



<b>1</b>	.....	<b>- 1 -</b>
1.1	.....	- 1 -
1.2	.....	- 1 -
1.3	.....	- 1 -
1.4	.....	- 1 -
1.5	.....	- 2 -
<b>2</b>	.....	<b>- 3 -</b>
2.1	.....	- 3 -
2.2	.....	- 4 -
2.3	.....	- 5 -
2.4	.....	- 7 -
2.5	.....	- 7 -
2.6	.....	- 10 -
2.7	.....	- 10 -
2.8	.....	- 11 -
<b>3</b>	.....	<b>- 12 -</b>
3.1	.....	- 12 -
3.2	.....	- 19 -
3.3	.....	- 26 -
<b>4</b>	.....	<b>- 29 -</b>
4.1	.....	- 29 -
4.2	.....	- 29 -
4.3	.....	- 32 -
4.4	.....	- 32 -
4.5	.....	- 33 -
4.6	.....	- 35 -
4.7	.....	- 37 -
<b>5</b>	.....	<b>- 38 -</b>
<b>6</b>	.....	<b>- 39 -</b>
6.1	.....	- 39 -
6.2	.....	- 45 -
6.3	.....	- 47 -
6.4	.....	- 48 -
6.5	.....	- 48 -
6.6	.....	- 48 -
<b>7</b>	.....	<b>- 50 -</b>

7.1	.....	- 50 -
7.2	.....	- 50 -
<b>8</b>	.....	<b>- 51 -</b>
<b>9</b>	.....	<b>- 52 -</b>
9.1	.....	- 52 -
9.2	.....	- 52 -
9.3	.....	- 52 -
<b>10</b>	.....	<b>- 54 -</b>
10.1	.....	- 54 -
10.2	.....	- 54 -
10.3	.....	- 55 -
10.4	.....	- 55 -
10.5	.....	- 56 -

**1**

**1.1**

2022 10 28

[2022]51

**1.2**

1 7.3 Ka

1560.94

2023 10

**1.3**

(2021 ) "

"

2021

"

"

" 164

"

2023 1

2022

12

**1.4**

**1.5**

" "

## 2

### 2.1

#### 2.1.1

1		2014	4	24		2015	1	1
2			2018	12	29			
3			2018	10	26			
4		2017	6	27		2018	1	1
5			2022	6	5			
6				2020	4	29		2020
9	1							
	7		2021					16
2021	1	1						
	8			682	2017	7	16	
2017	10	1						
	9							

7

HJ/T10.2-1996

8

HJ/T10.3-1996

**2.1.3**

1

2004

2

1999 9

3

(2020 )

4

" "

[2020]29 2020 11 5

5

" "

[2021]29

2021 10 22

**2.1.4**

1

2014 5

2

2019 12 1

3

2017-2035

4

2007-2025

5

6

**2.2**

HJ 1135-2020

**2.2-1**

		$L_{eq}$	dB A	$L_{eq}$	dB A
		pH COD BOD <sub>5</sub> NH <sub>3</sub> -N	mg/L	pH COD BOD <sub>5</sub> NH <sub>3</sub> -N	mg/L
			---		---
			V/m W/m <sup>2</sup>		W/m <sup>2</sup>

		L <sub>eq</sub>	dB A	L <sub>eq</sub>	dB A
--	--	-----------------	------	-----------------	------

## 2.3

### 2.3.1

1

GB 3095-2012

2018 29

#### 2.3-1

1	SO <sub>2</sub>		60	μg/m <sup>3</sup>
		24	150	
		1	500	
2	NO <sub>2</sub>		40	μg/m <sup>3</sup>
		24	80	
		1	200	
3	CO		4	mg/m <sup>3</sup>
		24	10	
4	O <sub>3</sub>	8	160	μg/m <sup>3</sup>
		1	200	
5	10μm		70	
		24	150	
6	2.5μm		35	μg/m <sup>3</sup>
		24	75	

2

500m

2010-2020

GB3838 2002

#### 2.3-2

( mg/L)

	pH	COD		BOD <sub>5</sub>	NH <sub>3</sub> -N		P
	6 9		4	3	0.5		0.025

3

(GB3096-2008) 2

60dB(A)

50dB(A)



4

GB 8702-2014

HJ/T 10.3-1996

GB 8702-2014 0.1MHz 300GHz

6

Ka

27GHz

29.5GHz

15GHz~300GHz

2.3-3

GB 8702-2014

	<b>E</b> V/m	<b>S<sub>eq</sub></b> W/m <sup>2</sup>
15GHz~300GHz	27	2

HJ/T10.3-1996

4.2

GB 8702

GB 8702

GB 8702

1/

1/2

1/5

1/5

2.3-4

	<b>MHz</b>	<b>V/m</b>	<b>S<sub>eq</sub></b> W/m <sup>2</sup>
Ka	27GHz 29.5GHz	12.07	0.4

2.3.2

1

GB 12348-2008 2

60dB(A)

50dB(A)

2

## 2.4

### 2.4.1

### 2.4.2

2

HJ 2.4-2021

### 2.4.3

HJ 19-2022

## 2.5

### 2.5.1

HJ 1135-2020

500m

0.11°

125° E

0.11°

0.11°

500m

### 2.5.2

-

65dB A

HJ 2.4-2021

100m

### 2.5.3

100m<sup>2</sup>



		II




2.7-1

3

3.1

3.1.1

1

2

3

4

1 7.3 Ka

3.1-1

1		1	
2		1	
3		7	
4		1	
5		1	
6		1	
7		1	

5

1560.94

38

2.4%

6

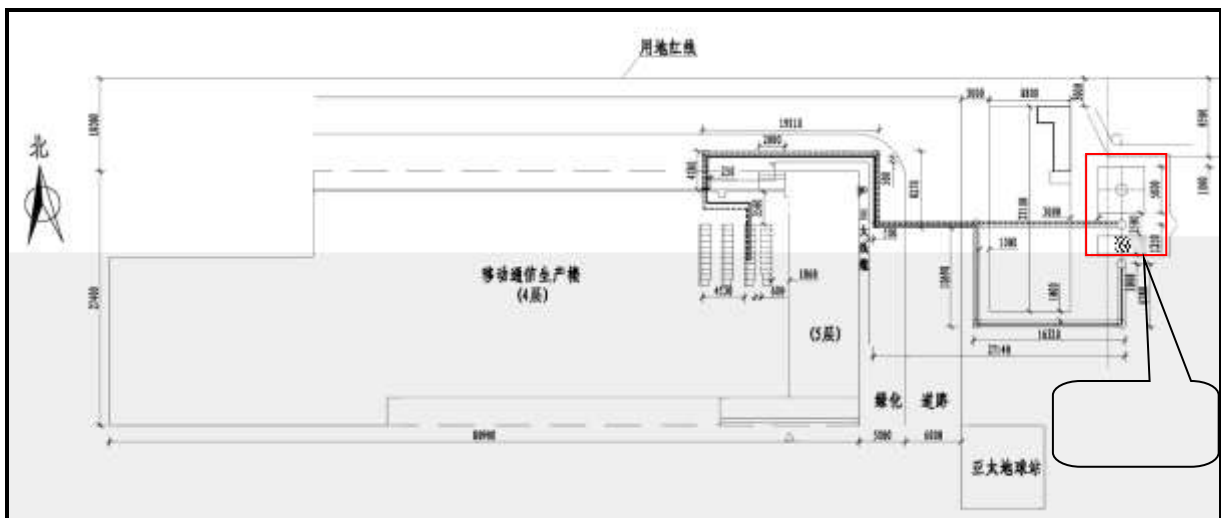
100m

80m

125m

17m

3.1-1~3.1-2



3.1-1



3.1-2

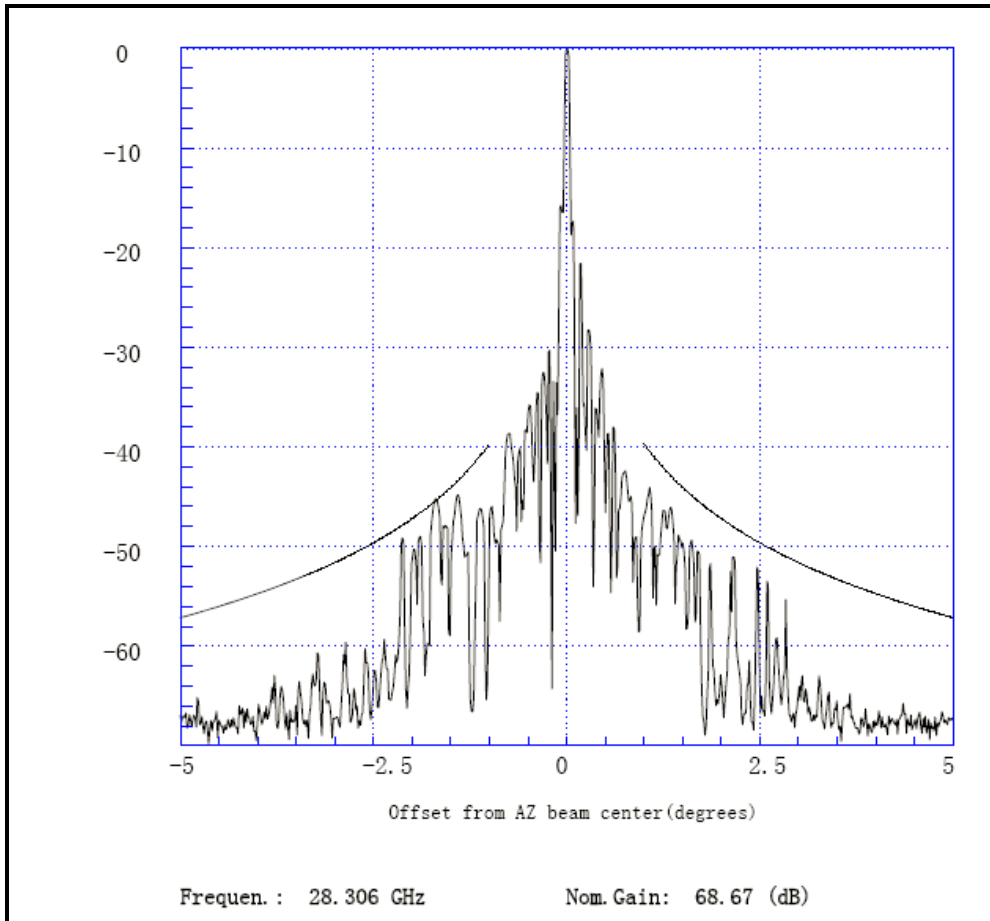
7

3.1-2

3.1-2

	7.3m
<b>dBi</b>	65.5
<b>m</b>	7.5
<b>W</b>	500
<b>W</b>	40
<b>GHz</b>	27 29.5
(°)	125° E
(°)	49.3
(°)	133.2





**3.1-2**

**8**



3.1-4

3.1-5



3.1-4

### 3.1.2

1 Ka 7.3m 100m<sup>2</sup>

### 3.1.3

### 3.1.4

3.1-3 W\* ç .ç™R0~ Af%~ 'äQ %AQ€`õrèO™ T8 Af•Ö

2014

19688m<sup>2</sup>

6364 m<sup>2</sup>

12

1

<sup>2</sup> \Nα<sup>1</sup> 'ò6 ìáAP¶Qí à Î+O#k"'+X\$<sup>1</sup> 'ò6

### 3.2

#### 3.2.1

" " 2019 2021 49  
(2020 ) 12  
70%  
(2020 )  
(2020 )

#### 3.2.2

##### 1.

##### 2014-2025

2014-2025 2015 7 28  
[2015]1230  
2015 9 20 [2015]56  
2014-2025  
100°18' 2 1  
79700hm<sup>2</sup>  
100°5'  
1966.00m 1985  
1966.00m 1985  
25100 hm<sup>2</sup> 31.5%

260m

2.

1982

1012

5

3.

2019 12 1

1

100

30

15

2

100

100

30

50

3

260m

4.

" "

" "

5.

2017—2035

2017—2035

"

"

2003

2017—2035

6.

2014 10

260m



7.

1 7.3 Ka

100m<sup>2</sup>

26

125° E

43°

/

2

2

/

2

20m

17.7GHz

19.2GHz 27GHz 29.5GHz

3.2.2 "

"

"

"

2020 29

1164

3

383

652

129

“ ” “ ” “ ”

1 Ka 7.3m

(1)

[2018]32 ,

1184 km<sup>2</sup> 30~90%

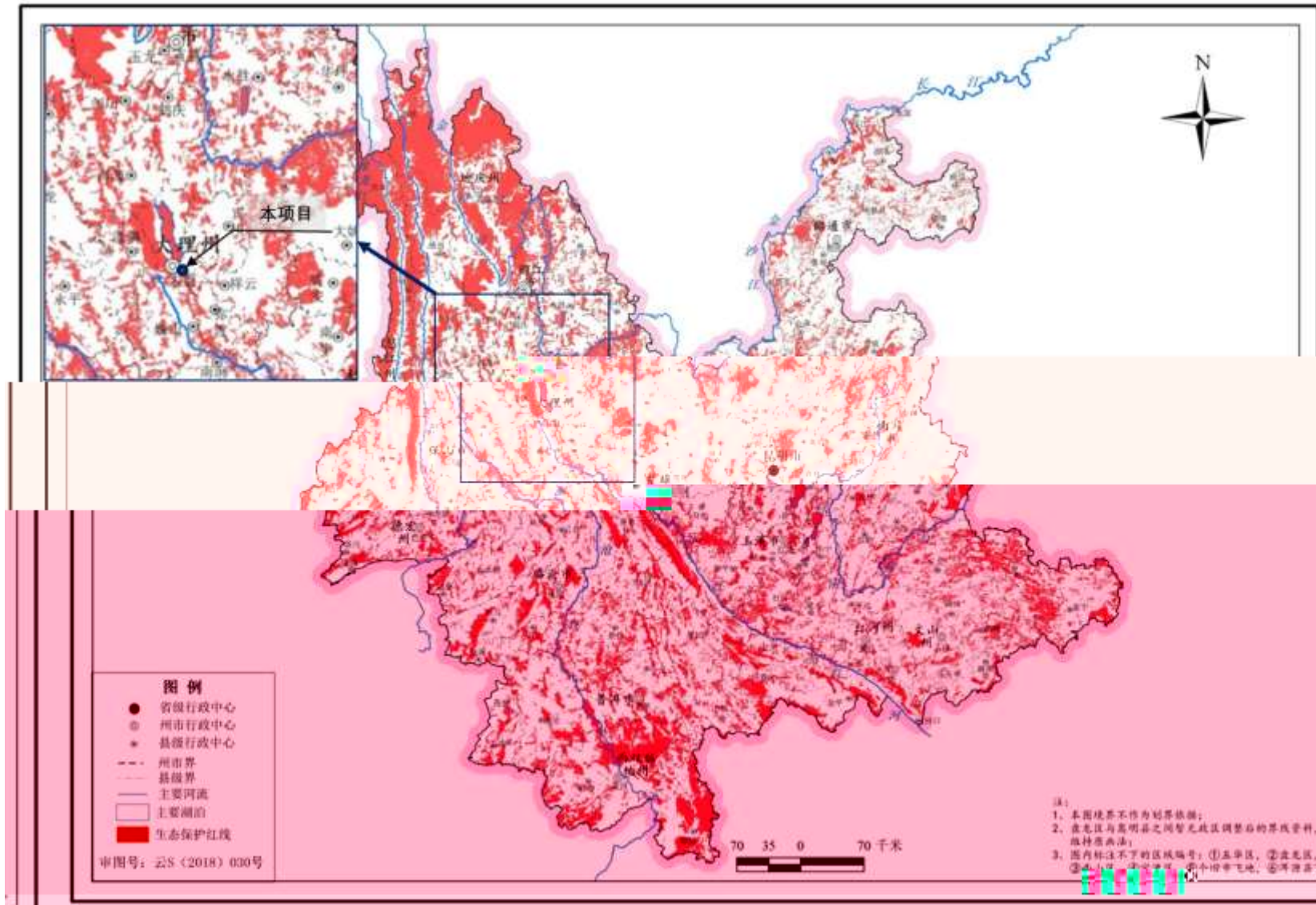
3.2-1

“ ”

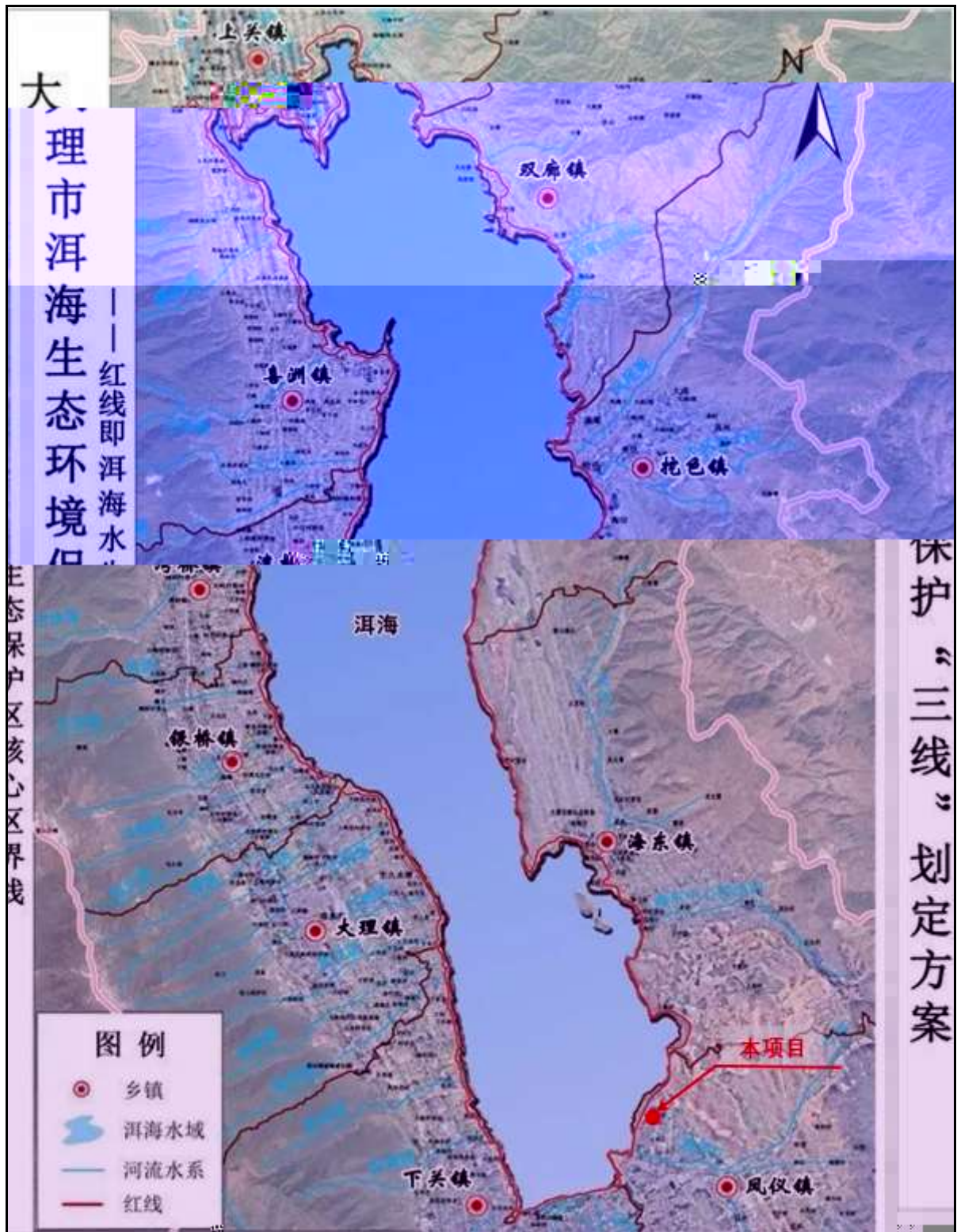
( ) 100 (

) 30

3.2-2



3.2-1



3.2-2

2

GB 8702-2014

HJ/T 10.3-1996

3

" "

4

2020

2020 1880

"

"

2020

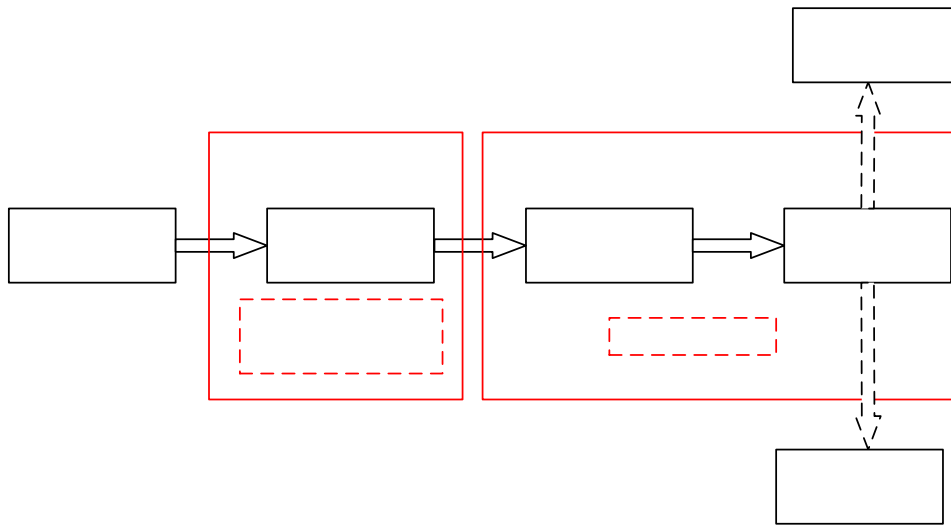
( [2016]150 )

3.3

3.3.1

### 3.3.2

	Ka	
		7× 24
1		
2		
3		
4		
5	Ka	
6		7× 24



3.3-1

3.3.3

3.3-1



# 4

## 4.1

98° 52    101° 03    24° 41    26°

42

338km    29459km<sup>2</sup>

83.7    16.3    320 km

270 km

99° 58    100° 27    25°

25    25° 58

46.3    59.3    1468

2500 3000m    3782m    4122m

9m    1973m

500m

## 4.2

### 4.2.1

4097m

1340m    1966m

36

8    0.20g

— —



## 4.2.2

		34		-4.2		15.4
	20.1		8.7			11.4
11.6~13.1		60	87	166	10	4661
			4400h			2276.6h
				1240mm		1078.9mm
			141.7mm			937.2mm
				1846.4mm		
1088mm						850 950mm
			650	850mm		80%
	818mm			80%		565mm
	80%			1566mm		
				0.99		66%
				2757m		
						5
				2.4m/s		4.1m/s
56d	78.5d			40m/s		27.9m/s
		"	"			

## 4.2.3

500m		2010~2020
		2565km <sup>2</sup>

1964.30-1966.00                      250km<sup>2</sup>                      28.8    m<sup>3</sup>                      42.5  
8.4 km                      6.3 km                      20.5m                      10m

117

                    1046mm                      7    10                      80  
1208.6mm                      8.25    m<sup>3</sup>                      18    8    m<sup>3</sup>  
1.84    m<sup>3</sup>                      8.63    m<sup>3</sup>                      18.18    m<sup>3</sup>  
                    4.15    m<sup>3</sup>

#### 4.2.4

2769    m<sup>3</sup>/a    75.86    m<sup>3</sup>/d

60    88m

#### 4.2.4

10                      17

42                      79

2000m

2000m



## 4.5

### 4.5.1

1

2

HS6288E

30dB 130dB

GB3785

GB/T17181

4.5-1

	HS6288E	30~130dB(A)	09016045	LSsx2022-07249	2022-8-24	

(GB3096-2008)

GB 12348-2008

3

2023 1 5 10:30 11:30 22:30 23:30

È\$.¿Q/ 1 “ È\$- ß ÖÄ

—— 12~16 50% RH 1~2 m/s

—— 4~6 5



4.5-1

6

4.5-2

		m	dB(A)		dB(A)	
1		1.5	51	60	42	50
2	1m	1.5	51	60	42	50
3	1m	1.5	51		42	
4	1m	1.5	50		42	
5	1m	1.5	51		43	
6	1m	1.5	52		44	
7	5	1.5	52	60	45	50
8	6	1.5	52		44	

50dB(A)~52dB(A)

42dB(A)~44dB(A)

(GB12348-2008) 2

4.5.2

4.6

4.6.1

1

2

NBM550

EF6092

100MHz 60GHz

HJ/T 10.2-1996

4.6-1

/	NBM-550/ EF-6092	100MHz 60GHz 0.7V/m-400V/m 130nW/cm <sup>2</sup> -42mW/cm <sup>2</sup>	H-0841/C- 0144	XDdj2022 -01732	2022-2-21	

HJ/T

10.2-1996

1.7m

3

2023 1 5 14:30 17:00

12~16 50% RH

4

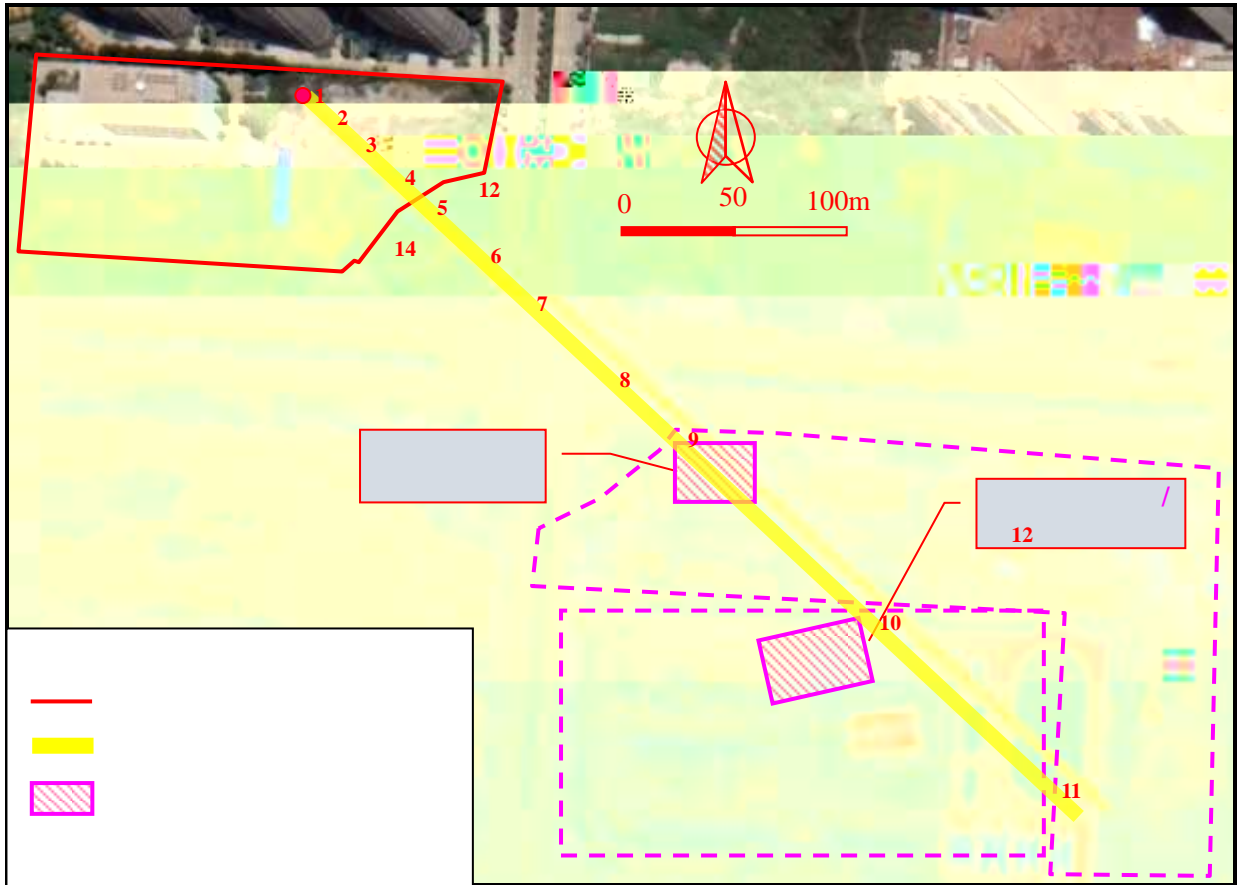
HJ 1135-2020

13

1

3

9



4.6-1

5

4.6-2

		m	V/m		Seq W/m <sup>2</sup>	
1		1.7	0.86	12.07	0.0019	0.4
2	10m	1.7	1.01		0.0022	
3	20m	1.7	1.04		0.0026	
4	50m	1.7	1.57		0.0039	
5	75m	1.7	0.7		0.0013	
6	120m	1.7	1.16		0.0041	
7	150m	1.7	0.73		0.0014	
8	200m	1.7	0.7		0.0013	
9	250m	1.7	0.7		0.0013	
10	370m /	1.7	0.7		0.0013	

		m	V/m		Seq W/m <sup>2</sup>	
11	480m	1.7	0.91		0.0024	
12		1.7	0.7		0.0013	
13		1.7	1.09		0.0037	
11	50m					



**4.6-1**

12.07V/m

0.4W/m<sup>2</sup>

<0.7 V/m ~1.57V/m

<0.0013 W/m<sup>2</sup>~0.0041W/m<sup>2</sup>

**4.6.2**

12.07V/m

0.4W/m<sup>2</sup>

**4.7**





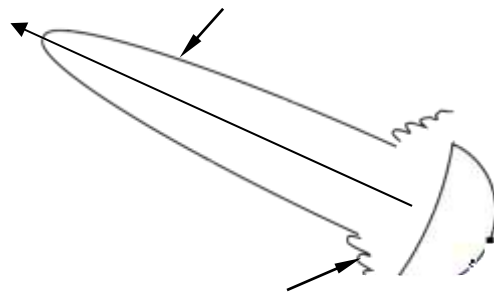
6

6.1

6.1.1

" "

( )



6.1-1

HJ 1135-2020

1

$d_0$

$d < d_0$

$d > d_0$

$d_0 = 2D^2$

6.1-1

$d_0$

m

m

m

6.1-1

	Ka 7.3m
	Ka
(m)	7.3
(GHz)	27 29.5
(m)	0.0101 0.0111
(m)	9592~10480
(m)	7.5
(°)	0.04

500m

2

HJ 1135-2020 D

$$P_{dmax} = 4 P_t S \quad \text{W/m}^2 \quad 6.1-2$$

$P_t$  / W 100%

$S$  /  $\text{m}^2$

500W

6.1-2

6.1-2

		Pt (W)	(W/m <sup>2</sup> )
1	Ka 7.3m	500	47.78

6.1.2

HJ 1135-2020

GB 8702-2014

HJ/T10.3-1996

1

P

HJ 1135-2020

12dB

P

$$P_{dmax} = P_{Pd} \cdot 10^{\frac{12 \cdot \frac{2r}{D}}{10}} \quad W/m^2 \quad 6.1-3$$

$P_{dmax}$  —  $W/m^2$   
 $r$  —  $m$   
 $D$  —  $m$

2

HJ 1135-2020

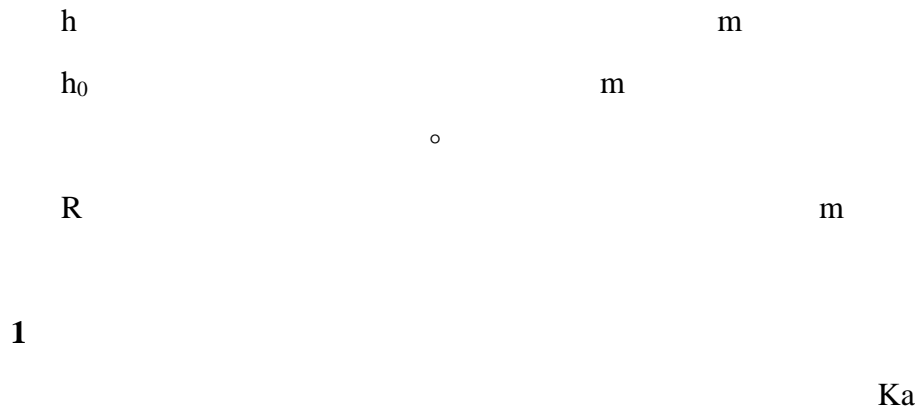
D.2

6.1-3

6.1-2

r

h-h



**6.1-3**

Ka	500W	29.5GHz	125	49.3°	133.2°

6.1-3

1.7m

**6.1-4**

**1.7m**



Ka 7.3m 3.34m 1.7m

GB8702-2014

HJ/T10.3-1996

2

1.7m

6.1-5

1.7m

		(°)	(°)	m	1.7m (W/m <sup>2</sup> )	(W/m <sup>2</sup> )		
1	Ka 7.3m							

$$h_d = H + L \cdot \tan \theta - \frac{5D}{12 \cos \theta} \left( \lg \frac{16P_T}{\pi \cdot S \cdot D^2} \right)$$

6.1-5

$h_d$  — m  
 $H$  — m  
 $L$  — m  
 — —  
 $D$  — m  
 $P_T$  — W  
 $S$  — W/m<sup>2</sup>

30m 50m 100m 200m 300m

400m 500m

6.1-7

m

	Ka 7.3m
°	133.2
°	49.3
W	500
10	9.4
20	21.1
30	32.7
40	44.3
50	55.9
60	67.6
70	79.2
80	90.8
90	102.4
100	114.1
150	172.2
200	230.3
250	288.5

300	346.6
350	404.7
400	462.9
450	521.0
500	579.1

## 6.2

1

6.2-1

6.2-1

		m		dB(A)		dB(A)
-	1	0.5		65		65

17m

$$L_A(r) = L_A(r_0) + 20 \lg(r/r_0)$$

$L_A(r)$        $r$       A      dB(A)  
 $L_A(r_0)$        $r_0$       A  
 $r$       m  
 $r_0$       1m

6.2-2

m	m	m	m
100	80	125	17

2



6.2-3

	<b>dB(A)</b>		<b>dB(A)</b>	
	25.0		60	
			50	
	26.9		60	
			50	
	23.1		60	
			50	
	40.4		60	
			50	

25.0dB(A)

40.4dB(A)

(GB 12348-2008) 2

60dB A 50dB A

25.0dB(A) 40.4dB(A)

50.0dB(A) 52.3dB(A) 42dB(A) 45.6dB(A)

(GB 12348-2008) 2

60dB A

50dB A

3

1

5# 6# 7#

1 2 3 5 10 20 27

6.2-4 6.2-5

6.2-4

m

	<b>5#</b>	<b>6#</b>	<b>7#</b>
	65	27	53

6.2-5

dB A

			<b>dB(A)</b>	<b>dB(A)</b>	<b>dB(A)</b>	<b>dB(A)</b>		
	5#	1.5	52	28.7	52.0	60		
			45		45.1	50		
		4.5	52	28.7	52.0	60		
			45		45.1	50		
		7.5	52	28.7	52.0	60		
			45		45.1	50		
		13.5		52	28.6	52.0	60	

				45		45.1	50		
		28.5		52	28.0	52.0	60		
				45		45.1	50		
		58.5		52	26.2	52.0	60		
				45		45.1	50		
		79.5		52	24.8	52.0	60		
				45		45.0	50		
2	6#	1.5		52	36.4	52.1	60		
				44		44.7	50		
		4.5		52	36.3	52.1	60		
				44		44.7	50		
		7.5		52	36.1	52.1	60		
				44		44.7	50		
		13.5		52	35.5	52.1	60		
				44		44.6	50		
		28.5		52	33.2	52.1	60		
				44		44.3	50		
		58.5		52	28.9	52.0	60		
				44		44.1	50		
79.5		52	26.6	52.0	60				
		44		44.1	50				
3	7#	1.5		50	30.5	50.0	60		
				42		42.3	50		
		4.5		50	30.5	50.0	60		
				42		42.3	50		
		7.5		50	30.4	50.0	60		
				42		42.3	50		
		13.5		50	30.3	50.0	60		
				42		42.3	50		
		28.5		50	29.4	50.0	60		
				42		42.2	50		
		58.5		50	27.1	50.0	60		
				42		42.1	50		
79.5		50	25.4	50.0	60				
		42		42.1	50				

24.8dB(A)

36.4dB(A)

50dB(A) 52.1dB(A)

42.1dB(A) 45.1dB(A)

GB3096-2008 2

60dB A 50dB A

### 6.3



3

4

**7**

**7.1**

(GB13615-2009)

**7.2**

8

38

8-1

1		3
2		25
3		8
4		1
5		1
		38

**9**

**9.1**

1

2

3

**9.1-1**


**9.2**

**9.2-1**

	A			

**9.3**

9.3-1



# 10

## 10.1

1 7.3 Ka

1560.94

2023 10

## 10.2

1

2021

2021

12

10

2021

99.8% 12

99.2% 100%

4

100%

3

1

2

GB3838-2002

2021

22

7

5

3

51dB(A)

42dB(A)

50dB(A)~52dB(A)

42dB(A)~45dB(A)

(GB 3096-2008) 2

50dB(A)~52dB(A)

42dB(A)~44dB(A)

(GB12348-2008) 2

4

<0.7 V/m ~1.57V/m

12.07V/m

<0.0013 W/m<sup>2</sup>~0.0041W/m<sup>2</sup>

0.4W/m<sup>2</sup>

5

### 10.3

### 10.4

1

7.3m Ka

3.34m

1.7m

GB8702-2014

HJ/T10.3-1996

0.4W/m<sup>2</sup>

1.7m

GB8702-2014

-

HJ/T10.3-1996

0.4W/m<sup>2</sup>

GB8702-2014

HJ/T10.3-1996

0.4W/m<sup>2</sup>

2

25.0dB(A) 40.4dB(A)

(GB 12348-2008) 2

60dB A

50dB A

24.8dB(A) 36.4dB(A)

50dB(A) 52.1dB(A) 42.1dB(A)

45.1dB(A)

GB3096-2008 2

60dB

A 50dB A

**3**

**4**

**10.5**

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