

CLAIMS

1. An amplifier line-up for an electrosurgical generator, the amplifier line-up comprising:

5 a microwave signal generator for generating microwave electromagnetic (EM) radiation;
a modulator arranged to pulse the microwave EM radiation;
and

10 an amplifier module connected to the modulator and arranged to increase the power of pulses of microwave EM radiation received therefrom, the amplifier module comprising an array of amplifiers connected in parallel, wherein output signals from the array of amplifiers are combined to produce an output microwave signal; and

15 a feed structure for conveying the output microwave signal to a probe,

wherein the modulator is configured to cause the output microwave signal to comprise a series of microwave pulses having a duty cycle equal to or less than 20%, wherein each
20 microwave pulse has a duration equal to or less than 0.1 s.

2. The amplifier line-up of claim 1, wherein the amplifier module comprises:

25 a power divider unit arranged to receive the pulses of microwave EM radiation from the modulator and split then into input signals for the array of amplifiers; and

a power combiner unit arranged to combine the output signals from the array of amplifiers.

30 3. The amplifier line-up of claim 1 or 2 comprises a drive amplifier connected between the modulator and the amplifier module.

35 4. The amplifier line-up of any preceding claim, wherein the series of microwave pulses each has a power equal to or greater than 400 W.

40 5. The amplifier line-up of any preceding claim, wherein the series of microwave pulses each has a power equal to or greater than 2 kW.

6. The amplifier line-up of any preceding claim,
wherein each microwave pulse has a duration equal to or less
than 1 ms.

5 7. The amplifier line-up of any preceding claim,
wherein the array of amplifiers comprises eight amplifiers.

8. The amplifier line-up of any preceding claim,
wherein each amplifier in the array of amplifiers comprises a
10 high electron mobility transistors.

9. The amplifier line-up of claim 8, wherein the
transistors are gallium nitride transistors.

15 10. The amplifier line-up of any preceding claim,
wherein each amplifier in the array of amplifiers has a gain
equal to or greater than 10 dBm.

20 11. The amplifier line-up of any preceding claim,
wherein the output signal from each amplifier has power of 400
W.

25 12. The amplifier line-up of any preceding claim,
wherein the feed structure comprises a coaxial cable having a
diameter equal to or less than 3 mm.