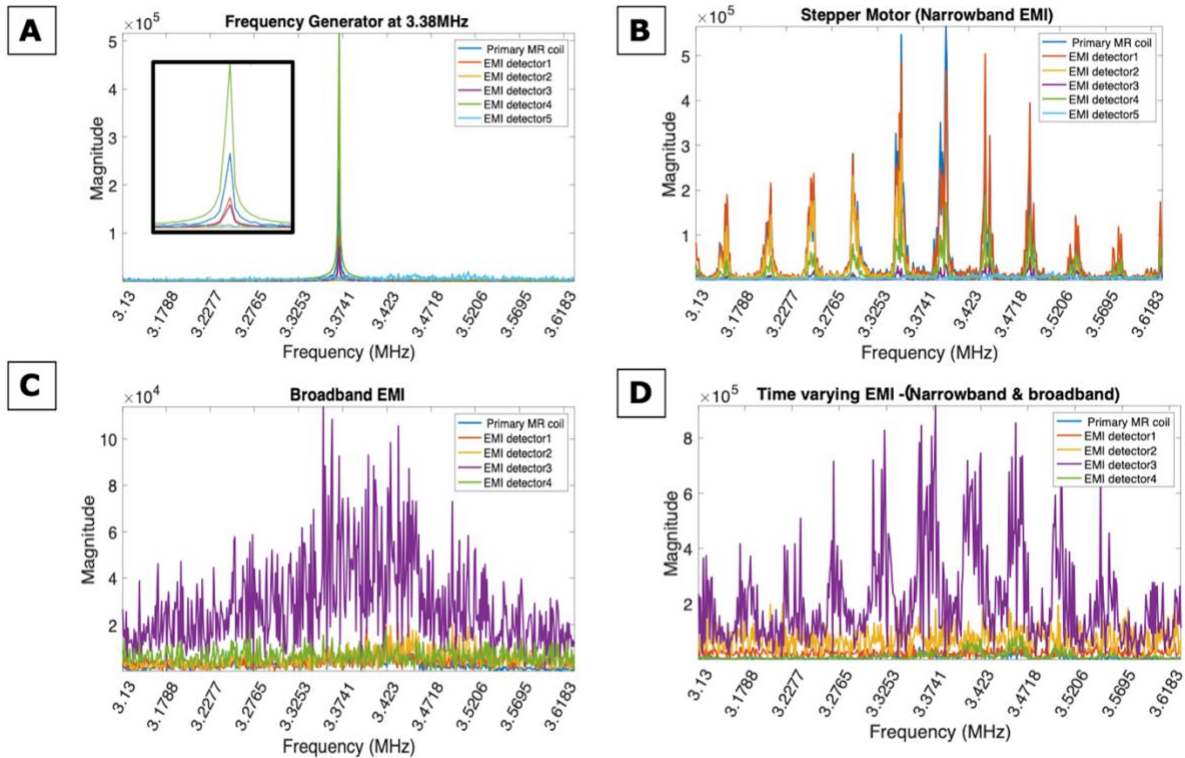
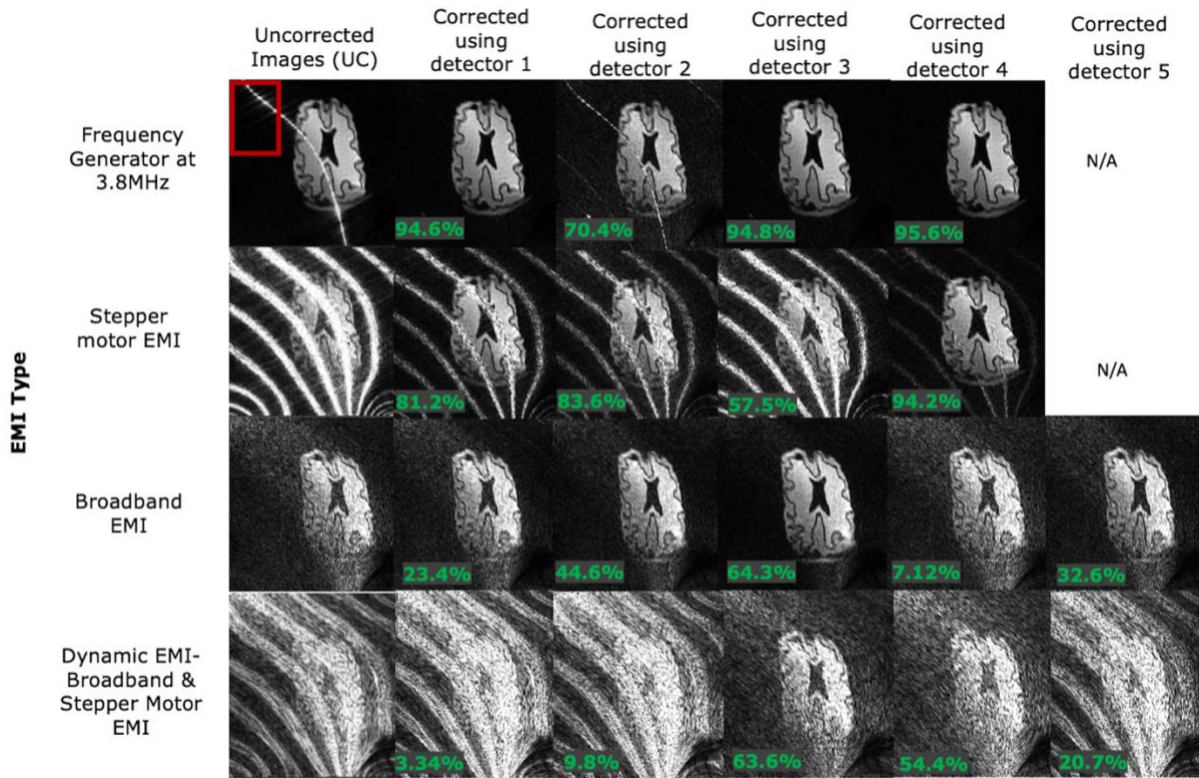


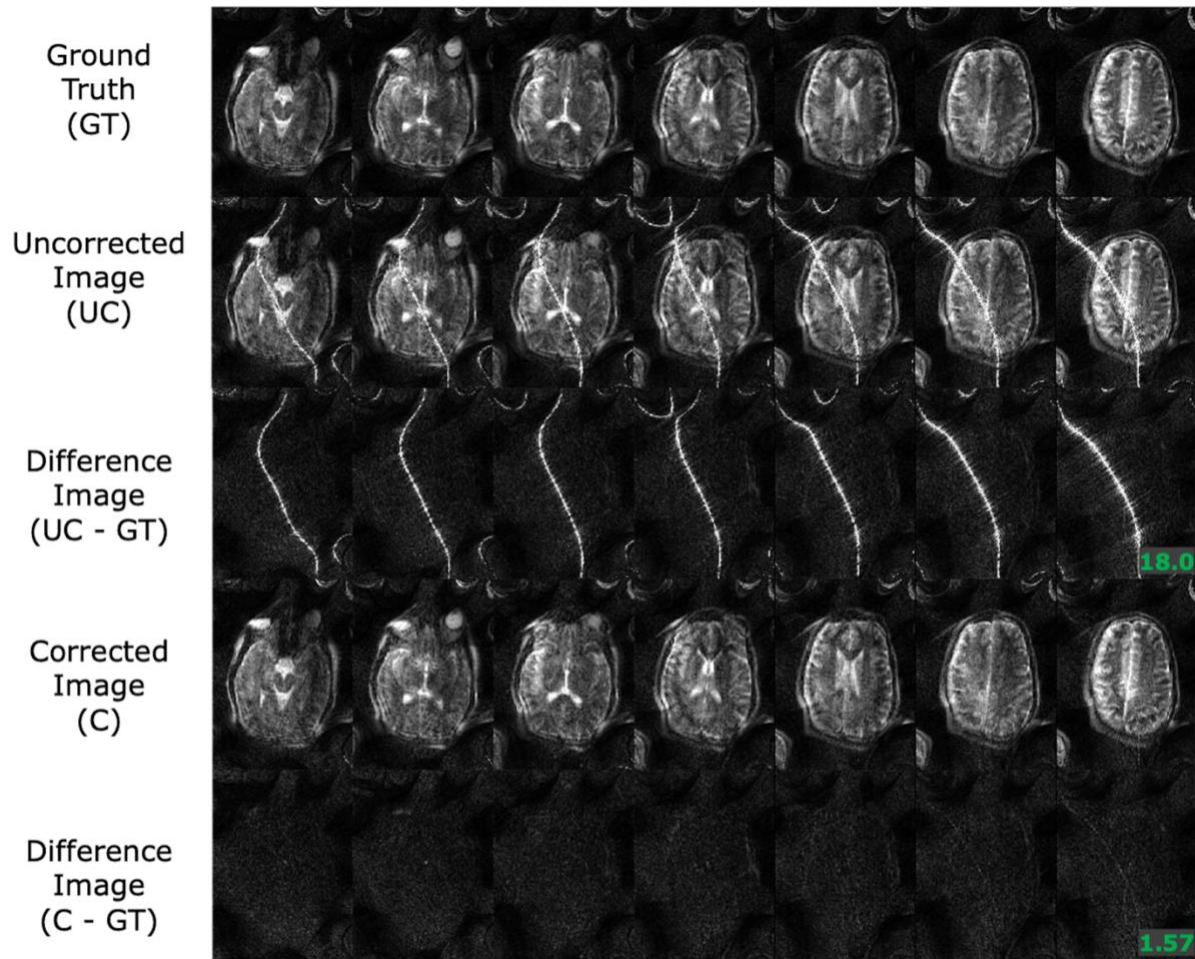
Supporting information Figures



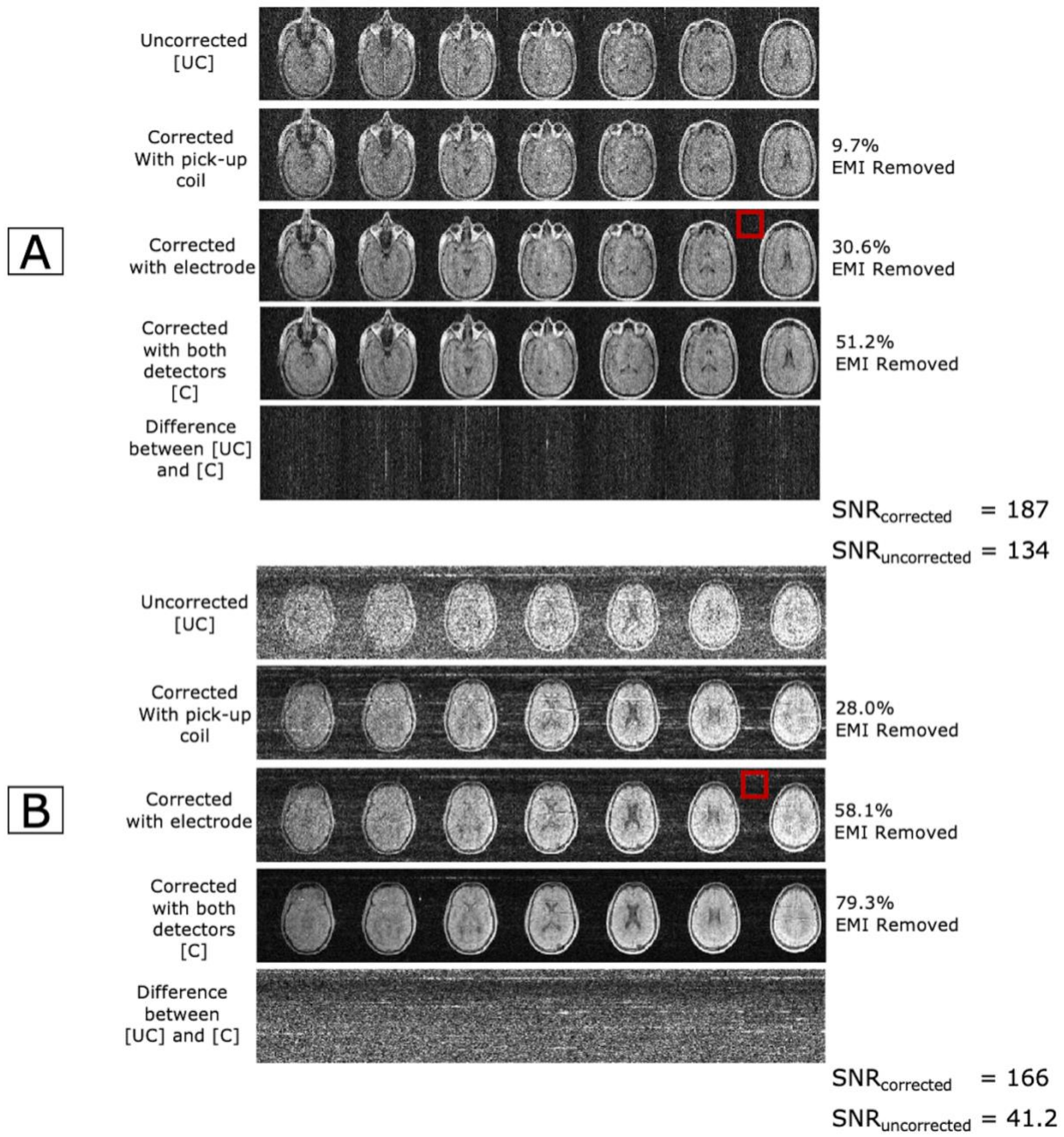
Supporting information Figure S1: EMI frequency spectrum received through the primary coil and each EMI detector coils in the portable 80mT system. EMI sources included: A) function generator EMI at 3.38MHz (operating frequency of the portable 80mT low field head scanner) B) Stepper motor (SM) EMI C.) Broadband (BB) EMI source D.) Dynamic switching between the SM and BB sources (narrowband stepper motor source on during the first half of the scan and broadband EMI source on during the second half).



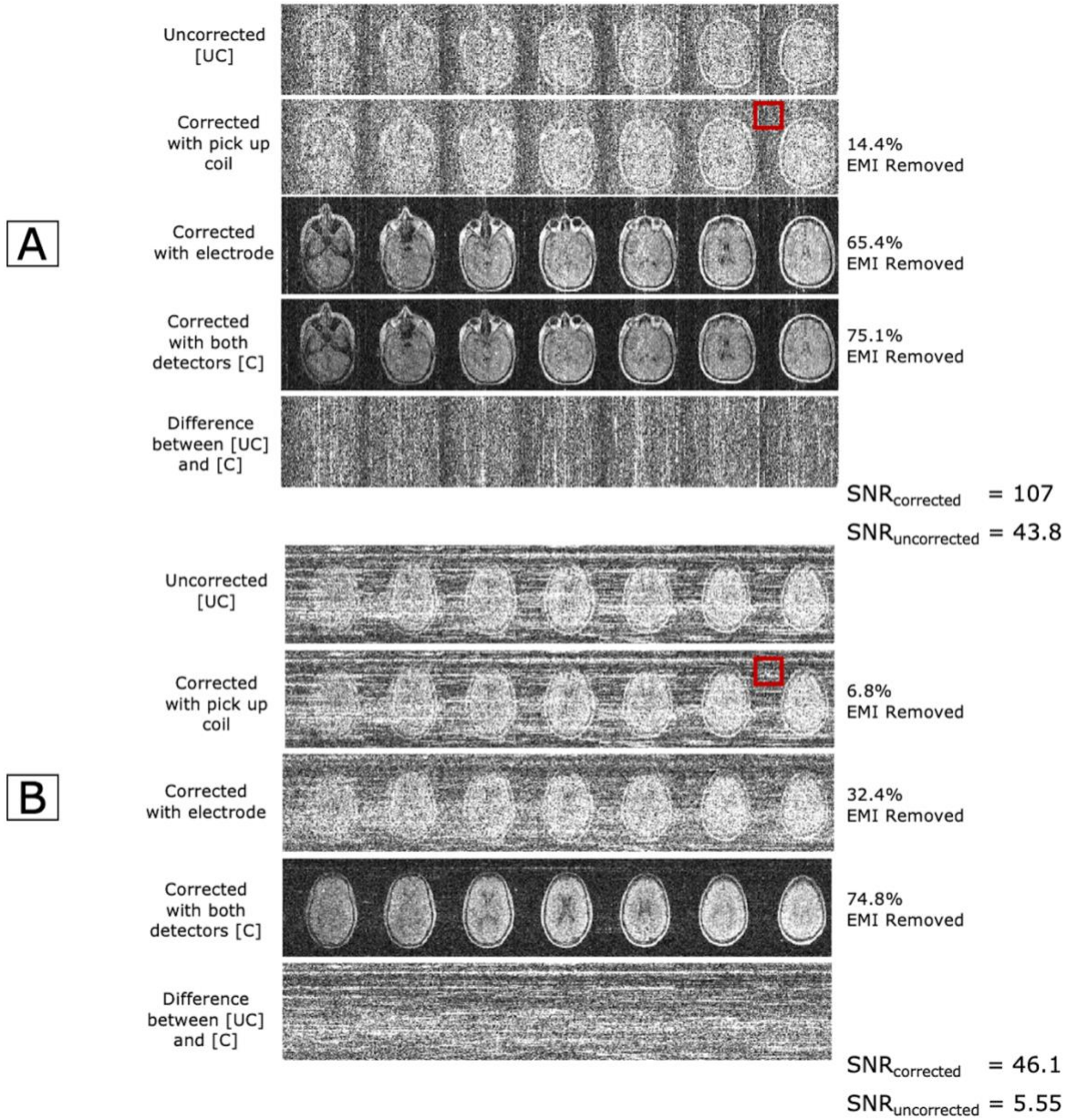
Supporting information Figure S2: EMI correction contribution of each detector coil in the portable 80mT scanner is illustrated. 2D images of the brain slice phantom are shown corrected with each detector individually. Percent EMI removed by EDITER using Eq.4 is indicated on the bottom left. The red box indicates the region outside the object used to determine this metric.



Supporting information Figure S3: *in vivo* T2 weighted 3D images of subject 1 (male, 24 y/o) acquired in the portable 80mT scanner. Images were acquired in a shielded room with the frequency generator EMI source. Correction was performed with a single pickup coil as the EMI detector. Top to bottom: Ground truth image (no EMI source), uncorrected image, difference images between uncorrected image and ground truth, EDITER-corrected image, and difference images between corrected image and ground truth. The average RMSE of the difference images is shown in the bottom right.



Supporting information Figure S4: PD weighted images acquired with the 47.5mT scanner in the “flexible” shielding configuration setup (with draped copper mesh) of A) Subject 2 (female, 27 y/o) and B) Subject 3 (male, 30y/o). EDITER correction is shown using each EMI detector individually and together. Percent EMI removed by the EDITER method using Eq.4 is indicated on the right. The red box indicates the region outside the object that was used for this measurement. SNR for both the uncorrected and corrected images are shown.



Supporting information Figure S5: A) PD weighted images using a 3D RARE sequence in the 47.5mT scanner's "open" shielding configuration setup for A) Subject 2 (female, 27 y/o) and B) Subject 3 (male, 30y/o). EDITER correction is shown using each EMI detector individually and together. Percent EMI removed by the EDITER method using Eq.4 is indicated on the right. The red box indicates the region outside the object that was used for this measurement. SNR for both the uncorrected and corrected images are shown.