2.1

E=0

B_1B_0 \ A_1A_0	00	01	11	10
00	0	0	0	0
01	1	0	0	0
11	1	1	0	1
10	1	1	0	0

Note: These are on both layers

E=1

B_1B_0 \ A_1A_0	00	01	11	10
00	1	0	0	0
01	1	1	0	0
11	1	1	1	1
10	1	1	0	1

Essential: Cover area that no other combination of implicants cover. Everything is essential here.

Boolean Expression:

$$A_1B_1 + B_0\overline{A_1}\overline{A_0} + \overline{A_0}B_0B_1 + \overline{A_1}A_0E + B_0\overline{A_1}E + B_1B_0E + B_1\overline{A_0}E = \overline{A_1}(B_1+B_0\overline{A_0}) + \overline{A_0}B_0B_1 + E(\overline{A_1}(\overline{A_0}+B_0) + B_1(B_0+\overline{A_0}))$$

Lenient:

Yes! Since the prime implicants are all essential, this minimal implementation is also lenient. It has no glitches.

2.2

B_1B_0 \ A_1A_0	00	01	11	10
00	X	0	0	0
01	1	X	0	0
11	1	1	X	1
10	1	1	0	X

Expression:

$$\overline{A_1}B_1 + \overline{A_1}B_0 + \overline{A_0}B_1 = \overline{A_1}(B_1+B_0) + \overline{A_0}(B_1) = 1$$

or... $(A_1 \mid (\overline{B_1} \,\&\, \overline{B_0}) \,\&\, A_0 \mid \overline{B_1}) = 0$

Circuit: