Tantalus Systems Corp.

TC-1116 and TC-1216 Series

Report of Measurements for Class II permissive change

per

Industry Canada RSS-210 Issue 7

and

FCC CFR47 Part 15/C – 15.247

Revision 1.0

October 23, 2008

Approval		
Checked By:	Robert Stirling, P.Eng	Oct 23, 2008 Date

Protocol Datasystems Labs, Abbotsford BC, Canada
FCC Registration Number 96437
Industry Canada Registration Number IC3384

Index

Section I: Information for Test Report of Measurements 3

Section II: Report of Mesurements to ICRSS-210 Iss.7 5

Section III: Report of Measurements of FCC CFR47 Part 15/C 7

Appendix A: Test Plots 9

Section I: Information for Test Report of Measurements

Testing Details

TESTED BY: Parmvinder

TEST CONDITIONS: Temperature and Humidity: 22°, 47%

TEST VOLTAGE: 9v D.C.

Test Facilities

Protocol Datasystems Labs
28945 McTavish Rd.
Abbotsford BC, Canada, V4X 2E7

FCC Registration Number 96437
Industry Canada Registration Number IC3384

Test Equipment List

EMISSIONS:

Device	Model Number	Serial No.	Last Cal	Next Cal
Spectrum Analyzer	Hewlett Packard 8566B	2241A02102	30/05/08	30/05/10
RF-Preselector	Hewlett Packard 85685A	3107A01222	30/05/08	30/05/10
Quasi-PeakAdapter	Hewlett Packard 85650A	2043A00240	30/05/08	30/05/10

Company Tested

NAME:	Tantalus Systems Corp.
ADDRESS:	301–3480 Gilmore Way Burnaby, BC V5G 4Y1 Canada
CONTACT PERSON:	Mr. Mark Fairburn
PHONE NUMBER:	1-604-299-0458 x:229

Equipment Under Test

THE TEST SYSTEM:	EUT:	Tantalus Systems have made a configuration change to their TC-1116 and TC-1216 Series Transceiver. No hardware, or software changes were made to accomplish this change, and the EUT had certain parametrics re- tested to ensure that the device still complies with the FCC and IC requirements.
	Manufacturer: Part Numbers: Serial number:	Tantalus Systems Corp. 100-0031 0005164E29
	AUX equipment:	COM_POWER board
	Manufacturer: Part Numbers: Serial number:	Tantalus Systems Corp. 200-0014-C ENG01
TEST SETUP:	This EUT is designed to communicate with a base unit using a Frequency Hopping Spread Spectrum (FHSS) system operating on the 902-928 MHz band. It can use one of two internal antennas to perform this function. To test the relevent parametrics a coaxial connection was made to one of the antennas.	
CONCLUSION:	The TC-1116 and TC-1216 Series Transceiver, continues to comply with the requirements of FCC CFR47 and the requirements of Industry Canada RSS-210.	

Section II: Report of Mesurements to ICRSS-210 Iss.7

Test Results - Summary

Testing was performed pursuant to Industry Canada RSS-210 Issue 7.

Test	Standard	Description	Result
Channel Separation	RSS-210 A8.2	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimumof 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.	Complies
Out of Band Emissions	RSS-210 A8.5	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the radio frequency power that is produced shall be at least 20 dBbelow that in the 100 kHz bandwidth within the band that contains the highest level of the desired Power.	Complies

Conducted Emissions - Transit Mode

DATE: October 23rd 2008

TEST STANDARD: RSS-210 Iss.7 Frequency Hopping Systems 902-928MHz Band.

MINIMUM STANDARD: Frequency Hopping Systems (General Conditions)

(A8.2) The channel bandwidth is the 20-dB emission bandwidth, measured with the hopping stopped.

FH systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

(A8.5) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the radio frequency power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

EMISSIONS DATA: See Plots and Tables in Appendix A for corresponding data.

PERFORMANCE: Complies.

Section III: Report of Measurements of FCC CFR47 Part 15/C

General

Tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15 – Subpart C - Intentional Radiators. Additionally, the specific section used for compliance is 15.247 – Operation within the bands 902-928MHz – limited to frequency hopping intentional radiator. FCC Public Notice DA 00-705 (Filing and Measurement Guidelines for Frequency hopping Spread Spectrum Systems) was used as a guide to the tests to be performed.

Test Results - Summary

Test	Standard	Description	Result
Channel Separation	FCC Part 15 Subpart C 15.247	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimumof 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.	Complies
Out of Band Emissions	FCC Part 15 Subpart C 15.247	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired Power.	Complies

Conducted Emissions Tests – 15.247

DATE: October 23rd 2008

TEST STANDARD: FCC Part 15 – Subpart C Section 15.247

MINIMUM STANDARD: Frequency Hopping Systems (General Conditions)

15.247 (a) (1)

FH systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

(15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the radio frequency power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

EMISSIONS DATA: See Plots and Tables in Appendix A for corresponding data.

PERFORMANCE: Complies.

Appendix A: Test Plots

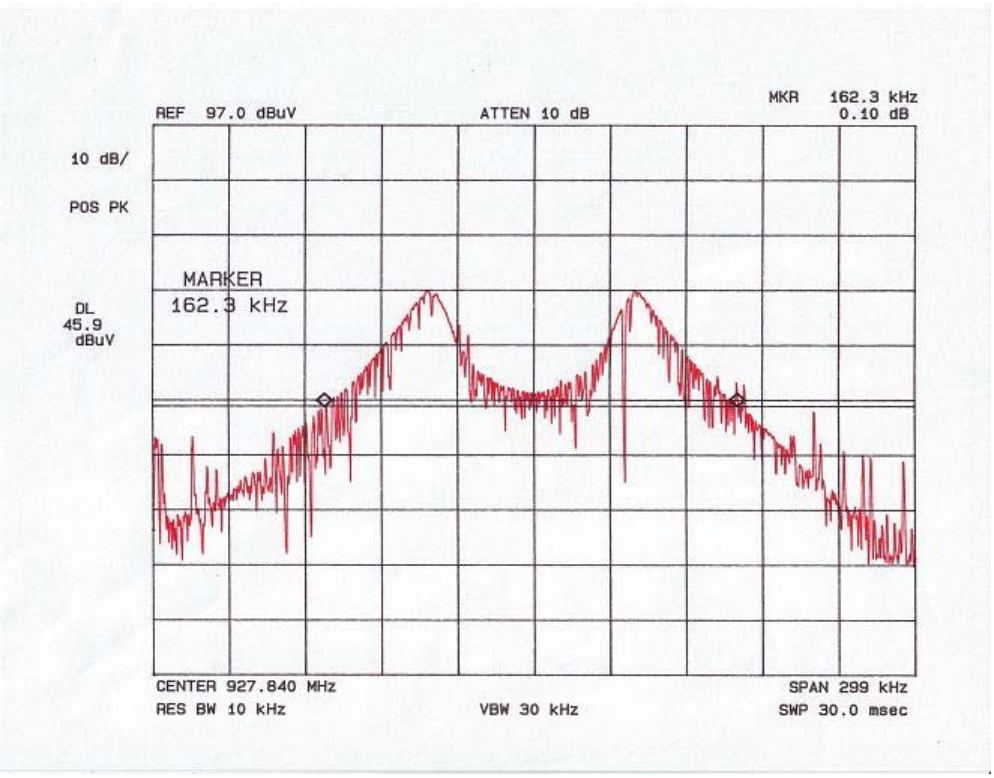

Figure 1. 20dB Bandwidth

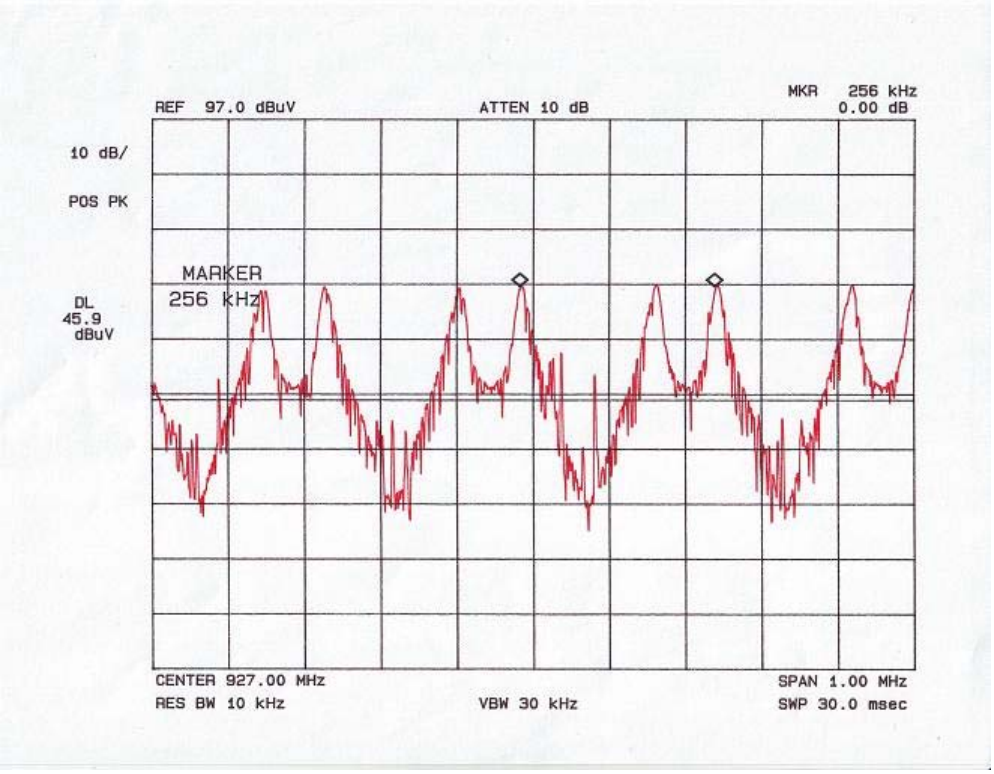

Figure 2. Channel Separation

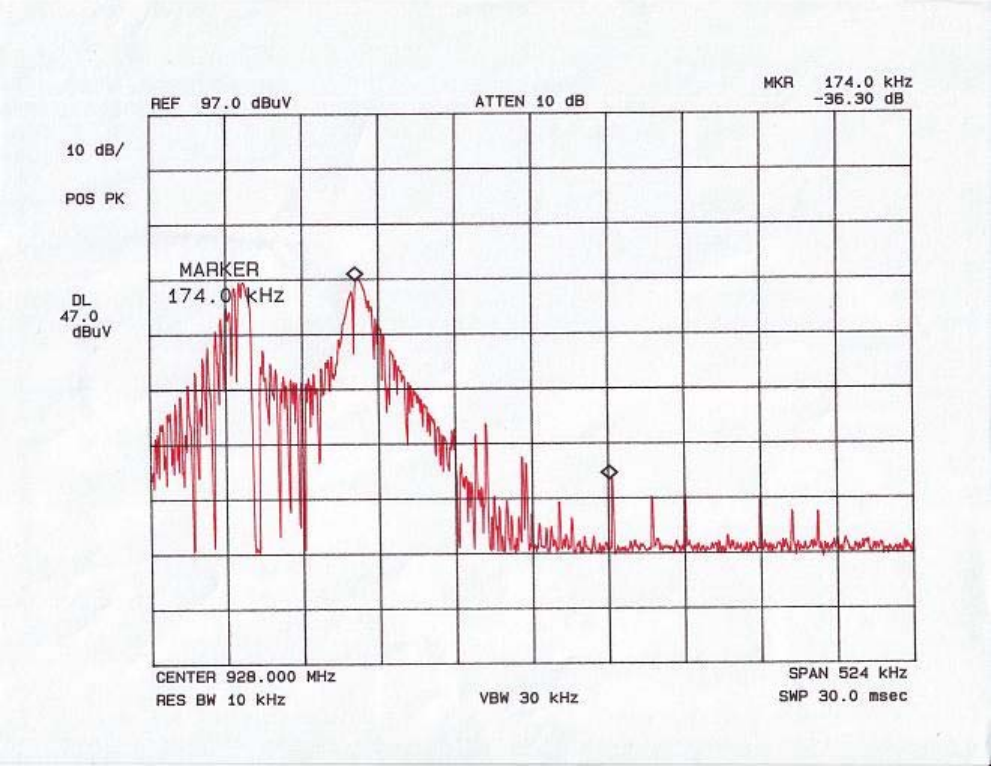

Figure 3. Upper Band-Edge

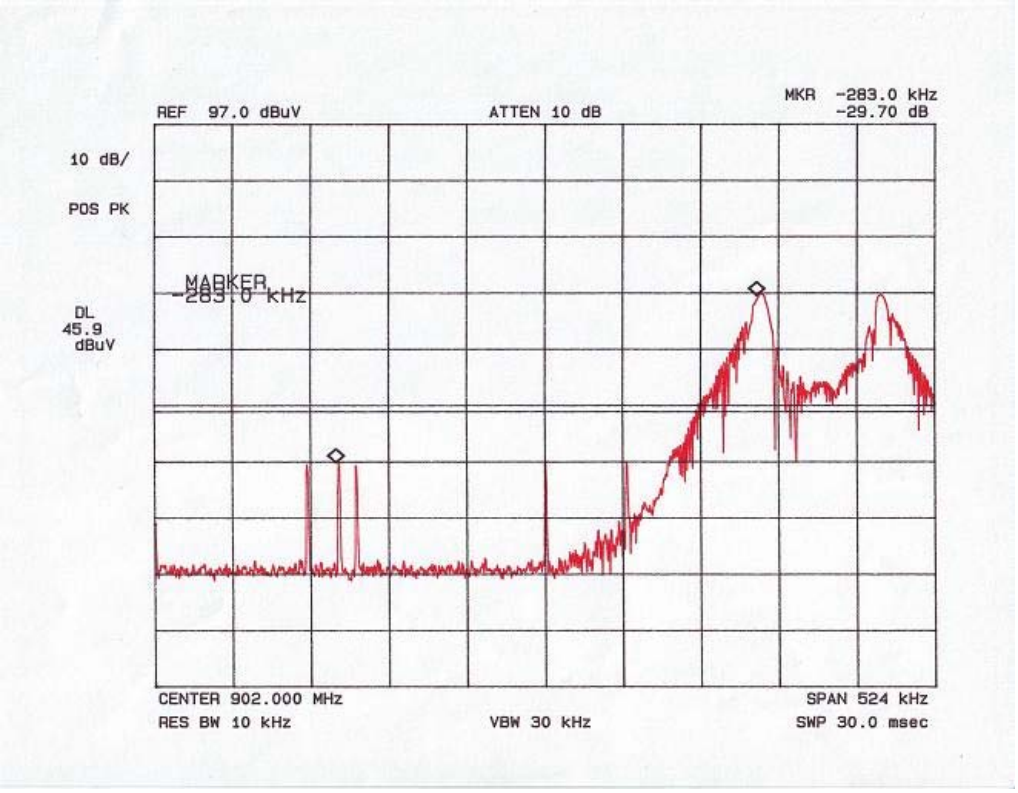

Figure 4. Lower Band-Edge