

Test Report

TEST PROCEDURES AND TEST SITE DESCRIPTION

DATE: 6-16-2003

DESCRIPTION: 27MHz CB transceiver

UNI-NO.: UT-344C

FCC ID: AMWUT344C

MODEL: PC68LTW

Emission Type: 6K00A3E

Frequency Range: 26.965 - 27.405MHz (40 CH)

Operating Power: 4 Watts

NOTE: Some of Test Data are omitted due to final power transistor change.

MEASUREMENT ITEMS

Section No.

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1. RF Output Power & DC Voltage & Current into Final Amplifying Device 2.1046
2.1033(C)(8)

a) RF Power Output

The unit was tuned-up in accordance with the alignment procedure, and was loaded into a 50-ohm resistive termination. Unmodulated RF output power of the unit was measured by RF power meter.

FCC limits: 4 Watts

Test Results: Refer to TEST DATA.

b) DC Voltage & Current into Final Amplifying Device

To measure the DC Voltage and Current into Final Amplifying Device, the measuring equipment were connected to the actual P.C.Board of the unit.

Test Results: Refer to TEST DATA.

2. Modulation Characteristics (Audio Frequency Response) 2.1047

An audio signal generator was connected to the microphone input circuit of the unit. An audio signal was supplied to obtain 50% modulation at the maximum audio frequency response of the unit, and this point was taken as the 0 dB reference level. The modulating frequency was varied from 100 Hz to 10 kHz and the level necessary to maintain a constant 50% modulation was recorded.

Test Results: Test data is omitted due to final power transistor change.

3. Modulation Characteristics (Modulation Limiting) 2.1047

Means for applying audio signal is as per the Measurement Procedure for Audio Frequency Response. With modulation frequencies of 400, 1000 and 2500 Hz respectively, the modulation response was measured up to the maximum modulation for each audio signal respectively. The modulation percentage was read on the wave form which is displayed on the oscilloscope.

Test Results: Test data is omitted due to final power transistor change.

4. Modulation Characteristics (Transient Response) 2.1047

The unit was modulated with a 2500 Hz tone at an input level 16dB greater than that required 50% modulation. And this signal was pulsed, without switching transients, at approximately one pulse per sec. and with a pulse length of approx. 1/2 sec. This tone burst signal was generated with the function generator.

The spectrum analyzer was tuned to the desired channel and set for the measurement as in the case of measuring the Occupied Bandwidth. Then, the spectrum analyzer was tuned to either of the two channels, adjacent (+/- 10 kHz) to the desired channel, then the spectrum analyzer was set to the time domain and modulation transient was observed.

FCC limits: The transient response not attenuated at a level of at least 33 dB with respect to the unmodulated carrier level was measured.

Test Results: Refer to TEST DATA.

5. Occupied Bandwidth 2.1049

The spectrum of the modulated carrier was monitored by a panoramic method capable of 60dB amplitude range. The unit was modulated with a 2500 Hz audio signal at an input level 16dB above that required for 50% of maximum system deviation.

FCC limits: a) -25dB (50 - 100% of assigned frequency)
b) -35dB (100 - 250% of assigned frequency)
c) -60dB (more than 250% of assigned frequency)

Test Results: Refer to TEST DATA.

6. Spurious & Harmonic Emission at Antenna Terminal 2.1051

The unit was modulated with a 2500 Hz tone at an input level 16dB greater than that required 50% modulation. The spectrum was scanned from the lowest frequency generated in the unit to the tenth harmonic of the carrier.

FCC limits: -60 dB
Test Results: Refer to TEST DATA.

7. Field Strength of Spurious & Harmonic Radiation

2.1053

Measurement Procedure & Test Site Description:

Field strength measurement of radiated spurious emissions were made on a 3 meter range maintained by Uniden Corporation in Japan. Complete description and measurement data of this test site have been placed on file with the Commission. The equipment was scanned for radiated emissions in a scheduled enclosure prior to open field testing.

For each spurious or harmonic frequency, the antenna was raised and lowered to obtain a maximum reading on the Spectrum Analyzer with antenna horizontally polarized. Then the turntable, on which the equipment under test was placed, was rotated a minimum of 360 degree to further increase the reading on the Spectrum Analyzer. This procedure was repeated with the antenna vertically polarized.

Test Condition:

The equipment was placed in its normal operating position on a turntable approximately 1 meter in height, with a normal power lead and microphone attached. The non-radiative dummy load was directly connected to the output terminal. The power lead was extended approximately vertically down to an external power supply located below the center of the turntable and as near to the floor of the test area as possible. Excess power lead was handled near the power supply terminals. The microphone cable was extended vertically to the maximum length of the lead above the point where its connector was attached to the equipment.

FCC limits: -60 dB

Test Results: Refer to TEST DATA.

8. Frequency Stability (Frequency vs. Temperature)

2.1055

Frequency measurements are made at 10 deg. C intervals starting at -30 deg. C and ending +50 deg. C allowing at least two hours at each temperature for stabilization.

Before the measurement, the unit is operated in the transmitting condition for 10 second after 15 minutes in standby condition.

Measurement data showing variation in transmitter output frequency from a start and elapsed time necessary for the frequency to stabilize are made at each temperature level.

FCC limits: +/-0.005%

Test Results: Test data is omitted due to final power transistor change.

9. Frequency Stability (Frequency vs. Voltage) 2.1055

Frequency measurement was performed at the extremes of throughout the range 85% and 115% of the nominal voltage.

The frequency of the unit was measured by extracting a sample of the carrier and measuring its center frequency by equipment having a degree accuracy at least 10 times that of the minimum to be measured.

FCC limits: +/-0.005%

Test Results: Test data is omitted due to final power transistor change.

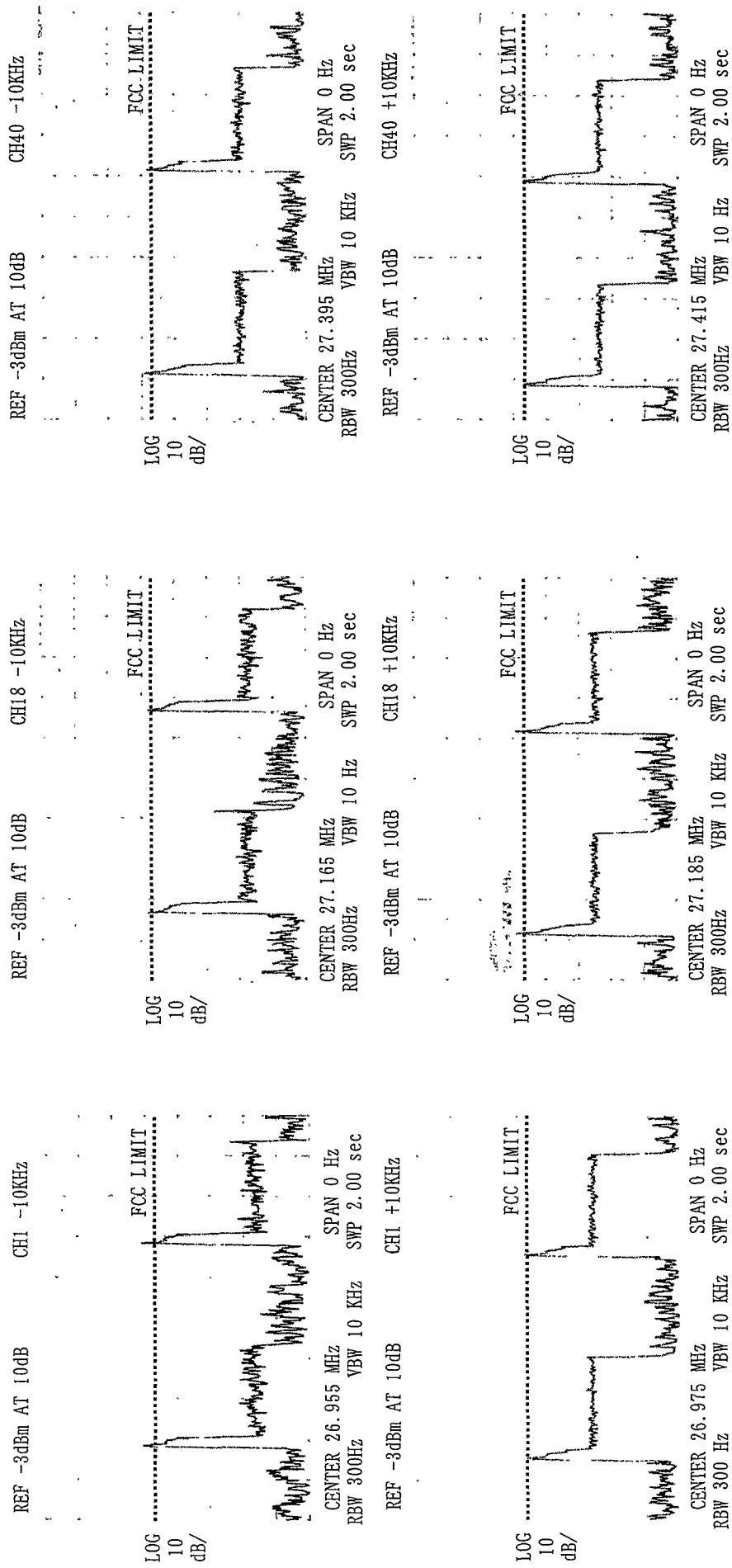
1. RF Output Power & DC Voltage and Current into
Final Amplifying Device

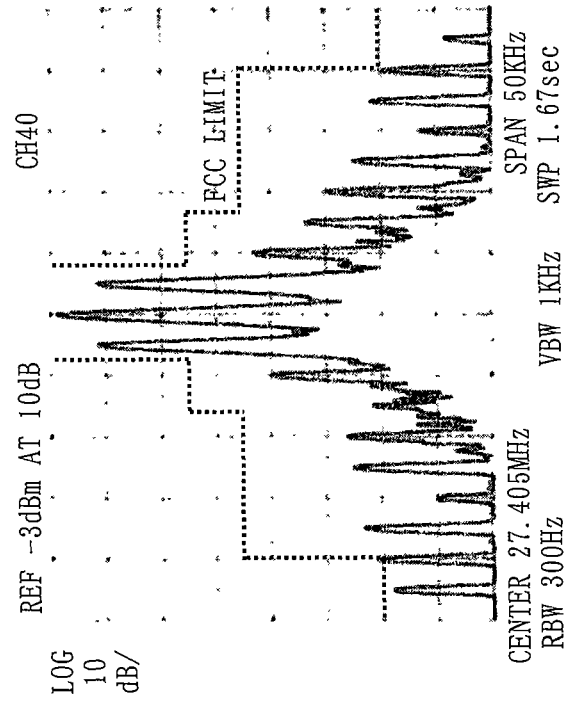
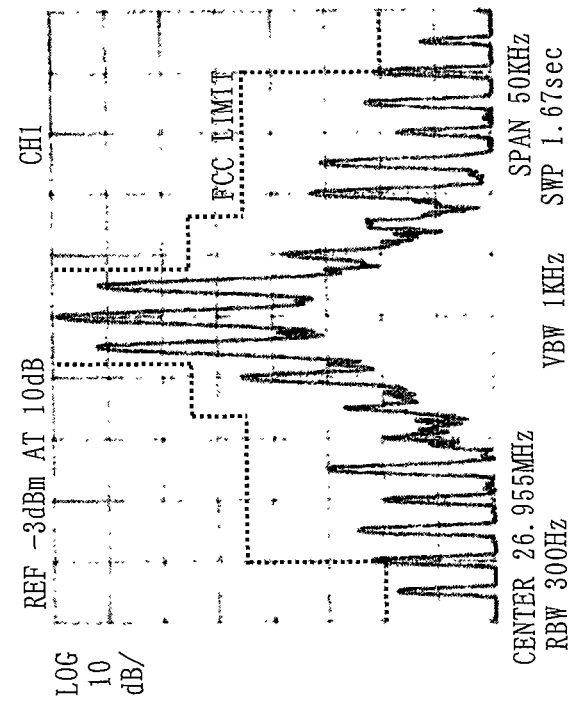
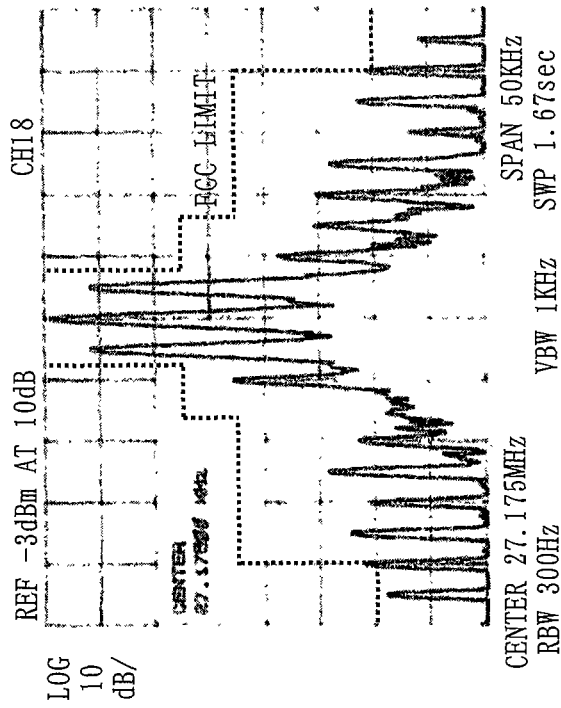
1-1 RF OUTPUT POWER

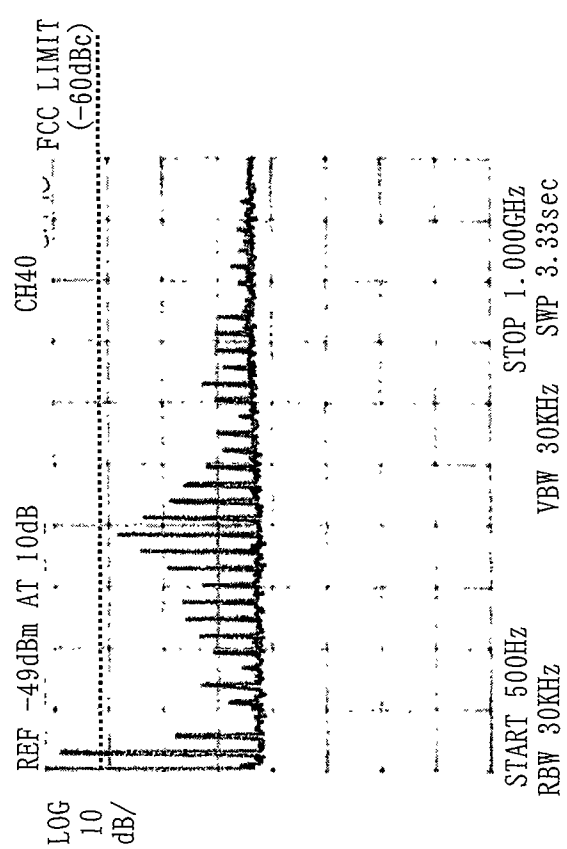
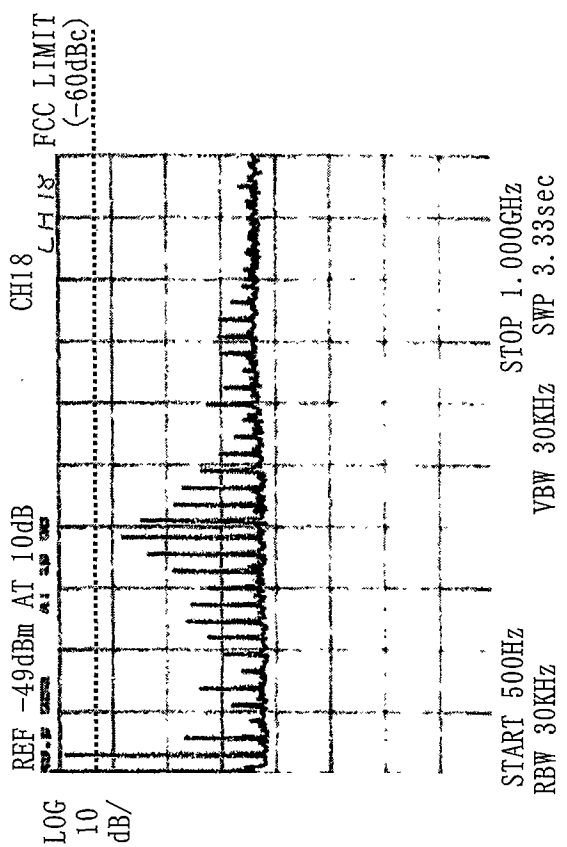
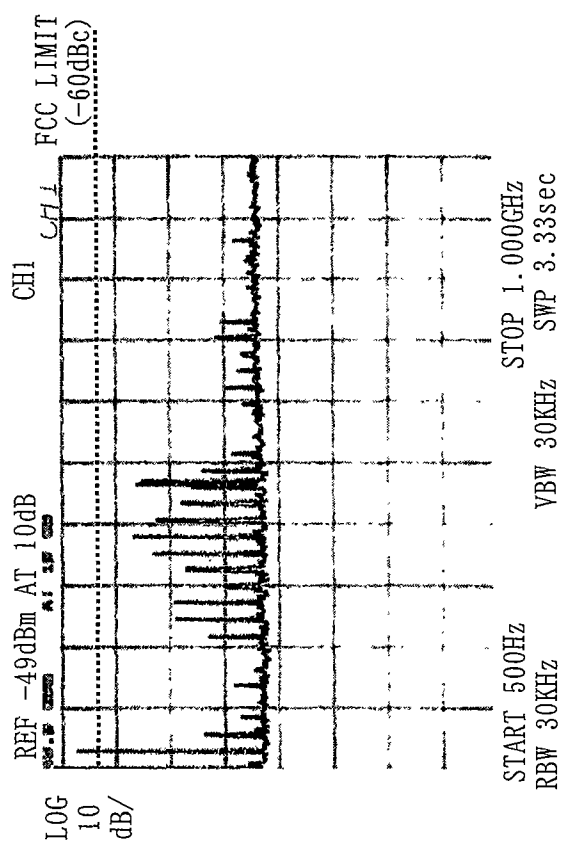
MEASURED FREQUENCY	OUTPUT POWER
26.965 MHz (CH 1)	3.98 Watts
27.175 MHz (CH 18)	3.93 Watts
27.405 MHz (CH 40)	3.85 Watts

1-2 DC VOLTAGE & CURRENT INTO FINAL AMPLIFYING DEVICE

MEASURED FREQUENCY	OUTPUT POWER	TX FINAL TRANSISTOR	
		COLLECTOR VOLTAGE	COLLECTOR CURRENT
26.965 MHz (CH 1)	3.98 Watts	11.9 V	0.69A
27.175 MHz (CH 18)	3.93 Watts	11.9 V	0.69A
27.405 MHz (CH 40)	3.85 Watts	11.9 V	0.69A







7. FIELD STRENGTH OF SPURIOUS/HARMONIC RADIATION

2.1053

CH-19: 27.185 MHz

EMISSIONS (MHz)	ATTENUATION (dB)	FCC LIMIT (dB)	MARGIN (dB)
54.370	-	-60	--
81.555	-77.0	-60	17.0
108.740	-	-60	--
135.925	-71.0	-60	11.0
163.110	-70.0	-60	10.0
190.295	-75.0	-60	15.0
217.480	-74.0	-60	14.0
244.665	-70.0	-60	10.0
271.850	-74.0	-60	14.0
299.035	-72.0	-60	12.0
326.220	-78.0	-60	18.0
353.405	-75.0	-60	15.0
380.590	-63.4	-60	3.4
407.775	-64.5	-60	4.5
434.960	-72.5	-60	12.5
462.145	-72.0	-60	12.0
489.330	-74.0	-60	14.0
516.515	-78.0	-60	18.0
543.700	-77.0	-60	17.0
570.885	-77.0	-60	17.0
598.070	-75.0	-60	15.0

Note: All spurious emissions note reported were attenuated
by at least 80 dB below the FCC limit.

