6. Conclusion

In this paper five level multilevel inverter with LSCPWM based CHB inverter is presented. The percentage of total harmonic distortion is reduced with LSCPWM multilevel inverter method of gate signal generation from 28.25 to 4.65 %. This method found superior in support to power quality issue. The total harmonics distortion can be further reduced by increasing number of steps of inverter.

References

[1] N. G. Hingorani, " Introducing Custom Power", IEEE Spectrum, vol.32, pp.41-48, june1995
[2] M. Jawad, H. Mokhtari, " Impact of harmonics on power quality and losses in power distribution systems", International Journal of Electrical and computer engg., vol.5, no.1, feb-2015, pp. 166-174.
[3] Angela Iagar, Gabriel Nicolae Popa, Corina Maria Dinis, " The influence of home nonlinear electric equipments operating modes on power quality", WSEAS Transactions on systems, ISSN: 2224-2678, vol.13, 2014
[4] S. Khalid, Bharti Dwiwedi, " Power Quality issue, problems, standards and their effect in industry with corrective means", International Journal of Advances in Engineering & Technology, May 2011
[5] Haroon Farooq*, Chengke Zhou, Mohamed Emad Farrag," Analyzing the Harmonic Distortion in a Distribution System Caused by the Non-Linear Residential Loads", International Journal of Smart Grid and Clean Energy, august 2012.
[6] José Rodríguez, Jih-Sheng Lai, Fang Zheng Peng, Multilevel Inverters: A Survey of Topologies, Controls, and Applications, IEEE Trans. on Industrial Electronics, Vol. 49, No. 4, Aug. 2002
[7] Dr. Jagdish Kumar, "THD Analysis for Different Levels of Cascaded Multilevel Inverters for Industrial Applications", International Journal of Emerging Technology and Advanced Engineering, Volume 2, Issue 10, October 2012
[8] J.S.Lai. and F.Z.Peng "Multilevel converters - A new bread of converters, "IEEE Trans. Ind.Appli. vo1.32. No.3. pp.S09-S17. May/ Jun. 1996.
[9] J. Ganesh Prasad Reddy and K. Ramesh Reddy "Design and Simulation of Cascaded H-Bridge Multilevel Inverter Based DSTATCOM for Compensation of Reactive Power and Harmonics,"1st Infl Conf. on Recent Advances in Information Technology RAIT-2012
[10] P.Bhagwat. and V.R.Stefanovic. "Generalized structure of a multilevel PWM Inverter:' IEEE Trans. Ind. Appln, VoI.IA-19. no.6, pp. I OS7-1069, Nov.!Dec. 1983.
[11] Roozbeh Naderi, and Abdolreza rahmati, "Phase-shifted carrier PWM technique for general cascaded inverters," IEEE Trans. Power.Electron., vo1.23, no.3, pp. I 257-I 269. May.2008.
[12] B. P. McGrath and D. G. Holmes, "Multicarrier PWM strategies for multilevel inverters," IEEE Trans. Ind. Electron., vol. 49, no. 4, pp.858- 867, August 2002.
[13] A.Venkatakrishna, R. Somnatham, Sandeep Reddy," Phase Shifted and Level Shifted PWM Based Cascaded Multilevel Inverter Fed Induction Motor Drive", International Journal of Current Engineering and Technology, Vol.4, No.1 (February 2014)