Tanaka Alloy Composition and Dopant

Au - GOLD BONDING WIRE													
		Alloy			Dopant / Impurity (PPM)								
Series	Type	Au	Pd	Pt	Ag	Be	Ca	Cu	Fe	Mg			Other
GBC	2N	98.98%	1.02%										
GBE	4N	99.98%	-	-	<1	-	19	<1	<1	<7			<81
GLD	4N	99.99%	-	-	<1	-	8	<1	<1	<1			<21
GFD	4N	99.99%											
GLF	4N	99.99%	-	-	<1	-	<17	<1	<1	<7			<60
GPG-2	2N	98.98%	1.02%	-	-	<1	-	-	-	-			<61
GMH-2	4N	99.99%	-	-	<5	<7	<29	<5	<5	<5			<62
GPH	2N	99.22%	0.21	0.57	-	-	-	-	-	-			<85
GSA	4N	99.99%	-	-	<1	-	5	<1	<1	-			<47
M3	4N	99.99%	-	-	<1	<6	-	<1	<1	<1			<45
AuR	4N	99.99%	-	-	<1	-	6	<1	<1	<1			<6

Al - ALUMINUM BONDING WIRE													
		Alloy			Dopant / Impurity (PPM)								
Series	Type	Al	Si		Ag	Ca	Cu	Fe	Mg	Ni	Si	Ti	Other
TABN	Al-Si	99.01%	0.99%		<1	<1	<1	<1	<1	50	-	-	-
TANW	4N	>99.99%	-		<0.5	<0.5	<0.5	<1	<0.5	50	7	<0.1	
TABW													
TABR	4N	>99.99%			<0.5	<0.5	0.8	0.6	<0.5		6	<0.1	
TALF		99%			Proprietary Data								

Cu - COPPER BONDING WIRE													
		Alloy				Dopant / Impurity (PPM)							
Series	Type	Cu	Pd	Pt	Au	Ag	Al	Fe					Other
CLR1-A		97.8%	2.1%	-	<0.1	<1	<1	<1					<0.1
CA1		99.5%	-	0.5%	-	8	<1	1					-
CFB-1		99.9%				10	<1	2					<50

Ag - SILVER ALLOY BONDING WIRE													
		Alloy			Dopant / Impurity (PPM) Data is Proprietary								
Series	Type	Ag	Pd	Au									
SEA	Alloy	Mid 80s%	X%	Y%									
SEB	Alloy	Low 90s%	X%	-									
SEC	Alloy	High 90s%	X%	-									