



Carbon Trust Assurance Limited
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Junyoung Lee,
Samsung Electronics
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Yeoungtong-Gu,
Suwon-Si,
Gyeonggi-Do,
Republic of Korea

06/04/2023

Product Carbon Footprint and Reduction Certification Letter

CERT-13463

Dear Junyoung Lee,,

Carbon Trust Assurance Limited (**'The Company'**) certifies that:

Samsung Electronics. (**'You'**) has submitted for certification purposes and achieved a reduction in the calculated 146 Listed Carbon Footprints of the following 2 Listed Stock Keeping Units (SKUs) and 2 Listed Products sold Cradle-to-Grave (Business-to-Consumer) and marketed in the Listed Geographical Areas, in accordance with:

- PAS 2050:2011 – Specification for the assessment of the life cycle greenhouse gas emissions of goods and services
- Product Carbon Footprints: Requirements for Certification

Listed Products, SKUs and Carbon Footprints

Cradle-to-Grave Carbon Footprint Certification Results

The Company certifies the product carbon footprint results set out in the table below. This is the first time that these Product Carbon Footprint Results have been certified by the Company.

Product	Stock Keeping Unit	Geographic Area		KgCO ₂ e per Functional Unit not rounded	KgCO ₂ e per Functional Unit rounded	Functional Unit
		Production	Use			
4k QLED Television	**75Q7*C**** / **75QC7*****	Hungary	Greece	1,306.44	1,300	Using one 4K QLED TV produced for 7 years
		Hungary	Netherlands	1,134.78	1,100	
		Hungary	Norway	720.79	700	
		Hungary	Germany	1,152.30	1,200	
		Hungary	Latvia	1,021.14	1,000	
		Hungary	Romania	1,128.53	1,100	
		Hungary	Lithuania	969.02	950	
		Hungary	Belgium	960.66	950	
		Hungary	Sweden	724.86	700	
		Hungary	Switzerland	808.98	800	
		Hungary	Spain	956.32	950	
		Hungary	Slovakia	1,039.04	1,000	
		Hungary	Poland	1,596.81	1,600	
		Hungary	UK	1,014.78	1,000	
		Hungary	Portugal	1,006.16	1,000	
		Hungary	Italy	1,073.08	1,100	
		Hungary	Turkey	1,406.61	1,400	
		Hungary	Hungary	1,004.47	1,000	
		Hungary	France	790.45	800	
		Hungary	Austria	950.17	950	
		Hungary	Croatia	956.42	950	
		Hungary	Czech Republic	1,315.54	1,300	
		Hungary	Denmark	835.93	850	
		Hungary	Estonia	1,113.32	1,100	

		Hungary	Finland	811.60	800	
		Hungary	Slovenia	1,001.49	1,000	
		Russia	Russia	1,262.72	1,300	
		Russia	Moldova	1,315.33	1,300	
		Russia	Kazakhstan	1,611.20	1,600	
		Russia	Belarus	1,260.26	1,300	
		Russia	Ukraine	1,239.20	1,200	
		Russia	Uzbekistan	1,503.33	1,500	
		Mexico	USA	1,267.63	1,300	
		Mexico	Canada	921.46	900	
		Mexico	Mexico	1,364.25	1,400	
		Mexico	Panama	1,226.71	1,200	
		Mexico	Argentina	1,148.40	1,100	
		Mexico	Chile	1,327.92	1,300	
		Mexico	Brazil	852.42	850	
		Mexico	Colombia	1,053.50	1,100	
		Mexico	Uruguay	758.45	750	
		Vietnam	Vietnam	1,684.32	1,700	
		Vietnam	Australia	1,727.06	1,700	
		Vietnam	New Zealand	895.19	900	
		Vietnam	Malaysia	1,708.56	1,700	
		Vietnam	Singapore	1,256.59	1,300	
		Vietnam	India	1,877.10	1,900	
		Vietnam	South Korea	1,393.29	1,400	
		Vietnam	Hong Kong	1,655.71	1,700	
		Vietnam	Thailand	1,426.73	1,400	
		Vietnam	Bangladesh	1,569.24	1,600	

		Vietnam	Indonesia	1,918.41	1,900	
		Vietnam	Myanmar	1,402.40	1,400	
		Vietnam	Philippines	1,833.59	1,800	
		Vietnam	Sri Lanka	1,665.48	1,700	
		Vietnam	Taiwan	1,516.29	1,500	
		Egypt	Egypt	1,346.34	1,300	
		Egypt	Pakistan	1,368.11	1,400	
		Egypt	Algeria	1,488.93	1,500	
		Egypt	Cameroon	1,183.85	1,200	
		Egypt	Ghana	1,194.77	1,200	
		Egypt	Iran	1,485.21	1,500	
		Egypt	Iraq	2,207.67	2,200	
		Egypt	Israel	1,391.92	1,400	
		Egypt	Jordan	1,320.83	1,300	
		Egypt	Kenya	802.59	800	
		Egypt	Morocco	1,910.94	1,900	
		Egypt	Nigeria	1,394.46	1,400	
		Egypt	Saudi Arabia	1,663.49	1,700	
		Egypt	South Africa	2,192.59	2,200	
		Egypt	Sudan	1,256.18	1,300	
		Egypt	Tanzania	1,248.69	1,200	
		Egypt	UAE	1,501.10	1,500	
4k QLED Television	**75Q6*C***** / **75QC6*****	Hungary	Greece	1,135.13	1,100	Using one 4K QLED TV produced for 7 years
		Hungary	Netherlands	1,003.78	1,000	
		Hungary	Norway	688.81	700	
		Hungary	Germany	1,015.97	1,000	
		Hungary	Latvia	917.11	900	

		Hungary	Romania	995.89	1,000	
		Hungary	Lithuania	876.48	900	
		Hungary	Belgium	871.01	850	
		Hungary	Sweden	691.37	700	
		Hungary	Switzerland	753.98	750	
		Hungary	Spain	870.40	850	
		Hungary	Slovakia	927.83	950	
		Hungary	Poland	1,355.23	1,400	
		Hungary	UK	913.31	900	
		Hungary	Portugal	909.61	900	
		Hungary	Italy	955.78	950	
		Hungary	Turkey	1,213.20	1,200	
		Hungary	Hungary	901.09	900	
		Hungary	France	741.03	750	
		Hungary	Austria	860.16	850	
		Hungary	Croatia	865.61	850	
		Hungary	Czech Republic	1,139.92	1,100	
		Hungary	Denmark	775.42	800	
		Hungary	Estonia	987.91	1,000	
		Hungary	Finland	757.75	750	
		Hungary	Slovenia	899.89	900	
		Russia	Russia	1,098.88	1,100	
		Russia	Moldova	1,141.49	1,100	
		Russia	Kazakhstan	1,371.70	1,400	
		Russia	Belarus	1,098.03	1,100	
		Russia	Ukraine	1,082.81	1,100	
		Russia	Uzbekistan	1,289.91	1,300	

		Mexico	USA	1,111.60	1,100	
		Mexico	Canada	847.28	850	
		Mexico	Mexico	1,182.48	1,200	
		Mexico	Panama	1,071.47	1,100	
		Mexico	Argentina	1,012.34	1,000	
		Mexico	Chile	1,149.15	1,100	
		Mexico	Brazil	785.97	800	
		Mexico	Colombia	939.17	950	
		Mexico	Uruguay	714.33	700	
		Vietnam	Vietnam	1,424.22	1,400	
		Vietnam	Australia	1,454.25	1,500	
		Vietnam	New Zealand	818.67	800	
		Vietnam	Malaysia	1,439.58	1,400	
		Vietnam	Singapore	1,094.17	1,100	
		Vietnam	India	1,568.60	1,600	
		Vietnam	South Korea	1,198.84	1,200	
		Vietnam	Hong Kong	1,399.21	1,400	
		Vietnam	Thailand	1,224.17	1,200	
		Vietnam	Bangladesh	1,333.32	1,300	
		Vietnam	Indonesia	1,599.98	1,600	
		Vietnam	Myanmar	1,205.76	1,200	
		Vietnam	Philippines	1,535.15	1,500	
		Vietnam	Sri Lanka	1,406.88	1,400	
		Vietnam	Taiwan	1,292.72	1,300	
		Egypt	Egypt	1,162.69	1,200	
		Egypt	Pakistan	1,179.61	1,200	
		Egypt	Algeria	1,271.76	1,300	

		Egypt	Cameroon	1,039.22	1,000	
		Egypt	Ghana	1,047.48	1,000	
		Egypt	Iran	1,269.09	1,300	
		Egypt	Iraq	1,821.26	1,800	
		Egypt	Israel	1,197.41	1,200	
		Egypt	Jordan	1,143.09	1,100	
		Egypt	Kenya	747.47	750	
		Egypt	Morocco	1,594.36	1,600	
		Egypt	Nigeria	1,200.11	1,200	
		Egypt	Saudi Arabia	1,405.00	1,400	
		Egypt	South Africa	1,809.94	1,800	
		Egypt	Sudan	1,093.75	1,100	
		Egypt	Tanzania	1,088.40	1,100	
		Egypt	UAE	1,281.24	1,300	

Cradle-to-Grave Reduction Assessment Results

In accordance with the Product Carbon Footprints: Requirements for Certification v2, Samsung Electronics. certified the product carbon footprint reductions set out in the table below. The reduction results have been obtained by comparing the certified unrounded footprints for the current generation against the certified unrounded footprints for the previous generation for equivalent listed SKUs.

Product	Geographic Area		Net KgCO ₂ e per Functional Unit (not rounded)		Reduction (%)
	Production	Use	Original SKU: **75Q6*B** / **75QB6**	Reduced SKU: **75Q6*C** / **75QC6**	
4K QLED TV (75Q60B/C)	Hungary	Greece	1,298.26	1,135.13	12.57%
	Hungary	Netherlands	1,120.64	1,003.78	10.43%
	Hungary	Norway	691.88	688.81	0.44%
	Hungary	Germany	1,139.05	1,015.97	10.81%
	Hungary	Latvia	1,003.00	917.11	8.56%
	Hungary	Romania	1,114.87	995.89	10.67%

	Hungary	Lithuania	949.23	876.48	7.66%
	Hungary	Belgium	940.38	871.01	7.38%
	Hungary	Sweden	696.21	691.37	0.70%
	Hungary	Switzerland	783.65	753.98	3.79%
	Hungary	Spain	935.28	870.40	6.94%
	Hungary	Slovakia	1,022.18	927.83	9.23%
	Hungary	Poland	1,599.17	1,355.23	15.25%
	Hungary	UK	996.18	913.31	8.32%
	Hungary	Portugal	986.61	909.61	7.80%
	Hungary	Italy	1,056.97	955.78	9.57%
	Hungary	Turkey	1,401.58	1,213.20	13.44%
	Hungary	Hungary	986.47	901.09	8.66%
	Hungary	France	764.20	741.03	3.03%
	Hungary	Austria	930.15	860.16	7.53%
	Hungary	Croatia	936.47	865.61	7.57%
	Hungary	Czech Republic	1,308.16	1,139.92	12.86%
	Hungary	Denmark	811.35	775.42	4.43%
	Hungary	Estonia	1,098.32	987.91	10.05%
	Hungary	Finland	785.96	757.75	3.59%
	Hungary	Slovenia	983.15	899.89	8.47%
	Russia	Russia	1,253.66	1,098.88	12.35%
	Russia	Moldova	1,307.57	1,141.49	12.70%
	Russia	Kazakhstan	1,612.85	1,371.70	14.95%
	Russia	Belarus	1,250.89	1,098.03	12.22%
	Russia	Ukraine	1,228.90	1,082.81	11.89%
	Russia	Uzbekistan	1,501.08	1,289.91	14.07%
	Mexico	USA	1,256.63	1,111.60	11.54%
	Mexico	Canada	898.32	847.28	5.68%
	Mexico	Mexico	1,357.29	1,182.48	12.88%
	Mexico	Panama	1,216.27	1,071.47	11.90%
	Mexico	Argentina	1,135.06	1,012.34	10.81%
	Mexico	Chile	1,320.94	1,149.15	13.00%
	Mexico	Brazil	828.77	785.97	5.17%
	Mexico	Colombia	1,036.98	939.17	9.43%
	Mexico	Uruguay	731.49	714.33	2.35%
	Vietnam	Vietnam	1,689.29	1,424.22	15.69%
	Vietnam	Australia	1,734.12	1,454.25	16.14%
	Vietnam	New Zealand	873.16	818.67	6.24%
	Vietnam	Malaysia	1,715.08	1,439.58	16.06%
	Vietnam	Singapore	1,247.34	1,094.17	12.28%
	Vietnam	India	1,889.47	1,568.60	16.98%
	Vietnam	South Korea	1,388.77	1,198.84	13.68%
	Vietnam	Hong Kong	1,660.39	1,399.21	15.73%
	Vietnam	Thailand	1,423.42	1,224.17	14.00%
	Vietnam	Bangladesh	1,570.85	1,333.32	15.12%

	Vietnam	Indonesia	1,932.26	1,599.98	17.20%
	Vietnam	Myanmar	1,398.20	1,205.76	13.76%
	Vietnam	Philippines	1,844.48	1,535.15	16.77%
	Vietnam	Sri Lanka	1,670.46	1,406.88	15.78%
	Vietnam	Taiwan	1,516.09	1,292.72	14.73%
	Egypt	Egypt	1,340.22	1,162.69	13.25%
	Egypt	Pakistan	1,362.69	1,179.61	13.43%
	Egypt	Algeria	1,487.77	1,271.76	14.52%
	Egypt	Cameroon	1,171.90	1,039.22	11.32%
	Egypt	Ghana	1,183.22	1,047.48	11.47%
	Egypt	Iran	1,483.88	1,269.09	14.47%
	Egypt	Iraq	2,231.56	1,821.26	18.39%
	Egypt	Israel	1,387.41	1,197.41	13.69%
	Egypt	Jordan	1,313.85	1,143.09	13.00%
	Egypt	Kenya	777.41	747.47	3.85%
	Egypt	Morocco	1,924.51	1,594.36	17.16%
	Egypt	Nigeria	1,389.88	1,200.11	13.65%
	Egypt	Saudi Arabia	1,668.46	1,405.00	15.79%
	Egypt	South Africa	2,215.91	1,809.94	18.32%
	Egypt	Sudan	1,246.93	1,093.75	12.28%
	Egypt	Tanzania	1,239.09	1,088.40	12.16%
	Egypt	UAE	1,500.32	1,281.24	14.60%

Product	Geographic Area		Net KgCO ₂ e per Functional Unit (not rounded)		Reduction (%)
	Production	Use	Original SKU: **75Q7*B** / **75QB7**	Reduced SKU: **75Q7*C** / **75QC7**	
4K QLED TV (75Q70B/C)	Hungary	Greece	1,332.76	1,306.44	1.97%
	Hungary	Netherlands	1,153.63	1,134.78	1.63%
	Hungary	Norway	721.29	720.79	0.07%
	Hungary	Germany	1,172.16	1,152.30	1.69%
	Hungary	Latvia	1,035.00	1,021.14	1.34%
	Hungary	Romania	1,147.73	1,128.53	1.67%
	Hungary	Lithuania	980.76	969.02	1.20%
	Hungary	Belgium	971.85	960.66	1.15%
	Hungary	Sweden	725.65	724.86	0.11%
	Hungary	Switzerland	813.77	808.98	0.59%
	Hungary	Spain	966.79	956.32	1.08%
	Hungary	Slovakia	1,054.26	1,039.04	1.44%
	Hungary	Poland	1,636.16	1,596.81	2.41%
	Hungary	UK	1,028.15	1,014.78	1.30%

	Hungary	Portugal	1,018.59	1,006.16	1.22%
	Hungary	Italy	1,089.40	1,073.08	1.50%
	Hungary	Turkey	1,436.99	1,406.61	2.11%
	Hungary	Hungary	1,018.25	1,004.47	1.35%
	Hungary	France	794.20	790.45	0.47%
	Hungary	Austria	961.46	950.17	1.17%
	Hungary	Croatia	967.86	956.42	1.18%
	Hungary	Czech Republic	1,342.68	1,315.54	2.02%
	Hungary	Denmark	841.73	835.93	0.69%
	Hungary	Estonia	1,131.13	1,113.32	1.57%
	Hungary	Finland	816.15	811.60	0.56%
	Hungary	Slovenia	1,014.92	1,001.49	1.32%
	Russia	Russia	1,287.69	1,262.72	1.94%
	Russia	Moldova	1,342.12	1,315.33	2.00%
	Russia	Kazakhstan	1,650.10	1,611.20	2.36%
	Russia	Belarus	1,284.92	1,260.26	1.92%
	Russia	Ukraine	1,262.77	1,239.20	1.87%
	Russia	Uzbekistan	1,537.40	1,503.33	2.22%
	Mexico	USA	1,291.03	1,267.63	1.81%
	Mexico	Canada	929.69	921.46	0.89%
	Mexico	Mexico	1,392.45	1,364.25	2.03%
	Mexico	Panama	1,250.07	1,226.71	1.87%
	Mexico	Argentina	1,168.20	1,148.40	1.69%
	Mexico	Chile	1,355.64	1,327.92	2.04%
	Mexico	Brazil	859.33	852.42	0.80%
	Mexico	Colombia	1,069.28	1,053.50	1.48%
	Mexico	Uruguay	761.23	758.45	0.36%
	Vietnam	Vietnam	1,727.08	1,684.32	2.48%
	Vietnam	Australia	1,772.21	1,727.06	2.55%
	Vietnam	New Zealand	903.99	895.19	0.97%
	Vietnam	Malaysia	1,753.00	1,708.56	2.54%
	Vietnam	Singapore	1,281.30	1,256.59	1.93%
	Vietnam	India	1,928.86	1,877.10	2.68%
	Vietnam	South Korea	1,423.93	1,393.29	2.15%
	Vietnam	Hong Kong	1,697.84	1,655.71	2.48%
	Vietnam	Thailand	1,458.87	1,426.73	2.20%
	Vietnam	Bangladesh	1,607.55	1,569.24	2.38%
	Vietnam	Indonesia	1,972.00	1,918.41	2.72%
	Vietnam	Myanmar	1,433.45	1,402.40	2.17%
	Vietnam	Philippines	1,883.49	1,833.59	2.65%
	Vietnam	Sri Lanka	1,708.00	1,665.48	2.49%
	Vietnam	Taiwan	1,552.33	1,516.29	2.32%
	Egypt	Egypt	1,374.98	1,346.34	2.08%
	Egypt	Pakistan	1,397.64	1,368.11	2.11%
	Egypt	Algeria	1,523.77	1,488.93	2.29%

	Egypt	Cameroon	1,205.25	1,183.85	1.78%
	Egypt	Ghana	1,216.67	1,194.77	1.80%
	Egypt	Iran	1,519.86	1,485.21	2.28%
	Egypt	Iraq	2,273.85	2,207.67	2.91%
	Egypt	Israel	1,422.57	1,391.92	2.15%
	Egypt	Jordan	1,348.38	1,320.83	2.04%
	Egypt	Kenya	807.42	802.59	0.60%
	Egypt	Morocco	1,964.20	1,910.94	2.71%
	Egypt	Nigeria	1,425.07	1,394.46	2.15%
	Egypt	Saudi Arabia	1,705.99	1,663.49	2.49%
	Egypt	South Africa	2,258.07	2,192.59	2.90%
	Egypt	Sudan	1,280.89	1,256.18	1.93%
	Egypt	Tanzania	1,273.00	1,248.69	1.91%
	Egypt	UAE	1,536.44	1,501.10	2.30%

The rounded numbers are obtained according to the rounding rules contained in the Product Carbon Footprints: Requirements for Certification v2.0

The Company certifies the above Listed Carbon Footprints based on the supply chains and data provided in the following models:

- PCF_QLED 4K_75Q60B_4th_F
- PCF_QLED 4K_75Q60C_5th_F
- PCF_QLED 4K_75Q70B_4th_F
- PCF_QLED 4K_75Q70C_4th_F

Level of Assurance

This certification was carried out to a Reasonable Level of Assurance.

Materiality

It has been verified that all material non-conformities identified during the sampling performed on the footprint models submitted have been closed. If at any time and for whatever reason You or the Company identify any further non-conformities, the terms described in the Description of Service and General Terms and Conditions will apply. It is also Your duty to promptly inform the Company in writing.

Provision for material discrepancy

The Company has performed the certification in accordance with the applicable material discrepancy threshold: where actual errors, omissions or misrepresentations affect the final footprint result by the equivalent of 1% or more individually or 5% or more in aggregate they are predetermined to be a material discrepancy and therefore a non-conformity.

Certification Period

This Certification is valid for a period of 24 months from 6 April 2023 (the “effective date”) until 5 April 2025 subject to the provisions in this Certification Letter.

We will be in touch with you prior to the expiry of this certification to discuss your communications and reduction plans as well as re-certification. However, if you have any questions or would like to look into re-certification or reduction assessment at any time, please feel free to get in touch with us.

Suspended Non-conformities

The following non-conformities were raised but considered suitable for action prior to the next surveillance and/or re-certification audit. In general, it is expected that Minor Non-conformities should be closed with higher priority than Observations.

Identifier	Finding	Planned action	Severity
1	PCC	Please create and submit a Product Consistency Criteria document for this product.	Minor non-conformity

Communications

Any claims regarding the certification results or any other claims shall be made in accordance with the Product Carbon Footprints: Requirements for Certificationv2.0 and Brand Guidelines.

In accordance with the Product Carbon Footprints: Requirements for Certificationv2.0 and Brand Guidelines You are permitted to communicate the certified results and/or to claim a reduction commitment, as set out below and in any associated Annex:

- The certified numbers and products published in the Product Emission Report (Name, date and version).



- The result presented in this letter shall be used for public reporting and are the sum of all emissions and removals, both biogenic and fossil. A breakdown of these emissions is presented in the Product Emissions Report.
- The Product Carbon Footprint of this product has been certified by the Carbon Trust.
- Samsung Electronics has committed to reduce the carbon footprints of QLED 4K TV.
- In accordance with the reduction table results: "Samsung Electronics has achieved a reduction of [xx]% for the carbon footprint of QLED 4K TV."
- Reduction claims shall not be made until emissions reduction has been achieved and verified by the Company.

Any claims or communication made during the Certification Period shall comply with the Product Carbon Footprints: Requirements for Certification and Brand Guidelines. Any communications, other than those listed above, shall be submitted to the Company for prior approval and may be documented in an Annex of this Certification Letter at the Company's discretion.

For and on behalf of
Carbon Trust Assurance Limited

A handwritten signature in black ink, appearing to read "M Hockaday".

Martin Hockaday,
Head of Assurance