help with an integral which looks similar to elliptic integrals.

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Hello,
I'm trying to solve an integral and I can't seem to do it although I
have a feeling it's probably possible.
The integral is:

int_{0}^{2pi}(exp(i(n + m)x))/(sqrt(a^2 + (n + b*sin(x))^2)) dx

where n and m are integers and a and b are positive real numbers.

The form is reminiscent of elliptic integrals, but it doesn't seem
quite close enough to
evaluate easily...

Does anyone have any idea about how it may be done?
I'd really appreciate any advice as I'm completely stuck!

Many thanks
Len

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