<CDD Modes>

Report No. : FR672014-01F

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant. 2		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)		Avg. (P/A)	
		5645.6	56.94	-11.36	68.3	43.96	32.19	11.79	31	269	92	Р	Н
		5695.8	70.02	-32.18	102.2	56.94	32.27	11.82	31.01	269	92	Р	Н
		5720	78.88	-32.02	110.9	65.75	32.31	11.84	31.02	269	92	Р	Н
		5724.2	88.23	-32.25	120.48	75.1	32.31	11.84	31.02	269	92	Р	Н
	*	5740	111.69	-	-	98.54	32.34	11.84	31.03	269	92	Р	Н
	*	5740	102.29	-	-	89.14	32.34	11.84	31.03	269	92	Α	Н
													Н
802.11a													Н
CH 149		5650	59.83	-8.47	68.3	46.82	32.22	11.79	31	278	102	Р	٧
5745MHz		5698.4	66.01	-38.11	104.12	52.93	32.27	11.82	31.01	278	102	Р	٧
		5720	77.67	-33.23	110.9	64.54	32.31	11.84	31.02	278	102	Р	٧
		5725	87.46	-34.84	122.3	74.33	32.31	11.84	31.02	278	102	Р	٧
	*	5745	110.17	-	-	97	32.34	11.86	31.03	278	102	Р	٧
	*	5745	100.51	-	-	87.34	32.34	11.86	31.03	278	102	Α	V
													V
													V

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WIFI Note Level Over Limit Read Antenna Cable Preamp Ant **Table** Peak Pol. **Frequency** Limit Line Factor Ant. Level Loss Factor Pos Pos Avg. 2 (dB) (dB \(V/m \) (MHz) (dBµV/m) (dBµV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5645.6 59.78 -8.52 68.3 46.8 32.19 11.79 31 100 102 Н Р 5692.2 59.83 -39.72 99.55 46.75 32.27 11.82 31.01 100 102 Н 5714.6 60.24 -49.15 109.39 47.13 32.29 11.84 31.02 100 102 Ρ Н 5725 61.52 -60.78 122.3 48.39 32.31 11.84 31.02 100 102 Ρ Н * 5783 109.99 96.77 32.39 11.88 31.05 100 102 Ρ Н 5783 87.44 32.39 100 100.66 11.88 31.05 102 Α Η Р 5851.4 60.34 32.48 31.06 100 102 Н -58.77 119.11 46.89 12.03 5874.2 60.15 -45.37 105.52 46.52 32.53 12.17 31.07 100 102 Ρ Н 47.02 Ρ 5908.8 60.82 -19.43 80.25 32.58 12.31 31.09 100 102 Η Ρ 5931.4 60.25 -8.05 68.3 46.43 32.6 12.31 31.09 100 102 Н Η 802.11a Н **CH 157** 5638.8 59.17 -9.13 68.3 46.19 32.19 11.79 31 248 107 Ρ V 5785MHz 5653.2 59.28 -11.4 70.68 46.27 32.22 11.79 31 248 107 Ρ ٧ 5706.2 59.54 -47.5 107.04 46.43 32.29 11.84 31.02 248 107 Ρ ٧ ٧ 5724.6 59.67 -61.72 121.39 46.54 32.31 11.84 31.02 248 107 Ρ ٧ 5783 107.71 94.49 32.39 11.88 31.05 248 107 * 32.39 ٧ 5783 97.88 84.66 11.88 31.05 248 107 Α V 5852 59.6 -58.14 117.74 46.15 32.48 12.03 31.06 248 107 Ρ 5863.2 59.79 -48.81 108.6 46.18 32.51 12.17 31.07 248 107 Ρ ٧ ٧ 5876 60.38 -44.18 104.56 46.75 32.53 12.17 31.07 248 107 Ρ Ρ 5933.2 60.36 -7.94 68.3 46.54 32.6 12.31 31.09 248 107 ٧ ٧ ٧

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WIFI Note Over Limit Read Antenna Cable Preamp **Table** Peak Pol. **Frequency** Level Ant Pos Limit Line Level **Factor** Factor Ant. Loss Pos Avg. (dB/m) (dB) (dBµV/m) (deg) (P/A) (H/V) 2 (MHz) (dB) (dBµV/m) (dBµV) (dB) cm) * 111.18 32.46 5825 97.74 12.03 31.05 258 93 Η * 5825 101.36 87.92 32.46 12.03 31.05 258 --93 Α Н 5850 78.88 -43.42 122.3 65.43 32.48 12.03 31.06 258 93 Ρ Н 5857 73.9 -36.44 32.51 31.06 258 Ρ Н 110.34 60.42 12.03 93 5877 65.48 -38.33 103.81 51.85 32.53 12.17 31.07 258 93 Ρ Н Р 5935.8 60.47 -7.83 68.3 46.65 32.6 12.31 31.09 258 93 Н Н Н 802.11a **CH 165** 5825 110.37 96.93 32.46 12.03 31.05 263 103 ٧ 5825MHz ٧ 5825 32.46 12.03 31.05 263 103 Α 99.61 _ _ 86.17 32.48 263 103 Р ٧ 5851 76.49 -43.53 120.02 63.04 12.03 31.06 ٧ 5856.2 72.62 -37.94 110.56 59.14 32.51 12.03 31.06 263 103 Ρ 5877.4 65.85 -37.67 103.52 52.22 32.53 12.17 31.07 263 103 Ρ V Р ٧ -7.11 5932.8 61.19 68.3 47.37 32.6 12.31 31.09 263 103 ٧ ٧ ٧ No other spurious found. Remark All results are PASS against Peak and Average limit line.

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Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant		Peak	Pol
Ant. 2		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/\
		11490	47.52	-26.48	74	46.79	40.11	18.4	57.78	100	0	Р	Н
		17235	60.29	-8.01	68.3	52.64	41.65	23.14	57.14	100	0	Р	Н
													Н
802.11a													Н
CH 149		11490	47.78	-26.22	74	47.05	40.11	18.4	57.78	100	0	Р	V
5745MHz		17235	59.65	-8.65	68.3	52	41.65	23.14	57.14	100	0	Р	V
													V
													V
		11570	48.46	-25.54	74	47.82	39.95	18.49	57.8	100	0	Р	Н
		17355	58.21	-10.09	68.3	50.5	42.02	23.25	57.56	100	0	Р	Н
													Н
802.11a													Н
CH 157		11570	48.5	-25.5	74	47.86	39.95	18.49	57.8	100	0	Р	V
5785MHz		17355	57.94	-10.36	68.3	50.23	42.02	23.25	57.56	100	0	Р	V
													V
													٧
		11650	47.09	-26.91	74	46.51	39.8	18.58	57.8	100	0	Р	Н
		17475	54.49	-13.81	68.3	46.72	42.39	23.36	57.98	100	0	Р	Н
													Н
802.11a													Н
CH 165 5825MHz		11650	47.15	-26.85	74	46.57	39.8	18.58	57.8	100	0	Р	٧
		17475	58.01	-10.29	68.3	50.24	42.39	23.36	57.98	100	0	Р	V
													V
													٧

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Band 4 5725~5850MHz

Emission below 1GHz

5GHz WIFI 802.11a (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)		(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)		
		68.07	25.91	-14.09	40	45.1	12.2	1.06	32.45	-	-	Р	Н
		201.45	24.56	-18.94	43.5	39.42	15.85	1.7	32.41	-	-	Р	Н
		237.36	26.83	-19.17	46	39.92	17.42	1.83	32.34	-	-	Р	Н
		340.6	25.19	-20.81	46	34.33	20.71	2.44	32.29	-	-	Р	Н
		765.5	29.45	-16.55	46	30.09	27.66	3.97	32.27	-	-	Р	Н
		955.2	33.19	-12.81	46	29.3	30.23	4.75	31.09	100	66	Р	Н
													Н
													Н
													Н
													Н
													Н
5GHz													Н
802.11a LF		32.43	34.79	-5.21	40	42.29	24.18	0.78	32.46	100	80	Р	V
L		66.72	26.08	-13.92	40	45.32	12.15	1.06	32.45	-	-	Р	٧
		201.18	27	-16.5	43.5	41.88	15.83	1.7	32.41	-	-	Р	٧
		363.7	25.73	-20.27	46	34.28	21.33	2.44	32.32	-	-	Р	٧
		724.2	29.13	-16.87	46	30.61	26.99	3.89	32.36	-	-	Р	V
		934.9	33.56	-12.44	46	30.33	29.89	4.6	31.26	-	-	Р	٧
													٧
													V
													٧
													٧
													٧
													V

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Note symbol

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*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not
	exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical

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A calculation example for radiated spurious emission is shown as below:

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WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	Р	Н
CH 01												-	
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	Α	Н

1. Level($dB\mu V/m$) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dB μ V/m) – Limit Line(dB μ V/m)

For Peak Limit @ 2390MHz:

- 1. Level(dBµV/m)
- = Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) Preamp Factor(dB)
- $= 32.22(dB/m) + 4.58(dB) + 54.51(dB\mu V) 35.86 (dB)$
- $= 55.45 (dB\mu V/m)$
- 2. Over Limit(dB)
- = Level($dB\mu V/m$) Limit Line($dB\mu V/m$)
- $= 55.45(dB\mu V/m) 74(dB\mu V/m)$
- = -18.55(dB)

For Average Limit @ 2390MHz:

- 1. Level(dBµV/m)
- = Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dB μ V) Preamp Factor(dB)
- $= 32.22(dB/m) + 4.58(dB) + 42.6(dB\mu V) 35.86 (dB)$
- $= 43.54 (dB\mu V/m)$
- 2. Over Limit(dB)
- = Level($dB\mu V/m$) Limit Line($dB\mu V/m$)
- $= 43.54(dB\mu V/m) 54(dB\mu V/m)$
- = -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

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