To: Joel T. Schneider@EMC@PSNBL
From: OET <oetech@fccsun07w.fcc.gov>
Cc:
Subject: ... no subject ...
Attachment:
Date: 4/11/00 16:03 PM

To: Joel Schneider, TUV PRODUCT SERVICE INC
From: Joe Dichoso
jdichoso@fcc.gov
FCC Application Processing Branch

Re: FCC ID OV5-VCA10001
Applicant: John Deere Special Technologies
Correspondence Reference Number: 13411
731 Confirmation Number: EA96765
Date of Original E-Mail: 04/11/2000

The data and photo's submitted indicate testing with a whip antenna. However, since you have indicated that the antenna has changed to a cellular stub antenna. Provide appropriate data, photo's, ERP measurements etc... with the new antenna.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 60 days of the original e-mail date may result in application dismissal pursuant to Section 2.917 (c) and forfeiture of the filing fee pursuant to section 1.1108.

DO NOT reply to this e-mail by using the Reply button. In order for your response to be processed expeditiously, you must upload your response via the Internet at www.fcc.gov, Electronic Filing, OET Equipment Authorization Electronic Filing. If the response is submitted through Add Attachments, in order to expedite processing, a message which informs the processing staff that a new exhibit has been submitted must also be submitted via Submit Correspondence. Also, please note that partial responses increase processing time and should not be submitted.

Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender.

Radiated Electromagnetic Emissions

TÜV PRODUCT SERVICE

Test Report #:	**W0208 Run 03**	Test Area:	STS 3m
Test Method:	N/A	Test Date:	14-Apr-2000
EUT Model #:	VCA10001	EUT Power:	
EUT Serial #:		Temperature:	15 °C
Manufacturer:	Phoenix International	Relative Humidity:	45 %
EUT Description:		Air Pressure:	98.8 kPa
Notes:	12 VDC / 24 VDC	Page:	1 of 2
	SALT SHAKER ANTENNA TYPE		
	NORMAL CONTINUOUS TRANSMIT MODE		

FREQ (MHz)	LEVEL (dBuV)	CABLE / ANT / PREAMP (dB)	FINAL (dBuV/m)	POL / HGT / AZ (m) (DEG)	DELTA1 N/A	DELTA2 N/A
836 MHZ MAXED:						
RES BW AND VIDEO BW = 100 kHz:						
836.00	88.4 Pk	6.6 / 21.4 / 0.0	116.4	H / 2.6 / 281.0	N/A	N/A
836.00	95.7 Pk	6.6 / 21.4 / 0.0	123.8	V / 1.1 / 77.0	N/A	N/A
848.97	95.6 Pk	6.7 / 21.5 / 0.0	123.8	V / 1.1 / 193.0	N/A	N/A
848.97	83.4 Pk	6.7 / 21.5 / 0.0	111.6	V / 2.1 / 188.0	N/A	N/A
NOTE! THE SECOND MEASUREMENT AT 848 MHZ IS WITH A HORIZONTAL ANTENNA POLARIZATION - MAXIMIZED.						
824.03	91.4 Pk	6.6 / 21.4 / 0.0	119.4	H / 1.3 / 101.0	N/A	N/A
824.03	96.9 Pk	6.6 / 21.4 / 0.0	124.9	V / 1.2 / 187.0	N/A	N/A
MAXIMIZED 1648 MHZ.						
1648.14	34.4 Pk	10.5 / 25.5 / 0.0	70.4	V / 1.2 / 187.0	N/A	N/A
1648.14	28.2 Pk	10.5 / 25.5 / 0.0	64.3	H / 1.2 / 187.0	N/A	N/A

Tested by: J. C. Sausen _____
Printed Signature

Reviewed by: _____ _____
Printed Signature

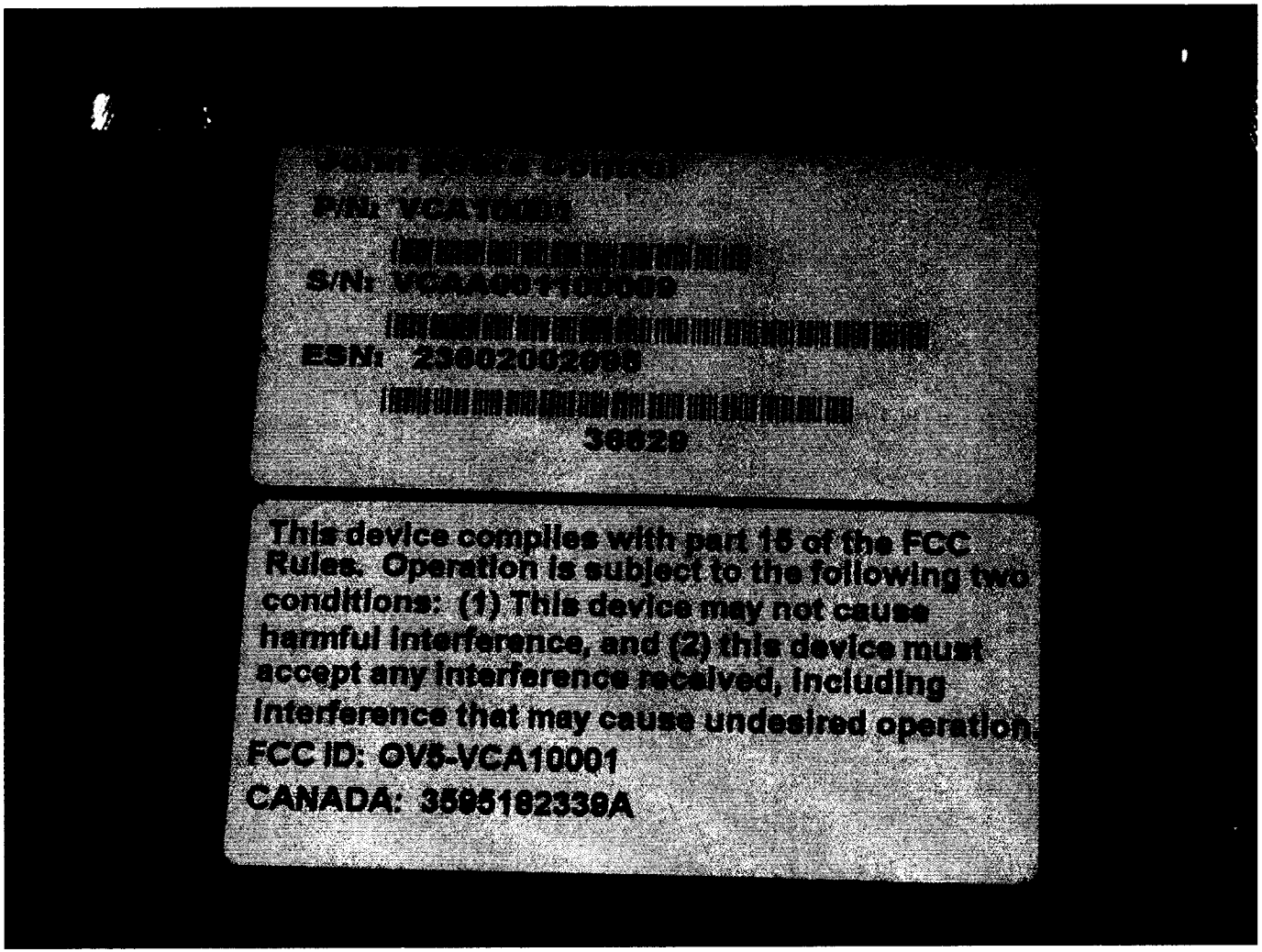
Susan, please change the emission designator to 7k4f1d. Attach occupied bw measurements from Bill Crook, along with graphs, and paper graph with emission mask drawn on it. Include new pictures of test setups from W0208. Include data sheets for W0208 Run 3.

This explanation needs to go in the Radiation Exposure folder.

1. 630 mW is the erp measured by using the substitution method. Initially we maximized the field strength from the transmitter to be 127.1 dBuV/m with the test antenna (biconicalog) 3 meters away. We removed the transmitter, and replaced it with a half-wave dipole antenna tuned to 836 MHz. The output of the signal generator into the dipole necessary to match the 127.1 dBuV/m level is what produced the 630 mW level. This would be below the 1.5 W requirement for device operating below 1.5 GHz. This corresponded to the manufacturer's designed for level. Using TP=(FSxD)squared/30G, it does produce answer of 940 mW, assuming antenna gain of 1.64. The substitution value would indicate the antenna gain to be 2.44. In either case the ERP is less than 1.5 W, which would categorically exclude device from routine MPE evaluation, and for a grant level I feel more confident in the substitution measured value than the calculated using assumed antenna gain.

2. We retested with the EUT configured with the stub antenna, and by the substitution method measured an ERP of 160 mW. The calculated value using TP=(FSxD)squared/30G, assuming antenna gain of 1.64, would be 440 mW. In any case, the 1.5 W limit is not exceeded. The worst case scenario would be 630 mW (measured maximum rf output) x 2 (3 dB antenna gain), or 1.26 W, which is also below the 1.5 W level.

3. The revised manual indicates installation that provides for 20 cm separation from operator and indicates use of any other antenna than one provided may cause non-compliance to FCC requirements.


P/N: VCA10001
S/N:
ESN:
36029
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
FCC ID: OV5-VCA10001
CANADA: 3595182339A