

Reply® Transmitter Model TX216SYN
FCC ID: FBR-TX216SYN-2

Test Report Introduction

The Fleetwood Model TX216SYN Transmitter was designed to operate under Part 90.259. Because of its low output power (less than 120 milliwatts) it is exempt from some of the Part 90 requirements according to 90.217. However, the full testing is still required to document its performance. The majority of the tests were performed by D.L.S. Electronic Systems. The D.L.S. Test Report consists of 70 pages and identifies at the appropriate locations the tests that were not performed by D.L.S. They are as follows:

Section 7.0 Modulation Characteristics Part 2.1047

The modulation characteristics are discussed in more complete detail in the operational description. The Model TX216SYN transmitter operates with Frequency Shift Keyed (FSK) binary data with +/- 10 KHz nominal deviation. It is modulated from a signal provided by a crystal controlled microprocessor part of Model CRS920, separately compliance tested for its digital circuits. Because there are no audio circuits, there is no audio response characteristic because the modulating signal can only vary between 0 and 5 volts. However, to demonstrate the modulation characteristics of the transmitter, tests at modulation levels of 0, 1/3, 2/3 and full levels were made and the appropriate plots are included in the D.L.S. test report and modulation waveforms are shown in the section "Operational Description."

Section 12.0 Frequency Stability (Temperature) Part 2.1055a

Included in this section are the results of the tests performed at Fleetwood Group Inc. demonstrating the performance of the transmitter with variation in temperature.

Section 13.0 Frequency Stability (Supply) Part 2.1055d

Included in this section are the results of the tests performed at Fleetwood Group Inc. demonstrating the performance of the transmitter with variation in supply voltage.

Conclusion:

The results of the Fleetwood Group Inc. tests and the D.L.S. Electronics show that the Model TX216SYN transmitter meets the interference emission requirements of the FCC Part 90.

TEST ITEM: FBR-TX216SYN-2

MODEL: TX216SYN

COMPANY: Fleetwood Group Inc.

TESTS PERFORMED BY: Bruce Kamps

DATE: 10-22-99

TEST DESCRIPTION: Frequency stability with temperature variation Part 2.1055a

TEST EQUIPMENT:

Thermatron temperature chamber model S-1.2C-B, Serial no. 286/25-1655-08RF
Optoelectronics frequency counter model 3000A Plus

PROCEDURE DESCRIPTION:

The transmitter was tested at temperatures ranging from -30 to +50 degrees Celsius at 10 degree intervals. A frequency reading was taken after the transmitter had stabilized at each temperature level.

TEST RESULTS

TEMP CENT	FREQUENCY (MHZ)	CHANGE (MHZ)	% CHANGE	PPM
-30	216.0149	-0.0018	-0.0008	-8.3
-20	216.0154	-0.0023	-0.0011	-10.6
-10	216.0154	-0.0023	-0.0011	-10.6
0	216.0145	-0.0014	-0.0006	-6.5
10	216.0142	-0.0011	-0.0005	-5.1
20	216.0131	0.0000	0.0000	0.0
30	216.0121	0.0010	0.0005	4.6
40	216.0109	0.0022	0.0010	10.2
50	216.0098	0.0033	0.0015	15.3

TEST ITEM: FBR-TX216SYN-2

MODEL: TX216SYN

COMPANY: Fleetwood Group Inc.

TESTS PERFORMED BY: Bruce Kamps

DATE: 11-4-99

TEST DESCRIPTION: Frequency stability with line voltage variation Part 2.1055d

TEST EQUIPMENT:

Daton Adjust-A-Volt Variac
Optoelectronics frequency counter Model 3000A Plus
Fluke model 79 series II digital multimeter

PROCEDURE DESCRIPTION:

The transmitter was tested at line voltages ranging from 85% to 115% of nominal (115 volts AC) at 5% intervals. A frequency reading was taken at each voltage level.

TEST RESULTS

LINE %	VOLTS AC LINE	FREQUENCY (MHZ)	CHANGE (MHZ)	PPM
85	97.8	216.01175	0.00000	0.0
90	103.5	216.01175	0.00000	0.0
95	109.3	216.01175	0.00000	0.0
100	115.0	216.01175	0.00000	0.0
105	120.8	216.01175	0.00000	0.0
110	126.5	216.01175	0.00000	0.0
115	132.3	216.01175	0.00000	0.0