

TECHNICAL JUSTIFICATION

HOST CONFIGURATION

5 March 2021

We, LG Electronics Inc., as a manufacturer of following product, hereby submit application of equipment authorization for a host equipment that contains certified modular.

A. Modular Information

FCC	FCC ID	BEJTM05GTJN2
	Original Grant Date	21 February 2021
	Modular	Single Modular
ISED	IC Certification Number	2703H-TM05GTJN2
	Approved Date	19 February 2021
	HVIN	TM05GTJN2
	PMN	TM05GTJN2

B. Difference between Host configuration and Modular configuration.

Modular	FCC ID	BEJTM05GTJN2
	IC Certification Number	2703H-TM05GTJN2
	Equipment Type	Single Modular
	HVIN/PMN	TM05GTJN2
Host	FCC ID	BEJTA4HEBN2
	IC Certification Number	2703H-TA4HEBN2
	HVIN/PMN	TA4HEB-N2
Difference	Same hardware and software specification. Host equipment has identical PCB and components but has enclosures.	

C. Test Reports

Following test reports are referenced.

Mode	FCC ID, IC Certification Number	Test Report Reference	Date
GSM	BEJTM05GTJN2, 2703H-TM05GTJN2	F690501-RF-RTL001646	8 February 2021
WCDMA	BEJTM05GTJN2, 2703H-TM05GTJN2	F690501-RF-RTL001646	8 February 2021
LTE	BEJTM05GTJN2, 2703H-TM05GTJN2	F690501-RF-RTL001647	8 February 2021
		F690501-RF-RTL001648	8 February 2021
WLAN 2.4 GHz	BEJTM05GTJN2, 2703H-TM05GTJN2	F690501-RF-RTL001644	8 February 2021
WLAN 5 GHz	BEJTM05GTJN2, 2703H-TM05GTJN2	F690501-RF-RTL001645	8 February 2021

D. Test in host configuration

The only difference of modular (BEJTM05GTJN2) and host equipment (BEJTA4HEBN2) is the host equipment has enclosure. BEJTM05GTJN2 was tested in standalone configuration without enclosure. BEJTA4HEBN2 has enclosure added around the modular without having any modification or differences. All the software and hardware are identical in both configurations.

Spot check of conducted power was performed to make sure conducted power is not changed. Conducted power in host configuration has been verified and all the conducted measurement can be referenced.

We also performed radiated spurious emission of WLAN 2.4/5GHz, GSM 1900, LTE B2, B7 and B26(5) in worst modes based on original test result of BEJTM05GTJN2. Other bands had significant margin to the limit and no additional test in host configuration was required. Radiated spurious emission test results were equivalent as original test result of the modular.

Mode	Radiated Spurious Emission				Deviation
	Mode	Worst Channel	BEJTM05GTJN2 Margin	BEJTA4HEBN2 Margin	
GSM	GSM 850	836.6 MHz, Voice	33.27 dB	Not Tested	-
	GSM 1900	1850.2 MHz, Voice	2.90 dB	2.08 dB	-0.82 dB
WCDMA	WCDMA 2	1852.4 MHz	12.02 dB	Not tested	-
	WCDMA 4	-	Not detected	Not tested	-
	WCDMA 5	846.6 MHz	31.30 dB	Not tested	-
LTE	LTE 2	1860.0 MHz, 20 MHz, QPSK	2.81 dB	5.45 dB	+2.64 dB
	LTE 4	-	Not detected	Not tested	-
	LTE 7	2535 MHz 5 MHz, QPSK	3.05 dB	5.17 dB	+2.12 dB
	LTE 12	700.5 MHz 3 MHz, QPSK	41.36 dB	Not tested	-
	LTE 26/5	848.3 MHz 1.4 MHz, QPSK	25.41 dB	24.62 dB	-0.79 dB
	LTE 26	-	Not detected	Not tested	-
WLAN 2.4 GHz	802.11n	2462 MHz HT20, MCS3	4.31 dB	4.18 dB	-0.13 dB
WLAN 5 GHz	802.11ac	5210 MHz VHT80, MCS4	4.13 dB	4.47 dB	+0.34 dB

E. Conclusion

Based on the analysis and additional test, it has been proven that the enclosure does not affect radiated spurious emission or other requirements. We hereby request a new equipment authorization application with referencing modular test reports.

Sincerely,



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 Director, NA Regulatory & Environmental Affairs
 LG Electronics USA