FCC Test Report

FCC EVALUATION REPORT FOR VERIFICATION	
Project Reference No.	161398
Product	Digital Baby Monitor
Brand Name	N/A
Model	28000-RX
Alternate Model	N/A
Tested according to	FCC Rules and Regulations Part 15 Subpart B Class B 2008, ANSI C63.4-2009

Tested in period	2011/1/17 to 2011/1/27	
Issued date	2011/1/28	
Name and address of the Test House	Nemko Nemko Shanghai Ltd. 7F, No.1 Building, No. 2007 Hong Mei Road, Xuhui district, Shanghai, P.R. China Phone : +86 21 5072 0988 Fax : +86 21 5072 0950	
Tested by	Zone Peng	2011-01-28
	Zone Peng	***date***
Verified by	Daria Liu	2011-01-28
	Daria Liu	***date***

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1. Client Information

1.1 Applicant

Company Name:	**Summer Infant, Inc.**
Company Address:	**582 Great Road** **North Smithfield, RI 02896** **USA**

1.2 Manufacturer

Company Name:	**Foshan Shunde Alford Electronics Co. Ltd.**
Company Address:	**Xinjiao Industrial Park, Daliang, Shunde, Foshan City, Guangdong Province, China**

1.3 Scope

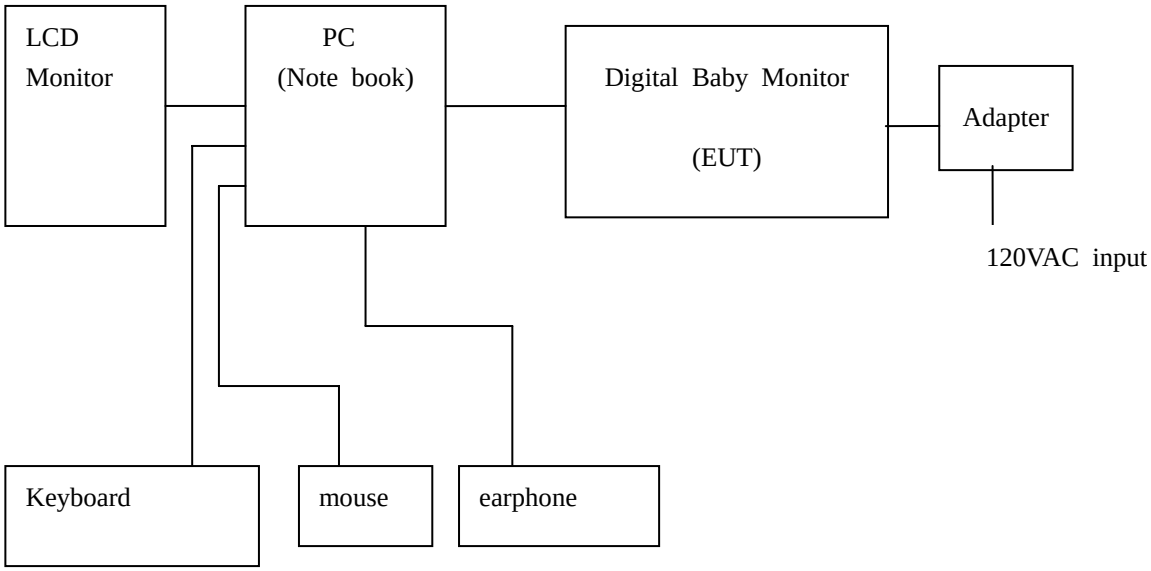
●Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission under FCC part 15.

2. Equipment under Test (EUT)

2.1 Identification of EUT

Category:	**Digital Baby Monitor**
Model Name:	**28000-RX**
Alternate model:	N/A
Brand name:	N/A
Technical data (Rating, etc.):	**Input: 120V/60Hz**
AC to DC adapter	AC ADAPTER Model: BLJ5W075075P-U Input : 100-240VAC 50/60Hz 150mA Output: 7.5VDC 750mA

2.2 Setup drawing



2.3 Additional Information Related to Testing

Test mode

TM1 120VAC 60Hz, Connect to PC (note book) and data transfering

Remark: only list the worse mode in this report.

3. General Test Conditions

3.1 Location

These measurement tests were conducted at Shenzhen Timeway Technology Consulting Co., Ltd. East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. Chegongmiao, Futian District, Shenzhen, China—ELA 611

FCC-Registration No.: 899988

IC- Registration No.: IC5205A-01

Note: all test are witnessed by NEMKO engineer

3.2 Operating Environment

All tests and measurements were performed in a shielded enclosure or a controlled environment suitable for the tests conducted. The climatic conditions in the test area are automatically controlled and recorded continuously.

Parameters	Recording during test	Accepted deviation
Ambient temperature	20-25°C	15 – 35 ºC
Relative humidity	45-55%	30 - 60%
Atmospheric pressure	101.2 kPa -101.3kPa	86-106kPa

3.3 Operating During Test

● The EUT is operated at 120V a.c. 60Hz during all tests.

●The EUT is connect to PC and copy data from the EUT during all tests.

3.4 Test Equipment

The test equipments used in testing are calibrated on a regular basis. For most of the testing equipments accredited calibration is conducted once a year. For certain equipment the calibration interval is longer. Between the calibrations all test equipment are controlled and verified on a regular basis. The test equipments used are defined in each test section of this report.

AE equipment:

Name	Model No.	Serial No.	Manufacturer	Cable	Remark
Mouse	OM860XC	HM0509	BIGCOW	Data cable of 1.5m length	FCC DOC
Keyboard	SK-8115	CN-0DJ313-71616-04J-06S4	DELL	Data cable of 2.0m length	FCC DOC
Earphone	DT-301	--	--	Data cable of 2.0m length	FCC VOC
Display	P2450H	LR24HVDSC1624D	SAMSVNG	--	FCC DOC
PC	R400	R8-825ER	Lenovo	--	FCC DOC

4. Measurement Uncertainty

The Measurement Uncertainties stated were calculated in accordance with the requirements of NIST Technical Note 1297 with the confidence level of 95 %.

No.	Item	Uncertainty	Remark
1	Conducted Emission Test	3.6dB	
2	Radiated Emission Test	4.7dB	3m chamber

5. Conducted Emission (150 KHz to 30 MHz)

5.1 Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network. This provided a 50-ohm coupling impedance for the EUT (Please refer to the test setup photographs). The other peripheral devices power cord connected to the power mains through another line impedance stabilization network.

Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4-2009 on conducted Emission test.

The bandwidth of test receiver is set at 9kHz. The frequency range from 150kHz to 30MHz is checked. The test result are reported as below.

5.2 Measurement Equipment

	Equipment	Last Calibration	Type	Serial No.	Manufacturer
☒	EMI Receiver	2010.5.14	ESH3	860905/006	R & S
☒	Spectrum Analyzer	2010.5.14	ESA-L1500A	US37451154	R & S
☒	PULSE LIMITER	2010.5.14	ESH3-Z2	100281	R & S
☒	LISN	2010.5.14	ESH3-Z5	100294	R & S

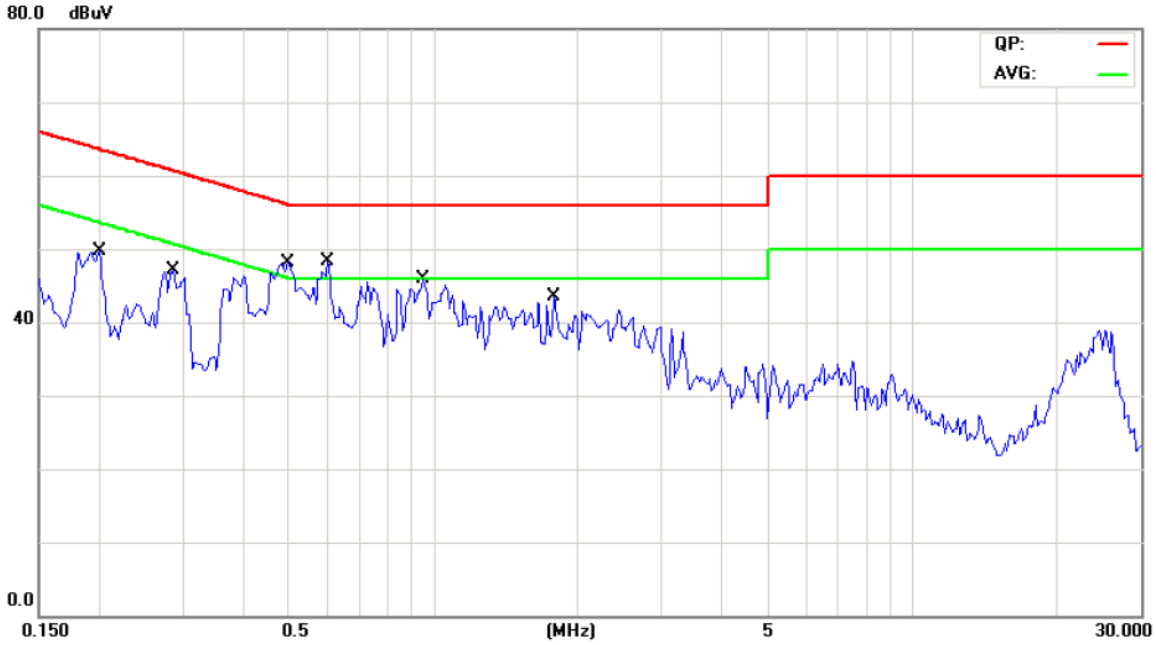
5.3 Test Result

Model	Test mode	Power Line	Test Data	Test Result
28000-RX	TM1	Line	Diagram 001	Pass
		Neutral	Diagram 002	Pass

NOTES:
1. Measurements using CISPR quasi-peak mode & average mode.
2. All modes of operation were investigated and the worst -case emission are reported. See attached Plots.
3. Correct factor = LISN Factor + Cable Loss
4. The limit for Class B device is on the FCC Part section 15.107(a).
6. If the QP value is lower than AV limit ,then AV value is deemed to comply with AV limit .

5.3.3 Diagram 001

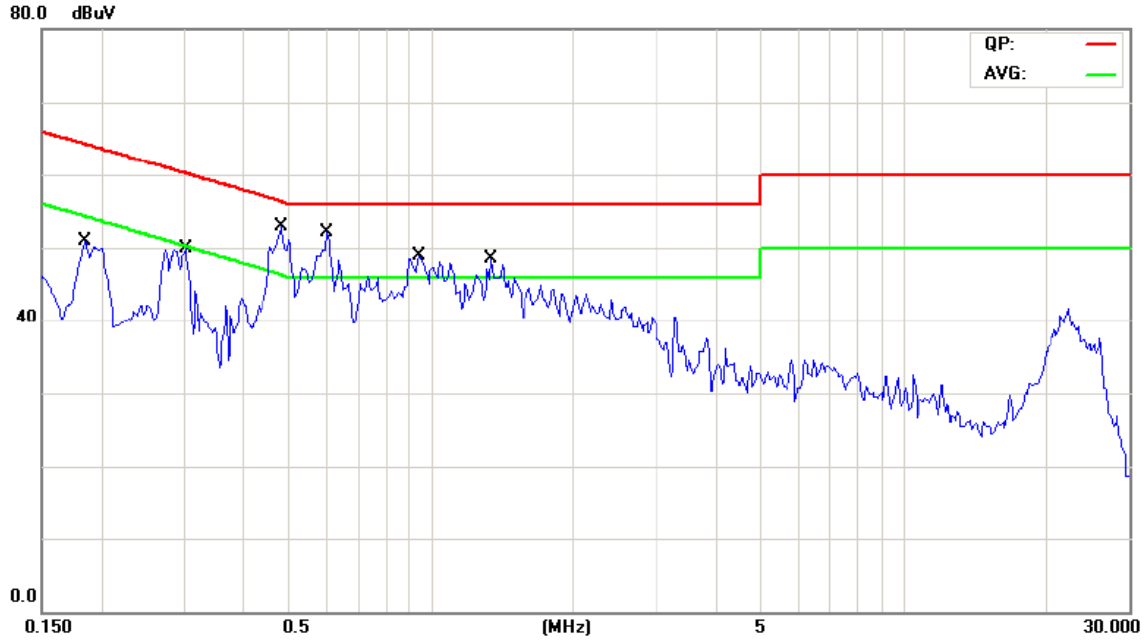
Model: 28000-RX, Test Mode: TM1, Line: L



No.	Mk.	Freq.	Measure-ment	Limit	Over	
		MHz	dBuV	dBuV	dB	Detector
1		0.2008	43.02	63.57	-20.55	QP
2		0.2008	23.58	53.57	-29.99	AVG
3		0.2867	42.61	60.62	-18.01	QP
4		0.2867	28.78	50.62	-21.84	AVG
5	*	0.6031	42.53	56.00	-13.47	QP
6		0.6031	27.00	46.00	-19.00	AVG
7		0.9508	36.72	56.00	-19.28	QP
8		0.9508	24.00	46.00	-22.00	AVG
9		0.4977	41.99	56.04	-14.05	QP
10		0.4977	28.27	46.04	-17.77	AVG
11		1.7867	30.71	56.00	-25.29	QP
12		1.7867	20.43	46.00	-25.57	AVG

5.3.4 Diagram 002

Model: 28000-RX, Test Mode: TM1, Line: N



No.	Mk.	Freq.	Measure-ment	Limit	Over	
		MHz	dBuV	dBuV	dB	Detector
1	*	0.4820	48.61	56.30	-7.69	QP
2		0.4820	36.41	46.30	-9.89	AVG
3		0.6031	47.14	56.00	-8.86	QP
4		0.6031	32.70	46.00	-13.30	AVG
5		0.9469	42.60	56.00	-13.40	QP
6		0.9469	30.59	46.00	-15.41	AVG
7		1.3375	40.49	56.00	-15.51	QP
8		1.3375	28.26	46.00	-17.74	AVG
9		0.3023	44.12	60.18	-16.06	QP
10		0.3023	28.64	50.18	-21.54	AVG
11		0.1852	45.13	64.24	-19.11	QP
12		0.1852	27.82	54.24	-26.42	AVG

6. Radiated Electromagnetic Disturbances

6.1 Test Procedure

The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m or 10m from the EUT on an adjustable mast.
The EUT were rotated 0 to 360 degree and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. The test result are reported as below.
For below 1GHz
RBW=120 kHz; VBW=300KHz.The frequency range from 30MHz to 1000MHz is checked.
For above 1GHz
RBW=1MHz ; VBW=1MHz,PK detector for peak emissions measurement above 1GHz
RBW=1MHz ; VBW=10Hz, PK detector for average emissions measure above 1GHz

6.2 Measurement Equipment

	Equipment	Last Calibration	Type	Serial No.	Manufacturer
☒	Spectrum Analyzer	2010-5-14	FSEM	848597、001	RS
☒	Ultra Broadband ANT	2010-5-14	VULB9163	9163/340	Schwarebeck
☒	Pre-amplifier	2010-5-14	8447D	2727A05017	HP
☒	Pre-amplifier	2010-5-14	EM30265	2727A05017	EM
☒	Signal Generator	2010-5-14	8657B	3208U02589	HP
☒	Horn Antenna	2010-5-14	BBHA9120D	1201	Schwarebeck

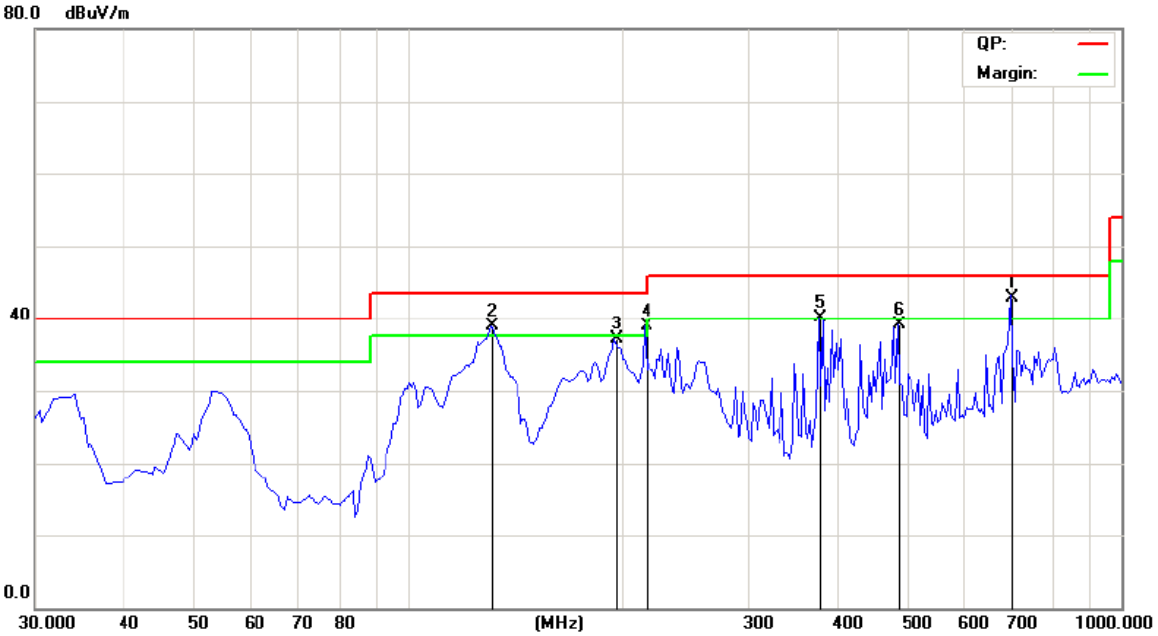
6.3 Test Result

Model	Test mode	Frequency range	Antenna Polarity	Test Data	Test Result
28000-RX	TM1	30MHz~1000MHz 3m test distance	Horizontal	Diagram 003	Pass
			Vertical	Diagram 004	Pass
	TM1	1GHz~18GHz 3m test distance	Horizontal	Diagram 005	Pass
			Vertical	Diagram 006	Pass

NOTES:
1.All modes were measured and the worst case emission was reported.
2.Measurements using CISPR quasi-peak mode.
3. The limit for Class B device is on the FCC Part section 15.109(a).
4: If the PK value is lower than AV limit ,then AV value is deemed to comply with AV limit too .

6.3.1 Diagram 003

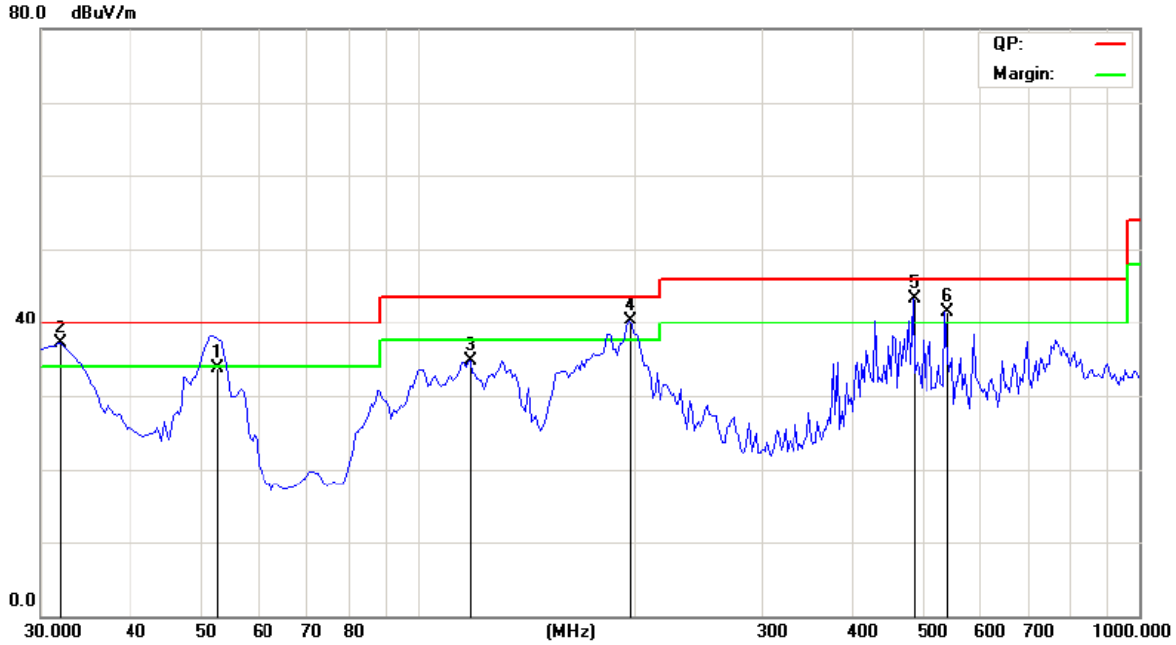
Model: 28000-RX, Test Mode: TM1, Frequency Range: 30MHz-1GHz Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	702.0702	42.42	0.51	42.93	46.00	-3.07	QP
2	!	131.0822	53.80	-14.86	38.94	43.50	-4.56	QP
3		195.2305	49.37	-12.28	37.09	43.50	-6.41	QP
4	!	214.6692	50.13	-11.15	38.98	43.50	-4.52	QP
5	!	377.9558	45.93	-5.91	40.02	46.00	-5.98	QP
6		486.8136	42.51	-3.49	39.02	46.00	-6.98	QP

6.3.2 Diagram 004

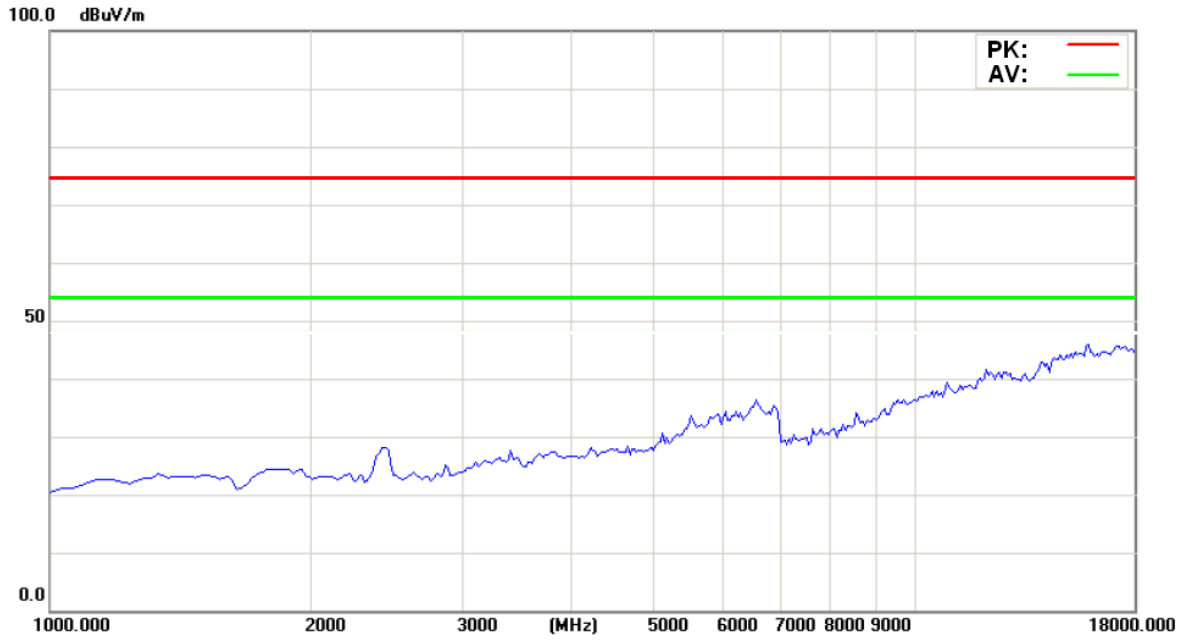
Model: 28000-RX, Test Mode: TM1, Frequency Range: 30MHz-1GHz Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		52.4907	45.50	-11.82	33.68	40.00	-6.32	QP
2	!	31.9438	50.01	-12.97	37.04	40.00	-2.96	QP
3		118.0956	47.91	-13.23	34.68	43.50	-8.82	QP
4	!	197.1741	52.53	-12.32	40.21	43.50	-3.29	QP
5	*	486.8136	46.78	-3.49	43.29	46.00	-2.71	QP
6	!	539.2985	43.84	-2.29	41.55	46.00	-4.45	QP

6.3.3 Diagram 005

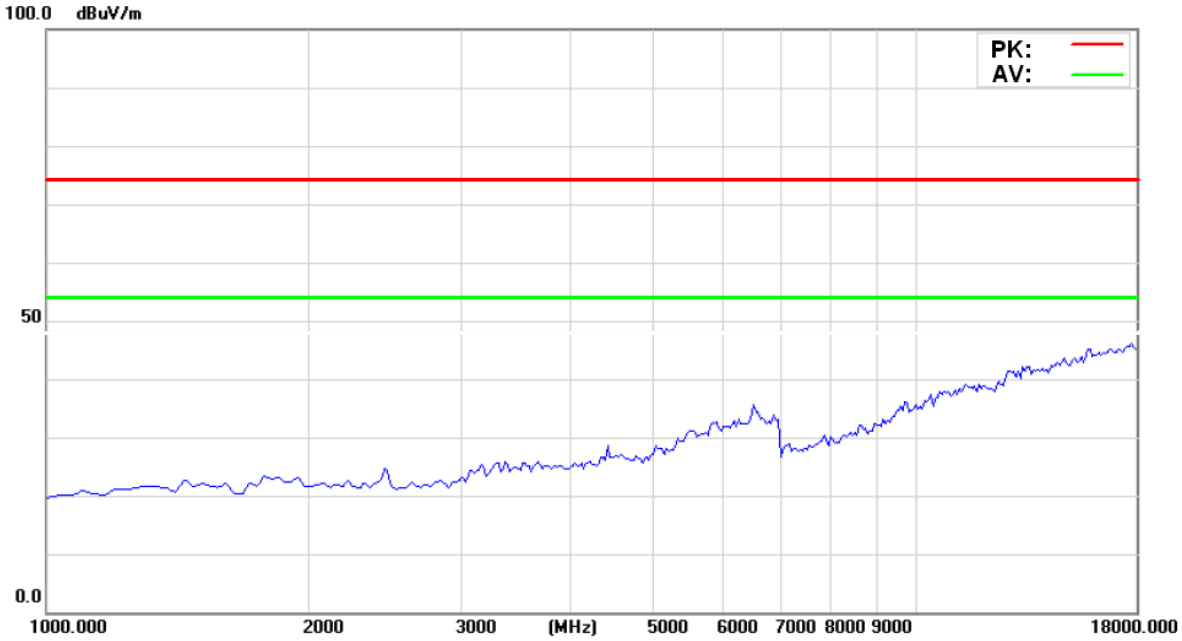
Model: 28000-RX, Test Mode: TM1, Frequency Range: 1GHz-18GHz Horizontal



Scan: PK detector
No emission founded

6.3.4 Diagram 006

Model: 28000-RX, Test Mode: TM1, Frequency Range: 1GHz-18GHz Vertical



Scan: PK detector
No emission founded

Appendix A Sample Label

Labelling Requirements

The sample label shown shall be permanently affixed at a conspicuous location on the device and be readily visible to the user at the time of purchase.

*** The following paragraph specified in the user manual.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.