Why the PSNR value is infinite (or MSE value is 0) for some plane?

Whenever we get infinite PSNR value it means change in real image after embedding the message is negligible or it is zero.

So the MSE value which indicates the difference between real image and image after embedding process will be equal to Zero .

Hence ,PSNR = 10\*log10(256\*256/MSE)

So If MSE=0 then PSNR -> infinite

1. When a plane is used as indicator plane ,only last bit( LSB ) of a pixel is changed . Suppose we are changing LSB = 1 (or LSB=0) of a pixel and the LSB of that pixel is already 1(or 0) then the change will be zero. If this situation occurs for most of the pixels than the change will be negligible. So the PSNR value will be infinite.
2. When a plane is used for embedding the message, it happens when the bit values of last bits (1,2or3) of most of the pixels which are being used for embedding the message are equal to the bit values of the message.
3. When a plane is used for deciding the no. of bits to be embedded in one block , we change only last bit (LSB ) of some pixels. So the reason of getting infinite PSNR value is that Suppose we are changing LSB = 1 of a pixel and the LSB of that pixel is already 1 then the change will be zero.

So the PSNR value will be infinite.