

FEATURES

·BROAD BAND INTERNALLY MATCHED HEMT

·HIGH POWER

Pout= 51.0dBm at Pin= 44.0dBm

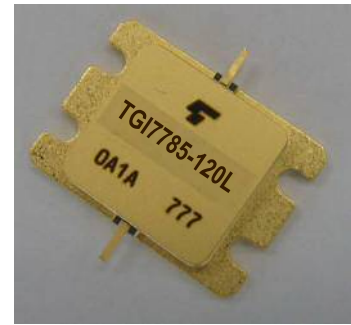
·HIGH GAIN

GL= 11.0dB at Pin= 20.0dBm

·LOW INTERMODULATION DISTORTION

IM3= -25dBc(Min.) at Pout= 44.0dBm (Single Carrier Level)

·HERMETICALLY SEALED PACKAGE



RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power	Pout	VDS= 24V IDSset= 4.0A f = 7.7 to 8.5GHz @Pin= 44dBm	dBm	50.0	51.0	—
Drain Current	IDS1		A	—	10.0	12.0
Power Added Efficiency	η_{add}		%	—	42	—
Linear Gain	GL	@Pin= 20dBm	dB	10.0	11.0	—
Gain flatness	ΔG		dB	—	—	± 0.8
3rd Order Intermodulation Distortion	IM3	Two-Tone Test Po= 44.0dBm, Δf = 5MHz (Single Carrier Level)	dBc	-25	-30	—
Drain Current	IDS2		A	—	—	8.0
Channel Temperature Rise	ΔT_{ch}	(VDS X IDS + Pin – Pout) X Rth(c-c)	°C	—	120	140

Recommended Gate Resistance(Rg): 28 Ω

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

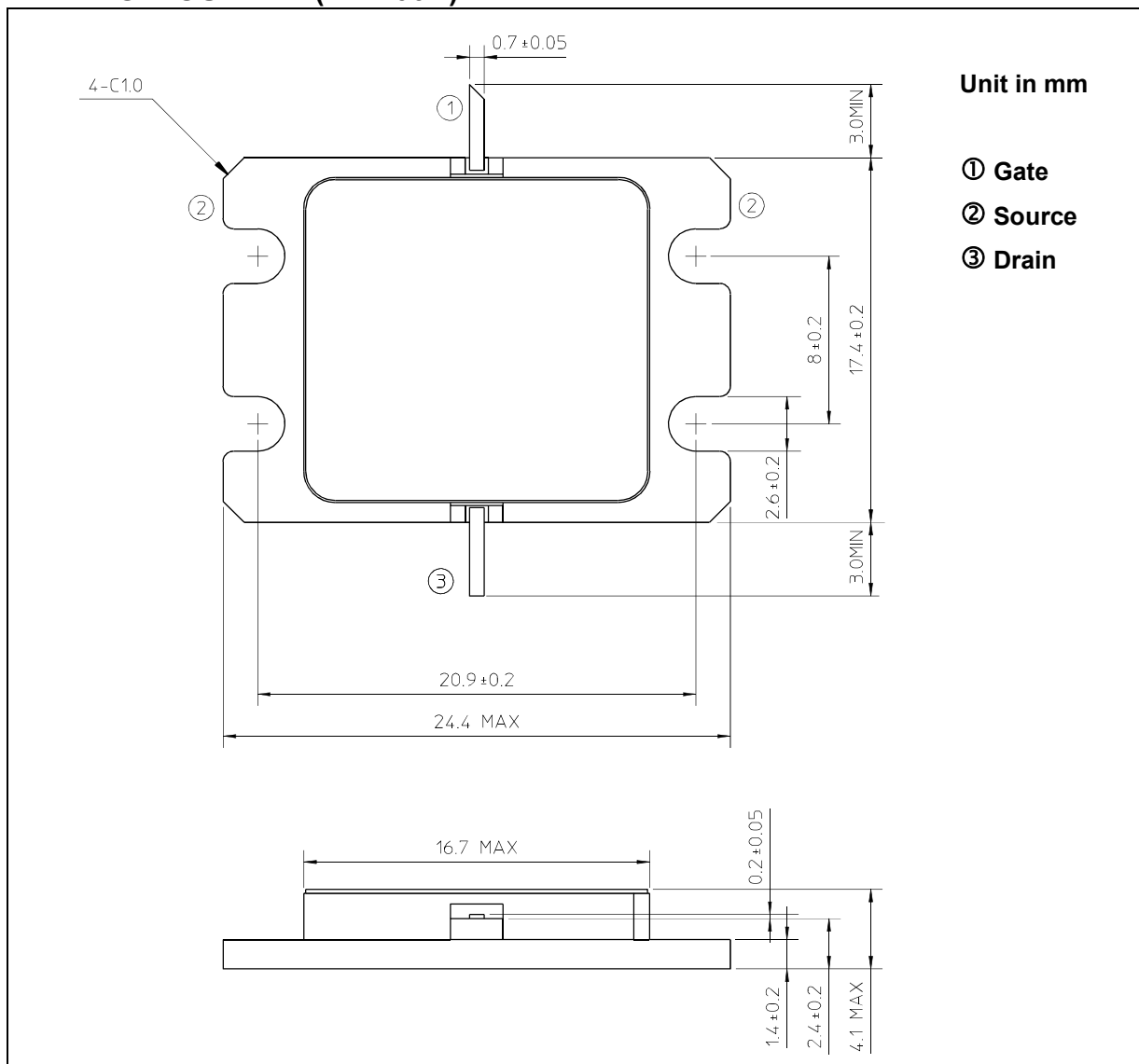
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 5V IDS= 10.0A	S	—	8.0	—
Pinch-off Voltage	VGSoff	VDS= 5V IDS= 46mA	V	-2.0	-4.0	-6.0
Gate-Source Breakdown Voltage	VGSO	IGS= -20mA	V	-10	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	0.6	0.8

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ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	50
Gate-Source Voltage	VGS	V	-10
Drain Current	IDS	A	18.0
Total Power Dissipation (Tc= 25°C)	PT	W	280
Channel Temperature	Tch	°C	250
Storage Temperature	Tstg	°C	-65 to +175

PACKAGE OUTLINE (7-AA06A)



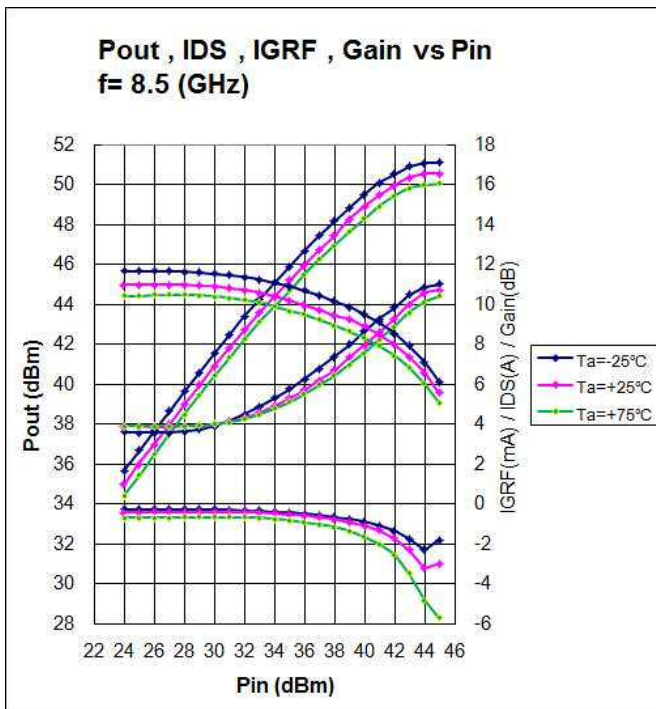
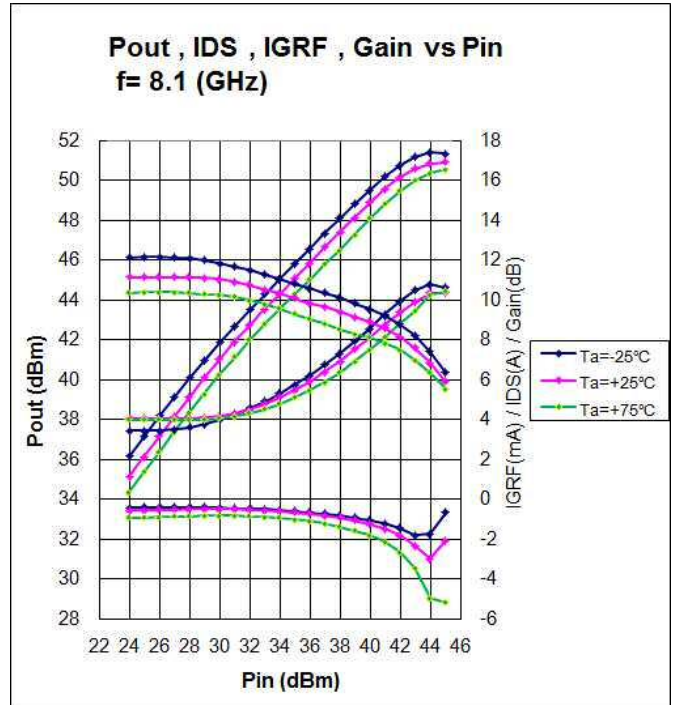
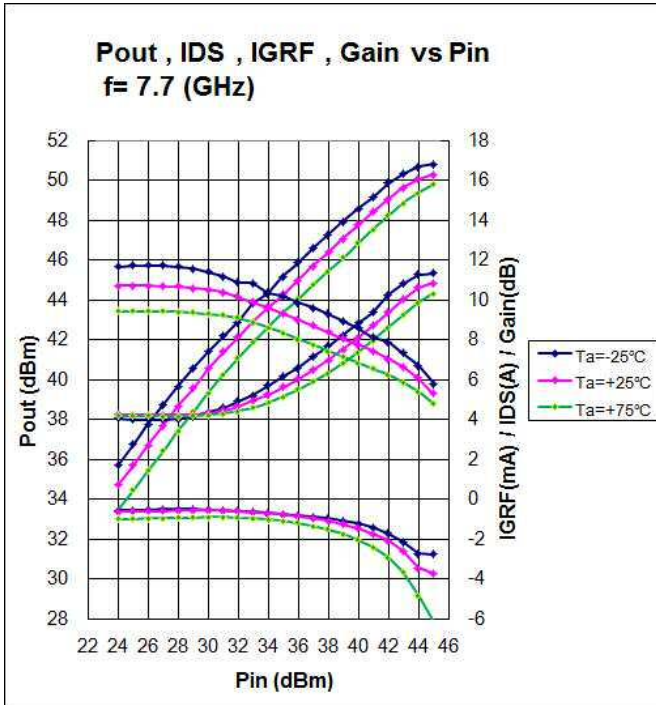
HANDLING PRECAUTIONS FOR PACKAGE MODEL

Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C or 3 seconds at 350°C.

TYPICAL RF PERFORMANCE

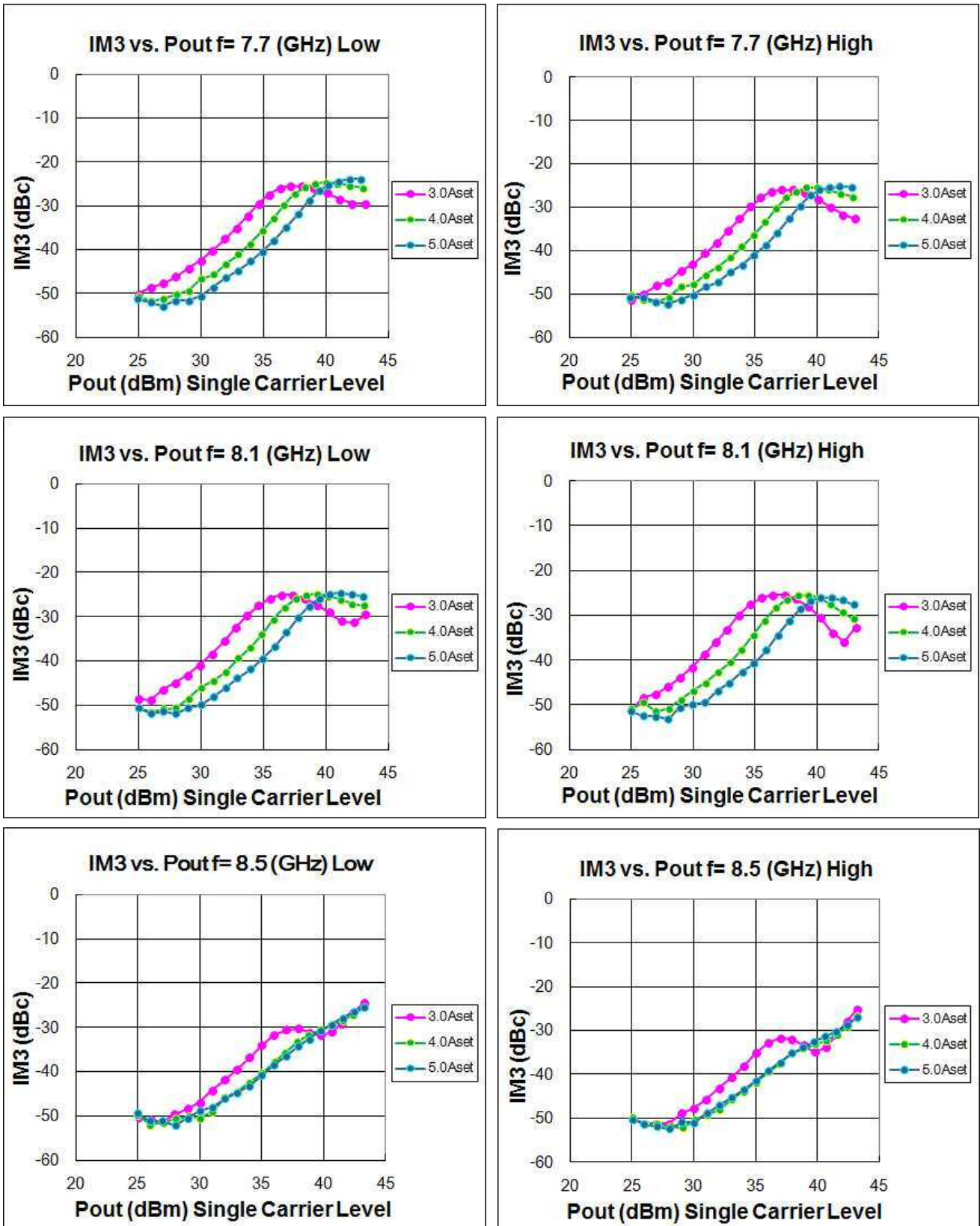
· Pout , IDS , IGRF , Gain vs. Pin vs. Temperature

VDS= 24 (V) , IDSset= 4.0 (A) , f= 7.7 , 8.1 , 8.5 (GHz)



•IM3 vs. Pout

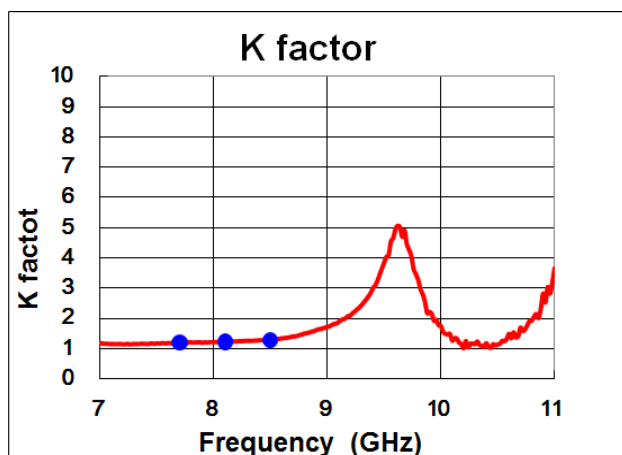
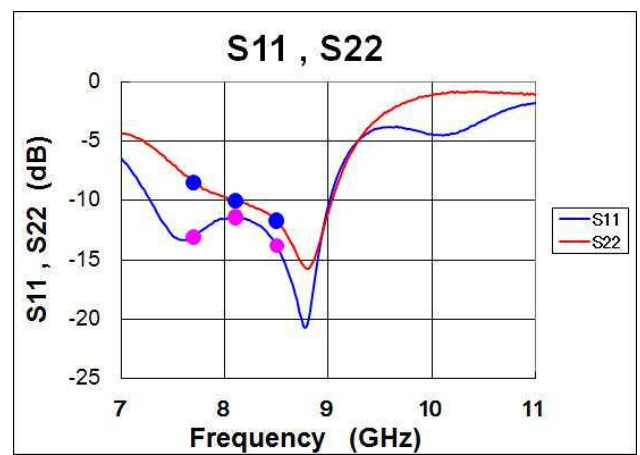
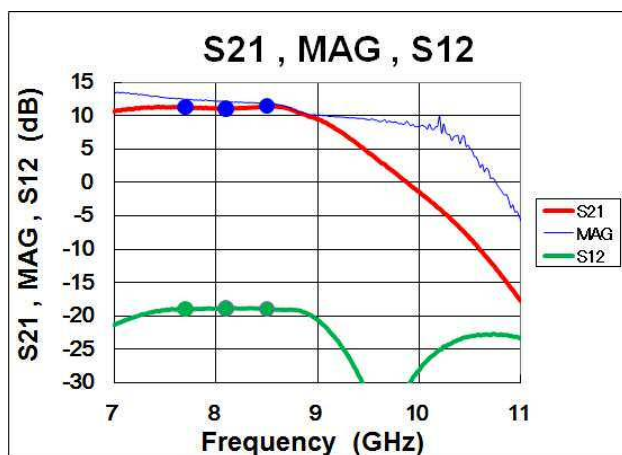
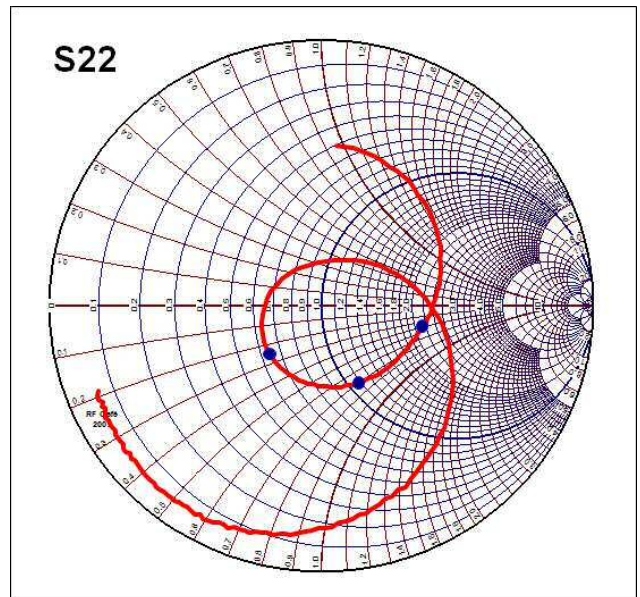
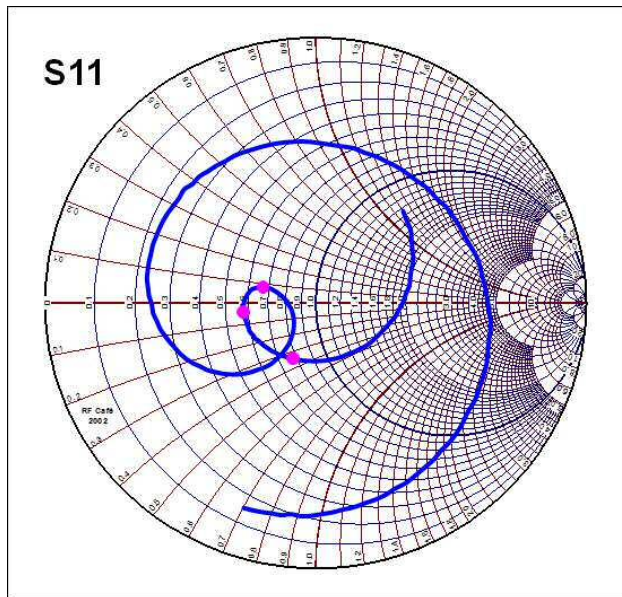
VDS= 24 (V) , IDSset= 3.0 , 4.0 , 5.0 (A) , f= 7.7 , 8.1 , 8.5 (GHz)



-S-Parameters

VDS= 24 (V) , IDSset= 4.0 (A) , f=7.0 to 11.0 (GHz)

Marker : 7.7 , 8.1 , 8.5 (GHz)



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