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Singapore Productivity
and Standards Board**TEST RESULTS****Conducted Emissions FCC Part 15B:1996 (Class B) Results (Transmitter)**

FREQUENCY (MHz)	CHANNEL	Q-P VALUE (dB μ V)	Q-P MARGIN (dB)	LINE
0.4998	X	16.9	-31.0	LIVE
2.2440	X	17.0	-30.9	NEUTRAL
2.2630	Y	17.3	-30.6	LIVE
5.8410	Y	19.1	-28.8	LIVE
5.8660	X	17.5	-30.4	NEUTRAL
5.9150	Y	17.1	-30.8	NEUTRAL

Conducted Emissions FCC Part 15B:1996 (Class B) Results (Receiver)

FREQUENCY (MHz)	CHANNEL	Q-P VALUE (dB μ V)	Q-P MARGIN (dB)	LINE
0.4853	Y	18.6	-29.3	LIVE
2.2070	X	17.1	-30.8	NEUTRAL
4.7560	X	17.3	-30.6	NEUTRAL
4.8770	X	17.6	-30.3	LIVE
5.6960	Y	16.6	-31.3	LIVE
5.8410	X	18.7	-29.2	NEUTRAL

NOTES

- All possible modes of operation were investigated, and only the 6 worst case emissions measured, using a CISPR quasi-peak detector, are reported. All other emissions were insignificant.
- The Conducted Emissions FCC Part 15C:1996 Class B limit is 250 μ V(47.9dB μ V) from 450kHz to 30MHz.
- A "-ve" Q-P indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
- All measuring equipment are calibrated with traceability to NPL (UK) or NIST (USA).

MEASUREMENT UNCERTAINTIES

All test measurements carried out are traceable to UK National Standards where obtainable. The uncertainty of the measurement is ± 2.4 dB at a confidence level of approximately 95%, with a coverage factor of 2.

Conducted emissions (Voltage)

9 kHz - 30 MHz (Average and Quasi-peak)

 ± 2.4 dB

Graco Children's Products Inc.

Baby Monitor (Transmitter & Receiver) [Model :2710LE]

[FCC IDs : M6Y002020049T & M6Y002020049R]

EMC/R/00779

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Singapore Product
and Standards Board**TEST RESULTS****Radiated Emissions FCC Part 15B:1996 (Class B) Results (Spurious Signal)**

FREQUENCY (MHz)	CHANNEL	Q-P VALUE (dB μ V/m)	Q-P MARGIN (dB)	POL (h/v)	HEIGHT (m)	AZIMUTH (Degrees)
115.3633	Y	29.1	-14.3	H	2.21	305
140.2926	X	32.3	-11.2	H	1.85	61
147.7324	Y	34.8	-8.7	V	2.41	29
185.2751	X	33.7	-9.8	V	1.87	117
275.2368	X	30.0	-16.0	V	1.75	292
365.0880	Y	33.7	-12.3	H	1.01	153

NOTES

- All possible modes of operation were investigated, and only the 6 worst case emissions, measured, using a CISPR quasi-peak detector, are reported. All other emissions were insignificant.
- The above Q-P values were measured at a 3m test distance.
- The Radiated Emissions FCC Part 15C:1996 (Class B) limit (@ 3m) is:
100 μ V/m (40.0dB μ V/m) from 30MHz to 88MHz
150 μ V/m (43.5dB μ V/m) from 88MHz to 216MHz
200 μ V/m (46.0dB μ V/m) from 216MHz to 960MHz
500 μ V/m (54.0dB μ V/m) above 960MHz
- A "-ve" Q-P margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
- All measuring equipment are calibrated with traceability to NPL (UK) or NIST (USA).

MEASUREMENT UNCERTAINTIES

All test measurements carried out are traceable to UK National Standards where obtainable. The uncertainty of the measurement is ± 4 dB at a confidence level of approximately 95%, with a coverage factor of 2.

Radiated emissions (OATS)

30 MHz - 1 GHz (QP only @ 3m and 10 m)

± 4 dB (For EUT not bigger than 0.5m X 0.5m X 0.5m)

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Singapore Productivity
and Standards Board**TEST RESULTS****Radiated Emissions FCC Part 15C:1996 Results (Intentional Signal)**

FREQUENCY (MHz)	CHANNEL	MEASURED AVG. VALUE (dB μ V/m)	CORRECTION FACTOR (dB μ V/m)	TOTAL AVG. VALUE (dB μ V/m)	AVG. MARGIN (dB)	POL (V/H)
49.845	X	65.9	9.5	75.4	-4.6	V
49.890	Y	68.8	9.5	78.3	-1.7	V

NOTES

1. The intentional radiating signal was measured, using a CISPR average detector.
2. The above Average values were measured at a 3m test distance.
3. The Radiated Emissions FCC Part 15C:1996 limit (@ 3m) is:

10000 microvolts/meter (80dB μ V/m) from 49-50MHz
4. A "-ve" AVG margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
5. All measuring equipment are calibrated with traceability to NPL (UK) or NIST (USA).

SAMPLE CALCULATIONS

$$\text{dB}\mu\text{V} = 20 \log (\mu\text{V})$$

$$\text{dB}\mu\text{V/m} = 20 \log (\mu\text{V/m})$$

Example 1 - For Conducted Emissions

At 20 MHz

Class B limit = $250 \mu\text{V} = 47.96 \text{ dB}\mu\text{V}$

Transducer factor of LISN, pulse limiter & cable loss at 20 MHz = 11.2 dB

Q-P reading obtained directly from EMI Receiver = $40 \text{ dB}\mu\text{V}$

(Calibrated for system losses)

Therefore, Q-P margin = $40 - 47.96 = -7.96$

i.e. 7.96 dB below limit

Example 2 - For Radiated Emissions

At 300 MHz

Class B limit = $200 \mu\text{V/m} = 46 \text{ dB}\mu\text{V/m}$

Log-periodic antenna factor & cable loss at 300 MHz = 18.511 dB

Q-P reading obtained directly from EMI Receiver = $40 \text{ dB}\mu\text{V/m}$

(Calibrated level including antenna factors & cable losses)

Therefore, Q-P margin = $40 - 46 = -6$

i.e. 6 dB below limit