First Texas Products LLC

ADDENDUM TO TEST REPORT 96150-9

F19

Tested To The Following Standards:

FCC Part 15 Subpart C Section 15.209

Report No.: 96150-9A

Date of issue: March 19, 2015

ACCREDITED
Testing Certificates:
803.01, 803.02, 803.05, 803.06

This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of EMC testing for CKC Laboratories, Inc.

We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.

Testing the Future
CKC LABORATORIES, INC.

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

First Texas Products LLC
1465-H Henry Brennen
El Paso, TX 79936

Representative: Art Nemirow
Customer Reference Number: 030625-00

REPORT PREPARED BY:

Terri Rayle
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 96150

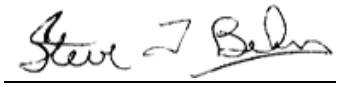
DATE OF EQUIPMENT RECEIPT: September 19, 2014
DATE(S) OF TESTING: September 19, 2014

Revision History

Original: Testing of Device: F19, Model: F19 to FCC Part 15 Subpart C Section 15.209.
Addendum A: To replace the Fundamental Field Strength plot and add the Spurious Emissions data omitted in the original report.

Report Authorization

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the sample equipment tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.



Steve Behm
Director of Quality Assurance & Engineering Services
CKC Laboratories, Inc.

Test Facility Information

Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S):
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Software Versions

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.00.14
Immunity	5.00.07

Site Registration & Accreditation Information

Location	CB #	TAIWAN	CANADA	FCC	JAPAN
Mariposa D	US0103	SL2-IN-E-1147R	3082A-1	784962	A-0136

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C

Test Procedure/Method	Description	Modifications*	Results
15.209(a) / ANSI C63.4	Radiated Emissions	NA	Pass
15.215(c)	-20dB Occupied Bandwidth	NA	Pass

Modifications*/Conditions During Testing

This list is a summary of the conditions noted for or modifications made to the equipment during testing.

Summary of Conditions
The only port of the EUT (headphone jack) is populated with support headphones.
Note: A motor driven plank was used during testing in order to ensure proper operation of the EUT.
No modifications were made to the EUT during testing.

***Modifications listed above must be incorporated into all production units.**

EQUIPMENT UNDER TEST (EUT)

EQUIPMENT UNDER TEST

F19
Manuf: First Texas Products LLC
Model: F19
Serial: None

PERIPHERAL DEVICES

Testing was performed with the following peripheral devices:

Stereo Headphones
Manuf: Teknetics
Model: HEADT
Serial: None

Motor Driven Plank
Manuf: First Texas Products LLC
Model: None
Serial: None

FCC PART 15 SUBPART C

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) CFR 47 Section 15 Subpart C requirements for Intentional Radiators.

15.209(a) Radiated Emissions

Test Data

Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • (209) 966-5240

Customer: **First Texas, LLC**
Specification: **15.209 Radiated Emissions**
Work Order #: **96150** Date: 9/19/2014
Test Type: **Maximized Emissions** Time: 09:37:44
Equipment: **F19** Sequence#: 1
Manufacturer: First Texas Products LLC Tested By: Eddie Mariscal
Model: F19
S/N: None

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00226	Loop Antenna	6502	3/28/2014	3/28/2016
T2	ANMA10M	Cable		8/26/2014	8/26/2016
	AN02668	Spectrum Analyzer	E4446A	8/4/2014	8/4/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
F19*	First Texas Products LLC	F19	None

Support Devices:

Function	Manufacturer	Model #	S/N
Stereo Headphones	Teknetics	HEADT	NA
Motor Driven Plank	First Texas Products LLC	None	None

Test Conditions / Notes:

The EUT is placed atop a wooden, non-conductive table at a height of 80cm.
The EUT is operating on its highest selectable gain with operating frequency of 19.21kHz.
The EUT was investigated about three orthogonal axes. The data presented represents the worst-case orientation.
Testing was done in accordance with 15.31(e). The EUT operates on a 9V battery, testing performed with new battery.

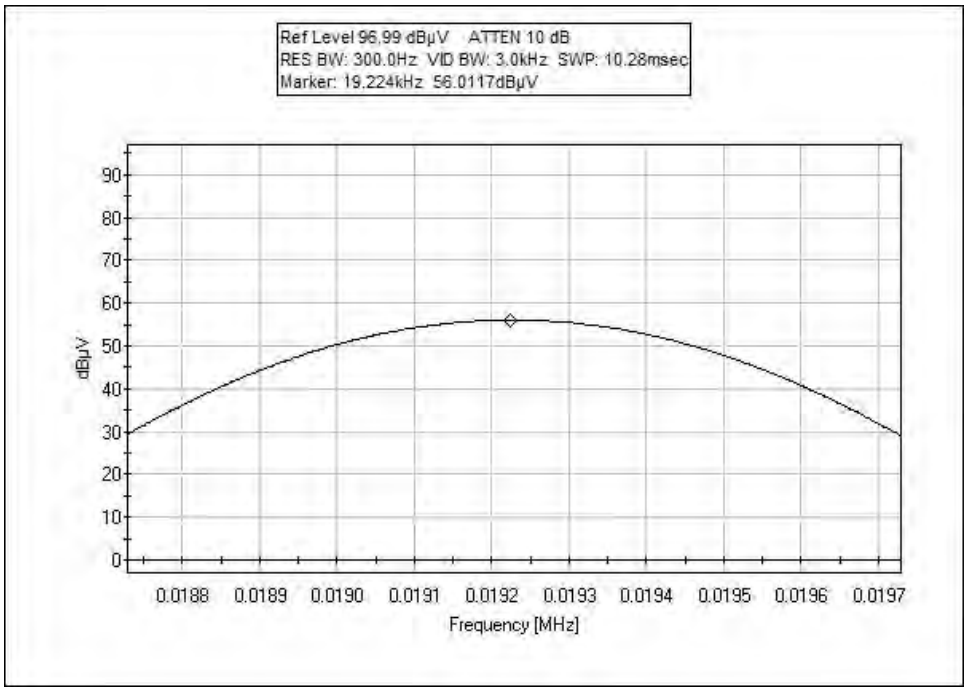
Frequency Range of Interest: Fundamental (19.21kHz)
RBW = 200Hz; VBW > RBW

Environmental conditions:
Temperature: 19°C
Relative Humidity: 44%
Atmospheric Pressure: 97.7kPa

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 10 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	19.228k	56.0	+14.0	+0.0			-59.1	10.9	41.9	-31.0	Vert



Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • (209) 966-5240

Customer: **First Texas Products LLC**
Specification: **15.209 Radiated Emissions**
Work Order #: **96150** Date: 9/19/2014
Test Type: **Maximized Emissions** Time: 11:47:33
Equipment: **F19** Sequence#: 1
Manufacturer: First Texas Products LLC Tested By: Eddie Mariscal
Model: F19
S/N: None

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00226	Loop Antenna	6502	3/28/2014	3/28/2016
T2	ANMA10M	Cable		8/26/2014	8/26/2016
	AN02668	Spectrum Analyzer	E4446A	8/4/2014	8/4/2015
T3	AN01991	Biconilog Antenna	CBL6111C	3/7/2014	3/7/2016
T4	AN00449	Preamp-Bottom Amp (dB)	8447F	4/7/2014	4/7/2016

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
F19*	First Texas Products LLC	F19	None

Support Devices:

Function	Manufacturer	Model #	S/N
Stereo Headphones	Teknetics	HEADT	NA
Motor Driven Plank	First Texas Products LLC	None	None

Test Conditions / Notes:

The EUT is placed atop a wooden, non-conductive table of height 80cm. The EUT is operating on its highest selectable gain. The EUT was investigated about three orthogonal axes. The data presented represents the worst-case orientation.
Highest EUT clock frequency: 10MHz
Frequency Range of Interest: .009-1000MHz; .009-0.15MHz: RBW = 200Hz; VBW > RBW; 0.15-30MHz: RBW = 9kHz; VBW > RBW; 30-1000MHz: RBW = 120kHz; VBW > RBW

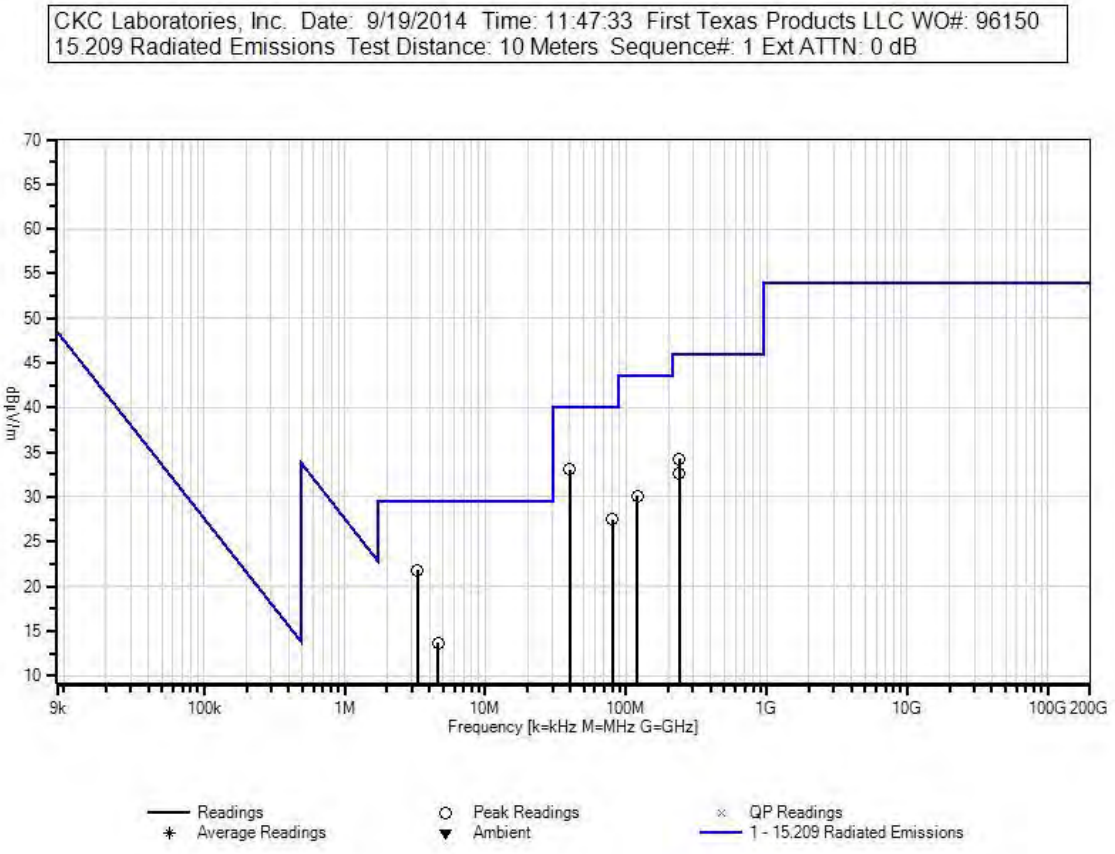
Environmental conditions
Temperature: 19°C
Relative Humidity: 44%
Atmospheric Pressure: 97.7kPa

Testing performed in accordance with 15.31(e). The EUT operates on a 9V battery, testing performed with a new battery.

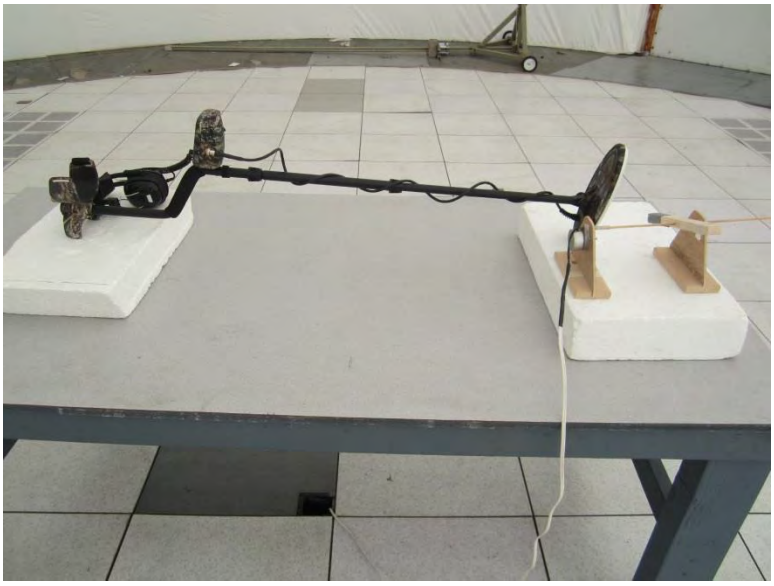
Ext Attn: 0 dB

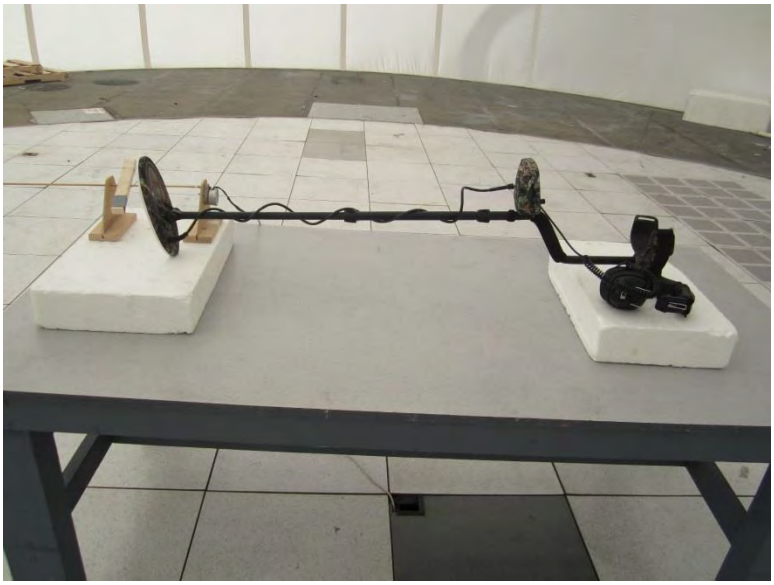
Measurement Data: Reading listed by margin. Test Distance: 10 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	39.999M	29.3	+0.0	+1.5	+14.1	-22.3	+10.5	33.1	40.0	-6.9	Vert
2	3.285M	30.5	+10.0	+0.4	+0.0	+0.0	-19.1	21.8	29.5	-7.7	Vert
3	240.019M	30.0	+0.0	+4.3	+12.0	-22.5	+10.5	34.3	46.0	-11.7	Vert
4	79.999M	29.7	+0.0	+2.2	+7.4	-22.3	+10.5	27.5	40.0	-12.5	Vert
5	119.999M	27.3	+0.0	+2.9	+11.7	-22.3	+10.5	30.1	43.5	-13.4	Horiz
6	239.999M	28.3	+0.0	+4.3	+12.0	-22.5	+10.5	32.6	46.0	-13.4	Horiz
7	4.603M	22.3	+10.0	+0.5	+0.0	+0.0	-19.1	13.7	29.5	-15.8	Vert



Test Setup Photos





15.215(c) -20dB Occupied Bandwidth

Test Conditions / Setup

Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • (209) 966-5240

Customer: **First Texas, LLC**
Specification: **15.215 -20dB BW**
Work Order #: **96150** Date: 9/19/2014
Test Type: **Maximized Emissions** Time: 09:37:44
Equipment: **F19** Sequence#: 1
Manufacturer: First Texas Products LLC Tested By: Eddie Mariscal
Model: F19
S/N: None

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
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***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
F19*	First Texas Products LLC	F19	None

Support Devices:

Function	Manufacturer	Model #	S/N
Stereo Headphones	Teknetics	HEADT	NA
Motor Driven Plank	First Texas Products LLC	None	None

Test Conditions / Notes:

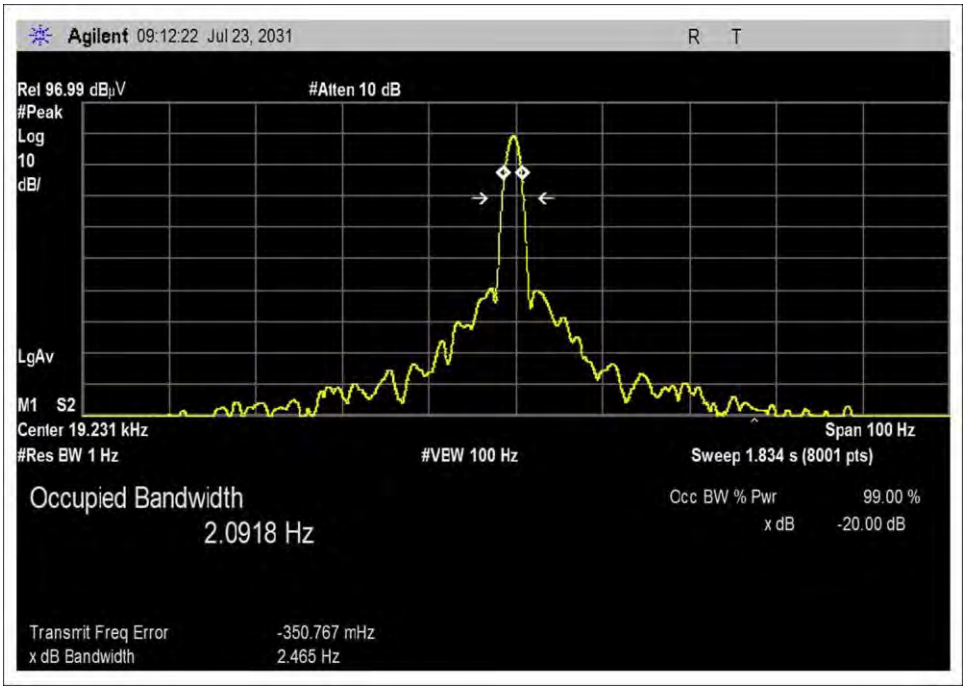
The EUT is placed atop a wooden, non-conductive table at a height of 80cm.
The EUT is operating on its highest selectable gain.
The EUT was investigated about three orthogonal axes. The data presented represents the worst-case orientation.

Testing was done in accordance with FCC 15.31(e). The EUT operates on a 9V battery, testing performed with new battery.

Frequency Range of Interest: Fundamental (19.2kHz)

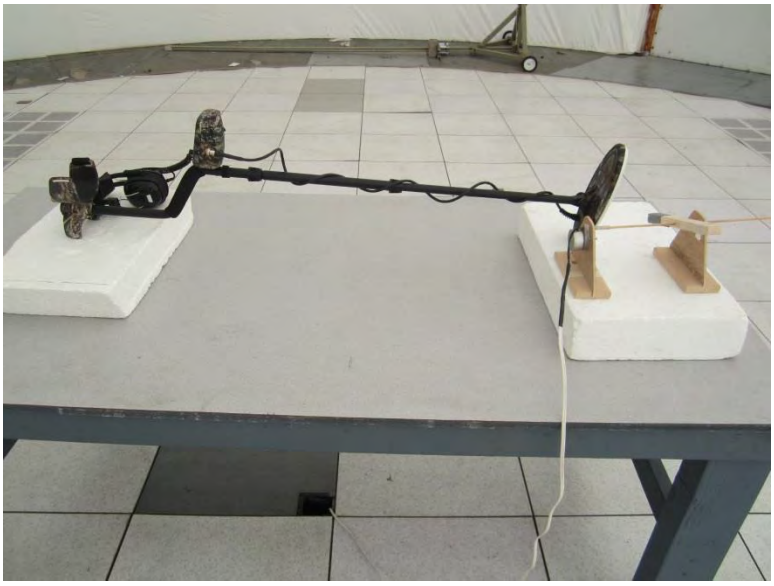
Environmental conditions:
Temperature: 19°C
Relative Humidity: 44%
Atmospheric Pressure: 97.7kPa

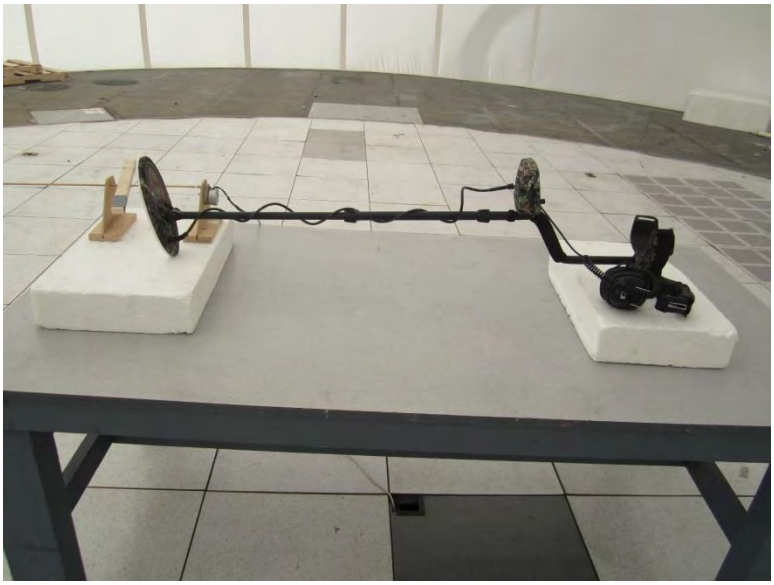
Test Data



Note: The above time stamp referenced is set at a default setting; the actual test date should read September 19, 2014. The screen capture above was taken at the time of testing and cannot be changed.

Test Photos





SUPPLEMENTAL INFORMATION

Measurement Uncertainty

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

Emissions Test Details

TESTING PARAMETERS

Unless otherwise indicated, the following configuration parameters are used for equipment setup: The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula. This reading was then compared to the applicable specification limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBµV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBµV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. Unless otherwise specified, the following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	9 kHz	150 kHz	200 Hz
RADIATED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or carrot ("^") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer or receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

Average

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.