KTL Test Report:	9R02287
Applicant:	Digital Security Controls Ltd. 3301 Langstaff Road Vaughn, Ontario L4K 4L2
Equipment Under Test: (E.U.T.)	NT9010-433 & PNT9010-433 Receiver
FCC ID:	**F5300NB9001**
In Accordance With:	**FCC Part 15, Subpart B** Radio Receivers
Tested By:	KTL Ottawa Inc. 3325 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	
	R. Grant, Wireless Group Manager
Date:	
Total Number of Pages:	16

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Section 1. Summary of Test Results

General:

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15, Subpart B. Measurement procedure ANSI C63.4-1992 was used for all tests. Radiated Emissions were measured on an open area test site.

☒	New Submission	☒	Production Unit
☐	Class II Permissive Change	☐	Pre-Production Unit

C	Y	Y	Equipment Code

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".

NVLAP LAB CODE: 100351-0

TESTED BY: _____ DATE: _____
Glen Westwell, Technologist

Summary Of Test Data

Name Of Test	Para. No.	Results
Radiated Emissions	15.109	Complies
Powerline Conducted Emissions	15.107	Complies

Footnotes For N/A's:

Test Conditions:

Indoor	Temperature:	24 °C
	Humidity:	20 %
Outdoor	Temperature:	5 °C
	Humidity:	30 %

Section 2. Equipment Under Test (E.U.T.)

Manufacturer:	Digital Security Controls Ltd.
Model No.:	NT9010-433
Serial No.:	None
Date Received In Laboratory:	February 24, 2000
KTL Identification No.:	Item #2

Equipment Details

Frequency Range:	433.92 MHz (Fixed)
Number of Channels:	1
Operating Frequency(ies) of Sample:	433.92 MHz
Crystal Frequency(ies):	Local Oscillator = 423.22 MHz
Primary Power Requirement:	120 VAC
Intermediate Frequency(ies):	10.7 MHz

Section 3. Radiated Emissions

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.109(a)
TESTED BY: Glen Westwell	DATE: February 25, 2000

Minimum Standard:

Frequency(MHz)	Field Strength (dBµV/m @ 3m)
30 - 88	40.0
88 - 216	43.5
216 - 960	46.0
Above 960	54.0

Test Results: Complies. The worst-case emission level is 41.5 dBµV/m @ 3m at 846.44 MHz. This is 4.5 dB below the specification limit.

Measurement Data: See attached table.

For super-regenerative receivers the receiver is cohered using a signal generator and dipole antenna.

Handheld equipment and equipment not designed to be mounted in any fixed orientation, the E.U.T. is tested in three orthogonal axis to obtain worst case results.

Test Data - Radiated Emissions

Test Distance (meters) :		Range:		Receiver:		RBW(kHz):		Detector:			
Freq. (MHz)	Ant. *	Pol. (V/H)	Ant. HGT. (m)	Table (deg.)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	Dist. Corr. (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
423.22	E/D4	V			10.1	25.7			35.8	46.0	10.2
423.22	E/D4	H			10.4	25.7			36.1	46.0	9.9
846.44	E/D4	V			5.3	34.3			39.6	46.0	6.4
846.44	E/D4	H			7.2	34.3			41.5	46.0	4.5

Notes:

B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole
* Re-measured using dipole antenna. ( ) Denotes failing emission level.

(1) 120 kHz, Q-Peak, (2) 10 kHz, Peak, (3) 100 kHz RGW, 300 kHz VBW, Peak,
(4) 300 kHz RBW, 1 MHz VBW, Peak, (5) 1 MHz RBW, 3 MHz VBW, Peak, (6) 1 MHz RBW, 10 Hz VBW, Peak

Spectrum searched to 2 GHz
No other emissions detected.

Radiated Photographs (Worst Case Configuration)

Front View

Rear View

Section 4. Powerline Conducted Emissions

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.107
TESTED BY: Glen Westwell	DATE: February 25, 2000

Minimum Standard: The RF energy feed back into the power lines shall not exceed 48 dBµV on any frequency between 0.45 MHz and 30 MHz inclusive.

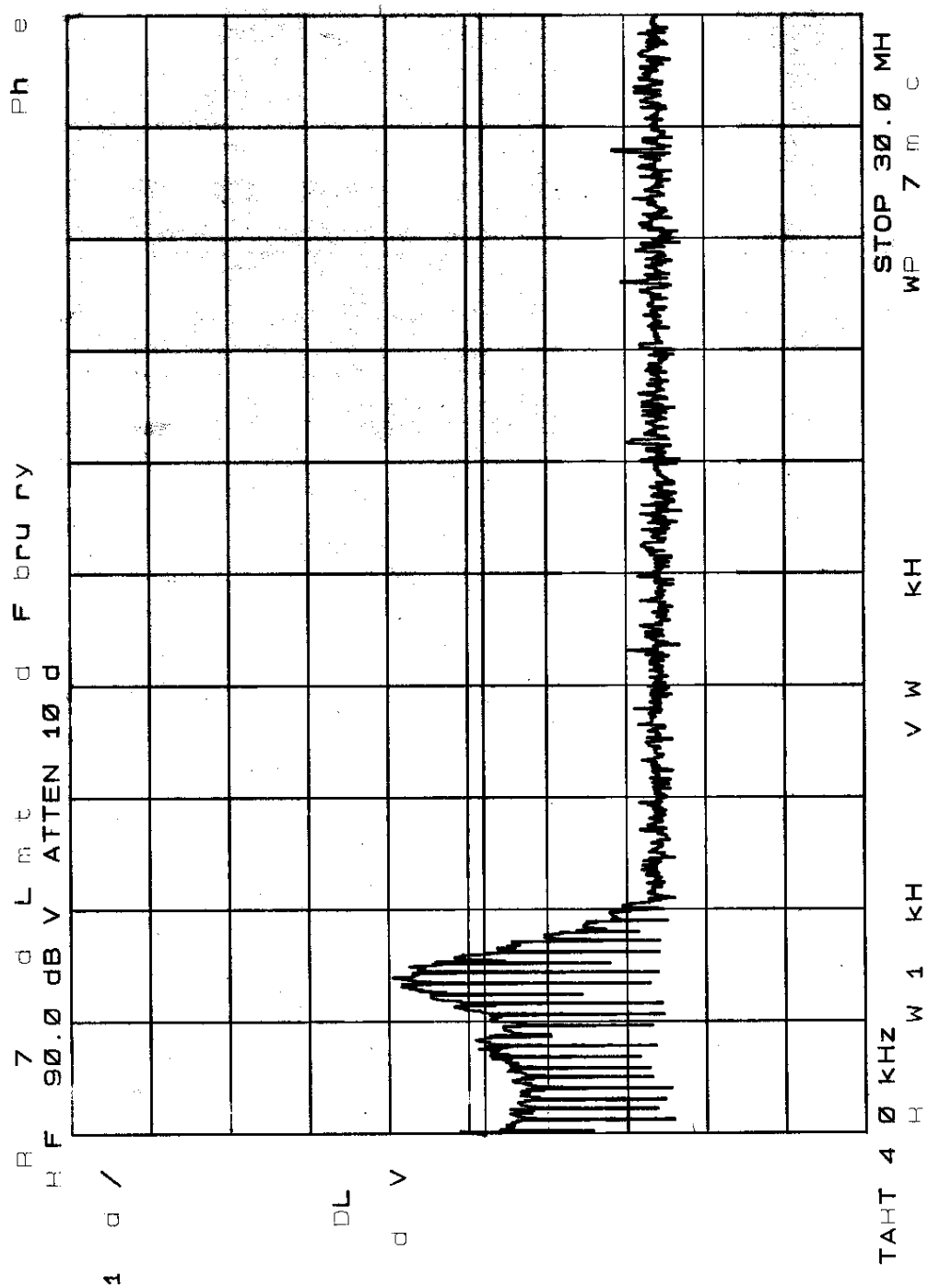
Test Results: Complies as per 15.107(d). See attached graphs.

Measurement Data: See attached graphs.

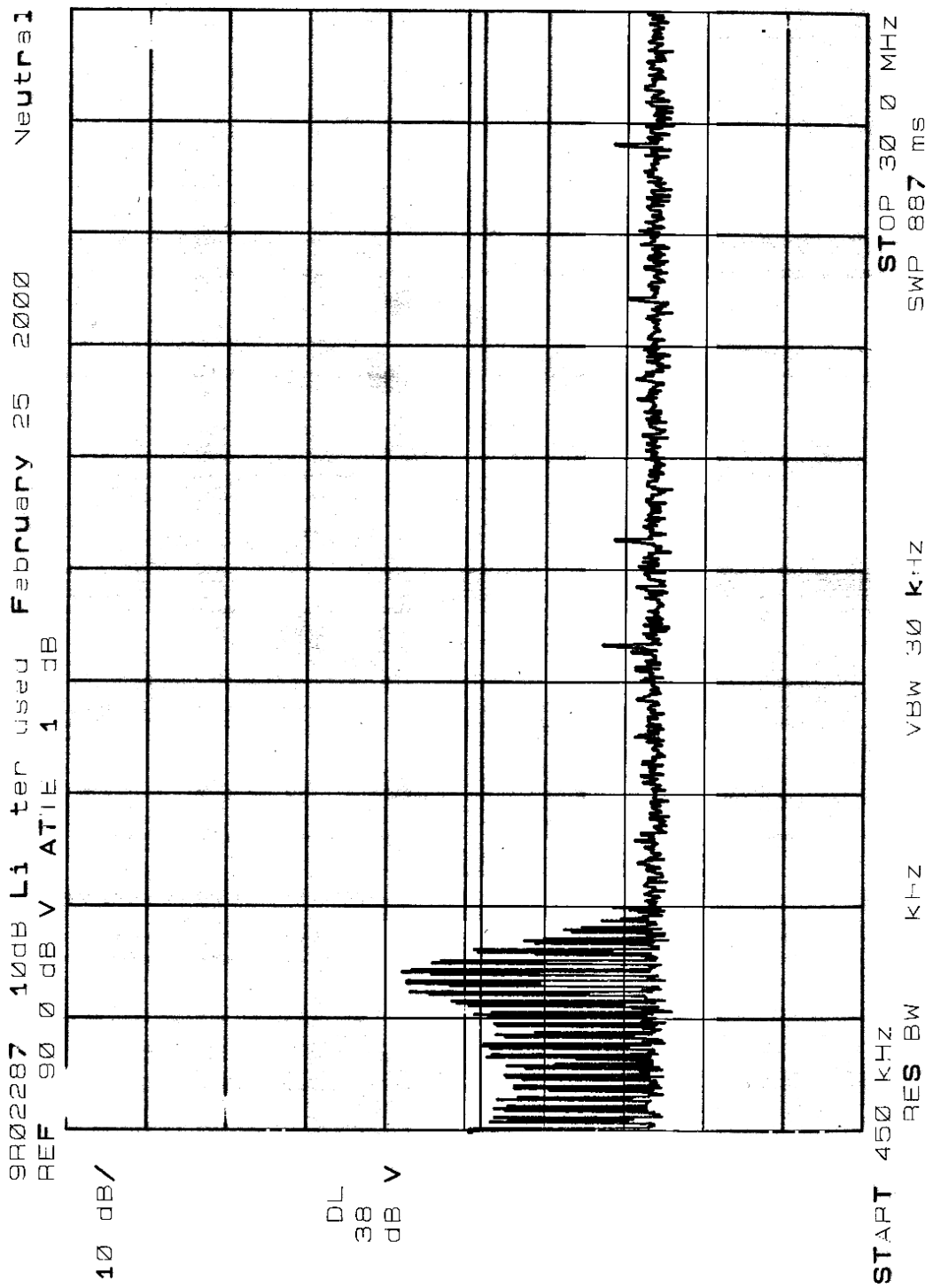
Measurement Data:

Conductor	Frequency (MHz)	CISPR (dBµV)	Average (dBµV)	BB/NB	BB Correction (dB)	Result (dBµV)
Neutral	4.65	51.8	20.0	BB	13	38.8
Neutral	4.41	52.0	20.3	BB	13	39.0
Neutral	4.35	52.1	20.6	BB	13	39.1
Neutral	4.11	49.8	19.3	BB	13	36.8
Neutral	2.46	40.7	14.3	BB	13	27.7
Neutral	2.16	49.2	13.6	BB	13	36.2
Neutral	1.93	38.1	12.3	BB	13	25.1
Neutral	1.51	38.3	12.3	BB	13	25.3
Phase	4.65	51.0	18.5	BB	13	38.0
Phase	4.41	51.3	19.2	BB	13	38.3
Phase	4.35	50.9	19.0	BB	13	37.9
Phase	4.11	48.6	18.2	BB	13	35.6
Phase	2.46	39.6	15.2	BB	13	26.6
Phase	2.16	38.4	12.6	BB	13	25.4
Phase	1.93	37.6	12.4	BB	13	24.6
Phase	1.51	37.6	12.4	BB	13	24.6

Phase



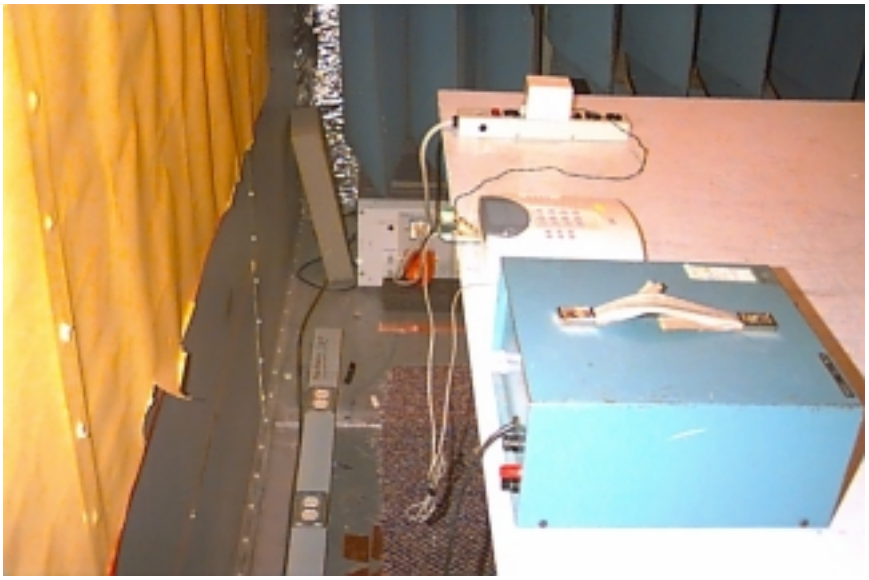
Neutral


9R02287 10dB Li ter used February 25 2000 Neutral
REF 90 0 dB V ATTE 1 dB
10 dB/
DL
38 dB V
START 450 kHz
RES BW kHz
VBW 30 kHz
STOP 30 0 MHz
SWP 887 ms

Powerline Conducted Photographs (Worst Case Configuration)

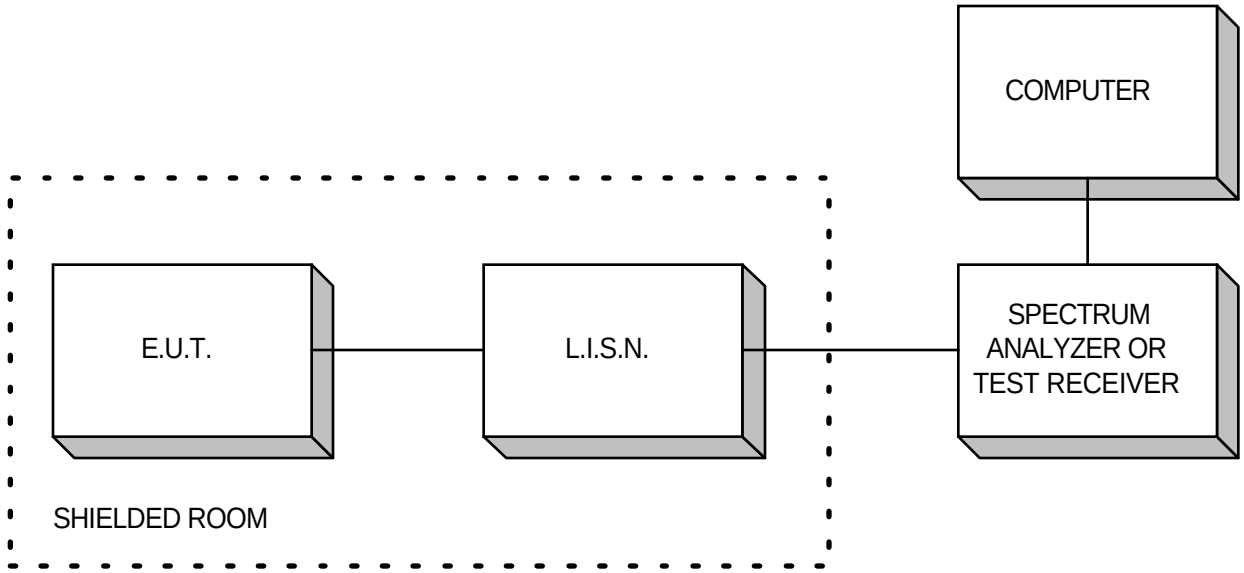
Front View

Rear View

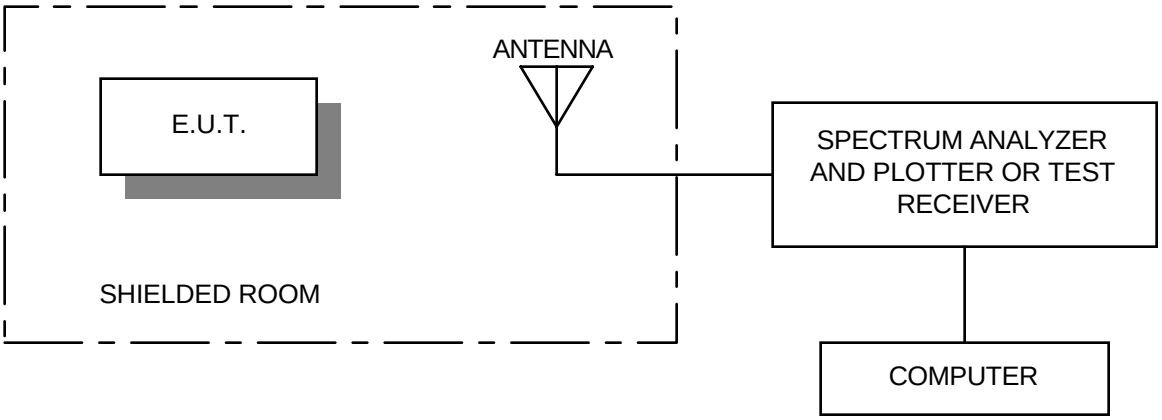


Section 5. Block Diagrams

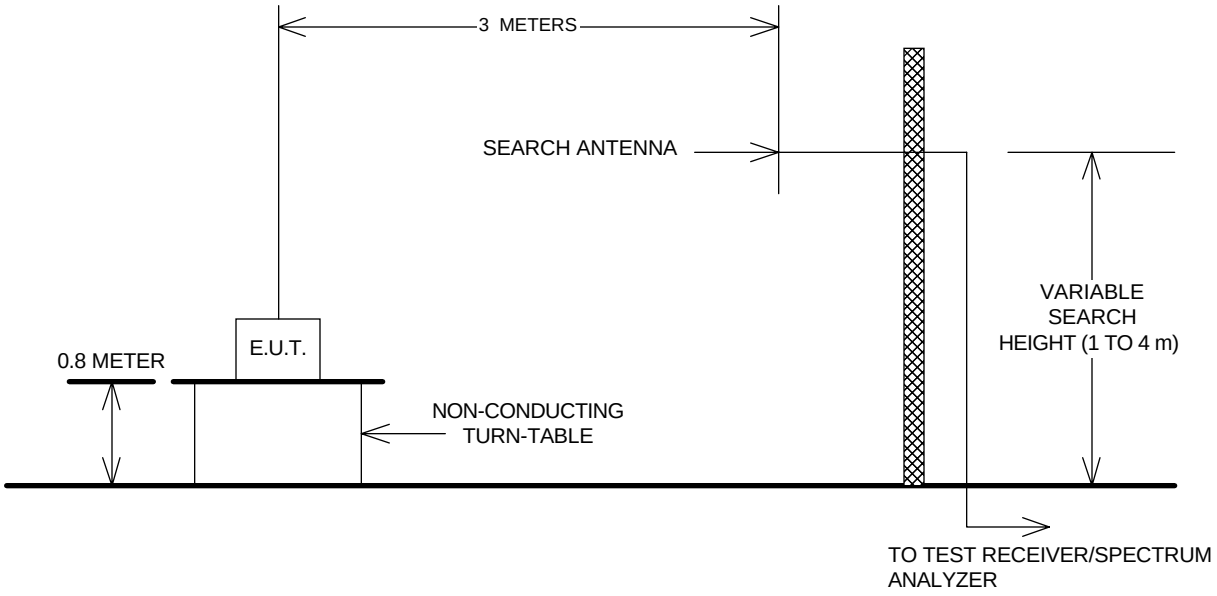
Conducted Emissions



Radiated Prescan



Outdoor Test Site For Radiated Emissions



The spectrum was searched up to the 10th harmonic of the fundamental frequency of operation.

Section 6. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8565E	FA000981	June 16/99	June 16/00
1 Year	Spectrum Analyzer-**1**	Hewlett Packard	8566B	2311A02238	Nov. 6/99	Nov. 6/00
1 Year	Spectrum Analyzer Display-**1**	Hewlett Packard	8566B	2314A04759	Nov. 6/99	Nov. 6/00
1 Year	Quasi-peak adapter-**1**	Hewlett-Packard	85650A	2043A00302	Nov. 11/99	Nov. 11/00
1 Year	LISN	Rohde & Schwarz	ESH2-Z5	890485/017	Aug. 24/99	Aug. 24/00
1 Year	Receiver	Rohde & Schwarz	ESVP	892661/014	Mar. 29/99	Mar. 29/00
1 Year	Horn Antenna	EMCO #2	3115	4336	Nov. 11/99	Nov. 11/00
1 Year	Dipole Antenna Set	EMCO #2	3121C	FA001349	Apr. 5/99	Apr. 5/00
1 Year	Biconical (1) Antenna	EMCO	3109	9204-2708	Aug. 4/99	Aug. 4/00

NA: Not Applicable
NCR: No Cal Required
COU: CAL On Use