

ATC®

Report No.: ATE20172583 Page 79 of 122

### ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: FRANK2018 #186

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio

Mode: TX 2402MHz(8DPSK)
Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

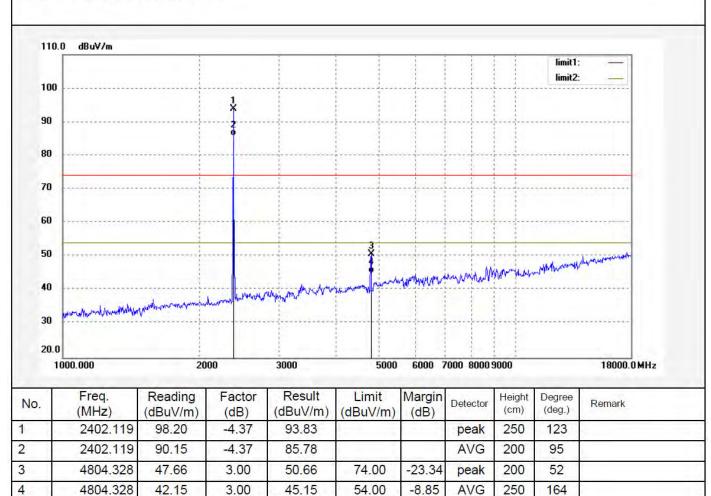
Note: Report NO.:ATE20172583

Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:29:14

Engineer Signature: Frank





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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: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: FRANK2018 #188

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio
Mode: TX 2441MHz(8DPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

Note: Report NO.:ATE20172583

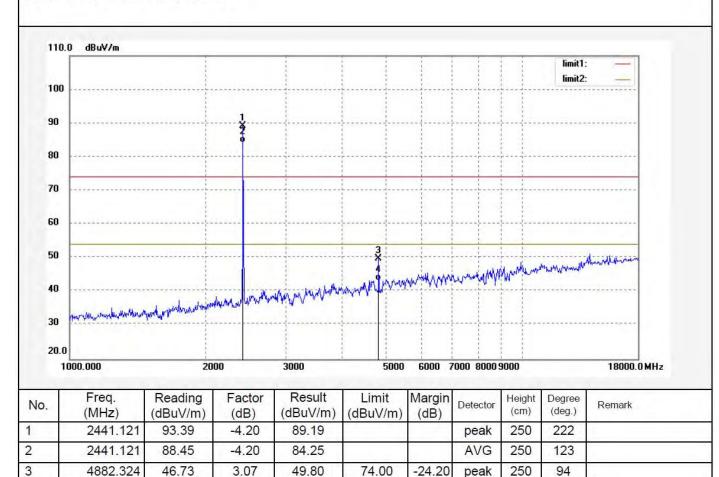
Polarization: Horizontal

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:31:46

Engineer Signature: Frank

Distance: 3m



54.00

-10.78

AVG

250

191

4

4882.324

40.15

3.07

43.22



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### ACCURATE TECHNOLOGY CO., LTD.

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Site: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: FRANK2018 #187

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio Mode: TX 2441MHz(8DPSK)

Model: CR3034A-BH

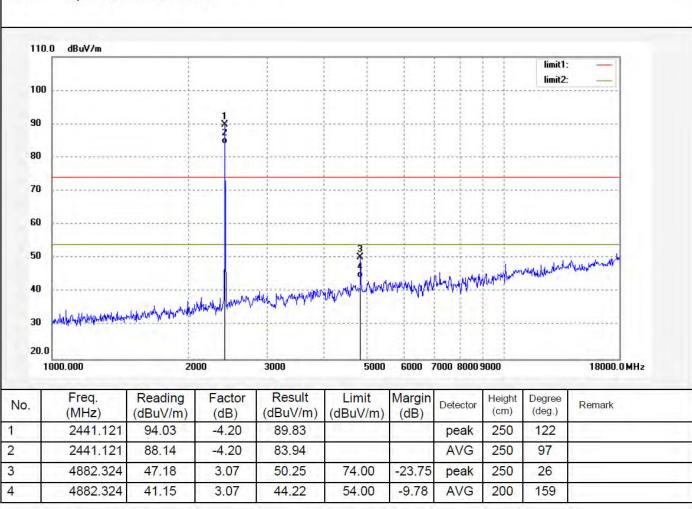
Manufacturer: TIMSEN INTERNATIONAL LIMITED

Note: Report NO.:ATE20172583 Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:30:04

Engineer Signature: Frank





Science & Industry Park, Nanshan Shenzhen, P.R. China

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Fax:+86-0755-26503396



Job No.: FRANK2018 #189

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio

Mode: TX 2480MHz(8DPSK)

Model: CR3034A-BH

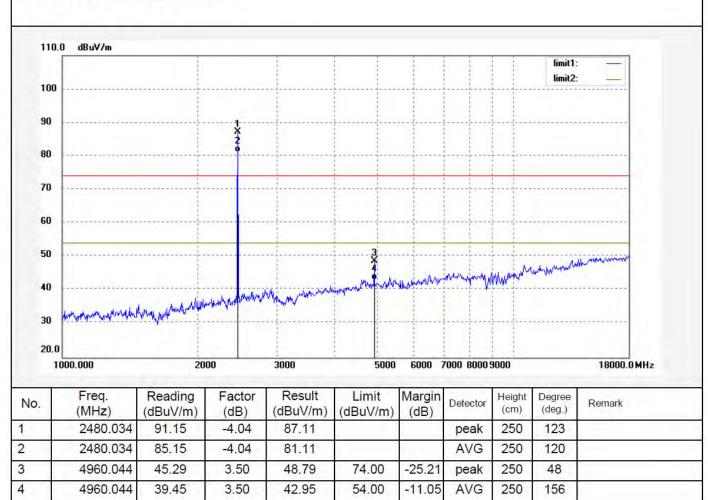
Manufacturer: TIMSEN INTERNATIONAL LIMITED

Note: Report NO.:ATE20172583 Polarization: Horizontal

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:33:21

Engineer Signature: Frank









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Job No.: FRANK2018 #190

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio
Mode: TX 2480MHz(8DPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

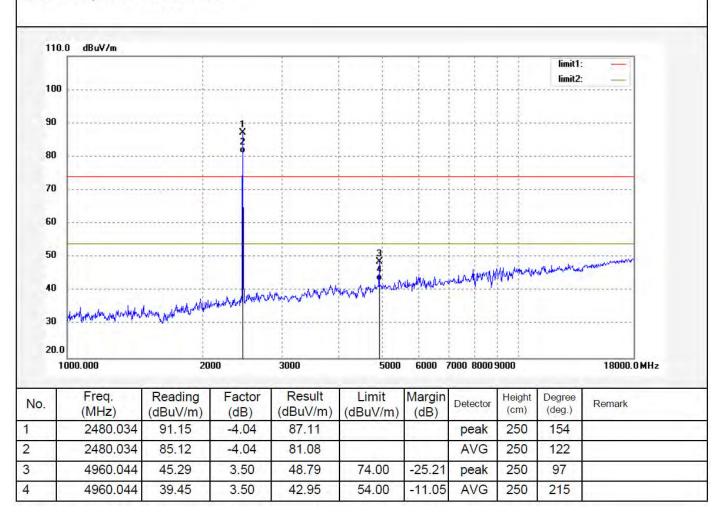
Note: Report NO.:ATE20172583

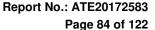
Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:33:28

Engineer Signature: Frank

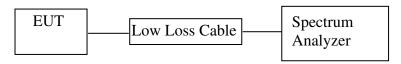






### 11.BAND EDGE COMPLIANCE TEST

### 11.1.Block Diagram of Test Setup



(EUT: Songbird II Radio)

### 11.2. The Requirement For Section 15.247(d)

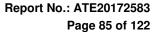
Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

### 11.3.EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

### 11.4. Operating Condition of EUT

- 11.4.1. Setup the EUT and simulator as shown as Section 11.1.
- 11.4.2. Turn on the power of all equipment.
- 11.4.3.Let the EUT work in TX (Hopping off, Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2480MHz TX frequency to transmit.





11.5.Test Procedure

- 11.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.
- 11.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz with convenient frequency span including 100 kHz bandwidth from band edge.
- 11.5.3. The band edges was measured and recorded.

### 11.6.Test Result

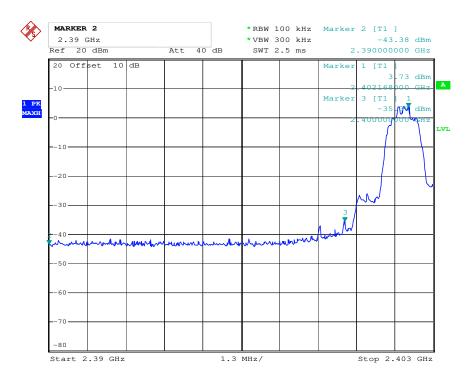
Frequency	Result of Band Edge	Limit of Band Edge
(MHz)	(dBc)	(dBc)
	GFSK	
2400.00	31.66	> 20dBc
2483.50	36.14	> 20dBc
	$\Pi$ /4 DQPSK Mode	
2400.00	33.14	> 20dBc
2483.50	36.96	> 20dBc
	8DPSK	
2400.00	33.33	> 20dBc
2483.50	35.04	> 20dBc

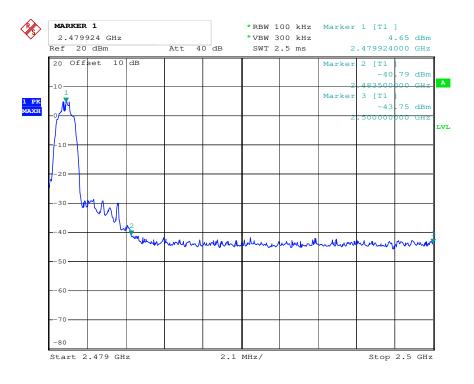


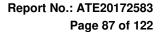




### **GFSK**

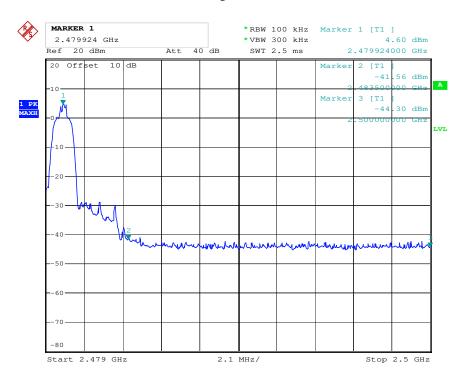


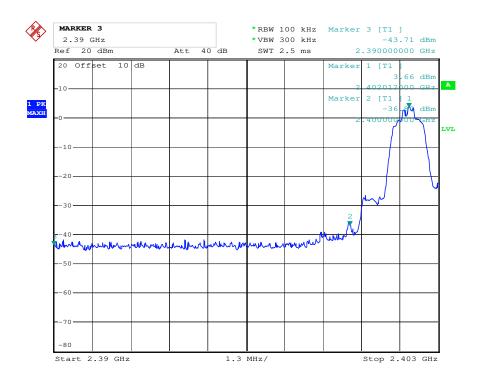


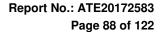




## ∏/4 DQPSK Mode

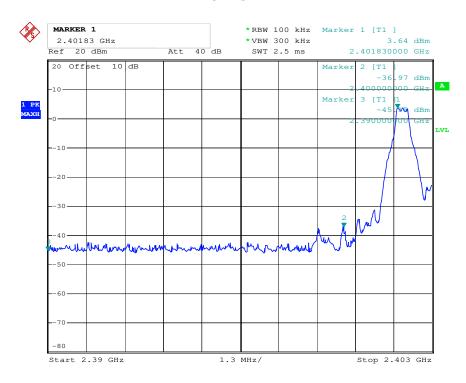


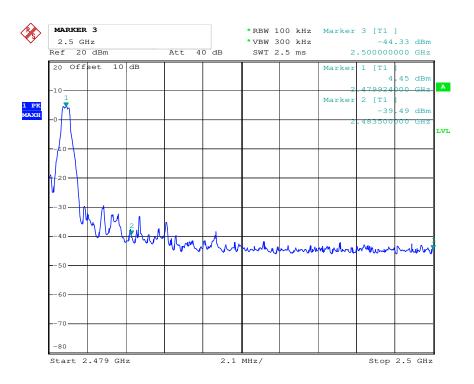






### 8DPSK







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#### **Radiated Band Edge Result**

Note:

- 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
- 2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:
  - Result = Reading + Corrected Factor
- 3. Display the measurement of peak values.

#### Test Procedure:

The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground(Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

Let the EUT work in TX (Hopping off, Hopping on) modes measure it. We select 2402MHz, 2480MHz TX frequency to transmit(Hopping off mode). We select 2402-2480MHz TX frequency to transmit(Hopping on mode).

During the radiated emission test, the spectrum analyzer was set with the following configurations:

- 1. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.

  2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above
- 1GHz.
  3.All modes of operation were investigated and the worst-case emissions are reported.



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#### Non-hopping mode



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Job No.: FRANK2018 #196

Standard: FCC PK

Test item: Radiation Test

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

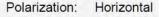
EUT: Songbird II Radio

Mode: TX 2402MHz(GFSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

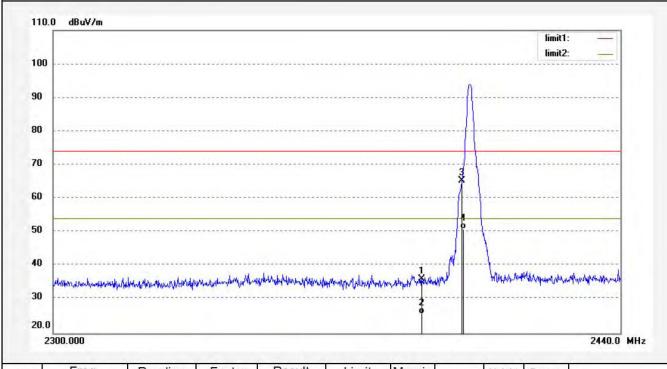
Note: Report NO.:ATE20172583



Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:42:28

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	40.31	-4.32	35.99	74.00	-38.01	peak	250	132	
2	2390.000	30.12	-4.32	25.80	54.00	-28.20	AVG	250	185	
3	2400.000	69.53	-4.27	65.26	74.00	-8.74	peak	250	58	
4	2400.000	55.15	-4.27	50.88	54.00	-3.12	AVG	250	241	



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### ACCURATE TECHNOLOGY CO., LTD.

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Site: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: FRANK2018 #195

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio Mode: TX 2402MHz(GFSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

Report NO.:ATE20172583 Note:

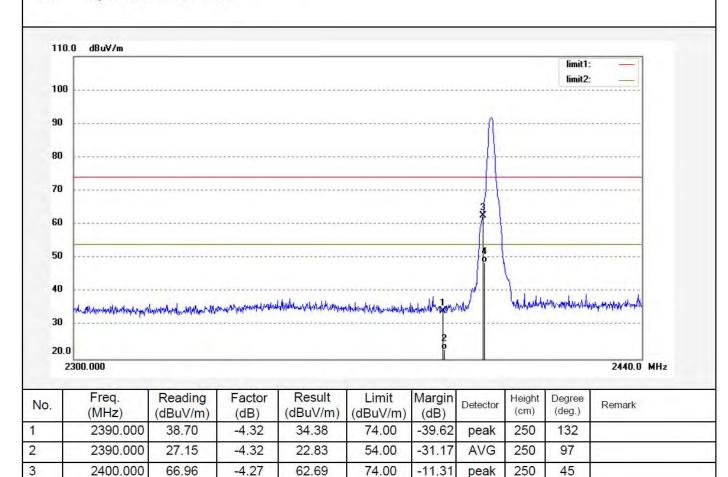
Vertical Polarization:

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:41:35

Engineer Signature: Frank

Distance: 3m



54.00

-5.27

AVG

250

102

4

2400.000

53.00

-4.27

48.73





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Report No.: ATE20172583

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Job No.: FRANK2018 #197

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio Mode: TX 2480MHz(GFSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

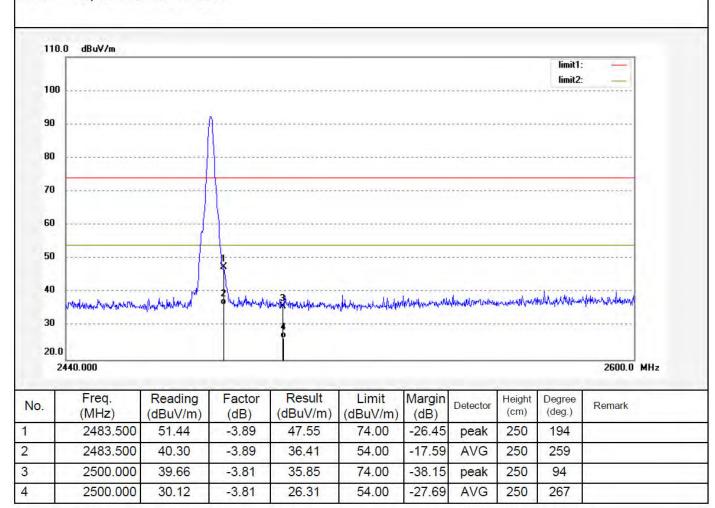
Note: Report NO.:ATE20172583

Polarization: Horizontal

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:43:51

Engineer Signature: Frank







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

Site: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

**Report No.: ATE20172583** 

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Job No.: FRANK2018 #198

Standard: FCC PK

Model:

Test item: Radiation Test

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

EUT: Songbird II Radio Mode: TX 2480MHz(GFSK) CR3034A-BH

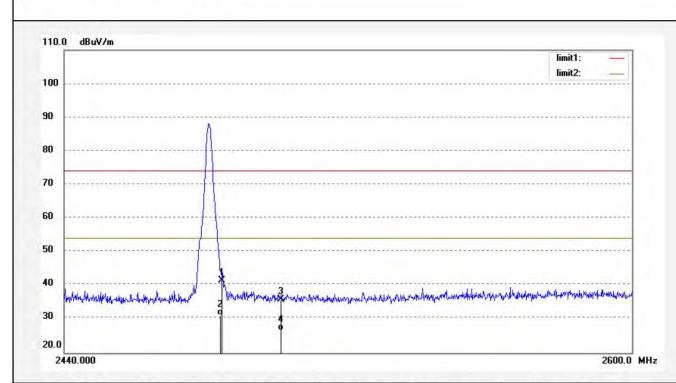
Manufacturer: TIMSEN INTERNATIONAL LIMITED

Note: Report NO.:ATE20172583 Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:44:56

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	45.27	-3.89	41.38	74.00	-32.62	peak	250	121	
2	2483.500	35.12	-3.89	31.23	54.00	-22.77	AVG	250	321	
3	2500.000	39.66	-3.81	35.85	74.00	-38.15	peak	250	94	
4	2500.000	30.45	-3.81	26.64	54.00	-27.36	AVG	250	204	





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Report No.: ATE20172583

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Job No.: FRANK2018 #193

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio

Mode: TX 2402MHz(∏/4DQPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

Note: Report NO.:ATE20172583

2390.000

2390.000

2400.000

2400.000

1

3

4

38.95

27.15

69.84

54.23

-4.32

-4.32

-4.27

-4.27

34.63

22.83

65.57

49.96

74.00

54.00

74.00

54.00

-39.37

-31.17

-8.43

-4.04

peak

**AVG** 

peak

AVG

250

250

250

250

210

254

108

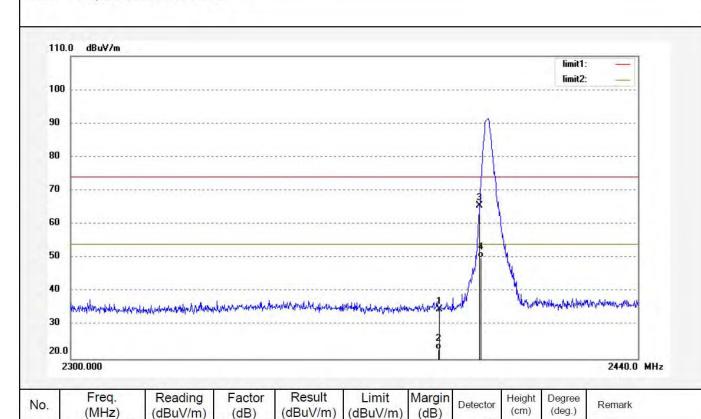
121

Polarization: Horizontal

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:38:58

Engineer Signature: Frank







F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Report No.: ATE20172583

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Job No.: FRANK2018 #194

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio

Mode: TX 2402MHz(∏/4DQPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

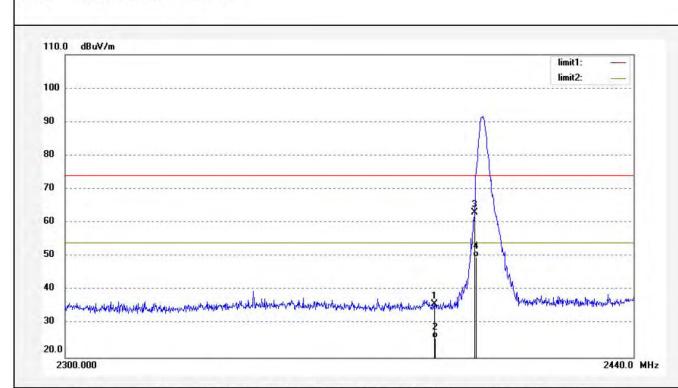
Note: Report NO.:ATE20172583

Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:39:52

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	40.11	-4.32	35.79	74.00	-38.21	peak	250	122	
2	2390.000	30.00	-4.32	25.68	54.00	-28.32	AVG	250	61	
3	2400.000	67.39	-4.27	63.12	74.00	-10.88	peak	250	109	
4	2400.000	54.00	-4.27	49.73	54.00	-4.27	AVG	250	232	



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Job No.: FRANK2018 #200

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio

Mode: TX 2480MHz(∏/4DQPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

Note: Report NO.:ATE20172583



Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:47:14

Engineer Signature: Frank

250

250

250

22

167

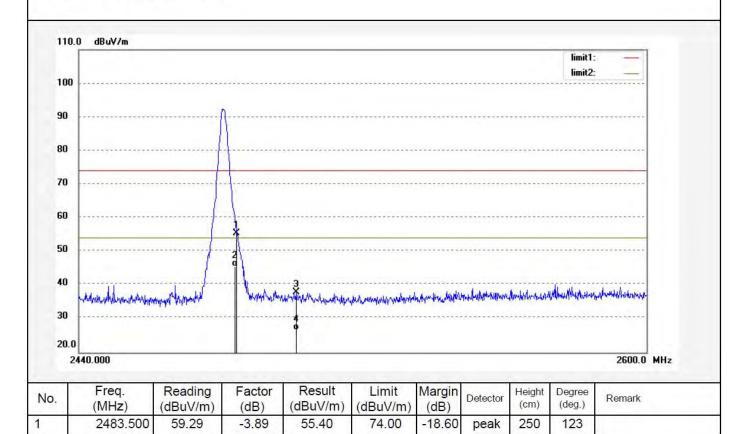
154

**AVG** 

peak

AVG

Distance: 3m



54.00

74.00

54.00

-8.41

-36.22

-27.33

2

3

4

2483.500

2500.000

2500.000

49.48

41.59

30.48

-3.89

-3.81

-3.81

45.59

37.78

26.67



Site: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

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

Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:46:19

Engineer Signature: Frank

Distance: 3m

Job No.: FRANK2018 #199

Standard: FCC PK

Test item: Radiation Test

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

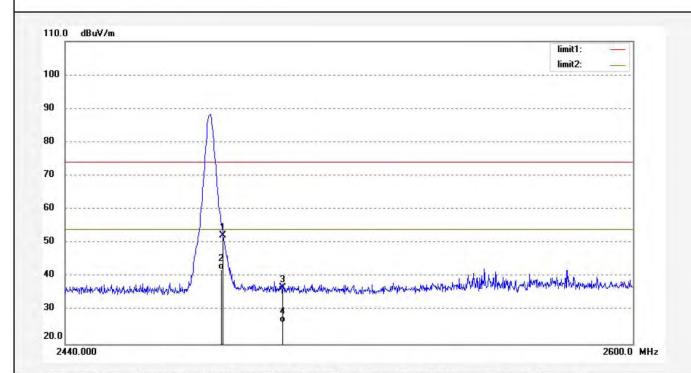
EUT: Songbird II Radio

Mode: TX 2480MHz(∏/4DQPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

Note: Report NO.:ATE20172583



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	56.27	-3.89	52.38	74.00	-21.62	peak	250	12	
2	2483.500	46.12	-3.89	42.23	54.00	-11.77	AVG	250	103	
3	2500.000	40.48	-3.81	36.67	74.00	-37.33	peak	250	57	
4	2500.000	30.12	-3.81	26.31	54.00	-27.69	AVG	200	124	





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### ACCURATE TECHNOLOGY CO., LTD.

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Job No.: FRANK2018 #192

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio

Mode: TX 2402MHz(8DPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

Note: Report NO.:ATE20172583

Polarization: Horizontal

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:37:54

Engineer Signature: Frank

(cm)

250

250

250

250

peak

AVG

peak

AVG

(deg.)

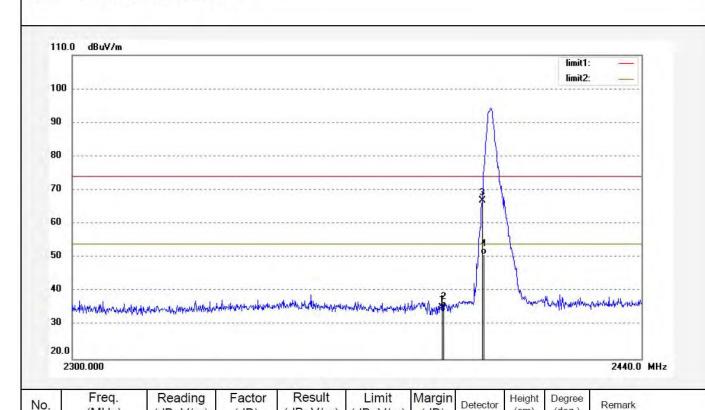
122

84

211

100

Distance: 3m



(dBuV/m)

35.08

35.08

66.97

50.85

(dBuV/m)

74.00

54.00

74.00

54.00

(dB) -38.92

-18.92

-7.03

-3.15

(MHz)

2390.000

2390,000

2400.000

2400.000

1

2

3

4

(dBuV/m)

39.40

39.40

71.24

55.12

(dB)

-4.32

-4.32

-4.27

-4.27



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

Site: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Report No.: ATE20172583

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Job No.: FRANK2018 #191

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio Mode: TX 2402MHz(8DPSK)

Model: CR3034A-BH

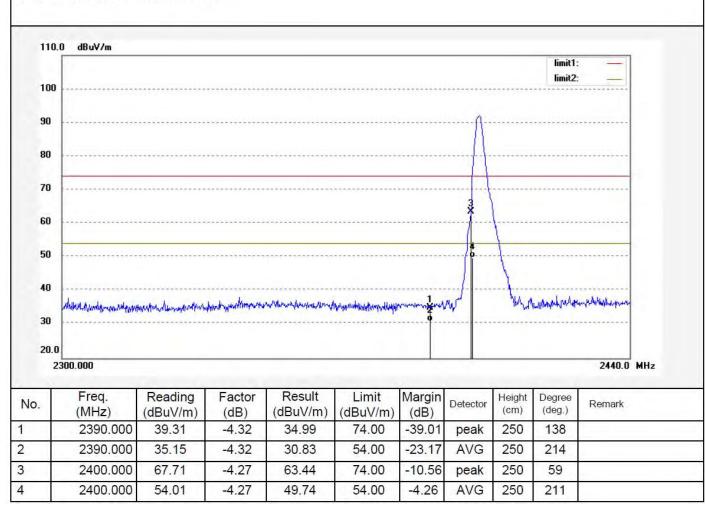
Manufacturer: TIMSEN INTERNATIONAL LIMITED

Note: Report NO.:ATE20172583 Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:36:28

Engineer Signature: Frank







F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

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Job No.: FRANK2018 #201

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio
Mode: TX 2480MHz(8DPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

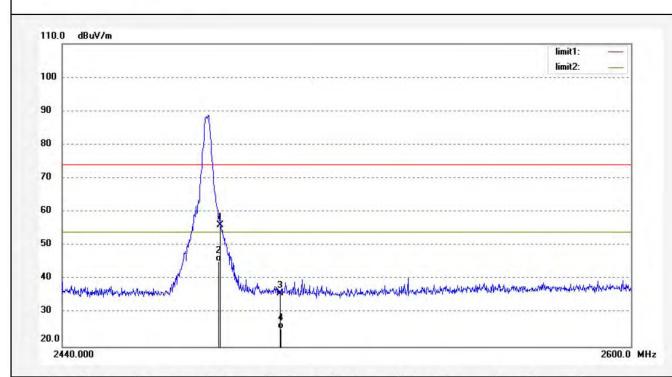
Note: Report NO.:ATE20172583

Polarization: Horizontal

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:48:28

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	59.97	-3.89	56.08	74.00	-17.92	peak	250	184	
2	2483.500	49.15	-3.89	45.26	54.00	-8.74	AVG	250	19	
3	2500.000	39.62	-3.81	35.81	74.00	-38.19	peak	250	201	
4	2500.000	29.15	-3.81	25.34	54.00	-28.66	AVG	250	215	





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Report No.: ATE20172583

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Job No.: FRANK2018 #202

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio
Mode: TX 2480MHz(8DPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

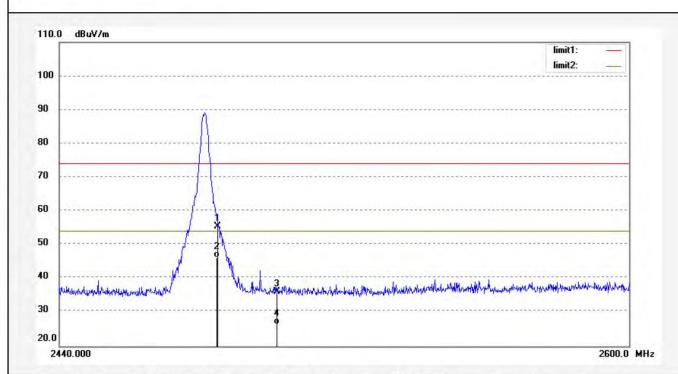
Note: Report NO.:ATE20172583

Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:49:32

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	59.28	-3.89	55.39	74.00	-18.61	peak	250	123	L =
2	2483.500	50.12	-3.89	46.23	54.00	-7.77	AVG	250	225	T.
3	2500.000	39.96	-3.81	36.15	74.00	-37.85	peak	250	164	
4	2500.000	30.15	-3.81	26.34	54.00	-27.66	AVG	250	92	



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#### Hopping mode



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Job No.: FRANK2018 #204

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio
Mode: HOPPING(GFSK)
Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

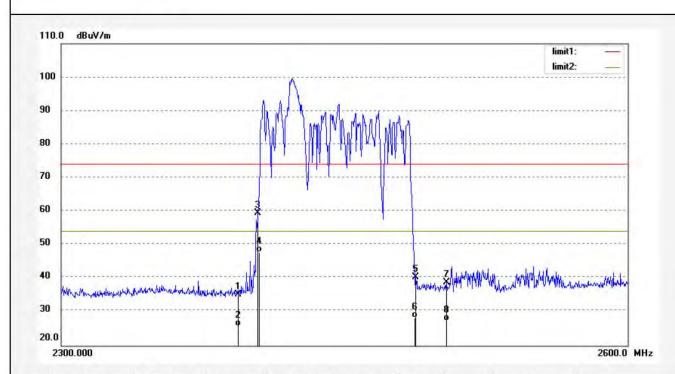
Note: Report NO.:ATE20172583

Polarization: Horizontal

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:55:13

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	39.40	-4.32	35.08	74.00	-38.92	peak	200	138	
2	2390.000	30.12	-4.32	25.80	54.00	-28.20	AVG	200	94	
3	2400.000	63.70	-4.27	59.43	74.00	-14.57	peak	200	251	
4	2400.000	52.12	-4.27	47.85	54.00	-6.15	AVG	200	103	
5	2483.500	44.19	-3.89	40.30	74.00	-33.70	peak	250	158	
6	2483.500	32.12	-3.89	28.23	54.00	-25.77	AVG	250	149	
7	2500.000	42.57	-3.81	38.76	74.00	-35.24	peak	250	201	
8	2500.000	31.15	-3.81	27.34	54.00	-26.66	AVG	200	321	





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Job No.: FRANK2018 #203

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio
Mode: HOPPING(GFSK)
Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

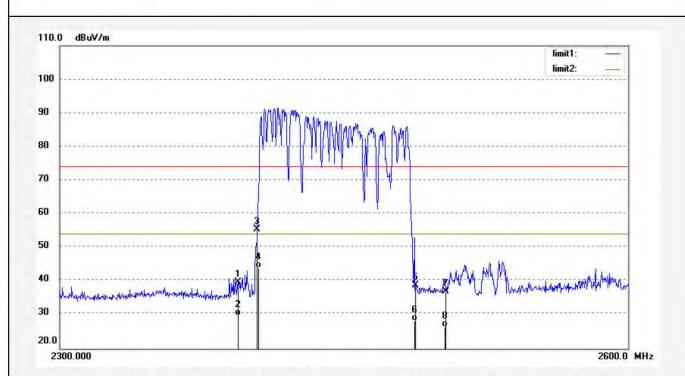
Note: Report NO.:ATE20172583

Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:52:55

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	43.95	-4.32	39.63	74.00	-34.37	peak	250	121	
2	2390.000	34.12	-4.32	29.80	54.00	-24.20	AVG	250	13	
3	2400.000	59.68	-4.27	55.41	74.00	-18.59	peak	250	101	
4	2400.000	48.15	-4.27	43.88	54.00	-10.12	AVG	200	127	
5	2483.500	42.62	-3.89	38.73	74.00	-35.27	peak	200	195	
6	2483.500	32.15	-3.89	28.26	54.00	-25.74	AVG	200	125	
7	2500.000	40.83	-3.81	37.02	74.00	-36.98	peak	200	111	
8	2500.000	30.12	-3.81	26.31	54.00	-27.69	AVG	250	320	





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Job No.: FRANK2018 #205

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio

Mode: HOPPING(∏/4DQPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

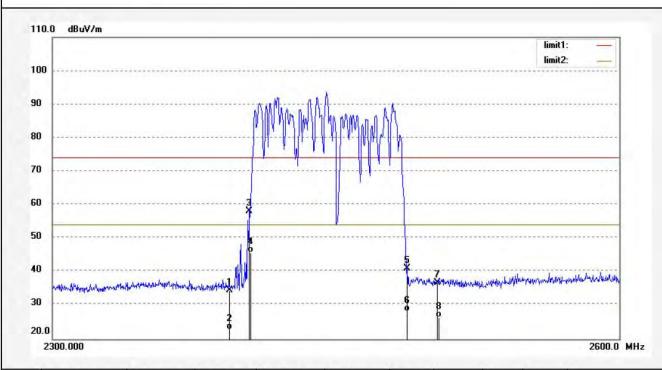
Note: Report NO.:ATE20172583

Polarization: Horizontal

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 15:57:29

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	38.87	-4.32	34.55	74.00	-39.45	peak	250	132	
2	2390.000	27.13	-4.32	22.81	54.00	-31.19	AVG	300	195	
3	2400.000	62.30	-4.27	58.03	74.00	-15.97	peak	300	28	
4	2400.000	50.12	-4.27	45.85	54.00	-8.15	AVG	250	312	
5	2483.500	44.90	-3.89	41.01	74.00	-32.99	peak	200	182	
6	2483.500	32.15	-3.89	28.26	54.00	-25.74	AVG	250	97	
7	2500.000	40.61	-3.81	36.80	74.00	-37.20	peak	250	83	
8	2500.000	30.18	-3.81	26.37	54.00	-27.63	AVG	250	156	





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Job No.: FRANK2018 #206

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio

Mode: HOPPING(∏/4DQPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

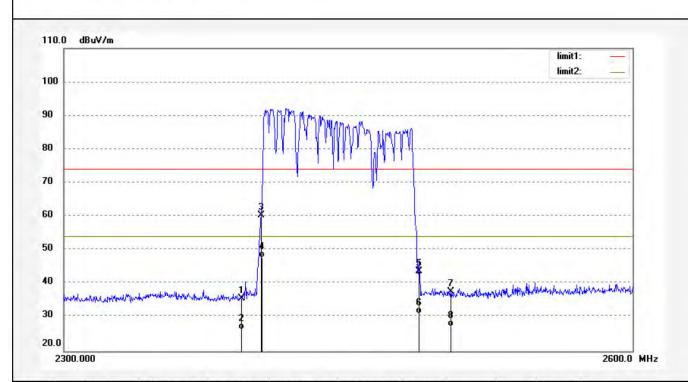
Note: Report NO.:ATE20172583

Polarization: Vertical

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 16:00:26

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	39.85	-4.32	35.53	74.00	-38.47	peak	200	159	
2	2390.000	30.65	-4.32	26.33	54.00	-27.67	AVG	150	138	
3	2400.000	64.60	-4.27	60.33	74.00	-13.67	peak	200	29	
4	2400.000	52.15	-4.27	47.88	54.00	-6.12	AVG	150	101	
5	2483.500	47.57	-3.89	43.68	74.00	-30.32	peak	200	321	
6	2483.500	35.12	-3.89	31.23	54.00	-22.77	AVG	200	168	
7	2500.000	41.42	-3.81	37.61	74.00	-36.39	peak	200	95	
8	2500.000	31.21	-3.81	27.40	54.00	-26.60	AVG	200	112	





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Job No.: FRANK2018 #208

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio
Mode: HOPPING(8DPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

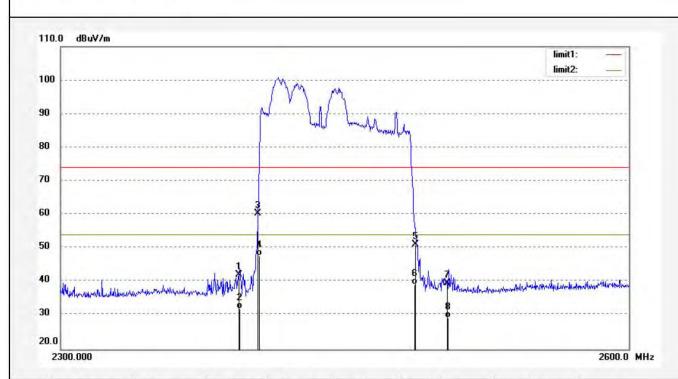
Note: Report NO.:ATE20172583

Polarization: Horizontal

Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 16:15:03

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	46.50	-4.32	42.18	74.00	-31.82	peak	250	91	
2	2390.000	36.45	-4.32	32.13	54.00	-21.87	AVG	300	147	
3	2400.000	64.65	-4.27	60.38	74.00	-13.62	peak	300	132	
4	2400.000	52.12	-4.27	47.85	54.00	-6.15	AVG	250	154	
5	2483.500	55.07	-3.89	51.18	74.00	-22.82	peak	250	56	
6	2483.500	43.12	-3.89	39.23	54.00	-14.77	AVG	250	54	
7	2500.000	43.54	-3.81	39.73	74.00	-34.27	peak	250	125	
8	2500.000	33.12	-3.81	29.31	54.00	-24.69	AVG	250	214	1





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Job No.: FRANK2018 #207

Standard: FCC PK

Test item: Radiation Test

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

EUT: Songbird II Radio
Mode: HOPPING(8DPSK)

Model: CR3034A-BH

Manufacturer: TIMSEN INTERNATIONAL LIMITED

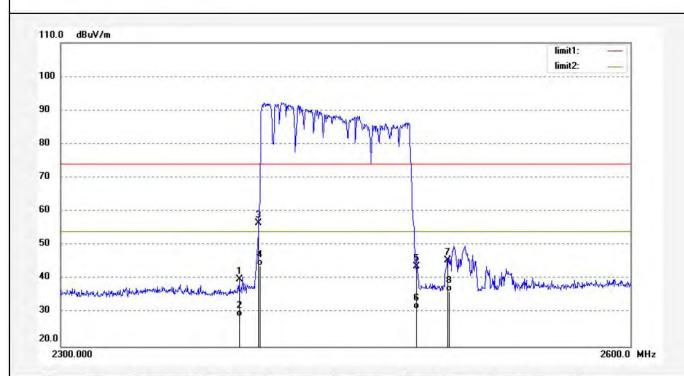
Note: Report NO.:ATE20172583



Power Source: AC 120V/60Hz

Date: 18/01/13/ Time: 16:02:12

Engineer Signature: Frank



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	44.19	-4.32	39.87	74.00	-34.13	peak	150	270	
2	2390.000	33.15	-4.32	28.83	54.00	-25.17	AVG	150	351	
3	2400.000	60.83	-4.27	56.56	74.00	-17.44	peak	250	75	
4	2400.000	48.15	-4.27	43.88	54.00	-10.12	AVG	250	130	
5	2483.500	47.57	-3.89	43.68	74.00	-30.32	peak	250	91	
6	2483.500	35.12	-3.89	31.23	54.00	-22.77	AVG	250	156	
7	2500.000	49.40	-3.81	45.59	74.00	-28.41	peak	250	150	
8	2500.000	40.12	-3.81	36.31	54.00	-17.69	AVG	250	122	

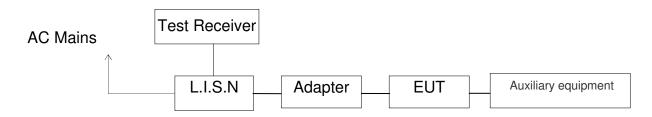
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### 12.AC POWER LINE CONDUCTED EMISSION FOR FCC PART

## 15 SECTION 15.207(A)

### 12.1.Block Diagram of Test Setup



(EUT: Songbird II Radio)

### 12.2. Power Line Conducted Emission Measurement Limits

Frequency	Limit c	IB(μV)
(MHz)	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

NOTE1: The lower limit shall apply at the transition frequencies.

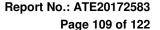
NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

### 12.3. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

### 12.4. Operating Condition of EUT

- 12.4.1. Setup the EUT and simulator as shown as Section 12.1.
- 12.4.2. Turn on the power of all equipment.
- 12.4.3.Let the EUT work in test mode and measure it.





### 12.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Measurement.

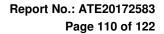
The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

### 12.6. Power Line Conducted Emission Measurement Results

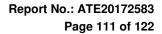
#### PASS.

The frequency range from 150kHz to 30MHz is checked.



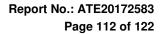


The adapter us					adapter						
	Test mode: BT OPERATION(Worse case) Test Voltage: 120V/60Hz										
MEASUREMENT			3-9_fi	n"							
1/8/2018 9:42	AM										
Frequency MHz	Level dBµV		Limit dBµV		Detector	Line	PE				
0.245000 0.720000 1.490000 3.530000 5.370000 17.605000	37.80 42.50 38.20 36.20 34.80 29.00	10.6 10.8 10.9 11.1 11.2 11.4	56 56 56	13.5 17.8 19.8 25.2	QP QP QP QP	L1 L1 L1 L1 L1	GND GND GND GND GND GND				
MEASUREMENT	RESULT	: "F258	3-9_fi	.n2"							
1/8/2018 9:42											
Frequency MHz	Level dBµV		Limit dBµV		Detector	Line	PE				
0.310000 0.720000 1.465000 2.680000 5.170000 17.785000	29.00 32.30 28.40 25.20 22.40 16.40	10.6 10.8 10.9 11.0 11.2	46 46 46 50	13.7 17.6 20.8 27.6	AV AV AV	L1 L1 L1 L1 L1	GND GND GND GND GND GND				
MEASUREMENT	RESULT:	"F258	3-10_f	in"							
1/8/2018 9:46	AM										
Frequency MHz	Level dBµV		Limit dBµV	Margin dB	Detector	Line	PE				
0.345000 0.720000 1.865000 2.180000 7.580000 17.950000	33.80 40.70 31.00 30.70 26.50 28.90	10.6 10.8 11.0 11.0 11.2 11.4	56 56	25.3	QP QP	N N N N	GND GND GND GND GND GND				
MEASUREMENT	RESULT:	"F258	3-10_£	in2"							
1/8/2018 9:46											
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE				
0.345000 0.720000 1.415000 2.880000 5.200000	23.90 34.60 25.20 21.90 20.70 13.60	10.6 10.8 10.9 11.0 11.2	49 46 46 46 50	25.2 11.4 20.8 24.1 29.3 36.4	AV AV AV	N N N N N	GND GND GND GND GND GND				





The adapter us Test mode: B1					adapter		
Test Voltage: 2							
MEASUREMENT	RESULT	: "F258	3-8_fi	in"			
1/8/2018 9:38 Frequency MHz			Limit dBµV	_	Detector	Line	PE
0.175000 0.715000 1.250000 2.760000 5.460000 18.145000	41.20 42.70 37.80 36.00 35.40 28.30	10.5 10.8 10.9 11.0 11.2		18.2 20.0 24.6	QP QP QP QP	L1 L1 L1 L1 L1	GND GND GND GND GND GND
MEASUREMENT	RESULT	: "F258	3-8_fi	in2"			
1/8/2018 9:38 Frequency MHz	AM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.360000 0.725000 1.475000 2.870000 5.810000 18.385000	28.50 31.60 26.80 25.10 21.40 17.00	10.6 10.8 10.9 11.0 11.2	49 46 46 46 50	14.4 19.2 20.9 28.6	AV AV AV	L1 L1 L1 L1 L1	GND GND GND GND GND GND
MEASUREMENT	RESULT:	"F258	3-7 fi	n"			
1/8/2018 9:34				Manada	Datastan	T	DE
Frequency MHz	Level dBµV		dBµV	Margin dB	Detector	ттие	PE
0.300000 0.715000 1.320000 3.170000 5.610000 18.310000	34.50 40.50 28.80 30.60 27.30 28.20	10.6 10.8 10.9 11.1 11.2	60 56 56 56 60	25.7 15.5 27.2 25.4 32.7 31.8	QP	N N N N N	GND GND GND GND GND GND
MEASUREMENT	RESULT:	"F258	3-7_fi	n2"			
1/8/2018 9:34 Frequency MHz	AM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.345000 0.715000 1.570000 3.540000 5.130000 17.785000	22.70 34.80 25.20 23.50 20.90 13.40	10.6 10.8 10.9 11.1 11.2 11.4	49 46 46 46 50	26.4 11.2 20.8 22.5 29.1 36.6	AV AV AV AV AV	N N N N N	GND GND GND GND GND GND





The adapter us Test mode: B1					adapter		
Test Voltage:			•	,			
MEASUREMENT	RESULT	: "F258	3-12 <u>-</u> £	in"			
1/8/2018 9:55 Frequency MHz	AM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.340000 0.410000 1.065000 2.330000 5.190000 23.995000	36.30 42.50 33.40 32.40 28.60 28.40	10.6 10.7 10.9 11.0 11.2	59 58 56 56 60	22.9 15.1 22.6 23.6 31.4 31.6	QP QP	L1 L1 L1 L1 L1	GND GND GND GND GND GND
MEASUREMENT	RESULT	: "F258	3-12_f	in2"			
1/8/2018 9:55 Frequency MHz	AM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.345000 0.405000 1.330000 2.880000 5.190000 23.995000	26.50 31.70 26.40 20.60 16.70 19.90	10.6 10.7 10.9 11.0 11.2	49 48 46 46 50	22.6 16.1 19.6 25.4 33.3 30.1	AV AV AV	L1 L1 L1 L1 L1	GND GND GND GND GND
MEASUREMENT	RESULT	: "F258	3-11 f	in"			
1/8/2018 9:51			_				
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.200000 0.410000 1.185000 3.260000 5.420000 23.995000	37.00 37.80 29.10 27.40 23.70 24.40	10.5 10.7 10.9 11.1 11.2 11.5	64 58 56 56 60	26.6 19.8 26.9 28.6 36.3 35.6	QP QP QP	N N N N N	GND GND GND GND GND GND
MEASUREMENT  1/8/2018 9:51 Frequency		: "F258 Transd	<b>3-11_f</b> Limit		Detector	Line	PE
0.330000 0.405000	dBμV 24.00 30.30 21.10	dB 10.6 10.7	dBμV 50 48	dB 25.5 17.5	AV AV	N N	GND GND
1.170000 3.060000 5.390000 23.995000	18.30 15.00 15.80	10.9 11.1 11.2 11.5	46 46 50 50	24.9 27.7 35.0 34.2	AV AV AV AV	N N N N	GND GND GND GND

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The adapter us Test mode: BT Test Voltage: 2	OPERA	') NOITA			adapter		
MEASUREMENT			3-13_f	in"			
1/8/2018 9:59 Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.330000 0.400000 1.275000 2.430000 5.590000 23.995000	36.40 42.30 36.00 33.40 28.40 28.70	10.6 10.7 10.9 11.0 11.2	60 58 56 56 60	23.1 15.6 20.0 22.6 31.6 31.3	QP QP QP QP	L1 L1 L1 L1 L1	GND GND GND GND GND
MEASUREMENT	RESULT	: "F258	3-13_f	in2"			
1/8/2018 9:59 Frequency MHz	AM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.360000 0.410000 1.780000 2.920000 5.210000 23.995000	24.80 32.50 24.50 22.00 16.40 19.90	10.6 10.7 11.0 11.1 11.2 11.5	49 48 46 46 50	23.9 15.1 21.5 24.0 33.6 30.1	AV AV AV	L1 L1 L1 L1 L1 L1	GND GND GND GND GND GND
MEASUREMENT	RESULT	: "F258	3-14_f	in"			
1/8/2018 10:0 Frequency MHz	3AM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.295000 0.405000 1.335000 2.760000 5.450000 23.995000	30.60 37.50 29.20 27.20 22.90 23.70	10.6 10.7 10.9 11.0 11.2	60 58 56 56 60	29.8 20.3 26.8 28.8 37.1 36.3	QP QP QP QP QP QP	N N N N	GND GND GND GND GND
MEASUREMENT	RESULT	: "F258	3-14_f	in2"			
1/8/2018 10:0 Frequency MHz	3AM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.350000 0.410000 1.305000 2.910000 5.130000 23.995000	23.60 29.50 20.90 18.40 15.00 14.90	10.6 10.7 10.9 11.0 11.2	49 48 46 46 50	25.4 18.1 25.1 27.6 35.0 35.1	AV AV AV AV AV	N N N N N	GND GND GND GND GND

Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.

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#### The test data of adapter 1

#### ACCURATE TECHNOLOGY CO., LTD

#### CONDUCTED EMISSION STANDARD FCC PART 15

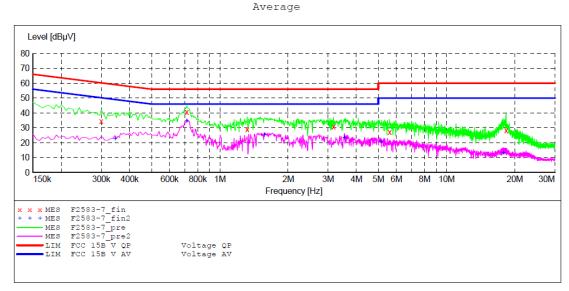
EUT: Songbird II Radio M/N:CR3034A-BH Manufacturer: TIMSEN INTERNATIONAL LIMITED

Operating Condition: BT OPERATION
Test Site: 1#Shielding Room
Operator: Frank
Test Specification: N 240V/60Hz

Comment: Report NO.:ATE20172583 Start of Test: 1/8/2018 / 9:30:56AM

#### SCAN TABLE: "V 9K-30MHz fin"

Short Description: SUB STD VTERM2 1.70 Step Detector Meas. IF Start Stop Transducer Frequency Frequency Width Time Bandw. 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008 Average 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008



#### MEASUREMENT RESULT: "F2583-7 fin"

1/8/2	2018 9:34	AM						
Fr	equency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0	.300000	34.50	10.6	60	25.7	QP	N	GND
0	.715000	40.50	10.8	56	15.5	QP	N	GND
1	.320000	28.80	10.9	56	27.2	QP	N	GND
3	3.170000	30.60	11.1	56	25.4	QP	N	GND
5	.610000	27.30	11.2	60	32.7	QP	N	GND
1.8	3.310000	28.20	11.4	60	31.8	OP	N	GND

#### MEASUREMENT RESULT: "F2583-7 fin2"

1/8/2018 9:34	AM						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dΒμV	dB	dΒμV	dB			
0.345000	22.70	10.6	49	26.4	AV	N	GND
0.715000	34.80	10.8	46	11.2	AV	N	GND
1.570000	25.20	10.9	46	20.8	AV	N	GND
3.540000	23.50	11.1	46	22.5	AV	N	GND
5.130000	20.90	11.2	50	29.1	AV	N	GND
17.785000	13.40	11.4	50	36.6	AV	N	GND

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#### ACCURATE TECHNOLOGY CO., LTD

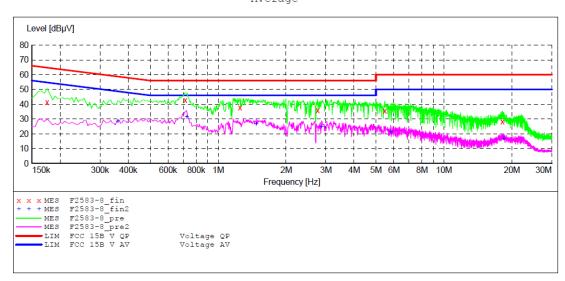
#### CONDUCTED EMISSION STANDARD FCC PART 15

Songbird II Radio M/N:CR3034A-BH TIMSEN INTERNATIONAL LIMITED EUT: Manufacturer:

Operating Condition: BT OPERATION 1#Shielding Room Test Site: Operator: Frank Test Specification: L 240V/60Hz

Comment: Report NO.:ATE20172583 Start of Test: 1/8/2018 / 9:35:01AM

SCAN TABLE: "V 9K-30MHz fin"
Short Description: SU SUB STD VTERM2 1.70 Step TF Start Stop Detector Meas. Transducer Frequency Frequency Width Time Bandw. 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008 Average 150.0 kHz 30.0 MHz 5.0 kHz 9 kHz QuasiPeak 1.0 s NSLK8126 2008 Average



#### MEASUREMENT RESULT: "F2583-8 fin"

1/	/8/2018 9:38.	AM						
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.175000	41.20	10.5	65	23.5	OP	L1	GND
	0.715000	42.70	10.8	56	13.3	QP	L1	GND
	1.250000	37.80	10.9	56	18.2	QP	L1	GND
	2.760000	36.00	11.0	56	20.0	QP	L1	GND
	5.460000	35.40	11.2	60	24.6	QP	L1	GND
	18.145000	28.30	11.4	60	31.7	OP	L1	GND

#### MEASUREMENT RESULT: "F2583-8 fin2"

1/8/201	.8 9:38A	M						
Freq	quency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dΒμV	dB	dΒμV	dB			
0.3	60000	28.50	10.6	49	20.2	AV	L1	GND
0.7	25000	31.60	10.8	46	14.4	AV	L1	GND
1.4	75000	26.80	10.9	46	19.2	AV	L1	GND
2.8	70000	25.10	11.0	46	20.9	AV	L1	GND
5.8	10000	21.40	11.2	50	28.6	AV	L1	GND
18.3	85000	17.00	11.4	50	33.0	AV	L1	GND

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#### ACCURATE TECHNOLOGY CO., LTD

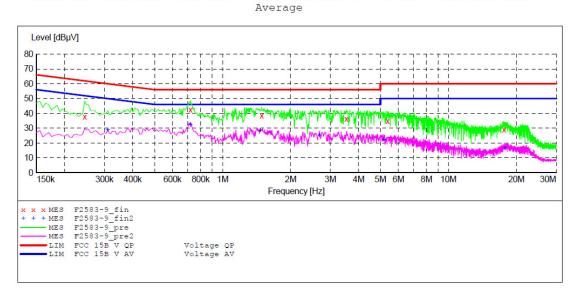
#### CONDUCTED EMISSION STANDARD FCC PART 15

Songbird II Radio M/N:CR3034A-BH TIMSEN INTERNATIONAL LIMITED Manufacturer:

Operating Condition: BT OPERATION Test Site: 1#Shielding Room Operator: Frank Test Specification: L 120V/60Hz

Comment: Report NO.: ATE20172583 Start of Test: 1/8/2018 / 9:38:51AM

SCAN TABLE: "V 9K-30MHz fin"
Short Description: SU SUB STD VTERM2 1.70 Step TF Start Stop Detector Meas. Transducer Bandw. Frequency Frequency Width Time 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008 Average 150.0 kHz 30.0 MHz 5.0 kHz 9 kHz NSLK8126 2008 QuasiPeak 1.0 s



#### MEASUREMENT RESULT: "F2583-9 fin"

1/8/2018	9:42AM	1						
Freque	ncy	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dΒμV	dB	dΒμV	dB			
0.245	000	37.80	10.6	62	24.1	QP	L1	GND
0.720	000	42.50	10.8	56	13.5	QP	L1	GND
1.490	000	38.20	10.9	56	17.8	QP	L1	GND
3.530	000	36.20	11.1	56	19.8	QP	L1	GND
5.370	000	34.80	11.2	60	25.2	QP	L1	GND
17.605	000	29.00	11.4	60	31.0	QP	L1	GND

#### MEASUREMENT RESULT: "F2583-9 fin2"

1,	/8/2018 9:42		-			100000000000000000000000000000000000000		2000 222000
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.310000	29.00	10.6	50	21.0	AV	L1	GND
	0.720000	32.30	10.8	46	13.7	AV	L1	GND
	1.465000	28.40	10.9	46	17.6	AV	L1	GND
	2.680000	25.20	11.0	46	20.8	AV	L1	GND
	5.170000	22.40	11.2	50	27.6	AV	L1	GND
	17.785000	16.40	11.4	50	33.6	AV	L1	GND

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#### ACCURATE TECHNOLOGY CO., LTD

#### CONDUCTED EMISSION STANDARD FCC PART 15

Songbird II Radio M/N:CR3034A-BH TIMSEN INTERNATIONAL LIMITED Manufacturer:

Operating Condition: BT OPERATION 1#Shielding Room Test Site: Operator: Frank Test Specification: N 120V/60Hz

Comment: Report NO.:ATE20172583 Start of Test: 1/8/2018 / 9:42:52AM

# SCAN TABLE: "V 9K-30MHz fin" Short Description: SU

SUB STD VTERM2 1.70

Start Step ΙF Stop Detector Meas. Transducer Bandw. Frequency Frequency Width Time 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008 Average 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average Level [dBµV] 70 60 50 40 30 20 10 150k 300k 400k 600k 800k 1M 2M 3M 4M 5M 6M 8M 10M Frequency [Hz] x x MES + + MES - MES Voltage QP Voltage AV

#### MEASUREMENT RESULT: "F2583-10 fin"

1	/8/2018 9:4	46AM						
	Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.345000	33.80	10.6	59	25.3	QP	N	GND
	0.720000	40.70	10.8	56	15.3	QP	N	GND
	1.865000	31.00	11.0	56	25.0	QP	N	GND
	2.180000	30.70	11.0	56	25.3	QP	N	GND
	7.580000	26.50	11.2	60	33.5	QP	N	GND
	17.950000	28.90	11.4	60	31.1	OP	N	GND

### MEASUREMENT RESULT: "F2583-10 fin2"

1/8/2018 Freque	9:46AM ncy Level MHz dBµV		Limit dBµV	Margin dB	Detector	Line	PE
0.345 0.720 1.415 2.880 5.200	000 34.60 000 25.20 000 21.90	10.8 10.9 11.0	49 46 46 46 50	25.2 11.4 20.8 24.1 29.3	AV AV AV AV	N N N N	GND GND GND GND GND
17.935	000 13.60	11.4	50	36.4	AV	N	GND

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### The test data of adapter 2

#### ACCURATE TECHNOLOGY CO., LTD

#### CONDUCTED EMISSION STANDARD FCC PART 15

EUT: Songbird II Radio M/N:CR3034A-BH Manufacturer: TIMSEN INTERNATIONAL LIMITED

Operating Condition: BT OPERATION
Test Site: 1#Shielding Room
Operator: Frank

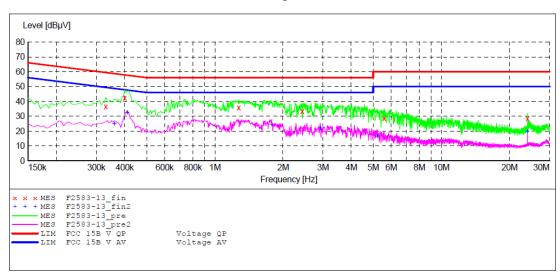
Test Specification: L 240V/60Hz

Comment: Report NO.:ATE20172583

#### SCAN TABLE: "V 9K-30MHz fin"

SUB STD VTERM2 1.70 Short Description: Stop Step Detector Meas. IF Transducer Frequency Frequency Width Time Bandw. 150.0 kHz 100.0 Hz 9.0 kHz 200 Hz NSLK8126 2008 QuasiPeak 1.0 s Average 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Äverage



### MEASUREMENT RESULT: "F2583-13\_fin"

9:59AM	1						
ncy	Level 1	ransd'	Limit	Margin	Detector	Line	PΕ
MHz	dΒμV	dB	dΒμV	dB			
000	36.40	10.6	60	23.1	QP	L1	GND
000	42.30	10.7	58	15.6	QP	L1	GND
000	36.00	10.9	56	20.0	QP	L1	GND
000	33.40	11.0	56	22.6	QP	L1	GND
000	28.40	11.2	60	31.6	QP	L1	GND
000	28.70	11.5	60	31.3	QP	L1	GND
	9:59AM ency MHz 0000 0000 0000 0000	MHz dBμV 0000 36.40 0000 42.30 0000 36.00 0000 33.40 0000 28.40	ency         Level         Transd           MHz         dBμV         dB           0000         36.40         10.6           0000         42.30         10.7           0000         36.00         10.9           0000         33.40         11.0           0000         28.40         11.2	Incy         Level dBμV         Transd dB dBμV           0000         36.40         10.6         60           0000         42.30         10.7         58           0000         36.00         10.9         56           0000         33.40         11.0         56           0000         28.40         11.2         60	Incy         Level         Transd dB μV         Limit dB μV         Margin dB           0000         36.40         10.6         60         23.1           0000         42.30         10.7         58         15.6           0000         36.00         10.9         56         20.0           0000         33.40         11.0         56         22.6           0000         28.40         11.2         60         31.6	Incy         Level         Transd         Limit         Margin         Detector           MHz         dBμV         dB         dBμV         dB           0000         36.40         10.6         60         23.1         QP           0000         42.30         10.7         58         15.6         QP           0000         36.00         10.9         56         20.0         QP           0000         33.40         11.0         56         22.6         QP           0000         28.40         11.2         60         31.6         QP	Incy         Level         Transd         Limit         Margin         Detector         Line           MHz         dBμV         dB         dBμV         dB         Detector         Line           0000         36.40         10.6         60         23.1         QP         L1           0000         42.30         10.7         58         15.6         QP         L1           0000         36.00         10.9         56         20.0         QP         L1           0000         33.40         11.0         56         22.6         QP         L1           0000         28.40         11.2         60         31.6         QP         L1

#### MEASUREMENT RESULT: "F2583-13 fin2"

59AM						
Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
24.80	10.6	49	23.9	AV	L1	GND
32.50	10.7	48	15.1	AV	L1	GND
24.50	11.0	46	21.5	AV	L1	GND
22.00	11.1	46	24.0	AV	L1	GND
16.40	11.2	50	33.6	AV	L1	GND
19.90	11.5	50	30.1	AV	L1	GND
	Level dBµV 24.80 32.50 24.50 22.00 16.40	Level dBμV dB  24.80 10.6 32.50 10.7 24.50 11.0 22.00 11.1 16.40 11.2	Level Transd Limit dBμV dB dBμV 24.80 10.6 49 32.50 10.7 48 24.50 11.0 46 22.00 11.1 46 16.40 11.2 50	Level dBμV         Transd dB dBμV         Limit dBμV         Margin dB           24.80         10.6         49         23.9           32.50         10.7         48         15.1           24.50         11.0         46         21.5           22.00         11.1         46         24.0           16.40         11.2         50         33.6	Level dBμV     Transd dB dBμV     Limit dBμV     Margin dB     Detector dB       24.80     10.6     49     23.9     AV       32.50     10.7     48     15.1     AV       24.50     11.0     46     21.5     AV       22.00     11.1     46     24.0     AV       16.40     11.2     50     33.6     AV	Level dBμV         Transd dBμV         Limit dBμV         Margin dB         Detector dB         Line dBμV           24.80         10.6         49         23.9         AV         L1           32.50         10.7         48         15.1         AV         L1           24.50         11.0         46         21.5         AV         L1           22.00         11.1         46         24.0         AV         L1           16.40         11.2         50         33.6         AV         L1

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#### ACCURATE TECHNOLOGY CO., LTD

#### CONDUCTED EMISSION STANDARD FCC PART 15

EUT: Songbird II Radio M/N:CR3034A-BH Manufacturer: TIMSEN INTERNATIONAL LIMITED

Operating Condition: BT OPERATION
Test Site: 1#Shielding Room

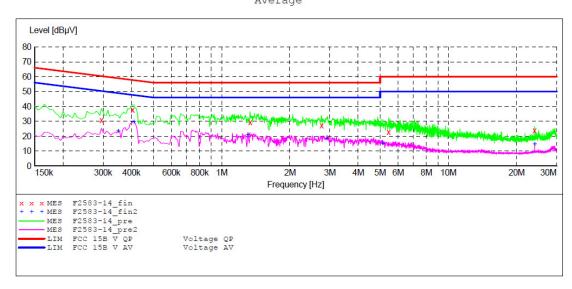
Operator: Frank

Test Specification: N 240V/60Hz

Comment: Report NO.:ATE20172583

#### SCAN TABLE: "V 9K-30MHz fin"

SUB STD VTERM2 1.70 Short Description: Start Stop Step Detector Meas. IF Transducer Frequency Frequency Width Time Bandw. QuasiPeak 1.0 s 9.0 kHz 150.0 kHz 100.0 Hz 200 Hz NSLK8126 2008 Average 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008 Average



#### MEASUREMENT RESULT: "F2583-14 fin"

1/8/2018 Freque	ncy Le	vel Transd BµV dB		Margin dB	Detector	Line	PE
0.295		.60 10.6	-	29.8	QP	N	GND
0.405	000 37	.50 10.7	58	20.3	QP	N	GND
1.335	000 29	.20 10.9	56	26.8	QP	N	GND
2.760	000 27	.20 11.0	56	28.8	QP	N	GND
5.450	000 22	.90 11.2	60	37.1	QP	N	GND
23.995	000 23	.70 11.5	60	36.3	OP	N	GND

#### MEASUREMENT RESULT: "F2583-14 fin2"

1	/8/2018 10:0 Frequency	3AM Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dBµV	dB	dΒμV	dB	Detector	ппе	FE
	0.350000	23.60	10.6	49	25.4	AV	N	GND
	0.410000	29.50	10.7	48	18.1	AV	N	GND
	1.305000	20.90	10.9	46	25.1	AV	N	GND
	2.910000	18.40	11.0	46	27.6	AV	N	GND
	5.130000	15.00	11.2	50	35.0	AV	N	GND
	23.995000	14.90	11.5	50	35.1	AV	N	GND

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#### ACCURATE TECHNOLOGY CO., LTD

#### CONDUCTED EMISSION STANDARD FCC PART 15

Songbird II Radio M/N:CR3034A-BH TIMSEN INTERNATIONAL LIMITED Manufacturer:

Operating Condition: BT OPERATION Test Site: 1#Shielding Room Operator: Frank

Test Specification: L 120V/60Hz

Report NO.:ATE20172583 Comment:

# SCAN TABLE: "V 9K-30MHz fin" Short Description: SU

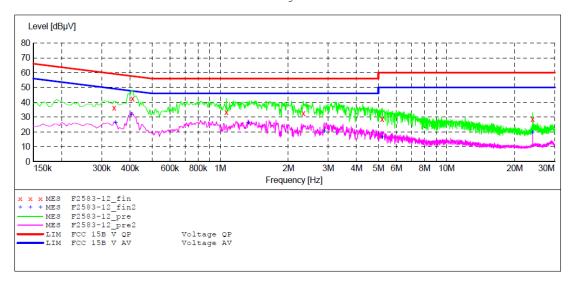
SUB STD VTERM2 1.70 Start Stop Step Detector Meas. IF Transducer Frequency Frequency Width Bandw. Time

9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008

Average

150.0 kHz 30.0 MHz QuasiPeak 1.0 s 5.0 kHz 9 kHz NSLK8126 2008

Average



#### MEASUREMENT RESULT: "F2583-12 fin"

1/	8/2018 9:55	5AM						
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.340000	36.30	10.6	59	22.9	QP	L1	GND
	0.410000	42.50	10.7	58	15.1	QP	L1	GND
	1.065000	33.40	10.9	56	22.6	QP	L1	GND
	2.330000	32.40	11.0	56	23.6	QP	L1	GND
	5.190000	28.60	11.2	60	31.4	ÕΡ	L1	GND
	23.995000	28.40	11.5	60	31.6	QP	L1	GND

#### MEASUREMENT RESULT: "F2583-12 fin2"

	8 9:55A quency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.3	45000	26.50	10.6	49	22.6	AV	L1	GND
0.4	05000	31.70	10.7	48	16.1	AV	L1	GND
1.3	30000	26.40	10.9	46	19.6	AV	L1	GND
2.8	80000	20.60	11.0	46	25.4	AV	L1	GND
5.1	90000	16.70	11.2	50	33.3	AV	L1	GND
23.9	95000	19.90	11.5	50	30.1	AV	L1	GND

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#### ACCURATE TECHNOLOGY CO., LTD

#### CONDUCTED EMISSION STANDARD FCC PART 15

EUT: Songbird II Radio M/N:CR3034A-BH Manufacturer: TIMSEN INTERNATIONAL LIMITED

Operating Condition: BT OPERATION
Test Site: 1#Shielding Room

Operator: Frank

Test Specification: N 120V/60Hz

Comment: Report NO.:ATE20172583

# SCAN TABLE: "V 9K-30MHz fin" Short Description: SU

Short Description: SUB STD VTERM2 1.70

Start Stop Step Detector Meas. IF Transducer

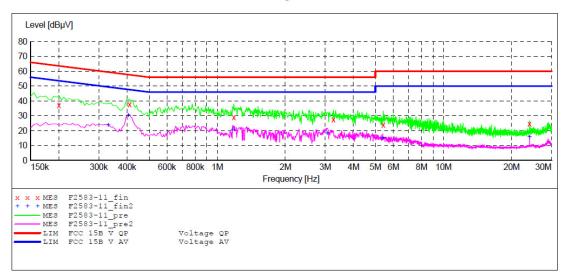
Frequency Frequency Width Time Bandw.

9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008

Average

150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



#### MEASUREMENT RESULT: "F2583-11 fin"

1/8/2018 9:51	AM						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dΒμV	dB	dΒμV	dB			
0.200000	37.00	10.5	64	26.6	QP	N	GND
0.410000	37.80	10.7	58	19.8	QP	N	GND
1.185000	29.10	10.9	56	26.9	QP	N	GND
3.260000	27.40	11.1	56	28.6	QP	N	GND
5.420000	23.70	11.2	60	36.3	QP	N	GND
23 995000	24 40	11 5	60	35 6	OP	M	CMD

### MEASUREMENT RESULT: "F2583-11 fin2"

1	/8/2018 9:51	AM						
	Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
	PHIZ	αвμν	uБ	αБμν	aв			
	0.330000	24.00	10.6	50	25.5	AV	N	GND
	0.405000	30.30	10.7	48	17.5	AV	N	GND
	1.170000	21.10	10.9	46	24.9	AV	N	GND
	3.060000	18.30	11.1	46	27.7	AV	N	GND
	5.390000	15.00	11.2	50	35.0	AV	N	GND
	23,995000	15.80	11.5	50	34.2	AV	N	GND



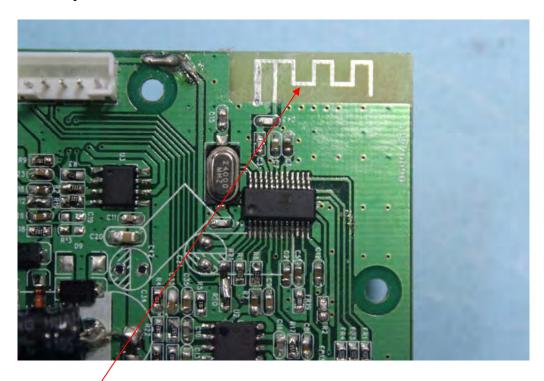
## 13.ANTENNA REQUIREMENT

### 13.1.The Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### 13.2. Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Max Antenna gain of EUT is 2dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna