

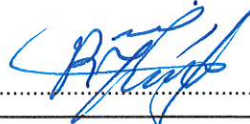


RF-EXPOSURE REPORT FCC 47 CFR Part 2.1091 ISED RSS-102 Maximum permissible exposure	
Report Reference No	G0M-2304-2019-TFC091MP-V02
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	 <p>A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Test Firm Designation Number: DE0008 ISED Testing Laboratory site: 3470A</p>
Applicant	Vaisala Oyj
Address	Vanha Nurmijärventie 21 01670 Vantaa Finland
Test Specification	According to FCC/ISED rules
Standard	FCC 47 CFR 2.1091 ISED RSS-102
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	TempCast FMP100
Model(s)	FMP103
Additional Model(s)	None
Brand Name(s)	Vaisala
Hardware Version(s)	F
Software Version(s)	1.0.9
FCC ID	2AO39-FMP100
IC	23830-FMP100
Test Result	PASSED

Possible test case verdicts:		
required by standard but not tested	N/T	
not required by standard	N/R	
test object does meet the requirement	P(PASS)	
test object does not meet the requirement	F(FAIL)	
Testing:		
Test Lab Temperature	20 °C - 30 °C	
Test Lab Humidity	25 % - 55 %	
Date of performance	2023-09-21	
Date of receipt of test item	2023-05-05	
Report:		
Compiled by	Florian Voigt	
Tested by (+ signature)	Florian Voigt	
Test supervised by (Responsible for Test)	Burkhard Pudell	
Approved by (+ signature) (Test Lab Engineer)	Radwan Jaafar	
Date of Issue	2023-09-22	
Total number of pages	27	
General Remarks:		
<p>The test results presented in this report relate only to the object tested.</p> <p>The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p>		
Additional Comments:		

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2023-07-14	Initial Release	Florian Voigt
02	2023-09-22	Replaced document: G0M-2304-2019-TFC91MP-V01 Replaced by: G0M-2304-2019-TFC91MP-V02 Reason: <ol style="list-style-type: none"> 1. Page 6: Replaced "Contains FCC ID" and "Contains IC" fields with FCC ID, IC, PMN, HVIN and FVIN from EUT. 2. Page 7: Removed reference to unused radio report 59675RRF.002. 3. Page 7: Added reference to BTLE radio report 3772RER005A1. 4. Page 8: Changed maximum duty cycle of 20% to 100% for NB-IoT modem. 5. Page 8: Added Bluetooth LE as a second transmitter. 6. Recalculated MPE with Bluetooth LE which has major effect on all following pages from page 8. 	-

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
EIRP	Equivalent Isotropic Radiated Power
EUT	Equipment Under Test
MPE	Maximum Permissible Exposure

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1 Equipment (Test Item) Under Test

Description	TempCast FMP100
Model	FMP103
Additional Model(s)	None
Brand Name(s)	Vaisala
Serial Number(s)	Prototype
Hardware Version(s)	F
Software Version(s)	1.0.9
PMN	Tempcast FMP100
HVIN	FMP103, FMP102
FVIN	1.0.9
HMN	N/A
FCC ID	2AO39-FMP100
IC	23830-FMP100
Equipment type	End Product
Environment	General public

1.1 Reference Documents

Document Type	Document No.	Issued by	Date
Radio Test Report 47 CFR § 15.247, RSS-247	3772RER005A1	Eurofins Electric & Electronics Finland Oy	2023-07-25

1.2 Power density radiation sources

Mode	Operating Frequency [MHz]	Maximum conducted power [dBm]	Maximum radiated power [dBm EIRP]	Maximum duty cycle [%]	Maximum antenna gain [dBi]	Maximum antenna diameter [cm]
LTE FDD2	1880.0	25.7*	29.4	100	3.7	N/A
LTE FDD4	1732.5	25.7*	29.4	100	3.7	N/A
LTE FDD5	836.5	25.7*	27.6	100	1.9	N/A
LTE FDD12	707.5	25.7*	27.6	100	1.9	N/A
LTE FDD13	782.0	25.7*	27.6	100	1.9	N/A
LTE FDD25	1882.5	25.7*	29.4	100	3.7	N/A
LTE FDD26	831.5	25.7*	27.6	100	1.9	N/A
LTE FDD66	1745	25.7*	29.4	100	3.7	N/A
Bluetooth LE	2402	-1.2	2.5	100	3.7	N/A
	2440	-0.5	3.2	100	3.7	N/A
	2480	-2.8	0.9	100	3.7	N/A

Comment: *Using maximum allowed power of corresponding radio technology standard including tune up tolerance.

1.3 Field strength radiation sources

None

1.4 Concurrent Sources

Concurrent operating conditions
LTE FDD2 + Bluetooth LE
LTE FDD4 + Bluetooth LE
LTE FDD5 + Bluetooth LE
LTE FDD12 + Bluetooth LE
LTE FDD13 + Bluetooth LE
LTE FDD25 + Bluetooth LE
LTE FDD26 + Bluetooth LE
LTE FDD66 + Bluetooth LE

Comment:

2 Result Summary

FCC MPE Evaluation - Single radiation sources					
Product Standard Reference	Requirement	Reference Method	Mode	Distance [m]	Verdict
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD2	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD4	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD5	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD12	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD13	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD25	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD26	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD66	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	Bluetooth LE	0.20	PASS
Comment:					

ISED MPE Evaluation - Single radiation sources					
Product Standard Reference	Requirement	Reference Method	Mode	Distance [m]	Verdict
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD2	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD4	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD5	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD12	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD13	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD25	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD26	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD66	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	Bluetooth LE	0.20	PASS
Comment:					

FCC MPE Evaluation - Multi-transmitter sources					
Product Standard Reference	Requirement	Reference Method	Mode	Distance [m]	Verdict
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD2 + Bluetooth LE	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD4 + Bluetooth LE	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD5 + Bluetooth LE	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD12 + Bluetooth LE	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD13 + Bluetooth LE	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD25 + Bluetooth LE	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD26 + Bluetooth LE	0.20	PASS
47 CFR 2.1091	Maximum permissible exposure	FCC KDB 447498	LTE FDD66 + Bluetooth LE	0.20	PASS
Comment:					

ISED MPE Evaluation - Multi-transmitter sources					
Product Standard Reference	Requirement	Reference Method	Mode	Distance [m]	Verdict
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD2 + Bluetooth LE	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD4 + Bluetooth LE	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD5 + Bluetooth LE	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD12 + Bluetooth LE	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD13 + Bluetooth LE	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD25 + Bluetooth LE	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD26 + Bluetooth LE	0.20	PASS
ISED RSS-102	Maximum permissible exposure	ISED RSS-102	LTE FDD66 + Bluetooth LE	0.20	PASS
Comment:					

3 RF-Exposure classification

RF-Exposure Categories	
Fixed	A fixed device is defined as a device physically secured at one fixed location and cannot be easily re-located.
Mobile	A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.
Portable	A portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

RF-Exposure Categories	
Occupational / Controlled	Limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.
General population / Uncontrolled	Exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

4 RF-Exposure limits

FCC Limits – General Population / Uncontrolled Exposure				
Frequency range [MHz]	Electric field strength [V/M]	Magnetic field strength [A/M]	Power density [W/m ²]	Averaging time [min]
0.3 – 1.34	614	1.63	1000	30
1.34 – 30	824/f	2.19/f	1800/f ²	30
30 – 300	27.5	0.073	2	30
300 – 1500	-	-	f/150	30
1500 – 100000	-	-	10.0	30

FCC Limits – Occupational / Controlled Exposure				
Frequency range [MHz]	Electric field strength [V/M]	Magnetic field strength [A/M]	Power density [W/m ²]	Averaging time [min]
0.3 – 3.0	614	1.63	1000	6
3.0 – 30	1842/f	4.89/f	9000/f ²	6
30 – 300	61.4	0.163	10.0	6
300 – 1500	-	-	f/30	6
1500 – 100000	-	-	50	6

ISED Limits – General Population / Uncontrolled Exposure				
Frequency range [MHz]	Electric field strength [V/M]	Magnetic field strength [A/M]	Power density [W/m ²]	Averaging time [min]
0.003 – 10	83	90	-	Instantaneous
0.1 – 10	-	0.73/f	-	6
1.1 – 10	87/f ^{0.5}	-	-	6
10 – 20	27.46	0.0728	2	6
20 – 48	58.07/f ^{0.5}	0.1540/f ^{0.25}	8.944/f ^{0.5}	6
48 – 300	22.06	0.05852	1.291	6
300 – 6000	3.142·f ^{0.3417}	0.008335·f ^{0.3417}	0.02619·f ^{0.6834}	6
6000 – 15000	61.4	0.163	10	6
15000 – 150000	61.4	0.163	10	616000/f ^{1.2}
150000 – 300000	0.158·f ^{0.5}	4.21·10 ⁻⁴ ·f ^{0.5}	6.67·10 ⁻⁵ ·f	616000/f ^{1.2}

ISED Limits – Occupational / Controlled Exposure				
Frequency range [MHz]	Electric field strength [V/M]	Magnetic field strength [A/M]	Power density [W/m ²]	Averaging time [min]
0.003 – 10	170	180	-	Instantaneous
0.1 – 10	-	1.6/f	-	6
1.1 – 10	193/f ^{0.5}	-	-	6
10 – 20	61.4	0.163	10	6
20 – 48	129.8/f ^{0.5}	0.3444/f ^{0.25}	44.72/f ^{0.5}	6
48 – 300	49.33	0.1309	6.455	6
300 – 6000	15.60·f ^{0.25}	0.04138·f ^{0.25}	0.6455·f ^{0.5}	6
6000 – 15000	137	0.364	50	6
15000 – 150000	137	0.364	50	616000/f ^{1.2}
150000 – 300000	0.354·f ^{0.5}	9.40·10 ⁻⁴ ·f ^{0.5}	3.33·10 ⁻⁴ ·f	616000/f ^{1.2}

5 RF-Exposure Evaluation

Evaluation Relations
$\lambda[m] = \frac{c \left[\frac{m}{s} \right]}{f[Hz]} ; R_{FF}[m] \geq \frac{2 \cdot D[m]^2}{\lambda[m]}$
$S[W/m^2] = \frac{P_{E.I.R.P.}[W]}{4\pi R[m]^2} ; R[m] = \sqrt{\frac{P_{E.I.R.P.}[W]}{4\pi S[W/m^2]}}$
$DCC [dB] = 10 \cdot \text{Log}_{10} \left(\frac{DC[\%]}{100} \right)$
$\sum_{i=1}^N \frac{S_i \left[\frac{W}{m^2} \right]}{S_{Li} \left[\frac{W}{m^2} \right]} + \sum_{j=1}^M \left(\frac{E_j \left[\frac{V}{m} \right]}{E_{Lj} \left[\frac{V}{m} \right]} \right)^2 + \sum_{k=1}^O \left(\frac{H_k \left[\frac{A}{m} \right]}{H_{Lk} \left[\frac{A}{m} \right]} \right)^2 < 1$

Evaluation Procedure
<p><u>Standalone operation evaluation:</u></p> <p>For each radio and frequency band the worst case transmission mode with the highest peak conducted or radiated power is evaluated at the frequency that results in the most restrictive rf-exposure limit. From the peak power values, antenna gains and duty cycles taken from the reference documents, the source average radiated power values are calculated. From the average radiated power the power densities at antenna far-field distance is calculated. The distance from the radiation source for compliance power density is calculated. If the separation distance is lower than the far-field distance, the far-field distance is given as compliance separation distance because the plane wave power density assessment is only valid in the far-field of the radiation source.</p> <p>For radiation sources for which the average electric and magnetic fields are measured using field probes, the measured field strength values are compared to the reference limits. For those sources no calculations are performed. Compliance with the reference values is determined with the near field measurements.</p> <p><u>Concurrent operation evaluation:</u></p> <p>First the evaluation distance is set to an appropriate value. For all radiation sources for which power densities are calculated, the power densities at the evaluation distance are calculated and for all other sources the electric or magnetic field strengths are measured using field probes. Finally the ratios of the power densities and/or field strength values and the corresponding limits are calculated and summed and the sum is compared to the maximum of 1.</p>

6 Single Source Evaluation Results - FCC

LTE FDD2	
Transmission Mode	
Transmission Frequency (f) [MHz]	1880.0
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	29.4
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	29.40
Power density	
Compliance power density limit [W/m ²]	10.000
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.733
Power density ratio @ 0.20 m	0.17
Distance for compliance power density (S=SL) [m]	0.083
Compliance	
Verdict	PASS
Comment:	

LTE FDD4	
Transmission Mode	
Transmission Frequency (f) [MHz]	1732.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	29.4
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	29.40
Power density	
Compliance power density limit [W/m ²]	10.000
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.733
Power density ratio @ 0.20 m	0.17
Distance for compliance power density (S=SL) [m]	0.083
Compliance	
Verdict	PASS
Comment:	

LTE FDD5	
Transmission Mode	
Transmission Frequency (f) [MHz]	836.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	27.6
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	27.60
Power density	
Compliance power density limit [W/m ²]	5.577
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.145
Power density ratio @ 0.20 m	0.21
Distance for compliance power density (S=SL) [m]	0.091
Compliance	
Verdict	PASS
Comment:	

LTE FDD12	
Transmission Mode	
Transmission Frequency (f) [MHz]	707.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	27.6
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	27.60
Power density	
Compliance power density limit [W/m ²]	4.717
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.145
Power density ratio @ 0.20 m	0.24
Distance for compliance power density (S=SL) [m]	0.099
Compliance	
Verdict	PASS
Comment:	

LTE FDD13	
Transmission Mode	
Transmission Frequency (f) [MHz]	782.0
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	27.6
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	27.60
Power density	
Compliance power density limit [W/m^2]	5.213
Power density (S) @ Antenna far-field distance [W/m^2]	N/A
Power density (S) @ 0.20 m [W/m^2]	1.145
Power density ratio @ 0.20 m	0.22
Distance for compliance power density (S=SL) [m]	0.094
Compliance	
Verdict	PASS
Comment:	

LTE FDD25	
Transmission Mode	
Transmission Frequency (f) [MHz]	1882.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	29.4
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	29.40
Power density	
Compliance power density limit [W/m^2]	10.000
Power density (S) @ Antenna far-field distance [W/m^2]	N/A
Power density (S) @ 0.20 m [W/m^2]	1.733
Power density ratio @ 0.20 m	0.17
Distance for compliance power density (S=SL) [m]	0.083
Compliance	
Verdict	PASS
Comment:	

LTE FDD26	
Transmission Mode	
Transmission Frequency (f) [MHz]	831.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	27.6
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	27.60
Power density	
Compliance power density limit [W/m^2]	5.543
Power density (S) @ Antenna far-field distance [W/m^2]	N/A
Power density (S) @ 0.20 m [W/m^2]	1.145
Power density ratio @ 0.20 m	0.21
Distance for compliance power density (S=SL) [m]	0.091
Compliance	
Verdict	PASS
Comment:	

LTE FDD66	
Transmission Mode	
Transmission Frequency (f) [MHz]	1745
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	29.4
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	29.40
Power density	
Compliance power density limit [W/m^2]	10.000
Power density (S) @ Antenna far-field distance [W/m^2]	N/A
Power density (S) @ 0.20 m [W/m^2]	1.733
Power density ratio @ 0.20 m	0.17
Distance for compliance power density (S=SL) [m]	0.083
Compliance	
Verdict	PASS
Comment:	

Bluetooth LE			
Transmission Mode			
Transmission Frequency (f) [MHz]	2402	2440	2480
Antenna far-field distance			
Maximum antenna diameter (D) [m]	N/A	N/A	N/A
Transmission wavelength (λ) [m]	N/A	N/A	N/A
Antenna far-field distance (R_{FF}) [m]	N/A	N/A	N/A
Source average power			
Peak radiated power (PR) [dBm EIRP]	2.5	3.2	0.9
Maximum transmission duty cycle (DC)	1.00	1.00	1.00
Duty cycle correction (DCC) [dB]	0.00	0.00	0.00
Average radiated power (PRAVG) [dBm EIRP]	2.50	3.20	0.90
Power density			
Compliance power density limit [W/m^2]	10.000	10.000	10.000
Power density (S) @ Antenna far-field distance [W/m^2]	N/A	N/A	N/A
Power density (S) @ 0.20 m [W/m^2]	0.004	0.004	0.002
Power density ratio @ 0.20 m	0.00	0.00	0.00
Distance for compliance power density (S=SL) [m]	0.004	0.004	0.003
Compliance			
Verdict	PASS	PASS	PASS
Comment:			

7 Single Source Evaluation Results - ISED

LTE FDD2	
Transmission Mode	
Transmission Frequency (f) [MHz]	1880.0
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	29.4
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	29.40
Power density	
Compliance power density limit [W/m ²]	4.526
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.733
Power density ratio @ 0.20 m	0.38
Distance for compliance power density (S=SL) [m]	0.124
Compliance	
Verdict	PASS
Comment:	

LTE FDD4	
Transmission Mode	
Transmission Frequency (f) [MHz]	1732.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	29.4
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	29.40
Power density	
Compliance power density limit [W/m ²]	4.280
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.733
Power density ratio @ 0.20 m	0.40
Distance for compliance power density (S=SL) [m]	0.127
Compliance	
Verdict	PASS
Comment:	

LTE FDD5	
Transmission Mode	
Transmission Frequency (f) [MHz]	836.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	27.6
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	27.60
Power density	
Compliance power density limit [W/m ²]	2.602
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.145
Power density ratio @ 0.20 m	0.44
Distance for compliance power density (S=SL) [m]	0.133
Compliance	
Verdict	PASS
Comment:	

LTE FDD12	
Transmission Mode	
Transmission Frequency (f) [MHz]	707.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	27.6
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	27.60
Power density	
Compliance power density limit [W/m ²]	2.321
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.145
Power density ratio @ 0.20 m	0.49
Distance for compliance power density (S=SL) [m]	0.140
Compliance	
Verdict	PASS
Comment:	

LTE FDD13	
Transmission Mode	
Transmission Frequency (f) [MHz]	782.0
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	27.6
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	27.60
Power density	
Compliance power density limit [W/m^2]	2.485
Power density (S) @ Antenna far-field distance [W/m^2]	N/A
Power density (S) @ 0.20 m [W/m^2]	1.145
Power density ratio @ 0.20 m	0.46
Distance for compliance power density (S=SL) [m]	0.136
Compliance	
Verdict	PASS
Comment:	

LTE FDD25	
Transmission Mode	
Transmission Frequency (f) [MHz]	1882.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	29.4
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	29.40
Power density	
Compliance power density limit [W/m^2]	4.530
Power density (S) @ Antenna far-field distance [W/m^2]	N/A
Power density (S) @ 0.20 m [W/m^2]	1.733
Power density ratio @ 0.20 m	0.38
Distance for compliance power density (S=SL) [m]	0.124
Compliance	
Verdict	PASS
Comment:	

LTE FDD26	
Transmission Mode	
Transmission Frequency (f) [MHz]	831.5
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	27.6
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	27.60
Power density	
Compliance power density limit [W/m ²]	2.592
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.145
Power density ratio @ 0.20 m	0.44
Distance for compliance power density (S=SL) [m]	0.133
Compliance	
Verdict	PASS
Comment:	

LTE FDD66	
Transmission Mode	
Transmission Frequency (f) [MHz]	1745
Antenna far-field distance	
Maximum antenna diameter (D) [m]	N/A
Transmission wavelength (λ) [m]	N/A
Antenna far-field distance (R_{FF}) [m]	N/A
Source average power	
Peak radiated power (PR) [dBm EIRP]	29.4
Maximum transmission duty cycle (DC)	1.00
Duty cycle correction (DCC) [dB]	0.00
Average radiated power (PRAVG) [dBm EIRP]	29.40
Power density	
Compliance power density limit [W/m ²]	4.301
Power density (S) @ Antenna far-field distance [W/m ²]	N/A
Power density (S) @ 0.20 m [W/m ²]	1.733
Power density ratio @ 0.20 m	0.40
Distance for compliance power density (S=SL) [m]	0.127
Compliance	
Verdict	PASS
Comment:	

Bluetooth LE			
Transmission Mode			
Transmission Frequency (f) [MHz]	2402	2440	2480
Antenna far-field distance			
Maximum antenna diameter (D) [m]	N/A	N/A	N/A
Transmission wavelength (λ) [m]	N/A	N/A	N/A
Antenna far-field distance (R_{FF}) [m]	N/A	N/A	N/A
Source average power			
Peak radiated power (PR) [dBm EIRP]	2.5	3.2	0.9
Maximum transmission duty cycle (DC)	1.00	1.00	1.00
Duty cycle correction (DCC) [dB]	0.00	0.00	0.00
Average radiated power (PRAVG) [dBm EIRP]	2.50	3.20	0.90
Power density			
Compliance power density limit [W/m^2]	5.351	5.409	5.469
Power density (S) @ Antenna far-field distance [W/m^2]	N/A	N/A	N/A
Power density (S) @ 0.20 m [W/m^2]	0.004	0.004	0.002
Power density ratio @ 0.20 m	0.00	0.00	0.00
Distance for compliance power density (S=SL) [m]	0.005	0.006	0.004
Compliance			
Verdict	PASS	PASS	PASS
Comment:			

8 Concurrent Evaluation Results - FCC

LTE FDD2 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD2	0.17
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.17
Compliance	
Verdict	PASS

LTE FDD4 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD4	0.17
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.17
Compliance	
Verdict	PASS

LTE FDD5 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD5	0.21
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.21
Compliance	
Verdict	PASS

LTE FDD12 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD12	0.24
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.24
Compliance	
Verdict	PASS

LTE FDD13 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD13	0.22
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.22
Compliance	
Verdict	PASS

LTE FDD25 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD25	0.17
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.17
Compliance	
Verdict	PASS

LTE FDD26 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD26	0.21
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.21
Compliance	
Verdict	PASS

LTE FDD66 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD66	0.17
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.17
Compliance	
Verdict	PASS

9 Concurrent Evaluation Results - ISED

LTE FDD2 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD2	0.38
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.38
Compliance	
Verdict	PASS

LTE FDD4 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD4	0.40
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.40
Compliance	
Verdict	PASS

LTE FDD5 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD5	0.44
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.44
Compliance	
Verdict	PASS

LTE FDD12 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD12	0.49
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.49
Compliance	
Verdict	PASS

LTE FDD13 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD13	0.46
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.46
Compliance	
Verdict	PASS

LTE FDD25 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD25	0.38
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.38
Compliance	
Verdict	PASS

LTE FDD26 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD26	0.44
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.44
Compliance	
Verdict	PASS

LTE FDD66 + Bluetooth LE	
Information	
Number of concurrent modes	2
Evaluation distance [m]	0.20
Maximum MPE Ratios	
LTE FDD66	0.40
Bluetooth LE	0.00
Sum of MPE Ratios	
Sum	0.40
Compliance	
Verdict	PASS

=== END OF TEST REPORT ===