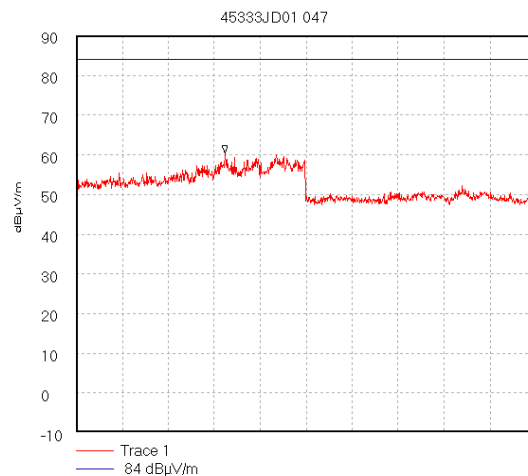
Start 30.0 MHz; Stop 1.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 145.0 kHz; VBW 1.0 MHz; Att 5 dB; Swp 540.0 mS  
Peak 996.111 MHz, 50.01 dBμV/m  
Display Line: 84 dBμV/m;  
Transducer Factors: A490  
28/08/2003 10:00:41



Start 1.0 GHz; Stop 2.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 1.964 GHz, 67.71 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 1 to 2  
28/08/2003 12:04:23



Start 2.0 GHz; Stop 4.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 2.387 GHz, 55.95 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 2 to 4  
28/08/2003 11:54:16

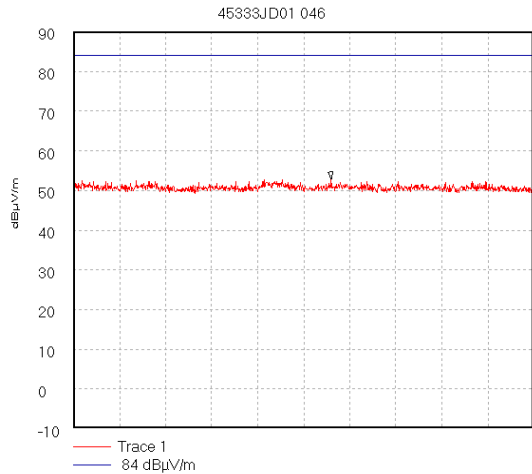


Start 4.0 GHz; Stop 6.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 4.647 GHz, 60.37 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 4\_to\_6\_GHz  
28/08/2003 11:42:47

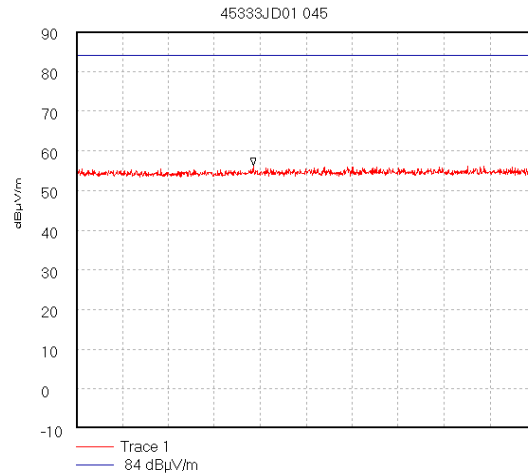
*Note: these plots are pre-scans and for indication purposes only.*

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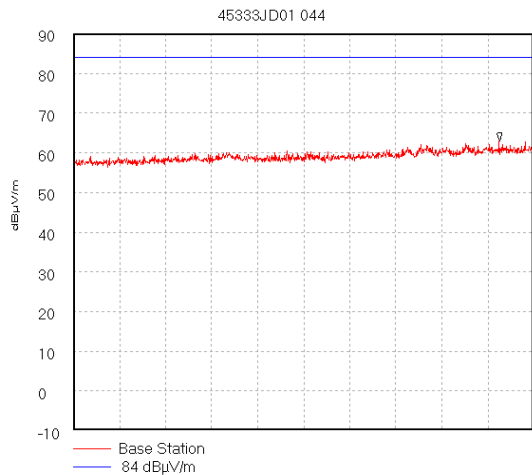
### Transmitter Radiated Emissions: Section 2.1053/24.238 (a) (Continued)



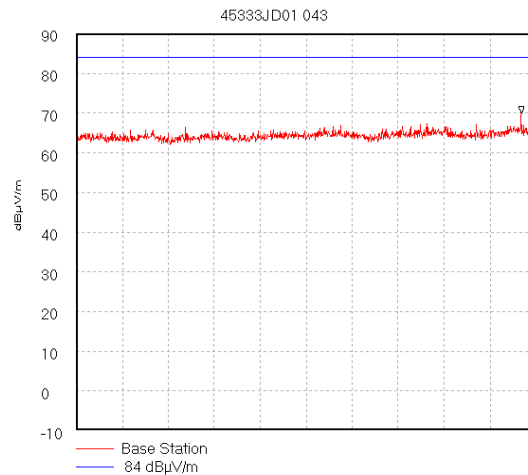
Start 6.0 GHz; Stop 8.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 7.12 GHz, 52.8 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 6\_to\_8\_GHz  
28/08/2003 11:32:54



Start 8.0 GHz; Stop 12.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 40.0 mS  
Peak 9.542 GHz, 56.26 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 8\_to\_12\_GHz  
28/08/2003 11:21:52



Start 12.0 GHz; Stop 18.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1.45 MHz; VBW 3.0 MHz; Att 5 dB; Swp 40.0 mS  
Peak 17.553 GHz, 63.01 dBμV/m  
Display Line: 84 dBμV/m;  
Transducer Factors: 12\_to\_18\_GHz  
28/08/2003 11:03:24



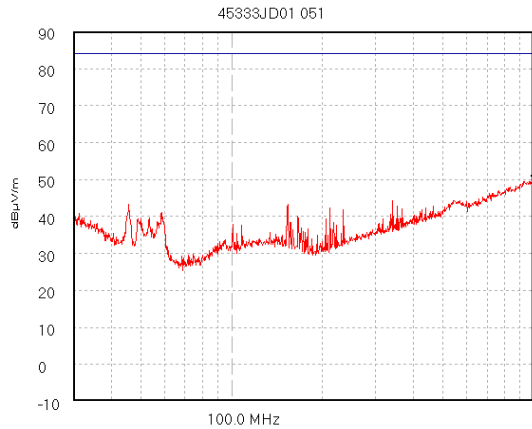
Start 18.0 GHz; Stop 20.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1.45 MHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 19.938 GHz, 69.69 dBμV/m  
Display Line: 84 dBμV/m;  
Transducer Factors: 18\_to\_26  
28/08/2003 10:34:58

*Note: these plots are pre-scans and for indication purposes only.*

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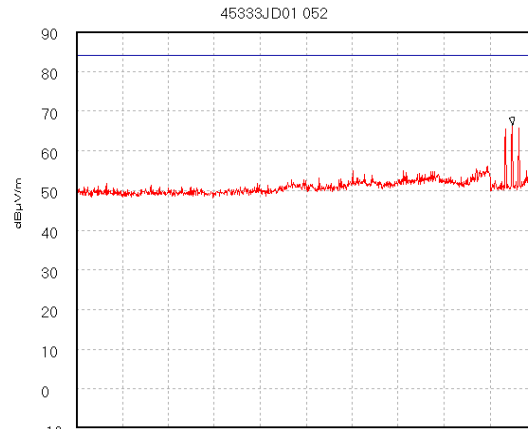
### Transmitter Radiated Emissions: Section 2.1053/24.238 (a) (Continued)

**8PSK DRTU Channels: trx0 ch 512, trx1 ch 661, trx2 ch 810, trx3 ch 585 Voltage: 110 V**



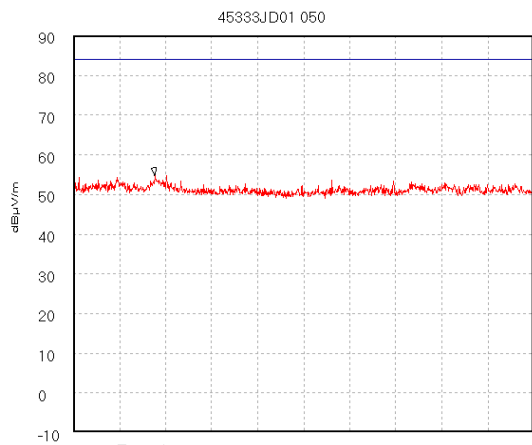
Trace 1  
84 dBμV/m

Start 30.0 MHz; Stop 1.0 GHz - Log Scale  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 100.0 kHz; VBW 1.0 MHz; Att 5 dB; Swp 100.0 mS  
Peak 1000.0 MHz; 49.48 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: A490  
28/08/2003 13:37:30



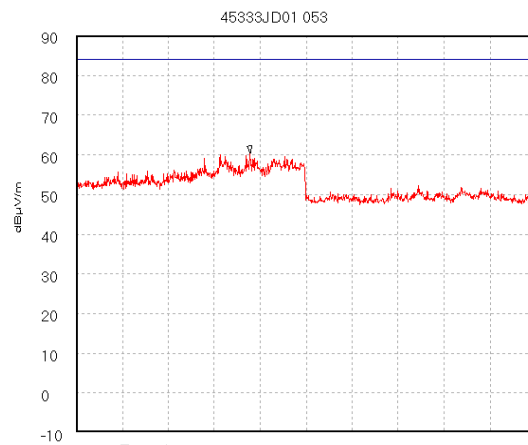
Trace 1  
84 dBμV/m

Start 1.0 GHz; Stop 2.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 1.949 GHz; 66.41 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 1 to 2  
28/08/2003 13:48:15



Trace 1  
84 dBμV/m

Start 2.0 GHz; Stop 4.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 2.353 GHz; 54.73 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 2 to 4  
28/08/2003 12:17:08



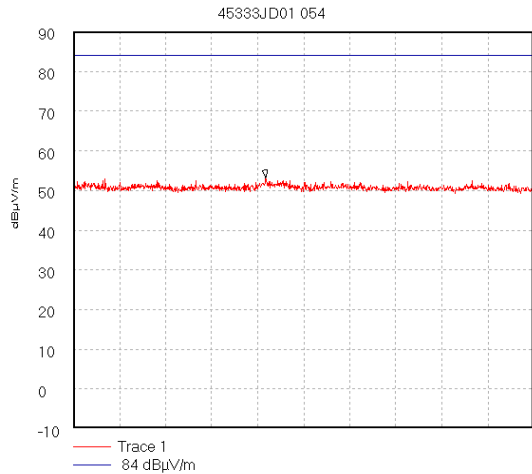
Trace 1  
84 dBμV/m

Start 4.0 GHz; Stop 6.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 4.756 GHz; 60.32 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 1 to 2  
28/08/2003 14:03:03

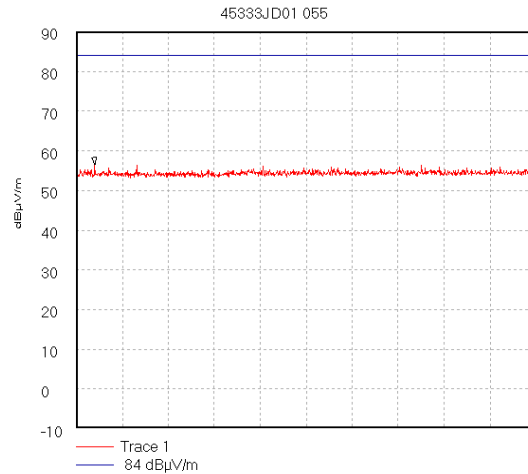
*Note: these plots are pre-scans and for indication purposes only.*

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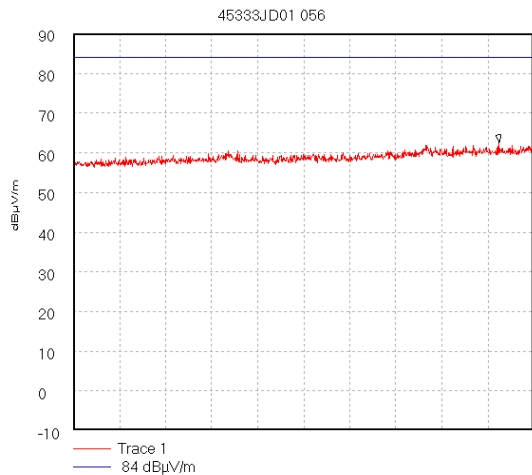
### Transmitter Radiated Emissions: Section 2.1053/24.238 (a) (Continued)



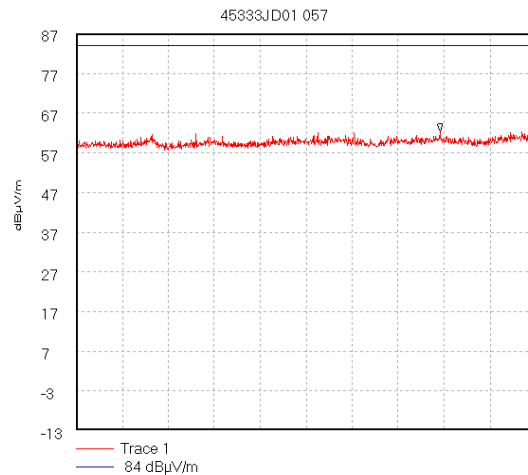
Start 6.0 GHz; Stop 8.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 6.836 GHz; 53.18 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 1 to 2  
28/08/2003 14:13:30



Start 8.0 GHz; Stop 12.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 40.0 mS  
Peak 8.16 GHz; 56.43 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 1 to 2  
28/08/2003 14:25:33



Start 12.0 GHz; Stop 18.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 40.0 mS  
Peak 17.547 GHz; 62.5 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 1 to 2  
28/08/2003 14:32:48



Start 18.0 GHz; Stop 20.0 GHz  
Ref 87 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 20.0 mS  
Peak 19.584 GHz; 62.32 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 1 to 2  
28/08/2003 14:47:13

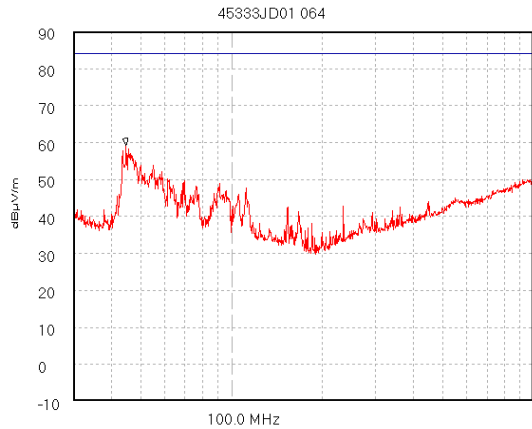
*Note: these plots are pre-scans and for indication purposes only.*



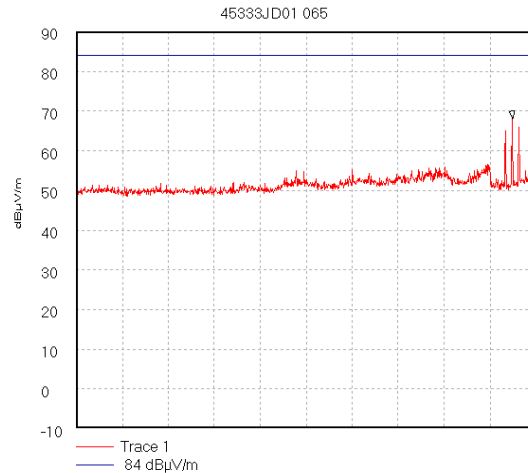
Test Of: Ericsson AB.  
RBS 2308 1900 MHz R5B  
To: FCC Part 24: 2002

### Transmitter Radiated Emissions: Section 2.1053/24.238 (a) (Continued)

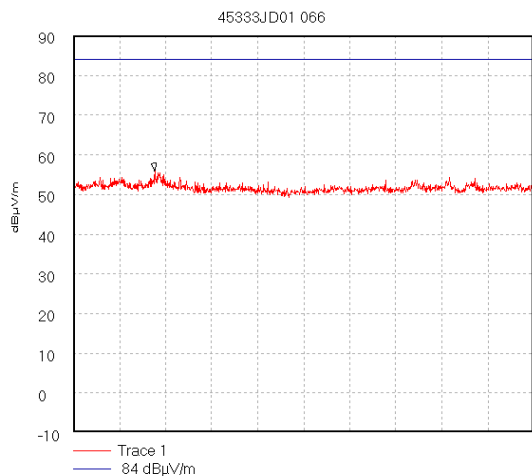
**GMSK DRTU Channels: trx0 ch 512, trx1 ch 661, trx2 ch 810, trx3 ch 585 Voltage: -48 V**



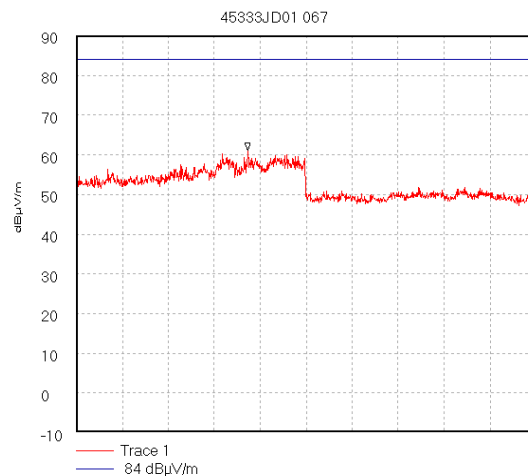
Start 30.0 MHz; Stop 1.0 GHz - Log Scale  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 100.0 kHz; VBW 1.0 MHz; Att 5 dB; Swp 540.0 mS  
Peak 44.813 MHz; 59.25 dBμV/m  
Display Line: 84 dBμV/m; ; Limit Test Passed  
Transducer Factors: A490  
29/08/2003 09:58:04



Start 1.0 GHz; Stop 2.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 1.949 GHz; 67.99 dBμV/m  
Display Line: 84 dBμV/m; ; Limit Test Passed  
Transducer Factors: 1 to 2  
29/08/2003 10:08:25



Start 2.0 GHz; Stop 4.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 2.353 GHz; 55.9 dBμV/m  
Display Line: 84 dBμV/m; ; Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 10:29:06

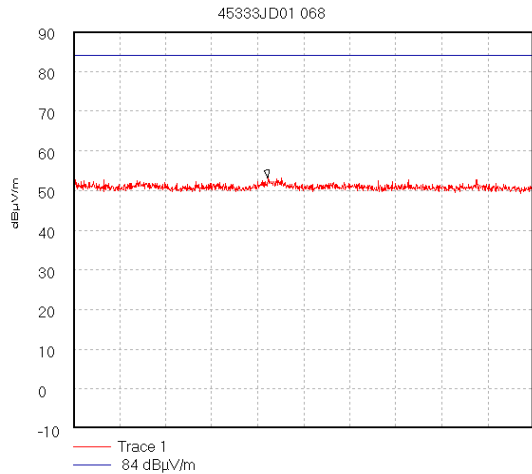


Start 4.0 GHz; Stop 6.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 4.747 GHz; 61.06 dBμV/m  
Display Line: 84 dBμV/m; ; Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 10:43:26

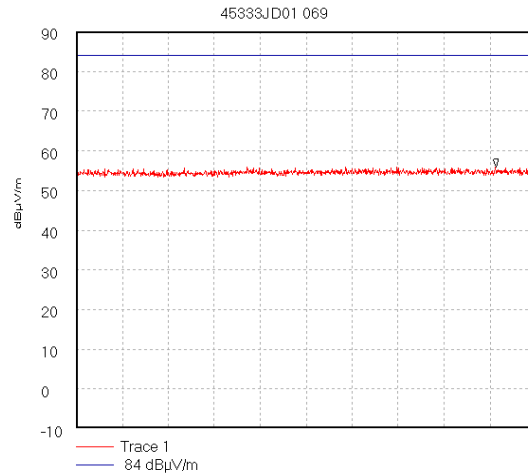
*Note: these plots are pre-scans and for indication purposes only.*

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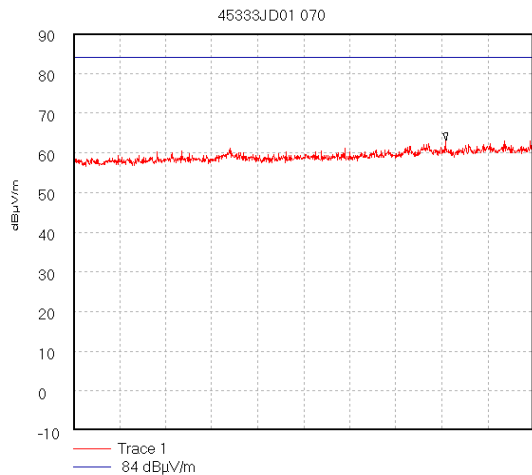
### Transmitter Radiated Emissions: Section 2.1053/24.238 (a) (Continued)



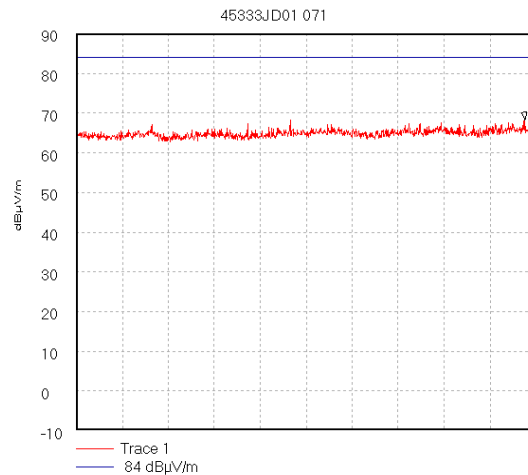
Start 6.0 GHz; Stop 8.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 6.844 GHz; 53.16 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 10:51:14



Start 8.0 GHz; Stop 12.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 40.0 mS  
Peak 11.653 GHz; 55.88 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 10:58:38



Start 12.0 GHz; Stop 18.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 40.0 mS  
Peak 16.853 GHz; 63.06 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 11:08:43



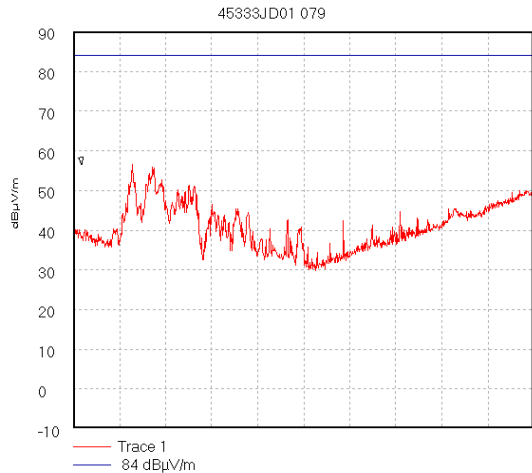
Start 18.0 GHz; Stop 20.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 19.953 GHz; 68.24 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 11:19:19

*Note: these plots are pre-scans and for indication purposes only.*

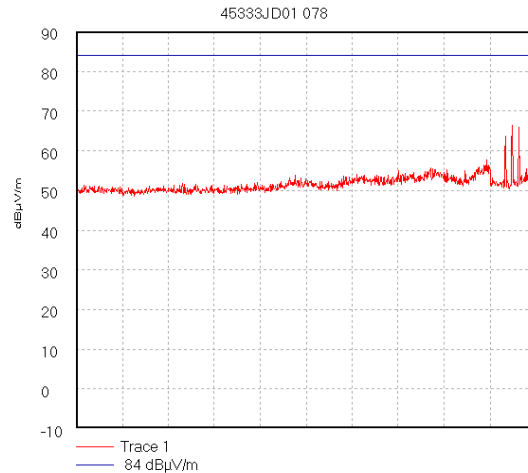
Test Of: Ericsson AB.  
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To: FCC Part 24: 2002

### Transmitter Radiated Emissions: Section 2.1053/24.238 (a) (Continued)

**8PSK DRTU Channels: trx0 ch 512, trx1 ch 661, trx2 ch 810, trx3 ch 585 Voltage: -48 V**



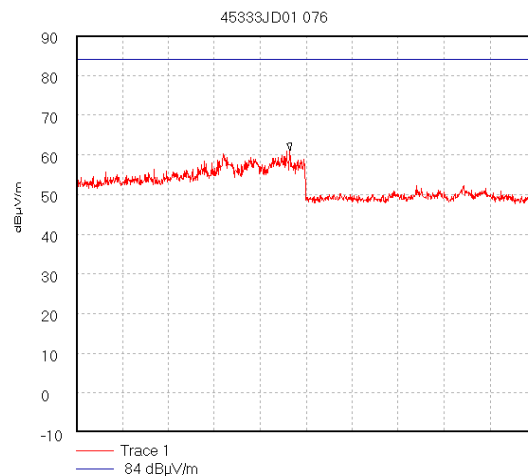
Start 30.0 MHz; Stop 1.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 100.0 kHz; VBW 1.0 MHz; Att 5 dB; Swp 540.0 mS  
Peak 46.958 MHz; 56.49 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: A490  
29/08/2003 13:50:52



Start 1.0 GHz; Stop 2.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 1.993 GHz; 67.48 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 1 to 2  
29/08/2003 13:40:01



Start 2.0 GHz; Stop 4.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 2.36 GHz; 55.39 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 13:22:14

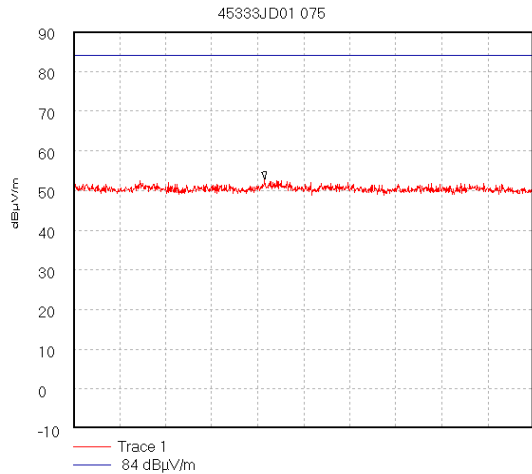


Start 4.0 GHz; Stop 6.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 4.929 GHz; 61.03 dBμV/m  
Display Line: 84 dBμV/m; Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 13:13:15

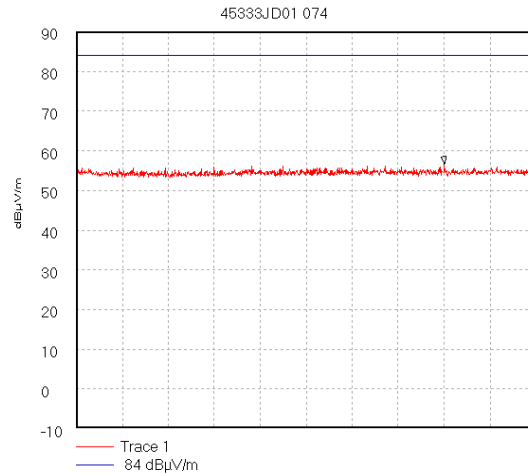
*Note: these plots are pre-scans and for indication purposes only.*

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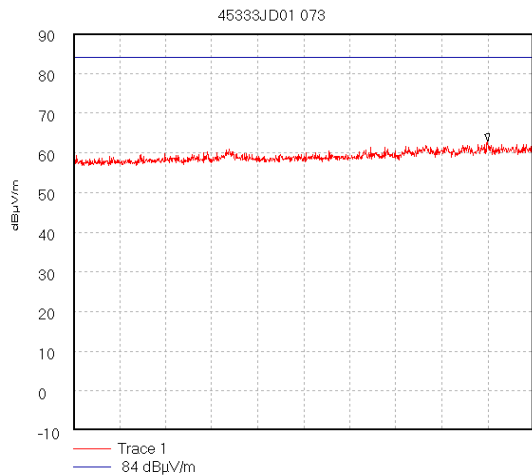
### Transmitter Radiated Emissions: Section 2.1053/24.238 (a) (Continued)



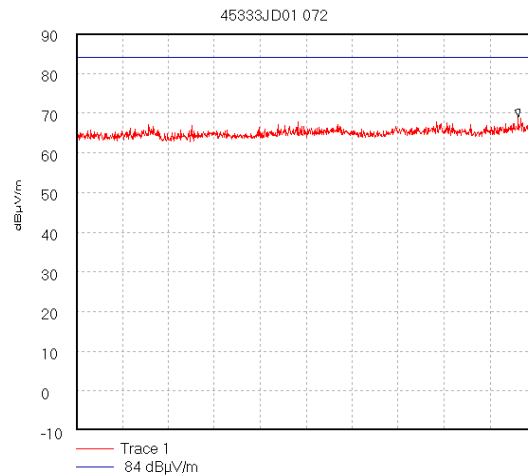
Start 6.0 GHz; Stop 8.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 6.831 GHz; 52.78 dBμV/m  
Display Line: 84 dBμV/m; : Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 11:57:13



Start 8.0 GHz; Stop 12.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 40.0 mS  
Peak 11.204 GHz; 56.61 dBμV/m  
Display Line: 84 dBμV/m; : Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 11:46:29



Start 12.0 GHz; Stop 18.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 40.0 mS  
Peak 17.4 GHz; 62.91 dBμV/m  
Display Line: 84 dBμV/m; : Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 11:39:42



Start 18.0 GHz; Stop 20.0 GHz  
Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS  
Peak 19.924 GHz; 68.95 dBμV/m  
Display Line: 84 dBμV/m; : Limit Test Passed  
Transducer Factors: 2 to 4  
29/08/2003 11:31:33

*Note: these plots are pre-scans and for indication purposes only.*

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## **8. Measurement Uncertainty**

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

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

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

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

<b>Measurement Type</b>	<b>Range</b>	<b>Confidence Level</b>	<b>Calculated Uncertainty</b>
Carrier Output Power	1930 to 1990 MHz	95%	+/- 0.6 dB
Frequency Stability	1930 to 1990 MHz	95%	+/- 5.0 Hz
Occupied Bandwidth	1930 to 1990 MHz	95%	+/- 5.0 Hz
Modulation Characteristics	1930 to 1990 MHz	95%	Phase error +/- 2.1° EVM (rms) <0.5% Origin Offset +/- 0.54 dB
Conducted Out of Band Emissions	9 kHz to 10 GHz	95%	+/- 4.4 dB
Conducted Emissions Inband Intermodulation	1930 to 1990 MHz	95%	+/- 0.7 dB
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	+/- 5.26 dB
Radiated Spurious Emissions	1 GHz to 26 GHz	95%	+/- 4.18 dB
Emissions at Band Edges	1930 to 1990 MHz	95%	+/- 0.7 dB

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

**Test Of: Ericsson AB.**  
**RBS 2308 1900 MHz R5B**  
**To: FCC Part 24: 2002**

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## **9. Measurement Methods**

### **Conducted Carrier Output Power**

Tests were performed to identify the maximum transmit power in accordance with FCC Part 2.1046 (a) for conducted power, with reference to TIA\_EIA\_603B.

Measurements were made at the ARP output connectors and testing was performed on bottom, middle and top channels for both GMSK and 8PSK modulation types on TX0, TX1, TX2 and TX3.

The BTS output was connected to a spectrum analyser, via cables, a 50 Ohm attenuator and a RF box containing further attenuators. The path loss was entered into the spectrum analyser as a reference level offset.

The test equipment settings for conducted carrier output power measurements were as follows:

<b>Receiver Function</b>	<b>Setting</b>
Detector Type:	Peak
Mode:	Max Hold
Bandwidth:	1 MHz
Step Size:	Continuous sweep
Sweep Time:	Coupled

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### **Modulation Characteristics**

Tests were performed to identify the modulation characteristics in accordance with FCC Part 2.1047, with reference to TIA\_EIA\_603B.

Measurements were made at the ARP output connectors and testing was performed on middle channel only.

The output was connected to a spectrum analyser, which was used in GSM BTS analyser mode, via cables and with 30 dB of attenuation in the path.

The phase error was measured for GMSK, whilst for 8PSK the EVM and Origin Offset were measured.

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### **Frequency Stability**

The EUT was situated within an environmental test chamber and connected to test equipment via an air link radiated from the antenna.

Measurements were performed with the EUT operating under extremes of temperature in 10 degree increments within the range -30 to 50 Deg C.

Measurements were also performed at voltage extremes between the declared nominal supply voltage and at the declared endpoint voltage.

The requirement was to determine the frequency stability of the device under specified environmental operating conditions.

Measurements were made on the bottom and top channels.

The EUT was switched off for a minimum of 30 minutes between each stage of testing while the environmental chamber stabilised at the next temperature within the stated temperature range.

The measured frequency (MHz) was compared to upper/lower band edge to provide a margin.

$$\begin{aligned}\text{Margin (MHz)} &= \text{UBEF}_{\text{MHz}} - \text{MCF}_{\text{MHz}} \text{ (for top channel),} \\ \text{Margin (MHz)} &= \text{MCF}_{\text{MHz}} - \text{LBEF}_{\text{MHz}} \text{ (for bottom channel),}\end{aligned}$$

where,

$\text{MCF}_{\text{MHz}}$  is the measured carrier frequency in MHz

$\text{LBEF}_{\text{MHz}}$  is the lower band edge carrier frequency in MHz

$\text{UBEF}_{\text{MHz}}$  is the upper band edge carrier frequency in MHz.

The client has stated that the authorised frequency band is:-

Lower Band Edge	1930 MHz
Upper Band Edge	1990 MHz



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### **Occupied Bandwidth**

The EUT was connected to a spectrum analyser enabled with an occupied bandwidth function.

Measurements were performed to determine the Occupied Bandwidth in accordance with FCC Part 2.1049. The Occupied Bandwidth was measured on the bottom middle and top channels.

The Occupied Bandwidth was measured using the built in occupied bandwidth function of the Rohde and Schwarz FSIQ spectrum analyser. It was set to measure the bandwidth where 99% of the signal power was contained. The analyser settings were set as per those outlined in the FSIQ user manual for this measurement, i.e., RBW  $\leq$  1/20 of occupied bandwidth. A value of 3 kHz was used.

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### **Transmitter Conducted Emissions**

Spurious emission measurements at the Antenna port were performed from 9 kHz to 10 times the highest EUT fundamental frequency as used in Section 7.7 of this report.

A spectrum analyser was connected to the antenna port of the EUT via cables, attenuators and filters. The total loss of the path was measured and entered as a reference level offset into the spectrum analyser to correct for the losses.

The limit in the standard states that emissions shall be attenuated by at least  $43+10 \log(P)$  dB below the transmitter power (P), where (P) is the maximum measured fundamental power for the channel under test. This limit always reduces to -13 dBm as such, the limit line presented on the accompanying plots is set to -13 dBm.

The frequency band described above was investigated with the transmitter operating at full power on bottom and top channels. Any spurious emissions observed were recorded and compared to the -13 dBm limit. The requirement for the emission is to be less than -13dBm.

It should be noted that FCC Part 24.238 states that the 1<sup>st</sup> MHz band immediately adjacent to the applicants declared frequency block may be measured using a resolution bandwidth of at least 1% of the emission bandwidth. This bandwidth was found to be 3 kHz.

The test equipment settings for conducted antenna port measurements were as follows:

<b>Receiver Function</b>	<b>Settings</b>
Detector Type:	Peak
Mode:	Max Hold
Bandwidth:	1 MHz >1GHz
Bandwidth:	10 kHz <1GHz
Step Size:	Continuous sweep
Sweep Time:	Coupled

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### **Conducted Emissions Inband Intermodulation**

Conducted Emissions Inband Intermodulation measurements were performed at the Antenna port.

A spectrum analyser was connected to the antenna port of the EUT via cables and attenuators. The total loss of the path was measured and entered as a reference level offset into the spectrum analyser to correct for the losses.

The base station was set up to transmit on two transmitters. First at bottom ARFCN and bottom ARFCN +25 and then on top ARFCN and top ARFCN -25, 5 MHz apart as this was stated by the client as being worst case for intermodulation purposes. However, as the band edge ARFCNs need to be reduced by 4dB, the adjacent channels were measured at full output power instead. Bottom ARFCN +1 and bottom ARFCN +26, top ARFCN -1 and top ARFCN -26.

The limit in the standard states that emissions shall be attenuated by at least  $43+10 \log(P)$  dB below the transmitter power (P), where (P) is the maximum measured fundamental power for the channel under test. This limit always reduces to -13 dBm as such, the limit line presented on the accompanying plots is set to -13 dBm.

Any spurious emissions observed were recorded and compared to the -13 dBm limit. The requirement for the emission is to be less than -13 dBm.

The test equipment settings for conducted antenna port measurements were as follows:

<b>Receiver Function:</b>	<b>Settings</b>
Detector Type:	Peak
Mode:	Max Hold
Bandwidth:	10 kHz <1GHz
Step Size:	Continuous sweep
Sweep Time:	Coupled

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**Transmitter Conducted Emissions at Band Edges**

Testing was performed as per transmitter conducted emissions.

In GMSK mode this unit must use a reduced transmit power by 4 dB to 30 dBm for the channels adjacent to each frequency band edge in order to show compliance.

In 8PSK mode this unit must use a reduced transmit power by 4 dB to 30 dBm for the channels adjacent to each frequency band edge in order to show compliance.

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### **Transmitter Radiated Emissions**

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

Initial pre-scans covering the entire measurement band from the lowest generated frequency declared up to 10 times the highest fundamental frequency were performed within a screened chamber in order to identify frequencies on which the EUT was generating interference. This determined the frequencies from the EUT which required further examination.

The radiated scans were performed at 3 m test distance with 1.5 m antenna height in a anechoic lined screened room in the frequency range of 30.0 MHz to 1.0 GHz. Between 1.0 GHz and 20.0 GHz a 1 m test distance was used. A limit line was set to the specifications limit. Levels within 20 dB of this limit were measured where possible, on occasion; the receiver noise floor came within the 20 dB boundary.

The limit stated in the standard states that emissions shall be attenuated by at least  $43+10 \log(P)$  dB below the transmitter power (P), where (P) is the maximum measured fundamental power for the channel under test. The limit line was determined by radiating -13 dBm from a dipole located in place of the EUT and measuring the equivalent field strength at the 3 meters.

At the shorter test distance of 1 meter all results or limits were corrected using  $20\log(D1/D2)$  where D1 and D2 are the respective test distances.

Measurements were performed at 3 m test distance with 1.5 m antenna height in a screened room in the frequency range of 30 MHz to 20 GHz.

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## **Appendix 1. Test Equipment Used**

### **Test equipment used for testing at Ericsson AB**

Description	Manufacturer	Model Number	Serial Number
Power Supply Unit	Hewlett Packard	6812 A	3523A00647
VXI-Switch	Hewlett Packard	75 000	3327A3757
RF Box	Ericsson	LPY 107 616	SN1
Notch Filter	K&L	LPY 108 16/2	-
Temperature Chamber	Vötsch	7250/S	56603190
Signal Analyser	Rhode & Schwarz	FSIQ26	838600/010
Signal Generator	Rhode & Schwarz	SME03	844395/010
Multimeter	Fluke 77	Series II	63580770
Temperature meter	Oregon Scientific	MOD. BA-116	-
Attenuator	Weinschel Corp.	48-10-34	BC0458
Terminator	Weinschel Corp.	M1426	BL3565
Terminator	Weinschel Corp.	M1426	BJ0251
Network Analyser	Hewlett Packard	8720D	US34440122
Cable 1	Suhner Sucoflex	1m N-Type to N Type 104	SN 99133/4
Cable 2	Suhner Sucoflex	1m N-Type to N Type 104	SN 99131/4
Cable 3	Suhner Sucoflex	1.5m N-Type to N Type 104E	SN 2640/4E
Cable 4	Suhner Sucoflex	2m N-Type to N Type 104E	SN 7506/4E
Cable 5	Suhner Sucoflex	3m N-Type to N Type 104PE	SN 30648/4PE
Cable 6	Suhner Sucoflex	3m N-Type to N Type 104PE	-

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**Test equipment used for testing at Basingstoke.**

RFI No.	Instrument	Manufacturer	Type No.	Serial No.
A031	2 to 4 GHz Horn Antenna	Eaton	91889-2	557
A253	WG 12 Microwave Horn	Flann Microwave	12240-20	128
A254	WG 14 Microwave Horn	Flann Microwave	14240-20	139
A255	WG 16 Microwave Horn	Flann Microwave	16240-20	519
A259	Bilog Antenna	Chase	CBL6111	1513
A276	OATS Positioning Controller	Rohde & Schwarz	HCC	-
A277	OATS Antenna Mast	Rohde & Schwarz	HCM	-
A392	3 dB attenuator (9)	Suhner	6803.17.B	None
A430	WG 18 horn	Flann	18240-20	425
A436	WG 20 horn	Flann	20240-20	330
A490	Bilog Antenna	Chase	CBL6111A	1590
C1080	Rosenberger Cable 3m	Rosenberger	FA210A1030 M5050	28464-1
C222	Cable	Rosenberger	UFA210A-1-1181-70x70	None
C341	Cable	Andrews	None	None
C461	Cable	Rosenberger	UFA210A-1-1182-704704	98H0305
C468	N-Type Coaxial Cable	Rosenberger	UFA210A-1-3937-504504	98L0440
M003	Spectrum Monitor	Rohde & Schwarz	EZM	883 580/008
M023	ESVP Receiver	Rohde & Schwarz	ESVP	872 991/027
M069	ESMI Spectrum Analyser / Receiver	Rohde & Schwarz	ESMI	829 808/007 (DU) / 827 063/008 (RU)
M208	Thermo/hygro meter	RS Components Ltd	RS212-124	M208-RS212-124
S201	Site 1	RFI	1	-
S209	Site 9	RFI	9	-

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

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## **Appendix 2. Test Configuration Drawings**

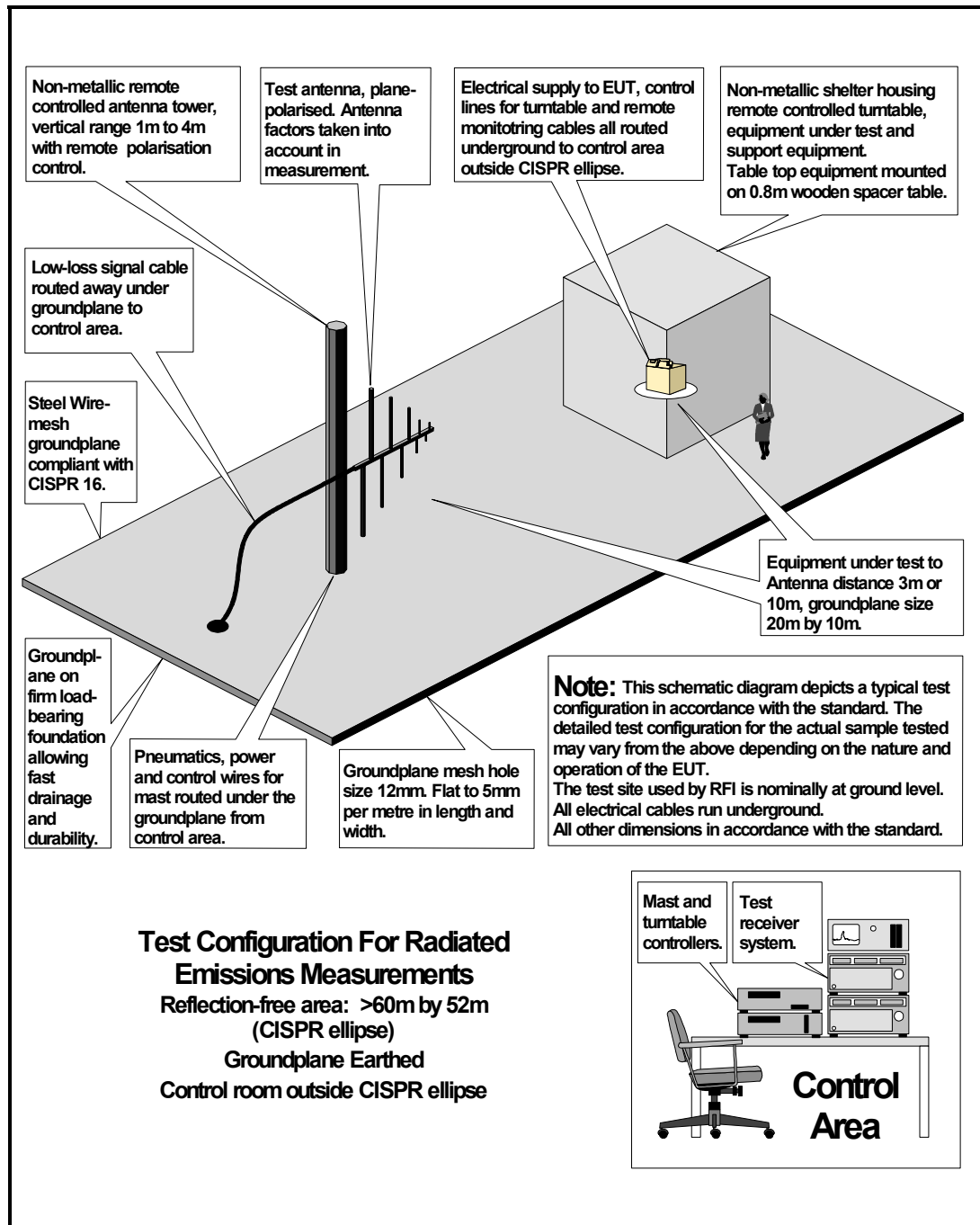
This Appendix contains the following drawings:

<b>Drawing Reference Number</b>	<b>Title</b>
DRG\45184JD06\EMIRAD	Test configuration for measurement of radiated emissions
DRG\45184JD06\001	Schematic diagram of the EUT, support equipment and interconnecting cables used for the conducted measurements in Mölndal.
DRG\45184JD06\002	Schematic diagram of the EUT, support equipment and interconnecting cables for testing in Basingstoke.



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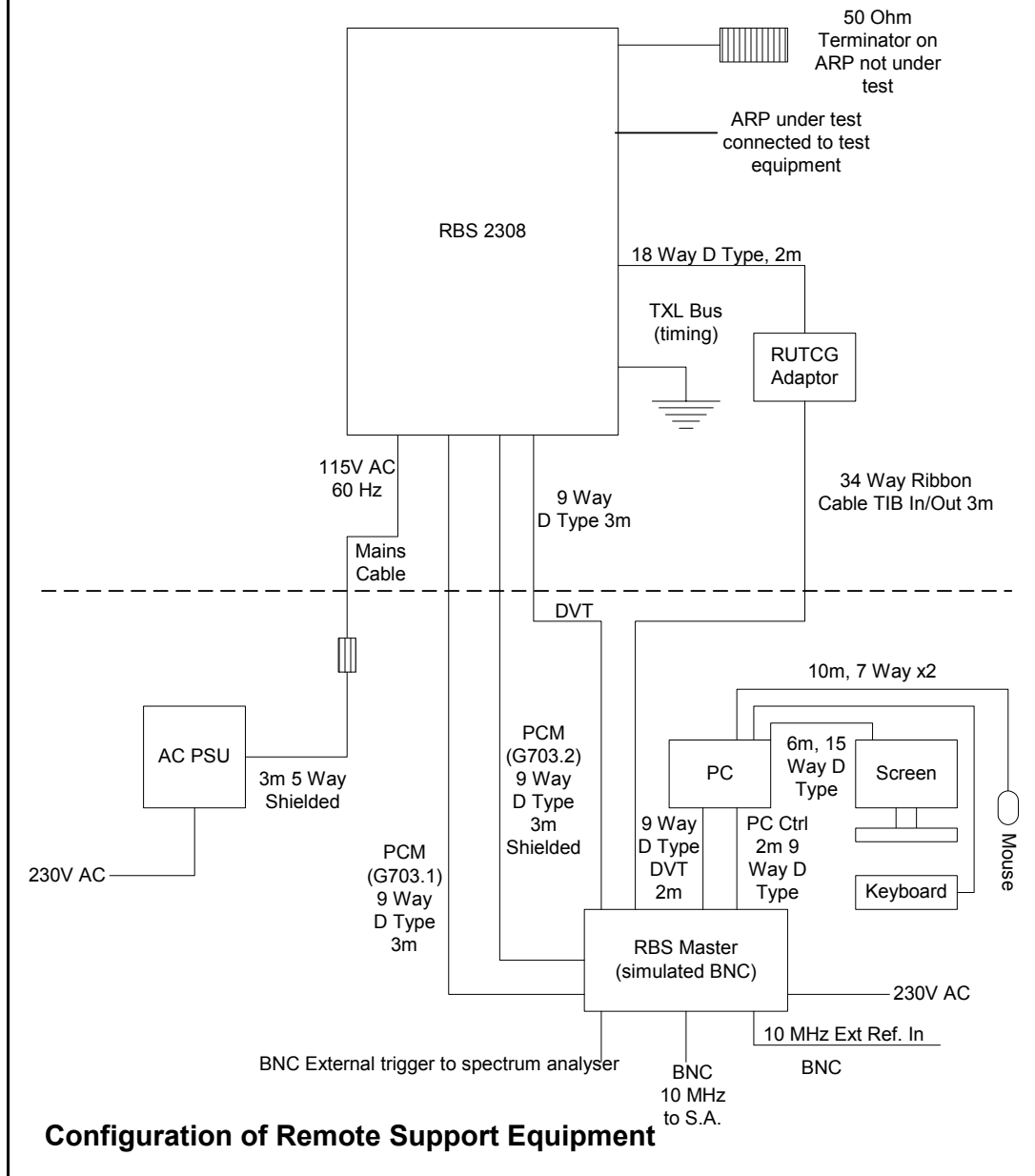
DRG\45184JD06\EMIRAD



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DRG\45184JD06\001

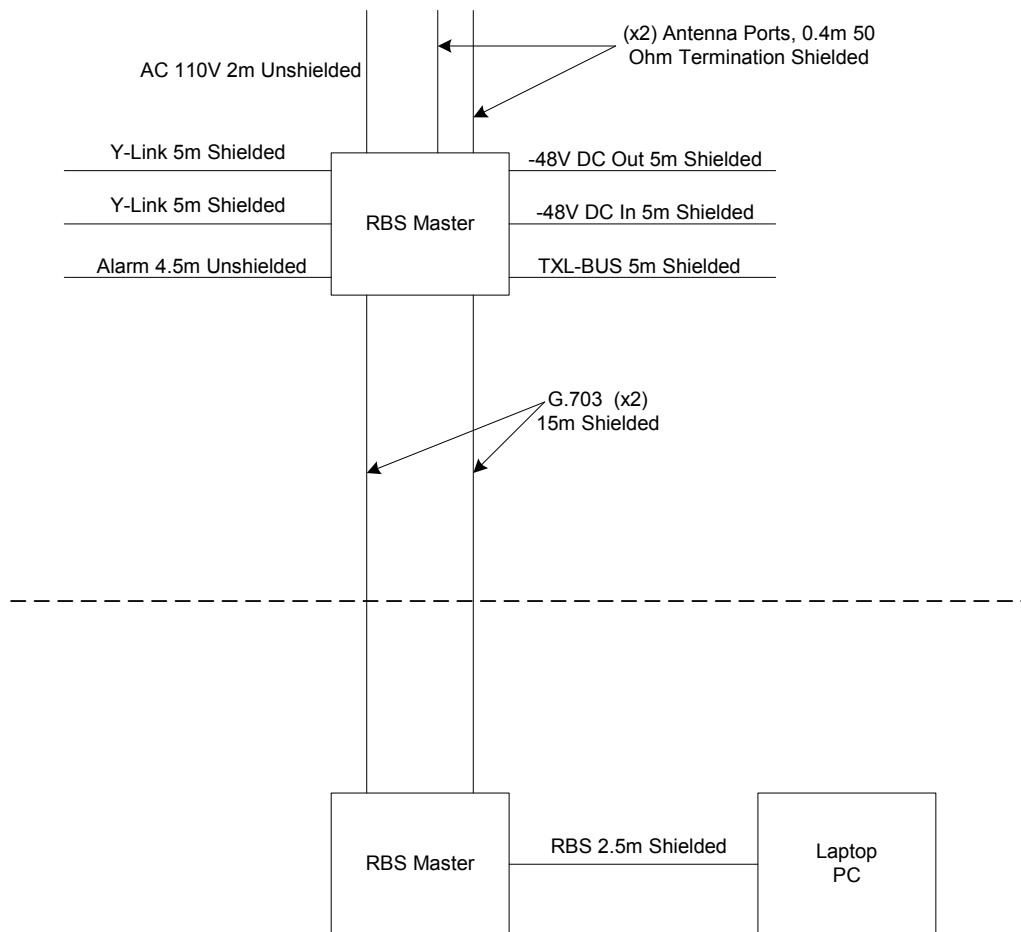
### Configuration of EUT and Local Support Equipment Conducted Measurements



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DRG\45184JD06\002

### Configuration of EUT and Local Support Equipment



### Configuration of Remote Support Equipment

**RADIO FREQUENCY INVESTIGATION LTD.**

**Conformance Testing Department**

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