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 2004-03-22 F400636-F22 1(1)

Equipment Authorization measurements on GSM Transceiver Unit with FCC ID: B5KBRKRC1311005-1 (4 enclosures)

Test object

Transceiver Unit dTRU-8, KRC 131 1005/1, R1E

Summary

Standard	Compliant	Enclosure	Remarks
FCC CFR 47			
2.1049 Band Edge	Yes	2	Note 1

Note 1: The maximum peak output power that can be used on the channels adjacent to the frequency band edges (channel 128 and 251) are +40 dBm in order to comply.

SP Swedish National Testing and Research Institute Electronics - EMC



Jan Welinder
 Technical Manager



Jonas Bremholt
 Technical Officer

FCC ID: B5KBRKRC1311005-1

Description - Equipment Under Test (EUT)

Equipment: GSM Base station transceiver 800 MHz

Tx Frequency range: 869.2-893.8 MHz

Tested Channels:

ARFCN	Frequency
128	869.2 MHz
129	869.4 MHz
250	893.6 MHz
251	893.8 MHz

Product number: dTRU-8: KRC 131 1005/1, R1E

Serial number: AE50266990

All RF conducted measurements were done at the output connectors of CDU-G.
CDU-G 8: BFL 119 155/1, R2G s/n: A4000496X2

The EUT was installed in a RBS 2206 cabinet powered with 24 VDC during the measurements.

Manufacturer's representative

Per Helmersson, Ericsson AB

Purpose of test

The purpose of the tests is to verify compliance to the performance characteristics specified in FCC CFR47 when the channels adjacent to the band edges are used (channel 128 and 251).

Reservation

The test results in this report apply only to the particular Equipment Under Test (EUT) as declared in the report.

Delivery of test object

The test object was delivered: 2004-01-09

References

J-STD-007A Vol 1
TIA/EIA-139-280-B.

Test engineers

Jonas Bremholt
Fredrik Isaksson

Test witness

Lars Hagbjörk, Ericsson AB

Band edge measurements according to 47CFR 2.1049

Date 2004-01-14	Temperature 22 °C ± 3 °C	Humidity 21 % ± 5 %
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Test set-up and Procedure

The measurements were made per definition in 22.917. The measurements were made at CDU-G output connectors. The output was connected to a spectrum analyzer with the average detector activated. A resolution bandwidth of 3 kHz (1% of OBW) was used up to 5 MHz away from the band edges. As the FCC rules specify a RBW of 100 kHz for measurements of emissions >1 MHz away from the band edges, the limit was adjusted with 15.2 dB to -28.2 dBm to compensate for the reduced measurement bandwidth. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements. The transmitter was modulated with pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
R&S FSIQ	2004-03	503 738
Testo 610, Temperature and humidity meter	2004-12	502 658

Measurement uncertainty: 3.7 dB

Results

Mode: **GMSK**

dTRU Output 1, without internal combiner:

- Diagram 1 Ch 128 (869.2 MHz) Band edge +40 dBm output power
Diagram 2 Ch 251 (893.8 MHz) Band edge +40 dBm output power

dTRU Output 2, without internal combiner:

- Diagram 3 Ch 128 (869.2 MHz) Band edge +40 dBm output power
Diagram 4 Ch 251 (893.8 MHz) Band edge +40 dBm output power

dTRU Output 1+2 (TCC):

- Diagram 5 Ch 129 (869.4 MHz) Band edge +49 dBm output power
Diagram 6 Ch 250 (893.6 MHz) Band edge +49 dBm output power

Remarks

The maximum peak output power that can be used on the channels adjacent to the frequency band edges (channel 128 and 251) are +40 dBm in order to comply.

Limits

The power of any emission outside the frequency band shall be attenuated below the transmitter power (P) by at least $43 + 10 \log P$ dB.

Complies?	Yes
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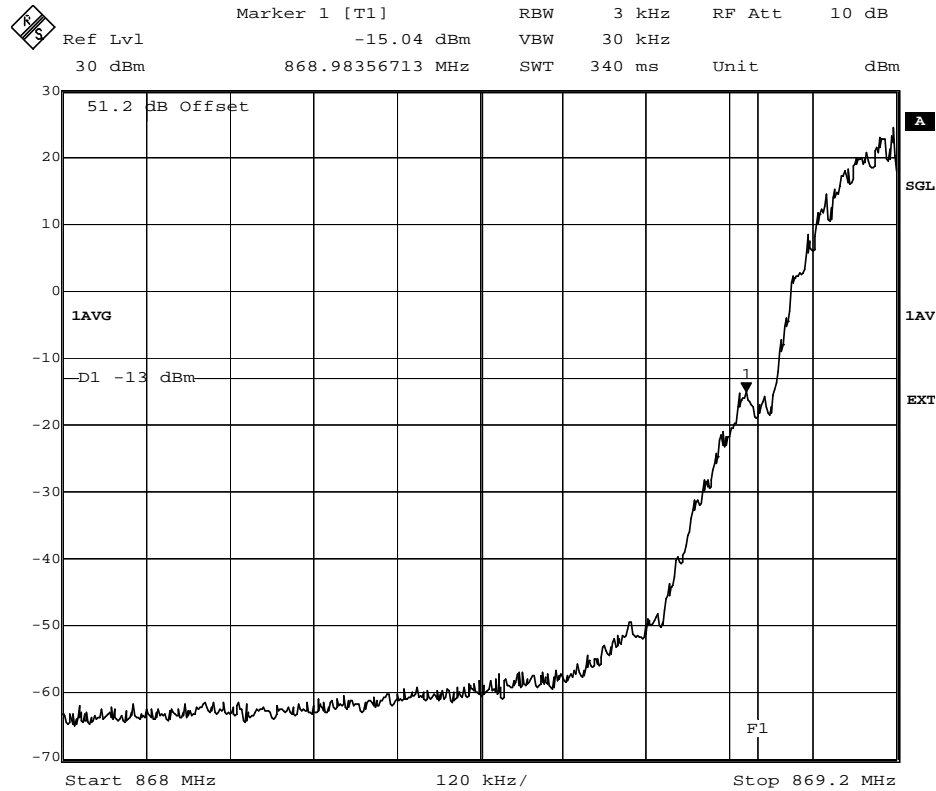
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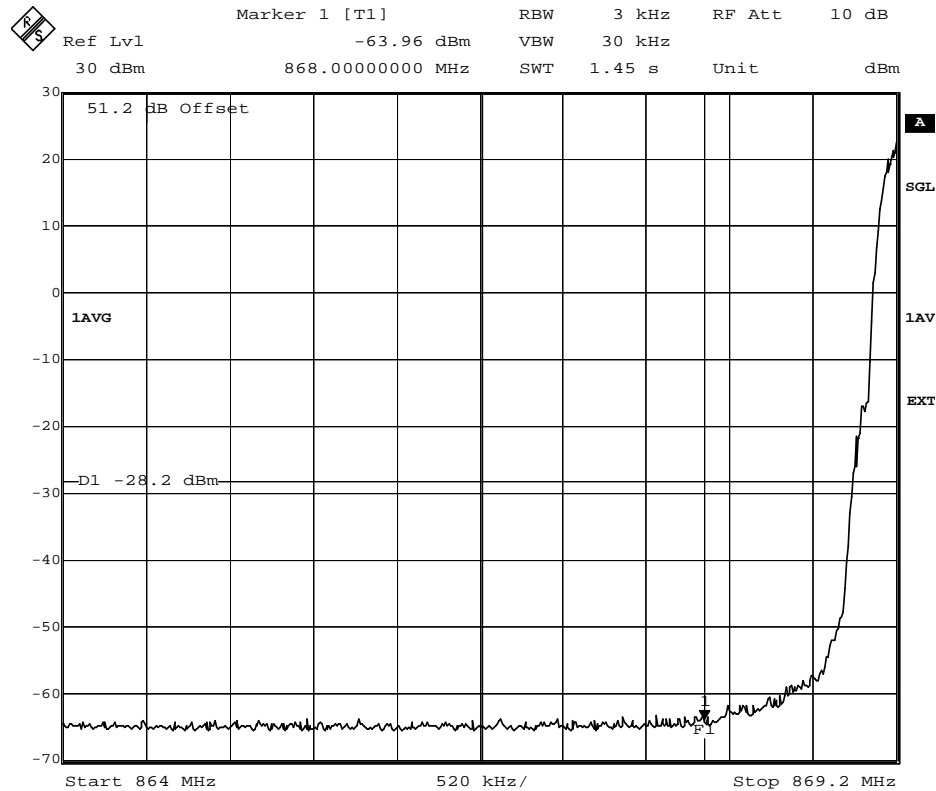
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Diagram 1 (6)
Encl. 2.1

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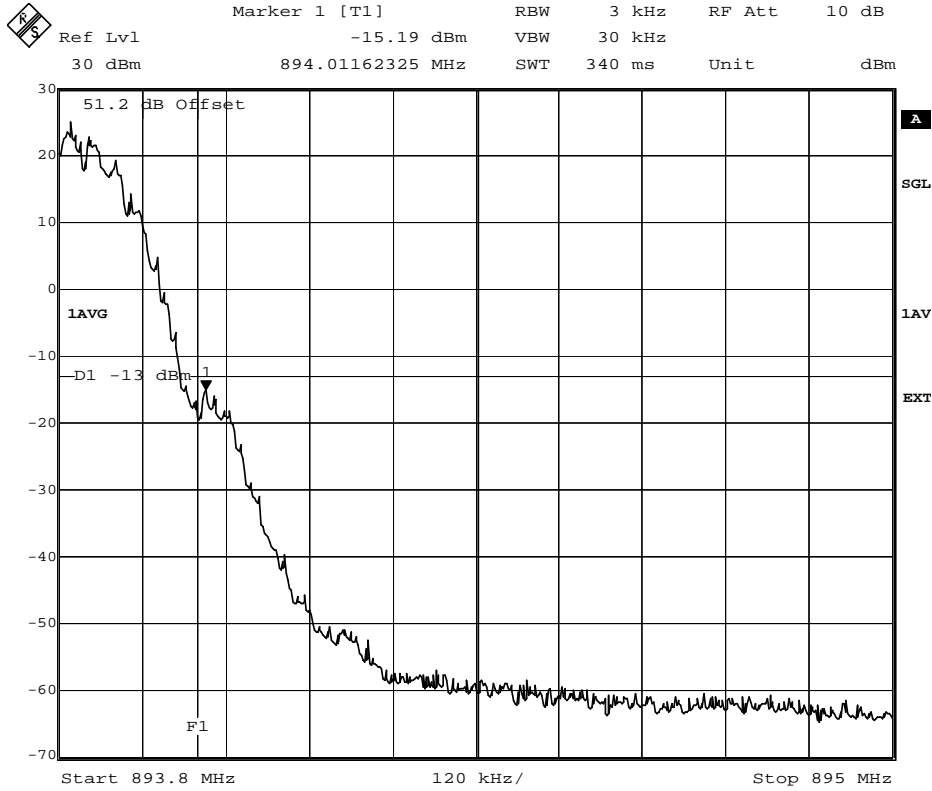
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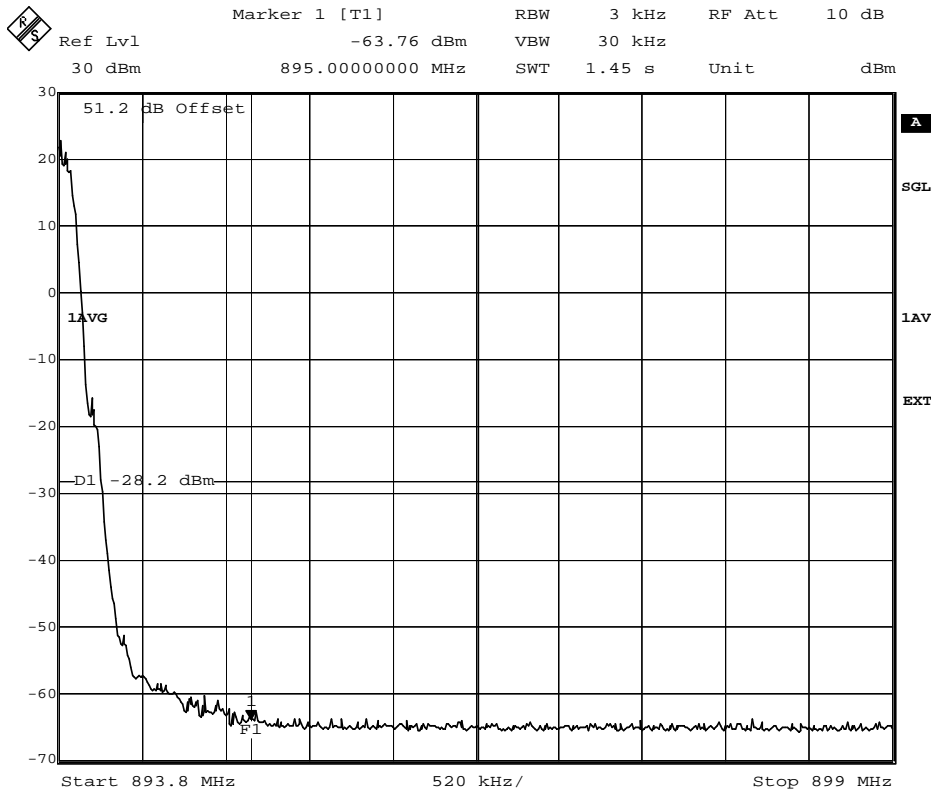
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Diagram 2 (6)
Encl. 2.1

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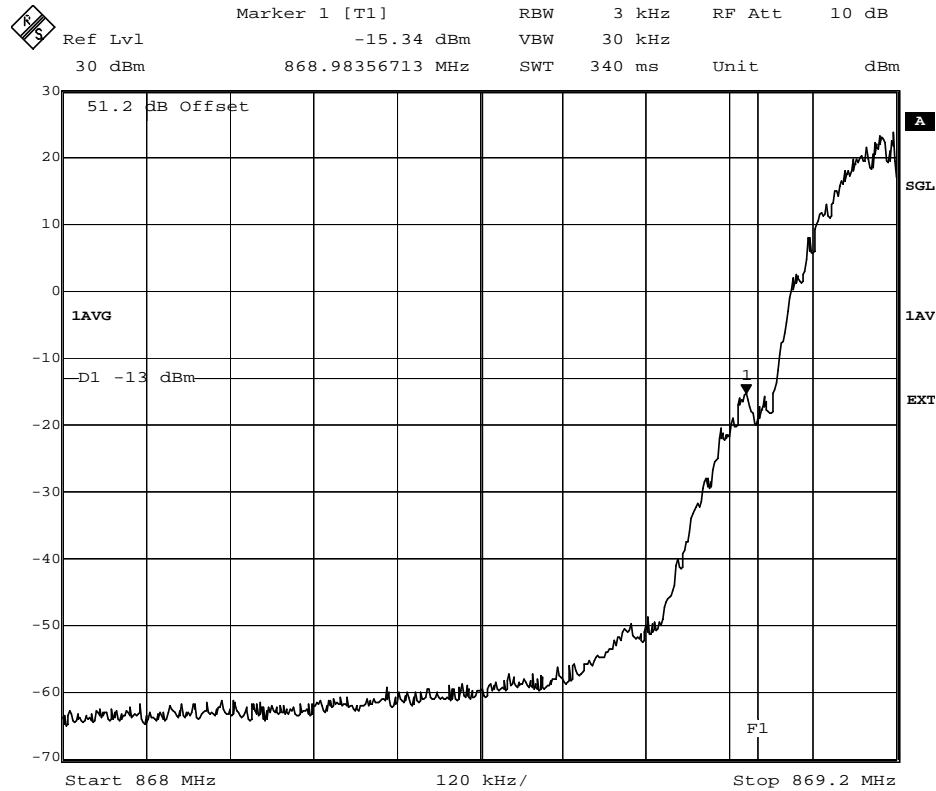
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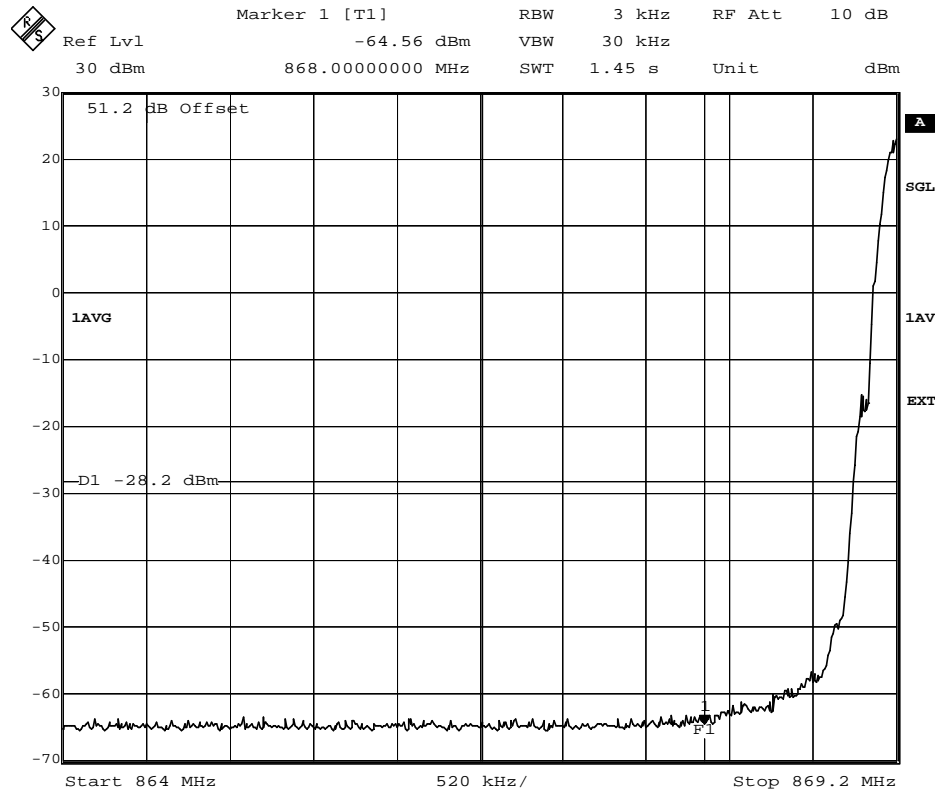
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Diagram 3 (6)
Encl. 2.1

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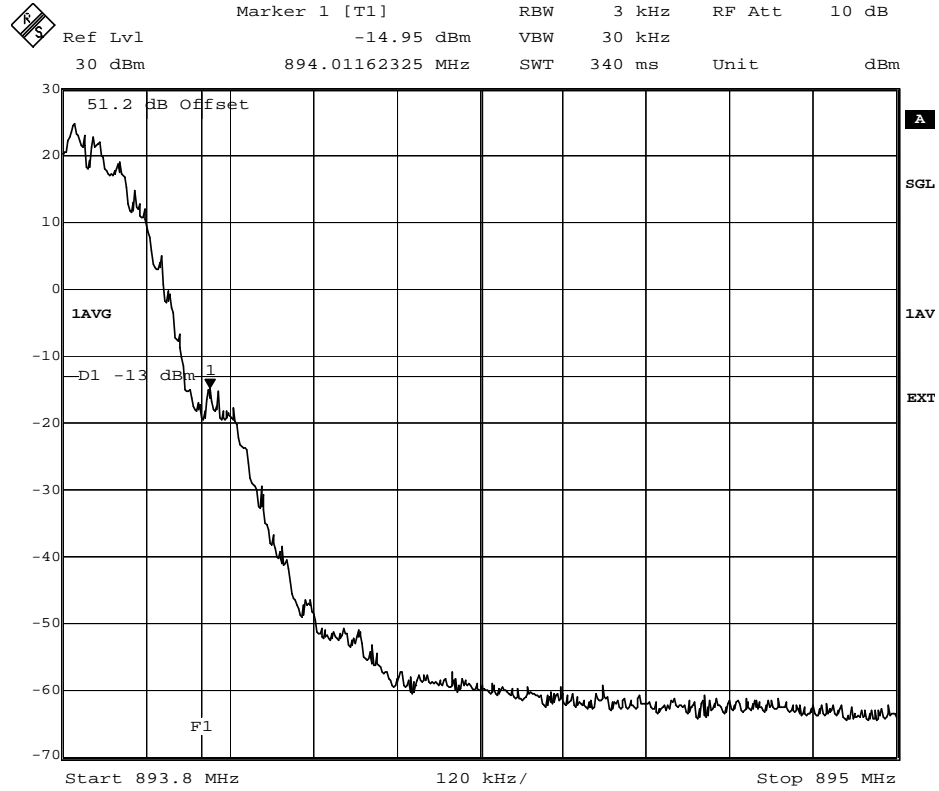
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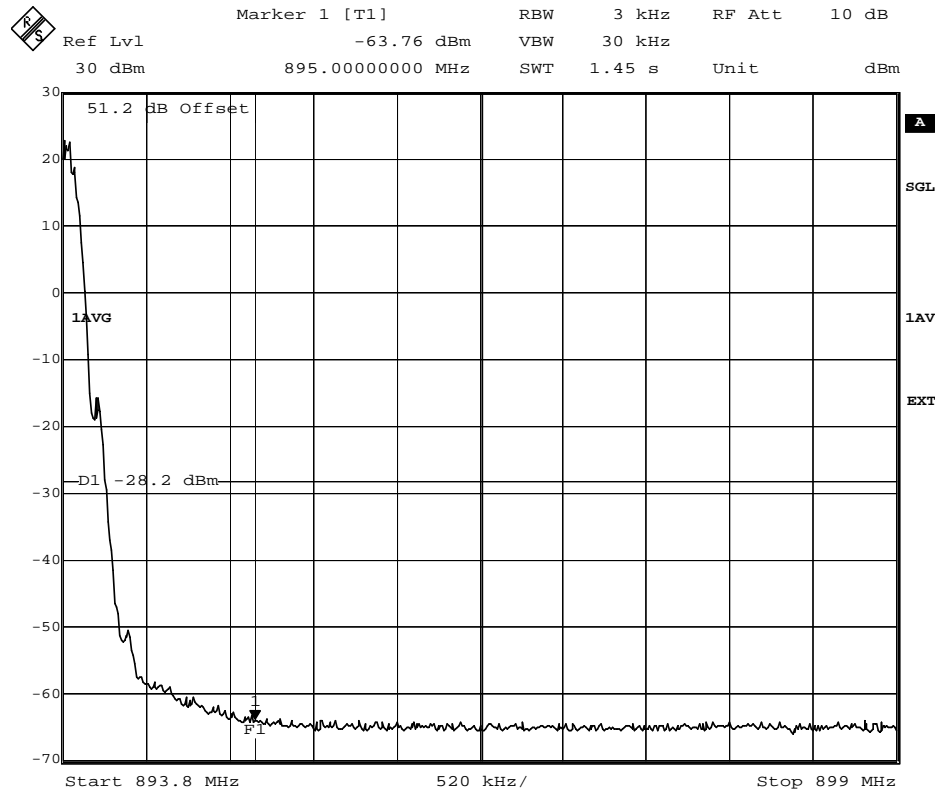
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Diagram 4 (6)
Encl. 2.1

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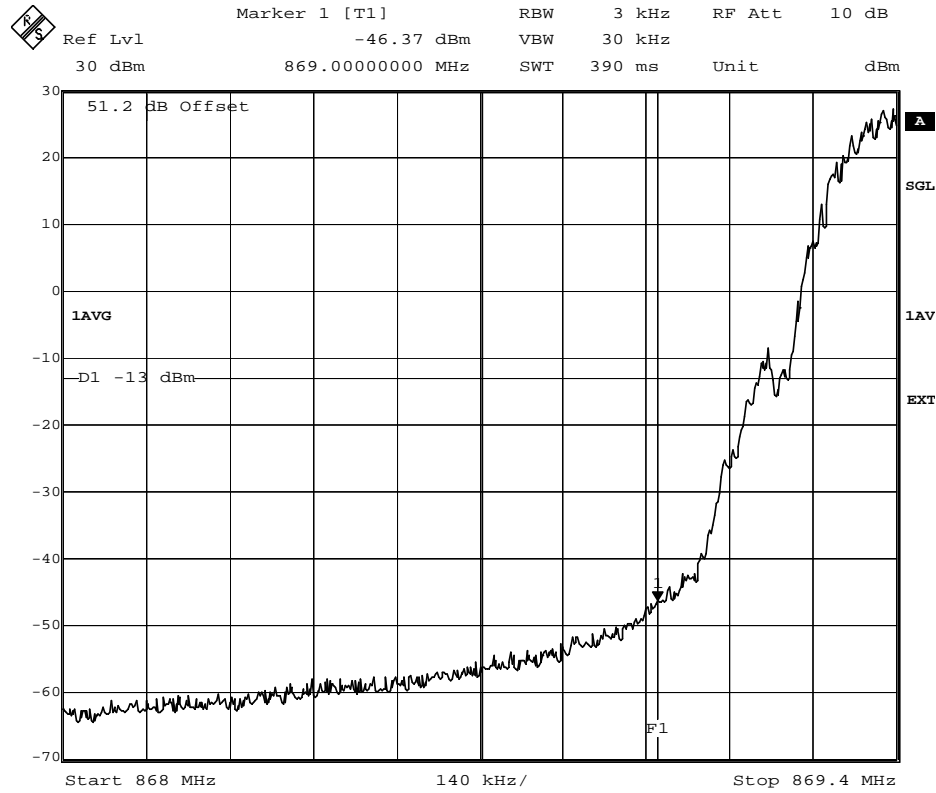
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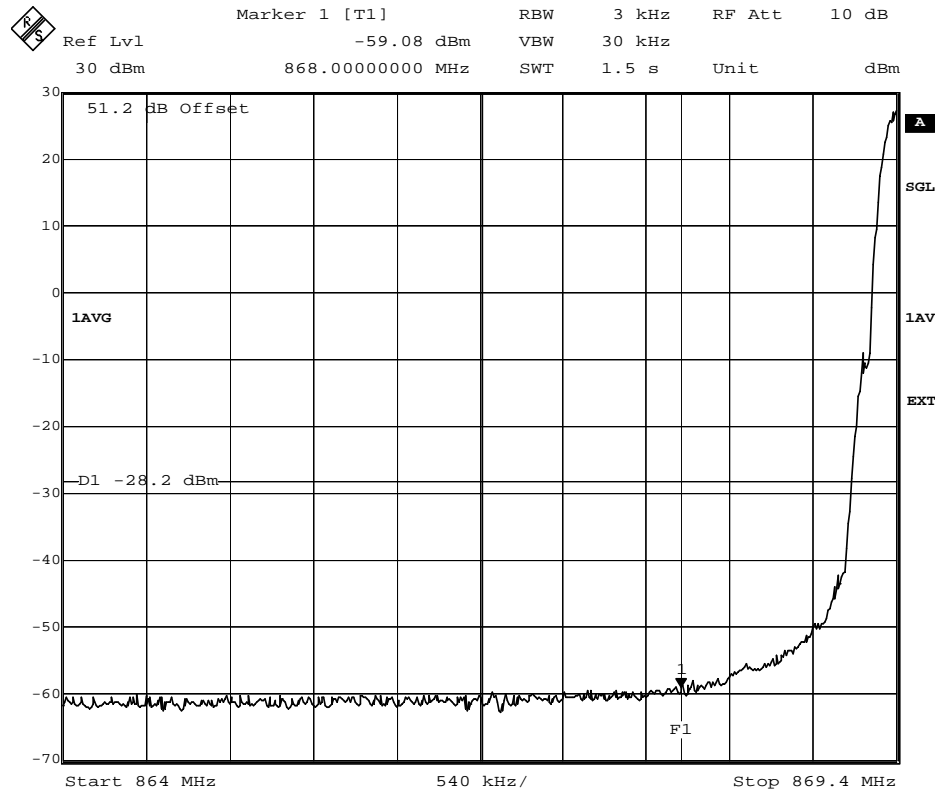
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Diagram 5 (6)
Encl. 2.1

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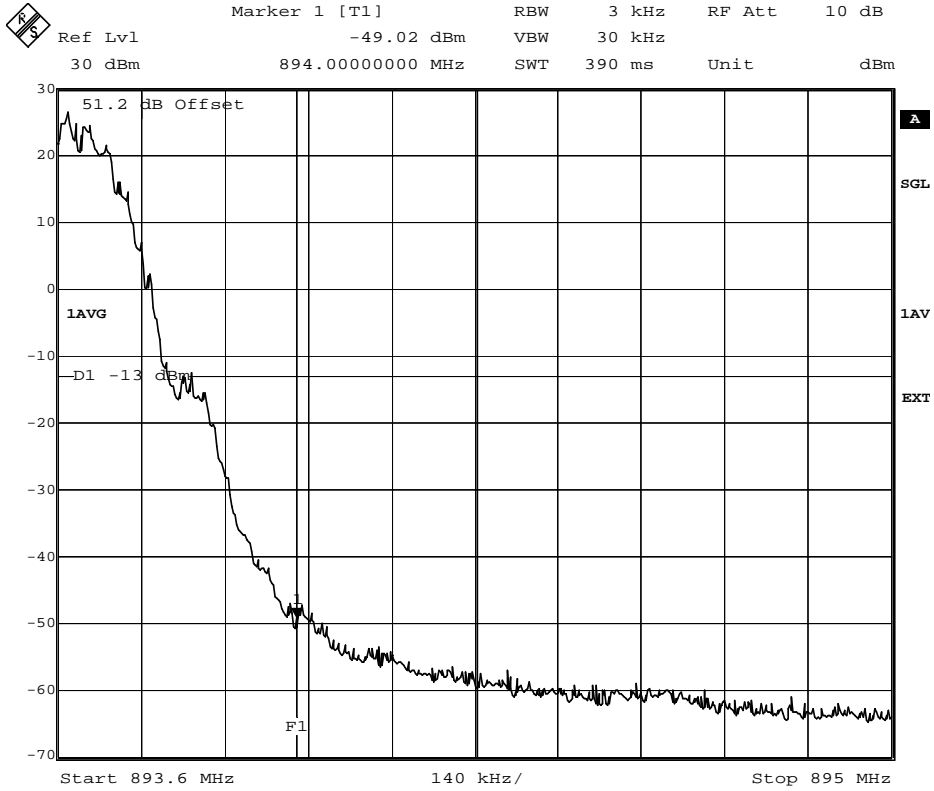
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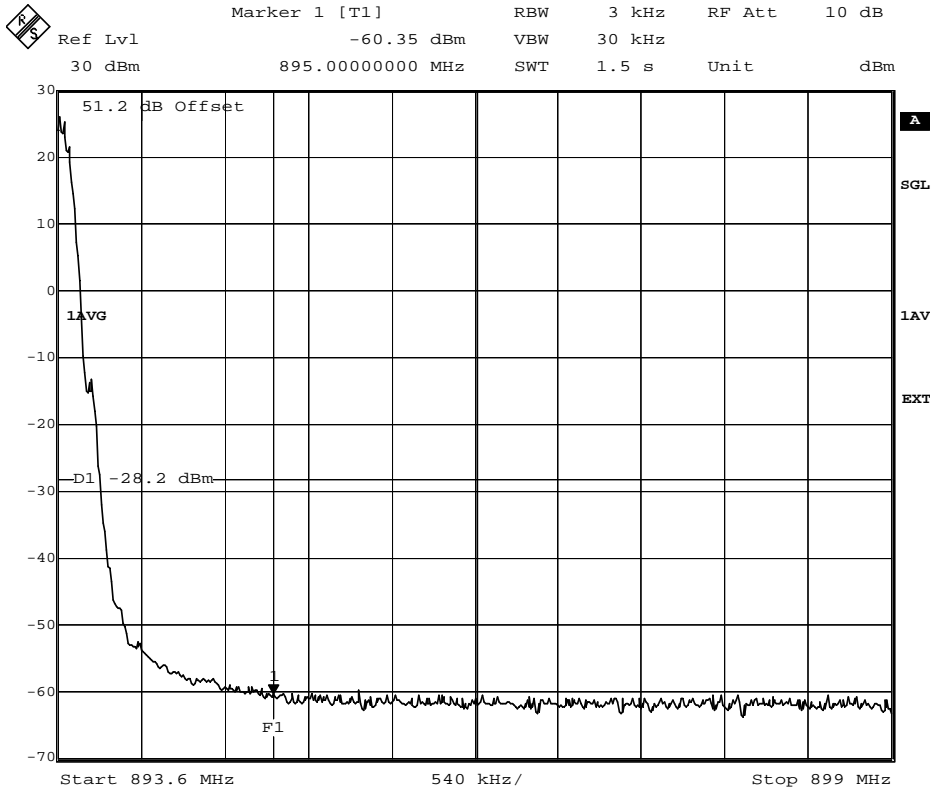
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Diagram 6 (6)
Encl. 2.1

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Date: 14.JAN.2004 10:04:03

Hardware list

Unit	Product Number	Serial Number	Revision
Cabinet	SEB 112 1095/1	S763385420	R3A
	BFM 107 112/1	A533897311	R1A
ACCU-01	BMG 980 07/1	S792041445	R1A
FCU-01	BGM 136 1001/2	B991221527	R3A
DC-filter	KFE 101 1145/1	TR21002652	R1A
CDU shelf	BFL 119 406/1	- -	R3A
CDU-G 8	BFL 119 155/1	A4000496X2	R2G
Dummy	SXK 107 5031/2	- -	R1B
CXU-10	KRY 101 1856/1	A40003JD6X	R3B
Dummy	SXK 107 5031/1	- -	R1B
TRU shelf	BFL 119 407/1	- -	R3B
dTRU-8	KRC 131 1005/1	AE50266990	R1E
Dummy	SXK 107 9163/1	- -	R1B
Dummy	SXK 107 9163/1	- -	R1B
IDM 01	BMG 980 06/1	T671029297	R2A
PSU-shelf	BFL 119 408/1	- -	R2A
PSU-AC	BML 231 202/1	A082279762	R2F
PSU-AC	BML 231 202/1	A082288133	R2F
PSU-AC	BML 231 202/1	A082288137	R2F
PSU-AC	BML 231 202/1	A082288147	R2F
DXU-21A	BOE 602 14/1	X510252060	R8A
TMA-CM-01	SDK 107 881/1	SA22288211	R1B
Dummy	SXK 107 5029/1	- -	R1B
Dummy	SXK 107 5030/1	- -	R1B
Dummy	SXK 107 5030/1	- -	R1B

Software	Revision
R91B	R086Z

Description of EUT

The EUT is a dTRU that can be installed in a 800 MHz GSM Base station configured with up to 6 double transceiver units that are designed to provide mobile telephone users with a connection to a mobile network or the PSTN.

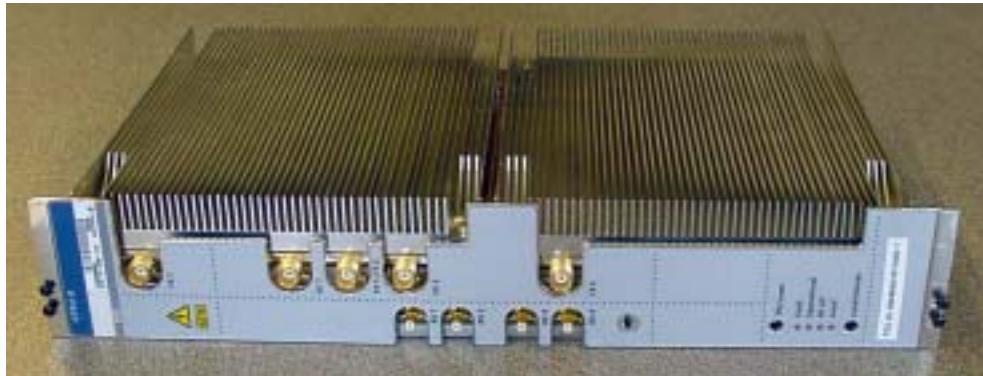
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Photos
Transceiver Unit KRC 131 1005/1, R1E

FCC ID label:



Front side



Rear side



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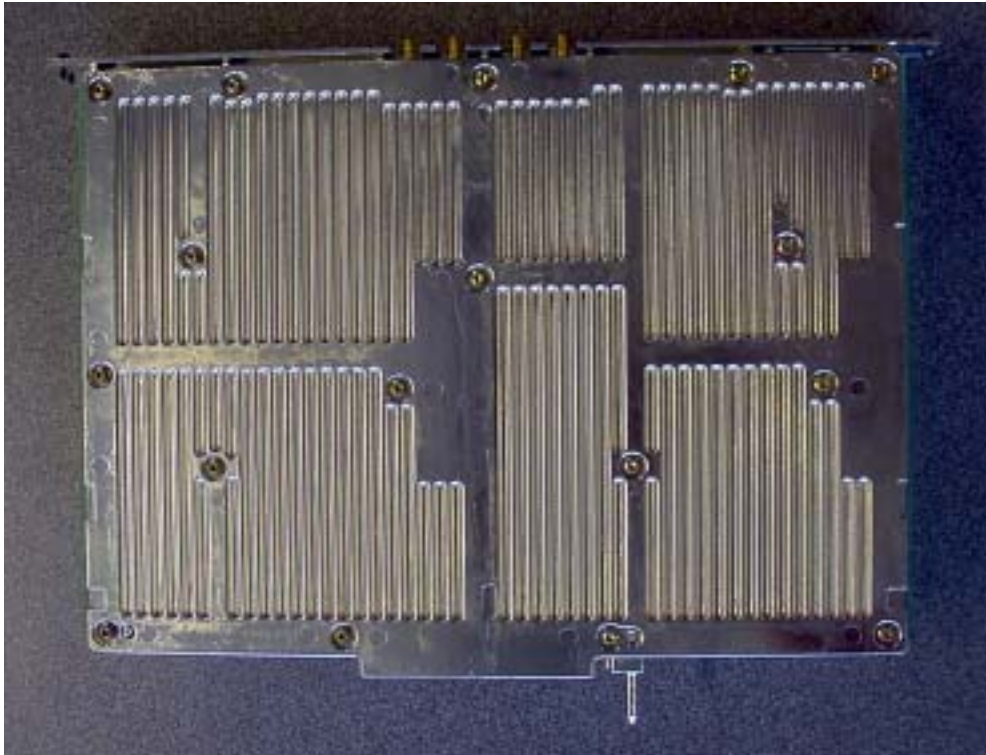
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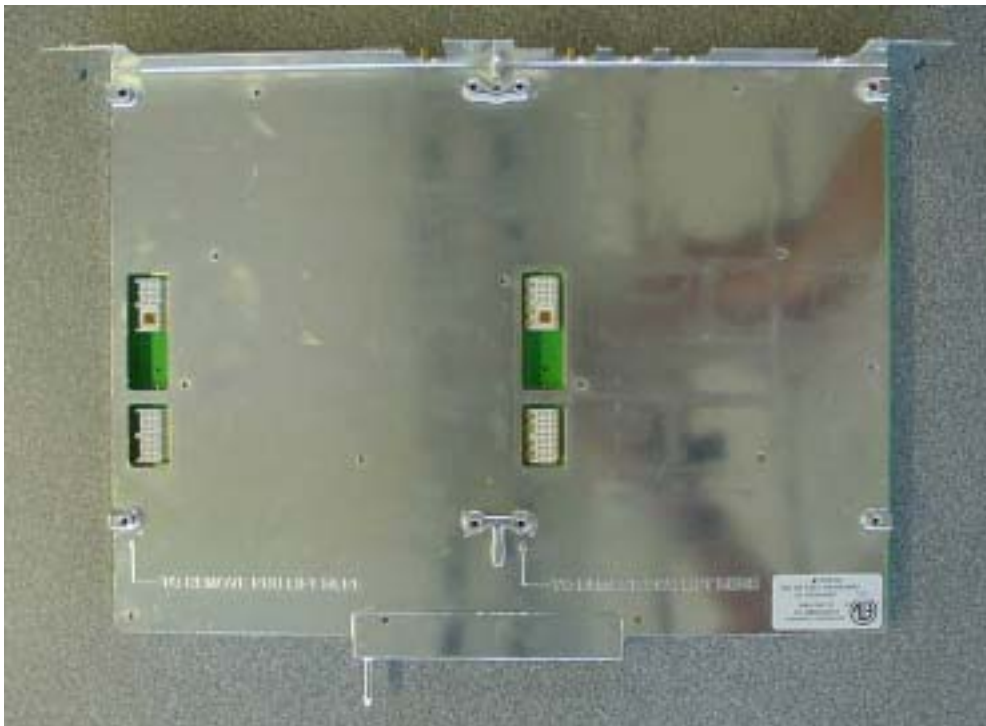
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Bottom side



Main board

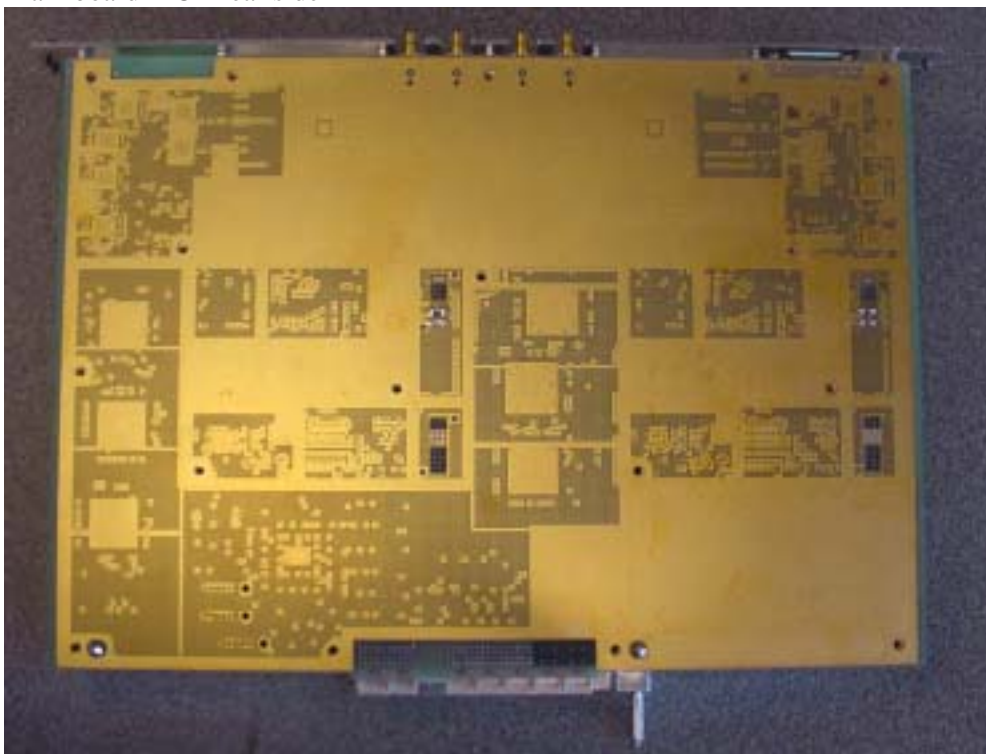


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Main board- PCB component side



Main board- PCB rear side

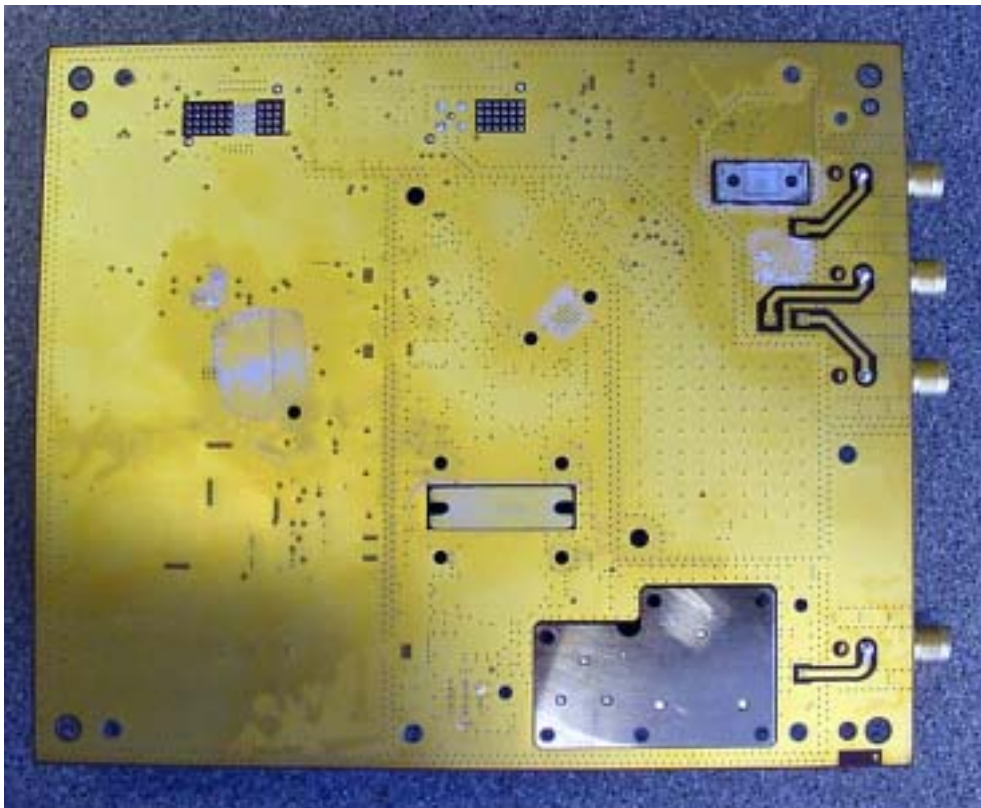


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PA1- PCB components side

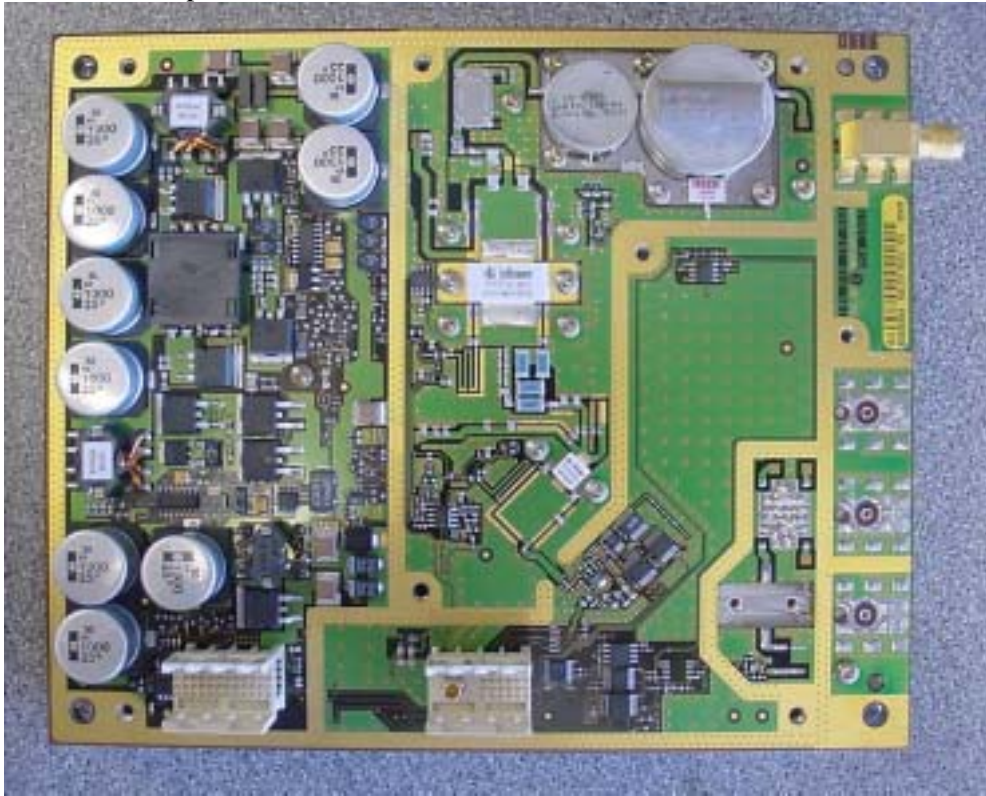


PA1- PCB rear side



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PA2- PCB components side



PA2- PCB rear side

