

EMC Labs Co., Ltd.

#426 Shaum-Dong, Icheon-Shi, Gyeonggi-Do, 467-080, Korea Tel: +82-31-637-8895, Fax: +82-505-116-8895

FCC CERTIFICATION REPORT

FCC ID: 2ADCJ30PROLED

Type of equipment: 30" Pro LED Backlit 120Hz Gaming Display

Model Name: 30" Pro LED Backlit Gaming Display

Report No: KR0140-FCC-14003

FCC Registration Number (FRN): 0023990286

Applicant: Crossoverzone Co., Ltd.

Address: 2F, 16-13, Samjeong-dong, Ojeong-gu, Bucheon-si, Gyeonggi-do,

Korea

Manufacturer: Crossoverzone Co., Ltd.

Address: 2F, 16-13, Samjeong-dong, Ojeong-gu, Bucheon-si, Gyeonggi-do,

Korea

Date of Issue: Oct.07.2014

Test required : FCC part 15 subpart B, Class B

ANSI C63.4 - 2009

Equipment Classification: Part 15 Class B Computing Device Peripheral (JBP)

The above equipment was tested by EMC Labs Testing Laboratory
For compliance with the requirements of FCC Rules and Regulations. The
results of testing in this report apply to the product / system which was tested only.

Tested by:

Reviewed by:

PARK, YONG-MIN

PARK, YONG-JIN

EMC Labs Co., Ltd.

#426 Shaum-Dong, Icheon-Shi, Gyeonggi-Do, 467-080, Korea
Tel: +82-31-637-8895, Fax: +82-505-116-8895
This test report shall not be reproduced except in full, Without the written approval.



Page: 1 of 47

TEST REPORT

Test Report File No : KR0140-FCC-14003

Date of Receipt : Sep.26.2014

Date of Issue : Oct.07.2014

Date of Testing : Sep.30~ Oct.01.2014

Model : 30" Pro LED Backlit Gaming Display

Kind of Product : 30" Pro LED Backlit 120Hz Gaming Display

Applicant : Crossoverzone Co., Ltd.

2F, 16-13, Samjeong-dong, Ojeong-gu, Bucheon-si, Gyeonggi-

do, Korea

Manufacturer : Crossoverzone Co., Ltd.

Address 2F, 16-13, Samjeong-dong, Ojeong-gu, Bucheon-si, Gyeonggi-

do, Korea

Test Standards : FCC part 15 subpart B, Class B

Test Procedure and Items

Ta a 4 a al Ibarr

- AC Power Line Conducted Emissions Measurement: ANSI C63.4-2009

- Radiated Emissions Measurement : ANSI C63.4-2009

Testing Laboratory : EMC Labs Co., Ltd.

Test Result Complied

The above equipment was tested by EMC Labs Co., Ltd with the requirements of FCC Rules and Regulations. The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Daviessa descr

rested by:	Reviewed by:
fyn	Y. J. Park
PARK, YONG-MIN	PARK, YONG-JIN

2 of 47 Page :

[Contents]

FC	CC CERTIFICATION REPORT	0
A۱	NSI C63.4 – 2009	0
1.	Applicant Information	3
2.	Laboratory Information	4
	Equipment Under Test	
	3.1 General Information	5
	3.2 Configuration of the equipment under test	5
	3.3 Operating Conditions	6
	3.4 The drawing of general test setup	
4.	Summary	7
	4.1 Modification to the E.U.T	7
	4.2 Standards & results	7
5.	Test results	8
	5.1 Conducted Emission	8
	5.2 Radiated emission	18
6.	Test photographs	42
7.	F U.T. photographs	45



Page: 3 of 47

1. Applicant Information

Applicant : Crossoverzone Co., Ltd.

♦ Address : 2F, 16-13, Samjeong-dong, Ojeong-gu, Bucheon-si, Gyeonggi-do, Korea

♦ Telephone Number: +82-32-672-4011

♦ FAX Number : +82-32-321-4065

♦ E-mail : P21sh@naver.com

Contact Person : Sang Hyun – Park

Manufacture : Crossoverzone Co., Ltd.

Address: 2F, 16-13, Samjeong-dong, Ojeong-gu, Bucheon-si, Gyeonggi-do, Korea



Page: 4 of 47

2. Laboratory Information

Address

EMC Labs Co., Ltd.

Laboratory: #426 Shaum-Dong, Icheon-Shi, Gyeonggi-Do, 467-080, Korea

Telephone Number : +82-31-637-8895 Facsimile Number : +82-505-116-8895

FCC Filing No. : 888495 FCC CAB : KR0140

SITE MAP







Page: 5 of 47

3. Equipment Under Test

3.1 General Information

\boxtimes	Table-Top		Floor – Standing
	Table-Top & Floor-Standing	(cc	ombination)

3.2 Configuration of the equipment under test

Equipment	Equipment Model Manufacture		Serial No.
PC	SKY550BLACKBURN	SKYDIGITAL	SKY809248
PS/2 KEYBOARD	MK-1007	Royche	-
USB MOUSE	GP-M3100UE	GP ELECTRON	1801341200682
HEADSET	FS-850	FUSION FNC	-

Туре	Description	Connection	Type of shield	Type of Ferrite	Length(m)
DC Power	24 VDC	Adapter	Non-Shield	Bonded a ferrite core	1.8
	VGA	PC	Shield	Bonded a ferrite core	1.8
	DVI	PC	Shield	Bonded a ferrite core	1.8
	HDMI	PC	Shield	Non-ferrite core	1.5
Signal	DISPLAY PORT	PC	Shield	Non-ferrite core	1.9
	AUDIO IN	PC	Shield	Non-ferrite core	1.3
	AUDIO OUT	HEADSET	Shield	Non-ferrite core	1.8
	OPTICAL	OPEN	Non-Shield	Non-ferrite core	1.0
	DC IN	Adapter	Non-Shield	Bonded a ferrite core	1.5



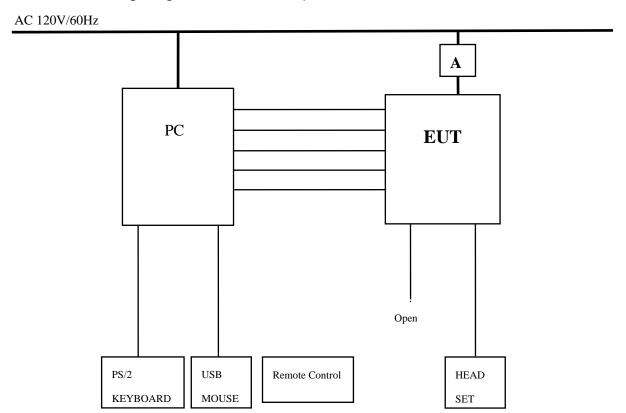
Page: 6 of 47

3.3 Operating Conditions

The equipment under test was operated during the measurement under following

Test mode	Normal Operating						
1	"H" Pattern scrolling Mode						
2	MP3 Play Mode.						
DISPLAY I	DISPLAY Port Mode, HDMI Mode, DVI Mode, VGA Mode - (Resolution – 2560x1600, 60Hz)						

3.4 The drawing of general test setup





Page: 7 of 47

4. Summary

In the above configuration tested, The EUT complied with the requirement of the specification

- 4.1 Modification to the E.U.T.
 - No modifications to the EUT were necessary to comply.

4.2 Standards & results

FCC Part 15 Subpart B (Class B) ANSI C63.4 – 2009

Clause	Test items	Test method	Result
15.107	Conducted Emission	ANSI C63.4 - 2009	Pass
15.109	Radiated Emission	ANSI C63.4 – 2009	Pass



Page: 8 of 47

5. Test results

5.1 Conducted Emission

Environmental Conditions

Temperature 22°C Humidity 47 %

Test Area Conducted Room

Test date 2014.10.01

5.1.1 Limits of conducted emission measurement

Frequency	Class A	(dBuV)	Class B (dBuV)		
[MHz] Quasi-peak Average		Quasi-peak	Average		
0.15 - 0.5	79	66	66-56 *	56-46*	
0.5 - 5	73	60	56	46	
5 - 30	73	60	60	50	

^{*}The limit decreases linearly with the logarithm of frequency.

5.1.2 Measurement procedure

Mains

The measurements were performed in a shielded room.

EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane.

The rear of table was located 0.4 m to the vertical conducted plane.

EUT was power through the LISN, which was bonded to the ground plane.

The LISN power was filtered. Each EUT power lead, except ground (safety) lead, was individually connected through a LISN to input power source.

All I.O cables are positioned to simulate typical actual usage according to the test standard.

Both lines of power cord, hot and neutral, were measured.



Page: 9 of 47

5.1.3 Used equipments

Equipment	Model	Makers	Serial No.	Next Cal. Date	Used
Test Receiver	LSA-30	LIG Nex1	L07126026	2015.01.24	
LISN	ENV216	ROHDE	100409	2015.01.24	
LISN	3825/2	EMCO	8901-1458	2015.02.05	

5.1.4 Measurement uncertainty

Conducted emission measurement: (k=2, 95%)

9kHz-150 kHz : \pm 4.64 [dB] 150kHz-30 MHz : \pm 2.20 [dB]

5.1.5 Test data

• Note. QP = Quasi-Peak, AV=CISPR-Average

• Loss = LISN Loss + Cable Loss

• Measurement time: 1 s



Page: 10 of 47

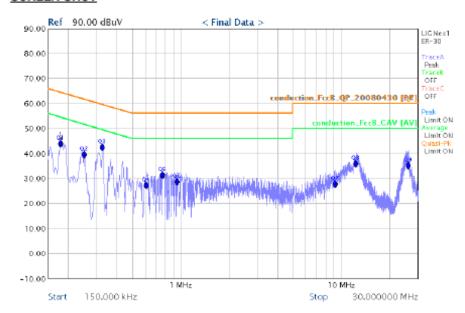
5.1.6 Test Result

[Quasi-Peak]

[HOT] - DISPLAY Port Mode

CONDUCTED EMISSION

SCREEN SHOT



FINAL TABLE

(Final	l Table - Quasi-	Pk]					
No	Freq	Level	Corr	Limit	Margin	State	Reference
	(MHz)	(dBuV)	(dB)	(dBuV)	(dB)		
1	0.180000	43.66	10.35	64.49	20.82	Pass	QP
2	0.252000	39.34	9.94	61.69	22.35	Pass	QP
3	0.327000	42.20	10.10	59.53	17.32	Pass	QP
4	0.614000	27.05	10.21	56.00	28.95	Pass	QP
5	0.773000	31.16	10.13	56.00	24.84	Pass	QP
6	0.947000	28.52	10.10	56.00	27.48	Pass	QP
7	9.200000	27.57	10.20	60.00	32.43	Pass	QP
8	12.360000	35.74	10.23	60.00	24.26	Pass	QP
9	26.090000	35.07	10.43	60.00	24.93	Pass	QP



Page: 11 of 47

[NEUTRAL]

CONDUCTED EMISSION

SCREEN SHOT



FINAL TABLE

[Fina	al Table - Quasi-	Pk]					
No	Freq	Level	Corr	Limit	Margin	State	Reference
	(MHz)	(dBuV)	(dB)	(dBuV)	(dB)		
1	0.177000	41.20	10.36	64.63	23.43	Pass	QP
2	0.249000	38.76	9.94	61.79	23.03	Pass	QP
3	0.327000	41.79	10.10	59.53	17.74	Pass	QP
4	0.659000	33.38	10.19	56.00	22.62	Pass	QP
5	0.773000	35.28	10.14	56.00	20.72	Pass	QP
6	1.010000	34.27	10.11	56.00	21.73	Pass	QP
7	8.630000	26.59	10.19	60.00	33.41	Pass	QP
8	12.350000	34.68	10.23	60.00	25.32	Pass	QP
0	28 100000	20.53	10.43	60.00	30.47	Doce	OP

Comment:

- If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

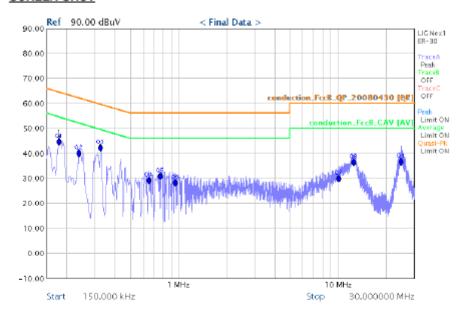


Page: 12 of 47

[HOT] - HDMI Mode

CONDUCTED EMISSION

SCREEN SHOT



FINAL TABLE

	_	<u> </u>		
(Eina	LTob	lo - C	huaci	PL1

No	Freq	Level	Corr	Limit	Margin	State	Reference
	(MHz)	(dBuV)	(dB)	(dBuV)	(dB)		
1	0.180000	44.49	10.35	64.49	20.00	Pass	QP
2	0.240000	39.88	9.99	62.10	22.21	Pass	QP
3	0.327000	42.15	10.10	59.53	17.38	Pass	QP
4	0.656000	29.01	10.19	56.00	26.99	Pass	QP
5	0.776000	30.75	10.13	56.00	25.25	Pass	QP
6	0.962000	28.04	10.11	56.00	27.96	Pass	QP
7	10.110000	29.81	10.22	60.00	30.19	Pass	QP
8	12.520000	36.35	10.24	60.00	23.65	Pass	QP
9	24.879999	36.62	10.40	60.00	23.38	Pass	QP

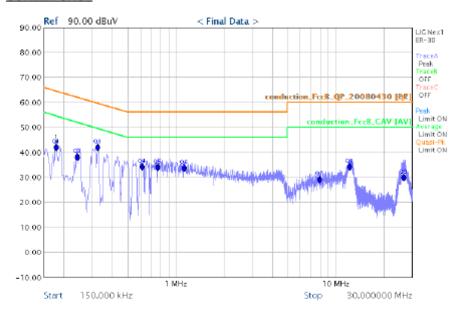


Page: 13 of 47

[NEUTRAL]

CONDUCTED EMISSION

SCREEN SHOT



FINAL TABLE

[Fina	al Table - Quasi-	Pk]						
No	Freq	Level	Corr	Limit	Margin	State	Reference	
	(MHz)	(dBuV)	(dB)	(dBuV)	(dB)			
1	0.180000	41.91	10.34	64.49	22.58	Pass	QP	
2	0.243000	37.84	9.97	61.99	24.15	Pass	QP	
3	0.327000	41.90	10.10	59.53	17.62	Pass	QP	
4	0.617000	34.06	10.22	56.00	21.94	Pass	QP	
5	0.776000	33.93	10.14	56.00	22.07	Pass	QP	
6	1.133000	33.70	10.10	56.00	22.30	Pass	QP	
7	7.910000	28.97	10.17	60.00	31.03	Pass	QP	
8	12.260000	34.08	10.23	60.00	25.92	Pass	QP	
9	26.670000	29.79	10.40	60.00	30.21	Pass	OP	

Comment:

- If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

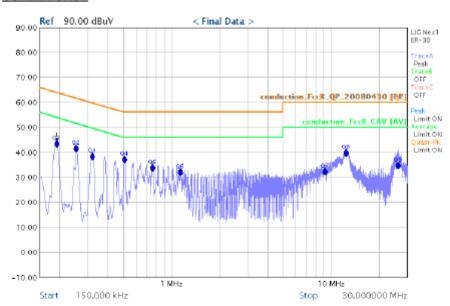


Page: 14 of 47

[HOT] - DVI Mode

CONDUCTED EMISSION

SCREEN SHOT



FINAL TABLE

[Fina	al Table - Quasi-	Pk]					
No	Freq	Level	Corr	Limit	Margin	State	Reference
	(MHz)	(dBuV)	(dB)	(dBuV)	(dB)		
1	0.192000	43.23	10.26	63.95	20.72	Pass	QP
2	0.255000	41.24	9.95	61.59	20.35	Pass	QP
3	0.321000	38.09	10.09	59.68	21.59	Pass	QP
4	0.509000	36.93	10.23	56.00	19.07	Pass	QP
5	0.767000	33.50	10.13	56.00	22.50	Pass	QP
6	1.142000	31.98	10.09	56.00	24.02	Pass	QP
7	9.200000	32.03	10.20	60.00	27.97	Pass	QP
8	12.460000	39.72	10.23	60.00	20.28	Pass	QP
9	26.270000	34.62	10.43	60.00	25.38	Pass	QP

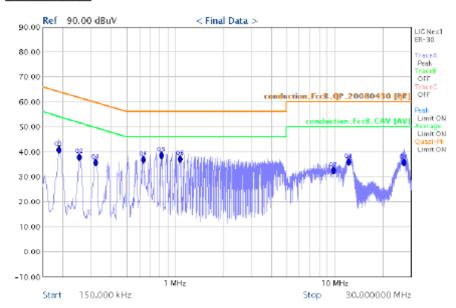


Page: 15 of 47

[NEUTRAL]

CONDUCTED EMISSION

SCREEN SHOT



FINAL TABLE

[Final	Table - Quasi-P	'K]					
No	Freq	Level	Corr	Limit	Margin	State	Reference
	(MHz)	(dBuV)	(dB)	(dBuV)	(dB)		
1	0.189000	40.61	10.27	64.08	23.47	Pass	QP
2	0.255000	37.70	9.95	61.59	23.89	Pass	QP
3	0.321000	35.43	10.09	59.68	24.25	Pass	QP
4	0.638000	36.79	10.21	56.00	19.21	Pass	QP
5	0.830000	38.32	10.12	56.00	17.68	Pass	QP
6	1.085000	37.05	10.10	56.00	18.95	Pass	QP
7	9.890000	32.40	10.22	60.00	27.60	Pass	QP
8	12.200000	35.71	10.23	60.00	24.29	Pass	QP
9	27.080000	35.44	10.41	60.00	24.56	Pass	QP

Comment:

- If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

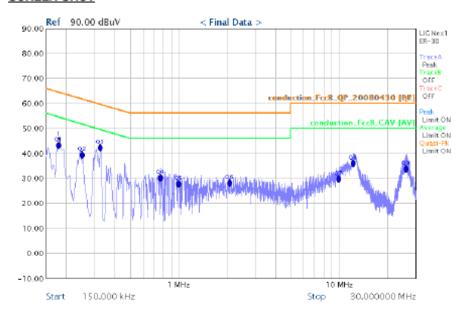


Page: 16 of 47

[HOT]-VGA Mode

CONDUCTED EMISSION

SCREEN SHOT



FINAL TABLE

[Fina	al Table - Quasi-	Pk]					
No	Freq	Level	Corr	Limit	Margin	State	Reference
	(MHz)	(dBuV)	(dB)	(dBuV)	(dB)		
1	0.180000	42.99	10.35	64.49	21.49	Pass	QP
2	0.252000	39.14	9.94	61.69	22.56	Pass	QP
3	0.327000	42.03	10.10	59.53	17.50	Pass	QP
4	0.776000	29.86	10.13	56.00	26.14	Pass	QP
5	1.001000	27.61	10.11	56.00	28.39	Pass	QP
6	2.084000	28.04	10.01	56.00	27.96	Pass	QP
7	9.950000	29.54	10.22	60.00	30.46	Pass	QP
8	12.210000	35.78	10.23	60.00	24.22	Pass	QP
0	26.050000	33.62	10.43	60.00	26.38	Doce	OP.

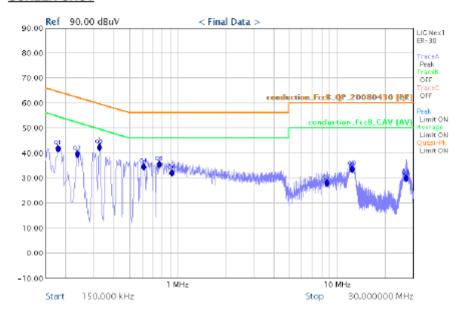


Page: 17 of 47

[NEUTRAL]

CONDUCTED EMISSION

SCREEN SHOT



FINAL TABLE

lable - Quasi-r	n)					
Freq	Level	Corr	Limit	Margin	State	Reference
(MHz)	(dBuV)	(dB)	(dBuV)	(dB)		
0.180000	41.53	10.34	64.49	22.96	Pass	QP
0.237000	39.35	10.00	62.20	22.85	Pass	QP
0.327000	41.99	10.10	59.53	17.53	Pass	QP
0.617000	34.26	10.22	56.00	21.74	Pass	QP
0.773000	35.31	10.14	56.00	20.69	Pass	QP
0.923000	31.95	10.10	56.00	24.05	Pass	QP
8.630000	27.72	10.19	60.00	32.28	Pass	QP
12.440000	33.44	10.23	60.00	26.56	Pass	QP
26.980000	29.67	10.41	60.00	30.33	Pass	QP
	Freq (MHz) 0.180000 0.237000 0.327000 0.617000 0.773000 0.923000 8.630000 12.440000	Freq Level (MHz) (dBuV) 0.180000 41.53 0.237000 39.35 0.327000 44.99 0.617000 34.26 0.773000 35.31 0.923000 31.95 8.630000 27.72 12.440000 33.44	Freq Level Corr (MHz) (dBuV) (dB) 0.180000 41.53 10.34 0.237000 39.35 10.00 0.327000 41.99 10.10 0.617000 34.26 10.22 0.773000 35.31 10.14 0.923000 31.95 10.10 8.630000 27.72 10.19 12.440000 33.44 10.23	Freq Level Corr Limit (MHz) (dBuV) (dB) (dBuV) 0.180000 41.53 10.34 64.49 0.237000 39.35 10.00 62.20 0.327000 41.99 10.10 59.53 0.617000 34.26 10.22 56.00 0.773000 35.31 10.14 56.00 0.923000 31.95 10.10 56.00 8.630000 27.72 10.19 60.00 12.440000 33.44 10.23 60.00	Freq Level Corr Limit Margin (MHz) (dBuV) (dB) (dBuV) (dB) 0.180000 41.53 10.34 64.49 22.96 0.237000 39.35 10.00 62.20 22.85 0.327000 41.99 10.10 59.53 17.53 0.617000 34.26 10.22 56.00 21.74 0.773000 35.31 10.14 56.00 20.69 0.923000 31.95 10.10 56.00 24.05 8.630000 27.72 10.19 60.00 32.28 12.440000 33.44 10.23 60.00 26.56	Freq Level Corr Limit Margin State (MHz) (dBuV) (dB) (dBuV) (dB) 0.180000 41.53 10.34 64.49 22.96 Pass 0.237000 39.35 10.00 62.20 22.85 Pass 0.327000 41.99 10.10 59.53 17.53 Pass 0.617000 34.26 10.22 56.00 21.74 Pass 0.773000 35.31 10.14 56.00 24.05 Pass 9.923000 31.95 10.10 56.00 24.05 Pass 8.630000 27.72 10.19 60.00 32.28 Pass 12.440000 33.44 10.23 60.00 26.56 Pass

Comment:

- If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.



Page: 18 of 47

5.2 Radiated emission

Environmental Conditions

Temperature 25 °C - Open Area Test site (10m)

21 °C - 3m Chamber

Humidity 66 % R.H. - Open Area Test site (10m)

42 % R.H. - 3m Chamber

Test Area Open Area Test site (10m) – Below 1GHz

3m Chamber – Above 1GHz

Test date 2014.09.30

5.2.1 Limits of conducted emission measurement

For unintentional device, according to FCC 5.109(a), the field strength of radiated emission from unintentional radiators at a distance of 10 meters shall not exceed the following Values:

Frequency [MHz]	Distance Meters	Radiated dBuV/m	Radiated uV/m
30 - 88	10	39.0	90
88 - 216	10	43.5	150
216 - 960	10	46.4	210
Above 960	10	49.5	300

For unintentional device, according to FCC 5.109(a), the field strength of radiated emission from unintentional radiators at a distance of 3 meters shall not exceed the following Values:

Frequency [MHz]	Distance Meters	Radiated dBuV/m	Radiated uV/m
30 - 88	3	40.0	100
88 - 216	3	43.5	150
216 - 960	3	46.0	200
Above 960	3	54.0	500



Page: 19 of 47

For unintentional device, according to CISPR Line Radiated Emission Limits class A is as following.

Frequency [MHz]	Distance Meters	Radiated dBuV/m
30 to 230	10	40
230 to 1000	10	47

For unintentional device, according to CISPR Line Radiated Emission Limits class B is as following.

Frequency [MHz]	Distance Meters	Radiated dBuV/m
30 to 230	10	30
230 to 1000	10	37

For unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower



Page: 20 of 47

5.2.2 Measurement procedure

A pretest was performed at 3 m distance in a mini chamber for searching correct frequency.

The final test was done at a 10 m open area test site with a quasi-peak detector.

EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane.

They were folded back and forth forming a bundle 0.3 m to 0.4 m long and were hanged at a 0.4 m height to the ground plane.

Cables connected to EUT were fixed to cause maximum emission.

Test was made with the antenna positioned in both the horizontal and vertical planes of polarization.

The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

5.2.3 Used equipments

* Below 1GHz

Equipment	Model no	Makers	Serial no.	Next cal. date	Used
Test Receiver	ESVS 10	Rohde&Schwarz	846285/004	2015.01.24	
controller	ESDC-CT	EMC Labs	-	-	\boxtimes
Antenna master	ESDC-AM	EMC Labs	-		\boxtimes
Turn table	ESDC-TT	EMC Labs	-	-	\boxtimes
Bi-Log ANT	VULB9160	Schwarzbeck	VULB 9160- 3260	2015.08.19	
Biconical Ant	VHA9103	Schwarzbeck	ESDC9103	2015.07.25	
Log-periodic Ant	UHALP9107	Schwarzbeck	1382	2015.07.25	
Amplifier	310N	SONOMA INSTRUMENT	185757	2015.03.26	

* Above 1GHz

Equipment	Model no	Makers	Serial no.	Next cal. date	Used
Spectrum Analyzer	E4440A	Agilent	MY43362353	2014.12.07	
controller	ACT	AUDIX	060552	-	
Anternna master	-	AUDIX	-	-	\boxtimes
Turn table	Turn table -		-	-	\boxtimes
Horn ANT	BBHA9120D	Schwarzbeck	974	2016.01.13	\boxtimes
Amplifier	ASF4- 00100800-28- 20P-4	SELLEX	1663658	2014.12.07	



Page: 21 of 47

5.2.4 Measurement uncertainty

Radiated Emission measurement : (k=2, 95%)

30-300 MHz ; 3 m: ±3.721 [dB], 10 m: +3.706, -3.707 [dB]

300-1000 MHz ; 3 m: ±3.818 [dB], 10 m: ±3.802 [dB]

5.2.5 Test data

* Receiving Antenna Mode: Horizontal, Vertical

* 10 m OATS, 3 m Chamber

* Note: Reading = Test Receiver meter,

P= Polarization → H = Horizontal, V = Vertical

Result = Field Strength (Antenna factor + Cable factor + +Reading - Amp Gain)



22 of 47 Page:

5.2.6 Test Result

[$Below\ 1GHz$] – DISPLAY Port Mode

В

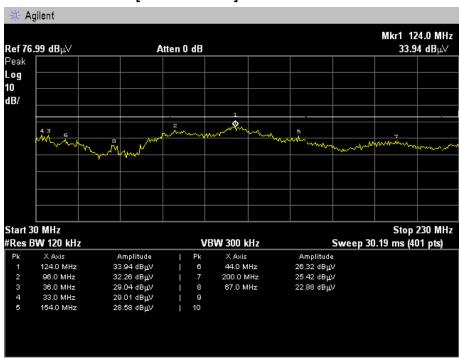
Frequency Reading		Height	Height	angle	(Correction	Limits	Result	
requericy	ricading	Pol.	rieigiit	arigie	Antenna	Cable	Amp Gair	LIIIIII	Hesuit
[MHz]	[dB <i>µ</i> V]		[m]	[°]	[dB/m]	[dB]	[dB]	$[dB\mu V/m]$	[dB#V/m]
43.00	29.60	V	1.0	180	11.72	1.36	18.93	30	23.74
66.00	25.40	V	1.0	200	10.26	1.88	18.93	30	18.61
124.00	29.60	V	1.0	190	11.12	2.84	18.92	30	24.64
728.50	21.60	V	1.1	250	21.65	7.42	18.82	37	31.85
872.40	21.10	V	1.0	200	23.47	8.09	18.82	37	33.83
940.20	19.00	Н	1.0	90	24.21	8.46	18.84	37	32.83



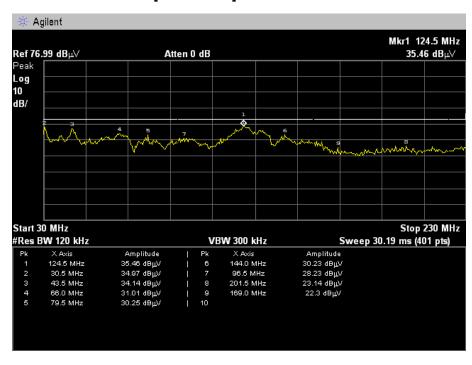
Page: 23 of 47

*3m Chamber Pre-scan Data

[HORIZONTAL] - 30~230MHz



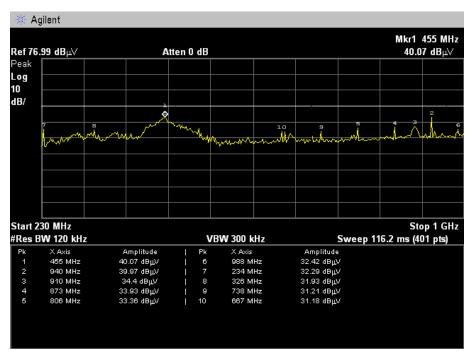
[VERTICAL] - 30~230MHz



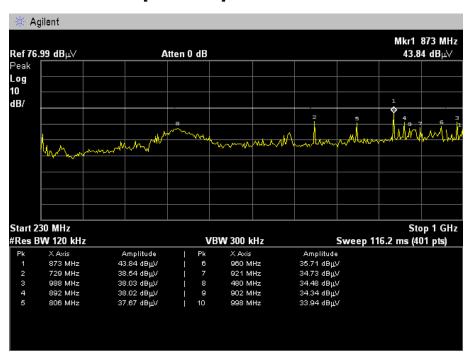


Page: 24 of 47

[HORIZONTAL] - 230~1000MHz



[VERTICAL] - 230~1000MHz





25 of 47 Page :

[Below 1GHz] – HDMI Mode

В

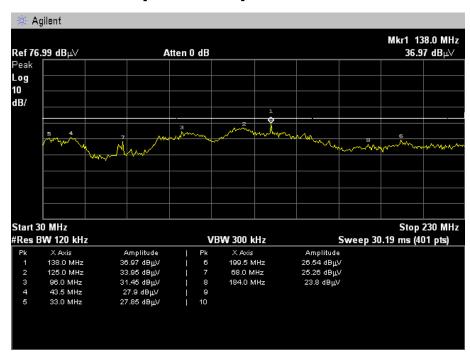
Frequency Reading			Height	anala	(Correction	Limits	Result	
rrequericy	neading	Pol.	neight	angle	Antenna	Cable	Amp Gair	Limits	nesuit
[MHz]	[dB <i>µ</i> V]		[m]	[°]	[dB/m]	[dB]	[dB]	[dBμV/m]	[dB µV/m]
44.00	30.10	V	1.0	190	11.79	1.38	18.93	30	24.34
130.00	28.10	V	1.1	200	11.58	2.90	18.92	30	23.66
137.60	30.10	Н	4.0	60	12.10	2.97	18.91	30	26.26
453.00	25.60	Н	2.3	50	16.93	5.82	18.83	37	29.53
552.70	25.80	V	1.0	160	19.11	6.42	18.82	37	32.50
868.50	20.80	V	1.1	200	23.43	8.07	18.82	37	33.48



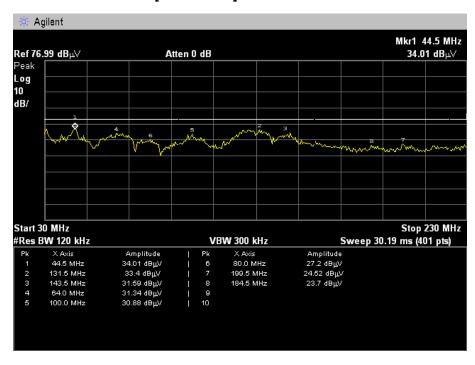
Page: 26 of 47

*3m Chamber Pre-scan Data

[HORIZONTAL] - 30~230MHz



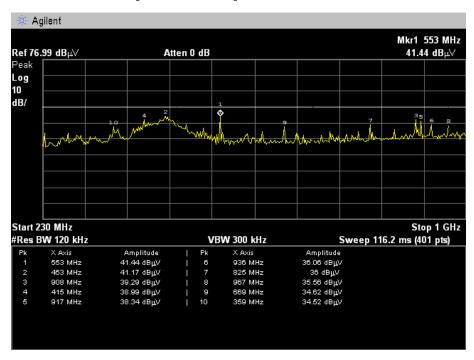
[VERTICAL] - 30~230MHz



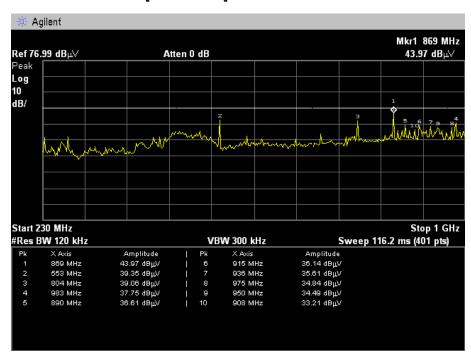


Page: 27 of 47

[HORIZONTAL] - 230~1000MHz



[VERTICAL] - 230~1000MHz





28 of 47 Page :

[Below 1GHz] – DVI Mode

В

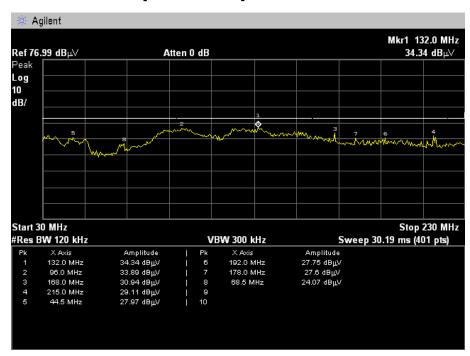
Frequency Reading		Haia	Height	ght angle	(Correction	Limits	Result	
rrequericy	neading	Pol.	neight	arigie	Antenna	Cable	Amp Gair	Limits	nesuit
[MHz]	[dB <i>µ</i> V]		[m]	[°]	[dB/m]	[dB]	[dB]	[dB μ V/m]	[dB μ V/m]
44.00	30.80	٧	1.0	180	11.79	1.38	18.93	30	25.04
96.00	31.40	Н	4.0	200	8.36	2.42	18.93	30	23.25
126.00	29.60	V	1.0	60	11.27	2.86	18.92	30	24.81
772.60	22.70	٧	1.0	60	22.36	7.60	18.80	37	33.86
808.40	19.20	V	1.1	150	22.88	7.86	18.83	37	31.12
941.60	19.00	V	1.0	200	24.22	8.48	18.84	37	32.87



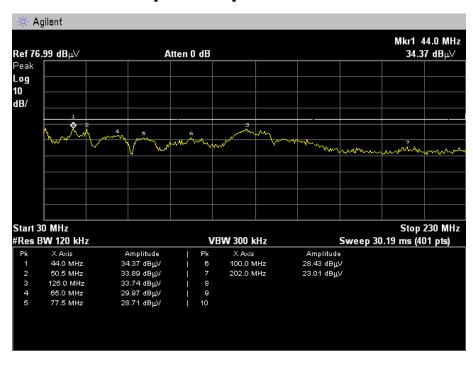
Page: 29 of 47

*3m Chamber Pre-scan Data

[HORIZONTAL] - 30~230MHz



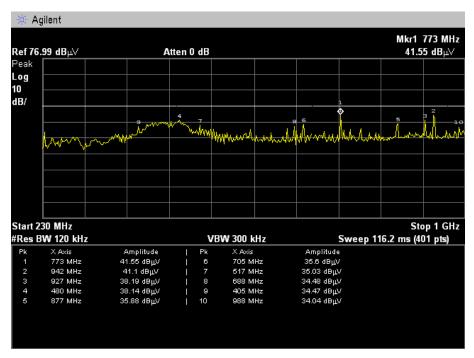
[VERTICAL] - 30~230MHz



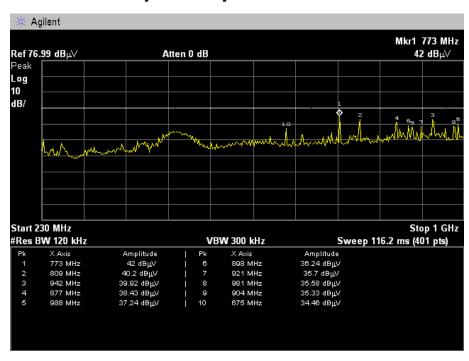


Page: 30 of 47

[HORIZONTAL] - 230~1000MHz



[VERTICAL] - 230~1000MHz





31 of 47 Page :

[Below 1GHz] – VGA Mode

В

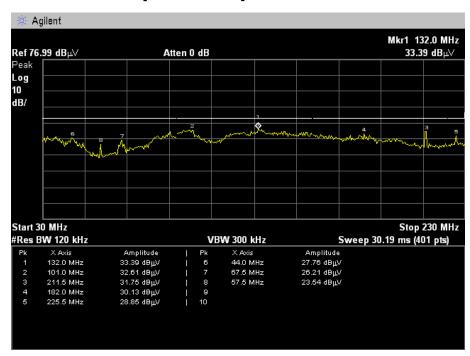
Frequency Reading		Hajabt	Height	angle	(Correction	Limits	Result	
Frequency	neading	Pol.	neight	arigie	Antenna	Cable	Amp Gair	Limits	nesuit
[MHz]	[dB µV]		[m]	[°]	[dB/m]	[dB]	[dB]	[dBµV/m]	[dBµV/m]
43.00	30.50	V	1.0	200	11.72	1.36	18.93	30	24.64
57.50	32.80	V	1.1	150	11.28	1.64	18.93	30	26.79
126.00	29.70	V	1.0	90	11.27	2.86	18.92	30	24.91
808.60	19.60	٧	1.0	20	22.88	7.86	18.83	37	31.52
874.60	20.10	V	1.1	150	23.48	8.10	18.82	37	32.86
941.50	19.80	Н	1.0	200	24.22	8.48	18.84	37	33.67



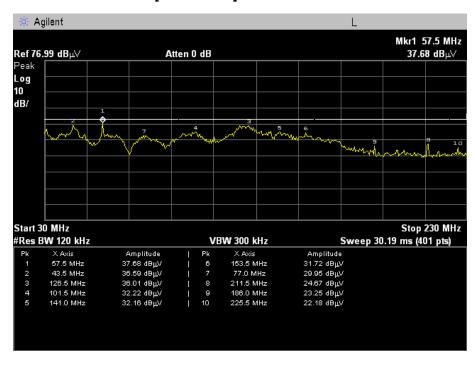
Page: 32 of 47

*3m Chamber Pre-scan Data

[HORIZONTAL] - 30~230MHz



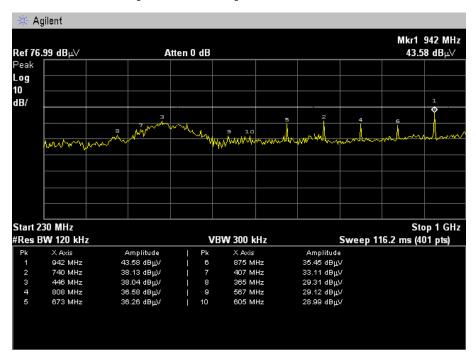
[VERTICAL] - 30~230MHz



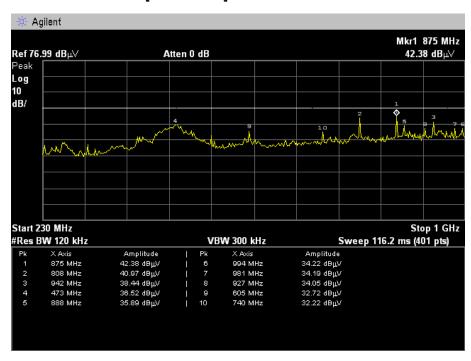


Page: 33 of 47

[HORIZONTAL] - 230~1000MHz



[VERTICAL] - 230~1000MHz





34 of 47 Page :

[Above 1GHz] – DISPLAY Mode

В

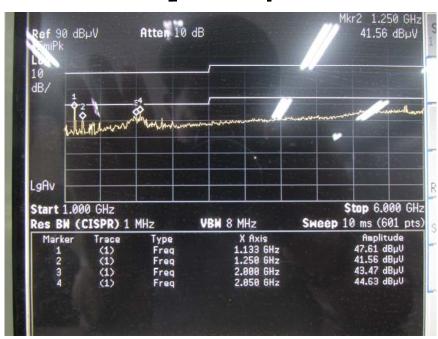
Frequency	Total		Reading	AMP Gain	Corre	ction	Limits	Result	
	Reading	Pol.			Antenna	Cable	_		
[MHZ]	[dB µV]		[dB/W]	[dB]	[dB/m]	[dB]	[dB //W/m]	[dB _{/W} /m]	
1051.60	43.70	V	(55.45)	39.73	24.91	3.08	70	43.70	
1134.40	47.60	Н	(58.95)	39.75	25.03	3.37	70	47.60	
1143.40	44.50	V	(55.80)	39.76	25.04	3.41	70	44.50	PK
2001.30	44.20	V	(53.18)	39.81	26.01	4.82	70	44.20	PK
2049.30	44.60	Н	(53.37)	39.79	26.13	4.90	70	44.60	
5741.80	49.30	Н	(43.85)	37.40	32.04	10.81	74	49.30	
1051.60	37.50	V	(49.25)	39.73	24.91	3.08	50	37.50	
1134.40	40.60	Н	(51.95)	39.75	25.03	3.37	50	40.60	
1143.40	28.70	V	(40.00)	39.76	25.04	3.41	50	28.70	CAV
2049.30	28.20	V	(36.97)	39.79	26.13	4.90	50	28.20	CAV
3001.30	29.10	Н	(33.36)	39.32	28.61	6.45	54	29.10	
5741.80	43.50	Н	(38.05)	37.40	32.04	10.81	54	43.50	



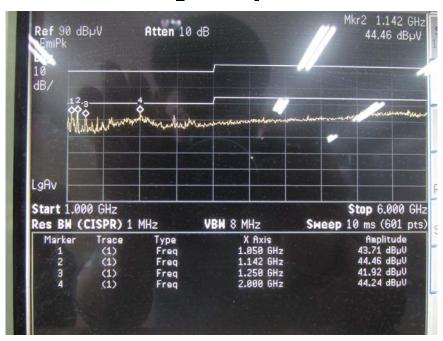
Page: 35 of 47

*3m Chamber Data (Peak)

[HORIZONTAL]



[VERTICAL]





Report No.: KR0140-FCC-14003 Page: 36 of 47

Page :

[Above 1GHz] – HDMI Mode

В

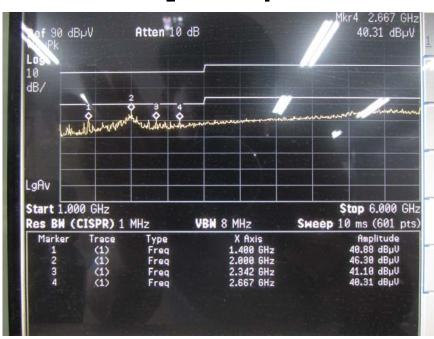
Frequency Total			Reading	AMP Gain	Correction		Limits	Result	
Frequency	Reading	Pol.	neading	AMP Gain	Antenna	Cable	Limits	nesuit	
[MHz]	[dB µV]		[dB µV]	[dB]	[dB/m]	[dB]	[dB/W/m]	[dB /W/m]	
1001.40	46.20	V	(58.19)	39.72	24.83	2.90	70	46.20	
1057.60	43.00	V	(54.75)	39.73	24.91	3.08	70	43.00	
1401.50	41.60	V	(51.86)	39.65	25.43	3.96	70	41.60	PK
1857.40	44.40	V	(53.69)	39.81	25.88	4.64	70	44.40	PK
2001.40	46.30	Н	(55.28)	39.81	26.01	4.82	70	46.30	
2066.80	42.30	Н	(50.96)	39.78	26.19	4.93	70	42.30	
1001.40	39.40	V	(51.39)	39.72	24.83	2.90	50	39.40	
1057.60	36.50	V	(48.25)	39.73	24.91	3.08	50	36.50	
1401.50	35.60	V	(45.86)	39.65	25.43	3.96	50	35.60	CAV
1857.40	37.80	V	(47.09)	39.81	25.88	4.64	50	37.80	CAV
2001.40	38.20	Н	(47.18)	39.81	26.01	4.82	50	38.20	
2066.80	37.40	Н	(46.06)	39.78	26.19	4.93	50	37.40	



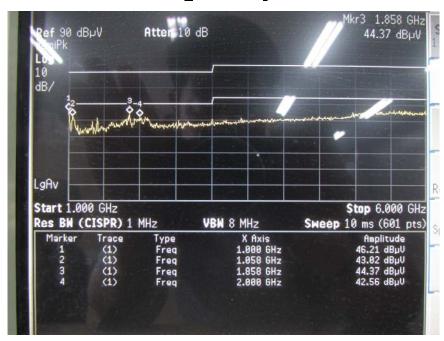
Page: 37 of 47

*3m Chamber Data (Peak)

[HORIZONTAL]



[VERTICAL]





Report No.: KR0140-FCC-14003 Page: 38 of 47

Page :

[Above 1GHz] – DVI Mode

В

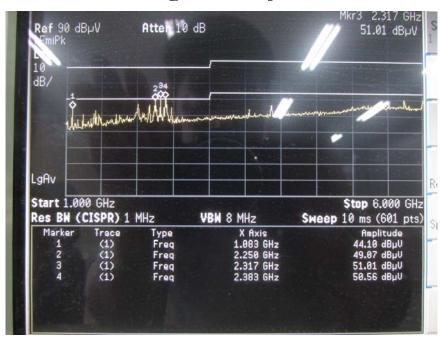
Frequency	Total		Reading	AMP Gain	Correction		Limits	Result	
riequency	Reading	Pol.			Antenna	Cable	Lilling		
[MHz]	[dB µV]		[dB µV]	[dB]	[dB/m]	[dB]	[dBµV/m]	[dBµV/m]	
2007.60	46.90	Н	(55.88)	39.81	26.01	4.82	70	46.90	
2251.30	49.10	Н	(56.78)	39.73	26.75	5.31	70	49.10	
2316.80	51.00	Н	(58.39)	39.75	26.93	5.43	70	51.00	PK
2382.20	50.60	Н	(57.65)	39.77	27.13	5.58	70	50.60	PK
2476.40	46.80	V	(53.51)	39.76	27.40	5.65	70	46.80	
5732.40	49.90	Н	(44.43)	37.40	32.03	10.84	74	49.90	
2007.60	39.80	Н	(48.78)	39.81	26.01	4.82	50	39.80	
2251.30	43.60	Н	(51.28)	39.73	26.75	5.31	50	43.60	
2316.80	45.20	Н	(52.59)	39.75	26.93	5.43	50	45.20	CAV
2382.20	39.50	Н	(46.55)	39.77	27.13	5.58	50	39.50	CAV
2476.40	39.50	V	(46.21)	39.76	27.40	5.65	50	39.50	
5732.40	43.70	Н	(38.23)	37.40	32.03	10.84	54	43.70	



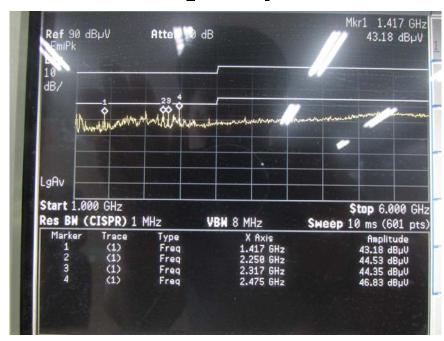
Page: 39 of 47

*3m Chamber Data (Peak)

[HORIZONTAL]



[VERTICAL]





40 of 47 Page :

[Above 1GHz] – VGA Mode

В

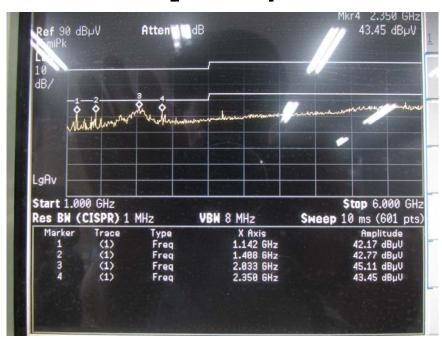
Frequency	Total		Reading	AMP Gain	Correction		Limits	Result	
	Reading	Pol.			Antenna	Cable			
[MHZ]	[dB µV]		[dB/W]	[dB]	[dB/m]	[dB]	[dB/W/m]	[dB/W/m]	
1051.40	44.70	V	(56.45)	39.73	24.91	3.08	70	44.70	
1407.80	44.70	V	(54.96)	39.65	25.43	3.96	70	44.70	
1943.60	43.90	V	(53.00)	39.81	25.96	4.75	70	43.90	DV
2001.30	46.50	V	(55.48)	39.81	26.01	4.82	70	46.50	PK
2032.80	45.10	Н	(53.92)	39.80	26.10	4.88	70	45.10	
2351.40	43.50	Н	(50.70)	39.76	27.05	5.52	70	43.50	
1051.40	37.20	V	(48.95)	39.73	24.91	3.08	50	37.20	
1407.80	37.40	V	(47.66)	39.65	25.43	3.96	50	37.40	
1943.60	36.10	V	(45.20)	39.81	25.96	4.75	50	36.10	CAV
2001.30	39.60	V	(48.58)	39.81	26.01	4.82	50	39.60	CAV
2032.80	38.50	Н	(47.32)	39.80	26.10	4.88	50	38.50	
2351.40	35.70	Н	(42.90)	39.76	27.05	5.52	50	35.70	



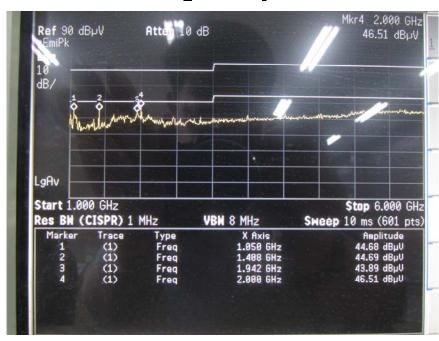
Page: 41 of 47

*3m Chamber Data (Peak)

[HORIZONTAL]



[VERTICAL]





42 of 47 Page :

Test photographs

Conducted Emission [Front]







43 of 47 Page :

Radiated Emission (Below 1GHz)

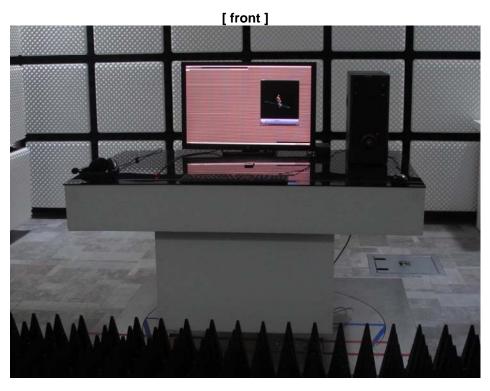






44 of 47 Page :

Radiated Emission (Above 1GHz)







Page : 45 of 47

E.U.T. photographs

[Front View]



[Rear View]





Report No.: KR0140-FCC-14003 Page: 46 of 47

[Inside View]



[Adapter Front]





Page : 47 of 47

[Adapter Rear]



[Adapter Label]

