849 NW STATE ROAD 45
NEWBERRY, FL 32669 USA
PH: 888.472.2424 OR 352.472.5500
FAX: 352.472.2030
Email: tei@timcoengr.com
Email: info@timcoengr.com
HTTP://WWW.TIMCOENGR.COM

FCC Part 74
And Industry Canada RSS-123
Test Report

APPLICANT	AZDEN CORPORATION
ADDRESS	1-12-17 KAMI-RENJAKU MITAKA, TOKYO 181 JAPAN
FCC ID	BZB30XT
MODEL NUMBER	30XT
PRODUCT DESCRIPTION	Wireless Microphone
DATE SAMPLE RECEIVED	February 5, 2007
DATE TESTED	February 5, 2007
TESTED BY	Mario de Aranzeta
APPROVED BY	Frank DeNuzzo
TIMCO REPORT NO.	3113UT6TestReport.doc
TEST RESULTS	☒ PASS ☐ FAIL

ACCREDITED
Certificate #0955-01

AZDEN CORPORATION
FCC ID: BZB30XT

TABLE OF CONTENTS LIST

GENERAL INFORMATION REQUIRED FOR CERTIFICATION

2.1033(c)(1) AZDEN CORPORATION will manufacture the BZB30XT in quantity, for use under FCC RULES
2.1033(c)(2) RULES PART 74.801, LOW POWER AUXILIARY STATIONS.

AZDEN CORPORATION
1-12-17 KAMI-RENJAKU
MITAKA, TOKYO 181 JAPAN

2.1033 TECHNICAL DESCRIPTION

(c)(4) Type of Emission: 76K0F3E

Bn = 2M + 2DK
M = 10000
D = 28kHz(Peak Deviation)
K = 1
Bn = 2(10k) + 2(28k)(1) = 76k

ALLOWED AUTHORIZED BANDWIDTH = 200kHz.
74.861(e)(5)

(c)(5) Frequency Range: Part 74:
723.00 - 735.00 MHz
TEST FREQ = 723.00 MHz, 728.96MHz, and 735.00 MHz
794.00 – 806.00 MHz
TEST FREQ = 794.00 MHz, 800.00MHz, and 805.95MHz

(c)(6) Power Range and Controls:EUT has no controls.

(c)(7) Maximum Output Power Rating: 0.01 Watts ERP

(c)(8) DC Voltages and Current into Final Amplifier:

FINAL AMPLIFIER ONLY
INPUT POWER – (9.0V)(0.06A) = 0.54 Watts

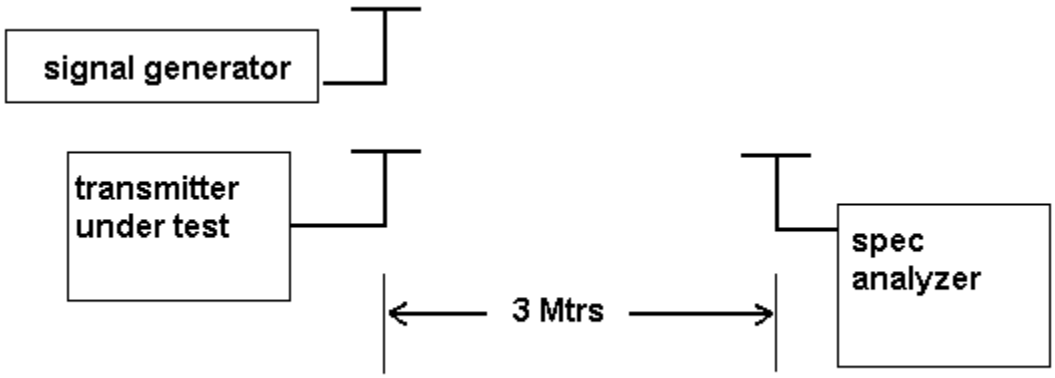
2.1033 (c)(14) The data required by 2.1046 through 2.1057 is submitted below.

RF POWER OUTPUT 2.1046

RF power measured is:

723.00 - 735.00 MHz: 0.010 WATTS ERP
794.00 – 806.00 MHz: 0.010 WATTS ERP

For a device with a fixed antenna, RF power is measured as ERP as the antenna is permanently attached.



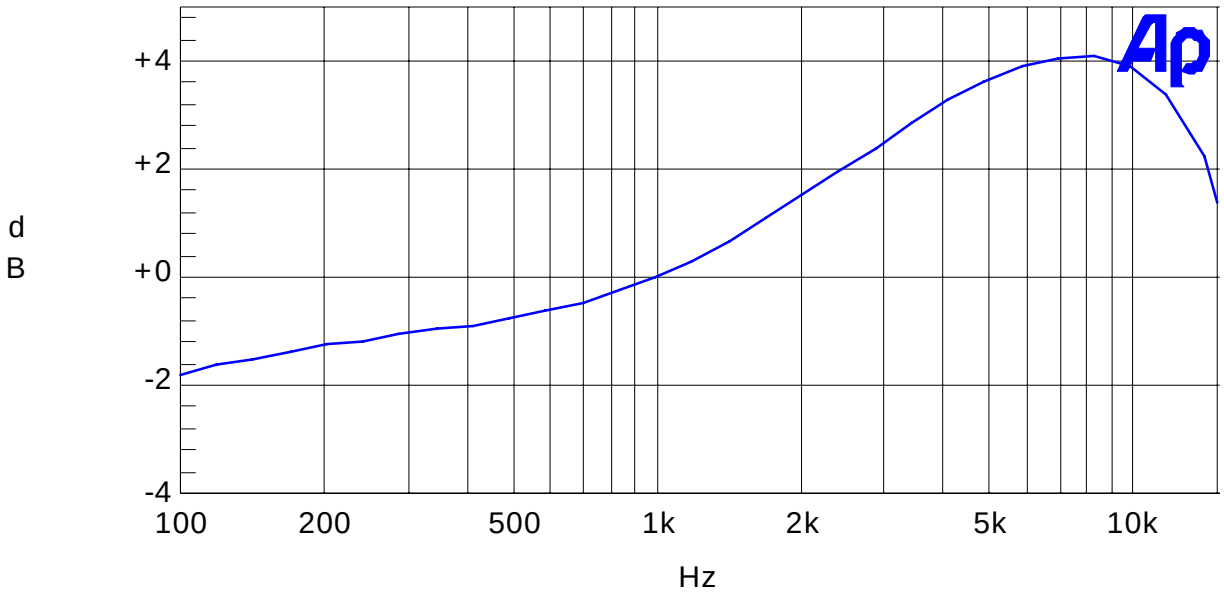
METHOD OF MEASUREMENT: The tabulated data shows the results of the radiated field strength emissions test. The spectrum was scanned from 30 MHz to at least the tenth harmonic of the fundamental. This test was conducted per ANSI/TIA 603-C:2004 using the substitution method. Measurements were made at the test site of Timco Engineering, Inc. located at 849 NW State Road 45, Newberry, FL 32669.

MODULATION CHARACTERISTICS 2.1047(a)(b):

AUDIO FREQUENCY RESPONSE

The audio frequency response was measured in accordance with ANSI/TIA 603-C:2004. The audio frequency response curve is shown below.

Audio Frequency Response Plot



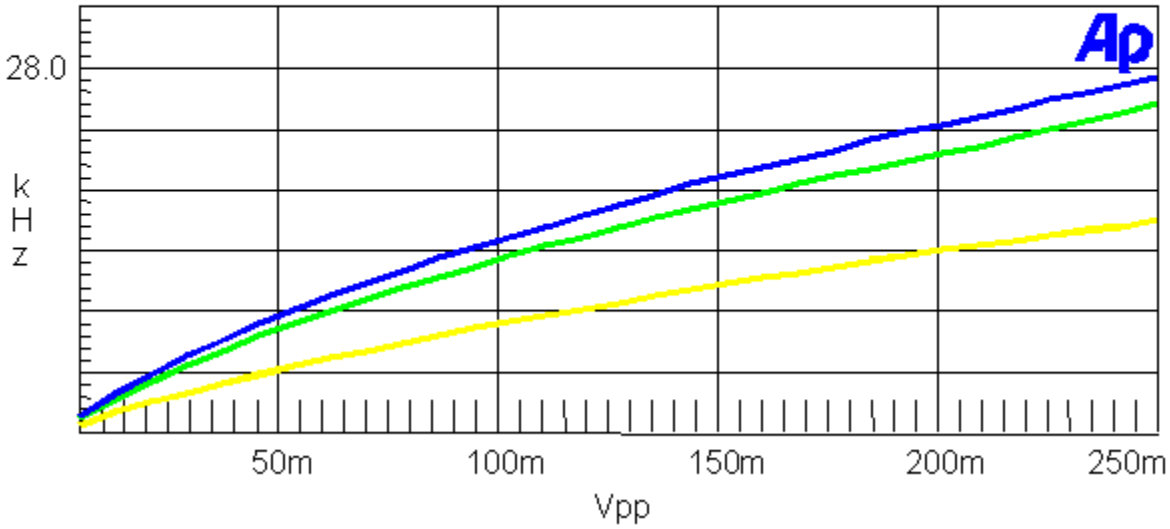
Color	Line Style	Thick	Data	Axis
Blue	Solid	1	Anlr.Level A!Normalize	Left

MaxFreq.at1

AUDIO LOW PASS FILTER

The audio low pass filter is not required in this unit.

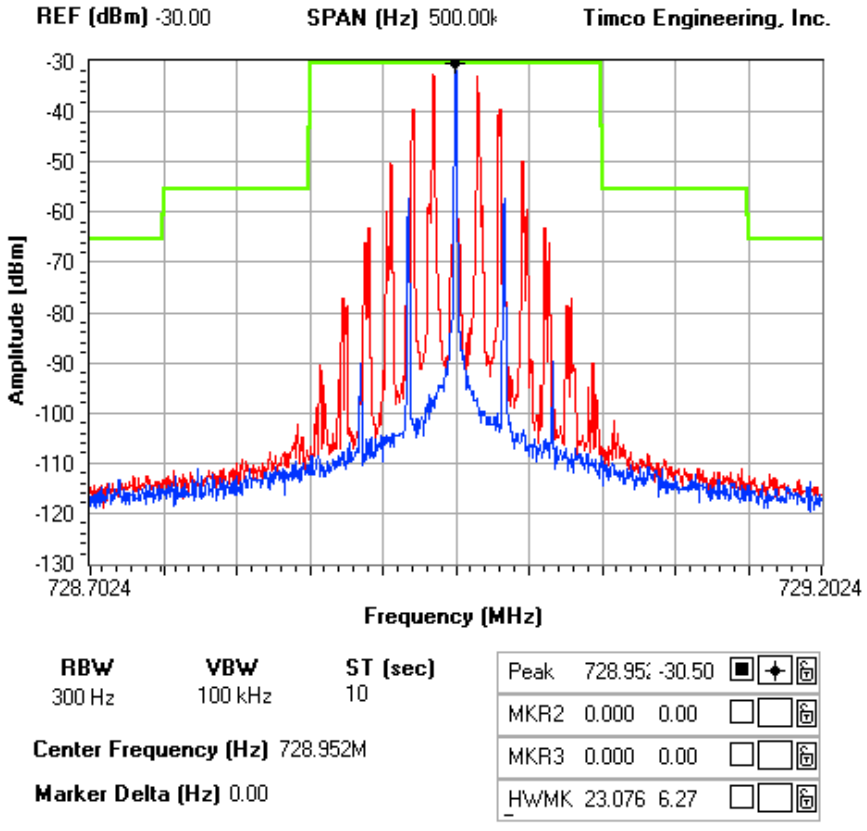
Modulation Limiting Plots:
15 KHz (Green), 2.5 KHz (Blue), and 300 Hz (Yellow)



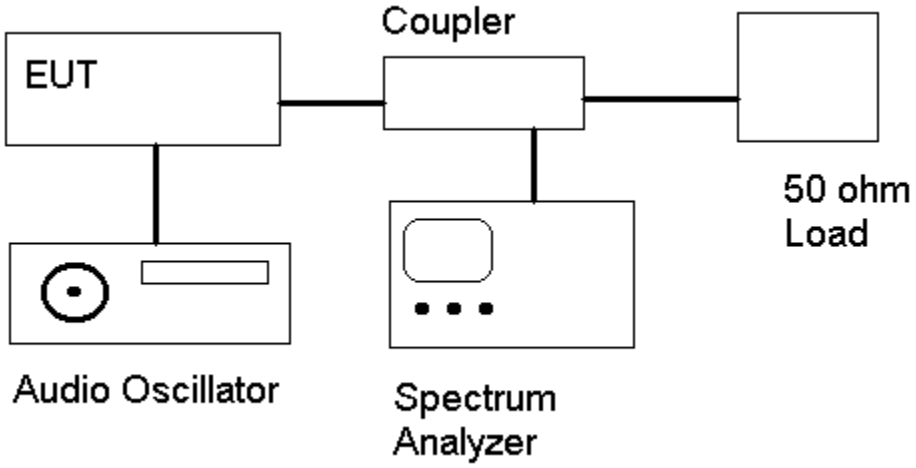
OCCUPIED BANDWIDTH:

Data in the plots show that all sidebands between 50 & 100% for the authorized bandwidth are attenuated by at least 25dB. From 100 to 250% of the authorize3d bandwidth they are attenuated by at least 35dB and beyond 250% 43 log(Po) dB. The plot shows the transmitter modulated with 15000 Hz(the highest modulation frequency), adjusted for 50% modulation plus 16 dB. The spectrum analyzer was set with the unmodulated carrier at the top of the screen. The test procedure diagram and occupied bandwidth plot follows.

NOTES:
AZDEN CORPORATION - FCC ID: BZB30XT
OCCUPIED BANDWIDTH PLOT



Test procedure diagram



OCCUPIED BANDWIDTH MEASUREMENT

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (conducted) 2.1051:

Not Applicable no antenna connector.

FIELD STRENGTH OF SPURIOUS EMISSIONS 2.1053(a)(b):

REQUIREMENTS: Emissions must be 43 +10log(Po) dB below the mean power output of the transmitter.

43 + 10 log(0.010) = 23.00dB (723 – 735MHz)
43 + 10 log(0.010) = 23.00dB (794 – 806MHz)

TEST DATA:

723.00 MHz

Emission Frequency MHz	Ant. Polarity V/H	dB Below Carrier (dBc)
723.00	V	0
1446.00	V	38.56
2169.00	H	39.12
2892.00	V	42.27
3615.00	H	43.01
4338.00	H	52.79
5061.00	V	42.38
5784.00	V	48.87
6507.00	H	48.91
7230.00	V	48.97

728.96 MHz

Emission Frequency MHz	Ant. Polarity V/H	dB Below Carrier (dBc)
728.96	V	0
1457.92	V	48.76
2186.88	V	49.62
2915.84	V	40.20
3644.80	V	45.86
4373.76	H	54.38
5102.72	V	49.68
5831.68	H	54.56
6560.64	H	54.52
7289.60	V	55.86

735.00 MHz

Emission Frequency MHz	Ant. Polarity V/H	dB Below Carrier (dBc)
735.00	V	0
1470.00	V	39.86
2205.00	V	31.01
2940.00	V	33.74
3675.00	V	35.92
4410.00	V	42.48
5145.00	V	37.89
5880.00	V	38.96
6615.00	V	44.03
7350.00	V	44.46

794.00 MHz

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
1588.00	V	44.11
2382.00	H	39.88
3176.00	H	31.42
3970.00	V	42.87
4764.00	H	53.72
5558.00	H	52.25
6352.00	H	50.48
7146.00	V	54.49
7940.00	V	52.96

800.00 MHz

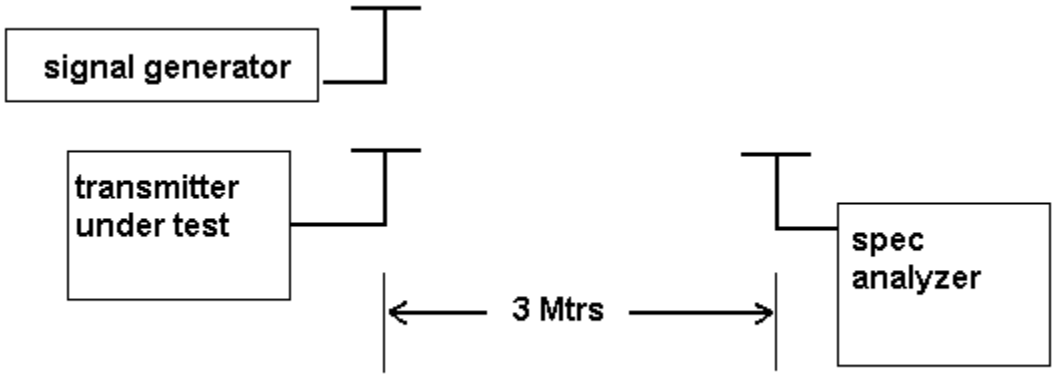
Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
1600.00	V	55.11
2400.00	V	42.82
3200.00	V	41.22
4000.00	H	52.67
4800.00	V	61.17
5600.00	H	59.10
6400.00	H	57.91
7200.00	V	60.65
8000.00	H	59.94

805.95 MHz

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
1611.90	V	44.10
2417.85	V	32.86
3223.80	V	32.21
4029.75	H	47.93
4835.70	V	44.31
5641.65	H	53.05
6447.60	V	51.85
7253.55	V	52.71
8059.50	V	53.09

METHOD OF MEASUREMENTS: The tabulated data shows the results of the radiated field strength emissions test. The spectrum was scanned from 30 MHz to at least the tenth harmonic of the fundamental. This test was conducted per ANSI/TIA 603-C:2004 using the substitution method. Measurements were made at the test site of Timco Engineering, Inc. located at 849 NW State Road 45, Newberry, FL 32669.

Method of Measuring Radiated Spurious Emissions



FREQUENCY STABILITY 2.1055:

S74.861(e)(4)

Temperature and voltage tests were performed to verify that the frequency remains within the .0050%,(50 ppm)(74.861 e.4) limit.

The test was conducted as follows: The transmitter was placed in the temperature chamber at 25 ˚C and allowed to stabilize for one hour. The transmitter was keyed ON for one minute during which four frequency readings were recorded at 15-second intervals. The worse case number used in the table below. The assigned channel frequency was considered to be the reference frequency. The temperature was then reduced to -30 ˚C after which the transmitter was again allowed to stabilize for one hour. The transmitter was keyed ON for one minute, and again frequency readings were noted at 15-second intervals. The worst-case number was again used in the table below. This procedure was repeated in 10-degree increments up to + 50 degrees C.

MEASUREMENT DATA:

(Ref. Frequency): 728.950073 MHz

TEMPERATURE °C	FREQUENCY MHz	PPM
-30°C	728.938299	-16.15
-20°C	728.943853	-8.53
-10°C	728.947740	-3.20
-0°C	728.949725	-0.48
10°C	728.950363	0.40
20°C	728.950073	0.00
30°C	728.949885	-0.26
40°C	728.949871	-0.28
50°C	728.950398	0.45

RESULTS OF MEASUREMENTS:

The maximum frequency variation over the temperature range was -16.15 to +0.45 ppm. The maximum frequency variation over the voltage range was +0.04 ppm.

EMC EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter OATS	TEI	N/A	N/A	Listed 3/27/04	3/26/07
3-Meter OATS	TEI	N/A	N/A	Listed 1/11/06	1/10/09
Antenna: Biconnical	Eaton	94455-1	1057	CAL 12/12/05	12/12/07
Antenna: Biconnical	Electro-Metrics	BIA-25	1171	CAL 4/29/05	4/29/07
Analyzer Blue Tower Quasi-Peak Adapter	HP	85650A	2811A01279	CAL 4/13/05	4/13/07
Analyzer Blue Tower RF Preselector	HP	85685A	2926A00983	CAL 9/5/05	9/5/07
Analyzer Blue Tower Spectrum Analyzer	HP	8568B	2928A04729 2848A18049	CAL 4/13/05	4/13/07
LISN	Electro-Metrics	EM-7820	2682	CAL 4/28/05	4/28/07
Antenna: Log-Periodic	Eaton	96005	1243	CAL 12/14/05	12/14/07