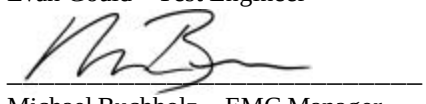
Curtis-Straus Test Report

Report No	EC0948-2
Client	Dynastream Innovations, Inc. 228 River Avenue Cochrane, Alberta T4C 2C1
Phone Fax	(403)-932-9292 (403)-932-6521
FRN	0008033557
Models	SMA015, SMA013
FCC ID	06RM7TXN
Equipment Type Equipment Code	Low Power Communication Device Transmitter DXX
Results	As detailed within this report
Prepared by	 Evan Gould – Test Engineer
Authorized by	 Michael Buchholz – EMC Manager
Issue Date	12/4/02
Conditions of issue	This Test Report is issued subject to the conditions stated in 'terms and conditions' section of this report.

Curtis-Straus LLC is accredited by the American Association for Laboratory Accreditation for the specific scope of accreditation under Certificate Number 1627-01. This report may contain data which is not covered by the A2LA accreditation.

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Summary

This report is an application for Certification of a Transmitter operating pursuant to Part 15.249 of the FCC Rules, Code of Federal Regulations 47. The products covered by this report are:

Nike SDM Triax V10	(Model SMA015)
Nike SDM Triax CV10	(Model SMA015)
Nike SDM Triax Elite	(Model SMA013)

This report is designed to demonstrate the compliance of these devices with the requirements outlined in 47 CFR Part 15 using the methods outlined in 47 CFR Part 2.

The SMA015 was the model tested. It is considered equivalent to the SMA013. The difference between the models is the baud rate at which the devices communicate. The hardware is identical. Since the emissions measurements were taken with a continuous, 100% duty cycle transmission and pass the limits without introducing an averaging factor, both models are represented in the readings.

Test Methodology

Radiated emissions testing is performed according to the procedures specified in ANSI C63.4 (2000).

Frequency range investigated:	30MHz –10GHz (No emissions below 1GHz were detected)
Measurement distance:	3 Meters (30MHz - ~4GHz) 1 Meter (~4GHz – 10GHz) Measurement distance is noted on data tables.
EUT power source:	Fresh AAA battery
Emission Maximization:	EUT rotated around three orthogonal axes Antenna height and polarization varied

Statement of Conformity

The Dynastream SMA015 has been found to conform with the following parts of the 47 CFR as detailed below:

Part 2	Part 15	Comments
	15.15(b)	The product contains no user accessible controls that increase transmission power above allowable levels.
2.925	15.19	The label is shown in the label exhibit.
	15.21	Information to the user is shown in the instruction manual exhibit.
	15.27	No special accessories are required for compliance.
	15.203	The antenna is soldered to the transmitter board, which is not user accessible, and there is no external antenna connection.
	15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209.
	15.249	The unit complies with the field strength limits of 15.249.

Fundamental Frequency Measurement

LIMITS

Quasi-Peak: 50mV/m = 93.9dBµV/m @ 3m [15.249(a), (b), and (d)]
Note: If Peak measurements meet Quasi-Peak limits, then Quasi-Peak measurements are not required.

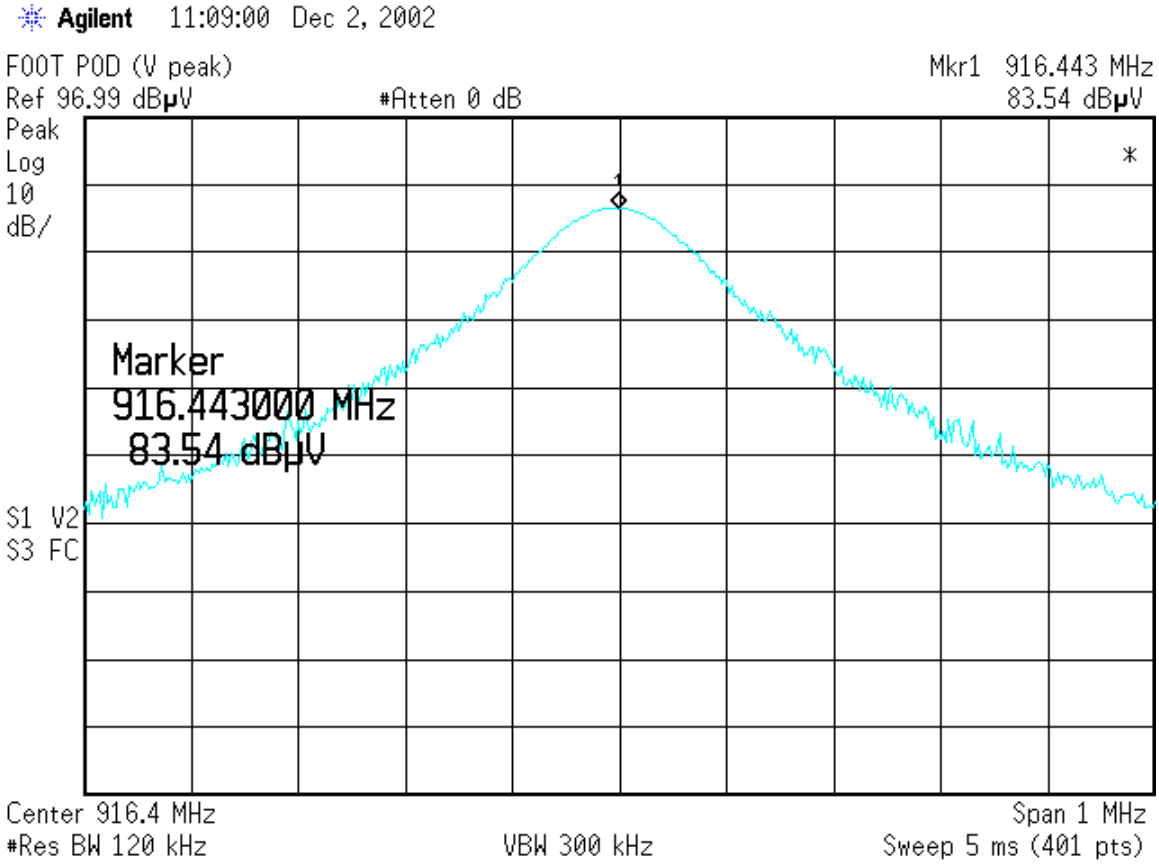
MEASUREMENT

Fundamental Frequency *Curtis-Straus LLC*

Date: 02-Dec-02 **Engineer:** Evan Gould **Work Order:** C0948
Company: Dynastream Innovations Inc. **EUT:** SMA015 **Fundamental Frequency:** 916.4MHz
Test Site: "T" **Cable:** 65 ft RG8A/U **Pre-amp:** Black
Antenna: Green-White **Filter/Attenuator:** N/A **Analyzer:** Orange
Measurement Distance: 3 Meters **Resolution BW:** 120kHz
Detector Type: Peak **Video BW:** 300kHz
Notes:

Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Filter/Attenuator Factor (dB)	Duty Cycle Factor (dB)	Distance Factor (dB)	Adjusted Reading (dBµV/m)	47 CFR 15.249 Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
V	916.4	83.5	21.6	22.0	4.1	0.0	0.0	0.0	88.0	93.9	-5.9	Pass

ANALYZER PLOT



Band Edge Measurements

LIMITS

Quasi-Peak: 50dB below level of Fundamental *OR*
General radiated emission limits of 15.209
"...whichever is the lesser attenuation." [15.249(c)]

Note: If Peak measurements meet Quasi-Peak limits, then Quasi-Peak measurements are not required.

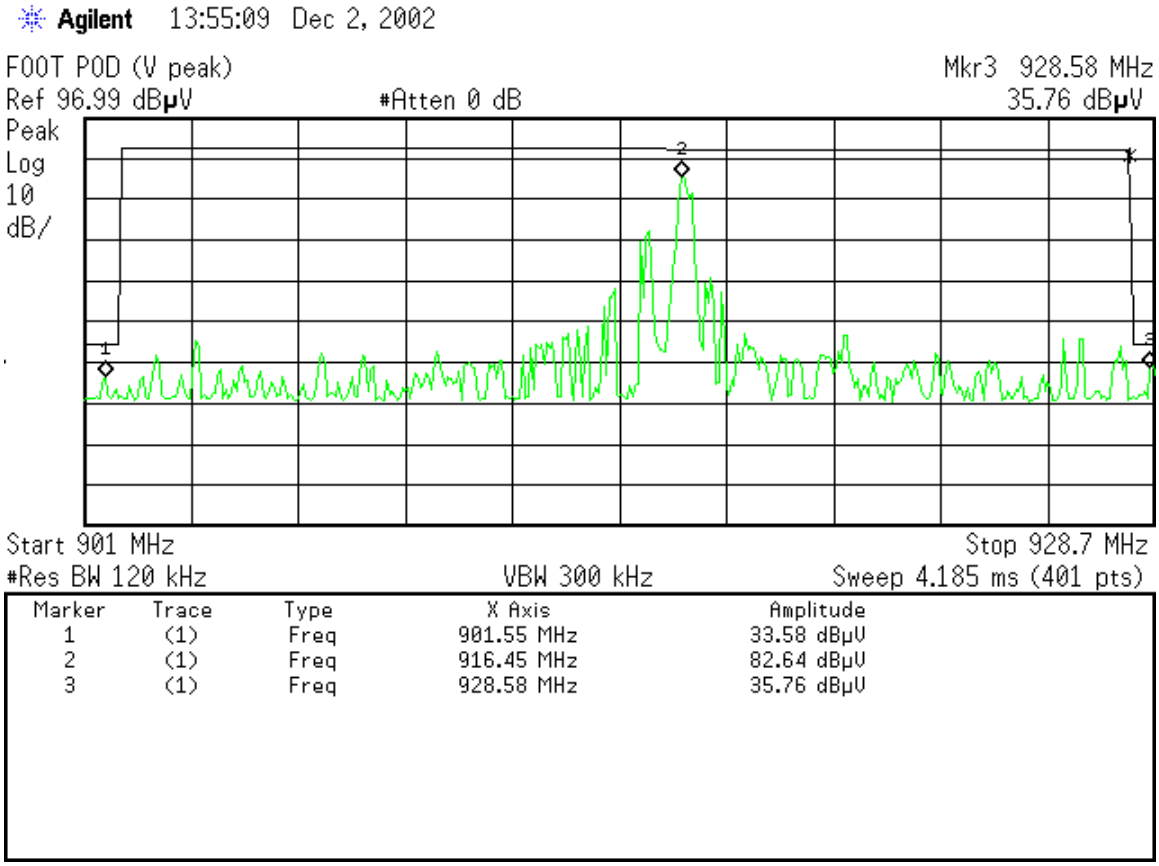
MEASUREMENTS

Band Edges — *Curtis-Straus LLC*

Date: 02-Dec-02 **Engineer:** Evan Gould **Work Order:** C0948
Company: Dynastream Innovations Inc. **EUT:** SMA015 **Fundamental Frequency Band:** 902-928MHz
Test Site: "T" **Cable:** 65 ft RG8A/U **Pre-amp:** Black
Antenna: Green-White **Filter/Attenuator:** N/A **Analyzer:** Orange
Measurement Distance: 3 Meters **Resolution BW:** 120kHz
Detector Type: Peak **Video BW:** 300kHz
Notes:

Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Filter/Attenuator Factor (dB)	Distance Factor (dB)	Adjusted Reading (dBµV/m)	47 CFR 15.249 Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
V	901.6	33.6	21.6	22.0	4.1	0.0	0.0	38.1	46.0	-7.9	Pass
V	928.6	35.8	21.6	22.1	4.2	0.0	0.0	40.5	46.0	-5.5	Pass

ANALYZER PLOT



Harmonic Frequency Measurements

LIMITS

Average: 500µV/m = 53.9dBµV/m @ 3m [15.249(a), (b), and (d)]
Peak: 53.9dBµV/m + 20dB = 73.9dBµV @ 3m [15.249(d)]
Note: If Peak measurements meet Average limits, then Average measurements are not required.

MEASUREMENTS

Harmonics and Spurious *Curtis-Straus LLC*

Date: 02-Dec-02 **Engineer:** Evan Gould **Work Order:** C0948
Company: Dynastream Innovations Inc. **EUT:** SMA015 **Fundamental Frequency:** 916.4MHz
Test Site: "T" **Cable:** Microflex **Pre-amp:** White
Antenna: Orange **Filter/Attenuator:** N/A **Analyzer:** Orange
Measurement Distance: 3 Meters **Resolution BW:** 1MHz
Detector Type: Peak **Video BW:** 1MHz
Notes:

Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Filter/Attenuator Factor (dB)	Duty Cycle Factor (dB)	Distance Factor (dB)	Adjusted Reading (dBµV/m)	47 CFR 15.249 Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
V	1833.0	40.1	18.5	28.3	1.2	0.0	0.0	0.0	51.1	53.9	-2.8	Pass
V	2749.0	39.5	20.1	30.9	1.5	0.0	0.0	0.0	51.8	53.9	-2.1	Pass
V	3666.0	35.0	18.9	33.3	2.0	0.0	0.0	0.0	51.4	53.9	-2.5	Pass

Harmonics and Spurious *Curtis-Straus LLC*

Date: 02-Dec-02 **Engineer:** Evan Gould **Work Order:** C0948
Company: Dynastream Innovations Inc. **EUT:** SMA015 **Fundamental Frequency:** 916.4MHz
Test Site: "T" **Cable:** Microflex **Pre-amp:** White
Antenna: Orange **Filter/Attenuator:** N/A **Analyzer:** Orange
Measurement Distance: 1 Meter **Resolution BW:** 1MHz
Detector Type: Peak **Video BW:** 1MHz
Notes:

Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Filter/Attenuator Factor (dB)	Duty Cycle Factor (dB)	Distance Factor (dB)	Adjusted Reading (dBµV/m)	47 CFR 15.249 Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
V	4582.0	33.3	18.7	34.1	2.2	0.0	0.0	9.5	41.4	53.9	-12.5	Pass
V	5499.0	33.2	19.3	35.9	2.3	0.0	0.0	9.5	42.6	53.9	-11.3	Pass
noise floor	6415.0	27.2	19.1	36.2	2.5	0.0	0.0	9.5	37.3	53.9	-16.6	Pass
noise floor	7332.0	30.0	18.4	37.5	2.8	0.0	0.0	9.5	42.4	53.9	-11.5	Pass
noise floor	8248.0	28.4	17.7	37.7	3.2	0.0	0.0	9.5	42.1	53.9	-11.8	Pass
noise floor	9165.0	26.1	17.8	39.5	3.3	0.0	0.0	9.5	41.6	53.9	-12.3	Pass

Note: No spurious emissions were detected.

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Test Equipment Used

Rev. 12/02/02

SPECTRUM ANALYZERS					
x	**Analyzer**	**Model No.**	**Company**	**Serial No.**	**Calibration Due**
X	**ORANGE** 9kHz-26.5GHz	E4407B	HP	US39440975	07-JUN-2003

OPEN AREA TEST SITE (OATS)					
x	**Site**	**FCC Code**	**IC Code**	**VCCI Code**	**Calibration Due**
X	**"T"** Texas	93448	IC 2762-T	R-905	04-FEB-2004

ANTENNAS					
x	**Antenna**	**Model No.**	**Company**	**Serial No.**	**Calibration Due**
X	**GREEN-WHITE** Bilog: 30MHz-2GHz	CBL6112B	Chase	2574	11-JUL-2004
X	**ORANGE** Horn: 1-18GHz	3115	EMCO	0004-6123	27-MAY-2003

PREAMPLIFIERS					
x	**Preamplifier**	**Model No.**	**Company**	**Serial No.**	**Calibration Due**
X	**BLACK** 0.01-2000MHz	ZFL-1000-LN	MiniCircuits/ C-S	N/A	22-MAR-2003
X	**WHITE** 1-20GHz	SMC-12A	MITEQ	426643	27-AUG-2003

Unless otherwise noted the calibration interval is one year. All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Terms And Conditions

Paragraph 1. SERVICES. LABORATORY will:

1.1 Use the degree of care and skill ordinarily exercised by and consistent with the standards of the profession.
1.2 Perform all technical services in substantial accordance with the generally accepted laboratory principles and practices.
1.3 Retain all pertinent records relating to the services performed for a period of three (3) years following submission of the report describing such services, during which period the records will be made available to CLIENT upon reasonable request.

Paragraph 2. CLIENT'S RESPONSIBILITIES. CLIENT or his authorized representative will:

2.1 Provide LABORATORY with all plans, schematics, specifications, addenda, change orders, drawings and other information for the proper performance of technical services.
2.2 Designate a person to act as CLIENT's representative with respect to LABORATORY's services to be performed on behalf of the CLIENT; such person or firm to have complete authority to transmit instructions, receive information and data, interpret and define CLIENT's policies and decisions with respect to the LABORATORY's work on behalf of the CLIENT and to order, at CLIENT's expense, such technical services as may be required.
2.3 Designate a person who is authorized to receive copies of LABORATORY's reports.
2.4 Undertake the following:
(a) Secure and deliver to LABORATORY, without cost to LABORATORY, preliminary representative samples of the equipment proposed to require technical services, together with any relevant data.
(b) Furnish such labor and equipment needed by LABORATORY to handle samples at the LABORATORY and to facilitate the specified technical services.

Paragraph 3. GENERAL CONDITIONS:

3.1 LABORATORY, by the performance of services covered hereunder, does not in any way assume any of those duties or responsibilities customarily vested in the CLIENT, its employees, or any other party, agency or authority.
3.2 LABORATORY shall not be responsible for acts of omissions of any other party or parties involved in the design, manufacture or maintenance of the equipment or the failure of any employee, contractor or subcontractor to undertake any aspect of equipment's design, manufacture or maintenance.
3.3 LABORATORY is not authorized to revoke, alter, release, enlarge or release any requirement of the equipment's design, manufacture or maintenance unless specifically authorized by CLIENT or his authorized representative.
3.4 THE ONLY WARRANTY MADE BY LABORATORY IN CONNECTION WITH ITS SERVICE PERFORMED HEREUNDER IS THAT IT WILL USE THAT DEGREE OF CARE AND SKILL AS SET FORTH IN PARAGRAPH 1 ABOVE. NO OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE OR INTENDED FOR SERVICES PROVIDED HEREUNDER.
3.5 Where the LABORATORY indicates that additional testing is advisable to obtain more valid or useful data, and where such testing has not been authorized, CLIENT agrees to view such test reports as inconclusive and preliminary.
3.6 The LABORATORY will supply technical service and prepare a report based solely on the sample submitted to the LABORATORY by the CLIENT. The CLIENT understands that application of the data to other devices is highly speculative and should be applied with extreme caution.
3.7 The LABORATORY agrees to exercise ordinary care in receiving, preserving and shipping (F.O.B. Littleton, MA) any sample to be tested, but assumes no responsibility for damages, either direct or consequential, which arise from loss, damage or destruction of the samples due to the act of examination, modification or testing, or technical services or circumstances beyond LABORATORY's control.
3.8 The LABORATORY will hold samples for thirty (30) days after tests are completed, or until the CLIENT's outstanding debts to the LABORATORY are satisfied, whichever is later.
3.9 The CLIENT recognizes that generally accepted error variances apply and agrees to consider such error variances in its use of test data.
3.10 It is agreed between LABORATORY and CLIENT that no distribution of any tests, reports or analysis other than that described below shall be made to any third party without the prior written consent of both parties unless such distribution is mandated by operation of law. It is agreed that tests, reports, or analysis results may be disclosed to third party auditors of the laboratory at the laboratory facility in the course of accreditation maintenance audits. No reference to reports or technical services of the LABORATORY shall be made in any advertising or promotional literature without the express written permission of the LABORATORY.
3.11 The CLIENT acknowledges that all employees of LABORATORY operate under employment contracts with the LABORATORY and CLIENT agrees not to solicit employment of such employees or to solicit information related to other clients from said employees.
3.12 In recognition of the relative risks and benefits of the project to both CLIENT and LABORATORY, the risks have been allocated such that the CLIENT agrees, to the fullest extent permitted by law, to limit the liability of the LABORATORY to the CLIENT for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, including attorneys' fees and costs and expert witness fees and costs, so that the total aggregate liability of the LABORATORY to the CLIENT shall not exceed $100,000, or the LABORATORY'S total fee for services rendered on this project, whichever is greater. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.

Paragraph 4. INSURANCE:

4.1 LABORATORY shall secure and maintain throughout the full period of the services provided to the CLIENT adequate insurance to protect it from claims under applicable Workmen's Compensation Acts and also shall maintain one million dollars of general liability coverage to cover claims for bodily injury, death or property damage as may arise from the performance of its services.
4.2 The CLIENT hereby warrants that it has sufficient insurance to protect its employees adequately under applicable Workmen's Compensation Acts and for bodily injury, death, or property damage.
4.3 No insurance of whatever kind or type, which may be carried by either party is to be considered as in any way limiting any other party's responsibility for damages resulting from their operations or for furnishing work and materials.

Paragraph 5. PAYMENT:

5.1 CLIENT shall pay to LABORATORY such fees for services as previously agreed, orally or in writing, within 30 days of presentment of a bill for such services performed. In the event CLIENT ordered, orally or in writing, services but such services were not assigned a rate for billing, such services shall be billed at the LABORATORY's reasonable and customary rate.
5.2 CLIENT shall be responsible for all shipping, customs and other expenses related to services provided by LABORATORY to the CLIENT, and shall fully insure any test sample or other equipment provided to LABORATORY by the CLIENT.
5.3 Amounts overdue from CLIENT to LABORATORY shall be charged interest at a rate of 1½% per month.

Paragraph 6. ISO/IEC GUIDE 17025 ADDITIONS:

6.1 CLIENT agrees that this test report will not be reproduced except in full, without written approval from the LABORATORY.
6.2 CLIENT agrees that this test report shall not be used to claim product endorsement by A2LA or ANSI or any agency of the U.S. Government.
6.3 CLIENT agrees that test results presented herein relate only to the sample tested by the LABORATORY.