

Prüfbericht-Nr.: <i>Test Report No.:</i>	17040153 003	Auftrags-Nr.: <i>Order No.:</i>	164013996	Seite 1 von 22 Page 1 of 22	
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	07.05.2014		
Auftraggeber: <i>Client:</i>	KEEN HIGH TECHNOLOGIES LTD., Block A1 & A2, Ze Da Li Industrial Park, Tangwei Area, Fuyong, Bao'an, Shenzhen, Guangdong, China				
Prüfgegenstand: <i>Test item:</i>	Tablet				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	NS-15AT08	T8240RK-88T			
Auftrags-Inhalt: <i>Order content:</i>	FCC Certification	IC Verification			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart B Section 15.107 CFR47 FCC Part 15: Subpart B Section 15.109 ICES-003 Issue 5 February 2012				
Wareneingangsdatum: <i>Date of receipt:</i>	07.05.2014				
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000070974 002-003				
Prüfzeitraum: <i>Testing period:</i>	10.05.2014 - 12.05.2014				
Ort der Prüfung: <i>Place of testing:</i>	Accurate Technology Co., Ltd.				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von / tested by:		kontrolliert von / reviewed by:			
06-06-2014 Tom Wang/Project Manager		06-06-2014 Sam Lin/Technical Certifier			
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other: This test report is for evaluation of "Peripheral" function of the test item.					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = 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 tested					
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>					

v04

TEST SUMMARY

5.1.1 CONDUCTED EMISSIONS

RESULT: Pass

5.2.1 RADIATED EMISSION

RESULT: Pass

CONTENTS

1.	GENERAL REMARKS	4
1.1	COMPLEMENTARY MATERIALS	4
2.	TEST SITES	4
2.1	TEST FACILITIES	4
2.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS	5
2.3	TRACEABILITY	6
2.4	CALIBRATION	6
2.5	MEASUREMENT UNCERTAINTY	6
2.6	LOCATION OF ORIGINAL DATA	6
2.7	STATUS OF FACILITY USED FOR TESTING	6
2.8	TEST SETUP DIAGRAM	7
3.	GENERAL PRODUCT INFORMATION	8
3.1	PRODUCT FUNCTION AND INTENDED USE	8
3.2	RATINGS AND SYSTEM DETAILS	8
3.3	INDEPENDENT OPERATION MODES	8
3.4	NOISE GENERATING AND NOISE SUPPRESSING PARTS	8
3.5	SUBMITTED DOCUMENTS	8
4.	TEST SET-UP AND OPERATION MODES	9
4.1	PRINCIPLE OF CONFIGURATION SELECTION	9
4.2	TEST OPERATION AND TEST SOFTWARE	9
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	9
4.4	COUNTERMEASURES TO ACHIEVE ERM COMPLIANCE	9
5.	TEST RESULTS OF EMISSION	10
5.1	EMISSION IN THE FREQUENCY RANGE UP TO 30 MHZ	10
5.1.1	<i>Conducted emissions</i>	<i>10</i>
5.2	EMISSION IN THE FREQUENCY RANGE ABOVE 30 MHZ	13
5.2.1	<i>Radiated Emission</i>	<i>13</i>
6.	PHOTOGRAPHS OF THE TEST SET-UP	20
7.	LIST OF TABLES	22
8.	LIST OF PHOTOGRAPHS	22

1. General Remarks

1.1 Complementary Materials

None.

2. Test Sites

2.1 Test Facilities

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.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Transmitter spurious emissions				
Spectrum Analyzer	Agilent	E7405A	MY45115511	2015-01-11
Test Receiver	Rohde & Schwarz	ESCS30	100307	2015-01-11
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	2015-01-11
Loop Antenna	Schwarzbeck	FMZB1516	1516131	2015-01-11
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	2015-01-11
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	2015-01-11
50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	2015-01-11
RF Coaxial Cable	SUHNER	N-3m	No.8	2015-01-11
RF Coaxial Cable	RESENBERGER	N-3.5m	No.9	2015-01-11
RF Coaxial Cable	SUHNER	N-6m	No.10	2015-01-11
RF Coaxial Cable	RESENBERGER	N-12m	No.11	2015-01-11
RF Coaxial Cable	RESENBERGER	N-0.5m	No.12	2015-01-11
Pre-Amplifier	Rohde & Schwarz	CBLU118354 0-01	3791	2015-01-11
Conducted Emission				
Test Receiver	Rohde & Schwarz	ESCS30	100307	2015-01-11
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	2015-01-11
L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100310	2015-01-11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	2015-01-11
50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283933	2015-01-11
RF Coaxial Cable	SUHNER	N-2m	No.3	2015-01-11

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 basis 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

Items		Extended Uncertainty
Conducted Emission (0.15-30MHz)	Disturbance Voltage (dBuV)	$U=\pm 2.23\text{dB}$, $k=2$, $\sigma=95\%$
Radiated Emission (30-1000MHz)	Field strength (dBuV/m)	$U=\pm 4.42\text{dB}$, $k=2$, $\sigma=95\%$
Radiated Emission (1-25GHz)	Field strength (dBuV/m)	$U=\pm 4.06\text{dB}$, $k=2$, $\sigma=95\%$

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.

2.8 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

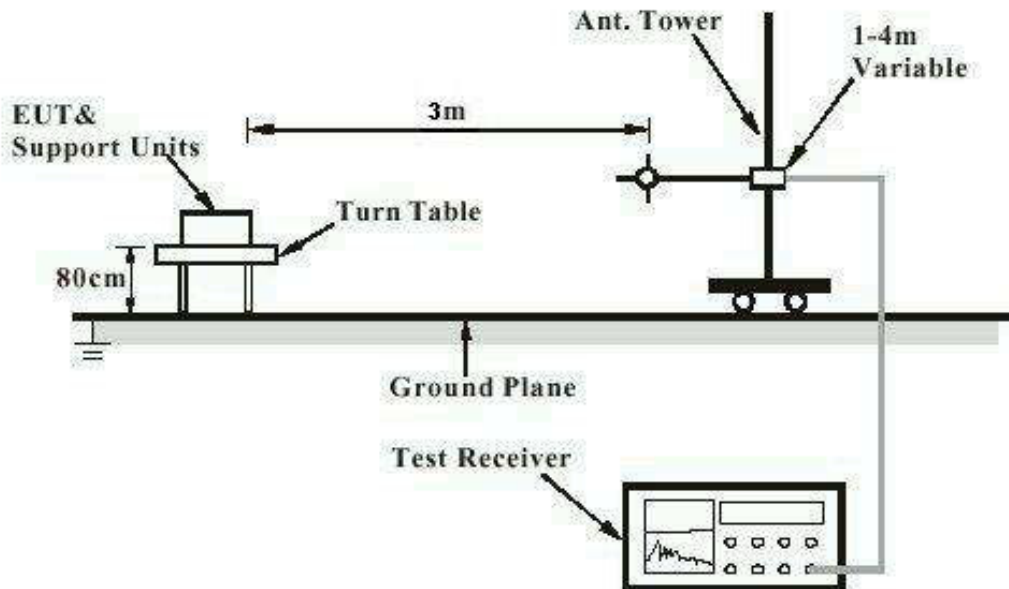
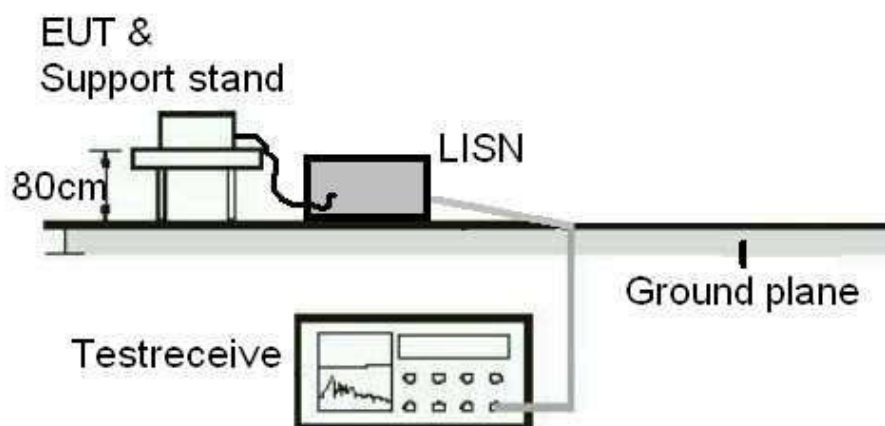


Diagram of Measurement Equipment Configuration for Conduction Measurement



3. General Product Information

3.1 Product Function and Intended Use

The EUT is 8" tablet with Wi-Fi & Bluetooth 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-15AT08 T8240RK-88T
FCC ID	XUZNS-15AT08
IC	10558A-NS15AT08
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

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
AC/DC Adapter	Ktec	KSAPK0110500200FU	N/A	Input: AC 100-240V, 50/60Hz, 0.5A Output: DC 5V, 2A
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
AC Mains of adapter	2 cores, non-shielded port, 3m	AC Power Input
Micro USB port	4 cores, non-shielded port, 3m	DC Power Input
Earphone port	2 cores, non-shielded port, 3m	Audio Output
Microphone	2 cores, non-shielded port, 3m	Audio 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.

5. Test Results of EMISSION

5.1 Emission in the Frequency Range up to 30 MHz

5.1.1 Conducted emissions

RESULT:**Pass**

Date of testing	:	2014-05-10
Test standard	:	FCC Part 15.107 (a) ICES-003 Issue 5 February 2012
Basic standard	:	ANSI C63.4: 2003
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.107(a) ICES-003 Issue 5 February 2012
Kind of test site	:	Shield room

Test setup

Input Voltage	:	AC 120V, 60Hz
Operation Mode	:	A, B
Earthing	:	Not Connected
Ambient temperature	:	23°C
Relative humidity	:	48%
Atmospheric pressure	:	101kPa

For details refer to following test plot.

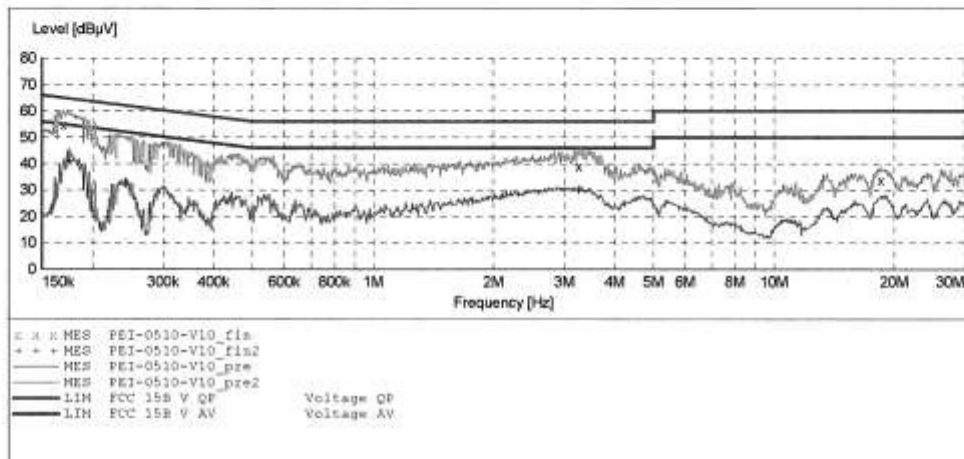
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Tablet M/N: NS-15AT08
 Manufacturer: Keen High
 Operating Condition: Transfer data
 Test Site: 1#Shielding Room
 Operator: PEI
 Test Specification: L 120V/60Hz
 Comment:
 Start of Test: 5/10/2014 / 9:55:21AM

SCAN TABLE: "V 150K-30MHz fin"

Short Description: SUB STD VTERM2 1.70
 Start Stop Step Detector Meas. 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-0510-V10_fin"

5/10/2014 10:04AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.169760	54.70	10.5	65	10.3	QP	L1	GND
3.256746	38.90	11.1	56	17.1	QP	L1	GND
18.490511	33.70	11.4	60	26.3	QP	L1	GND

MEASUREMENT RESULT: "PEI-0510-V10_fin2"

5/10/2014 10:04AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.175970	41.00	10.5	55	13.7	AV	L1	GND
0.241214	32.20	10.6	52	19.9	AV	L1	GND
3.256746	29.90	11.1	46	16.1	AV	L1	GND

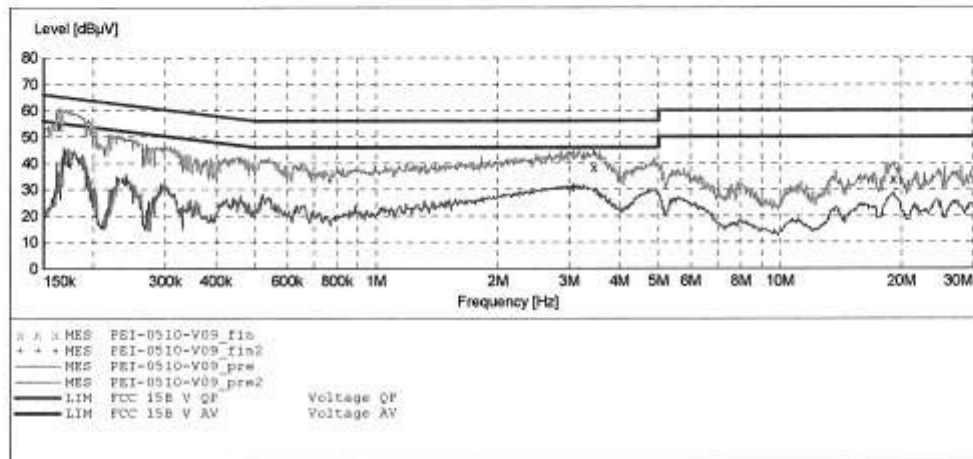
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Tablet M/N:NS-15AT08
 Manufacturer: Keen High
 Operating Condition: Transfer data
 Test Site: 1#Shielding Room
 Operator: PEI
 Test Specification: N 120V/60Hz
 Comment:
 Start of Test: 5/10/2014 / 9:46:09AM

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB STD VTERM2 1.70
 Start Stop Step Detector Meas. 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-0510-V09_fin"

5/10/2014 9:54AM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.164425	53.90	10.5	65	11.3	QP	N	GND
3.457718	38.20	11.1	56	17.8	QP	N	GND
19.090557	33.80	11.4	60	26.2	QP	N	GND

MEASUREMENT RESULT: "PEI-0510-V09_fin2"

5/10/2014 9:54AM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.173183	39.90	10.5	55	14.9	AV	N	GND
0.240253	32.50	10.6	52	19.6	AV	N	GND
3.067455	30.40	11.1	46	15.6	AV	N	GND

Prüfbericht - Nr.: 17040153 003
Test Report No.Seite 13 von 22
Page 13 of 22

5.2 Emission in the Frequency Range above 30 MHz

5.2.1 Radiated Emission

RESULT:**Pass**

Date of testing : 2014-05-11~2014-05-12
Test standard : FCC Part 15.109 (a)
ICES-003 Issue 5 February 2012
Test procedure : ANSI C63.4: 2003
Frequency range : 30 - 25000MHz
Equipment Classification : Class B
Limits : FCC Part 15.109(a)
ICES-003 Issue 5 February 2012
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Input Voltage : AC 120V, 60Hz
Operation mode : A, B
Earthing : Not connected
Ambient temperature : 25°C
Relative humidity : 52%
Atmospheric pressure : 101kPa

For details refer to following test plot. (Only the worst case is shown)


ACCURATE TECHNOLOGY CO., LTD.

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

Site: 2# Chamber

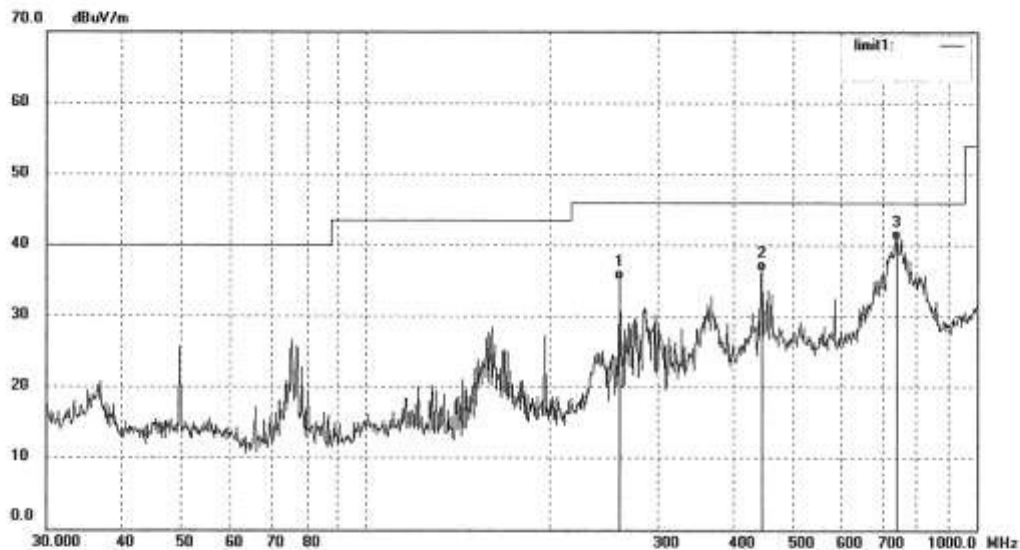
Tel:+86-0755-26503290

Fax:+86-0755-26503396

 Job No.: PHY #1579
 Standard: FCC Class B 3M Radiated
 Test item: Radiation Test
 Temp.(C)/Hum.(%) 23 C / 48 %
 EUT: Tablet
 Mode: Transfer data
 Model: NS-15AT08
 Manufacturer: Keen High

 Polarization: Horizontal
 Power Source: DC 5V
 Date: 2014/05/12
 Time:
 Engineer Signature:
 Distance:

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	280.0433	45.81	-10.72	35.09	46.00	-10.91	QP			
2	445.2299	42.13	-5.86	36.27	48.00	-9.73	QP			
3	745.2138	41.86	-1.11	40.75	46.00	-5.25	QP			


ACCURATE TECHNOLOGY CO., LTD.

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

Site: 2# Chamber

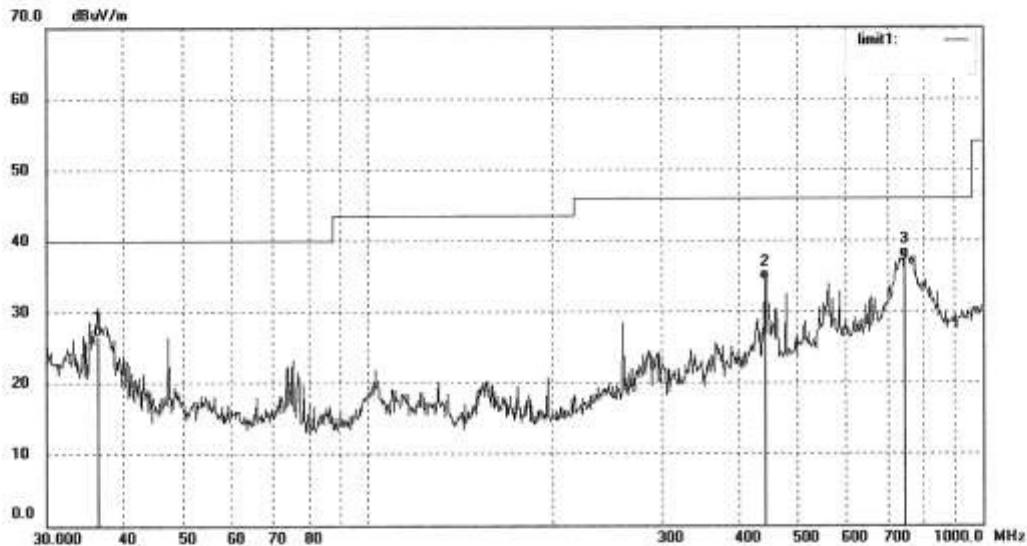
Tel:+86-0755-26503290

Fax:+86-0755-26503396

 Job No.: PHY #1578
 Standard: FCC Class B 3M Radiated
 Test item: Radiation Test
 Temp.(C)/Hum.(%) 23 C / 48 %
 EUT: Tablet
 Mode: Transfer data
 Model: NS-15AT08
 Manufacturer: Keen High

 Polarization: Vertical
 Power Source: DC 5V
 Date: 2014/05/12
 Time:
 Engineer Signature:
 Distance:

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	36.3955	37.47	-10.73	26.74	40.00	-13.26	QP			
2	445.5722	40.25	-5.85	34.40	46.00	-11.60	QP			
3	751.0467	38.55	-1.02	37.53	46.00	-8.47	QP			


ACCURATE TECHNOLOGY CO., LTD.

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

Site: 2# Chamber

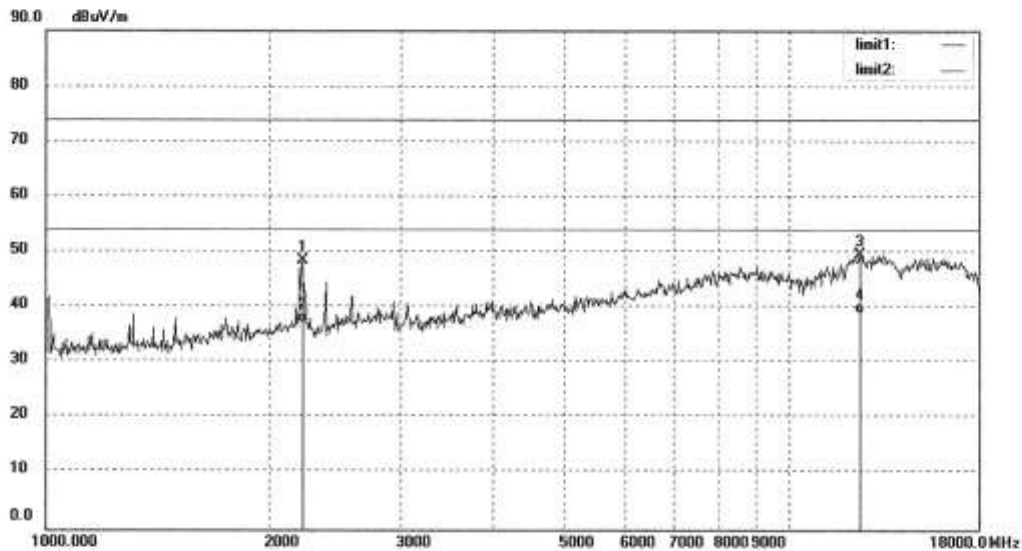
Tel:+86-0755-26503290

Fax:+86-0755-26503396

 Job No.: PHY #1434
 Standard: FCC Class B 3M Radiated
 Test Item: Radiation Test
 Temp.(C)/Hum.(%) 23 C / 48 %
 EUT: Tablet
 Mode: Transfer data
 Model: NS-15AT08
 Manufacturer: Keen High

 Polarization: Horizontal
 Power Source: DC 5V
 Date: 2014-5-11
 Time:
 Engineer Signature: PEI
 Distance:

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2224.968	56.57	-8.17	48.40	74.00	-25.60	peak			
2	2224.968	45.47	-8.17	37.30	54.00	-16.70	AVG			
3	12437.385	11.32	38.34	49.66	74.00	-24.34	peak			
4	12437.385	0.77	38.34	39.11	54.00	-14.89	AVG			

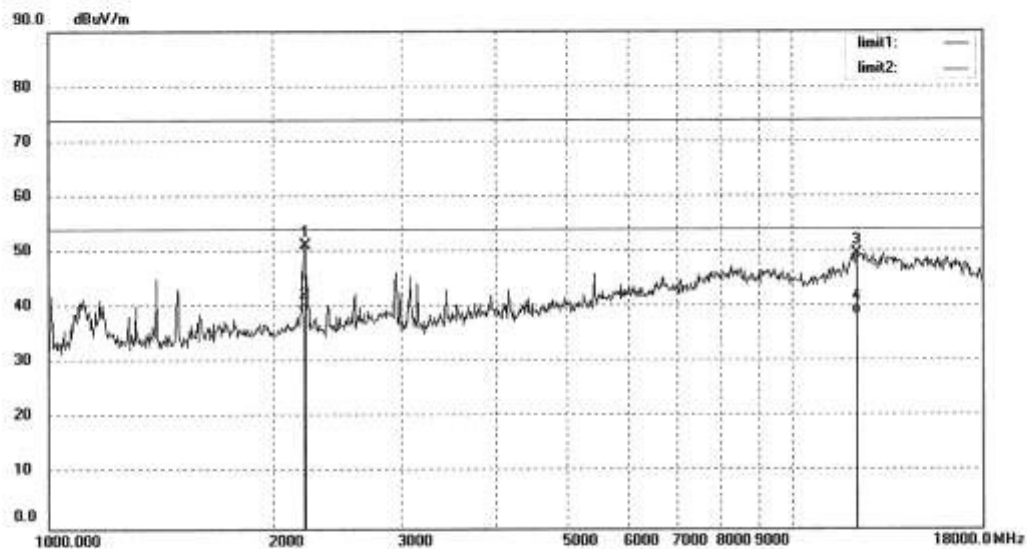

ACCURATE TECHNOLOGY CO., LTD.

 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.: PHY #1435	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2014-5-11
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: Tablet	Engineer Signature: PEI
Mode: Transfer data	Distance:
Model: NS-15AT08	
Manufacturer: Keen High	

Note:



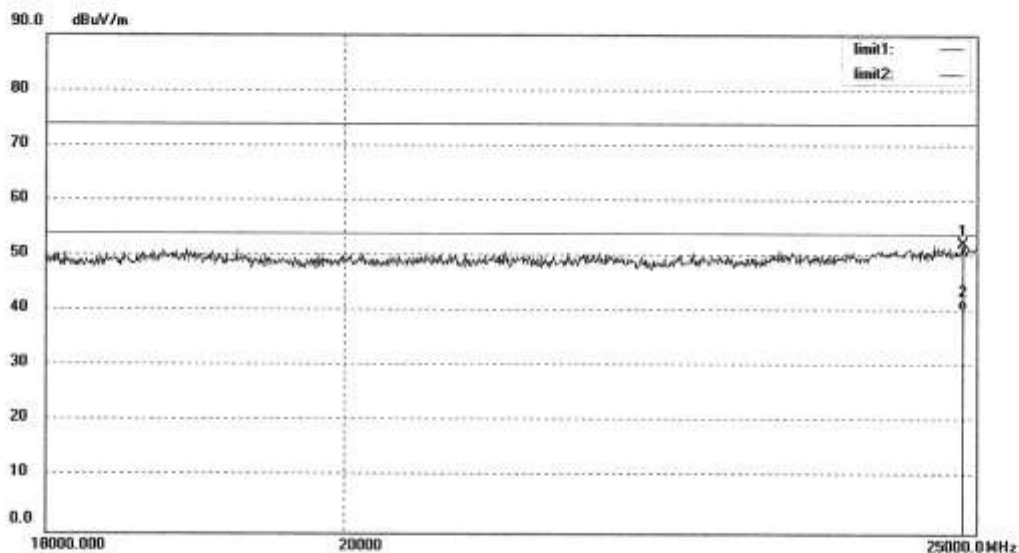
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2225.253	59.26	-8.16	51.10	74.00	-22.90	peak			
2	2225.253	47.16	-8.16	39.00	54.00	-15.00	AVG			
3	12222.059	11.57	38.12	49.69	74.00	-24.31	peak			
4	12222.059	0.55	38.12	38.67	54.00	-15.33	AVG			


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.: PHY #1449	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2014-5-11
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: Tablet	Engineer Signature: PEI
Mode: Transfer data	Distance:
Model: NS-15AT08	
Manufacturer: Keen High	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24885.058	33.54	18.74	52.28	74.00	-21.72	peak			
2	24885.058	21.64	18.74	40.38	54.00	-13.62	AVG			


ACCURATE TECHNOLOGY CO., LTD.

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

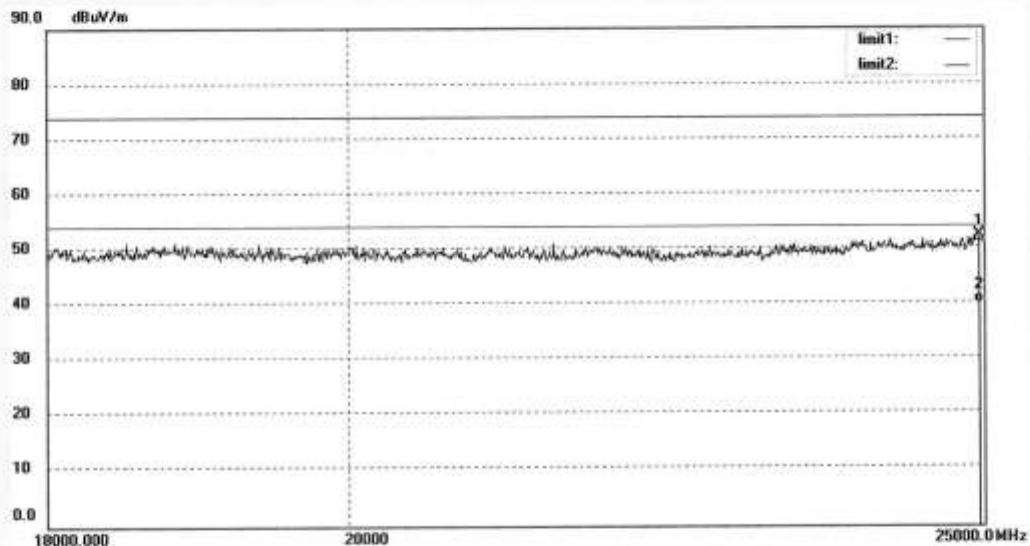
Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: PHY #1448	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2014-5-11
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: Tablet	Engineer Signature: PEI
Mode: Transfer data	Distance:
Model: NS-15AT08	
Manufacturer: Keen High	

Note:



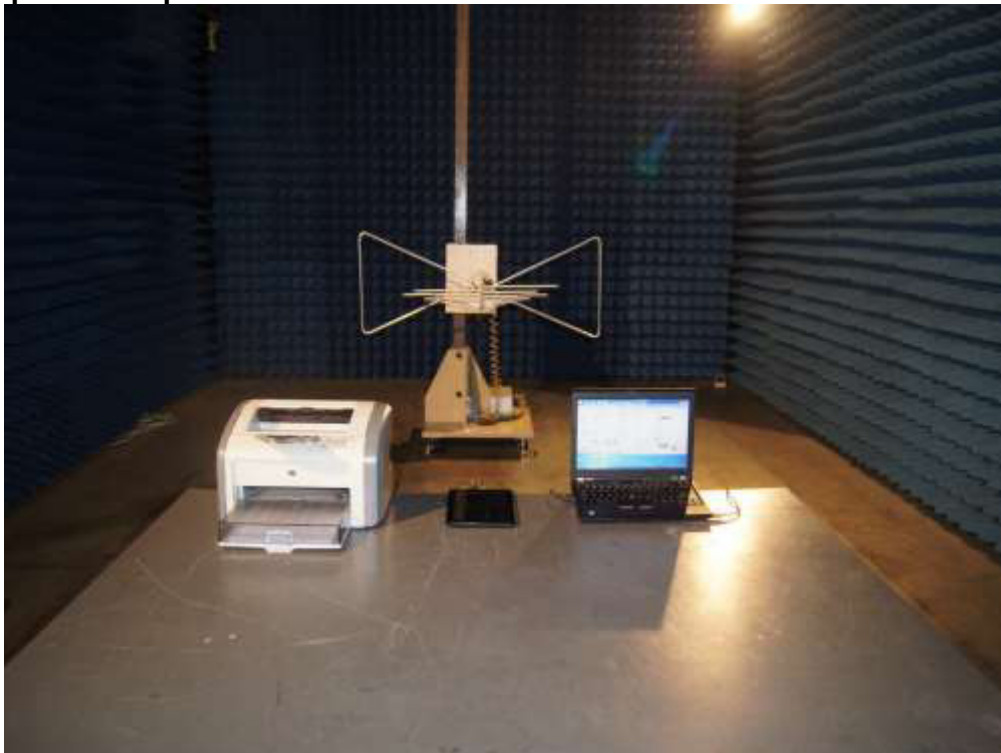
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24967.105	33.35	18.85	52.20	74.00	-21.80	peak			
2	24967.105	21.08	18.85	39.93	54.00	-14.07	AVG			

6. Photographs of the Test Set-Up

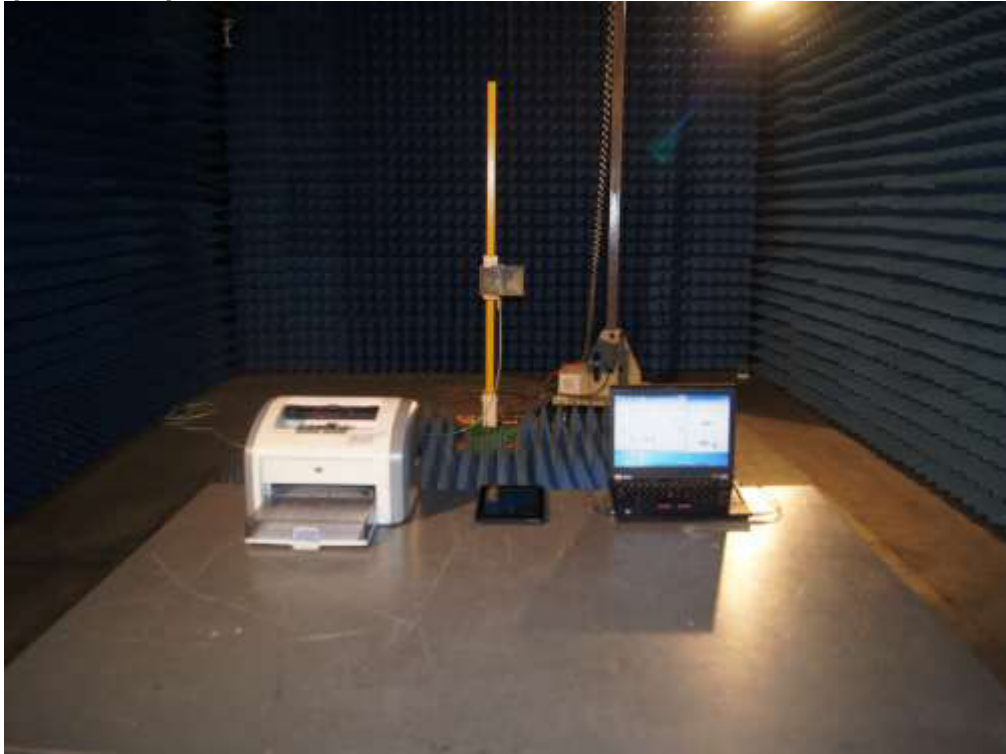
Photograph 1: Set-up for Conducted Emission



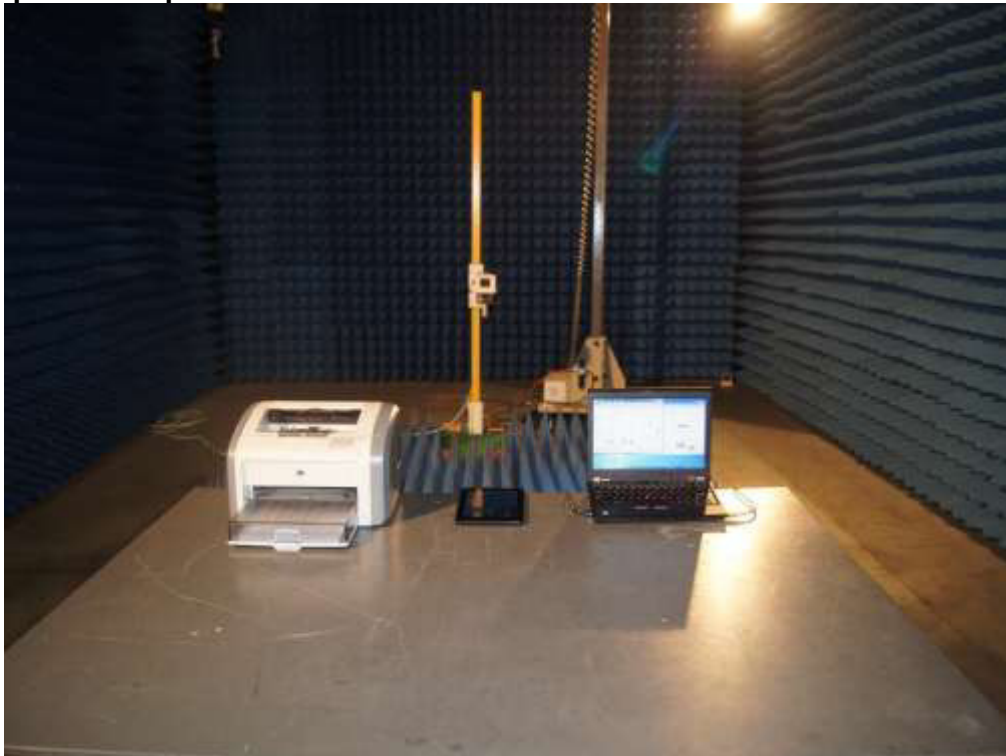
Photograph 2: Set-up for Radiated Emission of below 1GHz



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



Photograph 4: Set-up for Radiated Emission of 18 - 25GHz



7. List of Tables

Table 1: List of Test and Measurement Equipment.....	5
Table 2: Measurement Uncertainty	6
Table 3: Technical Specification of EUT.....	8

8. List of Photographs

Photograph 1: Set-up for Conducted Emission	20
Photograph 2: Set-up for Radiated Emission of below 1GHz	20
Photograph 3: Set-up for Radiated Emission of 1 - 18GHz.....	21
Photograph 4: Set-up for Radiated Emission of 18 - 25GHz	21