



Attn: Director of Certification

Test Data Referencing regarding application for FCC ID: TPO-OTD41

Introduction

The applicant would like to reference test data on file with the FCC following the guidance of KDB 484596 D01 v01 as explained below.

The applicant is requesting a change in identification of equipment pursuant to 47 CFR Section 2.933 of the commission's rules. The equipment is a communication module currently under FCC ID R17LE910NAV2. Telit Communications S.p.A. is the current grantee and has granted permission for a change in ID to the applicant (Track Group Inc.) with grantee code TPO. The new FCC ID of the module will be TPO-LE910B1.

The applicant would like to re-use the conducted data from Report Numbers 1506FR21-01 and 1506FR22-01 from A Test Lab Techno Corp. currently on file with the FCC under FCC ID R17LE910NAV2 with original grant date of August 19th, 2015.

Differences

The module is being used as is with no changes. The conducted data from the original grant still applies.

Spot Check Verification Data

Spot check conducted data was taken on a sample of the module installed in the applicant's new design. The following pages contain a summary of this spot check data.

LTE Band 2								
Test	Chan BW	Mod	Chan	# of RB	RB Offset	Original	New	Delta
Conducted Output Average Power (dBm)	1.4 MHz	QPSK	Low	1	0	23.25	22.74	-0.51
				6	0	22.39	21.75	-0.64
			Mid	1	0	23.38	22.72	-0.66
				6	0	22.42	21.69	-0.73
			High	1	0	23.09	22.57	-0.52
				6	0	22.22	21.66	-0.56
		16QAM	Low	1	0	22.61	21.94	-0.67
				6	0	21.43	21.85	0.42
			Mid	1	0	22.66	21.64	-1.02
				6	0	21.50	20.89	-0.61
			High	1	0	22.26	22.04	-0.22
				6	0	21.47	20.88	-0.59
	20 MHz	QPSK	Low	1	0	23.31	23.00	-0.31
				100	0	22.17	21.77	-0.40
			Mid	1	0	23.41	23.09	-0.32
				100	0	22.32	21.73	-0.59
			High	1	0	23.26	22.87	-0.39
				100	0	22.27	21.63	-0.64
		16QAM	Low	1	0	22.37	22.70	0.33
				100	0	21.33	20.98	-0.35
			Mid	1	0	22.38	22.32	-0.06
				100	0	21.35	20.88	-0.47
			High	1	0	22.77	22.51	-0.26
				100	0	21.35	20.77	-0.58
Occupied Bandwidth (MHz)	1.4 MHz	QPSK	Mid	6	0	1.076	1.140	0.064
		16QAM	Mid	6	0	1.076	1.140	0.064
	3 MHz	QPSK	Mid	15	0	2.683	2.750	0.067
		16QAM	Mid	15	0	2.682	2.740	0.058
	5 MHz	QPSK	Mid	25	0	4.457	4.600	0.143
		16QAM	Mid	25	0	4.464	4.610	0.146
	10 MHz	QPSK	Mid	50	0	8.967	9.100	0.133
		16QAM	Mid	50	0	8.960	9.110	0.150
	15 MHz	QPSK	Mid	75	0	13.461	13.700	0.239
		16QAM	Mid	75	0	13.401	13.760	0.359
	20 MHz	QPSK	Mid	100	0	17.905	18.630	0.725
		16QAM	Mid	100	0	17.903	18.600	0.697
Peak to Average Ratio (dB)	1.4 MHz	QPSK	Mid	6	0	4.70	5.28	0.58
		16QAM	Mid	6	0	5.52	6.32	0.80
Freq Stability (ppm)	20 MHz	QPSK	Mid	100	0	0.001	0.0002	-0.0008

LTE Band 4								
Test	Chan BW	Mod	Chan	# of RB	RB Offset	Original	New	Delta
Conducted Output Average Power (dBm)	1.4 MHz	QPSK	Low	1	0	23.12	22.51	-0.61
				6	0	22.13	21.53	-0.60
			Mid	1	0	22.92	22.71	-0.21
				6	0	22.01	21.63	-0.38
			High	1	0	22.99	22.73	-0.26
				6	0	21.94	21.63	-0.31
		16QAM	Low	1	0	22.42	21.51	-0.91
				6	0	21.06	20.68	-0.38
			Mid	1	0	22.22	22.04	-0.18
				6	0	21.07	20.77	-0.30
			High	1	0	21.94	21.87	-0.07
				6	0	20.96	20.79	-0.17
	20 MHz	QPSK	Low	1	0	23.08	22.89	-0.19
				100	0	22.02	21.72	-0.30
			Mid	1	0	23.02	22.87	-0.15
				100	0	21.91	21.66	-0.25
			High	1	0	22.99	22.87	-0.12
				100	0	21.82	21.67	-0.15
		16QAM	Low	1	0	22.38	22.27	-0.11
				100	0	20.93	20.79	-0.14
			Mid	1	0	22.26	22.53	0.27
				100	0	20.84	20.73	-0.11
			High	1	0	22.33	22.13	-0.20
				100	0	20.83	20.77	-0.06
Occupied Bandwidth (MHz)	1.4 MHz	QPSK	Mid	6	0	1.083	1.150	0.067
		16QAM	Mid	6	0	1.083	1.140	0.057
	3 MHz	QPSK	Mid	15	0	2.684	2.750	0.066
		16QAM	Mid	15	0	2.694	2.750	0.056
	5 MHz	QPSK	Mid	25	0	4.461	4.610	0.149
		16QAM	Mid	25	0	4.466	4.620	0.154
	10 MHz	QPSK	Mid	50	0	8.955	9.090	0.135
		16QAM	Mid	50	0	8.953	9.110	0.157
	15 MHz	QPSK	Mid	75	0	13.422	13.710	0.288
		16QAM	Mid	75	0	13.403	13.730	0.327
	20 MHz	QPSK	Mid	100	0	17.836	18.520	0.684
		16QAM	Mid	100	0	17.847	18.490	0.644
Peak to Average Ratio (dB)	1.4 MHz	QPSK	Mid	6	0	5.40	5.33	-0.07
		16QAM	Mid	6	0	6.18	6.20	0.02
Freq Stability (ppm)	20 MHz	QPSK	Mid	100	0	0.001	-0.001	-0.002

LTE Band 5									
Test	Chan BW	Mod	Chan	# of RB	RB Offset	Original	New	Delta	
Conducted Output Average Power (dBm)	1.4 MHz	QPSK	Low	1	0	22.74	22.86	0.12	
				6	0	21.73	21.85	0.12	
			Mid	1	0	22.76	22.98	0.22	
				6	0	21.83	22.03	0.20	
			High	1	0	22.81	22.90	0.09	
				6	0	21.81	21.94	0.13	
		16QAM	Low	1	0	21.77	22.09	0.32	
				6	0	20.71	21.11	0.40	
			Mid	1	0	21.86	21.92	0.06	
				6	0	20.64	21.23	0.59	
			High	1	0	21.94	22.34	0.40	
				6	0	20.69	21.16	0.47	
	10 MHz	QPSK	Low	1	0	22.77	22.87	0.10	
				50	0	21.62	21.88	0.26	
			Mid	1	0	22.76	22.89	0.13	
				50	0	21.61	21.93	0.32	
			High	1	0	22.79	22.87	0.08	
				50	0	21.68	21.87	0.19	
		16QAM	Low	1	0	21.59	22.10	0.51	
				50	0	20.54	21.02	0.48	
			Mid	1	0	21.92	22.06	0.14	
				50	0	20.57	21.06	0.49	
			High	1	0	21.93	22.30	0.37	
				50	0	20.56	20.92	0.36	
Occupied Bandwidth (MHz)	1.4 MHz	QPSK	Mid	6	0	1.082	1.140	0.058	
		16QAM	Mid	6	0	1.082	1.130	0.048	
	3 MHz	QPSK	Mid	15	0	2.688	2.750	0.062	
		16QAM	Mid	15	0	2.691	2.760	0.069	
	5 MHz	QPSK	Mid	25	0	4.462	4.610	0.148	
		16QAM	Mid	25	0	4.466	4.610	0.144	
	10 MHz	QPSK	Mid	50	0	8.961	9.110	0.149	
		16QAM	Mid	50	0	8.953	9.120	0.167	
	Peak to Average Ratio (dB)	1.4 MHz	QPSK	Mid	6	0	6.12	5.77	-0.35
			16QAM	Mid	6	0	6.71	6.64	-0.07
3 MHz		QPSK	Mid	15	0	5.67	5.51	-0.16	
		16QAM	Mid	15	0	6.29	6.52	0.23	
5 MHz		QPSK	Mid	25	0	5.56	4.81	-0.75	
		16QAM	Mid	25	0	6.18	6.17	-0.01	
Freq Stability (ppm)		10 MHz	QPSK	Mid	50	0	0.001	0.0007	-0.0003

LTE Band 12									
Test	Chan BW	Mod	Chan	# of RB	RB Offset	Original	New	Delta	
Conducted Output Average Power (dBm)	1.4 MHz	QPSK	Low	1	0	22.74	22.93	0.19	
				6	0	21.73	22.04	0.31	
			Mid	1	0	22.76	23.03	0.27	
				6	0	21.83	22.03	0.20	
			High	1	0	22.81	23.00	0.19	
				6	0	21.81	22.00	0.19	
		16QAM	Low	1	0	21.77	22.28	0.51	
				6	0	20.71	21.23	0.52	
			Mid	1	0	21.86	22.05	0.19	
				6	0	20.64	21.18	0.54	
			High	1	0	21.94	22.42	0.48	
				6	0	20.69	21.19	0.50	
	10 MHz	QPSK	Low	1	0	22.77	22.96	0.19	
				50	0	21.62	22.00	0.38	
			Mid	1	0	22.76	22.94	0.18	
				50	0	21.61	22.01	0.40	
			High	1	0	22.79	22.97	0.18	
				50	0	21.68	21.98	0.30	
		16QAM	Low	1	0	21.59	22.21	0.62	
				50	0	20.54	21.08	0.54	
			Mid	1	0	21.92	22.18	0.26	
				50	0	20.57	20.98	0.41	
			High	1	0	21.93	22.44	0.51	
				50	0	20.56	21.09	0.53	
Occupied Bandwidth (MHz)	1.4 MHz	QPSK	Mid	6	0	1.080	1.140	0.060	
		16QAM	Mid	6	0	1.081	1.130	0.049	
	3 MHz	QPSK	Mid	15	0	2.695	2.750	0.055	
		16QAM	Mid	15	0	2.695	2.760	0.065	
	5 MHz	QPSK	Mid	25	0	4.459	4.590	0.131	
		16QAM	Mid	25	0	4.466	4.610	0.144	
	10 MHz	QPSK	Mid	50	0	8.957	9.080	0.123	
		16QAM	Mid	50	0	8.955	9.080	0.125	
	Peak to Average Ratio (dB)	1.4 MHz	QPSK	Mid	6	0	5.83	5.30	-0.53
			16QAM	Mid	6	0	6.67	6.14	-0.53
3 MHz		QPSK	Mid	15	0	5.52	5.19	-0.33	
		16QAM	Mid	15	0	6.25	6.17	-0.08	
5 MHz		QPSK	Mid	25	0	5.57	4.52	-1.05	
		16QAM	Mid	25	0	6.11	5.91	-0.20	
Freq Stability (ppm)	10 MHz	QPSK	Mid	50	0	0.003	0.002	-0.001	

LTE Band 13								
Test	Chan BW	Mod	Chan	# of RB	RB Offset	Original	New	Delta
Conducted Output Average Power (dBm)	5 MHz	QPSK	Low	1	0	22.82	22.95	0.13
				25	0	21.21	21.91	0.70
			Mid	1	0	22.86	23.00	0.14
				25	0	21.45	21.92	0.47
		High	1	0	22.88	23.12	0.24	
			25	0	21.44	21.90	0.46	
		16QAM	Low	1	0	21.96	22.40	0.44
				25	0	20.61	20.84	0.23
	Mid		1	0	21.94	22.02	0.08	
			25	0	20.33	20.92	0.59	
	High	1	0	22.02	22.12	0.10		
		25	0	20.49	20.95	0.46		
	10 MHz	QPSK	Mid	1	0	22.74	22.57	-0.17
				50	0	21.72	21.99	0.27
		16QAM	Mid	1	0	21.91	21.76	-0.15
				50	0	20.58	20.96	0.38
Occupied Bandwidth (MHz)	5 MHz	QPSK	Mid	25	0	4.467	4.600	0.133
		16QAM	Mid	25	0	4.472	4.600	0.128
	10 MHz	QPSK	Mid	50	0	8.981	9.120	0.139
		16QAM	Mid	50	0	8.963	9.100	0.137
Peak to Average Ratio (dB)	5 MHz	QPSK	Mid	25	0	5.40	4.38	-1.02
		16QAM	Mid	25	0	5.94	5.77	-0.17
	10 MHz	QPSK	Mid	50	0	5.46	4.67	-0.79
		16QAM	Mid	50	0	6.29	6.49	0.20
Freq Stability (ppm)	10 MHz	QPSK	Mid	50	0	0.002	0.002	0

WCDMA Band 2							
Test	Mode	Mod	Sub-Test	Chan	Original	New	Delta
Conducted Output Average Power (dBm)	HSDPA	QPSK	1	Low	22.61	23.33	0.72
				Mid	22.57	23.42	0.85
				High	22.49	23.34	0.85
			2	Low	22.48	22.85	0.37
				Mid	22.42	22.96	0.54
				High	22.32	22.87	0.55
			3	Low	22.08	22.32	0.24
				Mid	22.01	22.44	0.43
				High	21.91	22.35	0.44
			4	Low	22.04	22.08	0.04
				Mid	21.96	22.20	0.24
				High	21.86	22.11	0.25
	HSUPA	QPSK	1	Low	21.98	22.39	0.41
				Mid	21.91	22.46	0.55
				High	21.81	22.41	0.60
			2	Low	19.95	20.61	0.66
				Mid	19.87	20.73	0.86
				High	19.76	20.64	0.88
			3	Low	20.92	21.65	0.73
				Mid	20.82	21.77	0.95
				High	20.70	21.69	0.99
			4	Low	19.92	20.86	0.94
				Mid	19.83	20.97	1.14
				High	19.72	20.90	1.18
5			Low	21.87	22.84	0.97	
			Mid	21.77	22.97	1.20	
			High	21.65	22.84	1.19	
Occupied Bandwidth (MHz)	HSUPA	QPSK	NA	Low	4.061	4.150	0.089
				Mid	4.089	4.170	0.081
				High	4.070	4.160	0.090

WCDMA Band 5							
Test	Mode	Mod	Sub-Test	Chan	Original	New	Delta
Conducted Output Average Power (dBm)	HSDPA	QPSK	1	Low	22.51	23.59	1.08
				Mid	22.56	23.68	1.12
				High	22.40	23.74	1.34
			2	Low	22.36	23.10	0.74
				Mid	22.41	23.19	0.78
				High	22.23	23.23	1.00
			3	Low	21.98	22.62	0.64
				Mid	22.05	22.71	0.66
				High	21.86	22.76	0.90
			4	Low	21.93	22.38	0.45
				Mid	21.99	22.46	0.47
				High	21.78	22.51	0.73
	HSUPA	QPSK	1	Low	21.84	22.66	0.82
				Mid	21.88	22.72	0.84
				High	21.71	22.85	1.14
			2	Low	19.80	20.86	1.06
				Mid	19.86	20.92	1.06
				High	19.65	21.05	1.40
			3	Low	20.78	21.87	1.09
				Mid	20.84	21.97	1.13
				High	20.62	22.00	1.38
			4	Low	19.75	21.15	1.40
				Mid	19.81	21.22	1.41
				High	19.58	21.28	1.70
5			Low	21.69	23.08	1.39	
			Mid	21.75	23.16	1.41	
			High	21.54	23.21	1.67	
Occupied Bandwidth (MHz)	HSUPA	QPSK	NA	Low	4.077	4.170	0.093
				Mid	4.049	4.240	0.191
				High	4.065	4.190	0.125



Reference Section

The following table shows which report is referenced for data for each required test.

Test	FCC Rule Part	ISED Specification	LTE Test Report	WCDMA Test Report
Conducted Output Power	2.1046	RSS-GEN (6.12)	A Test Lab Techno 1506FR21-01	A Test Lab Techno 1506FR22-01
Peak-to-Average Ratio	24.232(d) 27.50(d)(5)	RSS-130 (4.6.1) RSS-132 (5.4) RSS-133 (6.4) RSS-139 (6.5)	A Test Lab Techno 1506FR21-01	A Test Lab Techno 1506FR22-01
Occupied Bandwidth / Emission Bandwidth	2.1049 22.917(b) 24.238(b) 27.53(h)(3)	RSS-GEN (6.7) RSS-133 (2.3)	A Test Lab Techno 1506FR21-01	A Test Lab Techno 1506FR22-01
Band Edge / Conducted Spurious Emissions	2.1051 22.917 24.238 27.53(c) 27.53(g) 27.53(h)	RSS-130 (4.7) RSS-132 (5.5) RSS-133 (6.5) RSS-139 (6.6)	A Test Lab Techno 1506FR21-01	A Test Lab Techno 1506FR22-01
Effective Radiated Power	22.913(a)(5) 27.50(b)(9) 27.50(c)(9)	RSS-130 (4.6.3)	A Test Lab Techno 1506FR21-01	A Test Lab Techno 1506FR22-01
Effective Isotropic Radiated Power	24.232(c) 27.50(d)(4)	RSS-132 (5.4) RSS-133 (6.4) RSS-139 (6.5)	A Test Lab Techno 1506FR21-01	A Test Lab Techno 1506FR22-01
Radiated Spurious Emissions	2.1053 22.917 24.238 27.53(c) 27.53(g) 27.53(h)	RSS-GEN (6.13) RSS-130 (4.7) RSS-132 (5.5) RSS-133 (6.5) RSS-139 (6.6)	SGS North America 4643717EMC01	
Frequency Stability	2.1055 22.355 24.235 27.54	RSS-GEN (6.11) RSS-130 (4.5) RSS-132 (5.3) RSS-133 (6.3) RSS-139 (6.4)	A Test Lab Techno 1506FR21-01	A Test Lab Techno 1506FR22-01

Sincerely,

Martin Taylor
Agent for Track Group Inc.
SGS North America
Title: RF/EMC Engineer
Date: 18 September 2020