

MEDIATEK

CONFIDENTIAL B

P40 ADBS Introduction & Usage



Outline

- P23 (DBS) → P40 (ADBS) UI Change
- Gray Blending
- Simulation Results

P23 DBS → P40 ADBS

P23

DBS Statistic

0	OFST
0	SL
96	MUL R
96	MUL GR
96	MUL GB
96	MUL B
32	YGN R
32	YGN GR
32	YGN GB
32	YGN B

Bias LUT

0	Y0	0	Y8
0	Y1	0	Y9
0	Y2	0	Y10
0	Y3	0	Y11
0	Y4	0	Y12
0	Y5	0	Y13
0	Y6	0	Y14
0	Y7		

STD

0 127

Bias

0 256

Calibration & Tuning

P40

Step1: Basic ADBS (auto; tuning-free)

☒ ADBS

Step2: Gray blending (option)

GRAY BLD

BLD MXRT	0
BLD SLP	0
BLD LOW	269
BLD HIGH	275

GAIN

GAIN R	512
GAIN G	512
GAIN B	512

IVGN

IVGN R	512
IVGN G	512
IVGN B	512

(non-tunable; linked with PGN by FW)

$$\begin{aligned} \text{IVGN R} &= 512 \cdot 512 / \text{GAIN R} \\ \text{IVGN G} &= 512 \cdot 512 / \text{GAIN G} \\ \text{IVGN B} &= 512 \cdot 512 / \text{GAIN B} \end{aligned}$$

DBS





ADBS



DBS

90x Gain

50%
Brightness





ADBS

90x Gain

50%
Brightness

ADBS



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Basic ADBS

Gray Blending

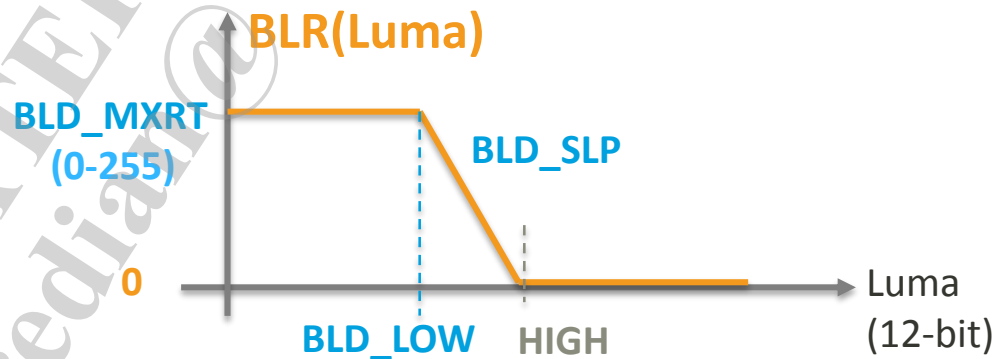
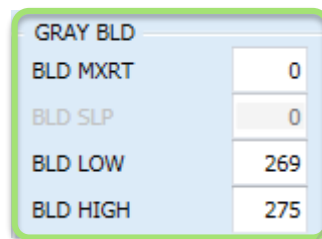
■ Gray blending (OFF)

- $\text{BLD_MXRT} = 0$

■ Gray blending (ON)

- Suggestion: very high ISO and very low light scene
- $\text{BLD_MXRT} > 0$ & $\text{BLD_LOW} \geq \text{OBC_OFFST}$ (ex. $\text{BLD_LOW} \geq 256$ for $\text{OBC_OFFST} = -256$)

Reg	Suggestion
BLD_MXRT	200
BLD_LOW	269
BLD_HIGH	275





ADBS



GRAY BLD	
BLD MXRT	255
BLD SLP	81
BLD LOW	270
BLD HIGH	320

90x Gain

ADBS





ADBS

90x Gain

50%
Brightness

ADBS



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Basic ADBS

GRAY BLD	
BLD MXRT	255
BLD SLP	81
BLD LOW	270
BLD HIGH	320

90x Gain

50%
Brightness

ADBS



Registers

Reg name	Range	Description	✕Default	Suggestion
BLD_MXRT	0~255	Maximum ratio of gray blending	0	200
BLD_LOW	0~319	Luma threshold of gray blending	269	269
BLD_HIGH	0~320	Luma threshold of gray blending	275	275

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everyday genius