1. The contractor shall fabricate a wafer and design/manufacture mixer housings with the following performance:

ELECTRICAL PERFORMANCE CHARACTERISTICS for 166 GHz

PARAMETER	SYMBOL	CONDITIONS TA = -15°C TO +55°C	LIMITS MIN	LIMITS MAX	UNITS
FREQUENCY	F_{RF}	---	163.8	168.2	GHZ
	F_{LO}		83.00 +/- 0.1		
	F_{IF}		0.2	2.0	
VSWR	$VSWR_{RF}$	---	-	2.5:1	-
	$VSWR_{LO}$	---	-	1.8:1	
	$VSWR_{IF}$	REF TO 50 OHMS	-	2.0:1	
LO DRIVE POWER	P_{LO}	---	2*	4*	DBM
LO LEAKAGE AT IF PORT	LO_{IFL}	---	-	-60	DBM
ISOLATION	ISO	RF TO IF	60	-	DB
		RF TO LO	16	-	
NOISE FIGURE	NF	T = 25°C (OVER P_{LO} RANGE)			DB
		(AVG OVER RF BAND)	-	6.5	
		(MAX OVER RF BAND)	-	7.0	
		T = 55°C (OVER P_{LO} RANGE)			
		(AVG OVER RF BAND)	-	7.0	
		(MAX OVER RF BAND)	-	7.3	
CONVERSION LOSS	CL	T = 25°C (RF TO IF), SSB CONVERSION LOSS OF MIXER. INCLUDES EFFECTS OF FREQUENCY AND STABILITY	N/A	-10.7	DB
GAIN FLATNESS	GF	PEAK TO PEAK	-	1.2	DB
LO AM NOISE SUPPRESSION	LO_{AMNS}	---	9	-	DB
MAXIMUM RF POWER, INPUT, SURVIVAL	P_{RFMAX}	---	-	0	DBM
DC POWER SUPPLY CURRENT: NO BIAS REQUIRED (PASSIVE DESIGN)					

*2 DB LO INPUT POWER WINDOW SHALL BE MAINTAINED, BUT WINDOW MAY BE MOVED LOWER IN POWER TO OPTIMIZE NOISE FIGURE PERFORMANCE.

ELECTRICAL PERFORMANCE CHARACTERISTICS for 183 GHz

PARAMETER	SYMBOL	CONDITIONS TA = -15°C TO +55°C	LIMITS MIN	LIMITS MAX	UNITS
FREQUENCY	F_{RF}	---	175.31	191.31	GHZ
	F_{LO}		91.655	+/- 0.1	
	F_{IF1}		1.50	4.00	
	F_{IF2}		6.00	8.00	
VSWR	$VSWR_{RF}$	---	-	2.5:1	-
	$VSWR_{LO}$	---	-	1.8:1	
	$VSWR_{IF1}$	REF TO 50 OHMS	-	1.8:1	
	$VSWR_{IF2}$	REF TO 50 OHMS		1.8:1	
LO DRIVE POWER	P_{LO}	---	2*	4*	DBM
LO LEAKAGE AT IF PORT	LO_{IFL}	---	-	-60	DBM
ISOLATION	ISO	RF TO IF	60	-	DB
		RF TO LO	16	-	
NOISE FIGURE (IF1 AND IF2)	NF	IF1 @ T = 25°C (OVER P_{LO} RANGE)			DB
		(AVG OVER RF BAND)	-	6.5	
		(MAX OVER RF BAND)	-	7.0	
		IF2 @ T = 25°C (OVER P_{LO} RANGE)			DB
		(AVG OVER RF BAND)	-	7.0	
		(MAX OVER RF BAND)	-	7.3	
		IF1 @ T = 55°C (OVER P_{LO} RANGE)			DB
		(AVG OVER RF BAND)	-	7.2	
		(MAX OVER RF BAND)	-	7.3	
		IF2 @ T = 55°C (OVER P_{LO} RANGE)			DB
		(AVG OVER RF BAND)	-	7.2	
		(MAX OVER RF BAND)	-	7.3	
CONVERSION LOSS	CL	T = 25°C (RF TO IF), SSB CONVERSION LOSS OF MIXER. INCLUDES EFFECTS OF FREQUENCY AND STABILITY	N/A	-11.4	DB
GAIN FLATNESS	GF	PEAK TO PEAK	-	1.2	DB
LO AM NOISE SUPPRESSION	LO_{AMNS}	---	9	-	DB
MAXIMUM RF POWER, INPUT, SURVIVAL	P_{RFMAX}	---	-	0	DBM
DC POWER SUPPLY CURRENT: NO BIAS REQUIRED (PASSIVE DESIGN)					