Neglecting Acoustic noise in MRI can lead to annoying situations (figure 1). Different scenarios, specific datas, reference levels and limits according to italian laws and international rules have to be considered in planning an MRI site (Form1).

In the MRI room, with different settings as phantoms and slice size, the tested points are:
I) Left ear patient, near the isocenter of the bore
II) front entry of the bore, at laser cross
III) 50 cm from point II
IV) near the entry door

(see table 1)

CONCLUSIONS :
1) A timely noise assessment led to reconsider some projects. In one case the reporting room has been moved after measures. In other cases the planned site has been changed after the data analysis.
2) Inside it, they were found high LZpeak for many sequences and acceptable levels for “silent” sequences according to literature. The laser optic microphone used is MRI compliant and suitable for size and band frequency, but saturated at 111dBZ with unweighted results at the moment.
3) The compliance of the noise in MRI implants has to be evaluated according many rules and possibly with the competent authorities.
4) Suitable assessment and measurement protocols have to be developed to obtain all the necessary datas.