

**EXHIBIT E: REPORT OF MEASUREMENTS [2.1033(B6)]****Test Report for FCC ID: FBRIQK1000-9XX**  
**FCC Part 2.1031, Part 15 Subpart C(15.249)****Report #0200585KF**  
**Issued 02/07/03****TRANSCEIVER MODEL IQK1000**

Prepared for:

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Holland, MI 49422-1259Test Date(s): December 18,19,20, 2002, January 10,17,27, 2003

data recorded by

Ted Chaffee, NCE

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This report prepared by:

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## Statements Concerning this Report

### **NVLAP Accreditation: NVLAP Lab Code 200129-0**

The scope of AHD accreditation is the conducted emissions, radiated emissions test methods of:  
IEC/CISPR 22: Limits and methods measurement of radio disturbance characteristics of information technology equipment.

FCC Method – 47 CFT Part 15 – Digital Devices.

AS/NZS 3548: Electromagnetic Interference – Limits and Methods of Measurement of Information Technology Equipment.

IEC61000-4-2 and Amend.1: ElectroStatic Discharge Immunity

### **Test Data:**

This test report contains data covered by the NVLAP accreditation.

### **Subcontracted Testing:**

This report contains data recorded at the University of Michigan Radiation Laboratory. The University of Michigan test facility is located at 8501 Beck Road, Belleville, Michigan 48111. This test facility has been fully described and accepted by the FCC and Industry Canada. This facility was utilized to measure emissions occurring at frequencies greater than 6GHz.

### **Test Traceability:**

The calibration of all measuring and test equipment and the measured data using this equipment are traceable to the National Institute for Standards and Technology (NIST).

### **Limitations on results:**

The test results contained in this report relate only to the Item(s) tested. Any electrical or mechanical modification made to the test item subsequent to the test date shall invalidate the data presented in this report. Any electrical or mechanical modification made to the test item subsequent to this test date shall require an evaluation to verify continued compliance.

### **Limitations on copying:**

This report shall not be reproduced, except in full, without the written approval of AHD.

### **Limitations of the report:**

This report shall not be used to claim product endorsement by NVLAP, FCC, or any agency of the US Government.

**Statement of Test Results Uncertainty:** Following the guidelines of NAMAS publication NIS81 and NIST Technical Note 1297, the Measurement Uncertainty at a 95% confidence level is determined to be:  $\pm 1.4$  dB

**Manufacturer/Applicant [2.1033(b1)]**

The manufacturer and applicant:

FLEETWOOD GROUP Inc.  
P.O. Box 1259  
Holland, Michigan 49422-1259

**Measurement/Test Site Facility & Equipment****Test Site [2.948, 2.1033(b6)]****SITE 1.**

The AHD test facility is centered on 9 acres of rural property near Sister Lakes, Michigan. The mailing address is 92723 M-152, Dowagiac, Michigan 49047. This test facility is NVLAP accredited (LabCode 200129-0). It has been fully described in a report filed with the FCC and Industry Canada. The original report filed with the FCC is, dated November 5, 1996, was accepted by the FCC in a letter dated January 15, 1997 and reconfirmed July 14, 2000, (31040/SIT 1300F2). The original report filed with Industry Canada, dated August 11, 1998, was accepted via a letter dated September 1, 1998, (file:IC3161).

**SITE 2.**

The University of Michigan test facility is located at 8501 Beck Road, Belleville, Michigan 48111. This test facility has been fully described and accepted by the FCC and Industry Canada. This facility was utilized to measure emissions occurring at frequencies greater than 6GHz.

**Measurement Equipment Used [2.947(d), 15.31(b)]****SITE 1.**

Equipment Calibration	Model	S/N	Last Cal	Date	Interval
HP EMI Receiver system	HP 8546A				
RF Filter Section	HP-85460A	3448A00283	24-Aug-02	12 month	
RF Receiver Section	HP-85462A	3625A00342	24-Aug-02	12 month	
EMCO BiconiLog Antenna	3142	1077	24-Aug-02	12 months	
(3-M) Type 129FF Ultra Flex LowLoss	RG58/U	9910-12	16-Sep-02	6 months	
(3-M) LMR-400 Ultra Flex	LMR400	9812-11	16-Sep-02	6 months	
(10-M) Amelco 50ohm Coax	RG213/U	9903-10ab	16-Sep-02	6 months	
50ohm Coax	RG223/U	9802302	16-Sep-02	12 months	
Double Ridged Horn	ONO91202-2	A00329	17-Apr-01	36 months	

**SITE 2.**

Equipment Calibration	Model	S/N	Last Cal	Date	Interval
C-Band Std. Gain Horn	UM NRL design				calibration by design
XN-Band Std. Gain Horn	UM NRL design				calibration by design
X-Band Std. Gain Horn	SA 12-8.2	730			calibration by design
Avantek RF amplifier	AFT-12665			Apr-02	12 months
3ft LowLoss coax	RG142	-			with Avantek amp
Spectrum Analyzer	HP 8593E	3412A01131	04-Apr-02		12 months

## Measurement Environment

The tests were performed with the equipment under test, and measurement equipment inside the all-weather enclosure. Ambient temperature was 22deg.C., the relative humidity 35%.

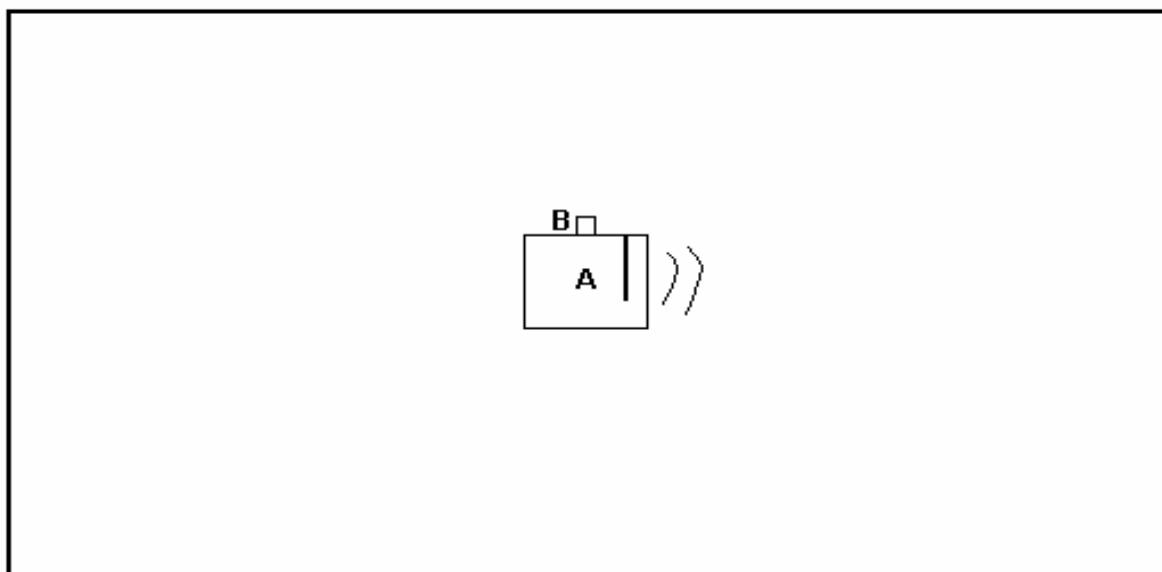
## Tested Configuration /Setup: [2.1033(b8)]

### Support Equipment & Cabling

Setup Diagram Legend	Description	Model	Serial No. / Part No.	EMC Consideration
A	[EUT] Reply IQ Keypad Transceiver	[Fleetwood Group] IQK1000	preproduction	FCC ID: FBRIQK1000-9XX
B	Reply IQ Feature Module	[Fleetwood Group] -	Eng unit	Plugged into front of unit

### Setup Diagram

Note: Setup photographs are located in Attached Electronic File, Exhibit E.



setup\_1a1a

BASIC EUT SETUP  
(Legend designation is above)

**Summary of Results:**

1. This test series evaluated the Equipment Under Test to FCC Part 15, SubPart C.
2. The system tested is compliant to the requirement of CFR 47, FCC Part 15, SubPart C for operation in the 902-928MHz frequency band, ( Part 15.249 ).
3. The equipment under test was received on December 18, 2002 and this test series commenced on December 18, 2002.
4. The line conducted emission testing does not apply to this product. The device is powered from three AA 1.5 volt batteries.
5. The frequencies selected for final evaluation include 902.5MHz, 915MHz, and 927.5MHz. This is in accordance with 47 CFR 15.31(m).
6. The Band Edge measurements: At the lower band edge (902MHz) the level measured was 42.5dBuV/m quasi-peak. At the upper band edge (928MHz) the level measured was 38.7dBuV/ quasi-peak. The FCC limit (15.209a) is 46dBuV/m. The margin at the band edge (902MHz) is 3.5dB.
7. The preliminary scan for spurious emissions conducted in a shielded room indicated very low level spurious signals.
8. In Transmit Mode, the spurious emission level nearest the limit occurred while transmitting at 902.5MHz. This emission, at 907.9MHz, was measured to be 35.6dBuV/m Quasi-Peak which is 10.4dB below the limit of 46dBuV/m (200uV/m). The EUT was in 'flat' position and the receive antenna was horizontally polarized.
9. In Receive Mode, the spurious emission level nearest the limit occurred while set to 915MHz. This emission, at 837MHz, was measured to be 31.4dBuV/m Quasi-Peak which is 14.6dB below the limit of 46dBuV/m (200uV/m). The EUT was in 'side' position and the receive antenna was horizontally polarized.
10. The field strength level of the fundamental was measured for 902.5MHz, 915MHz, and 927.5MHz. The evaluation showed the emission nearest the limit occurred while operating at 915MHz. The EUT was positioned on the 'flat' and the receive antenna oriented in the horizontal polarization. This signal was measured with a Peak detection and observed to be 0.2dB below the quasi-peak limit of 94dBuV/m (50,000uV/m).
11. The evaluation of the field strength levels of the transmitter harmonics showed the emission nearest the limit occurred while operating at 927.5MHz. The EUT was configured in the 'side' position, and the receive antenna oriented in the horizontal polarization. This signal, at 2.782GHz, was measured to be 19.0dB below the average limit of 54dBuV/m (500uV/m).

[continued next page]

12. The field strength level of the Local Oscillator was measured for 902.5MHz, 915MHz, and 927.5MHz. The evaluation showed the emission nearest the limit occurred while operating at 927.5MHz. The EUT was positioned on the 'end' and the receive antenna oriented in the horizontal polarization. This signal was measured to be 10.5dB below the quasi-peak limit of 46dBuV/m (200uV/m).
13. The evaluation of the field strength levels of the Local Oscillator harmonics showed the measurable emission nearest the limit occurred while operating at 927.5MHz. The EUT was configured in the 'flat' position, and the receive antenna oriented in the vertical polarization. This signal, at 1.855GHz, was measured to be 23.3dB below the average limit of 54dBuV/m (500uV/m). All other emissions were within the background RF noise of the system.

**Changes made to achieve compliance**

1. An impedance matching attenuation pad installed into RF output trace.

## Standards Applied to Test: [2.1033(b6)]

ANSI C63.4 - 1992, Appendix I

CFR47 FCC Part 2, Part 15, SubPart C, 15.249 Intentional Radiator; SubPart B, Digital Device  
AHD test procedures TP0101-01, TP0102-01

## Test Methodology: [2.1033(b6)]

The setup pictures in this report indicate the configuration of testing for this product.

The product was evaluated for emissions in both transmit and a receive modes. The transmitted power output is set in firmware and the user does not have access to this location. The receiver uses a 0 Hz IF. The local oscillator is at the same frequency as the incoming transmitted signal.

In transmit mode, the EUT was setup up to transmit continuously with an FSK modulation. There was no pulsing of the transmitted signal during the measurement phase of the tests. The measurements of the fundamental and its harmonics were recorded with Peak detection. The measurements of the fundamental frequencies were compared to the Quasi-Peak limit of section 15.249. The measurements of the fundamental harmonics, greater than 1GHz, were adjusted by the duty cycle of EUT pulsed modulation and compared to the Average limits of Section 15.249.

In receive mode, the EUT was setup to receive. In initial tests, an external RF source sent information to the receiver. Because of the 0-Hz IF, spurious measurements could only be made with the external RF source deactivated. Final measurements of receiver spurious were made without an external RF source.

The feature module was installed during the testing to terminate this feature port.

The unit can be placed on a battery charger. However, the unit can not function when this charging connection is made. No tests were made with the unit installed onto a charger.

The system was placed at the center of the table 80cm above the ground plane pursuant to ANSI C63.4 for stand-alone equipment.

The line conducted emission testing was not performed on this product. The product is powered from three AA 1.5Volt batteries only. The batteries were replaced during the course of testing to maintain battery 'freshness'.

**Radiated**

The system was placed upon a 1 x 1.5 meter non-metallic table 80cm above the open field site ground plane in the prescribed setup per ANSI C63.4, Figure 9(c).

The table sits upon a remote controlled turntable. The receiving antenna, located at the appropriate standards distance of 3 or 10 meters from the table center, is also remote controlled.

The principle settings of the EMI Receiver for radiated testing include:

IF Bandwidth: 120KHz for frequencies less than 1GHz.

1 MHz for frequencies greater than 1GHz.

Detector Function: Peak Mode for transmitter fundamental and harmonics.

Quasi-Peak and Average for all other emissions

At frequencies up to 1000MHz a BiconiLog broadband antenna was used for measurements.

At frequencies above 1000MHz a double-ridge Horn broadband antenna was used for measurements.

During the transmitter evaluation the EUT was transmitting continuously.

The turntable was rotated 360 degrees and the receiving antenna height varied from 1 to 4 meters to search out the highest emissions.

The final measurements were made at a low band frequency (902.5MHz), a mid band frequency (915MHz), and a high band frequency (4927.5MHz) pursuant to the requirements of 47CFR 15.31(m). At each frequency the EUT was placed in three orthogonal positions (designated as flat, side, and end). Measurements were recorded with the receive antenna in vertical and horizontal positions.

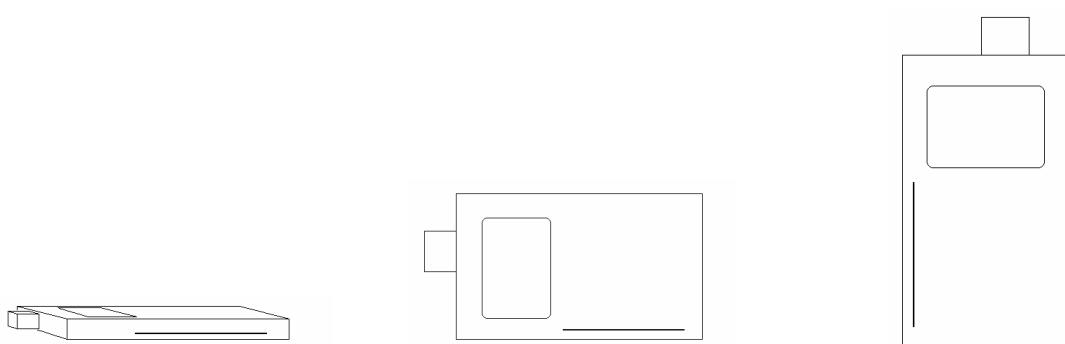
The unit was evaluated up to the tenth harmonic of the transmit fundamental, up to the tenth harmonic of the receive local oscillator, and up to 5000MHz for other spurious signals.

The orthogonal positions of EUT are:

Flat

Side

End



**FORMULAS AND SAMPLE CALCULATIONS:**

THE HP8546A EMI Receiver has stored in memory the antenna and coax correction factors used in this test. The resultant Field Strength (FS) in dBuV/m presented by the HP8546A is the summation in decibels (dB) of the Received Level (RF), the Antenna Correction Factor (AF), and the Cable Loss Factor (CF).

Formula 1:  $FS(\text{dBuV/m}) = RF(\text{dBuV}) + AF(\text{dB/m}) + CF(\text{dB})$

With the EUT in transmitting mode only the resultant Field Strength measurement is recorded using the peak hold detector of the HP8546A.

This recorded peak level is further corrected, by calculation, to an average level by a factor determined by the duty cycle of the pulsed modulation. The duty cycle factor is determined as outlined in Appendix I4 of the standard ANSI C63.4:1992.

Formula 2:  $\text{Average Level}(\text{uV/m}) = [\text{Peak Level}(\text{uV/m})] \times [\text{duty cycle factor}]$ .

Formula 2a:  $\text{Average Level}(\text{dBuV/m}) = \text{Peak Level}(\text{dBuV/m}) + \text{duty cycle factor}(\text{dB})$ .

The duty cycle was determined by measurement to be less than 10%. The duty cycle factor to apply is determined to be 20dB.

For 10% (0.10):  $\text{duty cycle factor}(\text{dB}) = 20 * \text{Log}(0.1) = -20.0$

As an example:

A measured peak level of 560uV/m.

Calculated to dBuV/m is  $20 * \text{Log}(560) = 54.96 \text{dBuV/m}$  Peak level.

Applying the duty cycle factor:  $\text{Avg. Level}(\text{dBuV/m}) = 54.96 - 20.0 \text{dB} = 34.96 \text{dBuV/m}$ .

This resultant is then compared to the limit of 54dBuV/m (200uV/m).

Margin is  $34.96 - 54 = -19.04 \text{dB}$

Where it was necessary to move the EUT to 1 meter distance to take measurements a 'dB' factor which adjusts for this distance variance is used before comparing the emission level to the FCC limits. This factor is determined by the following formula.

Formula 3:  $\text{Distance factor}(\text{dB}) = 20 * \text{Log}(3\text{meter}/1\text{meter}) = 20 * \text{Log}(3) = 9.54 \text{dB}$ .

## Test Data [2.1033(b6)]

### Modulation Characteristics

The transmitter is FSK modulated.

At time 0.0mSec the transmitter is turned on.

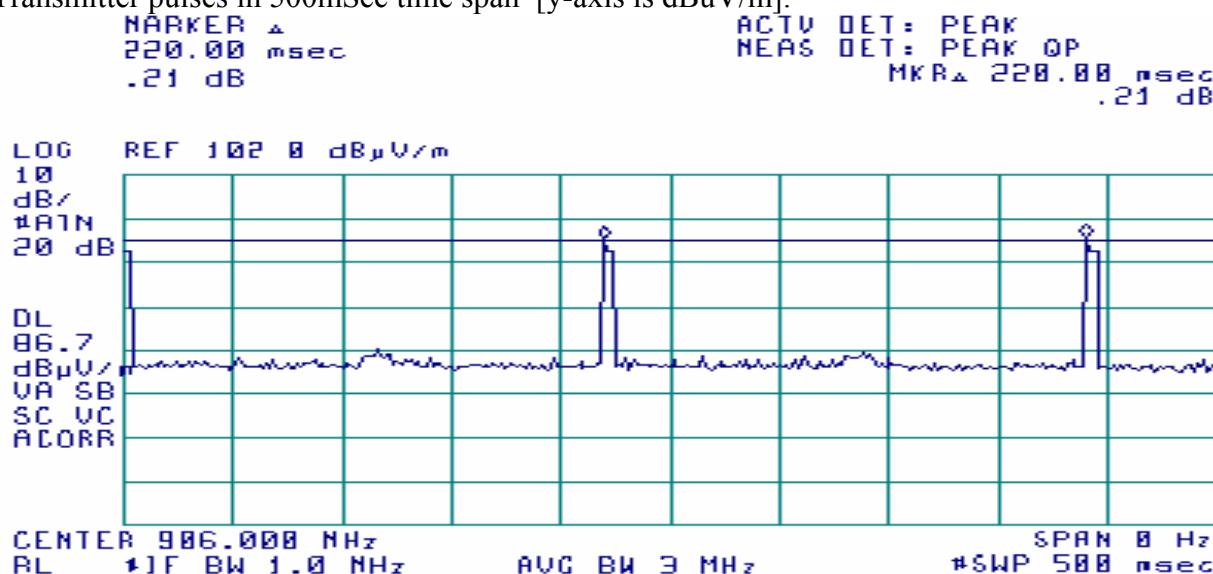
At time 0.1mSec the transmitter stabilizes.

From 0.1mSec through approximately 8.5mSec the transmitter communicates using FSK Modulation. F1 represents the bit "1", F2 represents the bit "0". F1 and F2 are separated by 75KHz.

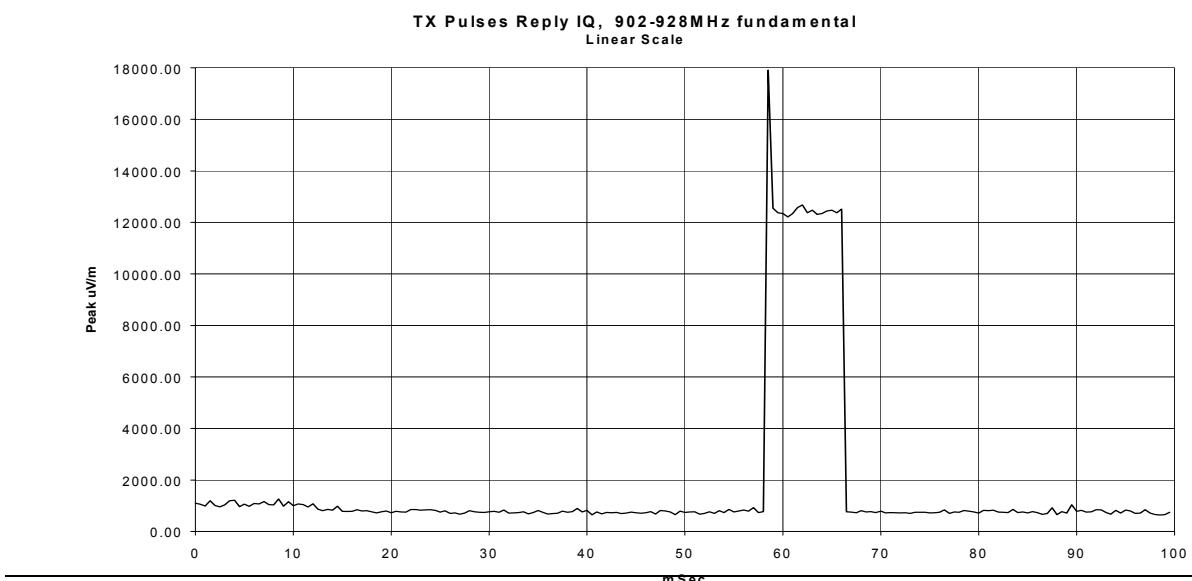
At time 8.5mSec the transmitter is turned off.

The transmitter will not turn on again for a time much longer than 200mSec.

Transmitter pulses in 500mSec time span [y-axis is dBuV/m].



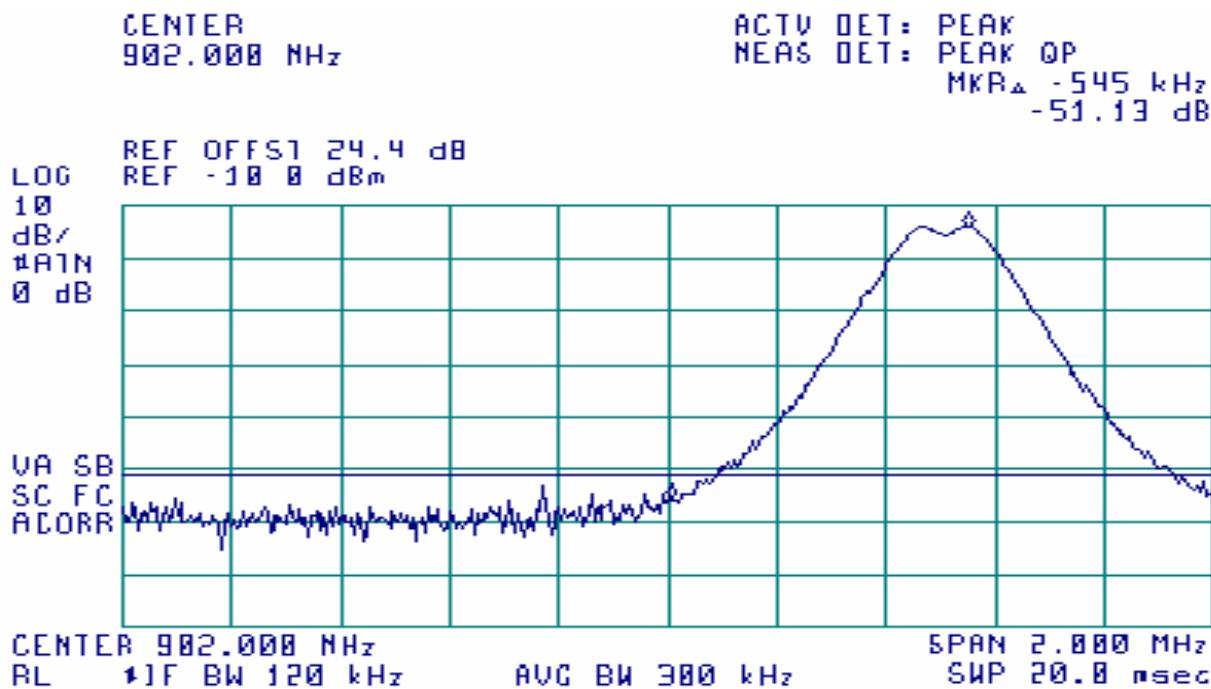
Transmitter pulse 100mSec time span [y-axis is uV/m linear]. Pulse width is 8.5mSec.



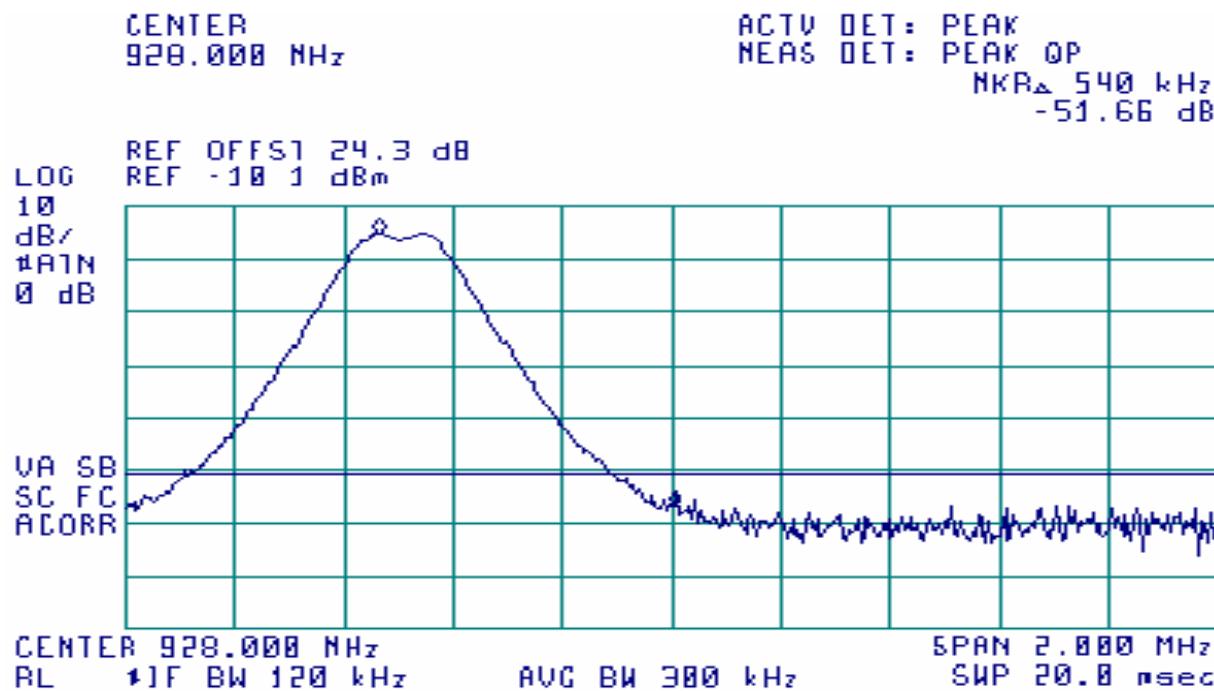
**Band Edges [15.249(d)]**

The emissions outside the 902-928MHz band are to be either 50dB below the level of the fundamental or the limits of section 15.209.

902MHz Band Edge. EUT transmitting at lowest frequency of 902.5MHz.



Fundamental (MHz)	902 MHz edge QP Measurement	Quasi-Peak LIMIT 15.209	dBc recorded 15.249d	dBc LIMIT 15.249d	
902.5	42.5 dBuV/m	46 dBuV/m	-51.1 dB	-50 dB	Pass

928MHz Band Edge. EUT transmitting at highest frequency of 927.5MHz.

Fundamental (MHz)	928 MHz edge QP Measurement	Quasi-Peak LIMIT 15.209	dBc recorded 15.249d	dBc LIMIT 15.249d	
927.5	38.7 dBuV/m	46 dBuV/m	-51.7 dB	-50 dB	Pass

**LIMIT @ 3meter: [15.209(a)]**

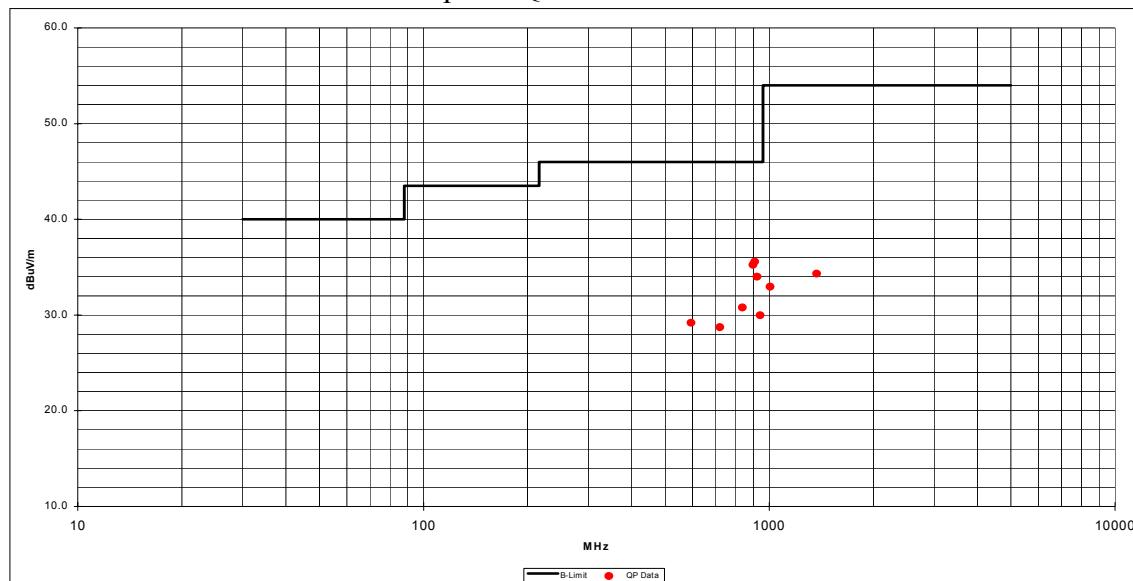
30-88MHz	100uV/m	40dBuV/m
88-216MHz	150uV/m	43.5dBuV/m
216-960MHz	200uV/m	46dBuV/m
above 960MHz	500uV/m	54dBuV/m

**Radiated Field Strength Measurements: [15.209, 15.249(a,d)]**

A scan of the IQK1000 was made in a shielded room to study the emission profile of the EUT. These scans indicate there are low level spurious emissions from the unit other than the fundamental and its associated harmonics. These suspect signals were measured at the 3-meter open area test site.

**Spurious Emissions: [15.249d]****Transmit Mode**

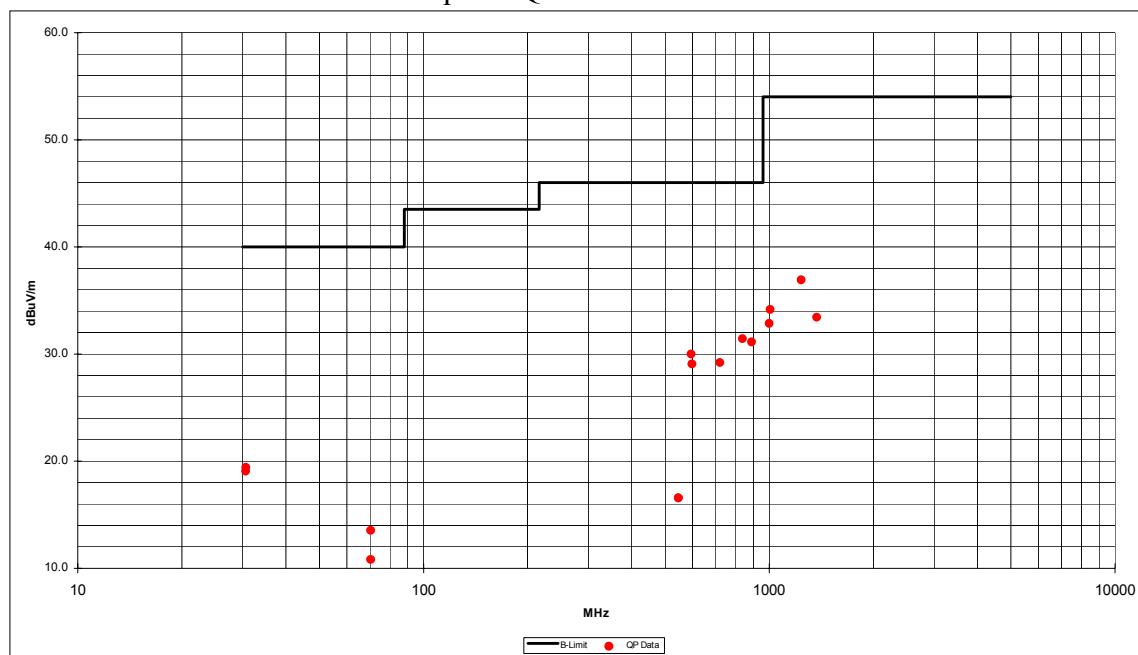
Graph of Quasi-Peak Measurements

**Tabulated Quasi-Peak Measurements.**

Frequency MHz	Corrected Quasi Peak Measurement dBuV/m	Included Cable+Antenna Factors dB+dB/m	Turntable Azimuth deg	Antenna Height Mtr	FCC Class B Limit dBuV/m	Margin dB
902.5MHZ	flat position	RX ant.Horizontal				
897.00	35.26	26.13	190	1.0	46.00	-10.74
907.91	35.57	26.24	180	1.0	46.00	-10.43
922.05	34.00	26.37	180	1.0	46.00	-12.00
941.46	29.98	26.54	180	1.0	46.00	-16.02
915MHZ	Side position	RX ant.Horizontal				
594.03	29.19	22.60	90	1.3	46.00	-16.81
719.96	28.74	24.27	100	1.1	46.00	-17.26
836.96	30.79	25.55	100	1.0	46.00	-15.21

The frequencies for measurements were determined by the suspect list generated from the shielded room prescan of 30MHz through 5GHz.

All other spurious emission are greater than 20dB below limits.

**Receive Mode****Graph of Quasi-Peak Measurements****Tabulated Quasi-Peak Measurements.**

Frequency MHz	Corrected Quasi Peak Measurement dBuV/m	Included Cable+Antenna Factors dB+dB/m	Turntable Azimuth deg	Antenna Height Mtr	FCC Class B Limit dBuV/m	Margin dB
902.5MHZ	Side position	RX ant.Horizontal				
597.51	29.07	22.67	80	1.3	46.00	-16.93
915MHZ	Side position	RX ant.Horizontal				
594.01	30.00	22.60	80	1.3	46.00	-16.00
720.02	29.20	24.27	100	1.2	46.00	-16.80
837.01	31.43	25.55	100	1.0	46.00	-14.57
1236.02	35.22**	29.35	90	1.0	54.00	-18.78
927.5MHZ	Side position	RX ant.Horizontal				
888.51	31.13	26.05	90	1.0	46.00	-14.87

The frequencies for measurements were determined by the suspect list generated from the shielded room prescan of 30MHz through 5GHz.

\*\*Measurement made with average detector and 1MHz IF bandwidth.

All other spurious emission are greater than 20dB below limits.

**Field Strength Measurements of Fundamental & LO: [15.249(a), 15.209]****MEASUREMENT PROCEDURE:**

1. The EUT was trained to one of the three test frequencies.
2. The EUT was setup to one of the three orthogonal positions.
3. Steps 1-2 were repeated to cover all positions, and frequencies.

**Transmit Mode. Fundamental**

Frequency MHz	Corrected PEAK Measurement dBuV/m	Included Cable+Antenna Factors dB+dB/m	Turntable Azimuth deg	Antenna Height Mtr	FCC Limit Quasi-Peak dBuV/m	Margin dB	EUT position	Ant Pol.
902.50	92.80	26.19	180	1.0	94.00	-1.20	flat	H
915.05	93.80	26.30	230	1.0	94.00	-0.20	flat	H
927.48	92.90	26.42	180	1.0	94.00	-1.10	flat	H

**Receive Mode. Local Oscillator**

Frequency MHz	Corrected Quasi-Peak Measurement dBuV/m	Included Cable+Antenna Factors dB+dB/m	Turntable Azimuth deg	Antenna Height Mtr	FCC Limit Quasi-Peak dBuV/m	Margin dB	EUT position	Ant Pol.
902.50	34.16	26.19	200	1.0	46.00	-11.84	end	H
915.05	33.77	26.30	100	1.0	46.00	-12.23	side	H
927.48	35.52	26.42	180	1.0	46.00	-10.48	end	H

**Field Strength Measurements of Fundamental & LO Harmonics: [15.249(d)]****MEASUREMENT PROCEDURE:**

1. The EUT was trained to one of the three test frequencies.
2. The EUT was setup to one of the three orthogonal positions.
3. Steps 1-2 were repeated to cover all positions, and frequencies.

Transmit Mode. Fundamental harmonics

Freq MHz	Corrected PEAK Measurement dBuV/m	10% Duty Cycle factor dB	Calculated Average Level dBuV/m	Turntable Azimuth deg	Antenna Height Mtr	FCC Avg Limit dBuV/m	Margin dB	EUT position	Ant Pol.	Included Cable+Antenna Factors dB+dB/m
<b>902.50</b>										
1805	52.20	20	32.2	270	1.0	54.00	-21.8	flat	V	31.30
2707.5	53.90	20	33.9	10	1.0	54.00	-20.1	flat	V	35.40
3610	48.40	20	28.4	60	1.5	54.00	-25.6	side	H	37.93
4512.5	45.00**	20	25.0**	-	-	54.00	>-29.0	-	-	38.42
<b>915.00</b>										
1830	52.10	20	32.1	0	1.0	54.00	-21.9	flat	V	31.39
2745	54.10	20	34.1	10	1.0	54.00	-19.9	flat	V	35.62
3660	49.80	20	29.8	100	1.6	54.00	-24.2	side	H	37.91
4575	45.90	20	25.9	80	1.5	54.00	-28.1	side	H	38.59
<b>927.50</b>										
1855	53.60	20	33.6	90	1.0	54.00	-20.4	flat	V	33.60
2782.5	55.00	20	35.0	60	1.5	54.00	-19.0	side	H	35.84
3710	51.20	20	31.2	100	1.0	54.00	-22.8	side	H	37.90
4637.5	46.00**	20	26.0**	-	-	54.00	>-28.0	-	-	38.77

\*\*These levels are at the noise floor of the measurement systems.

## Transmit Mode. Fundamental harmonics

The following transmitter harmonic measurements were taken at the UM Radiation Lab facility. The distance between the EUT and Horn antenna is 1 meter.

The term in the column "calculated average level" is determined by

$$\text{SA Peak Measurement} + \text{Ant Factor} - \text{Amp Factor} - \text{Distance Factor} - \text{Duty Cycle}$$

Freq MHz	S.A. PEAK Measurement dBuV/m	Antenna Correction Factor dB/m	RF Amp Factor dB	1 meter Distance factor dB	10% Duty Cycle factor dB	Calculated Average Level dBuV/m	FCC Avg Limit dBuV/m	Margin dB
902.50								
5415	27.0**	25.8	-	9.5	20	23.3**	54	>-30.7
6317.5	50.1	24.1	38.0	9.5	20	6.7	54	-47.3
7220	49.8	24.9	36.4	9.5	20	8.8	54	-45.2
8122.5	46.9	27.0	36.1	9.5	20	8.3	54	-45.7
9025	44.0**	27.4	36.9	9.5	20	5.0**	54	>-49.0
915.00								
5490	27.0**	25.8	-	9.5	20	23.3**	54	>-30.7
6405	50.0	24.2	37.6	9.5	20	7.1	54	-46.9
7320	50.1	25.0	36.3	9.5	20	9.3	54	-44.7
8235	46.9	27.1	36.0	9.5	20	8.5	54	-45.5
9150	44.1**	27.5	36.9	9.5	20	5.2**	54	>-48.8
927.50								
5565	27.0**	25.8	-	9.5	20	23.3**	54	>-30.7
6492.5	50.3	24.3	37.5	9.5	20	7.6	54	-46.4
7420	51.3	25.1	36.1	9.5	20	10.8	54	-43.2
8347.5	47.0	27.2	36.1	9.5	20	8.6	54	-45.4
9275	44.0**	27.6	37.0	9.5	20	5.1**	54	>-48.9

\*\*These levels are at the noise floor of the measurement systems.

## Receive Mode. Local Oscillator harmonics

Frequency MHz	Corrected Average Measurement dBuV/m	Turntable Azimuth deg	Antenna Height Mtr	FCC Limit Average dBuV/m	Margin dB	EUT position	Ant Pol.	Included Cable+Antenna Factors dB+dB/m
902.5								
1804.94	29.4**	-	-	54	>-24.6	-	-	31.30
2707.80	32.3**	-	-	54	>-21.7	-	-	35.40
3610.73	34.4**	-	-	54	>-19.6	-	-	37.93
4511.88	35.2**	-	-	54	>-18.8	-	-	38.42
5415.16	39.3**	-	-	54	>-14.7	-	-	41.64
915.0								
1830.17	27.9	0	1.0	54	-26.1	flat	V	31.39
2744.98	32.0**	-	-	54	>-22.0	-	-	35.62
3660.38	35.0**	-	-	54	>-19.0	-	-	37.91
4574.49	35.0**	-	-	54	>-19.0	-	-	38.59
5489.96	40.2**	-	-	54	>-13.8	-	-	41.97
927.5								
1854.98	30.7	0	1.0	54	-23.3	flat	V	33.60
2782.28	32.6**	-	-	54	>-21.4	-	-	35.84
3710.16	33.9**	-	-	54	>-20.1	-	-	37.90
4637.65	35.2**	-	-	54	>-18.8	-	-	38.77
5565.32	39.9**	-	-	54	>-14.1	-	-	42.07

\*\*These levels are at the noise floor of the measurement systems.

## Receive Mode. Local Oscillator harmonics

The following LO harmonic measurements were taken at the UM Radiation Lab facility  
The distance between the EUT and Horn antenna is 1 meter.

The term in the column “calculated PEAK level” is determined by

SA Peak Measurement + Ant Factor – Amp Factor – Distance Factor.

This peak level is compared to the FCC average limit.

Frequency MHz	S.A. PEAK Measurement dBuV/m	Antenna Correction Factor dB/m	RF Amp Factor dB	1 meter Distance factor dB	Calculated PEAK Level dBuV/m	FCC Avg Limit dBuV/m	Margin dB
902.5							
6317.5	45.5**	24.1	38.0	9.5	22.1**	54	>-31.9
7220	45.4**	24.9	36.4	9.5	24.4**	54	>-29.6
8122.5	48.8**	27.0	36.1	9.5	30.2**	54	>-23.8
9025	48.7**	27.4	36.9	9.5	29.7**	54	>-24.3
915.0							
6405	43.8**	24.2	37.6	9.5	20.9**	54	>-33.1
7320	45.7**	25.0	36.3	9.5	24.9**	54	>-29.1
8235	49.1**	27.1	36.0	9.5	30.7**	54	>-23.3
9150	48.8**	27.5	36.9	9.5	29.9**	54	>-24.1
927.5							
6492.5	44.3**	24.3	37.5	9.5	21.6**	54	>-32.4
7420	45.1**	25.1	36.1	9.5	24.6**	54	>-29.4
8347.5	47.9**	27.2	36.1	9.5	29.5**	54	>-24.5
9275	47.6**	27.6	37.0	9.5	28.7**	54	>-25.3

\*\*These levels are at the noise floor of the measurement systems.