APPLICANT	Manufacturer
Minorplanet Systems PLC Shaweld House Benson Street Leeds, United Kingdom LS7 1BL	Minorplanet Systems PLC Shaweld House Benson Street Leeds, United Kingdom LS7 1BL

TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C

TEST PROCEDURE: FCC 15.249(a)

TEST SAMPLE DESCRIPTION

BRANDNAME: Minorplanet Systems PLC

MODEL: AEMB100 FCC ID: QDAAEMB100

TYPE: Pulse Modulated Transmitter

FREQUENCY RANGE: 902.75 MHz

POWER REQUIREMENTS: 12 VDC

TESTS PERFORMED

- 15.209(c) Radiated Emissions, Spurious Case
- 15.249(a) Radiated Emissions, Fundamental and Harmonics
- 15.249(c) Occupied Bandwidth
- 15.35(a) Duty Cycle Determination

REPORT OF MEASUREMENTS

Applicant:	Minorplanet Systems PLC
Device:	Pulsed RF Transmitter
FCC ID:	QDAAEMB100
Power Requirements:	12 VDC
Applicable Rule Section:	Part 15, Subpart C, Section 15.249

TEST RESULTS

15.209(a): Field strength of emissions from the intentional radiator operating in the 902 MHz to 928 MHz GHz frequency band did not exceed 50 mV/m quasi-peak for the fundamental and 500 uV/m average for harmonics.

15.249(b): Field strength readings were recorded at a distance of three meters from the Intentional Radiator unless otherwise specified.

15.249(c): Emissions radiated outside the specified frequency band except for harmonics, were attenuated by at least 50dB or to the emissions limits of 15.209, whichever was the lesser attenuation.

15.249(d): All measurements were taken utilizing a peak detector. The peak field strength did not exceed the average limits under any condition of modulation.

Duty Cycle Information:

The EUT has on time of 37 mSec (worst case) in any 100 mSec period. This yields a duty cycle of 37% or a duty cycle factor of -8.6dB. See also attached plots named dutycycle.pdf.

SPECTRUM ANALYZER DESENSITIZATION CONSIDERATIONS

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements. The following formula was utilized:

Setting pulse desensitization equal to zero and utilizing the minimum observed pulse width of 37 mSec yields a minimum required bandwidth of 18 Hz. FCC specified bandwidths of 100kHz and 1MHz were utilized below and above 1GHz, respectively.

GENERAL NOTES

1. All user accessible controls were adjusted to produce maximum emissions.

2. The unit operates in the band of 902 MHz to 928 MHz GHz band at a single frequency of 902.75 MHz.

3. The frequency range was scanned from 30 MHz to 9.1 GHz. All emissions not reported were more than 10dB below the specified limit.

EXHIBIT 4

Radiated Emissions, Spurious Case

Para. 15.249(c)

(Please see separate e-file attachment named RESpur.pdf)

EXHIBIT 4

Radiated Emissions, Fundamental & Harmonic

Para. 15.249(a)

(Please see separate e-file attachment named REfundharm.pdf)

EXHIBIT 4

Occupied Bandwidth

Para. 15.249(c)

(Please see separate e-file attachment named OccBw.pdf)

EXHIBIT 4

Duty Cycle Determination

Para. 15.35

(Please see separate e-file attachment named dutycycle.pdf)

EQUIPMENT LIST

FCC 15.249 Compliance Testing

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3 Meter	RNY	9/20/00	9/20/03
128	Double Ridged Guide	Electro-Mechanics	1 GHz - 18 GHz	3105	6/7/02	6/7/03
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/11/02	6/11/03
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	7/17/02	1/17/03
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	3/5/02	3/5/03
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	7/16/02	1/16/03
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/11/02	6/11/03
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	7/11/02	7/11/03
767	Biconilog	EMCO	26 - 2000 MHz	3142B	8/28/01	8/28/02

Test Setup Photograph