

Prüfbericht-Nr.: 17032143 005 Auftrags-Nr.: 164003749 Seite 1 von 22 Test Report No.: Order No.: Page 1 of 22 Kunden-Referenz-Nr.: N/A Auftragsdatum: 22.03.2013 Client Reference No.: Order date: Auftraggeber: KEEN HIGH TECHNOLOGIES LTD., Block A1 & A2, Ze Da Li Industrial Park. Client: Tangwei Area, Fuyong, Bao'an, Shenzhen, Guangdong, China Prüfgegenstand: Tablet Test item: Bezeichnung / Typ-Nr.: NS-14T004 Identification / Type No.: Auftrags-Inhalt: FCC/IC Certification Order content: Prüfgrundlage: FCC CFR47 Part 15: Subpart C Section 15.107 FCC CFR47 Part 15: Subpart C Section 15.109 Test specification: ICES-003 Issue 4 February 2004 Wareneingangsdatum: 22.03.2013 Date of receipt: Prüfmuster-Nr.: N/A Test sample No .: Prüfzeitraum: 19.04.2013 - 08.06.2013 Testing period: Ort der Prüfung: Accurate Technology Co., Ltd. Place of testing: Prüflaboratorium: TÜV Rheinland (Shenzhen) Co., Ltd. Testing laboratory. Prüfergebnis*: **Pass** Test result*: geprüft von I tested by: kontrolliert von I reviewed by: 09-06-2013 Owen Tian/Project Manager 09-06-2013 Sam Lin/Technical Certicier Datum Name / Stellung Unterschrift Datum Name / Stellung Unterschrift Name / Position Signature Date Date Name I Position Signature Sonstiges I Other. Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt Condition of the test item at delivery: Test item complete and undamaged * Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft F(ail) = entspricht nicht o.g. Prüfgrundlage(n) P(ass) = entspricht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not testedDieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht



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TEST SUMMARY

5.1.1 CONDUCTED EMISSIONS

RESULT: Pass

5.2.1 RADIATED EMISSION

RESULT: Pass



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1. General Remarks

1.1 Complementary Materials

None.

2. Test Sites

2.1 Test Facilities

 $\label{eq:conditional} \mbox{Accurate Technology Co., Ltd.}$

(FCC Registration No.: 752051)

(Test site Industry Canada No.: 5077A-2)

F1, Bldg. A, Changyuan New Material Port Keyuan Rd., Science & Industry Park, Nanshan Shenzhen, P.R. China

The tests at the test site have been conducted under the supervision of a TÜV engineer.



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2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	nd of Equipment Manufacturer Type		S/N	Calibrated until
Conducted Emission				
Test Receiver	Rohde & Schwarz	ESCS30	100307	2014-01-06
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	2014-01-06
L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100310	2014-01-06
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	2014-01-06
50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283933	2014-01-06
RF Coaxial Cable	SUHNER	N-2m	No.3	2014-01-06
Radiated Emission				
Spectrum Analyzer	Agilent	E7405A	MY45115511	2014-01-06
Test Receiver	Rohde & Schwarz	ESCS30	100307	2014-01-06
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	2014-01-06
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	2014-01-06
Horn Antenna	SCHWARZBECK	BBHA9170	9170-359	2014-01-06
50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	2014-01-06
Pre-Amplifier	Rohde & Schwarz	CBLU1183540-01	3791	2014-01-06



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2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO/IEC 17025 are:

Table 2: Measurement Uncertainty

It	Extended Uncertainty	
Conducted Emission (0.15-30MHz)	Disturbance Voltage (dBuV)	U=±2.23dB, k=2, σ=95%
Radiated Emission (30-1000MHz)	Field strength (dBuV/m)	U=±4.42dB, k=2, σ=95%
Radiated Emission (1-25GHz)	Field strength (dBuV/m)	U=±4.06dB, k=2, σ=95%

2.6 Location of Original Data

The original copies of all test data taken during actual testing were retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

Accurate Technology Co., Ltd. test facility located at F1, Bldg. A, Changyuan New Material Port Keyuan Rd., Science & Industry Park, Nanshan, Shenzhen, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

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2.8 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

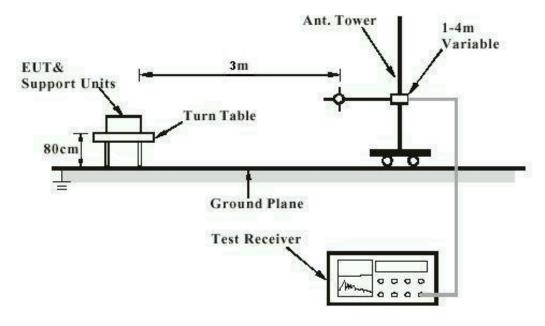
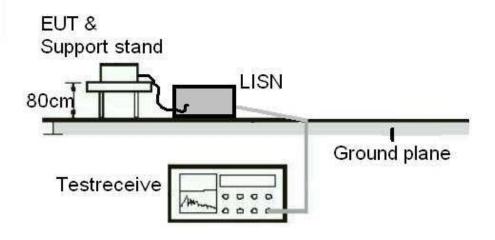


Diagram of Measurement Equipment Configuration for Conduction Measurement





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3. General Product Information

3.1 Product Function and Intended Use

The EUT is a 10.1" tablet with Wi-Fi, Bluetooth & GPS function. For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	Tablet
Type Designation	NS-14T004
Extreme Temperature Range	-30~+75°C
Operation Voltage	DC 3.7V (via built in battery)
	DC 5V (via AC/DC adapter)

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, connecting to PC
- B. Standby
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- Constructional Drawing
- PCB Layout
- Photo Document

- Circuit Diagram
- Instruction Manual
- Rating Label



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4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2003.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested together with the following accessories:

Description	Manufacturer	Part No.	S/N	Rating
Notebook PC	Lenovo	4290-RT8	R9-FW93G	N/A
Printer	HP	HP laserjet 1015	CNFG030424	N/A

The EUT was tested with following cables:

Interface(s)/Port(s):	Max. cable length, shielding	Cable classification
Micro USB port	4 cores, non-shielded port, 3m	DC Power Input

4.4 Countermeasures to Achieve ERM Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF). No additional measures were employed to achieve compliance.



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5. Test Results EMISSION

5.1 Emission in the Frequency Range up to 30 MHz

5.1.1 Conducted emissions

RESULT: Pass

Date of testing : 2013-06-08

Test standard : FCC Part 15.107 (a)

ICES-003 Issue 4 February 2004

Basic standard : ANSI C63.4: 2003 Frequency range : 0.15 – 30MHz Limits : FCC Part 15.107(a)

ICES-003 Issue 4 February 2004

Kind of test site : Shield room

Test setup

Input Voltage : AC 120V, 60Hz (AC Mains of PC)

Operation Mode : A

Earthing : Not Connected

For details refer to following test plot.



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ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Tablet M/N:NS-14T004

Manufacturer: Keen High Operating Condition: Transfer Data Test Site: 1#Shielding Room

Operator: PEI

Test Specification: L 120V/60Hz

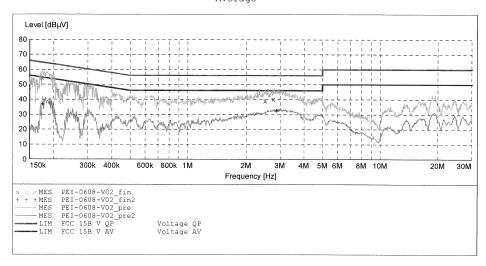
Comment:

Start of Test: 6/8/2013 / 1:44:05PM

SCAN TABLE: "V 150K-30MHz fin"
Short Description: _SUB_STD_VTERM2 1.70

Detector Meas. Start Stop Step IF Transducer Frequency Frequency Width Time Bandw. 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



MEASUREMENT RESULT: "PEI-0608-V02 fin"

6	/8/2013 1:46	PM						
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.173876	54.60	11.6	65	10.2	QP	L1	GND
	2.502412	39.20	12.4	56	16.8	QP	L1	GND
	2.765041	40.20	12.3	56	15.8	OP	T.1	GND

MEASUREMENT RESULT: "PEI-0608-V02_fin2"

6	/8/2013 1:46	PM						
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dΒμV	dB	dΒμV	dB			
	0.175269	36.80	11.6	55	17.9	AV	L1	GND
	0.191358	37.50	11.7	54	16.5	AV	L1	GND
	2.889166	32.50	12.3	46	13.5	AV	L1	GND



Products

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ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT:

Tablet M/N:NS-14T004

Manufacturer: Keen High
Operating Condition: Transfer Data

Test Site:

1#Shielding Room

Operator:

PEI

Test Specification: N 120V/60Hz

Comment:

Start of Test:

6/8/2013 / 1:40:50PM

SCAN TABLE: "V 150K-30MHz fin"
Short Description: SUB_STD_VTERM2 1.70
Start Stop Step Detector Meas.

Detector Meas. ΙF Time Bandw.

Transducer

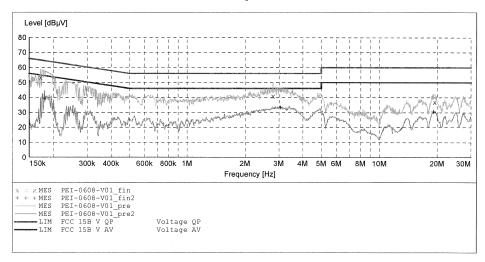
Frequency Frequency Width 150.0 kHz 30.0 MHz 4.5 kHz

QuasiPeak 1.0 s

9 kHz

NSLK8126 2008

Average



MEASUREMENT RESULT: "PEI-0608-V01 fin"

6	/8/2013 1:	43PM						
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dΒμV	dB	dΒμV	dB			
	0.171806	53.50	11.6	65	11.4	QP	N	GND
	2.798355	40.80	12.3	56	15.2	QP	N	GND
	19.397844	37.10	12.1	60	22.9	QP	N	GND

MEASUREMENT RESULT: "PEI-0608-V01_fin2"

6,	/8/2013 1:43	PM						
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dΒμV	dB	dΒμV	dB			
	0.180236	39.40	11.6	55	15.1	AV	N	GND
	3.067455	33.30	12.3	46	12.7	AV	N	GND
	19.090557	30.50	12.1	50	19.5	AV	N	GND



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5.2 Emission in the Frequency Range above 30 MHz

5.2.1 Radiated Emission

RESULT: Pass

Date of testing : 2013-04-19

Test standard : FCC Part 15.109 (a)

ICES-003 Issue 4 February 2004

Test procedure : ANSI C63.4: 2003 Frequency range : 30 - 25000MHz

Equipment Classification: Class B

Limits : FCC Part 15.109(a)

ICES-003 Issue 4 February 2004

Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Input Voltage : AC 120V, 60Hz (AC Mains of PC)

Operation mode : A

Earthing : Not connected

Ambient temperature : 25° C Relative humidity : 52% Atmospheric pressure : 101kPa

For details refer to following test plot.



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ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Tablet

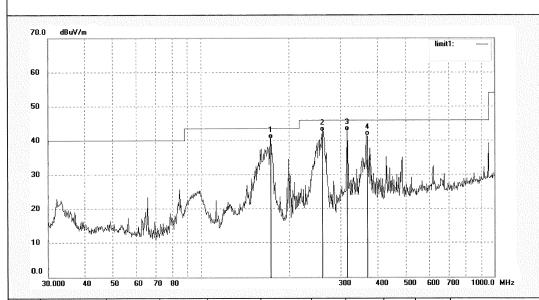
Mode: Transfer data NS-14T004 Model: Manufacturer: Keen High Polarization: Horizontal Power Source: DC 5V

Date: 13/04/19/ Time: 10/09/47

Engineer Signature: PEI

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	172.0475	54.23	-13.66	40.57	43.50	-2.93	QP			
2	257.7640	53.42	-10.74	42.68	46.00	-3.32	QP			
3	315.0700	51.62	-8.88	42.74	46.00	-3.26	QP			
4	372.3464	48.93	-7.48	41.45	46.00	-4.55	QP			



Products

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ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, 'Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: PYH #1724

Standard: FCC Class B 3M Radiated

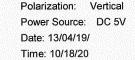
Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Tablet
Mode: Transfer data
Model: NS-14T004

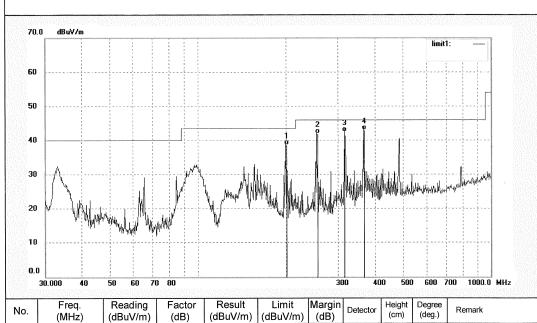
Model: NS-14T004 Manufacturer: Keen High

Note:



Engineer Signature: PEI

Distance: 3m





Products

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ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: PYH #1731

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Tablet

Mode: Transfer data Model: NS-14T004

Manufacturer: Keen High

1993.410

1993.565

12401.236

12401.236

1

2

3

4

51.36

36.44

10.21

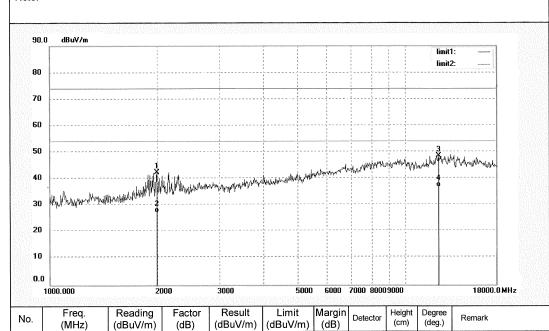
-1.43

Note:

Polarization: Horizontal Power Source: DC 5V Date: 2013/04/19 Time: 20:54:48

Engineer Signature: PEI

Distance: 3m



74.00

54.00

74.00

54.00

-31.68

-26.60

-25.49

-17.13

peak

AVG

peak

AVG

-9.04

-9.04

38.30

38.30

42.32

27.40

48.51

36.87



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ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyúan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: PYH #1732

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Tablet Transfer data Mode: Model: NS-14T004

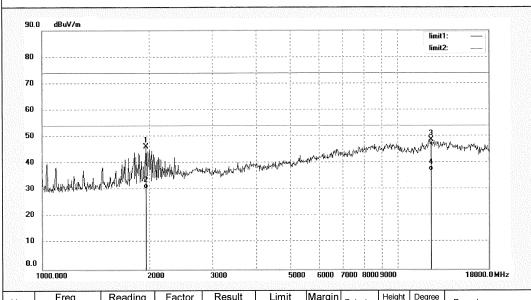
Manufacturer: Keen High

Polarization: Vertical Power Source: DC 5V Date: 2013/04/19

Time: 21:03:42 Engineer Signature: PEI

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1956.060	55.51	-9.27	46.24	74.00	-27.76	peak			
2	1956.060	39.67	-9.27	30.40	54.00	-23.60	AVG			
3	12401.358	10.31	38.30	48.61	74.00	-25.39	peak			
4	12401.358	-1.37	38.30	36.93	54.00	-17.07	AVG			



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ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: PYH #1738

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Tablet

Mode: Transfer data

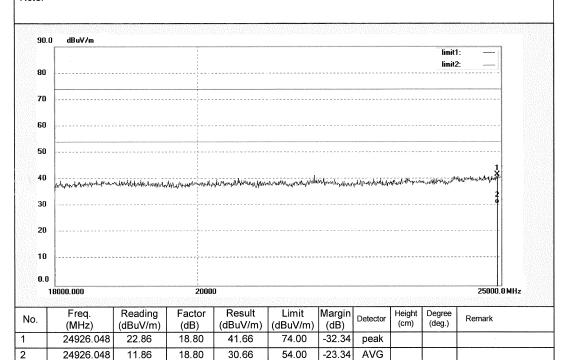
Model: NS-14T004 Manufacturer: Keen High

Note:

Polarization: Horizontal Power Source: DC 5V Date: 2013/04/19 Time: 21:53:20

Engineer Signature: PEI

Distance: 3m





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ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: PYH #1737

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT:

Tablet

24968.442

2

11.44

18.86

Transfer data Mode:

Model: NS-14T004 Manufacturer: Keen High Power Source: DC 5V

Date: 2013/04/19 Time: 21:45:59

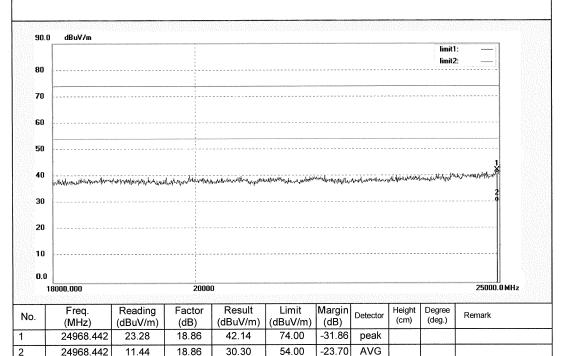
Engineer Signature: PEI

Vertical

Distance: 3m

Polarization:

Note:





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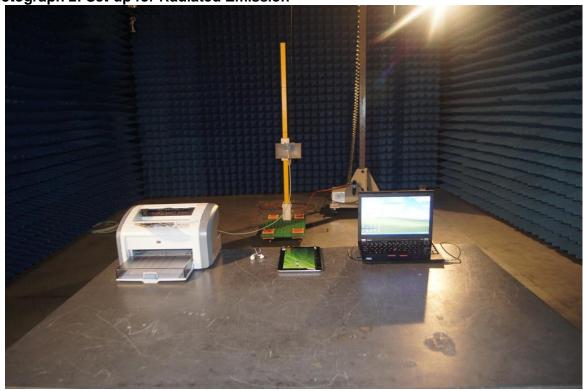
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6. Photographs of the Test Set-Up

Photograph 1: Set-up for Conducted Emission



Photograph 2: Set-up for Radiated Emission



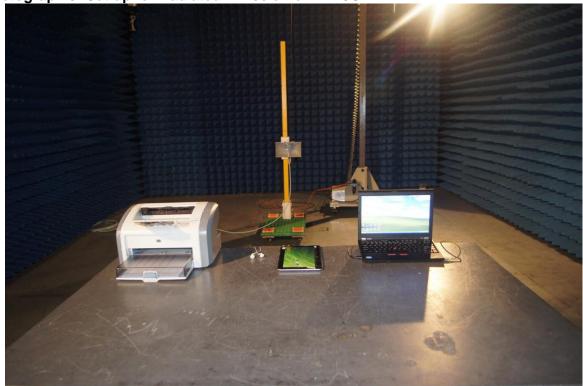


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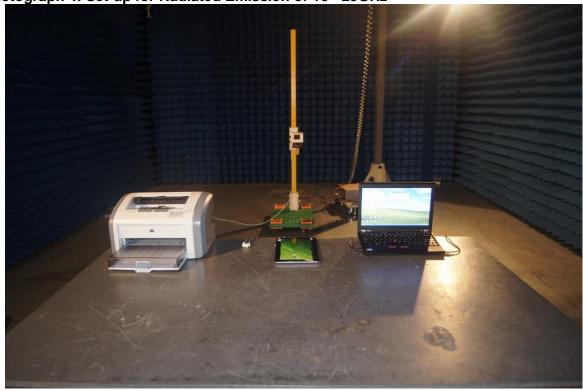
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Photograph 3: Set-up for Radiated Emission of 1 - 18GHz









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