RF Exposure Evaluation Declaration

Product Name	:	Trinity323TDD, Trinity300TDD, BS340, BS342, BS320, BS322
Model No.	:	801-3000 and 801-3001, 801-3230 and 801-3231, 803-320, 803-3220, 803-3400, 803-3420
FCC ID	:	N27BS322

Applicant	:	Repeatit AB
Address	:	Hamngatan 33, 172 66 Sundbyberg, Sweden

Date of Receipt	:	19/10/2012
Issued Date	:	03/12/2012
Report No.	:	12AS018R-RF-US
Report Version	:	V1.0

Test Report Certification

Issued Date: 03/12/2012
Report No.: 12AS018R-RF-US

QuieTek

Product Name	:	Trinity316TDD Plus
Applicant	:	Repeatit AB
Address	:	Hamngatan 33, 172 66 Sundbyberg, Sweden
Manufacturer	:	Repeatit AB
Address	:	Hamngatan 33, 172 66 Sundbyberg, Sweden
Model No.	:	801-3000 and 801-3001, 801-3230 and 801-3231, 803-320, 803-3220, 803-3400, 803-3420
FCC ID	:	N27BS322
EUT Voltage	:	AC 120V/ 60Hz
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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Approved By : Marlin Chen

(Manager: Marlin Chen)

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:

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TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com

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/cm2)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4*pi*r2)

Where

Pd = power density in mW/cm2

Pout = 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

Pd id the limit of MPE, 1 mW/cm2 . 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℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	BS322

Antenna Gain:

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

Antenna	Manufacturer	Model No.	Peak Gain
Sector Antenna	Lanbowan Communications Ltd.	ANT4958D17D-90DP	5GHz: 17dBi
Panel Antenna	REPEATIT	N/A	5GHz: 16dBi
Panel Antenna	REPEATIT	N/A	5GHz: 23dBi

RF Exposure Measurement Results:

Operation Mode	Frequency Range (MHz)	Maximum Conducted Power (dBm)	Limit of Power Density $S(W/m^2)$	Safety Distance r (cm)
802.11a/n(20MHz)	5745~5825	26.17	10	81.08
802.11n(40MHz)	5755~5795	26.36	10	82.87

So the safety distance should be kept with above table for different antenna installed, and Trinity323TDD, Trinity300TDD, BS340, BS342, BS320, BS322 shall be installed without any other radio equipment.