

RF exposure compliance and applicable maximum ERP/EIRP rules Declaration

Date: 2024/06/06

Office of Engineering Technology
Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046

To Whom It May Concern,

Product/ Model Number: GPS Tracker/ KnightX 300
FCC ID: 2ASWY23KNIGHTX300

Due to the difference in antenna between the internal module and the original module of this product, CVC laboratory has independently verified that the new antenna gain meets the requirements of RF exposure compliance and applicable maximum ERP/EIRP rules.

The verification method and result is:

Mode	Maximum tune up power (dBm)	Maximum Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Part1.1307b Threshold (mW)	Verify
BT-LE	7	1.67	8.67	6.52	4.49	3060	PASS
GSM850*	27	-2.25	24.75	22.6	181.97	1680.96	PASS
GSM1900*	24	0.64	24.64	22.49	177.42	3060	PASS
LTE Band 2*	23	0.64	23.64	21.49	140.93	3060	PASS
LTE Band 4*	23	0.36	23.36	21.21	132.13	3060	PASS
LTE Band 5*	23	-2.25	20.75	18.6	72.44	1680.96	PASS
LTE Band 12*	23	-2.92	20.08	17.93	62.09	1425.96	PASS
LTE Band 13*	23	-2.23	20.77	18.62	72.78	1585.08	PASS
LTE Band 25*	23	0.64	23.64	21.49	140.93	3060	PASS
LTE Band 26*	23	-2.25	20.75	18.6	72.44	1660.56	PASS
LTE Band 66*	23	0.38	23.38	21.23	132.74	3060	PASS
LTE Band 85*	23	-2.92	20.08	17.93	62.09	1423.92	PASS
NB-IOT Band 2*	23	0.64	23.64	21.49	140.93	3060	PASS
NB-IOT Band 4*	23	0.36	23.36	21.21	132.13	3060	PASS
NB-IOT Band 5*	23	-2.25	20.75	18.6	72.44	1680.96	PASS
NB-IOT Band 12*	23	-2.92	20.08	17.93	62.09	1425.96	PASS
NB-IOT Band 13*	23	-2.23	20.77	18.62	72.78	1585.08	PASS
NB-IOT Band 25*	23	0.64	23.64	21.49	140.93	3060	PASS
NB-IOT Band 66*	23	0.38	23.38	21.23	132.74	3060	PASS

NB-IOT Band 71*	23	-2.92	20.08	17.93	62.09	1352.52	PASS
NB-IOT Band 85*	23	-2.92	20.08	17.93	62.09	1423.92	PASS
Rematk: *The EUT contains a certified module (FCC ID: XMR201910BG95M3), according to the MPE reports of FCC ID: XMR201910BG95M3, Date of Grant: 09/24/2021.							

CALCULATION FOR SIMULTANEOUS TRANSMISSION:

BT-LE and GSM, LTE, NB-IOT can transmit simultaneously, the formula of calculated the MPE is

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

Max: (4.49 / 3060) + (181.97 / 1680.96) = 0.109 < 1, which is less than the "1" limit.

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Signature: 