

- **Residential address:** Ras Beirut, Makdisi Street, Makdisi 1752 Building
- **Floor number:** 2<sup>nd</sup>
- **Location of measurement equipment:**  
Open balcony facing Makdisi Street
- **Time and dates:**  
From 20:00 hrs Friday 8 April to 18:30 hrs Saturday 9 April 2016.
- **Context information:**  
The residential building is opposite several restaurants and bars that open directly to the street; they have no fixed walls. They include Bistro bar, Palma, Main Street, Walkman and February 30.

- **Background on equipment, measurement and analysis**

The data were collected using an Apple iPad Air 2 with “Noise Tube,” a free App currently coordinated by the Software Languages Lab at the Computer Science department of the Vrije Universiteit Brussel [<http://noisetube.net/>]. The Noise Tube App on an iPad records sound levels for a duration of up to 24 hours.

In the Wireless Research Lab in AUB’s Faculty of Engineering and Architecture readings on the iPad were compared to a professional sound meter. The iPad readings were consistently around 10dB less than those on the sound meter. Thus, adding 10 dB to the iPad readings produces results similar to a sound meter with a margin error of 2 to 3dB.

Once the readings were taken at the Makdisi residence, the iPad was brought to the AUB Wireless Research Lab where the data were downloaded to a computer. The measurements were then plotted using Matlab software, dividing readings into subsets of one hour each and including the average reading for each time interval. Figure 1 displays the measurements taken for the entire duration with calibration by adding 10dB to the raw measured data.

- **Results**

Noise levels were highest between 12 midnight and 1am, with calibrated highest readings peaking at 96dB at 12:30am and lowest at 52dB at 5:15am. The highest average reading was 83dB between midnight and 1am, and the lowest average reading was 59dB between 5 and 7am.

The highest noise levels are substantially greater than the maximum set by the Lebanese Ministry of the Environment (Decision 52/1, 1996; published in the Official Gazette #45 on 12/9/1996), which stipulates maximum night time (22:00-07:00 hrs) noise levels for urban mixed-use neighborhoods at 40-50dB.

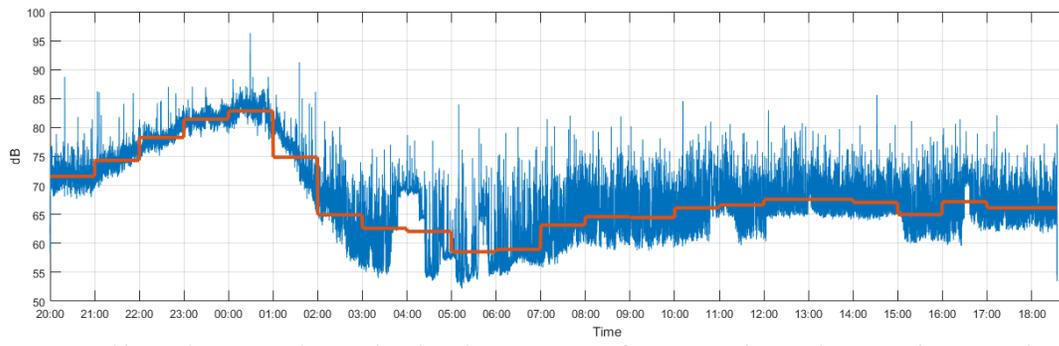


Figure 1: Calibrated measured noise level in dB versus time from 20:00 hrs Friday 8 April to 18:30 hrs Saturday 9 April 2016. The red line represents the average noise level in dB over 1 hour time intervals.