How to debug when noise is serious

【1】Product Model（Version）

Model: any model
Version: any version

【2】Description of the problem

Image noise is heavy, shown as below:

【3】Problem Processing (Root Cause)

Image noise is related to sensor ability and ISP image algorithm, but to a decided hardware plan, the main factor is noise reduction algorithm.

【4】Solution

Suppression of noise is effected by several image parameters, shown as below:

Parameter	Effect
2D NR	Image would be fuzzy if grade set to high
3D NR	Moving objects would be with tail if grade set to high
Exposure Compensation	Reduce compensation can reduce noise, but also would reduce brightness and effect daytime image
Shutter Speed Floor	The floor speed to ensure real-time image is 1/25, and 1/12 or 1/6 and bigger can be brighter
Gain Ceiling	Reduce gain ceiling would reduce noise, but also would reduce brightness
Chroma CNT	Increase Chroma CNT grade to reduce color noise, but also would make color of image light
Sharpness	Decrease sharpness grade to reduce noise, but also would decrease definition and effect daytime image
Sharpness CNT	Increase sharpness CNT can reduce sharpness without effecting daytime image