Advantech Wireless

Test Report for 1R0-HN83A0-3NXC Rev: 001

100W CX-BAND SSPB

Serial Number : AMT-C4251

Test	Test Description	Measured Value	Lower Limit	Upper Limit	Status	Test Condition
1.1.0	OUTPUT POWER AT 1 dB GAIN COMPRESSION (P1dB)					
1.1.1	OUTPUT POWER AT 1 dB GAIN COMPRESSION @ 5.850 GHz	51.10 dBm	49		PASS	Set Gain 70 dB , Temp +23 C
1.1.2	OUTPUT POWER AT 1 dB GAIN COMPRESSION @ 6.300 GHz	50.40 dBm	49		PASS	Set Gain 70 dB , Temp +23 C
1.1.3	OUTPUT POWER AT 1 dB GAIN COMPRESSION @ 6.725 GHz	49.60 dBm	49		PASS	Set Gain 70 dB , Temp +23 C
2.1.0	ACTUAL POWER VS DETECTOR MEASUREMENTS					
2.1.1	DETECTED POWER READING AT RATED POWER	49 dBm	48	50	PASS	Output Power 49 dBm , Set Gain 70 dB , Temp +23 C
2.1.2	DETECTED POWER READING AT 5 dB BACK-OFF FROM RATED POWER	44.10 dBm	43	45	PASS	Output Power 44 dBm , Set Gain 70 dB , Temp +23 C
2.1.3	DETECTED POWER READING AT 10 dB BACK-OFF FROM RATED POWER	38.60 dBm	38	40	PASS	Output Power 39 dBm , Set Gain 70 dB , Temp +23 C
2.1.4	DETECTED POWER READING AT 15 dB BACK-OFF FROM RATED POWER	34 dBm	33	35	PASS	Output Power 34 dBm , Set Gain 70 dB , Temp +23 C
2.1.5	DETECTED POWER READING AT 20 dB BACK-OFF FROM RATED POWER	<28.0 dBm			PASS	Output Power 29 dBm , Set Gain 70 dB , Temp +23 C
3.1.0	NOMINAL GAIN					
3.1.1	NOMINAL GAIN @ CENTRAL FREQUENCY AND +23C	70.20 dB	69	71	PASS	Output Power 39 dBm , Set Gain 70 dB , Temp +23 C
4.1.0	GAIN FLATNESS					
4.1.1	GAIN FLATNESS OVER THE ENTIRE FREQUENCY BAND	1.60 dB p-p		3	PASS	Output Power 39 dBm , Set Gain 70 dB , Temp +23 C

Advantech Wireless

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4.1.2	GAIN SLOPE OVER 40 MHz (WORST CASE)	0.35 dB		1	PASS	Output Power 39 dBm , Set Gain 70 dB , Temp +23 C
5.1.0	NOISE POWER DENSITY					
5.1.1	NOISE POWER DENSITY IN Tx BAND	-78.80 dBm/Hz		-75	PASS	Set Gain 70 dB , Temp +23 C
5.1.2	NOISE POWER DENSITY IN Rx BAND	-135 dBm/Hz		-135	PASS	Set Gain 70 dB , Temp +23 C
6.1.0	PHASE NOISE					
6.1.1	PHASE NOISE @ 100 Hz OFFSET	-77.80 dBc/Hz		-63	PASS	Set Gain 70 dB , Temp +23 C
6.1.2	PHASE NOISE @ 1 kHz OFFSET	-82.70 dBc/Hz		-73	PASS	Set Gain 70 dB , Temp +23 C
6.1.3	PHASE NOISE @ 10 kHz OFFSET	-94.80 dBc/Hz		-83	PASS	Set Gain 70 dB , Temp +23 C
6.1.4	PHASE NOISE @ 100 KHz OFFSET	-114.20 dBc/Hz		-93	PASS	Set Gain 70 dB , Temp +23 C
7.1.0	INTEGRATED PHASE NOISE					
7.1.1	INTEGRATED PHASE NOISE	0.38 DEG/RMS		2	PASS	Set Gain 70 dB , Temp +23 C
8.1.0	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm					
8.1.1	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm, @ 5.850 GHz	-33.80 dBc		-26	PASS	Output Power 46.0(total) dBm , Set Gain 70 dB , Temp +23 C
8.1.2	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm, @ 6.300 GHz	-32.80 dBc		-26	PASS	Output Power 46.0(total) dBm , Set Gain 70 dB , Temp +23 C

Advantech Wireless

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8.1.3	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm, @ 6.725 GHz	-32.50 dBc		-26	PASS	Output Power 46.0(total) dBm , Set Gain 70 dB , Temp +23 C
9.1.0	SPURIOUS OUTPUT AT RATED POWER Pout = 49 dBm					
9.1.1	IN-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm @ 5.850 GHz	-70 dBc		-55	PASS	Output Power 49 dBm , Temp +23 C
9.1.2	IN-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm @ 6.300 GHz	-70 dBc		-55	PASS	Output Power 49 dBm , Temp +23 C
9.1.3	IN-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm @ 6.725 GHz	-70 dBc		-55	PASS	Output Power 49 dBm , Temp +23 C
9.2.1	OUT-OF-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm	-60 dBc		-55	PASS	Output Power 49 dBm , Temp +23 C
10.1.0	LED INDICATOR					
10.1.1	LED RED for FAULT				PASS	Temp +23 C
10.1.2	LED GREEN for NO FAULT				PASS	Temp +23 C
10.1.3	LED GREEN BLINKING for MUTE				PASS	Temp +23 C
11.1.0	RS-232 COMMUNICATION					
11.1.1	MUTE COMMAND				PASS	Temp +23 C
11.1.2	TEMPERATURE INDICATION				PASS	Temp +23 C
11.1.3	GAIN CONTROL				PASS	Temp +23 C
12.1.0	RS-485 COMMUNICATION					
12.1.1	MUTE COMMAND				PASS	Temp +23 C
12.1.2	TEMPERATURE INDICATION				PASS	Temp +23 C
12.1.3	GAIN CONTROL				PASS	Temp +23 C

Advantech Wireless

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Test	Test Description	Measured Value	Lower Limit	Upper Limit	Status	Test Condition
12.2.1	SWITCH TO EXTERNAL PROTOCOL				PASS	Temp +23 C
13.1.0	POWER CONSUMPTION @ P1dB					
13.1.1	POWER AND CURRENT CONSUMPTION @ RATED P1dB FOR 110 V AC	508 W: 4.20 A		750	PASS	Temp +23 C
13.1.2	POWER AND CURRENT CONSUMPTION @ RATED P1dB FOR 220 V AC	503 W: 2.33 A		750	PASS	Temp +23 C
14.1.0	OUTPUT POWER AT 1 dB GAIN COMPRESSION (P1dB) @ HIGH TEMPERATURE					
14.1.1	OUTPUT POWER AT 1 dB GAIN COMPRESSION @ 5.850 GHz	50.30 dBm	49		PASS	Set Gain 70 dB , Temp +55 C
14.1.2	OUTPUT POWER AT 1 dB GAIN COMPRESSION @ 6.300 GHz	50.20 dBm	49		PASS	Set Gain 70 dB , Temp +55 C
14.1.3	OUTPUT POWER AT 1 dB GAIN COMPRESSION @ 6.725 GHz	49.30 dBm	49		PASS	Set Gain 70 dB , Temp +55 C
15.1.0	NOMINAL GAIN @ HIGH TEMPERATURE					
15.1.1	NOMINAL GAIN @ CENTRAL FREQUENCY	69.20 dB			PASS	Output Power 39 dBm , Set Gain 70 dB , Temp +55 C
16.1.0	GAIN FLATNESS @ HIGH TEMPERATURE					
16.1.1	GAIN FLATNESS OVER THE ENTIRE FREQUENCY BAND	1.82 dB p-p		3	PASS	Output Power 39 dBm , Set Gain 70 dB , Temp +55 C
16.1.2	GAIN SLOPE OVER 40 MHz (WORST CASE)	0.65 dB		1	PASS	Output Power 39 dBm , Set Gain 70 dB , Temp +55 C

Advantech Wireless

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Test	Test Description	Measured Value	Lower Limit	Upper Limit	Status	Test Condition
17.1.0	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm @ HIGH TEMPERATURE					
17.1.1	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm, @ 5.850 GHz	-32.50 dBc		-26	PASS	Output Power 46.0(total) dBm , Set Gain 70 dB , Temp +55 C
17.1.2	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm, @ 6.300 GHz	-32.20 dBc		-26	PASS	Output Power 46.0(total) dBm , Set Gain 70 dB , Temp +55 C
17.1.3	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm, @ 6.725 GHz	-31 dBc		-26	PASS	Output Power 46.0(total) dBm , Set Gain 70 dB , Temp +55 C
18.1.0	SPURIOUS OUTPUT AT RATED POWER Pout = 49 dBm @ HIGH TEMPERATURE					
18.1.1	IN-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm @ 5.850 GHz	-70 dBc		-55	PASS	Output Power 49 dBm , Temp +55 C
18.1.2	IN-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm @ 6.300 GHz	-70 dBc		-55	PASS	Output Power 49 dBm , Temp +55 C
18.1.3	IN-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm @ 6.725 GHz	-70 dBc		-55	PASS	Output Power 49 dBm , Temp +55 C
18.2.1	OUT-OF-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm	-60 dBc		-55	PASS	Output Power 49 dBm , Temp +55 C

Advantech Wireless

Test Report for 1R0-HN83A0-3NXC Rev: 001

100W CX-BAND SSPB

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Test	Test Description	Measured Value	Lower Limit	Upper Limit	Status	Test Condition
19.1.0	OUTPUT POWER AT 1 dB GAIN COMPRESSION (P1dB) @ LOW TEMPERATURE					
19.1.1	OUTPUT POWER AT 1 dB GAIN COMPRESSION @ 5.850 GHz	51.40 dBm	49		PASS	Set Gain 70 dB , Temp -30 C
19.1.2	OUTPUT POWER AT 1 dB GAIN COMPRESSION @ 6.300 GHz	50.60 dBm	49		PASS	Set Gain 70 dB , Temp -30 C
19.1.3	OUTPUT POWER AT 1 dB GAIN COMPRESSION @ 6.725 GHz	49.70 dBm	49		PASS	Set Gain 70 dB , Temp -30 C
20.1.0	NOMINAL GAIN @ LOW TEMPERATURE					
20.1.1	NOMINAL GAIN @ CENTRAL FREQUENCY	70.30 dB			PASS	Output Power 39 dBm , Set Gain 70 dB , Temp -30 C
21.1.0	GAIN FLATNESS @ LOW TEMPERATURE					
21.1.1	GAIN FLATNESS OVER THE ENTIRE FREQUENCY BAND	1.49 dB p-p		3	PASS	Output Power 39 dBm , Set Gain 70 dB , Temp -30 C
21.1.2	GAIN SLOPE OVER 40 MHz (WORST CASE)	0.65 dB		1	PASS	Output Power 39 dBm , Set Gain 70 dB , Temp -30 C
22.1.0	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm @ LOW TEMPERATURE					
22.1.1	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm, @ 5.850 GHz	-35 dBc		-26	PASS	Output Power 46.0(total) dBm , Set Gain 70 dB , Temp -30 C
22.1.2	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm, @ 6.300 GHz	-33.70 dBc		-26	PASS	Output Power 46.0(total) dBm , Set Gain 70 dB , Temp -30 C

Advantech Wireless

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100W CX-BAND SSPB

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Test	Test Description	Measured Value	Lower Limit	Upper Limit	Status	Test Condition
22.1.3	INTERMODULATION WITH 2 EQUAL TONES 5 MHz APART @ Pout_total = 46.0 dBm, @ 6.725 GHz	-33.70 dBc		-26	PASS	Output Power 46.0(total) dBm , Set Gain 70 dB , Temp -30 C
23.1.0	SPURIOUS OUTPUT AT RATED POWER Pout = 49 dBm @ LOW TEMPERATURE					
23.1.1	IN-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm @ 5.850 GHz	-70 dBc		-55	PASS	Output Power 49 dBm , Temp -30 C
23.1.2	IN-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm @ 6.300 GHz	-70 dBc		-55	PASS	Output Power 49 dBm , Temp -30 C
23.1.3	IN-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm @ 6.725 GHz	-70 dBc		-55	PASS	Output Power 49 dBm , Temp -30 C
23.2.1	OUT-OF-BAND SPURIOUS OUTPUT AT RATED POWER Pout = 49.0 dBm	-70 dBc		-55	PASS	Output Power 49 dBm , Temp -30 C
24.1.0	GAIN VARIATION OVER TEMPERATURE (-30 C TO + 55 C)					
24.1.1	MAXIMUM GAIN VARIATION OVER TEMPERATURE FOR 70.0 dB GAIN SET @ 6.300 GHz	1.10 dB p-p		3	PASS	Temp +23 C
25.1.0	OUTPUT MONITOR COUPLING					
25.1.1	OUTPUT MONITOR COUPLING @ 5.850 GHz	-47.30 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.2	OUTPUT MONITOR COUPLING @ 5.900 GHz	-47.34 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.3	OUTPUT MONITOR COUPLING @ 5.950 GHz	-47.32 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C

Advantech Wireless

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Test	Test Description	Measured Value	Lower Limit	Upper Limit	Status	Test Condition
25.1.4	OUTPUT MONITOR COUPLING @ 6.000 GHz	-47.30 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.5	OUTPUT MONITOR COUPLING @ 6.050 GHz	-47.31 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.6	OUTPUT MONITOR COUPLING @ 6.100 GHz	-47.34 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.7	OUTPUT MONITOR COUPLING @ 6.150 GHz	-47.35 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.8	OUTPUT MONITOR COUPLING @ 6.200 GHz	-47.37 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.9	OUTPUT MONITOR COUPLING @ 6.250 GHz	-47.39 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.10	OUTPUT MONITOR COUPLING @ 6.300 GHz	-47.44 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.11	OUTPUT MONITOR COUPLING @ 6.350 GHz	-47.47 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.12	OUTPUT MONITOR COUPLING @ 6.400 GHz	-47.48 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.13	OUTPUT MONITOR COUPLING @ 6.450 GHz	-47.48 dB	-50	-46	PASS	Output Power 39 dBm , Temp +23 C
25.1.14	OUTPUT MONITOR COUPLING @ 6.500 GHz [Test Conditions: Output Power 39dBm, Temp +23C]	-47.44 dB	-50	-46	PASS	
25.1.15	OUTPUT MONITOR COUPLING @ 6.550 GHz [Test Conditions: Output Power 39dBm, Temp +23C]	-47.35 dB	-50	-46	PASS	

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25.1.16	OUTPUT MONITOR COUPLING @ 6.600 GHz [Test Conditions: Output Power 39dBm, Temp +23C]	-47.24 dB	-50	-46	PASS	
25.1.17	OUTPUT MONITOR COUPLING @ 6.650 GHz [Test Conditions: Output Power 39dBm, Temp +23C]	-47.11 dB	-50	-46	PASS	
25.1.18	OUTPUT MONITOR COUPLING @ 6.725 GHz [Test Conditions: Output Power 39dBm, Temp +23C]	-46.88 dB	-50	-46	PASS	