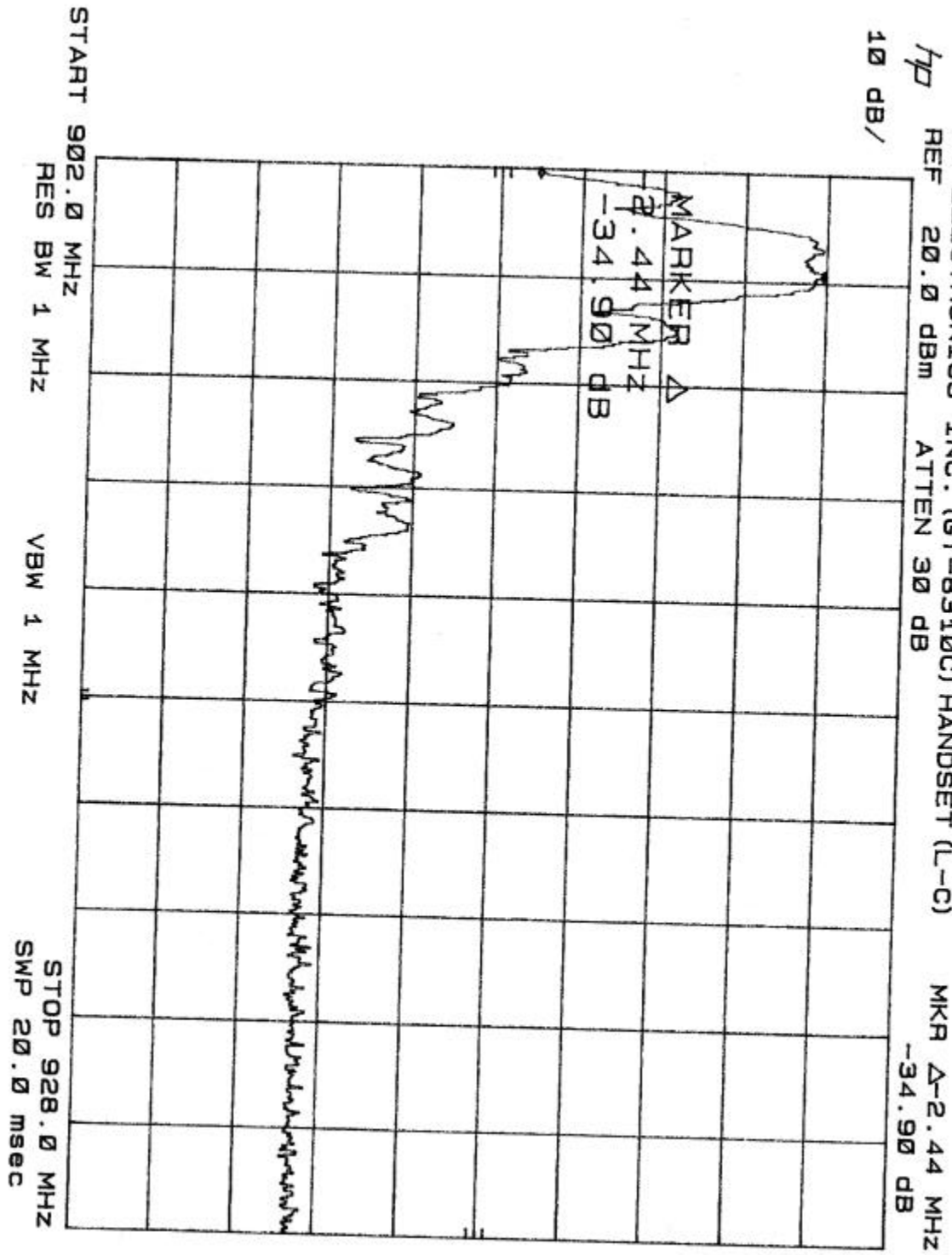
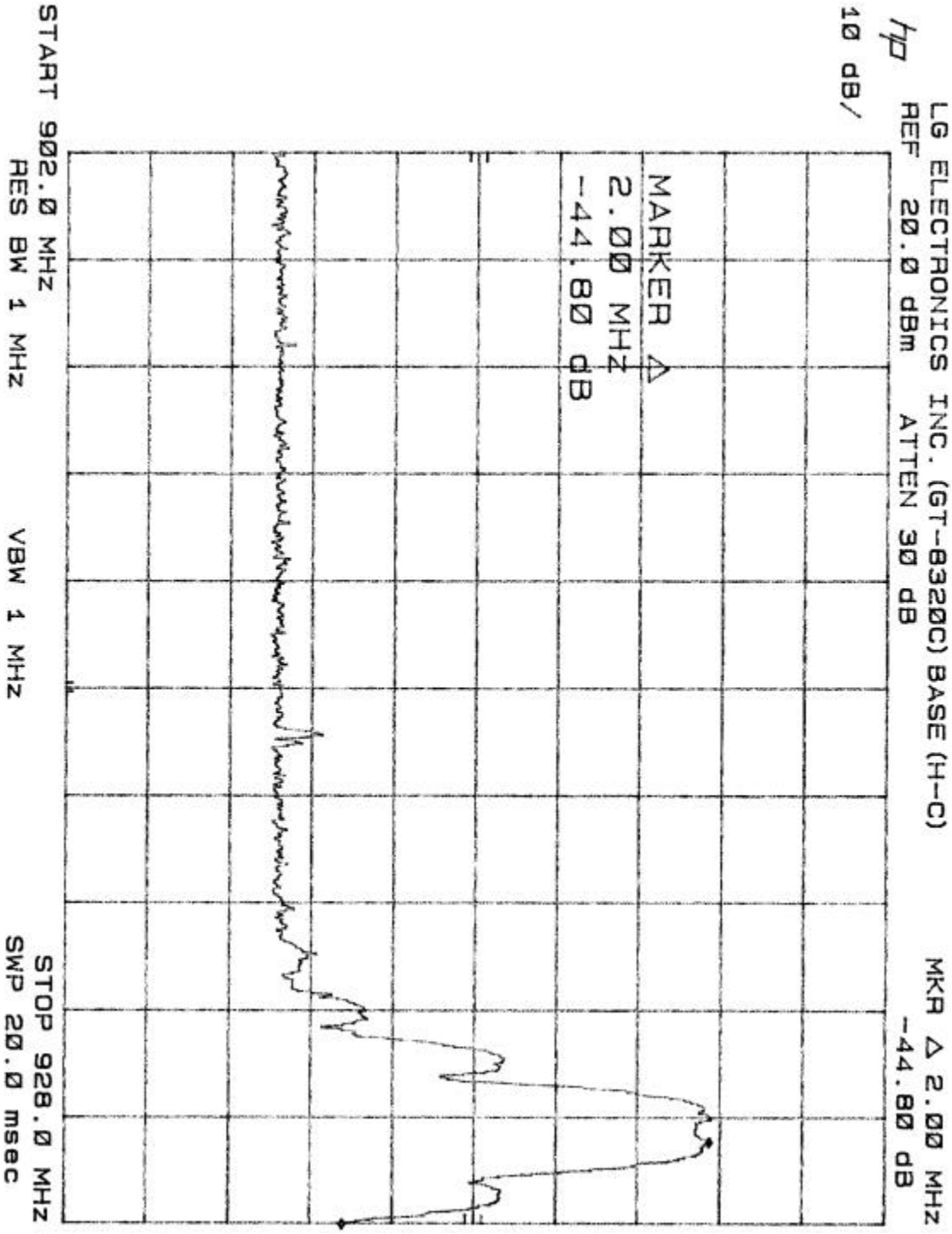
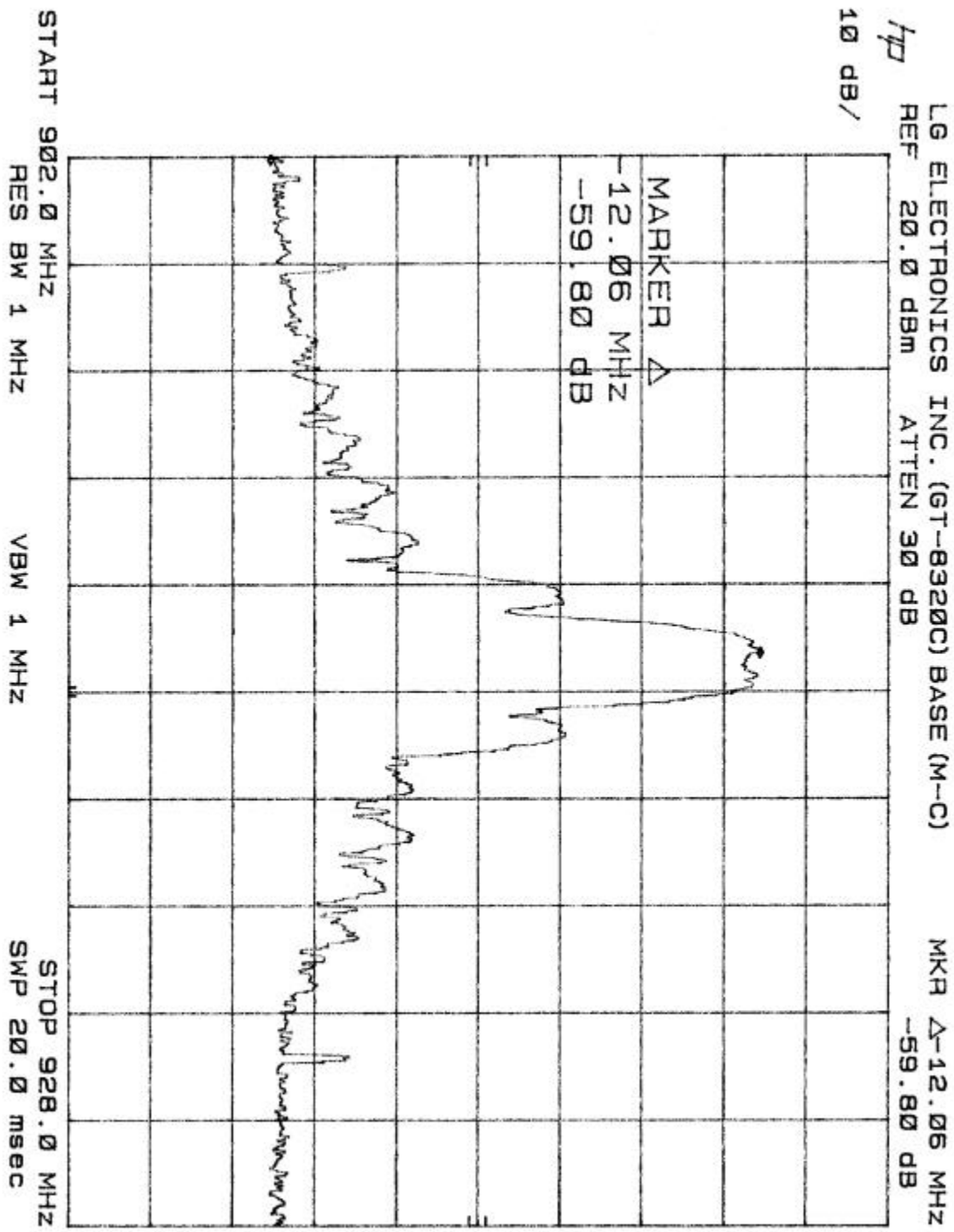
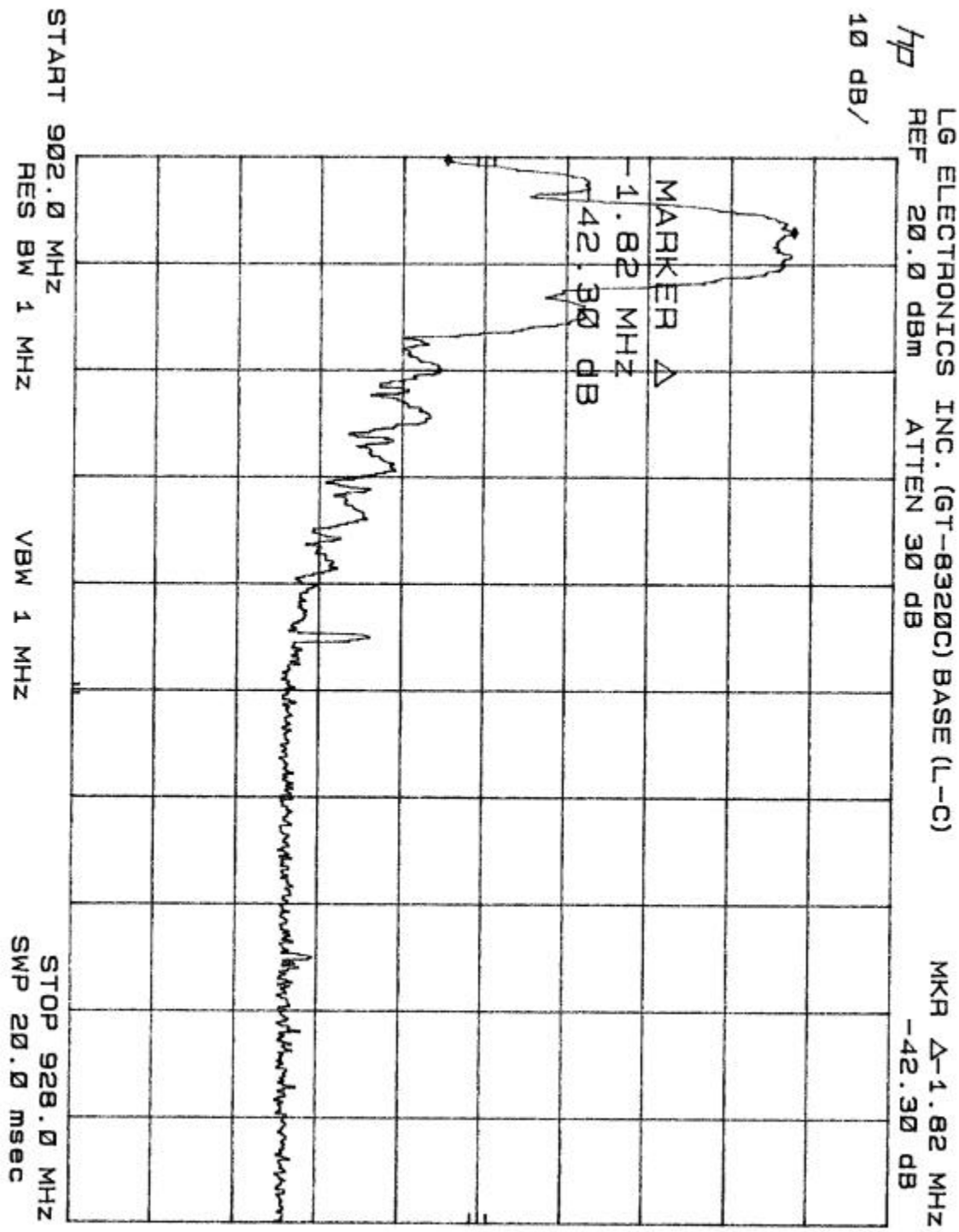

LG ELECTRONICS INC. (GT-8310C) HANDSET (L-C)
REF 20.0 dBm
ATTEN 30 dB
10 dB/
MARKER Δ
2.44 MHz
-34.90 dB
MKR Δ-2.44 MHz
-34.90 dB
START 902.0 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 928.0 MHz
SWP 20.0 msec


LG ELECTRONICS INC. (GT-8320C) BASE (H-C)
REF 20.0 dBm
ATTEN 30 dB
10 dB/
MARKER Δ
2.00 MHz
-44.80 dB
MKR Δ 2.00 MHz
-44.80 dB
START 902.0 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 928.0 MHz
SWP 20.0 msec


LG ELECTRONICS INC. (GT-8320C) BASE (M-C)
REF 20.0 dBm ATTEN 30 dB
10 dB/
MARKER Δ
-12.06 MHz
-59.80 dB
MKR Δ-12.06 MHz
-59.80 dB
START 902.0 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 928.0 MHz
SWP 20.0 msec


LG ELECTRONICS INC. (GT-8320C) BASE (L-C)
REF 20.0 dBm ATTEN 30 dB
10 dB/
MARKER Δ
-1.82 MHz
42.30 dB
MKR Δ-1.82 MHz
-42.30 dB
START 902.0 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 928.0 MHz
SWP 20.0 msec

3.5.0 Spurious Emissions

Requirements: FCC 15.247 (2) © The harmonics and other signals must be at least 20 dB below than the highest emissions level within the operation band.

3.5.1 Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

3.5.2 Test Equipment

Hewlett Packard HP8566B Spectrum Analyzer
Hewlett Packard HP 7470A Plotter

3.5.3 Test Results

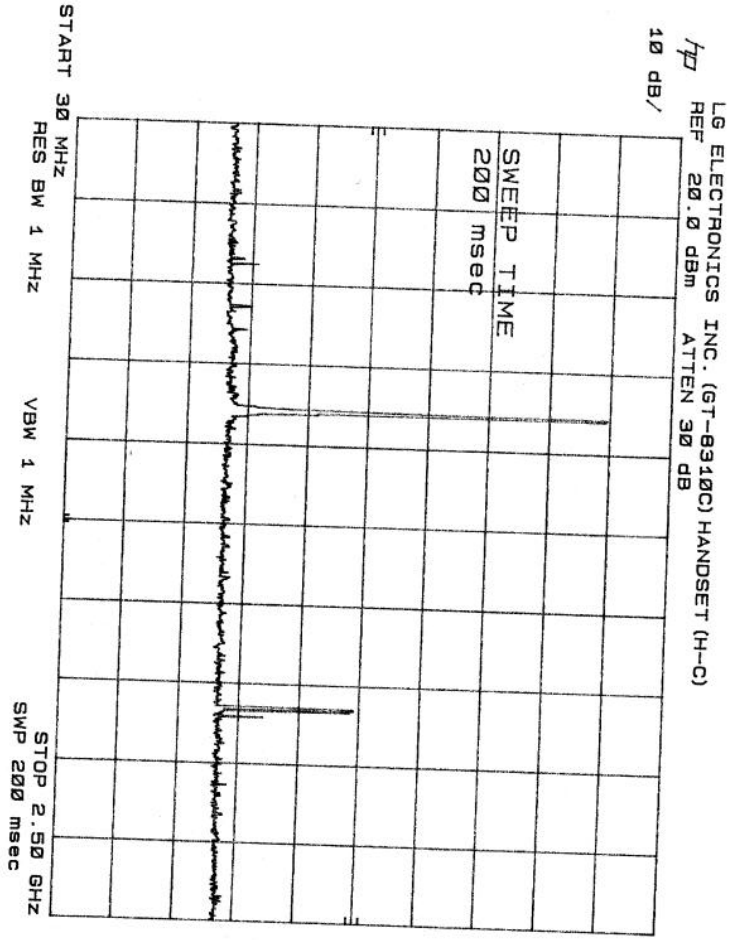
Refer to the attached plots.

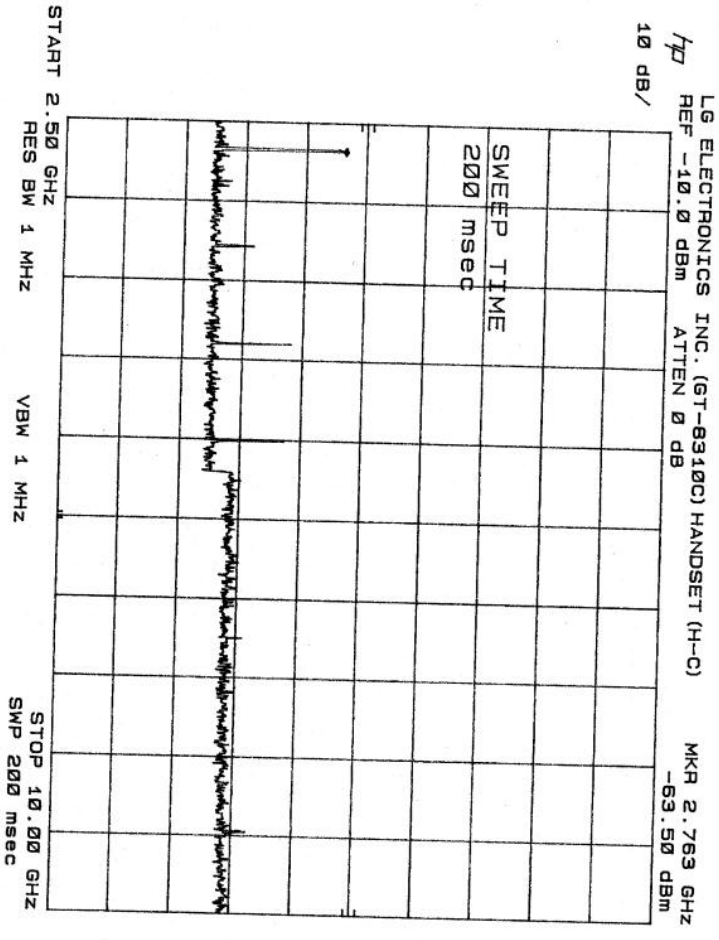
BASE

Spurious Emission	
High Channel	Page 45, 46
Middle Channel	Page 47, 48
Low Channel	Page 49, 50

HANDSET

Spurious Emission	
High Channel	Page 39, 40
Middle Channel	Page 41, 42
Low Channel	Page 43, 44


LG ELECTRONICS INC. (GT-8310C) HANDSET (H-C)
REF 20.0 dBm ATTEN 30 dB
10 dB/
SWEEP TIME
200 msec
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 2.50 GHz
SWP 200 msec


LG ELECTRONICS INC. (GT-8310C) HANDSET (H-C)
REF -10.0 dBm ATTEN 0 dB
10 dB/
MKR 2.763 GHz
-63.50 dBm
SWEEP TIME
200 msec
START 2.50 GHz
RES BW 1 MHz
VBW 1 MHz
STOP 10.00 GHz
SWP 200 msec

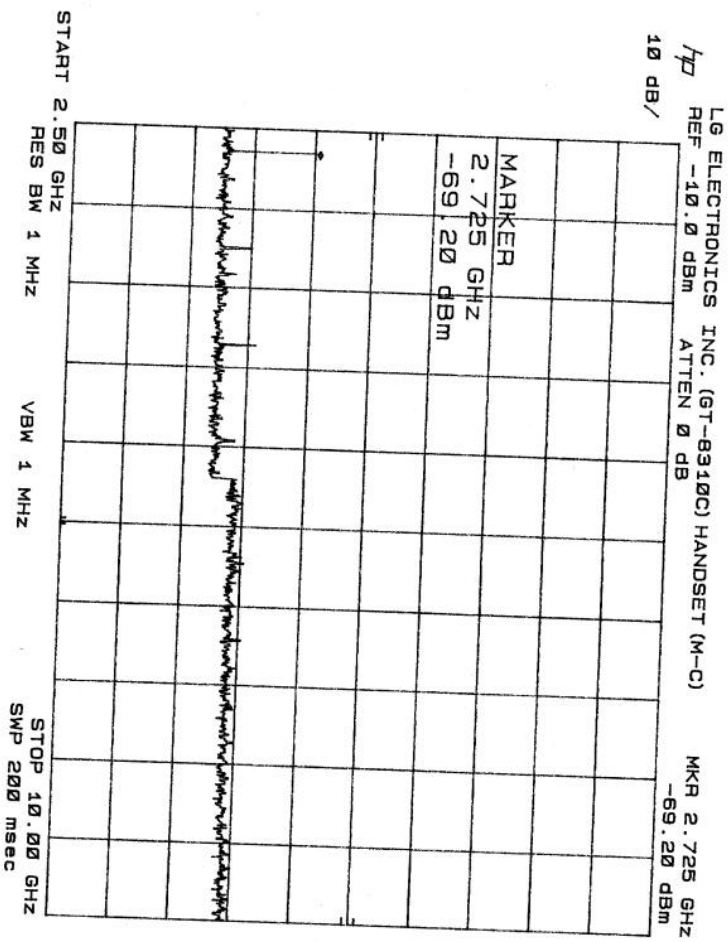
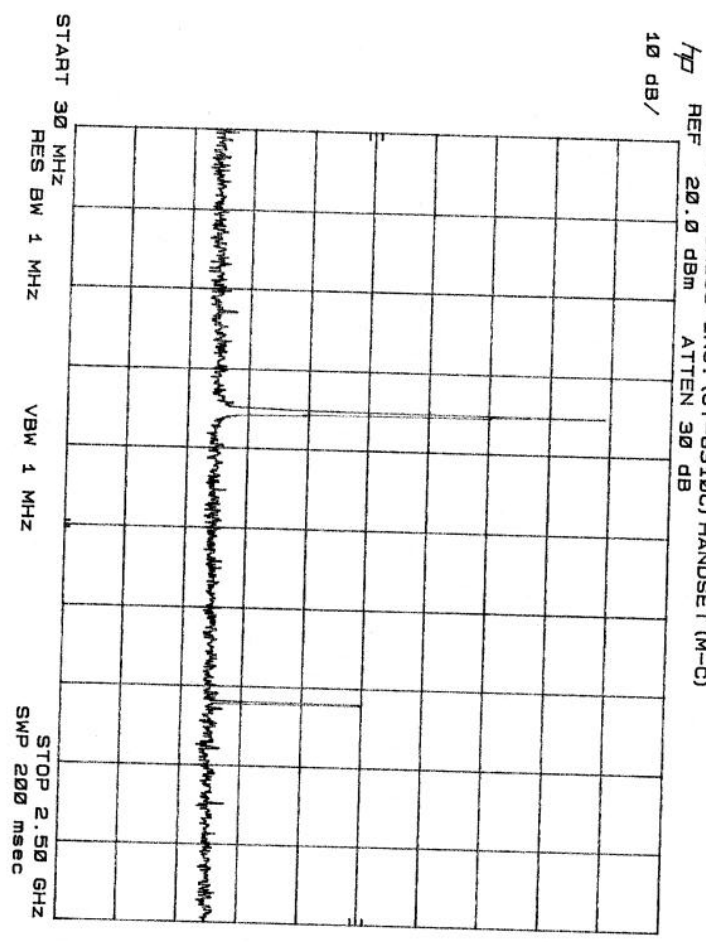
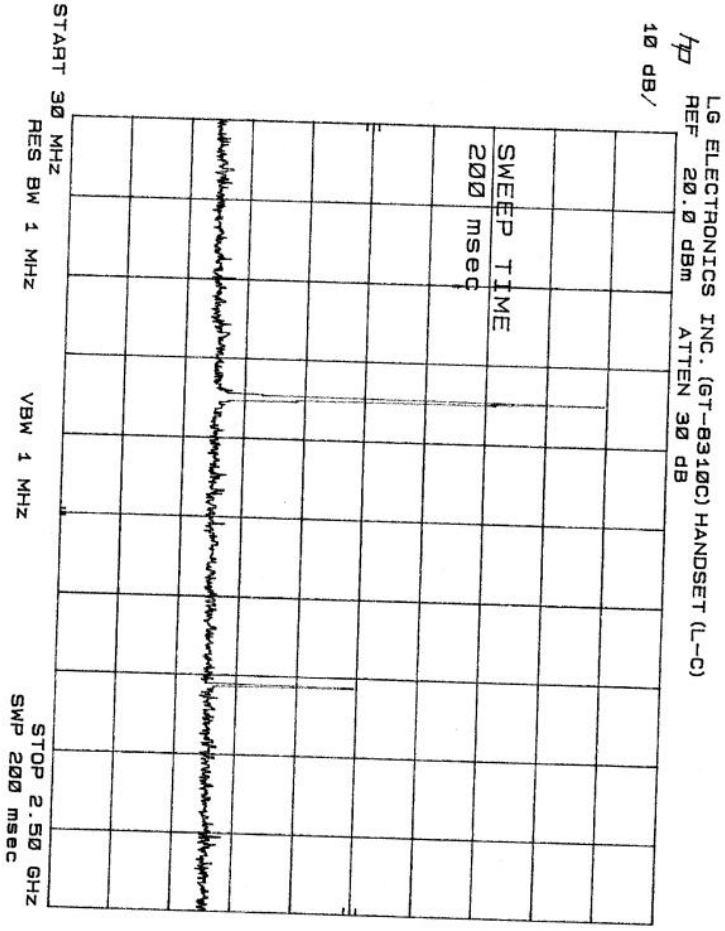
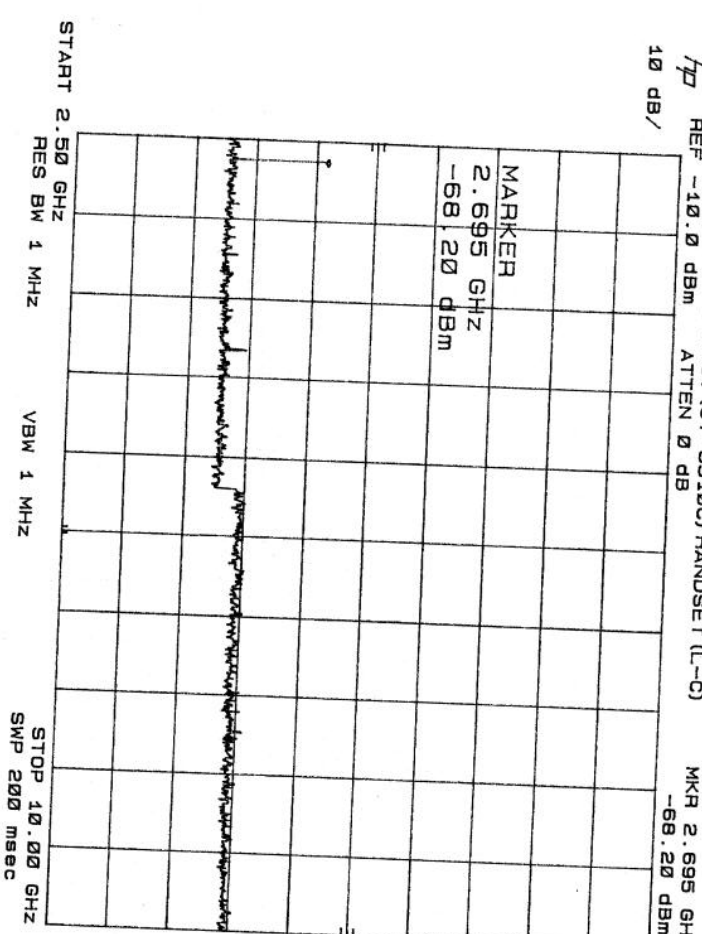


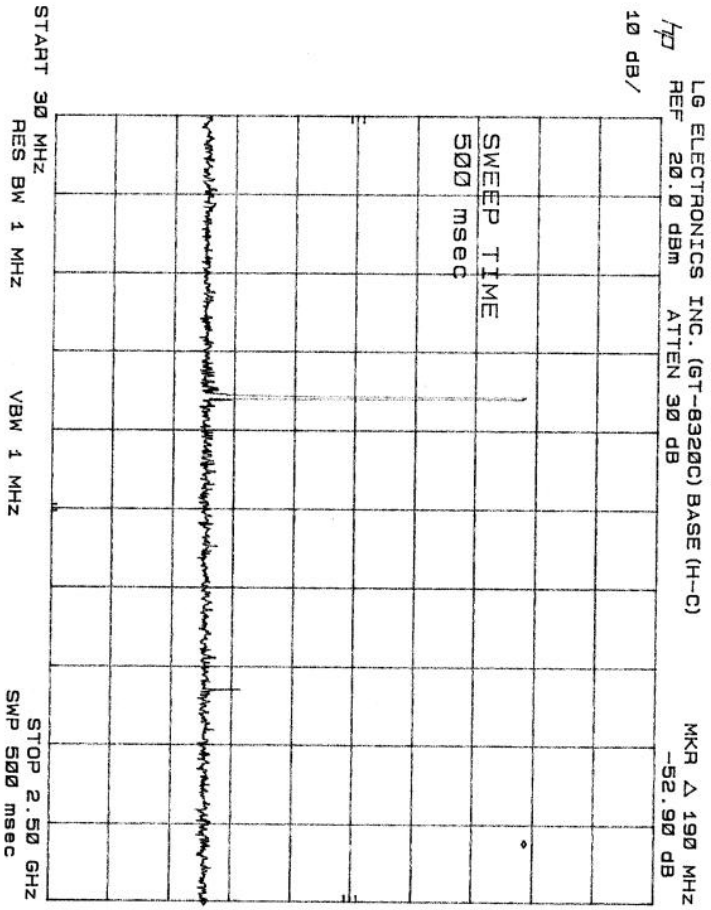
Exhibit 6

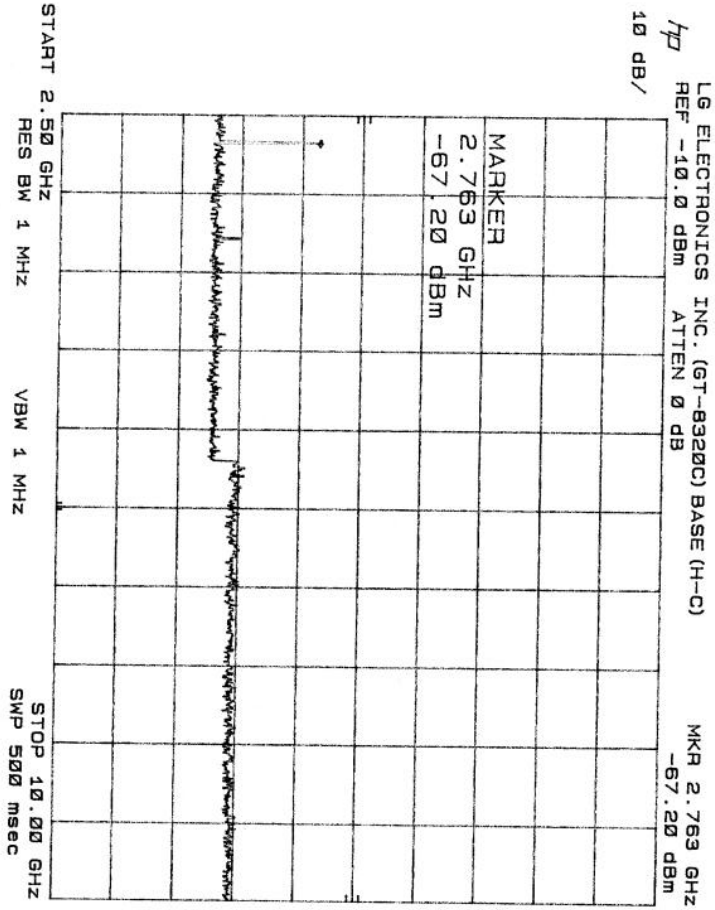
LG Electronics Inc. FCC ID: BEJGT8320C

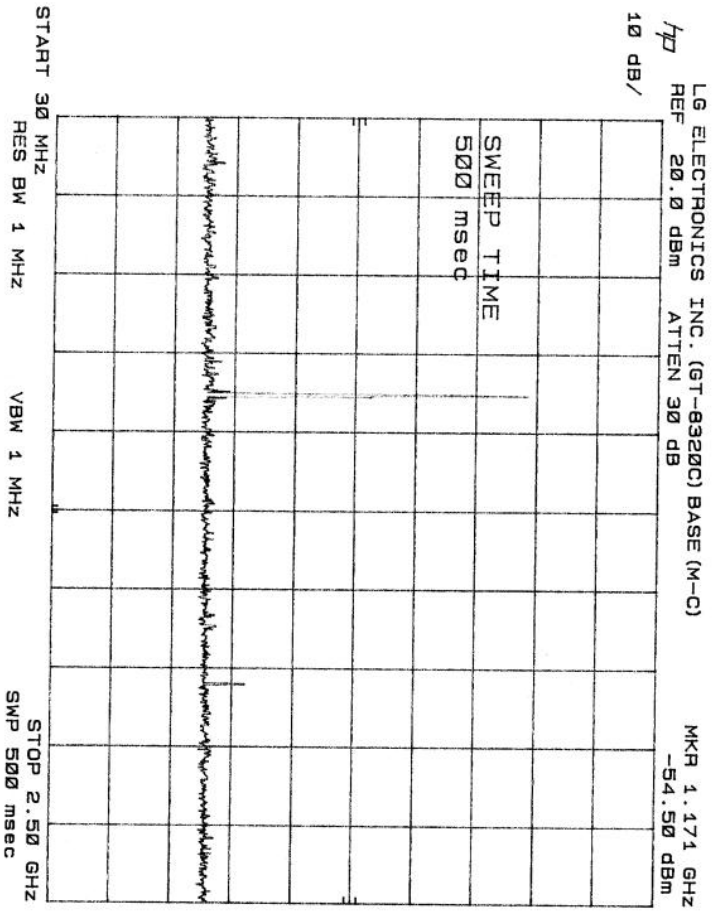


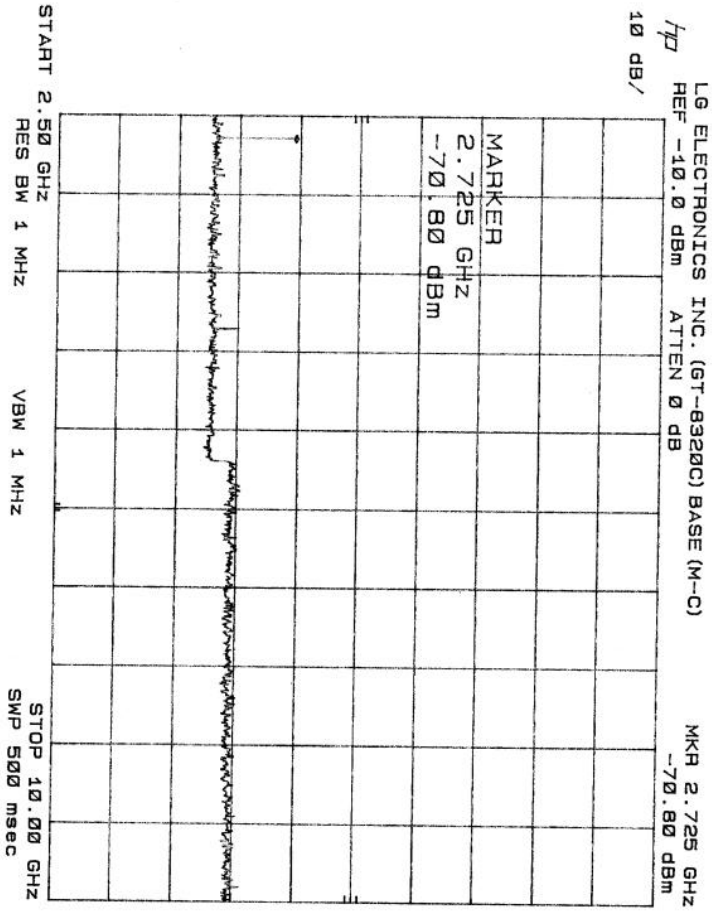

LG ELECTRONICS INC. (GT-8310C) HANDSET (L-C)
REF 20.0 dBm ATTEN 30 dB
10 dB/
SWEEP TIME
200 msec
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 2.50 GHz
SWP 200 msec


LG ELECTRONICS INC. (GT-8310C) HANDSET (L-C)
REF -10.0 dBm ATTEN 0 dB
10 dB/
MARKER
2.695 GHz
-68.20 dBm
MKR 2.695 GHz
-68.20 dBm
START 2.50 GHz
RES BW 1 MHz
VBW 1 MHz
STOP 10.00 GHz
SWP 200 msec


LG ELECTRONICS INC. (GT-8320C) BASE (H-C)
REF 20.0 dBm ATTEN 30 dB
MKR Δ 190 MHz
-52.90 dB
10 dB/
SWEEP TIME
500 msec
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 2.50 GHz
SWP 500 msec


LG ELECTRONICS INC. (GT-8320C) BASE (H-C)
REF -10.0 dBm ATTEN 0 dB
MKR 2.763 GHz
-67.20 dBm
10 dB/
MARKER
2.763 GHz
-67.20 dBm
START 2.50 GHz
RES BW 1 MHz
VBW 1 MHz
STOP 10.00 GHz
SWP 500 msec


LG ELECTRONICS INC. (GT-8320C) BASE (M-C)
REF 20.0 dBm ATTEN 30 dB
MKR 1.171 GHz
-54.50 dBm
10 dB/
SWEEP TIME
500 msec
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 2.50 GHz
SWP 500 msec


LG ELECTRONICS INC. (GT-8320C) BASE (M-C)
REF -10.0 dBm ATTEN 0 dB
MKR 2.725 GHz
-70.80 dBm
10 dB/
MARKER
2.725 GHz
-70.80 dBm
START 2.50 GHz
RES BW 1 MHz
VBW 1 MHz
STOP 10.00 GHz
SWP 500 msec

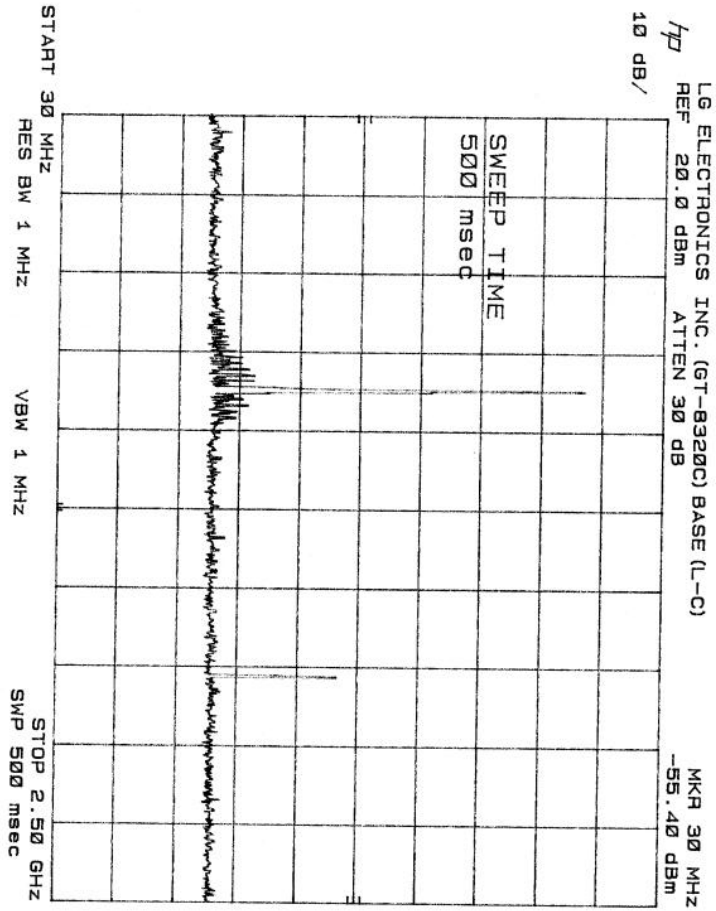
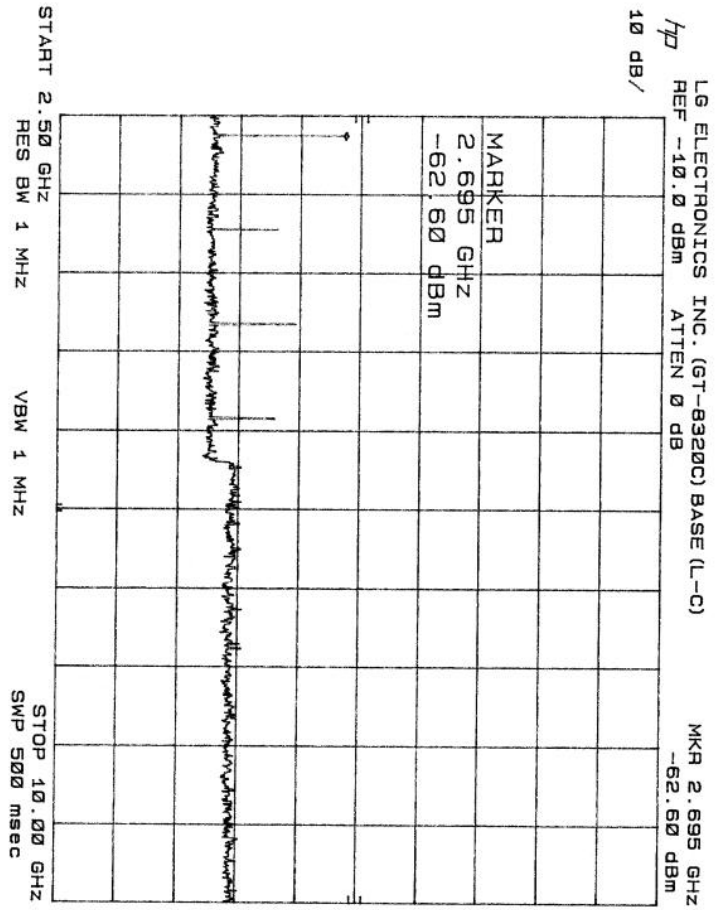


Exhibit 6

LG Electronics Inc. FCC ID: BEJGT8320C



3.6.0 Field Strength of Spurious Radiation (30 MHz-9000MHz)

Requirements: FCC15.247 (2) (c)

3.6.1 Test Procedure

The measurement antenna was placed at a distance of 3 meter from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT.

The frequency range up to tenth harmonics of each of the three fundamental frequencies (low, middle, and high channels) was investigated.

The spurious emissions attenuation was calculated as the difference between EIRP in dB (pW) at the fundamental frequency and at the spurious emissions frequency.

3.6.2 Test Equipment

A.H. System Horn Antenna

High Pass Filter

Preamplifier

Hewlett Packard HP8566B Spectrum Analyzer

Hewlett Packard HP 7470A Plotter

3.6.3 Test Results

Refer to the attached data sheets.

3.6.3.a Final Scan, Base, High Channel.

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC CLASS B	
Frequency MHz	Ampl. dBµV/m	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable dB	Amp. dB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
925.50	88.6	180	1.2	V	24.7	4.4	20.2	97.5		
925.50	80.4	180	1.4	H	24.7	4.4	20.2	89.3		
1851.00	47.1	270	1.4	V	25.3	2.6	20.0	55.0	77.5	-22.5
1851.00	46.2	245	1.3	H	25.3	2.6	20.0	54.1	77.5	-23.4
2777.00	37.9(P)	180	1.4	V	29.0	3.7	20.0	50.6	74.0	-23.4
2777.00	29.6(A)	180	1.4	V	29.0	3.7	20.0	42.3	54.0	-11.7
3703.00	37.6(P)	350	1.4	V	30.3	4.3	20.0	52.2	74.0	-21.8
3703.00	31.5(A)	350	1.4	V	30.3	4.3	20.0	46.1	54.0	-7.9
4629.00	36.5(P)	145	1.4	V	32.5	4.9	20.0	53.9	74.0	-20.1
4629.00	27.6(A)	145	1.4	V	32.5	4.9	20.0	45.0	54.0	-9.0
5554.00	28.4(P)	145	1.3	V	34.1	5.4	20.0	47.9	74.0	-26.1
5554.00	19.0(A)	145	1.3	V	34.1	5.4	20.0	38.5	54.0	-15.5
2777.00	37.6(P)	360	2.2	H	29.0	3.7	20.0	50.3	74.0	-23.7
2777.00	27.8(A)	360	2.2	H	29.0	3.7	20.0	40.5	54.0	-13.5
3703.00	34.9(P)	45	2.2	H	30.3	4.3	20.0	49.5	74.0	-24.5
3703.00	27.5(A)	45	2.2	H	30.3	4.3	20.0	42.1	54.0	-11.9
4629.00	31.3(P)	180	2.3	H	32.5	4.9	20.0	48.7	74.0	-25.3
4629.00	23.3(A)	180	2.3	H	32.5	4.9	20.0	40.7	54.0	-13.3
5554.00	32.8(P)	145	2.3	H	34.1	5.4	20.0	52.3	74.0	-21.7
5554.00	23.2(A)	145	2.3	H	34.1	5.4	20.0	42.7	54.0	-11.3

3.6.3.b Final Scan, Base, Middle Channel.

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC CLASS B	
Frequency MHz	Ampl. dBµV/m	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable dB	Amp. dB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
914.10	89.2	180	1.2	V	24.6	4.2	19.8	98.2		
914.10	81.5	270	1.4	H3	24.6	4.2	19.8	90.5		
1828.00	47.6	15	1.6	H3	25.3	2.6	20.0	55.5	78.2	-22.7
1828.00	43.5	270	1.4	H3	25.3	2.6	20.0	51.4	78.2	-26.8
2742.00	35.9(P)	200	1.6	H3	29.0	3.7	20.0	48.6	74.0	-25.4
2742.00	26.0(A)	200	1.6	H3	29.0	3.7	20.0	38.7	54.0	-15.3
3657.00	35.4(P)	90	1.6	H3	30.3	4.3	20.0	50.0	74.0	-24.0
3657.00	27.1(A)	90	1.6	H3	30.3	4.3	20.0	41.7	54.0	-12.3
4571.00	32.6(P)	45	1.3	H3	32.5	4.9	20.0	50.0	74.0	-24.0
4571.00	26.0(A)	45	1.3	H3	32.5	4.9	20.0	43.4	54.0	-10.6
5486.00	31.9(P)	200	2.0	H3	33.9	5.2	20.0	51.0	74.0	-23.0
5486.00	24.5(A)	200	2.0	H3	33.9	5.2	20.0	43.6	54.0	-10.4
2742.00	35.7(P)	160	3.0	V	29.0	3.7	20.0	48.4	74.0	-25.6
2742.00	28.7(A)	160	1.4	V	29.0	3.7	20.0	41.4	54.0	-12.6
3657.00	37.4(P)	90	1.4	V	30.3	4.3	20.0	52.0	74.0	-22.0
3657.00	30.6(A)	90	1.4	V	30.3	4.3	20.0	45.2	54.0	-8.8
4571.00	27.9(P)	340	1.4	V	32.5	4.9	20.0	45.3	74.0	-28.7
4571.00	21.0(A)	340	1.4	V	32.5	4.9	20.0	38.4	54.0	-15.6
5486.00	28.4(P)	160	1.3	V	33.9	5.2	20.0	47.5	74.0	-26.5
5486.00	19.8(A)	160	1.3	V	33.9	5.2	20.0	38.9	54.0	-15.1

3.6.3.c Final Scan, Base, Low Channel.

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC CLASS B	
Frequency MHz	Ampl. dBµV/m	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable dB	Amp. dB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
904.50	85.2	250	1.2	V	24.8	3.0	19.8	93.2		
904.50	80.6	250	1.4	H3	24.8	3.0	19.8	88.6		
1808.00	44.5	250	1.3	V	25.3	2.6	20.0	52.4	73.2	-20.8
1808.00	44.0	145	3.2	H3	25.3	2.6	20.0	51.9	73.2	-21.3
2712.00	37.4(P)	180	2.2	V	29.0	3.7	20.0	50.1	74.0	-23.9
2712.00	28.3(A)	180	2.2	V	29.0	3.7	20.0	41.0	54.0	-13.0
3616.00	34.6(P)	90	2.2	V	30.3	4.3	20.0	49.2	74.0	-24.8
3616.00	28.1(A)	90	2.2	V	30.3	4.3	20.0	42.7	54.0	-11.3
4520.00	30.7(P)	145	1.3	V	32.5	4.9	20.0	48.1	74.0	-25.9
4520.00	19.8(A)	145	1.3	V	32.5	4.9	20.0	37.2	54.0	-16.8
5425.00	26.9(P)	145	1.2	V	33.9	5.2	20.0	46.0	74.0	-28.0
5425.00	17.7(A)	145	1.2	V	33.9	5.2	20.0	36.8	54.0	-17.2
2712.00	38.5(P)	350	3.2	H3	29.0	3.7	20.0	51.2	74.0	-22.8
2712.00	28.0(A)	350	3.2	H3	29.0	3.7	20.0	40.7	54.0	-13.3
3616.00	32.2(P)	180	3.2	H3	30.3	4.3	20.0	46.8	74.0	-27.2
3616.00	24.0(A)	180	3.2	H3	30.3	4.3	20.0	38.6	54.0	-15.4
4520.00	29.3(P)	360	3.2	H3	32.5	4.9	20.0	46.7	74.0	-27.3
4520.00	22.3(A)	360	3.2	H3	32.5	4.9	20.0	39.7	54.0	-14.3
5425.00	28.0(P)	20	1.5	H3	33.9	5.2	20.0	47.1	74.0	-26.9
5425.00	23.0(A)	20	1.5	H3	33.9	5.2	20.0	42.1	54.0	-11.9

3.6.3.d Final Scan, Handset, High Channel.

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC CLASS B	
Frequency MHz	Ampl. dBµV/m	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable dB	Amp. dB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
926.10	66.6	145	3.0	V	24.7	4.4	20.2	75.5		
926.10	72.2	145	1.1	H	24.7	4.4	20.2	81.1		
1851.00	45.2	230	1.1	V	25.3	2.6	20.0	53.1	61.1	-8.0
1851.00	46.9	145	1.2	H	25.3	2.6	20.0	54.8	61.1	-6.3
2777.00	40.2(P)	360	1.5	V	29.0	3.7	20.0	52.9	74.0	-21.1
2777.00	32.9(A)	350	1.4	V	29.0	3.7	20.0	45.6	54.0	-8.4
3703.00	38.2(P)	190	1.4	V	30.3	4.3	20.0	52.8	74.0	-21.2
3703.00	28.9(A)	190	1.4	V	30.3	4.3	20.0	43.5	54.0	-10.5
5554.00	31.8(P)	200	1.4	V	34.1	5.4	20.0	51.3	74.0	-22.7
5554.00	23.9(A)	200	1.4	V	34.1	5.4	20.0	43.4	54.0	-10.6
2777.00	40.0(P)	70	1.2	H	29.0	3.7	20.0	52.7	74.0	-21.3
2777.00	32.8(A)	70	1.2	H	29.0	3.7	20.0	45.5	54.0	-8.5
3703.00	35.0(P)	180	1.2	H	30.3	4.3	20.0	49.6	74.0	-24.4
3703.00	28.0(A)	180	1.2	H	30.3	4.3	20.0	42.6	54.0	-11.4
5554.00	27.1(P)	245	1.2	H	34.1	5.4	20.0	46.6	74.0	-27.4
5554.00	18.0(A)	245	1.2	H	34.1	5.4	20.0	37.5	54.0	-16.5

3.6.3.e Final Scan, Handset, Middle Channel.

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC CLASS B	
Frequency MHz	Ampl. dBµV/m	Angle Degree	Heigh Meter	Polar H/ V	Antenna dBµV/m	Cable dB	Amp. dB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
914.69	65.3	160	2.9	V	24.6	4.2	19.8	74.3		
914.69	72.8	145	1.1	H	24.6	4.2	19.8	81.8		
1828.00	43.8	270	1.2	H	25.3	2.6	20.0	51.7	61.8	-10.1
1828.00	46.5	145	1.8	V	25.3	2.6	20.0	54.4	61.8	-7.4
2743.00	39.3(P)	260	1.2	H	29.0	3.7	20.0	52.0	74.0	-22.0
2743.00	29.7(A)	260	1.2	H	29.0	3.7	20.0	42.4	54.0	-11.6
3657.00	36.2(P)	30	1.5	H	30.3	4.3	20.0	50.8	74.0	-23.2
3657.00	27.6(A)	30	1.5	H	30.3	4.3	20.0	42.2	54.0	-11.8
5486.00	29.9(P)	100	1.5	H	33.9	5.2	20.0	49.0	74.0	-25.0
5486.00	23.2(A)	100	1.5	H	33.9	5.2	20.0	42.3	54.0	-11.7
5486.00	33.3(P)	120	1.8	V	33.9	5.2	20.0	52.4	74.0	-21.6
5486.00	24.6(A)	120	1.8	V	33.9	5.2	20.0	43.7	54.0	-10.3
3657.00	36.8(P)	90	1.8	V	30.3	4.3	20.0	51.4	74.0	-22.6
3657.00	29.8(A)	90	1.8	V	30.3	4.3	20.0	44.4	54.0	-9.6
2473.00	42.1(P)	200	1.8	V	28.1	3.4	20.0	53.6	74.0	-20.5
2473.00	33.9(A)	200	1.8	V	28.1	3.4	20.0	45.4	54.0	-8.7

3.6.3.f Final Scan, Handset, Low Channel.

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC CLASS B	
Frequency MHz	Ampl. dBµV/m	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable dB	Amp. dB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
904.50	66.2	340	2.9	V	24.8	3.0	19.8	74.2		
904.50	73.5	90	1.1	H	24.8	3.0	19.8	81.5		
1808.00	43.0	200	1.1	V	25.3	2.6	20.0	50.9	61.5	-10.6
1808.00	41.2	160	1.2	H	25.3	2.6	20.0	49.1	61.5	-12.4
2712.00	38.5(P)	270	1.2	H	29.0	3.7	20.0	51.2	74.0	-22.8
2712.00	28.3(A)	270	1.2	H	29.0	3.7	20.0	41.0	54.0	-13.0
3616.00	37.8(P)	360	1.9	H	30.3	4.3	20.0	52.4	74.0	-21.6
3616.00	26.5(A)	360	1.9	H	30.3	4.3	20.0	41.1	54.0	-12.9
5425.00	28.9(P)	180	1.8	H	33.9	5.2	20.0	48.0	74.0	-26.0
5425.00	22.7(A)	180	1.8	H	33.9	5.2	20.0	41.8	54.0	-12.2
2712.00	34.4(P)	180	1.4	V	29.0	3.7	20.0	47.1	74.0	-26.9
2712.00	24.0(A)	180	1.4	V	29.0	3.7	20.0	36.7	54.0	-17.3
3616.00	32.0(P)	270	1.4	V	30.3	4.3	20.0	46.6	74.0	-27.4
3616.00	26.5(A)	270	1.4	V	30.3	4.3	20.0	41.1	54.0	-12.9
5425.00	29.6(P)	145	1.4	V	33.9	5.2	20.0	48.7	74.0	-25.3
5425.00	23.3(A)	145	1.4	V	33.9	5.2	20.0	42.4	54.0	-11.6

3.7.0 Processing Gain

Processing Gain Measurements for GT-8110 DCT TEST report

3.7.1 Scope

This document details the results of measurement of the processing gain of a DCT(GT-8320C) with reference to the Code of Federal Regulations, Title 47, Chapter 1, Part 15 Radio Frequency Devices, FCC. The purpose of this document is to provide conceptual background of processing gain and method of measurement.

FCC	Federal Communications Commission
SNR	Signal to Noise Ratio
JSR	Jammer to Signal Ratio
CW	Continuous wave (jammer)
HS	Handset
BS	Basestation
DBPSK	Differential Binary Phase Shift Keying

Table 1: Definitions and Abbreviations

3.7.2 An Overview of the FCC Method for measuring Processing Gain

Processing Gain Calculation

Theoretical processing gain limit for the 12bit Spreading BPSK system is 10.8dB.

Processing Gain = 10Log (Spreaded data rate/Unspreaded data rate)
= 10Log [(12 Chip/bit*100Kbit/sec)/100Kbit/sec)]
= 10Log[12]
= 10.8dB

Processing Gain Measurement Method

Following method is specified by the FCC to measure processing gain. The detailed are in 15.247 (e)(1). This involves transmitting a CW jammer in the RF passband of the system and measuring the jammer to signal ratio (JSR) required to achieve a certain bit error rate. The choice of the actual value of the bit error rate is left up to the tester. The jammer is stepped in 50 kHz increments across the entire passband and in each case the JSR to achieve the desired bit error rate is measured. The JSR is measured at the RF input to the system under test. The lowest 20% of the JSR data (in dB) is discarded. The processing gain can then be calculated as follows:

$$G_p = \left(\frac{S}{N}\right)_{theory} + \left(\frac{J}{S}\right)_{measured} + L_{system}$$

Where G_p is the processing gain, the SNR is that theoretically predicted for the system under the test to achieve the desired bit error rate, the JSR is the lowest value (in dB) in the remaining data set and L_{sys} adjusts for non-ideal system losses. L_{sys} cannot be greater than 2 dB.

3.7.3 Processing Gain Measurement Test Setup

The test setup is shown in Fig.1. The base station and handset are configured to measure the Bit Error Rate (BER) through serial ports of a personal computer. Conexant's software utility program (FCC_3V3.exe) is used to configure the test modes, establish the link between the base and handset unit and monitor the results. The BER test results are displayed on the monitor. The strength of the received signal entering at the receiving antenna port of the unit under test is derived from the signal strength of the transmitting unit. The following parameters were used in the test setup.

General Procedure

Step-1: Measure the output power of the base and handset units in LO power mode. Determine attenuation and signal losses in the path to calculate the received signal strength arriving at the base station antenna port.
Step-2: Connect the serial interface of the base and handset to the serial ports of a PC.
Step-3: Connect the base and handset through attenuator, signal combiner etc components using 50 ohm SMA connectors and cables as shown in Figure 1. Thus, the BER test set up establishes link through wired connection.Step-4;Using utility test software, select the channel frequency (921.6MHz), LOW power mode, LNA attenuation for base and handset units.
Step-5: Click on " Start S7 HS Master" button ON. The two link is established and the BER results are displayed on monitor.
Step-6:Feed jamming signal from the signal generator.
Step-7: Increase the amplitude of the jamming while monitoring BER such that the BER is ≤10E-3. this signal power is recorded for computing received Jammer power level J.
Step-8: Increment the Jammer signal frequency in steps of 0kHZ and repeat step 7 and determine the minimum Jammer signal power to achieve BER of ≤10E-3. Calculate the processing gain.

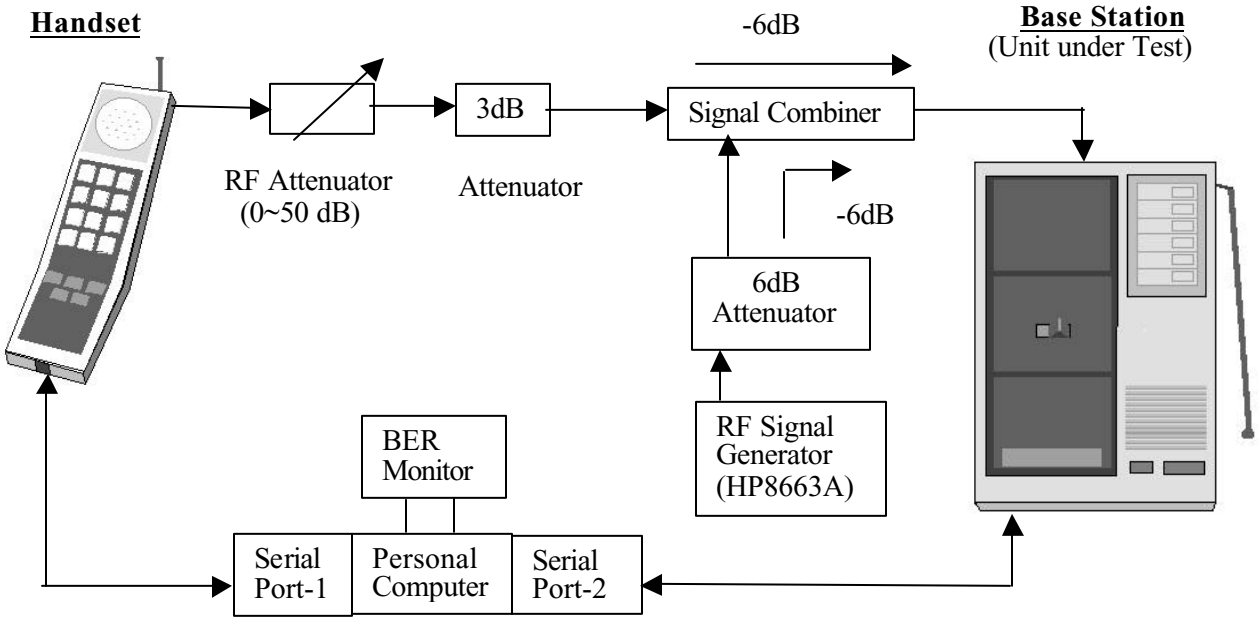


Figure 1: Test Setup

The following parameter was used in the test setup.

Table 2: Test Setup Parameters

HS Tx power (dBm)	-1.9	Measured @ 50-ohm SMA-antenna port
BS LNA gain (dB)	0	
Test system losses (signal)(dB)	-61.75	-50dB (channel attenuation)-5.7dB (attenuator & cables), -6dB (signal combiner)
Received signal strength (dBm) at combiner output	-63.65	Measured @ combiner output
Test system losses (jammer) (dB) upto the combiner output	-12.85	-6dB (attenuator), -6dB (signal combiner), -0.85 dB (cable)

3.7.4 Results and Conclusions

The following measurement results were taken at the basestation. The desired bit error rate was set at 10^{-3}.

Table 3: Test Results

Jammer Frequency (MHz)	BER (BS)	Received jammer power (dBm)	Received signal power (dBm)	Jammer/Signal ratio (dB)
913.80	$9.4x10^{-4}$	-59.65	-63.65	4.5
913.85	$9.6x10^{-4}$	-57.95	-63.65	5.7
913.90	$9.6x10^{-4}$	-60.25	-63.65	3.3
913.95	$9.6x10^{-4}$	-64.25	-63.65	-0.6
914.00	$1.1x10^{-3}$	-61.55	-63.65	2.1
914.05	$9.8x10^{-4}$	-61.45	-63.65	2.2
914.10	$1.1x10^{-3}$	-61.95	-63.65	1.9
914.15	$9.2x10^{-4}$	-62.85	-63.65	0.7
914.20	$1.0x10^{-3}$	-59.85	-63.65	3.5
914.25	$1.0x10^{-3}$	-61.15	-63.65	2.5
914.30	$1.1x10^{-3}$	-62.05	-63.65	1.5
914.35	$1.0x10^{-3}$	-57.65	-63.65	6.0
914.40	$1.1x10^{-3}$	-55.65	-63.65	8.1
914.45	$1.0x10^{-3}$	-49.35	-63.65	14.3
914.50	$1.1x10^{-3}$	-59.25	-63.65	4.7
914.55	$1.0x10^{-3}$	-62.35	-63.65	1.3
914.60	$9.7x10^{-4}$	-59.05	-63.65	4.6
914.65	$1.0x10^{-3}$	-61.05	-63.65	2.6
914.70	$1.1x10^{-3}$	-62.55	-63.65	1.1
914.75	$9.0x10^{-4}$	-61.95	-63.65	1.7
914.80	$1.0x10^{-3}$	-61.05	-63.65	2.6
914.85	$9.9x10^{-4}$	-62.25	-63.65	1.3
914.90	$1.1x10^{-3}$	-64.05	-63.65	-0.3
914.95	$9.2x10^{-4}$	-56.25	-63.65	7.4
915.00	$1.0x10^{-3}$	-59.85	-63.65	4.1
915.05	$1.1x10^{-3}$	-57.25	-63.65	6.6
915.10	$9.9x10^{-4}$	-58.15	-63.65	5.6

For DBPSK at 10^{-3} bit error rate the required SNR is 8.0 dB. Using the results above and the data in the table below the processing gain is calculated to be **11.3** dB.

Table 4: Processing Gain Calculation data

required SNR (dB)	8.0
system losses (dB)	2.0
J/S ratio at 80% point (dB)	1.30
FCC Processing gain (dB)	**11.3**

Conclusions

The result measured for processing gain of **11.3** dB is close to the actual processing gain due to a 12 chip spreading code of

$$10 \times log_{10}(12) = 10.8\ dB$$

4 - CONDUCTED EMISSIONS TEST DATA

4.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BACL is ±2.4 dB.

4.2 EUT Setup

The measurement was performed at the **O**pen **A**rea **T**est **S**ite, using the same setup per ANSI C63.4 - 1992 measurement procedure. The specification used was with FCC Class B limits.

4.3 Spectrum Analyzer Setup

The spectrum analyzer was set with the following configurations during the conduction test:

Start Frequency	450 kHz
Stop Frequency	30 MHz
Sweep Speed	Auto
IF Bandwidth	100 kHz
Video Bandwidth	100 kHz
Quasi-Peak Adapter Bandwidth	9 kHz
Quasi-Peak Adapter Mode	Normal

4.4 Test Procedure

During the conducted emission test, the power cord of the host system was connected to the auxiliary outlet of the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of each modes tested to ensure EUT is compliant with all installation combination.

All data was recorded in the peak detection mode. Quasi-peak readings were only performed when an emission was found to be marginal (less than -4 dBµV). Quasi-peak readings are distinguished with a "**QP**".

4.5 Summary of Test Results

According to the data in section 3.6, the EUT complied with the FCC Conducted margin for a Class B device and these test results is deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations, with the *worst* margin reading of:

-5.4 dBµV at **0.450 MHz** in the **Line** mode power supply.

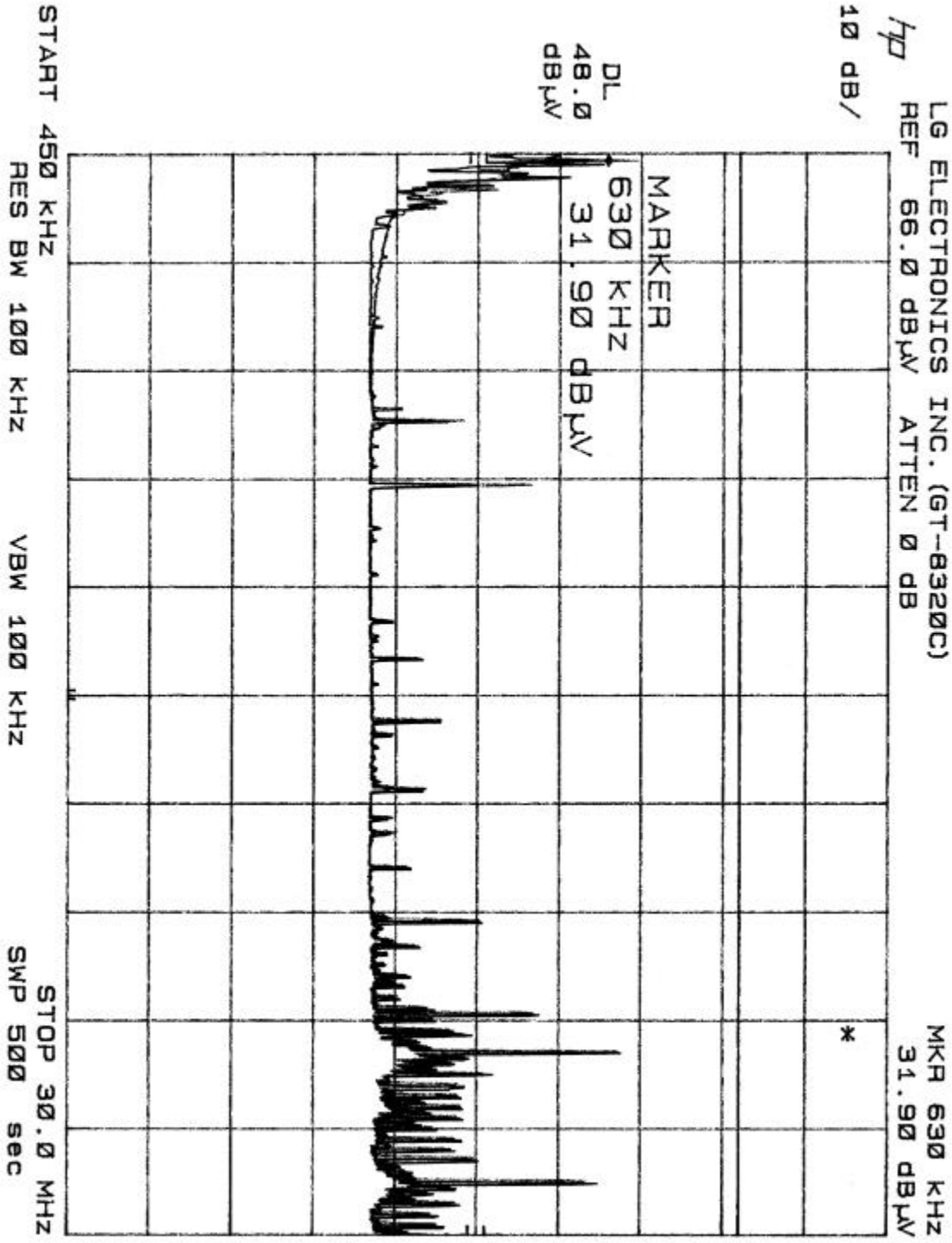
4.6 Conducted Emissions Test Data

4.6.1 Test Data, 0.45 - 30 MHz.

LINE CONDUCTED EMISSIONS				FCC CLASS B	
Frequency	Amplitude	Detector	Phase	Limit	Margin
MHz	dBµV	QP/Ave/Peak	Line/Neutral	dBµV	DB
0.450	41.5	AVPeak	Line	47	-5.4
0.450	35.6	AVPeak	Neutral	47	-11.3
16.580	15.7	AVPeak	Line	50	-34.3
15.850	14.8	AVPeak	Neutral	50	-35.2
2.810	13.4	AVPeak	Line	46	-32.6
3.580	6.9	AVPeak	Neutral	46	-39.1

4.7 Plot of Conducted Emissions Test Data

Plot(s) of Conducted Emissions Test Data is presented in the following Appendix of this report as reference.


LG ELECTRONICS INC. (GT-8320C)
REF 66.0 dBµV ATTEN 0 dB
10 dB/
DL
48.0
dBµV
MARKER
630 KHz
31.90 dBµV
MKR 630 kHz
31.90 dBµV
START 450 kHz
RES BW 100 kHz
VBW 100 kHz
STOP 30.0 MHz
SWP 500 sec

Sample Calculation

Take the data on Page 52 of BACL Test Report for GT-8320C.

The Corrected Amplitude is calculated by add the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor – Amplifier Gain

For example, when the frequency was 2777.00, the Indicated Reading Amli. was 37.9 MHz, Antenna Factor was 29 dBìV/M, the Cable Factor was 3.7 dB, the Amplifier Gain was 20.0, so based on the above equation, the Corr. Ampl. was

37.9 + 29 + 3.7 – 20.0 = 50.6

The **"Margin"** column of the following data tables indicated the degree of compliance with the applicable limit. For example, a margin of –7dBì means the emission is 7dBì below the maximum limit for FCC Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Class B Limit.

The FCC Class B limit for Frequency 3703 MHz is 74 dBìV/M , so the margin here was

50.6 – 74 = - 23.4

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Antenna Gain and EIRP

Antenna Gain was zero under this report.

EIRP was calculated according to the following equation:

P = (E.D) ^{2}/30G 8 d Bì V/M = 10 mW.