FCC PART 15 B

EMI MEASUREMENT AND TEST REPORT

For

Shanghai Jujo Electronics Co., Ltd.

COFCO Mansion, Room 1001-1004, No. 440 Zhongshan Rd.(S.2), Shanghai, China

FCC ID: PITK002

November 9, 2005

This Report Concerns:	**Equipment Type:**
☒ Class II permissive change	USB Dongle

Test Engineer:	William Chan
Report Number:	RSH05110702
Test Date:	November 8, 2005
Reviewed By:	Chris Zeng
Prepared By:	Bay Area Compliance Lab Corp. (ShenZhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, Guangdong 518038, P.R.China Tel: +86-755-33320018 Fax: +86-755-33320008

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *Shanghai Jujo Electronics Co., Ltd.* 's product, model: USB KEY 8K/USB KEY 1K or the "EUT" as referred to in this report was a USB Dongle and the product name is HardKey/EG Pro which measures approximately 5.2cm L x 1.6cm W x 0.8cm H, rated input voltage: DC 5V. This USB dongle with 8K of non-volatile memory, allows the user to store encryption codes for file protection.

** The test data gathered are from production sample, serial number: 33545565, provided by the manufacture, we received the EUT on 2005-11-7.*

Objective

The following test report is prepared on behalf of *Shanghai Jujo Electronics Co., Ltd.* in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to obtain an FCC ID & determine compliance with FCC PART 15 B limits for Information Technology Equipment.

This is the C2PC application of the device. The difference between the original device and the current one is as follows:

	Original: RESISTOR	**New**: PTC
Manufacture:	Guoju	PTTC
Type:	2.2ohm, 1/4W	SMD1206P012TS

For the changes made to the device, radiated emission testing was performed.

Related Submittal(s)/Grant(s)

This is a C2PC application. The original application was granted on 2004-4-23.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All measurement was performed at Bay Area Compliance Lab Corp. (ShenZhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Lab Corp. (ShenZhen) to collect radiated and conducted emission measurement data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, Guangdong 518038, P.R.China.

Test site at Bay Area Compliance Lab Corp. (ShenZhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Lab Corp. (ShenZhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0). The current scope of accreditations can be found at http://ts.nist.gov/ts/htdocs/210/214/scopes/2007070.htm

Host System Configuration List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
DELL	Motherboard	OWC297	CN-OWC297-70821-564-00NI	DoC
DELL	Power	NPS-250KB D	CN-0H2678-17972-56E-80BM	DoC
Seagate	Hard Disk	ST340014A	5JXK3GXE	DoC
DELL	3.5' Floppy	N/A	CN-0N8893-69802-54Q-02P0	DoC
Lite-ON	CD-Rom	LTN-489S	N/A	DoC
Intel	Ethernet	PRO 10/100 VE	N/A	DoC
ProMOS	Memory	V826632K24SATG-C0	0525-K1933700	DoC
Intel	CPU	Celeron D-2533	N/A	DoC

Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
DELL	PC	DELL 170L	CN-0TC670-70821-560-F4Q6	DoC
DELL	Keyboard	SK-8110	CN07N244-71616-56A-1B1E	DoC
DELL	Mouse	M071KC	520027907	DoC
DELL	LCD Monitor	1505FP	Y4287-7168-571-GBSH	DoC
HP	Laser Jet5L	C3941A	JPTVOB2337	DoC
SAST	Modem	AEM-2100	293	DoC

External I/O Cable

Cable Description	Length (M)	From/Port	To
Shielded Detachable Keyboard Cable	1.50	Keyboard Port / Host	Keyboard
Shielded Detachable Mouse Cable	1.50	Mouse Port / Host	Mouse
Shielded Detachable Printer Cable	1.20	Parallel Port / Host	Printer
Shielded Detachable Serial Cable	1.20	Serial Port / Host	Modem
Shielded Detachable VGA Cable	1.50	VGA Port / Host	Monitor

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

EUT Exercise Software

The EUT exercising program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The software offered by Bay Area Compliance Lab Corp. (ShenZhen) can exercise the EUT as data transferring between the EUT and the host.

Special Accessories

The special Accessories were supplied by Bay Area Compliance Lab Corp. (ShenZhen).

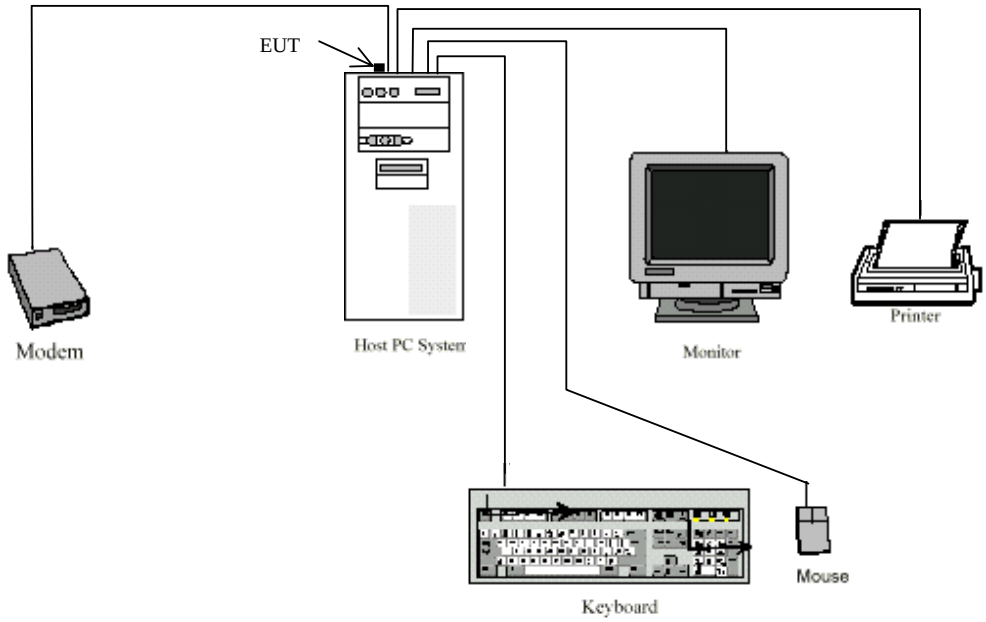
Block Diagram/Schematics

Please refer to the Exhibit C.

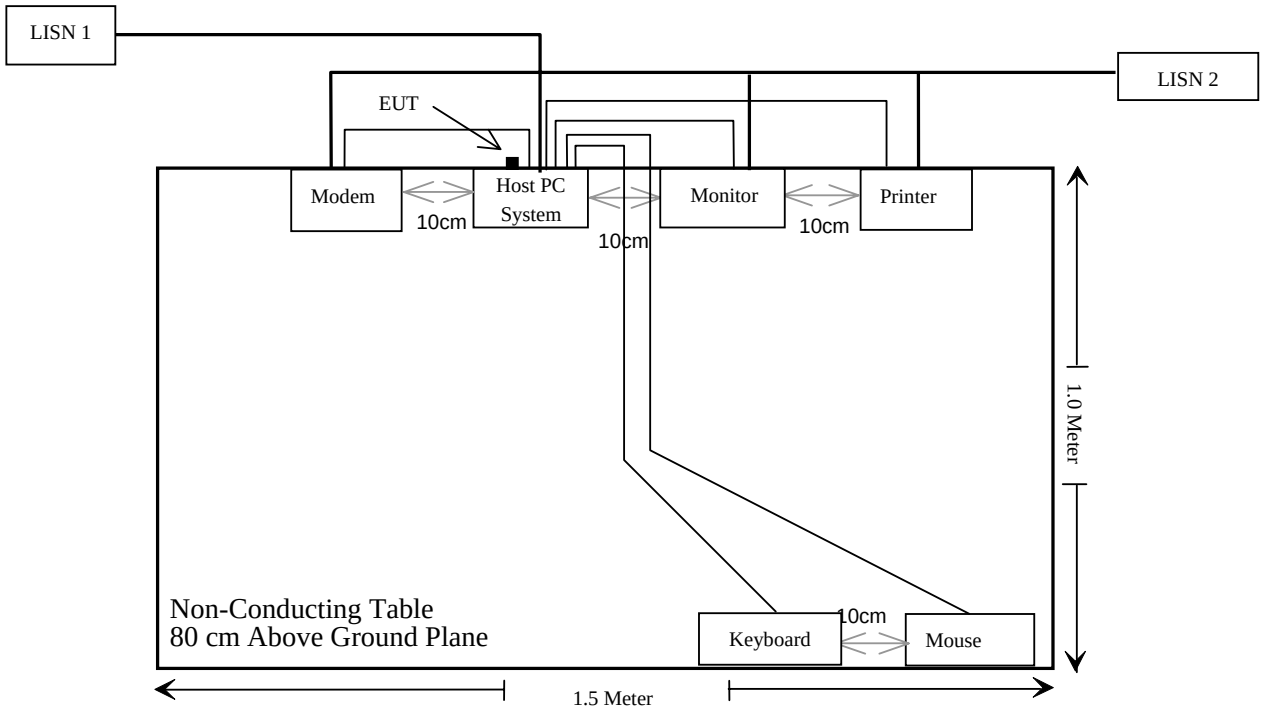
Equipment Modifications

Bay Area Compliance Lab Corp. (ShenZhen) has not done any modification on the EUT.

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST REPORT

RULE	DESCRIPTION	RESULTS
§15.109	Radiated Emission	Compliant
§15.33	Frequency of Investigation	Compliant, Note 1
§15.27	Special Accessories	Compliant

Note 1: The highest clocks of the EUT was 6.0 MHz.

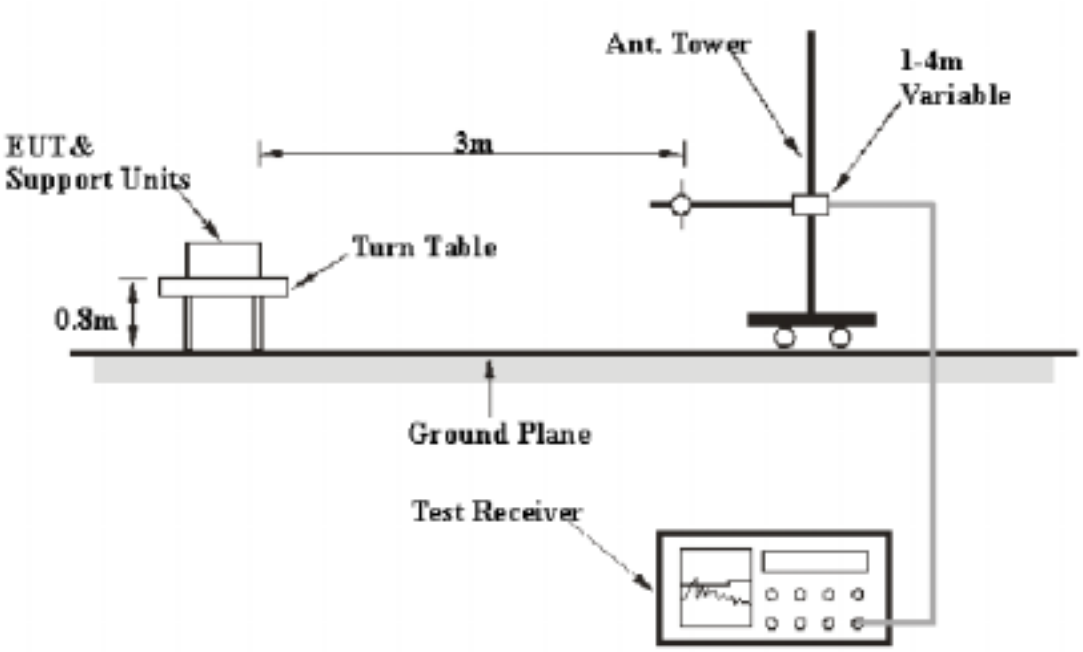
§15.109 - RADIATED EMISSION

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Lab Corp. (ShenZhen) is ±4.0 dB.

EUT Setup



The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part 15 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The host PC was connected to a 120V/60 Hz power source.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 1000 MHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***RBW***	***Video B/W***	***IF B/W***
30 – 1000 MHz	100 kHz	300 kHz	120 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447D	2944A09795	2005-8-17	2006-8-17
Rohde & Schwarz	EMI Test Receiver	ESCI	100028	2005-8-17	2006-8-17
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2005-4-28	2006-4-28

*** Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

For the radiated emissions test, the host PC and all support equipment power cords were connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detection mode.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter reading. The basic equation is as follows:

Corr. Ampl. = Meter Reading + Antenna Loss + Cable Loss- Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Class B Limit

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15 Class B, with the worst margin reading of:

USB KEY 1K**: -5.4 dB** at **41.150 MHz** in the **Vertical** *polarization*.
USB KEY 8K**: -4.9 dB** at **31.510 MHz** in the **Vertical** *polarization*.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	1000 mbar

The testing was performed by William Chan on 2005-11-8.

Test mode: Running

Model: USB KEY 1K

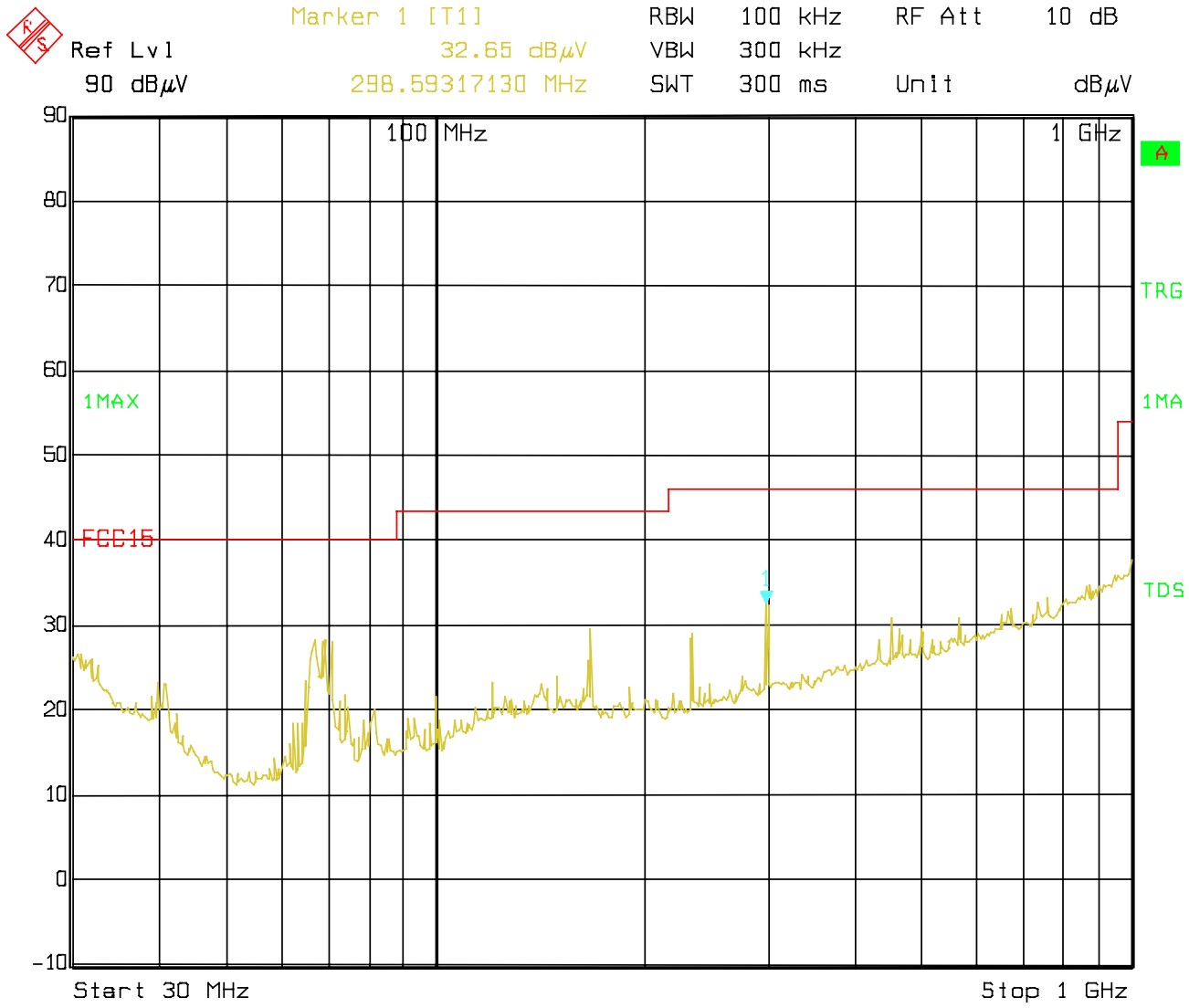
INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC PART 15		
Frequency	Meter Reading	Angle	Height	Polar	Antenna Loss	Cable Loss	Amp.	Corr. Ampl.	Limit	Margin	PK/AV/QP
MHz	dBμV/m	Degree	Meter	H/ V	dB	dB	dB	dBμV/m	dBμV/m	dB	
41.150	45.8	45	1.0	V	14.3	1.3	26.8	34.6	40.0	-5.4	PK
31.730	33.6	90	1.0	V	24.1	1.2	26.8	32.1	40.0	-7.9	PK
300.690	43.7	180	1.2	V	13.9	3.2	25.8	35.0	46.0	-11.0	PK
66.830	44.8	180	1.0	H	8.5	1.6	26.8	28.1	40.0	-11.9	PK
69.220	44.8	60	1.2	H	8.5	1.6	26.8	28.1	40.0	-11.9	PK
565.970	36.1	90	1.0	V	19.0	4.9	27.1	32.9	46.0	-13.1	PK
298.590	41.7	45	1.2	H	13.8	3.2	26.0	32.7	46.0	-13.4	PK
166.630	41.3	120	1.2	H	12.5	2.1	26.6	29.3	43.5	-14.3	PK
231.850	43.2	120	1.2	V	11.7	2.8	26.0	31.6	46.0	-14.4	PK
452.000	35.8	90	1.2	H	17.1	4.3	26.5	30.7	46.0	-15.3	PK
166.630	39.8	60	1.0	V	12.5	2.1	26.6	27.8	43.5	-15.7	PK
233.480	40.4	360	1.0	H	11.7	2.8	26.0	28.9	46.0	-17.1	PK

Model: USB KEY 8K

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC PART 15		
Frequency	Meter Reading	Angle	Height	Polar	Antenna Loss	Cable Loss	Amp.	Corr. Ampl.	Limit	Margin	PK/AV/QP
MHz	dBμV/m	Degree	Meter	H/ V	dB	dB	dB	dBμV/m	dBμV/m	dB	
31.510	36.7	270	1.0	V	24.1	1.2	26.8	35.2	40.0	-4.9	PK
39.730	39.1	45	1.0	V	17.7	1.2	26.8	31.3	40.0	-8.8	PK
298.590	44.4	90	1.2	V	13.8	3.2	26.0	35.4	46.0	-10.6	PK
231.850	45.4	60	1.0	V	11.7	2.8	26.0	33.9	46.0	-12.1	PK
452.000	39.0	180	1.2	V	17.1	4.3	26.5	33.9	46.0	-12.2	PK
565.970	36.9	45	1.0	V	19.0	4.9	27.1	33.7	46.0	-12.3	PK
68.740	44.0	60	1.2	H	8.5	1.6	26.8	27.3	40.0	-12.8	PK
166.630	42.2	35	1.2	H	12.5	2.1	26.6	30.2	43.5	-13.3	PK
66.830	43.4	180	1.0	H	8.5	1.6	26.8	26.7	40.0	-13.4	PK
452.000	37.4	90	1.2	H	17.1	4.3	26.5	32.3	46.0	-13.7	PK
298.590	40.9	45	1.2	H	13.8	3.2	26.0	31.9	46.0	-14.1	PK
231.850	40.9	260	1.0	H	11.7	2.8	26.0	29.3	46.0	-16.7	PK

Plot(s) of Test Data

Plot(s) of Test Data is presented hereinafter as reference.



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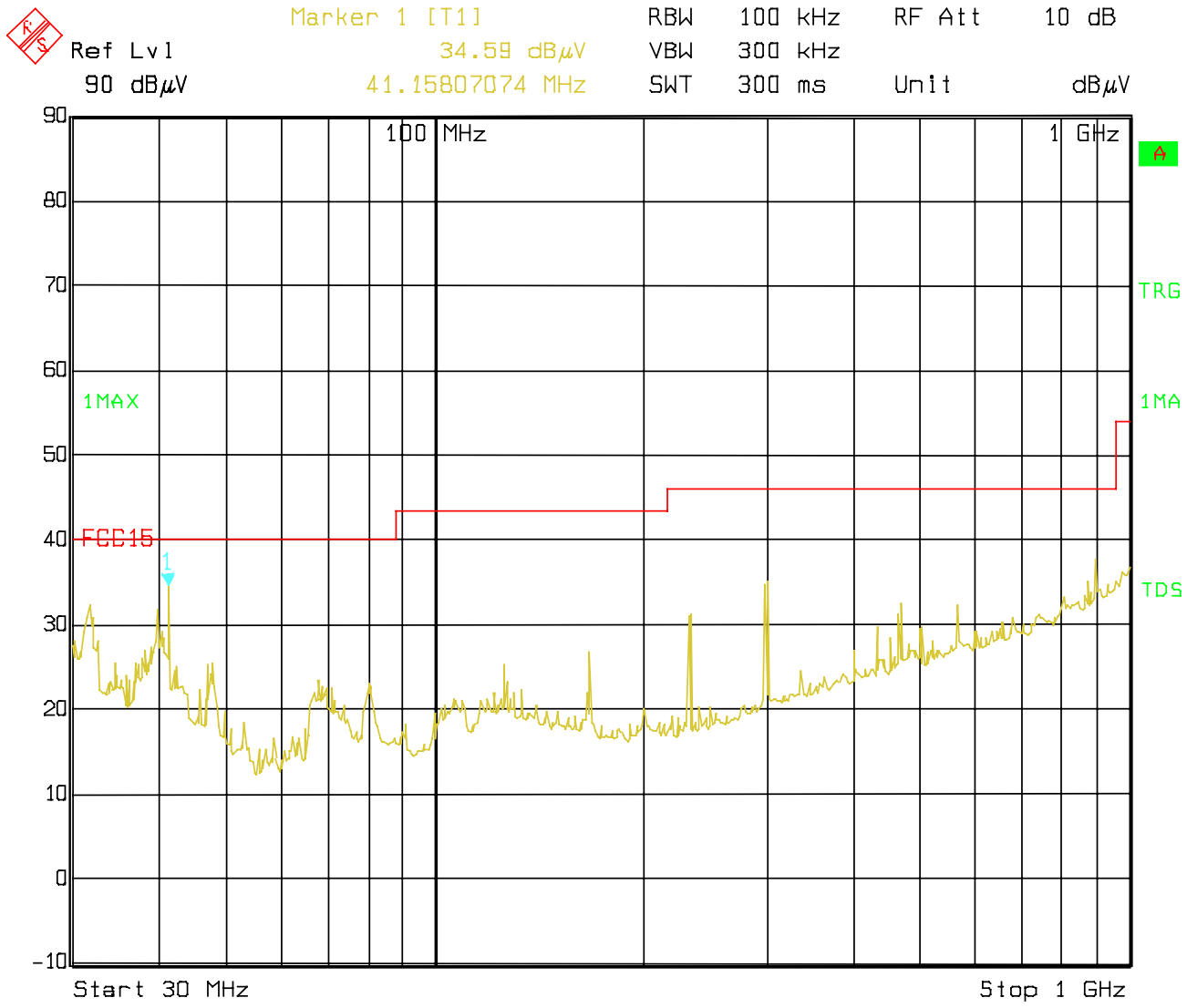

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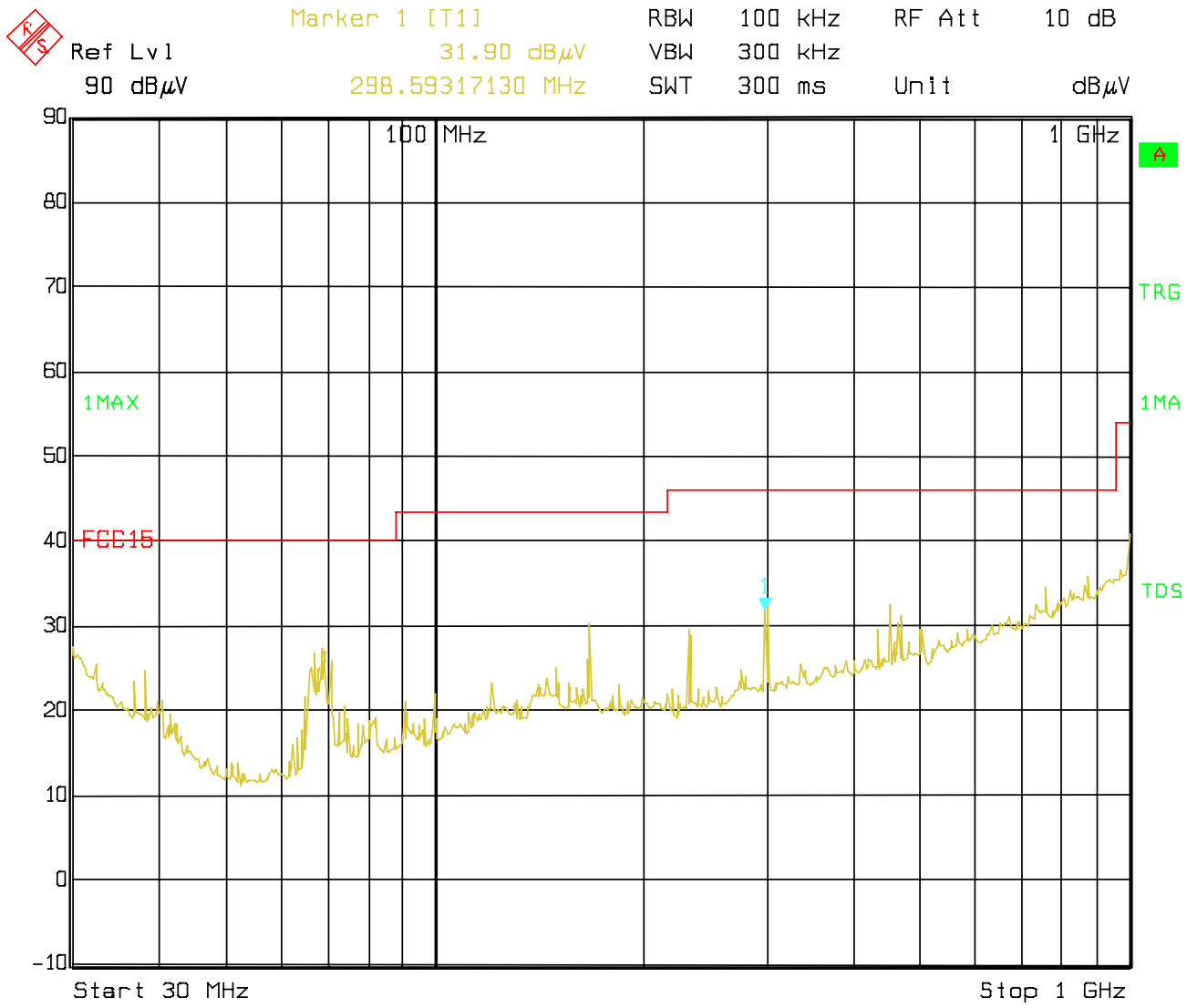
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RBW 100 kHz
RF Att 10 dB
Ref Lvl
31.90 dBµV
VBW 300 kHz
90 dBµV
298.59317130 MHz
SWT 300 ms
Unit dBµV
100 MHz
1 GHz
A
TRG
1MAX
1MA
FCC15
TDS
Start 30 MHz
Stop 1 GHz
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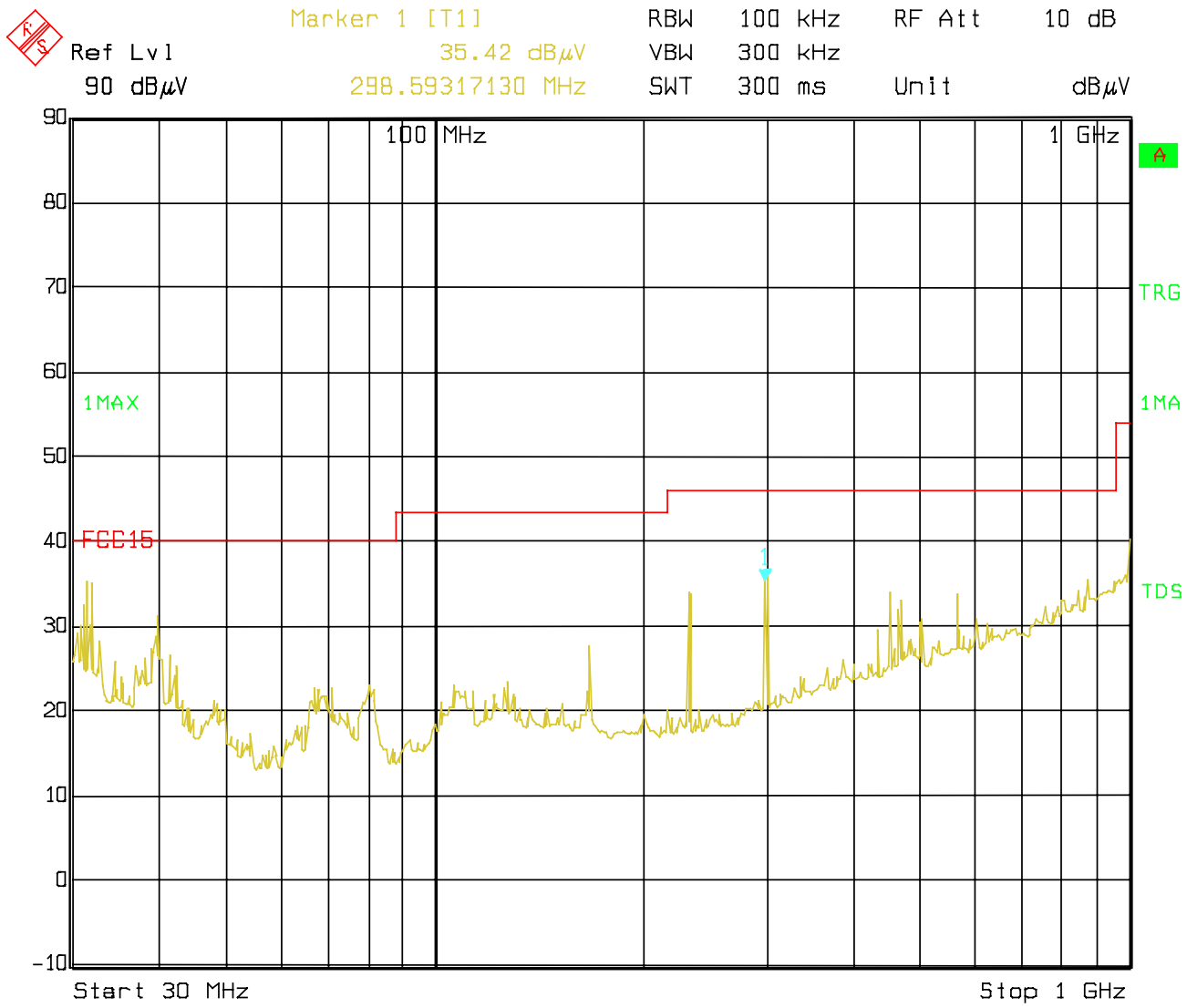

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