



# RF Exposure Evaluation Declaration

Product Name : Trinity116M Plus, SU116, Trinity116M

Model No. : 801-1161, 802-1160, 801-1160

FCC ID : N27TRINITY116M

Applicant : Repeatit AB

Address : Hamngatan 33, 172 66 Sundbyberg, Sweden

Date of Receipt : 18/04/2012

Issued Date : 26/06/2012

Report No. : 124S036R-RF-US

Report Version : V1.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, CNAS or any agency of the Government.

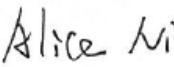
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## Test Report Certification

Issued Date: 26/06/2012  
Report No.: 124S036R-RF-US

# Quietek

Product Name : Trinity116M Plus, SU116, Trinity116M  
Applicant : Repeatit AB  
Address : Hamngatan 33, 172 66 Sundbyberg, Sweden  
Manufacturer : Repeatit AB  
Address : Hamngatan 33, 172 66 Sundbyberg, Sweden  
Model No. : 801-1161, 802-1160, 801-1160  
FCC ID : N27TRINITY116M  
EUT Voltage : DC 3.3V  
Trade Name : Repeatit AB  
Applicable Standard : FCC OET 65  
Test Result : Complied  
Performed Location : Suzhou EMC Laboratory  
No.99 Hongye Rd., Suzhou Industrial Park Loufeng  
Hi-Tech Development Zone., Suzhou, China  
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098  
FCC Registration Number: 800392

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## Laboratory Information

We, **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	:	BSMI, NCC, TAF
Germany	:	TUV Rheinland
Norway	:	Nemko, DNV
USA	:	FCC, NVLAP
Japan	:	VCCI
China	:	CNAS

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site :<http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

## HsinChu Testing Laboratory :

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## 1. RF Exposure Evaluation

### 1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
<b>(A) Limits for Occupational/ Control Exposures</b>				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
<b>(B) Limits for General Population/ Uncontrolled Exposures</b>				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$r$  = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance  $r$  where the MPE limit is reached.

## 1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

## 1.3. Test Result of RF Exposure Evaluation

Product	:	Trinity116M Plus, SU116, Trinity116M
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Antenna Gain:

The following list antenna may be used with this wireless module card.

Antenna	Manufacturer	Model No.	Peak Gain	Linear Scale
Panel Antenna	COMPEX	5N17	5GHz: 17dBi	50.12

### RF Exposure Measurement Results:

Operation Mode: 802.11an

Antenna Used	Frequency Range (MHz)	Maximum Conducted Power (dBm)	Limit of Power Density S(W/m <sup>2</sup> )	Safety Distance r (cm)
Panel Antenna (MJE2-5N17)	5725 ~ 5850	26.51	10	42.26

So the safety distance should be kept with above table for different antenna installed, and

Trinity116M Plus, SU116, Trinity116M shall be installed without any other radio equipment.

The difference of models is for different marketing requirement.