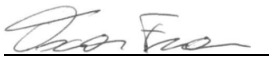
Manufacturer: Topcon Positioning Systems, Inc.

Name: Oscar Frau

FCC: WR4-CL20

Title: Project handler

Signature: 

MPE limits (§1.1310)

	Mode	Frequency	Duty Cycle	Power	Antenna Gain[7,8]	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		
SARA-U201	GSM[5,6,7]	824,2	50	33,5	1	31,49	1409,2	20	0,280	0,549	2,92	2757	2,92	0,51022	
SARA-U201	EDGE[5,6,7]	824,2	50	29	1	26,99	500,0	20	0,099	0,549	7,42	2757	7,42	0,18103	
SARA-U201	WCDMA[5,6,7]	826,4	100	25	1	26,00	398,1	20	0,079	0,551	8,42	2765	8,42	0,14376	**0,51022**
SARA-U201	GSM[5,6,7]	1850,2	50	31,5	2,5	30,99	1255,9	20	0,250	1,00	6,02	5018	6,02	0,24986	
SARA-U201	EDGE[5,6,7]	1850,2	50	28	2,5	27,49	561,0	20	0,112	1,00	9,52	5018	9,52	0,11161	
SARA-U201	WCDMA[5,6,7]	1852,4	100	25	2,5	27,50	562,3	20	0,112	1,00	9,51	5018	9,51	0,11187	
CL20	WIFI 2.4GHz[7,8]	2412	100	21,5	3	24,50	281,8	20	0,056	1,00	12,51	5018	12,51	0,05607	**0,05607**
		Co-Location	**=**	**0,51022**	**+**	**0,05607**	**=**	**0,6**	**< 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: XPY1CGM5NNN, IC:8595A-1CGM5NNN, HVIN: SARA-U201

[6]See CETECOM GmbH, T E S T R E P O R T, No.: 16-1-0111601T02a-C1, Declared maximum conducted output power and Max. positive tolerance according to manufacturer at page 11 section 4.2.1.1 and page 12 section 4.2.2.1

[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)(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
0,8242	1681	1681	2757	1409,2	2,92
0,8242	1681	1681	2757	500,0	7,42
0,8264	1686	1686	2765	398,1	8,42

f	ERP_{20cm}	$Pth = ERP_{20cm}$	$Pth = EIRP_{20cm}$	EIRP	Margin
GHz	mW	mW	mW	mW	dB
1,850	3060	3060	5018	1255,9	6,02
1,850	3060	3060	5018	561,0	9,52
1,852	3060	3060	5018	562,3	9,51
2,412	3060	3060	5018	281,8	12,51