



SAW Components

BAW duplexer

1900 MHz CDMA (IS-95)

Series/type:	B7633
Ordering code:	B39192B7633D810
Date:	August 17, 2006
Version:	2.0



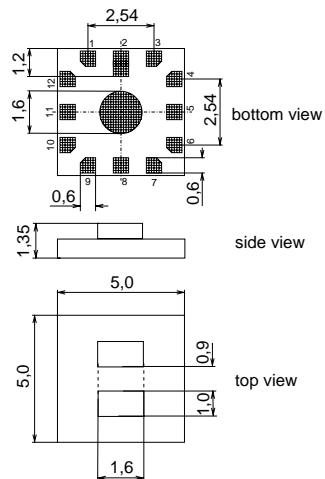
Application

- Low-loss RF duplexer for mobile telephone IS-95 CDMA systems



Features

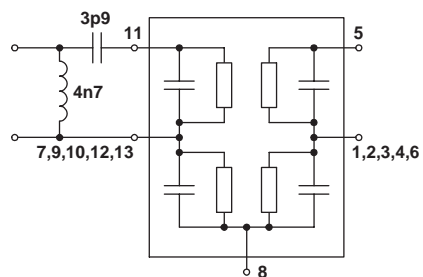
- Package size 5.0 x 5.0 x 1.35 mm³
- Package code QCS12E
- RoHS compatible
- Approximate weight 0.08 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- Ni-UBM
- Matching network required at TX-port



Pin configuration

- 11 TX input, single ended
- 5 RX output, single ended
- 8 Antenna

- 1, 2, 3, 4, 6 Ground
- 7, 9, 10, 12, 13 Ground





Data Sheet



Characteristics

Operating temperature range: T = -30 °C to +85 °C
 ANT terminating impedance: Z_{ANT} = 50 Ω
 RX terminating impedance: Z_{RX} = 50 Ω
 TX terminating impedance: Z_{TX} = 50 Ω

Characteristics TX-ANT

		min.	typ. @ 25°C	max.	
Center frequency	f _C	—	1880.0	—	MHz
Maximum insertion attenuation	α _{max}				
1850.6 ... 1853.0	MHz	—	2.1	3.3	dB
1853.0 ... 1907.0	MHz	—	2.6	3.0	dB
1907.0 ... 1909.4	MHz	—	2.7	3.5	dB
Amplitude ripple (p-p)	Δα				
1850.6 ... 1909.4	MHz	—	1.4	2.2	dB
Return loss					
TX port	1850.6 ... 1909.4	8.0	10.0	—	dB
ANT port	1850.6 ... 1989.4	6.0	8.0	—	dB
Attenuation	α				
0.3 ... 1570.0	MHz	31	33.5	—	dB
1570.0 ... 1580.0	MHz	30	32.5	—	dB
1580.0 ... 1800.0	MHz	29	31.5	—	dB
1930.6 ... 1935.0	MHz	42	51.5	—	dB
1935.0 ... 1989.4	MHz	38	41.5	—	dB
2400.0 ... 2500.0	MHz	34	36.5	—	dB
2500.0 ... 3400.0	MHz	20	28	—	dB
3400.0 ... 4400.0	MHz	25	30	—	dB
4400.0 ... 5550.0	MHz	5	7.5	—	dB
5550.0 ... 5730.0	MHz	5	7.5	—	dB



Data Sheet



Characteristics

Operating temperature range: T = -30 °C to +85 °C
 ANT terminating impedance: Z_{ANT} = 50 Ω
 RX terminating impedance: Z_{RX} = 50 Ω
 TX terminating impedance: Z_{TX} = 50 Ω

Characteristics ANT-RX

		min.	typ. @ 25°C	max.	
Center frequency	f _C	—	1960.0	—	MHz
Maximum insertion attenuation	α _{max}				
1930.6 ... 1935.0	MHz	—	3.6	4.5 ¹⁾	dB
1935.0 ... 1987.0	MHz	—	3.1	3.5	dB
1987.0 ... 1989.4	MHz	—	2.1	3.5	dB
Amplitude ripple (p-p)	Δα				
1930.6 ... 1989.4	MHz	—	1.4	2.7	dB
Return loss					
RX port	1930.6 ... 1989.4	4.0	5.5	—	dB
ANT port	1850.6 ... 1989.4	6.0	8.0	—	dB
Attenuation	α				
0.3 ... 1770.0	MHz	33	35.5	—	dB
1770.0 ... 1850.6	MHz	39	41.5	—	dB
1850.6 ... 1905.0	MHz	54	57	—	dB
1905.0 ... 1909.4	MHz	48	58	—	dB
2010.0 ... 2070.0	MHz	7	20	—	dB
2070.0 ... 2750.0	MHz	39	41.5	—	dB
2750.0 ... 3350.0	MHz	20	34	—	dB
3350.0 ... 3500.0	MHz	39	41.5	—	dB
3500.0 ... 4500.0	MHz	30	40	—	dB
4500.0 ... 6000.0	MHz	20	25	—	dB

1) 4.0dB for 25°C to 85°C



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1880.00 / 1960.00 MHz

Data Sheet



Characteristics TX-RX				min.	typ. @ 25°C	max.	
Isolation between RX and TX							
	0.3	...	1800.0 MHz	57	62	—	dB
	1850.6	...	1907.0 MHz	54	58	—	dB
	1907.0	...	1909.4 MHz	50	57	—	dB
	1930.6	...	1935.0 MHz	44	54	—	dB
	1935.0	...	1989.4 MHz	42	44	—	dB
	2070.0	...	4200.0 MHz	53	60	—	dB



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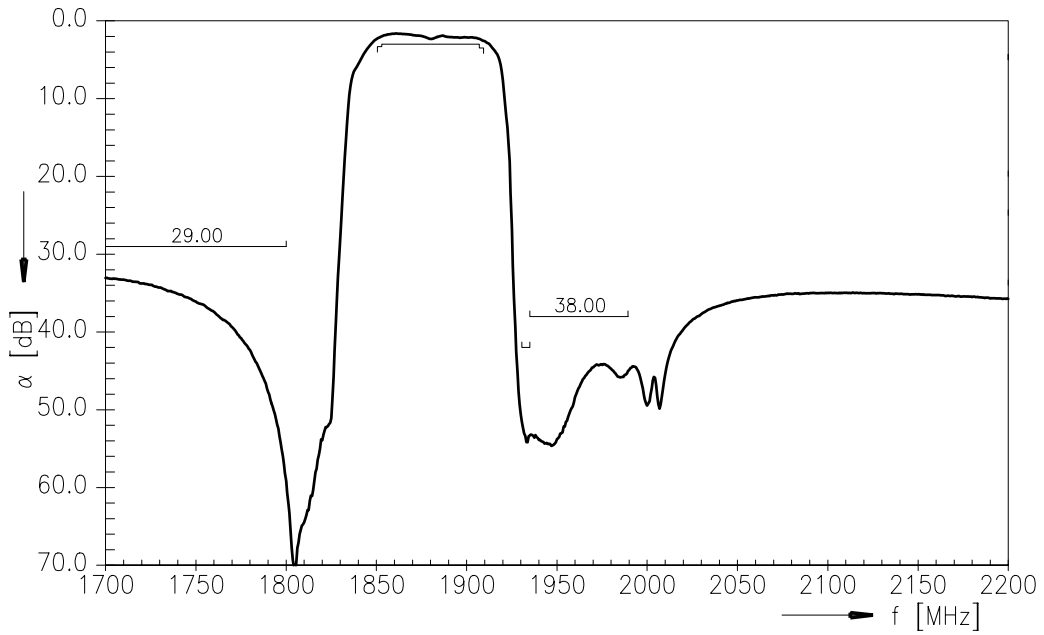
Maximum ratings

Operable temperature range	T	-30 / +85	°C	
Storage temperature range	T _{stg}	-40 / +85	°C	
DC voltage	V _{DC}	3	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	source and load impedance 50 Ω
Input Power at				
1850.6 ... 1909.4 MHz	P _{IN}	29	dBm	CDMA modulated signal
elsewhere	P _{IN}	10	dBm	CW

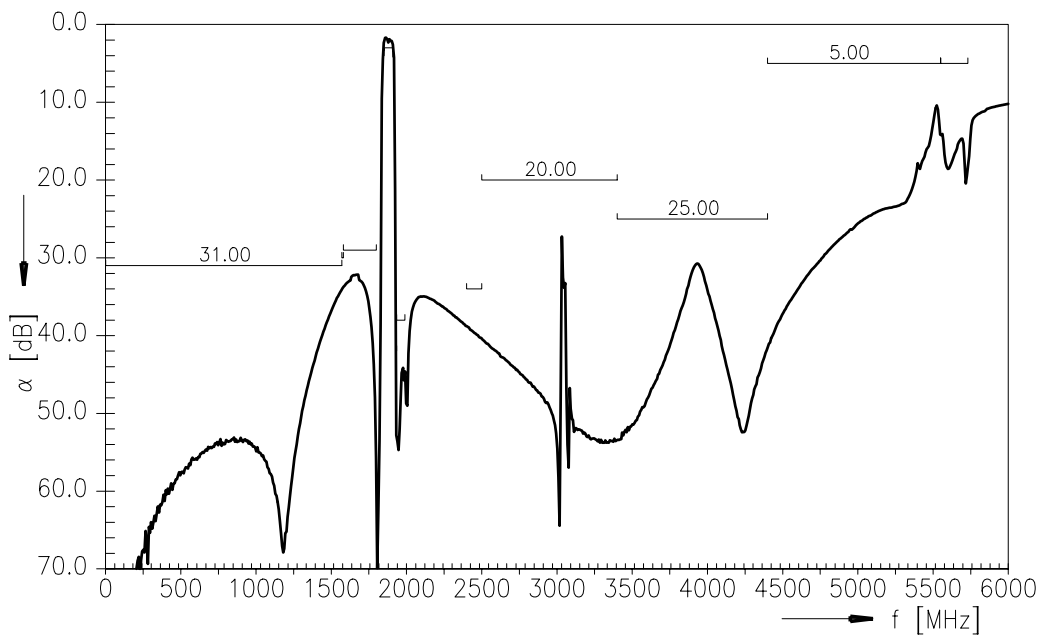
1) acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Frequency Response TX - ANT

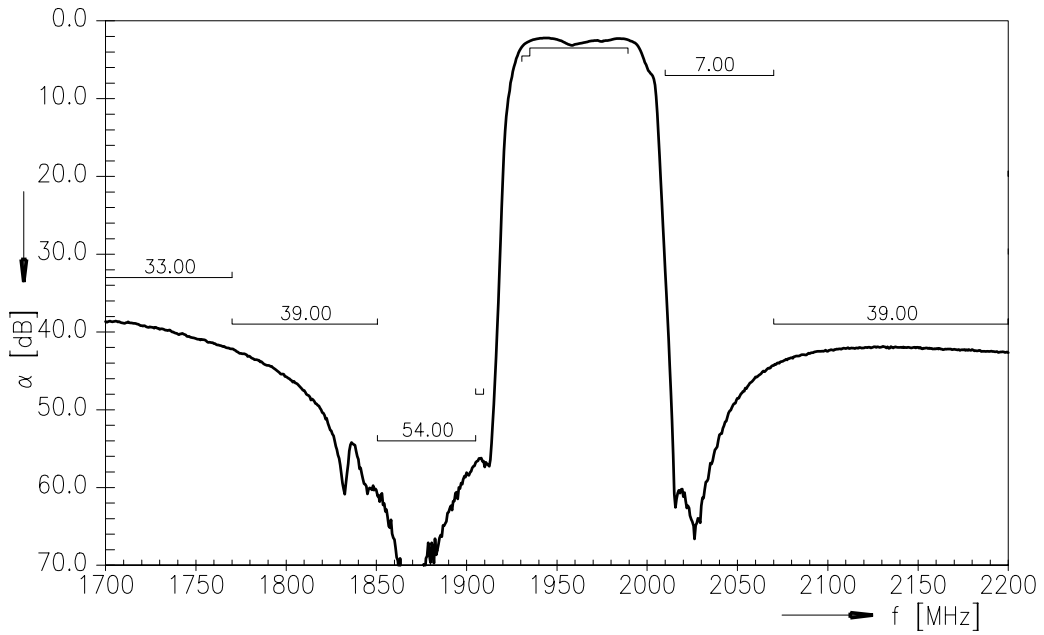


Frequency Response TX - ANT (wideband)

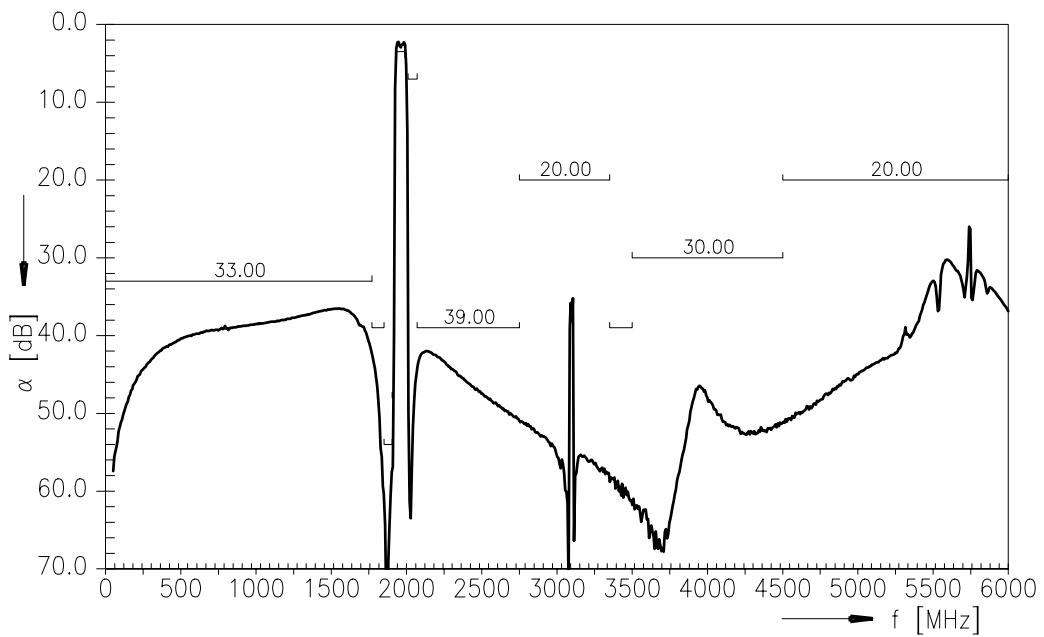




Frequency Response ANT - RX

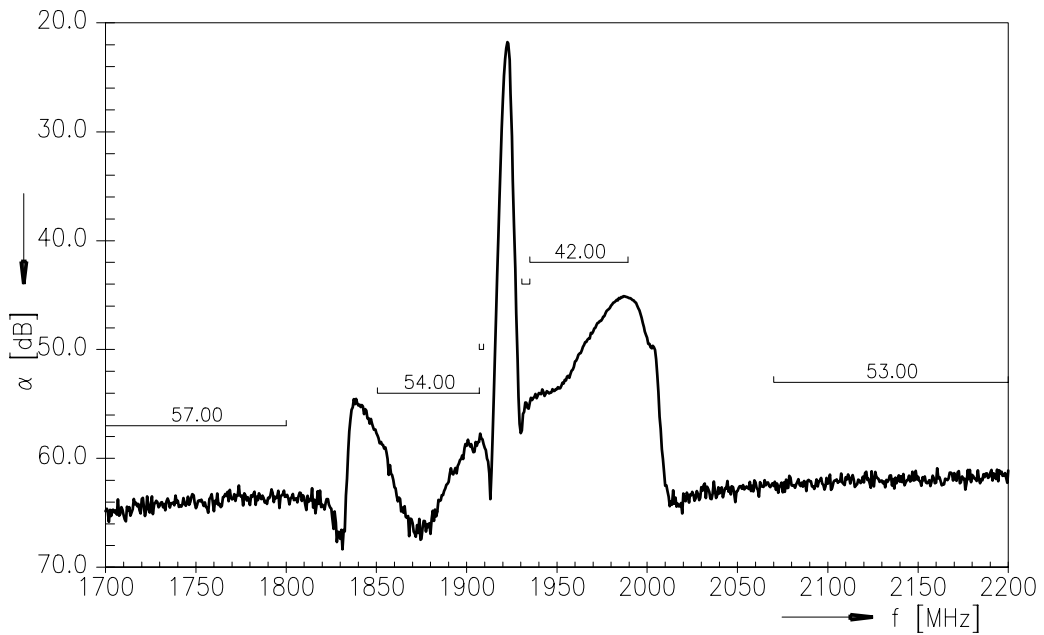


Frequency Response ANT - RX (wideband)

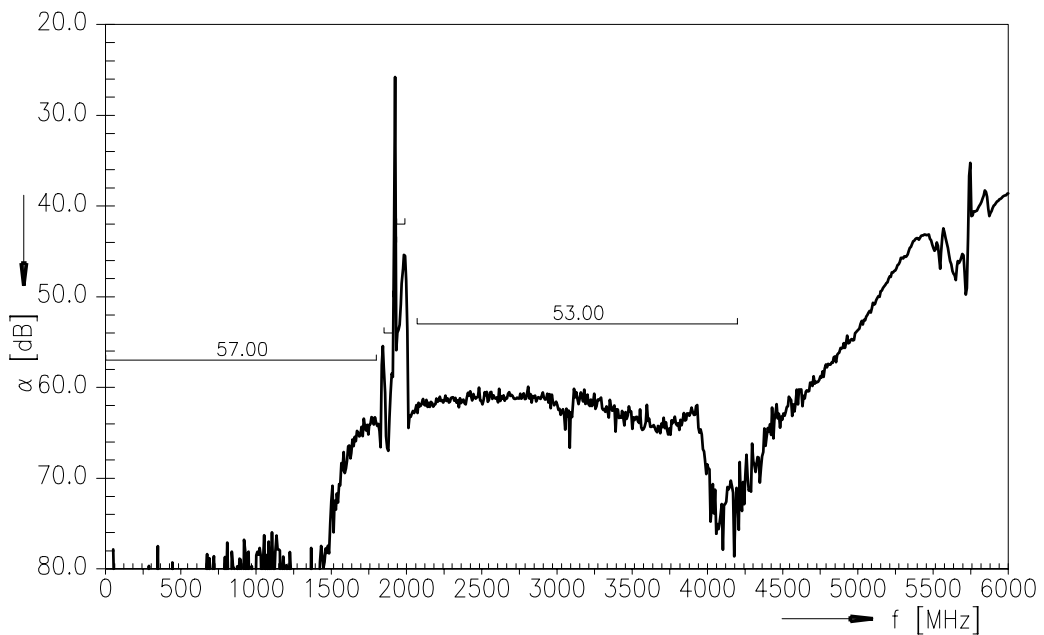




Frequency Response TX - RX



Frequency Response TX - RX (wideband)





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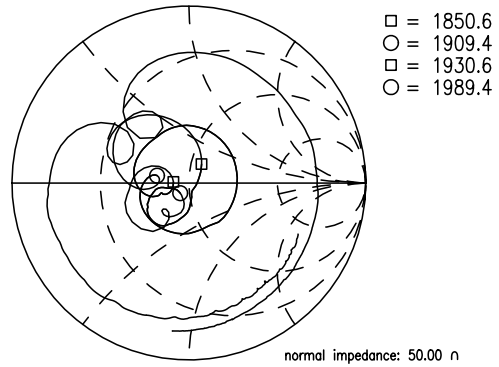
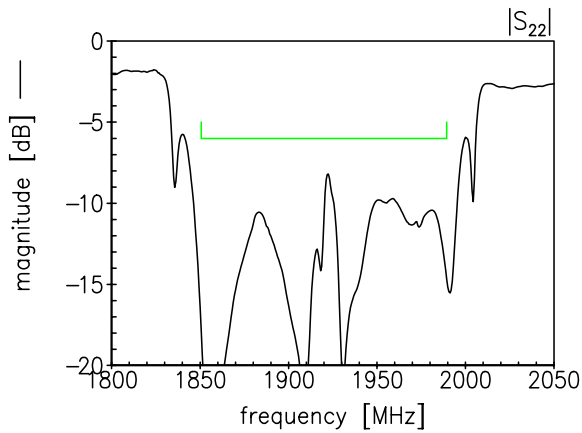
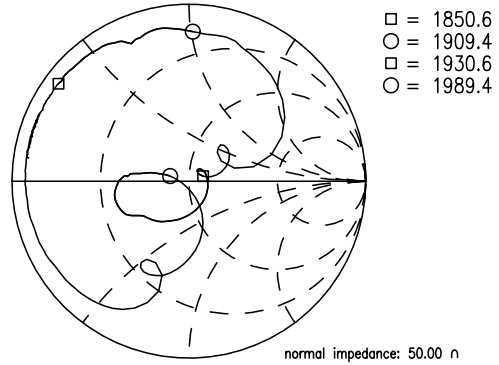
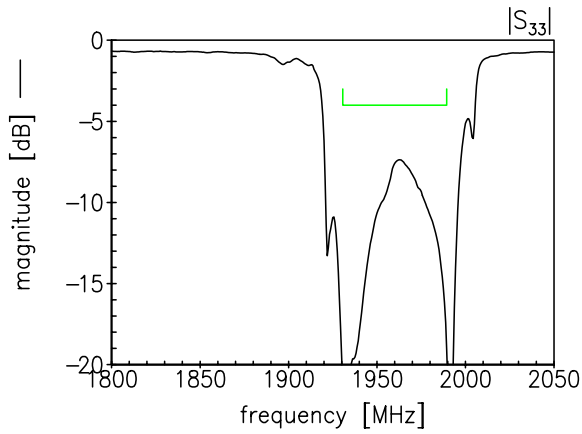
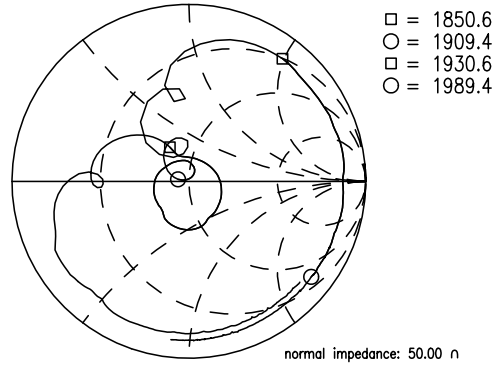
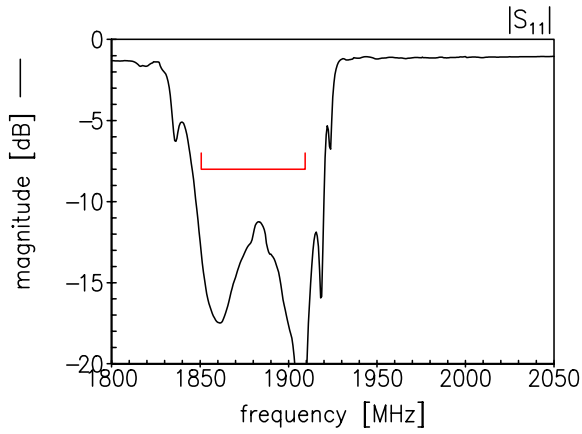
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Return Loss: S_{11} TX-port

S_{22} ANT-port

S_{33} RX-port



Please read *cautions and warnings* and *important notes* at the end of this document.



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Type	B7633
Ordering code	B39192-B7633-D810
Marking and Package	C61157-A3-A5
Packaging	F61074-V8159-Z000
Date Codes	L_1126
S-Parameters	B7633_NB.s3p B7633_WB.s3p
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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