

Tel:(86) 755-26825180 Fax:(86) 755-86170310

Http://www.szmost.com Email: szmost@szmost.com

### Test Report

Product Name: Bluetooth MP3 Watch

FCC ID: VT9-SBT001

MODEL NO. : SBT-001, SBT-2, SBT-003, SBT-004, SBT-009, SBT-010, SBT-011

Applicant:

HK DREAM-TECH ELECTRONIC CO., LIMITED

Flat L, 18/F, MingShang Ge, ShenGangHaoYuan

South BaoAn Rd, Luo Hu District, Shenzhen, Guangdong, China

Date Received: 12/01/2007-12/06/2007

Date Tested: 12/06/2007

APPLICANT: HK DREAM-TECH ELECTRONIC CO., LIMITED



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### TABLE OF CONTENTS

APPLICANT: HK DREAM-TECH ELECTRONIC CO., LIMITED

FCC ID: VT9-SBT001

### TEST REPORT CONTAINING:

PAGE 1TEST EQUIPMENT LIST	
PAGE 2TEST PROCEDURE	
PAGE 3-7POWER LINE CONDUCTED INTERFER	ENC AND PLOTS
PAGE 8-10RADIATION INTERFERENCE TEST D	ATA
PAGE 11-14OCCUPIED BANDWIDTH AND PLOTS	

# EXHIBIT INCLUDED:

PAGE 1BLOCK DIAGRAM
PAGE 2SCHEMATIC
PAGE 3USERS MANUAL
PAGE 4LABEL SAMPLE
PAGE 5LABEL LOCATION
PAGE 6EXTERNAL PHOTOGRAPHS
PAGE 7INTERNAL PHOTOGRAPHS
PAGE 8OPERATIONAL DESCRIPTION
PAGE 9TEST SET UP PHOTOGRAPHS

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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 06,2007	1 Year
LISN	ROHDE&SCHWARZ	ENV216	100093	Apr 06,2007	1Year
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	101202	Apr 06,2007	1 Year
Spectrum Analyzer	ANRITSU	MS2651B	6200238316	Apr 06,2007	1 Year
50 $\Omega$ Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Apr 06,2007	1 Year
Bilog Antenna	Sunol	JB3	A121206	Apr 06,2007	1 Year
Horn Antenna	EMCO	3115	640201028-0 6	Apr 06,2007	1 Year
50 $\Omega$ Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Apr 06,2007	1 Year
Cable	Resenberger	N/A	NO.1	Apr 06,2007	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Apr 06,2007	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Apr 06,2007	1 Year
Single Phase Power	Kikusui		LM002352	Apr 06,2007	1Year
Line Filter		R-L			
AC Power Source	Kikusui	AC40MA	LM003232	Apr 06,2007	1Year
Test analyzer	Kikusui	KHA1000	LM003720	Apr 06,2007	1Year
ESD Tester	Kikusui	KES4021	LM003537	Apr 08,2007	1 Year
Signal Generator	IFR	2032	203002/100	Apr 08,2007	1 Year
Amplifier	A&R	150W1000	301584	NCR	NCR
Dual Directional Coupler	A&R	DC6080	301508	Apr 06,2007	1 Year
Power Head	A&R	PH2000	301193	Apr 06,2007	1 Year
Power Meter	A&R	PM2002	302799	Apr 06,2007	1 Year
Field Monitor	A&R	FM5004	300329	Apr 06,2007	1 Year
Field Probe	A&R	FP5000	300221	Apr 06,2007	1 Year
EMCPRO System	EM Test	UCS-500-M4	V064810202 6	Apr 06,2007	1 Year
EMCPRO System	EM Test	UCS-500-M4	V064810202 6	Apr 06,2007	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

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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 u H LISN. Both Lines were observed. The bandwidth of the receiver was  $10 \, \text{kHz}$  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  $25\,^{\circ}$ C with a humidity of  $58\,^{\circ}$ C.

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:

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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FCC ID: VT9-SBT001

NAME OF TEST: POWER LINE CONDUCTED INTERFERENCE

RULES PART NUMBER: 15.107

### MINIMUM REQUIREMENTS:

Frequency of Emission (MHz)	Conducted Limit (dBuV)				
	Quasi-peak	Average*			
0.15-0.5	66-56	56-46			
0.5-5	56	46			
5-30	60	50			

<sup>\*</sup>Decreases with the logarithm of the frequency.

TEST PROCEDURE: ANSI STANDARD C63.4-2003

Play Mode:

THE HIGHEST EMISSION READ FOR LINE 1 WAS 34.1 dBuV(Average) and 40.1 dBuV(Quasi-peak) @ 558kHz.

THE HIGHEST EMISSION READ FOR LINE 2 WAS 34.2 dBuV(Average) and 39.5 dBuV(Quasi-peak) @ 562kHz.

Connect to PC Mode:

THE HIGHEST EMISSION READ FOR LINE 1 WAS 32.98 dBuV(Average) and 40.36 dBuV(Quasi-peak) @ 1118kHz.

THE HIGHEST EMISSION READ FOR LINE 2 WAS 32.68 dBuV(Average) and 39.68 dBuV(Quasi-peak) @ 1120kHz.

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

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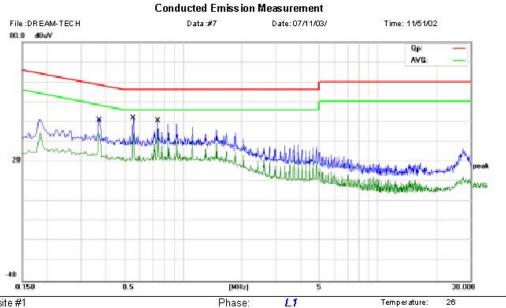
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# Play Mode:



Address: No.5,Langshan 2nd Rd. , North Hi-Tech Industrial park Guangdong ,China Tel: 0755-86170306 Fax: 0755-86170310

Humidity: 60 %



Site site#1

Limit: FCC Part 15B(QP)

EUT: M/N:

Mode: CHARING

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
	MHz	dBúV	dB	dBuV	dBuV	dB	Detector	Comment	
1	0.3740	29.90	10.84	40.74	58.41	-17.67	QP		
2	0.3740	24.20	10.84	35.04	48.41	-13.37	AVG		
3	0.5580	30.10	10.00	40.10	56.00	-15.90	QP		
4 *	0.5580	24.10	10.00	34.10	46.00	-11.90	AVG		
5	0.7460	29.10	10.00	39.10	56.00	-16.90	QP		
6	0.7460	23.70	10.00	33.70	46.00	-12.30	AVG		

Power:

APPLICANT: HK DREAM-TECH ELECTRONIC CO., LIMITED

<sup>\*:</sup>Maximum data x:Over limit !:over margin



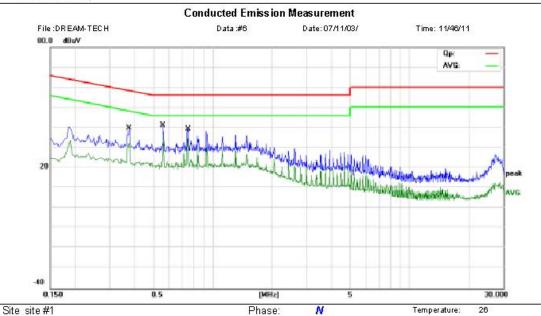
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Address: No.5, Langshan 2nd Rd. , North Hi-Tech Industrial park Guangdong ,China Tel: 0755-86170306 Fax: 0755-86170310

Humidity: 60 %



Limit: FCC Part 15B(QP)

EUT: M/N:

Mode: CHARING

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
	MHz	dBúV	dB	dBuV	dBu∀	dB	Detector	Comment	
1	0.3740	28.60	10.84	39.44	58.41	-18.97	QP		
2	0.3740	24.00	10.84	34.84	48.41	-13.57	AVG		
3	0.5620	29.50	10.00	39.50	56.00	-16.50	QP		
4 *	0.5620	24.20	10.00	34.20	46.00	-11.80	AVG		
5	0.7539	27.60	10.00	37.60	56.00	-18.40	QP		
6	0.7539	22.30	10.00	32.30	46.00	-13.70	AVG		

Power:

APPLICANT: HK DREAM-TECH ELECTRONIC CO., LIMITED

<sup>\*:</sup>Maximum data x:Over limit !:over margin



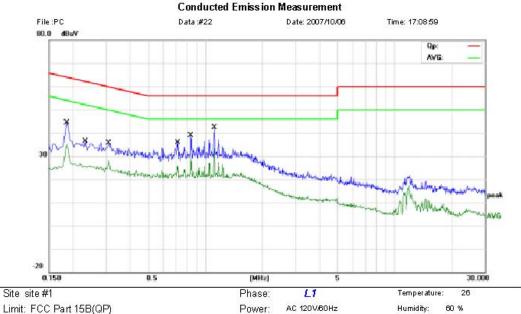
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# Connect to PC Mode:



Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park Guangdong China Tel: 0755-86170306 Fax: 0755-86170310



Limit: FCC Part 15B(QP)

EUT: M/N:

Mode: transmitting

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
	MHz	dBu∀	dB	dBuV	dBu√	dB	Detector	Comment	
1	0.1860	30.70	11.16	41.86	64.21	-22.35	QP		
2	0.1860	25.00	11.16	36.16	54.21	-18.05	AVG		
3	0.2340	24.71	11.77	36.48	62.30	-25.82	QP		
4	0.2340	13.90	11.77	25.67	52,30	-26.63	AVG		
5	0.3099	24.43	11.27	35.70	59.97	-24.27	QP		
6	0.3100	16.90	11.27	28.17	49.97	-21.80	AVG		
7	0.7180	22.40	10.00	32.40	56.00	-23.60	QP		
8	0.7180	15.80	10.00	25.80	46.00	-20.20	AVG		
9	0.8420	27.20	10.00	37.20	56.00	-18.80	QP		
10	0.8420	19.81	10.00	29.81	46.00	-16.19	AVG		
11	1.1180	30.48	9.88	40.36	56.00	-15.64	QP		
12 *	1.1180	23.10	9.88	32.98	46.00	-13.02	AVG		

Power:

AC 120V/60Hz

60 %

APPLICANT: HK DREAM-TECH ELECTRONIC CO., LIMITED

<sup>\*:</sup>Maximum data x:Over limit !:over margin

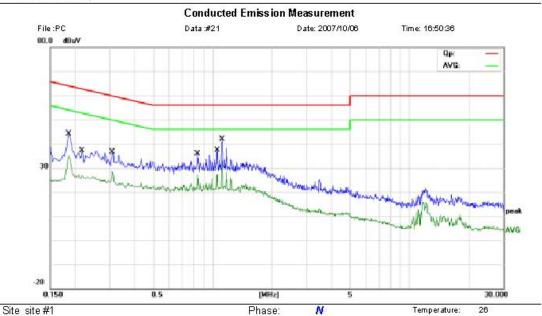


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AC 120V/60Hz

Humidity: 60 %

Limit: FCC Part 15B(QP)

EUT: M/N:

Mode: transmitting

Note:

No. MI	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBúV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1860	31.00	11.16	42.16	64.21	-22.05	QP	
2	0.1860	25.10	11.16	36.26	54.21	-17.95	AVG	
3	0.2179	20.10	11.88	31.98	62.89	-30.91	QP	
4	0.2179	15.00	11.88	26.88	52.89	-26.01	AVG	
5	0.3099	23.00	11.27	34.27	59.97	-25.70	QP	
6	0.3099	16.90	11.27	28.17	49.97	-21.80	AVG	
7	0.8419	23.80	10.00	33.80	56.00	-22.20	QP	
8	0.8419	16.60	10.00	26.60	46.00	-19.40	AVG	
9	1.0580	24.00	9.94	33.94	56.00	-22.06	QP	
10	1.0580	17.50	9.94	27.44	46.00	-18.56	AVG	
11	1.1200	29.80	9.88	39.68	56.00	-16.32	QP	
12 *	1.1200	22.80	9.88	32.68	46.00	-13.32	AVG	

Power:

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<sup>\*:</sup>Maximum data x:Over limit !:over margin



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FCC ID: VT9-SBT001

NAME OF TEST: RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.249, 15.209

REQUIREMENTS:

FIELD STRENGTH of FIELD STRENGTH S15.209

Fundamental: of Harmonics

902-928 MHZ 30 -88 MHz 40 dBuV/m @3M

2.4-2.4835 GHz 88 - 216 MHz 43.5 216 - 960 MHz 46

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.

### Play Mode:

Frequency (MHz)	Antenna Polarization	Emis	Emission Level (dBuV/m)							
		Avg	QP	Peak	C Limit (dBuV/m)					
Low frequency(2402.00 MHz)										
90.75	Vertical		36.20	38.10	43.5					
102.00	Vertical		34.50	37.60	46.0					
2402.00	Vertical			85.05	94.0					
4804.00	Vertical			36.05	54.0					
7206.10	Vertical			33.10	54.0					
9608.20	Vertical			34.00	54.0					
91.15	Horizontal		33.50	38.00	43.5					
102.50	Horizontal		33.10	38.70	46.0					
2402.00	Horizontal			84.30	94.0					
4804.00	Horizontal			33.20	54.0					
7206.10	Horizontal			31.50	54.0					
9608.20	Horizontal			32.10	54.0					
	Middle	frequency(244	1.00 MHz)							
102.00	Vertical		35.10	37.50	43.5					
2441.00	Vertical			85.65	94.0					
4882.10	Vertical			32.65	54.0					
7323.20	Vertical			32.25	54.0					
9764.30	Vertical			31.50	54.0					
101.15	Horizontal		32.50	39.10	43.5					
2441.00	Horizontal			84.70	94.0					
4882.10	Horizontal			33.25	54.0					
7323.20	Horizontal			32.10	54.0					
9764.30	Horizontal			32.30	54.0					

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NAME OF TEST: RADIATION INTERFERENCE

**RULES PART NUMBER:** 15.249, 15.209

**REQUIREMENTS:** 

FIELD STRENGTH of FIELD STRENGTH S15.209

Fundamental: of Harmonics

902-928 MHZ 30 -88 MHz 40 dBuV/m @3M

2.4-2.4835 GHz 88 - 216 MHz 43.5 216 - 960 MHz 46

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:

# Play Mode:

Frequency (MHz)	Antenna Polarization	E	Emission Level (	FCC 15 Subpart	
		Avg	QP	Peak	C Limit (dBuV/m)
	High	frequency(2	2480.0 MHz)		
104.00	Vertical		34.15	37.30	43.5
2480.00	Vertical			85.95	94.0
4960.10	Vertical			33.25	54.0
7440.20	Vertical			32.30	54.0
9920.00	Vertical			32.15	54.0
104. 10	Horizontal		32.35	35.50	43.5
2480.00	Horizontal			84.90	94.0
4960.10	Horizontal			33.40	54.0
7440.20	Horizontal			32.20	54.0
9920.00	Horizontal			32.00	54.0

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NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.209

#### **REQUIREMENTS:**

S15.209 30 -88 MHz 40 dBuV/m @3M 88 - 216 MHz 43.5 216 - 960 MHz 46 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.

### Connect to PC Mode:

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart B Limit (dBuV/m)
43.580	Horizontal	35.38	40.00
45.520	Vertical	34.15	40.00
478.140	Vertical	35.05	46.00
502.390	Horizontal	37.20	46.00
837.040	Vertical	35.65	46.00
838.010	Horizontal	38.60	46.00

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: HK DREAM-TECH ELECTRONIC CO., LIMITED

FCC ID: VT9-SBT001

NAME OF TEST: Occupied Bandwidth and Band Edge Compliance

**RULES PART NUMBER:** 15.249, 15.209

**REQUIREMENTS:** The field strength of any emissions appearing outside the band

edges and up to  $10~\mathrm{kHz}$  above and below the band edges shall be attenuated at least  $50~\mathrm{dB}$  below the level of the carrier or to

the general limits of 15.209.

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.

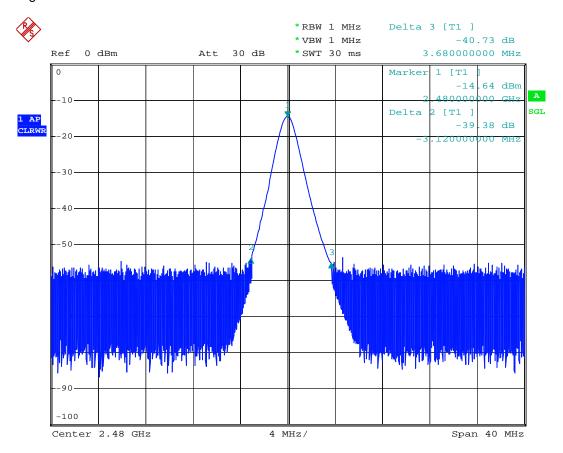
TEST RESULTS: The unit DOES meet the FCC requirements.

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# High



Date: 03.DEC.2007 15:01:11

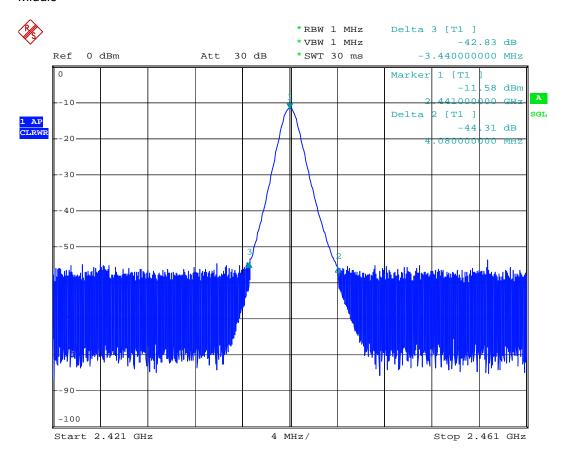
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# Middle



Date: 03.DEC.2007 15:05:15

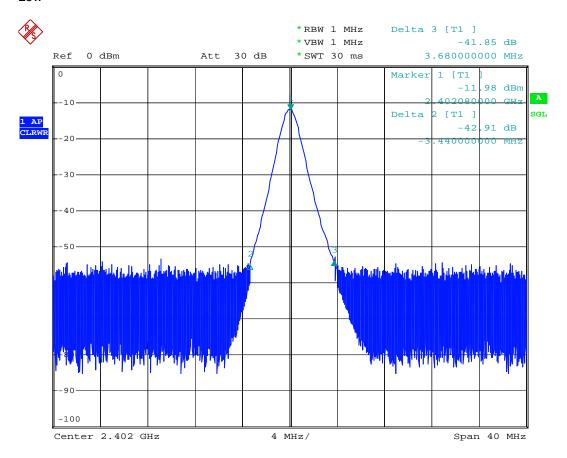
APPLICANT: HK DREAM-TECH ELECTRONIC CO., LIMITED



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# Low



Date: 03.DEC.2007 15:09:20

APPLICANT: HK DREAM-TECH ELECTRONIC CO., LIMITED