

EXHIBIT VI.

Test Report 1

Supplemental Test Report

For New Certification Of

Previously Certified AirCard 775

Under

FCC ID: KBCIX300AC775WLBT

IX300 GoBook Tablet PC

With AirCard 775, WLAN and Bluetooth

Certification Requested Under Parts 22H & 24E

Prepared On Behalf Of

ITRONIX, Corporation

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December 17, 2004

Supplemental Test Report

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Note: Please refer to the original Certification Test Report data prepared by Sierra Wireless, Inc., for all conducted test data applicable to their Model: AirCard 775, FCC ID: N7NAC775, in support of this instant application.

Exhibit 6 Test - RF Conducted Power Output

FCC ID: KBCIX300AC775WLBT

Grantee: ITRONIX, Corp.

Model: IX300 with AirCard 775, (WAN), WM168b-Molex, (WLAN),
& MUBTC2-TH, (Bluetooth)Authorization Procedure: Part 2.1046
Limit: Part 24.232(b)
Test Date: 12/09/04

Please Note: The applicant wishes to reference [all the conducted test data](#) contained in the Sierra Wireless, Inc., FCC Parts 22 and 24 Test Report for the Model: AirCard 775, FCC ID: N7NAC775. A full copy of this report was submitted along with this test report. The maximum conducted output power from page 6 of this referenced report is listed in the following table:

Frequency MHz	Channel	GMSK Mode	8-PSK Mode
836.6	190	31.44 dBm	26.89 dBm
1880.0	661	28.41 dBm	25.94 dBm

Method of Measurement

Prior to starting the radiated measurements the RF output port of the AirCard 775 was directly coupled to the input of the Agilent spectrum analyzer through a special RF adapter short cable and SMA connector. The instrument was set to measure peak power output and the measured results for low, mid and high channels within the GSM850 and PCS band are reported below with cable loss included. This measurement was done to confirm proper output of the transmitter over the two bands in which it was tested.

Conducted Measurement Data

Frequency (MHz) Channel #	Peak Power (Watts)	Peak Power GMSK (dBm)
824.2 (Ch.128)	1.361	31.34
836.6 (Ch.190)	1.361	31.34
848.8 (Ch.251)	1.372	31.37
1850.2 (Ch.512)	0.696	28.44
1880.0 (Ch.661)	0.7132	28.53
1909.8 (Ch.810)	0.7208	28.59

Exhibit 6 Test: Effective Radiated Power (ERP) Output

Grantee: ITRONIX, Corp.

FCC ID: KBCIX300AC775WLBT

Model: IX300 with AirCard 775, (WAN), WM168b-Molex, (WLAN), & MUBTC2-TH, (Bluetooth)

Effective Radiated Power Output measurements by Substitution Method according to ANSI/TIA-603-B, approved November 7, 2002.

The measurements were made as prescribed in TIA-603-B 2.2.17.2.2, a – f. The EUT was set up at the OATS facility on the non-conductive turntable 3 meters from the receive antenna. The height and turntable rotation was adjusted for the maximum reading on the spectrum analyzer for each antenna polarization. Only the polarization with the highest levels observed is reported below. The EUT was removed and a half wave dipole antenna, adjusted for each frequency, was substituted in its place with the height of this antenna consistent with the position of the EUT antenna. The RF signal generator with a known output fed a signal to the dipole antenna to obtain and record the path loss in dB as LOSS. $LOSS = \text{Generator Output Power (dBm)} - \text{Analyzer reading (dBm)}$.

The ERP was determined by the formula referenced below.

$$ERP \text{ (dBm)} = LVL \text{ (dBm)} + LOSS \text{ (dB)}$$

Freq. MHz	ERP (W)	ERP (dBm)	Ref. Level (dBm)	Path LOSS	Ant. Pol. H / V
824.20	0.935	29.71	-4.85	34.56	V
836.60	1.219	30.86	-4.31	35.17	V
848.80	1.455	31.63	-3.78	35.41	V

Part 22.913(a) ERP of mobile and auxiliary test transmitters not to exceed 7 Watts

Measurement distance of 3 meters EUT to receive antenna.
 Location: Spectrum Technology Inc., Fluke Park II OATS facility
 Date: Dec. 09, 2004
 EUT tuned to maximum power.
 Test made with a fully charged standard battery with IX300 in the Desk Mount.

Note: The antenna used is a standard Sierra Wireless AirCard 775 model that is ½ wave in the cellular band and full wave in the PCS band.

Itronix Part Number	Air Card	Mnf PN	Mnf SKU	Frequency Band	Length (+/- 0.25 mm)
47-0215-001	AC 775	1200309	6000170	AMP/PCS/GSM/DC S	45.5 mm

Exhibit 6 Test - Field Strength of Spurious Radiated Emissions

FCC ID:	KBCIX300AC775WLBT
Grantee:	ITRONIX, Corp.
Model:	IX300 with AirCard 775, (WAN), WM168b- Molex, (WLAN), & MUBTC2-TH, (Bluetooth)
Minimum Standard Specified:	Part 22.917 (e) = 43+10log (PO) dB
Test Results:	Equipment complies with standard
Authorization Procedure:	Part 2.1053
Test Equipment Set Up:	See photos and block diagram in Exhibit 7
Frequency Range Observed:	.30 to 9.000 GHz
Test Frequencies:	824.2, 836.6 and 848.8 MHz
Power Output Conducted:	31.44 dBm or, 1.393 Watts
Power Output Radiated	31.63 dBm ERP or 1.455 Watts ERP
Spurious Limit = 43 + 10Log (PO) =	44.44 dB below the carrier
Test date: 12/09/04	Location: OATS Fluke Park II Everett, WA

Discussion

The field strength of the radiated spurious emissions and harmonics was measured at 3 meters EUT to antenna distance using 1 MHz RBW and VBW. The transmitter output of the AirCard 775 was terminated into a 50 ohm coaxial termination. A high pass filter was used prior to the input to the preamp during testing to reduce the fundamental signal of the WLAN and BT and avoid overloading the front end of the analyzer. All of the measured spurious levels reported on the following page are more than 40 dB below the spurious limit. Emissions attenuated by 20 dB or more below the limit need not be reported according to Part 2.1051.

The highest level emissions observed were then re-measured with the signal substitution method and the level reported on page 7.

The change observed in the measurable emissions levels with or without the two Part 15 Intentional Radiators was negligible so the reported results are "worst case" with all three co-located transmitters transmitting simultaneously. The Part 15 Intentional Radiators were both set to operate on the same frequencies as follows: Low, 2412 MHz, Mid, 2436 MHz, High, 2463 MHz. This corresponding to the Low, 824.2 MHz, Mid 836.1 MHz and High 848.8 MHz channels the AirCard 775 was set for during this test.

Exhibit 6 Test: Field Strength of Spurious Radiated Emissions

FCC ID: KBCIX300AC775WLBT
 Applicant: ITRONIX Corp.
 Model: IX300 with AirCard 775, WLAN, & Bluetooth
 Frequency Range Observed: .30 to 9 GHz Date: 12/09/04

NOTE: Simultaneous co-location transmit with Part 22 Cellular and two Part 15 devices. The Part 15 WLAN and the Bluetooth transmitters were centered on the same RF channels for worst case.

RADIATED HARMONIC AND SPURIOUS EMISSIONS & RESTRICTED BANDS									
Frequency GHz	Max. SA Rdg. dBu/V	Ant. Vert. or Horz.	Peak or Average Detector	Antenna Factor dB	Cable & filter loss dB	Amp Gain	Corrected Reading dBuV/m	Corrected Reading dBm	Margin dB below -13 dBm LIMIT
Fo-824.20									
1648.80	44.40	V	Peak	25.70	3.30	26.7	46.70	-60.30	47.30
1648.80	43.67	H	Peak	25.70	3.30	26.7	45.97	-61.03	48.03
2472.60	52.07	V	Peak	28.37	4.07	22.3	62.221	-44.79	31.79
2472.60	45.32	H	Peak	28.37	4.07	22.3	55.46	-51.54	38.54
3296.80	36.56	V	Peak	30.45	4.37	21.7	49.68	-57.32	44.32
3296.80	35.06	H	Peak	30.45	4.37	21.7	48.18	-58.82	45.82
Fo-836.6									
1673.20	46.74	V	Peak	25.70	3.30	26.7	49.04	-57.97	44.96
1673.20	43.39	H	Peak	25.70	3.30	26.7	45.69	-61.31	48.31
2509.80	50.23	V	Peak	28.37	4.13	22.3	60.43	-46.57	33.57
2509.80	46.97	H	Peak	28.37	4.13	22.3	45.69	-61.31	48.31
3446.40	41.39	V	Peak	30.45	4.41	21.7	54.55	-52.45	39.45
3446.40	35.69	H	Peak	30.45	4.41	21.7	48.85	-58.15	45.15
Fo-848.80									
1697.60	45.35	V	Peak	25.70	3.30	26.7	47.65	-59.35	46.35
1697.60	42.97	H	Peak	25.70	3.30	26.7	45.27	-61.73	48.73
2546.40	46.38	V	Peak	28.37	4.16	22.3	56.61	-50.39	37.39
2546.40	45.94	H	Peak	28.37	4.16	22.3	56.11	-50.89	37.89
3395.20	37.15	V	Peak	30.45	4.45	21.7	50.35	-56.65	43.65
3395.20	36.61	H	Peak	30.45	4.45	21.7	49.81	-57.19	44.19
Harmonic emissions on all three channels (low, mid & high) 5Fo – 10Fo at or below noise floor									
Channel	Frequency in GHz	Harmonics Observed			Limit 43 + 10 Log(PO)				
Low Ch.	824.20								
5Fo – 10Fo	4.121 – 8.242	None -at or < noise floor @3m			All emissions < 54 dBuV/m				
Mid Ch.	836.6								
5Fo – 10Fo	4.183 – 8.366	None -at or < noise floor @3m			All emissions < 54 dBuV/m				
High Ch.	848.80								
5Fo o- 10Fo	4.244 – 8.488	None -at or < noise floor @3m			All emissions < 54 dBuV/m				

NOTE: With external antenna removed from the IX300 and the transmitter output terminated to a non-radiating load per TIA-603B 2.2.12.2(c) only the above harmonics were measurable at 3m. The highest level radiated spurious emissions observed above, **3FO, (hi-lighted in Red)**, were re-tested using signal substitution and are reported on the next page.
 < Denotes measured level at or below analyzer noise floor

Exhibit 6 Test: Spurious Emissions Attenuation Measured by Signal Substitution Method

Trans. Freq. & Spurious Freq.	Spectrum Analyzer Ref. Rdg. Of EUT Tx Spur's level	Horn Gain	Ant. Polarization	Corrected Signal Generator Output Level & cable loss	EIRP	ERP	Limit EIRP
MHz	(dBuV)	(dBi)	(H / V)	(dBm)	(dBm)	(dBm)	(dBm)
824.20							
2472.6	52.07	6.13	V	-38.8 - 3.02	-35.69	-37.84	-13
836.60							
2509.8	50.23	6.13	V	-40.6 - 3.02	-37.49	-39.64	-13
848.80							
2546.4	46.38	6.13	V	-44.0 - 3.02	-40.89	-43.04	-13

The highest level spurious emissions observed from the low, mid, and high channels field strength reading were re-measured to determine the Effective Isotropic Radiated Power Output. The measurements were made by the Signal Substitution Method described in TIA-603-B, approved November 7, 2002.

The measurements were made as prescribed in TIA-603-B 2.2.12, Unwanted Emissions: Radiated Spurious. The EUT was set up at the OATS facility on the non-conductive turntable 3 meters from the receive antenna. The antenna height and the turntable rotation were adjusted for the maximum reading on the spectrum analyzer for each antenna polarization. Only the three highest levels observed are reported above. All emissions observed are more than 30 dB below the limit and are not required to be reported according to Part 2.1051.

During the preliminary field strength measurements the highest level spurious emissions were identified. The EUT was removed and a horn antenna was substituted in its place, with the height of this antenna consistent with the position of the EUT antenna. The output of the RF signal generator tuned to a particular spurious frequency was carefully adjusted along with adjustment of the test antenna to duplicate the reading originally observed on the Spectrum Analyzer during the filed strength measurements. The Signal Generator reading was corrected for the cable loss and the gain of the substitute horn antenna used, relative to an ideal half wave dipole, to obtain the power in dBm.

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

P_d is the dipole equivalent power and P_g is the generator output power into the substitute antenna.

Measurements were taken at 3 meters, EUT to receive antenna distance.

Location: Spectrum Technology Inc., Fluke Park II OATS facility

Test Date: Dec. 09, 2004

EUT set to maximum power continuous transmit mode via the Sierra test script, running under Procomm.

Test made with a fully charged standard battery with the IX300 in a desk stand & charging cradle.

Exhibit 6 Test - Effective Isotropic Radiated Power (EIRP) Output

Grantee: ITRONIX, Corp.

FCC ID: KBCIX300AC775WLBT

Model: IX300 with AirCard 775, (WAN), WM168b-Molex, (WLAN), & MUBTC2-TH, (Bluetooth)

Part 24.232

Effective Isotropic Radiated Power Output measurements by Substitution Method according to ANSI/TIA-603-B, approved November 7, 2002.

The measurements were made as prescribed in TIA-603-B 2.2.17.2.2, a – f. The EUT was set up at the OATS facility on the non conductive turntable 3 meters from the receive antenna. The height and turntable rotation were adjusted for the maximum reading on the spectrum analyzer for each antenna polarization. The adjustable swivel antenna on the EUT was also investigated in vertical and horizontal polarization. With the highest levels observed is reported. The EUT was removed and a horn antenna was substituted in its place with the height of this antenna consistent with the position of the EUT antenna. The RF signal generator with a known output fed a signal to the horn antenna to obtain and record the path loss in dB as LOSS. $LOSS = \text{Generator Output Power (dBm)} - \text{Analyzer reading (dBm)}$.

The difference between the gain of the horn antenna and an isotropic antenna is taken into account and the EIRP is recorded.

Freq. MHz	EIRP (W)	EIRP (dBm)	Ref. Level (dBm)	Path LOSS	Ant. Pol. H / V	Limit EIRP (dBm)
1850.20	1.054	30.23	-2.05	28.18	H	33
1800.00	.778	28.91	-0.64	28.27	H	33
1909.80	.824	29.16	-0.74	28.42	H	33

Measurements taken at 3 meters, EUT to receive antenna distance.

Location: Spectrum Technology Inc., Fluke Park II OATS facility

Date: December 10, 2004

EUT tuned to maximum power continuous transmit with 4 time slots in GPRS mode via the Sierra test script running under Procomm.

Test made with a fully charged standard battery with the IX300 in a desk mount.

Exhibit 6 Test - Field Strength of Spurious Radiated Emissions

FCC ID:	KBCIX300AC775WLBT
Grantee:	ITRONIX, Corp.
Model:	IX300 with AirCard 750, (WAN), WM168b- Molex, (WLAN), & MUBTC2-TH, (Bluetooth)
Serial No.:	SN: ZZGEG4278ZZ2080
Minimum Standard Specified:	Part 24.238 (a) = 43+10log (PO) dB
Test Results:	Equipment complies with standard
Authorization Procedure:	Part 2.1053
Test Equipment Set Up:	See photos and block diagram in Exhibit 7
Frequency Range Observed:	30 to 20 GHz
Test Frequencies:	1850.2, 1880, & 1909.8 MHz
Conducted Power Output:	28.41 dBm, or 0.693 Watts,
Radiated Power Output	30.23 dBm EIRP or 1.054 Watts EIRP
Spurious Limit = 43 + 10Log ₁₀ PO =	41.41 dB below the carrier
Test date: 12/10/04	Location: OATS Fluke Park II Everett, WA

Discussion

The field strength of the radiated spurious emissions and harmonics was measured at 3 meters EUT to antenna distance using 1 MHz RBW and VBW. The transmitter output of the AirCard 775 was terminated into a 50 ohm coaxial termination. A high pass filter was used prior to the input to the preamp during testing to reduce the fundamental signal of the WLAN and BT and avoid overloading the front end of the analyzer. All of the measured spurious levels appear to be 20 dB or more below the spurious limit. Emissions attenuated by 20 dB or more below the limit need not be reported according to Part 2.1051. The highest level emissions observed were then measured with the signal substitution method and the level reported on page 11.

The change observed in the measurable emissions levels with or without the two Part 15 Intentional Radiators was negligible so the reported results are "worst case" with all three co-located transmitters transmitting simultaneously. The Part 15 Intentional Radiators were both set to operate on the same frequencies as follows: Low, 2412 MHz, Mid, 2436 MHz, High, 2463 MHz corresponding to the Low, 1850.2 MHz, Mid 1880.0 MHz and High 1909.8 MHz channels the AirCard 775 was set for during this test.

Exhibit 6 Test: Field Strength of Spurious Radiated Emissions

FCC ID: KBCIX300AC775WLBT
 Applicant: ITRONIX Corp.
 Model: IX300 with AirCard 775, WLAN, & Bluetooth
 Frequency Range Observed: 0 to 25 GHz Date: 12/10/04

NOTE: Simultaneous co-location transmit with Part 24 PCS and two Part 15 devices. The Part 15 WLAN and the Bluetooth transmitters were centered on the same RF channels for worst case.

RADIATED HARMONIC AND SPURIOUS EMISSIONS & RESTRICTED BANDS									
Frequency GHz	Max. SA Rdg. dBuV	Ant. Vert. or Horz.	Peak or Average Detector	Antenna Factor dB	Cable & filter loss dB	Amp Gain	Corrected Reading dBuV/m	Corrected Reading dBm	Margin in dB Below -13 dBm LIMIT
Fo-1850.2									
3700.4	40.26	V	Peak	31.58	5.22	23.2	53.86	-53.14	40.14
3700.4	35.09	H	Peak	31.58	5.22	23.2	48.69	-58.31	45.31
5551.6	37.54	V	Peak	34.24	7.03	25.9	52.91	-54.09	41.09
5551.6	<36.78	H	Peak	34.24	7.03	25.9	52.15	-54.85	41.85
7400.8	<36.32	V	Peak	36.77	9.32	24.5	57.91	-49.09	36.09
7400.8	<36.50	H	Peak	36.77	9.32	24.5	58.09	-48.81	35.91
Fo-1880.0									
3760.0	44.33	V	Peak	31.58	5.22	23.2	58.00	-49.00	36.0
3760.0	40.61	H	Peak	31.58	5.22	23.2	54.28	-52.72	39.72
5640.0	37.97	V	Peak	34.24	7.07	25.9	53.38	-53.62	41.62
5640.0	<35.26	H	Peak	34.24	7.07	25.9	50.67	-56.33	43.33
7520.0	<35.61	V	Peak	36.77	10.43	24.7	58.11	-48.89	35.89
7520.0	<36.10	H	Peak	36.77	10.43	24.7	58.60	-48.40	35.40
Fo-1909.8									
3819.6	41.70	V	Peak	31.84	5.34	23.2	55.68	-51.32	38.32
3819.6	36.34	H	Peak	31.84	5.34	23.2	50.32	-56.68	43.68
5729.4	<35.38	V	Peak	34.36	7.20	25.9	51.04	-55.96	42.96
5729.4	<35.49	H	Peak	34.36	7.20	25.9	49.15	-57.85	45.85
7639.2	<33.86	V	Peak	36.87	10.58	24.7	56.61	-50.39	37.39
7639.2	<34.49	H	Peak	36.87	10.58	24.7	57.24	-49.46	36.76
Harmonic emissions on all three channels (low, mid & high) 5Fo – 10Fo at or below noise floor									
Channel	Frequency in GHz	Harmonics Observed				Limit 43 + 10 Log(P)			
Low Ch.	1850.2								
5Fo – 10Fo	9251 – 18502.0	None - at or < noise floor @3m				All emissions < 54 dBuV/m			
Mid Ch.	1880								
5Fo – 10Fo	9400 – 18800.0	None - at or < noise floor @3m				All emissions < 54 dBuV/m			
High Ch.	1909.8								
5Fo o- 10Fo	9549 – 19098.00	None - at or < noise floor @3m				All emissions < 54 dBuV/m			

* Worst case spurious emissions were re-tested using signal substitution and are reported on page 11.

Exhibit 6 Test : Spurious Emissions Attenuation Measured by Signal Substitution Method

Trans. Freq. & Spurious Freq.	Spectrum Analyzer Ref. Rdg. Of EUT Tx level	Horn Gain	Ant. Polarization	Corrected Signal Generator Output and cable loss	EIRP	ERP	Limit EIRP
MHz	(dBuV)	(dBi)	(H / V)	(dBm)	(dBm)	(dBm)	(dBm)
1851.25			V				
3700.4	40.26	7.0	V	-50.6 – 3.68	-47.28	-49.43	-13
1880.00			V				
3760.0	44.33	7.0	V	-40.2 – 3.76	-36.96	-39.11	-13
1908.75			V				
3819.6	41.70	7.0	V	-47.6 – 3.80	-44.40	-46.55	-13

The highest level spurious emissions observed from the low, mid, and high channels field strength reading were re-measured to determine the Effective Isotropic Radiated Power Output. The measurements were made by the Signal Substitution Method described in TIA-603-B, approved December 11, 2002.

The measurements were made as prescribed in TIA-603-B 2.2.12, Unwanted Emissions: Radiated Spurious. The EUT was set up at the OATS facility on the non-conductive turntable 3 meters from the receive antenna. The antenna height and the turntable rotation were adjusted for the maximum reading on the spectrum analyzer for each antenna polarization. Only the highest levels observed are reported above. All other emission are more than 20 dB below the limit and are not required to be reported

During the preliminary field strength measurements the highest level spurious emissions were identified. The EUT was removed and a horn antenna was substituted in its place, with the height of this antenna consistent with the position of the EUT antenna. The output of the RF signal generator tuned to a particular spurious frequency was carefully adjusted along with adjustment of the test antenna to duplicate the reading originally observed on the Spectrum Analyzer during the filed strength measurements. The Signal Generator reading was corrected for the cable loss and the gain of the substitute horn antenna used, relative to an ideal half wave dipole, to obtain the power in dBm.

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

P_d is the dipole equivalent power and P_g is the generator output power into the substitute antenna.

Measurements were taken at 3 meters, EUT to receive antenna distance.

Location: Spectrum Technology Inc., Fluke Park II OATS facility

Date: December 10, 2004

EUT set to maximum power continuous transmit with 4 time slots in GMSK mode via the Sierra test script, running under Procomm.

Test made with a fully charged standard battery with the IX300 in a desk mount.