

KTX

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Characteristics of Braking Noise of KTX High Speed Vehicle

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ABSTRACT

High-speed trains with maximum speed of 300km/h, named KTX, have started revenue services since April 2004. Is becoming big problem where currently the KTX train because excessive braking noise at a station platform. The KTX braking noise follows in operating mode of KTX train and important railroad station where the quality appears different, the quality against hereupon from the commerce vehicle from the research which it sees it executes and comparison to analyze.

Key Words : KTX (Korea Train Express), Braking Noise (), Revenue Service(), SAT (Site Acceptance Test)

1.

2004 4 1 KTX (mode) KTX
가
KTX 「KHRC-94-01-FP」 SAT(Site
Acceptance Test) 가
KTX IEC 651
가 가
KTX KTX

2

(9 , 18 1)

가

2. KTX

KTX

KTX

2.1

KTX

2

가

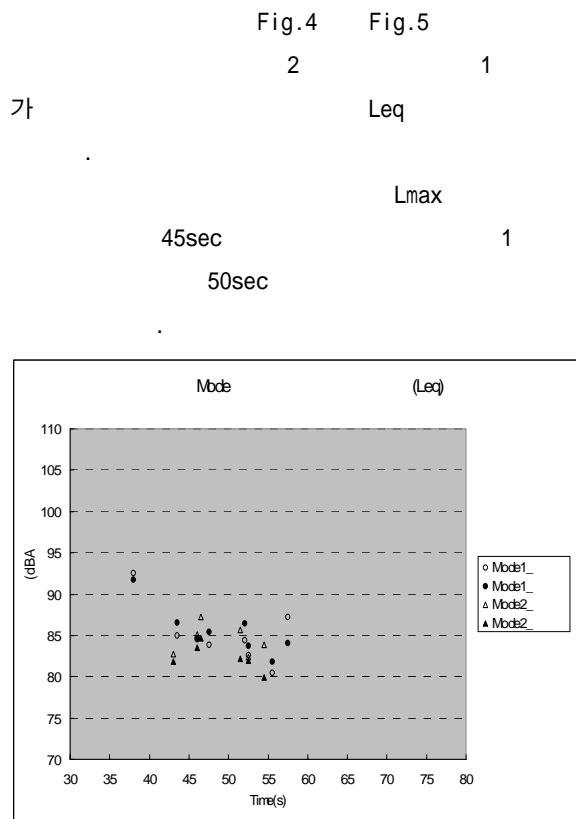


Fig.4 Equivalent sound level of stop braking operation mode at Daejeon station

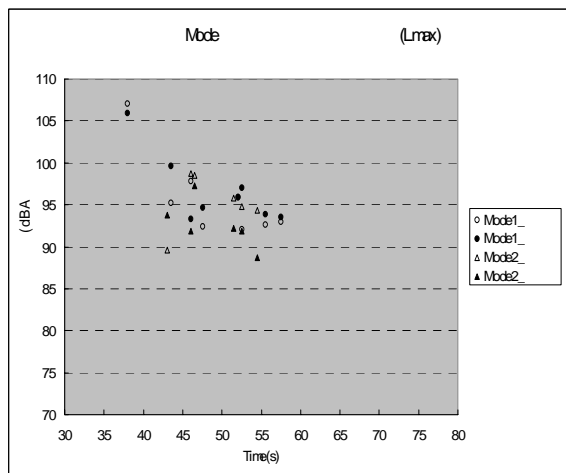


Fig.5 Peak sound level of stop braking operation mode at Daejeon station

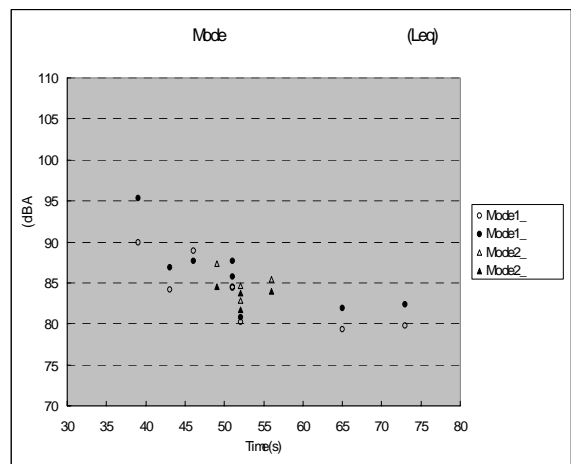


Fig.6 Equivalent sound level of stop braking operation mode at Gwangmyeong station

2.2.2

Lmax
45sec 1

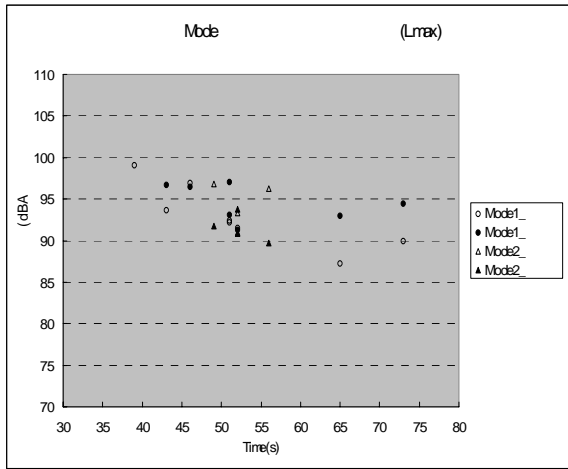


Fig.7 Peak sound level of stop braking operation mode at Gwangmyeong station

2.2.3

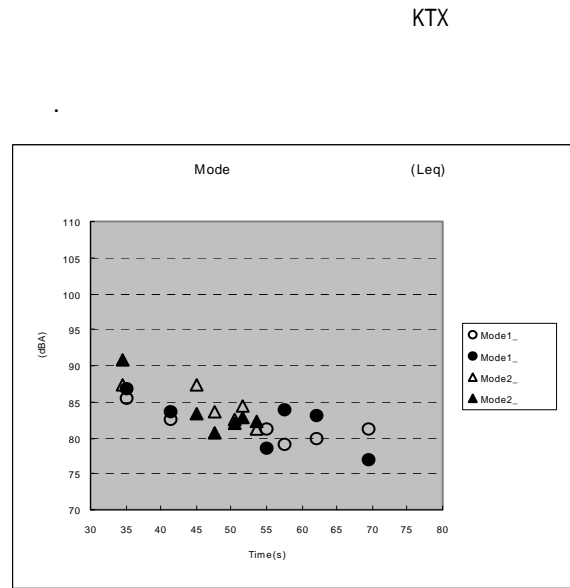


Fig.8 Equivalent sound level of stop braking operation mode at Dongdaegu station

가
가 가
11
1 1km
70km/h
가
2
1km
40km/h

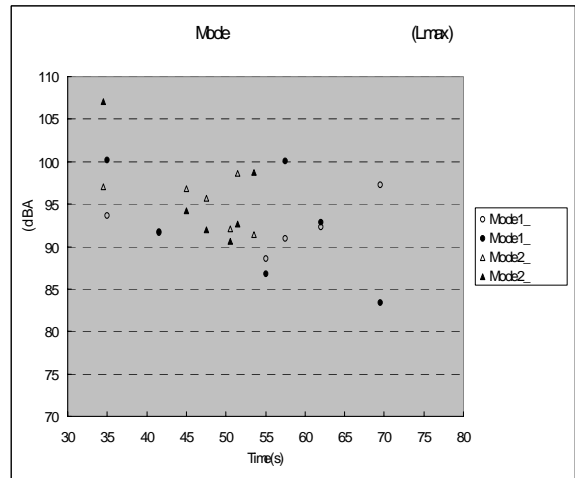


Fig.9 Peak sound level of stop braking operation mode at Dongdaegu station

Fig.8 Fig.9

2.3 KTX

1 2
Leq
가 50sec
가 Lmax
가 90dBA

KTX

2.1

가

가 90dBA
 , 100dBA
 KTX
 KTX
 Leq Lmax

Table 2

Table 2 Braking noise level of KTX train important railroad station

		(sec)	Leq (dBA)		Lmax (dBA)	
1	38 ~ 57.5	80.5 ~ 92.5	81.8 ~ 91.7	92.1 ~ 107.1	93.3 ~ 106	
	43 ~ 54.5	82.4 ~ 87.2	79.9 ~ 84.7	89.6 ~ 98.7	88.7 ~ 97.3	
1	39 ~ 73	79.4 ~ 88.9	80.8 ~ 95.3	87.2 ~ 99.1	91.3 ~ 110.2	
	49 ~ 56	82.8 ~ 87.3	81.7 ~ 84.5	90.9 ~ 96.8	89.7 ~ 93.8	
1	35 ~ 9.5	79.1 ~ 85.5	76.9 ~ 86.7	88.6 ~ 97.3	86.8 ~ 100.2	
	34.5 ~ 53.5	81.2 ~ 87.4	80.8 ~ 90.7	91.4 ~ 98.6	90.6 ~ 107.1	

3.

KTX , 38
 KTX 가
 Lmax
 가 90dBA KTX
 100dBA
 , KTX
 50sec
 40sec
 90dBA

가 , 1
 2가
 가
 2가

1. IEC 651 : Noise Measurement Equipment Tolerance.
2. "KTX Mode", 2005. 8.
3. " ", , pp. 21 - 24, 2001.