



中国民用航空总局

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182

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		78
		78
		78
		78
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---

**A**

**36.1**

(a)

(1)

8618      19000

610

(2)

36.1583

8618      19000

(3) [    ]

(4)

(b)

(c)

36.7      36.9      36.11

(d) [    ]

(e) [    ]

(f)

(1) B    B36.5    (b)

(2)

(3) B    B36.5    (b)

B    B36.5    (c)

(4) B    B36.5    (b)

(      B36.6      )

(5) B    B36.5    (c)

(6) B    B36.5    (c)

(      B36.6      )

(7)  $M_{mo}$       1

(8)  $M_{mo}$       1

(9) B    B36.5    (d)

- (10) B B36.5 (d)
- (11) 2002 3 21
- 16 I 7 4 4.4
- (g)
- (h)
- (1) H H36.305  
J J36.305
- (2) J J36.305
- (3) H36.305 J J36.305 H
- (4) H H36.305 J  
J36.305 ( )
- (5)

[2007 4 15 ]

**36.2**

- (a) 21 21.17 5  
5
- (b) 21 21.101 21.93  
5  
5

- (c)
- (1)
- (2)
- (3)
- [2007 4 15 ]

---

**36.3**

**36.5**

**36.6**

(a)

(b)

(1)

(c)

(2)

(c)

(1)

(IEC)

(i) IEC

179

1973

(ii) IEC

225

1966

(iii) IEC

651

1979

(iv) IEC

561

1976

(v) IEC

804

1985

(vi) IEC

61094-3

3

1.0

1995

(vii) IEC

61094-4

4

1.0

1995

(viii) IEC

61260

1.0

1995

(ix) IEC

61265

1.0

1995

(x) IEC

60942

2.0

1997

(2)

(SAE)

(i) SAE ARP866A

1975

3

15

(3)

1993

7

2002

3

21

7

16

I

[2007

4

15

]

**36.7**

(a)



---

(CCAR-21)

(b)

(1)

A

(2)

B

B36.7

B36.8

B

B36.5

(c)

(b)

(1)

B

B36.6

(2)

(i)

(ii)

(d)

(b)

(1)

2

(i)

(A)

3EPNdB

(B)

(ii)

B  
3EPNdB

B36.6

( )

(iii)

(2)

2

(i)

(ii)

(e)

(b)

(1) [ ]

(2)

(3) [ ]

(4)

(f)

[2007 4 15 ]

**36.9**

(CCAR-21)

---

(a)  
36.501  
(b)

(1) 36.501  
(2) 36.501

**36.11**

(CCAR-21)

H 3175 7,000  
J  
(a)  
(1) H B C  
3175 7,000  
J  
J B C  
(2) H D H H36.305  
J D  
J J36.305  
(b) 36.805 (c) H H36.305 (a)(1)  
H36.305 (b)  
J  
J J36.305 (a)  
(c)  
[2007 4 15 ]

**B**

**36.101**

A

[2007 4 15 ]

**36.103**

(a) B B36.8 A  
(

---

)							
(b)		2006	1	1			
B	B36.5(c)						
(c)		2006	1	1			
B	B36.5(d)				2006	1	1
							36.7
(f)							
[2007	4	15		]			

				CCAR-36		CCAR-36	B	CCAR-36	
									2002
3	21			16	I	2	7	4	
[2007	4	15		]					
				<b>C</b>					
[2007	4	15		]					
				<b>D</b>					
				<b>E</b>					

## F 章 螺旋桨小飞机和螺旋桨通勤类飞机

### 36.501

- (a)
  - (1)
  - (2) [ ]
  - (3)
    - (i) (a)(3)(ii)
      - F
      - G
    - (ii)
      - (A) (B)
      - (C) (D) F

---

G (E)  
(b) 1988 11 17  
F B C

F D

(c) 1988 11 17  
G B C

G D

## G 章 [备用]

## H 章 直升机

**36.801**

H B

3175 7,000

J

J B

[2007 4 15 ]

**36.803**

36.801

H

H A

H C

36.801

J

J A

J C

**36.805**

(a) 36.11 (b)

H D

J D

(b) (d)(2)

H

H36.305

J

J J36.305

(c) [ ]

(d)

(1)

(d)(2)

H

---

H

(2)

(i)

(ii)

(iii)

(iv)

(v)

H

## I~N 章 [备用]

## O 章 文件、使用限制和资料

### 36.1501

(a)

( )

(b)

### 36.1581

(a)

36.1583

(1)

B

(2)

G

(3)

H

J

(b)

36.1581 (a)

(c)

(d)

---

(e)

F

G

(f)

(CCAR-27)

27.25 (a)

(CCAR-29) 29.25 (a)

(g)

(d) (e) (f)

**36.1583**

(a)

(b)

36.1581

(CCAR-36)

[2007 4 15 ]

---

**36**

**A 36.101**

**A36.1**

**A36.2**

**A36.3**

**A36.4**

**A36.5**

**A36.6**

**A36.7**

**A36.8**

**A36.9**

**A36.1**

A36.1.1 36.101 36.803  
EPNL

A36.1.2

A36.1.3

A36.1.4 16 I 2002 3  
21 7 2

**A36.2**

A36.2.1

A36.2.1.1

A36.2.2

A36.2.2.1

---

80°

A36.2.2.2

(a)  
(b) 10 (33 ) -10  
35 14 95 20 95

(c) 10 33  
8kHz 12dB/100  
(1) ±0.5 ±0.9

A36.2.2.3

(2) PNLT 400Hz  
(d) 10 (33 ) 3150Hz  
PNLTM ±0.5dB/100 ±1.6dB/1000  
A36.2.2.3

10 33 PNLTM

(e) 10 33 22 / 12  
13 / 7 30 10dB  
10 10dB 28 / 15  
18 / 10

(f)

(g) 30

A36.2.2.3 A36.2.2.2(c) A36.2.2.2(d)  
10 33 30  
100 3150Hz ±0.5dB/100  
±1.6dB/1000 PNLTM

A36.2.2.4

A36.2.3

A36.2.3.1

A36.2.3.2 PNLT 10dB

A36.2.3.3 A36.9



---

**A36.3**

A36.3.1

A36.3

A36.3.1.1

/

A36.3.1.2

A36.3.1.3

IEC61094-3

IEC61094-4

0°

90°

A36.3.1.4

0

A36.3.1.5

/

A36.3.1.6

20

10

1

/

dB

1V

dB

20μPa

dB  
93.98dB

A36.3.1.7

dB

20μPa

10

10

A36.3.1.8

dB

A36.3.1.9

dB

A36.3.1.10

dB

A36.3.1.11

Hz

A36.3.1.12

dB

A36.3.1.13

dB

A36.3.1.14

dB

A36.3.1.15

dB

---

A36.3.1.16

dB

A36.3.2

A36.3.2.1

- (a) 23 73.4
- (b) 101.325
- (c) 50%

A36.3.3

A36.4

A36.3.3.1

- (a) ( A36.3.4)
- (b) ( A36.3.5)
- (c)
- (d) ( A36.3.7)
- (e)

A36.3.6

A36.3.3.2

12.5kHz  
50dB

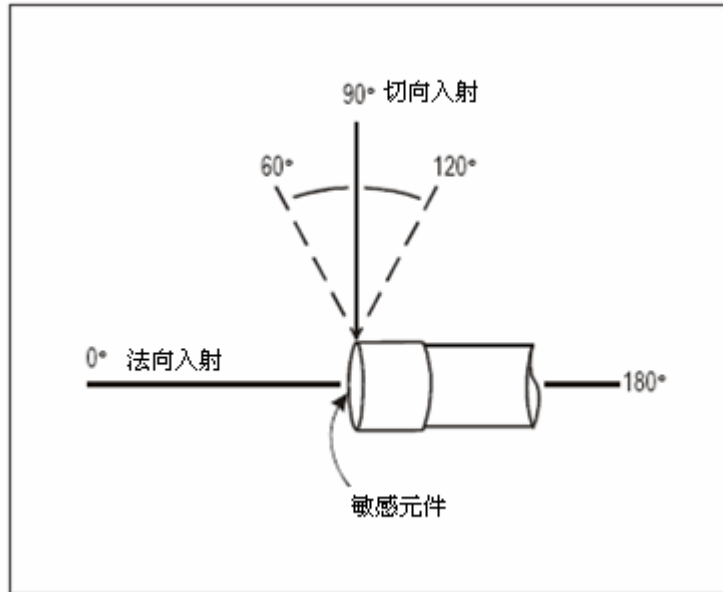
28kHz

A36.3.4

A36.3.4.1

50Hz 10kHz

A36.3.3.2



A36-1

传声器系统法向入射时的自由场灵敏度级与特定声入射角的自由场灵敏度级之间的最大差值 (dB)

中心频率 (kHz)	声入射角 (度)					
	30	60	90	120	150	
0.05 to 1.6	0.5	0.5	1.0	1.0	1.0	
2.0	0.5	0.5	1.0	1.0	1.0	
2.5	0.5	0.5	1.0	1.5	1.5	
3.15	0.5	1.0	1.5	2.0	2.0	
4.0	0.5	1.0	2.0	2.5	2.5	
5.0	0.5	1.5	2.5	3.0	3.0	
6.3	1.0	2.0	3.0	4.0	4.0	
8.0	1.5	2.5	4.0	5.5	5.5	
10.0	2.0	3.5	5.5	6.5	7.5	

A36-1

A36.3.6

A36.3.6.1

/

A36.3.6.2 A36.3.6.9

A36.3.6.2

A36.3.9

(a)

10kHz

800Hz

800Hz

20dB

---

A36.3.6.3					5dB	
50Hz	10kHz				10kHz	11.2kHz
	±1.5dB					
	10kHz	±0.3dB				
					A36.3.9.5	
A36.3.6.4					5dB	1kHz
		±0.5dB				
A36.3.6.5						
			50Hz	1kHz	10kHz	
			50dB			±0.5dB
				IEC 61265		
	1					
	2					
A36.3.6.6						5dB

0.5	1		
0.5	-4±1dB		
1	-1.75±0.75dB		
1.5	-1±0.5dB		
2	0.5±0.5dB		
0.5	1		
	-6.5±1dB	-7.5dB	1
			2
A36.3.7.5			

$$L_s(i, k) = 10 \log \left[ (0.60653) 10^{0.1L_s[i, (k-1)]} + (0.39347) 10^{0.1L(i, k)} \right]$$

$L_s(i, k)$	$i$	$L(i, k)$	0.5
$k$	$k$	$k=1$	
$L_s[i, (k-1=0)]$	0dB		
$k \geq 4$			
$L_s(i, k) = 10 \log \left[ (0.13) 10^{0.1L[i, (k-3)]} + (0.21) 10^{0.1L[i, (k-2)]} + (0.27) 10^{0.1L[i, (k-1)]} + (0.39) 10^{0.1L(i, k)} \right]$			
$L_s(i, k)$	$i$	$L(i, k)$	0.5
$k$	$k$		
		1.0	6 0.5
		2.5	
		0.5	
		0.5	
A36.3.7.6			0.75
		0.5	
			2
	1.25		
A36.3.7.7		0.1dB	

A36.3.8  
A36.3.8.1

IEC 60942 1L

A36.3.9  
A36.3.9.1  
A36.3.9.2 A36.3.9.10

A36.3.9.2

---

90					
A36.3.9.3			±30°		A36-1 0.5
A36.3.9.4				10kHz	30
0.75dB					
A36.3.9.5					50Hz
10kHz				5dB	
	6			0.2dB	
A36.3.9.6					
A36.3.9.7	6			0.1dB	
			6	0.2dB	
A36.3.9.8					
	0.5dB				0.5dB
A36.3.9.9					
10					
A36.3.9.10		50Hz	10kHz		
					A36.3.9.3
				30°	
					6
	0.4dB				
A36.3.10					
A36.3.10.1					
10					
			PNL		A36.4.1.3(a)
	PNL	20dB			
A36.3.10.2	10dB	( A36.4.5.1)			
	A36.3.10.1				3dB

---

---

<b>A36.4</b>				
A36.4.1				
A36.4.1.1			(EPNL)	EPNdB
		EPNL		
			PNL	
A36.4.1.2				
EPNL		0.5		24
A36.4.1.3				
		EPNL		
	5			
(a)	A36.4.2.1(a)	24		
		PNL(k)		
(b)				
$C(k)$				
(c)	0.5			
PNLT(k)				
		$PNLT(k) = PNL(k) + C(k)$		
				PNLTM
(d)	$D$			
(e)	EPNL			
		$EPNL = PNLTM + D$		
A36.4.2				
A36.4.2.1		PNL(k)		SPL(i,k)
(a)	A36.4.7		50Hz	10kHz
	SPL(i,k)	$n(i,k)$		
(b)				$n(i,k)$
		$N(k) = n(k) + 0.15 \left\{ \left[ \sum_{i=1}^{24} n(i,k) \right] - n(k) \right\}$ $= 0.85 n(k) + 0.15 \sum_{i=1}^{24} n(i,k)$		
(c)	$n(k)$	24	$n(i,k)$	$N(k)$
				$N(k)$
				PNL(k)
		$PNL(k) = 40.0 + \frac{10}{\log 2} \log N(k)$		
	PNL(k)			

---

A36.4.3

A36.4.3.1

$C(k)$

(a) A36.3.9 80Hz

$s(3, k) =$

$s(4, k) = \text{SPL}(4, k) - \text{SPL}(3, k)$

g

g

$s(i, k) = \text{SPL}(i, k) - \text{SPL}(i-1, k)$

g

g

$s(24, k) = \text{SPL}(24, k) - \text{SPL}(23, k)$

(b) 5  $s(i, k)$

$|\Delta s(i, k)| = |s(i, k) - s(i-1, k)| > 5$

(c)

(1)  $\text{SPL}(i, k)$   $s(i, k)$   $s(i-1, k)$

(2)  $\text{SPL}(i-1, k)$   $s(i, k)$   $s(i-1, k)$

(3)

(d)  $\text{SPL}'(i, k)$

(1)  $\text{SPL}'(i, k) = \text{SPL}(i, k)$

(2) 1 23

$$\text{SPL}'(i, k) = \frac{1}{2} [\text{SPL}(i-1, k) + \text{SPL}(i+1, k)]$$

(3)  $(i=24)$

$$\text{SPL}' = \text{SPL}(23, k) + s(23, k)$$

(e) 25  $s'(i, k)$

$s'(3, k) = s'(4, k)$

$s'(4, k) = \text{SPL}'(4, k) - \text{SPL}'(3, k)$

g

g

$s'(i, k) = \text{SPL}'(i, k) - \text{SPL}'(i-1, k)$

g

g

$s'(24, k) = \text{SPL}'(24, k) - \text{SPL}'(23, k)$

$s'(25, k) = s'(24, k)$

(f)  $i-3-23$



$$\bar{s}(i,k) = \frac{1}{3} [s'(i,k) + s'(i+1,k) + s'(i+2,k)]$$

(g) 3 24

SPL"(i,k)

$$\text{SPL}''(3,k) = \text{SPL}(3,k)$$

$$\text{SPL}''(4,k) = \text{SPL}''(3,k) + \bar{s}(3,k)$$

g

g

$$\text{SPL}''(i,k) = \text{SPL}''(i-1,k) + \bar{s}(i-1,k)$$

g

g

$$\text{SPL}''(24,k) = \text{SPL}''(23,k) + \bar{s}(23,k)$$

(h)

$F(i,k)$

$$F(i,k) = \text{SPL}(i,k) - \text{SPL}''(i,k)$$

1.5

(i)

$F(i,k)$

A36-2

3 24

(j)

$C(k)$

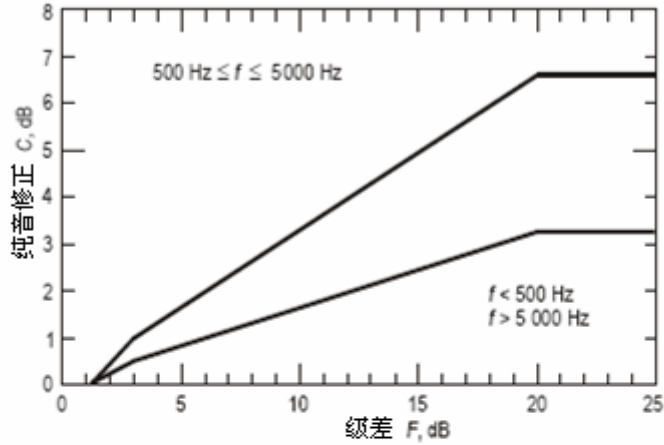
$C(k)$

PNL(k)

$$\text{PNLT}(k) = \text{PNL}(k) + C(k)$$

k

i



频率 $f$ , Hz	级差 $F$ , dB	纯音修正 $C$ , dB
$50 \leq f < 500$	$1\frac{1}{2}^* \leq F < 3$	$F/3 - \frac{1}{2}$
	$3 \leq F < 20$	$F/6$
	$20 \leq F$	$3\frac{1}{2}$
$500 \leq f \leq 5000$	$1\frac{1}{2}^* \leq F < 3$	$2 F/3 - 1$
	$3 \leq F < 20$	$F/3$
	$20 \leq F$	$6\frac{1}{2}$
$5000 < f \leq 10000$	$1\frac{1}{2}^* \leq F < 3$	$F/3 - \frac{1}{2}$
	$3 \leq F < 20$	$F/6$
	$20 \leq F$	$3\frac{1}{2}$

A36-2

A36.4.3.2

EPNL

- (a)
- (b)

A36.4.4

A36.4.4.1

PNLTM

A36.4.3

PNLT( $k$ )

0.5

1 A36-2

2

PNLTM

PNLM

A36.4.4.2

PNLTM

500

PNLTM

$C(k)$

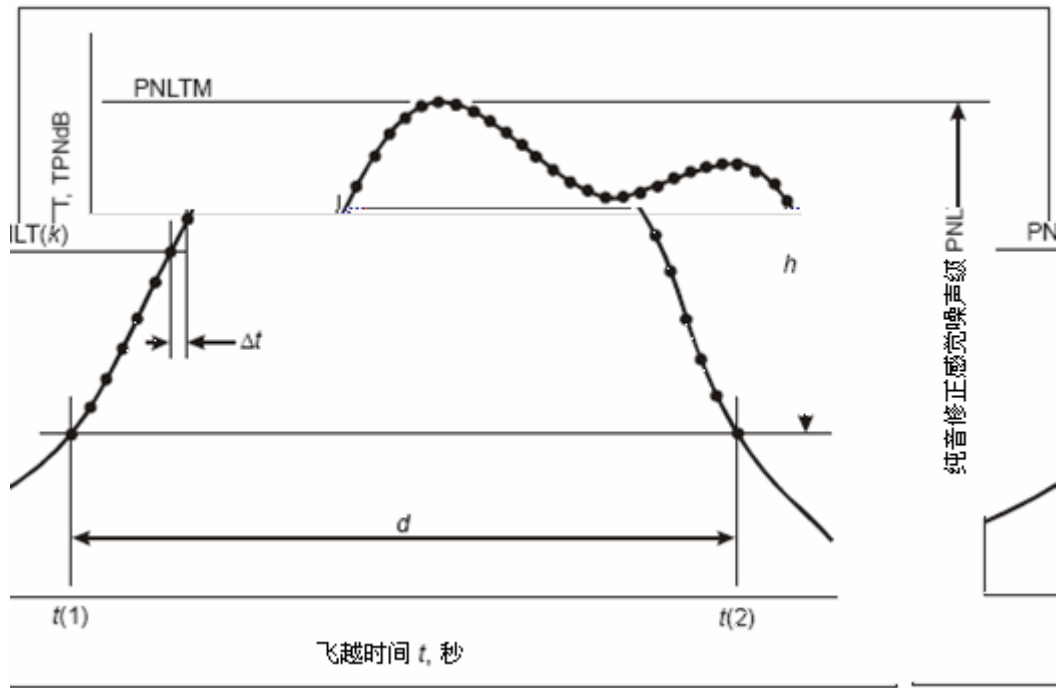
PNLTM

$C(k)$

$C(k)$

PNLTM

5



A36-2

A36.4.5

A36.4.5.1

$$D = 10 \log \left[ \left( \frac{1}{T} \right) \int_{t(1)}^{t(2)} \text{anti log} \frac{\text{PNLT}}{10} dt \right] - \text{PNLTM}$$

$T$  PNLTM PNL  $t(1)$  PNL  $\text{PNLTM}-10$

$t(2)$  PNL  $\text{PNLTM}-10$

A36.4.5.2

PNLT SPL

$$D = 10 \log \left[ \left( \frac{1}{T} \right) \sum_{k=0}^{d/\Delta t} \Delta t \cdot \text{anti log} \frac{\text{PNLT}(k)}{10} \right] - \text{PNLTM}$$

$\Delta t$  PNL  $\text{PNLT}(k)$   $d$  0.5

PNLT  $\text{PNLTM}-10$

A36.4.5.3

(a)  $\Delta t$  0.5

(b)

A36.4.5.4

A36.4.5.2

$D$

$T$   $\Delta t$

$T=10$

$\Delta t$  0.5

$D$

$$D = 10 \log \left[ \sum_{k=0}^{2d} \text{anti log} \frac{\text{PNLT}(k)}{10} \right] - \text{PNLTM} - 13$$

$d$

PNL  $\text{PNLTM}-10$

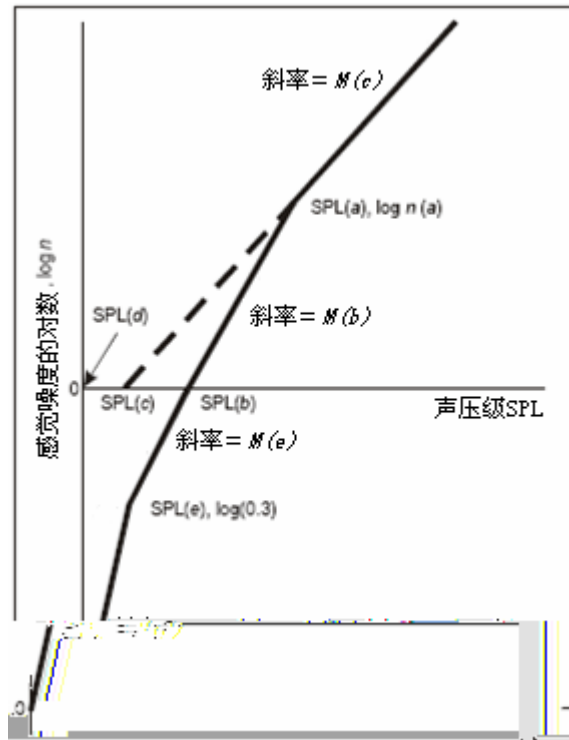
A36.4.5.5

A36.4.5.2

PNL  $\text{PNLTM}-10$

PNLT  $\text{PNLT}(k)$





A36-3

频带 (i)	f Hz	SPL (a)	SPL (b)	SPL (c)	SPL (d)	SPL (e)	M(b)	M(c)	M(d)	M(e)
1	50	91.0	64	52	49	55	0.043478	0.030103	0.079520	0.058098
2	63	85.9	60	51	44	51	0.040570	↑	0.068160	-
3	80	87.3	56	49	39	46	0.036831	↑	-	0.052288
4	100	79.0	53	47	34	42	-	↑	0.059640	0.047534
5	125	79.8	51	46	30	39	0.035336	↑	0.053013	0.043573
6	160	76.0	48	45	27	36	0.033333	↑	↑	-
7	200	74.0	46	43	24	33	-	↑	↑	0.040221
8	250	74.9	44	42	21	30	0.032051	↑	↑	0.037349
9	315	94.6	42	41	18	27	0.030675	0.030103	↑	0.034859
10	400	∞	40	40	16	25	0.030103	↑	↑	↑
11	500	↑	40	40	16	25	↑	↑	↑	↑
12	630	↑	40	40	16	25	↑	↑	↑	↑
13	800	↑	40	40	16	25	↑	↑	↑	↑
14	1 000	↑	40	40	16	25	↑	↑	↑	↑
15	1 250	↑	38	38	15	23	0.030103	↑	0.053013	0.034859
16	1 600	↑	34	34	12	21	0.029960	↑	0.053013	0.040221
17	2 000	↑	32	32	9	18	↑	↑	-	0.037349
18	2 500	↑	30	30	5	15	↑	↑	0.047712	0.034859
19	3 150	↑	29	29	4	14	↑	↑	-	↑
20	4 000	↑	29	29	5	14	↑	↑	0.053013	↑
21	5 000	↑	30	30	6	15	↑	↑	-	0.034859
22	6 300	∞	31	31	10	17	0.029960	0.029960	0.068160	0.037349
23	8 000	44.3	37	34	17	23	0.042285	↑	0.079520	-
24	10 000	50.7	41	37	21	29	-	-	0.059640	0.043573

A36-3

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**A36.5**

A36.5.1

A36.5.1.1

A36.5.1.2

A36.5.1.3

A36.5.2

A36.5.2.1

A36.3

A36.5.2.2

A36.5.2.3

A36.2

(a)

(b)

(c)

A36.5.2.4

A36.5.2.5

(a)

(b)

(c)

(d)

(e)

APU

(f)

(g)

/ /

(h)

(1)

(2)

(i)

(j)

A36.5.3

A36.5.3.1

B

A36.5.4

A36.5.4.1

EPNL

90%

(a)  
 (b) (a)  
 90%  
 A36.5.4.2  
 ±1.5EPNdB  
 90%  
 A36.5.4.3 A36.5.4.1 EPNL

**A36.6**

antilog		10
$C(k)$	dB	$k$ PNL( $k$ )
$d$		$t(1)$ $t(2)$ 0.5
$D$	dB	PNLTM
EPNL	EPNdB	PNL EPNdB dB
$EPNL_r$	EPNdB	
$f(i)$	Hz	$i$
$F(i,k)$	dB	$\Delta$ dB $k$ $i$
$h$	dB	PNLTM
$H$		
$i$		24 50 10000Hz
$k$		
log		10
$\log n(a)$		SPL $\log n$ $\log n$
$M(b)$ $M(c)$		SPL $\log n$

$n$		
$n(i,k)$		$k$ $i$
$n(k)$		$k$ 24 $n(i)$
$N(k)$		$k$ 24 $n(i,k)$
$p(b)$ $p(c)$		SPL $\log n$
PNL	PNdB	PNdB dB
PNL( $k$ )	PNdB	$k$ 24 SPL( $i,k$ ) PNdB dB
PNLM	PNdB	PNL( $k$ ) PNdB dB
PNLT	TPNdB	PNL TPNdB dB
PNLT( $k$ )	TPNdB	$k$ PNL( $k$ ) TPNdB dB
PNLTM	TPNdB	PNLT( $k$ ) TPNdB dB
PNLT <sub>r</sub>	TPNdB	
$s(i,k)$	dB	$k$ $i$
$\Delta s(i,k)$	dB	
$s'(i,k)$	dB	$k$ $i$
$\bar{s}(i,k)$	dB	
SPL	dB 20 $\mu$ Pa	
SPL( $a$ )	dB 20 $\mu$ Pa	SPL $\log n$ SPL
SPL( $b$ ) SPL( $c$ )	dB 20 $\mu$ Pa	SPL $\log n$ SPL
SPL( $i,k$ )	dB 20 $\mu$ Pa	$k$ $i$
SPL'( $i,k$ )	dB 20 $\mu$ Pa	$k$ $i$
SPL( $i$ )	dB	PNLTM $i$



	20 $\mu$ Pa	
$SPL(i)_r$	dB 20 $\mu$ Pa	PNLTM $i$
$SPL''(i,k)$	dB 20 $\mu$ Pa	$k$ $i$
$t$		
$t(1) t(2)$		$h$
$\Delta t$		PNL( $k$ ) PNL( $k$ )
$T$		$T=10$
$t( ) ( )$	,	
$\alpha(i)$	dB/100 dB 1000	$i$
$\alpha(i)_0$	dB/100 dB 1000	$i$
$A_1$		( $V_2+19$ / ( $V_2+10$ / ) )
$A_2$		( $V_2+19$ / ( $V_2+10$ / ) )
$\delta$		
$\varepsilon$		
$\eta$		
$\eta_r$		
$\theta$		
$\psi$		
$\mu$		
$\mu_r$		
$\Delta_1$	EPNdB	PNLT EPNL
$\Delta_2$	EPNdB	

		EPNL
$\Delta_3$	EPNdB	EPNL

**A36.7**

A36.7.1

A36.7.2

A36.7.2

A36.7.2(a)

$$\alpha(i) = 10^{\left[2.05 \log(f_0/1000) + 6.33 \times 10^{-3} \theta - 1.45325\right]} + \eta(\delta) \times 10^{\left[\log(f_0) + 4.6833 \times 10^{-3} \theta - 2.4215\right]}$$

$$\delta = \sqrt{\frac{1010}{f_0}} 10^{\left(\log H - 1.97274664 + 2.288074 \times 10^{-2} \theta\right)} \times 10^{\left(-9.589 \times 10^{-5} \theta^2 + 3.0 \times 10^{-7} \theta^3\right)}$$

$\eta(\delta)$       A36-4       $f_0$       A36-5  
 $\alpha(i)$                       dB/1000  
 $\theta$   
 $H$

A36.7.2(b)

$$\alpha(i) = 10^{\left[2.05 \log(f_0/1000) + 1.1394 \times 10^{-3} \theta - 1.916984\right]} + \eta(\delta) \times 10^{\left[\log(f_0) + 8.42994 \times 10^{-3} \theta - 2.755624\right]}$$

$$\delta = \sqrt{\frac{1010}{f_0}} 10^{\left(\log H - 1.328924 + 3.179768 \times 10^{-2} \theta\right)} \times 10^{\left(-2.173716 \times 10^{-4} \theta^2 + 1.7496 \times 10^{-6} \theta^3\right)}$$

$\eta(\delta)$       A36-4       $f_0$       A36-5  
 $\alpha(i)$                       dB/100  
 $\theta$   
 $H$

A36.7.3      A36-4                      A36.7.2

$\delta$	$\eta(\delta)$	$\delta$	$\eta(\delta)$
0.00	0.000	2.50	0.450
0.25	0.315	2.80	0.400
0.50	0.700	3.00	0.370
0.60	0.840	3.30	0.330
0.70	0.930	3.60	0.300
0.80	0.975	4.15	0.260
0.90	0.996	4.45	0.245
1.00	1.000	4.80	0.230
1.10	0.970	5.25	0.220
1.20	0.900	5.70	0.210
1.30	0.840	6.05	0.205
1.50	0.750	6.50	0.200
1.70	0.670	7.00	0.200
2.00	0.570	10.00	0.200
2.30	0.495		

必要时用二次插值

A36-4  $\eta(\delta)$

三分之一倍频程 中心频率 (Hz)	$f_0$ (Hz)	三分之一倍频程 中心频率 (Hz)	$f_0$ (Hz)
50	50	800	800
63	63	1 000	1 000
80	80	1 250	1 250
100	100	1 600	1 600
125	125	2 000	2 000
160	160	2 500	2 500
200	200	3 150	3 150
250	250	4 000	4 000
315	315	5 000	4 500
400	400	6 300	5 600
500	500	8 000	7 100
630	630	10 000	9 000

A36-4  $f_0$

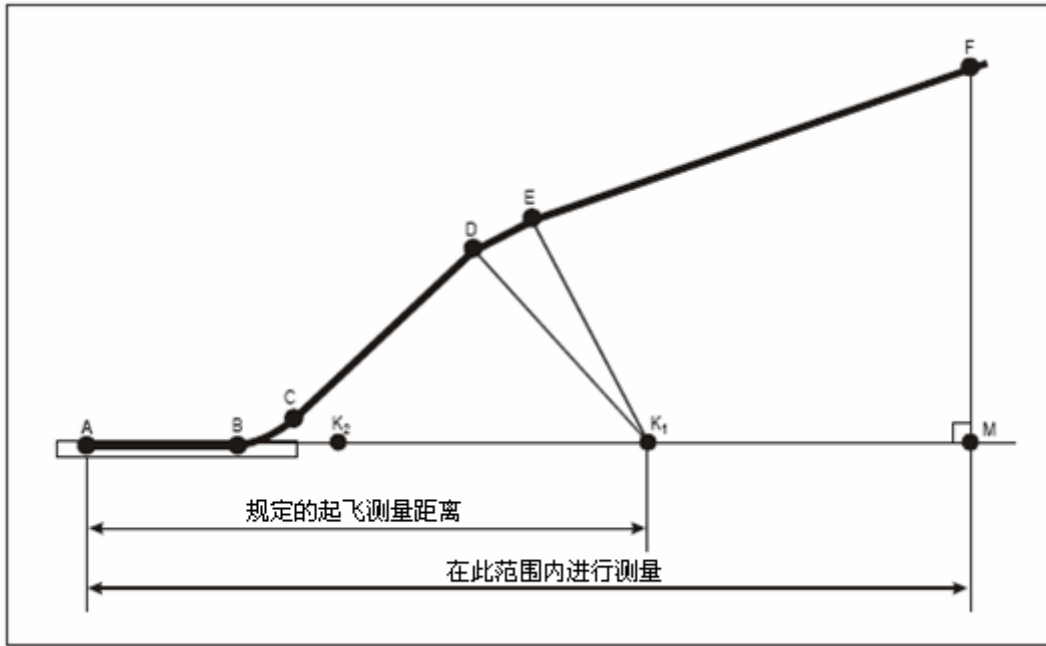
**A36.8**

**A36.9**

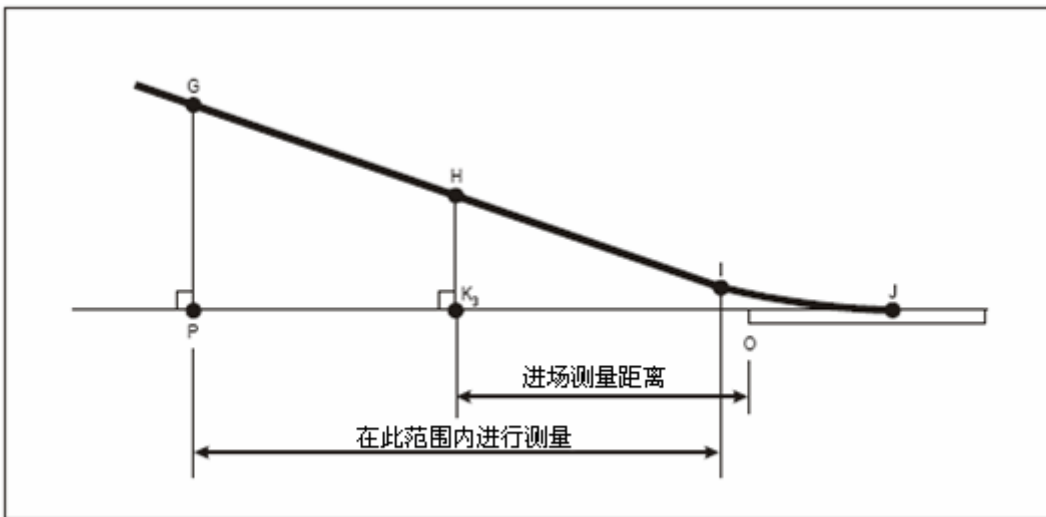
A36.9.1

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A36.9.1.1		A36.9.3	A36.9.4	
(a)				
(b)				
(c)				
(d)			/	
		28	/	15 /
	/			
A36.9.1.2		A36.9.4		
(a)			8dB	4dB
(b)			EPNL	B36.5
	1dB			
A36.9.2				
A36.9.2.1				
A36-4				
(a) A		D	B	E
				C
			F	
(b) K <sub>1</sub>		AK <sub>1</sub>		K <sub>2</sub>
(c) AF		A36.2.3.2		
A36.9.2.2				
A36-5				
(a) G				J
OJ				
(b) K <sub>3</sub>		K <sub>3</sub> O		
(c) GI		A36.2.3.2		
			ILS	ILS



A36-4



A36-5

A36.9.3

A36.9.3.1

PNLTM

EPNL

A36.9.3.2 PNL PNLT

(a) A36-6

EPNL

A36-6

(1) XY

EPNL

$X_r Y_r$

(2) Q

K

PNLTM

$Q_r$

$K_r$

QK

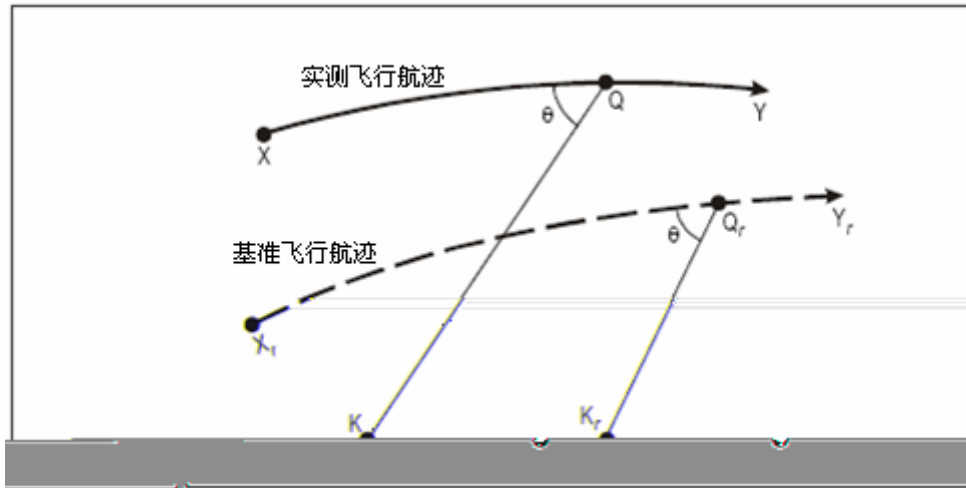
$Q_r K_r$

$Q_r$

QK

$Q_r K_r$

$\theta$



A36-6

(b) A36-7(a) (b) (b)(1) (2)

EPNL

(1) A36-7(a) XY

EPNL

A36-7(b) X<sub>r</sub>Y<sub>r</sub>

(2) Q K PNLTM

Q<sub>r</sub>

K<sub>r</sub>

K<sub>r</sub>

QK Q<sub>r</sub>K<sub>r</sub>

K<sub>r</sub> Q<sub>r</sub>

QK Q<sub>r</sub>K<sub>r</sub>

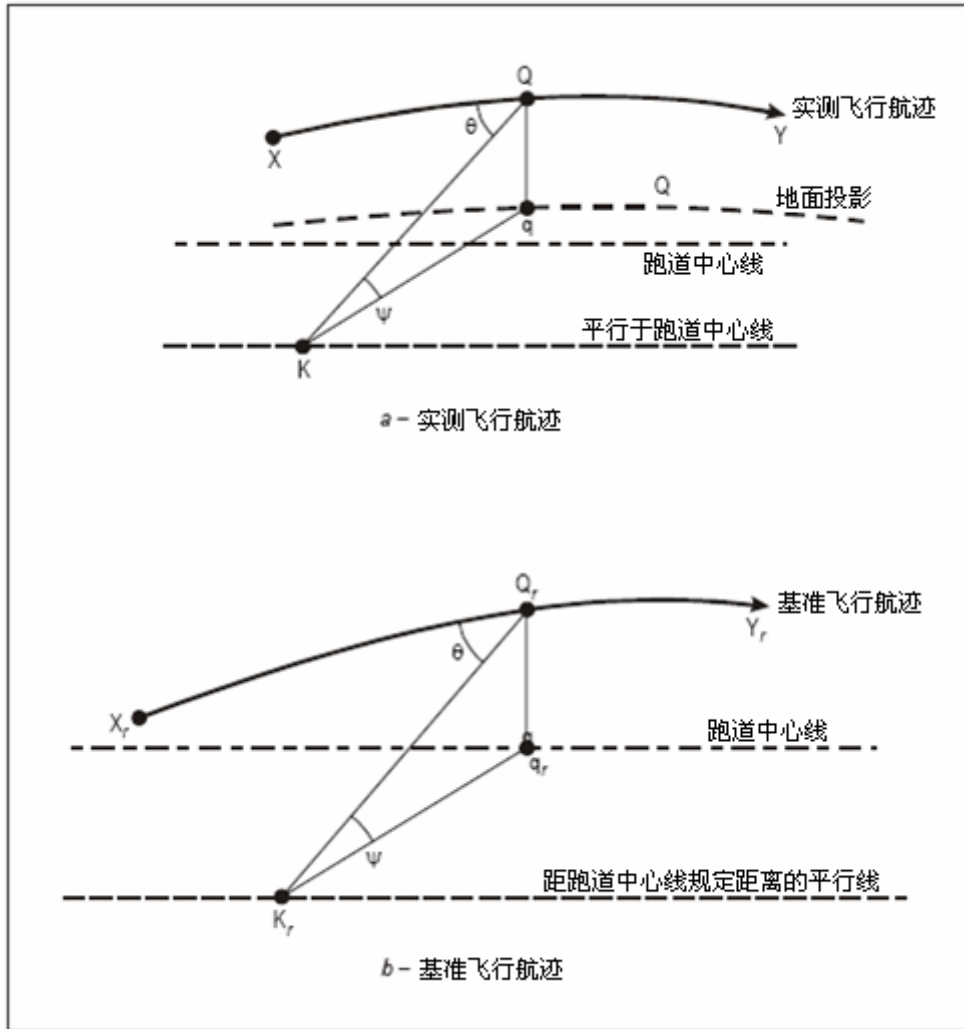
(i)

$\theta$

(ii)

$\psi$

$\psi$



A36-7

A36.9.3.2.1 PNL PNLTM K PNL  
 SPL(i) SPL(i)<sub>r</sub>

A36.9.3.2.1(a)

$$SPL(i)_r = SPL(i) + 0.001[\alpha(i) - \alpha(i)_0]QK + 0.001\alpha(i)_0(QK - Q_rK_r) + 20\log(QK/Q_rK_r)$$

(1)  $0.001[\alpha(i) - \alpha(i)_0]QK$   $\alpha(i)$   $\alpha(i)_0$

A36.7

(2)  $0.001\alpha(i)_0(QK - Q_rK_r)$

(3)  $20\log(QK/Q_rK_r)$

(4)  $QK - Q_rK_r$   $\alpha(i)$   $\alpha(i)_0$  dB/1000

A36.9.3.2.1(b)

$$SPL(i)_r = SPL(i) + 0.01[\alpha(i) - \alpha(i)_0]QK + 0.01\alpha(i)_0(QK - Q_rK_r) + 20\log(QK/Q_rK_r)$$

(1)  $0.01[\alpha(i) - \alpha(i)_0]QK$   $\alpha(i)$   $\alpha(i)_0$

A36.7

(2)  $0.001\alpha(i)_0(QK-Q_rK_r)$

(3)  $20\log(QK/Q_rK_r)$

(4)  $QK \quad Q_rK_r \quad \alpha(i) \quad \alpha(i)_0 \quad \text{dB}/100$

A36.9.3.2.1.1 PNLT

(a)  $SPL(i)_r \quad PNLT_r$

(b)  $\Delta_1$

$\Delta_1 = PNLT_r - PNLTM$

A36.9.3.2.1.2  $\Delta_1$  EPNL

A36.9.3.2.2 PNLTM 2dB PNLT

A36.9.3.2.1

PNLT

PNLTM

EPNL

A36.9.3.3

A36.9.3.3.1

/

/

EPNL

A36.9.3.3.2 A36-6

$\Delta_2 = -7.5\log(QK/Q_rK_r) + 10\log(V/V_r)$

$\Delta_2$  EPNL

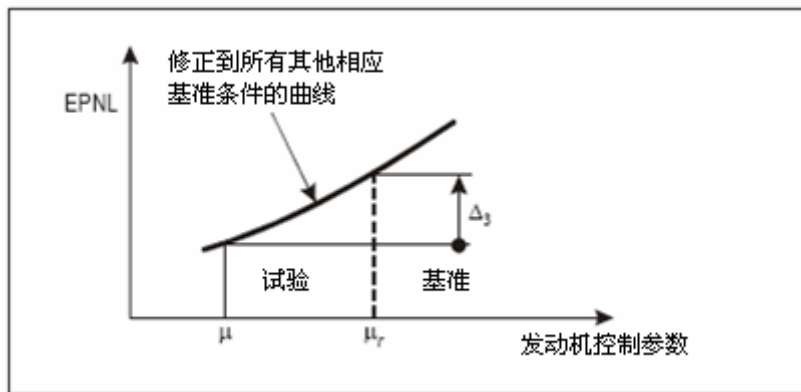
A36.9.3.4

A36.9.3.4.1

A36-8

EPNL  $\mu$  EPNL

B36.7(b)(7)  $\mu_r$



A36-8

A36.9.3.4.2  $\mu_r$  EPNL  $\mu$  EPNL  $\Delta_3$

EPNL

A36.9.3.5



A36.9.3.5.1

B36.4(b)

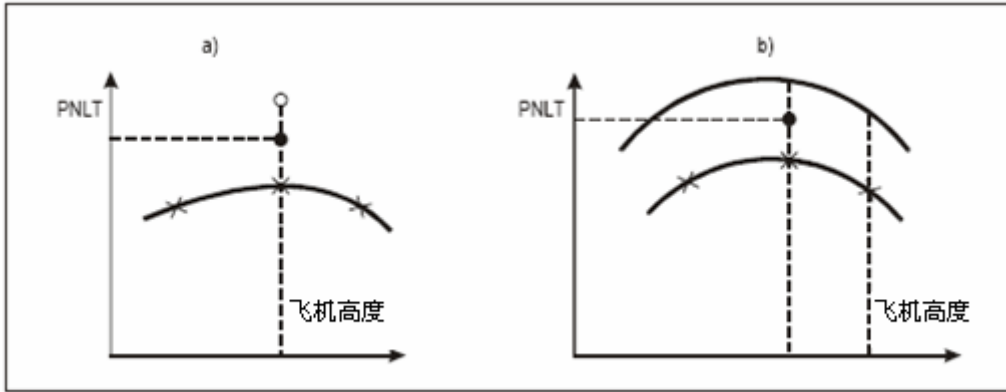
(a)

A36-9(a)

(b)

(a)

A36-9(b)



A36-9

A36.9.4

A36.9.4.1

PNLT

EPNL

A36.9.4.2

A36.9.4.4.1

A36.9.4.2 PNLT

(a)

A36-10

(a)(1) (2)

EPNL

A36-10

(1) XY

EPNL

$X_r Y_r$

(2)

$Q_0$

$Q_1$

$Q_n$

$t_0$

$t_1$

$t_n$

$Q_1$

$t_1$

K

$SPL(i)_1$

$Q_{r1}$

$t_{r1}$

$K_r$

$SPL(i)_{r1}$

$Q_1 K$

$Q_{r1} K_r$

$\theta_1$

$Q_{r0}$

$Q_m$

$Q_0$

$Q_n$

$Q_0$

$Q_n$

$Q_{r0}$

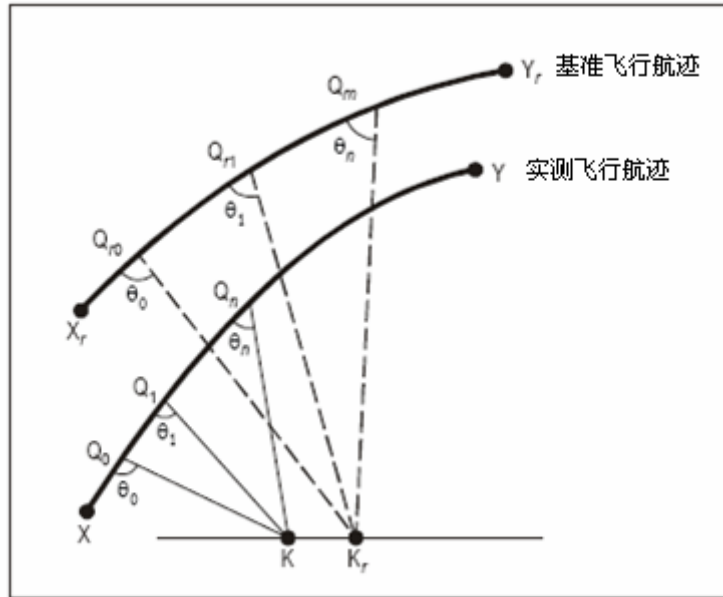
$Q_m$

10dB

$PNLT_r$

A36.9.4.2.2

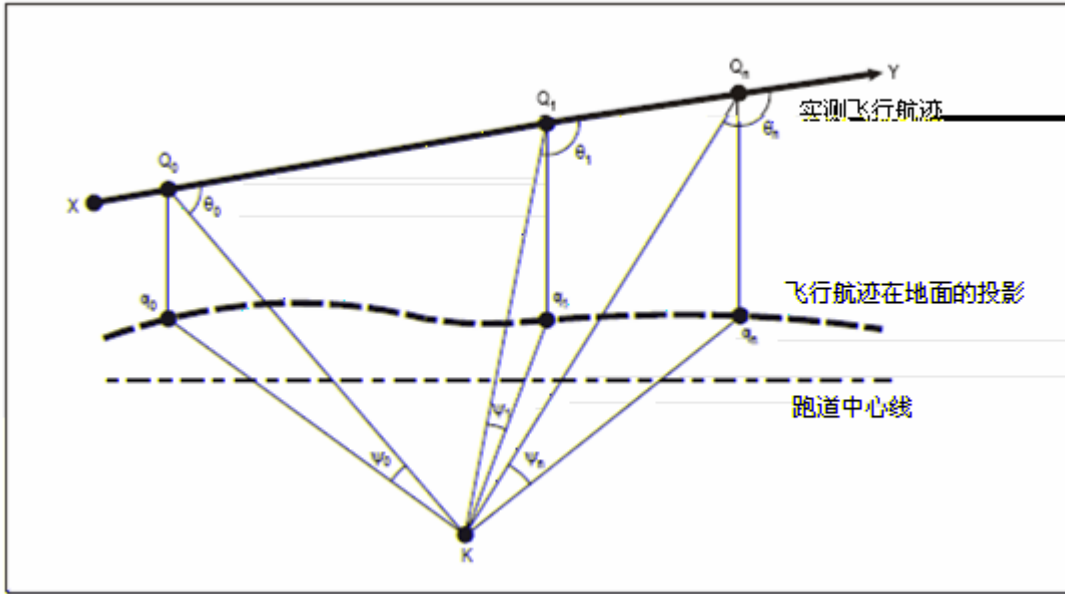
A36.9.4.2.3



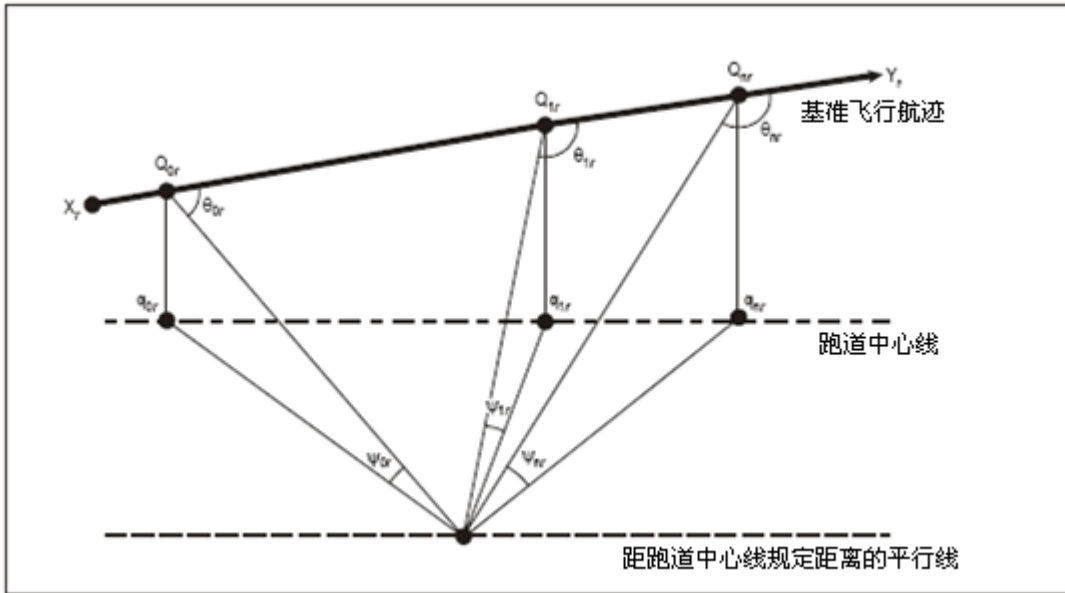
A36-10

(b)	A36-11(a)	(b)	(b)(1)	(2)		
					EPNL	
(1)	A36-11(a)	XY				EPNL
		A36-11(b)	$X_r Y_r$			
(2)	$Q_0$	$Q_1$	$Q_n$	$t_0$	$t_1$	$t_n$
$Q_1$	$t_1$		K			SPL(i) <sub>1</sub>
$Q_{r1}$	$t_{r1}$			$K_r$		SPL(i) <sub>r1</sub>
$Q_1 K$	$Q_{r1} K_r$					$Q_{r0}$ $Q_m$
$Q_0$	$Q_n$			$Q_0$	$Q_n$	$Q_{r0}$ $Q_m$
10dB	PNLTr		A36.9.4.2.2	A36.9.4.2.3		$K_r$
			$K_r$	$Q_{r1}$		
(i)	$Q_1 K$	$Q_{r1} K_r$			$\theta_1$	
(ii)					$\psi_1$ $\psi_{r1}$	
		$K_r$	$\psi_1$	$\psi_{r1}$		A36.9.4.2(b)(2)(i)

$\psi$



A36-11(a)



A36-11(b)

A36.9.4.2.1    A36.9.4.2(a)(2)    (b)(2)     $t_{r1}$      $t_1$      $Q_{r1}K_r > Q_1K$   
 (1)     $V_r$      $Q_{r1}Q_{r0}$      $V$      $Q_1Q_0$

(2)     $Q_{r1}K_r - Q_1K$   
 A36.9.4.2(a)(2)    (b)(2)

A36.9.4.2.2  
 SPL(i)<sub>1</sub>    A36.9.3.2.1    SPL(i)<sub>r1</sub>    PNL<sub>r1</sub>  
 A36.4.2    PNL<sub>r</sub>     $t_0$      $t_n$

A36.9.4.2.3 PNL<sub>r1</sub> A36.4.3 SPL(i)<sub>r</sub>  
 C<sub>1</sub> PNL<sub>r1</sub> PNL<sub>T<sub>r1</sub></sub>  
 t<sub>0</sub> t<sub>n</sub> PNL<sub>T<sub>r</sub></sub>  
 A36.9.4.3  
 A36.9.4.3.1 0.5 PNL<sub>T</sub> PNL<sub>T<sub>r</sub></sub>  
 PNL<sub>T<sub>r1</sub></sub> t<sub>r1</sub> A36.4.5.1  
 EPNL<sub>r</sub>  
 A36.9.4.4  
 A36.9.4.4.1 A36.9.3.4 Δ<sub>3</sub>

A36.9.5

A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
K	
K <sub>r</sub>	
K <sub>1</sub>	
K <sub>2</sub>	
K <sub>3</sub>	
M	
O	
P	
Q	K PNL <sub>T<sub>M</sub></sub> A36.9.3.2
Q <sub>r</sub>	K PNL <sub>T<sub>M</sub></sub> A36.9.3.2
V	
V <sub>r</sub>	

A36.9.6

AB		
AK		
AM		

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QK		Q K
$Q_r K_r$		$Q_r K_r$
$K_3 H$		
$OK_3$		
OP		

[2007 4 15 ]

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**B 36.103**

**B36.1**

**B36.2**

**B36.3**

**B36.4**

**B36.5**

**B36.6**

**B36.7**

**B36.8**

**B36.1**

(a) A

(b) 7 2 16 I 2002 3 21

**B36.2**

A

EPNdB

**B36.3**

B36.6

B36.5

(a)

(1) 1476 3 450

648 0.35

300 985

(1427 ) +100 -50 (+328 -164

(2) 2133 2007 4 15 650

B36.3(a)(1)

(b) 21325 6500

---

(c)

120 394

300 984

2000 6562  
3°

**B36.4**

(a)

(b)

±10 33

**3030**

**B36.5**

B36.6

A

302G!ñ™C`Đ œ0S4Aò.u

(a)

36.7(c)

(b)

---

3.4

**B36.6**

36.7(c)(1) 36.7(d)(1)(ii)

- (a) 3EPNdB
- (b) 2EPNdB
- (c)

**B36.7**

- (a)
  - (1) 36.3
  - (2)
  - (3) (b) (c)
  - (4)
  - (5)
    - (i) 1013.25 2116
    - (ii) 25 77 10
    - (iii) 70
    - (iv)
    - (v)

- (b)
  - (1) B36.7(a)(5)

- (i) 2
- (A) —214 700
- (B) —305 1000
- (ii) 2
- (A) —210 689
- (B) —260 853
- (C) —300 984

- (2) (b)(1)
- (i) 4
- (ii)
- (3) 2007 4 15 (b)(2)

- (4) V<sub>2</sub> 19 V<sub>2</sub> 10 V<sub>2</sub> 37 V<sub>2</sub> 20



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(5)

APU

(6)

36.1581 (d)

(7)

N1 EPR

(c)

(1)

3°

(2)

V<sub>REF</sub> 19

V<sub>REF</sub> 10

V<sub>REF</sub>

(3)

(4)

(c)(3)

36.1581 (d)

(5)

A A36.5.2.5

**B36.8**

(a)

(b)

EPNL

EPNdB

A

(c)

A

A36.9

(d)

EPNL

2EPNdB

1EPNdB

EPNL

EPNL

2EPNdB

(e)

3°±0.5°

(f)

16EPNdB

8EPNdB

8EPNdB

4EPNdB

B36.5

(g)

2EPNdB

10dB

±3

10dB

±5.5

±3

---

[2007 4 15 ]

**C-E**

[2007 4 15 ]

**F 1988 11 17**

**A**

**F36.1**

**B**

**F36.101**

**F36.103**

**F36.105**

**F36.107**

**F36.109**

**F36.111**

**C**

**F36.201**

---

**F36.203**

**D**

**F36.301**

**A 部分 总则**

**F36.1**

36.1            36.501 (b)

**B 部分 噪声测量**

**F36.101**

(a)

75°

(b)

(1)

(2)                    90%            30%

(3)            10 (33 )                    5 (41 )            30    86

(4)                    1.83            (1 )

(5)            10 (33 )                    19 /            10 /

7 /            4 /                    ±15°

1.83            1

(6)

(7)

F36.103

**F36.103**

(a)

F36.105

(b)

(c)

F36.105

(d)

(rms)

---

**F36.105**

- (a)
- (b) (IEC) 179  
36.6
- (c) 45 11200  
IEC 179 (1973 )
- (d) 800 11200  
20dB
- (e) IEC 179 (1973 )  
A
- 1 800
- (f)
- (g) 11 / 6 /

**F36.107**

- (a) 1.2 (4 )
- (b)
- (c)
- 10dB(A)

**F36.109**

- (a)
- (b) F36.105
- (c)
- (d) F36.101
- (1)
- (2)
- (e)
- (f) ( )
- (1)
- (2)
- (3)
- (4) /

- (5)
- (6)

(g)

**F36.111**

(a)

$$300^{+10}_{-30} \quad 985^{+30}_{-1000} \quad \pm 10^\circ$$

(b)

(l)

(2)

**C 部分 数据修正**

**F36.201**

(a)  $20^\circ \pm 5$   $68 \pm 9$   $25$   $77$   $40$   $70$

(b) (c)  $5\text{dB(A)}$

(c)

$$\text{dB} = 49.6 - 20 \log_{10} \left\{ (3500 - D_{15}) \frac{R/c}{V_y} \right\} 15$$

$D_{15}$ —  $15$   $50$  ( )

$R/C$ — ( / )

$V_y$ —

(d)  $15$   $50$   $610$   $2000$   $825$   $2700$

**F36.203**

(a) (A)  $90$

(b)  $\pm 1.5\text{dB(A)}$   $90$

---

**D**

**F36.301**

(a)		B	C			
(b)		600	1320		68dB(A)	600
	1320		1500	3300	1dB/75	1dB/165
		1500	3300		80dB(A)	
	80dB(A)					

**G 1988 11 17**

**A**

**G36.1**

**B**

**G36.101**

**G36.103**

**G36.105**

**G36.107**

**G36.109**

**G36.111**

**C**

**G36.201**

**G36.203**

---

**D**

**G36.301**

**A 部分 总则**

**G36.1**

36.1            36.501 (c)

**B 部分 噪声测量**

**G36.101**

(a)

75°

(b)

(1)

(2)

2.2    35            36    95

(3)

20    95            ( )

(4)

19    /            10                    9    /    5            30

(5)

(6)

1.83            1.2    4            10    33  
(1    )

(c)

(d)

G36.103

**G36.103**

(a)

G36.105

(b)

(c)

G36.105

(d)

(rms)

**G36.105**

(a)

---

(b) (IEC) 651 36.6  
561

IEC 651 I

(c) 45 11200

IEC 651

(d)

800 11200

20dB

(e) IEC 651 A

(f)

A

A36.3.8 A36.3.9

(g) 9 / (5 )

**G36.107**

(a) 12.7

7

40 2.5

3/4

(b)

10dB

(c)

10dB(A)

**G36.109**

(a)

(b) G36.105

(c)

(d) G36.101

(1)

(2)

(e)



---

(f)

(g)

(1) ( )

(2)

(3)

(4)

(5) (rpm)

±1

(6) G36.201

**G36.111**

(a) 2500 (8200 )

±10° ±20

$V_y \pm 9$  / 5

(b)

(1) 1013.25 (1013.25 )

(2) 15 59

(3) 70

(4)

(c)

(1)

(i) 15 50

(ii)

(iii)

(iv) ( )

)

(2)

(i)

(ii) ( )

(iii)  $V_y$

(iv)

---

**C 部分 数据修正**

**G36.201**

(a)

(1)

(2)

(3)

(4)

(b)

G1

15

59

70

(c)

(1) 0.70

0.014

(2)

0.70

0.80

0.007

(3)

0.80

0.005

0.80

0.008

(d)

(1)

$$(M) = (H_T \alpha - 0.7 H_R) / 304.8$$

$H_T$

$H_R$

$\alpha$

500

(SAE)

ARP866A

36.6

(2)

(1)

G1

$$(1) = 221 \log(H_T/H_R)$$

$H_T$

$H_R$

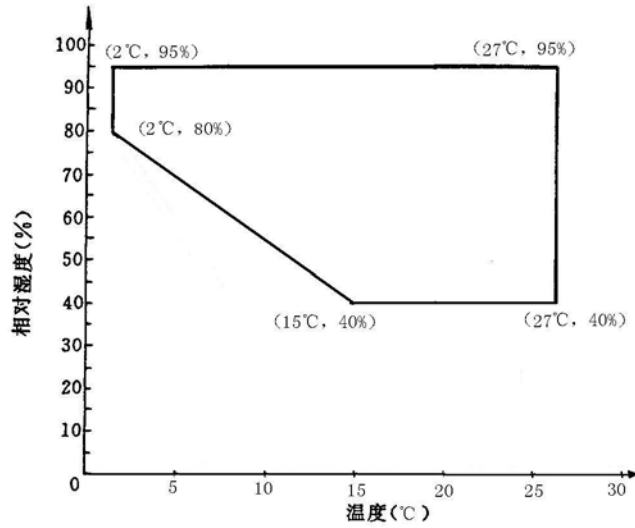
G1

$$(1) = 201 \log(H_T/H_R)$$

(3)

(2)

$$(2) \quad k \log(M_R/M_T)$$



G1

$$M_T \quad M_R \quad k \quad dB(A) \quad M_T \quad M_R \quad K \quad M_R$$

$$150 \quad M_T \quad M_R \quad k \quad M_T \quad M_R \quad M_R$$

(4)

$$(3) \quad 171 \log(P_R/P_T)$$

$$P_T \quad P_R$$

**G36.203**

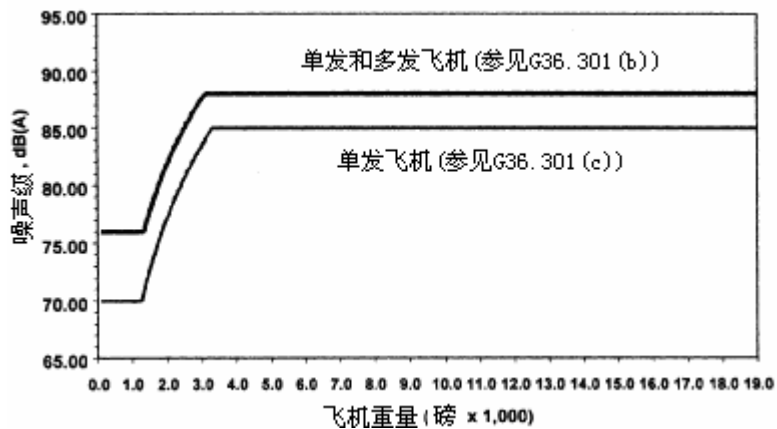
- (a)  $6 \quad (L_{Amax}) \quad 90$
- (b)  $\pm 1.5dB(A) \quad 90$

**D 部分 噪声限制**

**G36.301**

- (a)  $B \quad C$
- (b)  $2007 \quad 4 \quad 15$   
 $600 \quad (1320) \quad 76dB(A) \quad 600 \quad (1320)$   
 $) \quad 9.83dB(A)$   
 $88dB(A) \quad 8618 \quad (19000) \quad G2$
- (c)  $2007 \quad 4 \quad 15$

(1257 ) 570 (1257 ) 70dB(A) 570  
 85dB(A) 8618 (19000 ) G2 10.75dB(A)



G2  
 [2007 4 15 ]

**H H**

**A**

**H36.1**

**H36.3**

**H36.5**

**B 36.801**

**H36.101**

**H36.103**

**H36.105**

---

**H36.107**

**H36.109**

**H36.111**

**H36.113**

**C                    36.803**

**H36.201            EPNdB**

**H36.203**

**H36.205**

**D                    36.805**

**H36.301**

**H36.303**

**H36.305**

**A**

**H36.1**

36.1

(a)        H  
36.801

(b)            36.803  
(EPNL)

(c)            36.805

**H36.3**

(a)

- (1) 1,013.25 (2116 )
- (2) 25 (77 )
- (3) 70
- (4)

(b) 10dB

(c)

- (1) H1
- (2) 500 1640 )  $\beta$  ( 20 65  $\beta$  )
- $V_y$   $\beta$   $\beta$  Cr A
- ( Ir )

(d)  $D_r$  ( H2)

- $D_r$  A 150 492  $0.9V_H$
- $0.9V_{NE}$   $0.45V_H$  120 /  $0.45V_H$  65  $0.45V_{NE}$  120  $0.45V_{NE}$  65
- 10dB RPM

- A  $J_r$  1,013.25
- (e)  $V_H$  25 77
- (2116 )  $V_{NE}$

$V_H$   $V_{NE}$

(f)

- (1) H3
- (i) E (EK)
- $E_r K_r$  (PNLTM)10dB
- rpm  $6^\circ$
- (ii)  $\beta$  AH A K K
- $\beta$   $5.5^\circ$   $6.5^\circ$
- (2) H  $6^\circ$  10dB
- E K

**H36.5**

A	( )

---

C	
Cr	
D	
Dr	
E	
Er	
F	A
Fr	A
G	A
Gr	A
H	A
Hr	A
I	
Ir	
J	
Jr	
K	
Kr	
L	A PNLTM
Lr	A PNLTM
M	A PNLTM
Mr	A PNLTM
N	A PNLTM
Nr	A PNLTM
S	

AF		A
AG		A
AH		A

AL			L	A
ALr			Lr	A
AM			M	A
AMr			Mr	A
AN			N	A
ANr			Nr	A
CI				C A
			I	
DJ		D		A
		J		
EK		E		A
		K		

**B 36.801**

**H36.101**

(a)

(b)

(1)

(2)

150 492 6  
20

(3)

(4)

(5)

PNLTM10dB

( ) ( )

80°

(i)

(ii)

(6)

(i)

(ii)

+5% -10%

(7)

6°±0.5°

H36.107

(8)



---

	(i)								
	(ii)					90%		105	
	(c)								
	(1)								
	(2)					10		33	
		-10	~35	14	~95	( )			10 33
	(3)					10			
					8				12dB/100
		20%~95%( )							
	(4)			10			19 /	10	
		9	/	5			10dB		30
	(5)					( )			
	(6)								10
								(	
	)								
	(7)							30	
	(d)								
	(1)							A	
EPNdB	(2)								( )
	(3)								
									PNLTM10dB
	(4)								H36.205
	<b>H36.103</b>								
	(a)			H36.101		H36.205	(b)		
				36					
	(b)								(
	)								
	(1)		$V_y \pm 9$	/	5			$\pm 9$	/ 5
			10dB						
	(2)								20 65
	(3)				500	1640			
	(4)								25
					10dB				

---

---

$\pm 9$  / 5 25

(5) 10dB

$\pm 1.0$

(6) 10dB  $\pm 10^\circ$   $\pm 20$  65

(7)

$V_y$

**H36.105**

(a) H36.101 H36.205 (c)

36

(b)

(1)

(2)  $150 \pm 9$  492  $\pm 30$

(3) 10dB  $\pm 10^\circ$   $\pm 20$  65

(c)

(1)  $0.9V_H$   $0.9V_{NE}$   $0.45V_H$  120

$0.45V_H$  65  $0.45V_{NE}$  120  $0.45V_{NE}$  65 ,

(2) 10dB

$\pm 1.0$

(3) PNLTM 10dB

(d)  $\pm 9$  / 5

**H36.107**

(a) H36.101 H36.205 (d)

36

(b)

)

(1)  $6^\circ \pm 0.5^\circ$

(2)  $120 \pm 10$  394  $\pm 33$

(3) 10dB  $\pm 10^\circ$   $\pm 20$  65

(4)  $V_y$

(5) 10dB

$\pm 1.0$

(6)

(c)  $\pm 9$  /  $\pm 5$

---

**H36.109**

A A36.3

**H36.111**

(a)

(b)

(1)

H36.109

(2)

(3)

(4)

(5)

(i)

(ii)

(iii)

(iv)

(v) ( / )

(vi)

(vii) ( )

(6)

H36.3

(c)

(1)

H36.3

H36.205

(2)

$-7.5\text{Log}(AL / ALr)$

(i) 4.0EPNdB, EPNL 2.0EPNdB

(ii)  $1( H36.205(f)(1))$   $2( H36.205(g)(1)(i))$

(iii) H36.205

(iv) H36.205

(3) 10dB

A36.3.10.1

3dB

(d)

(1)

90%

EPNL

---

90%

(2)  
±1.5EPNdB  
(3)

90%

(4)

V<sub>H</sub> V<sub>y</sub>

**H36.113**

(a)

H36.3 (a)

(b)  
SAE ARP866A

50Hz 10kHz

A36.7

(c)

(1)

EPNL

70%

(i)

25 77

(ii)

(iii)

10

(2)

50Hz 10kHz

H36.111 (d)

**C**

**36.803**

**H36.201**

**EPNdB**

(a)  
(EPNL)

36.803

(b)

36

(EPNdB)

A

EPNL

A

(1)

(2)

(3)

(4)

(5)

(6)

(b) A36.4.3.1(a)

50Hz

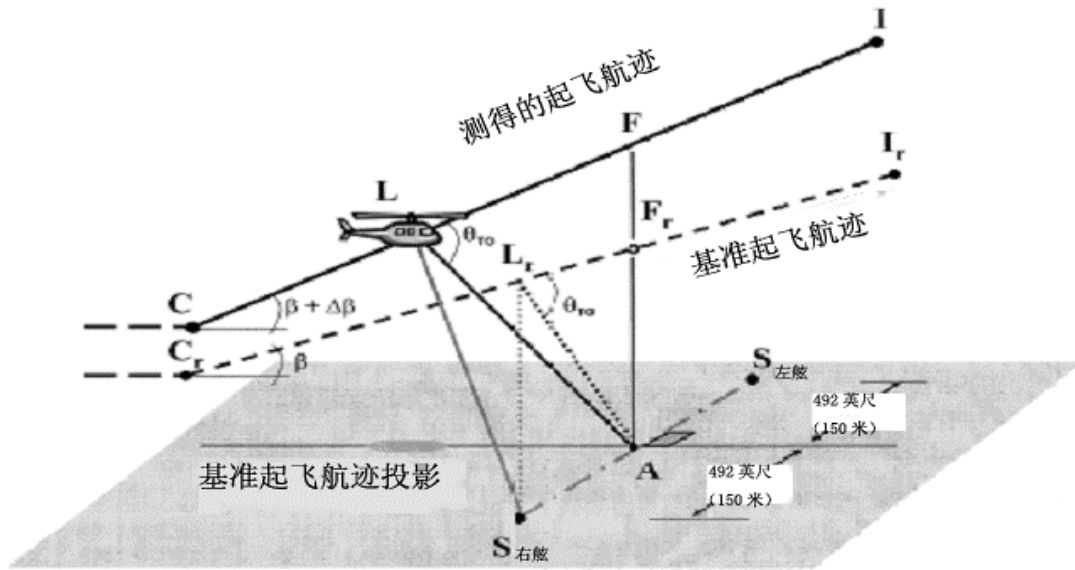
---

**H36.203**

- (a) H36.305  
EPNL
- (b) EPNdB H36.111 (d) 6  
EPNdB 90%

**H36.205**

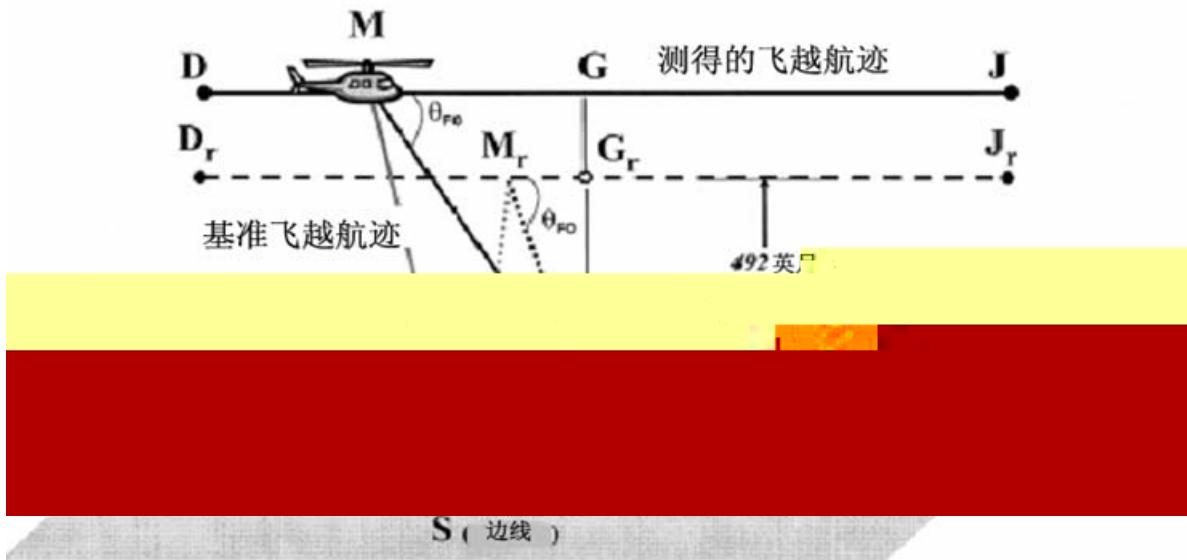
- (a) H36.305
  - (1) EPNL
    - (i)
    - (ii)
  - (2) EPNL
    - (i) PNLTM
    - (ii) PNLTM PNLTM SPL
      - (A)
      - (B)
      - (C) SPL
  - (iii) PNLTM PNLTM PNLTM PNLTM EPNL
  - (iv) PNLTM
- (b)
  - (1) H1
    - (i) H36.3 (c)
    - (ii)
  - (2) 20 65  $V_y \pm 9$  /  $\pm 5$   
C



H1

(3) H1 L A PNLTM  
L<sub>r</sub> AL AL<sub>r</sub>

(c) (1) H2 H36.3 (d)  
±9 / ±5



H2

(2) H2 DJ PNLTM 10dB  
AG AG

M

A

PNLTM

M<sub>r</sub>

(d) 进场剖面

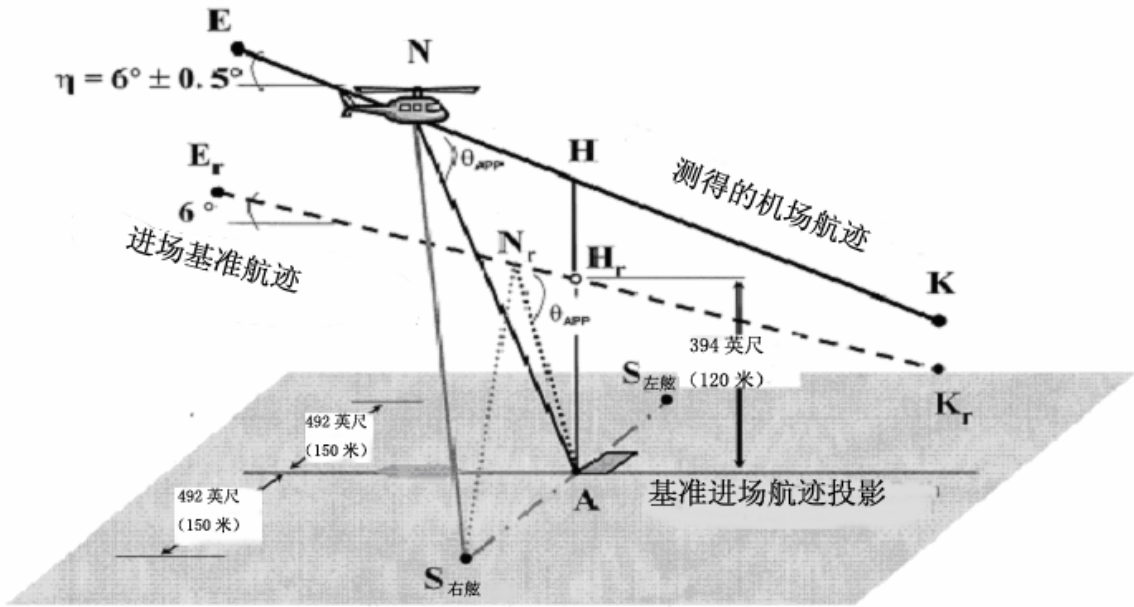
(1) H3

(2) 10dB

6°(±0.5°)

H

6°



H3

(3) H3

N<sub>r</sub>

N

A

PNLTM

APP

EK

E<sub>r</sub>

K<sub>r</sub>

6°

AN

AN<sub>r</sub>

PNLTM

(e)

(1)

(i)

(ii)

(iii)

(2)

PNLTM

0.03

PNLTM

PNLTM

PNLTM

(f) PNLT  
 (25 (77 ) 70%) (a) EPNL L PNLTM  
 (1) H1 A

(i) 1  

$$SPL(i)_r = SPL(i) + C[\alpha(i) - \alpha(i)_o]AL + C\alpha(i)_o (AL - AL_r) + 20 \log (AL/AL_r)$$

$$\frac{SPL(i)}{0.001} = \frac{SPL(i)_r}{0.01} + C \frac{\alpha(i) - \alpha(i)_o}{AL} + C \alpha(i)_o \frac{AL - AL_r}{0.01} + 20 \log \frac{AL}{AL_r}$$

(ii) 2  $SPL(i)_r$  PNLT  
 $\Delta_1 = PNLT - PNLTM$

(2)  
 (i) (f)(1)  
 H2  $SPL(i)_r$   

$$SPL(i)_r = SPL(i) + C[\alpha(i) - \alpha(i)_o]AM + C\alpha(i)_o (AM - AM_r) + 20 \log (AM/AM_r)$$

(ii) (f)(1)(ii)  
 (3)  
 (i) (f)(1)  
 H3  $SPL(i)_r$   

$$SPL(i)_r = SPL(i) + C[\alpha(i) - \alpha(i)_o]AN + C\alpha(i)_o (AN - AN_r) + 20 \log (AN/AN_r)$$

(ii) (f)(1)(ii)  
 (4)  
 (i) (f)(1)  
 $SPL(i)_r$  H3  

$$SPL(i)_r = SPL(i) + C[\alpha(i) - \alpha(i)_o]SX + C\alpha(i)_o (SX - SX_r) + 20 \log (SX/SX_r)$$

S X X<sub>r</sub>  
 X=L X<sub>r</sub>=L<sub>r</sub>  
 X=M X<sub>r</sub>=M<sub>r</sub>  
 X=N X<sub>r</sub>=N<sub>r</sub>  
 (ii) (f)(1)(ii)

(g)  
 (1) A36.5 (d)(2)  
 EPNL



(i) H1  
 $\Delta 2 = -7.5 \log (AL/AL_r) + 10 \log (V/ V_r)$

A

EPNL

AL

AL<sub>r</sub>

EPNL

(ii)  
 $\Delta 2 = -7.5 \log (AM/AM_r) + 10 \log (V/ V_r)$

AM

A

AM<sub>r</sub>

A

(iii) H3

$\Delta 2 = -7.5 \log (AN/AN_r) + 10 \log (V/ V_r)$

AN

A

AN<sub>r</sub>

A

(iv)

$\Delta 2 = -7.5 \log (SX/SX_r) + 10 \log (V/ V_r)$

S

X

X<sub>r</sub>

X = L

X<sub>r</sub> = L<sub>r</sub>

X = M

X<sub>r</sub> = M<sub>r</sub>

X = N

X<sub>r</sub> = N<sub>r</sub>

(2)

ψ

θ

ψ

**D**

**36.805**

**H36.301**

B

C

D

**H36.303** [ ]

**H36.305**

(a)

H36.305 (a)

(1)

(i)

2EPNdB

---

(ii)				
2EPNdB				
2EPNdB				
(2)				
(i)		80000	176370	109EPNdB
	3.01EPNdB	89EPNdB		
(ii)		80000	176370	108EPNdB
	3.01EPNdB	88EPNdB		
(iii)		80000	176370	110EPNdB
	3.01EPNdB	90EPNdB		
(b)		H36.11	(b)	
H36.203				(a)

- (1) 4EPNdB
  - (2) 3EPNdB
  - (3)
- [2007 4 15 ]

I [ ]

**J**

3175 (7,000 )

**H**

**A**

**J36.1**

**J36.3**

**J36.5** [ ]

---

**B**                      **36.801**

**J36.101**

**J36.103**    [    ]

**J36.105**

**J36.107**    [    ]

**J36.109**

**J36.111**

**J36.113**    [    ]

**C**                      **36.803**

**J36.201**        **SELdB**

**J36.203**

**J36.205**

**D**                      **36.805**

---

**J36.301**

**J36.303** [ ]

**J36.305**

**A**

**J36.1**

36.1 H 3175  
7,000  
(a) H  
36.801  
(b) 36.803  
(SEL)  
(c) 36.805

**J36.3**

(a)  
(1) 76 2116  
(2) 25 77  
(3) 70  
(4)  
(b) A 10dB  
(c) 150 492  
 $0.9V_{NE}$   $0.45V_H+120$  /  $0.45V_H+65$   $0.45V_{NE}+120$  /  $0.45V_{NE}+65$   
10dB  
RPM  
(1)  $V_H$   
1,013.25 (2,116 ) 25  
 $V_H$   $V_{NE}$   
(2)  $V_{NE}$   
(d)

**J36.5** [ ]

---

**B 36.801**

**J36.101**

(a) 总则

(b)

(1)

(2)

( )

A 10dB

80°

(c)

(1)

(2)

2

35

36

95

( )

20

95

( )

8kHz

10dB/100 (30.5dB/1000 )

(3)

19

/

(10

)

9

/

(5

)

30

(4)

1.2

4

10

33

(5)

(6)

2000

6560

(d)

(1)

J36.109

(b)

(SEL)

(2)

J36.205

(3)

J36.3

**J36.103 [ ]**

**J36.105**

(a)

(b)

(1)

(2)

150±15

492

±50

- (3) ±10°
- (c)
- (1) J36.3 (c)
- (i) MAT (V<sub>R</sub>) (V<sub>T</sub>)  
 25 77 c (1135.6 / 346.13 / ) MAT = (V<sub>R</sub> + V<sub>T</sub>)/c
- (ii) ±5 / ±3
- (2) RPM (±1 )
- (3) A 10dB(L<sub>AMAX</sub>)
- (d) 5  
 -10
- (e) (b)(2) J36.109 A 15dB  
 J36.109

**J36.107** [ ]

**J36.109**

- (a)
- (1)
- (2) (b) (c) (d)
- (e) (f)
- (b) (1) (SEL) L<sub>AE</sub>  
 A PA dB 20
- (2)
- $$L_{AE} = 10 \log \frac{1}{T_0} \int_{t_1}^{t_2} \left( \frac{P_A(t)}{P_0} \right)^2 dt \quad \text{dB}$$
- T<sub>0</sub> (t<sub>2</sub>-t<sub>1</sub>)
- (3) (b)(2)
- $$L_{AE} = 10 \log \frac{1}{T_0} \int_{t_1}^{t_2} 10^{0.1L_A(t)} dt \quad \text{dB}$$
- L<sub>A</sub>(t) A  
 (4) (t<sub>2</sub>-t<sub>1</sub>) L<sub>A</sub>(t) (L<sub>AMAX</sub>)  
 10dB 10dB
- (5) SEL

$$L_{AE} = L_{AMAX} + A$$

A

$$A = 10 \log_{10}(T)$$

$$T = \frac{(t_2 - t_1)}{2} \frac{L_{AMAX}}{\text{dB}} (P_0) A \quad ( \quad )$$

(c)

(1) (d)

(2)

(3) (d)

(4) A36.3.9

(d)

(1) A

“ ”

SEL

(i) SEL

804

36.6

1

(ii) (e) (f)

(d)(1)(i)

( )

A36.3.6

IEC

/  
561

36.6

(iii) IEC 651

36.6

(iv) 45 11500 A  
IEC 651 1 IV V

36.6

(v)

(e)

(e)

(1)

A A36.3.6

(2)

(i)

( )

(ii)

0.5dB

SEL

(iii)

(f)

(1)

1.2 4



(2)

10dB

(3)

15dB(A)

(4)

A	( )	SEL	A	(L <sub>AMAX</sub> )	10dB
			SEL		( )
	dB(A)			(L <sub>AMAX</sub> )	
	J36.111	(b)			

**J36.111**

(a)

(b)

(1) J36.109

(2)

(3)

(4)

(5)

(i)

(ii)

(iii)

(iv)

(v)

(vi) V<sub>H</sub> V<sub>NE</sub> ( )

(vii)

(viii)

(ix)

(x)

(xi) ( )

)

(6) J36.205

J36.105

**J36.113** [ ]



---

C

**36.803**

**J36.201**

**SELdB**

J36.109 (b) dB(A) (SEL)  
SEL  
J36.109

**J36.203**

(a) J36.305 SEL  
J36.205 SELdB(A)

(b) 6  
1.5dB(A) 90%  
(c) 90%  
J36.111

**J36.205**

(a) B J36.3  
(b)(c)

(b)  
 $J_1 = 12.5 \log_{10}(H_T/150) \text{dB}$   
J1 dB SEL  
H<sub>T</sub> 12.5

(c)  
 $J_3 = 10 \log_{10}(V_{RA}/V_R) \text{dB}$   
J3 dB SEL  
V<sub>R</sub> J36.3 (c)

V<sub>RA</sub> J36.105 (c)  
(d) J36.105 (c)

(e)  
(f)  
(g) J36.105 SEL  
2.0dB(A)  
(h) J36.111

---

**D**

**36.805**

**J36.301**

B C

D

**J36.303** [ ]

**J36.305**

J36.101

( )  
(a)

3175 7000

788 1737 82dB(SEL) 3.0dB

$$L_{AE}(\text{limit})=82+3.0[\log_{10}(\text{MTOW}/788)/\log_{10}(2)]\text{dB}$$

MTOW

(b) IEC 804

1985

[2007 4 15 ]

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20

Y12E Y8F-600 ARJ21-700

(CCAR-36) 2002 3

1 22

FAA  
(CCAR-36)

FAR36

FAA

ICAO  
27

ICAO

16 I

3

7

FAR36

ICAO

16 4 7

FAR36 23 28

(CCAR-36)

(一)

(二)

[2007 4 15 ]

(三)

“ ”

(四)

16 I

FAR36 6

Amdt.36-23

2002.03.01

Amdt.36-24

2002.08.07

Amdt.36-25  
 Amdt.36-26  
 Amdt.36-27  
 Amdt.36-28

2004.07.02  
 2005.08.04  
 2005.09.06  
 2006.02.03

**CCAR-36**

A

				FAR	
36.1					
(a)(1)		√		36-24	
(f)(1)		√		36-24	
(f) (9)	√			36-26	
(f) (10)	√			36-26	
(f) (11)	√			36-26	
(h) (5)	√			36-25	
36.2	√			36-24	
36.6				36-26	
(c) (1) (vi)	√				
(x)	√				
(c)(3)					
36.7				36-26	
(e)(4)	√				
(f)	√				
36.11		√		36-25	

B

				FAR	
36.101		√		36-24	
36.103					
(b)		√		36-24	
(c)		√		36-26	
36.105	√			36-26	
36.201		√		36-24	

C

				FAR	
		√		36-24	B C
					C

H

---

				FAR	
36.801		√		36-25	

O

				FAR	
36.1581		√		36-24	
(a) (2)		√		36-25	
(a) (3)					

				FAR	
A		√		36-24 36-26	A B
B		√		36-24 36-26	C
C		√		36-26	C
G		√		36-27 36-28	
H		√		36-25	
J		√		36-25	