Response to Reviewer 2 Comments

Point 0: Some articles concerning the similar problem are also supposed to be listed in the References.

Response 0: We have study these papers seriously and really feel that we have benefited a lot. We have listed them in the References and added information that we needed in this manuscript. (lines 43-48, lines 644-648, lines 655-658, References [4], [5], [9], [10])

Point 1: The word “where” should be written in a small letter after equation (lines 147, 149, 157, 171, 176, 202, 276) because it is the further part of sentence.

Response 1: Modified according to reviewer's comments. (lines 139, 144, 158, 181, 187, 212, 230, 453, 455, 463)

Point 2: 2. Not all abbreviations are deciphered, for example: ECG –line 77, BiLSTM –line 94, IF –line 112, GPU and CPU –line 121, NCFM –in Table1, PSNR –line 400, RPSC –line 560, SCDAE –line 561.

Response 2: Modified according to reviewer's comments. Including ECG, BiLSTM, IF, GPU, CPU, PSNR, RPSC, SCDAE. (lines 79, 96, 113, 122, 122, 351, 544, 60) NCFM is a spelling mistake, has changed NCFM to NCPM. (lines 147, 151, 282, 284, 548, 550)

Point 3: The authors use two different concepts: the mean square deviation (Eq. 18) and the mean square error (Eq. 28). Do they mean the same concept of error?

Response 3: They are two different concepts. Square deviation: Analysis for error between the autocorrelation value within a given time T range and the theoretical value of autocorrelation. Square error: Indicator for quality of images that characterize different signals.

Point 4: Could the Authors provide for what values of time and frequency are illustrated the images in Figures 3, 4, 7, 8 and 9. The axis (horizontal and vertical) are not described.

Response 4: Modified according to reviewer's comments. Added the axis (horizontal and vertical) and all the figures have been completed. (Fig 2, Fig 3, Fig 4, Fig5, Fig6, Fig 7, Fig 8), (lines 162-165, 192-195, 235-236, 249-250, 270-271, 286, 305).

Point 5: Based on the calculation made could the Authors give few sentences in Conclusions about possibility of recognition the different type of emitter signal mode.

Response 5: Modified according to reviewer's comments. Have already add in Abstract and Conclusions. (lines 21-23, lines 626-628)