



MPE ESTIMATION

1.Limit for General Population/ Uncontrolled Exposures

Frequency	Power density (mW/ cm ²)	Averaging time(minutes)
300MHz---1.5GHz	F/1500	30
1.5GHz---100GHz	1.0	30

Frequency(MHz)	Power density (mW/ cm ²)	Averaging time(minutes)
2412	1	30
2437	1	30
2462	1	30

Note: F= Frequency in MHz

2. Estimation Result

EUT: VIDEO NURSERY MONITOR		
M/N: NTM-V1		
FCC ID:AK8NTMV1		
Test date:2012-07-26	Pressure: 101.3 kpa	Humidity: 50.6 %
Tested by: Leo-Li	Test site: RF Site	Temperature: 25.4°C

Cable loss: 1 dB		Attenuator loss: 20 dB				Antenna Gain: 2dBi	
Test Mode	CH	Frequency (MHz)	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
Tx	CH0	2410.875	14.66	29.24	2	1.58	0.5904
	CH9	2444.625	13.99	25.06	2	1.58	0.5060
	CH18	2471.625	13.37	21.73	2	1.58	0.4387

Note:The Estimation distance is 2.5cm.



3. SAR exclusion Statement

Each channel of this device is including Tx and Rx. Its transmit time is 5.5ms, and receive time is 0.68ms. Switch time of each channel is 1.73ms. The maximum average conducted power of the child unit is 14.6dBm. So the maximum source-based time-averaging duty factor for the parent device is 52%. This results in an effective power of $33\text{mW} \times 0.52 = 17.2\text{mW}$ which is less than 60/2.4GHz (25 mW) threshold for SAR exclusion. Therefore, SAR testing may be omitted for the parent device certification application.

And the revised version of KDB447498 General RF Exposure Guidance DR01, modifies the maximum power SAR exclusion threshold formula as follows:

$$[(\text{max. power of channel, including tolerance, mW})/(\text{min. separation distance, mm})] \cdot [f(\text{GHz})]^{3/2}$$

The device would also meet this threshold based upon a separation distance of 2.5 cm for held-to-face transmitters, so we make the MPE estimate base on the distance 2.5cm.

Please see PBA inquiry for the detailed and which Tracking Number is 398377.

Please see next page for the the photo of the device and the operation description of the device used in the PBA inquiry.



Operational Description

General Product Information

The SONY baby monitor is one device applied to monitor baby room by image, sound and temperature.

Circuit Description

The device includes TX unit and RX unit. TX unit can build up wireless communication with RX unit. TX unit is used to capture image, sound, and temperature data in the baby room, and send the data to RX unit. RX unit is utilized to recover the image, sound and temperature data received from TX unit. People working outdoors could monitor baby room well through the device.

TX unit includes a 1/7" CMOS camera, a MIC, a temperature sensor, a 2.4G module, a light sensor, and and eight IR LEDs. The camera, temperature sensor, and MIC are respectively used to capture image, sound, and temperature data, which are coded by a CPU SN93330 and transmitted to RX unit via the 2.4G module. Light sensor is used to control IR LED open or not according to environmental brightness, make sure the baby room is always visible to people through the device.

RX unit includes a 2.36" TFT LCD, a speaker, a 2.4G module, four indicator LEDs, eight keys, and 1200mA/h Li-ion battery. RX unit receives the coded data from TX unit via the 2.4G module and decoded by a CPU SN93330. Decoded image data, composed of 16 bits RGB data, is sent to the LCD. Temperature data is also displayed on the LCD. Decoded sound data is sent to an amplifier, which drives the speaker. The indicator LEDs are switched on/off by a MCU according to sound volume. The function keys are detected by chip-on ADC of the CPU to do function operation. The battery can be charged by a charge IC when an adapter is input. The battery can support RX unit work for about 5 hours with LCD brightness and speaker volume at middle level.

The 2.4G module features a fully programmable frequency synthesizer by SPI. The data rate is 3Mbps, applying GFSK modulation. The 2.4G module offers 57 channels for CE, and 19 channels for FCC. The RX unit sensitivity is -85dBm (typical) in 3Mbps mode.

Ratings and System Details

Crystal Frequency: 12MHz

Crystal Tolerance: ± 20 ppm

2.4G Module Rating and System Detail:

Tx mode

Transmitter Frequency: 2400 – 2483.5MHz

Crystal Tolerance: ± 20 ppm

Power Consumption: DC 5V 450mA(MAX)

RF Power: 16 (+1.5/-1.5) dBm

Modulation mode: GFSK

RX mode

receiver Frequency: 2400 – 2483.5MHz

Crystal Tolerance: ± 20 ppm

Power Consumption: DC 5V 650mA(MAX) with battery charging

DC 5V 350mA(MAX) with battery full charge

2.4GHz Antenna

4.2cm

Nor for sale
RX+DVT+055

6.8cm

12.5cm











Palm OS 5.0x
Palm OS 5.0x

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RT-test

SONY
ANIOS