Network Systems Organization

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Federal Communications Commission
Equipment Approval Services
P.O. Box 358315
Pittsburgh, PA 15251-5315

Re: FCC ID H9PLA24001AZL Ref # 15526

Date: 10/12/00

Dear Reviewer,

In response to the following Email:

To: Norman Nwlson, Symbol Technologies, Inc.
From: Steve Dayhoff
sdayhoff@fcc.gov
FCC Application Processing Branch

Re: FCC ID H9PLA24001AZL
Applicant: Symbol Technologies Inc
Correspondence Reference Number: 15526
731 Confirmation Number: EA97670
Date of Original E-Mail: 08/10/2000

1. The submitted MPE info had indicated duty factors of 60% and 32% for mobile and portable operating configurations, respectively, for the "Oniel" antenna to be added through this Class II filing. The duty factor must be source-based, as described in 2.1091 and 2.1093 of rules. Please provide supporting info to verify these duty factors qualify for source-based time averaging and explain/verify why different duty factors are applied for mobile and portable operations.

Please see the proprietary exhibit on duty cycle uploaded to the FCC web site as a Operational Description attachment.

2. Please provide the actual separation distance between the antenna and the user when the printer containing this transmitter is worn next to a person's body.

The O'Neil antenna is a minimum of 2.2 cm away from the users body when clipped on the users belt. Attached is an updated MPE exhibit.

I hope these answers are satisfactory.

Respectfully,

Norman H. Nelson

Oneil BFA / Oneil MMCX Antenna

The **Oneil** antenna is 0 dBi omni-directional in azimuth plane. It is available with eirher a MuRatta BFA or MMCX connector. It is mounted as an internal antenna on the O'Neil MicroFlash series of portable belt worn printers. In its use it could be as close as 2.2 cm of a users body. It is used in portable devices.

Location	Body worn
Pattern	Omni
Type	Slot
Max Gain	0 dBi
Physical	See attached dwg
Cable	MXYH75 or RG-178
Symbol P/N	50-21900-023 50-21900-031
EIRP	See Summary Tbl

Antenna Installation Photo

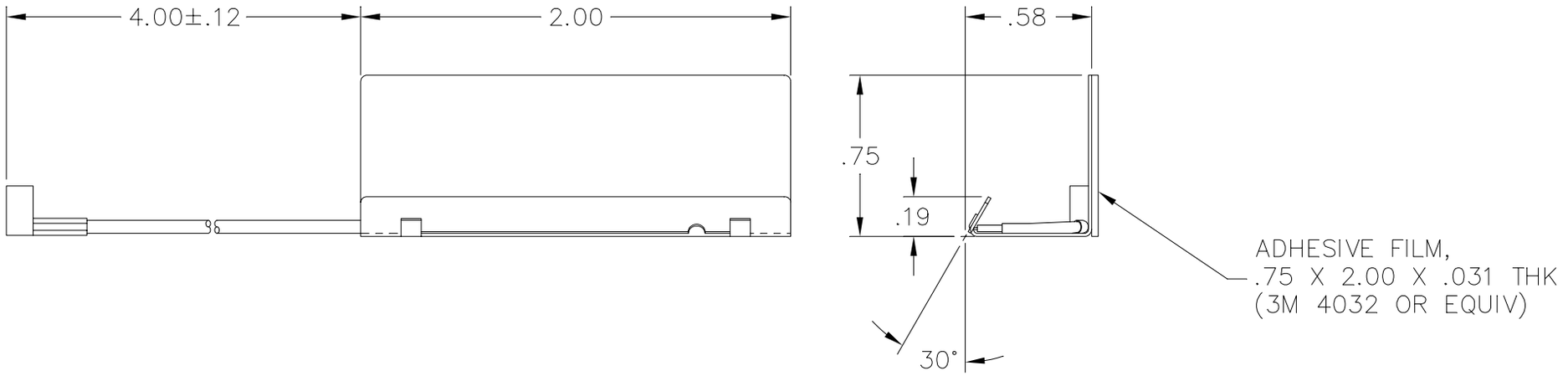
Device use Photograph.

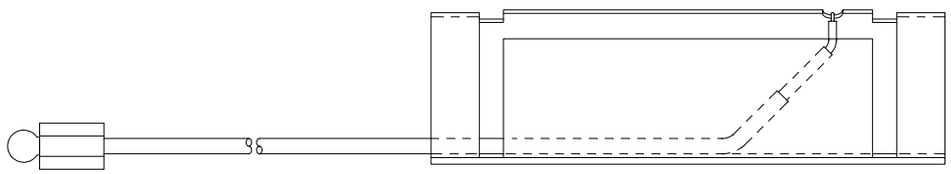
The following text will be located in a conspicuous place in the section describing proper positioning and operation of the body worn device.

> "Warning: Exposure to Radio Frequency radiation. To conform to FCC RF exposure requirements this device shall be used in accordance with the operating conditions and instructions listed in this manual."

REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
C2	A	.58 WAS .42 ADHESIVE CALLOUT WAS: ... X .025 THK (3M 4930 OR EQUIV) WO 2675 REDRAWN	1-4-00 JL	





4. SHARP CORNERS & EDGES .005 MAX.

3. FINISH SHALL BE UNIFORM AND EXHIBIT NO EVIDENCE OF CORROSION OR OXIDATION WHEN VIEWED WITH THE UNAIDED EYE. EDGE PLATING ON CUT OR SHEARED SURFACES IS NOT REQUIRED.

2. ALTERNATE:
MATERIAL: CRS 1008, .015 THK.
FINISH: BRIGHT TIN PLATE PER MIL-T-10727A, TYPE 1, ELECTRO DEPOSITED .00010-.00025 IN.

1. MATERIAL: ELECTROLYTIC TIN PLATED STEEL SHEET, .015 THK.

SPECIFICATIONS

FREQUENCY:	2.4-2.485 GHZ
VSWR	2.0:1 MAX
GAIN	0dBi NOMINAL
POLARIZATION	LINEAR
CABLE:	MURATA MXYH75
CONNECTOR:	TYPE BFA

NOTES : UNLESS OTHERWISE SPECIFIED

.500
SCALE

PMIC	
823362	C090-874
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES.
TOLERANCES: .XX ± .03
.XXX ± .010 ANGLES ± 0°30'
MACHINED SURFACE ROUGHNESS 125✓
REMOVE BURRS, SHARP EDGES R.005–.015
MACHINED FILLETS R.005–.015
DIMENSIONS ARE AFTER PLATING.
MACHINED DIA'S ON COMMON CENTERLINE CONCENTRIC WITHIN .005 TIR.
INTERPRET PER ANSI Y14.5M–1982.

HOLE TOLERANCES:

.040 – .128	+.003 –.001	.515 – .750	+.008 –.001
.136 – .228	+.004 –.001	.765 – 1.000	+.010 –.002
.234 – .500	+.006 –.001	1.031 UP	+.015 –.002

MATL ENGR | APPROVAL

CONTRACT NUMBER

CONTRACTOR

DRAWN BY	DATE
J. LOWE	11-8-99
CHECKER	MFG ENGR
QA	ENGR BI
PRGM MGR	ENGR

TECOM INDUSTRIES INC.
9324 TOPANGA CYN BLVD CHATSWORTH, CA. 91311
TECHNICAL EXCELLENCE COMMITTED TO QUALITY

TITLE
ANTENNA, 2.4 GHZ

SIZE	CAGE CODE	DWG NO
C	52791	703620

SCALE 2/1 | UNIT WT . | SHEET 1 OF 1