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# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

# INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT CLASS II PERMISSIVE CHANGE

OF

Product Name:	BlueSPEAK
Brand Name:	i.Tech
Model Name:	C51-A05035-XX
FCC ID:	RKIC51-A05035-XX
Report No.:	EF/2005/90010-04
Issue Date:	Jan. 24, 2006
FCC Rule Part:	§15.247
Prepared for	i.Tech Dynamic Limited
	Room 1112, Metroplaza, Tower 2, 223 Hing Fong Road, Kwai Chung, N.T Hong Kong
Prepared by	SGS Taiwan Ltd.
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# **VERIFICATION OF COMPLIANCE**

Applicant:	i.Tech Dynamic Limited				
	Room 1112, Metroplaza, Tower 2, 223 Hing Fong Road, Kwai Chung, N.T Hong Kong				
Equipment Under Test:	BlueSPEAK				
Brand Name:	i.Tech				
FCC ID Number:	RKIC51-A05035-XX				
Model No.:	C51-A05035-XX				
Model Difference:	N/A				
File Number:	EF/2005/90010-04				
Date of test:	Jan. 16, 2006 ~ Jan. 23, 2006				
Date of EUT Received:	Jan. 16, 2005				

# We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.247

The test results of this report relate only to the tested sample identified in this report.

Test By:	Henk Huang	Date	Jan. 24, 2006	
	Henk Huang			
Prepared By:	Gigi yeh	Date	Jan. 24, 2006	
	Gigi Yeh			
Approved By:	Timent du	Date	Jan. 24, 2006	
—	Vincent Su			

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# Version

Version No.	Date
00	Jan. 24, 2006

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# **1. GENERAL INFORMATION**

### **1.1. Product Description**

The i.Tech Dynamic Limited, Model: C51-A05035-XX (referred to as the EUT in this report) is a Bluetooth Car Kit.

A major technical descriptions of EUT is described as following:

A). Operation Frequency: 2402 – 2480Hz, 79 channels

B). Rated output power: 1.50 dBm

C). Modulation type: Frequency Hopping Spread Spectrum (FHSS)

D). Antenna Designation: Chip Antenna, 1.2 dBi, Non-User Replaceable (Fixed)

E). Power Supply: Input: 12V~24Vdc from Car Battery

## **1.2.** Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: <u>**RKIC51-A05035-XX**</u> filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules. The composite system (Digital Device) is compliance with Subpart B is authorized under a DoC procedure.

## 1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

## 1.4. Test Facility

The test facilities used to perform radiated and conducted emissions tests are listed In Canada, Certification and Engineering Bureau, IC4620. for 3m & 10m Open Area Test Site. FCC Site No. 1(3 &10 meters) Registration Number: 94644, Both OATS and Anechoic chamber (3 meters) was accredited by CNLA (0513) and NVLAP (200704-0).

## **1.5.** Special Accessories

Not available for this EUT intended for grant.

## **1.6. Equipment Modifications**

Not available for this EUT intended for grant.



# 2. SYSTEM TEST CONFIGURATION

#### **2.1. EUT Configuration**

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

#### 2.2. EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements.

### 2.3. Test Procedure

#### 2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 7 and 13 of ANSI C63.4-2003.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and Average detector mode.

#### 2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and 13 of ANSI C63.4-2003.





# 2.4. Configuration of Tested System

#### Fig. 2-1 Configuration of Tested System



### Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	FCC ID	Series No.	Data Cable	Power Cord
1.	Notebook	IBM	PSA10L-3V1JDP	N/A	Z3062680P	N/A	Un-shielding
2.	CASIRA	CSR	BCES301199/1	N/A	7383070403	N/A	Un-shielding
3.	DC Power Supply	TOPWARD	3303A	N/A	715856	N/A	Un-shielding

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# 3. SUMMARY OF TEST RESULTS

FCC Rules	<b>Description Of Test</b>	Result
§15.247(c)	100 KHz Bandwidth Of Fre-	Compliant
	quency Band Edges	
§15.209(a) (f)	Spurious Emission	Compliant

# 4. DESCRIPTION OF TEST MODES

The EUT has been tested under Engineering mode for staying in continuous transmitting and receiving.

This is Class II Per Change report, channel low (2402MHz) 
, mid (2441MHz) and high (2480MHz)

with 741k highest data rate are chosen for spurious emission and band edge testing

Additionally, the audio-in mode for radiated spurious emission was tested.



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# 5. 100KHz BANDWIDTH OF BAND EDGES MEASUREMENT

## 5.1. Standard Applicable

According to §15.247(c), in any 100 KHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100KHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in15.209(a).

## 5.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer = operating frequency.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz, Span=25MHz, Sweep = auto
- 5. Mark Peak, 2.390GHz and 2.4835GHz and record the max. level.
- 6. Repeat above procedures until all frequency measured were complete.
- 7. Radiated Emission refer to section 9.

## 5.3. Measurement Result

Refer to attach spectrum analyzer data chart.

Conducted Emission Test Site							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.		
TYPE		NUMBER	NUMBER	CAL.			
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2005	03/28/2006		
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2005	06/29/2006		
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2005	11/10/2006		
Low Loss Cable	HUBER+SUHNE R	SUCOFLEX 104PEA	N/A	N/A	N/A		
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2005	10/06/2006		
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006		
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2005	10/06/2006		

#### 5.4. Measurement Equipment Used:

Note: Measurement Equipment for radiated emission refers to section 9.

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# Conducted Emission: Test Data CH-Low







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# **Conducted Emission: Test Data CH-High**





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#### **Radiated Emission:**

Operation Mode	TX CH Low	Test Date	Jan. 22, 2006
Fundamental Frequency	2402 MHz	Test By	Henk
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

	Peak	AV		Actu	al FS	Peak	AV	
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/n	n) (dB)
2378.0						74.00	54.00	
2386.1						74.00	54.00	
Operation	Mode	TX	CH Low			Tes	st Date	Jan. 22, 2006
Fundamer	ntal Freque	ency 2402	2 MHz			Tes	st By	Henk
Temperat	ure	25 °	Ċ			Pol		Hor.
Humidity		65 %	<b>0</b>					
	Peak	AV		Actu	al FS	Peak	AV	
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/n	n) (dB)
2378.0						74.00	54.00	
2386.1						74.00	54.00	

Remark :

- (1) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °

(3) Spectrum Peak Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.

(4) Spectrum AV Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



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#### **Radiated Emission:**

Operation Mode	TX CH High	Test Date	Jan. 22, 2006
Fundamental Frequency	2480 MHz	Test By	Henk
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

	Peak	AV		Actu	al FS	Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m	) (dBuV/m)	(dBuV/n	n) (dB)	
2483.5						74.00	54.00		Peak
2488.0						74.00	54.00		Peak
2496.0						74.00	54.00		Peak
Operatior Fundame Temperat Humidity	n Mode ntal Freque ure	TX ( ency 2480 25 ( 65 %	CH High 0 MHz °C %			Te: Te: Pol	st Date st By	Jan. 22, 2 Henk Hor.	006
	Peak	AV		Actu	al FS	Peak	AV		
Frea	Reading	Reading	Ant/CL	Peak	AV	Limit	Limit	Margin	Remark

			5	1 0 0 1 1		2		
_	(MHz)	(dBuV)	(dBuV) CF(dB)	(dBuV/m)	(dBuV/m) (dBuV/m	)(dBuV/m)	(dB)	
	2483.5				74.00	54.00		Peak
	2488.0				74.00	54.00		Peak
	2496.0				74.00	54.00		Peak

Remark :

- (1) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (3) Spectrum Peak Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (4) Spectrum AV Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



# 6. SPURIOUS RADIATED EMISSION TEST

## 6.1. . Standard Applicable

According to \$15.247(c), all other emissions outside these bands shall not exceed the general radiated emission limits specified in \$15.209(a). And according to \$15.33(a)(1), for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

## 6.2. EUT Setup

- 1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.4-2003.
- 2. The EUT was put in the front of the test table. The peripherals was placed on the side of the host system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The spacing between the peripherals was 10 centimeters.
- 4. External I/O cables were draped along the edge of the test table and bundle when necessary.
- 5. The host PC system was connected with 110Vac/60Hz power source.

## 6.3. Measurement Procedure

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until all frequency measured were complete.



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# 6.4. Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1000MHz





# 6.5. Measurement Equipment Used:

966 Chamber									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.				
ТҮРЕ		NUMBER	NUMBER	CAL.					
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2005	05/26/2006				
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2005	08/26/2006				
Bilog Antenna	SCHWAZBECK	VULB9163	152	06/03/2005	06/02/2006				
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2005	08/15/2006				
Horn antenna	Schwarzbeck	BBHA 9170	184/185	07/04/2005	07/03/2006				
Pre-Amplifier	HP	8447D	2944A09469	07/19/2005	07/18/2006				
Pre-Amplifier	HP	8494B	3008A00578	02/26/2005	02/25/2006				
Turn Table	HD	DT420	N/A	N.C.R	N.C.R				
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R				
Controller	HD	HD100	N/A	N.C.R	N.C.R				
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	10/09/2005	10/08/2006				
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2005	10/08/2006				
Site NSA	SGS	966 chamber	N/A	11/17/2005	11/16/2006				

## 6.6. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

# FS = RA + AF + CL - AG

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

## 6.7. Measurement Result

Refer to attach tabular data sheets.



# Conducted Spurious Emission Measurement Result Ch Low 30MHz – 3GHz



# Ch Low 3GHz – 26.5GHz





# Ch Mid 30MHz – 3GHz



# Ch Mid 3GHz – 26.5GHz





# Ch High 30MHz – 3GHz









Operation Mode	TX CH Low	Test Date	Jan. 20, 2006
Fundamental Frequency	2402MHz	Test By	Henk
Temperature	25 °C	Pol	Ver./Hor.
Humidity	65 %		

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
 (MHz)	H/V	(PK/QP)	(dBuV)	( <b>dB</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )
30.00	V	Peak	43.17	-15.29	27.88	40.00	-12.12
274.44	V	Peak	41.05	-14.38	26.67	46.00	-19.33
599.39	V	Peak	35.59	-7.64	27.95	46.00	-18.05
99.84	Н	Peak	47.31	-17.23	30.08	43.50	-13.42
300.63	Н	Peak	50.76	-13.37	37.39	46.00	-8.61
596.48	Н	Peak	42.46	-7.68	34.78	46.00	-11.22

#### Remark :

(1) Measuring frequencies from 30 MHz to the 1GHz  $\circ$ 

- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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#### **Radiated Spurious Emission Measurement Result (below 1GHz)**

Operation Mode	TX CH Mid	Test Date	Jan. 20, 2006
Fundamental Frequency	2441MHz	Test By	Henk
Temperature	25 °C	Pol	Ver./Hor.
Humidity	65 %		

	Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
_	(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
	32.91	V	Peak	47.20	-15.17	32.03	40.00	-7.97
	300.63	V	Peak	40.07	-13.37	26.70	46.00	-19.30
	623.64	V	Peak	34.87	-7.10	27.77	46.00	-18.23
	99.84	Н	Peak	46.70	-17.23	29.47	43.50	-14.03
	300.63	Н	Peak	49.50	-13.37	36.13	46.00	-9.87
	599.39	Н	Peak	42.65	-7.64	35.01	46.00	-10.99

Remark :

(1) Measuring frequencies from 30 MHz to the 1GHz  $\circ$ 

- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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#### **Radiated Spurious Emission Measurement Result (below 1GHz)**

Operation Mode	TX CH High	Test Date	Jan. 20, 2006
Fundamental Frequency	2480MHz	Test By	Henk
Temperature	25 °C	Pol	Ver./Hor.
Humidity	65 %		

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
 (MHz)	H/V	(PK/QP)	(dBuV)	( <b>dB</b> )	(dBuV/m)	(dBuV/m)	(dB)
 30.00	V	Peak	40.36	-15.29	25.07	40.00	-14.93
320.03	V	Peak	38.15	-12.80	25.35	46.00	-20.65
499.48	V	Peak	35.75	-9.30	26.45	46.00	-19.55
99.84	Н	Peak	47.60	-17.23	30.37	43.50	-13.13
300.63	Н	Peak	50.53	-13.37	37.16	46.00	-8.84
599.39	Н	Peak	42.79	-7.64	35.15	46.00	-10.85

Remark :

(1) Measuring frequencies from 30 MHz to the 1GHz  $\circ$ 

- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



Operation M Fundamenta Temperatur Humidity	Mode al Frequen re	TX CI cy 2402 M 25 °C 65 %	H Low MHz			Test Test Pol	Date By	Jan. 20, 2006 Henk Ver.	<u>,</u>
	Peak	AV		Act	ual FS	Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m	) (dBuV/m)	(dBuV/m)	(dBuV/i	m) (dB)	-
1598.0	38.30		-6.81	31.49		74.00	54.00	-22.51	Peak
7323.0									
9764.0									
12205.0									
14646.0									
17087.0									
19528.0									
21969.0									
24410.0									

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency  $\circ$
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (4) Spectrum Peak Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (5) Spectrum AV Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



Operation Mode	TX CH Low	Test Date	Jan. 20, 2006
Fundamental Frequency	2402 MHz	Test By	Henk
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

	Peak	AV		Actu	al FS	Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	-
1598.0	39.98		-6.81	33.17		74.00	54.00	-20.83	Peak
7323.0									
9764.0									
12205.0									
14646.0									
17087.0									
19528.0									
21969.0									
24410.0									

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency  $\circ$
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (4) Spectrum Peak Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (5) Spectrum AV Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



Operation Mode	TX CH Mid	Test Date	Jan. 20, 2006
Fundamental Frequency	2441 MHz	Test By	Henk
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

	Peak	AV		Actu	al FS	Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	_
1630.5	38.51		-6.64	31.87		74.00	54.00	-22.13	Peak
7323.0									
9764.0									
12205.0									
14646.0									
17087.0									
19528.0									
21969.0									
24410.0									

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency  $\circ$
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (4) Spectrum Peak Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (5) Spectrum AV Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



Operation M Fundamenta Temperatur Humidity	Mode al Frequen e	TX CI cy 2441 M 25 °C 65 %	H Mid MHz			Test Test Pol	Date By	Jan. 20, 2006 Henk Hor.	<u>,</u>
	Peak	AV		Act	ual FS	Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m	) (dBuV/m)	(dBuV/m)	(dBuV/r	n) (dB)	_
1630.5	40.42		-6.64	33.78		74.00	54.00	-20.22	Peak
7323.0									
9764.0									
12205.0									
14646.0									
17087.0									
19528.0									
21969.0									
24410.0									

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency °
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (4) Spectrum Peak Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (5) Spectrum AV Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



Operation M Fundamenta Temperatur Humidity	Mode al Frequen e	TX CI cy 2480 N 25 °C 65 %	H High MHz			Test Test Pol	Date By	Jan. 20, 2006 Henk Ver.	<b>,</b>
	Peak	AV		Actu	ual FS	Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	) (dBuV/m)	(dBuV/m)	(dBuV/r	n) (dB)	-
1643.5	38.43		-6.60	31.83		74.00	54.00	-22.17	Peak
7323.0									
9764.0									
12205.0									
14646.0									
17087.0									
19528.0									
21969.0									
24410.0									

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency  $\circ$
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (4) Spectrum Peak Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (5) Spectrum AV Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



Operation M Fundamenta Temperatur Humidity	Mode al Frequen re	TX CI cy 2480 M 25 °C 65 %	H High MHz			Test Test Pol	Date J By I	lan. 20, 2006 Henk Hor.	
Freq	Peak Beading	AV Reading	Ant /CI	Act	ual FS	Peak Limit	AV Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m	A v ) (dBuV/m)	(dBuV/m)	(dBuV/n	n) (dB)	
1643.5	42.10		-6.60	35.50		74.00	54.00	-18.50	Peak
7323.0									
9764.0									
12205.0									
14646.0									
17087.0									
19528.0									
21969.0									
24410.0									

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency °
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (4) Spectrum Peak Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (5) Spectrum AV Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.