

Timco Engineering Inc.
849 NW State Road 45
Newberry FL 32669

From: Mario de Aranzeta
mario@timcoengr.com

To: Stan Lyles
slyles@fcc.gov
FCC Application Processing Branch

Re: FCC ID L9N-7085-UE

Applicant: AES Corporation
Correspondence Reference Number: 22487
731 Confirmation Number: EA557675

1.) Please provide the modulation limiting test data using a input signal of 4800 Hz. This is the minimum data rate allowed Per Section 90.203(j)(3) in order to meet the spectrum efficiency standard.

Enclosed on page 4 is the modulation limiting plot.

2.) Please recalculate your emission designator for question number 1.

Page 2 is a revised test report page that corrects the emission designator.

3.) Your test report indicates an F3E (Voice) mode is available, however there is no indication that the device transmitter information other than data. Please clarify.

Page 2 also contains the revised test report page that eliminates the erroneous F3E designator.

4.) Please provide the dBm power levels on page 16 of the radiated spurious emissions measurements.

Our test method for the substitution method is as described in TIA/EIA 603 (2.2.12) using a dipole for frequencies below 2.4 GHz. Above 2.4 GHz a double ridged antenna is used and referenced back to a dipole. A signal generator capable of 10 Watts of output power is used below 1GHz.

We don't usually keep the dBm power levels info so I've had to remeasured it and submitted it as page 3. Some of the dBc numbers won't be exactly the same as the test report. If this information is something we need to include in future reports please let me know so we can preserve and report this information.

Sincerely,

Mario de Aranzeta
Engineer

GENERAL INFORMATION REQUIRED
FOR TYPE ACCEPTANCE

2.1033 AES CORPORATION will sell the
(c)(1)(2) MODEL NO. L9N-7085-UE UHF transceiver in quantity,
for use under FCC RULES 22 and 90.

2.1033 (c) TECHNICAL DESCRIPTION
2.1033 (3) User Manual See Exhibits 12A-12ZZ

2.1033 (4) Type of Emission: 11K2F2D

For 12.5 kHz channel bandwidths

$B_n = 2M + 2DK$

$M = 9,600$ Bits per second

$D = 825$ Hz (Peak Deviation)

$K = 1$

$B_n = 2(4800) + 2(825)(1) = 9600 + 1650K = 11.25k$

90.209(b)(5)

For 25 kHz channel BW

ALLOWED AUTHORIZED BANDWIDTH = 20.00 kHz.

For 12.5 kHz channel BW

ALLOWED AUTHORIZED BANDWIDTH = 11.25 kHz.

2.1033 (5) Frequency Range: 410-512 MHz

(6) Power Range and Controls: There are NO user power
controls. It is programmed at the factory.

(7) Maximum Output Power Rating:

HI POWER 6 WATTS

LOW POWER 1.5 WATTS

(8) DC Voltages and Current into Final Amplifier:

POWER INPUT

FINAL AMPLIFIER ONLY

Vce = 12 Volts

IC = HIGH 1.68 A

LOW .840 A

INPUT POWER - HIGH: (12V)(1.68A) = 20.16 Watts

INPUT POWER - LOW: (12V)(0.84A) = 10.08 Watts

Frequency MHz	Signal generator dBm	dBc
High Power		
460.5	+37	0
921	-33	70
1382	-28	65
1842	-40	77
2302	-41	78
2763	-50	87
3223	-45	82
3684	-50	87
4144	**	*
4605	-50	87
Low Power		
460.5	+31	0
921	-36	67
1381	-39	70
1842	-36	67
2302	-37	68
2763	-38	69
3223	-43	74
3684	-40	71
4144	-50	81
4605	-50	81

** Below measurement limit of equipment

