



# LETTER OF REQUEST

PERMISSIVE CHANGE

March 13, 2024

We, LG Electronics USA, Inc., as a manufacturer of following product, hereby submit Class 2 Permissive Change application for the FCC and Class 2 Permissive Change application ISED in the filings following changes applied to change additional Antenna in the filings and compliance of product throughout additional testing.

<b>FCC</b>	FCC ID	BEJTFGMEIBBCD1
	Original Grant Date	18 March 2023
	Equipment Type	PCS Licensed Transmitter
<b>ISED</b>	IC Certification Number	2703H-TFGMEIBBCD1
	Approved Date	17 March 2023
	HVIN/PMN	TFGMEIBBCD1, TFGMEIBBCD2, TFGMEIBBCD3

## A. External Antenna Information

We have additional antenna called 85015365 and 85015378, and gain was measured in each band.

Antenna Cell scenario [SISO]	Rat.	Band	Operating Frequency (MHz)		Antenna Gain [dBi]				Maximum Gain [dBi]	Worst Antenna
			Low	High	84933920 [Original Grant]	87832572 [C2PC Grant]	85015365 [Additional Ant.1]	85015378 [Additional Ant.2]		
Primary	NR	n71	663	698	<b>0.37</b>	-2.88	-0.47	0.09	<b>0.37</b>	Original Grant
Primary	L, NR	B12(n12)	699	716	-1.05	<b>0.67</b>	-0.38	0.24	<b>0.67</b>	C2PC Grant
Primary	L, NR	B13(n13)	777	787	-0.53	<b>3.72</b>	0.00	0.36	<b>3.72</b>	C2PC Grant
Primary	L, NR	B14(n14)	788	798	-0.53	<b>3.72</b>	0.73	1.05	<b>3.72</b>	C2PC Grant
Primary	W, L, NR	B5(n5)/n26	824	849	0.37	<b>5.22</b>	0.37	0.62	<b>5.22</b>	C2PC Grant
Primary	NR	n26	814	824	0.37	<b>5.22</b>	0.73	1.05	<b>5.22</b>	C2PC Grant
Primary	W	B4	1710	1755	<b>5.19</b>	-1.24	-0.90	-1.53	<b>5.19</b>	Original Grant
Primary	L, NR	B66/B4(n66)	1710	1780	<b>5.54</b>	2.50	-0.90	-1.53	<b>5.54</b>	Original Grant
Primary	W, L, NR	B2(n2)	1850	1910	5.12	<b>5.18</b>	0.08	1.27	<b>5.18</b>	C2PC Grant
Primary	NR	n25	1850	1915	5.12	<b>5.18</b>	0.08	1.27	<b>5.18</b>	C2PC Grant
Primary	L, NR	B7(n7)	2500	2570	<b>5.99</b>	4.16	1.10	-1.14	<b>5.99</b>	Original Grant
Secondary	NR	n41	2496	2690	0.09	<b>3.52</b>	2.21	1.75	<b>3.52</b>	C2PC Grant
Secondary	NR	n77/n78 FCC Low	3450	3550	<b>3.24</b>	2.89	2.94	2.88	<b>3.24</b>	Original Grant
Secondary	NR	n77/n78 FCC High	3700	3980	3.24	2.76	3.31	<b>3.89</b>	<b>3.89</b>	<b>Additional Ant.2</b>
Secondary	NR	n77/n78 ISED Low	3450	3900	<b>3.24</b>	2.89	2.94	2.88	<b>3.24</b>	Original Grant
Secondary	NR	n77/n78 ISED High	3900	3980	3.24	0.63	3.31	<b>3.89</b>	<b>3.89</b>	<b>Additional Ant.2</b>

Antenna Cell scenario [MIMO]	Rat.	Band	Operating Frequency (MHz)		Antenna Gain [dBi]				Maximum Gain [dBi]	Worst Antenna
			Low	High	84933920 [Original Grant]	87832572 [C2PC Grant]	85015365 [Additional Ant.1]	85015378 [Additional Ant.2]		
Primary + Secondary	NR	n41	2496	2690	6.54	<b>6.86</b>	5.70	5.10	<b>6.86</b>	C2PC Grant
Primary + Secondary	NR	n77/n78 FCC Low	3450	3550	<b>7.91</b>	6.42	4.70	4.75	<b>7.91</b>	Original Grant
Primary + Secondary	NR	n77/n78 FCC High	3700	3980	<b>7.91</b>	6.36	5.71	6.10	<b>7.91</b>	Original Grant
Primary + Secondary	NR	n77/n78 ISED Low	3450	3900	<b>7.91</b>	6.42	4.70	4.75	<b>7.91</b>	Original Grant
Primary + Secondary	NR	n77/n78 ISED High	3900	3980	<b>7.91</b>	5.43	5.71	6.10	<b>7.91</b>	Original Grant

This product is a professional installation equipment and installed by vehicle manufacturer.  
 As antennas will be installed by vehicle manufacturer.  
 Vehicle manufacturer will implement specific software version for each antenna and vehicle.

**B. Worst case selections\_Radiated Spurious Emissions**

The worst-case scenarios have been chosen testing modes (below 1GHz, above 1GHz) based on the worst margin of original Radiated spurious emission on testing result of 5G NR Rat. with 85015378 which has generally higher gain than 85015365.

	Worst Band
below 1GHz	5G NR n13
above 1GHz	5G NR n66

**C. E.R.P./ E.I.R.P.**

Due to increasing some antenna gain, E.R.P./ E.I.R.P. was recalculated to comply the limits in FCC rules and RSS standards.

**D. RF Exposure**

The manufacture of the Vehicles mounts external Antenna [85015365, 85015378] on a car, the minimum distance between this device and the user could be 16.9 cm.

The RF Exposure evaluation is performed both condition that the antennas are used to human body at 16.9 cm.

The Vehicles manufacturer cannot use it at a distance less than 16.9 cm, and if necessary, an Additional Ant. evaluation must be performed and C2PC procedure is required.

**E. Declaration**

The model with Additional antenna complies ERP/EIRP requirements, RF Exposure limits at 16.9cm and the limits in FCC rules and RSS standards.

Based on technical analysis mentioned above, we hereby request permissive change for both FCC and ISED certification.

Sincerely Yours




---

David Kim  
 Team leader, LGE US NA Policy & Regulatory Affairs  
 LG Electronics USA, Inc.