



Most Technology Service Co., Ltd.  
Tel:(86) 755-26825180 Fax:(86) 755-86170310  
Http:// www. szmost.com Email: szmost@szmost.com

**Test Report**

Product Name: UHF RFID READER

FCC ID: WKX-RFID001

MODEL NO. : MR6034E, MR6021A, MR6011A, MR6032A, MR6061A, MR6051A, MR6081A

Applicant:

SHENZHEN MARKTRACE CO., LTD.  
5/F, 6<sup>th</sup> BUILDING, AN'LE INDUSTRIAL AREA, GUANKOU THE SECOND ROAD, NANSHAN,  
SHENZHEN, GUANGDONG, CHINA

**Date Received: 08/01/2008-08/13/2008**

**Date Tested: 08/13/2008**

APPLICANT: SHENZHEN MARKTRACE CO., LTD.  
FCC ID: WKX-RFID001

Cover Sheet



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**FCC ID:** WKX-RFID001

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APPLICANT: SHENZHEN MARKTRACE CO., LTD.  
 FCC ID: WKX-RFID001

**SHENZHEN MARKTRACE CO., LTD.**

5/F, 6<sup>th</sup> BUILDING, AN'LE INDUSTRIAL AREA, GUANKOU THE SECOND ROAD,  
NANSHAN, SHENZHEN, GUANGDONG, CHINA

**LETTER OF EXPLANATION**

August 13, 2008

Federal Communications Commission  
Authorization and Evaluation Division  
7435 Oakland Mills Road  
Columbia, MD 21046

SUBJECT: explanation of device

FCC ID: WKX-RFID001

To Whom It May Concern:

The attached application is for a 902.5-927.0MHz RFID device.

The unit employs four external antennas. The each antenna has a gain of +5.0 dBi. But at the same time, only one antenna can work.

The antenna connector is type N. In the user manual, we add the statement: "the device and antenna must be professionally installed."

Should you have any questions or require any further information with regards to this, please feel free to contact me.

Sincerely,

*Gao Jun*

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Gao Jun  
(manager)



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## EMC Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100492	Apr 05,2008	1 Year
LISN	ROHDE&SCHWARZ	ENV216	100093	Apr 05,2008	1Year
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	101202	Apr 05,2008	1 Year
Spectrum Analyzer	ANRITSU	MS2651B	6200238316	Apr 05,2008	1 Year
50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Apr 05,2008	1 Year
Bilog Antenna	Sunol	JB3	A121206	Apr 05,2008	1 Year
Horn Antenna	EMCO	3115	640201028-06	Apr 05,2008	1 Year
50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Apr 05,2008	1 Year
Cable	Resenberger	N/A	NO.1	Apr 05,2008	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Apr 05,2008	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Apr 05,2008	1 Year
Single Phase Power Line Filter	Kikusui	LIN40MA-PC R-L	LM002352	Apr 05,2008	1Year
AC Power Source	Kikusui	AC40MA	LM003232	Apr 05,2008	1Year
Test analyzer	Kikusui	KHA1000	LM003720	Apr 05,2008	1Year
ESD Tester	Kikusui	KES4021	LM003537	Apr 05,2008	1 Year
Signal Generator	IFR	2032	203002/100	Apr 05,2008	1 Year
Amplifier	A&R	150W1000	301584	NCR	NCR
Dual Directional Coupler	A&R	DC6080	301508	Apr 05,2008	1 Year
Power Head	A&R	PH2000	301193	Apr 05,2008	1 Year
Power Meter	A&R	PM2002	302799	Apr 05,2008	1 Year
Field Monitor	A&R	FM5004	300329	Apr 05,2008	1 Year
Field Probe	A&R	FP5000	300221	Apr 05,2008	1 Year
EMC PRO System	EM Test	UCS-500-M4	V0648102026	Apr 05,2008	1 Year
EMC PRO System	EM Test	UCS-500-M4	V0648102026	Apr 05,2008	1 Year

Remark:

Test Firm Name: Most Technology Service Co., Ltd.

Test Firm Address:

No. 5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China

FCC Registered Test Site Number: 490827

APPLICANT: SHENZHEN MARKTRACE CO., LTD.

FCC ID: WKX-RFID001



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## TEST PROCEDURE

**GENERAL:** This report shall NOT be reproduced except in full without the written approval of MOST TECHNOLOGY SERVICE CO., LTD. The EUT was transmitting a test signal during the testing.

**POWER LINE CONDUCTED INTERFERENCE:** The test procedure used was ANSI Standard C63.4-2003 using a 50 uH LISN. Both Lines were observed. The bandwidth of the receiver was 10kHz with an appropriate sweep speed. The ambient temperature of the EUT was 25 °C with a humidity of 58%.

**RADIATION INTERFERENCE:** The test procedure used was ANSI Standard C63.4-2003 using a ANRITSU spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3 MHz above 1 GHz. The ambient temperature of the EUT was 25°C with a humidity of 58%.

**FORMULA OF CONVERSION FACTORS:** The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer and cable loss. The antenna correction factors and cable loss are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

Freq (MHz) METER READING + ACF + CABLE = FS  
33                      20 dBuV + 10.36 dB + 0.9 dB= 31.26 dBuV/m @ 3m

**ANSI STANDARD C63.4-2003 10.1.7 MEASUREMENT PROCEDURES:** The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to 10th harmonic of the fundamental.

Peak readings were taken in three (3) orthogonal planes and the highest readings were converted to average readings based on the duration of "ON" time.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSI Standard C63.4-2003 10.1.7 with the EUT 40 cm from the vertical ground wall.



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**APPLICANT:** SHENZHEN MARKTRACE CO., LTD.  
**FCC ID:** WKX-RFID001  
**NAME OF TEST:** POWER LINE CONDUCTED INTERFERENCE  
**RULES PART NUMBER:** 15.107

MINIMUM REQUIREMENTS:	FREQUENCY	LEVEL	
	MHz	dB u V	
		QP	AV
	0.15-0.5	66 to 56*	56 to 46*
	0.5-0.5	56	46
	5-30	60	50

\*Decreases with the logarithm of the frequency

**TEST PROCEDURE:** ANSI STANDARD C63.4-2003  
**TEST RESULTS:** The unit DOES meet the FCC requirements.

THE HIGHEST EMISSION READ FOR LINE 1 WAS 43.7dB u V(QP) and 42.9dB u V(AV) @ 4700kHz.  
 THE HIGHEST EMISSION READ FOR LINE 2 WAS 40.87dB u V(AV) @4642kHz.

THE PLOTS ON THE NEXT PAGE REPRESENT THE EMISSIONS READ FOR POWER LINE CONDUCTED FOR THIS DEVICE.

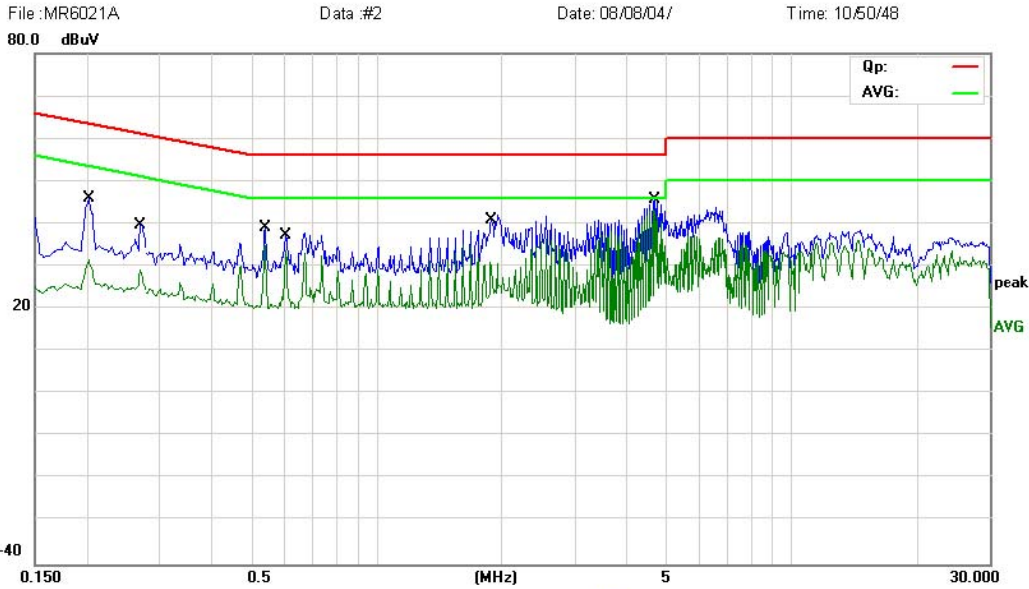


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**Conducted Emission Measurement**



Site site #1 Phase: **L1** Temperature: 26  
 Limit: FCC Part15 B Class B QP Power: AC 120V/60Hz Humidity: 60 %  
 EUT: UHF RFID READER  
 MN: MR6034E  
 Mode:  
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.2020	31.80	11.99	43.79	63.52	-19.73	QP	
2		0.2020	19.20	11.99	31.19	53.52	-22.33	AVG	
3		0.2700	26.40	11.53	37.93	61.12	-23.19	QP	
4		0.2700	17.80	11.53	29.33	51.12	-21.79	AVG	
5		0.5380	27.60	10.00	37.60	56.00	-18.40	QP	
6		0.5380	26.50	10.00	36.50	46.00	-9.50	AVG	
7		0.6060	26.30	10.00	36.30	56.00	-19.70	QP	
8		0.6060	24.50	10.00	34.50	46.00	-11.50	AVG	
9		1.9000	27.00	9.10	36.10	56.00	-19.90	QP	
10		1.9000	21.00	9.10	30.10	46.00	-15.90	AVG	
11		4.7000	32.00	11.70	43.70	56.00	-12.30	QP	
12	*	4.7000	31.20	11.70	42.90	46.00	-3.10	AVG	

\*:Maximum data x:Over limit l:over margin



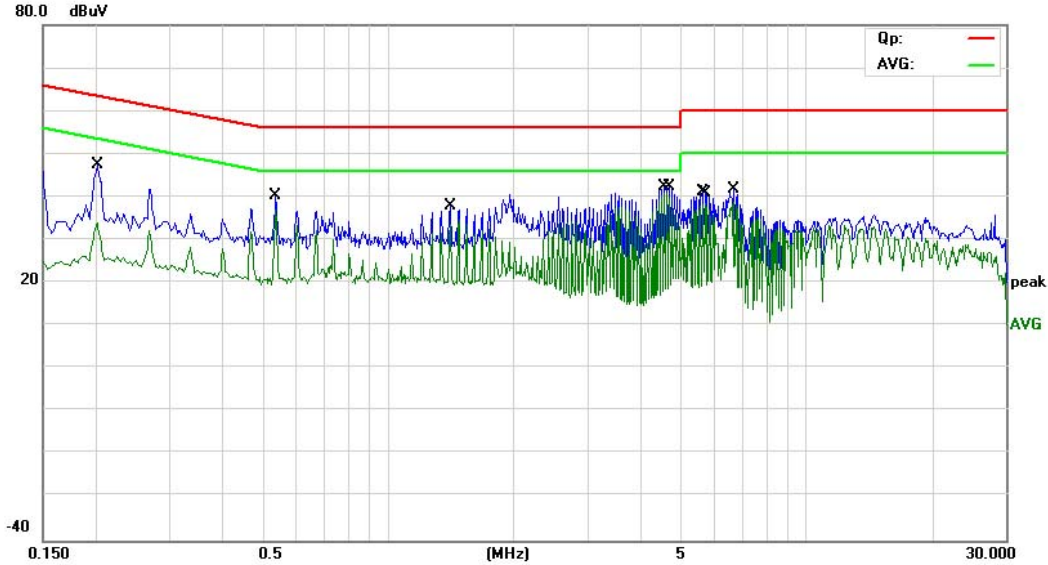
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**Conducted Emission Measurement**

File: MR6021A Data: #3 Date: 08/08/04 Time: 10:57:49



Site: site #1 Phase: **N** Temperature: 25  
 Limit: FCC Part15 B Class B QP Power: AC 120V/60Hz Humidity: 60 %  
 EUT: UHF RFID READER  
 M/N: MR6034E  
 Mode:  
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2020	35.42	11.99	47.41	63.52	-16.11	QP	
2		0.2020	22.08	11.99	34.07	53.52	-19.45	AVG	
3		0.5380	30.13	10.00	40.13	56.00	-15.87	QP	
4		0.5380	26.96	10.00	36.96	46.00	-9.04	AVG	
5		1.4140	28.23	9.59	37.82	56.00	-18.18	QP	
6		1.4140	24.05	9.59	33.64	46.00	-12.36	AVG	
7		4.5739	30.76	11.57	42.33	56.00	-13.67	QP	
8	*	4.6420	29.23	11.64	40.87	46.00	-5.13	AVG	
9		5.6500	29.56	11.61	41.17	60.00	-18.83	QP	
10		5.7180	26.84	11.57	38.41	50.00	-11.59	AVG	
11		6.7260	30.78	10.96	41.74	60.00	-18.26	QP	
12		6.7260	27.82	10.96	38.78	50.00	-11.22	AVG	

\*:Maximum data x:Over limit l:over margin





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**FCC ID:** WKX-RFID001

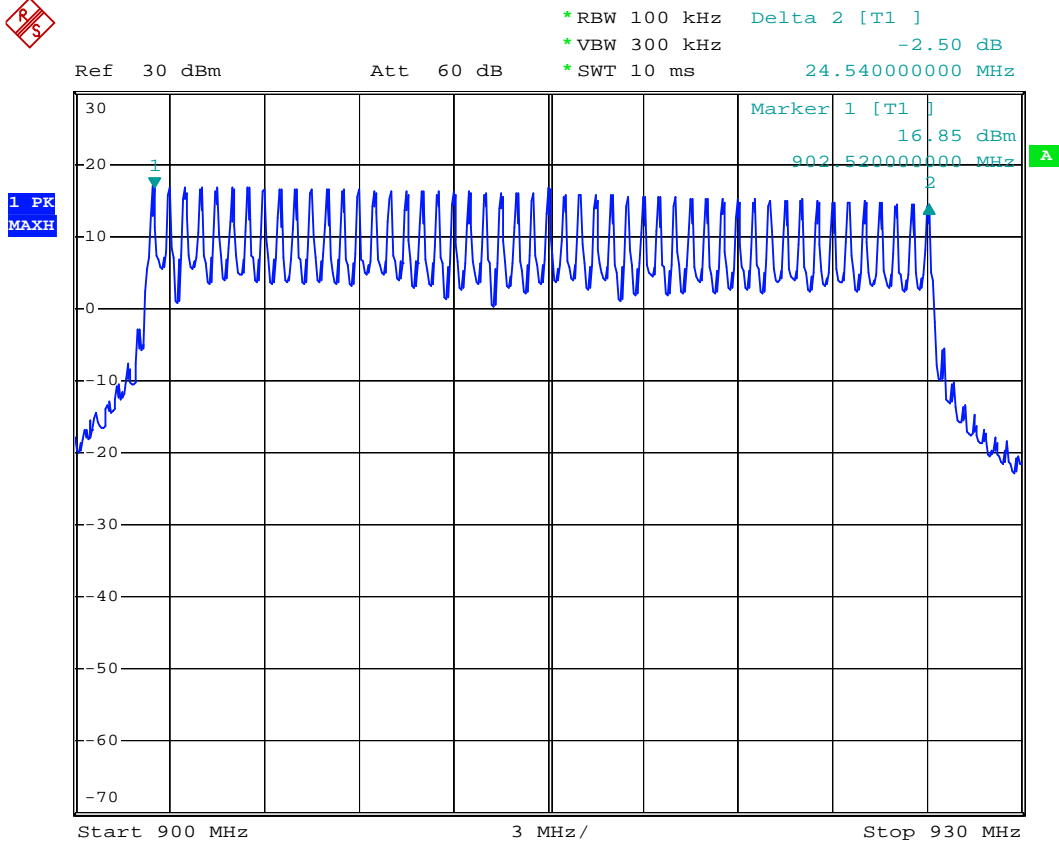
**NAME OF TEST:** NUMBER OF HOPPING FREQUENCY

**RULES PART NUMBER:** 15.247.(a)(1)(i)

**REQUIREMENTS:** a.If the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies.  
 b.If the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies.

**TEST RESULTS:** The unit DOES meet the FCC requirements.

Frequency Block(MHz)	Measured channel No.	Limited	result
902.5-927.0	50	at least 25	pass



Date: 1.AUG.2008 15:07:08

APPLICANT: SHENZHEN MARKTRACE CO., LTD.  
 FCC ID: WKX-RFID001



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**APPLICANT:** SHENZHEN MARKTRACE CO., LTD.

**FCC ID:** WKX-RFID001

**NAME OF TEST:** PEAK OUTPUT POWER

**RULES PART NUMBER:** 15.247.(b)(2)

**REQUIREMENTS:** The maximum peak conducted output power of the intentional radiator shall not exceed 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels.

**TEST RESULTS:** The unit DOES meet the FCC requirements.

Channel	Frequency (MHz)	Measured Output Peak Power(dBm)	Limited(dBm)	Result
1	902.5	16.79	30	pass
25	915.0	12.73	30	pass
50	927.0	14.68	30	pass



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Low

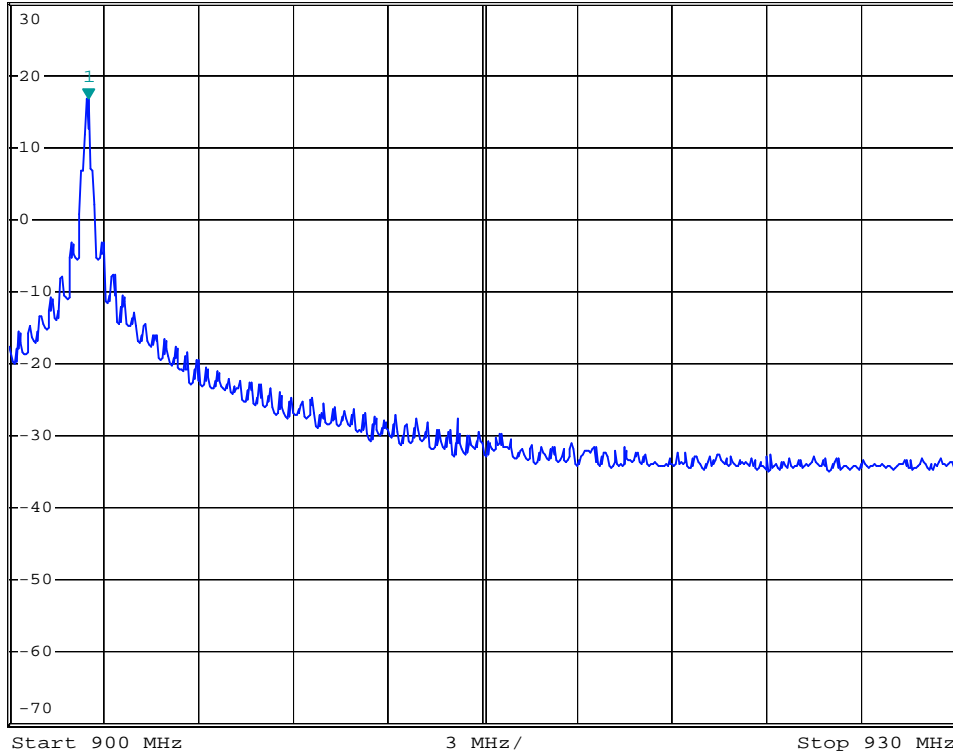


\*RBW 100 kHz Marker 1 [T1 ]  
\*VBW 300 kHz 16.79 dBm  
\*SWT 5 ms 902.50000000 MHz

Ref 30 dBm

Att 60 dB

1 PK  
MAXH



Date: 1.AUG.2008 15:21:11

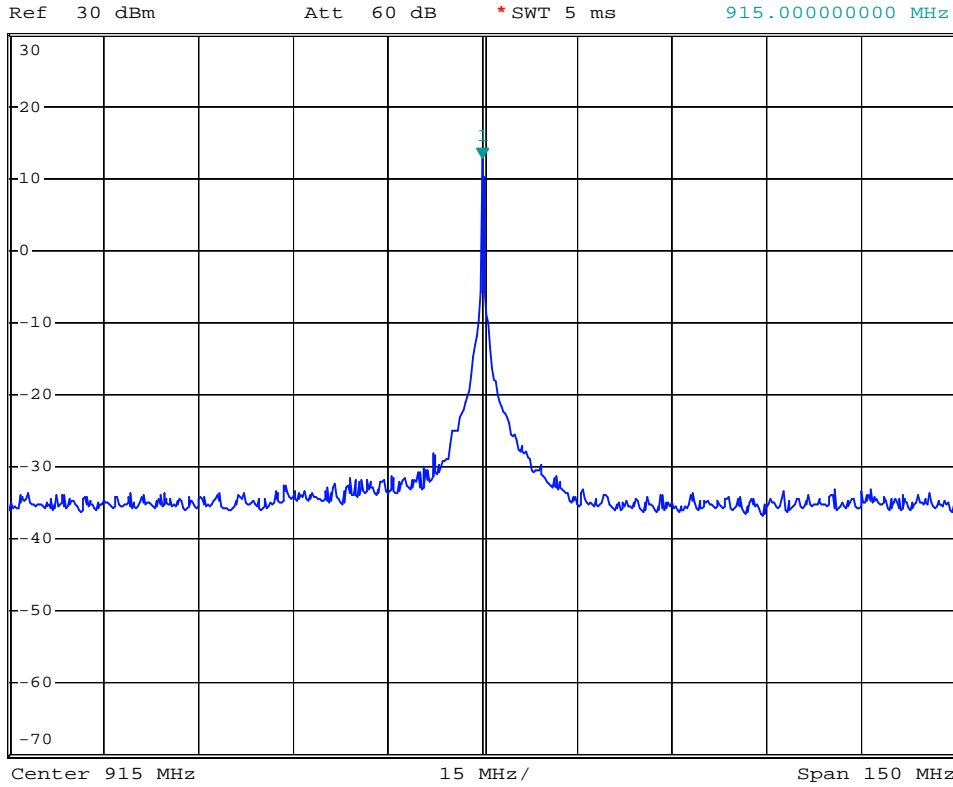


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Middle:



\*RBW 100 kHz Marker 1 [T1 ]  
\*VBW 300 kHz 12.73 dBm  
\*SWT 5 ms 915.00000000 MHz



Date: 1.AUG.2008 14:51:22



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High



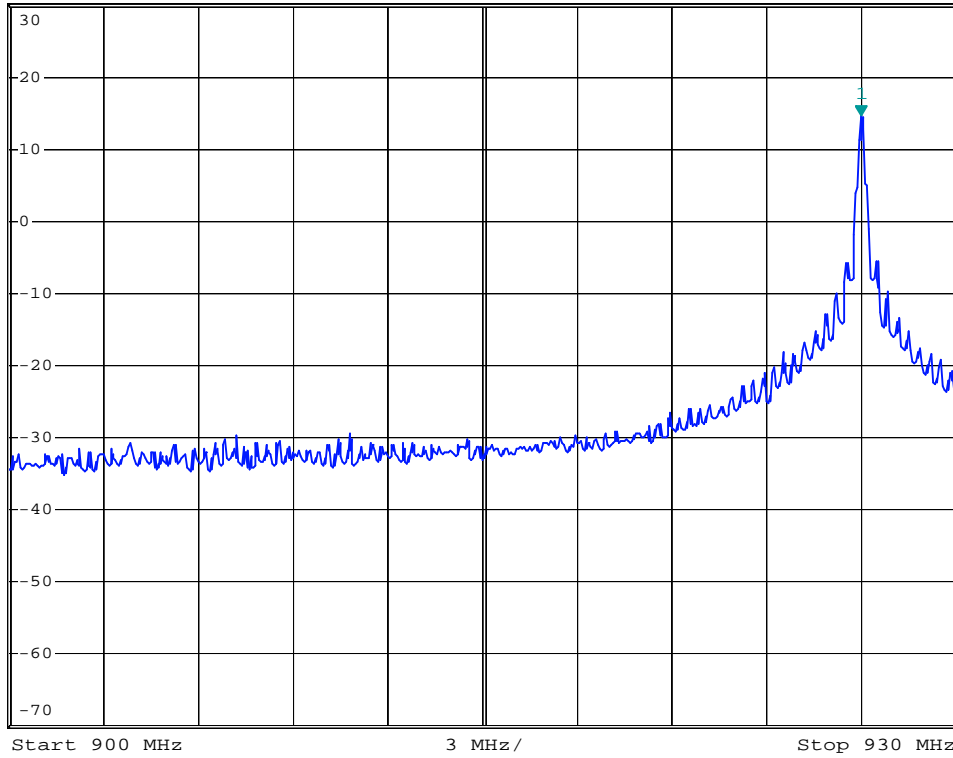
\*RBW 100 kHz Marker 1 [T1 ]  
\*VBW 300 kHz 14.68 dBm  
\*SWT 5 ms 927.00000000 MHz

Ref 30 dBm

Att 60 dB

927.00000000 MHz

1 PK  
MAXH



Date: 1.AUG.2008 15:23:22



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**APPLICANT:** SHENZHEN MARKTRACE CO., LTD.  
**FCC ID:** WKX-RFID001  
**NAME OF TEST:** 20dB Bandwidth  
**RULES PART NUMBER:** 15.247.(a)(1)(i)  
**REQUIREMENTS:** The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

**TEST RESULTS:** The unit DOES meet the FCC requirements.

Channel	Frequency (MHz)	Measured 20dB bandwidth(KHz)	Limited(KHz)	Result
1	902.5	346	500	pass
25	915.0	346	500	pass
50	927.0	346	500	pass



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Low



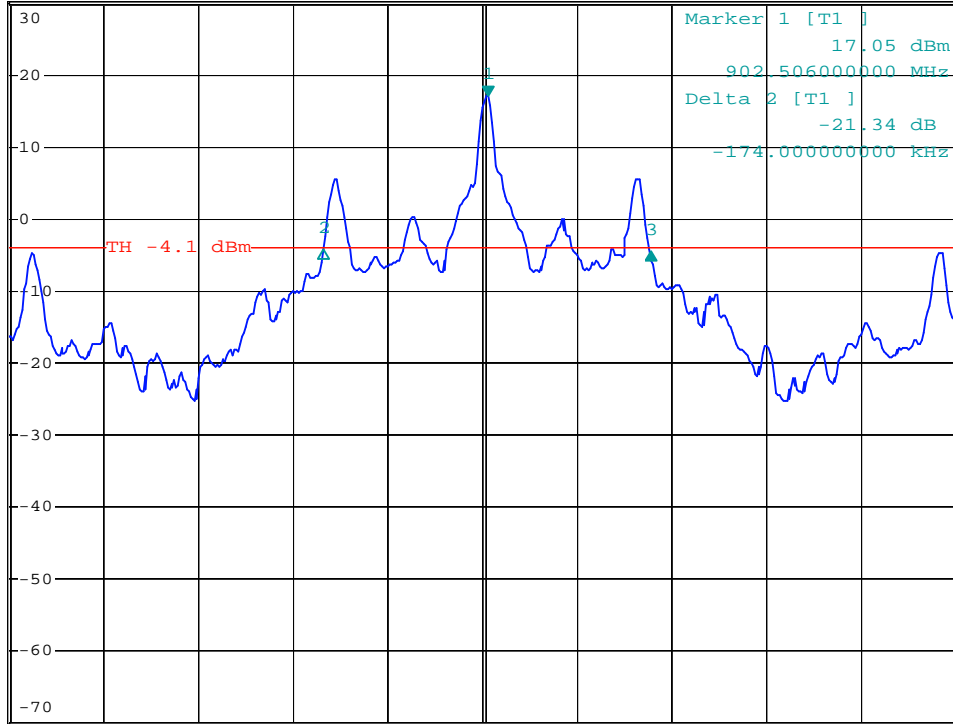
\*RBW 10 kHz Delta 3 [T1 ]  
\*VBW 10 kHz -21.50 dB  
\*SWT 10 ms 172.200000000 kHz

Ref 30 dBm

Att 60 dB

UNCAL

1 PK  
MAXH



Center 902.5 MHz

100 kHz/

Span 1 MHz

Date: 13.AUG.2008 18:00:01

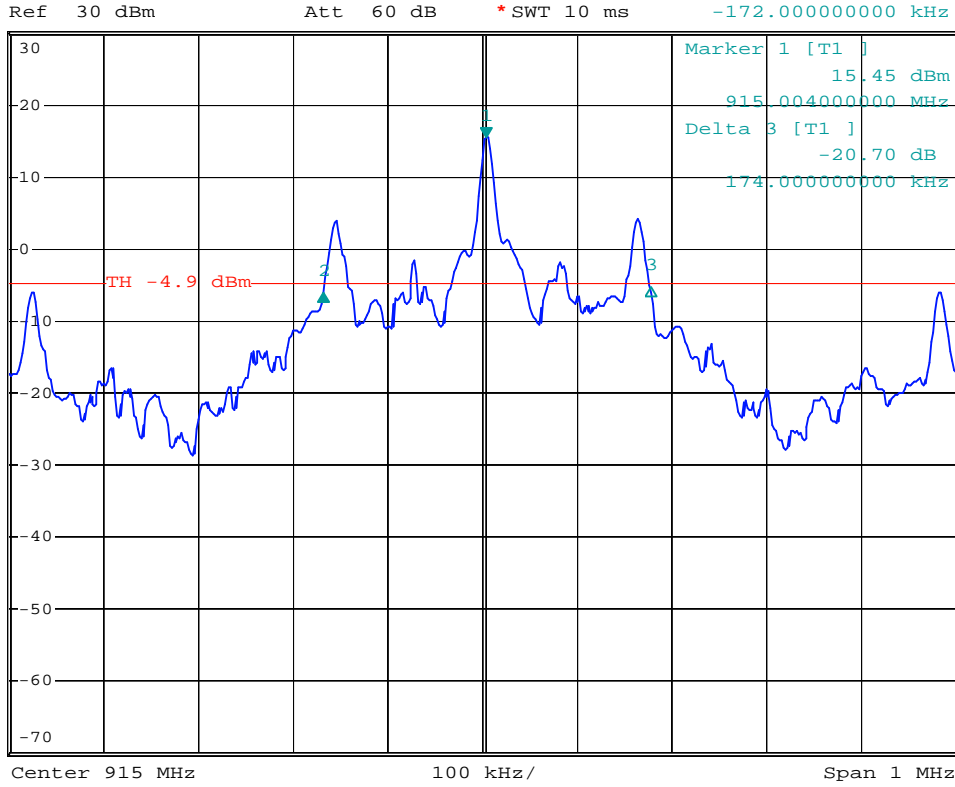


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Middle



\*RBW 10 kHz    Delta 2 [T1 ]  
\*VBW 10 kHz    -21.51 dB  
\*SWT 10 ms    -172.000000000 kHz



Date: 13.AUG.2008 18:03:51





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High



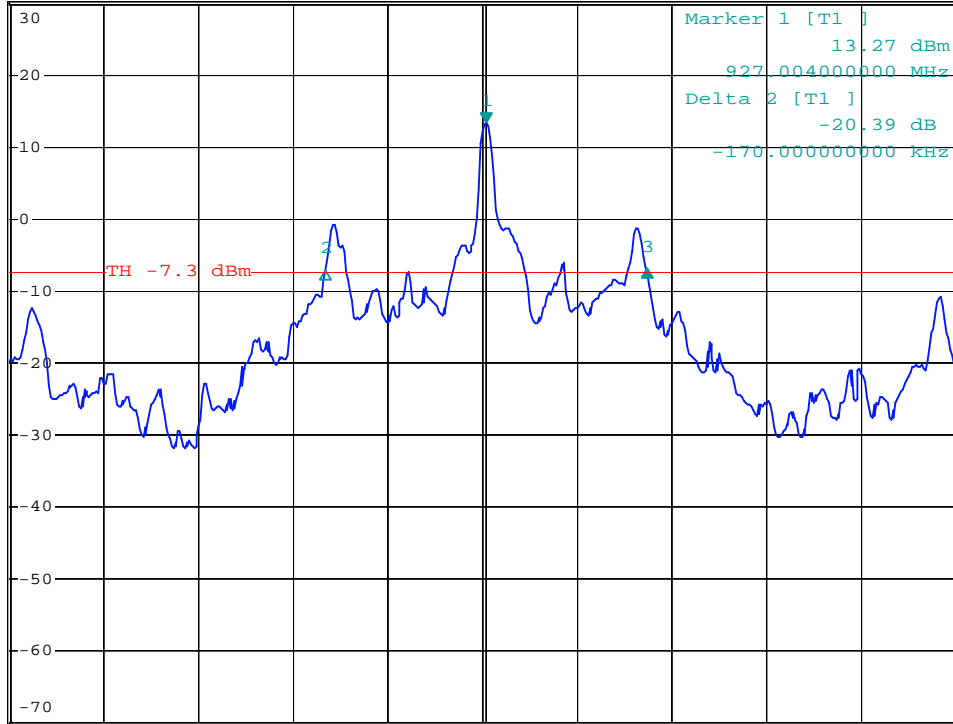
\*RBW 10 kHz Delta 3 [T1 ]  
\*VBW 10 kHz -20.02 dB  
\*SWT 10 ms 170.00000000 kHz

Ref 30 dBm

Att 60 dB

UNCAL

1 PK  
MAXH



Center 927 MHz

100 kHz/

Span 1 MHz

Date: 13.AUG.2008 18:05:48



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**APPLICANT:** SHENZHEN MARKTRACE CO., LTD.

**FCC ID:** WKX-RFID001

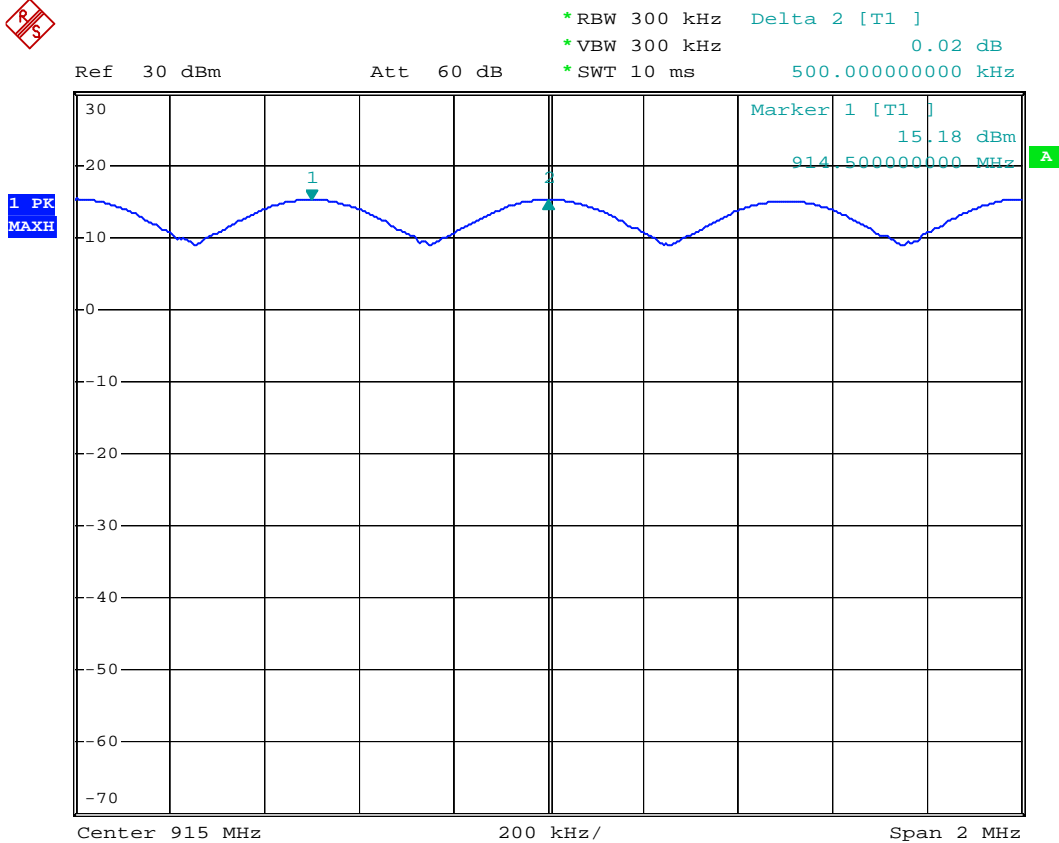
**NAME OF TEST:** CARRIED FREQUENCY SEPARATION

**RULES PART NUMBER:** 15.247.(a)(1)

**REQUIREMENTS:** Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

**TEST RESULTS:** The unit DOES meet the FCC requirements.

Channel	Frequency (MHz)	Measured 20dB bandwidth(KHz)	Limited(KHz)	Result
25	915.0	500	500	pass



Date: 1.AUG.2008 15:11:57

APPLICANT: SHENZHEN MARKTRACE CO., LTD.  
 FCC ID: WKX-RFID001



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**APPLICANT:** SHENZHEN MARKTRACE CO., LTD.

**FCC ID:** WKX-RFID001

**NAME OF TEST:** DWELL TIME

**RULES PART NUMBER:** 15.247.(a)(1)(i)

**REQUIREMENTS:** If the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

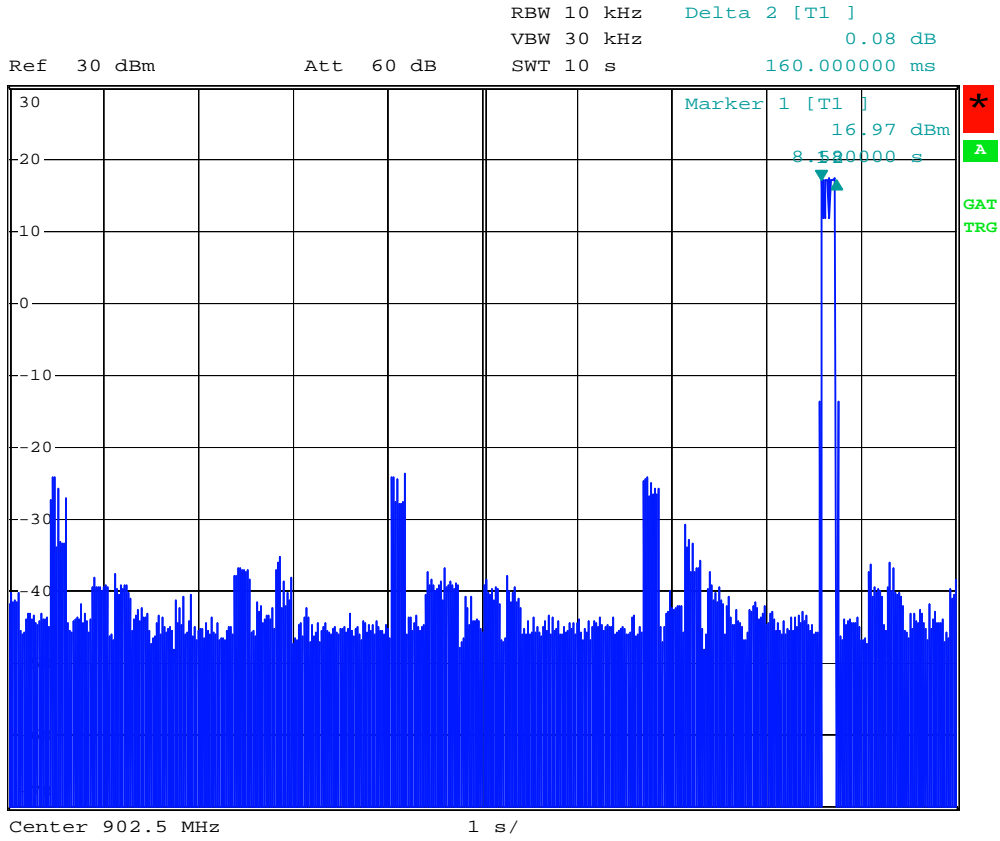
**TEST RESULTS:** The unit DOES meet the FCC requirements.

Channel	Frequency (MHz)	Measured average time	Limited(400ms)	Result
1	902.5	160	400	pass
25	915.0	160	400	pass
50	927.0	160	400	pass



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LOW



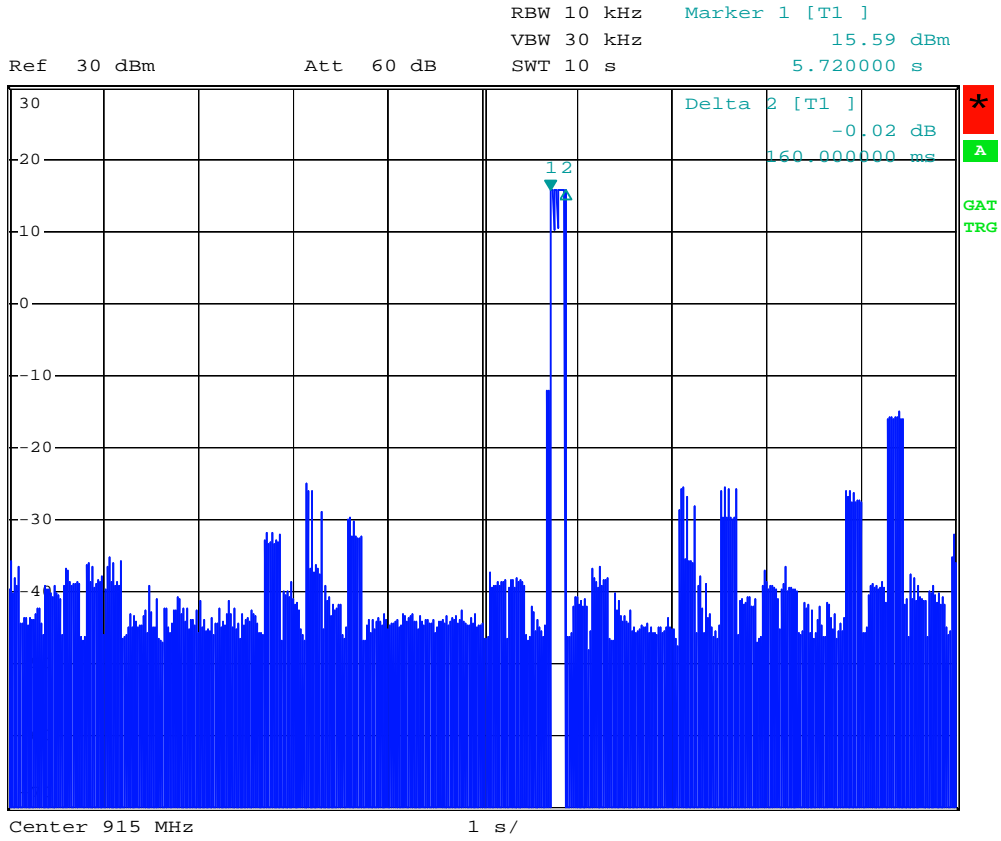
Date: 6.AUG.2008 10:24:17

APPLICANT: SHENZHEN MARKTRACE CO., LTD.  
FCC ID: WKX-RFID001



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**MIDDLE**



Date: 6.AUG.2008 10:25:48



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HIGH

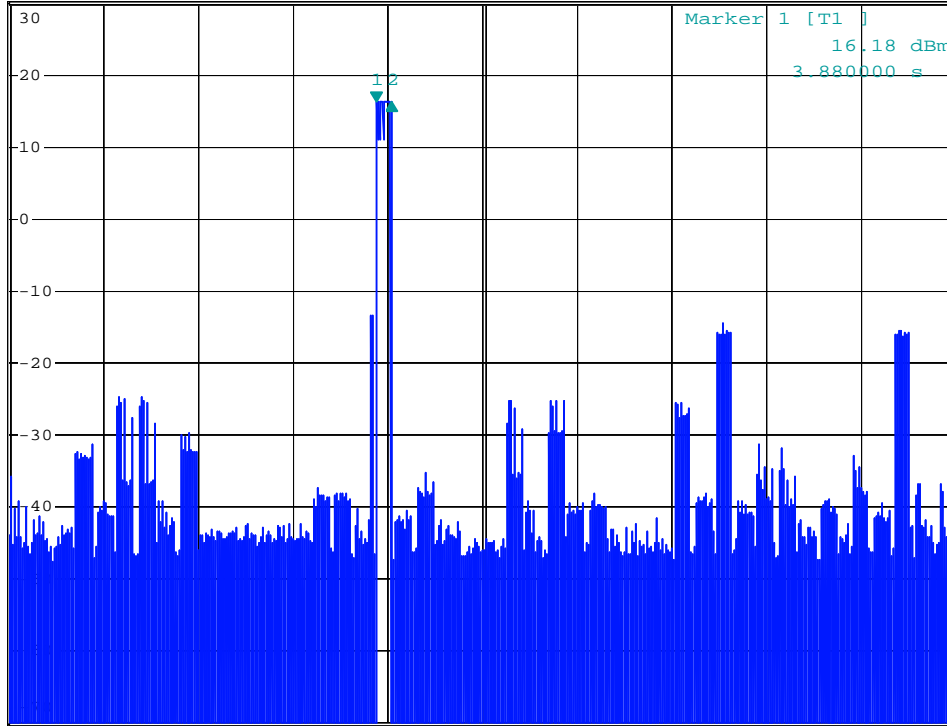


RBW 10 kHz Delta 2 [T1 ]  
VBW 30 kHz -0.07 dB  
SWT 10 s 160.000000 ms

Ref 30 dBm

Att 60 dB

1 AP  
CLRWR



GAT

TRG

Center 927 MHz

1 s/

Date: 6.AUG.2008 10:36:22



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**APPLICANT:** SHENZHEN MARKTRACE CO., LTD.  
**FCC ID:** WKX-RFID001  
**NAME OF TEST:** RADIATION INTERFERENCE  
**RULES PART NUMBER:** 15.247, 15.209  
**TEST RESULTS:** The unit DOES meet the FCC requirements.

FIELD STRENGTH of Fundamental:	FIELD STRENGTH of Harmonics	S15.209
902-928 MHZ		30 -88 MHz 40 dBuV/m @3M
2.4-2.4835 GHz		88 - 216 MHz 43.5
		216 - 960 MHz 46
127.38 dBuV/m	54 dBuV/m @3m	ABOVE 960 MHz 54dBuV/m

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

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

Condition 1: Use one antenna

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)			FCC 15 Subpart C Limit (dBuV/m)
		Avg	QP	Peak	
Low frequency(902.50 MHz)					
268.62	Vertical	--	36.14	37.50	46.0
433.52	Vertical	--	37.56	38.30	46.0
902.50	Vertical	--	--	102.35	127.38
1805.00	Vertical	--	--	36.05	54.0
2707.50	Vertical	--	--	34.00	54.0
600.36	Horizontal	--	34.50	37.90	46.0
800.17	Horizontal	--	35.20	37.60	46.0
902.50	Horizontal	--	--	100.50	127.38
1805.00	Horizontal	--	--	37.60	54.0
2745.00	Horizontal	--	--	35.20	54.0
Middle frequency(915.00 MHz)					
268.58	Vertical	--	36.05	37.40	46.0
433.56	Vertical	--	37.50	38.20	46.0
915.00	Vertical	--	--	99.80	127.38
1830.00	Vertical	--	--	36.15	54.0
2707.50	Vertical	--	--	34.20	54.0
600.41	Horizontal	--	34.45	37.85	46.0
800.35	Horizontal	--	35.23	37.65	46.0
915.00	Horizontal	--	--	98.70	127.38
1830.00	Horizontal	--	--	37.50	54.0
2745.00	Horizontal	--	--	35.10	54.0

APPLICANT: SHENZHEN MARKTRACE CO., LTD.  
 FCC ID: WKX-RFID001



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**APPLICANT:** SHENZHEN MARKTRACE CO., LTD.

**FCC ID:** WKX-RFID001

**NAME OF TEST:** RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.247, 15.209

**REQUIREMENTS:**

FIELD STRENGTH of Fundamental:	FIELD STRENGTH of Harmonics	S15.209
902-928 MHZ		30 -88 MHz 40 dBuV/m @3M
2.4-2.4835 GHz		88 - 216 MHz 43.5
		216 - 960 MHz 46
127.38 dBuV/m	54 dBuV/m @3m	ABOVE 960 MHz 54 dBuV/m

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

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

Continued:

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)			FCC 15 Subpart C Limit (dBuV/m)
		Avg	QP	Peak	
High frequency(927.0 MHz)					
268.22	Vertical	--	36.05	37.00	46.0
433.15	Vertical	--	37.60	38.00	46.0
1854.00	Vertical	--	--	36.00	54.0
2781.00	Vertical	--	--	34.20	54.0
600.15	Horizontal	--	34.30	37.60	46.0
800.25	Horizontal	--	35.50	37.20	46.0
1854.00	Horizontal	--	--	37.50	54.0
2781.00	Horizontal	--	--	35.35	54.0

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**FCC ID:** WKX-RFID001

**NAME OF TEST:** RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.247, 15.209

**REQUIREMENTS:**

FIELD STRENGTH of Fundamental:	FIELD STRENGTH of Harmonics	S15.209
902-928 MHZ		30 -88 MHZ 40 dBuV/m @3M
2.4-2.4835 GHz		88 - 216 MHz 43.5
		216 - 960 MHz 46
127.38 dBuV/m	54 dBuV/m @3m	ABOVE 960 MHz 54 dBuV/m

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

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

**Continued:**

Condition 2: Use four antennas:

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)			FCC 15 Subpart C Limit (dBuV/m)
		Avg	QP	Peak	
Low frequency(902.50 MHz)					
268.50	Vertical	--	36.14	37.50	46.0
433.30	Vertical	--	37.56	38.30	46.0
1805.00	Vertical	--	--	37.15	54.0
2707.50	Vertical	--	--	36.00	54.0
600.36	Horizontal	--	34.50	37.90	46.0
800.17	Horizontal	--	35.20	37.60	46.0
1805.00	Horizontal	--	--	38.50	54.0
2745.00	Horizontal	--	--	37.10	54.0
Middle frequency(915.00 MHz)					
268.55	Vertical	--	36.05	37.40	46.0
433.40	Vertical	--	37.50	38.20	46.0
1830.00	Vertical	--	--	37.05	54.0
2707.50	Vertical	--	--	36.50	54.0
600.40	Horizontal	--	34.45	37.85	46.0
800.25	Horizontal	--	35.23	37.65	46.0
1830.00	Horizontal	--	--	37.00	54.0
2745.00	Horizontal	--	--	36.30	54.0

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**FCC ID:** WKX-RFID001

**NAME OF TEST:** RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.247, 15.209

**REQUIREMENTS:**

FIELD STRENGTH of Fundamental:	FIELD STRENGTH of Harmonics	S15.209
902-928 MHZ		30 -88 MHZ 40 dBuV/m @3M
2.4-2.4835 GHz		88 - 216 MHz 43.5
		216 - 960 MHz 46
127.38 dBuV/m	54 dBuV/m @3m	ABOVE 960 MHz 54 dBuV/m

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

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

Continued:

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)			FCC 15 Subpart C Limit (dBuV/m)
		Avg	QP	Peak	
High frequency(927.0 MHz)					
268.22	Vertical	--	36.05	37.00	46.0
433.15	Vertical	--	37.60	38.00	46.0
1854.00	Vertical	--	--	38.00	54.0
2781.00	Vertical	--	--	36.80	54.0
600.15	Horizontal	--	34.30	37.60	46.0
800.25	Horizontal	--	35.50	37.20	46.0
1854.00	Horizontal	--	--	37.70	54.0
2781.00	Horizontal	--	--	37.15	54.0

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

TEST PROCEDURE: ANSI Standard C63.4-2003 using a ANRITSU spectrum analyzer with a pre-selector and an appropriate antenna. The resolution bandwidth of spectrum analyzer was 100 kHz below 1 GHz and 1 MHz above 1 GHz. An appropriate sweep speed was used. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported. The spectrum was searched to at least the tenth (10) harmonic of the fundamental.

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**APPLICANT:** SHENZHEN MARKTRACE CO., LTD.

**FCC ID:** WKX-RFID001

**NAME OF TEST:** Band Edge

**RULES PART NUMBER:** 15.247(d)

**REQUIREMENTS:** 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,

Band edge emissions plots are included on the following pages

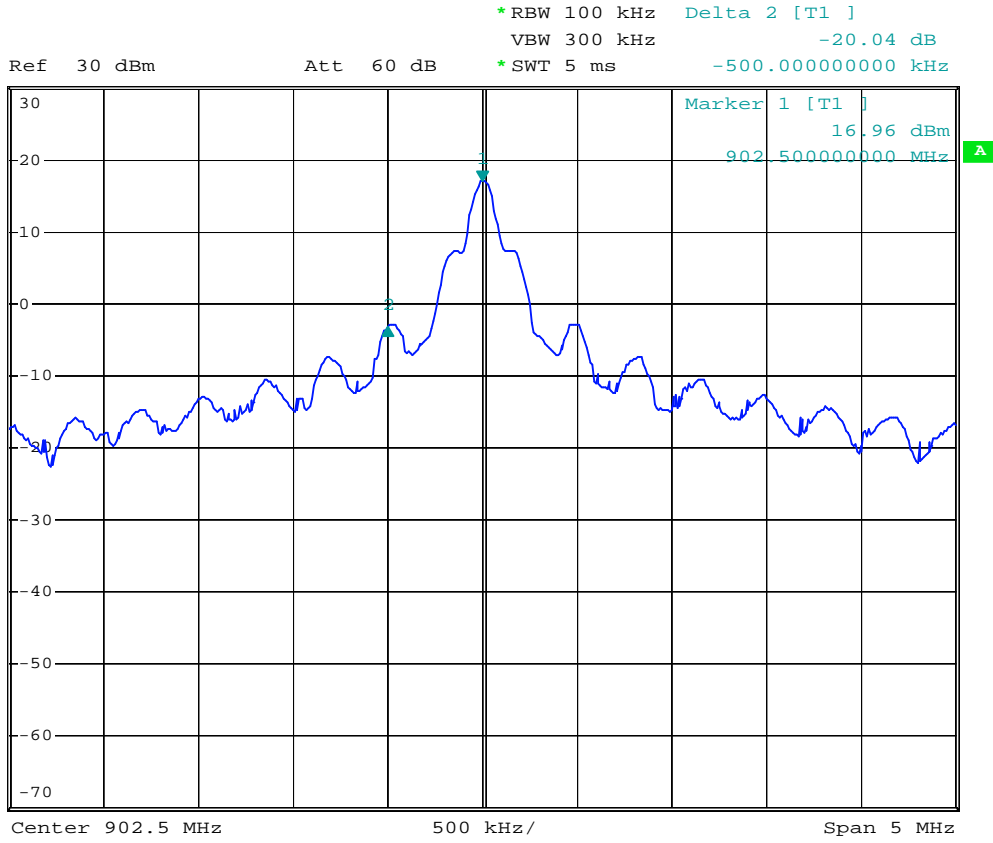
**METHOD OF MEASUREMENT:** A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was printed. The vertical scale is set to -10 dB per division.

**TEST RESULTS:** The unit DOES meet the FCC requirements.



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Low

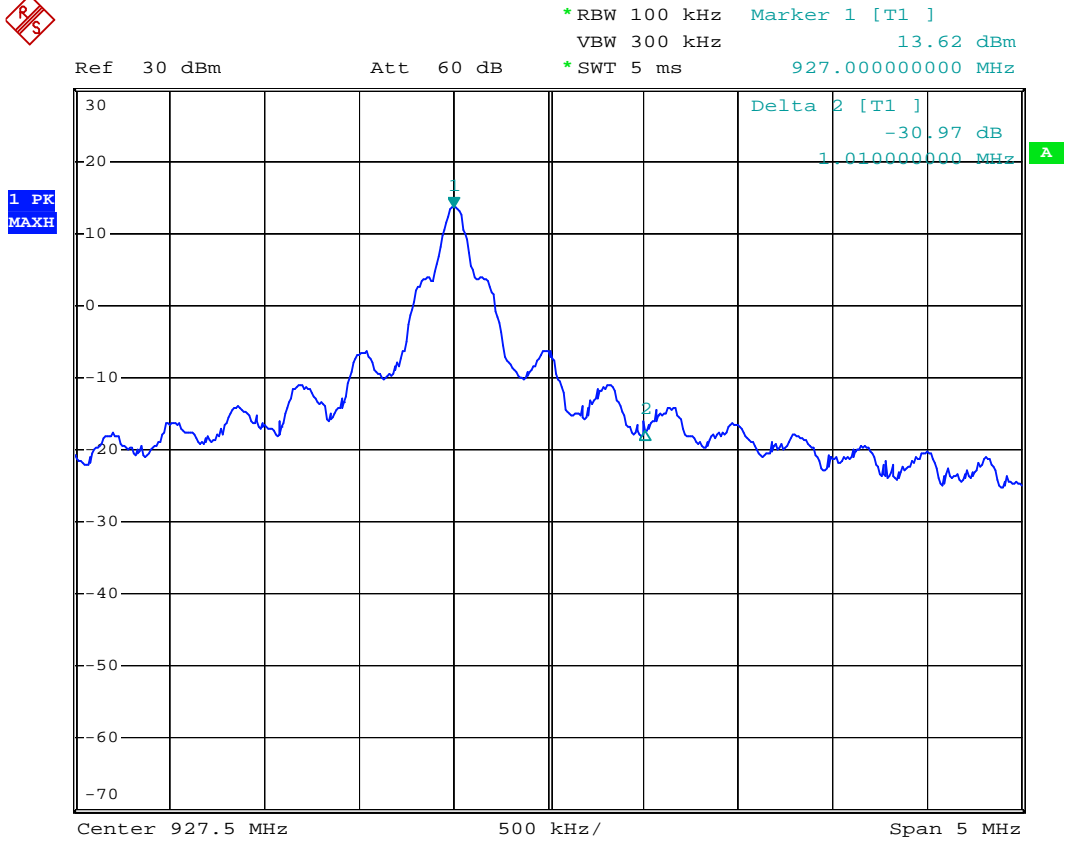


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