

1

5G

“ ”

“246”

“ ”

1

/

≥ 7000 Vpk CMTI ≥ 100 kV/s
 $\leq 0.3\%$ $\leq 0.03\%$ -40 °C~125°C

3

2

3000

500

20%

2

SoC

System on Chip, SoC)

RealTime Clock RTC

RTC

Liquid Crystal

Display	LCD				RISC-V
ARM Cortex-M0	32	MCU	Micro Control Unit		
					RTC LCD
		SoC			SoC
	SoC			SoC	
					SoC
	IP				8000:1
					<0.1%
0.5S	0.2S				
	<0.1%	RTC	-30 °C~80 °C		<±5 ppm
					±0.03 ppm
CPU	32 kHz	<18 μA	Sleep		<8 μA
			3000		
	6			4	
4					
			500		
20%					
3		/			/

MUX/DEMUX

5G

400G/800G/1.6T (Arrayed Waveguide
Grating, AWG) / MUX/DEMUX
8 / /
MUX/DEMUX /

/

/

/

MUX/DEMUX

5G

MUX/DEMUX

8

/

MUX/DEMUX

100

MUX/DEMUX

1 400G/800G/1.6T

LAN-WDM

≤ 0.01 dB/cm

1.2 dB,

	0.5 dB	2.8 nm	4.5nm			
	25dB		30dB	2	5G	6/12
CWDM						≤ 0.01 dB/cm
	20 nm		2.5dB,			0.25dB
	13 nm		25 dB			30
dB				3000		
		3				3
			500			
20%						
	4	5G				
			5G			
			Bulk Acoustic Wave	BAW		
					Solidly Mounted	
Resonator	SMR					
				SMR-BAW		
	SMR-BAW					Thin-Film
Acoustic Packaging	TFAP					
		N78		SMR-BAW		

		6/8	SMR-BAW
	5G	SMR-BAW	SMR-BAW
		N78	3400~3500MHz
100 MHz	<2.2 dB		VSWR <2.0 dB
>40 dB		>5 W	
-4 °C~85°C			2000
		3	2
		500	
20%			
5			
CMOS			
			Two Dimension FieldEffect Transistor,
2D-FET			

- / -

Field-Effect Transistor, 2D-FET

Two Dimension

100nm

2D-FeFET

10⁵s

10 ns

2 V

10 fJ

10⁴

2D-FeFET

2D-FeFET

EDA

6-8

16 kb 2D-FeFET

3

2

SCI

8

100

30%

1

/

- -

		≥ 1000 S/cm	100%
360°	<10%	>90%	
	<0.5 N	100%	<10%
		≥ 8	
			>100%

<0.05%

>100

2000

2

3

5

PCT

300

20%

2

100000
Bs 0.6 T
0.5A/m
85%
±700
A -40°C 125°C
20 0.2%
3000 3
1
300
20%
3
k

100 MPa
 $\leq 20\text{mm} \times 20\text{mm}$

≥ 50 kPa

$< 10\%$

≥ 10000

≥ 0.3

≥ 0.2

≥ 30 °C

≥ 10

≤ -20 °C

≥ 10

≥ 1

2000

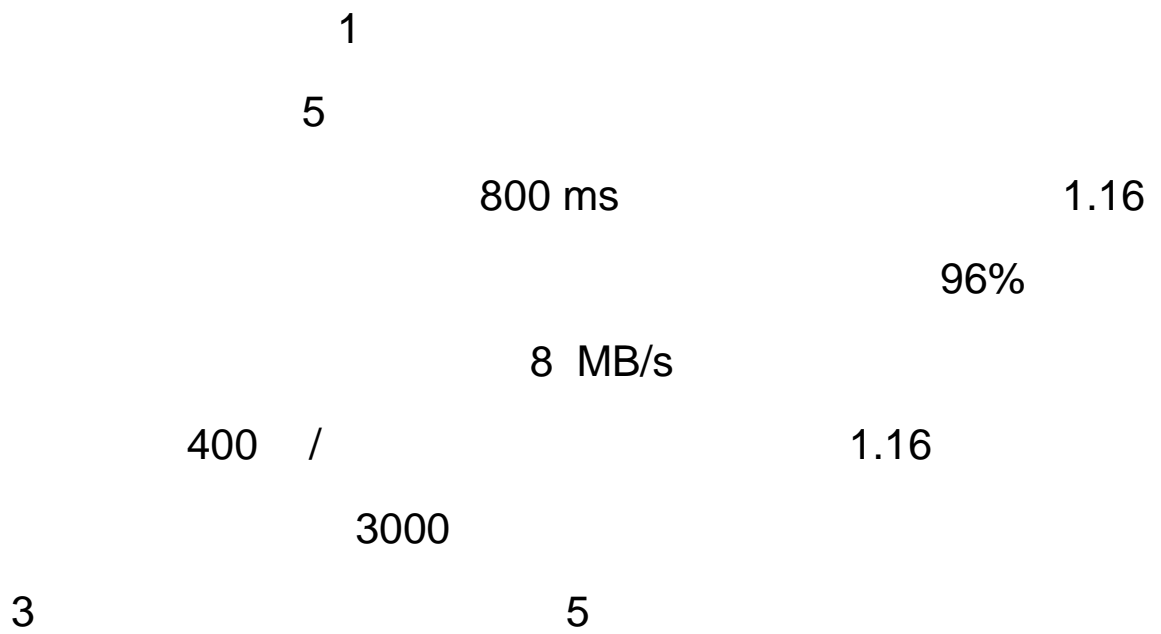
10

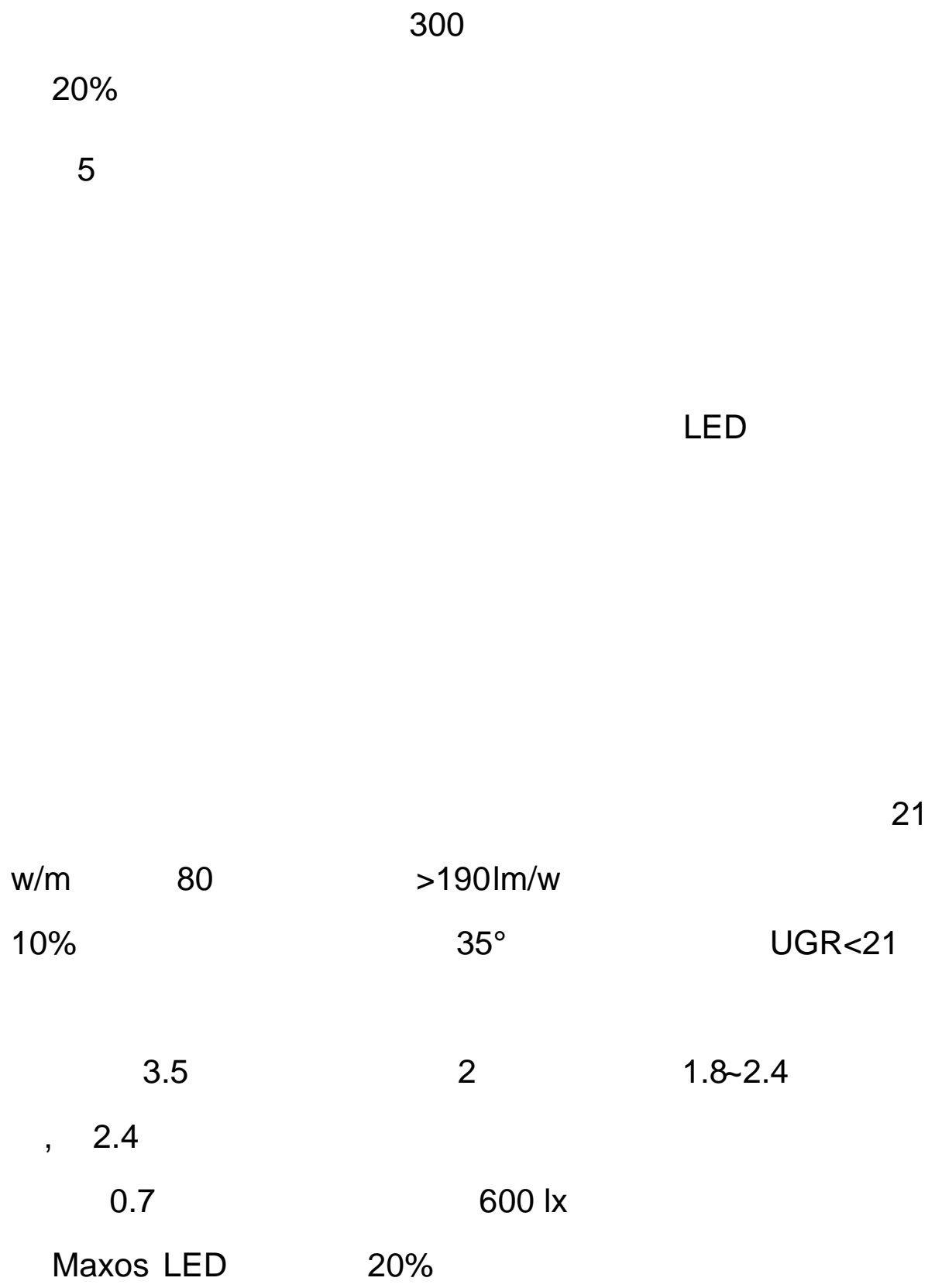
5

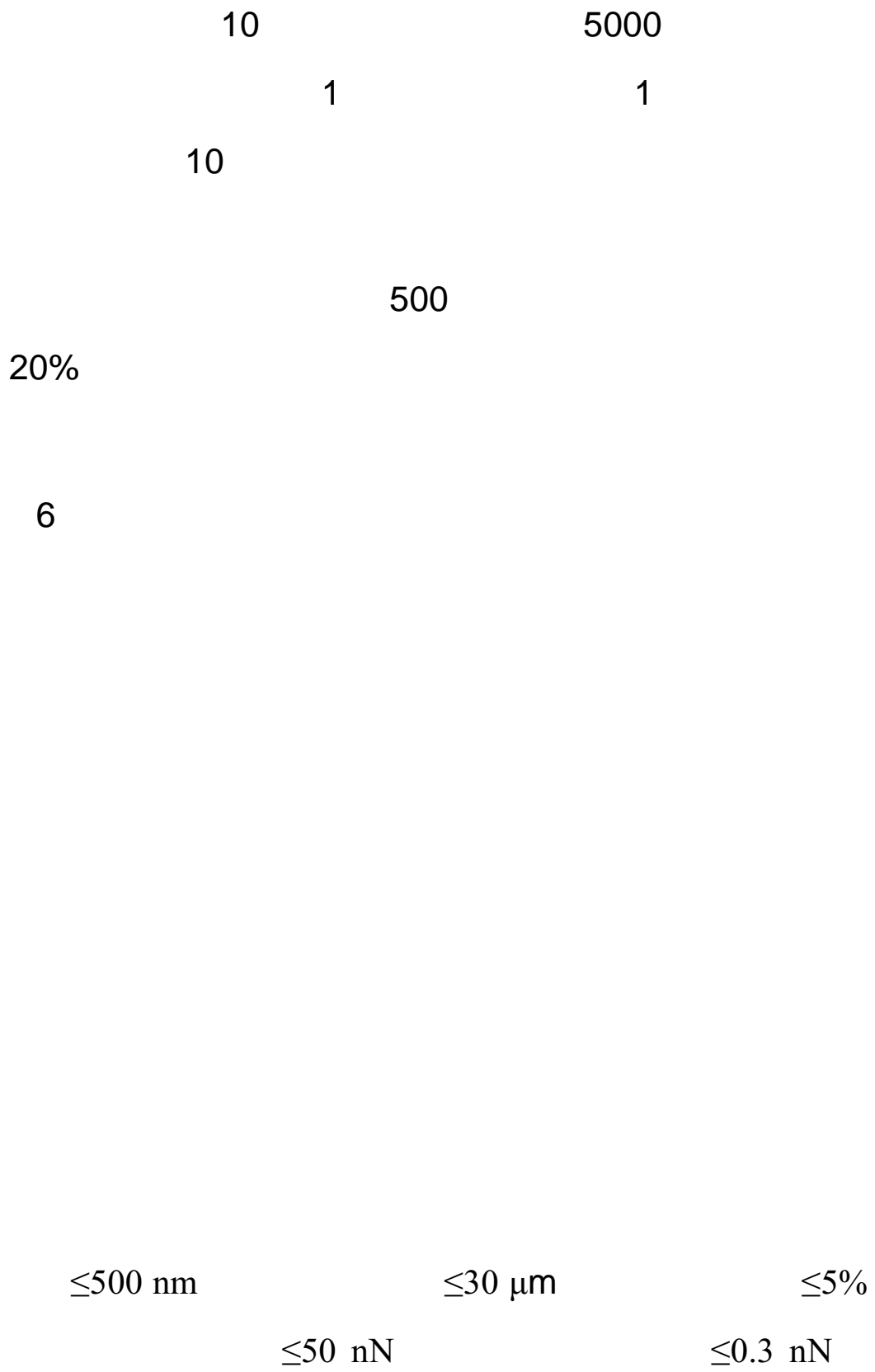
500

20%

4







4
3
100
7
30%

1

L2+

L4

300

20%

2

Two-Phase Commit Protocol, 2PC

Multi-Version Concurrency Control,

MVCC

80 RPS Requests per second

0.8

20:1

2

1000

3

2

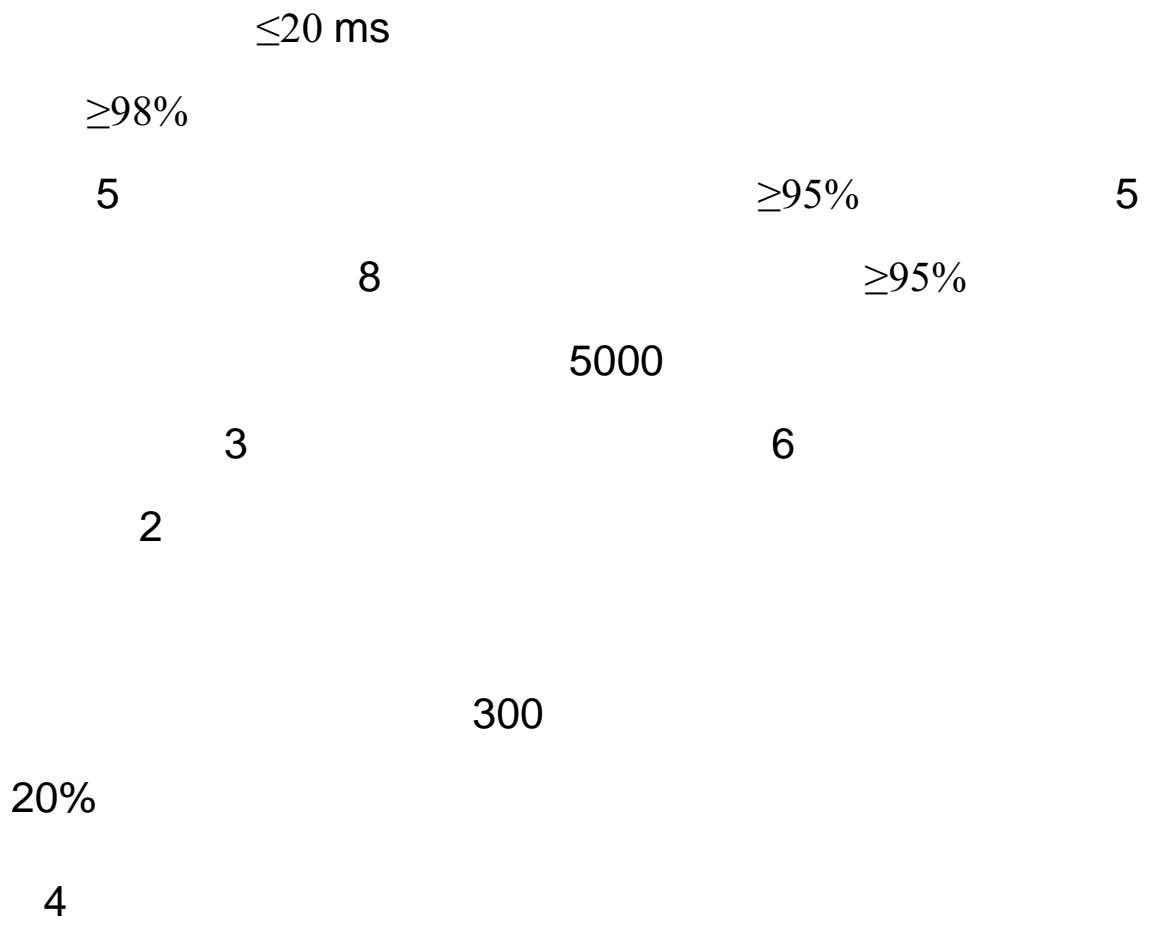
2

300

20%

3

1



1

120 IO

2 ;

0.5 ;

2

2

5

5

5

CAD

90%

60%

90%

85%

() 1000

5 5

3

300

20%

6 AI

AI

AI

1

AI 1

3 AI 75%

2000

2 3

3

SCI

4

300

20%

7

IOT

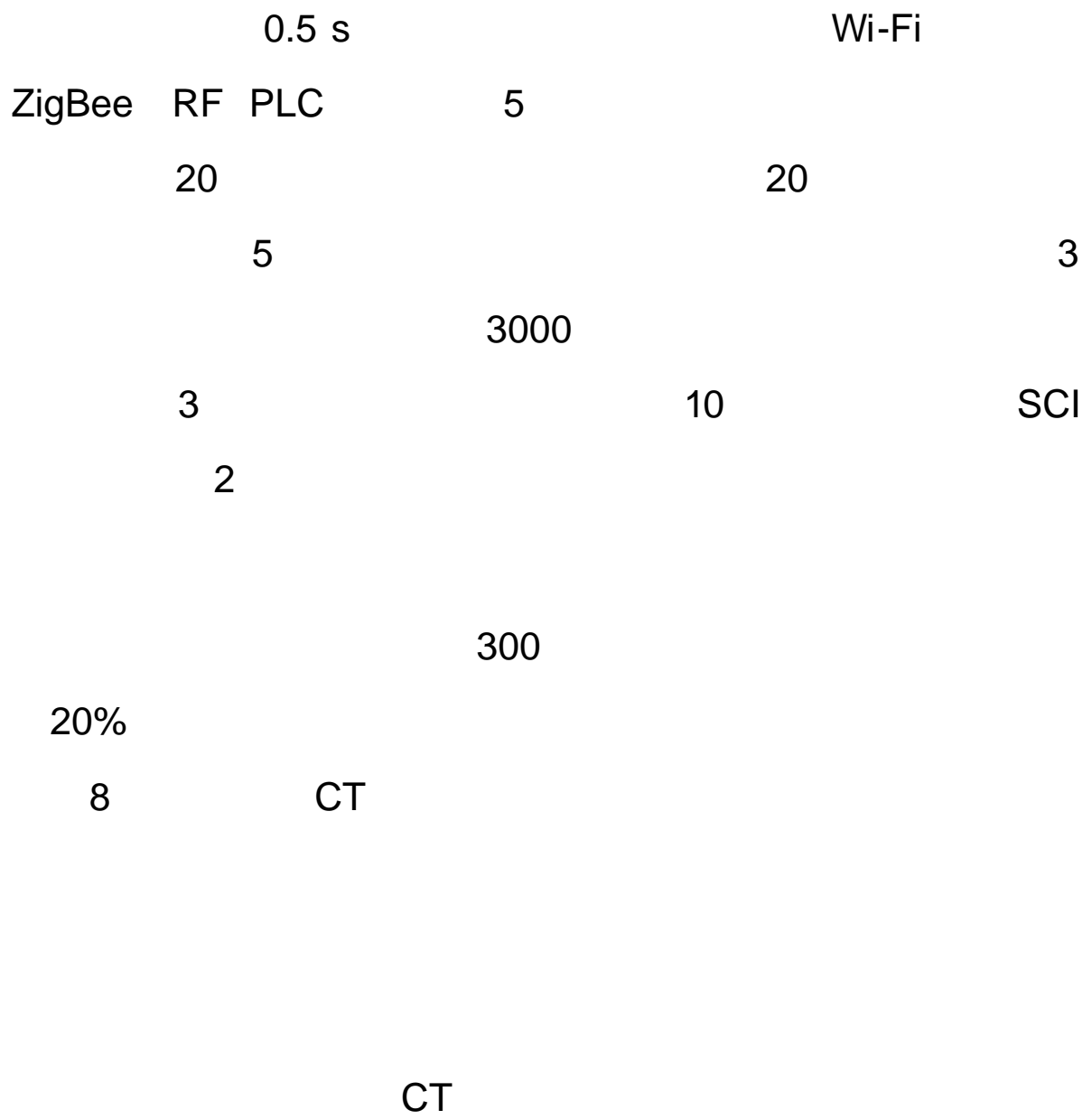
1

1

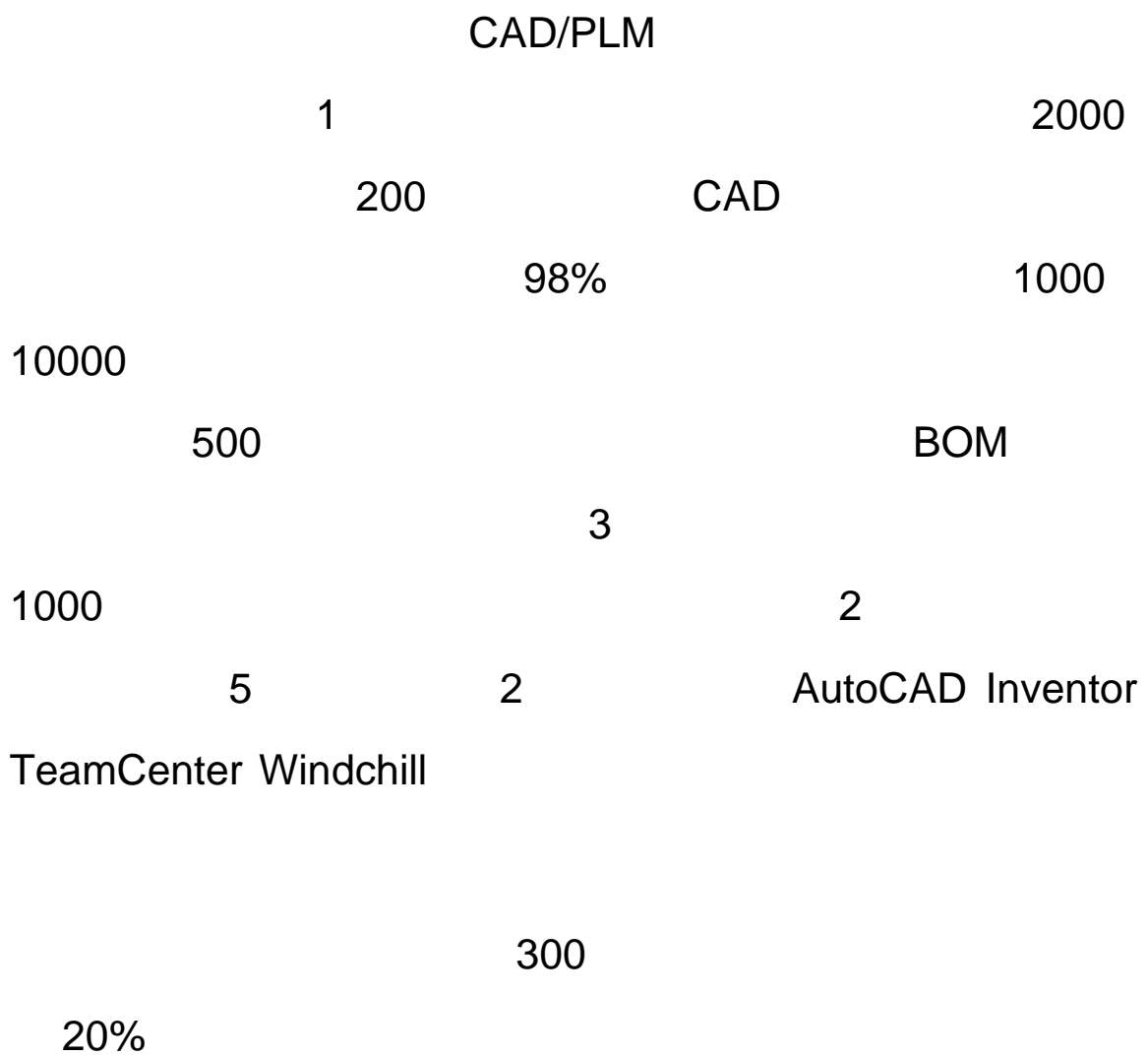
10

50 ms

20%



1



10

400m
0.1 ms
95%
2 m
20 m³/
6 PCT 2 4

300

20%

11

:

80

<10

>30%

<10

>90%

80

2

5

50
12
30%

1

8% 12%
6
1
2
 $\leq 15\%$
5
2

