

## Impact of change on RF exposure of operation of the subject Ossia Cota device beyond 1m

This filing documents the impact on possible RF exposure compliance for the Cota Tx203 Power Source (FCC ID: 2AS57OSSACOTATX203) resulting from the removal of the firmware-based limitation on maximum distances included in the device as originally authorized. The data demonstrates that removal of the technical limitation on operational distance has no negative effect on RF exposure and, in fact, lowers potential RF exposure values as the distance of operation increases.

The RF exposure report filed with the original authorization request documents RF exposure compliance. In that report, measurements taken at up to 1m showed the worst-case with the phantom's positioning immediately behind the power client, as shown in Figure 1 below.

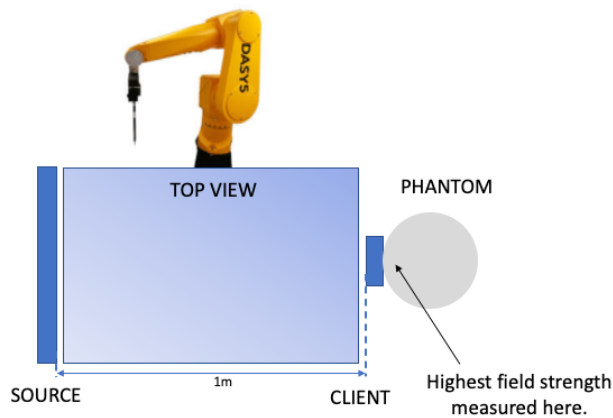


Figure 1 - position of highest field strength and worst-case RF exposure scenario as reported in original equipment authorization

Measurements reported below were taken at the same locations— behind the power clients. Measurements were also taken within 1m of the Power Source, as the separation distance was increased from 1 to 10m. Test setup is shown in Figure 2. A photo showing a scan behind the power client in progress with a separation distance of 10m is shown in Figure 3. The device's declared power level of 11.9/12.5 dBm per antenna port has not been changed, despite removing the 1m distance limitation algorithm from the system, nor have output power or antenna gain changed.

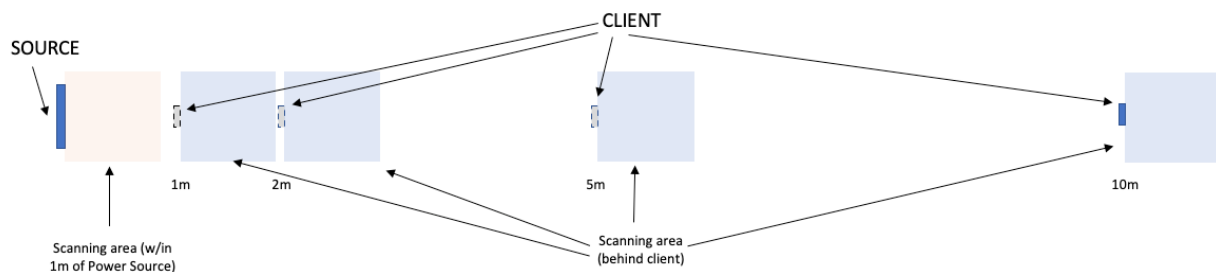
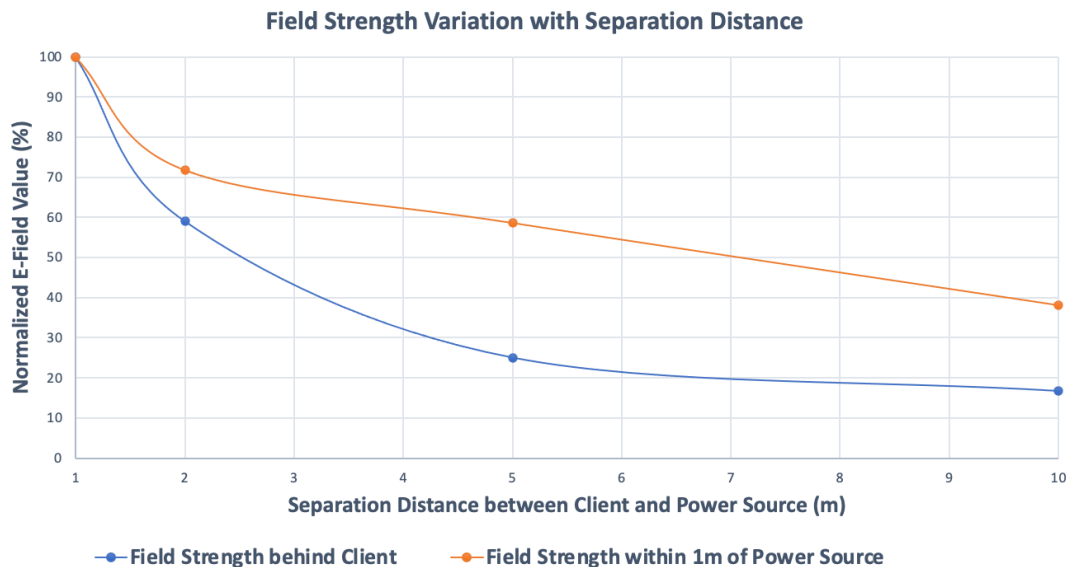


Figure 2 - Test setup diagram



Figure 3 - Test setup example: 10m separation distance



The chart in

Figure 4 below and the data in Table 1 show declining field strength at distances from 1m up to 10m relative to the field strength at 1m to show that the assessment for separation distances up to 1m contained in the original certification continue to represent worst case and additional detailed RF exposure analysis to support charging at increased distances of up to 10m is not required. Note that with respect to field strength measured behind the client the field strength levels reported for each distance scenario (i.e., 1m, 2m, 5m, and 10m) are the maximum measured field strengths in a 1m plane immediately behind the power client for each scenario. These data show that the maximum field strength level at a distance of 10m is 16.7% of the maximum field strength for the same position at a distance of 1m.

Also shown is the field strength within 1m of the Power Source, showing no increase (in fact significant decrease) in field strength as the separation distance increases. Thus, the field strength level for the worst-case scenario (phantom behind the client) drops significantly as the distance from client to source increases from 1m to 10m, and there is no indication of any

increase in field strength within 1m of the Power Source resulting from such increasing separation distance either.

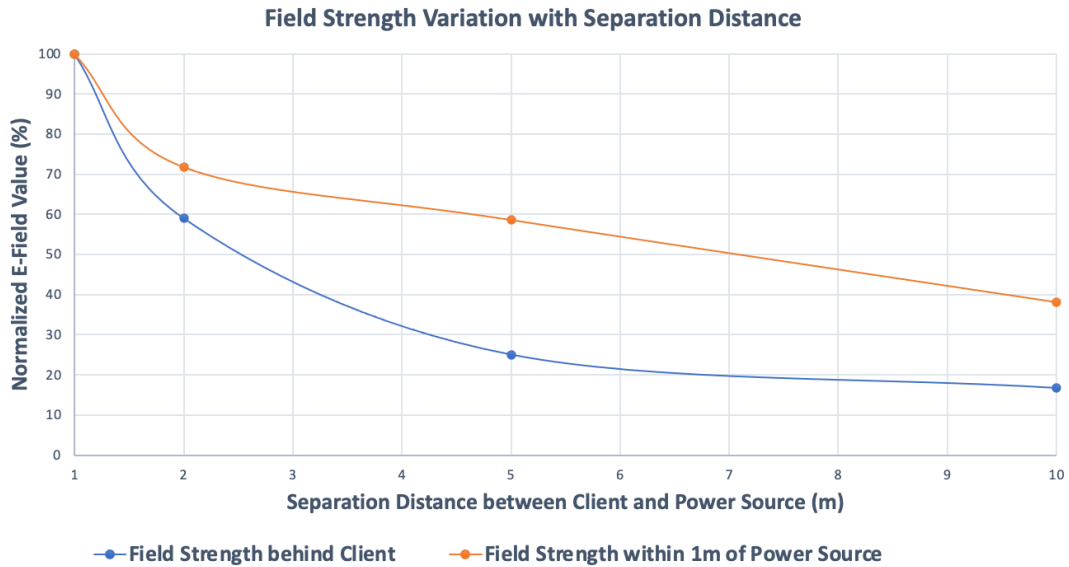


Figure 4 - Field strength variation by separation distance behind client and within 1m of Power Source

Separation Distance (m)	Normalized e-field (%)	
	Behind Client	Within 1m of Power Source
1	100.0	100
2	59.1	71.86
5	25.0	58.7
10	16.7	38.2

Table 1 - Normalized field strength based on separation distance

These data therefore demonstrate that there is no increase in potential RF exposure due to removal of the firmware-based 1m distance limitation. The highest potential level of RF exposure remains at a source-client distance of 1m. The RF exposure evaluation contained in the original RF exposure report, consequently, remains valid as the worst-case scenario. Because RF exposure actually *declines* after 1m, the 1m limitation is unnecessary and, in fact, counterproductive for the device’s technology. Eliminating the restriction would also promote efficient design and deployment since these lower RF levels can be difficult to measure at distances of 5m and beyond, and unnecessary testing at various distances would needlessly consume Commission and other resources.