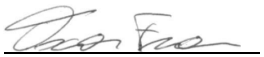
Manufacturer: Topcon Positioning Systems, Inc.

Name: Oscar Frau

FCC: WR4-CL20

Title: Project handler

Signature: 

MPE limits (§1.1310)

	Mode	Frequency	Duty Cycle	Power	Antenna Gain[7,9]	EIRP[1]	EIRP	Distance	PD[2]	PD Limit[3]	Margin	2.1091 EIRP Limit[4]	2.1091 EIRP Margin	PD/PD Limit	Worst PD/PD values to be considered
		MHz	%	dBm	dBi	dBm	mW	cm	mW/cm^2	mW/cm^2	dB	mW	dB		
LARA-R204	LTE eFDD13[5,6,7]	777	100	24	1	25,00	316,2	20	0,063	0,518	9,16	652	3,15	0,12145	
LARA-R204	LTE eFDD4[5,6,7]	1710	100	24	2,5	26,50	446,7	20	0,089	1,00	10,51	1260	4,50	0,08886	**0,12145**
CL20	WIFI 2.4GHz[8,9]	2412	100	21,5	3	24,50	281,8	20	0,056	1,00	12,51	1260	6,50	0,05607	**0,05607**
		Co-Location	**=**	**0,12145**	**+**	**0,05607**	**=**	**0,2**	**< 1**						

[1]EIRP = (Power dBm + Antenna Gain dBi) + 10 x Log (Duty Cycle % / 100)

[2]PD = EIRP / (4xπxD^2)

[3]CFR 47 Part 1, §1.1310(e), table 1 (General Population/Uncontrolled Exposure)

[4]CFR 47 Part 1, §1.1307 (b)(3)(i)

[5]See FCC ID: XPY1EIQN2NN, IC: 8595A-1EIQN2NN, HVIN: LARA-R204

[6]See 7layers GmbH, Assessment Reference: MDE_UBLOX_1603_MPEa, Conducted output power values bases on "Tune-up" information provided by manufacturer at page 9 section 3.2.2

[7]Tekfun FX-W06-113G-150-IPEX antenna

[8]FCC ID: WR4-CL20, IC: 6050B-CL20, HVIN: CL20

[9]From the original filing FCC ID: XPYLILYW1

§2.1091 EIRP Limit
§1.1307 (b)(3)(i)(C) exemption limit

RF Source Frequency	f	R	λ	λ/2π	R/(λ/2π)	Threshold ERP	Threshold EIRP	Threshold EIRP	EIRP	Margin
MHz	MHz	m	m	m		W	W	mW	mW	dB
300-1500	777	0,20	0,386	0,0614	3,25	0,39782	0,652	652	316	3,15
1500-100000	1710	0,20	0,175	0,0279	7,2	0,768	1,260	1260	446,7	4,50
	2412	0,20	0,124	0,0198	10,1	0,768	1,260	1260	281,8	6,50

§2.1091 EIRP Limit
§1.1307 (b)(3)(i)(B) exemption limit

0.3 GHz ≤ f < 1.5 GHz (20 cm < d ≤ 40 cm)

f	ERP$_{20cm}$	Pth = ERP$_{20cm}$	Pth = EIRP$_{20cm}$	EIRP	Margin
GHz	mW	mW	mW	mW	dB
0,777	1585	1585	2600	316,2	9,15

f	ERP$_{20cm}$	Pth = ERP$_{20cm}$	Pth = EIRP$_{20cm}$	EIRP	Margin
GHz	mW	mW	mW	mW	dB
1,710	3060	3060	5018	446,7	10,51
2,412	3060	3060	5018	281,8	12,51