# **FCC Test Report**

Equipment : LCD Tablet

Brand Name : Wacom

Model No. : DTK-2700

FCC ID : HV4DTK2700

Standard : 47 CFR FCC Part 15.209

Operating Band : 667kHz

FCC Classification: DCD

Applicant : Wacom Co., Ltd.

2-510-1, Toyonodai, Kazo-shi, Saitama 349-1148 Japan

The product sample received on Oct. 09, 2014 and completely tested on Nov. 07, 2014. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Vic Hsiao / Supervisor

Testing Laboratory 1190

Report No.: FR401504-01

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# FCC Test Report

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# **Summary of Test Result**

	Conformance Test Specifications							
Report Clause	Ref. Std. Clause	Description	Measured	Limit	Result			
1.1.3	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied			
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]:0.4214950MHz 28.47 (Margin 18.95dB) - AV 34.62 (Margin 22.80dB) - QP	FCC 15.207	Complied			
3.2	15.209	Transmitter Radiated Emissions	[dBuV/m at 3m]:375.32MHz 40.64 (Margin 5.36dB) - PK	FCC 15.209	Complied			

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# **Revision History**

Report No.: FR4O1504-01

Report No.	Version	Description	Issued Date
FR4O1504	Rev. 01	Initial issue of report	Nov. 20, 2014
FR4O1504-01	Rev. 01	Change FCC ID and model name.     Remove hand touch function.	Dec. 03, 2014

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#### **General Description** 1

#### 1.1 Information

#### 1.1.1 Manufacturer Information

Manufacturer	Wacom Co., Ltd. 2-510-1, Toyonodai, Kazo-shi, Saitama 349-1148 Japan
Factory 1 Qisda Corporation 157 & 159, Shan-Ying Road, Gueishan, Taoyuan 333, Taiwan	
Factory 2	Qisda (Suzhou) Co., Ltd. 169, Zhujiang Road, New District, Suzhou, Jiangsu Province, P.R. China
Factory 3	Qisda Optronics (Suzhou) Co., Ltd. 169, Zhujiang Road, New District, Suzhou, Jiangsu 215129, P.R. China
Factory 4	Qisda Mexicana S.A. De C.V. Calzada Venustiano Carranza, No. 88 Col. Plutarco Elias Calles, Mexocali B.C. Mexico C.P 21376 Mexico
Factory 5	Qisda Electronics (Suzhou) Co., Ltd. 169, Zhujiang Road, New District, Suzhou, Jiangsu 215129, P.R. China

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#### 1.1.2 RF General Information

RF General Information				
Freque	ncy Range	667kHz		
Modulation	Ch. Frequency (kHz)	Channel Number	Field Strength (dBuV/m)	
Array Coil Pointing	667	1	50.33	
Note 1: Field strength performed peak level at 3m.				

#### 1.1.3 Antenna Information

	Antenna Category
	Equipment placed on the market without antennas
$\boxtimes$	Integral antenna (antenna permanently attached)
	External antenna (dedicated antennas)

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1.1.4 Type of EUT

	Identify EUT				
EUT Serial Number N/.		N/A			
Pre	sentation of Equipment	☑ Production ; ☐ Production : ☐	Pre-Production ;  Prototype		
		Туре	e of EUT		
$\boxtimes$	Stand-alone				
	Combined (EUT where	he radio part is fully integ	egrated within another device)		
	Combined Equipment -	Brand Name / Model No.	o.:		
	Mounted radio (EUT inte	ended for a limited host s	system)		
	Host System :				
	Brand Name / Model No	.:			
	FCC ID:				
	Other:				
1.1.	1.1.5 Test Signal Duty Cycle				
	Operated Mode for Worst Duty Cycle				
	Operated normally mod	e for worst duty cycle			
$\boxtimes$	Operated test mode for	worst duty cycle			
	Test Signal Duty Cycle (x)				
$\boxtimes$	☑ 100.00%				
1.1.	1.1.6 EUT Operational Condition				
Sup	oply Voltage	AC mains	□ DC		
Тур	ype of DC Source ☐ From Battery ☐ External DC adapter ☐ From system				

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Note: The adapter and system supply voltage in the same time

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# 1.2 Accessory and Support Equipment

		Accessories Information	on	
Adoptor	Brand Name	Adapter Technoloty	Model Name	STD-24050
Adapter	Power Rating	Input:AC 100~240V, 47~63	Hz, 1.6A, Outp	out: DC 24V, 5A
Power Cord	Brand Name	Wacom	Model Name	SCD-A69-01
Digital Pen	Brand Name	Wacom	Model Name	KP-503E
LICE Coble	Brand Name	Wacom	Model Name	STJ-A347
USB Cable	Signal Line	0.3 meter, non-shielded ca	core	
DVI to HDMI Cable	Brand Name	Wacom	Model Name	INF-A092
Mini-DP to DP Cable	Brand Name	Wacom	Model Name	INF-A093
USB 3.0 Cable	Brand Name	Wacom	Model Name	STJ-A341
DisplayPort Cable	Brand Name	Wacom	Model Name	STJ-A343
HDMI Cable	Brand Name	Wacom	Model Name	STJ-A344
LCD Panel	Brand Name	AUO	Model Name	P270DAN01.0
Wireless Controller	Brand Name	Wacom	Model Name	EKR-100
Wireless Receiver	Brand Name	Wacom	Model Name	INF-A091

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Note: Regarding to more detail and other information, please refer to user manual.

	Support Equipment - AC Conduction and Radiated Emission					
No.	Equipment	Brand Name	Model Name	FCC ID		
1	Notebook	DELL	E5530	R33002		

# 1.3 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2009

# 1.4 Testing Location Information

	Testing Location						
	HWA YA	ADD	:	No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.			
		TEL	:	886-3-327-3456 FA	86-3-327-3456 FAX : 886-3-327-0973		
Test Condition				Test Site No.	Test Engineer	Test Environment	
	AC Conduction			CO04-HY Zeus		24°C / 47%	
Radiated Emission		03CH03-HY	Allen	26.2°C / 48%			

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1.5 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

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Measurement Uncertainty				
Test Item		Uncertainty		
AC power-line conducted emissions		±2.2 dB		
Emission bandwidth		±1.4 %		
Unwanted emissions, conducted	9 – 150 kHz	±0.3 dB		
	0.15 – 30 MHz	±0.4 dB		
	30 – 1000 MHz	±0.5 dB		
All emissions, radiated	9 – 150 kHz	±2.4 dB		
	0.15 – 30 MHz	±2.2 dB		
	30 – 1000 MHz	±2.5 dB		
Temperature		±0.8 °C		
Humidity		±3 %		
DC and low frequency voltages		±3 %		
Time		±1.4 %		
Duty Cycle		±1.4 %		

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# 2 Test Configuration of EUT

# 2.1 The Worst Case Modulation Configuration

Modulation Mode	Field Strength (dBuV/m at 3m)
Array Coil Pointing	50.33

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# 2.2 Test Channel Frequencies Configuration

Modulation Mode	Test Channel Frequencies (kHz)			
Array Coil Pointing	667-(F1)			

# 2.3 The Worst Case Measurement Configuration

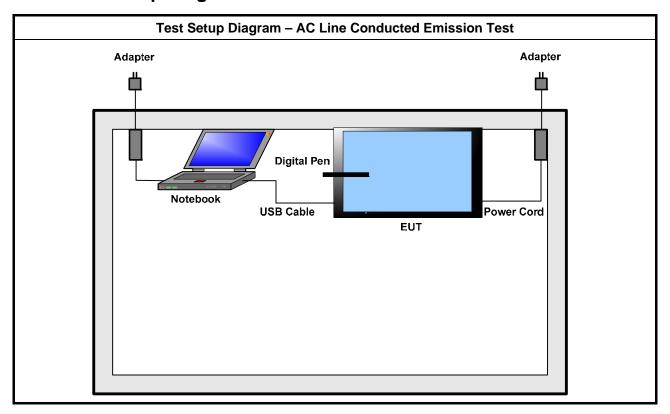
The Worst Case Mode for Following Conformance Tests					
Tests Item AC power-line conducted emissions					
Condition AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz					
Operating Mode	Operating Mode Description				
1	EUT transmit with system and adapter				

The Worst Case Mode for Following Conformance Tests						
Tests Item	Emission Bandwidth, Field Transmitter Radiated Unwa	Strength of Fundamental E anted Emissions	missions			
Test Condition	Radiated measurement					
	☐ EUT will be placed in	fixed position.				
User Position	EUT will be placed in mobile position and operating multiple positions. EUT shall be performed three orthogonal planes. The planes is Y.					
	EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed three orthogonal planes.					
Operating Mode	Operating Mode Description	Operating Mode Description				
1	EUT transmit with system and adapter					
Modulation Mode	Array Coil Pointing					
	X Plane	Y Plane	Z Plane			
Orthogonal Planes of EUT						

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2.4 Test Setup Diagram



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Test Setup Diagram - Radiated Test (9kMHz-30MHz) Adapter Adapter Digital Pen **Power Cord USB Cable** Notebook EUT Test Setup Diagram - Radiated Test (30MHz-1GHz) Adapter Adapter Digital Pen Notebook USB Cable

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**Power Cord** 

EUT

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### 3 Transmitter Test Result

#### 3.1 AC Power-line Conducted Emissions

#### 3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit						
Frequency Emission (MHz)	Quasi-Peak	Average				
0.15-0.5	66 - 56 *	56 - 46 *				
0.5-5	56	46				
5-30	60	50				

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#### 3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

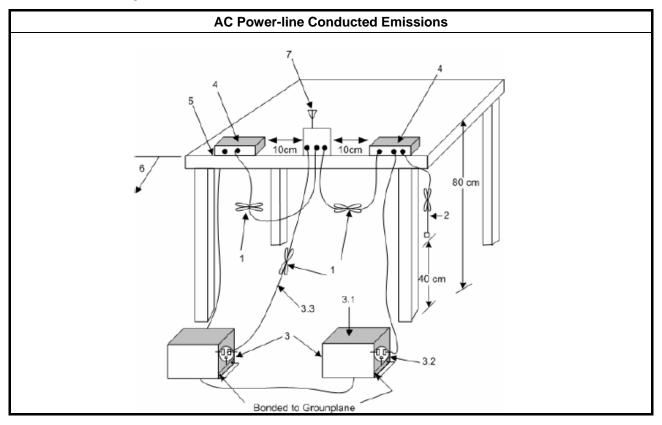
#### 3.1.3 Test Procedures

	Test Method							
$\boxtimes$	Ref	er as ANSI C63.10-2009, clause 6.2 for AC power-line conducted emissions.						
$\boxtimes$	If AC	C conducted emissions fall in operating band, then following below test method confirm final result.						
		Accept measurements done with a suitable dummy load replacing the antenna under the following conditions:  (1) Perform the AC line conducted tests with the antenna connected to determine compliance with FCC 15.207 limits outside the transmitter's fundamental emission band;  (2) Retest with a dummy load to determine compliance with FCC 15.207 limits within the transmitter's fundamental emission band.						
		For a device with a permanent antenna operating at or below 30 MHz, accept measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions:  (1) Perform the AC line conducted tests with the permanent antenna to determine compliance with the FCC 15.207 limits outside the transmitter's fundamental emission band;  (2) Retest with a dummy load in lieu of the permanent antenna to determine compliance with the FCC 15.207 limits within the transmitter's fundamental emission band.						

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3.1.4 Test Setup

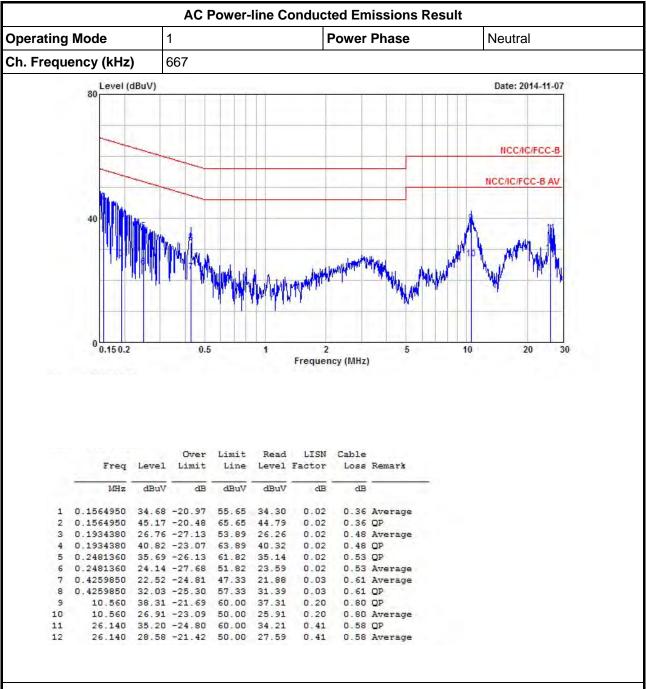


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#### Test Result of AC Power-line Conducted Emissions



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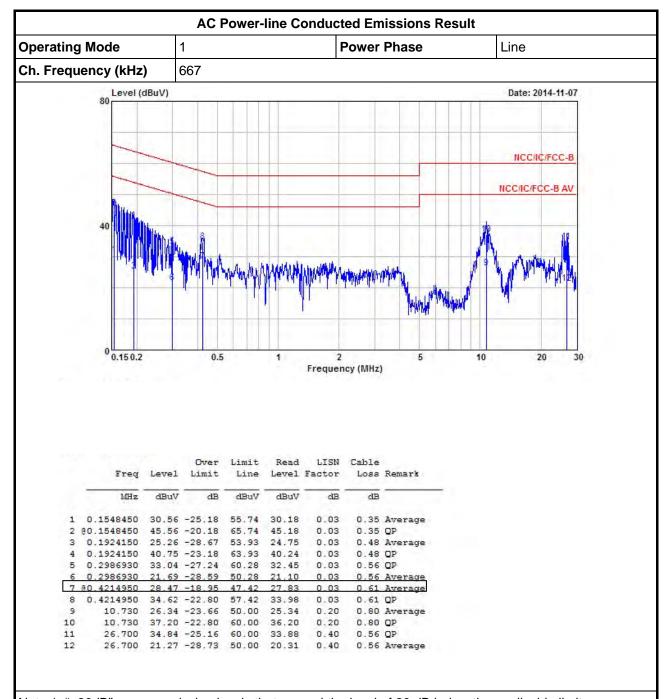
Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

Note 3: When emissions are in operating band over limits, retest with a dummy load for final in-band results.

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Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

Note 3: When emissions are in operating band over limits, retest with a dummy load for final in-band results.

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3.2 Transmitter Radiated Emissions

#### 3.2.1 Transmitter Radiated Emissions Limit

Transmitter Radiated Emissions Limit								
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)					
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300					
0.490~1.705	24000/F(kHz)	33.8 - 23	30					
1.705~30.0	30	29	30					
30~88	100	40	3					
88~216	150	43.5	3					
216~960	200	46	3					
Above 960	500	54	3					

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- Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
- Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.
- Note 3: the frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 1GHz measurements employing a CISPR quasi-peak detector.

#### 3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

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#### 3.2.3 Test Procedures

	Test Method
$\boxtimes$	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is $3m$ .
$\boxtimes$	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz. The frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 30MHz measurements employing a CISPR quasi-peak detector. Test distance is 3m.
	At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the requirements; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be following below methods.
	The results shall be extrapolated to the specified distance by making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor.
	The results shall be by using the square of an inverse linear distance extrapolation factor (40 dB/decade).
$\boxtimes$	For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level.
$\boxtimes$	The any unwanted emissions level shall not exceed the fundamental emission level.
	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

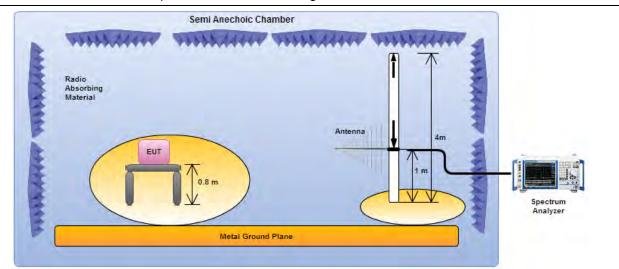
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# 3.2.4 Test Setup

# Semi Anechoic Chamber Radio Absorbing Material Loop Antenna Spectrum Analyzer

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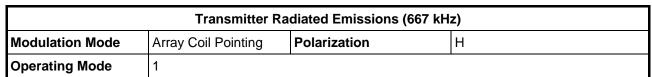
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. The center of the loop shall be 1 m above the ground.



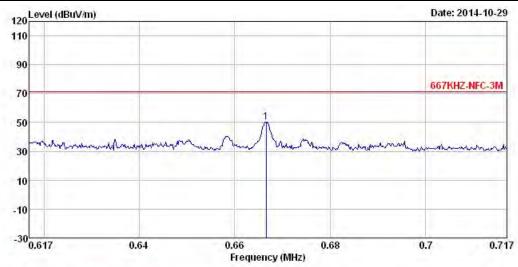
Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna. the antenna height shall be varied from 1 m to 4 m.

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#### 3.2.5 Transmitter Radiated Emissions (Below 30MHz)



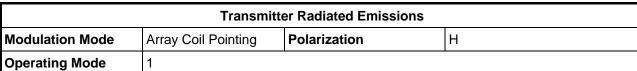
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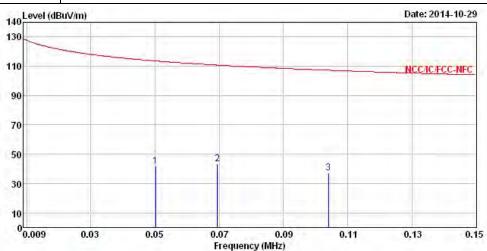
	Freq	Level				Antenna Factor				A/Pos	T/Pos	
0-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	0.667	50.33	-20.79	71.12	30.22	20.01	0.10	0.00	Peak	1444		

- Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement worst emissions of receive antenna polarization: H (Horizontal).
- Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
- Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.
- Note 6: Below 30MHz of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

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	Freq	Level	0∨er Limit			Antenna Factor				A/Pos	T/Pos
_	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	——dB			deg
1	0.050	41.74	-71.86	113.60	21.34	20.30	0.10	0.00	Peak	444	
2	0.069	43.44	-67.35	110.79	23.14	20.20	0.10	0.00	Peak	1222	1222
3	0.104	37.22	-70.04	107.26	17.02	20.10	0.10	0.00	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement worst emissions of receive antenna polarization: H (Horizontal).

Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

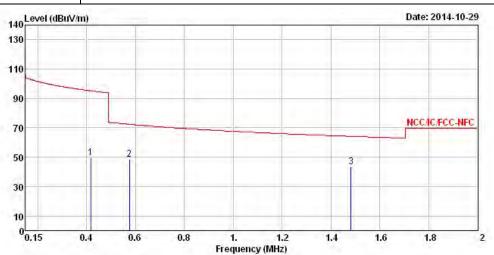
Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.

Note 6: Below 30MHz of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

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Transmitter Radiated Emissions						
Modulation Mode	Array Coil Pointing	Н				
Operating Mode	1					



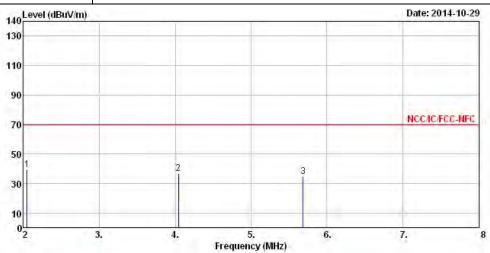
			Over	Limit	Read	Antenna	Cable	Preamp		A/Pos	T/Pos
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark		
1-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	0.416	49.44	-45.78	95.22	29.24	20.10	0.10	0.00	Peak		
2	0.576	48.40	-24.01	72.41	28.24	20.06	0.10	0.00	Peak		
3	1.482	43.31	-20.88	64.19	23.22	19.99	0.10	0.00	Peak		

- Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement worst emissions of receive antenna polarization: H (Horizontal).
- Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
- Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.
- Note 6: Below 30MHz of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

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Transmitter Radiated Emissions						
Modulation Mode	Array Coil Pointing	Н				
Operating Mode	1					



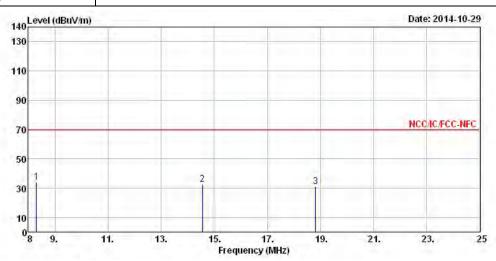
			Over	Limit	Read	Antenna	Cable	Preamp		A/Pos	T/Pos
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark		
-	MHz	dBuV/m	dB	$\overline{\text{dBuV/m}}$	dBuV	dB/m	dB	dB		cm	deg
1	2.048	39.11	-30.43	69.54	18.91	20.00	0.20	0.00	Peak	222	
2	4.040	36.87	-32.67	69.54	16.56	20.00	0.31	0.00	Peak		777
3	5.684	34.43	-35.11	69.54	14.03	20.03	0.37	0.00	Peak	1222	1232

- Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement worst emissions of receive antenna polarization: H (Horizontal).
- Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
- Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.
- Note 6: Below 30MHz of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

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Transmitter Radiated Emissions								
Modulation Mode	Array Coil Pointing	Polarization	Н					
Operating Mode	1							

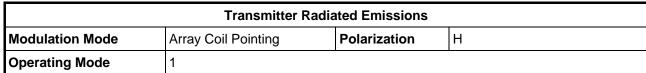


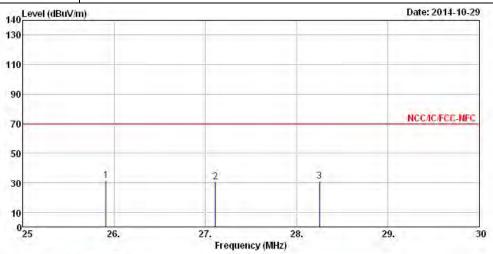
			0ver	Limit	Read	Antenna	Cable	Preamp		A/Pos	T/Pos
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark		
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8.306	34.10	-35.44	69.54	13.56	20.10	0.44	0.00	Peak		
2	14.562	32.43	-37.11	69.54	11.72	20.10	0.61	0.00	Peak		
3	18.812	31.24	-38.30	69.54	10.36	20.18	0.70	0.00	Peak		

- Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement worst emissions of receive antenna polarization: H (Horizontal).
- Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
- Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.
- Note 6: Below 30MHz of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

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			0ver			Antenna				A/Pos	T/Pos
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark		
1	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	25.910	31.55	-37.99	69.54	10.65	20.10	0.80	0.00	Peak	222	1222
2	27.110	30.64	-38.90	69.54	9.73	20.10	0.81	0.00	Peak		
3	28.250	31.08	-38.46	69.54	10.17	20.10	0.81	0.00	Peak	1222	1535

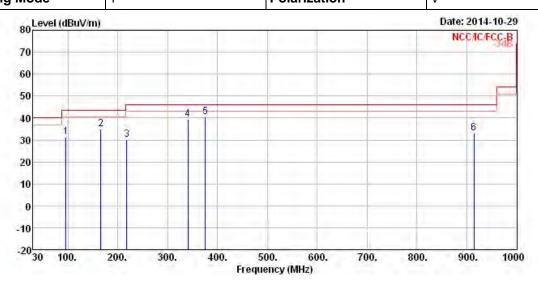
- Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement worst emissions of receive antenna polarization: H (Horizontal).
- Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
- Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.
- Note 6: Below 30MHz of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

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3.2.6 Transmitter Radiated Emissions (Above 30MHz)

# Transmitter Radiated Emissions (Above 30MHz) Modulation Mode Array Coil Pointing Test Freq. (FX) 667kHz Operating Mode 1 Polarization V

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			0ver	Limit	Read	Antenna	Cable	Preamp		A/Pos	T/Pos
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark		
0-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		CIN	deg
1	95.960	31.42	-12.08	43.50	46.64	10.50	1.54	27.26	Peak	444	
2	165.800	35.07	-8.43	43.50	50.23	9.87	2.12	27.15	Peak		
3	218.180	30.04	-15.96	46.00	45.11	9.55	2.43	27.05	Peak	1.5551	9.55
4	340.400	39.35	-6.65	46.00	49.24	13.97	3.08	26.94	Peak		
5	375.320	40.64	-5.36	46.00	49.76	14.81	3.23	27.16	Peak	444	444
6	914.640	33.04	-12.96	46.00	34.52	20.60	5.23	27.31	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical).

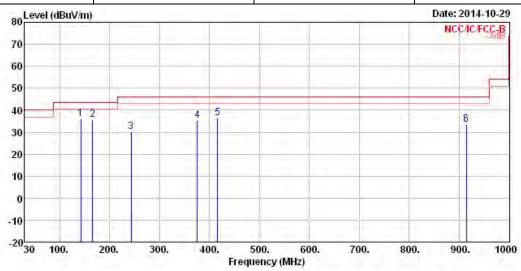
Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.

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CC Test Report	Report No. : FR4O1504-01

Transmitter Radiated Emissions (Above 30MHz)								
Modulation Mode	Array Coil Pointing	Test Freq. (FX)	667 kHz					
Operating Mode	1	Polarization	Н					



			Over	Limit	Read	Antenna	Cable	Preamp		A/Pos	T/Pos
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark		
9	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	142.520	36.19	-7.31	43.50	50.39	10.98	1.98	27.16	Peak	222	1222
2	165.800	35.60	-7.90	43.50	50.76	9.87	2.12	27.15	Peak		333
3	243.400	30.10	-15.90	46.00	42.38	12.09	2.57	26.94	Peak	222	1222
4	375.320	35.40	-10.60	46.00	44.52	14.81	3.23	27.16	Peak		
5	416.060	36.38	-9.62	46.00	44.02	16.39	3.39	27.42	Peak	222	222
6	914.640	33.56	-12.44	46.00	35.04	20.60	5.23	27.31	Peak		1337

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical).

Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.

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# 4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Mar. 26, 2014	AC Conduction
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	JAN. 21, 2014	AC Conduction
LISN	EMCO	3810/2NM	9703-1839	9kHz ~ 30MHz	Apr. 21, 2014	AC Conduction
RF Cable-CON	HUBER+SUHNER	RG213/U	7.61183201e+012	9kHz ~ 30MHz	Oct. 31, 2014	AC Conduction

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Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	Nov. 30, 2013	Radiation
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May. 05, 2014	Radiation
Spectrum	R&S	FSP40	100004	9kHz ~ 40GHz	Mar. 27, 2014	Radiation
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 20, 2014	Radiation
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 16, 2013	Radiation
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiation
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiation

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	Dec. 02, 2012	Radiation

Note: Calibration Interval of instruments listed above is two year.

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