FCC 47 CFR PART 15 SUBPART B & IC ICES-003 TEST REPORT

for

PDA

MODEL: TNJ31

Test Report Number:
T111215005-D

Issued for

Trimble Navigation Ltd.
935 Stewart Drive, Sunnyvale, CA 94088-3642 U.S.A.

Issued By:

Compliance Certification Services Inc.
Wugu Laboratory
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Issued Date: January 10, 2012

Testing Laboratory
1309

ACCREDITED
TESTING CERT #0824.01

Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		January 10, 2012		Initial Issue	ALL	Jessica Ho

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1 TEST RESULT CERTIFICATION

Product:	PDA
Model:	TNJ31
Brand:	Trimble
Applicant:	**Trimble Navigation Ltd.** 935 Stewart Drive, Sunnyvale, CA 94088-3642 U.S.A.
Manufacturer:	**GOLDTEK Technology Co., Ltd.** 6F., No. 3, Ln 768, Sec.4, Pateh Rd., Taipei 115, Taiwan, R.O.C.
Tested:	January 9 ~ 10, 2012
Test Voltage:	120VAC, 60Hz

EMISSION			
Standard	**Item**	**Result**	**Remarks**
FCC 47 CFR Part 15 Subpart B (October 1, 2010), ICES-003 Issue 4: 2004 ANSI C63.4-2009	Conducted (Power Port)	PASS	Meet Class B limit
	Radiated	PASS	Meet Class B limit

Note: 1. The statements of test result on the above are decided by the request of test standard only; the measurement uncertainties are not factored into this compliance determination.
2. The information of measurement uncertainty is available upon the customer's request.

Deviation from Applicable Standard
None

The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved by:

Jason Lin
Section Manager

Reviewed by:

Gina Lo
Section Manager

2 EUT DESCRIPTION

Product	PDA
Brand Name	Trimble
Model	TNJ31
Applicant	N/A
Identify Number	T111215005
Received Date	December 15, 2011
Power Supply	1. Power Adapter ENG / 3A182WP05 I/P: 100-240V, 50-60Hz, 0.6A O/P: 5V, 3.0A 2. Li-ion Polymer Battery Model: 707-0008-00A Rating: DC 3.7V, 3060mAh, 11.32W/hr

I/O Port

I/O PORT TYPES	Q'TY	TESTED WITH
1). USB Port	1	1
2). GPS Port	1	1
3). SIM Card Slot	1	1
4). SD Card Slot	1	1

3 TEST METHODOLOGY

3.1. DECISION OF FINAL TEST MODE

1. The following test mode was scanned during the preliminary test:

Pre-Test Mode
Mode 1: Operating

2. After the preliminary scan, the following test mode was found to produce the highest emission level.

Final Test Mode		
Emission	Conducted Emission	**Mode 1**
	Radiated Emission	**Mode 1**

Then, the above highest emission mode of the configuration of the EUT and cable was chosen for all final test items.

3.2. EUT SYSTEM OPERATION

1 Setup the EUT and simulators as shown on 4.2.

2 Turn on the power of all equipment.

3 EUT reads and writes data into

4 Data was sent to the Panel of Notebook and monitor and filling the screens with upper case of “H” patterns.

5 Test program sequentially exercised all related I/O’s of EUT and sent “H” patterns to all applicable output ports of EUT.

6 Repeat 3 to 5.

Note: *Test program is self-repeating throughout the test.*

4 SETUP OF EQUIPMENT UNDER TEST

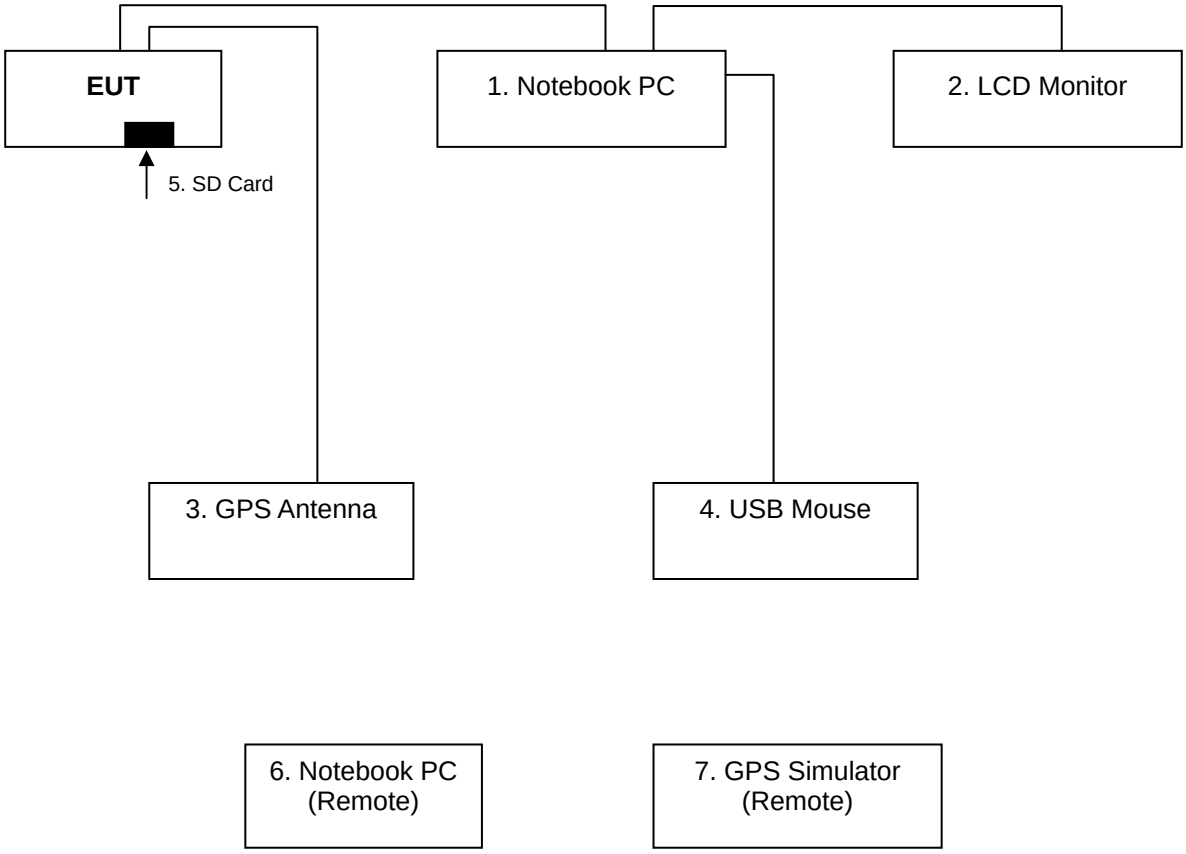
4.1. DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Equipment	Model No.	Serial No.	FCC ID	Trade Name	Data Cable	Power Cord
1.	Notebook PC	1951-I3V(T60)	L3B2188	FCC DoC	IBM	N/A	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
2.	LCD Monitor	3008WFP	CN-0XK290-71618-846-169L	FCC DoC	DELL	Unshielded, 1.8m	Shielded, 1.8m
3.	GPS Antenna	N/A	N/A	N/A	N/A	N/A	Unshielded, 3m
4.	USB Mouse	M-UV69a	323617-001	FCC DoC	DELL	Shielded, 1.8m	N/A
5.	SD Card	N/A	N/A	N/A	SANDISK	N/A	N/A
6.	Notebook PC (Remote)	PP19L	61G6Q1S	FCC DoC	DELL	N/A	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
7.	GPS Simulator (Remote)	GPS-101	EN001	N/A	HWAJEAT	N/A	N/A

Note: Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.2. CONFIGURATION OF SYSTEM UNDER TEST



5 FACILITIES AND ACCREDITATIONS

5.1. FACILITIES

All measurement facilities used to collect the measurement data are located at:

☒ No.11, Wu-Gong 6th Rd., Wugu Industrial Park, New Taipei City 248, Taiwan (R.O.C.)

☒ No.139, Wugong Rd., Wugu Industrial Park, New Taipei City 248, Taiwan (R.O.C.)

☐ No.81-1, Lane 210, Bade 2nd Rd., Lujhu Township, Taoyuan County 33841, TAIWAN, R.O.C.

☐ No.163-1, Jhongsheng Rd., Sindian City, Taipei County 23151, Taiwan.

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 22. All receiving equipment conforms to CISPR 16-1-1, CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4, CISPR 16-1-5.

5.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

Taiwan	TAF (TAF 1309)
USA	A2LA (0824.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	Industry Canada (3M Semi Anechoic Chamber: IC 2324G-1 / IC 2324G-2 / 2324J-1 / 2324J-2 to perform)
Norway	Nemko
Japan	VCCI 966 Chamber C: Radiated emissions: 30 MHz -1000 MHz: R-3282 / Above 1GHz: G-146 10M Chamber: Radiated emissions: 30 MHz -1000 MHz: R-3283 / Above 1GHz: G-147 Conducted Emission A: C-3612 / T-1745 Conducted Emission B: C-3700 / T-1839
USA	FCC (3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements)

Copies of granted accreditation certificates are available for downloading from our web site, http:///www.ccsrf.com

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Uncertainty
Conducted emissions	9kHz~30MHz	±1.2159
Radiated emissions	30~200MHz	±3.9163
	200~1000MHz	±3.9030
	Above 1GHz	±2.5208

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Consistent with industry standard (e.g. CISPR 22: 2006, clause 11, Measurement Uncertainty) determining compliance with the limits shall be base on the results of the compliance measurement. Consequently the measure emissions being less than the maximum allowed emission result in this be a compliant test or passing test.

The acceptable measurement uncertainty value without requiring revision of the compliance statement is base on conducted and radiated emissions being less than U_{CISPR} which is 3.6dB and 5.2dB respectively. CCS values (called U_{Lab} in CISPR 16-4-2) is less than U_{CISPR} as shown in the table above. Therefore, MU need not be considered for compliance.

6 CONDUCTED EMISSION MEASUREMENT

6.1. LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTE:

(1) The lower limit shall apply at the transition frequencies.
(2) The limit decreases in line with the logarithm of the frequency in the range 0.15 to 0.50 MHz.
(3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

6.2. TEST INSTRUMENTS

Conducted Emission Room # A				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESCI	101203	07/26/2012
LISN	R&S	ESH3-Z5	848773/014	12/07/2012
LISN	SCHWARZBECK	NSLK 8127	8127-541	12/14/2012
Coaxial Cable	Commate	CFD300-NL	NA	12/07/2012
Test S/W	CCS-3A1-CE			

Note:

1. *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.*
2. *N.C.R. = No Calibration Request.*

6.3. TEST PROCEDURES (please refer to measurement standard or CCS SOP PA-031)

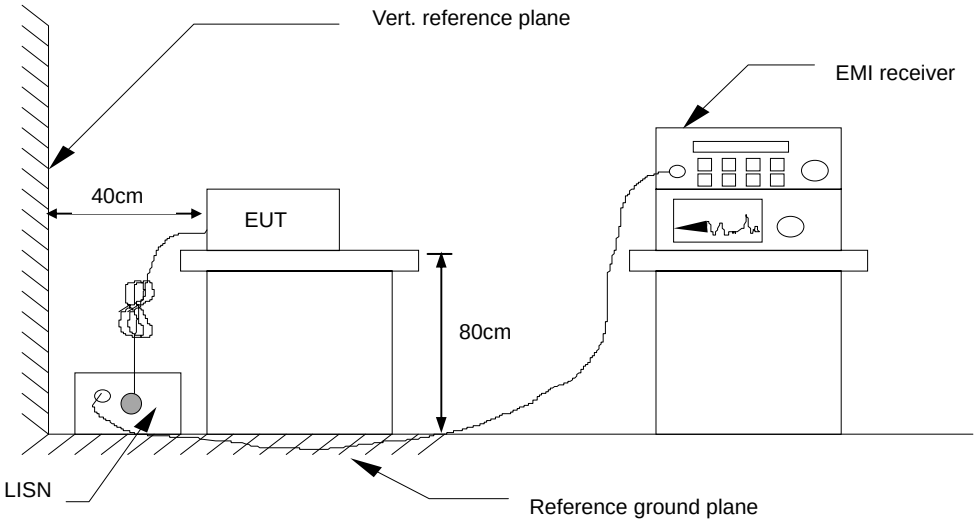
Procedure of Preliminary Test

- The EUT and support equipment, if needed, were set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor standing equipment, it is placed on the ground plane, which has a 12 mm non-conductive covering to insulate the EUT from the ground plane.
- All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- The test equipment EUT installed by AC 120VAC/60Hz main power, through a Line Impedance Stabilization Network (LISN), which was supplied power source and was grounded to the ground plane.
- All support equipment power by from a second LISN.
- The test program of the EUT was started. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.
- The Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.
- During the above scans, the emissions were maximized by cable manipulation.
- The test mode(s) described in Item 3.1 were scanned during the preliminary test.
- After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

Procedure of Final Test

- EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.
- The test data of the worst-case condition(s) was recorded.

6.4. TEST SETUP



- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

6.5. DATA SAMPLE:

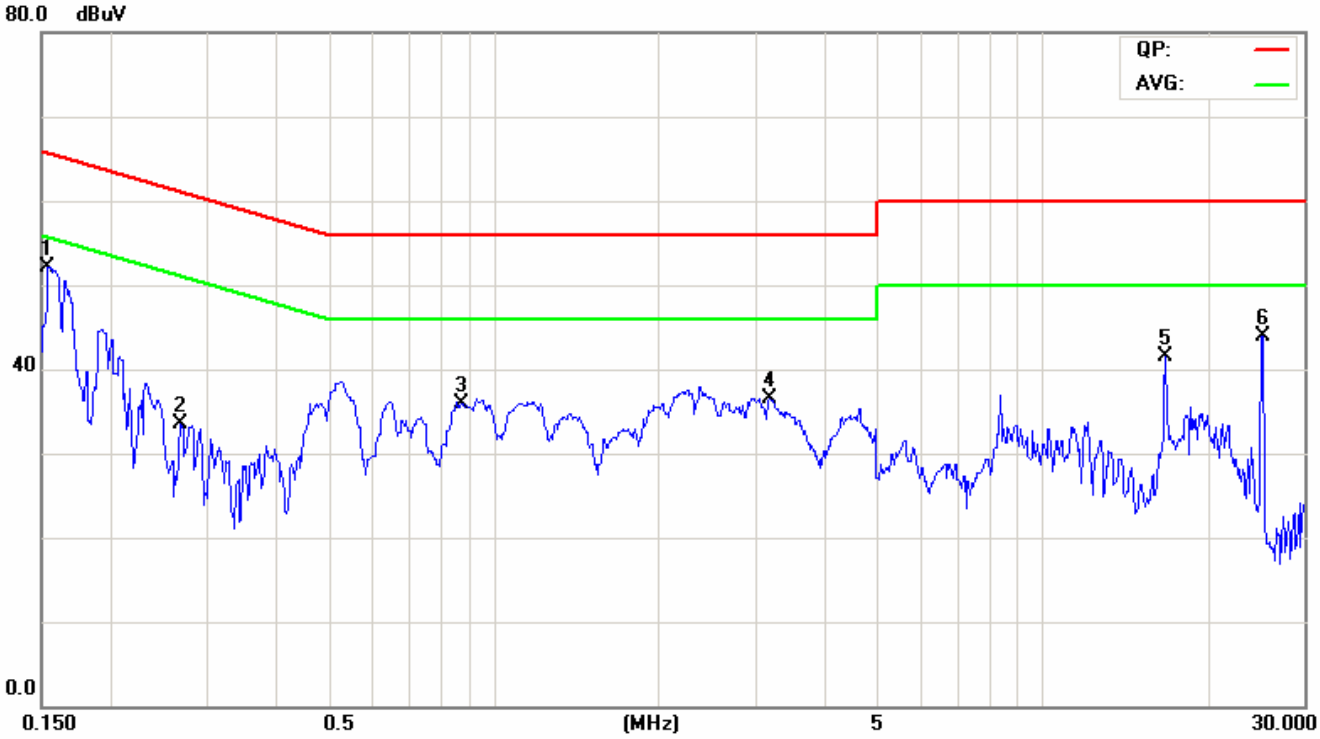
Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correctrion factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak. limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
x.xx	43.95	33.00	10.00	53.95	43.00	56.00	46.00	-2.05	-3.00	Pass

Frequency (MHz) = Emission frequency in MHz
Reading (dBuV) = Uncorrected Analyzer/Receiver reading + Insertion loss of LISN, if it > 0.5 dB
Correction Factor (dB) = LISN Factor + Cable Loss
Result (dBuV) = Raw reading converted to dBuV and CF added
Limit (dBuV) = Limit stated in standard
Margin (dB) = Result (dBuV) – Limit (dBuV)

6.6. TEST RESULTS

CCS Conduction Test

Model No.	TNJ31	Test Date	January 9, 2012
Environmental Conditions	26°C, 60% RH	Test Mode	Mode 1
Tested by	Chester Tsai	Line	L1

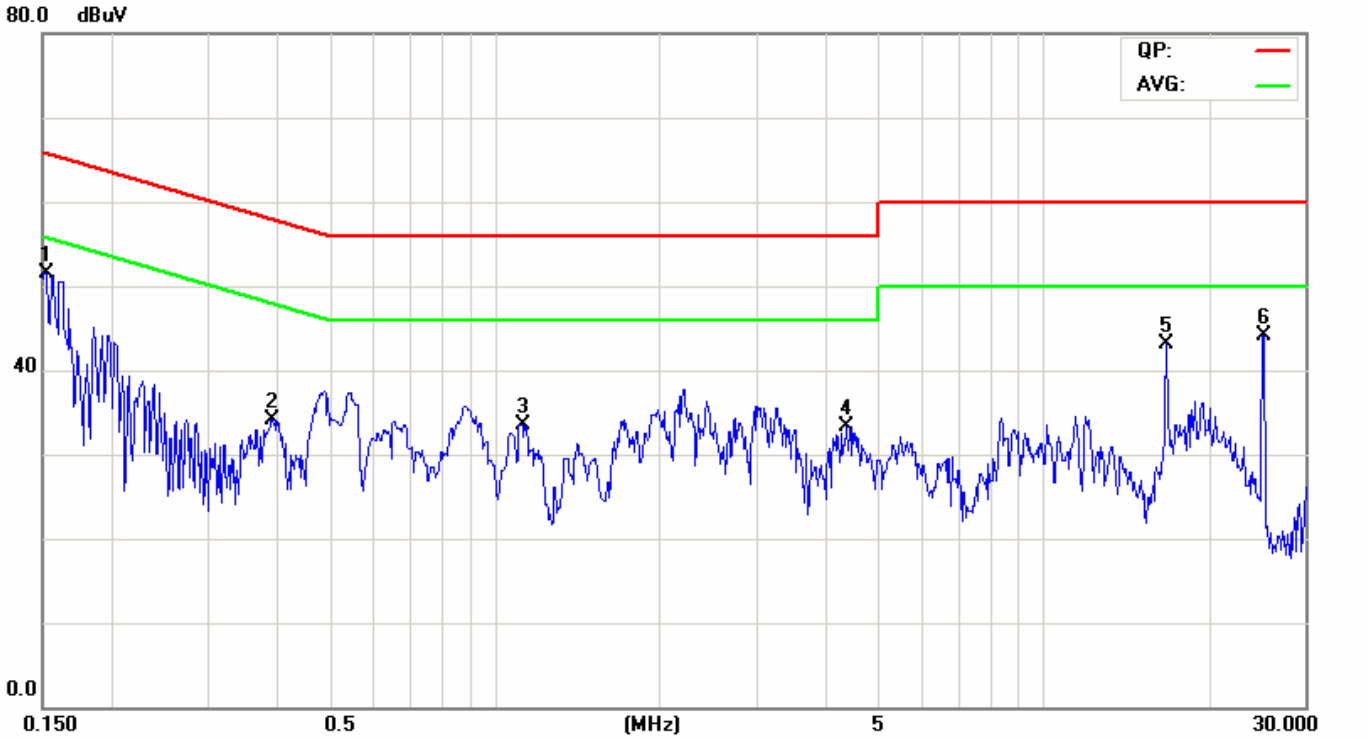


NO.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark (Pass/Fail)
1	0.1537	46.97	33.60	0.09	47.06	33.69	65.80	55.80	-18.74	-22.11	Pass
2	0.2714	28.39	13.19	0.09	28.48	13.28	61.07	51.07	-32.59	-37.79	Pass
3	0.8745	32.90	21.90	0.11	33.01	22.01	56.00	46.00	-22.99	-23.99	Pass
4	3.1750	25.24	17.83	0.18	25.42	18.01	56.00	46.00	-30.58	-27.99	Pass
5	16.7071	44.25	36.64	0.71	44.96	37.35	60.00	50.00	-15.04	-12.65	Pass
6	25.0599	42.82	35.55	0.95	43.77	36.50	60.00	50.00	-16.23	-13.50	Pass

REMARKS: L1 = Line One (Live Line)

CCS Conduction Test

Model No.	TNJ31	Test Date	January 9, 2012
Environmental Conditions	26°C, 60% RH	Test Mode	Mode 1
Tested by	Chester Tsai	Line	L2



NO.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark (Pass/Fail)
1	0.1517	51.47	51.47	0.09	51.56	51.56	65.91	55.91	-14.35	-4.35	Pass
2	0.3915	34.04	34.04	0.09	34.13	34.13	58.03	48.03	-23.90	-13.90	Pass
3	1.1183	29.40	21.04	0.10	29.50	21.14	56.00	46.00	-26.50	-24.86	Pass
4	4.3453	26.27	16.61	0.18	26.45	16.79	56.00	46.00	-29.55	-29.21	Pass
5	16.7080	43.62	36.23	0.51	44.13	36.74	60.00	50.00	-15.87	-13.26	Pass
6	25.0588	42.91	35.62	0.66	43.57	36.28	60.00	50.00	-16.43	-13.72	Pass

REMARKS: L2 = Line Two (Neutral Line)

7 RADIATED EMISSION MEASUREMENT

7.1. LIMITS OF RADIATED EMISSION MEASUREMENT

According to FCC Part 15.33 (b), for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.75	30
1.75-108	1000
108-500	2000
500-1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 40GHz, whichever is lower

Below 1GHz (for digital device)

FREQUENCY (MHz)	dBuV/m (At 10m)	
	Class A	Class B
30 ~ 230	40	30
230 ~ 1000	47	37

Limit tables for non-digital device:

Class A Radiated Emission limit at 10m (for others)

Frequency (MHZ)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	90	39
88 - 216	150	43.5
216 – 960	210	46.4
Above 960	300	49.5

Class B Radiated Emission limit at 3m (for others)

Frequency (MHZ)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	100	40
88 - 216	150	43.5
216 – 960	200	46
Above 960	500	54

Above 1GHz(for all device)

Frequency (MHZ)	Class A (dBuV/m) (At 10m)		Class B (dBuV/m) (At 3m)	
	Average	Peak	Average	Peak
Above 1000	49.5	69.5	54	74

NOTE: (1) The lower limit shall apply at the transition frequencies.
(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).
(3) The measurement above 1GHz is at close-in distances 3m,and determine the limit **L_2** corresponding to the close-in distance **d_2** by applying the following relation: **$L_2 = L_1 (d_1/d_2)$**, where **L_1** is the specified limit in microvolts per metre (**uV/m**) at the distance **d_1** (**10m**), **L_2** is the new limit for distance **d_2** (**3m**).
So the new Class A limit above 1GHz at 3m is as following table:

Frequency (MHZ)	Class A (dBuV/m) (At 3m)	
	Average	Peak
Above 1000	60	80

7.2. TEST INSTRUMENTS

Wugu 10M Chamber				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	MY48250297	10/16/2012
EMI Test Receiver	R&S	ESCI	100961	09/01/2012
EMI Test Receiver	R&S	ESCI	100962	09/01/2012
Pre-Amplifier	MITEQ	1625-3000	1490939	12/19/2012
Pre-Amplifier	MITEQ	1625-3000	1490940	12/19/2012
Pre-Amplifier	EMC	EMC012645	980056	10/10/2012
Pre-Amplifier	MITEQ	AMF-6F-260400-40-8P	985646	05/24/2012
Bilog Antenna	TESEQ	CBL 6112D	31674	10/06/2012
Bilog Antenna	TESEQ	CBL6112D	31675	10/06/2012
Horn Antenna	EMCO	3117	00055167	01/05/2012
Horn Antenna	EMCO	3116	00026370	10/12/2012
Coaxial Cable	Huber+Suhner	104PEA	33946/4PEA	12/19/2012
Coaxial Cable	Huber+Suhner	104PEA	33947/4PEA	12/19/2012
Coaxial Cable	Huber+Suhner	104PEA	33948/4PEA	12/19/2012
Coaxial Cable	Huber+Suhner	104PEA	33949/4PEA	12/19/2012
Coaxial Cable	Huber+Suhner	104	330026/4	12/19/2012
Coaxial Cable	Huber+Suhner	104	330027/4	12/19/2012
Coaxial Cable	Huber+Suhner	104	329382/4	10/10/2012
Coaxial Cable	Huber+Suhner	104	330028/4	10/10/2012
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Antenna Tower	Sunol Sciences	TLT2	031010-5	N.C.R.
Controller	Sunol Sciences	SC104V	031010-1	N.C.R.
Site NSA	CCS	N/A	N/A	11/04/2012
Site VSWR	CCS	N/A	N/A	12/02/2012
Test S/W	EZ-EMC (CCS-3A1RE)			

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. N.C.R = No Calibration Request.

7.3. TEST PROCEDURES (please refer to measurement standard or CCS SOP PA-031)

Procedure of Preliminary Test

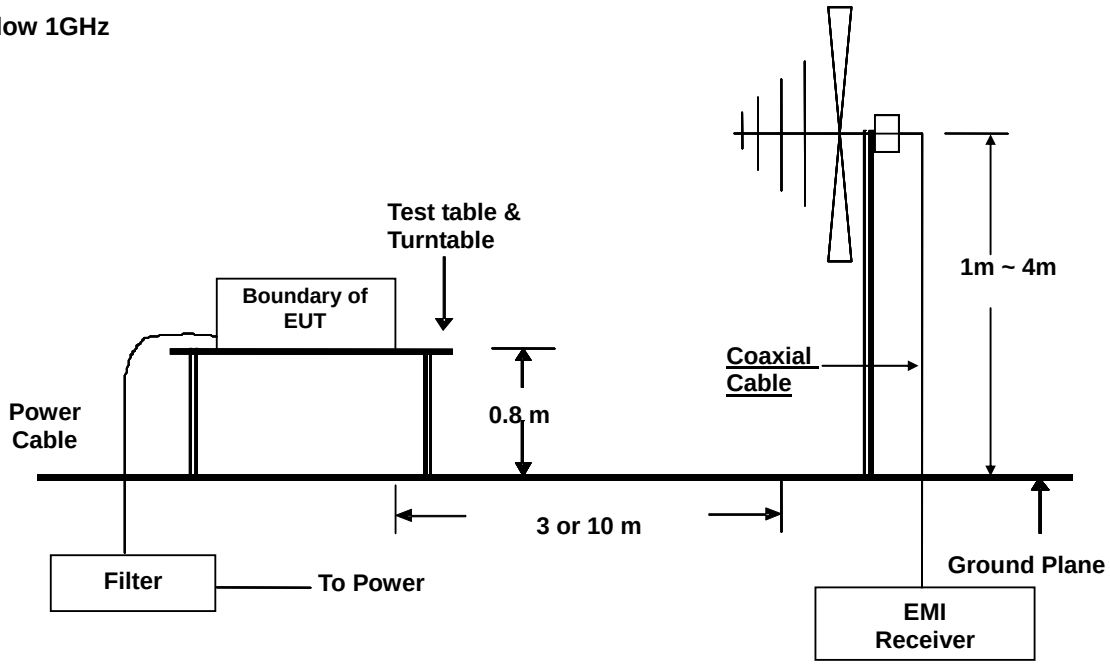
- The equipment was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane. When the EUT is a floor standing equipment, it is placed on the ground plane which has a 12 mm non-conductive covering to insulate the EUT from the ground plane.
- Support equipment, if needed, was placed as per ANSI C63.4.
- All I/O cables were positioned to simulate typical usage as per ANSI C63.4.
- The EUT received AC 120VAC/60Hz power source from the outlet socket under the turntable. All support equipment power received from another socket under the turntable.
- The antenna was placed at 3 or 10 meter away from the EUT as stated in ANSI C63.4. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.
- The Analyzer / Receiver quickly scanned from 30MHz to 40GHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters (For Below 1GHz) or 1 meter (For Above 1GHz) above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- The test mode(s) described in Item 3.1 were scanned during the preliminary test:
- After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

Procedure of Final Test

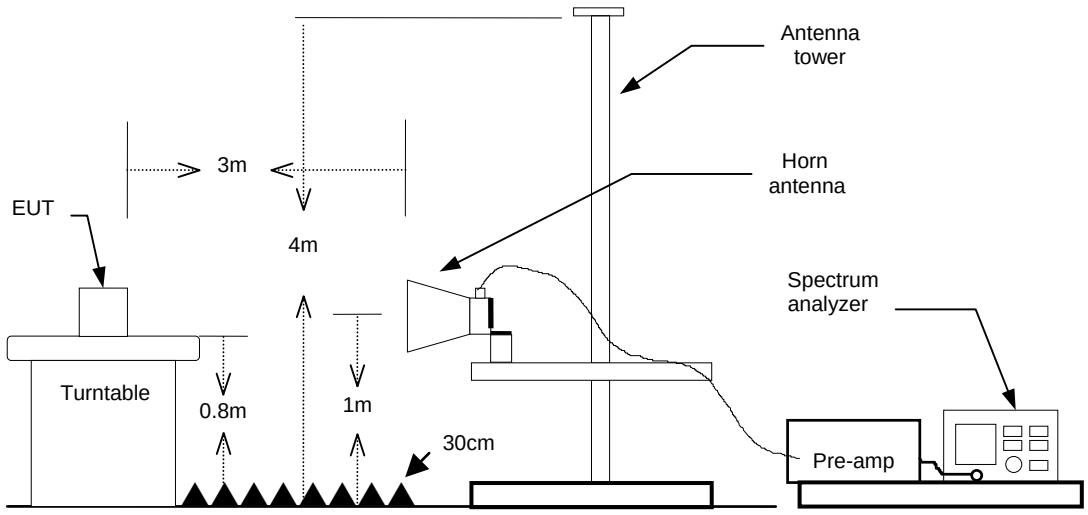
- EUT and support equipment were set up on the turntable as per the configuration with highest emission level in the preliminary test.
- The Analyzer / Receiver scanned from 30MHz to 40GHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 or 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- Recording at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and Q.P. (For Below 1GHz) or Peak/Average (For Above 1GHz) reading is presented.
- The test data of the worst-case condition(s) was recorded.

7.4. TEST SETUP

Below 1GHz



Above 1GHz



- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

7.5. DATA SAMPLE:

Below 1GHz

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (◦)	Remark
xx.xx	16.49	9.86	26.35	30.00	-3.65	116.00	101.00	QP

Above 1GHz

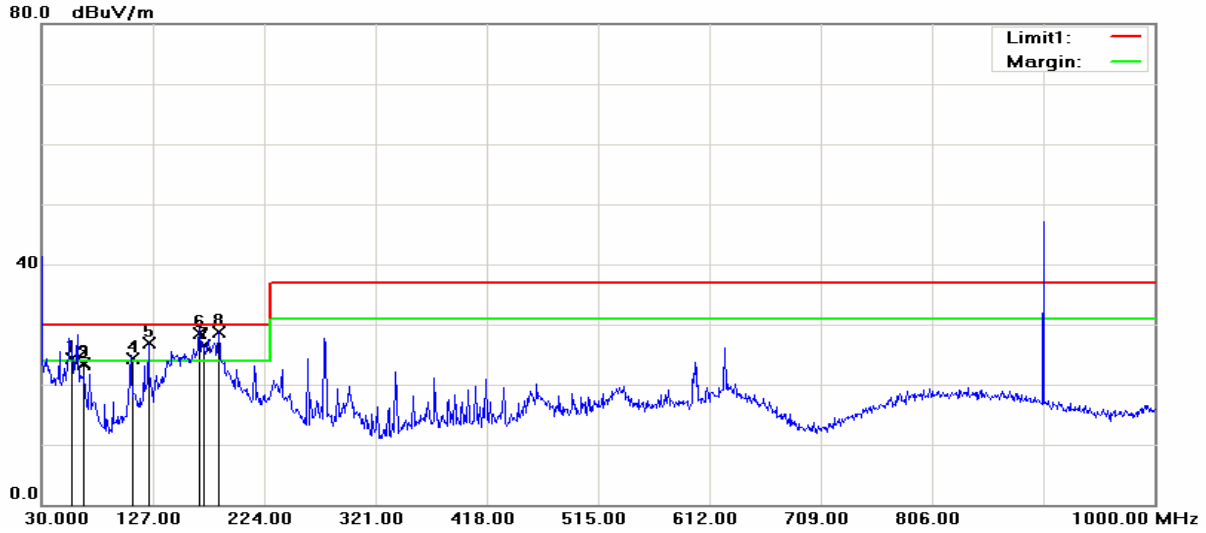
Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
xx.xx	60.80	-14.59	46.21	74.00	-27.79	200	351	peak
xx.xx	52.05	-13.17	38.88	54.00	-15.12	200	135	AVG

Frequency (MHz) = Emission frequency in MHz
Reading (dBuV) = Uncorrected Analyzer / Receiver reading
Correction Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain
Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)
Limit (dBuV/m) = Limit stated in standard
Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)
Q.P. = Quasi-Peak

7.6. TEST RESULTS

Below 1000MHz

Model No.	TNJ31	Test Mode	Mode 1
Environmental Conditions	26°C, 60% RH	Test Date	2012/1/10
Antenna Pole	Vertical	Antenna Distance	10m
Detector Function:	Quasi-peak.	Tested by	Johnny Ding

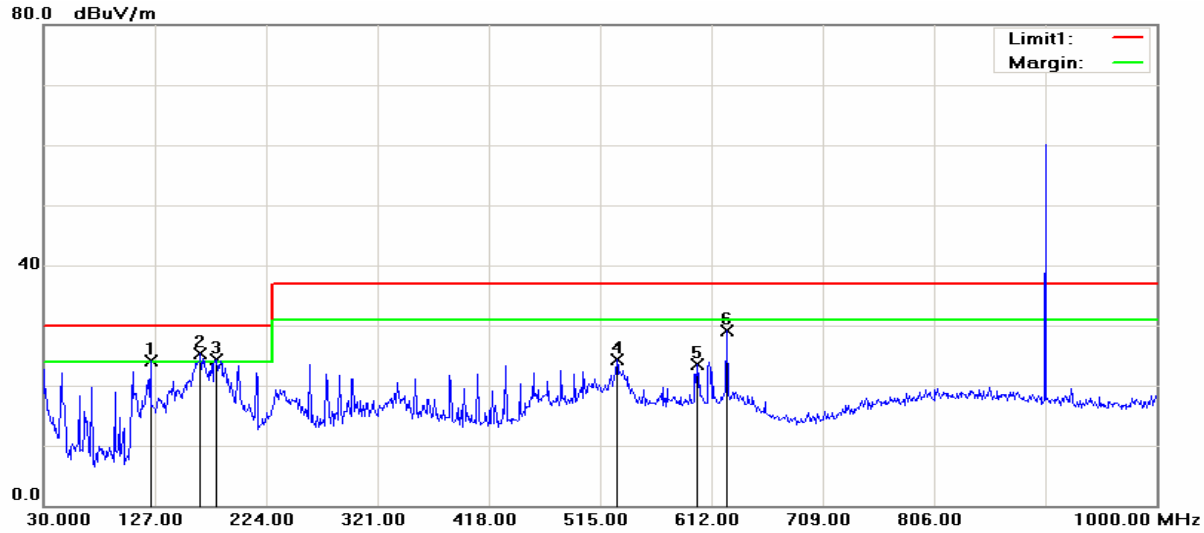


No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	55.9500	57.58	-33.26	24.32	30.00	-5.68	100	229	QP
2	66.3600	57.96	-34.63	23.33	30.00	-6.67	298	359	QP
3	66.7300	58.17	-34.65	23.52	30.00	-6.48	298	359	QP
4	109.6800	55.39	-31.01	24.38	30.00	-5.62	100	252	QP
5	123.1200	56.18	-29.20	26.98	30.00	-3.02	100	203	QP
6	168.0200	57.73	-29.24	28.49	30.00	-1.51	100	320	QP
7	171.3300	56.00	-29.40	26.60	30.00	-3.40	100	153	QP
8	184.2300	58.71	-29.95	28.76	30.00	-1.24	100	140	QP

REMARKS: 1. The other emission levels were very low against the limit.
2. The 3m limit transform to 10m limit.

Below 1000MHz

Model No.	TNJ31	Test Mode	Mode 1
Environmental Conditions	25°C, 55% RH	Test Date	2012/1/10
Antenna Pole	Horizontal	Antenna Distance	10m
Detector Function:	Quasi-peak.	Tested by	Johnny Ding



No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	123.1200	53.47	-29.38	24.09	30.00	-5.91	400	157	QP
2	166.7700	54.82	-29.57	25.25	30.00	-4.75	400	77	QP
3	180.3500	54.60	-30.30	24.30	30.00	-5.70	399	0	QP
4	529.5500	45.68	-21.43	24.25	37.00	-12.75	214	360	QP
5	599.3900	44.42	-20.90	23.52	37.00	-13.48	200	289	QP
6	625.5800	49.47	-20.45	29.02	37.00	-7.98	200	233	QP

REMARKS: 1. The other emission levels were very low against the limit.
2. The 3m limit transform to 10m limit.

Above 1000MHz

Model No.	TNJ31	**Test Mode**	Mode 1
Environmental Conditions	26°C, 60% RH	**Test Date**	2012/1/10
Antenna Pole	Vertical	**Antenna Distance**	3m
Highest frequency generated or used	2480MHz	**Upper frequency**	12400MHz
Detector Function:	Peak / Average.	**Tested by**	Johnny Ding

No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	1595.000	61.56	-18.46	43.10	74.00	-30.90	202	140	peak
2	1804.658	50.25	-16.75	33.50	54.00	-20.50	202	168	AVG
3	1805.000	84.77	-16.74	68.03	74.00	-5.97	202	168	peak
4	2706.950	47.64	-13.62	34.02	54.00	-19.98	100	163	AVG
5	2707.500	71.64	-13.62	58.02	74.00	-15.98	100	163	peak
6	3312.500	60.12	-13.20	46.92	74.00	-27.08	100	182	peak
7	3609.325	46.56	-13.05	33.51	54.00	-20.49	100	186	AVG
8	3610.000	65.21	-13.05	52.16	74.00	-21.84	100	186	peak
9	4512.500	60.74	-11.87	48.87	74.00	-25.13	202	60	peak

REMARKS:

1. The other emission levels were very low against the limit.

2. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)

Model No.	TNJ31	**Test Mode**	Mode 1
Environmental Conditions	26°C, 60% RH	**Test Date**	2012/1/10
Antenna Pole	Horizontal	**Antenna Distance**	3m
Highest frequency generated or used	2480MHz	**Upper frequency**	12400MHz
Detector Function:	Peak / Average.	**Tested by**	Johnny Ding

No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	1804.783	50.27	-16.74	33.53	54.00	-20.47	202	56	AVG
2	1805.000	84.32	-16.74	67.58	74.00	-6.42	202	56	peak
3	2095.000	58.76	-14.92	43.84	74.00	-30.16	100	149	peak
4	2707.137	49.32	-13.62	35.70	54.00	-18.30	202	173	AVG
5	2707.500	79.87	-13.62	66.25	74.00	-7.75	202	173	peak
6	3345.000	58.72	-13.20	45.52	74.00	-28.48	202	56	peak
7	3609.640	47.67	-13.05	34.62	54.00	-19.38	202	154	AVG
8	3610.000	72.16	-13.05	59.11	74.00	-14.89	202	154	peak
9	4511.909	46.32	-11.87	34.45	54.00	-19.55	202	159	AVG
10	4512.500	62.99	-11.87	51.12	74.00	-22.88	202	159	peak

REMARKS:

1. The other emission levels were very low against the limit.

2. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)