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TEST REPORT

Report number : Z071C-13365
Issue date : October 23, 2013

The device, as described herewith, was tested pursuant to applicable test procedure and complies with the requirements of;

FCC Part15 Subpart C
Canada IC RSS-210

The test results are traceable to the international or national standards.

Applicant	:	Wacom Co., Ltd.
Equipment under test (EUT)	:	LCD Signature Pad
Model number	:	STU-530
FCC ID	:	HV4STU530
IC Certification number	:	6888A-STU530

Date of test : September 26, October 17,18, 2013
Test place : TÜV SÜD Zacta Ltd. Yonezawa Testing Center
4149-7 Hachimanpara 5-chome
Yonezawa-shi Yamagata 992-1128 Japan
Phone: +81-238-28-2880 Fax: +81-238-28-2888
Test results : Complied

The results in this report are applicable only to the equipment tested.
This report shall not be re-produced except in full without the written approval of TÜV SÜD Zacta Ltd.
This test report must not be used by client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Tested by : Taiki Watanabe
Taiki Watanabe

Tested by : Yoshihiro Hanyu
Yoshihiro Hanyu

Authorized by :
Eiji Akiba
Deputy General Manager of technical Department

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NVLAP LAB CODE 200306-0

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1. Summary of Test

1.1 Purpose of test

It is the original test in order to verify conformance to FCC Part 15 Subpart C.

1.2 Standards

CFR47 FCC Part 15 Subpart C, RSS-210, RSS-Gen

1.2.1 Test Methods

ANSI C63.4-2003

1.2.2 Deviation from standards

None

1.3 List of applied test to the EUT

Test items Section	Classification of EUT	Condition	Result
RSS-Gen 4.6.1	Occupied Bandwidth	Radiated	PASS
15.209 Rss-210 2.2 RSS-Gen 4.9, 4.10, 4.11	Radiated Emissions	Radiated	PASS
15.207 RSS-Gen 7.2.2	AC Power Line Conducted Emissions	Conducted	PASS

1.3.1 Test set up

Table-Top

1.4 Modification to the EUT by laboratory

None

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2. Equipment Under Test

2.1 General Description of equipment

The EUT is LCD Signature Pad.

2.2 EUT information

Applicant	:	Wacom Co., Ltd. 2-510-1, Toyonodai, Kazo-shi, Saitama, 349-1148 Japan Phone: +81-480-78-1211 Fax: +81-480-78-1404
Equipment under test	:	LCD Signature Pad
Trade name	:	Wacom
Model number	:	STU-530
Serial number	:	3GZQS00045
EUT condition	:	Pre-production
Max. frequency	:	148MHz
Power ratings	:	DC 5V (USB)
Size	:	(W) 174.37 × (D) 161.43 × (H) 10.85 mm
Environment	:	Indoor use
Terminal limitation	:	5˚C to 40˚C
RF Specification Frequency range	:	531.25kHz, 562.5kHz, 593.75kHz
Modulation method	:	OOK (On-Off Keying)
RF emission type designator	:	109KK1D

2.3 Variation of the family model(s)

Not applicable

2.4 Operating mode

[Normal Operation]
i) Tablet test setup
ii) Select a Packet measurement
iii) Start test mode

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3. Configuration of equipment

3.1 Equipment(s) used

No.	Equipment	Company	Model No.	Serial No.	FCC ID / DoC	Comment
1	LCD Signature Pad	Wacom	STU-530	3GZQS00045	HV4STU530	EUT
2	Electric pen	Wacom	UP-610	N/A	-	Accessory
3	Personal Computer	DELL	DMC	H6P61BX	DoC	-
4	PS/2 Mouse	DELL	NO71KC	351009362	DoC	-
5	Keyboard	Logicool	Y-UR83	868017-0116SY750UK	DoC	-
6	Printer	SII	DPU-414	1000169C	DoC	-
7	AC Adapter for Printer	SII	PW-4007-JU1-E	0948	-	-
8	Display	SAMSUNG	712N D	MJ17HMDY308893A	DoC	-

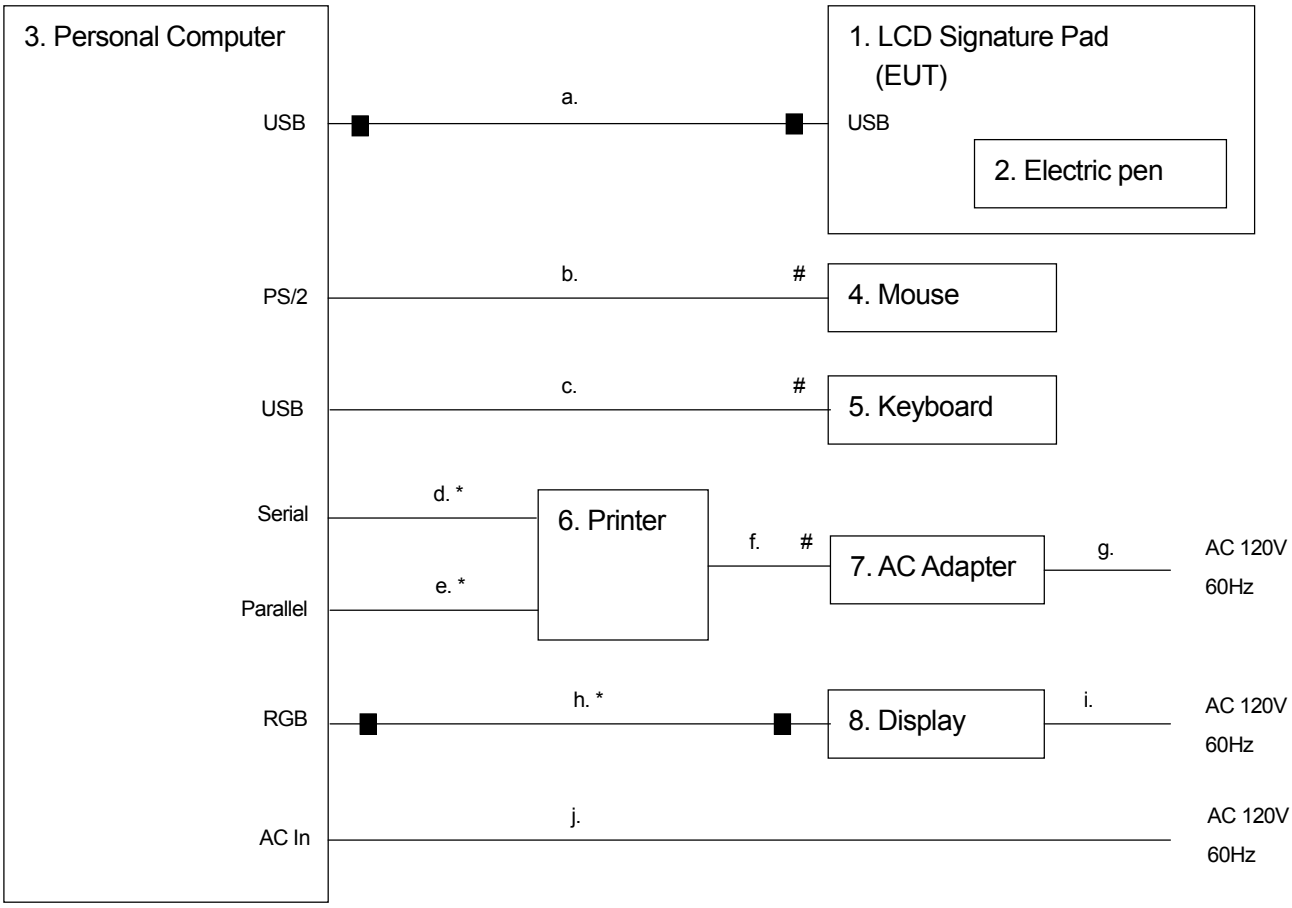
3.2 Cable(s) used

No.	Cable	Length[m]	Shield	Connector	Comment
a	USB cable	5.0	Yes	Metal	Accessory *
b	PS/2 Mouse cable	1.8	No	Metal	-
c	Keyboard cable	1.7	Yes	Metal	-
d	Serial cable	2.0	Yes	Metal	-
e	Parallel cable	2.1	Yes	Metal	-
f	DC cable for Printer	1.9	No	Metal	-
g	AC Power cord for Printer AC Adapter	2.0	No	Plastic	-
h	RGB cable	1.9	Yes	Metal	-
i	AC Power cord for Display	2.0	No	Plastic	-
j	AC Power cord for PC	1.9	No	Plastic	-

*: There are 2 USB cables (5m cable and 3m cable) in accessories.
The 5 m USB cable which was judged as the worst case in preliminary check is used in the test.

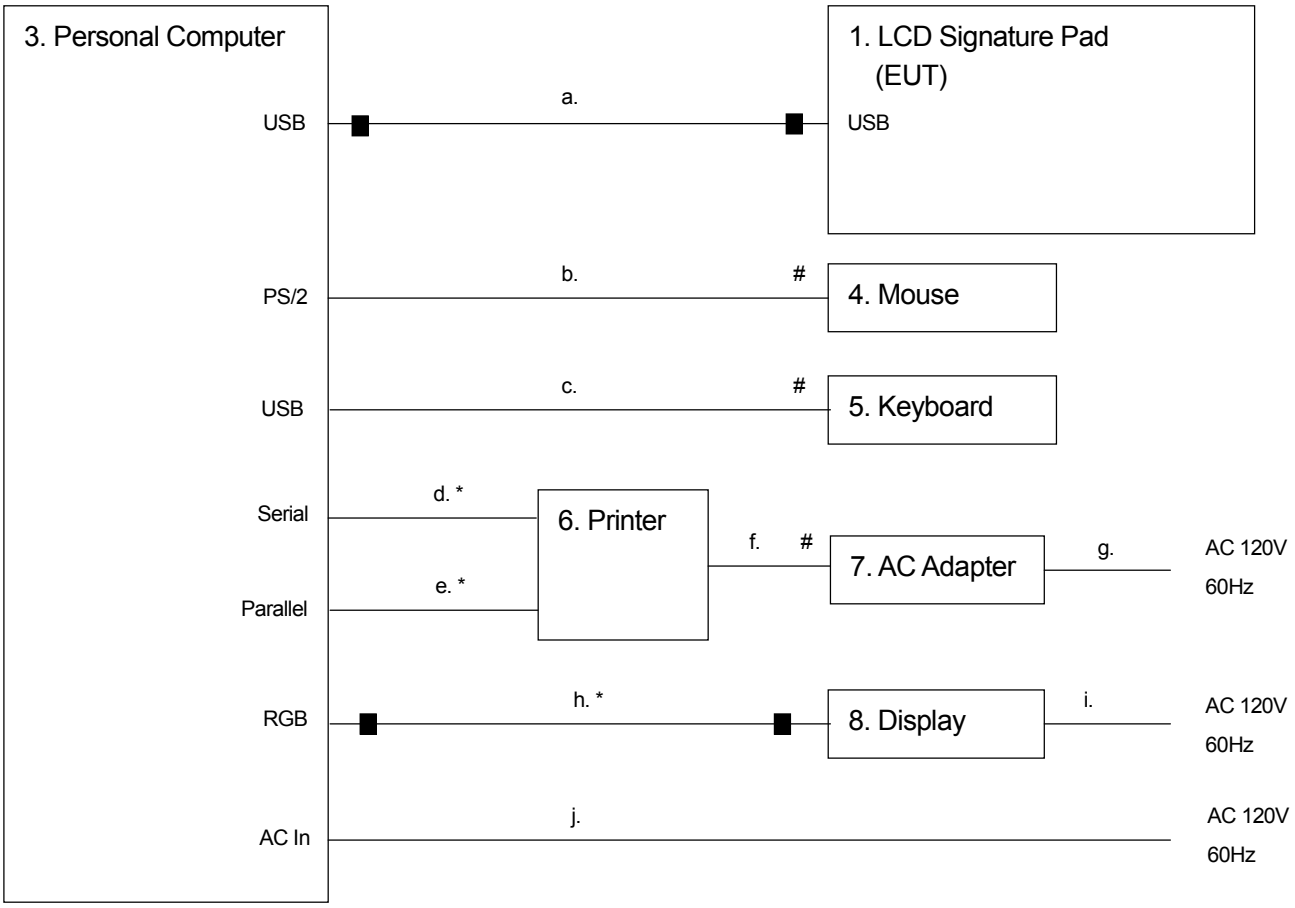
3.3 System configuration

[With Electric pen]



Note1: Numbers assigned to equipment or cables on this diagram correspond to the list in "3.1 Equipment(s) used" and "3.2 Cable(s) used".
Note2: Two ferrite cores of USB cable (No. a) is an accessory of EUT.
Note3: Two ferrite cores of RGB cable (No. h) is not an accessory of EUT.

[Without Electric pen]



: Un-detachable cable

■ : Ferrite core

* : Bundled excess cable

Note1: Numbers assigned to equipment or cables on this diagram correspond to the list in “3.1 Equipment(s) used” and “3.2 Cable(s) used”.
Note2: Two ferrite cores of USB cable (No. a) is an accessory of EUT.
Note3: Two ferrite cores of RGB cable (No. h) is not an accessory of EUT.

4. Occupied Bandwidth

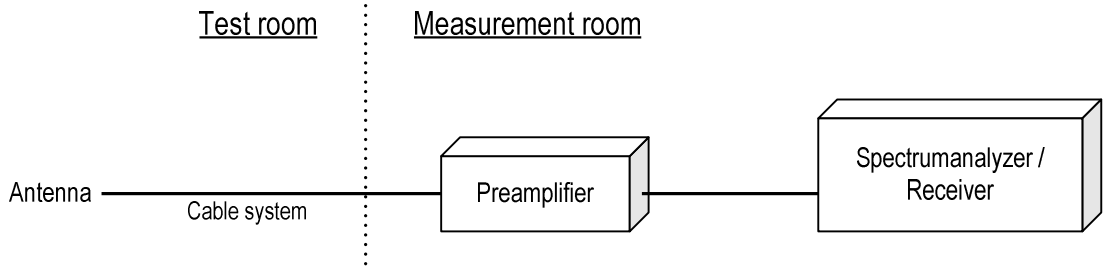
4.1 Measurement procedure [IC RSS-Gen 4.6.1]

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99% bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

The spectrum analyzer is set to;
- RBW=3kHz, VBW=10kHz, Span=300kHz, Sweep=auto

The test mode of EUT is as follows.
- Normal Operation

- Test configuration



4.2 Limit

None

4.3 Measurement result

Date	:	Sep. 26, 2013	Test personnel	:	
Temperature	:	23.3 [˚C]			
Humidity	:	54.7 [%]	Tested by	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

Date	:	Oct. 17, 2013	Test personnel	:	
Temperature	:	22.9 [˚C]			
Humidity	:	33.9 [%]	Tested by	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

[With Electric pen]

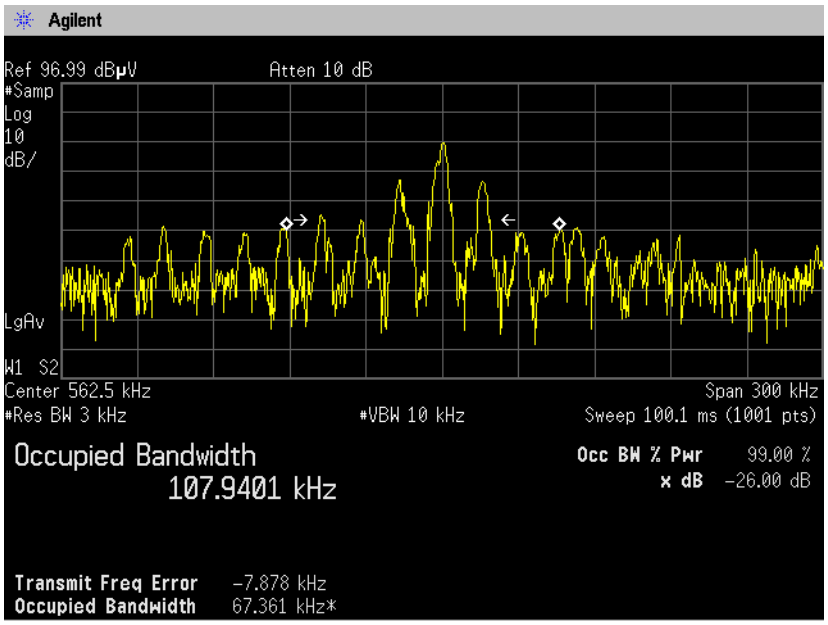
Frequency [kHz]	Occupied bandwidth [kHz]
562.5	107.9

[Without Electric pen]

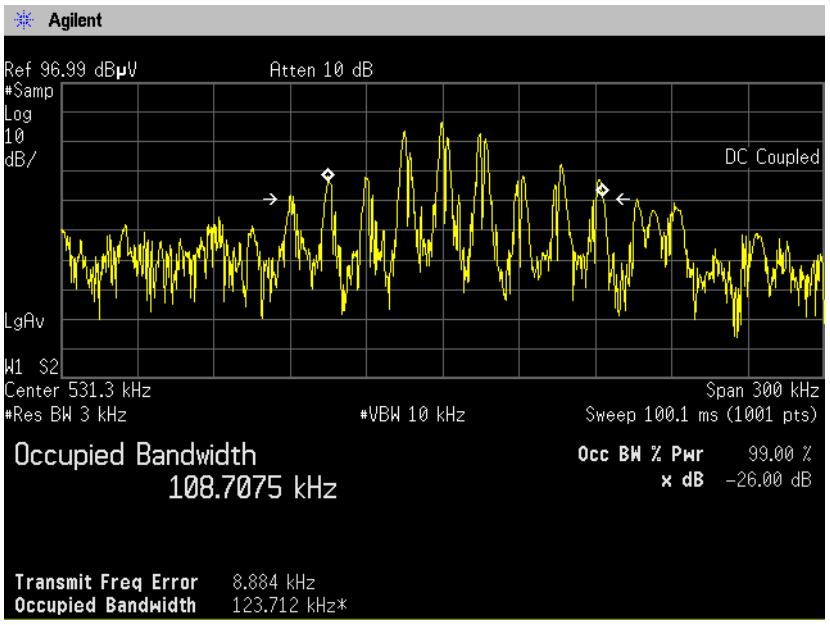
Frequency [kHz]	Occupied bandwidth [kHz]
531.25	108.7
562.5	107.8
593.75	107.5

4.4 Trace data

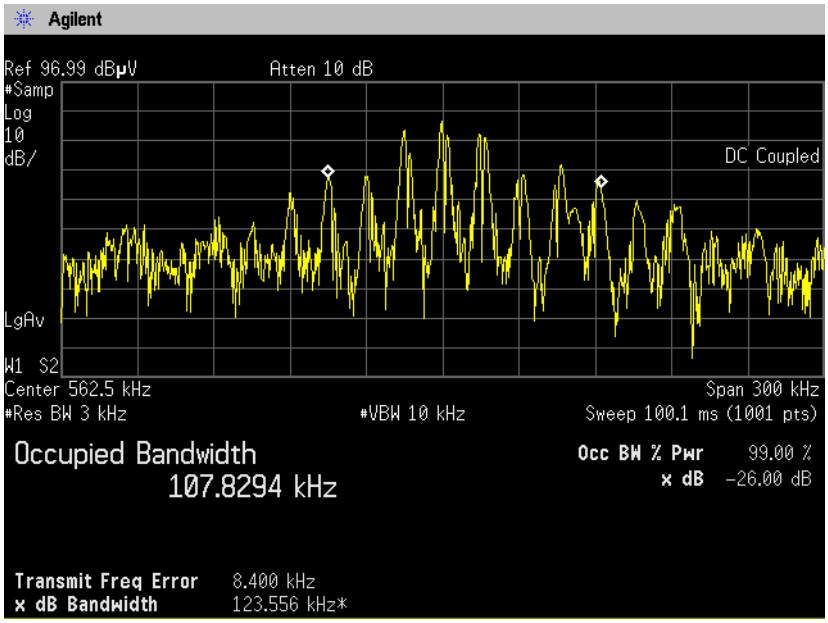
[With Electric pen]
<562.5kHz>



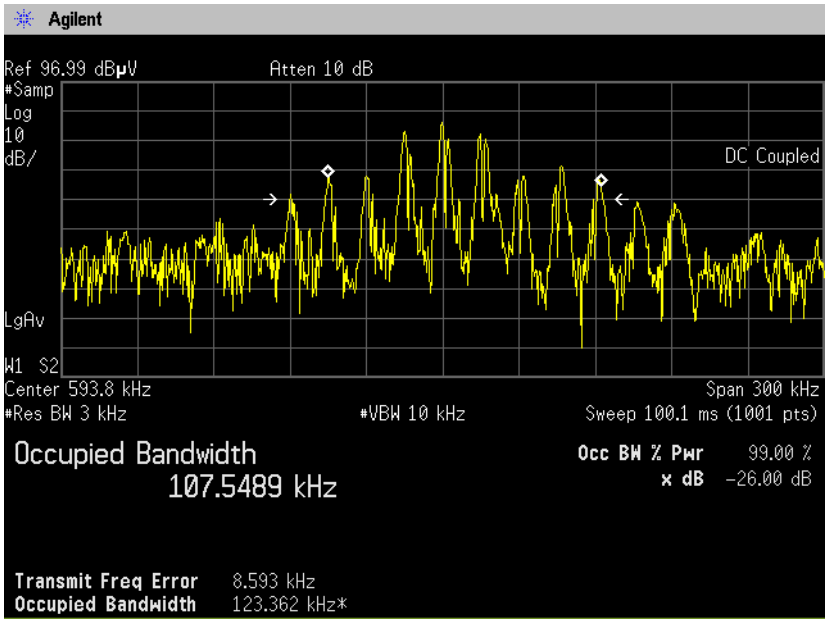
[Without Electric pen]
<531.25kHz >



<562.5kHz>



<593.75kHz>



5. Radiated Emissions

5.1 Measurement procedure
[FCC 15.209, IC RSS-210 2.2, IC RSS-Gen 4.9, 4.10, 4.11]

Test was applied by following conditions.

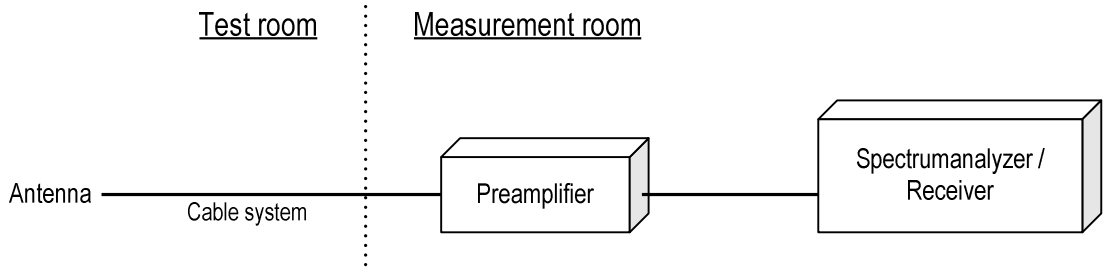
Test method	:	ANSI C63.4
Frequency range	:	9kHz to 30MHz
Test place	:	3m Semi-anechoic chamber
EUT was placed on	:	FRP table / (W)2.0m × (D)1.0m × (H)0.8m
Antenna distance	:	3m

Test receiver setting

- Detector	:	Average (9kHz-90kHz, 110kHz-490kHz), Quasi-peak
- Bandwidth	:	200Hz, 120kHz

EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Then, emission measurements up to 30MHz were performed with test receiver in above setting. The turntable and the Loop antenna are rotated by 360 degrees and stopped at azimuth of producing the maximum emission. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition.

- Test configuration



Test was applied by following conditions.

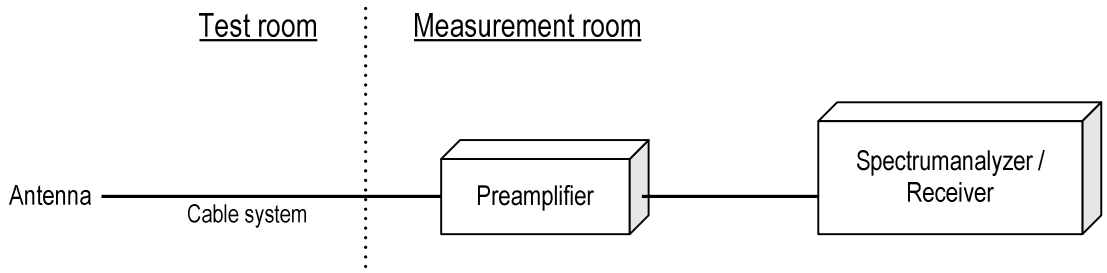
Test method	:	ANSI C63.4
Frequency range	:	30MHz to 1000MHz
Test place	:	10m Semi-anechoic chamber
EUT was placed on	:	FRP table / (W)2.0m × (D)1.0m × (H)0.8m
Antenna distance	:	10m

Test receiver setting

- Detector	:	Quasi-peak
- Bandwidth	:	120kHz

EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Then, emission measurements up to 1000MHz were performed with test receiver in above setting. In order to find the maximum emissions, antenna is adjusted between 1m and 4m in height and varied its polarization (horizontal and vertical), and EUT azimuth was also varied by rotating turntable 0 to 360 degrees. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition.

- Test configuration



5.2 Calculation method

[9kHz to 150kHz]
Emission level = Reading + (Ant. factor + Cable system loss)
Margin = Limit – Emission level

[150kHz to 1000MHz]
Emission level = Reading + (Ant. factor + Cable system loss – Amp. Gain)
Margin = Limit – Emission level

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5.3 Limit

Frequency [MHz]	Field strength		Distance [m]
	[uV/m]	[dBuV/m]	
0.009-0.490	2400 / F [kHz]	20logE [uV/m]	300
0.490-1.705	24000 / F [kHz]	20logE [uV/m]	30
1.705-30	30	29.5	30
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	300	54.0	3

Frequency [MHz]	Limit [dBuV/m]	Distance [m]
30-300	30	10
300-1000	37	10

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level [dBuV/m] = 20log Emission [uV/m]
3. Measurements were corrected to 30m using 40log (3/30) = -40.0dB
4. CISPR 22 limit was applied radiated emission measurements as prescribed in FCC Part 15 section 15.109(g).
5. Radiation emission measurement from 30MHz to 1000MHz was applied the limit of CISPR22.

5.4 Test data

[9kHz to 30MHz]

Date	:	Sep. 26, 2013	Test personnel	:	
Temperature	:	23.3 [˚C]			
Humidity	:	54.7 [%]	Tested by	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

Date	:	Oct. 17, 2013	Test personnel	:	
Temperature	:	22.9 [˚C]			
Humidity	:	33.9 [%]	Tested by	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

[With Electric pen]
<562.5kHz>

Frequency [MHz]	Reading [dBuV] At 3m	c.f [dB(1/m)]	Result [dBuV/m] At 3m	Result [dBuV/m] At 30m	Limit [dBuV/m] At 30m	Margin [dB]	Result
0.563	43.2	-10.6	32.6	-7.4	32.6	40.0	PASS
1.125	36.2	-10.7	25.5	-14.5	26.6	41.1	PASS
1.688	35.8	-10.7	25.1	-14.9	23.1	38.0	PASS
2.250	35.8	-10.6	25.2	-14.8	29.5	44.3	PASS
2.813	35.5	-10.4	25.1	-14.9	29.5	44.4	PASS
3.375	35.5	-10.3	25.2	-14.8	29.5	44.3	PASS

[Without Electric pen]
<531.25kHz>

Frequency [MHz]	Reading [dBuV] At 3m	c.f [dB(1/m)]	Result [dBuV/m] At 3m	Result [dBuV/m] At 30m	Limit [dBuV/m] At 30m	Margin [dB]	Result
0.531	45.6	-10.6	35	-5	33.1	38.1	PASS
1.063	36.3	-10.5	25.8	-14.2	27.1	41.3	PASS
1.594	35.9	-10.5	25.4	-14.6	23.6	38.2	PASS
2.125	35.8	-10.4	25.4	-14.6	29.5	44.1	PASS
2.656	35.7	-10.3	25.4	-14.6	29.5	44.1	PASS
3.188	35.7	-10.2	25.5	-14.5	29.5	44	PASS

<562.5kHz>

Frequency [MHz]	Reading [dBuV] At 3m	c.f [dB(1/m)]	Result [dBuV/m] At 3m	Result [dBuV/m] At 30m	Limit [dBuV/m] At 30m	Margin [dB]	Result
0.563	45.4	-10.6	34.8	-5.2	32.6	37.8	PASS
1.125	36.5	-10.5	26	-14	26.6	40.6	PASS
1.688	35.9	-10.4	25.5	-14.5	23.1	37.6	PASS
2.250	35.8	-10.3	25.5	-14.5	29.5	44	PASS
2.813	35.6	-10.3	25.3	-14.7	29.5	44.2	PASS
3.375	35.7	-10.2	25.5	-14.5	29.5	44	PASS

<593.75kHz>

Frequency [MHz]	Reading [dBuV] At 3m	c.f [dB(1/m)]	Result [dBuV/m] At 3m	Result [dBuV/m] At 30m	Limit [dBuV/m] At 30m	Margin [dB]	Result
0.594	45.3	-10.6	34.7	-5.3	32.1	37.4	PASS
1.188	36.1	-10.5	25.6	-14.4	26.1	40.5	PASS
1.781	35.9	-10.4	25.5	-14.5	29.5	44.0	PASS
2.375	35.7	-10.3	25.4	-14.6	29.5	44.1	PASS
2.969	35.7	-10.2	25.5	-14.5	29.5	44	PASS
3.563	35.7	-10.2	25.5	-14.5	29.5	44	PASS

[30MHz to 1000MHz]

Date	:	Sep. 26, 2013	Test personnel	:	
Temperature	:	21.3 [°C]			
Humidity	:	58.0 [%]	Tested by	:	
Test place	:	10m Semi-anechoic chamber			Yoshihiro Hanyu

Date	:	Oct. 18, 2013	Test personnel	:	
Temperature	:	20.9 [°C]			
Humidity	:	46.4 [%]	Tested by	:	
Test place	:	10m Semi-anechoic chamber			Taiki Watanabe

[With Electric pen]
<562.5kHz>

No.	Frequency	(P)	Reading QP	c.f	Result QP	Limit QP	Margin QP	Height	Angle
	[MHz]		[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[cm]	[°]
1	34.568	V	31.1	-6.0	25.1	30.0	4.9	100.0	0.0
2	64.733	H	39.3	-15.1	24.2	30.0	5.8	400.0	10.0
3	69.468	H	41.4	-15.6	25.8	30.0	4.2	400.0	11.0
4	96.137	V	36.9	-12.5	24.4	30.0	5.6	100.0	222.0
5	149.997	H	33.3	-6.8	26.5	30.0	3.5	400.0	47.0
6	149.997	V	33.4	-6.8	26.6	30.0	3.4	100.0	300.0
7	209.990	V	30.9	-4.6	26.3	30.0	3.7	100.0	312.0
8	499.803	V	32.5	-5.8	26.7	37.0	10.3	279.0	262.0
9	902.864	V	28.9	0.0	28.9	37.0	8.1	156.0	0.0

[Without Electric pen]
<531.25kHz>

No.	Frequency	(P)	Reading QP	c.f	Result QP	Limit QP	Margin QP	Height	Angle
	[MHz]		[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[cm]	[°]
1	36.358	V	26.3	-6.7	19.6	30.0	10.4	276.0	294.0
2	113.570	V	28.3	-9.3	19.0	30.0	11.0	100.0	265.0
3	144.207	V	31.6	-7.1	24.5	30.0	5.5	100.0	318.0
4	149.988	H	33.6	-6.8	26.8	30.0	3.2	400.0	22.0
5	149.996	V	35.5	-6.8	28.7	30.0	1.3	100.0	310.0
6	209.984	V	31.1	-4.6	26.5	30.0	3.5	102.0	302.0
7	210.001	H	28.3	-4.6	23.7	30.0	6.3	369.0	99.0
8	739.958	V	25.7	-2.4	23.3	37.0	13.7	150.0	0.0
9	902.801	V	29.8	0.0	29.8	37.0	7.2	150.0	0.0

<562.5kHz>

No.	Frequency	(P)	Reading QP	c.f	Result QP	Limit QP	Margin QP	Height	Angle
	[MHz]		[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[cm]	[°]
1	36.468	V	27.3	-6.7	20.6	30.0	9.4	276.0	302.0
2	114.200	V	28.4	-9.2	19.2	30.0	10.8	100.0	285.0
3	144.205	V	31.6	-7.1	24.5	30.0	5.5	100.0	320.0
4	149.983	H	33.4	-6.8	26.6	30.0	3.4	400.0	10.0
5	149.990	V	35.6	-6.8	28.8	30.0	1.2	100.0	311.0
6	209.985	V	31.9	-4.6	27.3	30.0	2.7	100.0	298.0
7	209.994	H	28.3	-4.6	23.7	30.0	6.3	304.0	262.0
8	739.951	V	29.7	-2.4	27.3	37.0	9.7	288.0	356.0
9	902.798	V	29.6	0.0	29.6	37.0	7.4	153.0	0.0

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<593.75kHz>

No.	Frequency	(P)	Reading QP	c.f	Result QP	Limit QP	Margin QP	Height	Angle
	[MHz]		[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[cm]	[°]
1	36.488	V	27.8	-6.7	21.1	30.0	8.9	262.0	312.0
2	114.205	V	28.6	-9.2	19.4	30.0	10.6	101.0	285.0
3	144.224	V	31.2	-7.1	24.1	30.0	5.9	101.0	317.0
4	149.984	H	33.4	-6.8	26.6	30.0	3.4	400.0	26.0
5	149.989	V	35.7	-6.8	28.9	30.0	1.1	100.0	299.0
6	209.990	V	32.0	-4.6	27.4	30.0	2.6	100.0	300.0
7	209.987	H	28.3	-4.6	23.7	30.0	6.3	294.0	267.0
8	739.948	V	30.1	-2.4	27.7	37.0	9.3	259.0	353.0
9	902.792	V	29.5	0.0	29.5	37.0	7.5	143.0	0.0

6. AC Power Line Conducted Emissions

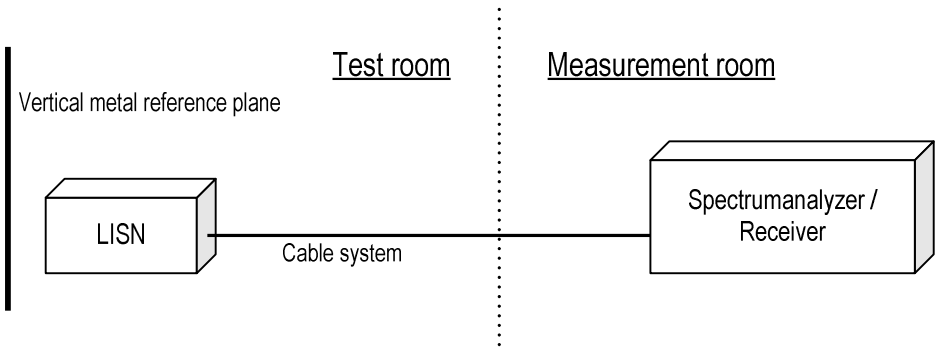
6.1 Measurement procedure [FCC 15.207, IC RSS-Gen 7.2.2]

Test was applied by following conditions.

Test method	:	ANSI C63.4
Frequency range	:	0.15MHz to 30MHz
Test place	:	3m Semi-anechoic chamber
EUT was placed on	:	FRP table / (W)2.0m × (D)1.0m × (H)0.8m
Vertical Metal Reference Plane	:	(W)2.0m × (H)2.0m 0.4m away from EUT
Test receiver setting		
- Detector	:	Quasi-peak, Average
- Bandwidth	:	9kHz

EUT and peripherals are connected to 50Ω/50μH Line Impedance Stabilization Network (LISN) which are connected to reference ground plane, and are placed 80cm away from EUT. Excess of AC power cable is bundled in center.
LISN for peripheral is terminated in 50Ω.
EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Maximum emission configuration is determined by manipulating the EUT, peripherals, interconnecting cables. Then, emission measurements are performed with test receiver in above setting to each current-carrying conductor of the mains port. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits.

- Test configuration



6.2 Calculation method

Emission level = Reading + (LISN. factor + Cable system loss)
Margin = Limit – Emission level

6.3 Limit

Frequency [MHz]	Limit	
	QP [dBuV]	AV [dBuV]
0.15-0.5	66-56*	56-46*
0.5-5	56	46
5-30	60	50

*: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

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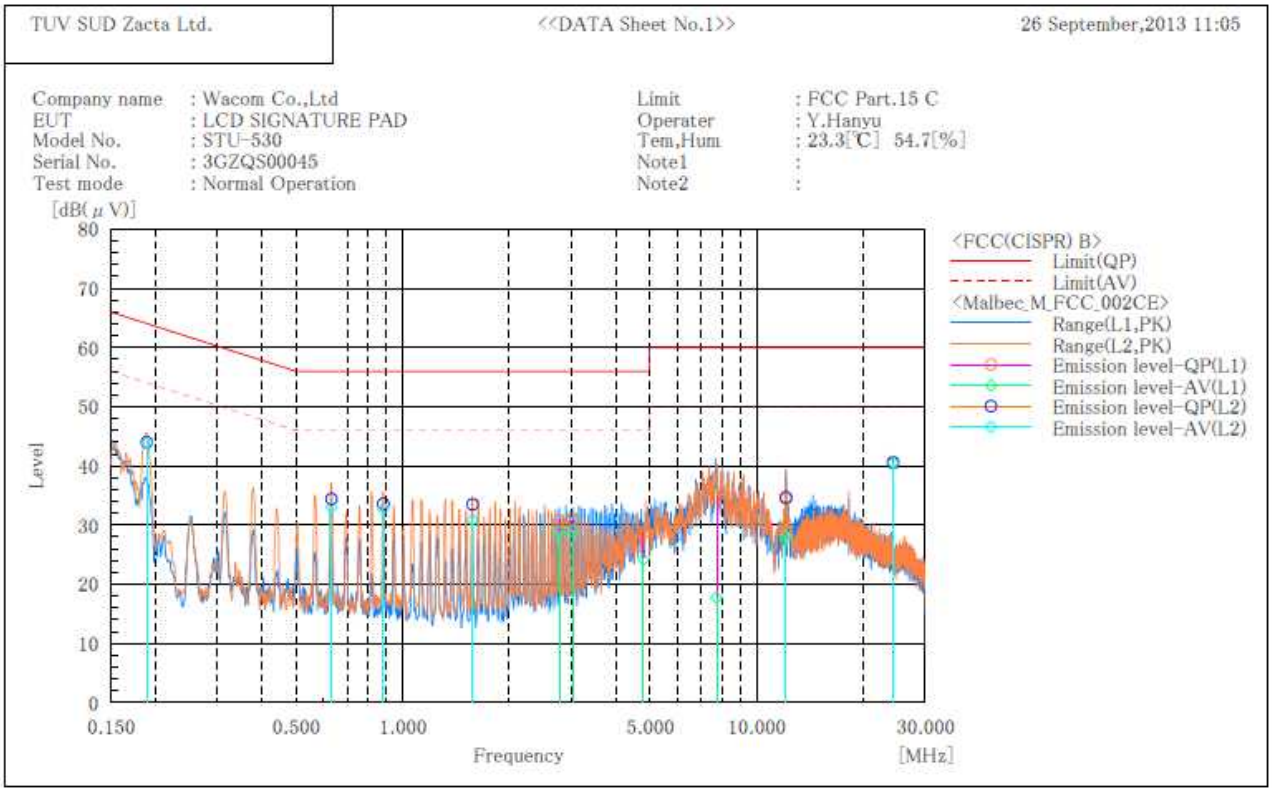
6.4 Test data

[With Electric pen]
<562.5kHz>

***** CONDUCTED EMISSION at MAINS PORT *****
≪ 3m Semi-anechoic chamber ≫



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	2.779	20.4	18.4	10.4	30.8	28.8	56.0	46.0	25.2	17.2
2	3.032	20.6	18.5	10.4	31.0	28.9	56.0	46.0	25.0	17.1
3	4.801	18.2	13.7	10.5	28.7	24.2	56.0	46.0	27.3	21.8
4	7.723	24.1	7.1	10.6	34.7	17.7	60.0	50.0	25.3	32.3
5	12.125	23.7	16.9	10.7	34.4	27.6	60.0	50.0	25.6	22.4
6	24.323	29.5	29.4	11.2	40.7	40.6	60.0	50.0	19.3	9.4

--- L2 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.190	33.5	33.4	10.5	44.0	43.9	64.0	54.0	20.0	10.1
2	0.631	24.0	22.6	10.4	34.4	33.0	56.0	46.0	21.6	13.0
3	0.884	23.2	22.3	10.4	33.6	32.7	56.0	46.0	22.4	13.3
4	1.579	23.1	20.5	10.4	33.5	30.9	56.0	46.0	22.5	15.1
5	12.125	23.9	17.4	10.8	34.7	28.2	60.0	50.0	25.3	21.8
6	24.323	29.3	29.3	11.2	40.5	40.5	60.0	50.0	19.5	9.5

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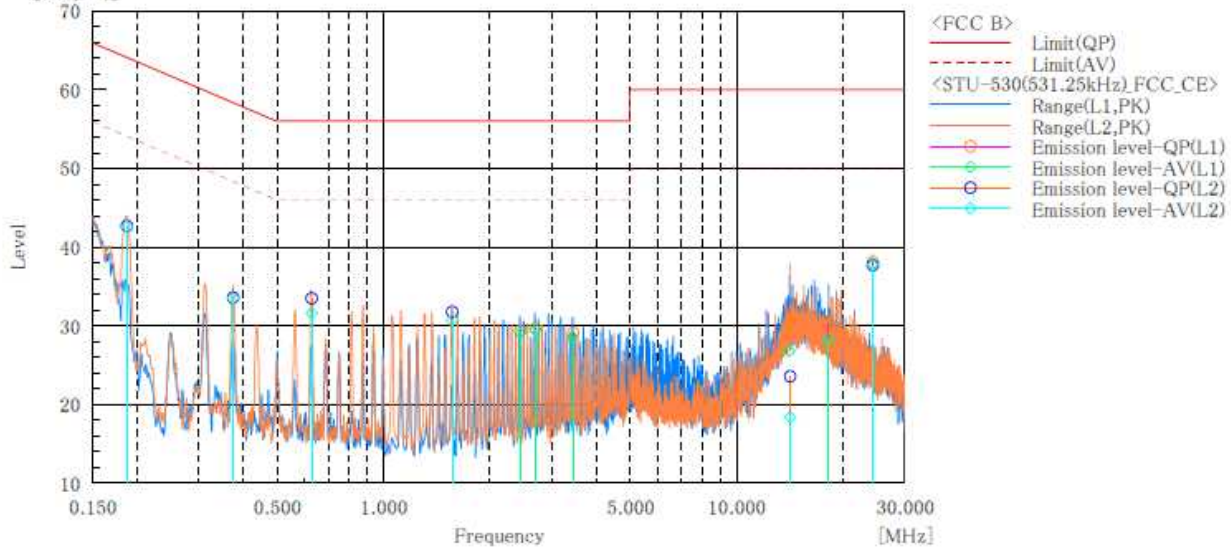
[Without Electric pen]
<531.25kHz>

***** CONDUCTED EMISSION at MAINS PORT *****
≪ 3m Semi-anechoic chamber ≫

TUV SUD Zacta Ltd. <<Data Sheet No.2>> 18 October,2013 06:14

Company Name : Wacom Co.,Ltd
EUT : LCD SIGNATURE PAD
Model No. : STU-530
Serial No. : 3GZQS00045
Test mode : Normal Operation

Standard : FCC Part.15 C
Operator : T.Watanabe
Temp.Hum. : 22.9[℃] 33.9[%]
Note1 :
Note2 :



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	2.448	19.0	18.8	10.4	29.4	29.2	56.0	46.0	26.6	16.8
2	2.697	19.3	19.1	10.4	29.7	29.5	56.0	46.0	26.3	16.5
3	3.450	18.6	18.0	10.5	29.1	28.5	56.0	46.0	26.9	17.5
4	14.110	19.8	15.9	10.9	30.7	26.8	60.0	50.0	29.3	23.2
5	18.246	19.3	17.3	11.0	30.3	28.3	60.0	50.0	29.7	21.7
6	24.328	26.8	26.4	11.3	38.1	37.7	60.0	50.0	21.9	12.3

--- L2 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.188	32.3	32.2	10.4	42.7	42.6	64.1	54.1	21.4	11.5
2	0.376	23.3	23.2	10.3	33.6	33.5	58.4	48.4	24.8	14.9
3	0.627	23.2	21.3	10.3	33.5	31.6	56.0	46.0	22.5	14.4
4	1.567	21.4	20.3	10.4	31.8	30.7	56.0	46.0	24.2	15.3
5	14.204	12.7	7.5	10.9	23.6	18.4	60.0	50.0	36.4	31.6
6	24.327	26.5	26.5	11.2	37.7	37.7	60.0	50.0	22.3	12.3

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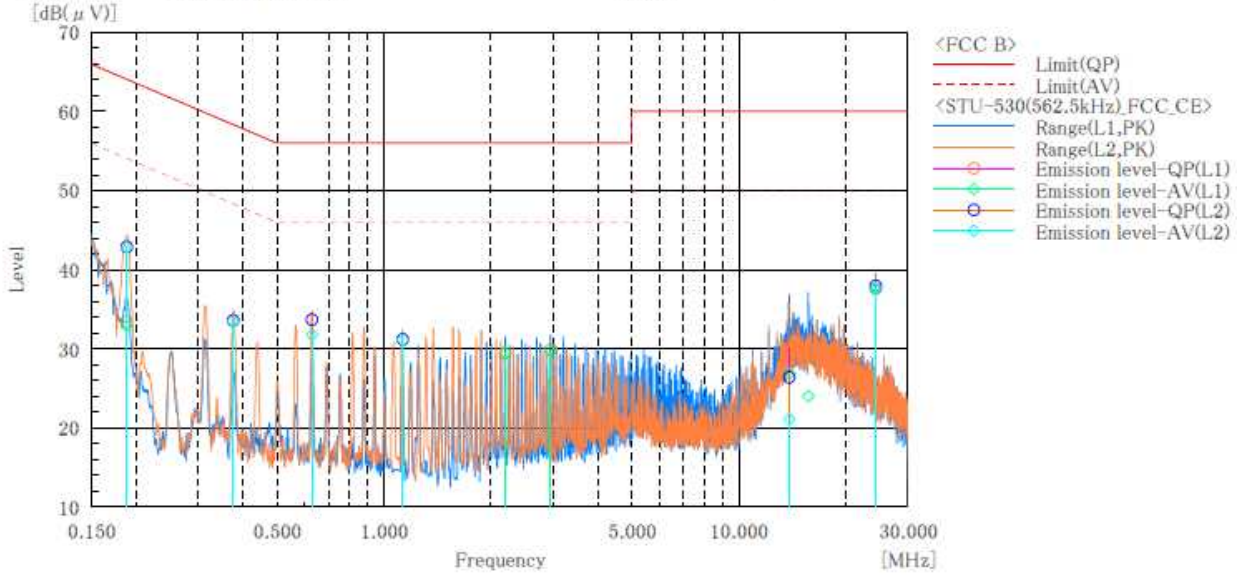
<562.5kHz>

***** CONDUCTED EMISSION at MAINS PORT *****
≪ 3m Semi-anechoic chamber ≫

TUV SUD Zacta Ltd. <<Data Sheet No.3>> 18 October,2013 06:54

Company Name : Wacom Co.,Ltd
EUT : LCD SIGNATURE PAD
Model No. : STU-530
Serial No. : 3GZQS00045
Test mode : Normal Operation

Standard : FCC Part.15 C
Operator : T.Watanabe
Temp.Hum. : 22.9[℃] 33.9[%]
Note1 :
Note2 :



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.189	23.0	22.5	10.4	33.4	32.9	64.1	54.1	30.7	21.2
2	2.201	19.1	19.1	10.4	29.5	29.5	56.0	46.0	26.5	16.5
3	2.955	19.5	19.3	10.4	29.9	29.7	56.0	46.0	26.1	16.3
4	13.899	19.3	16.1	10.8	30.1	26.9	60.0	50.0	29.9	23.1
5	15.723	18.1	13.1	10.9	29.0	24.0	60.0	50.0	31.0	26.0
6	24.327	26.3	26.2	11.3	37.6	37.5	60.0	50.0	22.4	12.5

--- L2 Phase ---

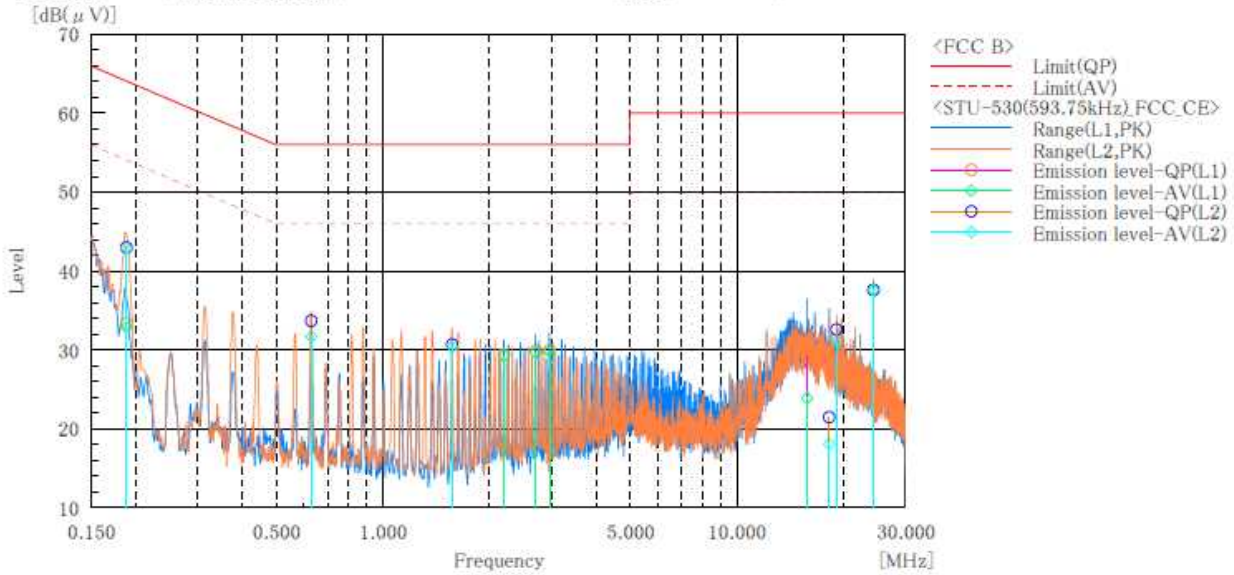
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.189	32.5	32.4	10.4	42.9	42.8	64.1	54.1	21.2	11.3
2	0.377	23.3	23.2	10.3	33.6	33.5	58.3	48.3	24.7	14.8
3	0.628	23.4	21.5	10.3	33.7	31.8	56.0	46.0	22.3	14.2
4	1.132	20.9	20.8	10.3	31.2	31.1	56.0	46.0	24.8	14.9
5	13.890	15.6	10.3	10.8	26.4	21.1	60.0	50.0	33.6	28.9
6	24.328	26.8	26.5	11.2	38.0	37.7	60.0	50.0	22.0	12.3

<593.75kHz>

***** CONDUCTED EMISSION at MAINS PORT *****
≪ 3m Semi-anechoic chamber ≫

TUV SUD Zacta Ltd. <<Data Sheet No.4>> 18 October,2013 07:31

Company Name	: Wacom Co.,Ltd	Standard	: FCC Part.15 C
EUT	: LCD SIGNATURE PAD	Operator	: T.Watanabe
Model No.	: STU-530	Temp.Hum.	: 22.9[℃] 33.9[%]
Serial No.	: 3GZQS00045	Note1	:
Test mode	: Normal Operation	Note2	:



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.189	23.0	22.5	10.4	33.4	32.9	64.1	54.1	30.7	21.2
2	2.202	19.0	18.9	10.4	29.4	29.3	56.0	46.0	26.6	16.7
3	2.706	19.5	19.3	10.4	29.9	29.7	56.0	46.0	26.1	16.3
4	2.958	19.6	19.5	10.4	30.0	29.9	56.0	46.0	26.0	16.1
5	15.797	18.3	13.0	10.9	29.2	23.9	60.0	50.0	30.8	26.1
6	24.327	26.3	26.3	11.3	37.6	37.6	60.0	50.0	22.4	12.4

--- L2 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.189	32.6	32.5	10.4	43.0	42.9	64.1	54.1	21.1	11.2
2	0.629	23.4	21.4	10.3	33.7	31.7	56.0	46.0	22.3	14.3
3	1.572	20.3	20.0	10.4	30.7	30.4	56.0	46.0	25.3	15.6
4	18.246	10.5	7.1	11.0	21.5	18.1	60.0	50.0	38.5	31.9
5	19.137	21.6	20.2	11.0	32.6	31.2	60.0	50.0	27.4	18.8
6	24.328	26.4	26.4	11.2	37.6	37.6	60.0	50.0	22.4	12.4

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7. Uncertainty of measurement

Expanded uncertainties stated are calculated with a coverage Factor k=2.
Please note that these results are not taken into account when determining compliance or non-compliance with test result.

Test item	Measurement uncertainty
Conducted emission at mains port	±3.0dB
Radiated emission (9kHz – 30MHz)	±4.4dB
Radiated emission (30MHz – 1000MHz)	±4.5dB
Radiated emission (1000MHz – 26GHz)	±3.9dB

8. Laboratory description

1. Location:

TÜV SÜD Zacta Ltd. Yonezawa Testing Center
4149-7 Hachimanpara 5-chome Yonezawa-shi Yamagata 992-1128 Japan
Phone: +81-238-28-2880 Fax: +81-238-28-2888

2. Facility filing information:

1) NVLAP accreditation: NVLAP Lab. code: 200306-0

2) VLAC accreditation: Lab. code: VLAC-013

Site name	Radiated emission	Conducted emission for mains port	Conducted emission for telecom port	Radiated emission (CMAD)	Expiry Date
3m Semi-anechoic chamber	VLAC-013			-	Jul. 3, 2015
10m Semi-anechoic chamber				VLAC-013	
Shielded room No.1	-	VLAC-013		-	

3) FCC filing:

Site name	Registration Number	Expiry Date
Site 2	91065	Oct.31, 2014
Site 3		
3m Semi-anechoic chamber	540072	Jan. 9, 2016
10m Semi-anechoic chamber		
Shielded room No.1		

4) Industry Canada Oats site filing:

Site name	Sites on file: Oats 3m/10m	Expiry Date
Site 2	4224A-2	Jan. 23, 2015
Site 3	4224A-3	
3m Semi-anechoic chamber	4224A-4	
10m Semi-anechoic chamber	4224A-5	

5) VCCI site filing:

Site name	Radiated emission	Conducted emission for mains port	Conducted emission for telecom port	Expiry Date
Site 2	R-137	C-133	T-1221	Nov. 16, 2014 Nov. 28, 2014* (*:Telecom port)
Site 3	R-138	C-134	T-1222	
3m Semi-anechoic chamber	A-0166			Jul. 3, 2015
10m Semi-anechoic chamber				
Shielded room No.1	-	A-0166		

6) TÜV SÜD PS authorization:
Authorized as an EMC test laboratory

7) TÜV Rheinland authorization:
Authorized as an EMC test laboratory

Appendix A. Test equipment

Radiated emission
[Testing below 30MHz (2013/9/26 measurement.)]

Equipment	Company	Model No.	Serial No.	Cal. due	Cal. date
EMI Receiver	ROHDE&SCHWARZ	ECSI	100451	Oct. 2013	Oct. 26, 2012
Preamplifier	ANRITSU	MH648A	M96057	Jun. 2014	Jun. 12, 2013
Loop antenna	ROHDE&SCHWARZ	HFH2-Z2	891847/17	Mar. 2014	Mar. 1, 2013
Microwave cable	SUHNER	SUCOFLEX104/9m	346316/4	Oct. 2013	Oct. 6, 2012
		SUCOFLEX104/1m	322084/4	Oct. 2013	Oct. 6, 2012
		SUCOFLEX104/1.5m	317226/4	Oct. 2013	Oct. 6, 2012
		SUCOFLEX104/7m	41625/6	Oct. 2013	Oct. 6, 2012
PC	DELL	DIMENSION E521	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/RE-AJ	0611193/V5.3.61	N/A	N/A
3m Semi-anechoic chamber	TOKIN	N/A	N/A (9002-NSA)	May 2014	May 6, 2013

[Testing below 30MHz (2013/10/17 measurement.)]

Equipment	Company	Model No.	Serial No.	Cal. due	Cal. date
EMI Receiver	ROHDE&SCHWARZ	ECSI	100451	Oct. 2013	Oct. 26, 2012
Preamplifier	ANRITSU	MH648A	M96057	Jun. 2014	Jun. 12, 2013
Loop antenna	ROHDE&SCHWARZ	HFH2-Z2	891847/17	Mar. 2014	Mar. 1, 2013
Microwave cable	SUHNER	SUCOFLEX104/9m	346316/4	Oct. 2014	Oct. 6, 2013
		SUCOFLEX104/1m	322084/4	Oct. 2014	Oct. 6, 2013
		SUCOFLEX104/1.5m	317226/4	Oct. 2014	Oct. 6, 2013
		SUCOFLEX104/7m	41625/6	Oct. 2014	Oct. 6, 2013
PC	DELL	DIMENSION E521	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/RE-AJ	0611193/V5.3.61	N/A	N/A
3m Semi-anechoic chamber	TOKIN	N/A	N/A (9002-NSA)	May 2014	May 6, 2013

[Testing above 30MHz]

Equipment	Company	Model No.	Serial No.	Cal. due	Cal. date
EMI Receiver	ROHDE&SCHWARZ	ECSI	100765	Jul. 2014	Jul. 24, 2013
Preamplifier	ANRITSU	MH648A	M08067	Jun. 2014	Jun. 12, 2013
Biconical antenna	Schwarzbeck	VHA9103/BBA9106	2155	May 2014	May 1, 2013
Log periodic antenna	Schwarzbeck	UHALP9108A	0560	May 2014	May 1, 2013
Attenuator	TME	CFA-01NPJ-6	N/A (S273)	Jun. 2014	Jun. 12, 2013
Attenuator	TME	CFA-01NPJ-3	N/A (S270)	Jun. 2014	Jun. 12, 2013
Microwave cable	SUHNER	SUCOFLEX104/9m	346315/4	Sep. 2014	Sep. 14, 2013
		SUCOFLEX104/1m	322085/4	Sep. 2014	Sep. 14, 2013
		SUCOFLEX104/1.5m	317222/4	Sep. 2014	Sep. 14, 2013
		SUCOFLEX106/12m	41624/6	Sep. 2014	Sep. 14, 2013
PC	HP	dc7800small	JPA7450FPJ	N/A	N/A
Software	TOYO Corporation	EP5/RE-AJ	0611193/V5.3.61	N/A	N/A
10m Semi-anechoic chamber	TOKIN	N/A	N/A (9002-NSA)	May 2014	May 4, 2013

Conducted emission at mains port

Equipment	Company	Model No.	Serial No.	Cal. due	Cal. date
EMI Receiver	ROHDE&SCHWARZ	ECSI	100451	Oct. 2013	Oct. 26, 2012
Attenuator	HUBER+SUHNER	6810.01.A	N/A (S411)	Feb. 2014	Feb. 28, 2013
Line impedance stabilization network for EUT	Kyoritsu Electrical Works, Ltd.	KNW-407F	8-2003-1	Mar. 2014	Mar. 12, 2013
Line impedance stabilization network for peripheral	Kyoritsu Electrical Works, Ltd.	KNW-242F	8-1973-1	Jul. 2014	Jul. 1, 2013
Coaxial cable	FUJIKURA	5D-2W/4m	N/A (S350)	Feb. 2014	Feb. 4, 2013
Coaxial cable	FUJIKURA	5D-2W/1m	N/A (S193)	Feb. 2014	Feb. 4, 2013
Coaxial cable	SUHNER	RG214/U/10m	N/A (S194)	Feb. 2014	Feb. 4, 2013
50Ω terminator	HRS	UG-88/U	N/A (S068)	Nov. 2013	Nov. 29, 2012
PC	DELL	DIMENSION E521	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/CE-AJ	0611193/V5.2.41	N/A	N/A