

RADIATED SPURIOUS EMISSIONS PORTIONS OF

FCC CFR47 PART 15 SUBPART C

FOR

DUAL-BAND 1xRTT CDMA PHONE WITH BLUETOOTH

MODEL NUMBER: SCP- 6780

FCC ID: V65SCP-6780

REPORT NUMBER: 10U13238-2

ISSUE DATE: MAY 28, 2010

Prepared for KYOCERA COMMUNICATIONS, INC 10300 CAMPUS POINT DRIVE SAN DIEGO, CA 92121, U.S.A.

Prepared by COMPLIANCE CERTIFICATION SERVICES 47173 BENICIA STREET FREMONT, CA 94538, U.S.A. TEL: (510) 771-1000 FAX: (510) 661-0888

(R)

NVLAP LAB CODE 200065-0

Revision History

Rev.	lssue Date	Revisions	Revised By
	05/28/10	Initial Issue	T. Chan

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	KYOCERA COMMUNICATIONS, INC 10300 CAMPUS POINT DRIVE SAN DIEGO, CA 92121, U.S.A.
EUT DESCRIPTION:	DUAL-BAND 1xRTT CDMA PHONE WITH BLUETOOTH
MODEL:	SCP-6780
SERIAL NUMBER:	6780D253
DATE TESTED:	MAY 27 AND 28, 2010
	APPLICABLE STANDARDS

APPLICABLE STANDARDS					
STANDARD	TEST RESULTS				
CFR 47 Part 15 Subpart C	PASS (Radiated Portion)				

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For CCS By:

" huf

THU CHAN EMC MANAGER COMPLIANCE CERTIFICATION SERVICES Tested By:

MENGISTU MEKURIA EMC ENGINEER COMPLIANCE CERTIFICATION SERVICES

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <u>http://www.ccsemc.com</u>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB) 36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Bluetooth featured Dual-band CDMA Phone that manufactured by Kyocera wireless Communications, Inc.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal antenna, with a maximum gain of -1.0dBi.

5.3. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 1.0.10.0.

The test utility software used during testing was FCC_tools.

5.4. WORST-CASE CONFIGURATION

The worst-position was the EUT with highest emissions. To determine the worst-case, the EUT was investigated for X, Y, Z, and Natural Open-Orientations, and the worst orientation among them with AC/DC adapter and Headset. After the investigations, the worst-orientation was turned out to be a Natural Open-Orientation with Headset only.

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5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

	I/O CABLE LIST								
Cable	Port	# of	Connector	Cable	Cable	Remarks			
No.		Identical	Туре	Туре	Length				
		Ports							
1	DC Input	1	Micro-USB	Un-Shielded	1.0 m	N/A			
2	Audio	1	Mini-Jack	Un-Shielded	1.0 m	Volume Control on the Wire			

I/O CABLES

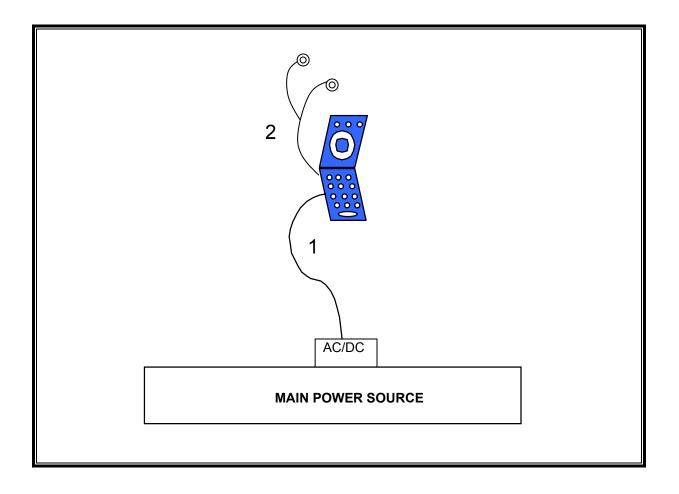
	I/O CABLE LIST								
Cable	Port	# of	Connector	Cable	Cable	Remarks			
No.		Identical	Туре	Туре	Length				
		Ports							
1	DC Input	1	Micro-USB	Un-Shielded	1.0 m	N/A			
2	Audio	1	Mini-Jack	Un-Shielded	1.0 m	Volume Control on the Wire			

TEST SETUP

The headset attached EUT is tested as stand-alone unit. The embedded software is used to change the channels and modulations for the EUT.

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SETUP DIAGRAM FOR TESTS



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6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

	TEST EQUIPMENT LIST							
Description	Manufacturer	Model	Asset	Cal Due				
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	08/04/10				
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	08/04/10				
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	07/14/10				
Antenna, Horn, 18 GHz	EMCO	3115	C00783	07/29/10				
Antenna, Horn, 18 GHz	EMCO	3115	C00945	07/29/10				
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01179	08/24/10				
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	08/31/10				
EMI Test Receiver, 30 MHz	R&S	ESHS 20	N02396	05/06/11				
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	11/06/10				
Reject Filter, 2.4-2.5 GHz	Micro-Tronics	BRC13192	N02683	CNR				

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7. RADIATED TEST RESULTS

7.1. LIMITS AND PROCEDURE

<u>LIMITS</u>

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

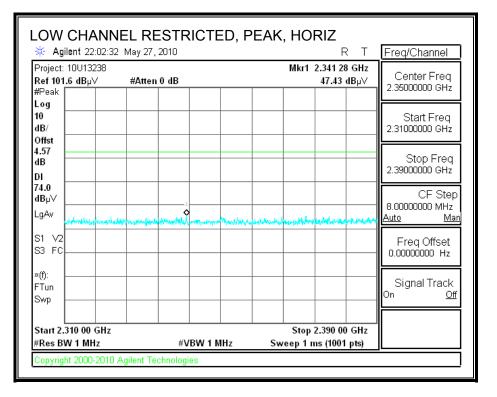
<u>RESULTS</u>

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7.2. TRANSMITTER ABOVE 1 GHz

7.2.1. BASIC DATA RATE GFSK MODULATION

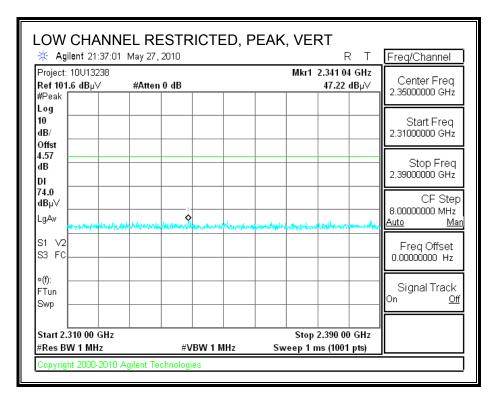
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

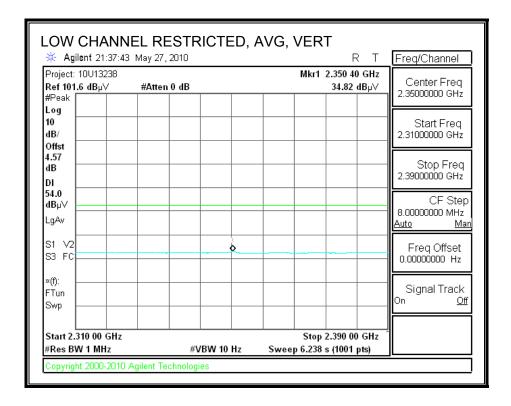


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🔆 Agilent 22:03:2:	2 May 27, 2010			RT	Freq/Channel
Project: 10∪13238 Ref 101.6 dB µ∨ #Peak	#Atten 0 dB		Mkr	1 2.350 40 GHz 35.50 dBµ∀	Center Freq 2.35000000 GHz
.og 0 B/ Dffst					Start Freq 2.31000000 GHz
I.57 IB					Stop Freq 2.39000000 GHz
01 і4.0 ІВµ∨ _gAv					CF Step 8.0000000 MHz Auto Ma
S1 ∨2 S3 FC		×			Freq Offset 0.00000000 Hz
(f): :Tun Swp					Signal Track
Start 2.310 00 GHz Res BW 1 MHz	#VB	W 10 Hz		p 2.390 00 GHz 8 s (1001 pts)	

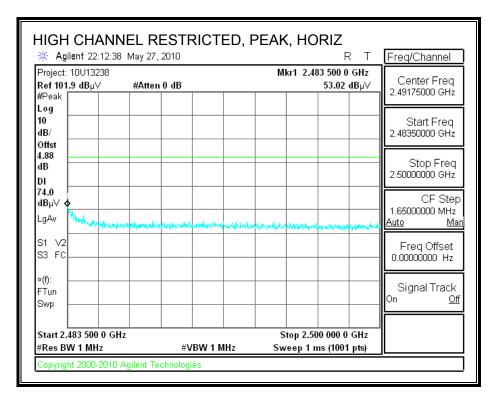
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

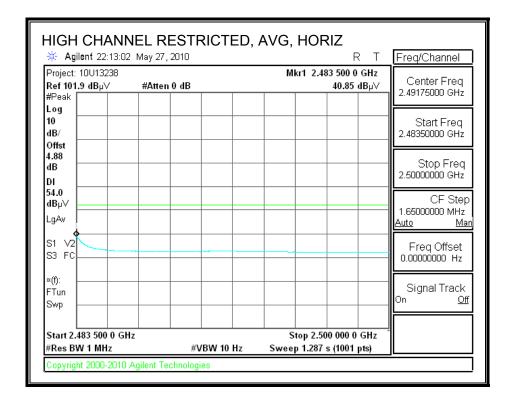




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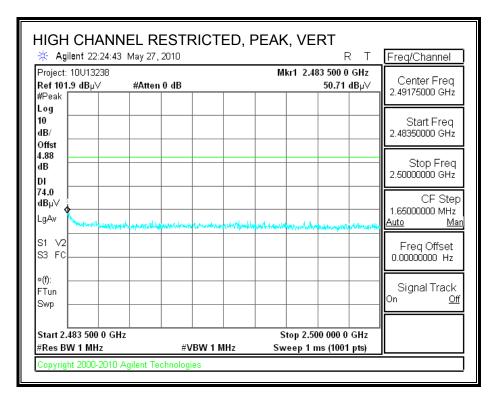
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

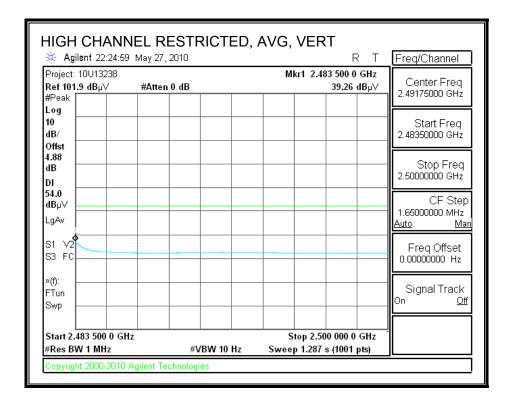




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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)





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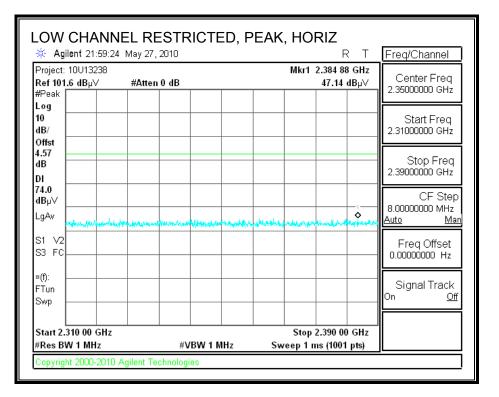
HARMONICS AND SPURIOUS EMISSIONS

-		Measurem												
-	Certification	Services, Fr	emont f	5m Cha	mber									
'ompany:		KYOCERA W	IRELESS											
roject #:		10U13238												
ate:		5/28/2010												
est Enginee		MENGISTU N												
onfiguration	ı:	EUT, HEADSI		AC ADA	APTER									
lode:		TX, GFSK MC	DDE											
uty Cycle C	orrection Fac	tor = -23.5	4dB (M	ax=-20	dB)									
est Equipme	ent:													
Horn	1-18GHz	Pre-ar	nplifer	1-26G	Hz	Pre-am	plifer	26-40GH	z	Но	orn > 18G	Hz		Limit
T59; S/N: 32	245 @3m	T145 /	Agilent 3	008400	54				-					FCC 15.205 🚽
133; 3/14: 32	24J (00)3111	T 143 F	Agrient 3	000A00	•				•				•	
- Hi Frequency (Cables	1			_									
3' cable	22807700	12' c	able 2	28076	00	20' ca	ble 22	807500		HPF	Pa	iect Filte	Peak	Measurements
o cubic	22001100	12 0										jectrite	RBV	V=VBW=1MHz
3' cable 2	22807700	, 12' ca	nble 228	07600	_	20' cab	le 2280	7500 🖕			- R	002	Average	Measurements =
													Peak -	Duty Cyccle Factor
f Dis	t Read Pla	Read Avg.	AF	CL	Amp	D Corr	Fltr	Peak	Avg	Pk Lim	Avg Tim	Pk Mar	Avg Mar	Notes
GHz (m)		dBuV	dB/m	dB	dB	dB	dB	1	dBuV/m	dBuV/m	dBuV/m	dB	dB	(V/H)
w Channel (24	/ :	abu.	(LL)/III		<u></u>			LDunn	a de la contra de la	abu m				(1/11)
804 3.0		37.8	32.8	5.8	-34.8	0.0	0.0	61.5	41.5	74	54	-12.5	-12.5	v
	57.2	37.2	32.8	5.8	-34.8	0.0	0.0	60.9	40 <i>.</i> 9	74	54	- 13.1	- 13.1	Н
804 3.0						1								
id Channel (24	441.0 MHz)		32.8	58	.34 0	0.0	nn	58 3	38.3	74	54	-157	-157	v
id Channel (24 884 3.0	441.0 MHz)) 54.5	34 <i>5</i> 368	32.8 32.8	5.8 5.8	-34.9 -34.9	۵0 ۵0	0.0 0.0	58.3 60.6	38.3 40.6	74 74	54 54	-15.7 -13.4	-15.7 -13.4	V H
id Channel (24 884 3.0 884 3.0	441.0 MHz)) 54.5) 56.8	34.5												
lid Channel (24 884 3.0	441.0 MHz) 54.5 56.8 80.0 MHz)	34.5												

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7.2.2. ENHANCED DATA RATE 8PSK MODULATION

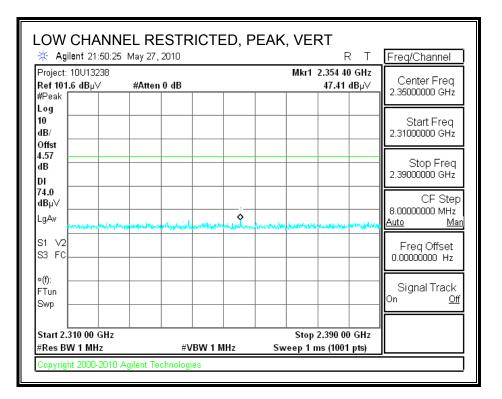
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

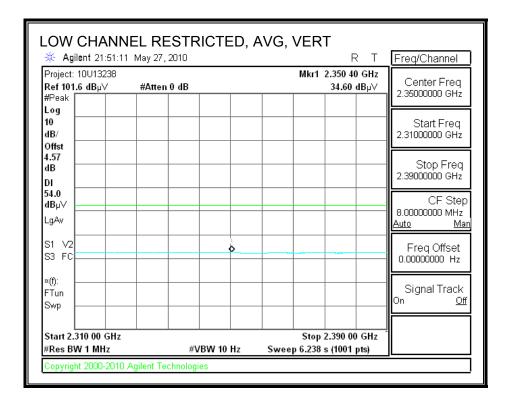


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K Agilent 22:00:0	11 May 27, 2010			RT	Freq/Channel
Project: 10U13238 Ref 101.6 dB µ∨ ⊄Peak	#Atten 0 dB		Mkr1	2.350 40 GHz 34.84 dBµ∨	Center Freq 2.35000000 GHz
.og 0 IB/					Start Freq 2.31000000 GHz
IB					Stop Freq 2.39000000 GHz
)I i4.0 IВµ∨ .gAv					CF Step 8.0000000 MHz <u>Auto Ma</u>
31 V2 33 FC		0			Freq Offset 0.00000000 Hz
(f): :Tun Swp					Signal Track On <u>Of</u>
Start 2.310 00 GHz Res BW 1 MHz	#VB	W 10 Hz	Stop Sweep 6.238	2.390 00 GHz s (1001 pts)	

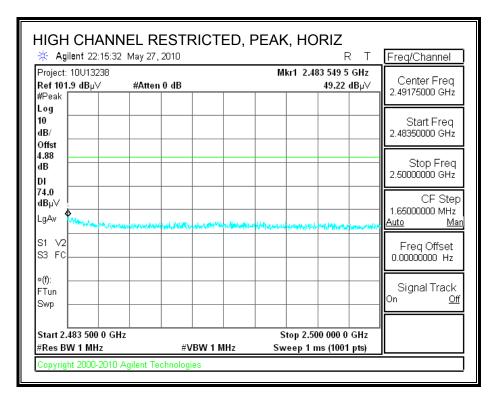
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

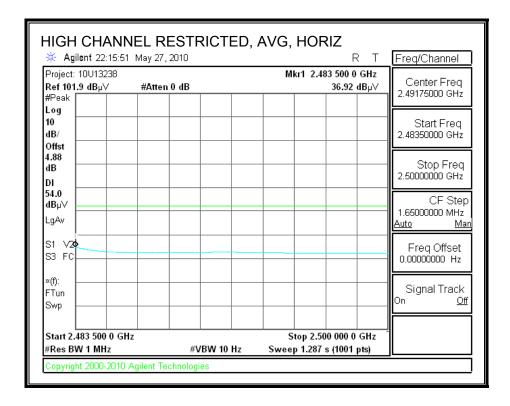




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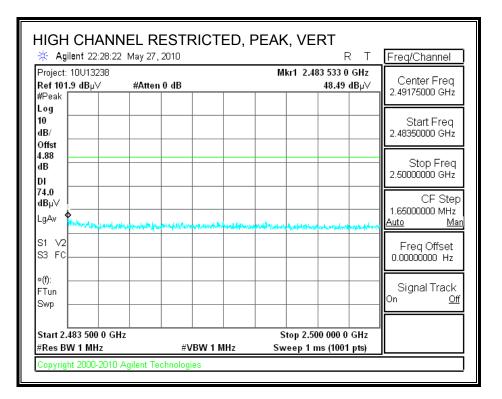
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

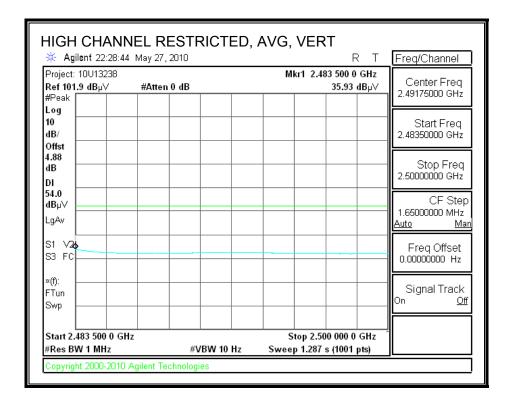




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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)





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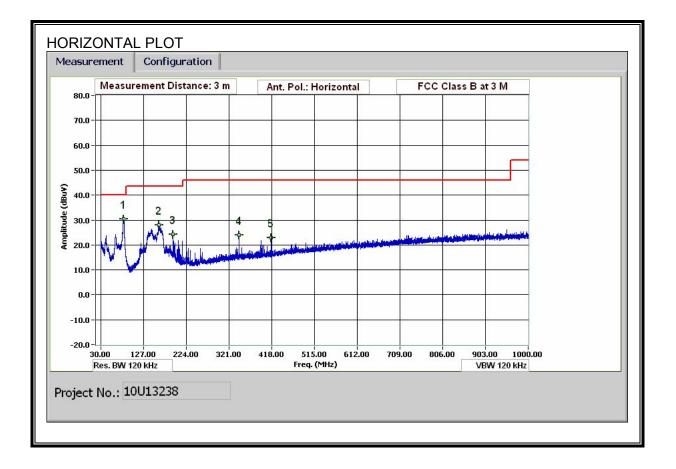
HARMONICS AND SPURIOUS EMISSIONS

	~	Frequency													
ompli	ance Ce	ertification S	Services, Fr	emont :	5m Ch	amber									
ompai	ay:	:	KYOCERA W	IRELESS											
roject	#:		10U13238												
ate:			5/28/2010												
est En	gineer:	:	MENGISTU N	IEKURIA	4										
onfigu	ration:	:	EUT, HEADSI	ET, AND	AC AE	APTER									
ode:			TX, 8PSK MO	DE											
uty Cy	cle Co	rection Fac	tor = -23.5	4dB (M	lax=-2	OdB)									
est Eq	puipmer	ıt:													
н	lorn 1	18GHz	Pre-ar	nplifer	1-26	GHz	Pre-am	plifer	26-40GH	z	Ho	rn > 18G	Hz		Limit
T59; 9	S/N: 324	5@3m -	- T145 A	Agilent 3	3008A0	05(🖵				-				-	FCC 15.205
Hi Free	quency Ca	bles					1								
3'	cable 3	2807700	12' 0	able 2	28076	500	20' ca	ble 22	807500		HPF	Pa	ie et Filte	Peak	<u>Measurements</u>
Ŭ		2007700		4010 2								Reject Filter RBW=VBW=1MHz			
3' c	able 22	807700	12' ca	ble 228	07600		20' cab	228	7500				004	Δνοιασ	e Measurements =
							20 Cab	10 2200	JI 300 _			- K	001		
		•		DIE 220	07000	•	20 cab	10 2200				• K_	001		Duty Cyccle Factor
f				AF	CL	Amp	D Corr	Fltr	Peak	Avg	Pk Lim			Peak -	
-		Read Pk dBuV			CL	• Amp dB				Avg dBuV/m	Pk Lim dBuV/m				Duty Cyccle Factor
GHz	Dist (m)	Read Pk dBuV	Read Avg.	AF	CL		D Corr	Fltr	Peak			Avg Lim	Pk Mar	Peak -	Duty Cyccle Factor Notes
- GHz w Chai	Dist (m)	Read Pk	Read Avg.	AF	CL		D Corr	Fltr	Peak			Avg Lim	Pk Mar	Peak -	Duty Cyccle Factor Notes
- GHz w Chai 304	Dist (m) nnel (240	Read Pk dBuV 2.0 MHZ)	Read Avg. dBuV	AF dB/m	CL dB	4B	D Corr dB	Fltr dB	Peak dBuV/m	dBuV/m	dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Peak - Avg Mar dB	Duty Cyccle Factor Notes (V/H)
GHz w Cha 304 304	Dist (m) nnel (240 3.0 3.0	Read Pk dBuV 2.0 MHZ) 49.1 49.4	Read Avg. dBuV 29.1	AF dB/m 32.8	CL dB 5.8	dB -34.8	D Corr dB	Fltr dB 0.0	Peak dBuV/m 52.8	dBuV/m 32.8	dBuV/m 74	Avg Lim dBuV/m 54	Pk Mar dB -21.2	Peak - Avg Mar dB	Duty Cyccle Factor Notes (V/H) V
GHz w Chai 804 804 804	Dist (m) nnel (240 3.0 3.0 unel (244	Read Pk dBuV 2.0 MHZ) 49.1 49.4 1.0 MHz)	Read Avg. dBuV 29.1 29.4	AF dB/m 32.8 32.8	CL dB 5.8 5.8	dB -34.8 -34.8	D Corr dB 0.0 0.0	Fltr dB 0.0 0.0	Peak dBuV/m 52.8 53.1	dBuV/m 32.8 33.1	<u>dBuV/m</u> 74 74	Avg Lim dBuV/m 54 54	Pk Mar dB -21.2 -20.9	Peak - Avg Mar dB -21.2 -20.9	Duty Cyccle Factor Notes (V/H) V H
- GHz w Chai 804 804 804 id Chai 884	Dist (m) 3.0 3.0 unel (244 3.0	Read Pk dBuV 2.0 MHZ) 49.1 49.4 1.0 MHz) 46.3	Read Avg. dBuV 29.1 29.4 26.3	AF dB/m 32.8 32.8 32.8	CL dB 5.8 5.8 5.8	dB -34.8 -34.8 -34.9	D Corr dB 0.0 0.0 0.0	Fltr dB 0.0 0.0	Peak dBuV/m 52.8 53.1 50.1	dBuV/m 32.8 33.1 30.1	dBuV/m 74 74 74	Avg Lim dBuV/m 54 54 54	Pk Mar dB -21.2 -20.9 -23.9	Peak - Avg Mar dB -21.2 -20.9	Duty Cyccle Factor Notes (V/H) H H
- GHz w Chai 804 804 804 id Chai 884	Dist (m) nnel (240 3.0 3.0 unel (244	Read Pk dBuV 2.0 MHZ) 49.1 49.4 1.0 MHz)	Read Avg. dBuV 29.1 29.4	AF dB/m 32.8 32.8	CL dB 5.8 5.8	dB -34.8 -34.8	D Corr dB 0.0 0.0	Fltr dB 0.0 0.0	Peak dBuV/m 52.8 53.1	dBuV/m 32.8 33.1	<u>dBuV/m</u> 74 74	Avg Lim dBuV/m 54 54	Pk Mar dB -21.2 -20.9	Peak - Avg Mar dB -21.2 -20.9	Duty Cyccle Factor Notes (V/H) V H
- GHz w Char 804 804 804 id Char 884 884	Dist (m) 3.0 3.0 unel (244 3.0	Read Pk dBuV 20 MHZ) 49.1 49.4 10 MHz) 46.3 48.2	Read Avg. dBuV 29.1 29.4 26.3	AF dB/m 32.8 32.8 32.8	CL dB 5.8 5.8 5.8	dB -34.8 -34.8 -34.9	D Corr dB 0.0 0.0 0.0	Fltr dB 0.0 0.0	Peak dBuV/m 52.8 53.1 50.1	dBuV/m 32.8 33.1 30.1	dBuV/m 74 74 74	Avg Lim dBuV/m 54 54 54	Pk Mar dB -21.2 -20.9 -23.9	Peak - Avg Mar dB -21.2 -20.9	Duty Cyccle Factor Notes (V/H) H H
GHz w Chaz 804 804 id Chaz 884 884 884 884 i Chanu 960	Dist (m) 3.0 3.0 unel (244 3.0 3.0 unel (244 3.0 3.0 unel (2480 3.0	Read Pk dBuV 20 MHZ) 49.1 10 MHz) 46.3 48.2 0 MHz) 45.4	Read Avg. dBuV 29.1 29.4 26.3 28.2 25.4	AF dB/m 328 328 328 328 328 329	CL dB 5.8 5.8 5.8 5.8 5.8 5.8 5.8	dB -34.8 -34.8 -34.9 -34.9 -34.9 -34.9	D Corr dB 0.0 0.0 0.0 0.0 0.0 0.0	Fltr dB 0.0 0.0 0.0 0.0	Peak dBuV/m 52.8 53.1 50.1 52.0 49.4	dBuV/m 32.8 33.1 30.1 32.0 29.4	dBuV/m 74 74 74 74 74 74 74	Avg Lim dBuV/m 54 54 54 54 54	Pk Mar dB -21.2 -20.9 -23.9 -23.9 -22.0 -24.6	Peak - Avg Mar dB -21.2 -20.9 -23.9 -22.0 -24.6	Duty Cyccle Factor Notes (V/H) V H V H
GHz ow Chao 804 804 614 Chao 884 884 884 884 960	Dist (m) 3.0 3.0 3.0 unel (244 3.0 3.0 unel (244	Read Pk dBuV 20 MHZ) 49.1 49.4 10 MHz) 46.3 48.2 0 MHz)	Read Avg. dBuV 29.1 29.4 26.3 28.2	AF dB/m 328 328 328 328 328	CL dB 5.8 5.8 5.8 5.8 5.8	dB -34.8 -34.8 -34.9 -34.9	D Conr dB 0.0 0.0 0.0 0.0	Fltr dB 0.0 0.0 0.0 0.0	Peak dBuV/m 528 53.1 50.1 52.0	dBuV/m 32.8 33.1 30.1 32.0	dBuV/m 74 74 74 74 74 74	Avg Lim dBuV/m 54 54 54 54	Pk Mar dB -21.2 -20.9 -23.9 -22.0	Peak - Avg Mar dB -21.2 -20.9 -23.9 -22.0	Duty Cyccle Factor Notes (V/H) V H V H V H
GHz ow Chan 804 804 804 fid Chan 884 884	Dist (m) 3.0 3.0 3.0 4 3.0 3.0 4 4 4 3.0 3.0 3.0 3.0 3.0 3.0	Read Pk dBuV 20 MHZ) 49.1 10 MHz) 46.3 48.2 0 MHz) 45.4	Read Avg. dBuV 29.1 29.4 26.3 28.2 25.4	AF dB/m 328 328 328 328 328 329	CL dB 5.8 5.8 5.8 5.8 5.8 5.8 5.8	dB -34.8 -34.8 -34.9 -34.9 -34.9 -34.9	D Corr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Fltr dB 0.0 0.0 0.0 0.0	Peak dBuV/m 52.8 53.1 50.1 52.0 49.4	dBuV/m 32.8 33.1 30.1 32.0 29.4	dBuV/m 74 74 74 74 74 74 74	Avg Lim dBuV/m 54 54 54 54 54	Pk Mar dB -21.2 -20.9 -23.9 -23.9 -22.0 -24.6	Peak - Avg Mar dB -21.2 -20.9 -23.9 -22.0 -24.6	Duty Cyccle Factor Notes (V/H) V H H V H
GHz w Chai 804 804 id Chai 884 884 i Chain 960 960	Dist (m) 3.0 3.0 3.0 4 3.0 3.0 4 4 4 3.0 3.0 3.0 3.0 3.0 3.0	Read Pk dBuV 20 MHZ) 49.1 10 MHz) 46.3 48.2 0 MHz) 45.4	Read Avg. dBuV 29.1 29.4 26.3 28.2 25.4	AF dB/m 328 328 328 328 328 329	CL dB 5.8 5.8 5.8 5.8 5.8 5.8 5.8	dB -34.8 -34.8 -34.9 -34.9 -34.9 -34.9	D Corr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Fltr dB 0.0 0.0 0.0 0.0	Peak dBuV/m 52.8 53.1 50.1 52.0 49.4	dBuV/m 32.8 33.1 30.1 32.0 29.4	dBuV/m 74 74 74 74 74 74 74	Avg Lim dBuV/m 54 54 54 54 54	Pk Mar dB -21.2 -20.9 -23.9 -23.9 -22.0 -24.6	Peak - Avg Mar dB -21.2 -20.9 -23.9 -22.0 -24.6	Duty Cyccle Factor Notes (V/H) V H H V H
GHz w Chai 804 804 id Chai 884 884 884 Chain 960 960	Dist (m) 3.0 3.0 3.0 4 3.0 3.0 4 4 4 3.0 3.0 3.0 3.0 3.0 3.0	Read Pk dBuV 20 MHZ) 49.1 10 MHz) 46.3 48.2 0 MHz) 45.4 47.2	Read Avg. dBuV 29.1 29.4 26.3 28.2 25.4	AF dB/m 328 328 328 328 328 329 329	CL dB 5.8 5.8 5.8 5.8 5.8 5.8 5.8	dB -34.8 -34.8 -34.9 -34.9 -34.9 -34.9	D Corr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Fltr dB 0.0 0.0 0.0 0.0 0.0 0.0	Peak dBuV/m 52.8 53.1 50.1 52.0 49.4	dBuV/m 32.8 33.1 30.1 32.0 29.4	dBuV/m 74 74 74 74 74 74 74	Avg Lim dBuV/m 54 54 54 54 54 54	Pk Mar dB -21.2 -20.9 -23.9 -22.0 -22.0 -22.0 -22.0	Peak - Avg Mar dB -21.2 -20.9 -23.9 -22.0 -24.6	Duty Cyccle Factor Notes (V/H) V H V H V H
GHz w Chai 804 804 id Chai 884 884 884 Chain 960 960	Dist (m) 30 30 1000 (244 30 30 1000 (244 30 30 30 30 2.09	Read Pk dBuV 20 MHZ) 49.1 10 MHz) 46.3 48.2 0 MHz) 45.4 47.2	Read Avg. dBuV 29.1 29.4 26.3 28.2 25.4 27.2 nt Frequenc;	AF dB/m 328 328 328 328 328 329 329	CL dB 5.8 5.8 5.8 5.8 5.8 5.8 5.8	dB -348 -348 -349 -349 -349 -349 -349 -349	D Corr dB 0.0 0.0 0.0 0.0 0.0 0.0 Preamp	Fltr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Peak dBuV/m 52.8 53.1 50.1 52.0 49.4	dBuV/m 32.8 33.1 30.1 32.0 29.4 31.1	dBuV/m 74 74 74 74 74 74 74	Avg Lim dBuV/m 54 54 54 54 54 54 54	Pk Mar dB -21.2 -20.9 -23.9 -22.0 -24.6 -22.9 Average 1	Peak - Avg Mar dB -21.2 -20.9 -22.0 -22.0 -22.0 -22.9	Duty Cyccle Factor Notes (V/H) V H V H V H h Limit
GHz w Chai 804 804 id Chai 884 884 i Chain 960 960	Dist (m) 3.0 3.0 3.0 3.0 4 3.0 3.0 4 4 3.0 3.0 3.0 2.09 f Dist	Read Pk dBuV 20 MHZ) 49.1 49.4 49.4 45.4 48.2 0 MHz) 45.4 47.2 Measureme	Read Avg. dBuV 29.1 29.4 26.3 28.2 25.4 27.2 nt Frequenc; Antenna	AF dB/m 328 328 328 328 328 329 329	CL dB 5.8 5.8 5.8 5.8 5.8 5.8 5.8	dB -348 -348 -349 -349 -349 -349 -349 -349	D Corr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Preamp Distance	Fltr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Peak dBuV/m 52.8 53.1 50.1 52.0 49.4 51.1	dBuV/m 32.8 33.1 30.1 32.0 29.4 31.1	dBuV/m 74 74 74 74 74 74 74	Avg Lim dBuV/m 54 54 54 54 54 54 54 8 Vg Lim Pk Lim	Pk Mar dB -21.2 -20.9 -23.9 -22.0 -24.6 -22.9 Average I Peak Fiel	Peak - Avg Mar dB -21.2 -20.9 -23.9 -22.0 -24.6 -22.9 Field Strength	Duty Cyccle Factor Notes (V/H) V H V H V H Limit mit
GHz w Chai 804 804 id Chai 884 884 i Chain 960 960	Dist (m) 3.0 3.0 3.0 3.0 4 3.0 3.0 4 4 3.0 3.0 3.0 2.09 f Dist	Read Pk dBuV 20 MHZ) 49.1 49.4 49.4 46.3 48.2 0 MHz) 45.4 47.2 Measureme Distance to	Read Avg. dBuV 29.1 29.4 26.3 28.2 25.4 27.2 nt Frequency Antenna eading	AF dB/m 328 328 328 328 328 329 329	CL dB 5.8 5.8 5.8 5.8 5.8 5.8 5.8	dB -348 -348 -349 -349 -349 -349 -349 D Corr	D Corr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Fltr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Peak dBuV/m 52.8 53.1 50.1 52.0 49.4 51.1 ct to 3 mets Strength @	dBuV/m 32.8 33.1 30.1 32.0 29.4 31.1 errs 3 m	dBuV/m 74 74 74 74 74 74 74	Avg Lim dBuV/m 54 54 54 54 54 54 54 54 54 Xvg Lim Pk Lim Avg Mar	Pk Mar dB -21.2 -20.9 -23.9 -22.0 -24.6 -22.9 -24.6 -22.9 -24.6 -22.9 -24.6 -22.9	Peak - Avg Mar dB -21.2 -20.9 -23.9 -22.0 -24.6 -22.9 Field Strength d Strength Lis Average Lis	Duty Cyccle Factor Notes (V/H) V H V H V H h Limit mit
GHz w Chai 804 804 id Chai 884 884 i Chain 960 960	Dist (m) 3.0 3.0 3.0 3.0 4 3.0 3.0 4 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Read Pk dBuV 20 MHZ) 49.1 49.1 49.1 49.1 49.1 49.1 49.1 49.1 49.1 49.1 46.3 48.2 0 MHz) 45.4 47.2 Measuremee Distance to Analyzer Re	Read Avg. dBuV 29.1 29.4 26.3 28.2 25.4 27.2 nt Frequenc: Antenna aading ctor	AF dB/m 328 328 328 328 328 329 329	CL dB 5.8 5.8 5.8 5.8 5.8 5.8 5.8	dB -34.8 -34.8 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9 -34.9	D Corr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Fltr dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Peak dBuV/m 52.8 53.1 50.1 52.0 49.4 51.1 ct to 3 mets Strength @ k Field Stre	dBuV/m 32.8 33.1 30.1 32.0 29.4 31.1 errs 3 m	dBuV/m 74 74 74 74 74 74 74	Avg Lim dBuV/m 54 54 54 54 54 54 54 54 54 Xvg Lim Pk Lim Avg Mar	Pk Mar dB -21.2 -20.9 -23.9 -22.0 -24.6 -22.9 -24.6 -22.9 -24.6 -22.9 -24.6 -22.9	Peak - Avg Mar dB -21.2 -20.9 -23.9 -22.0 -24.6 -22.9 Field Strength d Strength Li	Duty Cyccle Factor Notes (V/H) V H V H V H h Limit mit

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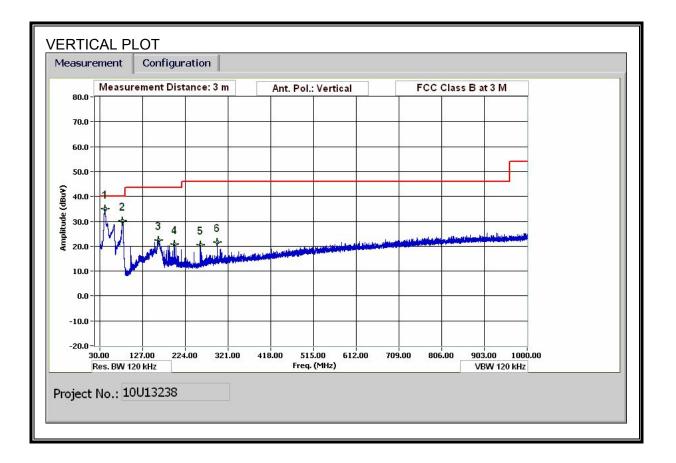
7.3. WORST-CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



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SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



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		-		МА РНС)NE WITH	I BLUEI	юотн		MENGISTU MEKURIA 05/27/10 10U13238 KYO CERA WIRELESS DUAL-BAND 1xTT CDMA PHONE WITH BLUETO OTH SCP-6780											
f Dist Read AF CL	Analyzer I Antenna F	ST-CAS ent Freque o Antenn Reading 'actor	ency	Amp	Preamp (Distance Filter Ins Calculate	Correct i sert Loss ed Field St	trength		Margin	Margin vs.	Limit									
Dist	Read dB-V	AF dB/m	CL	Amp			Corr.	Limit dBuV/m	-			Notes								
<u> </u>		-		<u>· </u>							<u> </u>									
									o											
3.0				28.2	0.0		¢		¢											
3.0	35.9	11.9	1.2	28.2	0.0	0.0	20.9	43.5		v	P									
3.0	35.1	12.1	1.4	28.2	0.0	0.0	20.4	46.0	-25.6	V	Р									
3.0	34.9	13.3	1.5	28.1	0.0	0.0	21.6	46.0	-24.4	V	Р									
3.0	50.7	7.4	0.8	28.3	0.0	0.0	30.5	40.0	-9.5	H	P									
3.0	43.7	11.5	1.1	28.2	0.0	0.0	28.1	43.5	- 15.4	H	Р									
3.0	39.8	11.6	1.2	28.2	0.0	0.0	24.3	43.5	-19.2	H	P									
3.0	36.3	14.1	1.6	28.1	0.0	0.0	23.9	46.0			Р									
3.0	33.9	15.2	1.8	28.1	0.0	0.0	22.9	46.0	- 23.1	H	P									
Ę	Dist (m) 3.0	Analyzzer J Artenna F Artenna F Cable Loss Oist Read (m) dBuV 3.0 50.5 3.0 35.9 3.0 35.9 3.0 35.1 3.0 50.7 3.0 34.9 3.0 34.9 3.0 39.8 3.0 39.8 3.0 36.3	Read Analyzer Reading Antenna Factor Dist Read AF (m) dBuV dB/m 3.0 50.0 12.9 3.0 50.5 7.3 3.0 35.9 11.4 3.0 35.1 12.1 3.0 35.1 12.1 3.0 35.1 12.1 3.0 35.1 12.1 3.0 35.1 12.1 3.0 35.1 12.1 3.0 35.3 14.1	Read Analyzer Reading Arian Antenna Factor Dist Read AF CL (m) dBuV dB/m dB 3.0 50.0 12.9 0.6 3.0 50.5 7.3 0.8 3.0 35.9 11.4 1.1 3.0 35.9 11.9 1.2 3.0 35.1 12.1 1.4 3.0 35.1 12.1 1.4 3.0 35.1 12.1 1.4 3.0 35.1 12.1 1.4 3.0 35.1 12.1 1.4 3.0 35.1 12.1 1.4 3.0 35.1 12.1 1.4 3.0 34.9 13.3 1.5 3.0 30.43.7 11.5 1.1 3.0 39.8 11.6 1.2 3.0 36.3 14.1 1.6	Read Analyzer Reading Antenna Factor Filter Corr. Dist Read AF CL Amp (m) dBuV dB/m dB dB 3.0 50.0 12.9 0.6 28.4 3.0 50.5 7.3 0.8 28.3 3.0 37.9 11.4 1.1 28.2 3.0 35.9 11.9 1.2 28.2 3.0 35.1 12.1 1.4 28.2 3.0 35.1 12.1 1.4 28.2 3.0 35.1 12.1 1.4 28.2 3.0 35.1 12.1 1.4 28.2 3.0 35.1 12.1 1.4 28.2 3.0 34.9 13.3 1.5 28.1 3.0 39.8 11.6 1.1 28.2 3.0 39.8 11.6 1.2 28.2 3.0 36.3 14.1 1.6 28.1	Read Analyzer Reading Artenna Factor Filter Corr. Filter Ins Calculate Dist Read AF CL Amp Dist Bist Read AF CL Amp Dist Bist Read AF CL Amp D Corr (m) dBuV dB/m dB dB dB 3.0 50.0 12.9 0.6 28.4 0.0 3.0 50.5 7.3 0.8 28.3 0.0 3.0 35.9 11.4 1.1 28.2 0.0 3.0 35.1 12.1 1.4 28.2 0.0 3.0 35.1 12.1 1.4 28.2 0.0 3.0 35.1 12.1 1.4 28.2 0.0 3.0 35.1 12.1 1.4 28.2 0.0 3.0 39.7 11.5 1.1 28.2 0.0 3.0 39.8 11.6 1.2 28.2	Read Aralyzer Reading Arised Antenna Factor Filter Corr. Filter Insert Loss Corr. Calculated Field S Dist CL Read BuV Aff CL Amp BBW D Corr Filter Field Strength Lir Dist (m) Read BuV AF CL Amp BBW D Corr Filter Field Strength Lir 3.0 50.0 12.9 0.6 28.4 0.0 0.0 3.0 50.5 7.3 0.8 28.3 0.0 0.0 3.0 37.9 11.4 1.1 28.2 0.0 0.0 3.0 35.1 12.1 1.4 28.2 0.0 0.0 3.0 35.1 12.1 1.4 28.2 0.0 0.0 3.0 36.3 11.5 1.1 28.2 0.0 0.0 3.0 35.9 11.4 1.1 28.2 0.0 0.0 3.0 34.9 13.3 1.5 28.1 0.0 0.0 3.0 39.8 11.6 1.2	Read Analyzer Reading Antenna Factor Filter Filter Insert Loss Cable Loss Corr. Calculated Field Strength Field Strength Limit Dist Read AF CL Amp dB D Corr Filter Insert Loss 0 BuV dB/m dB dB dB dB dB 3.0 50.0 12.9 0.6 28.4 0.0 0.0 35.1 3.0 50.5 7.3 0.8 28.3 0.0 0.0 30.3 3.0 37.9 11.4 1.1 28.2 0.0 0.0 22.2 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 3.0 35.1 12.1 1.4 28.2 0.0 0.0 21.6 3.0 35.1 12.1 1.4 28.2 0.0 0.0 21.6 3.0 35.4 13.3 1.5 28.1 0.0 0.0 28.1 3.0 39.8	Read Arienna Factor Filter Cable Loss Filter Corr. Filter Insert Loss Dist (m) Read BuV AF CL Amp BB D Corr Filter Field Strength Limit Corr. Limit 3.0 50.0 12.9 0.6 28.4 0.0 0.0 35.1 40.0 3.0 50.5 7.3 0.8 28.3 0.0 0.0 30.3 40.0 3.0 37.9 11.4 1.1 28.2 0.0 0.0 22.2 43.5 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 3.0 35.1 12.1 1.4 28.2 0.0 0.0 21.6 46.0 3.0 35.1 12.1 1.4 28.2 0.0 0.0 21.6 46.0 3.0 35.7 7.4 0.8 28.3 0.0 0.0 23.4 40.0 3.0 39.8 11.6 1.2 28.2 0.0 <t< td=""><td>Read Ar Analyzer Reading Artenna Factor Cable Loss Filter Corr. Filter Insert Loss Calculated Field Strength Field Strength Limit Limit Margin dB Dist (m) Read dBuV AF CL Amp dB D Corr dB Filter Corr. Limit Margin dB 3.0 50.0 12.9 0.6 28.4 0.0 0.0 35.1 40.0 -4.9 3.0 50.5 7.3 0.8 28.3 0.0 0.0 30.3 40.0 -9.7 3.0 35.9 11.4 1.1 28.2 0.0 0.0 20.9 43.5 -22.6 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -25.6 3.0 35.1 12.1 1.4 28.2 0.0 0.0 21.6 46.0 -25.6 3.0 35.1 12.1 1.4 28.2 0.0 0.0 21.6 46.0 -25.6 3.0 34.9 13.3 1.5 <</td><td>Read AF Analyzer Reading Antenna Factor Calculated File Filter Sternet Sternet Corr. Filter Insert Loss Calculated Field Strength Field Strength Limit Limit Margin Ante PoL Ant PoL Dist (m) Read BuV AF CL Amp BB D Corr Filter Field Strength Limit Corr. Limit BBuV/m Margin BB Ant PoL V 3.0 50.0 12.9 0.6 28.4 0.0 0.0 35.1 40.0 -4.9 V 3.0 50.5 7.3 0.8 28.3 0.0 0.0 30.3 40.0 -9.7 V 3.0 35.9 11.4 1.1 28.2 0.0 0.0 20.9 43.5 -21.3 V 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -25.6 V 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -25.6 V 3.0 34.9 13.3 1.5 28.1 0.0 0.0</td><td>Read Analyzer Reading Artenna Factor Filter Filter Insert Loss Calculated Field Strength Field Strength Limit Limit Filter Insert Loss Dist Read AF CL Amp AB D Corr Filter Corr. Limit Margin BBuV Ant PoL Det P/A/QP Dist Read AF CL Amp BB D Corr Filter Corr. Limit Margin BBuV/m Ant PoL Det P/A/QP 3.0 50.0 12.9 0.6 28.4 0.0 0.0 35.1 40.0 -4.9 V P 3.0 50.5 7.3 0.8 28.3 0.0 0.0 30.3 40.0 -9.7 V P 3.0 35.9 11.4 1.1 28.2 0.0 0.0 20.9 43.5 -21.3 V P 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -25.6 V P 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -2</td></t<>	Read Ar Analyzer Reading Artenna Factor Cable Loss Filter Corr. Filter Insert Loss Calculated Field Strength Field Strength Limit Limit Margin dB Dist (m) Read dBuV AF CL Amp dB D Corr dB Filter Corr. Limit Margin dB 3.0 50.0 12.9 0.6 28.4 0.0 0.0 35.1 40.0 -4.9 3.0 50.5 7.3 0.8 28.3 0.0 0.0 30.3 40.0 -9.7 3.0 35.9 11.4 1.1 28.2 0.0 0.0 20.9 43.5 -22.6 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -25.6 3.0 35.1 12.1 1.4 28.2 0.0 0.0 21.6 46.0 -25.6 3.0 35.1 12.1 1.4 28.2 0.0 0.0 21.6 46.0 -25.6 3.0 34.9 13.3 1.5 <	Read AF Analyzer Reading Antenna Factor Calculated File Filter Sternet Sternet Corr. Filter Insert Loss Calculated Field Strength Field Strength Limit Limit Margin Ante PoL Ant PoL Dist (m) Read BuV AF CL Amp BB D Corr Filter Field Strength Limit Corr. Limit BBuV/m Margin BB Ant PoL V 3.0 50.0 12.9 0.6 28.4 0.0 0.0 35.1 40.0 -4.9 V 3.0 50.5 7.3 0.8 28.3 0.0 0.0 30.3 40.0 -9.7 V 3.0 35.9 11.4 1.1 28.2 0.0 0.0 20.9 43.5 -21.3 V 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -25.6 V 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -25.6 V 3.0 34.9 13.3 1.5 28.1 0.0 0.0	Read Analyzer Reading Artenna Factor Filter Filter Insert Loss Calculated Field Strength Field Strength Limit Limit Filter Insert Loss Dist Read AF CL Amp AB D Corr Filter Corr. Limit Margin BBuV Ant PoL Det P/A/QP Dist Read AF CL Amp BB D Corr Filter Corr. Limit Margin BBuV/m Ant PoL Det P/A/QP 3.0 50.0 12.9 0.6 28.4 0.0 0.0 35.1 40.0 -4.9 V P 3.0 50.5 7.3 0.8 28.3 0.0 0.0 30.3 40.0 -9.7 V P 3.0 35.9 11.4 1.1 28.2 0.0 0.0 20.9 43.5 -21.3 V P 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -25.6 V P 3.0 35.1 12.1 1.4 28.2 0.0 0.0 20.4 46.0 -2								

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8. AC POWER LINE CONDUCTED EMISSIONS

<u>LIMITS</u>

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)				
	Quasi-peak	Average			
0.15-0.5	66 to 56 *	56 to 46 *			
0.5-5	56	46			
5-30	60	50			

Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

<u>RESULTS</u>

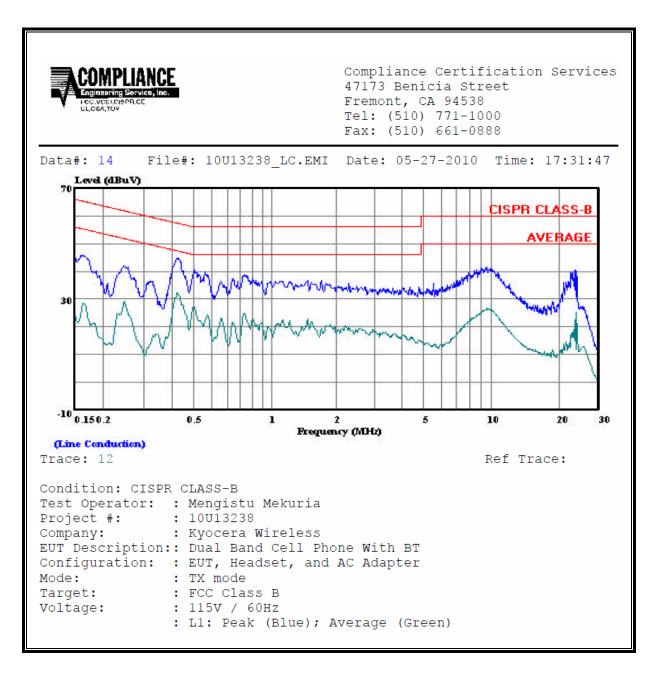
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6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)											
Freq.		Reading		Closs	Limit	EN_B	Margin		Remark		
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV(dB)	L1/L2		
0.43	44.68		32.13	0.00	57.23	47.23	-12.55	-15.10	L1		
9.77	41.50		26.63	0.00	60.00	50.00	-18.50	-23.37	L1		
23.51	40.46		25.41	0.00	60.00	50.00	-19.54	-24.59	L1		
0.43	49.95		38.57	0.00	57.23	47.23	-7.28	-8.66	L2		
9.97	47.91		33.04	0.00	60.00	50.00	-12.09	-16.96	L2		
23.89	47.44		31.39	0.00	60.00	50.00	-12.56	-18.61	L2		
6 Worst I	Data										

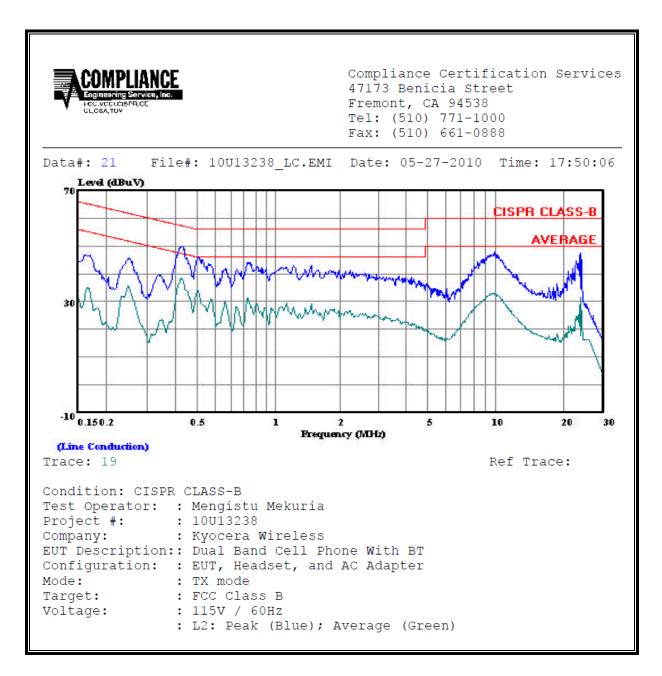
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LINE 1 RESULTS



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LINE 2 RESULTS



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